NiceLabel 2019
User Guide for Designers

Designer Pro & PowerForms. Rev-2019-11 ©NiceLabel 2019

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1 Typographical Conventions

Text that appears in **bold** refers to menu names and buttons.

Text that appears in *italics* refers to options, confirming actions like *Read only*, and locations like *Folder*.

Text enclosed in <less-than and greater-than signs> refers to keys from desktop PC keyboards such as `<Enter>`.

Variables are enclosed in [brackets].

NOTE: This is the style of a note.

EXAMPLE: This is the style of an example.

This is the style of a best practice.

WARNING: This is the style of a warning.

TIP: This is the style of a tip.

2 Introduction

2.1 Basic Designer Concepts

This section describes the Designer elements that enable you to efficiently design label templates or to create and manage a complex labeling solution that includes multiple labels, dynamic data sources, and automatically run actions.

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

Listed below are the essential Designer concepts. Being familiar with them provides a perfect starting point for successful labeling projects.

- Label
- Form
- Solution
- Object
- Document
- Design Surface
- Data Sources
- Dynamic Data Manager
- Dynamic Data Explorer
- Solution Manager
- Action Editor

If you come across any other unfamiliar items while working with Designer, refer to the Help tab.

2.1.1 Label

Label works as a template to add label objects and print using any kind of printing media.

Each object adds a different kind of content such as text, line, ellipse, barcode or rectangle to a label. The content is either fixed (manually entered by the user) or dynamic (defined using values from connected data sources).

After finishing with your label design, you can print the labels using any of your installed printers.

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

Designing of a printable label belongs to basic Designer tasks. Designer allows creating and printing of stand-alone labels and labels that are included in a printing solution.

Read about how to create, design or edit a label here.

2.1.2 Form

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

NiceLabelDesigner form serves as a panel for entering, manipulating and viewing the data. The advantage of using a form are simplified data-entry and label printing process for the end-user.

In NiceLabel Designer, a form is created within a printing solution. This means that a form is usually built in combination with a predesigned label.

TIP: Forms allow you to build an entire tailor-made data handling system which is adaptable to current business needs.

Read about how to create, design or edit a form here.

2.1.3 Solution

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

NiceLabel Designer solution acts as a container which includes multiple documents – labels, forms and shared data sources. A single solution enables dealing with any number of labels, forms and shared variable data sources.

How do labels and forms cooperate in a solution? A label alone can be designed and printed. Multiplied manual printing of a single label file is time consuming and difficult if the content needs to be constantly updated. Therefore, NiceLabel introduced the ability to create forms which are combined with labels in a solution.

As a part of a solution, label document(s) specify the layout of printed labels. Forms make sure the content of printed labels is easily defined, edited, and updated. Forms also offer the user the control over a wide range of data- and print-related actions.

The advantages of keeping multiple labels and forms in a single file are:

- simplified management print outputs
- simpler and time efficient label designing and printing
- simplified use of shared variable data sources

Read about how to create or edit a solution here.

2.1.4 Object

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Object is the basic building block for designing labels and forms. To design a label or form means to select, add, and position the objects on the design surface.

EXAMPLE: Each object performs a different role. Text object is in most cases used for single-line textual content that does not need to adapt its font size to the label design. Barcode object adds a barcode whose type and content can be adapted to the needs of current document. Radio Group object to allow a user to select a single item from a set of mutually exclusive items.

Label object types and their purpose are listed here.

Form object types and their purpose are listed here.

2.1.5 Document

The term document is used for labels and forms – it can be used interchangeably.

NOTE: Be careful not to mistake document with solution. A solution is always a stand-alone file while a document – be it label or form – may be used as a stand-alone file or as a part of a solution.

2.1.6 Design Surface

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Your design surface is a place to create, add, position, and interconnect label and form objects.

To help you design labels and forms as simply and efficiently as possible, your design surface uses usability and functional principles from Microsoft Office.

TIP: Use View tab to customize your design surface.

- Learn more about design surface elements here.
- Learn more about design surface editing actions here.
- Learn more about design surface visual aid elements here.

2.1.7 Data Sources

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Data sources are containers that provide content for label or form objects. Available data sources of NiceLabel Designer are listed and described in the table below:

Fixed data	Fixed content allows you to manually insert a value into an edit box using a keyboard. The inserted value remains unchanged on every printed label. All standard Windows editing features are supported for inserting and editing the fixed content (cut, copy, paste, etc.). Special characters are accessible via arrow button on the right side of the edit fields or via context (right click) menu.

Variable	If a label or form object is connected to a variable, its current value is always displayed as the object's content. When the variable's value changes, the change reflects in the appearance of the selected object. Create and manage multiple types of variables using the Designer's Dynamic Data Manager tool.
Function	Functions process the existing data source values and store the result in function-generated data sources. Designer offers multiple types of functions that allow you to transform the variable object content according to the current needs.
Database	Various types of databases can be used as dynamic data source for label or form objects. Select a database from the list of defined database connections. When done, select the fields and use them as a data source for an object.

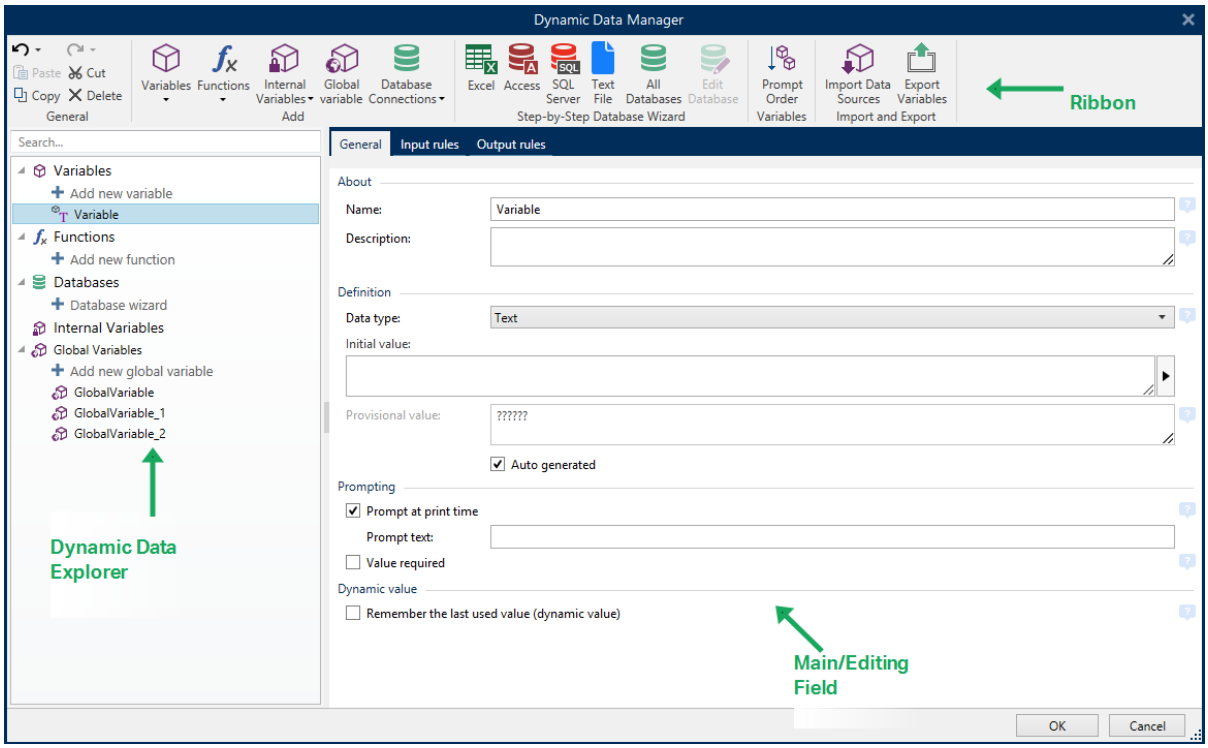
2.1.8 Dynamic Data Manager

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

Dynamic Data Manager is a dialog that enables the user to manage the dynamic data sources for label and form objects.

Label and form objects can be connected to multiple variables, functions and databases.

To open the dialog, click the **Dynamic Data Manager** button in the Designer ribbon.



Read more about how to define the data sources in the following sections:

- Work with variables.
- Work with functions.
- Use databases as content source.
- Use internal variables as content source.
- Use global variables as content source.

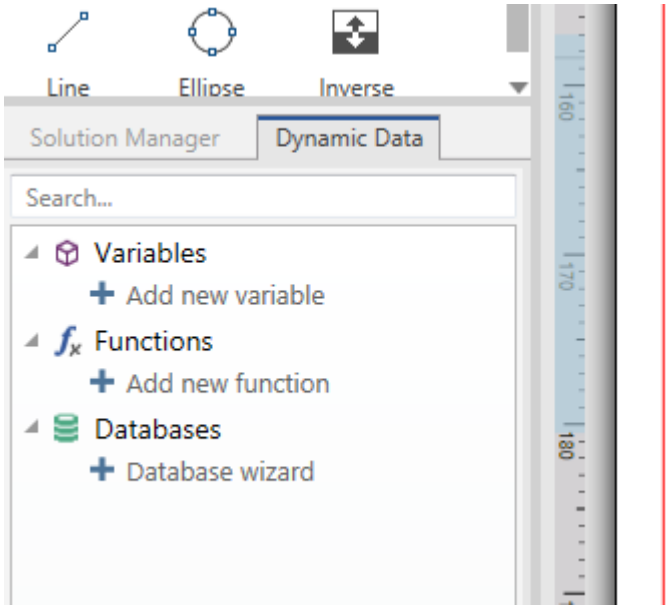
2.1.9 Dynamic Data Explorer

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

Dynamic Data Explorer is a Designer tool for managing the data sources that are connected to label or form objects.

Dynamic Data Explorer is located at the bottom left side of the Designer window. It offers an overview of existing Variables, Functions and Databases and allows adding new sources.

Read more about the Dynamic Data Explorer and how to work with it here.



2.1.10 Layers

Layers act as transparent surfaces that allow you to place your objects on labels or forms in multiple levels.

When designing labels or forms that contain a large number of objects, layers help you manage the positioning and visibility of added objects.

NiceLabel 2019 allows you to use layers when designing labels and forms using the **Layers panel**. This helps you design adaptable label templates and create forms that align with your business logic. Read more in section Layers Panel.

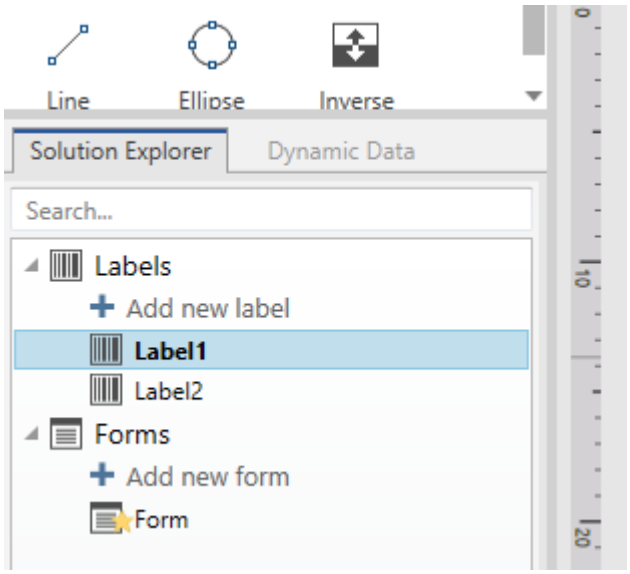
2.1.11 Solution Explorer

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

Solution Explorer is the Designer's dedicated tool for managing the labels and forms in a solution.

Solution Explorer is located at the bottom left side of the Designer window. It displays the existing labels and forms and allows adding new ones.

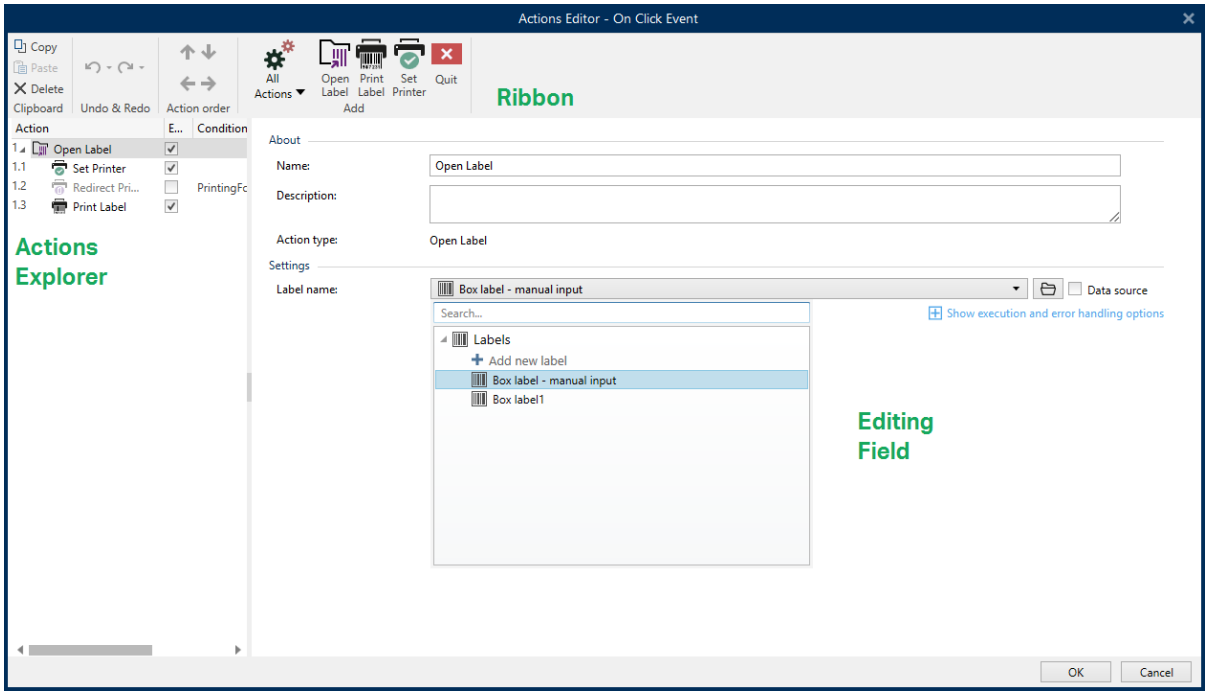
Solution and **Data source** buttons toggle between Solution Explorer and Dynamic Data Explorer.



2.1.12 Actions Editor

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

Actions Editor is a dialog for managing actions in a Designer solution.



Actions can be defined for:

- **Form:** these actions are triggered with form events. They are applicable to the following events:
  - **On form load:** action(s) are run after a form is loaded.
  - **On form close:** action(s) are run after a form is closed.
  - **On form timer:** action(s) are run after a specified time interval.
  - **On Form Inactivity:** action(s) are run after the form has been inactive for a given time interval.
- **Form object:** these actions are triggered with object-related events.
- **Variable:** these actions are triggered according to the received values.

2.1.12.1 Ribbon

Actions Editor Dialog ribbon includes commands for adding, removing and ordering the actions. It also provides a direct access to frequently used actions.

Clipboard group icons activate the following actions:

- **Paste:** pastes the clipboard data.
- **Cut:** cuts the selection to the clipboard.
- **Copy:** copies the selection to the clipboard.
- **Delete:** deletes the selected items.

Undo & Redo group allows undoing or repeating actions.

- **Undo:** Designer allows the user to undo the entire sequence of actions since opening the editor.
- **Redo:** repeats the requested range of actions.

Action Order group defines the action execution order of selected actions.

- **Up** and **Down:** arrows place the selected action in front or after any other existing action.
- **Right:** arrow nests the selected action under the previous existing action.

  NOTE: Nested action is any action that starts when the parent action is already in progress.

- **Left:** arrow makes a nested action independent of the preceding action.

  NOTE: Certain actions cannot exits independently. If such action is added to the action list, a warning appears. The warning defines which action should it be nested under.

Add assigns actions to the selected form object.

- **All actions** button gives access to the entire range of Designer actions. **Recently used** actions are listed on the top. Use **Search...** field to quickly locate any action by entering its name.
- Four buttons give direct access to the most commonly used actions:
  - **Open Label:** button adds the **Open Label** action to the event list.
  - **Print Label:** button adds the **Print Label** action to the event list.
  - **Set Printer:** button adds the **Set Printer** action to the event list.
  - **Quit:** button adds the **Quit** action to the event list.

2.1.12.2 Actions Explorer

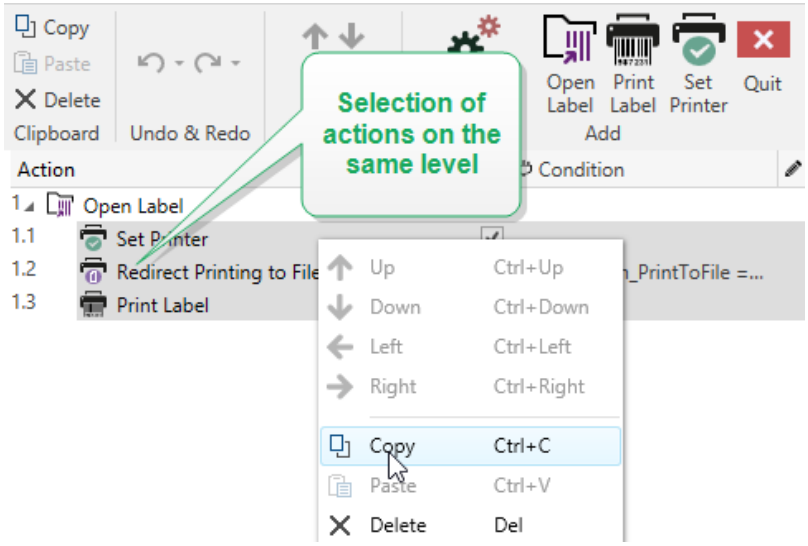
Actions Explorer is a tool for adding, removing and ordering the assigned actions. Use ribbon commands to manipulate with existing actions or to add new actions.

The explorer columns provide instant overview of actions' execution options and their descriptions.

- **Enabled:** enables or disables the included action.
- **Condition:** display the condition for executing an action (if set).
- **Description:** displays the information about an action as defined by the user.

Actions Explorer enables you to make a selection of multiple actions, and to perform **copy**, **paste** and **delete** operations with them. To make a selection, Use Ctrl/Shift + Click on the required actions.

NOTE: Multiple actions can only be selected under the same parent action, i.e. all selected actions must be on the same level. See picture below.



2.1.12.3 Editing Field

Editing field allows editing the advanced action properties.

- Main properties of the selected action are available for editing on the top of the Main/editing field. Main properties differ with each action – read the dedicated action description sections for details.
- **About** group allows you to describe all NiceLabel 2019 actions.
  - **Name:** by default, action name is defined by its type and is therefore not unique. Define a custom name to make it instantly recognizable among other actions, in logs and in potential error messages.
  - **Description:** user notes for the selected action. Description is displayed in actions explorer.
  - **Action Type:** read-only field which displays the type of action.

    NOTE: When upgrading from legacy solutions (created with NiceLabel V6 and back), update the action names based on the currently selected language. Solution version becomes updated.
- Hidden properties define the less frequently defined properties. Hidden properties differ with each action – read dedicated action description sections for details.

2.2 Keyboard and Mouse Support

To efficiently perform and complete the Designer tasks, follow the guidelines related to the use of keyboard and mouse:

- How to efficiently use keyboard and mouse
- Keyboard shortcuts

2.2.1 Efficient Use Of Keyboard And Mouse

Use the following list of tips to make your work with Designer easier and more efficient.

1. **Select object anchoring point.** Press <Ctrl> key and click the object placeholders to quickly define the anchoring point.
2. **Label scrolling and zooming.** Use mouse wheel to scroll the label. Holding <Ctrl> when rotating the wheel, adjusts zoom factor. <Shift> scrolls label left or right.
3. **Set label or form properties.** Double-click the design surface to open the label or form properties dialog.
4. **Vertical or horizontal object moving.** Hold <Shift> while moving an object over the design surface. The object is moved in straight vertical and horizontal lines.
5. **Resize an object with arrow keys.** Holding <Shift> while pressing arrow keys resizes the object.
6. **Fine-tune the object position.** Hold <Ctrl> while pressing arrow keys.
7. **Open contextual menus.** Right-click the object or design surface to access the label, form or design surface contextual menus.
8. **Select multiple objects.** Hold <Shift> and click the objects to add them to the selected objects in a group.
9. **Quickly add an object with connected data source.** Click the object's shortcut handle in the object toolbox. A list of available data sources appears. Select a data source or add a new one, and click the design surface to add an object which already has a dynamic data source connected to it.

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

2.2.2 Mouse Wheel Support

Use mouse wheel to speed up design object zooming and design surface scrolling.

- Turning the wheel scrolls the label in a vertical direction.
- Holding <Shift> and turning the wheel scrolls the label left or right.
- Holding <Ctrl> and turning the wheel zooms the label in or out.

2.2.3 Keyboard Shortcuts

Use keyboard shortcuts to reduce the time needed to accomplish frequent tasks with Designer. To complete these tasks, use a standard combination of keys.

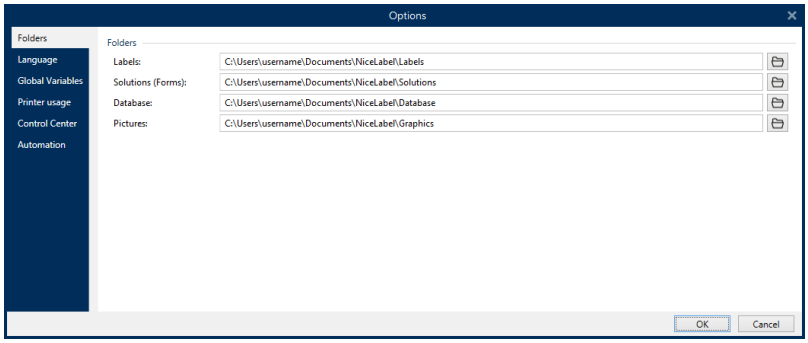
TIP: Keyboard shortcuts are just a faster and more convenient way of choosing commands. The command itself is executed in the same way as if it was run from the menu or toolbar.

Action	Press
Select all	Ctrl+A
Run the startup form	Ctrl+D
Paste	Ctrl+V
Cut	Ctrl+X
Move up	↑
Move right	→
Move down	↓
Move left	←
Close	Alt+F4
Zoom to document	Ctrl+0
Bold	Ctrl+B
Copy	Ctrl+C
Italic	Ctrl+I
Close solution	Ctrl+L
Zoom Out	Ctrl+minus sign on numeric keypad
Zoom In/Out	Ctrl+mouse scroll up/down
Open	Ctrl+O
Print	Ctrl+P
Zoom In	Ctrl+plus sign on numeric keypad
Run the currently opened form	Ctrl+R
Save	Ctrl+S
Open blank label connected to default printer	Ctrl+Shift+N
Redo	Ctrl+Y
Undo	Ctrl+Z
Cancel	Esc
Move Focus	Tab or Shift+Tab
Run Form Debugger when form is running	Ctrl+Shift+F12
Start form and Form Debugger at the same time to debug the onFormLoad events	Ctrl+Shift+R
Format painter – copy object properties	Ctrl+Shift+C
Format painter – paste object properties	Ctrl+Shift+V

2.3 Options (Configuring the Program)

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

To customize the general program configuration of Designer, open the **Options** dialog which is accessible from the **File** tab.



Designer configuration options are grouped on the following tabs:

- Folders: allows you to set the default locations for storing the labels, forms (solutions), databases and picture files.
- Language: selects the user interface language. Select the preferred language from the listed options.
- Global Variables: storage location for global variables.
- Printer usage: locally logged usage of installed printers.
- NiceLabel Control Center: allows you to enable and configure the monitoring of events and print jobs.
- Automation: enables you to configure NiceLabel Automation settings.
- Designer: enables you to configure opening behavior of NiceLabel 2019.

3 Workspace Overview

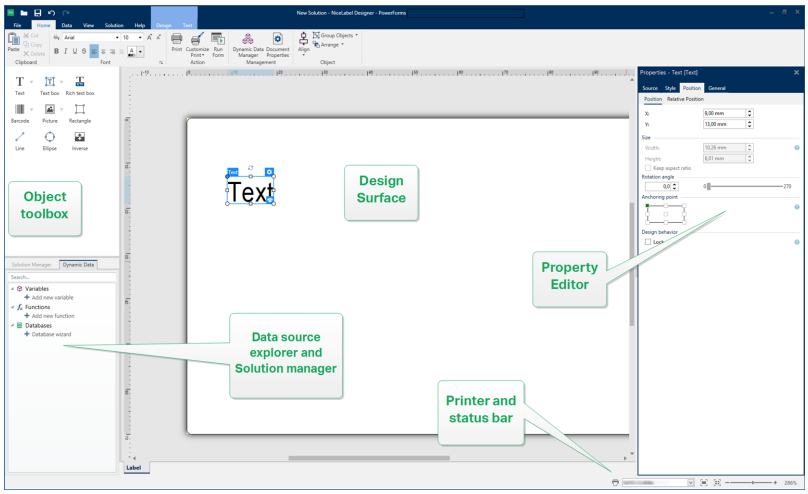
PRODUCT LEVEL INFO: Data source explorer and Solution manager are available in NiceLabel Designer Pro and PowerForms.

Your Designer workspace provides a flexible and easy-to-use environment for both – simple label designing and complex solution building.

Your Designer workspace follows widely used application interface guidelines and is equipped with tools and interface elements familiar to most users.

Designer workspace includes the following:

- Landing page
- Object and Explorer Panels
- Layers panel
- Printer and Status bar
- Tabs and Ribbons
- Design Surface



3.1 Landing Page

Your landing page in Designer is an introduction which opens after the application loads. The page includes the following:

- **New document area:** create new or open existing Designer documents.
    - **Create a New Label:** create new label documents.
    - **New Solution:** create solutions with labels and forms.

      PRODUCT LEVEL INFO: Solution building is available in PowerForms.

    - **Open from Document Storage:** open labels or solutions from Document Storage on your connected NiceLabel Control Center.

      PRODUCT LEVEL INFO: Opening from Document Storage is available when connected toNiceLabel Control Center, and requires an LMS license.

    - **Open...:** open existing label and solution files from your workstation, cloud or network locations.

      TIP: When you create new labels based on sample templates, Designer creates a new folder inside your Solutions folder. Your new folder is named after your sample. It is located at: `C:\Users\username\Documents\NiceLabel\Solutions\newly created folder`
- **Recent Files:** lists recently used Designer files.

TIP: Your landing page and its sections are different when you run licensedDesigner editions or trial versions.

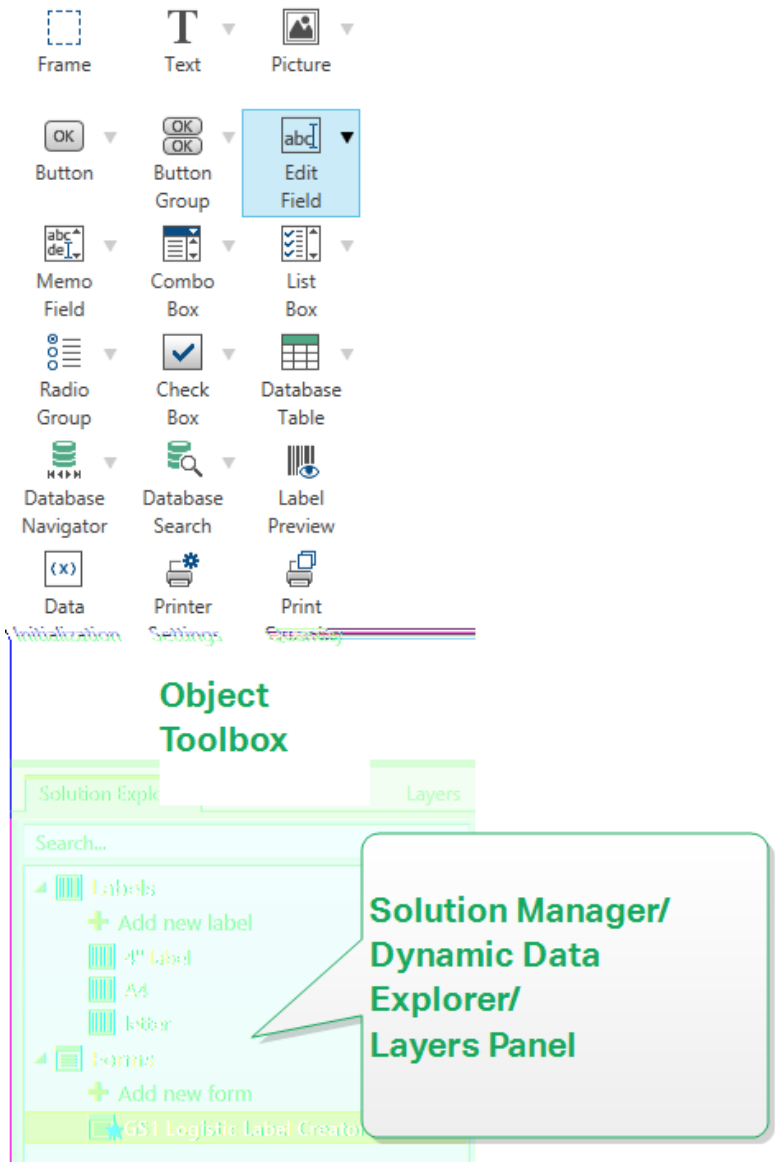
- **Learning resources:** access useful resources to help you create labels and solutions, and learn more about NiceLabel 2019.
    - **Training Videos:** access your NiceLabel video tutorial library. Video tutorials help you learn label design basics and solution building in just minutes.
    - **User Guides:** access the entire online library of NiceLabel user guides. User guides provide you comprehensive descriptions and instructions for using NiceLabel 2019.
    - **Sample Files:** access sample label collections and solution files. Use samples to get familiar with NiceLabel 2019, start building new documents, and to explore software capabilities. Samples help you create labels compliant with industry standards like GS1 and GHS, and labels equipped with mandatory objects like allergens or nutrition tables.
- **Printer Drivers:** access NiceLabel printer drivers. Drivers let you optimize your labels to print on specific printer models.
- **Software Information:** contains information about your installed copy of NiceLabel 2019 – license, license key, and installed version. If a newer version of NiceLabel 2019 is avail-

able, notification links appear automatically. Click the link to download and install the latest version.

3.2 Object and Explorer Panels

Object and explorer panels are located at the left-most area of the Designer window. They provide access to objects, Solution Manager and Dynamic Data Explorer.

- **Object Toolbox:** Contains available objects. These objects are ready to be used on a label or form. Click the selected object and drag it to the design surface.
- Solution Manager: The tool for managing the labels and forms in a solution.
- Dynamic Data Explorer: The tool for managing the data sources in a solution.
- Layers Panel The tool for managing the layers while you design labels or forms.



3.3 Layers Panel

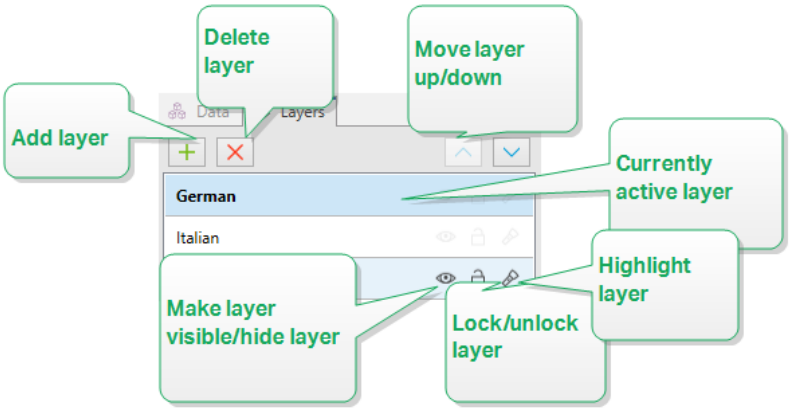
PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

In NiceLabel 2019, the **Layers panel** is a tool that helps you manage your layers and added objects while designing labels or forms.

NOTE: Layers act as transparent surfaces that allow you to place your objects on labels or forms in multiple levels.

- Working with the Layers panel
- Positioning your objects using layers
- For easier designing: layer states
- Keeping layers organized using the right-click menu

3.3.1 Working With The Layers Panel



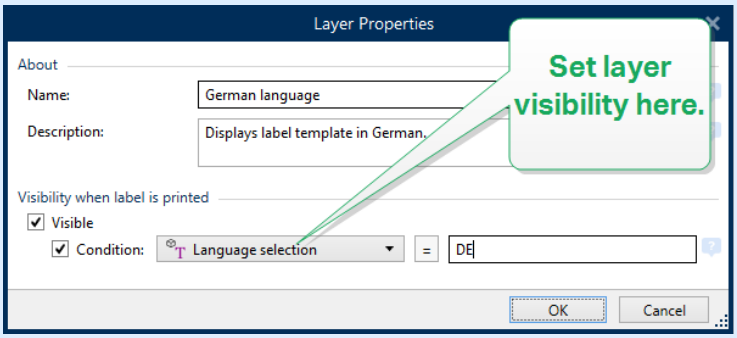
- **Adding a layer:** Click the green plus button to add a new layer. This adds a new layer on top of the default layer. The number of layers is not limited.
- **Setting the layer properties:** The **Layer Properties** window appears automatically when you add a layer. Use this window to set the properties of the added layer:
  - Add **Name** and **Description** to make your layers easy to find and edit later when you add more layers.
  - The **Visibility** settings allow you to define if objects on layers are visible when you print the label, or after you run the form.

NOTE: In comparison with layer states (see section Working with the Layers panel), the visibility settings affect the layout when you print a label, or when you run a form.

- **Visible:** defines if the objects on the selected layer appear on the printed label, or are visible when you run the form.

  Condition: the layer is visible if the result of the given condition is "True".

EXAMPLE: You can create a single label template for labels in multiple languages. Stack the objects with text in the required languages on the dedicated layers. Use visibility conditions to only display the layer with the right language – in this case German.



- **Deleting layers:** Select a layer and click the red X button. This deletes the layer with all of its objects. If the layer is locked, you cannot delete it.
- **Moving layers up or down:** You can change the stacking order for your existing layers. This allows you to define how the objects overlap. If you move one layer above another, you also place the objects on this layer in front of the objects that belong to the layer below.

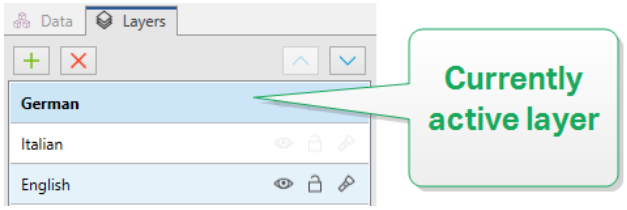
3.3.2 Positioning Your Objects Using Layers

Layers help you position label or form objects on the z-axis. This means that you can place your objects on top or beneath the objects on other layers. If you change the stacking order of layers, you also change the stacking order of objects.

NOTE: When designing labels or forms, the stacking order of layers tells you the vertical position of each individual layer within all existing layers.

By default, you add all objects on a single layer. If you decide to add more layers, you can move your objects onto newly added layers, or move objects from one layer to another at any time.

To add objects to a specific layer, click the layer in the **Layers panel** to make the layer active, and drag the objects onto the currently active layer.

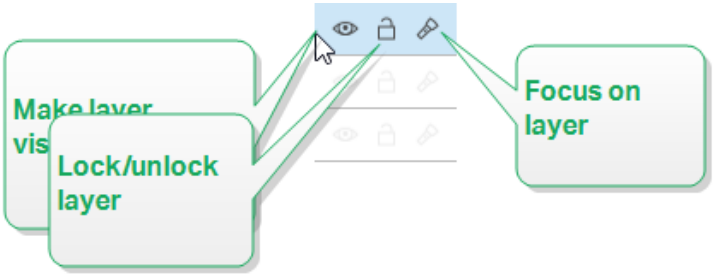


NOTE: You can only group the objects that belong to the same layer. To group objects from multiple layers, move these objects onto the same layer first.

3.3.3 For Easier Designing: Layer States

Layer states allow you to show/hide, lock/unlock, or highlight your layers.

NOTE: Layer states only affect the label template or form layout during the design phase. After printing a label or if you run a form, the layers remain visible even if you set their state to invisible, locked, or highlighted. Manage the final visibility of layers using the **Visibility** settings in the **Layer Properties** window.



Layer states allow you to:

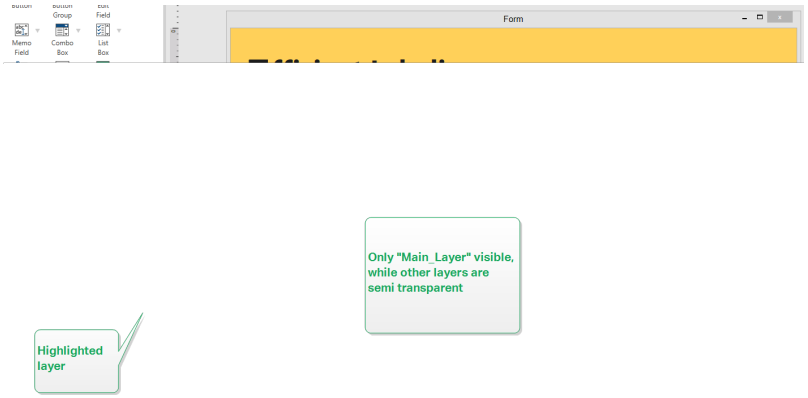
- Keep the layer visible or hide the layer. Toggle the states to make all layer objects visible or hidden while you are designing your label template or form.

  NOTE: The ability to show or hide a layer helps you position the objects that appear above or below other objects.

- Unlock or lock the layer. If you lock a layer, you cannot:
  - add objects to this layer
  - move objects from other layers to this layer
  - change the position of the existing objects
  - delete this layer

  NOTE: Layer locking prevents unwanted layout changes.

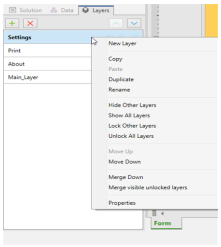
- Set focus on the layer. Use this option to determine which objects are on this on this layer by defocusing the objects that belong to other layers. If you hover over the focus icon with your mouse pointer, the objects on this layer remain visible, while all other objects become semi transparent.



3.3.4 Keeping Layers Organized Using The Right-click Menu

Right-clicking a layer opens the contextual menu which helps you manage the layers of your label or form:

- **New layer** adds a layer on top of the existing highest layer.
- **Copy** makes a copy of the selected layer and all of its objects.
- **Paste** pastes the copied layer.
- **Duplicate** allows you to duplicate the selected layer with a single click.



- **Rename** allows you to change the name of the selected layer.

> NOTE: By default NiceLabel 2019, names the layers as **Layer_"number"** where "number" tells you the initial stacking position of the layer.

- **Hide Other Layers** makes all layers with their objects invisible, except for the selected layer.
- **Show All Layers** makes all layers with their objects visible.
- **Lock Other Layers** makes only the selected object editable. This option locks the objects on all other layers.
- **Unlock All Layers** makes all layers editable.

- **Move Up/Down** allows you to change the stacking order for the selected layer. Note that the layers panel represents the stacking order of the layers. Use **Move Up/Down** to change the position of the highlighted layer.
- **Merge Down** moves the objects from the selected layer to the layer below. NiceLabel 2019 places the moved objects on top of the existing objects and deletes the merging layer.
- **Merge visible unlocked layers** moves the objects from all unlocked layers to the lowest unlocked layer. Objects from the upper layers are placed on top of the objects that belong to the lowest layer. NiceLabel 2019 deletes the merging unlocked objects.
- **Properties** opens the **Layer Properties** window.

3.4 Printer and Status Bar

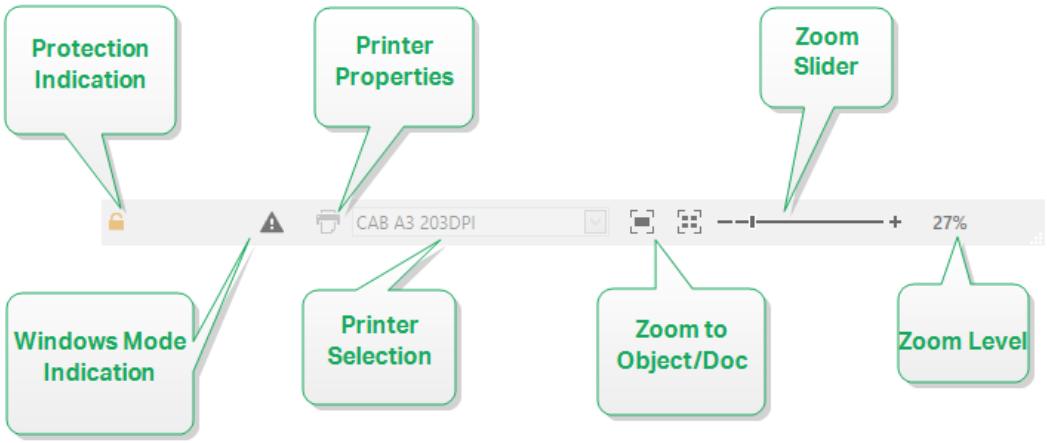
Printer and Status bar stretches over the bottom part of the Designer window. The bar performs these roles:

- **Printer Selection** for the current print job. Select your preferred printer from the drop-down list of installed printers.

TIP: When changing a printer, label and paper size adapt automatically to the dimensions defined by the printer driver.

- **Printer Properties:** Gives you direct access to the properties dialog of the selected printer driver.
- Design surface zooming.
- Windows mode indication. Windows mode is reported if advanced printer driver interface has been disabled in Label Properties > Printer.

  TIP: Windows mode disables printing optimization methods.
- **Document protection indication:** Indicates that current document is password protected. To manage document protection, go to File tab > Protection.



3.4.1 Status Bar Printer Selection

Status Bar Printer Selection dropdown list allows instant printer selection for label printing. The list is populated with printers, which are installed on the system.

Design surface dimensions adapt to the selected printer automatically – as defined by the printer driver.

3.4.2 Windows Printing Mode

When designing and printing labels with Designer, it is recommended to use NiceLabel printer drivers to ensure an optimal printing output.

Although the NiceLabel printer driver is available for your printer, you can still print labels using the Windows printer driver. To achieve this, open label properties and disable the use of advanced printer interface.

When printing in Windows mode, the labels print as graphic files. This increases the amount of data sent for each label and can slow down the printing process.

3.5 Tabs and Ribbons

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Designer uses a standard Windows-based interface.

The Designer's top section interface segments are described below.

3.5.1 Tabs

Tabs represent subsets of Designer features. The tabs contain interrelated commands that are available to the user in an organized way – grouped, and labeled:

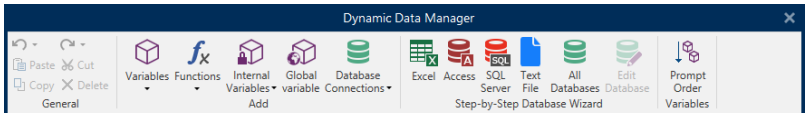
- File (background): opens the print form and document management panel.
- Home: offers commonly used commands such as copy/paste, print, and style commands.
- Data: offers data source related commands.
- View: gives you control over layout tools, zooming options and element markers visibility.
- Solution: allows adding new labels and forms, starts printing actions and enables label file importing and exporting.
- **Contextual tabs:** appear after clicking an object. They allow you to define object-specific settings. The type of contextual tabs adapts to the selected object.
- **Help:** besides offering the access to F1 help, this tab leads you to multiple helpful resources that make your work with Designer easier and more efficient.

3.5.2 Ribbon

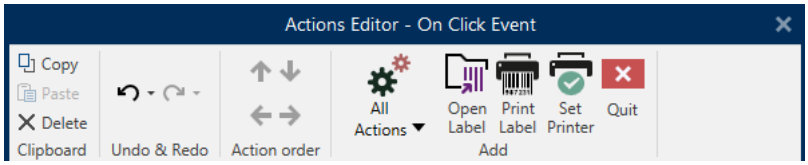
Ribbon is a rectangular area that spreads across the top of an application window. Related commands are divided into ribbon groups. The ribbon changes along with the selected tabs and adapts to the currently used tools using the contextual tabs.

The following Designer dialog boxes are equipped with a dedicated ribbon:

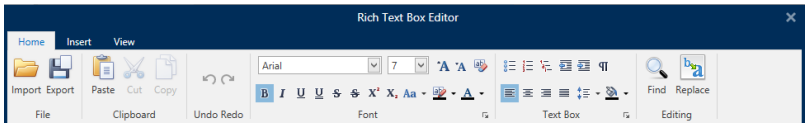
- Dynamic Data Manager



- Actions Editor



- Rich Text Editor



3.5.3 File Tab

File tab serves as document management panel. The following options are available:

- Start: takes you to the Designer landing page.
- **New:** creates a new stand-alone label or a complete solution.

- **Open:** allows opening existing label and solution files.
- **Import:** allows you to import labeling files from non-NiceLabel labeling software.
- **Save:** saves the active label or solution.
- **Save As:** allows saving the active label or solution file by defining its name and location.
- **Print:** opens the printing form.
- **Store:** stores the current label as a template on the printer to be used in store/recall mode.
- **Protection:** prevents the label or solution from editing.
- **Close:** closes the current Designer document.

  TIP: This note is applicable if you have Open or create documents in new instances option enabled.

  If a document is closed while another document is already open, its instance (NiceLabel 2019 window) is closed as well.

- **Options:** opens the dialog for configuring the program defaults.
- **About:** provides license and software version information.
- **Exit:** closes the application.

3.5.3.1 Start

Start panel takes you to Designer landing page. Use it to create or open documents, access recently opened files, preview files and learn more about Designer.

3.5.3.2 New

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

New Label creates a new stand-alone label. New Label Setup Wizard opens after clicking this button.

New Solution creates a complete solution including (multiple) labels and printing forms. Solution designer opens after clicking this option.

New from Sample Templates creates a document based on a selection of industry-standard templates.

NOTE: Adding new labels or forms is also available in the **Solution explorer**. See section Solution explorer for more details.

TIP: There are two ways of opening new labels or solutions. You can open each additional document in a separate instance (window) of Designer. An alternative way is to open

documents within the already opened instance. To select the way that suits you better, go to **File > Options >** Designer.

TIP: When creating a new label based on a sample template, Designer creates a new folder inside the Solutions folder. The newly created folder is named after the sample. It is located at: `C:\Users\username\Documents\NiceLabel\Solutions\newly created folder`

3.5.3.3 Open

Open dialog allows opening existing label and solution files.

Browse allows selecting the label or solution files on local or connected network drives.

Document storage opens the document storage location of the connected NiceLabel Control Center.

Recent Files field lists the latest files that have been edited. Click any of them to open the file.

3.5.3.4 File Tab Import

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

Import allows you to import files into a solution. Supported file formats are:

- Solution file (.nsln)
- Label file (.nlbl)
- Label file (V6) (.lbl)
- Form File (V6) (.xff)

When an import command is issued, the **Open** dialog opens. Select the file you want to import. The imported file becomes visible in the solution manager.

NOTE: Label .lbl and form .xff files are legacy NiceLabel file types used with version 6 and earlier.

3.5.3.5 Save

Save panel saves the active label or solution using the same file name that was used to open it.

NOTE: If a file has been opened for the first time, **Save** directs you to the **Save as** on the **File** tab.

3.5.3.6 Save As

Save as allows saving the active label or solution file by defining its name and location.

Recent folders field lists the folders that were recently used to save the label or solution files.

3.5.3.7 Print

Print opens the print pane. In Designer, print pane hosts a powerful and customizable default printing form.

Printing form customization options are described here.

3.5.3.8 Store/Recall Printing Mode

Store/Recall printing mode is a method for speeding up the printing process. It increases printer response by reducing the amount of data that needs to be sent during repetitive printing tasks.

NOTE: **Store** option becomes visible in Designer **File** tab if enabled in the label properties printer panel and supported by the currently selected printer.

With store/recall mode activated, Designer does not need to resend the complete label data for each printout. Instead, default labels (templates) and internal printer elements (graphics, fonts) are stored in the printer memory, and Designer only sends recall commands which render the stored label content during the printing process. Typically, a few bytes of data are sent to the printer as compared to a few kilobytes in the case of normal printing.

The action consists of two processes:

- **Store label.** During this process, Designer creates a description of the label template formatted in the selected printer's command language. When done, Designer sends the created command file to the printer memory and stores it.
- **Recall label.** A label stored in the printer memory is printed out immediately. Using the recall process, Designer creates another command file to instruct the printer which label from its memory should be printed. The recall label command occupies a few bytes of data only. The actual amount of data depends on the current situation. For fixed labels without any variable contents, the recall command file only contains the recall label command. For variable labels that contain variable fields, the command file includes the values for these variables and the recall label command.

NOTE: Before activating this mode, make sure the appropriate printer driver is selected for the label printer. Not all label printers have the ability to use the store/recall printing mode.

Follow these steps to activate the **Store/Recall** printing mode:

1. Double-click the label design surface. **Label Properties** dialog appears.
2. To enable the mode, select **Use store/recall printing mode** on **Printer** tab. Click **OK**.
3. Define label template(s). All label objects with variable content must be formatted as internal printer elements:
    - Text object content must only use internal printer fonts (not Truetype!).
    - Use internal printer barcodes in barcode objects.

- If using variable objects withTruetype fonts, variable pictures or database fields, the default values are sent to the printer during the label store process.

4. Click **File > Store**. Make sure the **Store variant** points to the correct memory location in the printer.
5. Insert or select values for variable objects that are not formatted as internal printer objects. These variables will be given the same value on each label. They will behave as objects with fixed values.
6. Click **Store to printer** to create the command file with label template description and to send it to the printer.
7. Insert values for prompted label variables. These variables are linked with internal printer objects on the label. For this reason, their values can be changed during each printing.
8. Click **Print** to send variable values and recall label command to the selected label printer.

3.5.3.9 Protection

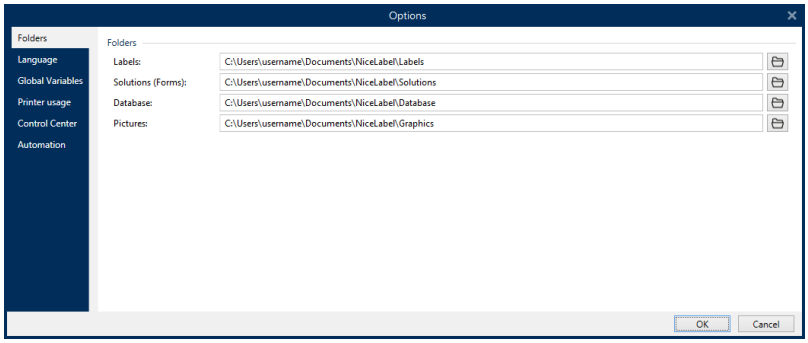
Protection prevents the label or solution from editing.

- **Prevent document from editing:** locks the label or solution. Enabling this option prevents any unauthorized changes on file – only copying and printing is possible.
- **Requires a password to unlock document:** prevents the file editing with a password protection. Check this option to set a password. A file becomes editable only after entering a correct password.

3.5.3.10 Options (Configuring The Program)

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

To customize the general program configuration of Designer, open the **Options** dialog which is accessible from the **File** tab.



Designer configuration options are grouped on the following tabs:

- Folders: allows you to set the default locations for storing the labels, forms (solutions), databases and picture files.
- Language: selects the user interface language. Select the preferred language from the listed options.

- Global Variables: storage location for global variables.
- Printer usage: locally logged usage of installed printers.
- NiceLabel Control Center: allows you to enable and configure the monitoring of events and print jobs.
- Automation: enables you to configure NiceLabel Automation settings.
- Designer: enables you to configure opening behavior of NiceLabel 2019.

3.5.3.10.1 Folders

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

When moving or sharing the documents you create in Designer, the locations of related documents and files might become inaccessible. To prevent broken references, define the default search locations that instruct Designer to search for the documents and files on alternative locations.

Use the **Folders** tab to define the default search locations for the documents and files that you work with in Designer. These folders serve as the default search location if:

- Designer cannot find labels on the specified locations. In this case, Designer searches for them in the **Labels** folder.
- Designer cannot find solutions on the specified locations. In this case, Designer searches for them in the **Solutions (Forms)** folder.
- Picture object file paths in labels or solutions are incomplete or missing. In this case, Designer searches for them in the **Picture** folder.

EXAMPLE:

A form in your solution includes a picture file named `picture.png` without a specified path. This is why Designer cannot locate the requested picture.
Solution: When searching for a graphic file named picture.png, Designer goes to `C:\Users\user\Documents\NiceLabel\Graphics`. This is the location defined in the **Folders** tab.

NOTE: Make sure read/write rights are granted to the account under which the Designer is running.

TIP: Details about the check algorithm which is used to locate the label and solution files is described in detail here.

NOTE: When opening and saving your documents, Designer remembers the last used location. The next time you open or save your documents, Designer goes to the last used location.

3.5.3.10.2 Language

Language tab allows selecting the Designer interface language. Select the appropriate language and click **OK**.

> NOTE: Restart is necessary to make the user interface appear in the selected language. Make sure you save your work before closing the program.

3.5.3.10.3 Global Variables

Global Variables tab allows defining which location with stored global variables should be used:

- **Use global variables stored on the server (NiceLabel Control Center):** sets the global variable storage location on the NiceLabel Control Center.

  > NOTE: Select the NiceLabel Control Center before selecting this option.

  > NOTE: This option becomes available when using the NiceLabel Label Management Solution license.

- **Use global variables stored in a file (local or shared):** sets the global variable storage location in a local or shared folder. Enter the exact path or click **Open** to locate the file.

By default, global variables are stored in Globals.tdb file in: `C:\ProgramData\NiceLabel\Global Variables\`.

> **TIP:** These two options become useful when designing solutions for multiple customers with their own sets of global variables.

3.5.3.10.4 Printer Usage

Printer usage tab displays printers which have been used with NiceLabel 2019.

> NOTE: Printer usage logging is available with multi-seat license. Details about printer licensing is available in section Printer Licensing Mode.

Printer usage information group displays how many of the permitted printer ports are used by printing on multiple printers.

- **Number of printers allowed by license:** number of permitted printers to be used with the current Designer license.
- **Number of used printers in the last 7 days:** number of printers that have been used with Designer during the last 7 days.

> NOTE: If the used printer count exceeds the permitted number of used printers, NiceLabel 2019 activates the grace period. The software grants the end-user a 30-day time extension during which the number of licensed printers is doubled. If the doubled number is also exceeded, printing becomes disabled on the additional printers.

Printing statuses are visible in multiple columns:

- **Printer:** name or model of the printer that was selected for the print job.

  NOTE: If the connected printer is shared, only printer model is displayed.

- **Location:** name of the computer from which the print job has been sent.
- **Port:** port used by the printer.
- **Last Used:** time passed since the last print job.
- **Reserved:** prevents the printer from being removed after being idle for more that 7 days.

  NOTE: If a printer remains unused for more then 7 days, it is removed automatically unless the **Reserved** option is enabled.

Permissions group allows you to lock printer usage on local workstation.

NOTE: Before activating this option, make sure at least one printer is reserved. With no printers reserved, an error is reported if you try to edit a label. Printing is disabled as well.

- **This workstation can only use reserved printers:** with this option enabled, only reserved printers are allowed for label editing and printing in NiceLabel 2019.

  TIP: Use this option to avoid exceeding the number of available licensed printer seats by printing on unwanted printers or print-to-file applications. Reserve dedicated thermal or laser labeling printers and limit printing only to them to ensure continuous printing of labels with a multi-user licence.

  This option can also be enabled using the `product.config` file:

  1. Navigate to the System folder.

     EXAMPLE: %PROGRAMDATA%\NiceLabel\NiceLabel 2019

  2. Make a backup copy of the `product.config` file.
  3. Open `product.config` in a text editor. The file has an XML structure.
  4. Add the following lines:

```
<Configuration>
  <Activation>
    <ReservePrinters>Example Printer</ReservePrinters>
  </Activation>
  <Common>
    <General>
      <ShowOnlyReservedPrinters>True</ShowOnlyReservedPrinters>
    </General>
  </Common>
```

```
</Configuration>
```

5. Save the file. The `Example Printer` is reserved.

3.5.3.10.5 NiceLabel Control Center

Control Center tab allows you to enable and configure the monitoring of events and print jobs. The use of NiceLabel Control Center enables centralized event and print job reporting, and centralized storage of global variables.

PRODUCT LEVEL INFO: This tab is available only if LMS license is activated.

Address

Address group defines which NiceLabel Control Center server should be used.

- **Control Center server address:** URL of the connected NiceLabel Control Center server. You can select from the list of automatically discovered servers on the network, or enter a server address manually.

NOTE: The license keys on the NiceLabel Control Center server and on the workstation must match to enable the connection.

NOTE: If your connected NiceLabel Control Center uses the application authentication, each NiceLabel 2019 startup requires you to type in your user name and password. Read more about the authentication types and user privileges in the NiceLabel Control Center user guide, section Authentication.

Event Monitoring

Event handling in the NiceLabel Control Center allows central management of labeling workstation activities. Activities like label printing, errors, alerts, middleware application triggering, etc. are reported and logged to NiceLabel Control Center.

Event Monitoring group defines what types of events should be logged by the connected NiceLabel Control Center:

- **Print Events:** logs the print related events from the workstation.
- **Error Events:** logs all reported errors.

  NOTE: By default, Print Events and Error Events are logged to NiceLabel Control Center.

- **Trigger Activity:** logs all fired triggers.
- **Trigger Status Change Events:** logs the trigger status changes which have been caused by the fired triggers.

Print Job Monitoring

Print Job Monitoring group enables you to log the completed and ongoing print jobs to the NiceLabel Control Center.

- **Enable Print Job Logging to Server:** activates print job logging.
- **Detailed printing control:** enables monitoring of statuses that are reported by the connected printer.

> NOTE: There are two requirements to make this option available:
> - The printer must support bidirectional communication.
> - NiceLabel printer driver must be used for printing.

3.5.3.10.6 Automation

Automation tab enables you to configure NiceLabel Automation settings.

> NOTE: This tab becomes visible with NiceLabel PowerForms Desktop and LMS licenses.

Service Communication group defines the communication settings.

- **Service communication port:** number of the port which is used by the Automation service for communication.

Log group configures how the below listed messages reported by the Automation Manager are logged.

> NOTE: The default data retention time is 7 days. To minimize log database size on busy systems, reduce the retention period.

- **Clear log entries daily at:** selects the time at which the daily log entries are cleared.
- **Clear log entries when older than (days):** sets the log retention time in days.
- **Log messages:** selects the message types that are logged.
    - **All messages:** saves all message types in the log.
    - **Errors and warnings:** saves errors and warnings in the log.
    - **Errors:** saves errors in the log.
    - **No log:** no messages are logged.

Performance group enables improving the time-to-first label and general performance of the Automation service.

- **Cache remote files.** To improve the time-to-first label and performance in general, NiceLabel 2019 supports file caching. When you load the labels, images and database data from network shares, all required files must be fetched before the printing process can begin.

> **TIP:** If you enable local caching, the effect of network latency is reduced as label and picture files are loaded from the local disk.

Automation service uses the following local folder to cache the remote files: `%PROGRAMDATA%\NiceLabel\NiceLabel 2019\FileCache`.

- **Refresh cache files (minutes):** defines the time interval within which the files in the cache are be synchronized with files in the original folder. This is the time limit for the system to use a version which may not be the latest.
- **Remove cache files when older than (days):** defines the time interval after which all files are removed from cache.

NOTE: File caching supports label and picture file formats. After you enable file caching, restart Automation service to make the changes take effect.

3.5.3.10.7 Designer

Designer tab enables you to configure opening behavior of Designer.

Opening Mode group defines how your Designer opens new documents.

- **Display each document in its own window:** If enabled, additionally opened documents appear in separate windows of Designer. This applies to both – newly created and existing documents.

  If you decide to disable this option, additionally opened documents will appear within the currently active instance of Designer.

3.5.3.11 About

The **About** dialog page provides information about your NiceLabel product license, enables license purchasing (when in trial mode) and activation, provides software details, allows you to sign in to your Label Cloud account, and enables you to change the Designer product level.

The **About** dialog page provides information about your NiceLabel product license, enables license purchasing (when in trial mode) and activation, provides software details, and enables you to change the Designer product level.

- **Product level** tells you the product level you are currently running.
- **Change product level:** opens the product level selection dialog. When in trial mode, you can choose and evaluate all product levels. With an activated license, you can change your product level only to lower levels.
- **Trial mode duration:** information about the remaining days for product evaluation.
- **Purchase License:** button directs you to the NiceLabel online store.
- **Activate license:** button opens the Designer license activation dialog. See NiceLabel 2019 installation guide for details about the license activation process. After activating the license, this button is renamed to Deactivate License – after clicking it and confirming the deactivation, your copy of Designer is no longer activated.

NOTE: These segments are no longer visible after purchasing and activating the product license.

NOTE: Product level changes take effect after you restart Designer.

NOTE: If NiceLabel 2019 has been installed with predefined product level (i.e., the level has been defined by the license key), product level selection is not required during first start.

- **License type:** is the type of license that you are using to run the NiceLabel 2019. If you activated the Designer by signing into the Label Cloud, here is where you see the **Edition** of your cloud.
- **Upgrade license:** opens the product level upgrade dialog. See NiceLabel 2019 installation guide for details about the license upgrade process.

  NOTE: NiceLabel 2019 upgrades automatically if the upgraded license is available on your network.
- **Printer limit:** is the maximum number of printers that you can use with your NiceLabel license.
- **Account:** if you are signed into Label Cloud, Designer displays the name of you cloud account.
- **User:** if you are signed into Label Cloud, Designer displays your Label Cloud user name.

Software information contains information about the installed copy of NiceLabel 2019 – license, license key, and installed version. If a newer version of NiceLabel 2019 is available, a notification link appears on the page automatically. Click on the link to download and install the latest version.

3.5.3.11.1 Working Offline (without Label Cloud Connection)

PRODUCT LEVEL INFO: This section is applicable if your NiceLabel 2019 is signed in to the Label Cloud

If your Designer is signed in to the Label Cloud, and you lose the internet connection, you must reestablish the connection in up to five days. Without reconnecting with your Label Cloud, Designer closes automatically.

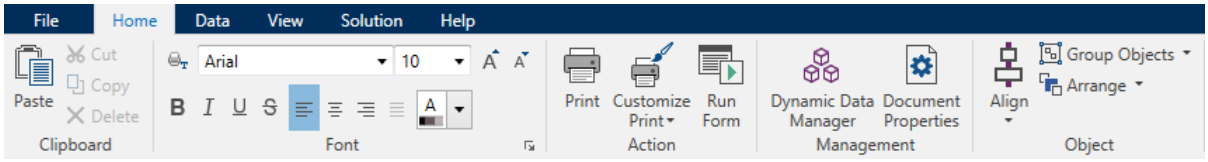
After losing the internet connection, and if your computer stays offline, a warning appears in 5 days. Designer closes 5 minutes after you see the warning.

After you reestablish the internet connection, open Designer and sign in to the Label Cloud. This makes your copy of Designer active again.

WARNING: Save your work to an offline location (your computer) to prevent losing any changes.

3.5.4 Home Tab

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.



Home Tab provides access to frequently used commands and settings in the following ribbon groups:

- Clipboard: group temporarily stores the selected elements, objects or groups of objects.
- Font: group lets you define the font properties.
- Action: group contains the **Print** button which starts the printing procedure or runs a form.
- Management: group provides direct access to the Dynamic Data Manager and Document properties – active label or form properties dialog .
- The Align group options define relative horizontal and vertical positioning for the object content.
- Objects: group allows you to align, group or arrange label objects.

3.5.4.1 Clipboard

Clipboard group temporarily stores the selected elements, objects or groups of objects. Use the selected and stored objects to transfer them from one label or solution to another.

TIP: Copying and pasting of textual (plain text, RTF) and graphical (bitmaps) content between multiple applications is supported.

- **Paste:** pastes the clipboard contents on the design surface. Multiple reuse of a single clipboard item is allowed.
- **Cut:** removes the selected element(s) from the design surface and adds it to the clipboard to be pasted elsewhere. Note that the first element is selected by clicking it. When selecting additional elements, press and hold `<Shift>` key while clicking these elements.
- **Copy:** copies the selected content to the clipboard. Multiple objects can be copied at once – select them and click **Copy**.
- **Delete:** deletes the selected elements or objects. They are not stored in the clipboard.

- **Format painter:** copies the formatting properties from one object to another. This is how you multiply the style of your reference object.

  EXAMPLE: Use the format painter to copy font, font size, font color, alignment and spacing from your reference Text object to all other Text objects using a single action.

  To copy the object style properties:

  1. Click your reference object. This is the object you want to copy the properties from.
  2. Click the format painter.
  3. Click the target object. This object now has the same properties as your reference object.

  When using the format painter for different objects, you are copying and pasting the object's properties from the **Style** tab. If there are matching **Style** properties between the objects, Designer transfers these properties to the target object.

  EXAMPLE: When multiplying the properties from a Rectangle object to Ellipse objects, all **Style** tab properties apply, except for the corner radius. This property is only applicable to the Ellipse object.

  NOTE: You can also copy properties between the objects on different labels, different forms, or between objects on labels and forms.

3.5.4.2 Font

Font group defines font properties:

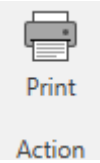
- **Show/hide printer fonts:** button allows you to exclusively display internal printer fonts on the list of available fonts. Graphical fonts are hidden in this case. After pressing this button again, all available fonts are visible on the list once more.
- **Font:** defines the font family to be used in a selected object.
- **Font Size:** defines the text size in an object. Select the desired point size from the drop-down selector or enter it manually.
- **Font Style:** defines the object text stylistic characteristics of text, such as bold or italic.
- **Alignment:** defines horizontal text positioning in an object: **Left**, **Center** or **Right**.
- **Justify:** makes a paragraph aligned along the left and right object margins.

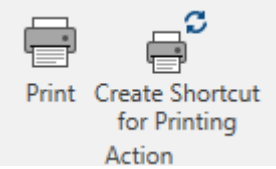
TIP: When changing a font during the design process, Designer remembers the last used font type and size.

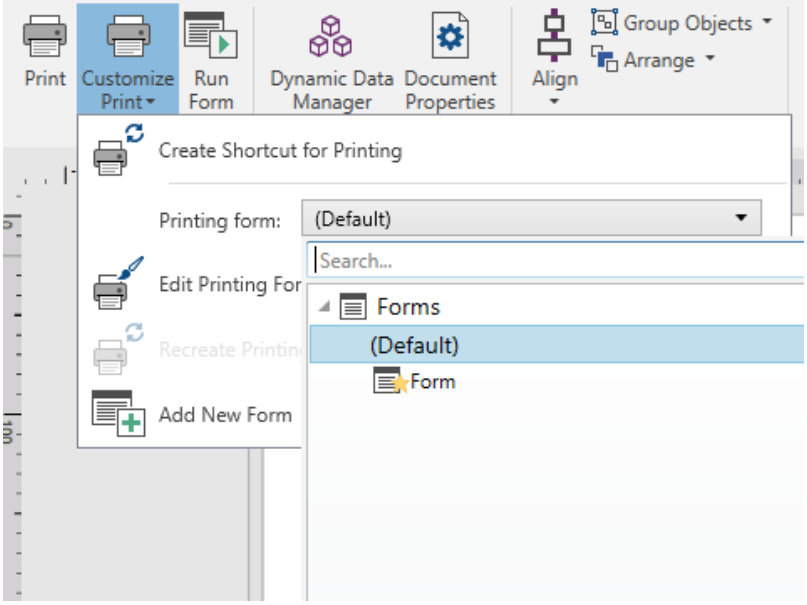
3.5.4.3 Action

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Action group creates a printing shortcut, starts the printing procedure, customizes printing, or runs a form.







Print button opens the Designer **Print pane** as defined by the Default Printing Form.

Customize Print opens multiple options to adapt the printing options.

- **Create Shortcut for Printing:** allows you to create a printing shortcut to a label or a form in a solution. Creating the printing shortcut requires you to save the label or form document first.

  NOTE: When creating shortcut to a solution, the shortcut is named **Run [solution name]**. After double-clicking it, the form is run instantly.
  When creating shortcut to a label, the shortcut is named **Print [label name]**. After double-clicking it, NiceLabel NiceLabel Print starts – it enables you to print the saved label instantly.

- **Printing form:** defines which form in the solution is used as default printing form.

  NOTE: Selection of the default printing form is available when editing a solution.

- **Edit Printing Form:** allows adding, removing, or rearranging the objects on a printing form. Read more about the printing form customization here.

  NOTE: If the printing form has not been selected yet, the **Edit Printing Form** option adds a new form and sets it as the default printing form. If an existing form is selected, the option opens it for editing.

- **Recreate Printing Form:** resets the printing form to its default layout and reestablishes the dynamic content providers after being edited.
- **Add New Form:** adds a new form to the solution. It can either be a blank form or a form designed as a printing form. Use **Form name** to name the newly added form and make it easily recognizable among other solution documents.

Run Form button runs the currently active form.

NOTE: If a label uses a customized printing form, this form remains open as a tab. The tab cannot be closed.

3.5.4.4 Management

Management ribbon group provides direct access to:

- Dynamic Data Manager dialog. Click the button to start managing the dynamic data sources that are connected to objects.
- **Document Properties** opens current label or form properties.

3.5.4.5 Align

The **Align** group options define relative horizontal and vertical positioning for the object content:

- **Align Objects Left:** aligns objects with the left border of the first selected object or with the leftmost object.
- **Align Objects Center:** aligns objects with the horizontal center of the first selected object or with horizontal center of the largest object.
- **Align Objects Right:** aligns objects with the right border of the first selected object or with the rightmost object.
- **Distribute Horizontally:** distributes objects using equal horizontal spacing.
- **Align Objects Top:** aligns objects with the upper border of the first selected object or with the highest object.
- **Align Objects Middle:** aligns objects with the vertical center of the first selected object or with vertical center of the largest object.
- **Align Objects Bottom:** aligns objects with the bottom border of the first selected object or with the lowest object.
- **Distribute Vertically:** distributes objects using equal vertical spacing.

3.5.4.6 Object Grouping And Arranging

The **Objects** group helps you work with mutiple objects.

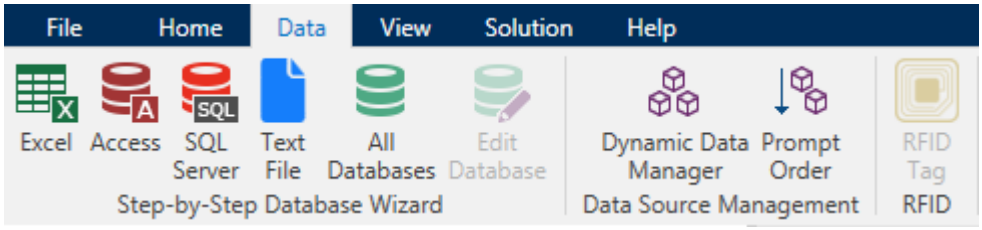
- **Group objects** unites the selected objects and makes them behave as a single object.
- **Ungroup objects:** separates the grouped objects.

Arrange positions the objects so that they appear either in front of or behind each other.

- **Send Backward:** sends the element back one level.
- **Send to Back:** sends the element behind all other elements on the label.
- **Bring Forward:** brings the element forward one level.
- **Send to Front:** sends the element in front of all other elements on the label.

Delete allows you to remove the selected individual or group objects from your label template.

3.5.5 Data Tab

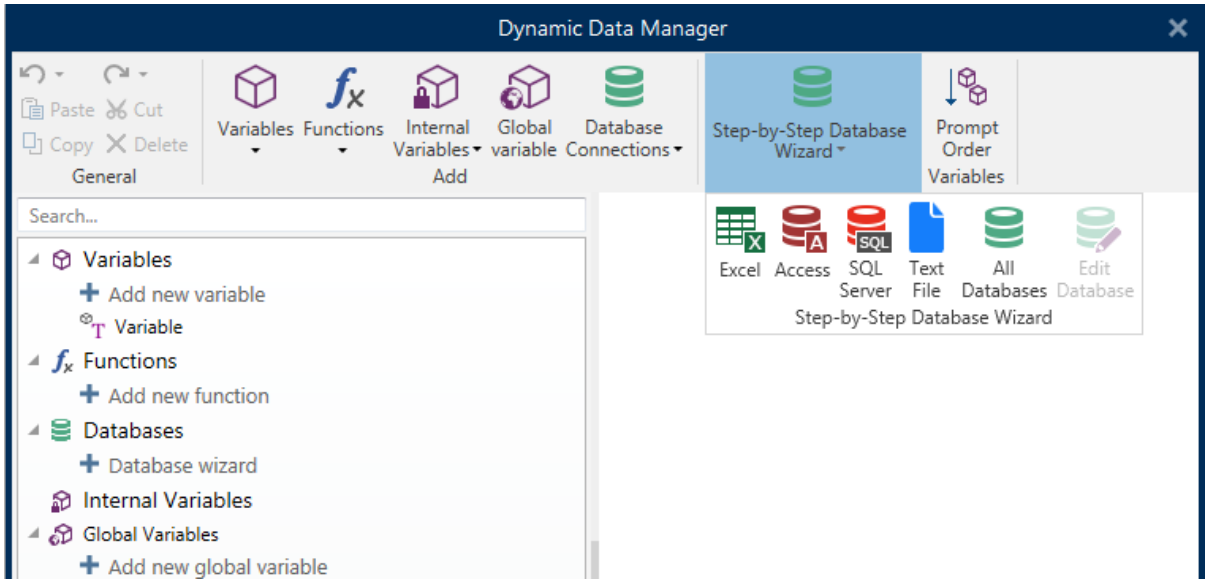


Data tab displays the Designer ribbon with groups that enable you to instantly connect an object with commonly used data sources, or to define data connections in more detail:

- Step-by-Step Database Wizard ribbon group opens database wizard for typical database connection types.
- **Data Source Management** ribbon group gives direct access to the Dynamic Database Manager and Prompt Order dialogs.

3.5.5.1 Step-by-Step Database Wizard

Database wizard is a guided process that allows the user to configure a connection to a database and to select which tables and fields will be used.



Edit Database allows you to edit all existing connected databases using a wizard.

The wizard additionally allows you to sort, filter records, and to define how many label copies will be printed per database record.

3.5.5.2 Data Source Management

Data Source Management ribbon group provides access to:

- Dynamic Data Manager**:** dialog for managing and connecting to various data sources.
- Prompt Order**:** dialog for defining the order of prompted variables on the print form.

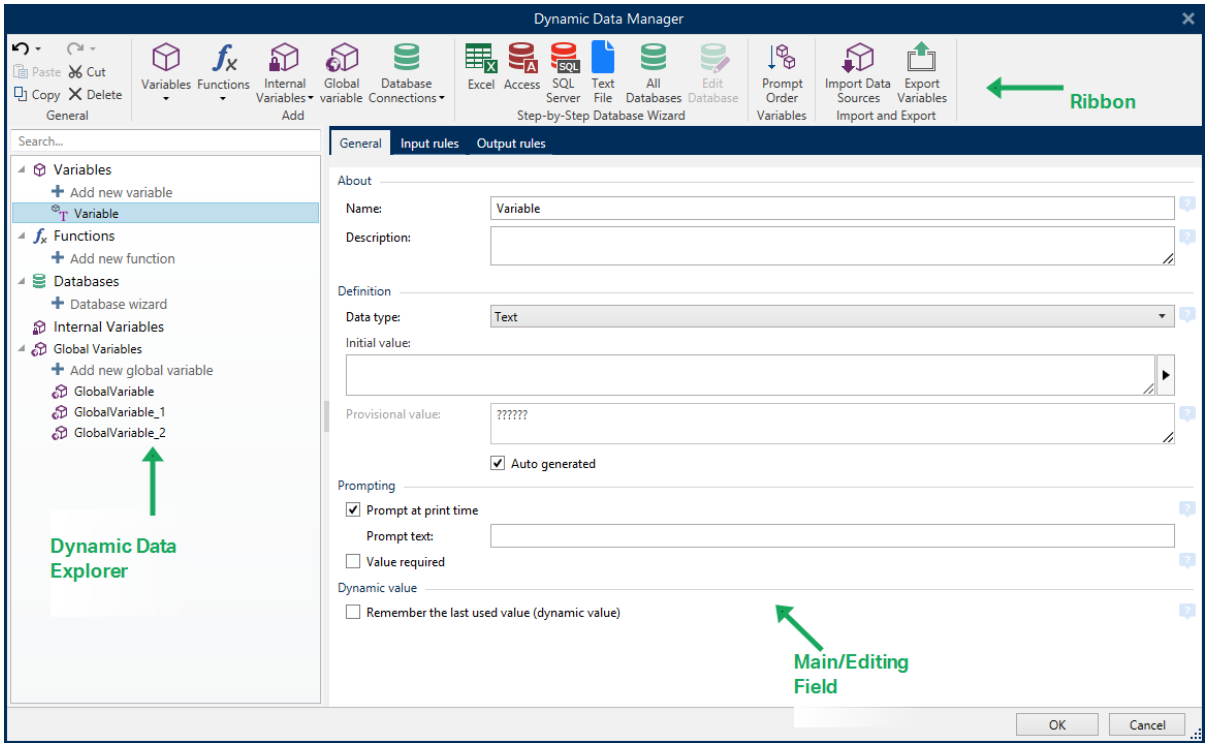
3.5.5.2.1 Dynamic Data Manager

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

Dynamic Data Manager is a dialog that enables the user to manage the dynamic data sources for label and form objects.

Label and form objects can be connected to multiple variables, functions and databases.

To open the dialog, click the **Dynamic Data Manager** button in the Designer ribbon.



Read more about how to define the data sources in the following sections:

- Work with variables.
- Work with functions.
- Use databases as content source.
- Use internal variables as content source.
- Use global variables as content source.

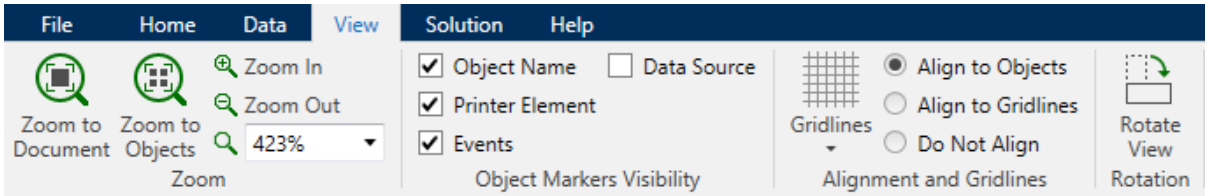
3.5.5.2.2 Variable Prompt Order Dialog

Variable Prompt order dialog defines the order in which the variable values are prompted at print time.

The dialog displays the entire range of currently defined variables.

To change the prompt order, select a variable from the list and change its position using drag and drop or **Move up** and **Move down** buttons. Repeat this step for each variable, whose prompting position needs to be changed.

3.5.6 View Tab



View Tab gives you control over document zooming, marker visibility, visual aids and design surface rotation. It makes the following ribbon groups available:

- Zoom: defines design surface zoom level and Designer window zoom behavior.
- Object Markers Visibility: defines visibility settings for object properties.
- Alignment and Gridlines: sets object positioning behavior and defines properties for design surface gridlines.
- Rotation: rotates the design surface clockwise for 90 degrees per click.

3.5.6.1 Zoom

Zoom group defines the design surface zoom level.

- **Zoom to Document:** displays the entire label in the Designer window.
- **Zoom to Objects:** displays all objects in the Designer window.
- **Zoom In:** magnifies the design surface by a percentage of the currently defined zoom level.
- **Zoom Out:** decreases the design surface by a percentage of the currently defined zoom level.
- **Zoom percentage drop-down menu:** allows you to type in or select the exact zooming percentage for your current document.

3.5.6.2 Object Markers Visibility

Objects markers visibility group toggles the visibility for the following object properties:

- **Object Name:** displays the name of an object.
- **Printer Element:** indicates that the object will be printed using a printer built-in function. This options serves as an alternative to sending the object to printer as a graphic.
- **Events:** indicates that the form object runs assigned Action(s).
- **Data Source:** indicates that the object is connected to a dynamic data source.

3.5.6.3 Alignment And Gridline Guides

Alignment and Gridlines group sets object positioning behavior and defines properties for design surface gridlines.

- **Display gridline guides:** makes the design surface grid dots visible.
- **Grid Size X:** defines horizontal distance between the grid dots.
- **Grid Size Y:** defines vertical distance between the grid dots.
- **Grid Offset X:** defines the horizontal offset of the grid from the design surface center.
- **Grid Offset Y:** defines the vertical offset of the grid from the design surface center.

- **Align to Objects:** makes an object align with other objects on the design surface. When an object is aligned, a line which marks the object alignment appears.
- **Align to Gridlines:** aligns the selected objects with gridlines.

  NOTE: Certain continuous inkjet (CIJ) printer models only print on predefined label surface positions. If such printer is currently selected, grid settings are defined by the printer driver and grayed out for this label. The **Align to Gridlines** option is automatically enabled.

- **Do Not Align:** makes the object position independent of gridlines and position of other object(s).

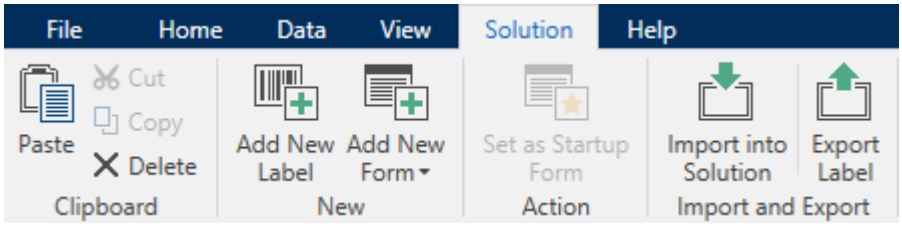
3.5.6.4 Rotation

Rotate view button rotates the design surface clockwise. Horizontal and vertical rulers adapt to the current position of the design surface.

TIP: Rotation type is defined by the printer driver. Certain drivers support complete 360 degrees rotation (90 degrees per click), while others allow 90 degrees rotation clockwise (portrait/landscape).

3.5.7 Solution Tab

PRODUCT LEVEL INFO: Solution building is available in PowerForms.



Solution Tab enables quick and easy access to commands that are related to the entire print solution. The tab makes the following ribbon groups available:

- Clipboard: stores selected objects or groups of objects.
- New: allows adding additional labels or forms to the active solution.
- Action: starts the printing procedure or runs a form.
- Import&Export: allows importing, publishing and exporting the solution files.

3.5.7.1 Clipboard

Clipboard group temporarily stores the selected elements, objects or groups of objects. Use the selected and stored objects to transfer them from one label or solution to another.

TIP: Copying and pasting of textual (plaint text, RTF) and graphical (bitmaps) content between multiple applications is supported.

- **Paste:** pastes a document (label/form) into the solution.
- **Cut:** removes the selected document from the solution and adds it to the clipboard to be pasted elsewhere.
- **Copy:** copies the selected document to the clipboard.
- **Delete:** deletes the selected object from the solution.

3.5.7.2 New

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

New allows adding additional labels or forms to the active solution. Labels and form that are included in the solution are listed in the Solution explorer.

- **New Label:** adds a new label to the active solution. After clicking the **New Label** button the Label Setup Wizard appears.
- **New Form:** adds a new form to the active solution. After clicking the **New Form** button, a blank design surface appears. The form is ready for editing.

3.5.7.3 Action

Set as Startup Form sets the current form as your default Designer form. Next time you open the solution, the startup form is open and ready to be run or edited.

3.5.7.4 Import And Export

Import and Export group allows importing, publishing and exporting the solution files.

Import into Solution allows you to import documents into the solution. Supported file formats are:

- Solution file (.nsln)
- Label file (.nlbl)
- Label file (V6) (.lbl)
- Form File (V6) (.xff)

When an import command is issued, the **Open** dialog opens. Select the file you want to import. The imported file becomes visible in the solution manager.

NOTE: Label .lbl and form .xff files are legacy NiceLabel file types used with version 6 and earlier.

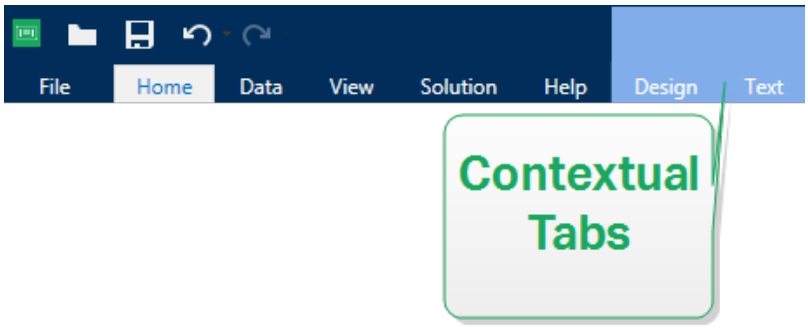
Export Label: saves the document to disk and makes it available for use in another solution. After clicking **Export Label** the Export label dialog appears. Select a location to save the label to.

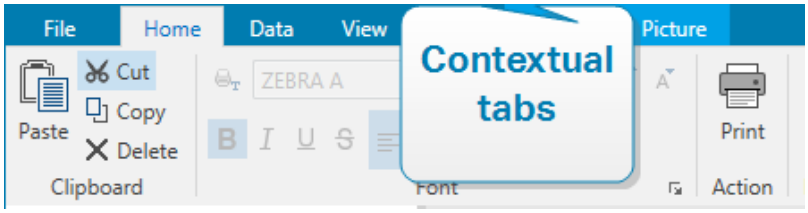
3.5.8 Contextual Tabs

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Contextual tab is a hidden tab that becomes visible when a specific label or form object is selected on the design surface. Contextual tabs appear on the right side of the standard Designer tab. The selection of displayed tabs depends on the object that you are currently editing.

- Label-specific contextual tabs are described here.
- Form-specific contextual tabs are described here.





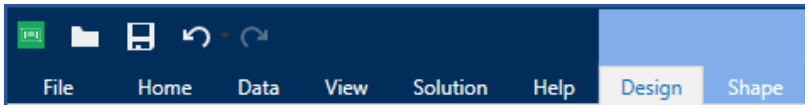
3.5.8.1 Label-specific Contextual Tabs

When editing various label objects, the following contextual tabs appear depending on the selected object:

- Design tab
- Barcode tab
- Shape tab
- Picture tab
- Text tab

3.5.8.1.1 Design Contextual Tab

Design tab serves as a contextual tab that defines the layout and positioning of the selected label object.



The following groups of settings are available on the **Design** tab:

- General: defines object's visibility and printability on a label.
- Positioning: defines the object's position on the design surface.
- Arrange: positions the object relative to neighboring objects on a label.

General
General group defines the object's visibility and printability on a label.

- **Not printable:** when enabled, this option prevents the object from being printed on the label. The object remains visible on the label preview.
- **Visible:** when disabled, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Visibility settings:** define if the selected object is going to appear on the printed label or not.
    - **Condition:** an object is enabled and/or visible if the result of the given condition is "True".
- **Name:** allows you to enter object name and its description.

Positioning
Positioning group sets the object location and size on a label.

Position button opens:

- **X** and **Y:** coordinates set the exact position on the design surface.
- **Width** and **Height:** object dimensions.
- **Keep Aspect Ratio:** makes sure both object dimensions change proportionally while resizing.
- **Rotation angle:** rotates the object clockwise.

Anchoring Point button defines the spot where an object is pinned to the design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
    - **Object:** selects the reference object for horizontal relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
    - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
    - **Object:** selects the reference object for vertical relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
    - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

Keep Aspect Ratio: makes sure the object is resized proportionally.

Lock prevents the selected object from being moved during the design process.

Arrange
Group objects: adds selected objects to a group.

- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects** separates previously grouped objects.

Arrange: defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

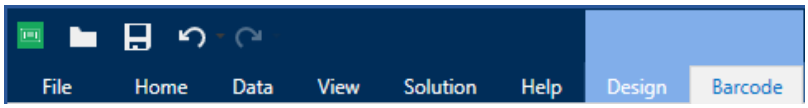
Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the `<Ctrl>` key and clicking the above listed align icons.

3.5.8.1.2 Barcode Contextual Tab

Barcode tab serves as a contextual tab that defines the type, layout and positioning of barcode object.



The following groups of settings are available on the Barcode tab:

- Barcode: defines basic barcode symbol type and its dimensions.
- Settings: defines barcode details.
- Arrange: positions the object relative to neighboring objects on a label.

Barcode Tab

Barcode group allows you to choose the barcode type and to set the dimensions of your barcode symbol.

NOTE: Settings in **Barcode** group depend on the selected barcode type.

- **Barcode Type:** defines the type of the barcode symbol to be used on a label.

  TIP: By default, Code128 barcode type is selected. For more details about the available barcode types, see section Barcode Types and Available Settings.

- **DataBar Type:** if one of the DataBar barcode types is selected, **DataBar Type** defines its specific subtype to be used on the label.
- **X dimension:** width of the barcode's narrow bar in the selected **Unit of measurement**.
- **Height:** vertical dimension of your barcode in the selected **Unit of measurement**.
- **Ratio** defines the ratio between the barcode's narrow and wide bar widths.

  Each barcode type's range of permitted ratios is limited by the standard. Designer only allows you to use valid ratios. By default, the ratio is set to 3. This means that the wide bar is 3 times the width of a narrow bar.

  NOTE: The available ratios depend on the selected **X dimension**. If you are changing the X dimension, this also affects the selection of available ratios.

- **Row height** defines the height of a single data row in 2D barcodes. Row height is specified as a multiple over the **X dimension**.

Settings

Settings group allows you to configure barcode details.

Human Readable button defines the human readable content's layout.

- **No human readable:** makes the barcode appear without the human readable text.
- **Above barcode:** locates human readable text above the barcode.
- **Below barcode:** locates human readable text below the barcode.

Style group allows you to set custom properties for human readable text.

- **Custom Font:** enables font and font size selection. Internal printer fonts cannot be used as custom human readable font.

- **Auto font scaling:** If enabled (default setting), human readable text grows or shrinks proportionally along with the changing size of the barcode. To set a custom size for human readable text, disable this option and select the appropriate font size.
- **Bold:** makes human readable text appear bold.
- **Italic:** makes human readable text appear italic.

Mask group sets the format of the input data before it is displayed on a label.

- **Content mask** sets the format of the input data before it is displayed on a label.
- **Mask character** is a character used in the mask that is replaced with actual data on the printed label.

EXAMPLE

A user needs to format a phone number to be more readable on the label. Data input is not formatted since it is read from a database.

If the input value read from a database is:

```
+38642805090
```

and the content mask is:

```
(****) **** – ****
```

the resulting output is:

```
(+386) 4280 – 5090
```

If the data contains the asterisk "*" character, change the **Mask character**. The character should have a unique value that does not appear anywhere in the data.

> **TIP: Barcode Details** differ according to the barcode standards. Define the options that are given with regard to the currently selected barcode type. Details for 1D and 2D barcodes are described in dedicated sections:

- 1D barcode details
- 2D barcode details

> **TIP: Check digit** is derived from the preceding barcode digits and is placed as the final digit of a barcode.

Color: sets the barcode's line and human readable content color on the printed label.

Arrange
Group objects: adds selected objects to a group.

- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects** separates previously grouped objects.

Arrange: defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

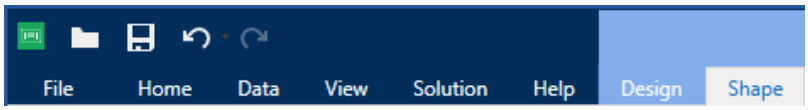
Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the `<Ctrl>` key and clicking the above listed align icons.

3.5.8.1.3 Shape Contextual Tab

Shape tab serves as a contextual tab that defines the appearance of ellipse, rectangle and line objects.



The following groups of settings are available on the **Shape** tab:

- Outline: defines how the line of the selected shape should appear.
- Fill: group defines the shape's fill style and color.
- Arrange: positions the object relative to neighboring objects on a label.

Outline

Outline group defines how the line of the selected shape should appear.

Outline Style button options are:

- **None:** makes the object line invisible.
- **Solid:** makes the object line solid.
- **Dot:** makes the object line dotted.
- **Dash:** makes the object line dashed.
- **Clear:** makes parts of other objects underneath the line invisible.

Outline Color defines the color of the shape's line.

Thickness defines the object line's width.

Corner radius: makes the rectangle corners round. Higher values make the curve broader.

Fill

Fill group defines the shape's fill style and color.

Fill Style options are:

- **None:** makes the object completely transparent.
- **Clear:** makes other objects beneath the active one invisible.
- **Solid:** fills the object with solid color.
- **Right Diagonal:** fills the object with diagonal lines that ascend toward the right side.
- **Left Diagonal:** fills the object with diagonal lines that ascend toward the left side.
- **Vertical:** fills the object with vertical lines.
- **Horizontal:** fills the object with horizontal lines.
- **Cross:** fills the object with crossed lines.
- **Cross Diagonal:** fills the object with diagonally crossed lines.
- **25% of color:** sets fill color opacity to 25 %.
- **50% of color:** sets fill color opacity to 50 %
- **75% of color:** sets fill color opacity to 75 %.

Background Color defines the color of the shape's fill.

Arrange
Group objects: adds selected objects to a group.

- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects** separates previously grouped objects.

Arrange: defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the <Ctrl> key and clicking the above listed align icons.

3.5.8.1.4 Picture Contextual Tab

Picture tab serves as a contextual tab that defines picture resizing options and object arranging.

The following groups of settings are available on the Picture tab:

- Resize: resizes the object relative to neighboring objects on a label.
- Arrange: positions the object relative to neighboring objects on a label.

Resize
Resize group defines if the picture adapts to the label size at print time or not.

Picture Fit button opens the picture sizing options.

- **Resize options:** define how the source file dimensions adapt to the size of object at print time.
    - **Keep original picture size:** disables resizing. The source file is displayed using the object with its original dimensions.
    - **Resize proportionally:** makes the source file resize proportionally. The aspect ratio of source file dimensions is preserved.
    - **Resize to the designed size:** resizes the picture horizontally and vertically to make it fit into the bounding box. Using this option will most likely make the picture distorted.
- **Original size:** displays the picture's **Width** and **Height** before resizing.
- **Revert to original picture size:** removes resizing actions.

Keep Aspect Ratio makes sure both object dimensions change proportionally while resizing.

Arrange
Group objects: adds selected objects to a group.

- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects** separates previously grouped objects.

Arrange: defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

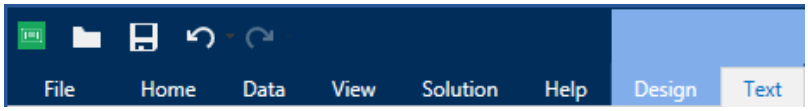
Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the `<Ctrl>` key and clicking the above listed align icons.

3.5.8.1.5 Text Contextual Tab

Text tab serves as a contextual tab that defines formatting of Text and Text box objects.



The following groups of settings are available on the Text tab:

- Format: lets you define the text format.
- Text Settings: lets you define the layout of any textual content that is added to label object.
- Arrange: positions the object relative to neighboring objects on a label.

Format

Format group lets you define the text format.

- **Show/hide printer fonts:** button turns visibility of printer fonts on the font list on/off.
- **Font:** allows specifying the typeface and its size. Fonts fall into two groups, OpenType fonts and Printer fonts.

  NOTE: If the currently selected printer is a thermal printer, additional fonts will be visible on the list of available fonts. These are the **Printer fonts** identified by the printer icon in front of their names.

- The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.
- Alignment buttons allow you to align the text to the left, center, right, or evenly.
- **Font color:** specifies font and underscore color.
- Increase/decrease font buttons allow you to gradually change the font size.
- **Scaling:** factor that defines how much the font is stretched from its original proportions.

  NOTE: If the stretch factor is set to 100 %, the font has a normal look. If factor is 200 %, it means that font is twice as wide as normal. If it is 50 %, the font is half as wide.

Text Settings

Text Setting group allows defining the layout of any textual content that is added to the object.

Character and Paragraph button opens line and character spacing options:

- **Line spacing:** distance between each line in a paragraph.
- **Character spacing:** distance between individual characters.

Effects button displays the available text effects:

- **Inverse:** inverts the colors of text and background.
- **Mirror:** mirrors the text.
- **RTL printing:** prints the text from right to left.

  TIP: Most thermal printers automatically print Arabic and Hebrew text from right-to-left. Enable this option it if the operating system does not provide native RTL support.

Text Fit button opens the automatic text sizing options:

- **None:** disables the resizing. In this case, text field dimensions and font size do not adapt to the amount of inserted content in a text box.
- **Ignore excessive content:** removes the text content that does not fit into the object.

  TIP: When enabled, the object only uses the amount of text that can be contained in the box. The remaining text is discarded.

- **Adjust height to fit content:** adapts the text box height to fit the content.
- **Fit content by adjusting font size:** sets the acceptable label object font size range. Font size adapts to the text box size automatically.

NOTE: **Text Fit** button is available when configuring the Rich text box object.

Arrange
Group objects: adds selected objects to a group.

- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects** separates previously grouped objects.

Arrange: defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.

- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the <Ctrl> key and clicking the above listed align icons.

3.5.8.2 Form-specific Contextual Tabs

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

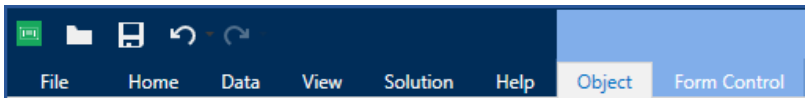
Contextual tab is a hidden tab that is displayed in the tab row when a specific form object is selected on the design surface. Contextual tabs appear on the right side of the standard Designer tabs.

The following tabs appear offering easy access to the object-specific commands:

- Object: allows defining object printability , its position, and arrangement.
- Form Control: allows defining form object related specifics – its layout and assigned events.
- Picture: gives access to picture-related events and picture resizing options.

3.5.8.2.1 Object Contextual Tab

Design tab serves as a contextual tab that defines the layout and positioning of the selected form object.



The following groups of settings are available on the Form control tab:

- General: defines object's visibility and printability on a label.
- Positioning: defines the object's position on the design surface.
- Arrange: positions the object relative to neighboring objects on a label.

General

General group enables/disables the object and defines its visibility on a form.

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
- **Visible:** defines if the selected object is going to appear on the form or not.
- **Conditions:** an object is enabled and/or visible if the result of the given condition is "True".
- **Name:** allows you to enter object name and its description.

Positioning
Positioning group sets the object location and size on a form.

Position button opens:

- **X** and **Y:** coordinates set the exact position on the design surface (in px).
- **Width** and **Height:** object dimensions.

Anchoring Point button defines the spot where an object is pinned to the design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
    - **Horizontally resize with form:** object width adapts to the resized form.
    - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Keep Aspect Ratio makes sure the object is resized proportionally.

Lock prevents the selected object from being moved during the design process.

Arrange
Group objects: adds selected objects to a group.

- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects** separates previously grouped objects.

Arrange: defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.

- **Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

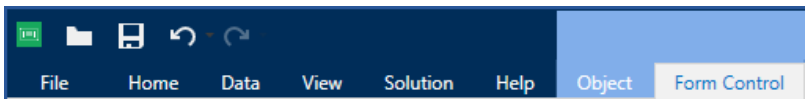
Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the <Ctrl> key and clicking the above listed align icons.

3.5.8.2.2 Contextual Tab Form Control

Form control tab enables you to assign actions to the object, and to set its appearance.



The following groups of settings are available on the Form control tab:

- Events: lets you define various events that can be run using the selected object.
- Style: defines how the content of a form object should appear. This group adapts to the currently selected form object. The following variations are in use:
  - Style group for textual content (objects: Text, Button, Memo Field, Combo Box, List Box, checkbox,
  - Style group for graphical content (objects: Frame, Label Preview)
  - Style group for table content (objects: Database Table)
- Arrange: positions the object relative to neighboring objects on a label.

Events

Events group lets you define various events that can be run using the selected object.

- **Events** button opens the list of available events for the selected object.

```
Typical events in Designer are On Click, On Focus, On Exit, etc.
```

Each event is run using actions. **Actions...** button provides access to the Actions editor which serves as a tool for managing actions in a labeling solution.

Style (for Textual Content)
Style group defines how the textual content of a form object should appear.

Show/hide printer fonts button makes the printer fonts available on the typeface list or hidden.

Font allows specifying the typeface and its size. Fonts fall into two groups, OpenType fonts and Printer fonts.

> NOTE: If the currently selected printer is a thermal printer, additional fonts will be available on the list of available fonts. They are **Printer fonts** identified by the printer icon in front of their names.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Scaling is a factor that defines, how much the font is stretched from its original proportions. If the factor is 100%, the font has a normal look. If factor is 200%, it means that font is twice as wide as normal. If it is 50%, the font is stretched.

Text alignment defines horizontal positioning of the object content.

- **Align Left:** places the text on the left border of an object.
- **Align Center:** places the text at the center of an object.
- **Align Right:** places the text on the right border of an object.

Font color allows specifying the font and underline colors.

Background Color defines the color of the object background.

Border Color button opens border color settings.

Text Settings defines the text layout.

Style (for Graphical Content)
Style group defines the layout of graphic form objects.

- **Show Border** defines if the object border is visible or not.
- **Border Settings** button opens **Border color** and **Border width** settings.
- **Background color** defines the color of object background.

Style (for Tables)
Style group defines the appearance of Database Table object on a form.

- **Table Style** defines visual appearance of the object and its content.
- **Cell Style** defines visual appearance of the selected cells in Database Table object.

Arrange
Group objects: adds selected objects to a group.

- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects** separates previously grouped objects.

Arrange: defines how objects are positioned in a group.

- **Bring forward:** moves the selected object up one layer.
- **Bring to front:** moves the selected object to the top of the object stack.
- **Send backward:** moves the selected object down one layer.
- **Send to back:** moves the selected object to the bottom of the object stack.

Align group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

Horizontal alignment options are:

- **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
- **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
- **Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
- **Distribute Horizontally:** equalizes horizontal spacing between the objects.

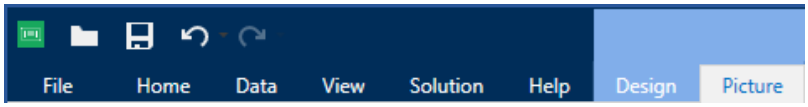
Vertical alignment options are:

- **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
- **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
- **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
- **Distribute Vertically:** equalizes vertical spacing between the objects.

TIP: Align to label/form is achieved by holding the <Ctrl> key and clicking the above listed align icons.

3.5.8.2.3 Picture Contextual Tab (Form Specific)

Picture tab serves as a contextual tab that defines picture resizing options and object arranging.



The following groups of settings are available on the Picture tab:

- Events: lets you define various events that can be run using the selected picture object
- Resize: defines how the picture source file's dimensions adapt to the size of object when the form is run.
- Arrange: positions the object relative to neighboring objects on the form.

3.5.8.3 Document Storage

Document Storage contextual tab allows you to perform document storage actions within Designer.

Document Storage is a functionality of NiceLabel Control Center. It enables the NiceLabel Control Center to perform as a shared file repository on the server, where users can store their files, retrieve them, and control their revisions.

Document Storage contextual tab enables you to perform document storage actions straight from Designer. This makes accessing and opening the file in NiceLabel Control Center unnecessary.

> NOTE: This contextual tab requires connection with NiceLabel Control Center.
> LMS Enterprise license is mandatory for such configurations.

Revisioning group allows you to perform the available document storage actions:

- **Check Out:** checks out the file from NiceLabel Control Center document storage and makes it available for editing. The checked-out file is marked and locked for editing for any other user. All other users will see the current revision of the file, while the author (designer) already works on a new draft.

  > NOTE: After opening a document from the document storage **(File > Open > Document Storage)**, the editing commands remain disabled until you check out the document.

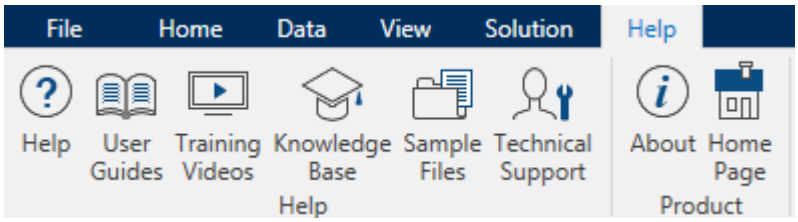
- **Check In:** checks the file to NiceLabel Control Center document storage after the editing is done. When you check in the file, its revision number increments by one. The entered comment is added to file log.
- **Discard Checkout:** discards checkout of the current file and gives other users full access to the file.

WARNING: If you click **Discard Checkout**, you irreversibly lose all changes that any of the users did after checking out the file. To keep the changes, check in the labels or solutions first.

- **Document Storage:** opens document storage location of the connected NiceLabel Control Center.

3.5.9 Help Tab

Help tab provides direct access to various resources that help you design and use labels and forms quickly and efficiently.



Help ribbon group includes buttons with links to the following resources.

- **Help:** Designer online help.
- **User Guides:** online collection of NiceLabel user guides. The collection includes user guides for the entire product portfolio.
- **Training Videos:** NiceLabel collection of training videos.
- **Knowledge Base:** online library of articles that describe many technical solutions, tips, and solved issues for labels, and printing solutions.
- **Sample Files:** access to the collection of sample label files. Use them to become familiar with Designer and to explore software capabilities.
- **Technical Support:** connects you with NiceLabel technical support department.

Product ribbon group includes links to:

- Software **About** page
- NiceLabel Home Page: www.nicelabel.com

3.5.10 RFID Tag

The **RFID Tag dialog** allows you to select the appropriate RFID tag type, to define its content, and to configure which type of data is going to be encoded on the tag.

NOTE: RFID functionality is available with installed NiceLabel printer driver.

RFID Tag dialog allows you to configure how the tag content is encoded in a tag:

- Select the RFID tag type.
- Configure various tag settings related to its structure and programming.
- Set the RFID security parameters.
- Insert and configure data fields.

3.5.10.1 Tag

The **Tag** panel of the **RFID Tag dialog** allows you to select which tag type is going to carry the encoded data and how the data should be written to the tag.

Tag group includes the tag type selection.

- **Tag type** dropdown list offers the selection of available RFID tag types. The selection of tag types is automatically defined by the printer driver.

  NOTE: Select the printer (and the corresponding driver) for the label with RFID tag in the status bar.

Usage group defines the **RFID Tag** data sources and how the data is written to the tag.

- **RFID write enabled:** Enables or disables data writing to the RFID tag.

TIP: Disabled writing might be useful during the label designing process or during specific workflow phases.

The encodable RFID data fields are added to the Dynamic Data explorer under **RFID Tag.**

DATA FIELD POSSIBILITIES

- **EPC:** Data field with Electronic Product Code
- **User Data:** Data field with the content to be encoded on the RFID tag
- **TID:** Data field with unique ID of the RFID tag
- **GID Code:** General identifier code for RFID tags
- **CID Code:** Card identification number

TIP: Drag the appropriate data field and place it on the label in form of a Text, Text Box, or Barcode object (defined by the driver).

3.5.10.2 Content

The **Content** panel of the **RFID Tag dialog** allows you to define the content of an RFID tag. To encode the data in an RFID tag, complete the following steps.

Step 1: Select Data Fields

Data Fields group allows you to select the data fields. These fields are going to contain the encoded data of the RFID tag.

NOTE: The selection of available Data Fields with corresponding settings depends on the selected Tag type.

DATA FIELD EXAMPLES

- **TID:** unique ID of the RFID tag

- **EPC:** syntax for unique identifiers assigned to objects, unit loads, locations, or other entities that are included in business operations

- **User Data:** payload data to be written in the RFID tag

- **RFID Tag Memory:** the only data field available for non-Gen2 RFID tags

Step 2: Select Data Type

Data type defines the method for entering the **Data field** content. The availability of data types depends on the selected **Data field**.

- **Memory block:** the table allows you to enter the data into individual RFID tag memory blocks. Each table row represents a single block of the selected **Tag type**.

  NOTE: Memory block structure and properties of individual blocks depend on the selected **Tag type**.

  NOTE: **Data type** can be defined for each block individually:

- **Electronic Product Code (EPC):** added fields allow you to enter the RFID data according to the EPC standard.
- **ASCII string:** RFID data to be entered as a string of ASCII characters.
- **HEX encoded string:** RFID data to be entered as a string of hexadecimal pairs.
- **Numeric:** RFID data to be entered as a string of digits.

Encoding type allow you to select the data encoding format that corresponds to your current **Data type**.

Step 3: Insert Value

Insert the value to be encoded in the RFID tag according to the selected **Data type**.

3.5.10.3 Security

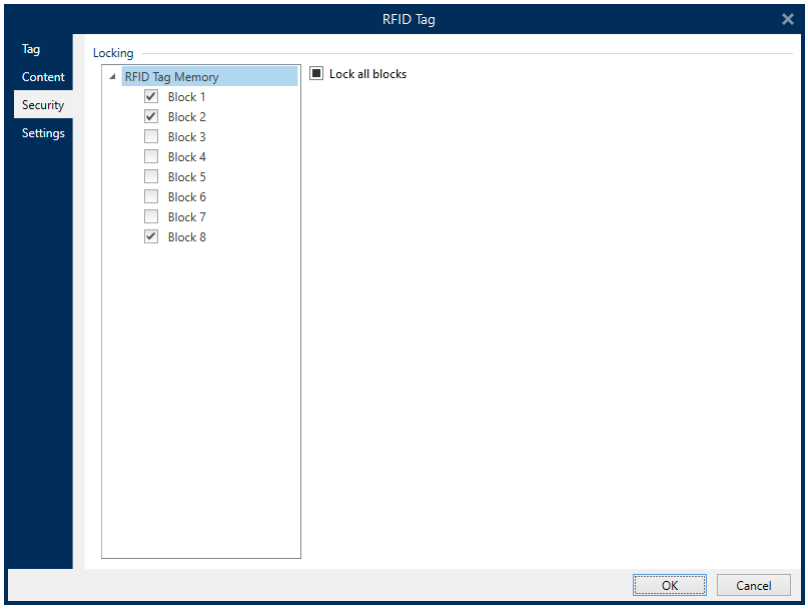
Security tab of the **RFID Tag dialog** allows you to configure the RFID tag security settings. These settings allow or deny access to RFID data writing or editing.

Security settings depend on the selected printer. There are three major configuration types.

3.5.10.3.1 Single Memory Field With Multiple Blocks

Locking group includes an overview of the blocks that are included in the RFID tag memory. Each block can be locked individually.

To protect the block for editing and writing, enable the **Block locked** option.



Lock all blocks option allows you to lock all blocks in the memory field simultaneously or unlock them if they are already locked.

3.5.10.3.2 Multiple Memory Fields

Access Protection group sets a password that must be entered before editing or writing the RFID data.

Data type defines the method for entering the **Password**.

- **ASCII string: Password** should be entered as a string of ASCII characters.
- **HEX encoded string: Password** should be entered as a string of hexadecimal pairs.
- **Numeric: Password** should be entered as a string of digits.

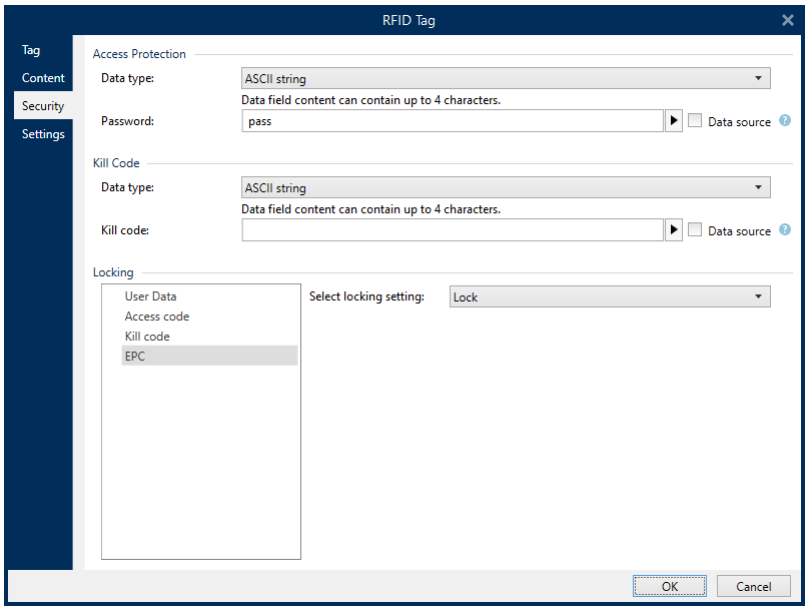
Kill code defines the code that disables the RFID tag permanently and irreversibly.

TIP: Once the kill code is activated, the data can neither be retrieved from nor written to the tag.

Data type defines the method for entering the **Kill code** characters.

- **ASCII string: Kill code** should be entered as a string of ASCII characters.
- **HEX encoded string: Kill code** should be entered as a string of hexadecimal pairs.

- **Numeric: Kill code** should be entered as a string of digits.



3.5.10.3.3 Multiple Memory Fields With Block Locking

Additional settings from **Multiple Memory Fields** allow the user to set the locking for individual blocks within RFID tag memory fields.

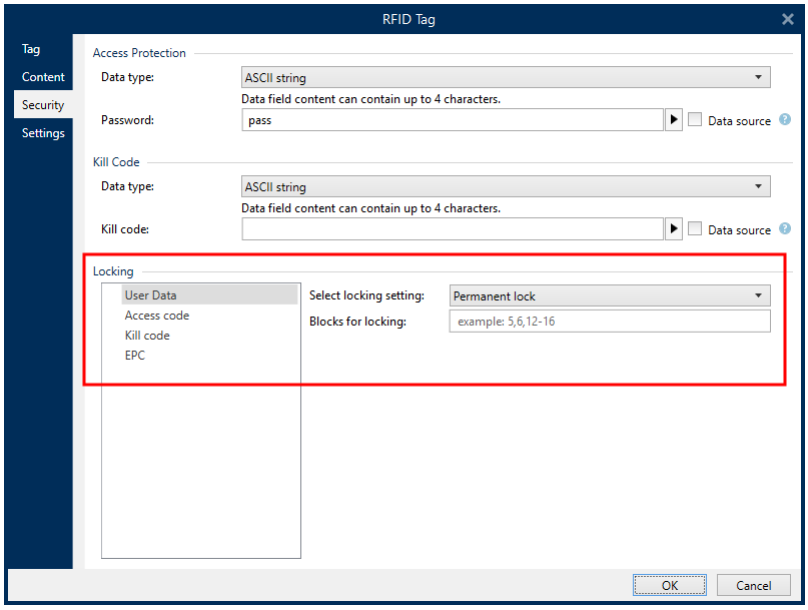
Locking group includes an overview of the memory fields that are included in the RFID tag. Each memory field can be locked individually.

Select locking settings allows you to define how the blocks are locked.

- **Preserve original setting:** original locking setting cannot be retrieved, but the default option assumes that the tag setting should remain unchanged.
- **Lock:** block is locked and further changes are prevented.
- **Unlock:** block is unlocked and editable.
- **Relock:** RFID tag is unlocked for the changes to be applied. When done, the tag is relocked immediately.
- **Permanent lock, unlock or relock:** makes the above described settings permanent. These settings cannot be undone.

Blocks for locking: defines the individual blocks or range(s) of blocks to be locked.

TIP: Individually locked blocks are defined with an index and separated by a comma (with or without inserting the space between). Ranges of blocks are defined with a dash.



3.5.10.4 Settings

Settings tab of the **RFID Tag dialog** allows you to configure various tag settings related to its structure and programming.

All available settings are listed in a table under the **Settings** group:

- **Antenna offset:** defines distance between the top of the label and the embedded RFID inlay.
- **Power attenuation:** specifies radio output power. Use it to adjust RF emission power from the antenna.
- **Maximum tags to stop:** specifies how many tags are allowed to be programmed incorrectly before the printing of labels stops. The option can be used as a precautionary measure because it prevents endless consumption of erroneous labels. When the programming of the RFID tag fails, usually the word "VOID" is printed on the label.
- **Number of retries:** specifies the number of times the printer tries to program the tag if the initial attempt fails. The parameter is sent to the printer along with the rest of the data.
- **Check for valid tag:** before the tag programming begins, printer verifies if a proper RFID tag is available on the smart label. The printer also verifies if the tag is programmable.
- **Verify data write:** once the data has been encoded into the RFID tag, the printer checks if the written data is equal to the original value.
- **Electronic Article Surveillance (EAS):** is an anti-theft system used where an electronically-detectable tag is attached to the item.
    - **Preserve original EAS setting:** original EAS setting cannot be retrieved, but the default option assumes that the tag setting should remain unchanged.

- **Enable EAS:** enables surveillance in the RFID tag. If this was the original setting, the tag would remain unchanged.
- **Disable EAS:** disable surveillance in the RFID tag. If this was the original setting, the tag would remain unchanged.
- **Permanently lock EAS tag setting:** permanently locks the chosen setting for the EAS. This lock cannot be undone.

NOTE: The selection of available settings depends on the current **Tag type**.

3.5.10.5 RFID Read And Print

This section describes how to define which data fields from the RFID tag should be read and printed on the label using the internal printer elements.

To configure the data field properties and to make the RFID encoded data on the label, drag it to design surface. After adding it to design surface, the data field appears as a normal Text label object with the following additional properties.

Data format defines the format in which the RFID data field content is written in the label object and printed.

NOTE: Available data formats and number of permitted characters are defined by the printer driver and selected tag type.

- **HEX encoded string:** data field content is a string of hexadecimal pairs.
- **ASCII string:** data field content is a string of ASCII characters.
- **Numeric:** data field content is a string of numbers.

NOTE: You must select a printer's native font (those stored internally on the printer) to print. All other fonts will result in an error.

Preview presents the data field content as it would appear using the selected **Data format**. Preview field does not include the actual encoded data. Enter the characters manually. By default, the object contains as many question marks, as given by the length of the RFID data field.

TIP: The role of **Preview** field is to fill the object with dummy content during the label design process and to give an impression of its layout on the printed label. The object on the actual printed label displays the content which was read from the RFID tag.

Data Extraction group defines which part(s) of data field content should be read from the RFID tag and printed on the label.

TIP: By default, the entire range of encoded data is read from the RFID tag.

- **Select bytes:** specifies which bytes of the encoded RFID tag data should appear in the label object.
    - **Starting byte:** the number of the byte in an encoded string which starts the selection.
    - **Length in bytes:** number of selected bytes which should be extracted from the encoded data.
- **Select blocks:** specifies which blocks of the encoded RFID tag data should appear in the label object.
    - **Starting block:** the number of the block in an encoded string which starts the selection.
    - **Number of blocks:** number of selected blocks which should be extracted from the encoded data.

3.6 Design Surface

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Your design surface is a place to create, add, position, and interconnect label and form objects.

To help you design labels and forms as simply and efficiently as possible, your design surface uses usability and functional principles from Microsoft Office.

TIP: Use View tab to customize your design surface.

- Learn more about design surface elements here.
- Learn more about design surface editing actions here.
- Learn more about design surface visual aid elements here.

3.6.1 Design Surface Elements

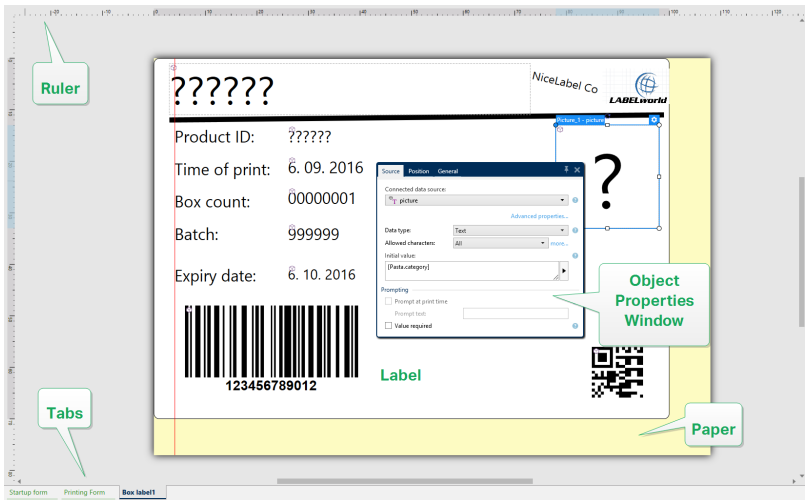
PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Design surface consists of the following elements:

- **Ruler:** Design surface is equipped with horizontal and vertical ruler. Use it to line up the objects or to properly position the label and its content. Change the unit measurements displayed on the ruler in Label properties.
- **Paper:** Yellow area of the design surface displays the current size of paper. The information about supported paper format is acquired from the printer driver, but you also have the option to define custom format. Manual paper size has to be defined when printing on regular office sheets of paper. See Paper section for more details.

- **Label:** White area represents the area for label designing. Red line displays limit of the currently printable area.
- **Object Properties Window:** Defines the selected label or form object's properties. Double-click an object to open the dialog.
- **Form:** White area represents the area which can be used for designing a form.
- **Tabs:** Currently active label(s) and form(s) are accessible on separate tabs.

PRODUCT LEVEL INFO: Tabs appear in PowerForms only.



3.6.2 Design Surface Editing Actions

Below listed are the most relevant common actions for editing the objects on design surface:

- **Object arranging:** allows the objects to be placed in front of or behind other objects in a group. Arranging options are described here.
- **Objects aligning:** allows the objects to be aligned among each other. Aligning options are described here.
- **Zooming:** enables the entire design surface to be zoomed in or out. Zooming options are described here.
- **Scrolling:** enables sliding the design surface up and down.
- **Selecting:** enables the objects on design surface to be selected for editing individually or in a group. Group selection allows any actions to be applied to multiple objects simultaneously.
- **Rotating:** enables object rotation.

3.6.3 Visual Aid Elements

Listed below are the visual aid elements that enable you to work with Designer.

- **Gridlines** serve as a visual aid during the design process. They can be either visible or hidden. Their density is customizable. Gridline options are available in the Alignment and Gridlines ribbon group.
- **Snaplines** are non-visible alignment lines that help the user align the objects during the design process. Snap options are available in Designer's Align ribbon group.
- **Ruler** shows the available design area for label (white colored field) and file page (gray colored field).
- **Resize handles** appear on the selected (active) objects. They enable you to resize the object dimensions. X and Y dimensions can be resized simultaneously or separately.
- **Margins** are the amount of fixed space between the edge of an object and the edge of a label.
- **Tabs for Active Documents** allow the user to toggle between multiple labels and forms in a solution. Tabs are also used when designing batches of labels – header, body and tail labels are placed on separate tabs.

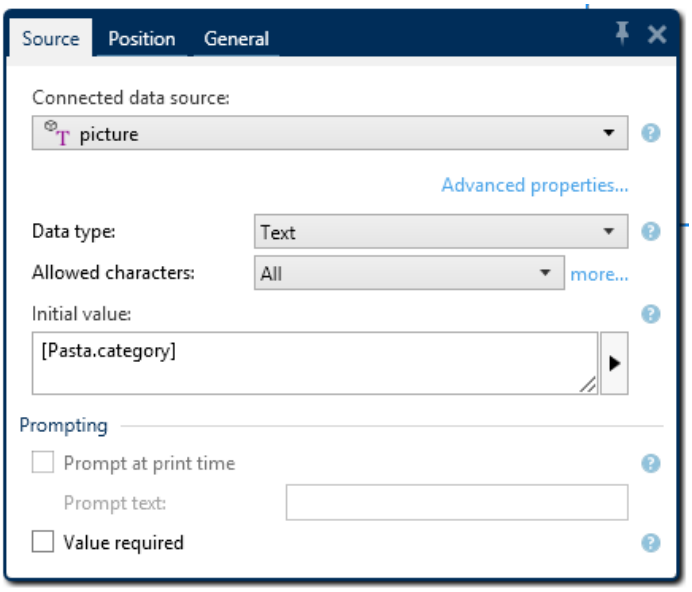
3.6.4 Object Properties Window

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

When designing a label or form object, double-click an object to set its properties.

Double-click opens the object properties window. Available object properties window options adapt to each selected object and its properties.

- Available label objects and their properties are listed and described in detail here.
- Available form objects and their properties are listed and described in detail here.



After pressing F4, object properties dialog becomes pinned as object properties editor on the right side of the design surface.

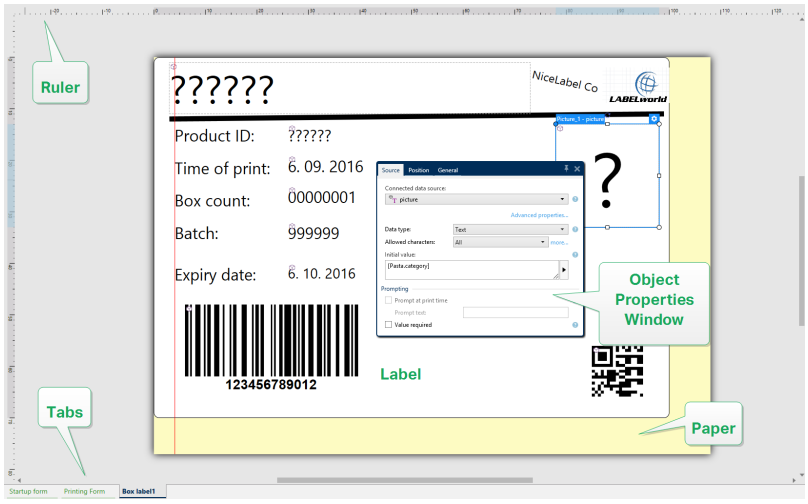
3.6.5 Design Surface Elements

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Design surface consists of the following elements:

- **Ruler:** Design surface is equipped with horizontal and vertical ruler. Use it to line up the objects or to properly position the label and its content. Change the unit measurements displayed on the ruler in Label properties.
- **Paper:** Yellow area of the design surface displays the current size of paper. The information about supported paper format is acquired from the printer driver, but you also have the option to define custom format. Manual paper size has to be defined when printing on regular office sheets of paper. See Paper section for more details.
- **Label:** White area represents the area for label designing. Red line displays limit of the currently printable area.
- **Object Properties Window:** Defines the selected label or form object's properties. Double-click an object to open the dialog.
- **Form:** White area represents the area which can be used for designing a form.
- **Tabs:** Currently active label(s) and form(s) are accessible on separate tabs.

PRODUCT LEVEL INFO: Tabs appear in PowerForms only.



3.7 Document Properties and Management Dialogs

Designer offers multiple dialogs that help you configure and manage the active document and connected data sources. Read the following topics for detailed instructions:

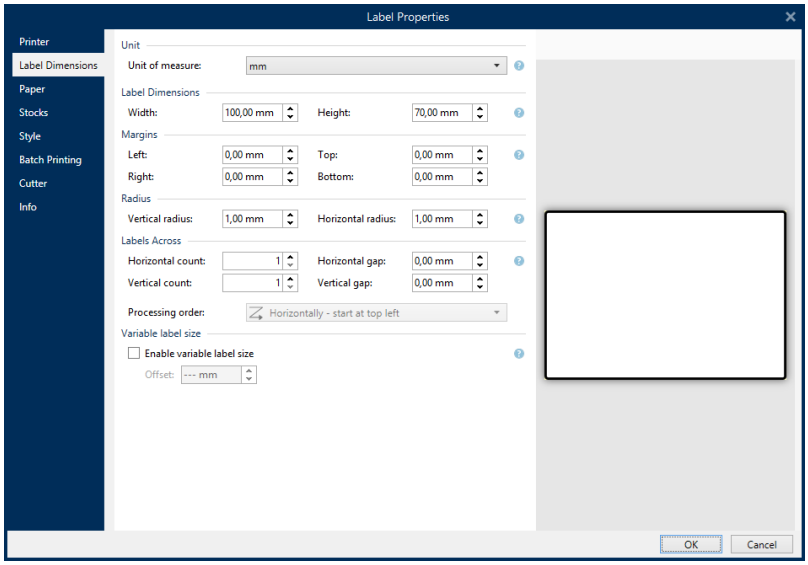
- Label Properties
- Form Properties
- Dynamic Data Manager

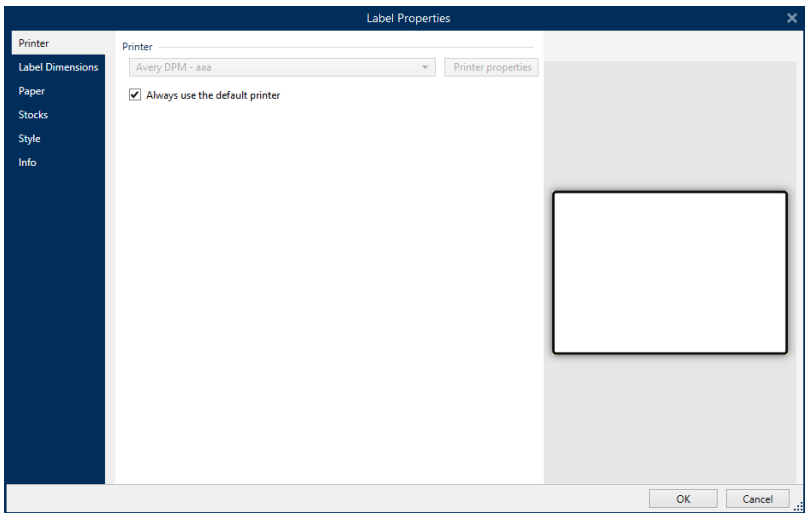
3.7.1 Label Properties

Label Properties editor selects the printer, sets label dimensions, and defines the printing paper properties.

The label properties settings are listed below and appear as dialog tabs:

Label Property	Description
Printer	Selects the preferred printer.
Label Dimensions	Defines the **Unit of measure** and label dimensions.
Paper	Defines the printing paper properties.
Stocks	Selects the stock type.
Style	Defines the label style parameters.
Batch Printing	Defines details for grouped printing of labels.
Cutter	Enables label roll cutting during or after the printing procedure.
Info	Inserts the label description.





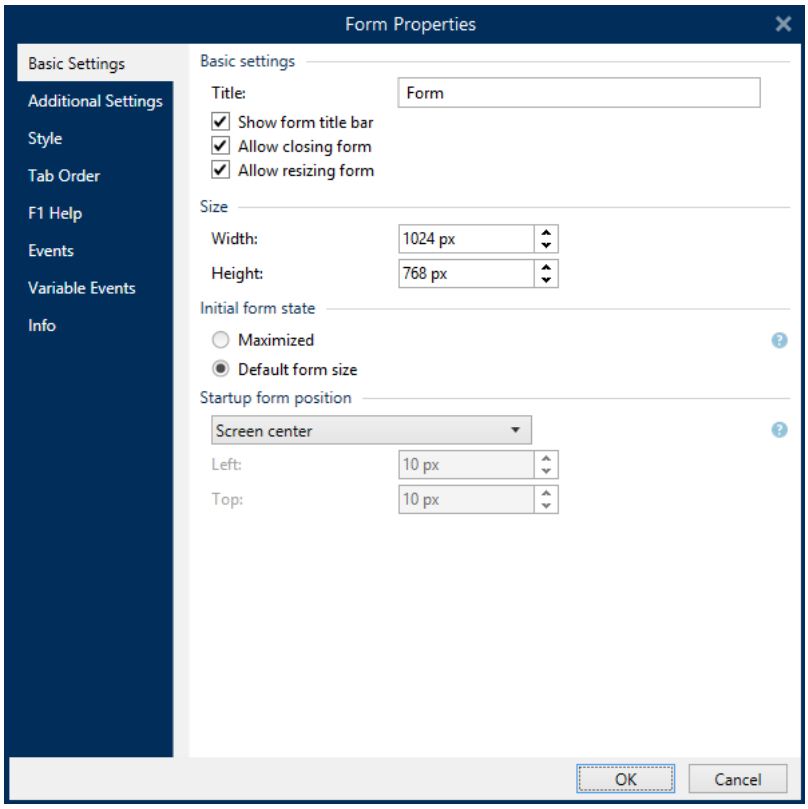
TIP: To open the **Label Properties Editor**, double-click the design surface.

3.7.2 Form Properties

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

Form Properties dialog is used for defining various form properties.

TIP: To open the **Form Properties** dialog, double-click the design surface.



The settings are available on the below listed dialog panels.

Form Property	Description
Basic Settings	Defines form title, size, initial form state and startup form position.
Additional Settings	Selects form scripting language.
Style	Defines form background color and picture. It allows picture embedding and saving as external file.
Tab Order	Defines the order of focus Shifting among form objects.
F1 Help	Contains form help text which is shown to the user after pressing F1 when the form is running.
Events	Defines the events which occur after the form is loaded, closed, and after a specified time interval completes.
Variable Events	Selects the variables that are monitored for changes in their values.
Serial Port Data	Adds a variable that stores the data received via serial port.
Info	Defines the content which serves as a hint or as a guidance for the form user.

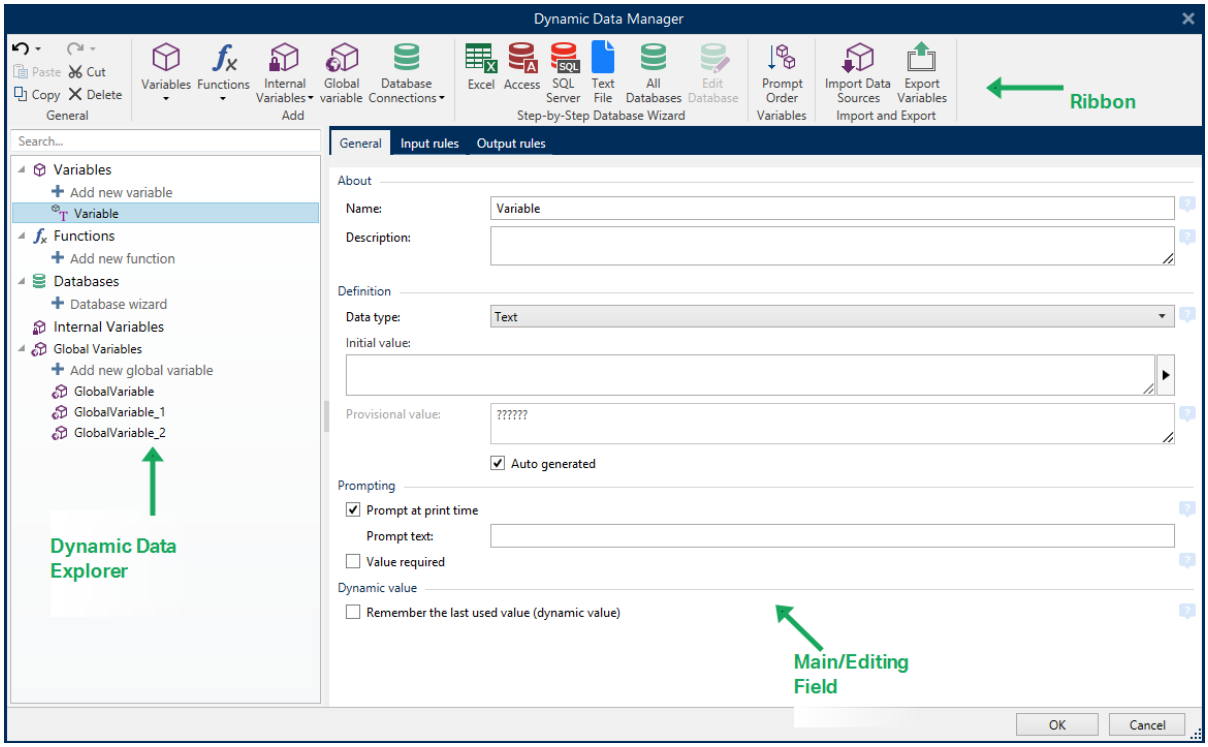
3.7.3 Dynamic Data Manager

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

Dynamic Data Manager is a dialog that enables the user to manage the dynamic data sources for label and form objects.

Label and form objects can be connected to multiple variables, functions and databases.

To open the dialog, click the **Dynamic Data Manager** button in the Designer ribbon.



Read more about how to define the data sources in the following sections:

- Work with variables.
- Work with functions.
- Use databases as content source.
- Use internal variables as content source.
- Use global variables as content source.

3.7.3.1 Dynamic Data Manager Ribbon

Use the Dynamic Data Manager ribbon commands to efficiently manage your data sources. If you want to delete, copy or cut/paste your data sources, always use the commands in Dynamic Data Manager ribbon.

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

Dynamic Data Manager ribbon consists of the following functional groups:

General group provides access to the following actions:

- **Undo:** undos the entire sequence of actions since the last file save. The range of actions is selected from the dropdown list.
- **Redo:** repeats the requested range of actions. The range of actions is selected from the dropdown list.
- **Copy:** copies the selected data source to clipboard.

- **Cut:** cuts the selected data source to clipboard.
- **Paste:** pastes the clipboard data.
- **Delete:** deletes the selected data source.

Add group gives access to dynamic data sources:

- Add New Variable: allows defining multiple types of variables.
- Internal Variables: adds system and user related variables. Their role is to identify the label or form, system name, user, or a file revision number.
- Add New Function: button opens the selection of available functions. Select the appropriate one to start editing it.
- Database Connections: button opens the selection of supported database types. The **New Database Connection Properties** dialog opens.

Step-by-step Database Wizard group is the entry point for database wizards:

- Add Excel database.
- Add Access database.
- Add SQL Server database.
- Add Text File database.
- All Databases allows adding all types of supported database types.

Variables group gives access to the Prompt Order dialog. This dialog defines the order under which the variables are prompted at print time.

Import and Export group enables you to import or export the data model used in a NiceLabel 2019 document.

- Import Data Sources: allows you to import data sources from an external label or solution file.
- Export Variables: allows you to export variables from an existing label or solution file into a .NLVR file.

3.7.3.1.1 Import Data Sources

Data model includes all data sources and their relations that are part of a NiceLabel 2019 label or solution file. To import a data model means that you can import the external data sources into an existing label or solution file. These imported data sources can be further used as dynamic content for label or form objects.

The ability to import data sources helps you keep the data sources in your labels and solutions uniform and consistent. If you have a standard range of data sources, you can share these data sources across the company with your label designers. The label designers import the shared data sources, which ensures that the label templates are equipped with the relevant variables, functions and databases.

NOTE: If the imported data sources share the same name with the existing data sources, NiceLabel 2019 merges the data sources of the same type. The definitions of the imported variables, functions or databases override the values of the existing variables, functions or databases.

To import a data model, go to **Management** ribbon group **> Dynamic Data Manager** drop down list and click **Import Data Sources**.

Import Options: NiceLabel 2019 allows you to import data models using multiple file formats. They can either be a complete label or solution file, or a separate NiceLabel variable export file (.NLVR extension):

- Solution File (*.nsln) imports data sources from a NiceLabel solution file.
- Label File (*.nlbl) imports data sources from a NiceLabel label file.
- Label File (V6) (*.lbl) imports data sources from a NiceLabel V6 legacy label file.
- XFF Form File (*.xff) imports data sources from a NiceLabel V6 legacy solution file.
- Variables export files (*.nlvr) imports data sources from a previously exported NiceLabel 2019 variable export file.
- Oracle WMS File (*.xml) imports variables from external Oracle WMS files. These are XML files generated by Oracle Warehouse Management system that include instructions for 3rd party label printing software.

TIP: Variables export file is described in section Variables Export File Definition.

3.7.3.1.2 Export Variables

Variables from an existing label or solution files can be reused in another NiceLabel 2019 document. The **Export Variables** option allows you to export all variables into a variable export file (.NLVR extension). This makes the variables reusable in any other NiceLabel 2019 document.

TIP: The exported variables can be included in another NiceLabel label or solution using the Import Data Sources option.

To export variables, go to **Dynamic Data Manager > Import and Export** ribbon group and click **Export Variables**.

NOTE: Only variables without any references to other data sources can be exported. Each export ends with a report containing a list of exported and non-exported variables from the file. The reason for potential variable export failure is always included in the report.

Definition of variable export (.NLVR) file is available in section Variables Export File Definition.

3.7.3.2 Dynamic Data Explorer

The Dynamic Data Explorer performs two roles. It serves as a shortcut for adding new variables, functions and data sources and gives an overview of the data sources that are currently in use.

To toggle between the two explorers, click the appropriate tab:

- **Dynamic Data** tab activates the Dynamic Data Explorer.
- **Solution Explorer** tab activates the Solution Explorer.
- **Add new variable:** adds an additional variable to the label or form data sources. There are four default variable types available. Their values are defined via dialogs described in dedicated sections
  - Variable: a type of variable that obtains value when a label or form is printed.
  - Current date: displays current date in the requested format.
  - Current time: displays current time in the requested format.
  - Counter: displays a counter value.
- New function: adds a new function that serves as a dynamic data source.
- Database wizard: starts the wizard that adds a new database in a guided process.
- Internal Variables: displays the list of available internal variables.
- **RFID Tag:** If you are working with an RFID compatible printer, you can directly add the content encoded in the RFID tag to your label as Text, Text Box or Barcode objects.

3.8 Object Properties Editor

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

In addition to the object properties available in the Designer ribbon, the property editor opens on the right side of the design surface.

NOTE: The Object properties toolbar is hidden at start and only appears after pressing F4 or clicking **Properties** on the right-click menu.

Available toolbar options adapt to each selected object and its properties:

- Available label objects and their properties are described here.
- Available form objects and their properties are described here.

3.9 Context Menus

In Designer, right-click displays various context menus that contain commonly used commands. The availability of commands depends on the selected items – design surface or object.

3.9.1 Design Surface Context Menu

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

When right-clicking the design surface, a context menu appears. The context menu includes commonly used commands:

- **Document Properties:** opens the label properties or form properties dialog.
- **Paste:** pastes clipboard contents on the design surface. Multiple reuse of a single clipboard item is allowed.
- **Cut:** removes the selected element(s) from the design surface and adds it to the clipboard to be pasted elsewhere.
- **Copy:** copies the selected object to the clipboard.
- **Select all:** selects all objects on the design surface.
- **Alignment and Gridlines:** allows you to define how the objects take their positions on the design surface.
    - **Align to objects:** makes the object on the design surface align with other objects. When two objects are aligned, a leading line appears linking the edges of the two aligned objects.
    - **Align to grid:** makes the object on the design surface align with gridlines. When moving the object, it always snaps to the gridline.
    - **Do not align:** allows you to move the objects freely.
    - **Display gridline guides:** makes the gridlines visible.
- **Objects markers visibility:** toggles visibility for the object properties. Markers become visible when moving the mouse pointer over the object.
    - **Object name:** marker shows the name of an object.
    - **Internal element:** marker shows if the selected object belongs to the internal printer elements.
    - **Counter:** marker shows that the connected variable is Counter.
    - **Locked object:** marker shows that an object's position is locked.
    - **Events:** marker shows that the form object runs assigned Action(s).
- **Zoom:** defines zooming behavior.
    - **Zoom to Document:** shows the entire label in the Designer window.
    - **Zoom to Objects:** shows all objects in the Designer window.

3.9.2 Object Context Menu

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

When right-clicking an object, a context menu appears. The context menu includes the following commands:

- **Properties:** opens object properties dialog.
- **Copy:** copies the selected content to the clipboard.
- **Cut:** removes the selected element from the design surface and adds it to the clipboard to be pasted elsewhere.
- **Delete:** removes the selected object from the design surface.
- **Lock/Unlock:** prevents the selected object from being moved or re-enables moving.
- **Arrange:** positions the objects so that they appear either in front of or behind each other.
    - **Send Backward:** sends the element back for one level.
    - **Send to Back:** sends the element behind all other elements on the label.
    - **Bring Forward:** brings the element forward for one level.
    - **Bring to Front:** sends the element in front of all other elements on the label.
- **Move to layer:** allows you to change the layer to which the selected object belongs. You can only move the object to the unlocked layers.

    NOTE: This option is available only if the layer is unlocked. More details are available in section Layers Panel.

3.9.3 Group Context Menu

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

When right-clicking a group of objects, a context menu appears. The context menu includes the following commands:

- **Properties:** opens common group properties dialog.
- **Copy:** copies the selected content to the clipboard.
- **Cut:** removes the selected group from the design surface and adds it to the clipboard to be pasted elsewhere.
- **Delete:** deletes the selected object(s) from the design surface.
- **Lock/Unlock:** prevents the selected group from being moved or re-enables moving.

- **Group objects:** unites the selected objects and makes them behave as a single object.
- **Ungroup objects:** separates previously grouped objects.
- **Arrange** group defines how the group position according to other objects or groups.
    - **Send Backward:** moves the selected group down one level.
    - **Send to Back:** moves the selected group to the bottom of the object stack.
    - **Bring Forward:** moves the selected group up one level.
    - **Bring to Front:** moves the selected group to the top of the object stack.
- **Align** group allows setting the alignment and spacing for objects on the design surface. All objects can be aligned according to the neighboring object or according to the document border.

  Horizontal alignment options are:

    - **Left:** aligns the selected objects with the left edge of the leftmost object or with the left edge of the first selected object. If a single object is selected, it is placed on the label's left border.
    - **Center Horizontally:** aligns the selected objects with the horizontal center of the largest selected object or with the horizontal center of the first selected object. If a single object is selected, it is placed in the horizontal center of a label.
    - **Right:** aligns the selected objects with the right edge of the rightmost object or with the right edge of the first selected object. If a single object is selected, it is placed on the label's right border.
    - **Distribute Horizontally:** equalizes horizontal spacing between the objects.

  Vertical alignment options are:

    - **Top:** aligns the selected objects with the top edge of the topmost object or with the top edge of the first selected object. If a single object is selected, it is placed on the label's top border.
    - **Center Vertically:** aligns the selected objects with the vertical center of the largest selected object or with the vertical center of the first selected object. If a single object is selected, it is placed in the vertical center of a label.
    - **Bottom:** aligns the selected objects with the bottom edge of the lowest object or with the bottom edge of the first selected object. If a single object is selected, it is placed on the label's bottom border.
    - **Distribute Vertically:** equalizes vertical spacing between the objects.

  TIP: Align to label/form is achieved by holding the `<Ctrl>` key and clicking the above listed align icons.

- **Move to layer:** allows you to change the layer to which the selected object belongs. You can only move the object to the unlocked layers.

NOTE: This option is available only if the layer is unlocked. More details are available in section Layers Panel.

4 Label

Label works as a template to add label objects and print using any kind of printing media.

Each object adds a different kind of content such as text, line, ellipse, barcode or rectangle to a label. The content is either fixed (manually entered by the user) or dynamic (defined using values from connected data sources).

After finishing with your label design, you can print the labels using any of your installed printers.

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

Designing of a printable label belongs to basic Designer tasks. Designer allows creating and printing of stand-alone labels and labels that are included in a printing solution.

Read about how to create, design or edit a label here.

4.1 New Label Setup Wizard

Label Setup Wizard guides you through the process of creating a new label. The wizard consists of four configuration steps and a summary:

- Step 1: Select the Printer
- Step 2: Set the Page Size
- Step 3: Select the Label Layout
- Step 4: Specify the Label Dimensions
- Step 5: Summary

After finishing these steps, the label is ready for editing and printing.

NOTE: To quit Label Setup Wizard during any step, press `<Escape>`. The new label properties are set to default.

4.1.1 Step 1: Select The Printer

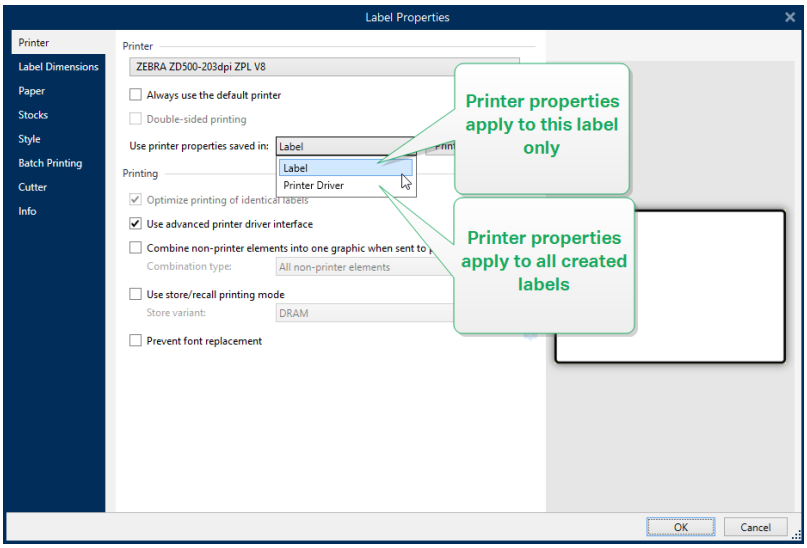
This step selects the printer to be used for printing the newly created label. It also provides direct access to printer driver properties.

1. Select the printer from the dropdown list.
2. **Use printer properties saved in:** This setting allows you to define where does NiceLabel 2019 take the printer settings from while printing. There are two options available:

- **Printer Driver:** When printing, NiceLabel 2019 takes the printer properties that you define in the printer driver. This means that all labels that share these settings print equally. E.g., if you change printing darkness in the printer driver dialog to 10, all labels print with darkness set to 10.

  This is the default setting. With this setting selected, the **Printer properties** button becomes disabled. Access your printer properties from Windows system dialogs.

- **Label:** When printing, NiceLabel 2019 takes the printer properties that you save in the label. This means that the way how this label prints is independent from how you configure the printer driver. E.g., if you change the darkness for the label to 10, only this label prints with darkness set to 10.



Read more about how to manage printer settings in knowledge base article Defining default printer setting for all users (including network users).

EXAMPLE FOR SETTINGS SAVED PRINTER DRIVER

The ribbon in your printer is ending its life period. As a result, the quality of printed labels is decreasing. To enhance the quality before you receive a new ribbon, you must temporarily increase the printing darkness for all labels at once. Configure darkness level in your printer driver and all your label print with increased darkness.

EXAMPLE FOR SETTINGS SAVED IN LABEL

If you are designing a label on a remote computer that currently does not have access to your designated label printer, you can still design your label, save the printer properties within your label, and take this label to the computer that can access your label printer. The saved printer settings make your label "portable".

Use printer settings from the printer driver: select this option if you prefer printing using the printer driver settings.

NOTE: Specific printer models only allow you to set label dimensions using the printer driver dialog. Among these models are high resolution ink jet coding and marking systems. If you select such printer model for your label, Designer automatically detects it and only allows you to take the label settings from the printer driver. Label dimension settings in the **Label Properties** dialog are disabled in this case too.

Use custom printer settings saved in the label: each label may have its own printer settings defined and saved by the user. Select this option to use the custom settings while printing.

3. Label setup wizard remembers the last selected printer. When creating another new label, the wizard will automatically select the printer that you selected for your last created label. If this printer is currently missing, your default printer is selected.

    - **Always use the default printer:** sets the default system printer to be used for the current print job.

PRODUCT LEVEL INFO: Double-sided printing option is available in NiceLabel Designer Pro and PowerForms.

- **Double-sided printing:** enables double-sided printing for the new label.
- **Preview field:** displays the label layout according to the currently set properties.

NOTE: For additional information on the installed printer drivers and their settings, read the NiceLabel Driver Installation Manual.

4.1.2 Step 2: Set The Page Size

This step defines how the page size is selected. When using a thermal printer, it is recommended to set the size automatically. Manual selection proves to be useful if you know the exact stock code or label format.

NOTE: When changing the printer, the Page Size settings always go to default (automatic).

1. Select print media.

    - **Print on a roll of labels** option prints on the installed roll of labels. Page size for thermal printers is detected automatically.

        NOTE: If a thermal printer is selected in the preceding Select the Printer wizard step, this option is enabled by default.

    - **Print on a sheet of paper** option prints labels on sheets of paper. It lets you manually define the label page size to fit the printer.

        With this option selected, additional settings appear:

- **Unit of measure:** defines the unit of measure to be used while designing the label.
- **Paper:** defines the label page **Width** and **Height**.

NOTE: If a regular home/office printer is selected in the preceding Select Printer wizard step, Page size is enabled by default.

2. Select stock.

   Load settings from a predefined stock option sets the page to be defined by the selected stock type.

   With this option selected, additional settings appear:

   - **Stock:** defines which stock type should be used when designing and printing the newly created label. Stock types are usually associated with printer vendors or stationery suppliers. Select the exact stock from the dropdown menu.

     NOTE: If the selected stock is not compatible with printer, a warning appears. Label designing and printing is disabled.

   - **Stock information:** displays the selected stock's properties.

4.1.3 Step 3: Select The Label Layout

This step defines the label orientation and rotation on a printer:

- **Orientation:** sets the new label layout as **Portrait** or **Landscape**.
- **Rotated:** rotates the **Printer Layout** of a label by 180 degrees, if the selected printer supports it.
- **Preview field:** displays the label layout according to the currently set properties.

4.1.4 Step 4: Specify The Label Dimensions

This step defines the dimensions of the newly created label, its margins, measurement unit, and labels across positioning settings:

- **Unit of measure:** defines the unit to be used while designing the label.
- **Label Dimensions:** define the new label's **Width** and **Height**.
- **Margins:** define the distance between the edge of the printing surface and the edge of the label (left/right, top/bottom).
- **Labels Across:** defines the number of labels to be printed on a single label sheet.
  - **Horizontal count:** number of labels in a row.
  - **Vertical count:** number of labels in a column.

- **Horizontal gap:** sets horizontal distance between the labels on a sheet.
- **Vertical gap:** sets vertical distance between the labels on a sheet.

- **Processing order:** defines the direction in which the labels are printed. Set the starting corner where the printing starts and define the horizontal and vertical direction of label positioning.

4.1.5 Step 5: Summary

This step summarizes the new label properties as defined using the **Label Setup Wizard**.

Before clicking **Finish** to enter the label editing and printing phases, check the displayed settings:

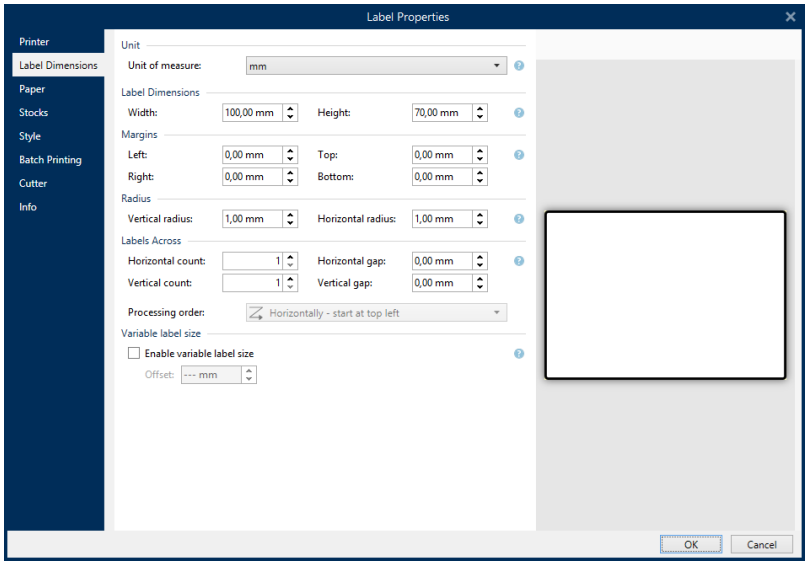
- **Printer:** selected printer for label printing.
- **Label dimensions:** dimensions of newly created label.
- **Paper dimensions:** dimensions of printable paper.

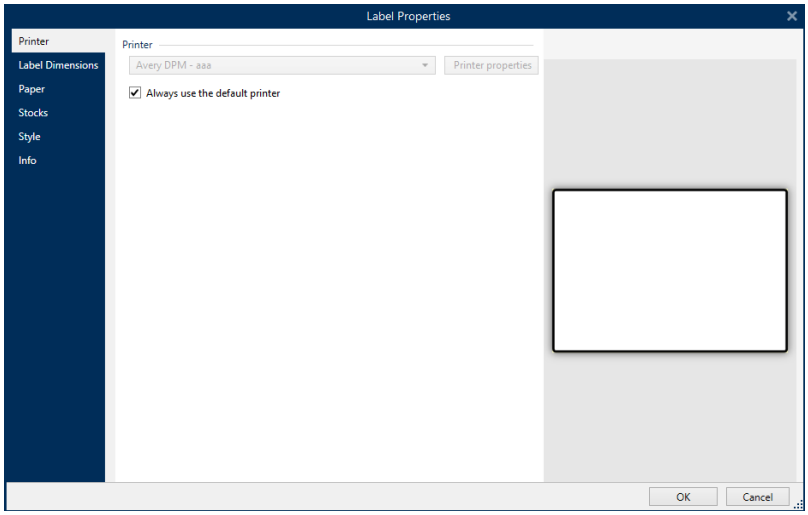
4.2 Label Properties

Label Properties editor selects the printer, sets label dimensions, and defines the printing paper properties.

The label properties settings are listed below and appear as dialog tabs:

Label Property	Description
Printer	Selects the preferred printer.
Label Dimensions	Defines the **Unit of measure** and label dimensions.
Paper	Defines the printing paper properties.
Stocks	Selects the stock type.
Style	Defines the label style parameters.
Batch Printing	Defines details for grouped printing of labels.
Cutter	Enables label roll cutting during or after the printing procedure.
Info	Inserts the label description.





TIP: To open the **Label Properties Editor**, double-click the design surface.

4.2.1 Printer

Printer tab lets you define the printer to print the labels on, and to set printing behavior.

Printer dropdown menu lets you select a printer from the currently available printers.

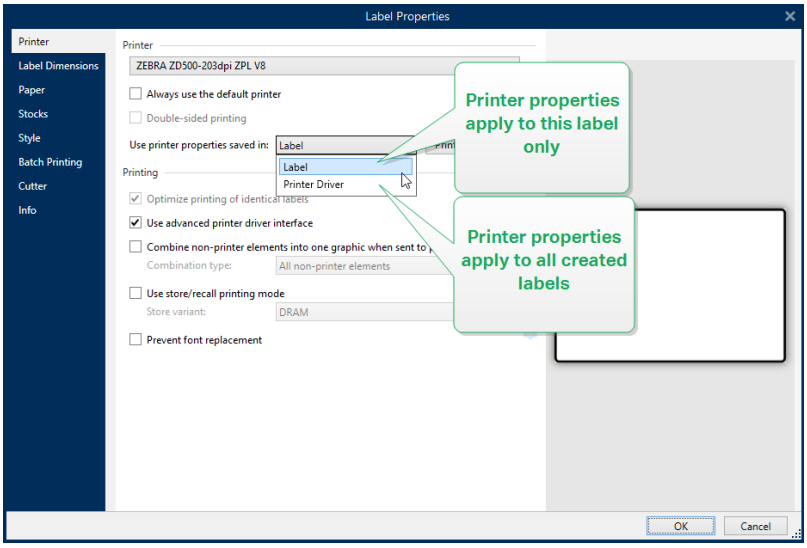
TIP: To set the printer settings, select a printer and click **Printer properties**. This button gives direct access to the selected printer's driver and its settings.

NOTE: For additional information on the installed printer drivers and their settings, read the NiceLabel Driver Installation Manual.

- **Always use the default printer:** select the default system printer to be used for the current print job.

- **Double-sided printing:** enables double-sided label printing.
- **Use printer properties saved in:** This setting allows you to define where does NiceLabel 2019 take the printer settings from while printing. There are two options available:
    - **Printer Driver:** When printing, NiceLabel 2019 takes the printer properties that you define in the printer driver. This means that all labels that share these settings print equally. E.g., if you change printing darkness in the printer driver dialog to 10, all labels print with darkness set to 10.

      This is the default setting. With this setting selected, the **Printer properties** button becomes disabled. Access your printer properties from Windows system dialogs.
    - **Label:** When printing, NiceLabel 2019 takes the printer properties that you save in the label. This means that the way how this label prints is independent from how you configure the printer driver. E.g., if you change the darkness for the label to 10, only this label prints with darkness set to 10.



Read more about how to manage printer settings in knowledge base article Defining default printer setting for all users (including network users).

EXAMPLE FOR SETTINGS SAVED IN PRINTER DRIVER

The ribbon in your printer is ending its life period. As a result, the quality of printed labels is decreasing. To enhance the quality before you receive a new ribbon, you must temporarily increase the printing darkness for all labels at once. Configure darkness level in your printer driver and all your label print with increased darkness.

EXAMPLE FOR SETTINGS SAVED IN LABEL

If you are designing a label on a remote computer that currently does not have access to your designated label printer, you can still design your label, save the

printer properties within your label, and take this label to the computer that can access your label printer. The saved printer settings make your label "portable".

- **Use printer settings from the printer driver:** select this option if you prefer printing using the printer driver settings.

  NOTE: Specific printer models only allow you to set label dimensions using the printer driver dialog. Among these models are high resolution ink jet coding and marking systems. If you select such printer model for your label, Designer automatically detects it and only allows you to take the label settings from the printer driver. Label dimension settings in the **Label Properties** dialog are disabled in this case too.

- **Use custom printer settings saved in the label:** each label may have its own printer settings defined and saved by the user. Select this option to use the custom settings while printing.

Printing group of settings optimizes the printing process.

- **Optimize printing of identical labels:** if multiple identical labels are printed, the printer does not need to receive the label file each time. With this option enabled, the printer alone multiplies the print job.
- **Use advanced printer driver interface:** speeds up label printing.

  TIP: When selected, the optimized printer commands are in use. Deselected option disables printing optimization. Each label is sent to the printer in form of an image.

- **Combine non-printer elements into one graphic when sent to printer:** merges multiple label objects into a single large graphic and sends it to a printer.

  TIP: With disabled merging, Designer sends graphic items to a printer separately which might in rare occasions cause object positioning issues. Merged graphic items ensure correct rendering of the label. The downside of merging is increased amount of data which is sent to printer.

  Use one of the below listed combination types to merge the graphics in the most suitable way.

  - **Combination type:** defines which label objects are merged for printing.
    - **All non-printer elements:** all label objects are merged into a single graphic item and sent to printer.
    - **All non-printer elements except counters:** label objects are merged and sent to printer as a single item with an exception. Counters are sent separately within the same print stream.
    - **Only fixed non-printer elements:** only label objects without variable content are merged into a single graphic file and sent to printer.

TIP: Non-printer elements are all items that are sent to printer as graphics. In opposite, internal printer elements are sent out as internal printer commands and rendered by the printer.

- **Use store/recall printing mode:** optimizes printing performance. With store/recall mode activated, Designer does not need to resend the complete label data for each printout. Instead, default labels (templates) are stored in the printer memory and the Designer only sends recall commands to complete the label content during the printing process. For more information, read section Use Store/Recall Mode.
- **Store variant:** printer memory location to store the label templates.

  NOTE: To make sure the stored label samples are not lost after power cycling the printer, store them at non-volatile locations. Read more about non-volatile memory here.

- **Prevent font replacement:** In case of missing fonts for textual label objects, NiceLabel applications automatically find replacement fonts and print the labels using fonts that are similar to the missing ones.

  There are two reasons for missing label fonts:

  - The font is not installed on the system. This may happen if you design labels on one computer, and print labels on another computer that does not have these fonts installed.
  - Font is not stored in printer memory. This may happen if you design labels for one printer, and print the labels using another printer that does not store these fonts.

  Automatic font replacement can significantly change text layout and, as a consequence, the entire label design. If you want to prevent printing of altered labels, enable the **Prevent font replacement** option. This option stops label printing if there is a need to replace the missing label fonts.

  Prevent font replacement option stops printing if the labels are in print mode. This is when you are no longer editing labels in NiceLabel, but you are printing the labels using:

  - NiceLabel Print application.
  - Print label action in NiceLabel Automation configurations.
  - Print label action in forms.
  - NiceLabel Web Client.
  - NiceLabel .NET API.

  When designing and printing labels directly from NiceLabel 2019 with **Prevent font replacement** option enabled:

  - Printing continues if you print a label that you previously opened in Designer. Upon opening a label, Designer automatically replaces the missing font.

- Printing stops if you use printing form to change the current printer to a device that has no matching fonts installed.

4.2.2 Label Dimensions

Label Dimensions tab specifies label dimensions and defines whether its size should adapt to the changing size of the objects or not.

Unit of measure defines the unit to be used while designing the label. There are four available units: cm, in, mm, and dot.

Label Dimensions group defines the label's **Width** and **Height**. Label dimension settings become active if manual label dimensions are enabled.

> NOTE: When manually inserting the unit of measure, this also changes the currently defined **Unit**.

Margins group sets the distance between the edge of the printing surface and the edge of the label (left/right, top/bottom).

> **TIP:** Most laser and other non-thermal printers cannot print over the entire label surface. There is usually a non-printable label area of about 5 mm from the border of a page. In Designer, this area is marked by a red line. Any object on or beyond the red line is not printed entirely.

Radius group enables you to make the label corners rounded.

- **Vertical radius:** adjusts corner roundness value in vertical direction.
- **Horizontal radius:** adjusts corner roundness value in horizontal direction.

Labels Across defines the number of labels to be printed on a single label sheet.

- **Horizontal count:** number of labels in a row.
- **Vertical count:** number of labels in a column.
- **Horizontal gap:** horizontal distance between labels on a sheet.
- **Vertical gap:** vertical distance between labels on a sheet.
- **Processing order:** defines the direction in which labels are printed. Set the starting corner in which printing starts, and the horizontal/ vertical directions of label positioning.

Variable Label Size group enables the label size to change in accordance with the size of its objects.

When assigning additional data to label objects, their size increases and occupies more space. Therefore, the label height must adapt.

- **Offset:** distance between the last object on a label and the bottom edge of a label.

4.2.3 Paper

Paper tab sets printing paper properties.

Unit selects the **Unit of measure** to be used in a label.

Paper Type group defines paper dimensioning type – automatic or manual.

- **Automatically set page size based on the label dimensions (labels on a roll):** page size is defined by the printer driver.

  NOTE: If a thermal printer is selected, this option is enabled by default.

- **Manually set page size (sheets of paper):** page size is set manually.

  NOTE: If a regular office laser printer is selected in the previous wizard step, this option is enabled by default.

If the page size is defined manually, additional options appear:

- **Paper:** selection of standard paper formats.
- **Width** and **Height:** custom paper dimensions.

Orientation group sets the new label layout as **Portrait** or **Landscape**.

- **Rotated: Printer Layout** is rotated by 180 degrees.

Preview displays current label screen and print layouts.

4.2.4 Stocks

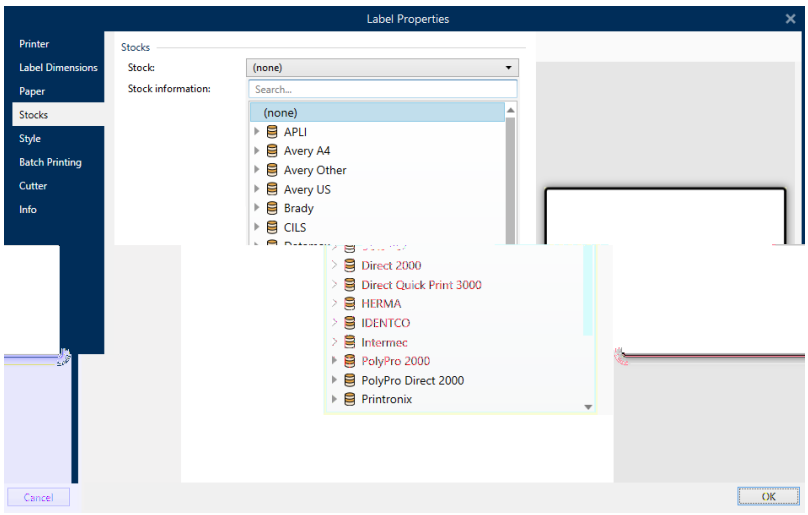
Label stocks are a time-saving alternative to designing labels from scratch. Use stock templates when designing labels for a specific printer type and when optimizing the label designing process.

Stocks group defines which stock type should be used when designing and printing a label. Stock types are usually associated with printer vendors or stationery suppliers.

NOTE: Here defined stock properties override the manually set label properties.

Stock defines the exact stock to be used for label designing and printing. Stocks are sorted by vendors and media formats. Expand stock provider and select a specific stock type.

TIP: Use **Search...** to easily find the requested stock. Partial search is available – enter a sequence of characters and all stocks which contain that sequence will be listed. If the selected stock is not compatible with the selected printer, a warning appears. Previously selected stock becomes active again (if it was defined) allowing the printing to continue.



NOTE: If the selected stock is not compatible with the selected printer, a warning appears. Previously selected stock becomes active again (if it was defined) allowing the printing to continue.

Stock information displays the selected stock's properties:

- **Label dimensions**
- **Labels across**
- **Description**
- **Author**

4.2.5 Style

Style tab is used for defining label style properties.

Background color: sets the color of label background.

Background picture: sets the label background picture.

- **Picture file name:** defines the image file to be used as background picture.
- **Embed picture in a document:** saves picture into the label file.
- **Save embedded picture to file:** the embedded label picture is saved to a separate file.
- **Remove embedded picture:** embedded picture is removed from the label file.
- **Picture position:** sets picture position on the label.
  - **Center:** centers the picture on the label with its original dimensions. A picture larger than the label will display only the central part leaving the rest out of view.
  - **Fit:** resizes the picture to fill the label while keeping the original aspect ratio.

- **Stretch:** stretches picture to make it fill the entire label.

  NOTE: This option ignores the original aspect ratio of the picture. The picture might appear distorted on the label.

- **Rotation:** allows you to rotate the background picture in steps of 90 degrees.
- **Print background picture:** background picture is printed.

4.2.6 Batch Printing

Batch printing allows grouped printing of labels that belong to the same batch.

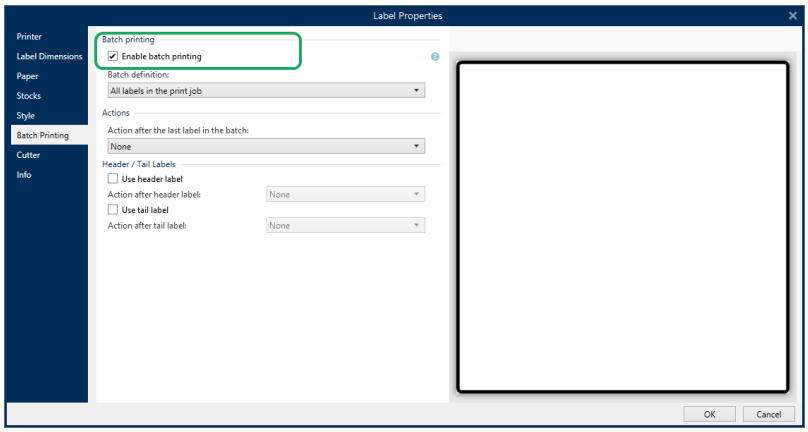
TIP: A batch is a set of labels printed within a single print job. Each print job can consist of a single or multiple batches.

The first purpose of batch printing is to automate the execution of a predefined action after the batch has been printed.

EXAMPLE: Label roll is automatically cut after a batch of five labels has been printed.

The second purpose of batch printing is to enable header and tail label printing with each batch.

EXAMPLE: A batch of five labels starts with a header and ends with a tail label. Both of them differ from the main (body) labels.



- **Enable batch printing:** activates batch printing mode. Batch definition menu becomes active.
- **Batch definition:** specifies what a batch of labels should consist of:
  - **All labels in the print job:** all labels in the current print job are assigned to the same batch.
  - **Batch ends after a specific number of labels:** batch is finalized after a specified number of labels is printed.

- **Batch ends when the data source changes value:** changed value of the selected variable is used as a marker for opening a new batch.

Actions group defines the action that executes after a batch has been printed. The availability of actions depends on the selected printer's driver. If the driver provides no information on the action availability, the list is empty.

EXAMPLE: Commonly used batch actions are **Cutter**, **Pause printer**, **Batch mark**, **Batch separator**, etc. With a defined web of labels (label template with labels next to each other), an applicable action also becomes **Eject page**. These printer commands can be applied dynamically during the printing process.

Header / Tail Labels group specifies the properties of header and tail labels in a batch.

- **Use header label:** header label of a batch.
- **Action after header label:** action to be taken after the header label has been printed. The selection of available actions depends on the selected printer's driver.

  NOTE: The selection of available actions depends on the selected printer's driver.
- **Use tail label:** last label of a batch.
- **Action after tail label:** action to be taken after the tail label has been printed.

  NOTE: The selection of available actions depends on the selected printer's driver.

TIP: Header, tail and main (body) labels of a single batch are accessible via tabs that are located under the design surface (gray field).

4.2.7 Cutter

NOTE: To enable label cutting, your selected printer must be equipped with a cutter.

Cutter enables automated label roll cutting during or after the label printing.

Enable cutter activates label cutter and enables you to configure how to cut off labels.

Cutter mode specifies when to cut the label roll.

- **Cut after the last printed label:** cuts label roll after finishing print jobs.
- **Cut after a specific number of labels:** cuts label roll after printing the selected number of labels.
- **Cut when the data source changes:** cuts label roll when the selected data source value changes.

After you select **Cut after a specific number of labels** or **Cut when the data source changes**, additional options open up:

- **Cut if condition is met:** allows you to set a condition that tells the printer to cut labels. Use values from connected data sources to define under what condition do the labels start to print.
- **Always cut after last printed label:** tells the printer to cut off the roll after the last label in a print job.

NiceLabel 2019 synchronizes **Cutter** settings with the currently selected printer. See section Synchronizing Cutter Settings with Printer for more details.

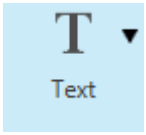
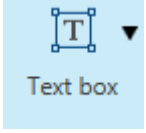
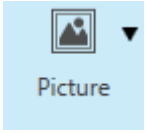
4.2.8 Info

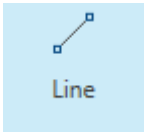
Info tab includes a **Description** that serves as a hint or as a guide for the user that is going to work with the label.

Define label **Description** by entering text into the field.

4.3 Label Objects

After setting the label properties, it's time to start adding content to the label. Label objects are basic design items that are used for adding and editing various content types. Each object has its own function as described in the table below.

Label Object	Icon	Description
Text		Container for textual content. It adapts its dimensions to fit the amount of entered characters. When typing, text object grows horizontally and/or vertically.
Text box		Container for textual content. It can either adapt its height to the content or make the font increase or decrease to fit into the object frame.
Rich text box		Container for rich text. It supports formatted text, hyperlinks, line images, and other rich content created with a word processor.
Barcode		Object for adding and editing various types of barcodes on a label.
Picture		Object for adding graphic content to a label.

Label Object	Icon	Description
Rectangle		Object for creating rectangular shapes on a label.
Line		Object for creating lines on a label.
Ellipse		Object for creating circular shapes on a label.
Inverse		Object for inverting the color of the underlying object.

4.3.1 Text

Text object is a container for textual content which adapts its dimensions to fit the amount of inserted characters. When typing, text object grows horizontally and/or vertically.

TIP: Text box object serves as an alternative when designing a label on which the textual content must fit into a field with predefined dimensions.

4.3.1.1 Source

Connected data source defines the content source of the selected object.

- Variables: predefined variable values which are used as object content.

Data defines the content source of the selected object.

Counter: displays counter value on the label.

Content field allows you to type the object content.

Content Mask sets the format of the input data before it is displayed on a label.

Mask character is a character used in the mask that is replaced with actual data on the printed label.

EXAMPLE

A user needs to format a phone number to be more readable on the label. Data input is not formatted since it is read from a database.

If the input value read from a database is:

+38642805090

and the content mask is:

```
(****) **** - ****
```

the resulting output is:

```
(+386) 4280 - 5090
```

If the data contains the asterisk "*" character, change the **Mask character**. The character should have a unique value that does not appear anywhere in the data.

4.3.1.2 Style

Font color sets text font and underline color.

Font selects the typeface. Fonts are divided into two groups: OpenType fonts and Printer fonts.

> NOTE: If the currently selected printer is a thermal printer, additional fonts become available. These are the internal **Printer fonts** that are installed on the printer. Printer fonts are identified by the printer icon in front of their names.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Font Scaling sets the font stretch factor. If the factor is set to 100 %, font appears in normal scale. If the factor is set to 200 %, font appears twice as wide. If set to 50 %, font width is shrunk to half its size.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned in the center of the object.
- **Right:** text aligned with the right object border.
- **Justified:** distributes text evenly along both sides.

> NOTE: Justified is enabled in Text box only.

Spacing sets the space between text characters and lines.

- **Line spacing:** space between each line in a paragraph.
- **Character spacing:** space between individual characters.

4.3.1.3 Effects

Inverse: inverted text and object background colors.

Mirror: mirrored text.

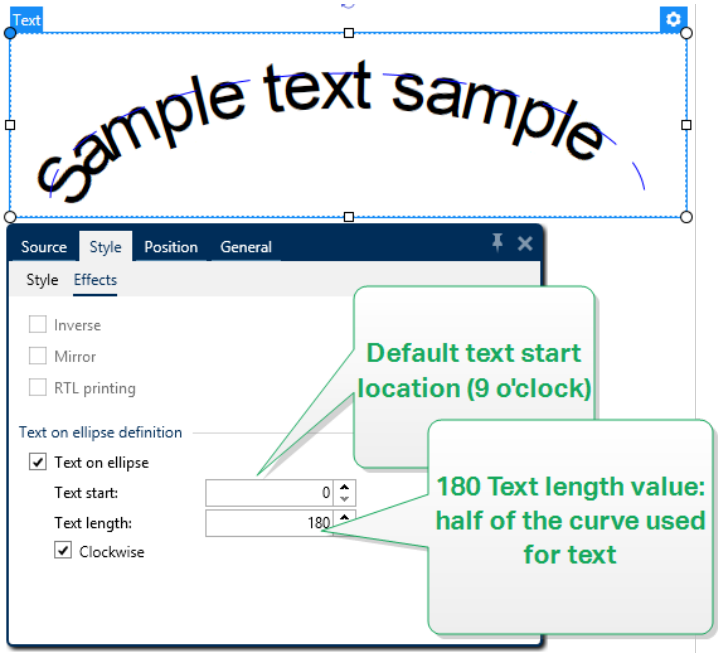
RTL printing: right to left text printing.

> **TIP:** Most thermal printers print right-to-left scripts automatically. This option becomes useful if the operating system does not provide native RTL support.

PRODUCT LEVEL INFO: This segment is applicable to Designer Pro and PowerForms.

Text on ellipse definition enables you to add and display curved text on a label.

- **Text on ellipse:** enable this option to set the text on a curve.
- **Text start:** sets text starting point on the ellipse. Default position is 9 o'clock. When increasing the position value, it moves clockwise by degrees.
- **Text length:** sets the portion of ellipse to be used for displaying the text. Maximum value (default) takes the complete ellipse. Reducing the value in degrees shortens the available portion.



4.3.1.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group gives information about the object's dimensions.

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

> **TIP:** In Text object, the size of text is determined by the font size. Object dimensions and aspect ratio cannot be changed manually and only serve as information about its current size.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually , drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process, select under the **Design behavior** group.

4.3.1.5 Relative Position

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
  - **Object:** selects the reference object for horizontal relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
  - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
  - **Object:** selects the reference object for vertical relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no

other objects on the label) for vertical relative positioning.

- **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

4.3.1.6 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

4.3.2 Text Box

Text box object is a container for textual content on a label. Text box object is very similar to the standard Designer Text object. The difference between these two is the presentation of textual content with variable length. Text object is always expanding or shrinking to adapt its size to the amount of entered characters. In contrast, Text Box can either adapt (expand/shrink) its height to the content or make the font increase or decrease its size to fit into the object frame.

TIP: To ensure that the content fits the predefined box is especially useful when working with variable data. No matter how long the text value is, it is always placed and displayed on a label within the pre-designed frame.

4.3.2.1 Source

Connected data source defines the content source of the selected object.

- Variables: predefined variable values which are used as object content.

Data defines the content source of the selected object.

Counter: displays counter value on the label.

Content field allows you to type the object content.

Mask group sets the format of the input data before it is displayed on a label.

- **Content mask** sets the format of the input data before it is displayed on a label.
- **Mask character** is a character used in the mask that is replaced with actual data on the printed label.

EXAMPLE

A user needs to format a phone number to be more readable on the label. Data input is not formatted since it is read from a database.

If the input value read from a database is:

```
+38642805090
```

and the content mask is:

```
(****) **** - ****
```

the resulting output is:

```
(+386) 4280 - 5090
```

If the data contains the asterisk "*" character, change the **Mask character**. The character should have a unique value that does not appear anywhere in the data.

4.3.2.2 Style

Font color sets text font and underline color.

Font selects the typeface. Fonts are divided into two groups: OpenType fonts and Printer fonts.

NOTE: If the currently selected printer is a thermal printer, additional fonts become available. These are the internal **Printer fonts** that are installed on the printer. Printer fonts are identified by the printer icon in front of their names.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Font Scaling sets the font stretch factor. If the factor is set to 100 %, font appears in normal scale. If the factor is set to 200 %, font appears twice as wide. If set to 50 %, font width is shrunk to half its size.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned in the center of the object.
- **Right:** text aligned with the right object border.
- **Justified:** distributes text evenly along both sides.

  NOTE: Justified is enabled in Text box only.

Spacing sets the space between text characters and lines.

- **Line spacing:** space between each line in a paragraph.
- **Character spacing:** space between individual characters.

4.3.2.3 Text Fit

None makes Text box size and font non-adaptable.

NOTE: If the content amount exceeds the object size, an error message appears. The label is not printed. To suppress such error and print the text box, enable **Ignore excessive content at print**.

Adjust height to fit content: automatic adaptation of Text box height.

Fit content by adjusting font size: increases or decreases the font size to make it fit inside the Text Box object.

- **Minimum size:** minimum permitted font size.
- **Maximum size:** maximum permitted font size.

Fit content by scaling font: shrinks or stretches the font to make it fit inside the Text Box object.

- **Minimum font scaling:** minimum font stretch factor.
- **Maximum font scaling:** maximum font stretch factor.

Use the same font size for all Text boxes in a group equalizes font size for all Text box objects in a group. If one of the Text boxes in a group changes its size, the font size adapts. Font sizes of other Text boxes in a group are automatically set to the same size.

Same size group defines group name.

NOTE: This option can be used if **Text Fit** is enabled. Both **Text Fit** options are supported – by adjusting the font size or by scaling the font.

4.3.2.4 Effects

Inverse: inverted text and object background colors.

Mirror: mirrored text.

RTL printing: right to left text printing.

> **TIP:** Most thermal printers print right-to-left scripts automatically. This option becomes useful if the operating system does not provide native RTL support.

4.3.2.5 Boundaries

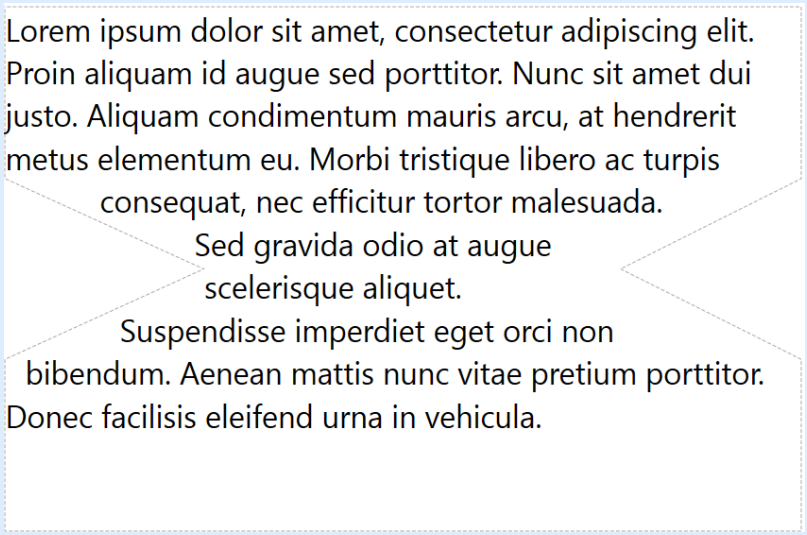
Left border group defines the text boundary along the object's left border.

- **Shape:** selects a customizable basic shape of text boundary.
- **Width:** extends or shrinks the selected basic left boundary horizontally.
- **Height** extends or shrinks the selected basic left boundary vertically.

Right border group defines the text boundary along the object's right border.

- **Right shape** selects the basic shape of the object's right boundary.
- **Width** extends or shrinks the selected basic right boundary horizontally.
- **Height** extends or shrinks the selected basic right boundary vertically.

EXAMPLE: Boundary defines how the text flows inside the object.



4.3.2.6 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
    - **Object:** selects the reference object for horizontal relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
    - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
    - **Object:** selects the reference object for vertical relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
    - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

NOTE: If the measurement unit is changed, the value transforms automatically.

4.3.2.7 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

> **TIP:** Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

4.3.3 Rich Text Box

Rich text box (RTF) is an object for rich text editing. It encloses textual content with hyperlinks, line images, and other formatting created using an internal Designer's word processor.

4.3.3.1 Source

Connected data source defines the content source of the selected object.

- Variables: predefined variable values which are used as object content.

Data defines the content source of the selected object.

Counter: displays counter value on the label.

Content field allows you to type the object content.

Rich Text Box Editor is a full-scale text processor.

Edit content button opens the editor.

Supported actions in Rich Text Box Editor:

- Text formatting
- Content find and replace
- Inserting of images, symbols, tables, and dynamic data sources
- Content zooming

Show RTF code option displays the RTF code.

> **TIP:** Read more about the available **Rich Text Box Editor** features in a dedicated topic.

4.3.3.2 Style

Rendering group defines the active rendering method for the rich text content. If you experience difficulties while importing formatted text to the Rich text box object, switch to **Alternative rendering**. This helps you achieve correct content formatting on the printed labels.

NOTE: **Alternative rendering** adds support for right-to-left scripts.

NOTE: If you are editing legacy NiceLabel label files (.lbl), **Alternative rendering** is automatically active.

NOTE: If you are designing labels with custom fonts, **Alternative rendering** is the preferred option .

4.3.3.3 Text Fit

None makes Text box size and font non-adaptable.

- **None:** non-adaptable Rich Text box size and font.

  NOTE: If the content amount exceeds the object size, an error message appears. The label is not printed. To suppress such error and print the text box, enable **Ignore excessive content**

- **Adjust height to fit content:** automatic Rich Text box height adaptation.
- **Fit content by adjusting font size:** adaptable font size.
  - **Minimum size:** minimum font size.
  - **Maximum size:** maximum font size.

4.3.3.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

4.3.3.5 Relative Position

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
  - **Object:** selects the reference object for horizontal relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
  - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
  - **Object:** selects the reference object for vertical relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
  - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

4.3.3.6 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

  TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

4.3.3.7 Rich Text Box Editor

Rich Text Box Editor is a fully featured word processor. It enables you to create, edit and format the content of a **Rich text box** label object.

Sections below describe editor's tabs and matching ribbon groups with commands that are available when creating and editing the Rich Text box content.

4.3.3.7.1 Home Tab

File ribbon group enables handling of a document.

- **Import:** importing of textual content to the editor.
- **Export:** exporting of textual content from the editor.

> **TIP:** Use file browser window to select the export location. By default, the editor content is exported as a file with .rtf extension. To specify an alternative file format, select it from the dropdown list.

Clipboard ribbon group activates the following actions:

- **Paste:** pastes clipboard data.
- **Copy:** copies current selection to the clipboard.
- **Cut:** cuts selection to clipboard.

Undo Redo ribbon group undos or repeats editing actions.

Font ribbon group includes typical font style and formatting related commands. These are font selection, size, font growing and shrinking, bold, italics, etc.

> **TIP:** For additional font related settings, open the **Font box** in dialog form by clicking the icon in the bottom right corner of the ribbon group.

Text Box group defines lists and indents, toggles formatting symbols, sets alignment and line spacing, and enables text shading.

> **TIP:** For additional text related settings, open the **Text Box** in dialog form by clicking the icon in the bottom right corner of the ribbon group.

Editing group includes:

- **Find** searches and locates the inserted string within a text.
- **Replace** locates and replaces the inserted string with a new text.

4.3.3.7.2 Insert

Insert group enables adding editable elements to the rich text object.

- **Data Source:** adds variable, function or a database field as a dynamic content source.
- **Table:** opens the Insert Table dialog. Define **Number of columns** and **Number of rows**. After clicking **OK**, a table with the defined number of columns and rows is placed in the rich text editor.

- **Picture:** inserts a picture the rich text object.
- **Symbol:** opens **Insert Symbol** dialog for character selection.
    - **Search by code:** character search by unicode character code.
    - **Font name:** font selection.
    - **Character set:** active set of characters.
    - **Filter:** character search filter.

  Frequently used symbols are displayed at the bottom of the dialog box. Click the symbol to insert it directly in the rich text object.

4.3.3.7.3 View

Zoom group allows zooming the text in and out.

4.3.4 Barcode

Barcode object is used for adding various types of barcodes with encoded data to a label.

Details on barcode properties, types, and data encoding methods are available in the dedicated Barcode section.

4.3.5 Picture

Use **Picture** object to add graphic content on a label. The following file formats are supported:

- Portable Network Graphic (*.png)
- PDF (*.pdf)
- Adobe Photoshop (*.psd)
- Scalable Vector graphics (*.svg)
- Paintbrush (*.pcx)
- JPEG bitmaps (*.jpg, *.jpeg, *.jpe)
- TIFF bitmaps (*.tif, *.tiff)
- Enhanced Windows Metafile (*.emf)
- Windows Metafile (*.wmf)
- Windows bitmap (*.bmp)

4.3.5.1 Source

Connected data source defines the content source of the selected object.

- **Fixed data:** manually entered fixed text.
- Variables: predefined variable values which are used as object content.

- Functions: input data transformation tools.
- Databases: database values which are used as object content.

Data defines the content source of the selected object.

Content field is used for entering the object content.

To (re)define the Picture object **Content**, click **Browse** and locate the file to be displayed on the label.

Embed picture in a document stores the picture in the label file. Link to the original picture file is discarded.

TIP: Picture embedding makes the label file more portable as the user does not have to include the picture file when sharing the label.

Save embedded picture to file: the embedded label picture is saved as a separate file.

4.3.5.2 Style

Dithering group allows you to select the most appropriate dithering method to print pictures on labels in black and white.

TIP: When printing pictures in black and white, dithering creates the illusion of multiple colors and shades by varying the pattern of black dots.

Dithering type selects the dithering method:

- **Printer driver default:** no dithering method is selected for the picture object. When printing in black and white, printer driver uses its own dithering method.

  NOTE: If no dithering is set for the picture object, the algorithm can also be selected using the printer properties dialog. The selected dithering algorithm for an object in Designer overrides the algorithm selected using printer properties dialog. See Changing dithering options for more detailed information.

- **Ordered:** achieves dithering by applying a threshold map (matrix with cells) on the pixels displayed. If the value of the pixel (scaled into the 0-9 range) is less than the number in the corresponding cell of the matrix, the algorithm plots the pixel black, otherwise, it plots it white.
- **Threshold:** sets a threshold to which every pixel is compared. If the original pixel value is higher than the threshold, it renders white. The lower the threshold value, the higher the share of pixels turned to white.
- **Floyd Steinberg:** achieves dithering using error dispersion. This algorithm generates the closest result to the original, but represents the slowest option.

Color group allows you to customize the color of a graphic object.

- **Force picture color:** recolors the graphic object. Use the dropdown **Picture color** palette to pick the appropriate color to be used for the object on the printed label.

  NOTE: This option can be used with color printers using the advanced printer driver interface or Windows printing mode.

4.3.5.3 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
  - **Object:** selects the reference object for horizontal relative positioning.

- **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
- **Offset:** horizontal distance from label border or reference object's anchoring point.

- **Enable vertical relative position:** activates vertical relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
  - **Object:** selects the reference object for vertical relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
  - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

NOTE: If the measurement unit is changed, the value converts automatically.

Graphic Resizing tab is available if the picture object is connected to a variable. These settings define how the Picture object adapts its size to the source file at print time.

- **Keep original picture size:** disabled picture resizing. Picture size remains unchanged.
- **Resize proportionally:** proportional picture resizing. Aspect ratio of picture dimension remains fixed.
- **Resize to the designed size:** horizontal and vertical picture resizing to make it fit into the bounding box. This option will most likely make the picture distorted.

Original size displays the picture's **Width** and **Height** before resizing. **Revert to original picture size** cancels the resizing actions.

4.3.5.4 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

4.3.6 Rectangle

Rectangle object creates a rectangular frame on a label.

4.3.6.1 Style

Outline group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath this object.
- **Outline color:** color of the line.
- **Corner radius:** makes the rectangle corners round. Higher values make the curve broader.

Fill group defines the object fill settings and color.

- **Fill style:** object fill properties definition:
  - **None:** completely transparent object.
  - **Erase:** makes objects beneath the active one hidden.
  - **Solid:** fills the object with solid color.
  - **Right Diagonal:** fills the object with diagonal lines that ascend toward the right side.
  - **Left Diagonal:** fills the object with diagonal lines that ascend toward the left side.
  - **Vertical:** fills the object with vertical lines.
  - **Horizontal:** fills the object with horizontal lines.
  - **Cross:** fills the object with crossed lines.
  - **Cross Diagonal:** fills the object with diagonally crossed lines.
  - **25% of color:** fill color opacity 25 %.
  - **50% of color:** fill color opacity 50 %.
  - **75% of color:** fill color opacity 75 %.
- **Background color:** object fill color definition.

NOTE: The system does not allow the **Outline style** and **Fill style** to be set to **None** at the same time.

TIP: Shape objects (Rectangle, Line and Ellipse) in NiceLabel 2019 remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

4.3.6.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
  - **Object:** selects the reference object for horizontal relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
  - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
  - **Object:** selects the reference object for vertical relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
  - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

4.3.6.3 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

TIP: If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer element if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is

displayed.

- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Enabled advanced printer driver interface combined with NiceLabel printer driver is required to print this object as internal printer element.

4.3.7 Line

Line object creates a line on a label.

4.3.7.1 Style

Outline group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath this object.
- **Outline color:** color of the line.

TIP: Shape objects (Rectangle, Line and Ellipse) in NiceLabel 2019 remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

4.3.7.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.
- **Length:** sets the line length.

If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Lock prevents the object from being moved during the design process.

4.3.7.3 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

  TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

TIP: If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer element if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Enabled advanced printer driver interface combined with NiceLabel printer driver is required to print this object as internal printer element.

4.3.8 Ellipse

Ellipse object creates a circular object on a label.

4.3.8.1 Style

Outline group defines line settings:

- **Thickness:** object line thickness.
- **Outline style:** object line style.
  - **Solid:** solid line.
  - **Dot:** dotted line.
  - **Dash:** dashed line.
  - **Erase:** parts of neighboring objects become invisible underneath this object.
- **Outline color:** color of the line.

Fill group defines the object fill settings and color.

- **Fill style:** object fill properties definition:
  - **None:** completely transparent object.
  - **Erase:** makes objects beneath the active one hidden.
  - **Solid:** fills the object with solid color.
  - **Right Diagonal:** fills the object with diagonal lines that ascend toward the right side.
  - **Left Diagonal:** fills the object with diagonal lines that ascend toward the left side.
  - **Vertical:** fills the object with vertical lines.
  - **Horizontal:** fills the object with horizontal lines.
  - **Cross:** fills the object with crossed lines.
  - **Cross Diagonal:** fills the object with diagonally crossed lines.
  - **25% of color:** fill color opacity 25 %.
  - **50% of color:** fill color opacity 50 %.
  - **75% of color:** fill color opacity 75 %.
- **Background color:** object fill color definition.

NOTE: The system does not allow the **Outline style** and **Fill style** to be set to **None** at the same time.

TIP: Shape objects (Rectangle, Line and Ellipse) in NiceLabel 2019 remember the last used setting. Each time you add one of these objects to the label, it has the same outline and fill settings as the previously added shape object.

4.3.8.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
    - **Object:** selects the reference object for horizontal relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no

other objects on the label) for horizontal relative positioning.

- **Offset:** horizontal distance from label border or reference object's anchoring point.

- **Enable vertical relative position:** activates vertical relative positioning.
  - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
  - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
  - **Object:** selects the reference object for vertical relative positioning.
  - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
  - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

NOTE: If the measurement unit is changed, the value transforms automatically.

4.3.8.3 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.

- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

  TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

TIP: If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

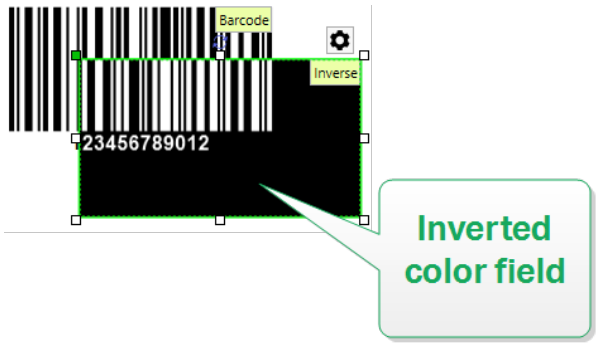
- **Use printer element if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Enabled advanced printer driver interface combined with NiceLabel printer driver is required to print this object as internal printer element.

4.3.9 Inverse

4.3.9.1 About

Inverse object inverts the underlying object's color.



4.3.9.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
    - **Object:** selects the reference object for horizontal relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
    - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.

- **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
- **Object:** selects the reference object for vertical relative positioning.
- **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
- **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

NOTE: If the measurement unit is changed, the value transforms automatically.

4.3.9.3 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

TIP: If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer element if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Inverse object can only be printed as graphics if advanced printer driver interface is disabled. Make sure Windows printing mode is on before printing. Double-click the design surface to open **Label Properties** dialog and go to **Printer** panel **> Printing >** disable option **Use advanced printer driver interface**.

4.4 Working with Objects

This section describes how to work with objects and blend them with the design of a label or form.

Object is a basic building block of any label or solution. Each object is dedicated to a specific type of content. See the related topics for style and content related object properties.

These are the common actions for multiple object types:

- Adding an object: adds an object to the design surface.
- Adding an object with connected data source: click the down arrow next to the object button and select an existing or new data source to make the newly added object instantly connected to a dynamic data source.
- Grouping: makes multiple object behave as a single object.
- Rotating: changes the angle of a selected object.
- Resizing: sets the size of an object.
- Aligning: make the object positions.

4.4.1 Adding Objects

There are multiple methods to add an object to a label or form. Use the most convenient one:

- **Click and Click:** click the object in the object toolbox. Mouse cursor transforms. Click on the design surface – the selected object appears where clicked.
- **Click and Drag:** click the object in object toolbox. Mouse cursor transforms. Click on the design surface and drag to define the size of the added object.

  NOTE: Text object's size cannot be defined using this method – its size is defined dynamically.

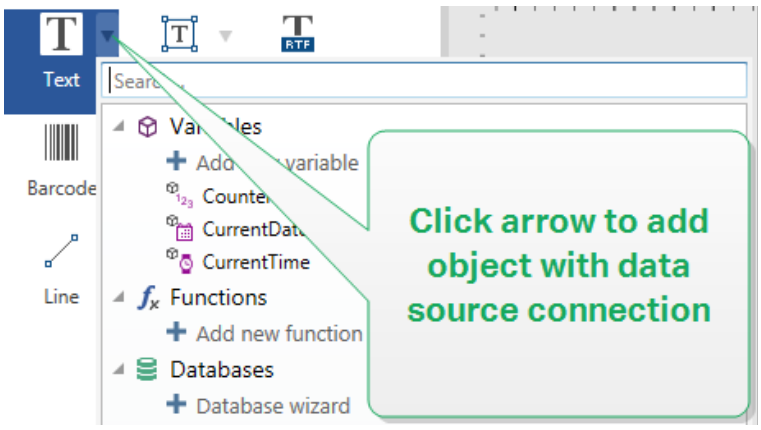
- **Drag and Drop:** click the object in the object toolbox and drag it to the design surface. The selected object appears where the mouse button is released.
- **Copy and Paste:** graphical and textual content can be pasted directly to the design surface. The following rules apply when copying items and pasting them directly to a label or a form:
  - Graphical content from clipboard is pasted as embedded Picture object.
  - Rich textual content originating from web pages or word processors is pasted as Rich text object. When designing a form, rich text is pasted as Text object.
  - Single line text is pasted as Text object.
  - Multiple line text is pasted as Text box object.

4.4.2 Adding Objects With Connected Data Source

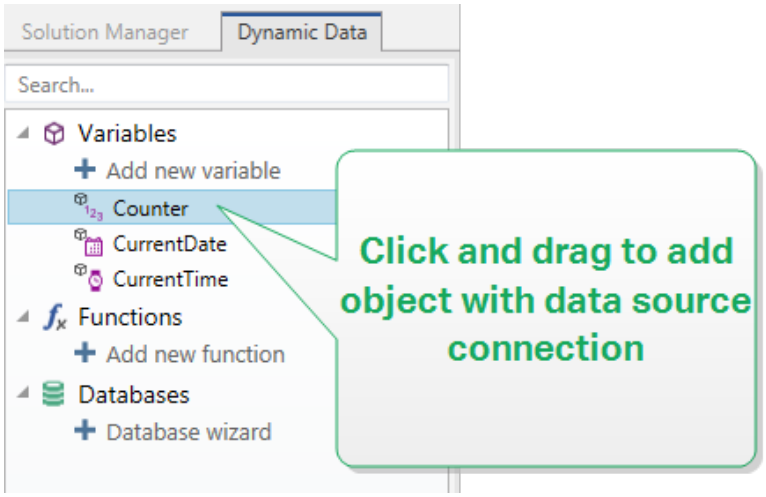
Designer allows you to add an object with instantly connected dynamic data source (variable, function or database) to the design surface.

There are multiple methods to add an object to a label or form. Use the most convenient one:

- Click the object button down arrow. This opens the dynamic data connection menu. Select from the existing data sources or add a new one. The newly added object is instantly connected to it when placed on the design surface.



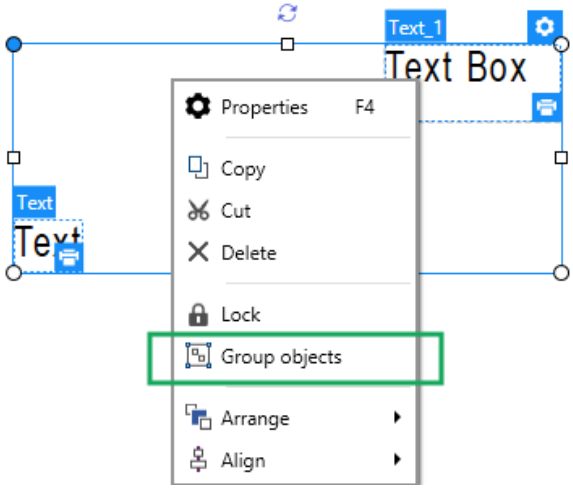
- Click and drag from dynamic data explorer. if you click and drag the data source from Dynamic Data explorer to the design surface, a Text object appears. This object's content source is the dragged data source from the explorer.



4.4.3 Grouping

To make multiple objects on a label behave as a single object, add them to a group. To group objects:

- Surround the objects you wish to group using mouse. A rectangle appears marking the selected objects. Right-click and select **Group objects** to create a group of objects.
- Hold `<Shift>` key and click the objects you wish to group. This selects multiple objects – right-click and select **Group objects** to create a group of objects.



4.4.4 Rotating

There are two ways to set the angle of an object:

- Enter the angle manually in degrees or drag the slider. The object rotates around its anchoring point. Rotation commands are accessible in two ways:

- Click **Position** in the Positioning group of the Design tab.
- Go to **Object properties -> Position -> Rotation angle**.

- Click and drag the icon next to the selected object. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to the design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

5 Barcode

Designer supports a wide variety of 1D and 2D barcode types to be printed on labels. Each barcode type is configurable according to specific standards.

TIP: When encoding the barcode content, make sure the used characters, length, and identifiers comply with the barcode standard guidelines.

The following barcode types are available in Designer:

- 1D and 2D Barcodes
- GS1 DataBar Barcode Subtypes

In Designer, barcodes are added to a label using the barcode object. To properly encode the data and to set the barcode object properties, read the sections below. Each of these sections describes barcode object properties. To start editing them, double-click the object to open the Object Properties Window.

5.1 Source

Connected data source defines the content source of the selected object.

- Variables: predefined variable values which are used as object content.

Data defines the content source of the selected object.

Counter: displays counter value on the label.

Content field allows you to type the object content.

5.2 Barcode

Barcode Type defines the specific barcode type which should be used to encode the data.

TIP: Code128 barcode type is selected by default. For more details about the available barcode types, see section Barcode Types and Available Settings.

- **X dimension:** width of the narrowest bar in the barcode.
- **Height:** barcode's vertical dimension.
- **Ratio** defines the ratio between the barcode's narrow and wide bar widths.

  Each barcode type's range of permitted ratios is limited by the standard. Designer only allows you to use valid ratios. By default, the ratio is set to 3. This means that the wide bar is 3 times the width of a narrow bar.

NOTE: The available ratios depend on the selected **X dimension**. If you are changing the X dimension, this also affects the selection of available ratios.

- **Row height** defines the height of a single data row in 2D barcodes. Row height is specified as a multiple over the **X dimension**. For example, "3x" means that the row is 3 times the **X dimension**.

Actual properties based on selected printer displays the X dimension as it would appear printed on a label using the currently selected printer.

Color defines the color of the barcode.

5.3 Check Digit

Check digit is used by any scanning system to verify that the number scanned from a barcode is read correctly.

TIP: Check digit is derived from the preceding barcode digits and is placed as the final digit of a barcode.

Include check digit determines if check digit is included in a barcode or not.

- **Auto-generate check digit:** automatic check digit calculation.

NOTE: If the data already includes invalid check digit, Designer replaces it with a proper value.

- **Verify the provided check digit:** verification of the manually provided check digit. An error message appears if the check digitis incorrect.
- **Display check digit in human readable:** check digit included in the human readable barcode text.

5.4 Human Readable

Human Readable text displays readable barcode data content located below or above the barcode. Its role is to provide backup in case the barcode is damaged or of poor quality.

NOTE: **Human Readable** tab is visible with supported barcode types.

- **No human readable:** barcode is rendered without human readable text.
- **Above barcode:** human readable text is located above the barcode.
- **Below barcode:** human readable text is located below the barcode.

Style group allows you to set custom properties for human readable text.

NOTE: If you decide to customize human readable text, barcode can no longer be used as internal printer element. It is sent to printer and printed as a graphic element.

- **Custom Font:** enables font and font size selection. Internal printer fonts cannot be used as custom human readable font.
- **Auto font scaling:** If enabled (default setting), human readable text grows or shrinks proportionally along with the changing size of the barcode. To set a custom size for human readable text, disable this option and select the appropriate font size.
- **Bold:** makes human readable text appear bold.
- **Italic:** makes human readable text appear italic.

Mask group sets the format of the input data before it is displayed on a label.

- **Content mask** sets the format of the input data before it is displayed on a label.
- **Mask character** is a character used in the mask that is replaced with actual data on the printed label.

EXAMPLE

A user needs to format a phone number to be more readable on the label. Data input is not formatted since it is read from a database.

If the input value read from a database is:

```
+38642805090
```

and the content mask is:

```
(****) **** - ****
```

the resulting output is:

```
(+386) 4280 - 5090
```

If the data contains the asterisk "*" character, change the **Mask character**. The character should have a unique value that does not appear anywhere in the data.

5.5 Bearer Bar

Bearer bar is a border that surrounds the barcode. Its purpose is to protect the barcode image and to enhance reading reliability.

- **Fixed thickness:** automatically defined bearer bar width.
- **Variable thickness:** user-defined bearer bar width.
- **Thickness multiplier:** bearer bar width factor.
- **Show vertical bar:** vertical bearer bars displayed or hidden.

5.6 Details

Details differ according to the barcode standards. Define the options that are given with regard to the currently selected barcode type. Details for 1D and 2D barcodes are described in dedicated sections:

- 1D barcode details
- 2D barcode details

5.7 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object's position.

- **X** and **Y:** anchoring point coordinates.

Size group sets the object's dimensions:

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

Rotation angle is the object angle according to the design surface.

TIP: There are multiple ways to set the object's angle: enter the angle manually, drag the slider or click and drag the icon on the selected object. Rotation angle and slider rotates the object around its anchoring point. The icon rotates the object around its central point.

Anchoring point is the spot where an object is pinned to design surface. Variable size objects increase or decrease their size in the direction that is opposite to the chosen anchoring point.

Lock prevents the object from being moved during the design process.

5.8 Relative Position

Relative Position options define the position of an object when label size or positions of neighboring objects are changing during the label design process.

- **Enable horizontal relative position:** activates horizontal relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define horizontal offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define horizontal offset for the object with regard to this object.
    - **Object:** selects the reference object for horizontal relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for horizontal relative positioning.
    - **Offset:** horizontal distance from label border or reference object's anchoring point.
- **Enable vertical relative position:** activates vertical relative positioning.
    - **Relative to label border:** the position of object is defined relative to the reference label border. Define vertical offset for the object with regard to this border.
    - **Relative to another object:** the position of object is defined relative to the border of a neighboring object. Define vertical offset for the object with regard to this object.
    - **Object:** selects the reference object for vertical relative positioning.
    - **Border:** neighboring object's reference border or label border (if there are no other objects on the label) for vertical relative positioning.
    - **Offset:** vertical distance from label border or reference object's anchoring point.

NOTE: Object position changes if label size or position of the related object change.

When designing double-sided labels, you can also take objects on the opposite side of the label as reference objects for relative positioning. In this case, objects on opposite sides move together if you change their positions.

NOTE: Label sides of reference objects are clearly identified on the **Object** selection list with **(Front Side)** and **(Back Side)**.

NOTE: If the measurement unit is changed in label properties, the value transforms automatically.

5.9 General

General tab identifies the object and sets its status.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

NOTE: Avoid using spaces or special characters in object names.

Description allows adding notes and annotations for an object. It provides help during the label design process.

Status group defines object visibility on print preview and on printed labels.

- **Not printable:** prevents the object from being printed. The object still remains visible on the print preview and affects other objects in relative positioning. This option is useful when printing on predesigned or stock-specific labels.
- **Visible:** if the checkbox is not selected, the object neither appears on the print preview nor on the printed label. The object is treated as if it does not exist.
- **Condition:** makes an object enabled (editable) if the result of the given condition is "True". This setting defines object visibility on form startup and when the connected variable's value changes.

  TIP: Equals (=) and slashed equals (≠) signs are allowed to be used in object visibility condition. Click the **Equal/Not equal** button select the appropriate sign type.

Option	Print Preview	Printout	Relative positioning
Not printable (selected)	YES	NO	YES
Visible (cleared)	NO	NO	NO

Printing optimization group allows activating the use of internal printer elements.

TIP: If supported by the selected printer model, a share of label element processing is handled directly by the printer (e.g., internal fonts, shapes, barcodes). This speeds up the printing process also due to significantly reduced data traffic.

- **Use printer element if supported:** prints labels using internal printer elements if the printer allows it. If a selected printer does not support internal printer elements, the element is sent as a graphic file.
- **Always use printer element:** prints labels using printer elements only. If a selected printer does not support internal printer elements, an error message with explanation is displayed.
- **Always print as graphics:** sends and prints the objects as graphic files.

NOTE: Enabled advanced printer driver interface combined with NiceLabel printer driver is required to print this object as internal printer element.

5.10 Available Barcodes and Their Settings

Barcode	Example	Info	Available Settings
Anker		Variation of Plessey Code. Used for point of sale systems prior to the advent of EAN code.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Bookland		Type of EAN barcode used exclusively for books.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Codabar		A self-checking and binary level linear barcode symbology with no check sum digit appended. Widely used in libraries and package delivery systems.	Basic Barcode Settings Human Readable Details tab: Include quiet zones
Code93		43 characters allowed. ASCII character set supported by using combinations of 2 characters.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Code128		Double density data encoding, ASCII character set supported.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction

Barcode	Example	Info	Available Settings
Code128-A		ASCII characters 00 to 95 (0-9, A-Z, and control codes), special characters, and FNC 1-4 supported.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Code128-B		ASCII characters 32 to 127 (0-9, A-Z, a-z), special characters, and FNC 1-4 supported.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Code128C		00-99 (encodes each two digits with one code) and FNC1.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Code-32		Code-32 has to be used all over Italy for the encoding of pharmaceutical products.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Inter character gap Space correction
Code-39		Fully alphanumeric barcode for use with data-entry systems.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Inter character gap Space correction

Barcode	Example	Info	Available Settings
Code-39 full ASCII		28 ASCII character set including asterisks supported.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Inter character gap Space correction
Code-39 Tri Optic		Computer tape cartridge marking.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Inter character gap Space correction
Dun-14		Numbering system for shipping containers that uses other barcode types.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Inter character gap Space correction
Ean-13		European Article Number, used for global retail.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space Space correction

Barcode	Example	Info	Available Settings
Ean-13 + 2		Often used on newspapers and magazines.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space
Ean-13 + 5		For books in English language: the first digit of the EAN-5 is the currency indicator. The four following digits represent the price multiplied by 100.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space
Ean-14		Traded goods.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
Ean-8		Small package marking where an EAN-13 barcode would be too large.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space Space correction

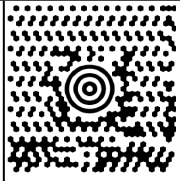
Barcode	Example	Info	Available Settings
Ean-8 + 2		Only used if the article is too small for an EAN-13 code.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space
Ean-8 + 5		Only used if the article is too small for an EAN-13 code.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Include EAN white space
GS1-128		A variant of Code 128 - it automatically inserts a FNC1 character after the initial character.	Basic Barcode Settings Human Readable Details tab: Include quiet zones Space correction
Interleaved 2 of 5		Used on 135 film, for ITF-14 barcodes, and on packaging.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
ITF 14		Higher level packaging. GTIN included.	Basic Barcode Settings Check Digit Human Readable Bearer Bar Details tab: Space correction

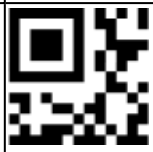
Barcode	Example	Info	Available Settings
ITF 16		Higher level packaging. GTIN included.	Basic Barcode Settings Check Digit Human Readable Bearer Bar Details tab: Space correction
MSI		Used primarily for inventory control, marking storage containers and shelves in warehouse environments.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
SSCC		Identification in logistics. The code includes an extension digit, a GS1 company prefix, a serial reference, and a check digit.	Basic Barcode Settings Human Readable Details tab: Space correction
Plessey		One of the first barcode symbologies. Still used in libraries and for shelf tags in retail stores.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
SSCC-18		Identification in logistics. The code includes an extension digit, a GS1 company prefix, a serial reference, and a check digit.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction

Barcode	Example	Info	Available Settings
Upc Case Code		Used for cartons, cases, or pallets that contain products with UPC or EAN product identification number.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Space correction
Upc-A		Product identifying at retail checkout. GTIN included.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Space correction
Upc-A + 2		Product identifying at retail checkout. GTIN included. Used with magazines and periodicals.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar
Upc-A + 5		Product identifying at retail checkout. GTIN included. Used for book pricing.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar

Barcode	Example	Info	Available Settings
Upc-E		Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar Space correction Symbology
Upc-E + 2		Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar
Upc-E + 5		Product identifying at retail checkout. GTIN (compressed) included. Adapted for smaller packages.	Basic Barcode Settings Check Digit Human Readable Details tab: Include quiet zones Descender bar
USPS Intelligent Mail Barcode		Tracking and sorting of letters and flat packages in the United States.	USPS Intelligent Mail Barcode Content Details tab: Include quiet zones

5.10.1 2D Barcodes

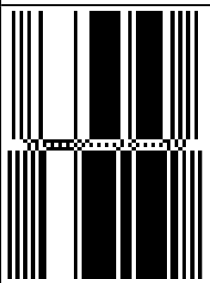
Barcode	Example	Info	Available Settings
Aztec		High capacity, symbol size adjusts automatically depending on the amount of input data.	Basic Barcode Settings Details tab: Code page Data layer Error correction level
Data Matrix		High capacity, optimal for small packages.	Basic Barcode Settings Details tab: Format Encoding Code page
GS1 DataBar		Marking products that cross POS applications. GS1 identification (AIs) included.	Available settings change according to the selected GS1 DataBar type.
GS1 Datamatrix		Added GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance.	Basic Barcode Settings Details tab: Format Encoding Code page
GS1 QR Code		Added GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance.	Basic Barcode Settings Details tab: Symbol version Error correction level Encoding Code page
MaxiCode		Used by UPS on shipping labels for world-wide addressing and package sortation.	MaxiCode Content Basic Barcode Settings

Barcode	Example	Info	Available Settings
Micro QR		Reduced size and capacity of a normal QR code. Optimal when the barcode size needs to be minimized.	Basic Barcode Settings Details tab: Symbol version Error correction level Encoding Code page
MicroPDF		Compact version of PDF-417.	Basic Barcode Settings Details tab: Code page Compaction mode Version
PDF-417		Commonly used in transport, inventory management, etc. The code is both self-checking and bi-directionally decodable.	Basic Barcode Settings Details tab: Code page Compaction mode Error correction level Columns Rows Truncated
QR		A matrix barcode readable by QR scanners and smartphones. Adaptable size to the amount of encoded data.	Basic Barcode Settings Details tab: Symbol version Error correction level Encoding Code page

5.10.2 GS1 DataBar Subtypes

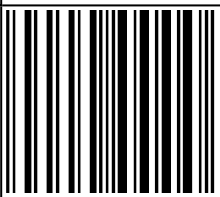
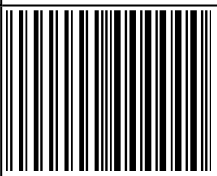
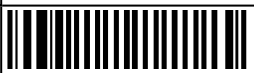
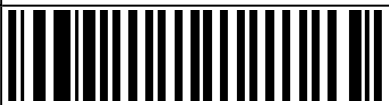
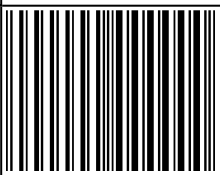
5.10.2.1 Linear Symbol Types

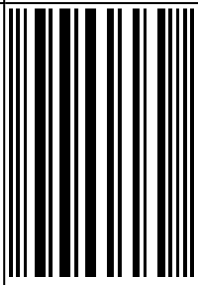
GS1 DataBar Subtype	Example	Info
Omnidirectional		Omnidirectional scanning, up to 20 trillion encodable values.

GS1 DataBar Subtype	Example	Info
Stacked		Stacked truncated symbol for omnidirectional scanning with reduced symbol length.
Stacked Omnidirectional		Full height symbol stacked in two rows separated by a delimiter.
Truncated		Height reduced to 13 times the X dimension. For handheld scanners.
Expanded		Omnidirectional scanning, variable content length.
Expanded Stacked		Omnidirectional scanning, variable content length, reduced length due to stacking (2 to 11 rows).GS1 DataBar Properties.
Limited		Limited range of values. For handheld scanners.

5.10.2.2 Composite Symbol Types

GS1 DataBar Subtype	Example	Info
Omnidirectional		A linear symbology that supports omnidirectional scanning of packages. It encodes 14 digits of numerical data used to identify GTIN for scanning in the supply chain.
Stacked		Stacked truncated symbol for omnidirectional scanning with reduced symbol length.

GS1 DataBar Subtype	Example	Info
Truncated		Intended for very small items in healthcare, not intended for POS scanners.
Expanded		Omnidirectional scanning, variable content length. Used for variable-measure food, coupons.
Expanded Stacked		Omnidirectional scanning, variable content length, reduced length due to stacking (2 to 11 rows). See section GS1 DataBar Properties
Limited		Limited range of values. For handheld scanners.
EAN-8		A smaller and shortened version of the EAN code.
EAN-13		EAN codes require 13 digits (12 if the check digit is calculated automatically).
EAN.UCC 128 & CC-A		GS1-128 linear barcode linked to a 2D barcode called CC-A.
EAN.UCC 128 & CC-C		GS1-128 linear barcode linked to a 2D barcode called CC-C.
UPC-A		The linear component encodes the item's primary identification. The adjacent 2D Composite Component encodes supplementary data, such as a batch number and expiration date.

GS1 DataBar Subtype	Example	Info
UPC-E		PC-E compresses a normal UPC-A code into a six digit code by "suppressing" the number system digit, trailing zeros in the manufacturers code and leading zeros in the product number.

5.11 1D Barcode Details

Details tab settings vary along with the specific barcode standards.

TIP: Keep in mind the currently selected barcode type as you define the available barcode settings.

Designer allows setting the following 1D barcode details:

- **Include quiet zones:** blank space around the printed barcode. Quiet zone ensures the highest level of scanning reliability.

  NOTE: This option ensures optimum readability in case a neighboring object on a label is located right next to the barcode.

- **Inter character gap:** distance between the last bar of a character and the first bar of the next character in a barcode.
- **Descender bars:** makes the bars at the beginning, in the middle, and at the end of certain barcode types (EAN and UPC) longer.
- **Include EAN white space:** inserts a special character (< or >) to indicate the EAN barcode width.
- **Space correction:** adds white pixels to increase the gap width between the bars.

  Symbology: UPC barcode **Number system**:

  - 0, 1 , 6, 7 and 8 are for regular UPC codes.
  - 2 is for random weight items, e.g., meat, marked in-store.
  - 3 is for National Drug Code and National Health related Items.
  - 4 is for in-store marking of non-food items.
  - 5 and 9 are for coupon use.

5.12 2D Barcode Details

2D barcodes enable multiple type-specific settings under the **Details** tab. When defining these settings manually, the dropdown lists offer specific standard-compliant options.

TIP: Designer defines the **Details** tab settings automatically if the user chooses not to manually define them.

5.12.1 Code Page

Code page defines how the mapping of code characters with scanned characters is done. To display the scanned data accurately, the correct code page must be selected. If none of the code pages is selected by the user, Designer uses system character encoding.

5.12.2 Columns

Columns are basic vertical elements of a PDF 417 barcode. A maximum of 30 columns may be included in a single PDF 417 symbol.

5.12.3 Compaction Mode

Compaction mode compacts a number of data characters into codewords. The decoding algorithm uses the individual codewords to place them into a meaningful matrix.

- **Binary:** all 256 ASCII values (up to 1100 bytes) are allowed.
- **Text:** all printable ASCII characters 32–126 and ASCII 9, 10 and 13 (up to 1800 characters) are allowed.
- **Numeric:** encoding of numeric data (up to 2700 digits).

5.12.4 Data Layer

Data layer defines the number of data layers that encode data in an Aztec barcode. The number of data layers correlates directly with the barcode data capacity. If the value exceeds the data capacity provided by the selected Data layer, an error returns. One to four data layers are allowed.

5.12.5 Encoding

Encoding defines character encoding scheme for the selected barcode.

NOTE: If you select the GS1 Datamatrix barcode, NiceLabel 2019 automatically sets the encoding scheme to ASCII. This makes sure the GS1 Datamatrix barcodes on your labels are GS1-compliant.

5.12.6 Error Correction Level

Error correction level defines the symbol security level. It adds a series of error correction codewords to the encoded data. These codewords enable the printed symbol to withstand damage without data loss. The higher the security level, the greater the number of data layers required to contain the symbol – and hence, its overall size. If none of the Error correction levels is selected, Designer defines it automatically.

5.12.7 Format

Format defines the symbol size and its capacity using the number of column and row elements.

If using Data Matrix barcode on your labels, DMRE (Data Matrix Rectangular Extension) allows you to use multiple rectangular formats. These additional rectangular sizes increase data encoding capacity of the barcode.

NOTE: For printers without internal DMRE support, enable **Always print as graphics** under **General** properties to print the Data Matrix barcode successfully.

5.12.8 Rows

Rows – PDF-417 barcode symbol is made of stacks of vertically aligned rows. Such barcode adapts its size to the amount of the encoded data and may contain from 3 to 90 rows.

5.12.9 Symbol Version

Symbol version defines the symbol data capacity. As the amount of data increases, additional modules are required to build a QR code. This makes the symbol larger on the printed label.

5.12.10 Truncated

Truncated reduces the PDF-417 barcode size by removing a single codeword and a stop bar from each symbol row.

5.12.11 Version

Version defines the symbol size based on the number of columns. One-, two-, three-, and four-column versions of Micro PDF417 barcode are available.

5.13 GS1 DataBar Specifics

In addition to the common barcode properties, the specifics described below are available for GS1 DataBar.

5.13.1 GS1 DataBar Source

General group specifies how the databar content is going to be formatted before encoding.

- **Structured data** sets the standard GS1 system data structure as a model for inserting the barcode data. Use GS1 function to encode the data correctly (for more on GS1 and other functions, see topic Functions). Composite GS1 barcodes represent structured data in the composite part of the code.
- **Unstructured data** allows inserting the data without a model – only character type and number must comply with the selected barcode type.

Data

- **Linear data** is the part of the data that is encoded in the linear part of the barcode. The data is either manually inserted or defined by a predefined **Data source**.
- **Composite data** is the part of the data that is encoded in the composite part of the barcode. This part of data is always structured and follows one of the standard system data structures as defined by the GS1. The data is either manually inserted or defined by a predefined **Data source**.

5.13.2 GS1 DataBar Properties

GS1 DataBar Expanded Stacked subtype encodes the data in the form of symbol segments sequence. Symbol width is defined by the number of symbol segments in each stacked row. Symbol height is defined by the number of stacked rows and their height.

- **Segments per Row** defines the number of segments for each row of a symbol. Up to 22 segments are allowed per symbol.

5.14 Maxicode Barcode Content

Symbology Definition defines the barcode mode of operation (data structuring type).

Designer supports the following modes:

- **Mode 2:** US carriers with postal codes up to 9 digits in length.
  - **Postal Code:** US Zip Codes using a single field with 5 or 9 digits, or two fields with 4 or 5 digits.
- **Mode 3:** international carrier with alpha-numeric postal codes with up to 6 digits.

There are two additional options under **Symbology Definition**:

- **Structured data:** automatically selected **Mode 2** or **Mode 3** modes based on the entered data.
- **Unstructured data:** barcode mode of operation is set to **Mode 4**.

> **TIP:** This mode encodes general data for purposes other than shipping industry (e.g., purchase order number, customer reference, invoice number).

Data Contents

Field	Description

SHIP TO Postal Code	Mandatory. 5 or 9 alphanumeric characters. Alpha characters must be uppercase.
4 Digit Extension (enabled with Postal code field: Two Fields (5 and 4 digits) type).	Mandatory. 4 numeric digits defining micro location.
SHIP TO ISO Country Code (Mode 3 only)	Mandatory. 3 numeric digits.
Class of Service	Mandatory. 3 numeric digits, a comma must be included to mark the end of field.
Transportation Data	Mandatory. The 5 characters, including the GS code.
Tracking number	Mandatory. 10 or 11 alphanumeric characters. Alpha characters must be upper case.
UPS SCAC	Mandatory. 4 characters followed by the GS code.
Julian Day of Puckup	Mandatory. 3 numeric digits.
Shipment ID Number	Optional. 0-30 alphanumeric characters. Alpha characters must be upper case. GS code must always be sent even if no data is specified.
Package in Shipment	Mandatory. 1-3 numeric digits for package number. 1-3 numeric digits for number of shipped items. Forward slash must separate these two numbers.
Package in Weight	Mandatory. 1-3 numeric digits.
Address Validation	Mandatory. Single character “Y” or “N”. Upper case characters.
SHIP TO Address	Optional. 0-35 alphanumeric characters. Alpha characters in upper case. GS code must always be sent even if no data is specified.
SHIP TO City	Mandatory. 1-20 alphanumeric characters. Alpha characters must be upper case.
SHIP TO State	Mandatory. 2 alpha characters. Both characters must be upper case. RS code marks the end of this field and the end of the secondary message data.

5.15 USPS Intelligent Mail Barcode Content

Data Contents group defines the input mode for the encoded data.

Input mode defines the structure of the encoded data.

- **Structured data:** to ensure proper intelligent mail tracking, a string of numbers must be obtained. This string is referred to as the DataToEncode. The DataToEncode consists of the **Intelligent Mail Data Fields**.
- **Unstructured data:** encoded data follows no predefined structure.

Intelligent Mail Data Fields group allows you to encode the barcode data in accordance with the standard.

Field	Description
Barcode Identifier	Specific two-digit identifier assigned by the Postal Service.
Service Type Identifier	Three-digit identifier defines the mail piece as full-service or basic (Non-automation) and is also used to determine the disposition of undeliverable-as-addressed (UAA) mail and the form of address correction that a mailer desires.
Mailer Identifier	Unique 6-or 9-digit number that identifies a business entity or customer.
Serial Number	A serial or sequence number which enables unique identification and tracking. Depending on the specific barcode construct, this field can vary in length from 5-10 digits.
Delivery Point ZIP Code	Routes the mail to its final delivery point (length variations: none, 5, 9, or 11 digits).

6 Printing

When a label is ready to be printed, Designer helps you print it using a print dialog. It allows you to:

- Preview the label during the design process.
- Insert values for prompted variables.
- Filter and select which records should be printed.
- Define printer settings.
- Control print quantity.
- Define additional quantity settings.

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

The Designer print dialog serves as a customizable printing form. It consists of predefined form objects that can be configured, moved, added or removed. More details on how to use the printing form are available here.

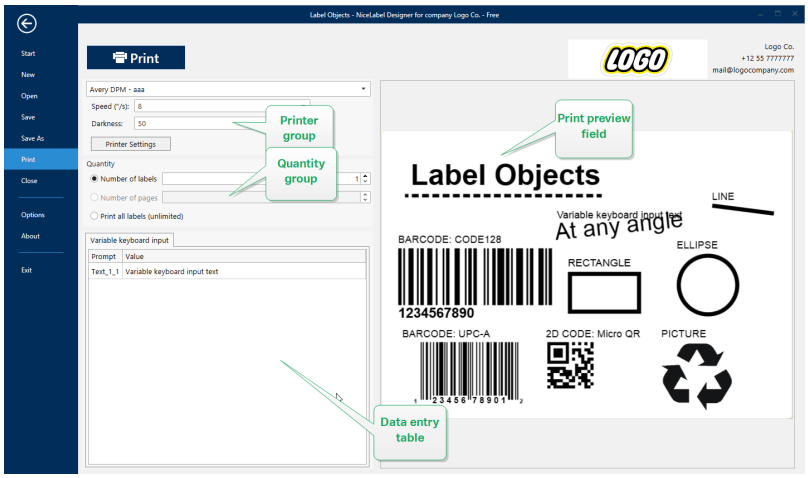
To open the print dialog, click the **Print** button in the Action group of the Home tab ribbon or press `Ctrl+P`.

Step-by-step printing procedure is described here.

TIP: NiceLabel 2019 also allows you to print without opening the Designer application. If no label editing is required, use NiceLabel Print to open and print label files directly.

6.1 Print Pane (Default Printing Form)

File (background) tab opens the default printing form. In Designer, it serves as the primary print dialog.



PRODUCT LEVEL INFO: Availability of default printing form functions depends on the selected product level.

Print button starts the printing procedure. It sends the print job to the selected printer.

Printer group of settings includes:

- **Print** button**:** starts the print label action.
- **Printer selection** combo box**:** lists the installed printers.
- **Printer settings** combo boxes**:** define printing speed and darkness. The selectable values are provided by the selected printer driver.
    - **Speed:** speed of printing. Available options are defined by the active printer driver.
    - **Darkness:** sets the intensity of printing. Available options are defined by the active printer driver.
- **Print to file** checkbox**:** redirects the printing to a file.
- **Printer Settings** button**:** opens properties printer driver dialog for the currently selected printer.

Quantity group of settings includes:

- Print quantity **object:** defines the number of labels to be printed.
    - **Number of labels:** number of printed labels.
    - **Number of pages:** number of printed pages with labels.

      NOTE: **Number of pages** option becomes active if more than 1 label per page is set under label properties > label dimensions.
    - **Print all labels (unlimited):** prints all labels as defined by the label design. More details about this option are available here.

more... link opens the **Additional Quantity Settings** window.

- **Number of labels skipped on first page:** defines how many labels should be left unprinted on the first page.

EXAMPLE: A single page includes five labels. **Number of labels skipped on first page** is set to three. Two labels are printed on the first page.

- **Identical copies per label:** number of identical label copies to be printed.

EXAMPLE: A single page includes five labels. **Identical copies per label** is set to three. There are three copies of each label printed.

- **Number of label sets:** defines the number of print jobs to be sent to the printer.

EXAMPLE: A set of printed labels contains three labels: A, B and C.
Number of labels:
Identical copies per label: 2.
Number of label sets: 3.
Print result: [A, A; B, B; C, C] [A, A; B, B; C, C] [A, A; B, B; C, C]

Load... allows you to locate and load the predefined variable values for your printed labels. You can include these predefined values in dedicated files with ".defaults" or ".values" extensions and store them on your computer or an accessible network location.

The two supported formats for ".defaults" or ".values" are:

- XML:

```
<variables>
    <variable name="var1">variable1</variable>
    <variable name="var2">variable2</variable>
</variables>
```

- name-value:

```
var1=variable1
var2=variable2
```

Data Initialization field (data entry table) allows inserting prompted variable values at print time.

Print preview field displays the current label design and content.

6.2 Edit Printing Form

In Designer, the default printing form serves as the basic printing interface for stand-alone and solution labels.

To start customizing the default printing form, go to **Home tab > Action group** and click **Customize Print**. Available print customization options are described here.

Editing or adding a new printing form automatically creates a group of dedicated **Printing form variables**. These variables are connected with the object on the selected printing form. All of these

Details about the printing form variables are available here.

The variables that define the content of default print form objects become visible and editable in the Solution Explorer. Open the Dynamic Data Manager to manage these variables.

If you want to discard the printing form customization actions, click **Recreate Printing Form**. The default printing form is recreated.

> NOTE: **Recreate Printing Form** discards all editing actions on the default printing form.

6.3 Printing Procedure

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

Use the following steps to successfully print a label using the Designer.

Step 1: Create

Create a new or edit an existing stand-alone label or label in a solution.

Step 2: Preview

Label preview field is a part of default Designer Print dialog. To make the print form appear on screen, select one of the following options:

- Go to Home tab > Action group and click **Print**.
- Press **Ctrl+P**.

Label preview field displays current label design. If you decide to customize the default print form or to make a new one, make sure you add the Label Preview object to the form. The print form will offer label preview only if the Label Preview object is present.

PRODUCT LEVEL INFO: This segment is applicable to Designer Pro and PowerForms.

TIP: The default printing form is customizable. To adapt it and to create a custom print dialog, go to **Home** tab > **Action** group and click **Customize Printing Form**. Read more about printing form customization here.

Step 3: Select printer

Choose the preferred printer from the **Printer** tab dropdown menu. All currently available printers are listed. More details on defining the printer are available here.

During this step, printing speed and darkness can be set as well. These two parameters depend on the selected printer's driver.

Step 4: Set print quantity

Number of labels sets the number of printed labels.

Number of pages sets the number of printed pages. This option becomes active if the labels are positioned across at least two pages.

Print all labels (unlimited) prints all labels as defined by the label design. More details about this option are available in Printing of Unlimited Data.

Click **more...** to open the Additional Quantity Settings dialog.

- **Identical copies per label** defines the number of identical label copies in a print job.
- **Number of label sets** defines how many times the entire label printing process should repeat.

Step 5. Start Printing

Click the **Print** button.

6.4 Store/Recall Printing Mode

Store/Recall printing mode is a method for speeding up the printing process. It increases printer response by reducing the amount of data that needs to be sent during repetitive printing tasks.

NOTE: **Store** option becomes visible in Designer **File** tab if enabled in the label properties printer panel and supported by the currently selected printer.

With store/recall mode activated, Designer does not need to resend the complete label data for each printout. Instead, default labels (templates) and internal printer elements (graphics, fonts) are stored in the printer memory, and Designer only sends recall commands which render the stored label content during the printing process. Typically, a few bytes of data are sent to the printer as compared to a few kilobytes in the case of normal printing.

The action consists of two processes:

- **Store label.** During this process, Designer creates a description of the label template formatted in the selected printer's command language. When done, Designer sends the created command file to the printer memory and stores it.
- **Recall label.** A label stored in the printer memory is printed out immediately. Using the recall process, Designer creates another command file to instruct the printer which label from its memory should be printed. The recall label command occupies a few bytes of data only. The actual amount of data depends on the current situation. For fixed labels without any variable contents, the recall command file only contains the recall label command. For variable labels that contain variable fields, the command file includes the values for these variables and the recall label command.

NOTE: Before activating this mode, make sure the appropriate printer driver is selected for the label printer. Not all label printers have the ability to use the store/recall printing mode.

Follow these steps to activate the **Store/Recall** printing mode:

1. Double-click the label design surface. **Label Properties** dialog appears.
2. To enable the mode, select **Use store/recall printing mode** on **Printer** tab. Click **OK**.
3. Define label template(s). All label objects with variable content must be formatted as internal printer elements:
    - Text object content must only use internal printer fonts (not Truetype!).
    - Use internal printer barcodes in barcode objects.
    - If using variable objects withTruetype fonts, variable pictures or database fields, the default values are sent to the printer during the label store process.
4. Click **File > Store**. Make sure the **Store variant** points to the correct memory location in the printer.

5. Insert or select values for variable objects that are not formatted as internal printer objects. These variables will be given the same value on each label. They will behave as objects with fixed values.
6. Click **Store to printer** to create the command file with label template description and to send it to the printer.
7. Insert values for prompted label variables. These variables are linked with internal printer objects on the label. For this reason, their values can be changed during each printing.
8. Click **Print** to send variable values and recall label command to the selected label printer.

6.5 Optimize Printing Speed

There are many factors that affect the speed of label printing in Designer. Follow the guidelines below to dramatically increase the speed of printing.

NOTE: When implementing the following guidelines, ensure they are supported by the selected printer.

- If the selected printer supports parallel and serial port, use the parallel port. When the computer sends the data to printer over parallel port, it is much faster than over serial port.
- When designing a label, use internal printer fonts instead of Windows true-type fonts. True-type fonts are sent to the printer as graphics. This vastly increases the size of data sent to printer (couple of kilobytes). With internal printer fonts, only the text is sent to printer (couple of bytes).
- Avoid using graphics on labels.
- When using barcodes, ensure the barcodes are used as internal printer elements.
- When using counters, the printer internally increments the numbers if the internal printer fonts are used. This means, that the printer only needs to receive the first object number. The printer later increments this number while printing additional labels. This option also reduces the amount of data transferred between computer and printer.

  TIP: With internal printer counter, the printing speed difference becomes noticeable with high quantity of labels.
- Set the printing speed to a higher value. Increasing the printing speed usually affects the quality of printing. The higher the speed, the lower the quality. Find an acceptable compromise.
- Don't print excessive amount of data on labels. If the speed of printing is an important factor, consider using preprinted labels, and only print the data, that changes with each label.

6.6 Changing Common Printer Settings

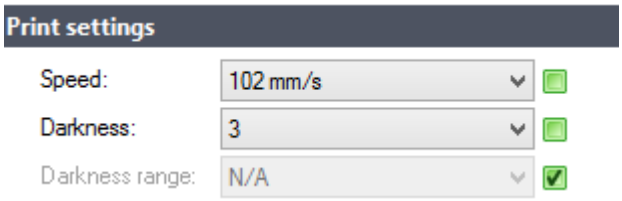
When designing a label, you also define which printer should be used for printing it. Each label file stores its own printer settings for the selected printer driver.

Changes made in the printer settings dialog box are saved to the label and will be used in future print actions.

NOTE: Ensure that **Use custom printer settings saved in the label option** is enabled in **Label properties > Printer**. If not, default printer settings are going to be used.

Complete the following steps to change and save common printer settings for a label:

1. Open the label properties dialog.
2. Click **Printer properties** button on **Printer** tab. The dialog window with printer driver settings opens.
3. Open the **Printer Options** tab.
4. Adjust the **Speed** and **Darkness** settings.



NOTE: These settings depend on the selected printer.

5. Click **OK**.
6. Save the label.

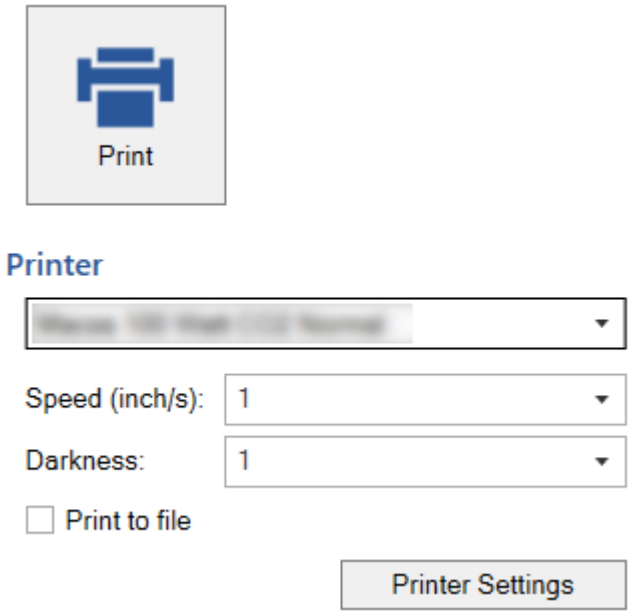
NOTE: Any changes in the printer settings dialog box will be saved to the label and applied to future print actions.

Changes in label printing speed and darkness can also be done at print time. These settings are only valid while the file remains open. After reopening the file, the settings are reset to those defined in **Printer properties** dialog.

Complete the following steps:

1. Open Print dialog.
2. Click **Print**.
3. Adjust **Speed** and **Darkness** values under **Printer** group.

4. Save the label.



NOTE: Changes to the settings in the **Printer** tab will not be saved in the label but used only at print time.

6.7 Changing Dithering Options

NOTE: This option is applicable only if a NiceLabel printer driver is used for label printing.

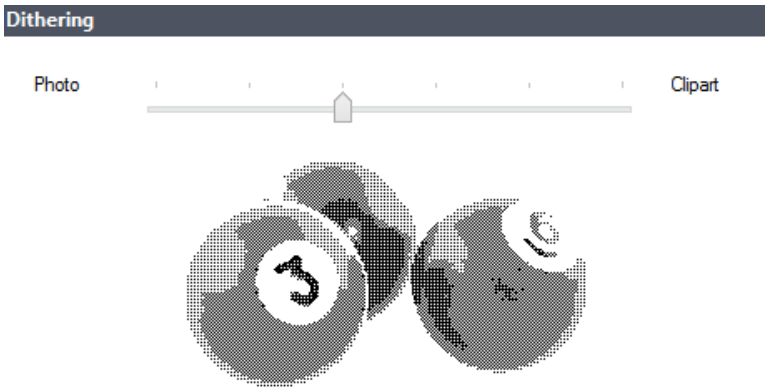
Dithering is a process of converting color or gray scale pictures to black and white pictures that can be printed on thermal printers. Thermal printers normally cannot print color images and can either print a dot on the label or leave the area blank. There are no intermediate shades of gray.

During the dithering process, all colors and shades of gray in the picture are converted to black and white dots, creating an illusion of new colors and shades by varying the pattern of dots. Different shades of gray are produced by varying the patterns of black and white dots. There are no gray dots at all. In printing, dithering is usually called half-toning, and shades of gray are called halftones.

To change the dithering settings, do the following:

1. Open label properties dialog.
2. Click **Printer properties** button on **Printer** tab. The dialog window with printer driver settings opens.

3. Open **Graphic Options** tab and use **Photo** slider to select the preferred dithering type.



NOTE: These settings depend on the selected printer.

4. Change the dithering type option to suit your needs. Look at the preview on the right side how you can expect the selected type to be applied on the label.
5. Click **OK**.
6. Save the label.

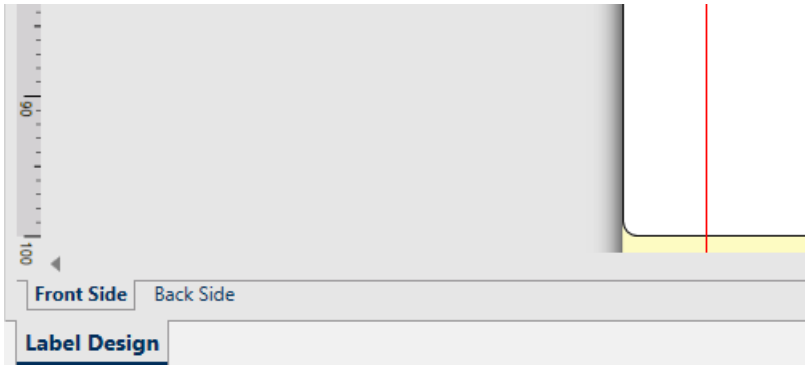
6.8 Double-sided Printing

Designer supports double-sided printing for office and thermal printers.

To enable double-sided printing, open Label properties dialog and enable **Double-sided printing** option on the **Printing** tab.

NOTE: The option is available only when the used selected printer driver supports double-sided printing.

As soon as you enable this option, label sides become visible by clicking the tabs under the design surface.



When printing to an office printer, these two pages are always printed one after another. They are sent to the printer in the same order.

TIP: Make sure you enable duplex functionality in the printer driver settings.

When printing with a thermal printer, NiceLabel printer driver takes care of proper label processing and printing. Use an appropriate NiceLabel printer driver to enable double-sided printing functionality.

6.9 Defining Unprintable Area

Unprintable area is the part of the label where the printer cannot print. Enabling the unprintable area option in printer driver allows you to virtually increase the label size.

Thermal printers can only print labels that are placed below the printhead. If you have wider labels and if the printhead does not completely cover the label, the label part which juts out of the printhead cannot be printed.

TIP: Unprintable area is usually the label area left and right of the printer head.

By setting an unprintable area, you inform the Designer that there is an unusually wide label inserted into the printer. The software will draw vertical red lines identifying the unprintable area.

NOTE: Do not confuse the unprintable area with label margins! Unprintable area does not Shift the label objects on the design surface.

To define the unprintable area:

1. Open the label properties dialog.
2. Click **Printer properties** button on **Printer** tab. The dialog window with printer driver settings opens.
3. Go to **Printer options** tab.
4. Enter the values for **Unprintable Area**.

EXAMPLE: You have a printer with 10 cm (4") printer head and a 12 cm wide label. Insert the label centrally in the printer, so it sticks out of the printhead evenly on both sides. Define a new label in the labeling software with 12 cm width. By setting the unprintable area to 1 cm on the left and 1 cm on the right side, the labeling software knows that the actual label width is 10 cm. There will be two vertical red lines on the design surface identifying the unprintable area.

TIP: Vertical red lines are also visible when you switch to another printer for the same label. The original printer may have a wider printhead than the new printer. Maximum widths of the labels are not the same for both printers. Designer will try to preserve the original label dimension and automatically define the unprintable area for the new printer.

7 Dynamic Data Sources

PRODUCT LEVEL INFO: Creation of forms and use of form objects is available in PowerForms.

Dynamic data sources form an essential part of working with the Designer. They enable the use of label and form objects that dynamically change their content with each printed label, if necessary.

EXAMPLE: Typical dynamic content that are automatically updated are counters, serial numbers, date, time, weight, and article images.

To display and print the dynamic object content properly, Designer uses the following dynamic data types:

- Variables: display and store dynamic data source values which are defined at print time.
- Functions: transform the dynamic data source values. Functions define the output format to adapt the input–output conversion to specific requirements.
- Internal Variables: display the values that are automatically retrieved from a running application and system environment.
- Global Variables: a type of variable that can be shared among multiple labels.

TIP: Read about how to navigate and manage dynamic data sources in topic Dynamic Data Manager.

TIP: Read more about the relation between dynamic data sources and label/form objects in section Dynamic Object Content.

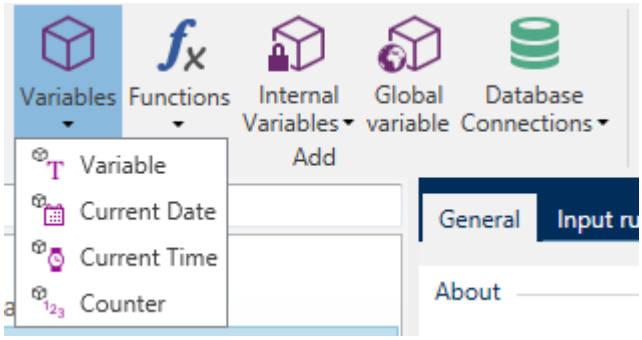
7.1 Variables

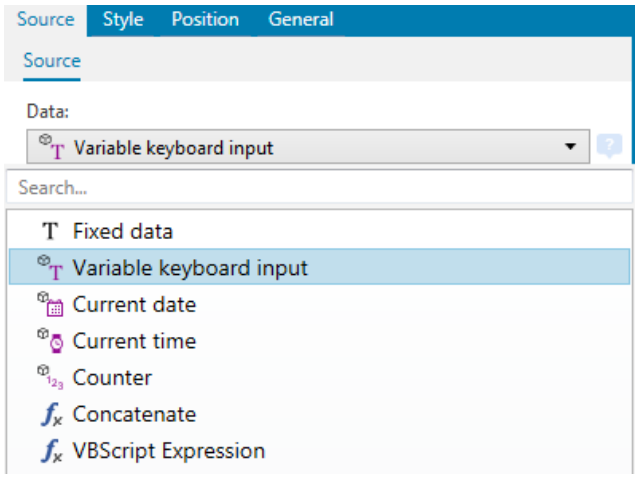
Variables act as containers for storing and passing data between objects, scripts, external applications, printers, and user inputs. Use variables to print labels where data changes on each label (e.g., counters, serial numbers, date, time, weight, and product images).

To create labels with changing data, use Designer to easily format your labels using variable data.

Designer includes multiple types of variables:

- Variable: changes value at print time or according to conditions you define.
- Current Date: displays current date as a variable value.
- Current Time: displays current time as a variable value.
- Counter: changes value incrementally or decrementally with each label you print.





TIP: Manage all your label and solution variables in **Dynamic Data Explorer**.

7.1.1 Variable

Variable (also known as prompt variable) is a type of variable that obtains its value at print time.

7.1.1.1 General

About group of settings identifies the variable and sets its definition.

- **Name:** unique variable name. This name is used as the variable reference during its use.

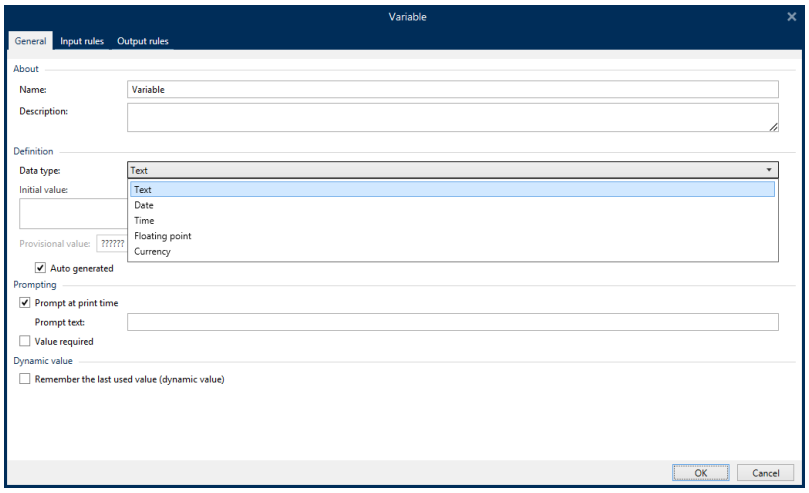
  NOTE: Avoid using non-alphanumerical characters when defining the variable name.

  TIP: Enter the name to make the variable easy to find when listed among other variables in the Dynamic Data Explorer.

- **Description:** is a field that allows adding additional information and suggestions.

Definition group of settings defines which input data types are valid for a variable.

- **Data type** defines what type of data is stored in a variable.
  - Text: variables that contain text.
  - Date: variables that contain date values.
  - Time: variables that contain time values.
  - Floating point: representation of real numbers in a variable.
  - Currency: variables that contain monetary values.

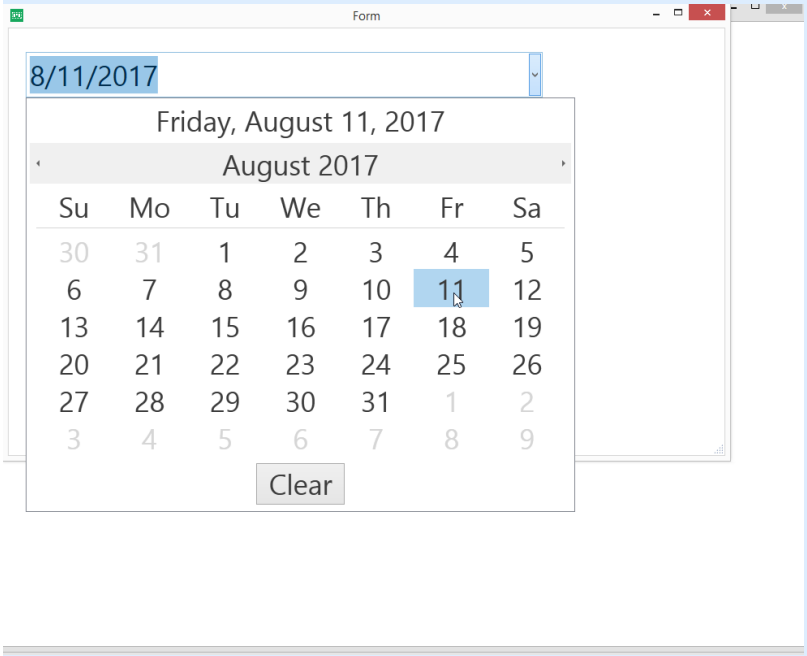


- **Initial value:** starting value that is assigned to a variable when created. It is defined using one of the following methods:
  - Manually entering a fixed value. Characters from any group of allowed characters are permitted.

    TIP: If you enter full stop (".") as the initial value for a variable with selected **Date** or **Time** data type, it displays current date or time.

    EXAMPLE: Edit field on a form is connected to a variable with **Date** selected as Data type. If full stop is selected as **Initial value**, the Edit field displays current date when

the form is run. Drop down button opens Date picker with preselected current date.



- Using a dynamic value. Dynamic data sources from the toolbar are supported – two options are available:
  - Enter the source as **Name** in square brackets, e.g. [CurrentDate], [Counter].
  - Select the dynamic data source from the dropdown list.
- Using a special character:
  - Special character can be entered manually using the less than/greater than signs, e.g. <CR>, <LF> ...
  - Special character can be selected from the dropdown list.

NOTE: Designer supports combined values as the initial value. Read more about combining the values here.

EXAMPLE: A combined initial value of a variable may contain a fixed value, a dynamic data source and special characters. The order of inserted items can be set randomly. Three options:

1. `aaa123[Variable]<CR>`
2. `<CR>aaa123[Variable]`
3. `[Variable]<CR>aaa123`

TIP: Make sure the inserted initial value meets the criteria defined with **Output Rules** for each data type.

Provisional value defines a custom placeholder variable value in an object while designing labels or forms. In a label object, the provisional value is replaced by the real variable value at print time. In a form object, the real variable value appears when the form is run.

- **Auto generated:** generates the provisional value automatically. Disable this option to define and use a custom provisional value.

  TIP: By default, provisional value equals the initial value.

If the provisional value (auto generated or custom) is empty or uses an invalid format, it is generated based on the selected variable **Data type**. Default formats of provisional values are listed below.

- Six question marks (??????) for **Text** data type
- Current date or time for **Date** data type
- Current time for **Time** data type
- 9.999.999,99 for **Floating** point data type
- 9.999.999,99 € for **Currency** data type

  NOTE: If the variable **Output rules** change, the provisional value format adapts accordingly.

Prompting group of settings defines the print time behavior of a data source. Read more about prompting here.

Dynamic value group defines how the last used dynamic value of a variable is handled.

- **Remember the last used value (dynamic value):** Designer stores the last used value of a variable. The last used value is stored in an external text file at the same location as the label or solution file. Files that store the last used values have the same filename as the label or solution, followed by .dvv extension.

  NOTE: When sharing labels with dynamic values, make sure not to share only label or solution files (.nlbl or .nsln), but also files that store last used dynamic values (.dvv).

  NOTE: Label or solution must be saved before enabling this option.

EXAMPLE: The last used value is useful when the continuation of numbering from the last printed label is required (e.g., serial number). Counter's last value is stored and the numbering is continued from this point at next use.

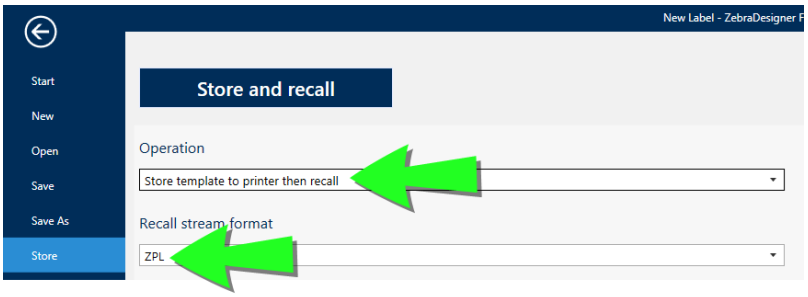
Use one of the **Special variable group** options if the value of the variable contains the printing quantity information that must be included in the stored label template.

- **Use for Print Quantity:** This variable value defines the number of printed labels. When you export the label, the exported file includes this variable along with the print command for label quantity.

- **Use for Copy Quantity:** The variable value tells how many identical label copies should print. When you export the label, the exported file includes this variable along with the print command for label copies.
- **Use for Cut Quantity:** The variable value tells after how many printed labels the cutter activates. When you export the label, the exported file includes this variable along with the cut command.

To enable using special variables with your label templates, make sure you select these two options on your Store form:

- **Operation**: Store template to printer, then recall.
- **Recall stream format**: ZPL



NOTE: These two settings are mandatory. To execute various operations related to printing quantities while recalling your templates, Designer sends the ZPL `^PQ` command.

NOTE: The option **Use var for Cut Quantity** is available only if the selected printer supports cutting.

7.1.1.2 Text

Text data type is used for variables that store textual content. As a result, only textual input is allowed as the variable input data type.

7.1.1.2.1 Input Rules

Data group defines permitted data properties.

- **Allowed characters:** definition of permitted variable input characters.

  TIP: Groups of allowed characters for data input filtering are described in section Groups of Allowable Characters.

- **Limit length:** maximum length of variable value.
- **Fixed length:** variable must contain the exact number of characters as defined in the **Limit length**.

Check range group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

NOTE: If enabled, minimum and maximum values must not be left empty.

Pick list group predefines a list of selectable input values for a variable. No other values can be used with this variable if a pick list is defined.

Selection of pick list values for a label object is done on the printing form. The user selects one of the available values and prints the label. If a pick list is used for a form object, it acts as an edit field object – when the form is run, the user selects from the predefined values.

- **Enable pick list:** enable this option to set a limited range of selectable values.
- **Pick list values:** enter the selectable values. Separate individual values by placing them in lines.

7.1.1.2.2 Output Rules

Prefix and Suffix are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

Pad Character fills empty character position until the maximum variable length for a variable is reached. Pad character is enabled only if the **Limit variable length** in the Input rules tab is enabled.

- **Padding:** defines the mode of padding.
  - **Not used:** does not use padding.
  - **On left:** adds pad characters on the left side of the data value.
  - **On right:** adds pad characters on the right side of the data value.
  - **Surrounding value:** adds pad characters on both sides of the data value.
- **Character:** character used for padding.

EXAMPLE: Pad character is in most cases zero (0) added on the left side of the variable value. If the maximum variable length is set to 5 characters and the value is 23, the padded result is 00023.

Multiline group divides text into multiple lines.

WARNING: Avoid using this setting if possible. The recommended alternative for presenting multiline text on a label or form is to use the Text Box object.

- **Number of lines:** maximum number of lines for a variable value.
- **Line length:** maximum number of characters in a single line.

- **Word wrap:** divides the text into multiple lines at space character locations.

7.1.1.3 Date

Date data type stores date-related values in the selected variable. Date field displays the date value using various date formats. The date value format can be either selected from the preloaded formats, or customized to meet the specific local, regulatory or industry related requirements.

7.1.1.3.1 Input Rules

Input Formatting group defines the allowed date format and displays a preview.

- **Input format:** allowed date input format.
- **Sample value:** displays the preview according to the selected input format.

> NOTE: Designer supports a range of preloaded or customized date formats.

Check range group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

> NOTE: If enabled, minimum and maximum values must not be left empty.

7.1.1.3.2 Output Rules

Output formatting sets the output date format.

- **Output format:** format in which the date is displayed.
- **Output language:** language selection and regional formatting for days and months.

  > **Output Language** becomes relevant when the dates that include months or dates are written in words. In some cases, data calculations may be affected as well. For example, in US, a new week begins on Sunday whereas in EU and other countries, a new week begins on Monday.

- **Sample value:** date preview according to the selected input format.

Prefix and Suffix group defines characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

Multiline: divides text into multiple lines.

> WARNING: Avoid using this setting if possible. The recommended alternative for presenting multiline text on a label or form is to use the Text Box object.

- **Number of lines:** maximum number of lines for a variable value.
- **Line length:** maximum number of characters in a single line.
- **Word wrap:** divides the text into multiple lines at space character locations.

TIP: Input rules help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.
Output rules set the final variable formatting – they define how the variable value is going to be presented in an object.

7.1.1.4 Time

Time data type stores time values in a variable. Time field displays the date value using various time formats. The time value format can be either selected from the preloaded formats, or customized to meet the specific local, regulatory or industry related requirements.

7.1.1.4.1 Input Rules

Input Formatting defines the allowed time format and displays a preview.

- **Input format:** allowed time input format.
- **Sample value:** variable preview according to the selected input format.

NOTE: Designer supports a range of preloaded or customized time formats.

Check range group allows you to enter minimum and maximum permitted value of the variable. Setting the limits is optional.

- **Minimum value:** the lowest permitted variable value.
- **Maximum value:** the highest permitted variable value.

NOTE: If enabled, minimum and maximum values must not be left empty.

7.1.1.4.2 Output Rules

Output formatting defines the output time format.

- **Output format:** format in which the time is displayed.
- **Sample value:** time preview according to the selected input format.

Prefix and Suffix group defines characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

Multiline group divides text into multiple lines.

WARNING: Avoid using this setting if possible. The recommended alternative for presenting multiline text on a label or form is to use the Text Box object.

- **Number of lines:** maximum number of lines for a variable value.
- **Line length:** maximum number of characters in a single line.
- **Word wrap:** divides the text into multiple lines at space character locations.

TIP: Input rules help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.
Output rules set the final variable formatting – they define how the variable value is going to be presented in an object.

7.1.1.5 Floating Point

Floating Point data type specifies the representation settings for numeric values that are stored in a variable. This **Data type** is used to set the digit grouping points (separators) according to the regional specifics, and to place the decimal delimiters at the right places.

7.1.1.5.1 Input Rules

Input formatting specifies the allowed input number format.

- **Decimal delimiter:** specifies the character that separates the integer part from the fractional part of a number written in decimal form.
- **Decimal places:** the number of decimal places to be included in the number.
- **Use 1000 separator:** separator places the thousands into groups.
    - **Separator:** a character that is used as thousands separator.
- **Sample value:** displays a preview of the current number input format.
- **Limit variable length:** enables limiting the number of digits to be defined for a variable.
    - **Length (characters):** allowed number digits in a variable.

Check range defines the minimum and maximum number values. Defining the minimum and maximum limits is optional:

- **Minimum value:** the lowest allowed input number.

  NOTE: If already defined, the initial value is taken as the minimum value.

- **Maximum value:** defines the highest allowed input number.

7.1.1.5.2 Output Rules

Output formatting group specifies the preferred output number format.

- **Decimal delimiter:** the character that separates the integer part from the fractional part of a number written in decimal form.
- **Decimal places:** the number of decimal places to be included in the number.
    - **Auto:** decimal places are defined by local system settings.

- **Use 1000 separator:** enabled use of a separator that places the thousands into groups.
    - **Separator:** a character that is used as thousands separator.
    - **Sample value** displays a preview of the current output format.

Prefix and Suffix are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

Pad Character fills empty character position until the maximum variable length for a variable is reached. Pad character is enabled only if the **Limit variable length** in the Input rules tab is enabled.

- **Padding:** defines the mode of padding.
    - **Not used:** does not use padding.
    - **On left:** adds pad characters on the left side of the data value.
    - **On right:** adds pad characters on the right side of the data value.
    - **Surrounding value:** adds pad characters on both sides of the data value.
- **Character:** character used for padding.

EXAMPLE: Pad character is in most cases zero (0) added on the left side of the variable value. If the maximum variable length is set to 5 characters and the value is 23, the padded result is 00023.

Multiline group divides text into multiple lines.

WARNING: Avoid using this setting if possible. The recommended alternative for presenting multiline text on a label or form is to use the Text Box object.

- **Number of lines:** maximum number of lines for a variable value.
- **Line length:** maximum number of characters in a single line.
- **Word wrap:** divides the text into multiple lines at space character locations.

TIP: Input rules help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.
Output rules set the final variable formatting – they define how the variable value is going to be presented in an object.

7.1.1.6 Currency

Currency data type is used for variables that store numerical values of monetary amounts. Define currencies for various regions and set their properties.

7.1.1.6.1 Initial Value Definition

Initial value for **Currency Data type** is defined using one of the following methods:

- Manually entered fixed value. The number is delimited according to the **Input formatting** settings.
- Use of a dynamic value. Dynamic data sources from the toolbar are supported – two options are available:
  - the source is entered **Name** in square brackets, e.g. [Variable_1].
  - dynamic data source selection from the dropdown list.
- Use of a special character:
  - Special character can be entered manually using the less than/greater than signs, e.g. <CR>, <LF> ...
  - Special character can be selected from the dropdown list.

NOTE: Designer supports combined values as the initial value. Read more about combining the values here.

EXAMPLE: A combined initial value of a variable may contain a fixed value, a dynamic data source and special characters. The order of inserted items can be set randomly. Three options:

1. `aaa123[Variable]<CR>`
2. `<CR>aaa123[Variable]`
3. `[Variable]<CR>aaa123`

7.1.1.6.2 Input Rules

- **Input formatting** group specifies the allowed input currency format.
- **Decimal delimiter** is the character that separates the integer part from the fractional part of value written in decimal form.
- **Decimal places** is the number of decimal places that is allowed to be included in the value.
- **Use 1000 separator** enables using a separator that places the thousands into groups.
  - **Separator:** character that is used as 1000 separator.
- **Currency symbol** is a graphic symbol that represents a currency.
  - **Placement:** position of the currency symbol.
- **Sample value** displays a preview of the currency input format.
- **Limit length** enables limiting the number of digits to be defined in a variable.
  - **Length (characters):** allowed number of digits in a variable.

Check range defines the minimum and maximum values expressed in currency. Defining the minimum and maximum limits is optional.

- **Minimum value:** the lowest allowed input currency value.

NOTE: If already defined, the initial value is taken as the minimum value.

- **Maximum value:** the highest allowed input currency value.

7.1.1.6.3 Output Rules

Output formatting specifies the preferred output currency format.

- **Decimal delimiter:** character that separates the integer part from the fractional part of a value written in decimal form.
- **Decimal places:** number of decimal places to be included in the value.
- **Use 1000 separator:** separator that places the thousands into groups.
    - **Separator:** character that is used as 1000 separator.
- **Currency symbol** is a graphic symbol that represents a currency.
- **Placement** defines the currency symbol's position. Select it from the dropdown list.
- **Sample value** displays a preview of the currency input format.

Prefix and Suffix are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

Pad Character fills empty character position until the maximum variable length for a variable is reached. Pad character is enabled only if the **Limit variable length** in the Input rules tab is enabled.

- **Padding:** defines the mode of padding.
    - **Not used:** does not use padding.
    - **On left:** adds pad characters on the left side of the data value.
    - **On right:** adds pad characters on the right side of the data value.
    - **Surrounding value:** adds pad characters on both sides of the data value.
- **Character:** character used for padding.

EXAMPLE: Pad character is in most cases zero (0) added on the left side of the variable value. If the maximum variable length is set to 5 characters and the value is 23, the padded result is 00023.

Multiline group divides text into multiple lines.

WARNING: Avoid using this setting if possible. The recommended alternative for presenting multiline text on a label or form is to use the Text Box object.

- **Number of lines:** maximum number of lines for a variable value.
- **Line length:** maximum number of characters in a single line.
- **Word wrap:** divides the text into multiple lines at space character locations.

TIP: Input rules help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.
Output rules set the final variable formatting – they define how the variable value is going to be presented in an object.

7.1.2 Current Date

Current Date is a type of variable that displays the current date value. The value is obtained from system or printer clock.

7.1.2.1 General Tab

About group identifies the variable and defines date output format and language.

- **Name:** unique variable name.
- **Description:** is a field that allows adding additional information and suggestions.

Definition group sets output formatting and displays its preview.

- **Output format:** format in which the date is displayed. Available date formats are listed here.

  NOTE: The selected clock source option (see below) defines the range of allowed date **Formats**. Printer clock option only allows the use of printer supported date formats. An error returns if a non-valid format is used. Computer (system) clock option allows a range of preloaded or customized date formats.

- **Output language:** language selection and regional formatting for days and months.

EXAMPLE: Output Language becomes relevant when the dates that include months or dates are written in words. In some cases, data calculations may be affected as well. For example, in US, a new week begins on Sunday whereas in EU a new week begins on Monday.

- **Output preview:** displays the printed current date. The range of used characters adapts to the selected **Output language** and printer.

Date offset group enables adding a certain number of days, months or years to the current date. The offset date is displayed in the object instead of the present date.

- **Days:** date offset in days.
- **Months:** date offset in months.
- **Years:** date offset in years.

TIP: To set negative date offset, use the Date Offset function.

Printer Clock group defines which clock should be used as the date value source.

- **Always use computer clock:** computer (system) clock set as the exclusive **Current Date** value source.

- **Always use printer clock:** printer clock set as the exclusive **Current Date** value source. An error is returned if the printer clock is unavailable.
- **Use printer clock if supported:** printer clock set as the preferred **Current Date** value source. If the printer clock is not supported, the computer (system) clock value is used instead.

7.1.2.2 Output Rules

Prefix and Suffix values may be added to a variable value if required.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

7.1.2.3 Date Formats

Designer enables flexible use of date fields. When defining the formats, the following notations are used:

Notation	Description
d	The number of the day in a month. Occupies one or two characters.
dd	The number of the day in a month. Always occupies two characters – leading zeros are added if necessary.
M	M is the number of month. Occupies one or two characters.
MM	MM is the number of month. Always occupies two characters.
yy or yyyy	The year represented with 2 or 4 digit numbers.
ddd	The abbreviated name of the day of the week.
dddd	The full name of the day of the week.
MMM	The abbreviated name of the month.
MMMM	The full name of the month.
J	The number of days since January 1. Occupies from one to three characters.
JJJ	The number of days since January 1. Always occupies three characters.
W	The week number in current year. Occupies one or two characters.
WW	The week number in current year. Always occupies two characters.
N	The weekday number. The value range takes 1–7 characters, where 1 represents Monday and 7 represents Sunday.
Custom text	Any sequence of characters is displayed unchanged. Insert dots, commas, and other characters to present the date as required.

7.1.2.3.1 Date Format Examples

Format	Printed Date (English)
d.M.yyyy	10.3.2016
dd/MM/yy	10/03/16
dddd, d.MMMM yyyy	Thursday, 10.March 2016
JJJWWyyyy	069102005
textd/M/yyyytext	text10/3/2016text

7.1.3 Current Time

Current Time is a type of variable that displays the current time value. The value is obtained from system or printer clock.

7.1.3.1 General Tab

About group of settings identifies the variable and defines time output format and language.

- **Name:** unique variable name. This name is used as a variable reference during its use.
- **Description:** is a field that allows adding additional information and suggestions.

Definition group sets output formatting and displays its preview.

- **Output format:** format in which the time is displayed. Available time formats are listed here.

  NOTE: The selected clock source option defines the range of supported time **Formats**. Printer clock option only allows the use of printer supported time formats. An error returns if a non-valid format is used. Computer (system) clock option allows a range of preloaded and customized time formats.

- **Output preview** displays the printed current time format.

Time offset enables adding or subtracting a certain number of seconds, minutes or hours from the current time.

- **Seconds:** time offset in seconds.
- **Minutes:** time offset in minutes.
- **Hours:** time offset in hours.

Printer Clock group defines which clock should be used as the time value source.

- **Use printer clock if supported:** printer clock set as the preferred current time value source. If the printer clock is not supported, the system clock value is used instead.
- **Always use printer clock:** printer clock set as the exclusive **Current Time** value source. An errorreturns if the printer clock is unavailable.

- **Always use computer clock** computer (system) clock set as the exclusive **Current Time** value source.

7.1.3.2 Output Rules

Prefix and Suffix values may be added to a variable value if required.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

7.1.3.3 Time Formats

Designer enables flexible use of time fields. Select a predefined time format or create a customized one. When defining the formats, the following notations are used.

Notation	Description
h	Hours in 12-hour format. AM/PM is added, if selected. Occupies one or two characters.
hh	Hours in 12-hour format. AM/PM is added if selected. Always occupies two characters. Leading zeros are added, if necessary.
H	Hours in 24-hour format. Occupies one or two characters.
HH	Hours in 24-hour format. Always occupies two characters.
mm	Used for minutes.
ss	Used for seconds.

7.1.3.3.1 Time Format Examples

Format	Printed Date
h:mm {AM/PM}	8:25PM
H:mm	20:25
hh:mm:ss	08:25:36

7.1.4 Counter

Counter is a type of variable whose value increments or decrements along with the changing value of system or printer counter.

Thermal printers are usually equipped with an internal incremental counter. This is a dedicated counter that counts the printed labels internally. The printer only receives the first value and automatically increases or decreases it on the subsequent labels. This option reduces the amount of data transferred between computer and printer as only initial value is sent to the printer. Internal counter speeds up the label production significantly.

7.1.4.1 General Tab

About group of settings identifies the variable and defines serialization details.

- **Name:** unique variable name. This name is used as variable reference.
- **Description:** is a field that allows adding additional information and suggestions.

Definition group of settings defines the counter behavior.

- **Counter type:** counter value increasing or decreasing.
  - **Incremental:** value increases along with the printed labels.
  - **Decremental:** variable value decreases along with the printed labels.
- **Step:** amount of units that represent the next state of counter value.
- **Repetition:** number of repetitions for each counter value.
- **Initial value:** value that is used when the counter starts.
- **Preview:** displays the counter value sequence as defined by the current **Step**, **Repetition** and **Initial value**.

EXAMPLE: Counter Step = 3, Repetition = 3 and Initial value = 1 are: 1, 1, 1, 4, 4, 4, 7, 7, 7, 10, 10, 10, 13, 13, 13, ...

Prompting group of settings defines the print time behavior of a data source. Read more about prompting here.

Dynamic value group defines how the last used dynamic value of a variable is handled.

- **Remember the last used value (dynamic value):** Designer stores the last used value of a variable. The last used value is stored in an external text file at the same location as the label or solution file. Files that store the last used values have the same filename as the label or solution, followed by .dvv extension.

  NOTE: When sharing labels with dynamic values, make sure not to share only label or solution files (.nlbl or .nsln), but also files that store last used dynamic values (.dvv).

  NOTE: Label or solution must be saved before enabling this option.

EXAMPLE: The last used value is useful when the continuation of numbering from the last printed label is required (e.g., serial number). Counter's last value is stored and the numbering is continued from this point at next use.

Printer Counter defines which counter should be used as counter variable value source.

- **Use printer counter if supported:** printer counter is set as the counter of choice if supported by the active printer. If the printer counter is not supported, system counter is used instead.
- **Always use printer counter:** printer counter set as the exclusive counter value source. If the printer counter value is not available, the default (system counter) value is used.

NOTE: An error is reported if the selected printer has no support for internal printer counter. Printing cannot continue.

- **Always use computer counter:** computer counter set as the only counter value source.

TIP: Input rules help the user when inserting the variable data. They act as a filter that defines the type, length, and other input data properties.
Output rules set the final variable formatting – they define how the variable value is going to be presented in an object.

To use internal printer counter, follow these rules:

- The variable's maximum length is limited by the printer. The value should be included in the printer user guide.

  TIP: If the exact maximum variable length value is not available, NiceLabel recommends making a few test prints for determining the value.

- Set variable length to fixed.
- Set variable format to numeric.
- Text object that is linked to the variable must be formatted using an internal printer font.
- Enable **Always use printer counter** option.
- Ensure the Internal Element icon is visible next to the counter text.
- Ensure an internal printer font is used for the counter text.

7.1.4.2 Input Rules

Data defines the counter input criteria.

- **Allowed characters:** permitted characters for variable values. Groups of allowed characters for data input filtering are described in section Groups of Allowed Characters.

EXAMPLE: Non-numeric characters can also be used as counter values. **Alphanumeric** sets the sequence with Step = 3 and Initial value = 1 as 1, 4, 7, A, D, G, J, M, P, S, V, Y, b, e, h, ...

- **Limit length:** maximum length of a variable value.
  - **Length (characters):** specifies the exact number of characters permitted.
- **Fixed length:** variable must contain the exact number of characters as defined in the **Limit variable length**.

Check range group defines minimum and maximum counter values.

- **Minimum value:** minimum counter value.
- **Maximum value:** maximum counter value.

Rollover settings group defines the condition at which the counter automatically resets its value to default.

- **Using min/max:** minimum and maximum counter values activates the rollover.
- **When the selected data source changes:** data source value change activate the rollover.
- **When date or time changes:** date or time value change activates the rollover.

> NOTE: Date/time change is defined by computer clock.

7.1.4.3 Output Rules

Prefix and Suffix are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

Pad Character fills empty character position until the maximum variable length for a variable is reached. Pad character is enabled only if the **Limit variable length** in the Input rules tab is enabled.

- **Padding:** defines the mode of padding.
  - **Not used:** does not use padding.
  - **On left:** adds pad characters on the left side of the data value.
  - **On right:** adds pad characters on the right side of the data value.
  - **Surrounding value:** adds pad characters on both sides of the data value.
- **Character:** character used for padding.

EXAMPLE: Pad character is in most cases zero (0) added on the left side of the variable value. If the maximum variable length is set to 5 characters and the value is 23, the padded result is 00023.

Multiline group divides text into multiple lines.

> WARNING: Avoid using this setting if possible. The recommended alternative for presenting multiline text on a label or form is to use the Text Box object.

- **Number of lines:** maximum number of lines for a variable value.
- **Line length:** maximum number of characters in a single line.
- **Word wrap:** divides the text into multiple lines at space character locations.

7.1.5 Prompting

When designing labels with connected dynamic data sources, a value has to be assigned to them before printing. Prompted variables have their values manually assigned at print time. The user is asked for the value of every variable before each print job.

The values are entered manually. The order in which they are entered may be specified using the Prompt order dialog.

Prompting group asks the user for manual data input – this is done after the print dialog opens.

- **Prompt at print time:** enabled or disabled prompting form variable value.

  NOTE: If a dynamic data source is included in the **Initial value**, prompting becomes disabled.

- **Prompt text:** contains text that prompts the user for value input. This text serves as an instruction on what kind of values should be entered before printing.
- **Value required:** variable value status – mandatory or optional. If the prompt text is left empty if the value is set as mandatory, printing cannot start. An error message appears.

7.1.6 Printing Form Variables

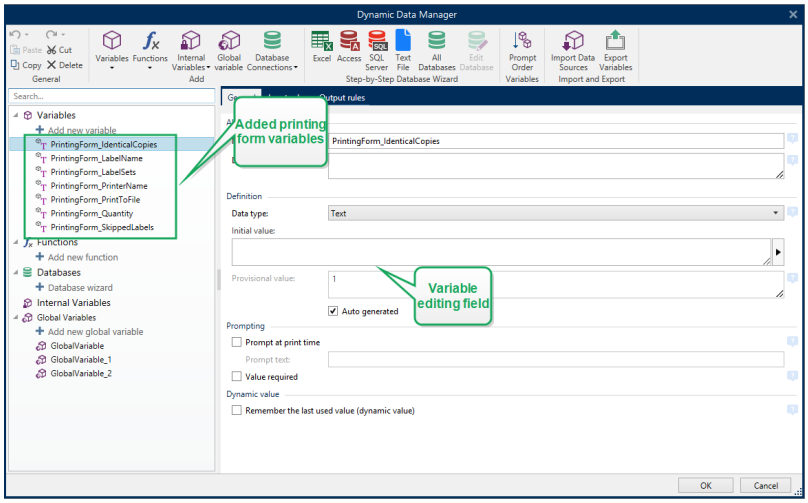
Printing form variables are automatically generated variables that store user-defined values of default printing form objects when the printing form is run.

Printing form variables are added to a solution in two cases:

- when adding a new printing form (go to **Home tab > Customize Print > Add new form > Printing form**)
- when editing a printing form (go to **Home tab > Customize Print > Edit printing form**)

Details about these two operations are described here.

These variables are listed among other connected data sources (named **PrintingForm_ [VariableName]**). They are all listed in the Dynamic data explorer and therefore become editable in Dynamic data manager.



All printing form variables belong to the prompted variable type. They can all be edited – renamed and configured with customized data types, and Input/Output rules.

NOTE: To remain in line with best-practice recommendations, NiceLabel suggests you to avoid editing the printing form variables. If you find editing necessary, double check that the customized data type and Input/Output rules do not interfere with label printing.

NOTE: If an issue occurs while using a customized printing form, **Recreate Printing Form** option allows you to restore the default printing form. All changes are discarded in this case.

What differs the printing form variables from "normal" user created variables is that they are:

- reused by all other printing forms in a solution.
- after being deleted, they are recreated for any newly added printing form in a solution.

Designer printing form variables include the following:

- **PrintingForm_IdenticalCopies:** stores the quantity of identical labels copies to be printed.
- **PrintingForm_LabelName:** stores the name of the selected label. This variable tells the printing form which label in the solution is printed.
- **PrintingForm_LabelSets:** stores the quantity of print jobs to be sent to the printer.
- **PrintingForm_PrinterName:** stores the name of the selected printer.
- **PrintingForm_PrintToFile:** stores the name of the file to which the label is printed.
- **PrintingForm_Quantity:** stores the quantity of printed labels.
- **PrintingForm_SkippedLabels:** stores the quantity of skipped labels.

NOTE: Although the objects on the printing form can be connected to any type of user defined data sources, NiceLabel recommends you to leave the objects connected to automatically generated printing form variables.

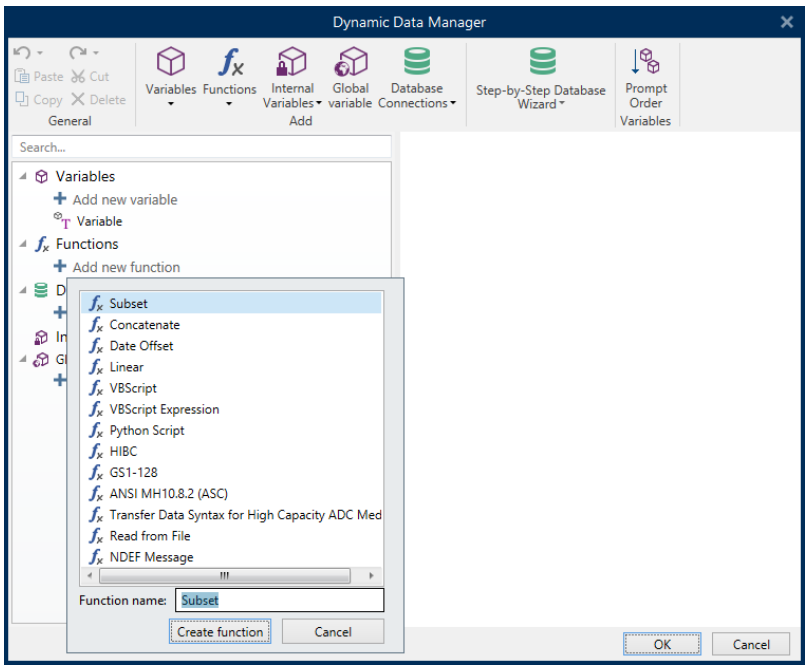
7.2 Functions

The purpose of functions is to manipulate the data that is assigned to label objects. Functions process the existing data source values and store the result in function-generated data sources.

Each function can be directly connected to an object and used as a part of another function.

TIP: All label or solution functions are listed in the Dynamic Data Explorer and Dynamic Data Manager.

To add a new function to a label or solution file, click **Add new function** and select the appropriate function from the list. As soon as you add a new function, a configuration dialog appears enabling you to edit the function according to your needs. Configuration options are described in dedicated sections for each function type.



Designer includes the following function types:

- Subset: extracts a specific part of data according to the user-specified rules.
- Concatenate: merges two or more data source values into a single value.
- Date Offset: offsets the present date.
- Linear: transforms the current value using multiple types of linear functions.
- VBScript: allows performing complex value transformations.
- VBScript Expression: is a simplified version of VBScript function.
- Python Script: allows performing complex value transformations.
- HIBC: encodes the data in compliance with the health industry barcode standard.
- GS1-128: encodes the data in compliance with the GS-128 barcode standard.
- ANSI MH10.8.2: encodes the data in compliance with ANSI MH10.8.2-2006 standard.
- Transfer Data Syntax for High Capacity ADC Media: enables the ADC users to use a single mapping utility, regardless of which high-capacity ADC media is employed.
- Read from file: function reads content from a specified file and displays it in an object.
- NDEF Message: function allows you to define a message encapsulation format for the exchange of data information over an Near Field Communication (NFC) link.

7.2.1 Subset

Subset function extracts a specific part of data according to the user-specified rules.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Input data source defines the existing or newly added input data source (variable, function or database record). The final (output) value is extracted from the selected input data source value.

Definition group offers two methods for extracting the data from input data source.

Fixed length extracts a fixed number of characters from the input data source.

- **Offset:** number of characters to be skipped from the beginning of the value.
- **Length:** length of extracted value.

EXAMPLE:
Input value: ABCDE
Offset: 0
Length: 3
Subset value: ABC

EXAMPLE:
Input value: ABCDE
Offset: 2
Length: 3
Subset value: CDE

Delimited is used when extracting the data, separated by the user-specified delimiter.

- **Delimiter:** character (comma by default) that separates input value fields.
- **Text qualifier:** character that encloses the values within the fields (quotation mark by default).

  TIP: If a text qualifier is used, the delimiter within the text qualifiers also belongs to the data value. Text qualifier can be left empty.

- **Field number:**the field number that is extracted from the input data source.

EXAMPLE:
Input value: "A", "B", "C", "D"
Delimiter: ,
Text qualifiers: "
Field number: 3
Subset value: C

7.2.2 Concatenate

Concatenate function merges two or more data source values into a single value.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Input data source group defines the existing or newly added input data source (variable, function or database record) or fixed text that will be used in the function.

Output Options group defines the output value format.

Delimiter is a character that is inserted between the concatenated values. The delimiting character can be entered manually or selected from one of the additional options:

- **New Line (CR/LF):** new line character.
- **Insert special character:** special character is entered.

  NOTE: Delimiter is an optional value. With no delimiter defined, the concatenated values are merged without a delimiting space or character.

- **Ignore empty values:** ignores empty data source values. These values are excluded from concatenation.

  TIP: This option is useful if you want to avoid duplicated delimiters if empty values appear.

EXAMPLE:
Data source value 1: A, B, C, D
Data source value 2: <empty>
Data source value 3: E, F, G
Delimiter: ,
Concatenated value with vs. without Ignore empty values: A, B, C, D, E, F, G vs. A, B, C, D,, E, F, G

NOTE: **Ignore empty values** option is effective only after executing a print command. When storing a label in store/recall printing mode or when exporting a label, the empty values are not ignored. Delimiters appear duplicated.

7.2.3 Date Offset

Date Offset function defines the number of days, months and/or years to be added to or subtracted from any specified date (might be the current date or any past/future date).

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Input data source defines the input data source from which the data will be used in the function.

Offset is the number of days, months or years to be added to or subtracted from the input data source.

EXAMPLE:
Current date: March 8 2016

Offset: Days +1; Months +1; Years +1
Result: April 7 2017

Output formatting group defines the function's output.

- **Output format:** defines the date format to be used in the connected object.
- **Sample:** current date in the selected **Output format**.

7.2.4 Linear

Linear function multiplies or divides an input data source value by a defined **Multiplier**. An optional value (**Addition**) can also be added.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Input data source defines the input data source from which the data will be used in the function.

Linear function parameters are:

- **Mode:** linear function type.
- **a:** function multiplier.
- **b:** function addition.

Output formatting group defines the function output format.

Output format is the format of a modified value. **more...** opens additional formatting options:

- **Decimal separator:** character that marks the border between integral and fractional parts of a decimal numeral.
- **Decimal places:** number of places behind the decimal separator.
- **Use 1000 separator:** thousands separated or non-separated by a delimiter.
- **Delimiter:** character that separates the thousands from the rest of the numeral.
- **Sample:** preview of the formatted output value.

EXAMPLE:
Input value: 123
a: 2
b: 20
Output value: 2 * 123 + 20 = 266

7.2.5 VBScript

VBScript function enables reading, writing, and manipulating the data that belongs to any of the connected data sources.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.
- **Function type:** show which type of scripting is selected.

VBScript group allows defining the script.

- **Insert data source:** inserts an existing or a newly created data source into the script.
- **Verify:** validates the entered script syntax.
- **Script editor:** opens the editor which makes scripting easier and more efficient.

NOTE: The result of the script must be saved in the 'Result'. The value of 'Result' is inserted into the name of the function. Such function is available as a dynamic data source for further use.

EXAMPLE

The variable **NAME** provides the first and the last name of a person. VBScript function should break the names apart and use only the first name as the result of the function.

NAME variable initial value: **John Doe**

```
Dim Spc

Spc = InStr(NAME, " ")

if NAME <> "" then

     Result = Mid(NAME, 1, Spc-1)

end if
```

Result of VBScript: **John**

7.2.6 VBScript Expression

VBScript Expression is a simplified online version of VBScript function. This Designer function allows you to:

- manipulate existing variables
- extract sub-strings
- perform quick calculations

VBScript Expression reduces the need to write dedicated VBScripts. Instead of writing an entire script, insert a single-line expression in the edit field that is validated at print time.

TIP: When compared to VBScript commands, a VBScript expression command does not require the final value to be stored in **Result**.

About

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

VBScript Expression

- **Insert data source:** inserts an existing or a newly created data source into the expression.
- **Verify:** validation of the entered script syntax.
- **Editor:** field for script writing and editing.

7.2.7 Python Script

Python script function supports even the most complex data manipulations on a label or a form.

TIP: When compared with VBScript, it proves out to be a more suitable option for 64-bit systems. It is also proved to be a notably faster scripting alternative.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.
- **Function type:** show which type of scripting is selected.

Python Script

- **Insert data source:** inserts an existing or a newly created data source into the script.
- **Verify:** validates the entered script syntax.
- **Script editor:** opens the editor which makes scripting easier and more efficient.

EXAMPLE:

The variable **NAME** provides the first and the last name of a person. Python Script function should break the names apart and use only the first name as the result of the function.

NAME variable initial value: **John Doe**

```
name = NAME.Value

Spc = name.find(' ')

if name != '' and Spc != -1:

   Result.Value = name[0:Spc]

else:

   Result.Value = name
```

Result of Python script: **John**

7.2.8 HIBC

HIBC is a barcode standard used specifically in health industry, as directed by the HIBCC organization. This standard supports composite bar codes and supports the use of multiple items such as item codes, quantity ,and batch number in a single barcode.

TIP: Visit HIBCC website for more information about the standard.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Structure group selects standard version and one of the three available HIBC barcode **Types**:

- **Version:** HIBC version selector. Labels which include legacy HIBC data encoding are opened using version 2.5. If creating a new label, encoding works depending on selected HIBC version – 2.5 or 2.6.
- **Type:** data structure type selector.
    - **Primary:** mandatory fixed data structure which identifies the item and its supplier.
    - **Secondary:** optional data structure which is indicated using the "/" delimiter. It may have a variable (yet predefined) structure to contain serial or batch numbers, quantity, and expiration date.
        - **Primary definition:** mandatory element when defining the **Secondary** data structure. The three **Primary** data fields of a HIBC function must be added to the **Secondary** data structure. **Primary definition** selects the appropriate existing HIBC function.
    - **Concatenated:** merges the first two structure types into a single data structure.

Definition group defines the content of HIBC barcode fields:

Primary data structure fields:

- **Labeler ID code (LIC):** field assigned and maintained by the HIBCC. The first character of this field is always an alphabetic character. The LIC may identify a labeler to the point of separate subsidiaries and divisions within a parent organization.
- **Product or Catalog...:** compressed product or catalog number.
- **Unit of Measure...:** numeric representation of packaging level (0 to 9) with 0 being the lowest level or “unit-of-use”.

EXAMPLE: A company might pack unit-of-use items in a box, boxes in a carton, and cartons in a case. One way of labeling would be, unit-of-use = 0; Box = 1; Carton = 3; and Case = 5.

Secondary data structure fields:

- **Quantity:** two- or five-digit field describing the number of units-of-use included in the package identified by the bar code label.
- **Date format:** preferred date format to be used with a HIBC label. If no date should be included on a label, select one of the formats that contain "No date".
- **Date:** displays the present date.
- **Lot/Batch:** field can be alphanumeric and may vary in length to up to a maximum of 18 characters. If the field is not required, it should be left empty.
- **Serial number:** field can be alphanumeric and may vary in length to up to a maximum of 18 characters. If the field is not required, it should be left empty.
- **Production date: Data Identifier** formatted as YYYYMMDD.

7.2.9 GS1-128

GS1-128 function encodes barcode data using the GS1-128 standard. The standard supports encoding of textual data, numbers, functions, and the entire set of 128 ASCII characters.

GS1-128 encodes the data and defines its meaning by defining a list of **Application Identifiers** (AI). These identifiers define the content and length of the data they include.

AIs include a data field that contains a fixed or variable number of characters.

TIP: For more information about GS-128 standard and encoding principles, visit the GS1 website.

The list of available AIs is available here.

About

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Application Identifiers field displays the selected AIs.

Edit Function Definition button opens a dialog for editing the identifiers. **Function Definition** dialog allows the user to **Add**, **Delete**, **Move**, and edit the selected identifiers. There are four columns with identifier properties:

- **Identifier:** column with identifier AI number and description.
- **Value:** column with a manually or dynamically defined value as given by the selected **Data source**.

TIP: Value column makes sure the values are compliant with GS1-128 standard. The values are automatically reformatted according to AI format and length.

- **Options:** column with additional identifier options (if available).

Delimiter group defines the delimiting characters for separating the AIs.

A single barcode may include multiple AIs. These fields are separated using left and right **Delimiter**. By default, first two digits of AI are used. Custom delimiters may be defined by inserting alphanumeric characters.

Additional function outputs group defines a subordinate function.

- **Create output function with unformatted contents** creates a subordinate function that uses the unformatted data encoded by the parent GS1-128 function.
- **Function name:** the name of the newly created subordinate function.

7.2.10 ANSI MH10.8.2 (ASC)

ANSI MH10.8.2 (ASC) function encodes barcode data using the ANSI MH10.8.2-2006 standard. This standard provides a range of MH 10/SC 8 data identifiers and GS1 application identifiers. It enables the assignment of new data identifiers, and defines the correlation, or mapping of data identifiers to application identifiers.

TIP: For more information about ANSI MH10.8.2 (ASC) standard, visit the official website. ANSI MH10.8.2 belongs to ISO/IEC 15418 standard, which is accessible here.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Application Identifiers enable cross-industry standardized use of data identifiers. They are used with any alphanumeric data carrier.

Edit Function Definition button opens the **Function Definition** dialog. It allows the user to **Add**, **Delete**, **Move**, and edit the selected identifiers.

There are three columns with identifier properties:

- **Identifier:** column with identifier ID.
- **Value:** column with manually inserted value or an automatically defined value as given by the selected **Data source**.

NOTE: Each **Value** column allows a limited number of characters to be entered. The limitation (format) is defined by the standard and varies according to the selected identifier.

7.2.11 Transfer Data Syntax For High Capacity ADC Media

This function supports international ISO/IEC FDIS 15434 standard for "Information technology – Automatic identification and data capture techniques – Syntax for high-capacity ADC media".

The standard defines the manner in which data is transferred to high-capacity automatic data capture (ADC) media from supplier's information system, and the manner in which the data is transferred to the recipient's information system.

The standard uses high-capacity technologies, such as two-dimensional symbols, to encode multiple fields of data. These fields are usually parsed by the recipient's information system and mapped to specific data fields in the recipient's information system.

This function allows you to encode data in the label objects. You can combine several pieces of information in a single message. Each part begins with a header, and is followed by the message. Each data field may have a fixed manually entered value, or can be connected to a variable.

NOTE: Make sure the variable has the same data format as required by the data identifier. Data identifiers usually have a strict format set by the standard.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.
- **Application Identifiers:** cross-industry standardized set of data identifiers.

TIP: The purpose of identifiers is to provide a unique item identification. To manage the identifiers, click **Edit Function Definition**.

Function Definition dialog allows the user to **Add**, **Delete**, and edit the selected identifiers.

- **Format Envelope:** column defines the starting and ending positions for a data item in a given **Format**. Each Format Envelope contains a Format Header, data and a Format Trailer.

EXAMPLE:

- Format envelope 02 represents Complete EDI message/transaction data.

- Format envelope 06 represents data which is encoded using ASC MH 101 Data Identifiers.

- **Data Elements:** column defines the identifier content. Insert the data to be encoded manually or define a data source.

  NOTE: Each identifier allows adding multiple elements.

- **Format Header Data:** defines two mandatory format header elements.
  - **Version:** organization that controls the data structure.
  - **Release:** release number of ADC media standard.

7.2.12 Read From File

Read from file function reads content from a specified file. The file can be accessible locally or remotely via network connection.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

Read from file parameters group sets the file connection details.

File name sets the file connection.

Encoding specifies the encoding type for the sent data.

- **Auto:** automatically defined encoding .

  TIP: If needed, select the preferred encoding type from the dropdown list.

7.2.13 NDEF Message

NDEF Message function allows you to define a message encapsulation format for the exchange of data information over a Near Field Communication (NFC) link. Such link is established between two NFC devices, or between an NFC device and a tag.

TIP: NFC is a set of communication protocols that enable two devices to establish communication by bringing them within 4 cm (2 in) of each other.

NDEF message encapsulates one or more application-defined records which appear in a variety of types and sizes. These records are combined into a single message.

NOTE: Output of this function is in HEX format.

About group identifies the function.

- **Name:** function ID, initially defined by the function type.
- **Description:** function's purpose and role as defined by the user.

NDEF Message Structure group displays the NDEF records that are included in the message.

Click **Edit Function definition** to open the **NDEF Message dialog**. This dialog allows the user to **Add**, **Delete**, **Move**, and edit the NDEF records. There are two columns with record properties:

- **NDEF Record Type:** identifies the record type. The listed standard record types are available in Designer:
  - **Uri:** contains a string of characters that identifies a web resource.
  - **Text:** contains textual content with information about text encoding and language code.
  - **Smart Poster:** includes multiple sub-records – URI, title, recommended actions, icon, size and type.

    NOTE: **Smart Poster** content is represented as a single record content, although internally the structure is created as multiple (sub)records within a single record.
  - **BlueTooth Handover Select:** a set of records including various items – handover version, device address string, complete local string, class of device, and service class.
  - **Custom:** record type which allows encoding the non-native NFC data.

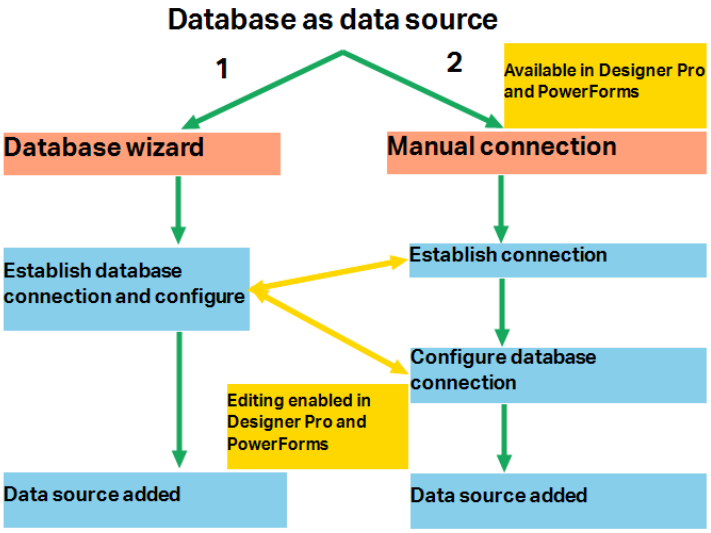
    TIP: Drag and drop the records in NDEF Message dialog to quickly change their position.

    TIP: Detailed descriptions of NDEF record types are available in NFC Forum technical specifications.
- **Record Definition:** settings as defined by the NDEF standard. Available options depend on the selected record type.

Include capability container adds capability container to the encoded data. Capability container stores control data for managing the NFC data in a tag or a device. It tells the NFC device that the received data is an NFC message. In cases when NFC content needs to be encoded into a standard high frequency (HF) RFID tag, enable the **Include capability container** option. This signalizes the reading device that NFC content is stored in the tag. Certain NFC compliant tags already include capability container in the tag which means that there is no need for including it as a part of the generated content.

7.2.14 Database Connection Options

Designer offers two ways for connecting an object to a database. The diagram below shows the two available options.



1. Step-by-step Database Wizard offers a guided process for:
    - connecting a database to a label or form object
    - adding a database to the labeling solution's data sources

The process of establishing and configuring a wizard based database connection is described here.

PRODUCT LEVEL INFO: This segment is applicable to Designer Pro and PowerForms.

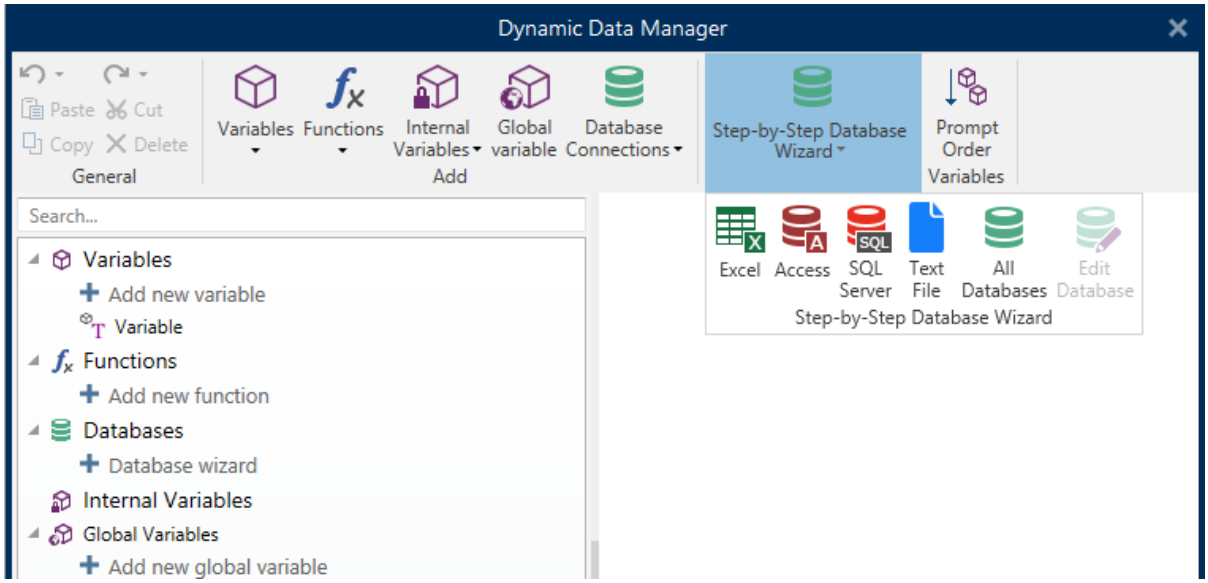
2. Manually established and configured database connection.

NOTE: This option is intended for advanced users. It allows detailed configuration and offers all of the available database connection settings.

The process of establishing and configuring a database connection manually is described here.

7.2.15 Step-by-Step Database Wizard

Database wizard is a guided process that allows the user to configure a connection to a database and to select which tables and fields will be used.



Edit Database allows you to edit all existing connected databases using a wizard.

The wizard additionally allows you to sort, filter records, and to define how many label copies will be printed per database record.

7.2.15.1 Database Wizard For Excel Files

This section describes how to connect Excel database to an object using the Designer Step-by-Step Database Wizard.

Step 1: Connection Settings

This step defines the database connection parameters.

> NOTE: The available parameters depend on the selected database type.

File name defines the database file location.

Advanced Setup opens the system configuration dialog. *Data Link Properties* window allows you to set the connection properties. **Data Link Properties** is a Windows system dialog – read more about its properties here.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

Click **Next**.

Step 2: Tables and Fields

This step defines which database table and which fields of this table should be used as dynamic data source.

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Click **Next**.

Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

Step 4: Create Objects

This step lets you decide whether new Text objects that display the content retrieved from database fields should be added to a label/form or not.

Create Objects step is visible when:

- Starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button.
- Starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector.

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

Step 5: Data Preview and Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

NOTE: Data preview shows up to 1000 rows.

Filter tab filters out the database file records. It allows you to define filtering conditions to be used when retrieving the data.

- **Add condition:** specifies single line condition(s) that filters out the content that meets the set criteria.
- **Add group:** specifies group(s) of conditions that filter out the content that meets the set criteria.

Sorting tab allows you to sort the retrieved data. Sorting is done for all of the fields that are added to the sorting list. Each field can be in ascending or descending order.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Details on data retrieving settings and options are available here.

SQL tab offers a preview of the generated SQL statements.

Read more details about database table configuration here.

Click **Finish**. The database is ready to be used as label or form object data source.

7.2.15.2 Database Wizard For Microsoft SQL Server Database

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

This section describes how to connect a Microsoft SQL Server database to a form or label object using the Designer Step-by-Step Database Wizard.

Step 1: Connection Settings

This step defines the database file connection details.

Connection Information group defines which server hosts the database you are connecting to.

- **Server** selects the database server.

Authentication group defines the user authentication type for database server.

- **Use Windows authentication.** This option defines the Windows authentication as verification method for connecting to an SQL server. The user connects to a database using domain user name and password.
- **Use SQL Server authentication.** This option defines the database user name and password as the verification method. To establish a connection, enter the user name and password provided by the database administrator.

Show Connection String displays the current database connection string and allows it to be inserted or modified.

WARNING: Connection string editing is intended for advanced users only. To configure the database connection, users are encouraged to use standard inputs in the dialog box.

Database Selection group selects the database on the connected server.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

Click **Next** to proceed.

Step 2: Tables and Fields

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

Step 4: Create Objects

This step lets you decide whether new Text objects that display the content retrieved from database fields should be added to a label/form or not.

Create Objects step is visible when:

- Starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button.
- Starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector.

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

Step 5: Data Preview and Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

NOTE: Data preview shows up to 1000 rows.

Filter tab filters out the database file records. It allows you to define filtering conditions to be used when retrieving the data.

- **Add condition:** specifies single line condition(s) that filters out the content that meets the set criteria.
- **Add group:** specifies group(s) of conditions that filter out the content that meets the set criteria.

Sorting tab allows you to sort the retrieved data. Sorting is done for all of the fields that are added to the sorting list. Each field can be in ascending or descending order.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Details on data retrieving settings and options are available here.

SQL tab offers a preview of the generated SQL statements.

Read more details about database table configuration here.

Click **Finish**. The database is ready to be used as label or form object data source.

7.2.15.3 Database Wizard For Text Files

This section describes how to use a text file as data source in label or form objects. A text file is connected to an object using the Designer Step-by-Step Database Wizard.

Step 0: Text File Structure Wizard

Text File Structure Wizard window opens if a structure for a text file you are connecting hasn't been defined previously.

The steps for completing the **Text File Structure Wizard** are described in a dedicated section.

> NOTE: After finishing this procedure, a text definition .sch file with the same name as the text database file and is created in the same folder. Next time the wizard is used on the same file, this procedure is no longer required.

Step 1: Connection Settings

This step defines the text file path.

File name defines the location of the Text file to be used. Enter the location manually or click **Browse** to locate it in the system.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

Click **Next**.

Step 2: Tables and Fields

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

NOTE: Table selection is not available when adding a text file as a database. The entire text file is treated as a single database table.

Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

Step 4: Create Objects

This step lets you decide whether new Text objects that display the content retrieved from database fields should be added to a label/form or not.

Create Objects step is visible when:

- Starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button.
- Starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector.

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.

- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

> NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

Step 5: Data Preview and Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

> NOTE: Data preview shows up to 1000 rows.

Fields tab displays available and selected database fields. The settings configured in Step 3: Label Copies Per Record can be redone on this tab.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Read more about data retrieving here.

Click **Finish**. The database is ready to be used as label or form object data source.

7.2.15.4 Database Wizard For Oracle Database

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

This section describes how to add an Oracle database to a form or label object using the Designer Step-by-Step Database Wizard.

Step 1: Connection Settings

This step defines the database connection details.

> NOTE: Oracle Database Provider is required to establishing a connection with Oracle database.

Data Source defines the Oracle Data Source name.

Authentication provides user name and password for establishing the connection.

Show Connection String displays the current database connection string and allows it to be inserted or modified.

> WARNING: Connection string editing is intended for advanced users only. To configure the database connection, users are encouraged to use standard inputs or **Advanced Setup** dialog.

Advanced Setup button opens the *Data Link Properties* window allowing the user to define the connection properties. **Data Link Properties** is a Windows system dialog – read more about its properties here.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

Step 2: Tables and Fields

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

> NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

> **EXAMPLE:** The number of printed labels is defined in the database field of the record that is printed.

> **EXAMPLE:** The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

Step 4: Create Objects

This step lets you decide whether new Text objects that display the content retrieved from database fields should be added to a label/form or not.

Create Objects step is visible when:

- Starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button.
- Starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector.

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

Step 5: Data Preview and Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

NOTE: Data preview shows up to 1000 rows.

Filter tab filters out the database file records. It allows you to define filtering conditions to be used when retrieving the data.

- **Add condition:** specifies single line condition(s) that filters out the content that meets the set criteria.
- **Add group:** specifies group(s) of conditions that filter out the content that meets the set criteria.

Sorting tab allows you to sort the retrieved data. Sorting is done for all of the fields that are added to the sorting list. Each field can be in ascending or descending order.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Details on data retrieving settings and options are available here.

SQL tab offers a preview of the generated SQL statements.

Read more details about database table configuration here.

Click **Finish**. The database is ready to be used as a label or form object data source.

7.2.15.5 Database Wizard For MySQL Database

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

This section describes how to add a MySQL database to a form or label object using the Designer Step-by-Step Database Wizard.

Step 1: Connection Settings

This step defines the MySQL database connection details.

- **Database:** defines the exact database on a server.
- **Host:** defines the database address.
- **Port:** defines the port of the database server.
- **Authentication:** provides user name and password for establishing the connection.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

Step 2: Tables and Fields

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

Step 4: Create Objects

This step lets you decide whether new Text objects that display the content retrieved from database fields should be added to a label/form or not.

Create Objects step is visible when:

- Starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button.
- Starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector.

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

Step 5: Data Preview and Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

NOTE: Data preview shows up to 1000 rows.

Filter tab filters out the database file records. It allows you to define filtering conditions to be used when retrieving the data.

- **Add condition:** specifies single line condition(s) that filters out the content that meets the set criteria.
- **Add group:** specifies group(s) of conditions that filter out the content that meets the set criteria.

Sorting tab allows you to sort the retrieved data. Sorting is done for all of the fields that are added to the sorting list. Each field can be in ascending or descending order.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Details on data retrieving settings and options are available here.

SQL tab offers a preview of the generated SQL statements.

Read more details about database table configuration here.

Click **Finish**. The database is ready to be used as a label or form object data source.

7.2.15.6 Database Wizard For Adding Databases Via OLE DB

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

This section describes how to add various types of databases via OLE DB source to a form or label object using the Designer Step-by-Step Database Wizard.

The OLE DB extracts data from a variety of OLE DB-compliant relational databases by using a database table, a view, or an SQL command.

EXAMPLE: OLE DB can extract data from tables in Microsoft Access or SQL Server databases.

Step 1: Connection Settings

This step defines the OLE DB connection details.

Provider defines the provider to be used for accessing the data by exposing the OLE DB interfaces.

Authentication provides user name and password for establishing the connection.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

Authentication provides user name and password that are used for the connection.

Advanced Configuration options are:

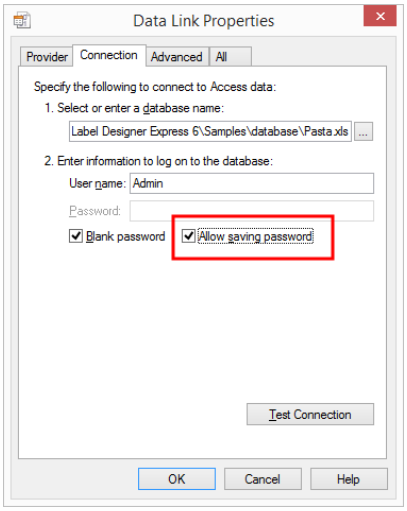
- **Automatically browse for tables** automatically displays the available OLE database tables. If this checkbox is cleared, you will have to enter the table name manually.

Show Connection String displays the current database connection string and allows it to be inserted or modified.

WARNING: Connection string editing is intended for advanced users only. To configure the database connection, users are encouraged to use standard inputs or **Advanced Setup** dialog.

Advanced Setup button opens the *Data Link Properties* window allowing the user to define the connection properties. **Data Link Properties** is a Windows system dialog – read more about its properties here.

NOTE: When connecting to a password protected database, make sure the **Allow saving password** option is selected. If not, even after a successful **Test Connection** procedure, database access is not going to be granted.



Test Connection button starts a connection testing procedure to confirm if a connection with database has been established successfully. A confirmation or error message appears.

Click **Next**.

Step 2: Tables and Fields

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

Step 4: Create Objects

This step lets you decide whether new Text objects that display the content retrieved from database fields should be added to a label/form or not.

Create Objects step is visible when:

- Starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button.
- Starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector.

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

Step 5: Data Preview and Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

> NOTE: Data preview shows up to 1000 rows.

Filter tab filters out the database file records. It allows you to define filtering conditions to be used when retrieving the data.

- **Add condition:** specifies single line condition(s) that filters out the content that meets the set criteria.
- **Add group:** specifies group(s) of conditions that filter out the content that meets the set criteria.

Sorting tab allows you to sort the retrieved data. Sorting is done for all of the fields that are added to the sorting list. Each field can be in ascending or descending order.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Details on data retrieving settings and options are available here.

SQL tab offers a preview of the generated SQL statements.

Read more details about database table configuration here.

Click **Finish**. The database is ready to be used as a label or form object data source.

7.2.15.7 Database Wizard For ODBC Data Sources

This section describes how to work with Designer Step-by-Step Database Wizard when adding an ODBC data source.

The Microsoft® ODBC Data Source Administrator manages database drivers and data sources. This application is located in the Windows Control Panel under Administrative Tools.

For information about detailed ODBC Administrator procedures, open the ODBC Data Source Administrator dialog box and click Help.

Step 1: Connection information

This step defines the database connection details.

Connection Information group defines the type of database that is going to be used with ODBC connection.

- **Data Source:** defines the database to retrieve the data from. Databases that are listed in the dropdown list are managed using the **ODBC Administrator**.
- **Driver:** displays the database driver according to the selected data source.

Authentication group includes user name and password fields for the ODBC connection. User authentication is necessary in certain cases – e.g., if SQL authentication is required when connecting to an SQL server.

- **User name:** enter the correct user name to access the ODBC database.
- **Password:** enter the correct password to access the ODBC database.

NOTE: Username and password are always shown. Their use depends on the database administration policy.

ODBC Administrator button opens the system ODBC administration dialog. See more details about the dialog here.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

Step 2: Tables and Fields

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Step 3: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

Step 4: Create Objects

This step lets you decide whether new Text objects that display the content retrieved from database fields should be added to a label/form or not.

Create Objects step is visible when:

- Starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button.
- Starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector.

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

Step 5: Data Preview and Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

NOTE: Data preview shows up to 1000 rows.

Filter tab filters out the database file records. It allows you to define filtering conditions to be used when retrieving the data.

- **Add condition:** specifies single line condition(s) that filters out the content that meets the set criteria.
- **Add group:** specifies group(s) of conditions that filter out the content that meets the set criteria.

Sorting tab allows you to sort the retrieved data. Sorting is done for all of the fields that are added to the sorting list. Each field can be in ascending or descending order.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Details on data retrieving settings and options are available here.

SQL tab offers a preview of the generated SQL statements.

Read more details about database table configuration here.

Click **Finish**. The database is ready to be used as a label or form object data source.

7.2.15.8 Database Editing

Edit Database button re-starts the Step-by-Step Database Wizard for configuring an existing database.

To properly reconfigure a database that has already been added, follow the below listed steps.

7.2.15.8.1 Step 1: Define Database Table

Use this step select among the existing databases. Select the database and the table you wish to edit. Click **Next** to proceed.

7.2.15.8.2 Step 2: Connection Settings

This step defines the database connection parameters.

> NOTE: The available parameters depend on the selected database type.

File name defines the database file location.

Advanced Setup opens the system configuration dialog. *Data Link Properties* window allows you to set the connection properties. **Data Link Properties** is a Windows system dialog – read more about its properties here.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

Click **Next**.

7.2.15.8.3 Step 3: Tables And Fields

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

> NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

7.2.15.8.4 Step 4: Label Copies Per Record

This step specifies the number of label copies to be printed for each database record.

Fixed number of printed labels lets you insert the number of copies manually.

Dynamically defined number of printed labels sets the number dynamically using a data source value.

EXAMPLE: The number of printed labels is defined in the database field of the record that is printed.

EXAMPLE: The number of printed records can be defined using a variable value. Its value may be set in another label or form object.

Use the same record for entire print job prints out the single selected record on the entire range of labels in a print job.

Click **Next** to proceed or **Finish** to continue working with the object.

Read more about how to define the number of printed copies here.

7.2.15.8.5 Step 5: Create Objects

This step lets you decide whether new Text objects that display the content retrieved from database fields should be added to a label/form or not.

Create Objects step is visible when:

- Starting the database wizard from Designer **Data** tab ribbon and adding a new database by clicking the database button.
- Starting the wizard in Dynamic Data Explorer or using a generic object **Add database** selector.

TIP: The **Create Objects** step differs if you are adding a database while designing a label or a form. See the differences below.

Create Objects step for label designing:

- **Create a label text object for each field:** adds a Text object that contains database field content.
- **Do not create any label objects:** skips adding new objects.

Create Objects step for form designing:

- **Create an edit field object for each field:** adds an edit field object to the form. The added object(s) contains database field content.
- **Create a form table object:** adds a database table object to a form. The added object(s) contains database field content.
- **Do not create any label objects:** skips adding new objects.

NOTE: The number of added objects depends on the number of fields in the database.

Click **Next**.

7.2.15.8.6 Step 6: Data Preview And Other Table Settings

This step gives a preview of the data retrieved from the database. It also offers additional table settings such as filtering and sorting.

Data tab displays a preview of data retrieved from the database file. You can use search controls at the top of the preview section to find a specific record.

> NOTE: Data preview shows up to 1000 rows.

Filter tab filters out the database file records. It allows you to define filtering conditions to be used when retrieving the data.

- **Add condition:** specifies single line condition(s) that filters out the content that meets the set criteria.
- **Add group:** specifies group(s) of conditions that filter out the content that meets the set criteria.

Sorting tab allows you to sort the retrieved data. Sorting is done for all of the fields that are added to the sorting list. Each field can be in ascending or descending order.

Data Retrieving tab defines how the data should be retrieved from the connected database file. Details on data retrieving settings and options are available here.

SQL tab offers a preview of the generated SQL statements.

Read more details about database table configuration here.

Click **Finish**.

7.2.16 Manual Database Connection Setup

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

Setting up a database connection manually gives you complete control over database connection settings and configuration options.

> NOTE: This option is intended for advanced users. It allows detailed configuration and offers all of the available database connection settings. NiceLabel recommends using the Database Wizard.

Manual database connections are done in three steps:

1. First step sets up the database connection.
2. Second step allows you to choose which database tables will be used.
3. Third step allows you to configure the connected database tables.

To connect to a database manually, follow the procedures described in the below listed topics:

- Connect to Microsoft Excel File
- Connect to Microsoft Access File
- Connect to Microsoft SQL Server File
- Connect to Text File
- Connect to Oracle Database
- Connect to MySQL Database
- Connect to OLE Database
- Connect to ODBC Data Source

7.2.16.1 Connect To Microsoft Excel File

Microsoft Excel databases can be used as a dynamic data source for label objects or form objects. Before you manually set up a database connection, open the Dynamic Data Manager. This dialog enables the user to manage the variable data sources for label and form objects.

Click **Database Connections** button in the Dynamic Data Manager ribbon and select **Microsoft Excel** as the preferred database type. New database connection properties window opens.

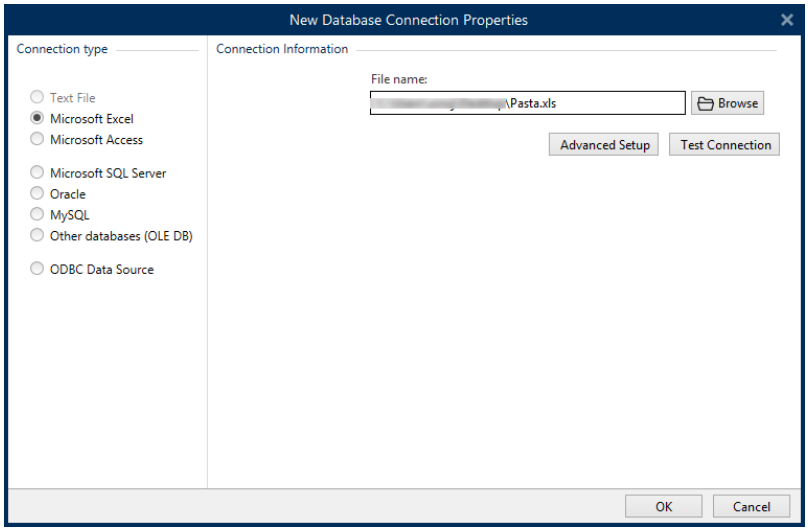
To manually connect to an Excel file database, complete the below listed steps.

7.2.16.1.1 Step 1: Connection Setup

Connection type group allows you to define the type of database connection.

Connection Information group defines database file details.

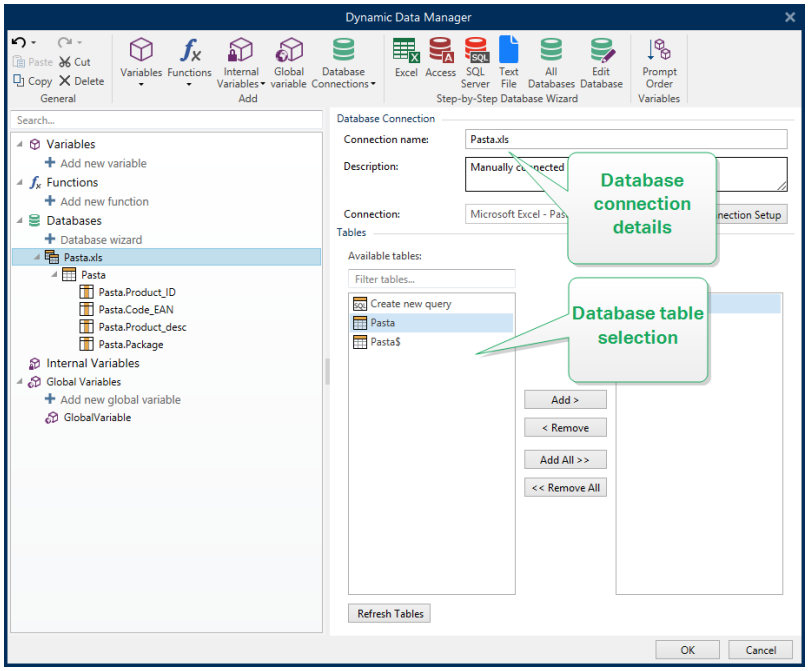
- **File name:** defines the database file to be used in the connection.
- **Advanced Setup:** opens the **Data Link Properties** window. This window allows you to define the connection properties. **Data Link Properties** is a Windows system dialog – read more about its properties here.
- **Test Connection:** button starts a connection testing procedure. It shows if a connection with the database has been established successfully. A confirmation or error message appears depending on the connection status.



Click **OK** when done. Database properties window appears.

Database Connection group defines the connection name and describes it.

- **Connection name:** defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be found in the Designer **Dynamic Data Explorer**.
- **Description:** allows adding additional information and suggestions for the connected database.
- **Connection:** identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.



7.2.16.1.2 Step 2: Database Table Selection

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Click **OK** when done.

7.2.16.1.3 Step 3: Configuration Of Database Tables And Fields

Read about how to configure the connected table here.

Read about how to configure the database fields here.

Click **OK** when done.

7.2.16.2 Connect To Microsoft Access File

Microsoft Access databases can be used as a dynamic data source for label objects or form objects. Before you manually set up a database connection, open the Dynamic Data Manager. This dialog enables the user to manage the variable data sources for label and form objects.

Click **Database Connections** button in the Dynamic Data Manager ribbon and select **Microsoft Access** as the preferred database type. New database connection properties window opens.

To manually connect an object to an Access file database, complete the below listed steps.

7.2.16.2.1 Step 1: Connection Setup

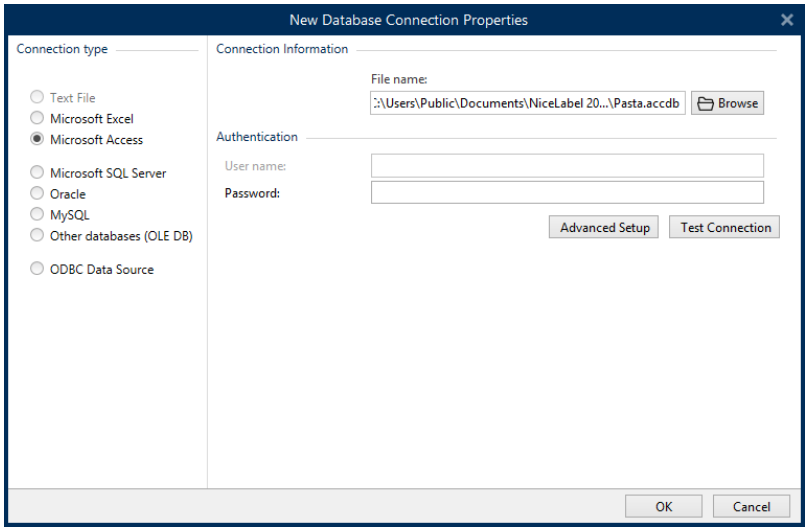
Connection type group allows you to define the type of database connection.

Connection Information window defines database file details.

- **File name:** defines the database file to be used in the connection.

Authentication group provides **User name** and **Password** for connecting to a protected file.

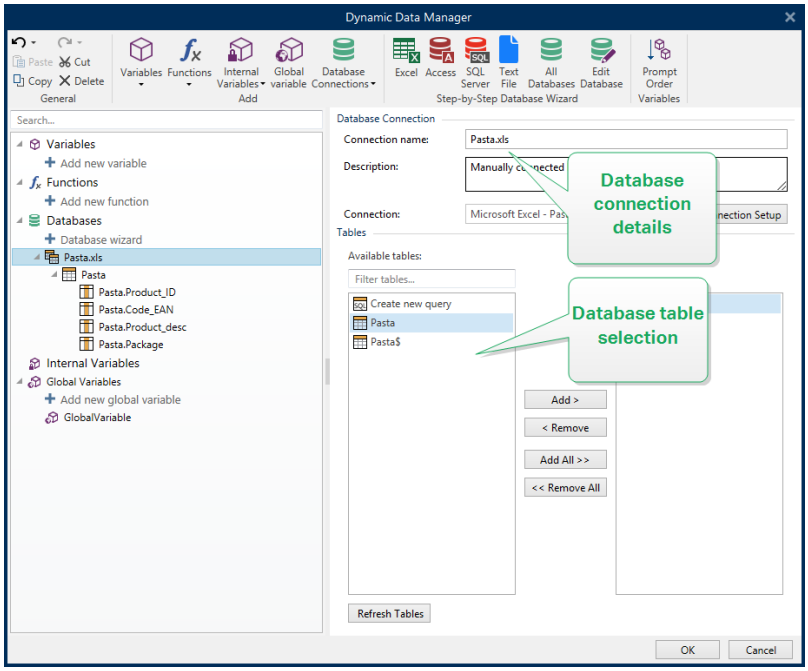
- **Advanced Setup:** opens the **Data Link Properties** window. This window allows you to define the connection properties. **Data Link Properties** is a Windows system dialog – read more about its properties here.
- **Test Connection:** starts a connection testing procedure. It shows if a connection with the database has been established successfully. A confirmation or error message appears depending on the connection status.



Click **OK** when done. Database properties window appears.

Database Connection group defines the connection name and describes it.

- **Connection name:** defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be found in the Designer**Dynamic Data Explorer**.
- **Description:** allows adding additional information and suggestions for the connected database.
- **Connection:** identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.



7.2.16.2.2 Step 2: Database Table Selection

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

> NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Click **OK** when done.

7.2.16.2.3 Step 3: Configuration Of Database Table And Fields

Read about how to configure the connected table here.

Read about how to configure the database fields here.

Click **OK** when done.

7.2.16.3 Connect To Microsoft SQL Server Database

Microsoft SQL Server database can be used as a dynamic data source for label objects or form objects. Before you manually set up a database connection, open the Dynamic Data Manager. This dialog enables the user to manage the variable data sources for label and form objects.

Click **Database Connections** button in the Dynamic Data Manager ribbon and select **Microsoft SQL Server** as the preferred database type. New database connection properties window opens.

To manually connect an object to a Microsoft SQL Server database, complete the following steps:

7.2.16.3.1 Step 1: Connection Setup

Connection type group allows you to define the type of database connection.

Connection Information group defines database details.

- **Server:** defines the database server to be used for the connection. The available servers are listed automatically. To add a non-listed server, insert its name or location manually.
- **Authentication:** selects the user authentication type.
  - **Use Windows authentication** to login using your Windows domain credential.
  - **Use SQL Server authentication** to login using the SQL server credentials.

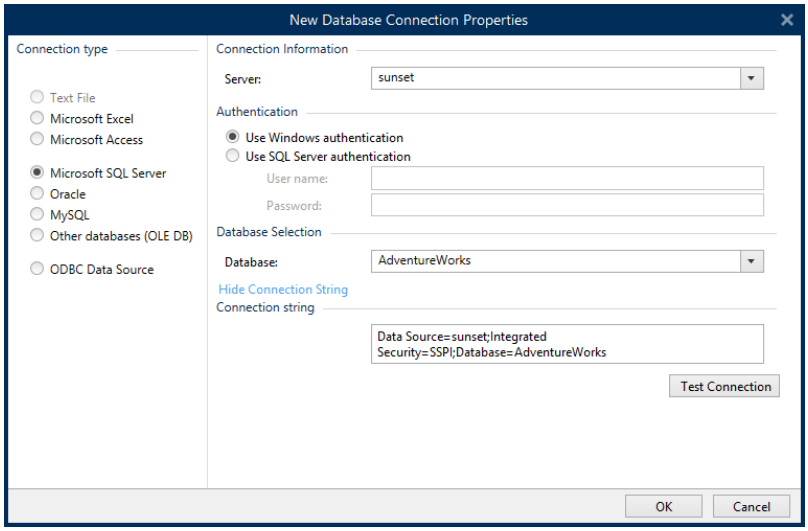
Database selection group selects the database on the previously selected server. This database is going to be used as a data source for the selected label or form object.

- **Database:** defines the server database to connect to.

Show Connection String displays the current database connection string and allows it to be inserted or modified.

WARNING: Connection string editing is intended for advanced users only. To configure the database connection, users are encouraged to use standard dialog inputs in the dialog box.

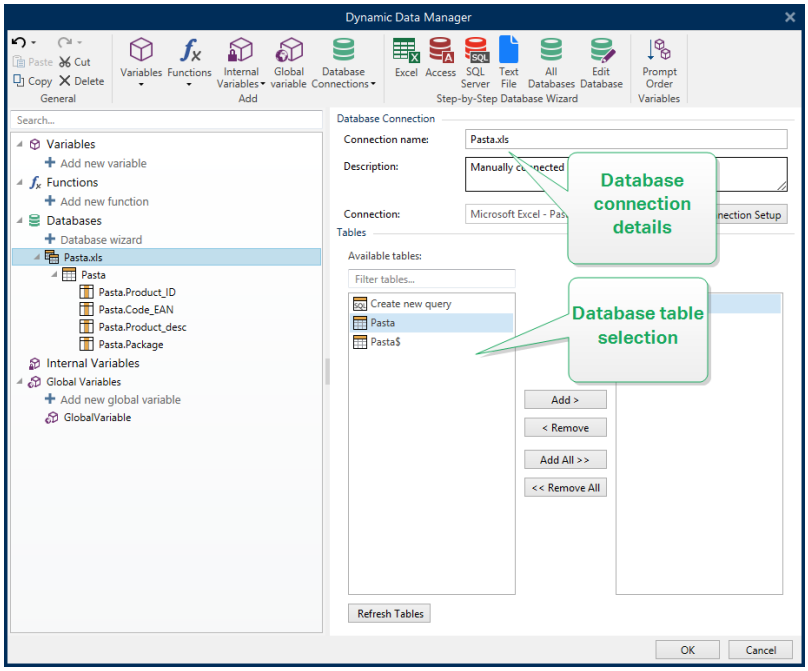
Test Connection button starts a connection testing procedure. It shows if connection with the database has been established successfully. A confirmation or error message appears depending on the connection status.



Click **OK** when done.

Database Connection group defines the connection name an describes it.

- **Connection name:** defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be fond in the Designer**Dynamic Data Explorer**.
- **Description:** allows adding additional information and suggestions for the connected database.
- **Connection:** identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.



7.2.16.3.2 Step 2: Database Table Selection

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Click **OK** when done.

7.2.16.3.3 Step 3: Configuration Of Database Tables And Fields

Read about how to configure the connected table here.

Read about how to configure the database fields here.

Click **OK** when done.

7.2.16.4 Connect To Text File

Text File database can be used as a dynamic data source for label objects or form objects.

Text files require some additional work before they are transformed into a "real" database. At start, any text file contains data values but has no information about the data structure, name fields, and maximum field lengths. These missing parameters need to be specified before the text file turns into a database which can be used as an object data source.

EXAMPLE:
A widely used text database example are .csv files. In a .csv file, a delimiter separates the database fields. Each line provides the data for a single label – therefore, it can be understood as a "record" in database nomenclature.

Open the Dynamic Data Manager. This dialog enables the user to manage the variable data sources for label and form objects.

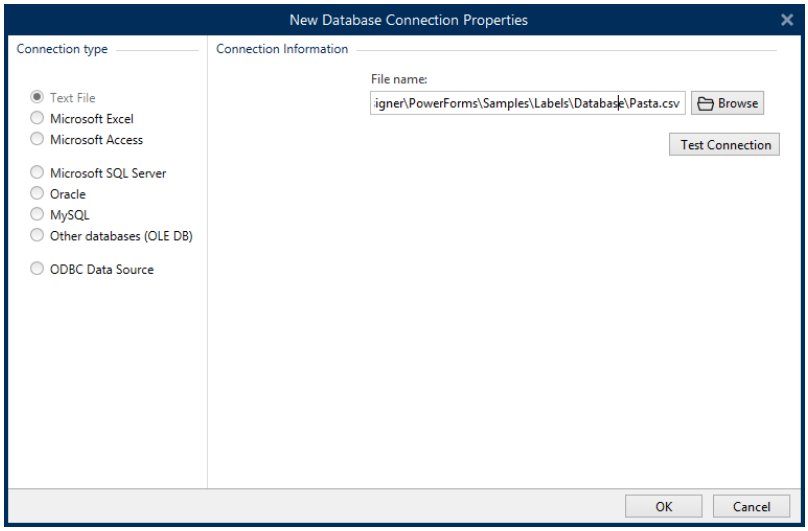
Click **Database Connections** button in the Dynamic Data Manager ribbon and select **Text File** as the preferred database type.

To manually connect an object to a text file database, complete the below listed steps.

7.2.16.4.1 Step 1: Connection Setup

Connection Information window defines the database file details.

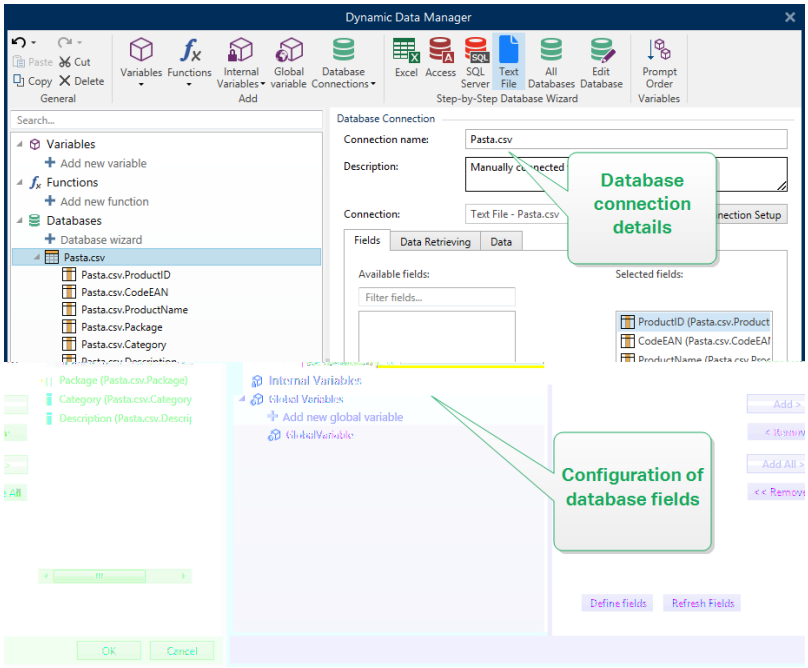
- **File name** defines the file location.
- **Test Connection:** starts a connection testing procedure. It shows whether or not a connection with the database has been established. A confirmation or error message appears depending on the connection status.



Click **OK** when done. Database properties window appears.

Database Connection group defines the connection name and describes it.

- **Connection name:** defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be found in the Designer**Dynamic Data Explorer**.
- **Description:** allows adding additional information and suggestions for the connected database.
- **Connection:** identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.



7.2.16.4.2 Step 1a: Text File Structure Wizard

Text File Structure Wizard window opens if a structure for a text file you are connecting hasn't been defined previously.

The steps for completing the **Text File Structure Wizard** are described in a dedicated section.

NOTE: After finishing this procedure, a text definition .sch file with the same name as the text database file and is created in the same folder. Next time the wizard is used on the same file, this procedure is no longer required.

7.2.16.4.3 Step 2: Configuration Of Database Tables And Fields

Read about how to configure the connected table here.

Read about how to configure the database fields here.

Click **OK** when done.

7.2.16.5 Connect To Oracle Database

Oracle database can be used as a dynamic data source for label objects or form objects.

Open the Dynamic Data Manager. This dialog enables the user to manage the variable data sources for label and form objects.

Click **Database Connections** button in the Dynamic Data Manager ribbon and select **Oracle** as the preferred database type. New database connection properties window opens.

NOTE: To connect to Oracle database and use the data in NiceLabel software, you must first

Details are available in this NiceLabel knowledge base article: https://kb.nicelabel.com/index.php?t=faq&id=291.

7.2.16.5.1 Step 1: Connection Setup

Connection type group allows you to define the type of database connection.

Connection Information group defines database file details.

- **Server:**defines the database server to be used for the connection. The available servers are listed automatically. To add a non-listed server, insert its name or location manually.

Authentication group selects user authentication type.

- **Use Windows authentication:** login using your Windows domain credential.
- **Use SQL Server authentication:** login using SQL server credentials.

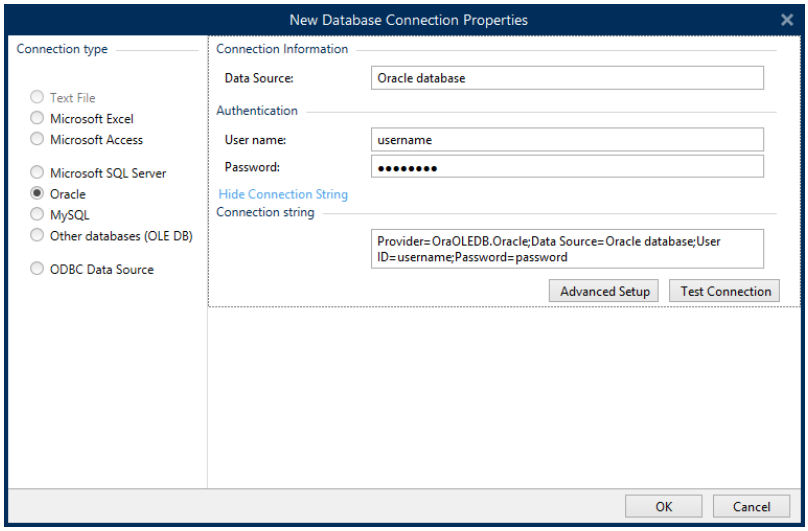
Database selection selects the database on the previously selected server. This database is going to be used as a data source for the selected label or form object.

- **Database** defines the server database to connect to.

Show Connection String displays the current database connection string and allows it to be inserted or modified.

WARNING: Connection string editing is intended for advanced users only. To configure the database connection, users are encouraged to use standard dialog inputs in the dialog box.

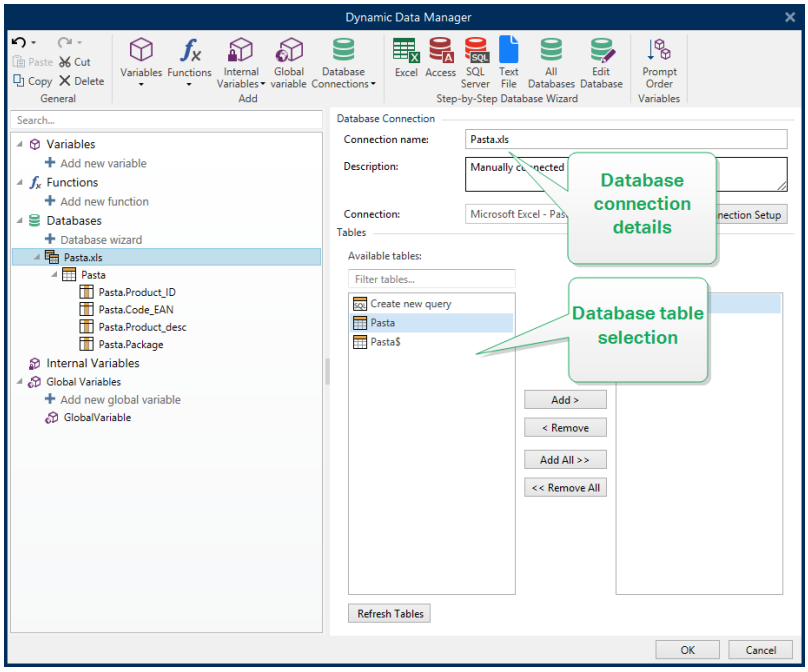
Test Connection button starts a connection testing procedure. It shows if connection with the database has been established successfully. A confirmation or error message appears depending on the connection status.



Click **OK** when done. Database properties window appears.

Database Connection group defines the connection name an describes it.

- **Connection name:** defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be fond in the Designer**Dynamic Data Explorer**.
- **Description:** allows adding additional information and suggestions for the connected database.
- **Connection:** identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.



7.2.16.5.2 Step 2: Database Table Selection

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Click **OK** when done.

7.2.16.5.3 Step 3: Configure Connected Database

Read about how to configure the connected table here.

Read about how to configure the database fields here.

Click **OK** when done.

7.2.16.6 Connect To MySQL Database

MySQL database can be used as a dynamic data source for label objects or form objects. Before you manually set up a database connection, open the Dynamic Data Manager. This dialog enables the user to manage the variable data sources for label and form objects.

Click **Database Connections** button in the Dynamic Data Manager ribbon and select **MySQL** as the preferred database type. New database connection properties window opens.

To manually connect an object to a MySQL database, complete the following steps:

7.2.16.6.1 Step 1: Connection Setup

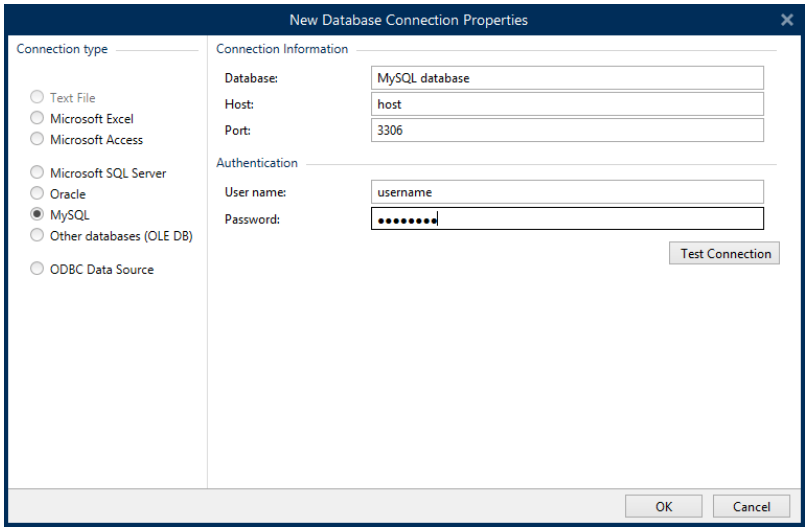
Connection type group allows you to define the type of database connection.

Connection Information window defines the database file details.

- **Database:** defines the exact database on a server. Enter the correct name.
- **Host:** defines the database server IP address or name.
- **Port:** defines the port of the database server.

Authentication group provides **user name** and **password** to establish the connection.

- **Test Connection** button starts a connection testing procedure. It checks if Designer can successfully connect to the database.

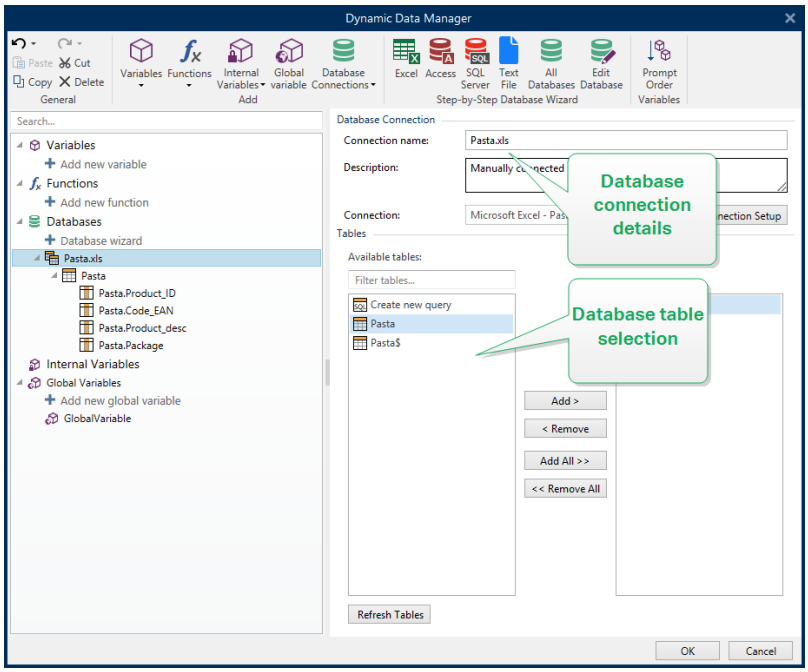


Click **OK** when done. Database properties window appears.

Database Connection group defines the connection name an describes it.

- **Connection name:** defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be fond in the Designer**Dynamic Data Explorer**.
- **Description:** allows adding additional information and suggestions for the connected database.

- **Connection:** identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.



7.2.16.6.2 Step 2: Database Table Selection

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Click **OK** when done.

7.2.16.6.3 Step 3: Configuration Of Database Tables And Fields

Read about how to configure the connected table here.

Read about how to configure the database fields here.

Click **OK** when done.

7.2.16.7 Connect To Other Databases (OLE DB)

Various types of databases can be connected to label objects or form objects via OLE DB source. Open the Dynamic Data Manager. This dialog enables the user to manage the variable data sources for label and form objects.

Click **Database Connections** button in the Dynamic Data Manager ribbon and select **Other Databases (OLE DB)** as the preferred database type. New database connection properties window opens.

OLE DB extracts data from a variety of OLE DB-compliant relational databases by using a database table, a view, or an SQL command.

EXAMPLE: OLE DB can extract data from tables in Microsoft Access or SQL Server databases.

To manually connect an object to other databases via OLE DB, complete the below listed steps:

7.2.16.7.1 Step 1: Connection Setup

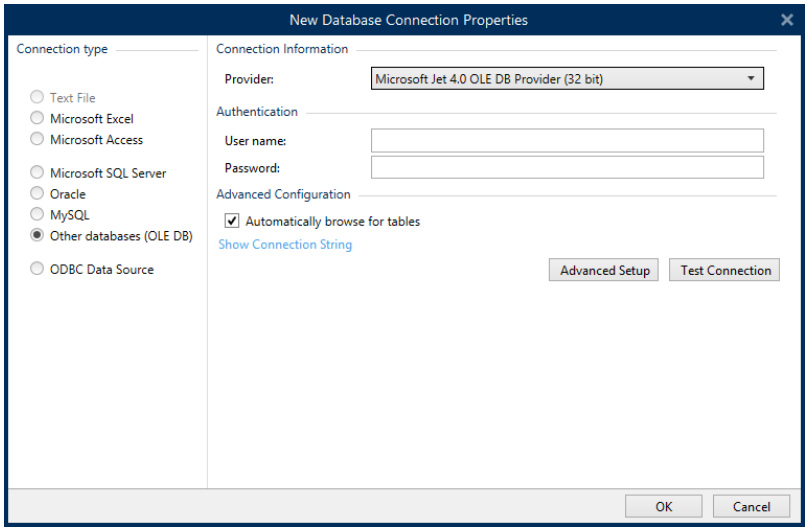
Connection type group allows you to define the type of database connection.

Connection Information group defines database details.

- **Provider:** defines the provider to be used for accessing the data by exposing the OLE DB interfaces.

Authentication provides user name and password for establishing the connection.

Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.



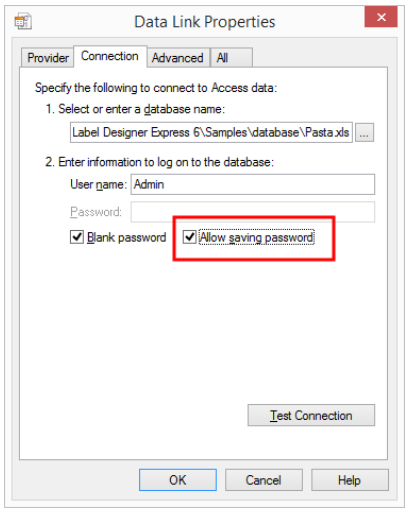
Advanced Configuration options are:

- **Automatically browse for tables** (selected by default) automatically displays the available OLE database tables. Cleared checkbox skips this step.

Show Connection String displays the current database connection string and allows it to be inserted or modified.

WARNING: Connection string editing is intended for advanced users only. To configure the database connection, users are encouraged to use standard inputs or **Advanced Setup** dialog.

Advanced Setup button opens the *Data Link Properties* window allowing the user to define the connection properties. **Data Link Properties** is a Windows system dialog – read more about its properties here.



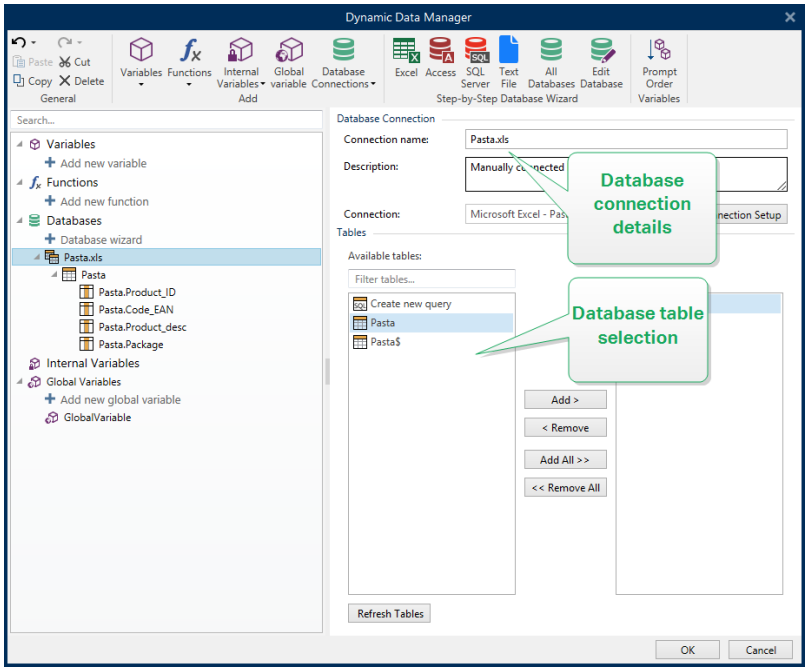
NOTE: When connecting to a password protected database, make sure the **Allow saving password** option is selected. If not, even after a successful **Test Connection** procedure, database access is not going to be granted.

Test Connection button starts a connection testing procedure to confirm if a connection with database has been established successfully. A confirmation or error message appears.

Click **OK**. Database properties window appears.

Database Connection group defines the connection name and describes it.

- **Connection name:** defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be found in the Designer **Dynamic Data Explorer**.
- **Description:** allows adding additional information and suggestions for the connected database.
- **Connection:** identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.



7.2.16.7.2 Step 2: Database Table Selection

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Click **OK** when done.

7.2.16.7.3 Step 3: Configuration Of Database Tables And Fields

Read about how to configure the connected table here.

Read about how to configure the database fields here.

Click **OK** when done.

7.2.16.8 Connect To ODBC Data Source

Various databases can be connected to label objects or form objects via ODBC Data Source Administrator. Open the Dynamic Data Manager. This dialog enables the user to manage the variable data sources for label and form objects.

Click **Database Connections** button in the Dynamic Data Manager ribbon and select **ODBC Data Source** as the preferred database type. New database connection properties window opens.

To manually connect an object to a database, using the ODBC, complete the following steps:

7.2.16.8.1 Step 1: Connection Setup

Connection Information group defines database details.

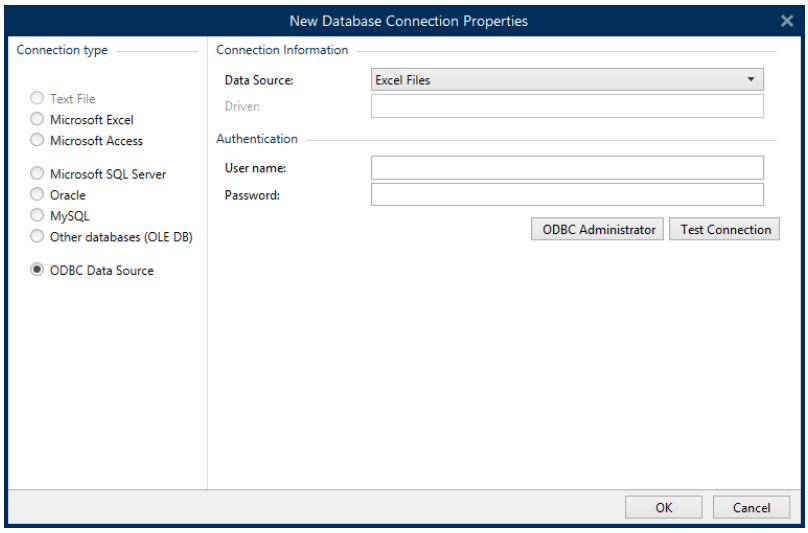
- **Data Source** defines the source to retrieve the data from.
- **Driver** displays the database driver according to the selected data source.

Authentication group includes user name and password fields for the ODBC connection. User authentication is necessary in certain cases – e.g. if SQL authentication is required when connecting to an SQL server.

- **User name:** enter the correct user name to access the ODBC database.
- **Password:** enter the correct password to access the ODBC database.

ODBC Administrator button opens the system ODBC administration dialog. Read more details about the dialog here.

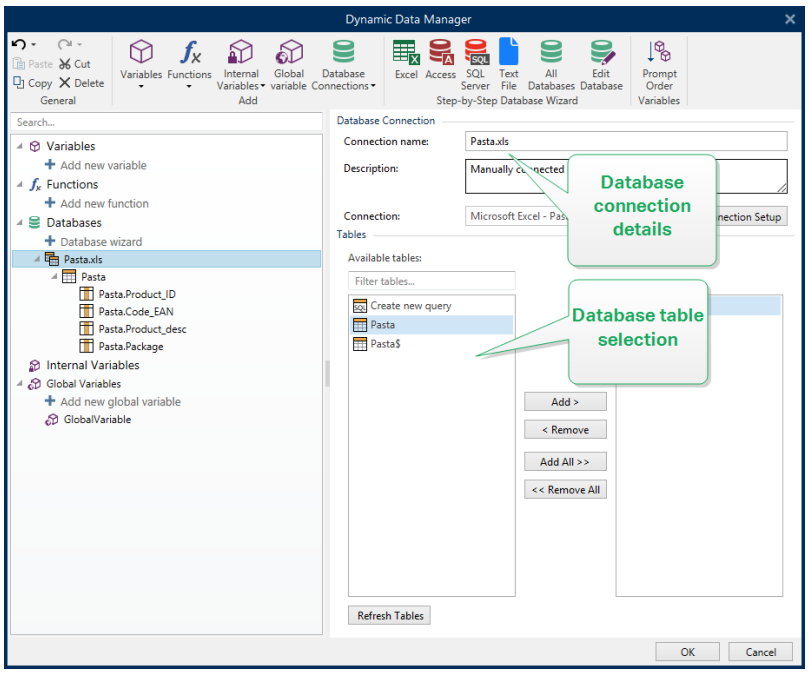
Test Connection button starts a connection testing procedure. It checks if Designer can successfully connect to the database.



Click **OK**. Database properties window appears.

Database Connection group defines the connection name an describes it.

- **Connection name:** defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be fond in the Designer **Dynamic Data Explorer**.
- **Description:** allows adding additional information and suggestions for the connected database.
- **Connection:** identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.



7.2.16.8.2 Step 2: Database Table Selection

Tables group allows you to select which tables of the connected database should be used as data source.

- **Available tables:** available tables in the selected database.
- **Selected tables:** tables that are used as data source.

Click **Add >** or **< Remove** buttons to add or remove the tables from the **Selected fields**.

NOTE: When editing an existing database, a table cannot be removed if used in a script, function, action, or connected to a label or form object.

Click **OK** when done.

7.2.16.8.3 Step 3: Configuration Of Database Tables And Fields

Read about how to configure the connected table here.

Read about how to configure the database fields here.

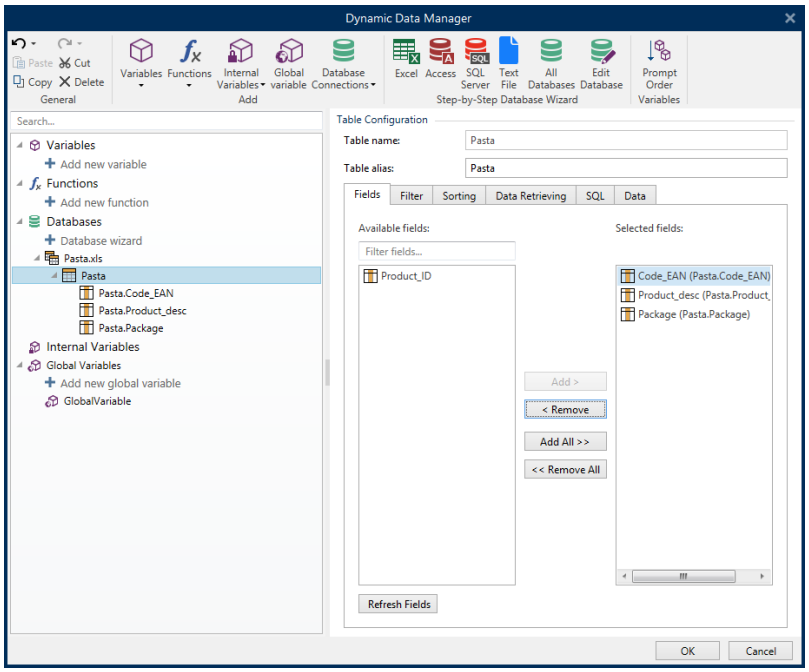
Click **OK** when done.

7.2.16.9 Database Table Configuration

Table Configuration group allows you to configure the connected database table. Use the tabs below to browse through various configuration options.

- **Table name:** displays the selected database table's name.

- **Table alias:** gives a unique display name to a table. Table alias is useful when the same table is added for more than once under the same database connection. Alias identifies these tables when used in the Designer.



7.2.16.9.1 Fields Tab

Available fields frame lists the available fields of the connected database table. Select the fields from the list.

Selected fields displays the fields that are used as connected data source.

The fields can be added to or removed from the **Selected fields** using **Add >** and **< Remove buttons**. To use the entire range of available fields , use **Add all >>** and **<< Remove All** buttons.

Refresh Fields rereads the connected database table and displays the refreshed available fields.

7.2.16.9.2 Filter Tab

Enable filter commands activates the table filter. Use it to filter out the displayed database fields as defined by a condition or a group of conditions.

Add condition button creates a custom filter. Select standard qualifiers: equals, does not equal, is less than, is less than or equal to, is greater than, is greater than or equal, like, not like, is blank, is not blank.

Add group button activates nesting two or more conditions for a filter. Use a group to build a more complex filtering condition for a field. The conditions can be joined using AND (all conditions must be true in order to display the record) or OR (only one condition must be true in order to display the record) logical qualifiers.

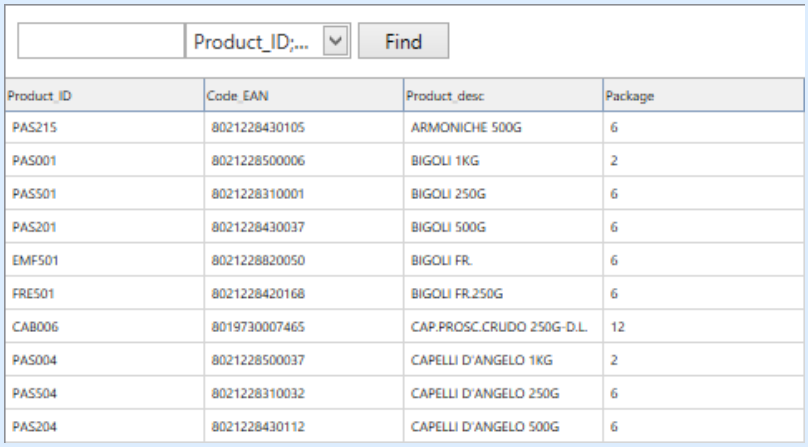
The list of defined conditions and groups is placed below the table. Remove the filter(s) by clicking the **Remove** button.

7.2.16.9.3 Sorting Tab

Field column allows you to decide which field in a table shuld be used to sort the data.

Sort Order defines whether the records as displayed **Ascending** or **Descending**. Select the sort order from the dropdown menu.

EXAMPLE: In Pasta.xlsx sample database, select **Prod_desc** field with **Ascending** order. The data appears sorted by product description and ordered alphabetically from A to Z.



Product_ID	Code_EAN	Product_desc	Package
PAS215	8021228430105	ARMONICHE 500G	6
PAS001	8021228500006	BIGOLI 1KG	2
PAS501	8021228310001	BIGOLI 250G	6
PAS201	8021228430037	BIGOLI 500G	6
EMF501	8021228820050	BIGOLI FR.	6
FRE501	8021228420168	BIGOLI FR.250G	6
CAB006	8019730007465	CAP.PROSC.CRUDO 250G-D.L.	12
PAS004	8021228500037	CAPELLI D'ANGELO 1KG	2
PAS504	8021228310032	CAPELLI D'ANGELO 250G	6
PAS204	8021228430112	CAPELLI D'ANGELO 500G	6

7.2.16.9.4 Data Retrieving Tab

Data selection at print time initialization group defines database print time record selection and printing options.

- **Show record selection at print time:** enables manual selection of database records before printing. The content of selected records is displayed in label objects and printed.

  TIP: When enabled, this option adds a selection column to the database table on the print dialog. This column allows individual selection of the records to be printed.

- **Default print:** defines which database records would be selected in the print dialog by default.
  - **All records:** prints out the entire range of selected records.
  - **First record:** only prints out the first record in a table.
  - **Last record:** only prints out the last record in a table.

Number of copies per record group sets print quantities for individual database records.

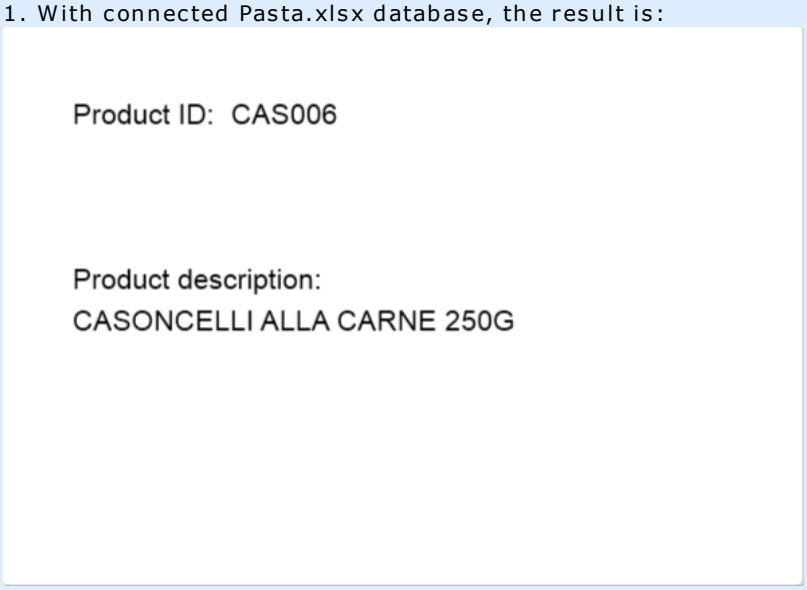
- **Copies per record:** defines how many labels should be printed per single database record.
- **Number of copies can be changed at print time:** allows setting the number of printed label copies for a single database record right before printing.

TIP: When enabled, this option adds a column to the database table in printing form. This column allows individual setting of print quantity for the selected record.

Advanced options group allows you to set how multiple database records should be displayed.

- **Collect records:** displays the content of multiple records in a single object.
  - **Delimiter:** defines which character should separate the database record values when displayed in an object.
- **Limit number of collected records:** enables the maximum number of displayed records in a single object.
  - **Records:** sets the maximum number of database records to be displayed in an object.
  - **Span multiple labels:** displays collected records in an object on the first label and continues displaying collected records which follow over the next labels in the print job.

Example: By default, Designer prints one label for each database record.
1. With connected Pasta.xlsx database, the result is:

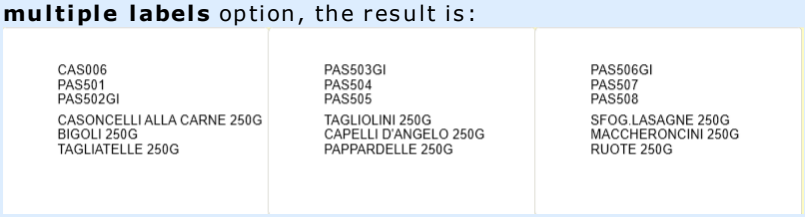


2. With enabled **Collect records** options (3 records), the result is:

Note that all printed labels contain the same data from the collected table (data

from the first 3 rows) and an infinite number of labels is going to be printed by default (**Print all labels (unlimited)** option selected). To limit the number of labels, enter the number of printed labels.

3. With enabled **Collect records** option (3 records) and enabled **Span multiple labels** option, the result is:



With 3 collected records defined, all labels are printed with content of the 3 collected records. Each label includes data of these three records – if **Print all labels (unlimited) option** is enabled, all database records are printed as sorted in the table.

- **Use the same record for entire print job:** prints out the single selected record on the entire range of labels in a print job.

7.2.16.9.5 SQL Tab

SQL tab displays current SQL statements that are used with the connected database. Commands in SQL statements determine how to obtain the data from the database (fields, filters, data sorting). The displayed SQL sentence is auto-generated.

By default, SQL statement is read-only. Designer also allows you to modify it or write your own sentence.

- **Edit SQL:** converts table object into a query object. This button allows defining custom tables that are based on SQL queries.

  NOTE: This option is for experienced users only. If you make a mistake and create an invalid SQL statement, the query results become unpredictable. No data will be returned from the database or connection to the database will become impossible.

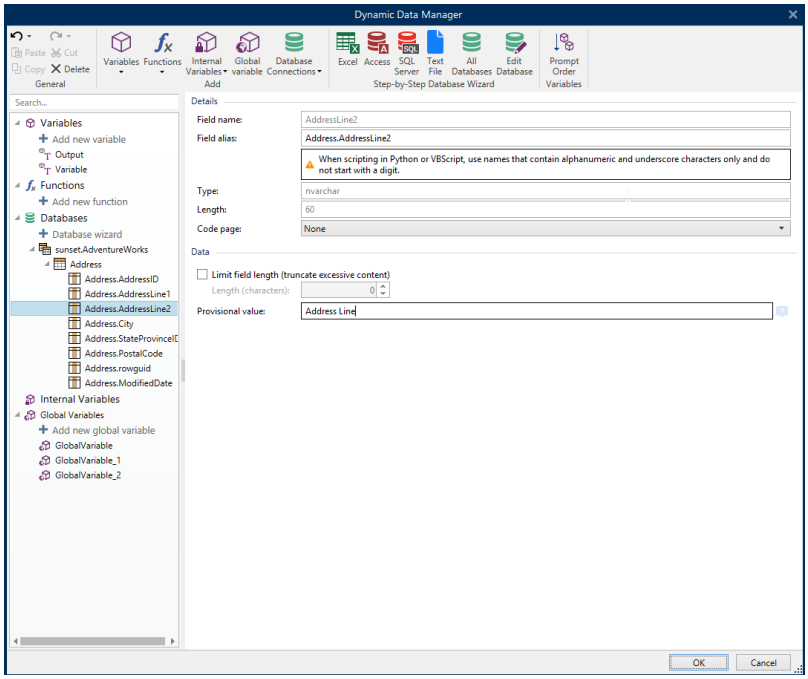
- **Export:** saves the current SQL statement as an SQL file on a disk.
- **Import:** allows external SQL statements to be used with the current database.

7.2.16.9.6 Data Tab

Data tab displays the connected database file table. Use search field and field selector to find the records.

7.2.16.10 Database Field Configuration

Details group allows defining the connected database field properties. Set these properties to make the use of a database as simple and efficient as possible.



- **Field name:** defined automatically by the source database file.
- **Field alias:** gives a unique display name to a field.

WARNING: When using Python or VBScript, use field alias names that contain alphanumeric and underscore characters only. The names must not start with a digit.

- **Type:** identifies the data type of a database field. This property depends on the connected database field and cannot be edited.
- **Length:** (not available for Text File) displays the field length as defined by the database.
- **Code page:** provides support for the character sets used in different countries or regions. Code pages are referred to by number – select the appropriate one from the dropdown list.

Data group sets the database field length limitations.

- **Limit field length (truncate excessive content):** enables the maximum field length limitation. Extra characters are removed.
  - **Length (characters):** defines the exact maximum field length using the number of allowed characters.
- **Provisional value** defines a custom placeholder variable value in an object while designing labels or forms. In a label object, the provisional value is replaced by the real variable value at print time. In a form object, the real variable value appears when the form is run.

  TIP: In case of connected databases, the first record's value is taken as the provisional value.

Output data group enables you to store database record content and use it in actions.

NOTE: Output data can be assigned to a variable with the following form objects: Edit Field, Memo Field, Combo Box, List Box, and Radio Group.

- **Set value to variable:** defines the output variable that stores copied value from the database variable.

EXAMPLE

The output variable is useful in the following cases:

1. Certain actions in solutions are triggered when the database content changes. The changed value is stored in the database variable. Because the database variable value cannot be directly used to set the action, use the output variable. This variable will obtain and store the changed value, and trigger the action after its value will change.
2. Changes in database fields are directly reflected in the connected database. Use the output variable to delay such database updates.
3. In certain cases, database updates are done using a custom SQL statement. Also in this case, the updates are done using the output variable.

7.2.16.11 Databases With Custom SQL Queries

Designer allows defining custom tables that are based on SQL queries. Two methods are available for creating a custom SQL query:

1. Create a new SQL query.

Go to **Dynamic Data Manager >** Database Connection **Tables** and click **Create new query** in the **Available tables** field.

2. Convert an existing database table into a query object.

Go to **Dynamic Data Manager >** Table Configuration **> SQL Tab** and click the **Edit SQL** button. This converts the connected database into a Query object.

NOTE: This option is for experienced users only. If you make a mistake and create an invalid SQL statement, the query results become unpredictable. No data will be returned from the database or connection to the database will become impossible.

NOTE: This option is not available for text database files.

Insert a custom query into the edit field. Click **OK** when done.

NOTE: SQL statement field must not be left empty. An error appears if trying to continue without defining the statement.

7.2.16.12 Database Connection Configuration

Existing database connections are configurable at any time. To add or remove tables from a connected database file, open the Dynamic Data Manager and double-click the database in the

Dynamic Data Explorer.

Database Connection group gives information on the connection database.

- **Connection name:** defines the name for the connected database file.
- **Description:** allows adding additional information and suggestions for the connected database.
- **Connection identifies:** currently connected database file. To replace the currently connected file, click the Connection Setup button. New Database Connection Properties window reappears – repeat step 1 to connect to an alternative database file.

NOTE: You can add the same database table more than once if different record filtering or sorting is required.

Tables group displays the available database tables and the tables that are selected to be used.

- **Available tables:** frame with available tables of the connected database. Select the tables from the list.
- **Selected tables:** tables to be further used as the data source.

Tables can be added to or removed from the **Selected tables** using **Add >** and **< Remove buttons**. To use the entire range of available tables, use **Add all >>** and **<< Remove All** buttons.

- **Refresh Tables:** rereads the connected database file and displays the refreshed available tables.

NOTE: Tables that are already used as any object's data source cannot be removed. A warning appears when trying to remove such table.

7.2.16.13 Using Text File Structure Wizard

A "real" database must contain structured data. Text databases lack data structure, which means that the structure must be defined before a text file can be used as data source. Define the structure using the *Text File Structure Wizard*.

NOTE: **Text File Structure Wizard** opens if a text file you are connecting to has not been previously used as object data source.

To complete the text file structure wizard, complete the below described steps.

7.2.16.13.1 Step 1: Welcome

Welcome window displays the text file you are going to convert into a database and use as a data source of an object. Make sure the correct text file is displayed under **Selected text file**.

Click **Next**.

7.2.16.13.2 Step 2: Data Encoding

This step sets the **Encoding** type. The following types are available:

- Auto
- ASCII
- UTF-8
- UTF-16
- UTF-16BE

When in doubt which encoding should be used, select **Auto** for automatic detection of encoding type. **Auto** identifies the encoding type by reading the BOM unicode character. If BOM is not included or is misinterpreted, **Auto** presumes, the text uses ASCII encoding.
Inadequate character type identification might cause the database structure to be displayed incorrectly.

NOTE: While selecting the encoding type, check the preview field. Correct values must be displayed.

Click **Next**.

7.2.16.13.3 Step 3: Data Structure

This step defines the fields to be used in the text database. There are two options:

- **Delimited:** fields are separated by a delimiter.
- **Fixed width:** fields with predefined (fixed) length.
- **First row contains field names:** defines if the field names are included in the first row of the database file.
    - **Start import at row** defines the row in the database file from which the data import starts. This option enables skipping the rows that do not include data.

Check the preview field. Click **Next** if the text content is displayed properly.

7.2.16.13.4 Step 4: Set Column Breaks

This step depends on the previously selected data structure option – **Delimited** or **Fixed width**.

Delimited opens the *Fields Delimiter*window.

- **Delimiter:** defines the delimiting character. Select among the standard characters or insert a custom delimiter in **Other** field.
- **Text qualifier:** character that indicates textual content. Text qualifier should be used if a delimiter is a part of the text field content. Text qualifier should be used to enclose such field – the text between two text qualifiers is treated as a single field although it contains a delimiter.

Fixed width opens the *Set Column Breaks* window. Use mouse pointer to place the vertical lines where the data fields are going be separated. The lines indicate where new fields start.

Click **Next**.

7.2.16.13.5 Step 5: Fields

Fields window allows you to manipulate and fine-tune the field names and the order in which they are displayed. The below listed settings are also available:

- In case of **Delimited** fields, the **Field Name** can be customized.
- With **Fixed width** fields, the following settings are allowed:
  - **Include:** includes a field in the selection.
  - **Field name:** custom name for the field.
  - **Offset:** separation line distance from the left table edge.
  - **Length:** field length.

Click **Finish**. Text file database structure is set.

7.2.16.14 Database Connection Configuration For Text Files

Connection name defines the name for the connected database file. By default, it displays the filename of the connected file. Insert a new name to make it easy to be fond in the Designer **Dynamic Data Explorer**.

Description is a field that allows adding additional information and suggestions for the connected database.

Connection identifies the currently connected database file. To replace the currently connected file, click the **Connection Setup** button. **New Database Connection Properties** window reappears – repeat step 1 to connect to an alternative database file.

7.2.16.14.1 Fields Tab

Available Fields frame lists available fields of the connected database file. Select the field(s) from the list.

Selected fields displays the fields (columns) to be further used as the data source.

Fields can be added to or removed from the **Selected fields** using **Add >** and **< Remove buttons**. To use the entire range of available table fields (columns), use **Add all >>** and **<< Remove All** buttons.

Define Fields opens the Text File Structure Wizard. This wizard defines the text file database fields.

> NOTE: (Re)defining of fields becomes necessary when the fields are edited or when the field structure gets changed (inserted column, deleted record, etc.).

Refresh Fields rereads the connected database file and displays the refreshed available fields.

7.2.16.14.2 Data Retrieving Tab

Data selection at print time initialization group defines database print time record selection and printing options.

- **Show record selection at print time initialization** enables you to manually select the database records before printing. The content of selected records is displayed in label objects and printed. When enabled, this option adds a selection column to the database table. This column allows individual selection of the records to be printed.
- **Default print** defines how many database records should be printed by default.
    - **All records** prints out the entire range of selected records.
    - **First record** only prints out the first record in a table.
    - **Last record** only prints out the last record in a table.

Number of copies per record sets print quantities for individual database records.

- **Copies per record** defines how many labels should be printed per single record. The value can be set manually or dynamically using a data source.
- **Number of copies can be changed at print time** option allows you to set the number of printed label copies for a single database record. When enabled, this option adds a column to the database table. This column allows individual setting of print quantity for the selected record.

Advanced options allow you to set how multiple records can be displayed.

- **Collect records** displays the content of multiple records in a single object.
    - **Delimiter** defines how the records are separated when displayed in an object. Set New line **(CR/LF)** or select a special character from the list.
- **Limit number of collected records** enables the maximum number of displayed records in a single object.
    - **Records** sets the maximum number of records to be displayed in an object.
    - **Span multiple labels** enables the records to be displayed in an object over multiple labels.
- **Use the same record for entire print job** prints out the selected record only.

7.2.16.14.3 Data Tab

Data tab provides a preview of the connected database file. It enables field filtering and record search.

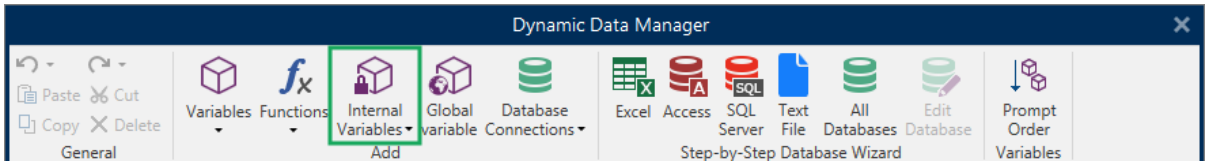
NOTE: Up to 1000 rows are displayed in the preview.

7.3 Internal Variables

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

An internal variable performs as a dynamic data source which holds a value that is automatically retrieved from a running application and system environment.

Select internal variables by clicking the **Internal Variables** button in the **Data Sources** ribbon. Select the appropriate variable checkboxes.



NOTE: The variables in this set can neither be edited nor modified. Their value is updated with every printed label.

List of available internal variables with description:

LabelFileName	The path and file name of the currently opened label file.
ShortLabelName	The file name of the currently opened label file.
RequestedQuantity	The quantity of labels requested for printing. This is the number of labels printed.
TotalQuantityPrinted	Total quantity of the printed labels. The number is the sum of label quantities from all label batches.
CurrentBatchQuantity	The number of labels reached in the current label batch. The value is reset at beginning of each label batch in the printing process.
LabelPrinterName	The name of the printer driver currently selected for printing.
DefaultPrinterName	The name of the default printer driver.
UserName	The application use rname of the currently logged-in user. It will have a value only if in-application authentication is enabled.
SystemUserName	The Windows user name of the currently logged-in user.
ComputerName	The name of the computer on which the application is running.
SolutionFileName	Current solution file name.
ShortSolutionFileName	Current short solution file name.
SolutionFilePath	Path to solution file name.
FormName	The path and name of the form application used for label printing instead of Print dialog box.
ShortFormName	Short name of the form application used for label printing instead of Print dialog box.
EPCData	EPCData as read from the RFID tag.
LabelRevision	Label Revision Description.

7.4 Global Variables

PRODUCT LEVEL INFO: the use of NiceLabel Control Center is applicable to LMS Pro and LMS Enterprise only.

Global variable is a type of variable that can be shared among multiple NiceLabel 2019 documents. Once defined, it is stored in a file outside the current label.

The global variable's last value is stored after each confirmation and with each printing action. The stored values are useful if continued numbering from preceding print jobs is required. Global variable values are stored in a separate file on a disk or on a NiceLabel Control Center.

TIP: By default, global variable storage location is set to `C:\ProgramData\NiceLabel\Global Variables\`. File name is `Globals.tdb`.

You can create global variables in Designer or in NiceLabel Control Center. After you design a label or solution that uses global variables, you must define which global variables are you going to use. Designer can either work with global variables that are stored locally in the `Globals.tdb` file, or with global variables that you created ad stored in the Control Center.

To select the right source of your global variables, go to **File > Options > Global Variables**.

Details on how to create and configure global variables in Control Center are available in the Control Center user guide, page 40.

NOTE: To use the global variables from your Control Center, make sure Designer and Control Center are connected.

When creating a copy of the label file that uses global variables and using it on another computer, make sure the global variable source is accessible (in a .tdb file or in your NiceLabel Control Center).

- Add and manage global variables.
- Configure global variables.

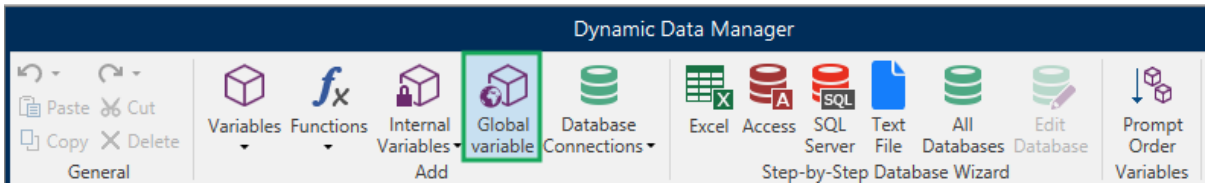
NOTE: If you skip this step, the labeling application won't find the corresponding global variable. A warning message will appear.

TIP: All label or solution global variables are managed in Dynamic Data Explorer.

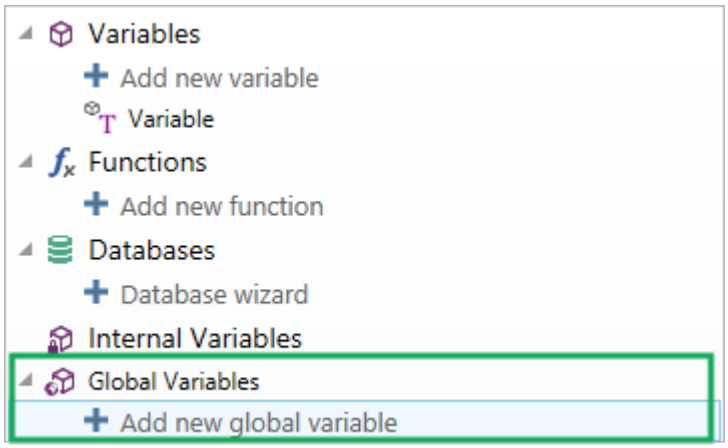
7.4.1 Adding Global Variables As Object Data Sources

To add a new global variable in the Dynamic Data Manager, use one of the following methods:

- Click **Global Variable** button in the dialog ribbon. Global variable configuration window appears.



- Click **Add new global variable** under **Global variables** in Dynamic Data Explorer. Global variable configuration window appears.



TIP: A new global variable is listed in the toolbar and ready to be used as a dynamic object content source. Add an object to the design surface and assign the global variable to it.

7.4.2 Global Variable Configuration

Global variable is a type of variable that can be shared among multiple labels. Once it is defined, it is stored outside the current label.

NOTE: If a global variable is not defined or inaccessible, a warning appears on the top of the dialog window. To crate a global variable, click the link inside the warning. Make sure the correct data source is defined in the Options dialog.

7.4.2.1 General Tab

About group of settings identifies the global variable and sets its definition.

- **Persistent ID:** identifier of the global variable. It serves as a unique reference from any connected source. Allowed values are 10000–99999.
- **Name:** unique global variable name. This name is used as a user-friendly identifier.

  NOTE: Avoid using non-alphanumeric characters when defining the variable name.

  TIP: Enter the name to make the variable easy to find when listed among other variables in the Dynamic Data Explorer.

- **Description:** is a field that allows adding additional information and suggestions.
- **Current value:** value that is assigned to a global variable when created. It is defined using one of the following methods:
    - Manually entering a fixed value. Characters from any group of allowed characters are permitted.
    - Using a special character:
        - Special character can be entered manually using the less than/greater than signs, e.g., <CR>, <LF> ...
        - Special character can be selected from the dropdown list.

> **TIP:** Make sure the inserted current value meets the criteria defined with **Output Rules** for each data type.

Counter group settings allow you to configure global variables that perform the role of a counter.

- **Do not use a counter:** prevents the global variable from being used as a label counter.
- **Incremental counter:** counter value increases along with the printed labels.
- **Decremental counter:** counter variable value decreases along with the printed labels.
    - **Step:** amount of units that represent the next state of counter value.
    - **Repetition:** number of repetitions for each counter value.

NiceLabel 2019 allows you to simultaneously design and print multiple labels using the same global counter variable. Because the purpose of global counter variable is to ensure counter value continuity among multiple labels, its value gets locked while the global variable file is in use – i.e. a label is printed. Label preview for all labels displays the last retrieved value from the global variable file (or from NiceLabel Control Center if used), while the counter values on printed labels obtain and show their actual values.

Example:
Label A: Current value = 1; print quantity = 5. Global counter printed values are 1, 2, 3, 4, 5.
Label B: Current value **after Label A print** = 6; print quantity = 5. Global counter **printed values are 6, 7, 8, 9, 10**.

7.4.2.2 Input Rules Tab

Data defines the counter input criteria.

- **Allowed characters:** permitted characters for variable values. Groups of allowed characters for data input filtering are described in section Groups of Allowed Characters.

EXAMPLE: Non-numeric characters can also be used as counter values. **Alphanumeric** sets the sequence with Step = 3 and Initial value = 1 as 1, 4, 7, A, D, G, J, M, P, S, V, Y, b, e, h, ...

- **Limit length:** maximum length of a variable value.
    - **Length (characters):** specifies the exact permitted number of characters.
- **Fixed length:** variable must contain the exact given number of characters as defined in the **Limit variable length**.

7.4.2.3 Output Rules Tab

Prefix and Suffix are characters that are added to a variable value.

- **Prefix:** text placed in front of the variable value.
- **Suffix:** text placed behind the variable value.

Pad Character fills empty character position until the maximum variable length for a variable is reached. Pad character is enabled only if the **Limit variable length** in the Input rules tab is enabled.

- **Padding:** defines the mode of padding.
    - **Not used:** does not use padding.
    - **On left:** adds pad characters on the left side of the data value.
    - **On right:** adds pad characters on the right side of the data value.
    - **Surrounding value:** adds pad characters on both sides of the data value.
- **Character:** character used for padding.

7.5 Adding and Deleting Data Sources

NiceLabel 2019 allows you to add the dynamic data sources in multiple ways:

- in Dynamic Data Explorer
- in Dynamic Data Manager
- using the label or form object properties dialog
- when dragging objects to design surface by clicking the arrow next to the object icon

While you can add data sources in multiple ways, you can delete the data sources in Dynamic Data Manager.

> NOTE: You can only delete the data sources that are not connected to any of the objects that you use on your label or form.

7.6 Groups of Permitted Input Characters

There are multiple variable format that may be used to filter the input. This helps avoiding mistakes when entering data. The user is only allowed to enter the permitted characters.

All	Select this format when there is no need to limit the variable input data. For example: a variable can be used to define changes in barcode, text and graphics.
Numeric	Use this format for numeric variables such as serial numbers, EAN and UPC barcodes. Only numeric characters in the range from 0 to 9 can be entered. Sequence: 0123456789
Alphanumeric	Use this format when numbers and characters are mixed in the same variable. Characters from 0 to 9 and from A to Z can be entered. Sequence: 0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
Letters	Use this format for variables that only contain letters. Sequence: ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
Digits & Capitals	Use this format for variables that only contain digits and capital letters.
7-bit ASCII	The variable will contain only characters with ASCII code from 0 to 127.
Hex	Use this format to allow entering hexadecimal numbers. Sequence: 0123456789ABCDEF
Custom	Use this format to customize the range of allowed characters.
Code 39, Code 128A, Code 128B, Code 128C, Code 128, Codabar	Use these formats to only permit the use of characters that are included in the corresponding barcode standards.

7.7 Special Character Shortcuts

Designer includes several predefined control characters – select them from the dropdown menu in any dialog when text input is enabled. An arrow button on the right side of the edit field lists the shortcuts.

EXAMPLE: FNC1 character can simply be encoded as <FNC1>.

If specific special character is not available on the list of shortcuts, see sections Insert Characters with <Alt>+<ASCII_code> and Insert Characters with <#hex_code> Syntax.

ASCII code	Abbreviation used in the application	Description of the character
1	SOH	Start of Heading
2	STX	Start of Text
3	ETX	End of Text

4	EOT	End of Transmission
23	ETB	End Transmission Block
25	EM	End of Medium
5	ENQ	Enquiry
6	ACK	Acknowledgment
7	BEL	Bell
8	BS	Back Space
9	HT	Horizontal Tab
11	VT	Vertical Tab
13	CR	Carriage Return
10	LF	Line Feed
12	FF	Form Feed
14	SO	Shift Out
15	SI	Shift In
16	DLE	Data Link Escape
17	DC1	XON - Device Control 1
18	DC2	Device Control 2
19	DC3	XOFF - Device Control 3
20	DC4	Device Control 4
28	FS	File Separator
29	GS	Group Separator
30	RS	Record Separator
31	US	Unit Separator
21	NAK	Negative Acknowledgment
22	SYN	Synchronous Idle
24	CAN	Cancel
26	SUB	Substitute
27	ESC	Escape
188	FNC	Function Code 1
189	FNC	Function Code 2
190	FNC	Function Code 3
191	FNC	Function Code 4

8 Solutions

8.1 Create or Edit a Solution

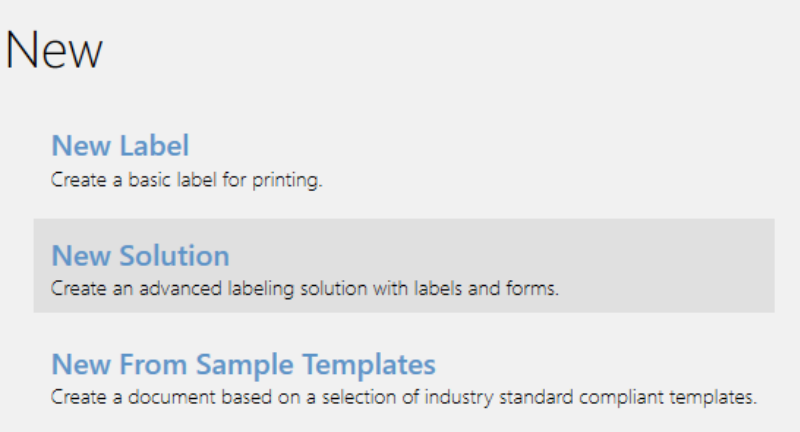
PRODUCT LEVEL INFO: This section is applicable to PowerForms.

To create a Designer solution means to create a complete labeling "kit" which includes labels and forms.

The main advantage of creating a solution is the ability to use a single compact label printing file that works as a common frame for labels, connected data sources, actions, and forms. The final result of using a Designer solution is greatly enhanced user experience and improved label printing efficiency.

TIP: A single solution may include multiple labels and forms. The number of label and form solution components varies according to the requirements of the current print job.

To start working on a solution, go to **File > New** and select **New Solution**.



A new empty solution page opens. The following options are instantly available on the Solution tab:

- Add new label.
- Add new form.
- Import into Solution.

8.2 Accessing Files in Solution

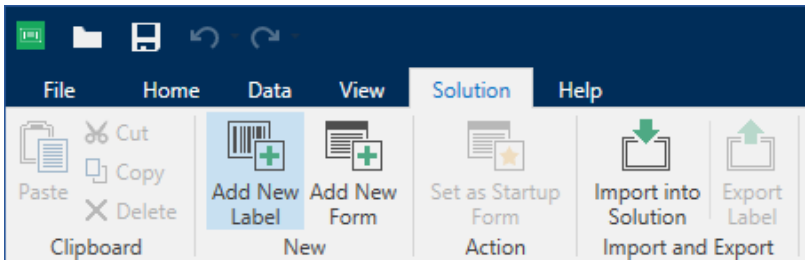
When creating a solution, labels and forms do not have to be stored within the same solution file. Decide where you want to store the file according to the current solution requirements. Euro Plus d.o.o. recommends the following approaches:

1. Labels and forms contained in a single solution file/document – suitable if:
    - Solution contains similar labels with shared data sources.
    - Label templates are rarely changed.
    - Solution covers a single process.
2. Labels stored at a separate location, forms contained in a solution file – suitable if:
    - Regularly changing label templates
    - Solution covers a single process and uses shared data sources
3. Labels and forms stored in separate files/documents – suitable if:
    - Each label and/or form covers a different process
    - No shared data sources

8.3 Create or Edit a Label in a Solution

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

To create a new label as a part of a solution, click **New Label** on the Solution tab of the ribbon, or add it using the Solution Explorer.



Label Setup Wizard window opens. Follow the wizard steps to set the label.

To start working on a label, consider reading the following sections:

- Get familiar with the workspace.
- Set label properties.
- Get familiar with label objects.
- Define data sources for variable objects.

8.4 Form

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

NiceLabelDesigner form serves as a panel for entering, manipulating and viewing the data. The advantage of using a form are simplified data-entry and label printing process for the end-user.

In NiceLabel Designer, a form is created within a printing solution. This means that a form is usually built in combination with a predesigned label.

TIP: Forms allow you to build an entire tailor-made data handling system which is adaptable to current business needs.

Read about how to create, design or edit a form here.

8.4.1 Create Or Edit A Form

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

To create a form, open a new or existing solution and click the **New Form** button in the Solution tab of the Designer ribbon or in Solution Explorer.

To start working on a form, consider reading the following sections:

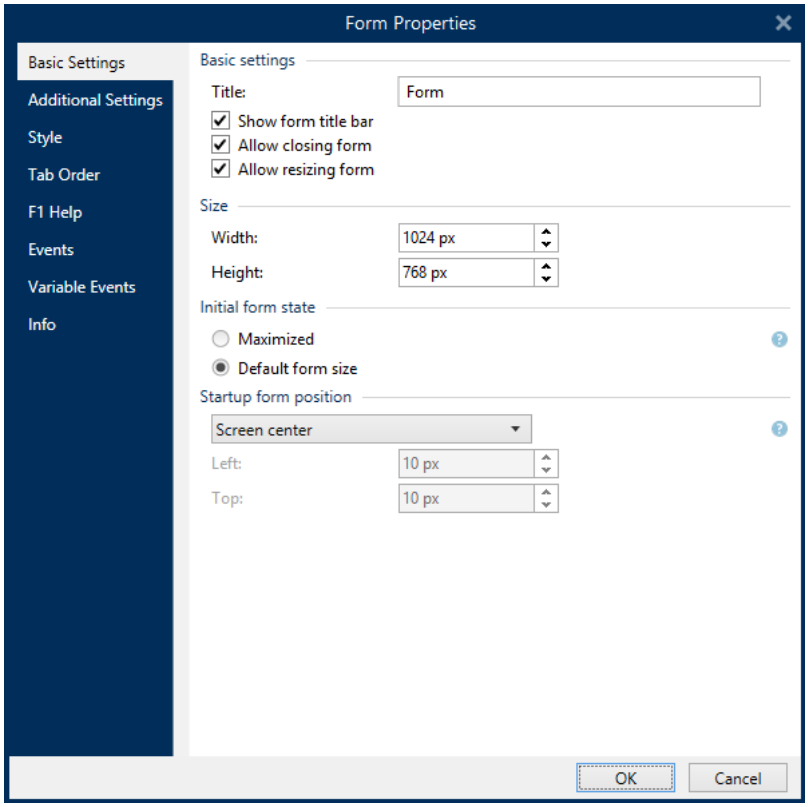
- Get familiar with workspace.
- Set form properties.
- Get familiar with form objects.
- Define data sources for variable objects.
- Get familiar with actions.

8.4.2 Form Properties

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

Form Properties dialog is used for defining various form properties.

TIP: To open the **Form Properties** dialog, double-click the design surface.



The settings are available on the below listed dialog panels.

Form Property	Description
Basic Settings	Defines form title, size, initial form state and startup form position.
Additional Settings	Selects form scripting language.
Style	Defines form background color and picture. It allows picture embedding and saving as external file.
Tab Order	Defines the order of focus Shifting among form objects.
F1 Help	Contains form help text which is shown to the user after pressing F1 when the form is running.
Events	Defines the events which occur after the form is loaded, closed, and after a specified time interval completes.
Variable Events	Selects the variables that are monitored for changes in their values.
Serial Port Data	Adds a variable that stores the data received via serial port.
Info	Defines the content which serves as a hint or as a guidance for the form user.

8.4.2.1 Basic Settings

Basic Settings panel defines title, size and startup behavior of a form after you run it.

Title sets the form window title.

- **Show form title bar:** window title bar is visible or hidden upon form startup.
- **Allow closing form:** form close using the window **Close** button is allowed or not.

  TIP: With this option disabled, the form can be closed from taskbar.

- **Allow resizing form:** form size customizable or fixed.

  TIP: Disable this option to lock the form size.

Size group defines the form's **Width** and **Height**.

Initial form state group defines form state upon startup.

- **Maximized:** form opens in full screen mode.
- **Default form size:** when run, the form appears with manually defined sizes.

Startup form position group defines the on-screen position of a form upon its startup.

- **As defined:** the form appears at a location defined by the distance in pixels from **Left** (left edge of the form) and **Top** (top edge of the form).
- **Screen center:** screen center is the startup form position.

Settings in **Scroll bars** group optimize forms for smaller screens or computers with low screen resolution. As an alternative to making forms and objects small, and hard to read and use, enable **Show scrollbars and stop resizing form objects at:**. This option defines form **Width** and **Height** in pixels. These are minimum dimensions at which:

- The form gets scroll bars. You can continue reducing the form size beyond these dimensions and make the form area scrollable.
- The objects stop adapting their sizes to the reducing form size. This makes sure the objects remain usable because they retain their current size beyond minimum dimensions of the form.

  NOTE: To make the objects resize along with changing form size, enable horizontal and vertical resizing with form under **Object Properties > Position > Size > Horizontally/Vertically resize with form**.

8.4.2.2 Additional Settings

Additional Settings panel selects form scripting language. There are two scripting languages available for Designer form objects: **VBScript** and **Python**.

- **VBScript:** scripting for advanced data operations, comparisons and direct calculations on a form.
- **Python:** suitable for 64-bit systems. A significantly faster scripting alternative to **VBScript**.

8.4.2.3 Style

Style panel defines form background color and/or picture. It also allows picture embedding and saving as external file.

- **Background color** is defined by the **Standard** or **Advanced** color selection. Switch between these two options by clicking the **Advanced** or **Basic** button.
- Browse for the label **Background picture** or insert the direct path. Once the picture has been defined, it is possible to:
    - **Embed the picture to document:** makes the picture an integral part of the document.
    - **Save embedded picture to file:** embedded picture is saved to a file.
    - **Remove embedded picture:** embedded picture is removed from the form document.
    - **Picture position:** background picture to be centered, to fit the label dimensions, or to be stretched.

8.4.2.4 Tab Order

Tab order panel defines how focus is moving from one form object to another after pressing the `Tab` key.

- **ENTER key behaves as TAB key: Enter** key gets the same role as the **Tab** key does. After pressing **Enter**, focus moves to the next object as defined on the **Tab order** list.
- Select the form **Object** and move it up or down the **Tab order** list to define the focus switching order.

8.4.2.5 F1 Help

F1 Help panel defines custom form help content to help the end-user while designing and/or using a form. The text becomes visible after pressing `F1` key when the form is run.

TIP: Enter custom text in the editing field and click **OK**.

8.4.2.6 Events

Events panel allows setting actions for basic form events.

- **On Form Load:** the action is run upon form load.
- **On Form Close:** the action is run when the form is closed.
- **On Form Timer:** the action is run after a given time interval.
    - **Interval:** duration of the time interval (in milliseconds).
- **On Form Inactivity:** the action is run after the form has been inactive for a given time interval. Form inactivity is defined as absence of key press, mouse click, or form move

user actions. Any of these user actions resets the inactivity timer.

- **Interval:** duration of the time interval (in minutes).

TIP: Click **Actions ...** button to set the actions that are run by the listed events.

8.4.2.7 Variable Events

Variable Events panel selects the variables that are monitored for changes in their values. If values of these variables, the On change event triggers an action.

- **Add:** adds a variable to the list.
- **Delete:** removes a variable from the list.

TIP: Click **Actions ...** to set and manage the actions that are triggered by changed values in the listed variables.

8.4.2.8 Serial Port Data

Serial Port Data panel selects serial (RS-232) ports to read the data from connected serial devices. The read data is stored in an existing or a newly created variable.

- **Add:** adds a serial port to the list connected serial devices.
- **Delete:** removes port from the list connected serial devices.

TIP: Click **Edit** to configure serial port communication settings.

8.4.2.8.1 Serial Port Data Settings

Serial Port Data window defines connection parameters for the selected serial port. Parameters in this dialog box have to match with the connected device's settings. Refer to the documentation of your serial communication device to set the communication parameters properly.

NOTE: If the settings in NiceLabel 2019 and on the device do not match, communication cannot be established.

Port group defines serial port to read the data from.

- **Port name:** name of the port to which an external device is connected. This can either be a hardware or a virtual COM port.

Port Settings group defines additional port connection settings.

- **Bits per second:** speed rate used by the external device to communicate with the PC. The usual alias used with the setting is "baud rate".
- **Data bits:** specifies the number of data bits in each character. 8 data bits are almost universally used in newer devices.

- **Parity:** specifies error detection method during the ongoing transmission. The most common parity setting, is "none", with error detection handled by a communication protocol (flow control).
- **Stop bits:** halts the bits sent at the end of every character allowing the receiving signal hardware to detect the end of a character and to resynchronize with the character stream. Electronic devices usually use a single stop bit.
- **Flow control:** serial port may use interface signals to pause and resume the data transmission.

EXAMPLE: A slow device might need to handshake with the serial port to indicate that data should be paused while the device processes received data.

Options group includes the following settings:

- **Send initialization data:** specifies the string that is sent to the selected serial port before the data is read. This option enables the action to initialize the device to be able to provide the data. The option can also be used for sending a specific question to the device, and to receive a specific answer. Click the arrow button to enter special characters.
- **Use data polling:** specifies that the trigger will actively ask the device for data. Within the specified time intervals, the trigger will send the commands provided in the **Contents** field. This field can include binary characters.

Filter group allows you to set the serial port data filtering criteria.

- **Use Filter:** enables serial data filtering. This option filters any irrelevant characters from the received data.
- **Start position:** sets the starting character for extracted data.
- **End position:** sets the ending character for extracted data.

EXAMPLE: Received raw data includes the following characters: **q###12345$$$1**. After setting **Start position** to 5 and **End position** to 9, the extracted data is **12345**.

Execution Event group specifies when the trigger should fire and start executing actions.

- **On number of characters received:** specifies that the event occurs each time the required number of characters is received. In this case, the third party application can keep a connection open and continuously send the data. Each chunk of data must be of the same size.
- **On sequence of characters received.** Specifies that the event occurs each time the required sequence of characters is received. Use this option if you know that the 'end of data' is always identified by a unique set of characters. You can insert special (binary) characters using the button next to the edit field.
    - **Include in data:** sequence of characters that is used to determine that the event activator is not stripped from the data, but remains included in the data. The event receives a complete received data stream.

- **When nothing is received after the specified time interval:** event occurs after the specified time interval (in ms) passes since the last received character.

8.4.2.9 Info

Info panel includes a **Description** that serves as a hint or as a guidance for the user that is going to work with the form.

Define form **Description** by entering text into the field.

8.4.3 Adding Objects To A Form

After setting the form properties, it's time to start adding content to the form. Form objects are basic design items that are used for adding and editing various content types.

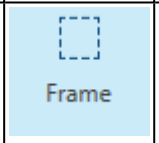
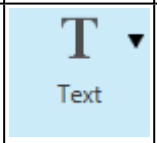
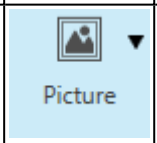
Add object to a form by clicking them in the object toolbar and dragging it to the design surface. Each form may contain multiple object in any combination.

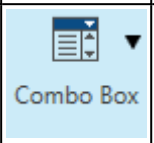
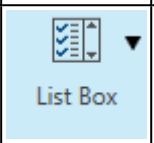
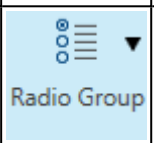
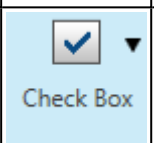
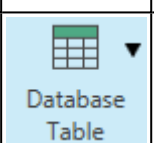
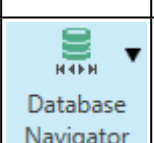
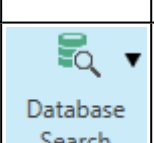
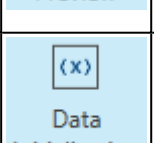
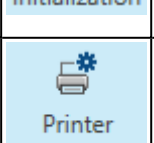
TIP: Use visual aids when positioning an object.

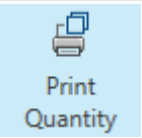
8.4.4 Form Objects

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

Each form object has its own role as described in the table below.

Form Object	Icon	Description
Frame		Creates a rectangle shaped area on a form.
Text		Object for inserting textual content.
Picture		Object for inserting graphic content.
Button		Creates a clickable and customizable form object.
Edit Field		Object for inserting and editing a single line text.

Form Object	Icon	Description
Memo Field		Enables inserting values with multiple lines.
Combo Box		Lets the user select an option from a dropdown list or insert a custom value.
List Box		Lets the user select an option from a list without custom values.
Radio Group		Allows a user to select a single item from a set of mutually exclusive items.
checkbox		Allows the user to make a binary choice – select or deselect the listed options.
Database Table		Displays a selected database table on a form.
Database Navigator		Tool for manipulating the database records on a form.
Database Search		Search tool for databases on a form.
Label Preview		Preview field that displays the label layout on a form in real time.
Data Initialization		Panel for assigning initial values to the label variables
Printer Settings		Enables adjusting printing speed and darkness while the form is being run.

Form Object	Icon	Description
Print Quantity		Defines the number of printed labels and pages while the form is running.

There are multiple ways of adding a form object to the design surface. Read about the available methods here.

8.4.4.1 Frame

Frame object creates rectangle shaped areas on a form. Its role is to visually separate areas on a form.

8.4.4.1.1 Style

Style tab defines visual appearance of an object:

- **Background color:** object background color.
- **Transparent:** transparent frame.
- **Show border:** frame border show/hide.
- **Border color:** object border color selection.
- **Border width:** border width definition.
- **Border style** selects the object border style:
  - **None:** invisible border.
  - **Lowered:** the object appears lower than form surface.
  - **Raised:** the object appears higher than form surface.
  - **Lowered border:** the border of an object appears lower than form surface.
  - **Raised border:** makes the border of an object appear higher than form surface.

8.4.4.1.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
    - **Horizontally resize with form:** object width adapts to the resized form.
    - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.1.3 General

General tab identifies the object and defines object state on form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint (tooltip) helps the form users by briefly explaining why or how to use an object. Hint is shown to a user when the mouse pointer floats over the selected object.

Initial state on form startup group defines the object behavior when the form is run for the first time:

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
    - **Condition:** an object is enabled if the result of the given condition is "True".
- **Visible:** defines if the selected object is going to appear on the form or not.
    - **Condition:** an object is visible if the result of the given condition is "True".

8.4.4.2 Text

Text is a form object for entering and displaying textual content.

8.4.4.2.1 Content

Connected data source defines the content source of the selected object.

- Variables: predefined variable values which are used as object content.

Data defines the content source of the selected object.

Counter: displays counter value on the label.

Content field allows you to type the object content.

8.4.4.2.2 Settings

Text Settings tab defines if the object size or text should adapt to the amount of entered content.

- **Auto size:** automatically adapts the object size to the size of entered text.
- **Word wrap:** wraps the text to make it fit into the text box.

  TIP: If the text box size is too small, vertical scroll bar appears.

- **Right to left text flow enabled (RTL):** allows you to type content using right-to-left scripts such as Arabic or Hebrew. When enabled, this setting right aligns object content and appends letters from RTL scripts to the left. If you are using letters from left-to-right scripts or any other characters, the content remains right aligned, but the setting appends these letters and characters to the right.

8.4.4.2.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right object border.
- **Justified:** distributes text along both vertical object borders.

8.4.4.2.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
    - **Horizontally resize with form:** object width adapts to the resized form.
    - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.2.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events are:

- **On Mouse Enter:** action is run on mouse enter.
- **On Mouse Leave:** action is run on mouse leave.
- **On Click:** action is run on mouse click.

8.4.4.2.6 General

General tab identifies the object and defines object state on form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint (tooltip) helps the form users by briefly explaining why or how to use an object. Hint is shown to a user when the mouse pointer floats over the selected object.

Initial state on form startup group defines the object behavior when the form is run for the first time:

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
    - **Condition:** an object is enabled if the result of the given condition is "True".
- **Visible:** defines if the selected object is going to appear on the form or not.
    - **Condition:** an object is visible if the result of the given condition is "True".

8.4.4.3 Picture

Picture is a form object for inserting graphic content. The following file formats are supported:

- Portable Network Graphic (*.png)
- PDF (*.pdf)
- Adobe Photoshop (*.psd)
- Scalable Vector graphics (*.svg)
- Paintbrush (*.pcx)
- JPEG bitmaps (*.jpg, *.jpeg, *.jpe)
- TIFF bitmaps (*.tif, *.tiff)
- Enhanced Windows Metafile (*.emf)
- Windows Metafile (*.wmf)
- Windows bitmap (*.bmp)

8.4.4.3.1 Source

Connected data source is the dynamic data source that is connected with the object.

- **Fixed data:** manually entered fixed text.
- Variables: predefined variable values which are used as object content.
- Functions: input data transformation tools.
- Databases: database values which are used as object content.

Content field is used for entering the object content.

To (re)define the object **Content**, click **Browse** and locate the file to be displayed on the label.

Embed picture in a document defines the picture as an integral part of the label file.

Save embedded picture to file saves the embedded picture as an external file. Browse for a location and store it there.

8.4.4.3.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
    - **Horizontally resize with form:** object width adapts to the resized form.
    - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

Graphic Resizing tab defines variable source picture resizing.

Resize options group defines how the source file dimensions adapt to the size of object when the form is run.

NOTE: Resize options are available only if the Picture object is defined dynamically.

- **Keep original picture size:** disables resizing. The source picture file is displayed in Picture object with its original dimensions.
- **Resize proportionally:** makes the source picture file resize proportionally. The aspect ratio of source file dimensions is preserved.
- **Resize to the designed size:** resizes the source picture file horizontally and vertically to make it fit into the bounding box. Using this option will most likely distort the image.

Original size group informs the user about the size of source image file.

Revert to original picture size resizes the Picture object to the original dimensions of source image file.

8.4.4.3.3 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events are:

- **On Mouse Enter:** action is run on mouse enter.
- **On Mouse Leave:** action is run on mouse leave.
- **On Click:** action is run on mouse click.

8.4.4.3.4 General

General tab identifies the object and defines object state on form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint (tooltip) helps the form users by briefly explaining why or how to use an object. Hint is shown to a user when the mouse pointer floats over the selected object.

Initial state on form startup group defines the object behavior when the form is run for the first time:

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

8.4.4.4 Button

Button adds a clickable and customizable object to a form. Its role is to activate various actions.

8.4.4.4.1 Source

Connected data source is the dynamic data source that is connected with the object.

- **Fixed data:** manually entered fixed text.
- Variables: predefined variable values which are used as object content.
- Functions: input data transformation tools.
- Databases: database values which are used as object content.

Content field is used for entering the object content.

> **TIP:** This is a read-only form object. Connected data source only defines its content.

8.4.4.4.2 Settings

Keyboard shortcut defines any keyboard to act as a shortcut. If the defined keyboard key is pressed, it acts as if the user would use a mouse click for running an action.

Default form button invokes the assigned action when a user presses Enter.

> **TIP:** Only one button is allowed to be defined as the default form button.

Word wrap divides the text into multiple lines. It makes sure the text is not wider than the button.

Use a picture on the button group defines a graphic file to be displayed on a button.

- **Picture file name:** graphic file selected to be used on a button.
- **Embed picture in a document:** picture embedded in the document.

> **TIP:** Whenever an embedded picture is needed, it is retrieved from the document and not from the file system.

- **Save embedded picture to file:** embedded picture is saved to a file.
- **Remove embedded picture:** embedded picture is removed from the form document.

> **TIP:** If the picture is embedded, this action enables saving it at a selected location. The picture is no longer embedded.

- **Picture position:** picture position in relation to the object text.
- **Force original size:** full-size graphic without resizing is used on a button.

8.4.4.4.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right object border.

8.4.4.4.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

> **TIP:** Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
    - **Horizontally resize with form:** object width adapts to the resized form.
    - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.4.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events for button object is:

- **On Click:** action is run on mouse click.

8.4.4.4.6 General

General tab identifies the object and defines object state on form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint (tooltip) helps the form users by briefly explaining why or how to use an object. Hint is shown to a user when the mouse pointer floats over the selected object.

Initial state on form startup group defines the object behavior when the form is run for the first time:

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
    - **Condition:** an object is enabled if the result of the given condition is "True".
- **Visible:** defines if the selected object is going to appear on the form or not.
    - **Condition:** an object is visible if the result of the given condition is "True".

8.4.4.5 Button Group

Button Group adds a group of clickable and customizable buttons on a form. Use this object to create multiple buttons from a list of items in a single move. The created buttons allow you to set value of the connected variable, and/or execute the assigned actions.

TIP: The number of buttons in the group corresponds to the number of items (values) on the list.

8.4.4.5.1 Source

Connected data source is the dynamic data source that is connected with the object.

- Variables: variable which stores the value selected in Button Group object.
- Databases: database field which stores the value selected in Button Group object.

8.4.4.5.2 Settings

Settings tab defines object content editing specifics and displaying of values.

Allow duplicates allows duplicated values to appear in the object.

Is sorted sorts the list of elements in ascending order. **Use case sensitive sort** additionally determines if the letter case should affect the sorting order or not.

Values group of settings allows defining the listed elements:

- **Items source:** defines the source for listed items.
  - **Custom values:** static user-defined values.
  - **Installed printers:** list of installed printers.
  - **Database field:** retrieved values from a connected database.
    - **Field:** selection of connected database field to retrieve the content from.
    - **Use another field for connected data source option:** connects another database field to the connected data source. **Field** values are still shown, but the connected data source receives the selected value from a field which is specified in **Value field**.
    - **Value field:** selects the database field that is sent to the object's **Connected data source** and displayed as its content.

EXAMPLE

1. Button Group object details

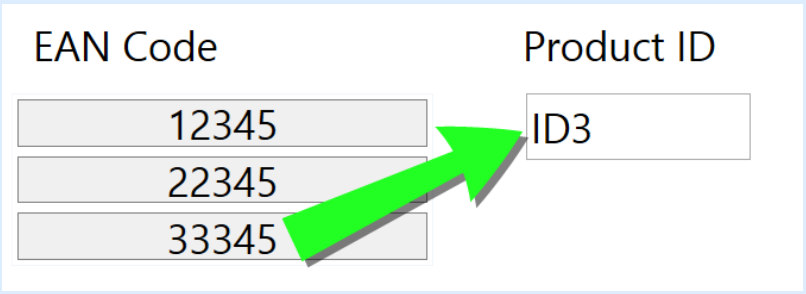
Items source:

EAN Code	Product ID
12345	ID1
22345	ID2
33345	ID3

2. Text object details

Added Text object should only display matching Product ID values.

Result: The selected EAN Code in Button Group results in the matching Product ID in Text object.

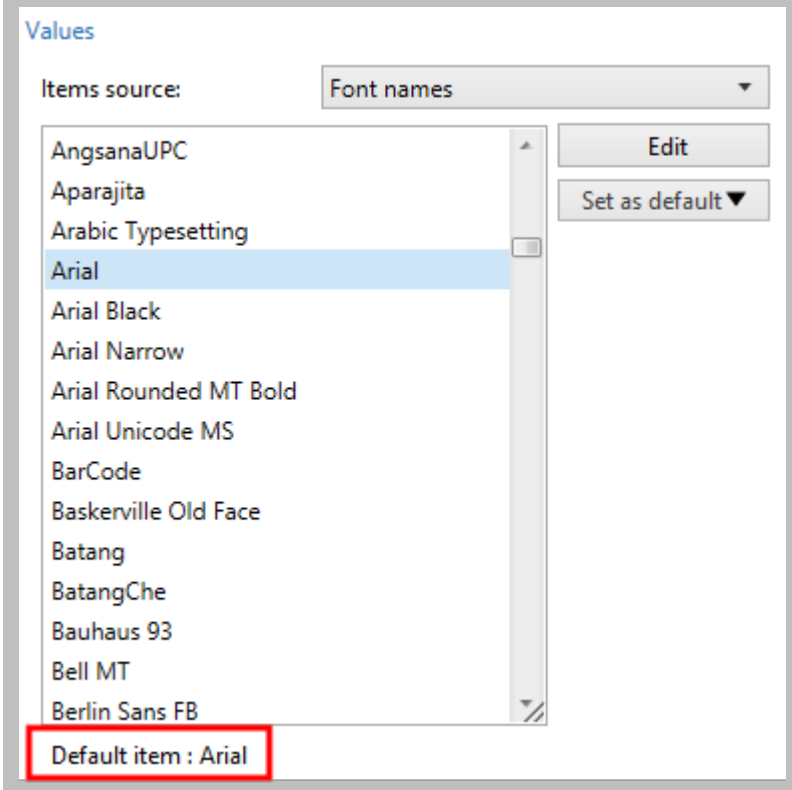


- **File names:** lists all files in the selected directory.
  - **Directory:** defines the source folder for files to be listed.
  - **File mask:** specifies the filter for selecting the listed files.

EXAMPLE:
. lists all files
*.nlbl lists only files with .nlbl extension.
t*.nlbl lists files that start with "t" and have the extension .nlbl.

  - **Show the file path:** entire file path is displayed on the list.
  - **Show the file extension:** file extension visible on the list.
- **Font names:** lists the installed fonts.
- **Labels in solutions:** lists all labels within the solution.
- **Edit:** converts other item sources into a custom values item source.
- **Values content list:** displays the current object content.
- **Set as default:** turns the currently active selection into a default value.

TIP: Default value is a value that is automatically selected when the form is run.



NOTE: All values except for custom values are populated when the form is run. The values displayed at design time are sample values retrieved from the system. After clicking the **Edit**, Designer makes a copy of values and makes them editable in the **Custom Values** dialog.

Layout group allows you to customize the appearance of Button Group object.

Button size group allows you to define width and height of individual buttons in the group.

- **Automatically size buttons**: disable this option to set custom **Width** and **Height** values.

Button spacing group sets the distance between individual buttons in a group.

- **Horizontal:** defines horizontal distance between buttons in a group.
- **Vertical:** defines vertical distance between buttons in a group.

Layout group defines how the buttons are distributed when the form is run.

- **Orientation:** allows you to stack the buttons **Horizontally** or **Vertically**.
- **Number of rows:** sets the number of rows in which the buttons are located on the form.
- **Word wrap:** After reaching the end of button, word wrap breaks the tag into multiple lines.

8.4.4.5.3 Style

Style tab defines visual appearance of an object.

Background color defines object background color.

- **Transparent:** transparent object background.

Border color sets the color of button border.

Font color defines font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left button border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right button border.

8.4.4.5.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.5.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events are:

- **On Click:** action is run on mouse click.

8.4.4.5.6 General

General tab identifies the object and defines object state on form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint (tooltip) helps the form users by briefly explaining why or how to use an object. Hint is shown to a user when the mouse pointer floats over the selected object.

Initial state on form startup group defines the object behavior when the form is run for the first time:

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

8.4.4.6 Edit Field

Edit field object is used for inserting and editing a single line of text.

8.4.4.6.1 Source

Connected data source is the dynamic data source that is connected with the object.

- Variables: variables which are used as object content source, or variables which store the Edit field object content.
- Databases: database values which are used as object content. The object may also be used for adding or editing the database content.

TIP: This is a read-and-write form object. This means that the object is used for displaying the connected dynamic content, and for entering or editing the connected data sources.

8.4.4.6.2 Settings

Settings tab contains two editable properties:

- **Automatically move focus to next control:** another object on a form gets focus right after the Edit Field receives a value of certain length. Define the length of the value that moves focus using **Limit length** in **Input rules** of the variable.

NOTE: Edit Field must be connected to a variable. Length of the connected variable value must be limited.

The order in which focus moves from one object to another is defined in **Form Properties >** Tab Order.

- **Password field:** makes the in Edit Field characters invisible. The characters are masked with asterisks.
- **Spell checking:** marks incorrectly spelled words when the form is run. Language is defined by your currently selected keyboard. The selection of available languages depends on your operating system.
- **Right to left text flow enabled (RTL):** allows you to type content using right-to-left scripts such as Arabic or Hebrew. When enabled, this setting right aligns object content and appends letters from RTL scripts to the left. If you are using letters from left-to-right scripts or any other characters, the content remains right aligned, but the setting appends these letters and characters to the right.

TIP: Edit Field must be connected to a data source and must have a limited length defined.

8.4.4.6.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right object border.

8.4.4.6.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.6.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events for edit field object are:

- **On Focus:** action is run when focus is set on the object.
- **On Exit:** action is run when focus moves to another object.
- **On Change:** action is run when a change in the Edit Field object occurs.

8.4.4.6.6 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Read-only:** prevents connected data source input and content editing.
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

Content after a print action group defines how the object content is handled after each printout.

- **Reset content after print:** object content reset after printing.
  - **Clear content:** object emptied after printing.
  - **Reset to initial content:** content reset after printing to the initially defined object content.

8.4.4.7 Memo Field

Memo field object is used for inserting textual content in multiple lines.

8.4.4.7.1 Source

Connected data source is the dynamic data source that is connected with the object.

- Variables: variables which are used as object content source, or variables which store the object content.
- Databases: database values which are used as object content. The object may also be used for adding or editing the database content.

TIP: This is a read-and-write form object. This means that the object is used for displaying the connected dynamic content, and for entering or editing the connected data sources.

8.4.4.7.2 Settings

Settings group contains two editable properties.

- **Automatically move focus to next control:** another object on a form gets focus right after the Memo Field receives a value of certain length. Define the length of the value that moves focus using **Limit length** in **Input rules** of the variable.

  NOTE: Edit Field must be connected to a variable. Length of the connected variable value must be limited.

  The order in which focus moves from one object to another is defined in **Form Properties >** Tab Order.
- **Password field** option makes the characters in this edit field invisible. They are masked with asterisks.
- **Spell checking:** marks incorrectly spelled words when the form is run. Language is defined by your currently selected keyboard. The selection of available languages depends on your operating system.
- **Right to left text flow enabled (RTL):** allows you to type content using right-to-left scripts such as Arabic or Hebrew. When enabled, this setting right aligns object content and appends letters from RTL scripts to the left. If you are using letters from left-to-right scripts or any other characters, the content remains right aligned, but the setting appends these letters and characters to the right.

8.4.4.7.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right object border.

8.4.4.7.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.7.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events for memo field object are:

- **On Focus:** action is run when focus is set on the object.
- **On Exit:** action is run when focus moves to another object.
- **On Change:** action is run when a change in the Edit Field object occurs.

8.4.4.7.6 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Read-only:** prevents connected data source input and content editing.
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

Content after a print action group defines how the object content is handled after each printout.

- **Reset content after print:** object content reset after printing.
  - **Clear content:** object emptied after printing.
  - **Reset to initial content:** content reset after printing to the initially defined object content.

8.4.4.8 Combo Box

Combo box is used as an object for user input. Its role is to let the user select an option from a dropdown list or to add a custom value to the list.

8.4.4.8.1 Source

Connected data source is the dynamic data source that is connected with the object.

- Variables: variables which are used as object content source, or variables which store the selected value in Combo box object.
- Databases: database values which are used as selectable Combo box values. The object may also be used for adding or editing the database content.

TIP: This is a read-and-write form object. This means that the object is used for displaying the connected dynamic content, and for entering or editing the connected data sources.

8.4.4.8.2 Settings

Settings tab defines object content editing specifics and displaying of values.

Allow input in run mode enables entering custom values when the form is running.

Allow duplicates allows duplicated values to appear in the object.

Is sorted sorts the list of elements in ascending order. **Use case sensitive sort** additionally determines if the letter case should affect the sorting order or not.

Values group of settings allows defining the listed elements:

- **Items source:** defines the source for listed items.
  - **Custom values:** static user-defined values.
  - **Installed printers:** list of installed printers.
  - **Database field:** retrieved values from a connected database.
    - **Field:** selection of connected database field to retrieve the content from.
    - **Use another field for connected data source option:** connects another database field to the connected data source. **Field** values are still shown, but the connected data source receives the selected value from a field which is specified in **Value field**.
    - **Value field:** selects the database field that is sent to the object's **Connected data source** and displayed as its content.

EXAMPLE

1. Combo/List box object details

Items source:

Description	Product ID
CASONCELLI ALLA CARNE 250G	CAS006
BIGOLI 250G	PAS501
TAGLIATELLE 250G	PAS502GI
TAGLIOLINI 250G	PAS503GI

Database field: Description

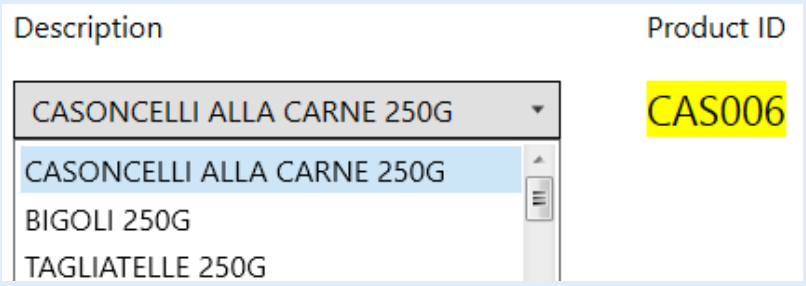
Connected data source: Variable1

2. Text object details

Added Text object should only display matching Product ID values.

Connected data source: Variable1

Result: The selected Description in Combo/List box or Button Group results in the matching Product ID in Text object.

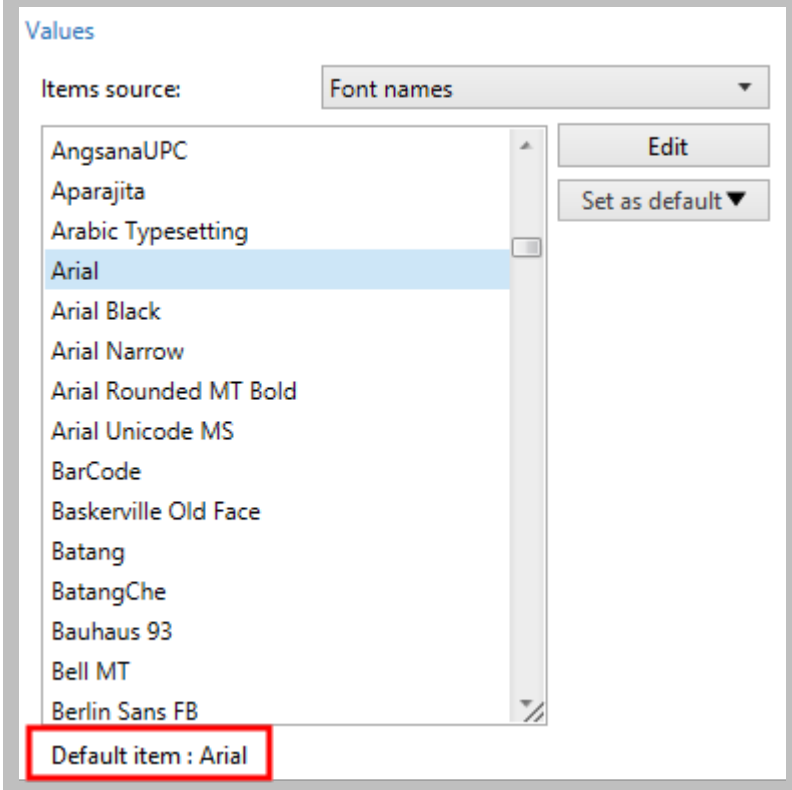


- **File names:** lists all files in the selected directory.
  - **Directory:** defines the source folder for files to be listed.
  - **File mask:** specifies the filter for selecting the listed files.

EXAMPLE:
. lists all files
*.nlbl lists only files with .nlbl extension.
t*.nlbl lists files that start with "t" and have the extension .nlbl.

  - **Show the file path:** entire file path is displayed on the list.
  - **Show the file extension:** file extension visible on the list.
- **Font names:** lists the installed fonts.
- **Labels in solutions:** lists all labels within the solution.
- **Edit:** converts other item sources into a custom values item.
- **Values content list:** displays the current object content.
- **Set as default:** turns the currently active selection into a default value.

TIP: Default value is a value that is automatically selected when the form is run.



NOTE: All values except for custom values are populated when the form is run. The values displayed at design time are sample values retrieved from the system. After clicking the **Edit**, Designer makes a copy of values and makes them editable in the **Custom Values** dialog.

8.4.4.8.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

8.4.4.8.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.

- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.8.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events are:

- **On Focus:** action is run when focus is set on the object.
- **On Exit:** action is run when focus moves to another object.
- **On Change:** action is run when a change in the Edit Field object occurs.

8.4.4.8.6 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Read-only:** prevents connected data source input and content editing.

- **Visible:** defines if the selected object is going to appear on the form or not.
    - **Condition:** an object is visible if the result of the given condition is "True".

TIP: With enabled read-only option, combo box behaves as a regular dropdown list.

Content after a print action group defines how the object content is handled after each printout.

- **Reset content after print:** object content reset after printing.
    - **Clear content:** object emptied after printing.
    - **Reset to initial content:** content reset after printing to the initially defined object content.

8.4.4.9 List Box

List box serves as a user input object. Its role is to let the user select a predefined option from a list.

TIP: Unlike Combo box, List Box does not allow inserting custom values.

8.4.4.9.1 Source

Connected data source is the dynamic data source that is connected with the object.

- Variables: variables which are used as List box object content source, or variables which store the selected value in List box object.
- Databases: database which stores the values selected in List box object.

TIP: This is a read-only form object. Connected data source only defines its content.

8.4.4.9.2 Settings

Settings tab defines object content editing specifics and displaying of values.

Allow duplicates allows duplicated values appear on the dropdown list.

Is sorted sorts the list of elements in ascending order. **Use case sensitive sort** additionally determines if the letter case should affect the sorting order or not.

Values group of settings defines which elements are going to be listed in the List box object:

- **Items source:** defines the source for listed items.
    - **Custom values:** static user-defined values.
    - **Installed printers:** list of installed printers.

- **Database field:** retrieved values from a connected database.
  - **Field:** selection of connected database field to retrieve the content from.
  - **Use another field for connected data source option:** connects another database field to the connected data source. The **Values content list** still displays the **Field** values, but the connected data source receives the selected value from a field in **Value field**.

EXAMPLE:
Field: ObjectField1
Value field: ObjectField2
Connected data source: Variable1

Result:
Object connected to Variable1 displays the content from ObjectField1 and sends the content from ObjectField2 to the Variable1.

  - **Value field:** selects the database field that is sent to the object's **Connected data source** and displayed as its content.
- **File names:** lists all files in the selected directory.
  - **Directory:** defines the source folder for files to be listed.
  - **File mask:** specifies the filter for selecting the listed files.

EXAMPLE:
. lists all files
*.nlbl lists only files with .nlbl extension.
t*.nlbl lists files that start with "t" and have the extension .nlbl.

  - **Show the file path:** entire file path is displayed on the list of files.
  - **Show the file extension:** file extension is displayed on the list of files.
- **Font names:** lists the installed fonts.
- **Labels in solutions:** lists all labels within the solution.
- **Edit:** converts other item sources into a custom values item source.
- **Values content list:** displays the current object content.
- **Set as default:** turns the currently active selection into a default value.

TIP: Default value is a value that is automatically selected when the form is run.

NOTE: All values except for custom values are populated when the form is run. The values displayed at design time are sample values retrieved from the current computer.

8.4.4.9.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

8.4.4.9.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.9.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events are:

- **On Focus:** action is run when focus is set on the object.
- **On Exit:** action is run when focus moves to another object.
- **On Click:** action is run on mouse click.

8.4.4.9.6 General

General tab identifies the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

Content after a print action group defines how the object content is handled after each printout.

- **Reset content after print:** object content reset after printing.
  - **Clear content:** object emptied after printing.
  - **Reset to initial content:** content reset after printing to the initially defined object content.

8.4.4.10 Radio Group

Use **Radio Group** object to allow the user to select a single item from a set of mutually exclusive items.

8.4.4.10.1 Source

Connected data source is the dynamic data source that is connected with the object.

- Variables: predefined variable values which are used as Radio group object content.
- Databases: database values which are used as Radio group object content.

NOTE: The down arrow object button provides direct access to dynamic data sources. Click the arrow to add a new object on the design surface and to connect it with the selected data sources simultaneously.

TIP: This is a read-only form object. Connected data source only defines its content.

8.4.4.10.2 Settings

Settings tab defines object content editing specifics and displaying of values.

Allow duplicates allows duplicated values appear on the dropdown list.

Is sorted sorts the list elements in ascending order. **Use case sensitive sort** additionally determines if the letter case should affect the sorting order or not.

Values group of settings allows defining the listed elements:

- **Items source:** defines the source for listed items.
  - **Custom values:** static user-defined values.
  - **Installed printers:** list of installed printers.
  - **Database field:** retrieved values from the connected database.
    - **Field:** selection of connected database field to retrieve the content from.
    - **Use another field for connected data source option:** connects another database field to the connected data source. The **Values content list** still displays the **Field** values, but the connected data source receives the selected value from a field in **Value field**.

      EXAMPLE:
      Field: ObjectField1
      Value field: ObjectField2
      Connected data source: Variable1

      Result:
      Object connected to Variable1 displays the content from ObjectField1 and sends the content from ObjectField2 to the Variable1.

    - **Value field:** selects the database field that is sent to the object's **Connected data source** and displayed as its content.
  - **File names:** lists all files in the selected directory.
    - **Directory:** defines the path from where the labels are going to be listed.
    - **File mask:** specifies the filter for selecting the listed files.

      EXAMPLE:
      . lists all files
      *.nlbl lists only files with .nlbl extension.
      t*.nlbl lists files that start with "t" and have the extension .nlbl.

    - **Show the file path:** entire file path is displayed on the list.
    - **Show the file extension:** file extension visible on the list.
  - **Font names:** lists the installed fonts.
  - **Labels in solutions:** lists all labels within the solution.
  - **Edit:** converts system-defined items on the **Values content list** into a list of custom values.
  - **Values content list:** displays the current object content.
  - **Set as default:** turns the currently active selection into a default value.

TIP: Default value is a value that is automatically selected when the form is run.

NOTE: All values except for custom values are populated when the form is run. The values displayed at design time are sample values retrieved from the current computer.

8.4.4.10.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

8.4.4.10.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.10.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events are:

- **On Focus:** action is run when focus is set on the object.
- **On Exit:** action is run when focus moves to another object.
- **On Click:** action is run on mouse click.

8.4.4.10.6 General

General tab identifies the object and defines object state on form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint (tooltip) helps the form users by briefly explaining why or how to use an object. Hint is shown to a user when the mouse pointer floats over the selected object.

Initial state on form startup group defines the object behavior when the form is run for the first time:

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

8.4.4.11 Checkbox

checkbox is a form object that allows the user to make a binary choice – select or deselect the listed options.

8.4.4.11.1 Source

Source tab defines data sources, data types, values, and prompting rules.

Connected data source is the dynamic data source that is connected with the object.

- Variables:variables which stores the selected checkbox value.
- Databases: database which stores the selected checkbox value.

TIP: This is a read-and-write form object. This means that the object is used for displaying the connected dynamic content, and for entering or editing the connected data sources.

8.4.4.11.2 Settings

Settings tab defines specifics for object content editing and displaying of values.

checkbox text is a field for entering the checkbox text.

- **Checked:** default checkbox state (selected/cleared) when the form is run.
- **Word wrap:** text is divided into multiple lines to make sure it does exceed the checkbox width.

State values is the state which is stored in the connected variable's value.

- **Checked value:** by default set to "True". Checked option confirms the assigned action.
- **Unchecked value** by default set to "False". Checked option rejects the assigned action.

> **TIP: Checked** and **Unchecked** values are customizable. These values can be defined manually or dynamically using a **Data source**.

8.4.4.11.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

8.4.4.11.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

> **TIP:** Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.

- **Horizontally resize with form:** object width adapts to the resized form.
- **Vertically resize with form:** object height adapts to the resized form.

NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.11.5 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events are:

- **On Focus:** action is run when focus is set on the object.
- **On Exit:** action is run when focus moves to another object.
- **On Click:** action is run on mouse click.

8.4.4.11.6 General

General tab identifies the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) at form startup or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

Content after a print action group defines how the object content is handled after each printout.

- **Reset content after print:** object content reset after printing.
  - **Clear content:** object emptied after printing.
  - **Reset to initial content:** content reset after printing to the initially defined object content.

8.4.4.12 Database Table

Database Table object displays the selected database table on a form. Such table allows searching, filtering and selecting the connected database tables and records.

8.4.4.12.1 Settings

Settings tab allows selecting the connected database table.

Table group displays the currently used (active) database table. Select the database table which should be displayed in the Database table object.

TIP: Add a database by running the Database wizard or select it from the databases that have been defined using the Dynamic Data Manager.

- **Enable multiple row selection** allows selecting multiple database records simultaneously.
  - **Enable selection with checkbox:** added selection checkbox in front of database records.

    TIP: This option enhances the use of touch screen devices. Selection of multiple records becomes more user-friendly.
- **Show search controls** option shows/hides the database search commands on the form.
  - **Database search field** allows you to enter search strings. If a match is found in the connected database table, the matching row is highlighted. To clear the database search field, click the erase sign which appears in the field after you enter the string.
  - **Database field selector** allows you to choose the fields in which the strings should be searched for. By default, all fields are selected. Check or clear the fields using the drop down list.

    NOTE: If a match is found, the currently selected database row is set to the first row that matches the search criteria.

    NOTE: If the queried database field is connected to another form object, this object displays the matching row data.
  - **Find** button starts the search.
- **Store selected row number to variable:** stores the number of the selected table row to a variable.

  TIP: If multiple rows are selected, variable stores the number of the last selected row.

Columns group allows managing the connected database table columns.

- **Style:** button opens the Column style dialog window. This dialog enables the user to customize the visual appearance of a selected table column or cell.
- **Move up:** button places the selected record one position higher.
- **Move down:** button places the selected record one position lower.
- **Field alias:** column displays the name of the table field as defined in the source database.
- **Caption:** allows defining a custom column name.
- **Width:** defines table column width.
- **Visible:** makes the table column visible or hidden on the form.
- **Variable:** variable which stores the value of a selected database record.

NOTE: Visibility of columns can also be defined when the form is run. Show or hide table columns using the Set object property action. Below is an example of how the form should be configured.

1. Add **Database Table** object to the form and connect it to a database.
2. Add Button object to the form.
3. Configure the added **Button** object to trigger the Set object property action with a click. Set the **On click** event as trigger.
    - Go to **Button properties > Events tab**.
    - Click **Actions ...** to configure the **Set object property** action.
        - Set **Object name**: name of **Database Table** form object you wish to hide some of the columns.
        - Select the **Property**: **Visible columns**.
        - Define **Value**: insert comma-separated names of table columns. Use the " character if value name includes a comma.
4. Run the form.
5. Click the button. Only selected columns are now visible in the table.

8.4.4.12.2 Style

Style tab defines visual appearance of the Database Object table.

- **Alignment:** alignment of table header row.
- **Background color:** table background color.
- **Font color:** table text font color.
- **Font:** table text typeface and its properties (**Bold**, **Italic** and **size**).

Cell style group defines visual appearance of a cell in a database table.

- **Alignment:** table cell content alignment.
- **Background color:** cell background color.
- **Font color:** cell font and underline colors.

Font group defines the cell text font and its properties (**Bold**, **Italic** and **size**).

8.4.4.12.3 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.12.4 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available event for Database Table object is:

- **On selection change:** action is run on form startup and/or after a row (or multiple rows) is selected or deselected in the table.

8.4.4.12.5 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Read-only:** prevents connected data source input and content editing.

  TIP: Read-only becomes enabled if the selected database is a "real" database. Excel database cannot be edited and is therefore read-only by definition.
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

8.4.4.12.6 Column Style Dialog

Column style dialog allows defining style-related table properties of the Database Table object.

Column style group defines visual appearance of table column.

- **Override table default style:** enables style customization of the selected column.
- **Alignment:** defines header row content alignment.
- **Background color:** defines column background color. **Transparent** makes the column background invisible.
- **Font color:** specifies the font color.
- **Font:** allows specifying the typeface and its properties: **Size**, **Bold** and **Italic**.

Cell style group defines visual appearance of individual cells.

- **Override table default style:** enables style customization of the selected cell.
- **Background color:** defines the cell background color. **Transparent** makes the cell background invisible.
- **Font color:** specifies font color.
- **Font:** allows specifying font type and its properties: **Size**, **Bold** and **Italic**.

8.4.4.13 Database Navigator

Database Navigator object is a tool for navigating, adding and deleting the database records on a form.

8.4.4.13.1 Settings

Table defines the database table which should be navigated using the Database navigator object.

TIP: Add a database by running the **Database wizard** or select it from the databases that have been defined using the Dynamic Data Manager dialog.

Database navigator commands differ according to the initial state of the selected database table on form startup: Read-and-Write or Read-only. The first one allows editing action, whereas the second one prevents the user from making any changes on the connected database.

Read-and-Write mode commands are (from left to right):

- **First record:** places you on the first record of the connected database table.
- **Prior record:** places you one record back.
- **Next record:** places you one record further.
- **Last record:** places you on the last record of the connected database table.
- **Insert record:** inserts a new record in the connected database table.
- **Delete records:** deletes a record in the connected database table.
- **Post edit:** posts the changed record in the connected database table.
- **Cancel edit:** cancels the record editing and discard any changes done.
- **Refresh data:** refreshes the displayed data in the connected database table.

Read-only mode includes a reduced set of commands:

- **First record:** places you on the first record of the connected database table.
- **Prior record:** places you one record back.
- **Next record:** places you one record further.
- **Last record:** places you on the last record of the connected database table.
- **Refresh data:** refreshes the displayed data in the connected database table.

8.4.4.13.2 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.

- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.13.3 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
  - **Condition:** an object is enabled if the result of the given condition is "True".
- **Read-only:** prevents connected data source input and content editing.
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is visible if the result of the given condition is "True".

8.4.4.14 Database Search

Database Search object is a search tool for databases which are connected to form objects.

- **Database search field** allows you to enter a search string. If a match is found in the connected database table, the matching row is highlighted.

  NOTE: If a match is found, the currently selected database row is set to the first row that matches the search criteria.

  NOTE: If the queried database field is connected to another form object, this object displays the matching row data.

- **Find** button starts the search.
- **Database field menu** allows you to select the fields in which the strings should be searched for. By default, the table's first field is selected.

8.4.4.14.1 Settings

Table defines the database to be searched.

TIP: Add a database by running the **Database wizard** or select it from the databases that have been defined using the Dynamic Data Manager dialog.

- **Search on every keypress (incremental search):** highlights and selects the row(s) with matching character sequence after each entered character.
- **Select record only when exact match is found:** highlights and selects the row(s) with a complete sequence of characters that matches the entered search term.

8.4.4.14.2 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

8.4.4.14.3 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.14.4 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the print form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is enabled and/or visible if the result of the given condition is "True".

8.4.4.15 Label Preview

Label Preview object offers live print preview with defined print parameters for the selected label.

8.4.4.15.1 Settings

Label specifies the label file whose preview is displayed in the object.

TIP: Click **New label** to create a new label within the solution. If the label is not supposed to be a part of the solution, locate it using the **Browse** button. The label can also be defined dynamically using a connected data source.

Printer defines the printer whose settings are used for generating the preview.

TIP: If no other printer is defined, the printer defined for the active label is used. The printer can also be defined dynamically using a connected data source.

Content group defines what the Label Preview includes:

- **Show a single label:** preview of label's printable area.
- **Show all labels on the page:** preview of the entire page containing the labels.

NOTE: This option is useful when Labels Across is in use or when previewing the label margins.

Quantity group defines the number of previewed labels.

- **Labels:** the number of label to be displayed in the Label Preview.
- **All (unlimited quantity):** prints the entire range of labels depending on the data.

Number of skipped labels defines the numbers of labels to be skipped on the first page of preview.

TIP: This option is used with Labels Across.

Identical copies per label defines the number of copies for each label in the preview.

Number of label sets specifies how many times the entire label preview should repeat.

Label Side defines the side of the label to be displayed in the preview.

- **Show front side:** front side of the label appears in the preview.
- **Show back side:** back side of the label (if available) appears in the preview.

NOTE: If both options are selected, both label sides appear on the preview.

8.4.4.15.2 Style

Style tab defines visual appearance of an object.

- **Background color:** Label Preview background color.
- **Transparent:** transparent object background.
- **Show border:** Label Preview object border visible.

- **Border color:** Label Preview border color.
- **Border width:** Label Preview border width.

8.4.4.15.3 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.15.4 Events

Events tab defines the actions that are run by various object-related events.

TIP: See section Actions Editor to read more about this powerful Designer tool.

Available events are:

- **On Mouse Enter:** action is run on mouse enter.
- **On Mouse Leave:** action is run on mouse leave.
- **On Click:** action is run on mouse click.

8.4.4.15.5 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the print form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
- **Visible:** defines if the selected object is going to appear on the form or not.
    - **Condition:** an object is enabled and/or visible if the result of the given condition is "True".

8.4.4.16 Data Initialization

Data Initialization object is a panel for assigning values to variables that are used on the selected label that belongs to a solution.

8.4.4.16.1 Settings

Label selects the label that is going to be used with Data Initialization object.

> **TIP:** If the label is not a part of the solution, it can be located using the **Browse** button. The label can also be defined dynamically using a connected **Data source**.

- **Place focus on Data Initialization when label changes:** sets focus to the Data Initialization table when the selected label changes. This makes the table instantly editable.
- **Show selection of labels from the solution:** adds a dropdown list that the enables the user to select a label from those that are included in the solution.

    > **TIP:** This dropdown list allows the user to change the active label that is going to be printed. If this option remains unchecked, select the label by setting the **Label** data source.

Table Initialization group enables selection of records in the connected database.

> NOTE: A separate tab is added for each database table that is connected to a label.

Columns group sets the width of data initialization table and its **Prompt**, **Value** and **Formatted value** columns.

- **Auto-size:** automatic column resizing.
- **Show fomatted value:** makes the **Formatted value** column appear in the object table when the form is run.

8.4.4.16.2 Advanced

The Data Initialization object sets variable values for your solutions. Labels then print with these values.

- **Allow loading variable values:** If you enable this option, you can load variable values from files stored on your computer after you run the form. NiceLabel 2019 automatically initializes the variables on your label or form with values from the selected file.

  Files with variable values have ".defaults" or ".values" extensions. The two supported variable formats are:

  - XML:

    ```
    <variables>
        <variable name="var1">variable1</variable>
        <variable name="var2">variable2</variable>
    </variables>
    ```

  - name-value:

    ```
    var1=variable1
    var2=variable2
    ```

  With the **Allow loading variable values** option enabled, the active form displays the **Load...** icon. Click **Load...** to locate and load variable values for your forms.

  NOTE: Three rules apply to loading variable values on forms:
  1. If the variable does not exist in the file, the original value remains unchanged on the printed label.
  2. If the variable file contains variables that are not defined on the label, NiceLabel 2019 ignores these variables.
  3. If a value from the variable file is not valid, the original variable value remains unchanged. Error message appears.

- The Data Initialization object lists all variables used on labels in your solution by default. To exclude specific variables from the Data Initialization object, select **Limit visibility of variables**.

  Names of variables to show: Type names of variables you wish to keep visible in the Data Initialization object. Separate names of multiple variables with commas.

EXAMPLE

You want to limit variable visibility on sample labels.

Your sample GS1-128 label uses the following variables:

- Product_name
- SSCC (Serial Shipping Container Code)
- Count of Trade Items

- Best Before Date

- Batch or Lot number

- GTIN of Contained Trade Items

You decide to use the Data Initialization object to make only two variable values editable:

- Product_name

- Best Before Date

1. Create a new label.

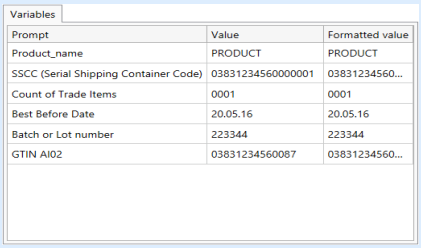
2. Open label GS1-128 from samples (go to **Help > Sample Files > Labels**).

3. Save the label as a solution file (.nsln). This allows you to start adding forms in the same document.

4. Add a new blank form.

5. Select the label in Data Initialization object **Properties > Settings > Label**.

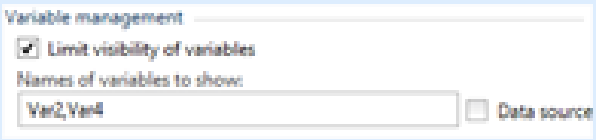
6. Data Initialization object lets you edit all label variable values by default:


Variables

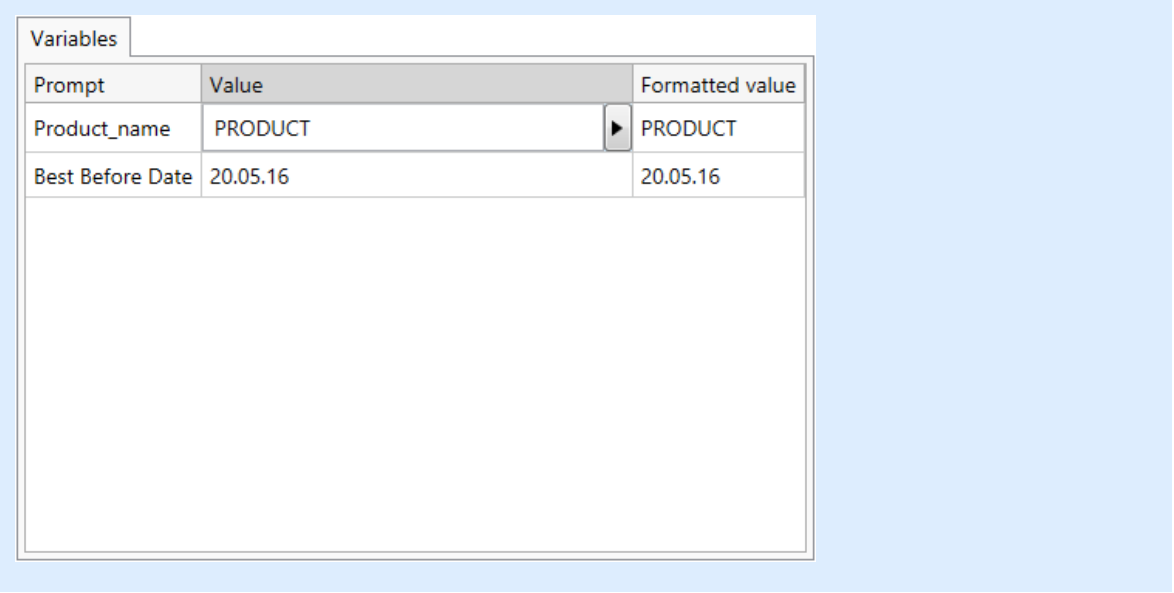
Prompt	Value	Formatted value
Product_name	PRODUCT	PRODUCT
SSCC (Serial Shipping Container Code)	03831234560000001	03831234560...
Count of Trade Items	0001	0001
Best Before Date	20.05.16	20.05.16
Batch or Lot number	223344	223344
GTIN AI02	03831234560087	03831234560...

7. To limit editing of variable values to only Product_name and Best Before Date, select **Limit visibility of variables**.

8. Type variable names under **Names of variables to show**.



9. Run the form. Data Initialization object only shows variables Product_name and Best Before Date.



8.4.4.16.3 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

Alignment defines horizontal positioning of the entered content.

- **Left:** text aligned with the left object border.
- **Center:** text positioned centrally.
- **Right:** text aligned with the right object border.

8.4.4.16.4 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.16.5 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the print form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is enabled and/or visible if the result of the given condition is "True".

8.4.4.16.6 Preparing Variable Values For NiceLabel Automation

In combination with NiceLabel Automation, Designer allows you to use the values from Data Initialization object to trigger automated label printing, and to define the content of printed labels.

To enable such use of values that you type into the Data Initialization object, you must configure your solution to:

1. Store the variable values from the Data Initialization object in a new dedicated variable.
2. Forward the stored content of this dedicated variable to NiceLabel Automation.

To make the variable values from your solution available for NiceLabel Automation:

1. Add a new variable to your solution.
2. Rename the added variable to `[YourDataInitializationObjectName]_VariableValues`. `[YourDataInitializationObjectName]` is the name of your Data Initialization object.
    - The variable contains values from the data initialization object in XML format.
3. Use the variable in NiceLabel Automation HTTP trigger.

EXAMPLE

1. Use an object on your form (e.g. button) to create an HTTP request. When configuring the action in Designer, type in the variable name (`[YourDataInitializationObjectName]_VariableValues`) under **Content > Data:**.

2. When configuring the HTTP Server trigger in Automation Builder, enable the **Save data received by the trigger to file** option under **Settings > Save Received Data**. Define the file name and location (e.g. `.\tmp.txt`).

3. Deploy the Automation configuration. After the trigger fires, the variable values from your solution are saved in the specified file. The file content is:

```
<Variables>
<variable name="Variable1" >xx</variable>
<variable name="Variable2" >yy</variable>
</Variables>
```

Variables named `Variable 1` and `Variable 2` belong to the label that is selected for your Data Initialization object.

NOTE: Values of internal and global variables cannot be stored in the XML file.

8.4.4.17 Printer Settings

Printer Settings object enables adjusting printing speed and darkness on a form.

NOTE: The object overrides the currently defined driver settings – printing within the active solution uses properties as defined using this object.

8.4.4.17.1 Settings

Label specifies the label file to be used with Printer Settings object.

TIP: If the label is not a part of the solution, it can be located using the **Browse** button. The label can also be defined dynamically using a connected **Data source**.

Printer defines the printer whose settings are used.

TIP: If no other printer is defined, the printer defined for the active label is used. The printer can also be defined dynamically using a connected **Data source**.

Show speed settings sets printing speed setting availability.

Show darkness settings sets printing darkness setting availability.

8.4.4.17.2 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

8.4.4.17.3 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.17.4 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the print form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
- **Visible:** defines if the selected object is going to appear on the form or not.
    - **Condition:** an object is enabled and/or visible if the result of the given condition is "True".

8.4.4.18 Print Quantity

Print Quantity object defines the number of labels (or pages of labels) to be printed.

8.4.4.18.1 Settings

Label specifies the label file to be used with Print Quantity object.

Print Quantity is defined using a connected variable value.

TIP: The variable must be used as the quantity that is defined for the print action.

Show additional settings group allows defining the following properties:

- **Number of skipped labels variable:** assigns the selected variable a number of labels to be skipped on first page.

    NOTE: When defining the number of skipped labels, duplicates, or label sets, a new window appears. This window allows the user to enter the values.

    TIP: This option is used with Labels Across.

- **Identical copies per label variable:** assigns the selected variable a number of copies for each label in a print job.
- **Number of label sets variable:** assigns the selected variable a value that specifies how many times the entire label printing process should repeat.

WARNING: At least one variable must be defined when the **Show additional settings** option is enabled.

8.4.4.18.2 Style

Style tab defines visual appearance of an object.

Background color defines the object background color.

- **Transparent:** transparent object background.

Font color defines the font and underline colors.

Font selects the typeface.

The font may appear **Bold**, **Italic**, **Underlined** or as a **Strikethrough** text.

8.4.4.18.3 Position

Position tab defines object positioning and its position-related behavior.

Position group defines the object position.

- **X** and **Y:** anchoring point coordinates.
- **Width** and **Height:** horizontal and vertical object dimension.
- **Keep aspect ratio:** simultaneous changing of object dimensions while scaling.
- **Lock:** prevents the object from being moved during the design process.

Size group sets how object's dimensions change when the form is running:

- **Resize anchor point:** defines the fixed distance of an object from the form borders.

  TIP: Choose the most appropriate anchor point to ensure the object's visibility regardless of the current window size.

- **Horizontally resize with form** and **Vertically resize with form:** object size automatically adapts to the changing size of the form.
  - **Horizontally resize with form:** object width adapts to the resized form.
  - **Vertically resize with form:** object height adapts to the resized form.

    NOTE: If both options are enabled, object width and height adapt to the resized form simultaneously.

Rotation angle group sets the object angle according to the design surface.

8.4.4.18.4 General

General tab defines the object and defines object settings for form startup.

Name sets a unique object ID. It is used for object referencing when defining functions, variables, scripts, etc.

Description allows adding notes and annotations for an object.

Hint helps the print form users by briefly explaining why or how to use the selected object.

Initial state on form setup group defines the object behavior while editing and printing a form:

- **Enabled:** defines if the object is going to be active (editable) on the print form or not.
- **Visible:** defines if the selected object is going to appear on the form or not.
  - **Condition:** an object is enabled and/or visible if the result of the given condition is "True".

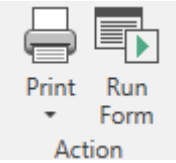
8.4.5 Run Form

PRODUCT LEVEL INFO: Solution building is available in PowerForms.

To make the form operable, you have to switch its mode from design to run. When you are done with designing a form, run the form to activate it or to test if everything works as expected.

There are multiple ways to run a form.

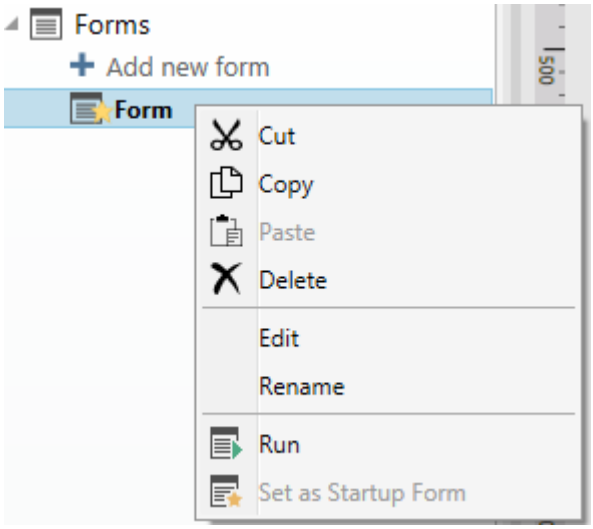
- Click **Run form** in the Home tab ribbon – Action group



- Press Ctrl+D. This runs the startup form.

  NOTE: Startup form is the default form that runs after you open your solution.

- Press Ctrl+R. This runs the form that you are currently editing.
- Use right-click menu in the Solution manager.



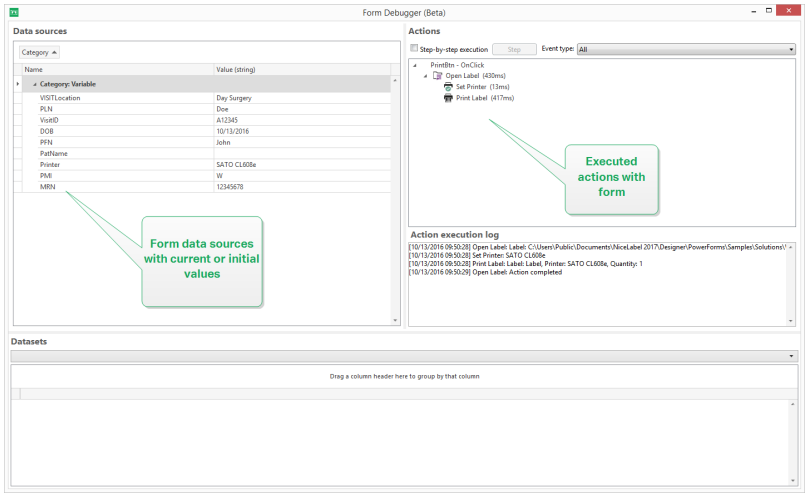
The form in rune mode opens in a separate window. To continue designing it, close the form window and continue with editing.

NOTE: You can only return back to design mode if the run mode was started directly from Designer. Users that open the form using NiceLabel Print in can only use the form in run mode and cannot edit it.

8.4.6 Form Debugger

NOTE: Form Debugger was included in NiceLabel 2019.1 release as beta version.

Form Debugger is a form testing, reviewing and troubleshooting tool. To open the Form Debugger, create/open a solution, run a form, and press `Ctrl + Shift + F12`.



Data sources area provides an overview of the data sources which are used by form objects.

- **Category:** sorts data source categories (database fields, variables, functions). By default, the connected data sources are grouped by this column.
- **Name:** data source name.
- **Value (string):** string representation of data source value. This field is editable.

Actions area lists the currently executing (or last executed) set of actions. The currently executing action is marked with green color. After an action is executed, the area also displays its execution time.

- **Step-by-step execution:** makes the Form Debugger stop before an action is executed.
- **Step button:** executes an action that the Form Debugger has stopped at.
- **Event type:** allows you to filter the events according to their origin. The events can be either started by:
  - user action (click, enter the object, mouse hover, etc.)
  - automatically (using timer)

Action execution log field lists the details of executed actions. These actions are listed using the following format: `[date time] action name value/string`.

Datasets lists the tables loaded by form. Select a table to display the data it contains.

NOTE: Form Debugger is not available in production environments. It can only be run during the solution development with enabled have read/write access to the solution file.

TIP: Form Debugger also allows you to debug the form startup actions. To do so, run the debugger while designing the form. Press `Crtl + Shift + R`. The form and Form Debugger will open simultaneously.

8.5 How To

8.5.1 Printing With Forms

To use forms for printing is a very efficient method to make the printing process faster and aligned with your business process. Unlike with labels, printing with forms is done using form actions.

TIP: Before creating and designing a form which is going to be used for printing, make sure your label is properly designed and ready to be printed. Do not forget to select the appropriate printer in the label properties dialog.

- Simple printing with forms. Use object forms to initiate printing. Printing-related actions can be assigned to various form objects. The assigned actions are triggered by events – if an event is triggered, printing process starts.
- Printing Labels whose Names are Read from Database. Use a form to dynamically define a label which is going to be printed. This method represents an upgrade of simple printing with forms as it reads the label name from a connected database.

8.5.2 Import And Export

Import and Export group allows importing, publishing and exporting the solution files.

Import into Solution allows you to import documents into the solution. Supported file formats are:

- Solution file (.nsln)
- Label file (.nlbl)
- Label file (V6) (.lbl)
- Form File (V6) (.xff)

When an import command is issued, the **Open** dialog opens. Select the file you want to import. The imported file becomes visible in the solution manager.

NOTE: Label .lbl and form .xff files are legacy NiceLabel file types used with version 6 and earlier.

Export Label: saves the document to disk and makes it available for use in another solution. After clicking **Export Label** the Export label dialog appears. Select a location to save the label to.

8.6 Define Actions

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

Actions are an essential part of automated labeling solutions. Each action performs a predefined command (or a series of commands) when a defined event happens.

Designer includes a wide range of actions. Their purpose is to eliminate the need to start the solution programming from scratch.

Manage actions using the Action Editor dialog box.

Basic **Action** concepts and properties are described below.

- Available Actions: the range of actions that are included in Designer. These actions are grouped into functional sets.
- **Defining actions:** an action is defined in **Actions Editor** by clicking the appropriate action icon in **Add** ribbon group. The main ribbon contains commonly used actions and – later – the actions you define as common actions. To see all available actions, click **All Actions**.
- **Nested Actions:** actions that cannot be used on their own. Their specific characteristics require them to be nested within another action. Use buttons in Action Order ribbon group to change action placement. Each action is identified with an ID number that indicates its position in the list, including its nesting. This ID number is displayed in the potential error message so you can find the problematic action faster.

  Print Label action is an example of such action. This action is nested under the Open Label action, so it references the exact label to be printed.

- **Action Execution:** listed (active) actions are executed once per event. The order of actions is crucial – the execution begins at the top and moves toward bottom of the list.
- **Conditional Actions:** conditional actions only run when the provided conditions allow them to be run. Condition is defined with a single line VBScript Expression or Python script.
- **Errors in Actions:** if an action is not configured completely, it is marked with a red exclamation icon. Such action can be included in the event list but cannot be executed.

  NOTE: If one of the nested actions reports an error, all parent actions are also colored red. This serves as an indication for a nested action error.

- **Disabling Actions:** prevents an action from being executed. By default, each added action is enabled. Actions that are not needed, can be disabled and still kept in the

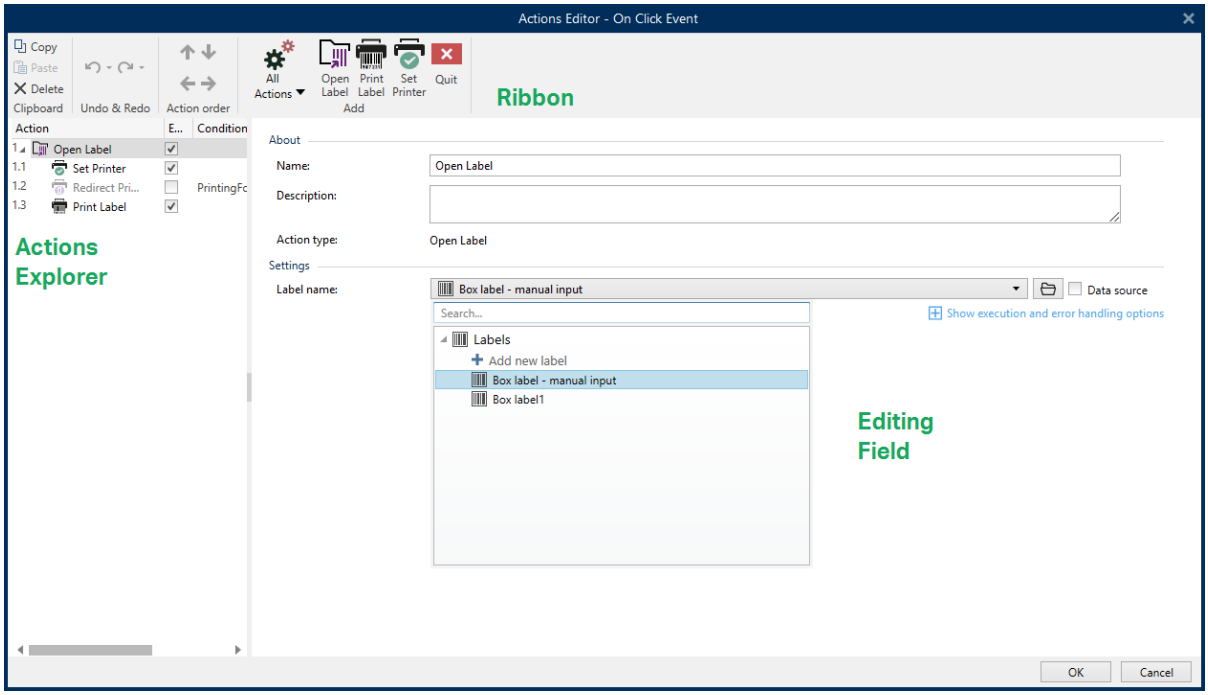
configuration. The shortcut to action enabling & disabling is the checkbox in front of the action name on the list of defined actions.

- **Copying Actions:** any action may be copied and pasted. Use standard Windows keyboard shortcuts, or right-click the action.

8.6.1 Actions Editor

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

Actions Editor is a dialog for managing actions in a Designer solution.



Actions can be defined for:

- **Form:** these actions are triggered with form events. They are applicable to the following events:
  - **On form load:** action(s) are run after a form is loaded.
  - **On form close:** action(s) are run after a form is closed.
  - **On form timer:** action(s) are run after a specified time interval.
  - **On Form Inactivity:** action(s) are run after the form has been inactive for a given time interval.
- **Form object:** these actions are triggered with object-related events.
- **Variable:** these actions are triggered according to the received values.

8.6.1.1 Ribbon

Actions Editor Dialog ribbon includes commands for adding, removing and ordering the actions. It also provides a direct access to frequently used actions.

Clipboard group icons activate the following actions:

- **Paste:** pastes the clipboard data.
- **Cut:** cuts the selection to the clipboard.
- **Copy:** copies the selection to the clipboard.
- **Delete:** deletes the selected items.

Undo & Redo group allows undoing or repeating actions.

- **Undo:** Designer allows the user to undo the entire sequence of actions since opening the editor.
- **Redo:** repeats the requested range of actions.

Action Order group defines the action execution order of selected actions.

- **Up** and **Down:** arrows place the selected action in front or after any other existing action.
- **Right:** arrow nests the selected action under the previous existing action.

  NOTE: Nested action is any action that starts when the parent action is already in progress.

- **Left:** arrow makes a nested action independent of the preceding action.

  NOTE: Certain actions cannot exits independently. If such action is added to the action list, a warning appears. The warning defines which action should it be nested under.

Add assigns actions to the selected form object.

- **All actions** button gives access to the entire range of Designer actions. **Recently used** actions are listed on the top. Use **Search...** field to quickly locate any action by entering its name.
- Four buttons give direct access to the most commonly used actions:
  - **Open Label:** button adds the **Open Label** action to the event list.
  - **Print Label:** button adds the **Print Label** action to the event list.
  - **Set Printer:** button adds the **Set Printer** action to the event list.
  - **Quit:** button adds the **Quit** action to the event list.

8.6.1.2 Actions Explorer

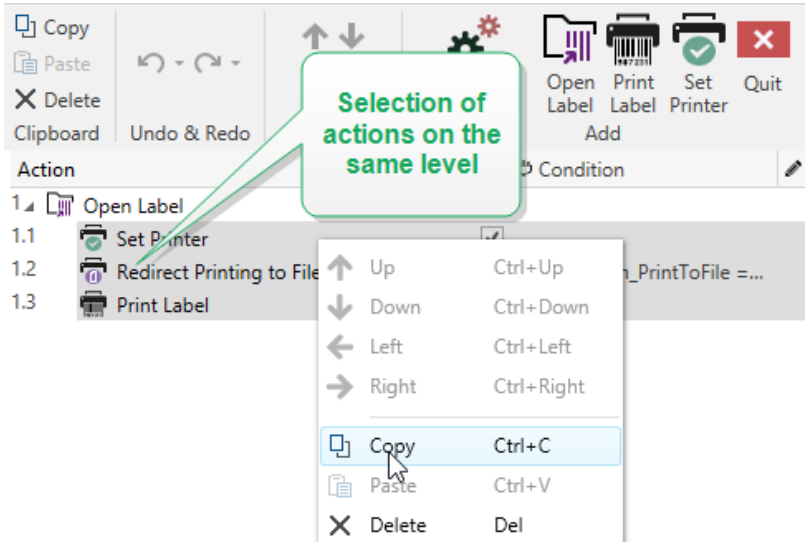
Actions Explorer is a tool for adding, removing and ordering the assigned actions. Use ribbon commands to manipulate with existing actions or to add new actions.

The explorer columns provide instant overview of actions' execution options and their descriptions.

- **Enabled:** enables or disables the included action.
- **Condition:** display the condition for executing an action (if set).
- **Description:** displays the information about an action as defined by the user.

Actions Explorer enables you to make a selection of multiple actions, and to perform **copy**, **paste** and **delete** operations with them. To make a selection, Use Ctrl/Shift + Click on the required actions.

NOTE: Multiple actions can only be selected under the same parent action, i.e. all selected actions must be on the same level. See picture below.



8.6.1.3 Editing Field

Editing field allows editing the advanced action properties.

- Main properties of the selected action are available for editing on the top of the Main/editing field. Main properties differ with each action – read the dedicated action description sections for details.
- **About** group allows you to describe all NiceLabel 2019 actions.
  - **Name:** by default, action name is defined by its type and is therefore not unique. Define a custom name to make it instantly recognizable among other actions, in logs and in potential error messages.
  - **Description:** user notes for the selected action. Description is displayed in actions explorer.
  - **Action Type:** read-only field which displays the type of action.

NOTE: When upgrading from legacy solutions (created with NiceLabel V6 and back), update the action names based on the currently selected language. Solution version becomes updated.

- Hidden properties define the less frequently defined properties. Hidden properties differ with each action – read dedicated action description sections for details.

8.6.2 Available Actions

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

The Designer actions are grouped into multiple functional sets. The groups with basic action descriptions are listed below.

General group contains frequently used label opening and activation related commands:

- Open Label
- Print Label
- Open Document/Program
- Execute Script
- Create Label Variant

Printer group contains actions related to printing:

- Set Printer
- Define Printer Settings
- Set Print Job Name
- Redirect Printing to File
- Set Print Parameter
- Redirect Printing to PDF
- Printer Status
- Store Label to Printer
- Print PDF Document

Form group defines actions related to form objects:

- Open Another Form
- Message
- Quit
- Move Focus
- Get Selected Table Row

- Select Table Row
- Set Object Property
- Translate form

Variables group defines actions related to variables:

- Set Variable
- Save Variable Data
- Load Variable Data
- String Manipulation

Data & Connectivity group defines the actions related to databases, data sending, reading or receiving, and networking.

- Execute SQL Statement
- Refresh Table
- Import Data into Table
- Send Data to TCP&IP Port
- Send Data to Serial Port
- Read Data from Serial Port
- Send Data to Printer
- HTTP Request
- Web Service

File operations group defines the active file related actions:

- Save Data to File
- Read Data from File
- Delete File
- Browse File/Folder

Flow control group defines various sequences of actions:

- For Loop
- For Every Record
- Try
- Group

Other group contains specific actions for running the commands, sending custom commands and verifying the licenses:

- Run Command File
- Send Custom Commands
- Verify License
- Log Event

8.6.2.1 General

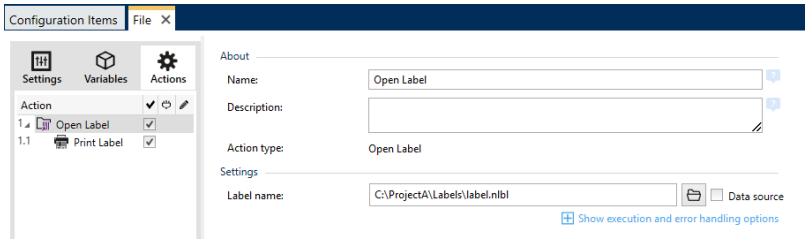
8.6.2.1.1 Open Label

Open Label action specifies the label file that is going to be printed. When the action is executed, the label template opens in memory cache. The label remains in the cache for as long as the triggers or events use it.

There is no limit on the number of labels that can be opened concurrently. If the label is already loaded and is requested again, NiceLabel Automation will first determine if a newer version is available and approved for printing, then open it.

In this example, NiceLabel 2019 loads the label `label.nlbl` from folder `C:\ProjectA\Labels`.

```
C:\ProjectA\Labels\label.nlbl
```



If the specified label cannot be found, NiceLabel 2019 tries to find it in alternative locations. For more information, see section Search Order for Requested Files in NiceLabel Designer user guide.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Using Relative Paths

NiceLabel 2019 supports the use of relative paths for referencing your label file. Root folder is always the folder where the solution (or configuration in case the action is used in a NiceLabel Automation configuration) is stored.

With the following syntax, the label loads relatively from the location of the configuration file. Automation Builder searches for the label in folder `ProjectA`, which is two levels above the current folder, and then in folder `Labels`.

```
..\..\ProjectA\Labels\label.nlbl
```

Settings group selects the label file.

- **Label name:** specifies the label name. It can be hard-coded, and the same label will print every time. The option **Data source** enables the file name to be dynamically defined. Select or add a variable that contains the path and/or file name if a trigger is executed or an event takes place.

  TIP: Usually, the value to the variable is assigned by a filter.

  NOTE: Use UNC syntax for network resources.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.1.2 Print Label

This action executes label printing. It must always be nested within the Open Label action. Nesting allows it to obtain the reference to the label that is going to be printed. This further allows you to keep multiple labels open at the same time, and enables you to specify which label should be printed.

After issuing this action, the label gets printed using the printer driver that is defined in the label template. If the defined printer driver is not found on the system, the label is printed using the system default printer driver. You can override the printer driver selection via Printer action.

To achieve high performance label printing, NiceLabel 2019 activates two settings by default:

- **Parallel processing.** Multiple print processes are all carried out simultaneously. The number of background printing threads depends on the hardware; specifically on the processor type. Each processor core can accommodate a single printing thread. This default can be changed. For more information, see section Parallel Processing in NiceLabel Automation user guide.
- **Asynchronous mode.** As soon as the trigger pre-processing completes and the instructions for the print engine are available, the printing thread takes it over in the background. The control is returned to the trigger so it can accept the next incoming data stream as soon as possible. If synchronous mode is enabled, the control is not returned to the trigger until the print process is finished. This can take a while, but the trigger benefits from providing feedback back to data-providing application. For more information, see the section Synchronous Mode in NiceLabel Automation user guide.

  NOTE: Using **Save error to variable** option in **Action Execution and Error Handling** does not yield any result in asynchronous mode, as the trigger does not receive feedback from the print process. To capture the feedback from the print process, enable synchronous mode first.

NOTE: If the Print Label action is nested under a For Loop action, Automation executes it in session printing mode. This mode acts as a printing optimization mode that prints all labels in a loop using a single print job file. For details, see Session Printing section in NiceLabel Automation user guide.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Quantity group defines the number of labels to be printed using the active form.

- **Labels:** sets the number of printed labels. **Data source** specifies or adds a variable that defines the label print quantity dynamically.

  NOTE: Variable value is usually assigned by the **Use Data Filter**action and must be integer.

All (unlimited quantity): depending on the label template design, the labels are printed in various quantities.

Unlimited Quantity Printing Details

Typically, this option is used in two scenarios.

1. Command the printer to continuously print the same label until it is switched off, or after it receives a command to clear its memory buffer.

   WARNING: This scenario requires NiceLabel printer driver to be installed and used for label printing.

   If printing a fixed label, just a single print job is sent to the printer, with the quantity set to "unlimited". Label printers have a print command parameter which indicates "unlimited" printing.

   If the label is not fixed, but includes objects that change during the printing, such as counters, the printed quantity is set to maximum quantity supported by the printer. NiceLabel printer driver is aware of the printer quantity limit and print as many labels as possible.

   EXAMPLE: Maximum supported print quantity is 32,000. This is the amount of labels that are print after selecting the **All (unlimited quantity)** option.

2. The trigger doesn't provide any data, but only acts as a signal for "event has happened". The logic to acquire necessary data is included in the label. Usually, a connection to a database is configured on the label, and at every trigger the label must connect to the database, and acquire all records from the database. In this case, the **All (unlimited quantity)** option is understood as "print all records from the database".

- **Variable quantity (defined from label variable):** specifies a label variable that defines the label quantity to be printed.

  The trigger doesn't receive the number of labels to be print, so it passes the decision to the label template. The label might contain a connection to a database, which provide the label quantity, or there is another source of quantity information. A single label variable must be defined as "variable quantity".

Advanced group defines label printing details. Click **Show advanced print options** to define the **Advanced** print options:

This section specifies non-frequently used label quantity related settings.

- **Number of skipped labels:** specifies the number of labels that are skipped on the first page of labels. The sheet of labels might have been printed once already, but not entirely. You can re-use the same sheet by offsetting the starting position. This option is applicable, if you print labels to sheets of labels, not rolls of labels, so it's effective for office printers and not for label printers.
- **Identical label copies:** specifies the number of label copies to be printed for each unique label. For fixed labels, this option produces the same result as the main **Number of Labels** option. For variable labels, such as labels using counters, you can get the real label copies.
- **Label sets:** specifies how many times the entire label printing process should repeat.

EXAMPLE: Trigger or event receive content with 3 lines of CSV-formatted data, so 3 labels are expected to be printed (1, 2, 3). If you set this option to 3, the printout is done in the following order: 1, 2, 3, 1, 2, 3, 1, 2, 3.

TIP: All **Advanced** group values can either be hard-coded, or dynamically provided by an existing or a newly added variable.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and

`ActionLastErrorDesc`.

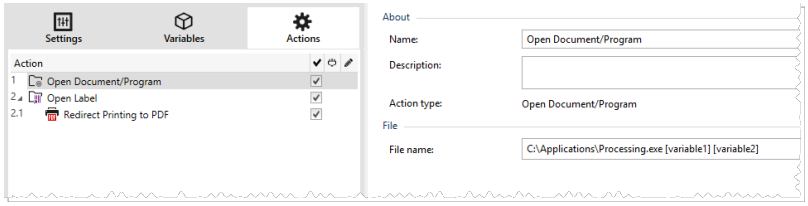
8.6.2.1.3 Open Document/Program

This action provides an interface with an external application and opens it using a command-line.

External applications can execute additional processing and provide result back to the NiceLabel 2019. This action allows it to bind with any 3rd party software that can execute some additional data processing, or acquire data. External software can provide data response by saving it to file, from where you can read it into variables.

You can feed the value of variable(s) to the program by listing them in the command-line in square brackets.

```
C:\Applications\Processing.exe [variable1] [variable2]
```



NOTE: If you use this action in NiceLabel 2019 solutions, it allows you to open web pages or create email messages directly from your forms. See section Creating hyperlinks and sending emails on form in NiceLabel 2019 user guide.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

File group defines the file to be opened.

- **File name:** location and file name of the file or application to be opened.

  The selected file name can be hard-coded, and the same file is going to be used every time. If only a file name without path is defined, the folder with NiceLabel Automation configuration file (.MISX) is used. You can use a relative reference to the file name, in which the folder with .MISX file is used as the root folder.

  Data source: enables variable file name. Select a variable that contains the path and/or file name or combine several variables that create the file name. For more information see section Using Compound Values in NiceLabel Automation User Guide.

NOTE: Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation User Guide.

Execution Options group sets program opening details.

- **Hide window:** renders the window of the opened program invisible. Because NiceLabel 2019 is run as a service application within its own session, it cannot interact with desktop, even if it runs with the privileges of the currently logged user. Microsoft has prevented this interaction in Windows Vista and newer operating systems for security reasons.
- **Wait for completion:** specifies for action execution to wait for this action to be completed before continuing with the next scheduled action.

TIP: Enable this option if the action that follows depends on the result of the external application.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

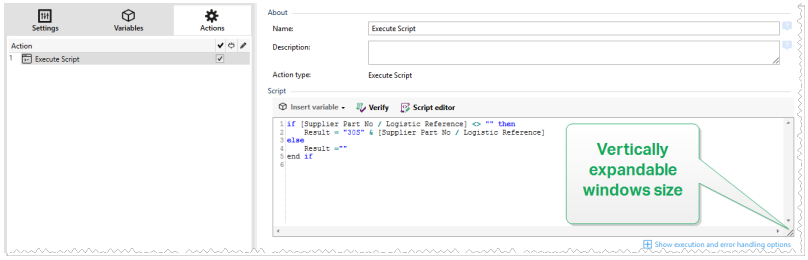
- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.1.4 Execute Script

This action enhances the software functionality by using custom VBScript or Python scripts. Use this function if the built-in actions don't meet your data manipulation requirements.

Scripts can include the trigger variables – both internal variables and the variables defined or imported from labels.

Make sure that Windows account under which the service runs has the privileges to execute the commands in the script.



NOTE: The script type is configured per trigger in the trigger properties. All Execute Script actions within a single trigger must be of the same type.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Script editor offers the following features:

- **Insert data source:** inserts an existing or newly created variable into the script.
- **Verify:** validates the entered script syntax.
- **Script editor:** opens the editor which makes scripting easier and more efficient.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

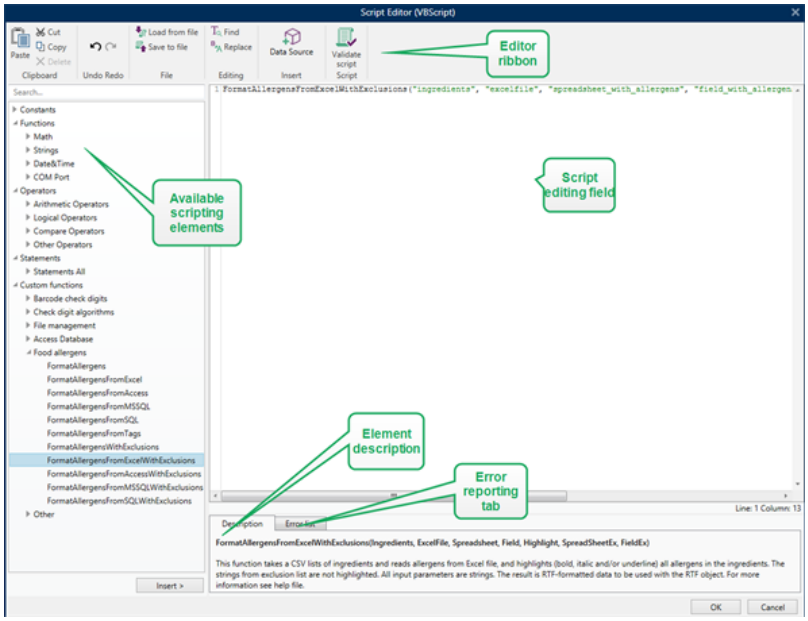
  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

Script Editor

NiceLabel 2019 provides a script editor which makes your Python or VBScript scripting easier, error-free and time efficient.



The selection of scripting languages that should be used in Script editor differs betweenNiceLabelDesigner ProandAutomation Builder:

- InDesigner, double-click on the form design surface to open**Form Properties>**Additional Settings**>Form Scripting Language**.
- InAutomation Builder, go to**Configuration items >**click **Edit** to open trigger properties**>Settings> Other > Scripting**.

TIP: NiceLabel 2019uses .NET variant of Python named IronPython. It works as a fully compatible implementation of Python scripting language which also supports .NET methods.

Editor Ribbon includes commonly used commands which are distributed over multiple functional groups.

- **Clipboard** group offers **Cut**, **Copy**, **Paste** and **Delete** commands.
- **Undo Redo** group allows undoing or repeating script editing actions.
- **File** group allows loading and saving scripts in a file.
  - **Load from file:** loads a script from an external previously saved textual file.
  - **Save to file:** stores the currently edited script in a textual file.
- **Editing** group allows finding and replacing strings in a script.
  - **Find:** locates the entered string in the script.
  - **Replace:** replaces string in the script.
- **Insert** group: **Data Source** command inserts existing or newly defined data sources into the script.
- **Script** group: **Validate script** command validates of the entered script's syntax.

Available scripting elements contain all available script items which can be used when building a script. Double-click the element or click the **Insert** button to insert the element at cursor position into the script.

Element description provides basic information about the inserted script element.

Error list includes the errors which are reported after the **Validate script** command is run.

8.6.2.2 Printer

8.6.2.2.1 Set Printer

This action specifies the name of the printer to be used for printing the active label.

NOTE: This action overrides the printer selected in the label properties.

This action is useful when printing an identical label on multiple printers. Always nest this action under the General action to provide the label with the reference for the preferred printer.

This action reads the default settings (such as speed and darkness) from the selected printer driver and applies them to the label. If you don't use the **Set Printer** action, the label gets printed using the printer defined in the label template.

WARNING: Pay attention when switching the printers, e.g. from Zebra to SATO, or even from one printer model to another model of the same brand. Printer settings might not be compatible and the label printouts might not appear identical. Also, label design

optimizations for original printer, such as internal counters, and internal fonts, might not be available on the newly selected printer.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Printer group specifies the printer name to be used for the current print job.

- **Printer name:** select it from the list of locally installed printer drivers, or manually enter a printer name. Select **Data source** to dynamically select the printer using a variable. If enabled, select or create a variable that contains the printer name which is used if the action is run.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.2.2 Define Printer Settings

This action opens printer driver properties dialog for the selected printer. The settings are saved in the label file and take effect for the current label only.

> NOTE: The modifications the user makes using this action are temporary and affect only the current print job. The modifications are not saved in a label or form.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Settings group defines a variable for printer settings.

- **Printer settings:** selects or creates a variable to store the received output printer settings. If printer settings are included in the variable, **Printer Properties** dialog displays them.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  > NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.2.3 Set Print Job Name

This action specifies the name of the print job file as it appears in the Windows Spooler. A default print job name is the name of the used label file. This action overrides it.

> NOTE: Always nest the action under the Open Label action, so it applies to the adequate label file.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Print Job group defines the print job name.

- **Name:** sets the print job name. It can be hard-coded, and the same name is used for each print action. Variable enables a variable file name. Select or create a variable that contains the path and/or file name if the event happens or a trigger fires.

  > NOTE: In Automation Builder module, the variable value is usually assigned by a filter.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.2.4 Redirect Printing To File

This action diverts the print job to a file. Instead of sending the created print file to a printer port as defined in the printer driver, the printout is redirected to a file. You can append data to an existing file, or overwrite it.

This action enables you to capture printer commands in a separate file.

The action instructs Automation Builder module to redirect printing – as a result, the labels are not going to be printed. Make sure the action is followed by the Print Label action.

NOTE: NiceLabel Automation runs as service under defined Windows user account. Make sure this user account has privileges accessing the specified folder with read/write permissions. For more information, see section Access to Network Shared Resources in the NiceLabel Automation user guide.

Redirect Printing to File action is useful for printing several different labels (.NLBL files) to a network printer while retaining the correct order of labels. If multiple .NLBL files are printed from the same trigger, Automation Builder sends each label to the printer in a separate print job, even if the target printer is the same for both labels. If a network printer is used, job of another user can be inserted between two jobs the trigger must send together. Using this action, you can append print data into the same file and send its contents to the printer using the Send Data to Printer action.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

File group of settings defines how the file selection for redirecting is done.

- **File name:**specifies the file name. It can either be hard-coded or dynamically defined using an existing or a newly created variable.

  Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

NOTE: When using this action, make sure your user account has sufficient privileges for accessing the specified folder with read/write permissions.

File write mode group of settings selects how the file is treated in case of repeated redirects.

- **Overwrite the file:** if the specified file already exists on the disk, it is going to be overwritten.
- **Append data to the file:** the job file is added to the existing data in the provided file.

Persistence group controls the continuity of the redirect action. It defines the number of Print Label actions that are affected by the **Redirect Printing to File** action.

- **Apply to next print action:** specifies for the print redirect to be applicable to the next Print Label action only (single event).
- **Apply to all subsequent print actions:** specifies for the print redirect to be applicable to all **Print Label** action defined after the current **Redirect Printing to File** action.

NOTE: The action only redirects printing. Make sure it is followed by the Print Label action.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.2.5 Set Print Parameter

This action allows you to fine tune the parameters that relate to the printer driver. These include parameters such as speed and darkness for label printers, or paper tray for laser printers.

Printer settings are applied to the current printout only and are not remembered during the upcoming event.

If you use Printer action to change the printer name, make sure the **Set Print Parameter** action is used right after. Before you can apply the DEVMODE structure to the printer driver, first load the default driver settings. This is done by the Set Printer action. The DEVMODE is only compatible with the DEVMODE of the same printer driver.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Print Parameters group allows action fine tuning before printing.

- **Paper bin:** name of the paper bin that contains the label media. This option is usually used with laser and ink jet printers with multiple paper bins. The provided name of the paper bin must match the name of the bin in the printer driver. Check the printer driver properties for more details.
- **Print speed:** defines printing speed. This setting overrides the setting defined with label. The provided value must be in the range of accepted values.

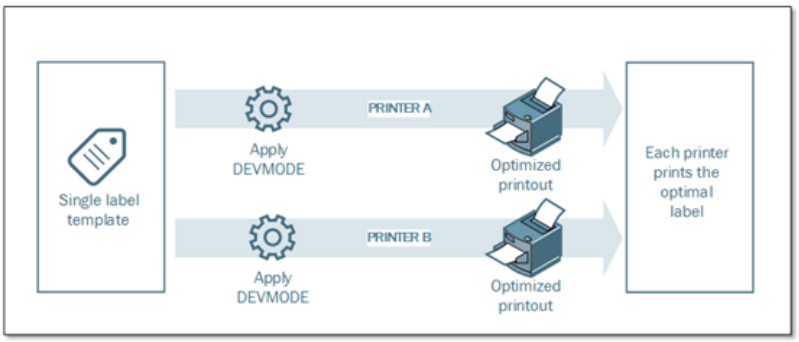
  EXAMPLE: The first printer model accepts a range of values from 0 to 30, while the second printer model accepts values from -15 to 15. For more information, see printer driver properties.

- **Darkness:** defines the darkness of the printed objects on the paper and overrides setting from the label. The provided value must be in range of accepted values.
- **Print offset X:** applies horizontal offset. The label printout will be repositioned by the specified number of dots in the horizontal direction. Negative offset can be defined.

- **Print offset Y:** applies vertical offset. The label printout will be repositioned by the specified number of dots in the vertical direction. Negative offset can be defined.

TIP: All print parameters can either be hard-coded or dynamically defined using an existing or a newly created variable.

Advanced group customizes the printer settings that are sent along with the print job.



Printer settings, such as printing speed, darkness, media type, offsets and similar, can be defined as follows:

- Defined in a label
- Recalled from a printer driver
- Recalled from a printer at print time

The supported methods depend on the printer driver and its capabilities. Printing mode (recall settings from label or driver or printer) is configurable in the label design. You might need to apply these printer settings at print time – they can vary with each printout.

EXAMPLE: A single label should be printed using a variety of printers, but each printer requires slightly different parameters. The printers from various manufacturers don't use the same values to set the printing speed or temperature. Additionally, some printers require vertical or horizontal offset to print the label to the correct position. During the testing phase, you can determine the optimal settings for every printer you intend to use and apply them to a single label template just before printing. This action will apply the corresponding settings to each defined printer.

This action expects to receive the printer settings in a DEVMODE structure. This is a Windows standard data structure with information about initialization and environment of a printer.

Printer settings option applies custom printer settings. The following inputs are available:

- **Fixed-data Base64-encoded DEVMODE**. In this case, provide the printer's DEVMODE encoded in Base64-encoded string directly into the edit field. If executed, the action converts the Base64-encoded data back into binary form.
- **Variable-data Base64-encoded DEVMODE**. In this case, the selected data source must contain the Base64-encoded DEVMODE. Enable **Data source** and select the appropriate variable from the list. If executed, the action converts the Base64-encoded data back into the binary form.

- **Variable-data binary DEVMODE (available in Automation Builder)**. In this case, the selected variable must contain the DEVMODE in its native binary form. Enable **Data source** and select the appropriate variable from the list. If executed, the action uses the DEVMODE as-is, without any conversion.

  NOTE: If the variable does not provide a binary DEVMODE, make sure that the selected variable is defined as a binary variable in the configuration.

NOTE: Make sure the Set Printer action is defined in front of this action.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.2.6 Redirect Printing To PDF

PRODUCT LEVEL INFO: This action is available in NiceLabel LMS Enterprise.

This action diverts the print job to a PDF document. The created PDF document retains the exact label dimensions as defined during label design process. The rendering quality of graphics in the PDF matches the resolution of the target printer and desired printout size.

Print stream data can be appended to an existing file, or it may overwrite it.

The action instructs NiceLabel 2019 to redirect printing – as a result, the labels are not printed. Make sure the action is followed by the **Print Label** action.

NOTE: NiceLabel Automation module runs as service under defined Windows user account. Make sure this user account has privileges accessing the specified folder with read/write permissions. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

File group defines the redirect file.

- **File name:** specifies the file name for diverting the print job to. If hard-coded, the printing is redirected to the specified file every time. To define it dynamically, use an existing or create a new variable.
- **Overwrite the file:** if the specified file already exists on the disk, it is going to be overwritten (selected by default).
- **Append data to the file:** the job file is appended to the existing data in the provided file (deselected by default).

Persistence group allows controlling the persistence of the redirect action. Define the number of Print Label actions that are affected by the **Redirect Printing to File** action.

- **Apply to next print action:** specifies for the print redirect to be applicable to the next Print Label action only (single event).
- **Apply to all subsequent print actions:** specifies for the print redirect to be applicable to all **Print Label** action defined after the current **Redirect Printing to File** action.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.

- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.2.7 Printer Status

This action communicates with the printer to acquire its real-time state, and contacts the Windows Spooler for additional information about the printer and its jobs.

As a result, the information about errors, spooler status, number of jobs in the spooler is collected. This uncovers potential errors and makes them easy to identify.

Possible use case scenarios. (1) Verifying the printer status before printing. If the printer is in error state, you print the label to a backup printer. (2) Counting the number of jobs waiting in a spooler of main printer. If there are too many, you will print label to alternative printer. (3) You will verify the printer status before printing. If the printer is in error state, you will not print labels, but report the error back to the main system using any of the outbound actions, such as Send Data to TCP/IP Port, HTTP Request, Data and Connectivity, Web Service, or as the trigger response.

Live Printer Status Prerequisites

To make live printer status monitoring possible, follow these instructions:

- Use the NiceLabel Printer Driver to receive detailed status information. If using any other printer driver, you can only monitor the parameters retrieved from the Windows Spooler.
- The printer must be capable of reporting its live status. For the printer models supporting bidirectional communication see NiceLabel Download web page.
- Printer must be connected to an interface with support for bidirectional communication.

- Bidirectional support must be enabled in **Control Panel > Hardware and Sound > Devices and Printers > driver > Printer Properties > Ports tab > Enable bidirectional support**.
- If using a network-connected label printer, make sure you are using **Advanced TCP/IP Port**, not **Standard TCP/IP Port**. For more information, see Knowledge Base article KB189.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Printer group selects the printer.

- **Printer name:** specifies the printer name to be used for the current print job.

  You can select a printer from the list of locally installed printer drivers, or you can enter any printer name. Data source enables variable printer name. When enabled, select or create a variable that contains the printer name when a trigger is executed or an event takes place. Usually, the variable value is assigned by a filter.

Data Mapping group sets the parameters that are returned as a result of the **Printer Status** action.

> WARNING: Most of the following parameters are only supported with NiceLabelprinter driver. If you are using any other printer driver, you can use only the spooler-related parameters.

- **Printer status:** specifies the printer live status formatted as a string.

  If the printer reports multiple states, all states are merged into a single string, delimited by comma ",". If there are no reported printer issues, this field is empty. Printer status might be set to **Offline**, **Out of labels** or **Ribbon near end**. Since there is no standardized reporting protocol, each printer vendor uses proprietary status messages.
- **Printer error:** boolean (true/false) value of the printer error status.
- **Printer offline:** boolean (true/false) value of the printer offline status.
- **Driver paused:** boolean (true/false) value of the driver pause status.
- **NiceLabel driver:** specifies boolean (true/false) value of the printer driver status. Provides information if the selected driver is a NiceLabel driver.
- **Spooler status:** specifies the spooler status in a string form – as reported by the Windows system. The spooler can simultaneously report several statuses. In this case, the statuses are merged using comma ",".

- **Spooler status ID:** specifies spooler status formatted as a number – as reported by the Windows system. The spooler can simultaneously report several statuses. In this case, the returned status IDs contains all IDs as flags. For example, value 5 represents status IDs 4 and 1, which translates to "Printer is in error, Printer is paused". Refer to the table below.

  TIP: The action returns a decimal value, the values in the table below are in hex format, so you will have to do the conversion before parsing the response.

- **Table of spooler status IDs and matching descriptions**

Spooler status ID (in hex)	Spooler status description
0	No status.
1	Printer is paused.
2	Printer is printing.
4	Printer is in error.
8	Printer is not available.
10	Printer is out of paper.
20	Manual feed required.
40	Printer has a problem with paper.
80	Printer is offline.
100	Active Input/Output state.
200	Printer is busy.
400	Paper jam.
800	Output bin is full.
2000	Printer is waiting.
4000	Printer is processing.
10000	Printer is warming up.
20000	Toner/Ink level is low.
40000	No toner left in the printer.
80000	Current page can not be printed.
100000	User intervention is required.
200000	Printer is out of memory.
400000	Door is open.
800000	Unknown error.
1000000	Printer is in power save mode.

- **Number of jobs in the spooler:** specifies the number of jobs that are in the spooler for the selected printer.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.2.8 Store Label To Printer

This action saves label template in the printer memory. The action is a vital part of Store/Recall printing mode, using which you first store a label template into the printer's memory and later recall it. The non-changeable parts of label design are already stored in the printer, so you only have to provide the data for variable label objects at print time. For more information, see section Using Store/Recall Printing Mode in NiceLabel Automation user guide.

The required label data transfer time is greatly minimized as there is less information to be sent. This action is commonly used for stand-alone printing scenarios, where the label is stored to the printer or applicator in the production line and later recalled by some software or hardware trigger, such as barcode scanner or photocell.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Advanced options for storing label to printer group allows you select a label and the preferred storing variant.

- **Label name to be used on the printer:** specifies the name to be used for storing the label template in printer memory. Enter the name manually or enable **Data source** to define the name dynamically using an existing or newly created variable.

  WARNING: When storing the label to a printer, it is recommended to leave the label name under the advanced options empty. This prevents label name conflicts during the recall label process.

- **Store variant:** defines printer memory location for stored label templates. Enter the location manually or enable **Data source** to define the name dynamically using an existing or newly created variable.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.3 Form

8.6.2.3.1 Open Another Form

This action opens another form from the same solution or a form from your disk.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Settings group includes the following options:

- **Navigate back to previously opened form:** reopens the preceding form when the **Open Another Form** action is run.
- **Open form:** defines a form to be opened when the **Open Another Form** action is run.

There are four ways to open a form:

- Enter the absolute file path.
- Select an existing form from the solution.
- Click **Open** to locate the file on the disk.
- Use a data source to define the file path dynamically

Form data sources group helps you manage variable values when switching between forms.

- **Reset variable values:** By default, if a form object's content is a variable value, switching to another form retains its current value. If you enable the **Reset variable values** option, the value of the variable resets to its initial value after you open another form.

> NOTE: The **Open another form** action only keeps the values of variables that are in use as object data sources. If the variables are only listed in the Dynamic Data Manager, their values are not transferred.

> NOTE: If the variable has no initial value, the object appears empty.

EXAMPLE: This option can be useful for data management solutions. When editing the data, you want to keep the existing values. When adding new data, you need to reset the values. If you use the first form for data editing and the second form for adding new data, you keep the **Reset variable values** option disabled for the data editing form, and enable this option for the data adding form.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

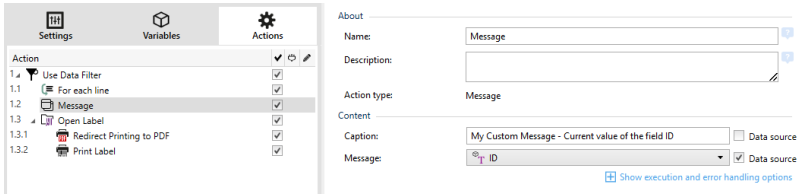
- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

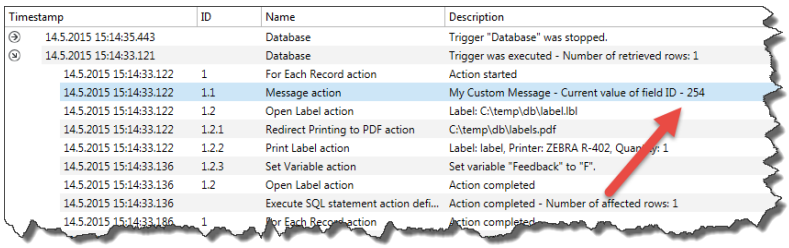
8.6.2.3.2 Message (Configuration)

This action writes a custom entry into the log file.

Usually, the log file contains application-generated strings and error descriptions. Use this action to write a custom string. This is useful for configuration troubleshooting and debugging so you can track values of the selected variables.

EXAMPLE: To configure the logging of custom message in the log pane of Automation Builder (while testing the configuration) or in the log pane of Automation Manager (after the trigger has been deployed and started), see the screen shots below.





Content group defines caption and message content.

- **Caption:** specifies the custom message title. **Data source** option enables the title to be dynamically defined. Select or create a variable that contains the title after a trigger is executed.
- **Message:** specifies contents of the custom message. **Data source** option enables the message content to be dynamically defined.

> **TIP:** Dynamic content is usually prepared in advance in another action and later used here.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

> NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and

`ActionLastErrorDesc`.

8.6.2.3.3 Quit

This action closes the form in NiceLabel 2019.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.3.4 Move Focus

This action moves the focus to a specified object on a form.

Settings group defines focus movement:

- **Move focus to first object in tab order:** sets focus on the first object in the defined order after running the form.
- **Move focus to selected object** places focus after running the form on the selected object.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.3.5 Get Selected Table Row

This action enables you to retrieve the numbers of selected rows, or selected field values in the Database Table form object. The values are stored in an existing or newly created variable. Get Selected Table Row action works as a counterpart of the Select Table Row action.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Form Table group allows you to choose the Database Table object on the form, and to select which values should be stored in a variable.

- **Table:** defines which Database Table object on the form is used with this action.
    - **Selected row numbers:** stores numbers of selected table rows in the **Selected rows variable**.
    - **Table field content for selected rows:** stores the field-related value of selected table rows.
        - **Table field:** defines the table field from which the values are taken and stored in the **Selected rows variable**.

NOTE: If multiple rows are selected, the stored values (row numbers or field values) are separated by commas.
To enable multiple row selection, open **Database Table object properties > Settings** an enable **multiple row selection**.

NOTE: If the stored values (row numbers or field values) contain comma, they are surrounded with quotation marks.

- **Selected rows variable:** selects or creates a variable that stores the **Table field** or **Selected row numbers** value.

TIP: Use this variable as a data source to display the selected values in a form object.

TIP: To display the selection of record immediately after the form is run, use the **On Form Load** event. Go to **Form Properties > Events > On Form Load** and click **Actions...**. Add **Select Table Row** action and define the rows as explained in this section.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.

- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.3.6 Select Table Row

This action allows you to define which row in a Database Table form object is selected. It works as a counterpart of the Get Selected Table Row action.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Form Table group allows you to choose the Database Table object on the form, and select the mode under which the row in the chosen table is selected.

- **Table:** defines which Database Table object on the form is used with this action.
- **Selection mode:** defines database record selection mode.
  - **First row:** selects the first row in the Database Table object.
  - **Last row:** selects the last row in the Database Table object.
  - **Row number:**enables custom selection of a database table rows. Enter the row numbers or define them dynamically using a data source. To select multiple rows, enter their row numbers separated by commas.

- **Field value:**selects all records in the database table with matching data value.
  - **Table field:** database field with value(s) that are selected in case of a match.
  - **Field value:** value which selects the row (record) in case of a match.

NOTE: **Row number** and **Field value** options select the table row without regard to the current sorting of table rows. For example, "row number 3" remains selected even if table sorting repositions the "row number 3" to any other row.

- **Select all rows:**selects all rows in the table.
- **Deselect all rows:**deselects all rows in the table.

NOTE: Multiple rows are selected if the table supports it. If not, only the first row is selected.

When selecting a table row, the row number can be stored in a variable. To enable this option, use the **Store selected row number to variable** option in Database Table properties.

NOTE: The Select Table Row action defines its selection range on the dataset. This means that the records are directly selected from the connected database, and not from the table. If there is filtering enabled the Database Table object, it does not affect the Select table row action.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In

order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.3.7 Set Object Property

This action sets properties of form object, like width, height and color.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Settings group defines the properties to be set:

- **Object name:** form object to be edited. Drop-down list contains objects on the form.
- **Property:** defines the form object property to be set. The availability of properties depends on the currently selected object.

TIP: The settings take effect after the form is run and the assigned event takes place.

Property	Role	Applicability
X	Sets distance from left/right form border.	All form objects.
Y	Sets distance from top/bottom form border.	All form objects.
Width	Sets object width.	All form objects.
Height	Sets object height.	All form objects.
Enabled	Makes the object enabled or disabled.	All form objects.
Visible	Makes the object visible or invisible.	All form objects.
Font name	Changes font name to the selected one.	All form objects with textual content.
Font size	Changes font size to the selected value.	All form objects with textual content.
Font style	Changes font style to the selected one.	All form objects with textual content.

Font color	Changes font color to the selected one.	All form objects with textual content.
Color	Changes the object color to the selected one.	All form objects, except Database Navigator, Picture.
Visible columns	Makes a selection of table columns visible. **TIP:** Columns are visible in the same order as entered in the **Value** field.	Database Table.

- **Value:** comma-separated values. Use the " character if value name includes a comma.

TIP: An example for object property defining is described in Database Table form object section of NiceLabel 2019 User Guide for Designers.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.3.8 Translate Form

This action translates all strings on a form to the selected language. Translation file that contains strings in source language and translated strings is mandatory for this action. If you have to create a new translation file, follow the formatting rules below.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Translate form settings group selects language and selects or creates a new translation file.

- **Language:** language to be used on the translated form. The language name is defined in the first row of the translation file.

  TIP: The language name in the translation file is user-configurable. Use the same ID (name) in the action as you have defined in the translation file. The language name can be fixed or variable. Its usage depends on the language selection type you that is used on the form.
  - **Fixed name:** hard-coded language name which must match the name in the first row of the translation file.
  - **Variable name:** Example is a drop-down box with language names. When the user changes the language in the list, the onChange event executes the Translate Form action. The drop-down box saves the user selection in a variable, which is used for the action.

- **Translation file:** file that contains source strings and translations into various languages. This is a structured text file, similar to a CSV file.
- **Create translation file:** click this button to create the translation file containing the source and translated strings.

Translation File Structure: a text file with UTF-8 encoded data. It is similar to comma-separated-values (CSV).

Formatting Rules are mandatory. Always follow the below listed rules.

- The first line contains language ID.
- The first field is always named as **Source**. Do not change it.
- The names of other fields in the first row are user-configurable. Use the suggested names, such as "Language 2" and "Language 3", or replace them with whatever describes the language better, such as "German", "French", "Chinese", etc.
- All lines that follow the first line are lines with the translations from the original language. The first field contains the original string, the next fields in the same line contain

translation to other languages. The first line specifies in which order the translation should follow the source string.

- All values are enclosed with double-quote characters (").
- All values are delimited by a semicolon character (;).
- If you have multiline text objects in the form, the newline (<CR><LF>) will be encoded as special string $NEWLINE$.
- If you leave the translation empty, the **Source** string is used.

EXAMPLE OF TRANSLATION FILE:

```
Source";"DE"

"&Print";"&Druck"

"Customize$NEWLINE$your$NEWLINE$printing$NEWLINE$forms";"
Anpassen$NEWLINE$Sie$NEWLINE$Ihre$NEWLINE$Druckformen"

"Printer:";"Drucker"

"Quantity";"Menge"

"SAMPLE";"PROBE"

"Se&ttings";"Einstellungen"

"Translate";"Übersetzen"

"www.nicelabel.com/solutions";""
```

Translating Strings

When using the Translate Form action anywhere in your form, all strings of the form are automatically saved to the translation file whenever you save the form. This ensures that the translation file is always up to date with your form.

The translation file is Unicode-aware text file. You can edit it in any text editor, but you might have troubles recognizing the fields, because their values are semicolon-separated and not aligned one below another.

You can also open the file in a spreadsheet application, such as Microsoft Excel. In this case, the fields belonging to particular language are displayed in the same column of data, and much easier to edit.

NOTE: Spreadsheet applications might change the input file structure of the translation file. In this case, reformat the data by yourself after you save the translation file.

EXAMPLE: Microsoft Excel will save the translation file as CSV. The fields lose the double quotes around the values and will be delimited by comma (,) instead of semicolon (;). You will have to convert commas into semicolons and put double quotes around fields. This can be done with a few search & replace actions.

Translating Label Values in a Solution

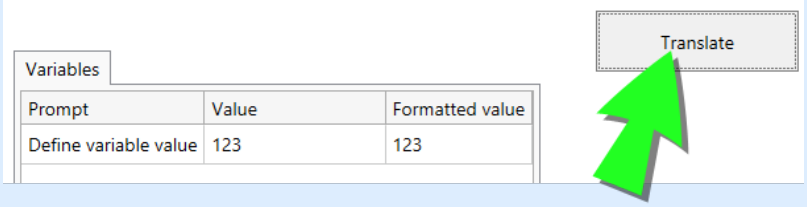
Forms sometimes display values that come from labels in the same solution document. The Translate Form action does not translate these label values automatically because you have to manually add them to the translation file.

Add label values to the translation file using the same formatting rules as described above.

EXAMPLE

Your solution contains one form and one label. The form includes Data Initialization object for assigning values to the label variables.

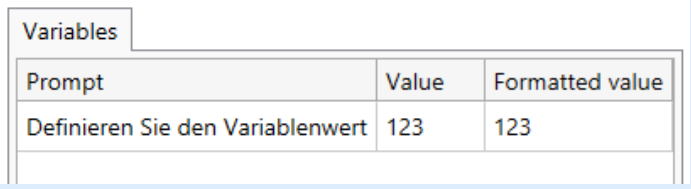
You want to display the originally English form in German language using the Translate Form action (i.e. by clicking a button on the form).



Original prompt text for variables is `"Define variable value"`. To display German translation, add this line to the translation file:

```
"Define variable value";"Definieren Sie den Variablenwert";
```

After you click the button with assigned Translate Form action, the prompt text appears in German.



Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.4 Variables

8.6.2.4.1 Set Variable

This action assigns a new value to the selected variable.

Variables usually obtain their values using Use Data Filter action (available in Automation Builder) which extracts fields from the received data and maps them to variables. You might also need to set the variable values by yourself, usually for troubleshooting purposes. In Automation Builder, the variable values are not remembered between multiple triggers, but are kept while the same trigger is being processed.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Variable group defines the variable name and its value.

- **Name:** name of variable that should store the value changed.
- **Value:** value to be set to a variable. It can either be manually or dynamically defined using an existing or a newly created variable.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.4.2 Save Variable Data

This action saves values of a single or multiple variables in an associated data file.

In NiceLabel Automation module, this action allows data exchange between triggers. To read the data back into the trigger, use action Load Variable Data.

TIP: The values are saved in a CSV file with the first line containing variable names. If the variables contain multi-line values, the newline characters (CR/LF) are encoded as `\n\r`.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Settings group defines the file name.

- **File name:** data file to save the variable data to. If the name is hard-coded, values are saved into the same data file each time.

  Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

If file exists group offers additional options to save the values.

- **Overwrite the file:** overwrites the existing data with new variable data. The old content is lost.
- **Append data to the file:** appends the variable values to the existing data files.

File Structure group defines the CSV variable data file parameters:

- **Delimiter:** specifies the delimiter type (tab, semicolon, comma or custom character). Delimiter is a character that separates the stored variable values.
- **Text qualifier:** specifies the character that qualifies the stored content as text.
- **File encoding:** specifies character encoding type to be used in the data file. **Auto** defines the encoding automatically. If required, the preferred encoding type can be selected from the drop-down list.

  TIP: UTF-8 makes a good default selection.

- **Add names of variable in the first row:** places the variable name in the first row of the file.

Variables group defines the variables whose value should be read from the data file. Values of the existing variables are overwritten with values from the file.

- **All variables:** variable data of all variables from the data file is read.
- **Selected variables:** variable data of listed variables is red from the data file.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In

order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.4.3 Load Variable Data

This action loads values of a single or multiple variables from the associated data file as saved by the action Save Variable Data. Use this action to exchange the data between triggers. You can load a particular variable or all variables that are stored in the data file.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Settings group defines the file name.

- **File name:** specifies the file for the variable data to be loaded from. If the name is hard-coded, the values are loaded from the same file each time.

  Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

File Structure group settings must reflect the structure of the saved file from the Save Variable Data action.

- **Delimiter:** specifies delimiter type (tab, semicolon, comma or custom character). Delimiter is a character that separates the values.
- **Text qualifier:** specifies the character that qualifies content as text.
- **File encoding:** specifies the character encoding type used in the data file. **Auto** defines the encoding automatically. If needed, select the preferred encoding type from the drop-down list.

  TIP: UTF-8 makes a good default selection.

Variables group defines the variables whose values should be loaded from the data file.

- **All variables:** specifies all defined variables in the data file to be read.
- **Selected variables:** specifies selection of individual variables to be read from the data file.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

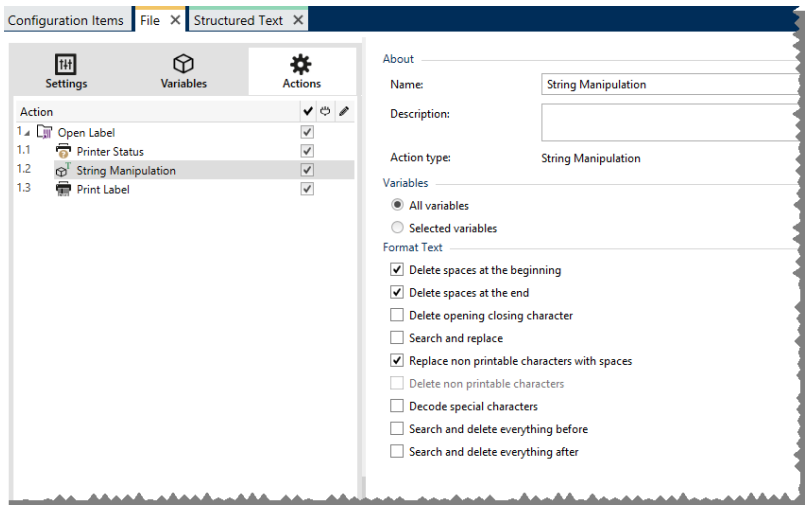
8.6.2.4.4 String Manipulation

This action defines how the values of selected variables should be formatted.

The most popular string manipulation actions are: delete leading and trailing spaces, search and replace characters, and delete opening and closing quotes.

This feature is often required is a trigger receives an unstructured data file or legacy data. in such cases, the data needs to be parsed using the **Unstructured Data** filter. String Manipulation action allows you to fine-tune the data value.

NOTE: If this action doesn't provide enough string manipulation power for a particular case, use **Execute Script** action instead to manipulate your data using Visual Basic Script or Python scripts.



About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Variables group defines the variables whose values need to be formatted.

- **All variables:** specifies all the defined variables in a data file to be formatted.
- **Selected variables:** specifies a selection of variables to be formatted from the data file.

Format Text group defines string manipulation functions that apply to the selected variables or fields. Multiple functions can be used. The functions apply in the same order as seen in the editor – from top to bottom.

- **Delete spaces at the beginning:** deletes all space characters (decimal ASCII code 32) from the beginning of the string.
- **Delete spaces at the end:** deletes all space characters (decimal ASCII value 32) from the end of a string.
- **Delete opening closing characters:** deletes the first occurrence of the selected opening and closing characters that is found in the string.

> **EXAMPLE:** If using "{" as opening character and "}" as closing character, the input string {{selection}} is converted to {selection}.

- **Search and replace:** executes standard search and replace function upon the provided values for *find what* and *replace with*. Regular expressions are supported.

> NOTE: Several implementations of regular expressions are present. NiceLabel 2019 uses .NET Framework syntax for the regular expressions. For more information, see Knowledge Base article KB250.

- **Replace non printable characters with space:** replaces all control characters in the string with "space" character (decimal ASCII code 32). Non printable characters are characters with decimal ASCII values between 0–31 and 127–159.
- **Delete non printable characters:** deletes all control characters in the string. Non printable characters are characters with decimal ASCII values between 0–31 and 127–159.
- **Decode special characters:** decodes the characters (or control codes) that are not available on the keyboard, such as Carriage Return or Line Feed. NiceLabel 2019 uses a notation to encode such characters in human-readable form, such as <CR> for Carriage Return and <LF> for Line Feed. This option converts special characters from NiceLabel syntax into actual binary characters.

EXAMPLE: When you receive the data "<CR><LF>", Designer uses it as plain string of 8 characters. You will have to enable this option to interpret and use the received data as two binary characters `CR` (Carriage Return – ASCII code 13) and `LF` (Line Feed – ASCII code 10).

- **Search and delete everything before:** finds the provided string and deletes all characters in front of the defined string. The string can also be deleted.
- **Search and delete everything after:** finds the provided string and deletes all characters behind the defined string. The string can also be deleted.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5 Data And Connectivity

8.6.2.5.1 Execute SQL Statement

This action sends SQL commands a connected SQL server and collects results. Use commands SELECT, INSERT, UPDATE, and DELETE.

Use Execute SQL Statement action to achieve these two goals:

- **Obtain additional data from a database:** In Automation Builder module, a trigger receives data for label printing, but not all of the required values. For example, a trigger receives values for `Product ID` and `Description`, but not for `Price`. We have to look up the value for `Price` in the SQL database.

  SQL code example:

  ```
  SELECT Price FROM Products
  WHERE ID = :[Product ID]
  ```

  The `ID` is field in the database, `Product ID` is a variable defined in the trigger.

- **Update or delete records in a database:** After a label is printed, update the database record and send a signal to the system that the particular record has already been processed.

  SQL code example:

  Set the table field `AlreadyPrinted` value to `True` for the currently processed record.

  ```
  UPDATE Products
  SET AlreadyPrinted = True
  WHERE ID = :[Product ID]
  ```

  Or delete the current record from a database, because it's not needed anymore.

  ```
  DELETE FROM Products
  WHERE ID = :[Product ID]
  ```

  The `ID` is field in the database, `Product ID` is a variable defined in the trigger.

NOTE: To use value of a variable inside an SQL statement, you have to insert colon (:) in front of its name. This signals that a variable names follow.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.

- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Database Connection group defines the database connection that is used for the statement.

> **TIP:** Before you can send an SQL sentence to a database, set up the database connection. Click **Define** button and follow the on-screen instructions. You can connect to a data source that can be controlled using SQL commands, so you cannot use text (CSV) or Excel files.

SQL Statement group defines an SQL statement or query to be executed.

> **TIP:** Statements from Data Manipulation Language (DML) are allowed to execute queries upon existing database tables.

Use standard SQL statements, such as SELECT, INSERT, DELETE and UPDATE, including joins, function and keywords. The statements in DDL language that are used to create databases and tables (CREATE DATABASE, CREATE TABLE), or to delete them (DROP TABLE) are not permitted.

- **Test:** opens **Data Preview** section. Simulate execution (selected by default) tests the execution of SQL statements. Click **Execute** to run the simulation.

  > **TIP: Data Preview** section allows you to test the execution of your SQL statement upon a live set of data. To protect the data from accidental updates, make sure the option **Simulate execution** is enabled. The statements INSERT, DELETE and UPDATE will execute. This enables you to gain feedback on how many records will be affected, then all of the transactions will be reversed.

  If you use trigger variables in the SQL statement, you will be able to enter their values for the test execution.
- **Insert data source:** inserts predefined or newly created variables into an SQL statement.
- **Export/Import:** enables exporting and importing SQL statements to/from an external file.
- **Execution mode:** specifies the explicit mode of SQL statement execution.

  > **TIP:** In cases of complex SQL queries, it becomes increasingly difficult to automatically determine what is the supposed action. If the built-in logic has troubles identifying your intent, manually select the main action.

  - **Automatic:** determines the action automatically.
  - **Returns set of records (SELECT):** receives the data set with records.
  - **Does not return set of records (INSERT, DELETE, UPDATE):** use this option if executing a query that does not return the records. Either insert new records,

delete or update the existing records. The result is a status response reporting the number of rows that were affected by your query.

- **Execution timeout:** allows you to define the time delay for sending your commands to the SQL server. Use the execution timeout if you are sending multiple consecutive SQL commands that require longer processing time.

  Type the requested timeout duration in seconds. By default, the execution timeout duration is 60 s. If you want your database provider to define the timeout, type in 0 s.

Result group allows you to set how the SQL statement result should be stored, and to define action iteration.

- **Save Data to Variable:** selects or creates a variable to store the SQL statement result. This option depends on the selected **Execution mode**.
  - **Result of SELECT statement.** After you execute a SELECT statement, it results in a data set of records. You receive a CSV-formatted text content. The first line contains field names returned in a result. The next lines contain records.

    To extract the values from the returned data set and to use them in other actions, define and execute the action Use Data Filter upon the contents of this variable (this action is available in Automation Builder).

  - **Result of INSERT, DELETE and UPDATE statements.** If you use INSERT, DELETE and UPDATE statements, the result is a number indicating the number of records affected in the table.
- **Iterate for Every Record.** If enabled, a new action For Every Record is automatically added. All nested actions are repeated for each record that has been returned using the SQL statement.

  NOTE: Automatic mapping is enabled. For Every Record action cannot be deleted.

Retry on failure group allows you to configure the action to continually retry establishing the connection to a database server in case the first attempt is unsuccessful. If the action fails to connect within the defined number of attempts, en error is raised.

- **Retry attempts:** specifies the number of tries to connect to the database server.
- **Retry interval:** specifies the duration of time between individual retry attempts.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5.2 Refresh Table

This action rereads the specified database table.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Table group selects the database table to be reread.

- **Table:** defines an existing table to be reread or creates a new one using the Step-by-Step Database Wizard.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.

- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5.3 Import Data Into Table

This action reads data from a formatted CSV text file and imports it into an SQL database.

NOTE: Before using this action, a connection to the SQL database must already be set. The action does not work with file-based databases, such as Microsoft Access, or data files like Microsoft Excel, or plain text files. Use a server-based SQL database, such as Microsoft SQL Server.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

The following rules apply to this action:

- The table must already exist within the SQL database.
- The table must contain PRIMARY KEY.
- The first line in a text file must define field names.
- The field names in the text file must match field names in the database table.
- If the text file does not provide a value for some field, NULL is written to the database. If the field does not accept NULL values, an empty string ("") is written.

- Setting values for auto-incremental fields are ignored. The database provides value for such field.
- If the value from text file does not match the structure of the field, the action is canceled and an error message is displayed. For example, when trying to enter alphanumerical value into numerical field.
- If you filter records on the form and display only records matching certain condition, you can only import records that either do not provide value for the filter field, or provide the same value for the filter as defined with the form.
- Only filters with condition "equal" , not "greater than", "less than", "contains" or similar are permitted.
- If the text file contains fields not defined in the SQL database, the import will ignore them. Only known fields will be imported.

Settings group selects the table.

- **Table** defines a predefined table from the drop-down menu or creates a new one using the Step-by-Step Database Wizard.

File Text Structure group specifies the text database parameters:

- **Delimiter:** specifies the delimiter type in the data file. Select a predefined delimiter, or create a custom one.
- **Text qualifier:** specifies the text qualifier. Select a predefined delimiter or insert a custom one.
- **File encoding:** specifies the character encoding type used in the data file. **Auto** defines the encoding automatically. If needed, select the preferred encoding type from the drop-down list.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5.4 Send Data To TCP/IP Port

PRODUCT LEVEL INFO: The described feature is available in **NiceLabel LMS Enterprise** and **NiceLabel LMS Pro**.

This action sends data to any external device which accepts TCP/IP connection on a predefined port number.

Send Data to TCP/IP Port establishes connection with a device, sends the data and terminates the connection. The connection and communication is governed by the client – server handshake that occurs when initiating or terminating the TCP connection.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Connection Settings group sets connection details.

- **Reply to sender:** Enables direct reply to the socket from which the trigger data originates. Use this option to provide feedback about the printing process.

  NOTE: This option is available in NiceLabel Automation.

  Prerequisites for **Reply to sender** setting are:

  - Remote party does not close the communication channel, once the message gets delivered.
  - Send Data to TCP/IP Port action is used within the TCP/IP Server trigger.
  - Do **not** configure the Execution Event in the TCP/IP Server trigger as **On client disconnect**.

- **Destination (IP address:port):** destination address and port of the TCP/IP server. Hard-code the connection parameters and use fixed host name or IP address or use variable connection parameters by clicking the right arrow and selecting a predefined variable. For more information, see section Combining Values in an Object in NiceLabel Automation user guide.

  EXAMPLE: If the variable `hostname` provides the TCP/IP server name and the variable `port` provides the port number, enter the following parameter for the destination:
  `[hostname]:[port]`

- **Disconnect delay:** prolongs the connection with the target socket for the defined time intervals after the data has been delivered. Certain devices require more time to process the data. Insert the delay value manually or click the arrows to increase or decrease it.
- **Save data reply in a variable:** selects or creates a variable that stores the server reply. Any data received from the TCP/IP server after passing the "disconnect delay" is stored in this variable.

Content group defines the content to be sent to a TCP/IP server.

TIP: Use fixed content, mix of fixed and variable content, or variable content alone. To enter variable content, click the button with arrow to the right of data area and insert a variable from the list. For more information, see section Combining Values in an Object in NiceLabel Automation user guide.

- **Data:** content to be sent outbound.
- **Encoding:** encoding type for the sent data. **Auto** defines the encoding automatically. If needed, select the preferred encoding type from the drop-down list.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5.5 Send Data To Serial Port

This action sends data to a serial port. Use it to communicate with external serial-port devices.

TIP: Make sure the port settings match on both ends – in the configured action and on the serial-port device. Serial port can be used by a single application in the machine. To successfully use the port from this action, no other application may use the port at the same time, not even any printer driver.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Port group defines the serial port.

- **Port name:** name of the port to which the external device connects to. This can either be a hardware COM port or a virtual COM port.

Port Settings group defines additional port connection settings.

- **Bits per second:** speed rate used by the external device to communicate with the PC. The usual alias used with the setting is "baud rate". Select the value from the drop-down menu.
- **Data bits:** number of data bits in each character. 8 data bits are almost universally used in newer devices. Select the value from the drop-down menu.
- **Parity:** method of detecting errors in a transmission. The most common parity setting, is "none", with error detection handled by a communication protocol (flow control). Select the value from the drop-down menu.
- **Stop bits:** halts the bits sent at the end of every character allowing the receiving signal hardware to detect the end of a character and to resynchronize with the character stream. Electronic devices usually use a single stop bit. Select the value from the drop-down menu.
- **Flow control:** serial port may use interface signals to pause and resume the data transmission.

Content group defines the content to be sent to serial port.

TIP: Fixed content, mix of fixed and variable content, or variable content alone are permitted. To enter variable content, click the button with arrow to the right of data area and insert a variable from the list. For more information, see section Combining Values in an Object in NiceLabel Automation user guide.

- **Data:** content to be sent outbound.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5.6 Read Data From Serial Port

This action collects data received via serial port (RS-232) and saves it in a selected variable. Use this action to communicate with external serial port devices.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose

and role of action in a solution.

- **Action type:** read-only information about the selected action type.

Port group defines the serial port.

- **Port name:** name of the port to which an external device connects to. This can either be a hardware COM port or a virtual COM port.

Port Settings group defines additional port connection settings.

- **Bits per second:** speed rate used by the an external device to communicate with the PC. The usual alias used with the setting is "baud rate".
- **Data bits:** specifies the number of data bits in each character. 8 data bits are almost universally used in newer devices.
- **Parity:** specifies the method of detecting errors in a transmission. The most common parity setting, is "none", with error detection handled by a communication protocol (flow control).
- **Stop bits:** halts the bits sent at the end of every character allowing the receiving signal hardware to detect the end of a character and to resynchronize with the character stream. Electronic devices usually use a single stop bit.
- **Flow control:** serial port may use interface signals to pause and resume the data transmission.

EXAMPLE: A slow device might need to handshake with the serial port to indicate that data should be paused while the device processes received data.

Options group includes the following settings:

- **Read delay:** optional delay when reading data from serial port. After the delay, the entire content of the serial port buffer is read. Enter the delay manually or click the arrows to increase or decrease the value.
- **Send initialization data:** specifies the string that is sent to the selected serial port before the data is read. This option enables the action to initialize the device to be able to provide the data. The option can also be used for sending a specific question to the device, and to receive a specific answer. Click the arrow button to enter special characters.

Data Extraction group defines how the defined parts of received data are extracted.

- **Start position:** starting position for data extraction.
- **End position:** ending position for data extraction.

Result group defines a variable for data storing.

- **Save data to variable:** select or create a variable to store the received data.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5.7 Send Data To Printer

This action sends data to a selected printer. Use it to send pre-generated printer streams to any available printer.

NiceLabel Automation module uses the installed printer driver in pass-through mode just to be able to send data to the target port, such as LPT, COM, TCP/IP or USB port, to which the printer is connected.

Possible scenario. Data received by the trigger must be printed out on the same network printer, but on different label templates (.NLBL label files). The printer can accept data from various workstations and will usually print the jobs in the received order. Automation Builder module will send each label template in a separate print job, making it possible for another workstation to insert its job between the jobs created in our own Automation Builder module. Instead of sending each job separately to the printer, merge all label jobs (using the action Redirect Printing to File) and send a single "big" print job to the printer.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Printer group selects the printer.

- **Printer name:** name of the printer to send the data to. Select the printer from the drop-down list of locally installed printer drivers, enter a custom printer name, or define it dynamically using an existing or newly created variable.

Data Source group defines the content to be sent to printer.

- **Use data received by the trigger:** trigger-received data it used. In this case, you want the received printer stream to be used as an input to the filter. Your goal is to redirect it to a printer without any modification. The same result can be achieved by enabling the internal variable `DataFileName` and using the contents of the file it refers to. For more information, see section Using Compound Values in NiceLabel Automation user guide.
- **File name:** path and file name of the file containing a printer stream. Content of the specified file is sent to a printer. Select **Data source** to define the file name dynamically using a variable value.
- **Variable:** variable (existing or new) that contains the printer stream.
- **Custom:** defines custom content to be sent to a printer. Fixed content, mix of fixed and variable content, or variable content alone are permitted. To enter variable content, click the button with arrow to the right of data area and insert a variable from the list. For more information, see section Combining Values in an Object in NiceLabel 2019 user guide.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5.8 HTTP Request

This action sends data to the destination Web server using the selected HTTP method. HTTP and HTTPS URI schemes are allowed.

HTTP works as a request-response protocol in client-server computing model. In this action, NiceLabel 2019 acts as a client that communicates with a remote server. This action submits a selected HTTP request message to a server. The server returns a response message, which can contain completion status information about the request and may also contain requested content in its body.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Connection Settings group sets connection parameters.

NOTE: This action supports Internet Protocol version 6 (IPv6).

- **Destination:** address, port and destination (path) of the Web server.

TIP: If a Web server runs on default port 80, skip the port number. Hard-code the connection parameters and use a fixed host name or IP address. Use a variable value to define this option dynamically. For more information, see section Using Compound Values in NiceLabel Automation user guide.

EXAMPLE: If the variable `hostname` provides the Web server name and the variable `port` provides the port number, you can enter the following for the destination:

```
[hostname]:[port]
```

- **Request method:** available request methods.
- **Timeout:** timeout duration (in ms) during which the server connection should be established and response received.
- **Save status reply in a variable:** variable to store the status code received from the server.

  TIP: Status code in range 2XX is a success code. Common "OK" response is code 200. Codes 5XX are server errors.

- **Save data reply in a variable:** variable to store the data received from the server.

Authentication group enables you to secure the Web server connection.

- **Enable basic authentication:** allows you to enter the required credentials to connect to the Web server. User name and password can either be fixed or provided using a variable.

HTTP Basic authentication (BA) uses static standard HTTP headers. The BA mechanism provides no confidentiality protection for the transmitted credentials. They are merely encoded with Base64 in transit, but are not encrypted or hashed in any way. Basic Authentication should be used over HTTPS.

- **Show password:** unmasks the password characters.

Content group defines the contents to be sent to a Web server.

- **Data:** content to be sent outbound. Fixed content, mix of fixed and variable content, or variable content alone are permitted. To enter variable content, click the button with arrow to the right of data area and insert variable from the list. For more information, see section Combining Values in an Object in NiceLabel 2019 user guide.
- **Encoding:** encoding type for the sent data.

  TIP: Auto defines the encoding automatically. If needed, select the preferred encoding type from the drop-down list.

- **Type:** Content-Type property of the HTTP message. If no type is selected, the default `application/x-www-form-urlencoded` is used. If an appropriate type is not listed, define a custom one or set a variable that would define it dynamically.

Additional HTTP Headers are requested by certain HTTP servers (especially for REST services).

- **Additional headers:** hard coded headers or headers obtained from variable values. To access the variables, click the small arrow button to the right hand side of the text area. For more information, see section Combining Values in an Object in NiceLabel 2019 user guide.

Certain HTTP servers (especially for REST services) require custom HTTP headers to be included in the message. This section allows you to provide the required HTTP header.

HTTP headers must be entered using the following syntax:

```
header field name: header field value
```

For example, to use the header field names `Accept`, `User-Agent` and `Content-Type`, you could use the following syntax:

```
Accept: application/json; charset=utf-8
User-Agent: Mozilla/5.0 (Windows NT 6.3; WOW64) AppleWebKit/537.36 (KHTML,
like Gecko) Chrome/31.0.1650.63 Safari/537.36
Content-Type: application/json; charset=UTF-8
```

You can hard code the header field names, or you can obtain their values from trigger variables. Use as many custom header fields as you want, just make sure that each header field is placed in a new line.

NOTE: The entered HTTP headers override the already defined headers elsewhere in the action properties, such as **Content-Type**.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.5.9 Web Service

Web Service is a method of communication between two electronic devices or software instances. Web Service is defined as a data exchange standard. It uses XML format to tag the data, SOAP protocol is used to transfer the data, and WSDL language is used to describe the available services.

This action connects to a remote Web service and executes the methods on it. Methods can be described as actions that are published on the Web Service. The action sends inbound values to the selected method in the remote Web service, collects the result and saves it in selected variables.

After importing the WSDL and adding a reference to the Web Service, its methods are listed in the **Method** combo box.

NOTE: You can transfer simple types over the Web Service, such as string, integer, boolean, but not the complex types. The WSDL must contain single binding only.

You plan to print product labels. Your trigger would receive only a segment of the required data. E.g. the trigger receives the value for `Product ID` and `Description` variables, but not the `Price`. The price information is available in a separate database, which is accessible over Web service call. Web service defines the function using a WSDL definition. For example, function input is `Product ID` and its output is `Price`. The Web Service action sends `Product ID` to the Web service. It executes and makes an internal look up in its database and provide the matching `Price` as the result. The action saves the result in a variable, which can be used on the label.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Web Service Definition group includes the following settings:

NOTE: This action supports Internet Protocol version 6 (IPv6).

- **WSDL:** location of WSDL definition.

  WSDL is usually provided by the Web service. Typically, you would enter the link to WSDL and click **Import** to read the definition. If facing troubles while retrieving the WSDL from

online resource, save the WSDL to a file and enter the path with file name to load the methods from it. NiceLabel 2019 automatically detects if the remote Web Service uses a document or RPC syntax, and whether it communicates appropriately or not.

- **Address:** address at which the Web Service is published.

  Initially, this information is retrieved from the WSDL, but can be updated before the action is executed. This is helpful for split development / test / production environments, where the same list of actions is used, but with different names of servers on which the Web Services run.

  Fixed content, mix of fixed and variable content, or variable content alone are permitted. To enter variable content, click the button with arrow to the right hand side of data area and insert variable from the list. For more information, see section Combining Values in an Object in NiceLabel 2019 user guide.

- **Method:** methods (functions) that are available for the selected Web service. The list is automatically populated by the WSDL definition.

- **Parameters:** input and output variables for the selected method (function).

  Inbound parameters expect an input. For testing and troubleshooting reasons, you can enter a fixed value and see the preview result on-screen. Typically, you would select a variable for inbound parameter. Value of that variable will be used as input parameter. The outbound parameter provides the result from the function. You must select the variable that will store the result.

- **Timeout:** timeout after which the connection to a server is established.

Authentication enables basic user authentication. This option defines user credentials that are necessary to establish an outbound call to a remote web service.

- **Enable basic authentication:** enables defining the **Username** and **Password** that can be entered manually or defined by variable values. Select **Data sources** to select or create the variables.

- **Show password:** uncovers the masked **Username** and **Password** characters.

  Details about security concerns, are available in section Securing Access to your Triggers in NiceLabel Automation user guide.

Data Preview field allows you to perform a test Web service execution.

- **Execute** button executes a Web service call.

  It sends values of inbound parameters to the Web service and provides the result in the outbound parameter. Use this functionality to test the execution of a Web service. You can enter values for inbound parameters and see the result on-screen. When satisfied with execution, replace the entered fixed value for inbound parameter with a variable from the list.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.6 File Operations

8.6.2.6.1 Save Data To File

This action saves variable value or other data streams (such as binary data) in a selected file. The NiceLabel Automation service must have write access to the defined folder.

File group defines the file to be opened.

- **File name:** location of the file to be opened within this action.

  Path and file name can be hard-coded, and the same file is going to be used every time. If only a file name without path is defined, the folder with NiceLabel Automation configuration file (.MISX) is used. You can use a relative reference to the file name, in which the folder with .MISX file is used as the root folder.

  Data source: enables variable file name. Select a variable that contains the path and/or file name or combine several variables that create the file name. For more information, see section Using Compound Values in NiceLabel Automation User Guide.

If file exists group handles options in case of an already existing file.

- **Overwrite the file:** overwrites existing data with new data. The old content is lost.
- **Append data to the file:** appends variable values to the existing data files.

Content group defines which data is going to be written in the specified file.

- **Use data received by the trigger:** original data as received by the trigger is going to be saved in the file. Effectively, this option makes a copy of the incoming data.
- **Custom:** saves content as provided in the text area. Fixed values, variable values and special characters are permitted. To enter variables and special characters, click the arrow button to the right of the text area. For more information, see section Combining Values in an Object in NiceLabel Automation User Guide.
- **Encoding:** encoding type for the sent data. **Auto** defines the encoding automatically. If needed, select the preferred encoding type from the drop-down list.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.6.2 Read Data From File

This action reads content of the provided file name and saves it in a variable. Content of any file type, including binary data can be read.

Usually, Automation Builder module receives data for label printing using a trigger. E.g. if a file trigger is used, the content of trigger file is automatically read and can be parsed by filters. However, you might want to bypass filters to obtain some external data. Once you execute this action and have the data stored in a variable, you can use any of the available actions to use the data.

This action is useful:

- If you must combine data received by the trigger with data stored in a file.

WARNING: If you load data from binary files (such as bitmap image or print file), make sure the variable to store the read content is defined as a **binary variable**.

- When you want to exchange data between triggers. One triggers prepares data and saves it to file (using the File Operations action), the other trigger reads the data.

File group defines the file to read the content from.

- **File name:** location of the file to be read within this action.

  Path and file name can be hard-coded, and the same file is going to be used every time. If only a file name without path is defined, the folder with NiceLabel Automation configuration file (.MISX) is used. You can use a relative reference to the file name, in which the folder with .MISX file is used as the root folder.

  Data source: enables variable file name. Select a variable that contains the path and/or file name or combine several variables that create the file name. For more information see section Using Compound Values in NiceLabel Automation User Guide.

  NOTE: Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation User Guide.

Content group sets file content related details.

- **Variable:** variable that stores the file content. At least one variable (existing or newly created) should be defined.
- **Encoding:** encoding type for the sent data. **Auto** defines the encoding automatically. If needed, select the preferred encoding type from the drop-down list.

  NOTE: Encoding cannot be selected if the data is read from a binary variable. In this case, the variable contains the data as-is.

Retry on Failure group defines how the action execution should continue if the specified file becomes inaccessible.

TIP: Automation Builder module might become unable to access the file, because it is locked by another application. If an application still writes data to the selected file and keeps it locked in exclusive mode, no other application can open it at the same time, not even for

reading. Other possible causes for action retries are: file doesn't exist (yet), folder does not exist (yet), or the service user doesn't have the privileges to access the file.

- **Retry attempts:** defines the number of retry attempts for accessing the file. If the value is set to 0, no retries are made.
- **Retry interval:** time interval between individual retries in milliseconds.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.6.3 Delete File

PRODUCT LEVEL INFO: The described feature is available in **NiceLabel LMS Enterprise** and **NiceLabel LMS Pro**.

This action deletes a selected file from a drive.

NiceLabel Automation module runs as service under a defined Windows user account. Make sure that account has the permissions to delete the file in a specified folder.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

File group sets the file related details.

- **File name:** the name of the file to be deleted. **File name** can be hard-coded. **Data source** dynamically defines the **File name** using an existing or newly created variable.

  Path and file name can be hard-coded, and the same file is going to be used every time. If only a file name without path is defined, the folder with NiceLabel Automation configuration file (.MISX) is used. You can use a relative reference to the file name, in which the folder with .MISX file is used as the root folder.

  Data source option enables variable file name. Select or create a variable that contains the path and/or file name or combine several variables that create the file name. For more information see section Using Compound Values in NiceLabel Automation User Guide.

  NOTE: Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation User Guide.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.6.4 Browse File/Folder

This action opens the system browse for file or folder dialog.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Dialog group sets the browsing preferences.

- **Browse for:** selects between browsing for file or folder.
- **Filter:** sets the file type to be located. Enter the file type manually, define the filters using a **Define File Filters** dialog or select **Data source** to determine the filter dynamically using a variable value. The **Define File Filters** dialog allows the user to:
  - **List the filters.** Each filter is identified with a **Filter Name** and **Filter** type.
  - **Manage the existing filters** using **Add**, **Delete**, **Move up** and **Move down** buttons.

    NOTE: If you remove all filters, file type selection drop-down list will not be shown when the dialog opens.
- **Initial folder:** sets the initial folder to be opened with action.
- **Dialog title:** title of the file browser window that opens with action.
- **Allow non-existing file:** enables browsing for a file that does not exist in the specified folder. This option allows you to store the path to a non-existent file in a variable and use it in a series of actions. The file can be created later using other actions, such as Save Data to File.

Output data source group selects a variable for file/folder path storing.

- **Save path to:** existing or new variable for the file/folder path to be saved to.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

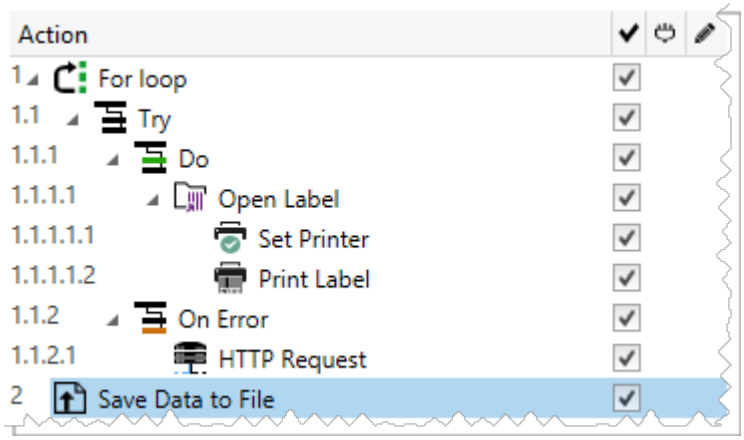
- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.7 Flow Control

8.6.2.7.1 For Loop

PRODUCT LEVEL INFO: Here described product feature is available in **NiceLabel LMS Enterprise**.

This action executes all of the subordinate (nested) actions multiple times. All nested actions are executed in a loop for as many times as defined by the difference between start value and end value.



NOTE: For Loop action starts session printing mode – a printing optimization mode that prints all labels in a loop using a single print job file. For details, see Session Printing section in NiceLabel Automation user guide.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Loop Settings group includes the following options:

- **Start value:** loop starting point reference. Select **Data source** to define the start value dynamically using a variable value. Select or create a variable containing a numeric value for start.
- **End value:** ending point reference. Select **Data source** to define the start value dynamically using a variable value. Select or create a variable containing a numeric value for start.

  TIP: Negative values are permitted for **Start value** and **End value**.

- **Save loop value to a variable:** saves the current loop step value in an existing or a newly created variable. The loop step value is allowed to contain any value between start and end value. Save the value in order to reuse it in another action to identify the current iteration.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.7.2 For Every Record

This action executes subordinate nested actions for multiple times. All of the nested actions are executed in a loop for as many times as there are records in the form table with a connected database.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Settings group selects the records.

- **Form table:** form table that contains records for which an action should repeat.
- **Use all records:** repeats an action for all records in a defined table.
- **Use selected record:** repeats an action for the selected records only.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

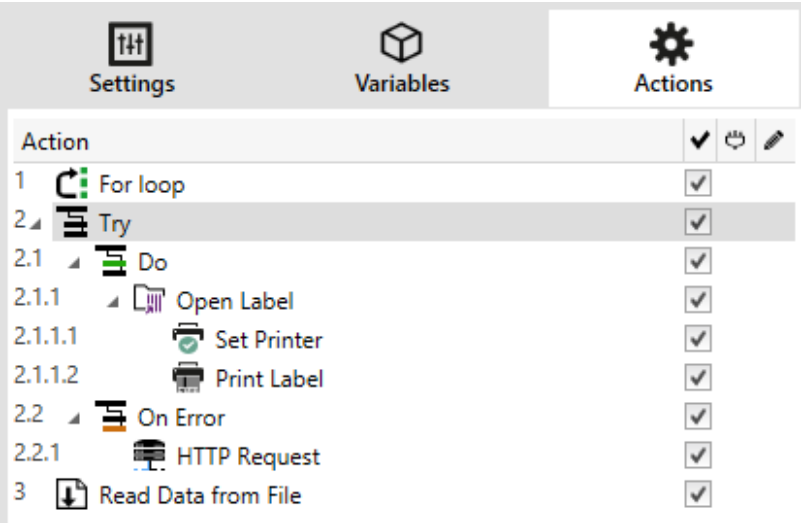
- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.7.3 Try

This action allows you to:

- monitor errors while the actions are being executed
- run an alternative set of actions, if an error occurs

Try action creates **Do** and **On error** placeholders for actions. All actions that should execute if a trigger fires, must be placed inside the **Do** placeholder. If no error is detected when executing actions from **Do** placeholder, these are the only actions that ever execute. However, if an error does happen, the execution of actions from **Do** placeholder stops and the execution switches over to actions from **On error** placeholder.



EXAMPLE: If any action in the Do placeholder fails, the action execution stops and resumes with the actions in the On Error placeholder. If Try would be placed on its own, that would terminate the trigger execution. In our case, Try is nested under the For loop action. Normally, any error in Do placeholder would also stop executing the For loop action, even if there are still further steps until the For loop is complete. In this case, the Save Data to File action does not execute as well. By default, each error breaks the entire trigger processing.

However, you can also continue with the execution of the next iteration in the For loop action. To make this happen, enable the Ignore failure option in the Try action. If the data from the current step in For Loop causes an error in the Do placeholder, the actions from On Error execute. After that, the Save Data to File in level 2 execute and then the For loop action continues to execute in the next iteration.

This action provides for an easy error detection and execution of "feedback" or "reporting" actions. For example, if an error happens during trigger processing, you can send out a warning. For more information, see section Print Job Status Feedback in NiceLabel Automation user guide.

Important! The **Try** action gives expected results with asynchronous actions. If your Try loop includes the Print Label action that fails, the action execution still completes the Try loop, and does not switch to the **On error** actions as expected. The result for not switching to the **On error** actions is the Print Label action that runs in synchronous mode by default. To avoid this, make sure supervised printing is on. Go to trigger settings **> Other > Feedback from the Print Engine** and enable **Supervised printing**.

Read more about supervised printing in section Synchronous Print Mode.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.7.4 Group

This action configures multiple actions within the same container. All actions placed below the **Group** action belong to the same group and are going to be executed together.

This action provides the following benefits:

- **Better organization and displaying of action workflow.** You can expand or collapse the Group action and display the nested actions only when needed. This helps keep the configuration area cleaner.
- **Defining conditional execution.** You can define a condition in the **Group** action just once, not individually for each action. If the condition is met, all actions inside the Group are executed. This can save a lot of configuration time and can reduce the number of configuration errors. Group action provides a good method to define IF..THEN execution rules for multiple actions.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.

- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

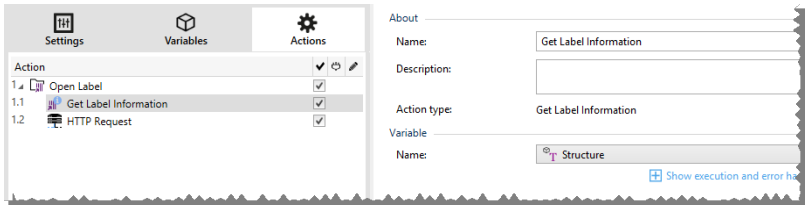
8.6.2.8 Other

8.6.2.8.1 Get Label Information

This action returns structural information about the associated label file. It provides information about the label dimensions, printer driver and lists all label variables, and their main properties.

The Get Label Information action returns the original information as saved in the label file. Additionally, it also provides information after the print process has been simulated. The simulation ensures that all labels variables get the value as they would have during a normal print. Also, the label height information provides correct dimensions in case you define the label as a variable-height label (in this case, the label size depends on the amount of data to be printed). The action returns the dimensions for a label size, not for a page size.

The action saves label structure information in a selected variable. You can then send the data back to the system using the HTTP Request action (or a similar outbound data connectivity action), or send it back in trigger response, if you use a bidirectional trigger.



NOTE: This action must be nested under the General action.

Variable group selects or creates a variable that stores the structural information about a label.

- **Name:** specifies the variable name. Select or create a variable which stores the XML-formatted label information.
    - If you want to use the information from the XML inside this trigger, you can define the and execute it with Use Data Filter action (Automation Builder only).
    - If you want to return the XML data as a response in your HTTP or Web Service trigger, use this variable directly in the **Response data** field of the trigger configuration page.
    - If you want to save the XML data to a file, use the File Operations action.

Additional settings group allows you to enable the use of provisional values.

- **Use provisional values:** replaces missing data source values with provisional values.

> **TIP:** See section Variable in NiceLabel 2019 Designer user guide for detailed description of provisional values.

Sample Label Information XML

The sample below presents a structural view of the label elements and their attributes as they are returned.

```
<?xml version="1.0" encoding="UTF-8"?>
<Label>
    <Original>
        <Width>25000</Width>
        <Height>179670</Height>
        <PrinterName>QLS 3001 Xe</Printer>
    </Original>
    <Current>
        <Width>25000</Width>
        <Height>15120</Height>
        <PrinterName>QLS 3001 Xe</Printer>
    </Current>
    <Variables>
        <Variable>
            <Name>barcode</Name>
            <Description></Description>
            <DefaultValue></DefaultValue>
            <Format>All</Format>
            <CurrentValue></CurrentValue>
            <IncrementType>None</IncrementType>
            <IncrementStep>0</IncrementStep>
            <IncrementCount>0</IncrementCount>
            <Length>100</Length>
        </Variable>
    </Variables>
</Format>
```

Label Information XML Specification

This section contains a description of the XML file structure as returned by the Get Label Information action.

NOTE: All measurement values are expressed in the 1/1000 mm units. For example width of 25000 is 25 mm.

- **<Label>:** this is a root element.
- **<Original>:** specifies label dimensions and printer name as stored in the label file.
  - **Width:** this element contains the original label width.
  - **Height:** this element contains the original label height.
  - **PrinterName:** this element contains the printer name for which the label has been created for.
- **Current:** specifies label dimensions and printer name after the simulated print has been completed.
  - **Width:** this element contains the actual label width.
  - **Height:** this element contains the actual label height. If a label is defined as a variable-height label, it can increase along with label objects. For example, Text Box and RTF object sizes may increase in vertical direction and cause the label to expand as well.
  - **PrinterName:** this element contains printer name that will be used for printing.

    EXAMPLE: A printer different from the original one is going to be used if the original printer driver is not installed on this computer, or if the printer has been changed using the Printer action.
- **<Variables> and <Variable>:** the element `Variables` contains a list of all prompt label variables, each defined in a separate `Variable` element. The prompt variables are the ones listed in the print dialog box when you print label from NiceLabel 2019. If there are no prompt variables defined in the label, the element `Variables` is empty.
  - **Name:** contains variable name.
  - **Description:** contains variable description.
  - **DefaultValue:** contains default value as defined for the variable during the label design process.
  - **Format:** contains the acceptable type of variable content (characters).
  - **IsPrompted:** contains information whether or not the variable is prompted at print time or not.
  - **PromptText:** contains text that prompts the user for value input.
  - **CurrentValue:** contains the actual value that is used for printing.
  - **IncrementType:** contains information, if the variable is defined as a counter or not. If identified as a counter, it tells what kind of counter it is.

- **IncrementStep:** contains information about the counter step. Counter value increments/decrements for this value on the next label.
- **IncrementCount:** contains information about the point of counter value incrementing/decrementing. Usually, the counter changes value on every label, but that can be changed.
- **Length:** contains maximum number of stored characters in a variable.
- **IsPickListEnabled:** contains information whether or not the user selects variable values from a pick list.
- **PickListValues:** contains the actual (selectable) pick list values.

XML Schema Definition (XSD) for Label Specification XML

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema id="Format" xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:element name="Label">
        <xs:complexType>
            <xs:all>
                <xs:element name="Original">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="Width" type="xs:decimal"
minOccurs="1" />
                            <xs:element name="Height" type="xs:decimal"
minOccurs="1" />
                            <xs:element name="PrinterName" type="xs:string"
minOccurs="1" />
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
                <xs:element name="Current">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="Width" type="xs:decimal"
minOccurs="1" />
                            <xs:element name="Height" type="xs:decimal"
minOccurs="1" />
                            <xs:element name="PrinterName" type="xs:string"
minOccurs="1" />
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
                <xs:element name="Variables">
                    <xs:complexType>
                        <xs:sequence>
                            <xs:element name="Variable" minOccurs="0"
maxOccurs="unbounded">
                                <xs:complexType>
                                    <xs:sequence>
                                        <xs:element name="Name" type="xs:string"
minOccurs="1" />
                                        <xs:element name="Description"
type="xs:string" minOccurs="1" />
                                        <xs:element name="DefaultValue"
type="xs:string" minOccurs="1" />
                                        <xs:element name="Format"
```

```
type="xs:string" minOccurs="1" />
                                        <xs:element name="CurrentValue"
type="xs:string" minOccurs="1" />
                                        <xs:element name="IncrementType"
type="xs:string" minOccurs="1" />
                                        <xs:element name="IncrementStep"
type="xs:integer" minOccurs="1" />
                                        <xs:element name="IncrementCount"
type="xs:integer" minOccurs="1" />
                                        <xs:element name="Length"
type="xs:string" minOccurs="1" />
                                    </xs:sequence>
                                </xs:complexType>
                            </xs:element>
                        </xs:sequence>
                    </xs:complexType>
                </xs:element>
            </xs:all>
        </xs:complexType>
    </xs:element>
</xs:schema>
```

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.8.2 Run Command File

This action executes commands that are included in a selected command file. All **File type** options provide commands that NiceLabel 2019 executes in top-to-bottom order.

Command files usually provide data for a single label, but you can define files of any level of complexity. For more information, see section Command File Types.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

File group defines the type and name of the command file that is going to be executed (JOB, XML or CSV).

- **File type.** Specifies the type of the command file to be executed.
- **File name.** Specifies the command file name.

  File name can be hard-coded, and the same command file will execute every time. The option **Variable** enables a variable file name. Select or create a variable that contains the path and/or file name if a trigger is executed or an event takes place. Usually, the value to the variable is assigned by a filter.

  Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

PRODUCT LEVEL INFO: This section is applicable to Automation Builder module.

How to receive a command file in a trigger and execute it

After a trigger receives the command file and you wish to execute it, complete the following steps:

1. In Automation Builder module, on **Variables** tab, click the **Internal Variable** button in the ribbon.
2. In the drop down list, enable the internal variable named `DataFileName`. This internal variable provides path and file name of the file that contains the data received by the trigger. In this case, its contents is command file. For more information, see section Internal Variables in the NiceLabel Automation user guide.
3. In **Actions** tab, add the action to execute the command file, such as Run Command File, Run Oracle XML Command File, or Run SAP All XML Command File.

   For the action **Run Command File**, select the type of the command file in **File type**.

4. Enable the option **Variable**.
5. Select the variable named `DataFileName` from the list of available variables.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.8.3 Send Custom Commands

This action executes the entered custom NiceLabel commands.

Always nest this action under the General action. This enables referencing the label to which the commands apply. For more information, see section Using Custom Commands in NiceLabel Automation user guide.

NOTE: Majority of custom commands is available with individual actions, so in most cases, custom commands are not required.

NOTE: Send Custom Commands action can be used to end the Session printing mode. This mode acts as a printing optimization mode that prints all labels in a loop using a single print job file. To end session printing, nest the Send Custom Commands action under the For

Loop action and use the SESSIONEND command. For details, see sections Session Printing and Using Custom Commands in NiceLabel Automation user guide.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Script editor offers the following features:

- **Insert data source:** inserts an existing or newly created variable into the script.
- **Script editor:** opens the editor which makes scripting easier and more efficient.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.8.4 Verify License

This action reads the activated license and executes the actions nested below this action only if a certain license type is used.

TIP: Verify License action provides protection of your trigger configuration from being run on unauthorized machines.

NOTE: License key that activates software can also encode the **Solution ID**. This is the unique number that identifies the solution provider that sold the NiceLabel 2019 license.

If the configured Solution ID matches the Solution ID encoded in the license, the target machine is permitted to run nested actions, effectively limiting execution to licenses sold by the solution provider.

The triggers can be further encrypted and locked so only authorized users are allowed to open the configuration. For more information, see section Protecting Trigger Configuration in NiceLabel Automation user guide.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

License Information group allows you to select the license ID.

- **License ID:** defines the ID number of the licenses that are allowed to run the nested actions.
    - If the entered value is not the License ID that is encoded in the license, the nested actions is not executed.
    - If the entered value is set to 0, the actions execute if a valid license is found.

NOTE: Digital Partner UID can also be used as License ID. This option is available for members of NiceLabel Digital Partner Program.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.

- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.8.5 Log Event

This action logs an event to NiceLabel Control Center for history and troubleshooting purposes.

NOTE: To make Log event action active, make sure that print job logging to NiceLabel Control Center is enabled.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Event Data group provides information about the logged event.

- **Information:** basic description of the event that will be included in the NiceLabel Control Center event log. Up to 255 characters are allowed in this area.
- **Details:** detailed description of the event to be logged in the NiceLabel Control Center. Up to 2000 characters are allowed in this area.

TIP: The descriptions entered in **Information** and **Details** fields allows you to filter out the events in Control Center **All Activities History**. When working with Control Center, go to **History > All Activities > Define filter.** For more details, read the Control Center User Guide.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.8.6 Preview Label

This action executes the print process and provides label image preview. By default, the preview is saved to disk as JPEG image, but you can choose other image format. You can also control the size of the created preview image. The action generates preview for a single label.

Once you have the label preview created in a file, you can send the file to a third party application using one of the outbound actions, such as Send Data to HTTP, Send Data to Serial Port, Send Data to TCP/IP Port, or use it as response message from bidirectional triggers, such as and Web Service Trigger. The third party application can take the image and show is as label preview to the user.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Preview group defines the file to be previewed and its details.

- **File name:** specifies the path and file name. If hard-coded, the same file is used every time. If you only use the file name without path, the folder with configuration file (.MISX) is used. You can use a relative reference to the file name, where folder with .MISX file is used as root folder. **Data source** option enables variable file name. Select or create a variable that contains the path and/or file name after a trigger is executed. Usually, the value to the variable is assigned by a filter.
- **Image type:** specifies the image type which is used for saving the label preview.
- **Preview label back side (2-sided labels):** enables preview of the back label. This is useful, if you use double-sided labels and want to preview the label's back side.

EXAMPLE: For example, if your label template defines dimension as 4" × 3" and the label printer resolution is set to 200 DPI, the resulting preview image has dimensions of 800 × 600 pixels. Width equals 4 inches times 200 DPI, which results in 800 pixels. Height equals 3 inches times 200 DPI, which results in 600 pixels.

Additional settings group allows you to enable the use of provisional values.

- **Use provisional values:** replaces missing data source values with provisional values and displays them in the label preview.

  TIP: Provisional value defines a custom placeholder variable value in an object while designing labels or forms. In a label object, the provisional value is replaced by the real variable value at print time.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In

order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.2.8.7 Create Label Variant

This action allows you to create a review-ready variant of an existing label. Label objects in such variants have locked data source values. Their content is defined by the current value of the applicable data source.

The purpose of creating a review-ready variant of a label with "locked" data sources is to make the label suitable for approval process in which data and template need to be approved together. Instead of viewing a label without defined content for its objects, the approver reviews a variant with defined values. This allows him to quickly see and approve the final label layout with actual values that are going to be used for printing.

TIP: Label approval process is applicable to labels that are stored in Control Center Document Storage. You can apply various approval workflow types for the stored labels and label variants. Approval workflow selection depends on the requirements of your business environment. See NiceLabel 2019 Control Center User Guide for more details.

About group identifies the selected action.

- **Name:** allows you to define a custom action name. This makes actions easily recognizable on the solution's list of actions. By default, action name is taken from its type.
- **Description:** custom information about the action. Enter a description to explain purpose and role of action in a solution.
- **Action type:** read-only information about the selected action type.

Settings group defines the label file to be converted and the output file (label variant).

- **Label name:** the name of the label file to be converted into a review-ready variant with locked data source values. **Data source** dynamically defines the **Label name** using an existing or newly created variable.
- **Print time data sources:** this option allows you to define the data sources whose values are going to be provided at the actual print time. If a data source is listed in this field, its value is not locked and can be provided at print time. Typical examples are data sources for production values like LOT number, expiry date, etc.

  TIP: Insert only data source names without square brackets, separated by commas or listed in a column using Enter key.

- **Output file name:** the name of the label variant file that is going to be ready for review. **Data source** dynamically defines the **Label name** using an existing or newly created variable.

There are several rules that apply to the review-ready label variant:

1. Data source values are locked by default. To exclude the data sources from being locked, list them in **Print time data sources** field to keep them active on the review-ready label. You can define their values at print time.
2. Counter variables, functions, database fields and global variables are converted to non-prompted variables.
3. Graphics are embedded.
4. The destination label variant stored in NiceLabel Control Center Document Storage is automatically checked in. Original **Label name** and **Print time data sources** are used as check-in comment.
5. Label variants can be opened in NiceLabel 2019 Designer in locked state.
6. Label files generated with this action cannot be imported.
7. If label variants are stored in printer memory, the recall command can only provide values for print time data sources.
8. If using NiceLabel Control Center, label preview in Document Storage allows editing of print time data sources.
9. Current time and current date variables cannot be set as Print time data sources on the review-ready label variant.

Action Execution and Error Handling

Each action in can be set as a conditional action. Conditional actions only run when the defined conditions allow them to be run. To define these conditions, click **Show execution and error handling options**.

Execution options are:

- **Enabled:** specifies if the action is enabled or disabled. Only enabled actions will execute. This functionality may be used while testing a form.
- **Condition:** defines one-line programming expression that must provide a Boolean value (`true` or `false`). When the result of the expression is `true`, the action will execute. Condition offers a way to avoid executing actions every time.

Error handling options are:

- **Ignore failure:** specifies whether an error should be ignored or not. With **Ignore failure** option enabled, the execution of actions continues even if the current action fails.

  NOTE: Nested actions that depend on the current action do not execute in case of a failure. The execution of actions continues with the next action on the same level as the current action. The error is logged, but does not break the execution of the action.

EXAMPLE: At the end of printing, you might want to send the status update to an external application using **HTTP Request** action. If the printing action fails, action processing stops. In order to execute the reporting even after the failed print action, the **Print Label** action must have the option **Ignore failure** enabled.

- **Save error to variable:** allows you to select or create a variable to save the error to. The same cause of error is also saved to internal variables `ActionLastErrorId` and `ActionLastErrorDesc`.

8.6.3 Combining Values In An Object

Certain objects accept multiple values as their content. Such content can be a combination of fixed values, variables and special characters (control codes). The objects that accept combined values are identified by a small right arrow button on the right side of the object. Click the arrow button to enter either a variable or a special character.

- **Using fixed values.** Enter a fixed value for the variable.
- **Using fixed values and data from variables.** Combined values may contain variables and fixed values. The variable names must be enclosed in square brackets `[]`. Enter the variables manually or insert them by clicking the arrow button to the right. During the processing time, the values of variables are merged together with fixed data and used as the object content.
  In the example below, the content is merged from three variables and fixed data items.

  EXAMPLE: `[variable1] // This is fixed value [variable2] [variable3]`
- **Using special characters.** Special characters are supported with combined values. You can enter the special characters manually, or insert them using a dropdown list. In this case, the value of `variable1` is merged with fixed data and form-feed binary character. The list of available special characters is available here.

  EXAMPLE: `[variable1] Form feed will follow this fixed text <FF>`

8.6.4 Access To Shared Network Resources

This topic describes best practice steps to use shared network resources.

8.6.4.1 User Privileges For Service Mode

The execution component of Designer runs in service mode under specified user account inheriting access privileges of that account.

To be able to open label files and to user printer drivers in Designer, the associated user account must be granted sufficient privileges.

8.6.4.2 UNC Notation For Network Shares

When accessing the file on a network drive, use the UNC syntax and not the mapped drive letters. UNC is a naming convention to specify and map network drives. Designer will try to replace the drive-letter syntax with the UNC syntax automatically.

EXAMPLE: If the file is accessible as `G:\Labels\label.lbl`, refer to it in UNC notation as `\\server\share\Labels\label.lbl` (where G: drive is mapped to `\\server\share`).

8.6.4.3 Notation For Accessing Files In Control Center

When opening a file in Document Storage inside Control Center, use the HTTP notation such as `http://servername:8080/label.lbl`, or WebDAV notation as `\\servername@8080\DavWWWRoot\label.lbl`.

NOTE: You must first add and configure the users that work with files stored in Document Storage in your Control Center. Read more about user management in the Control Center user guide.

8.6.4.4 Printer Drivers Availability

To print labels using a network shared printer, make the printer driver available on the server where Designer is installed on.

Make sure the user account that Designer runs under has access to the printer driver. If the network printer was just installed on the machine, Designer might not see it until you restart the Service.

TIP: To allow automatic notification of new network printer drivers, you have to enable the appropriate inbound rule in Windows firewall. For more information, see Knowledge Base article KB 265.

8.6.5 Search Order For Requested Files

If Designer attempts to load a label or image file, and this file is not immediately found, it neither cancels the processing nor does it report an error. It tries to locate the requested file at alternative locations.

Designerchecks file locations in the below listed order:

1. Check if the file exists at the location as defined in the action.
2. Check if the file exists in the same folder as solution or label file.
3. Check if the label file exists in `.\Labels` folder (for graphic files, check `.\Graphics` folder).
4. Check if the label file exists in `..\Labels` folder (for graphic files, check `..\Graphics` folder).
5. Check if the file exists in the global Labels folder (Graphics folder for graphics files).

If the file cannot be found at any of above listed locations, the action fails. An error is raised.

8.6.6 Spooler Status ID

Spooler status ID (in hex)	Spooler status description
0	No status.
1	Printer is paused.
2	Printer is printing.

4	Printer is in error.
8	Printer is not available.
10	Printer is out of paper.
20	Manual feed required.
40	Printer has a problem with paper.
80	Printer is offline.
100	Active Input/Output state.
200	Printer is busy.
400	Paper jam.
800	Output bin is full.
2000	Printer is waiting.
4000	Printer is processing.
10000	Printer is warming up.
20000	Toner/Ink level is low.
40000	No toner left in the printer.
80000	Current page can not be printed.
100000	User intervention is required.
200000	Printer is out of memory.
400000	Door is open.
800000	Unknown error.
1000000	Printer is in power save mode.

9 NiceLabel Print

NiceLabel Print is a stand-alone application for fast and easy printing. It eliminates the need for opening label and solution documents in Designer.

NiceLabel Print window consists of:

- **File location selector:** dropdown list lets you select and manage the locations that store labels or solutions.

  TIP: See section below for more details on files and locations.

- **Search:** finds the requested document.
- **Location folder structure:** displays the folders that are selected in the **File location selector**.
- **Document display area:** presents the documents which are stored in the selected folder.

9.1 Managing Document Locations

When using the NiceLabel Print for the first time, a blank NiceLabel Print window appears. Click **Manage Locations** in the **File location selector**. **Manage Locations** dialog opens.

Use **Manage Locations** dialog to browse for document locations on your system or network.

- **Add:** button for adding the label files:
  - **Folder Location:** browses for files on your system or network.
- **Move up** and **Move down:** change the order of selected label locations.
- **Delete:** removes the location from NiceLabel Print.

9.2 Opening the Documents

After defining the local or remote location that stores the documents, start with printing. Follow the steps in this section to successfully print the labels.

9.3 Printing Using NiceLabel Print

To print a label using the NiceLabel Print, complete the following steps.

1. Use **Manage Locations** dialog to select the location that stores the documents to be printed or run. See section Managing Label Locations for more details. All documents become visible and instantly printable in the document display area.

TIP: Skip this step in case of repeated printing from the same folder.

2. Select a document. Document type determines the actions that follows:
    - In case of a label file, click **Print** to open the printing form.
        - When opening a label file, printing form appears. It allows the user to preview the label, select the printer, define quantity settings, and enter prompted variable values (if included on the label).
        - To return to the label display field, click back arrow in the upper left corner of the NiceLabel Print window.
    - In case of a solution, click **Run** to open the solution in a separate instance.

TIP: All supported document types in the document display area are presented with previews for easier recognition and selection.

10 Reference

10.1 Command File Types

Command files are plain text file that contain instructions for the printing process – these instructions are expressed using NiceLabel commands. Commands are executed one at a time from the beginning until the end of the file.

NiceLabel 2019 supports the following command file types:

- JOB command files
- XML command files
- CSV command files

NOTE: The files support Unicode formatting. This allows you to include multi-lingual content.

10.1.1 JOB Command File

JOB command file is text file that contains native NiceLabel printing commands. The commands execute in order from top to bottom. The sequence of commands usually starts with LABEL (open label). LABEL command is followed by SET (to set variable value), and finally by PRINT (print label).

JOB command file can be executed using the following actions:

- Run Command File
- Send Custom Commands

10.1.1.1 JOB Command File Definition

NiceLabel commands are used in command files to control label printing. NiceLabel 2019 executes the commands within command files from top to bottom.

COMMENT

```
;
```

If developing a command file, it is a good practice to document your commands. This helps you decode what the script really performs, when you check the code after some time. Use a semicolon (`;`) at the beginning of the line. Everything that follows the semicolon is treated as a comment and is not processed.

CLEARVARIABLEVALUES

```
CLEARVARIABLEVALUES
```

This command resets variable values to their default values.

CREATEFILE

```
CREATEFILE <file name> [, <contents>]
```

This command creates a text file. You can use it to signal a third party application that the printing process has begun or ended, depending on the location where command is put. Use the UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

DELETEFILE

```
DELETEFILE <file name>
```

Deletes the specified file. Use UNC syntax for network resources. For more information, see section Access to Network Shared Resources in NiceLabel Automation user guide.

EXPORTLABEL

```
EXPORTLABEL ExportFileName [, ExportVariant]
```

This command is implemented to automate the "Export to printer" command that is available in the label designer. The label is exported directly to the printer and stored in the memory for off-line printing. The user can recall the label using the keyboard on the printer or by sending a command file to the printer. The same functionality is available also with Store Label to Printer action.

NOTE: To specify the label for exporting, use the **LABEL**command first.

- **ExportFileName.** This parameter is mandatory and defines the file name of generated printer commands.
- **ExportVariant.** Some printers support multiple export variants. If exporting them manually, the user can select the export variant in the dialog. With the EXPORTLABEL command, you must specify which export variant you want to use. The variants are visible in the label designer after you enable the Store/Recall printing mode.

  The first variant in the list holds the value 0. The second variant has the value 1, etc.

  If you do not specify any variant type, value 0 is used as default.

For more information about off-line printing, see topic Using Store/Recall Printing Mode.

IGNOREERROR

```
IGNOREERROR <on> [,<off>]
```

Specifies that the below listed JOB file errors do not terminate the printing process:

- Incorrect variable name is used.
- Incorrect value is sent to a variable.

- Label does not exist / is not accessible.
- Printer does not exist / is not accessible.

LABEL

```
LABEL <label name> [,<printer_name>]
```

The command opens a label to be printed. If the label is already loaded, it will not be re-opened. You can include the path name. Enclose the label name in double quotes, if the name or path contains spaces. Use UNC syntax for network resources. For more information, see topic Access to Network Shared Resources in NiceLabel Automation User Guide.

The optional parameter `printer_name` specifies the printer, for which the label will be opened. Use this setting if you want to override the printer name that is saved in the label template. If the driver for the provided printer name is not installed or not available, the command raises an error.

MESSAGEBOX

```
MESSAGEBOX <message> [,<caption>]
```

Logs the custom `message` into the trigger log. If the message contains space characters or commas, you have to enclose the text in double quotes (").

PORT

```
PORT <file name> [, APPEND]
```

This command overrides port as defined in the printer driver and redirects printing to a file. If file path or file name contain spaces, enclose the value in double quotes ("). Use UNC syntax for network resources. For more information, see topic Access to Network Shared Resources in NiceLabel Automation User Guide.

The parameter `APPEND` is optional. By default, the file is overwritten. Use this parameter to append data into the existing file.

Once you use a PORT command in the JOB file, it remains valid until the next PORT command, or until the end of file (whichever comes first). If you use PRINTER command after the PORT command has been executed, the PORT setting overwrites the port defined for the selected printer. If you want to use the actual port that is defined for the selected printer, you have to use another PORT command with an empty value, such as `PORT = ""`.

PRINT

```
PRINT <quantity> [,<skip> [,<identical label copies> [,number of label sets]]]
```

This command starts the print process.

- **Quantity.** Specifies the number of labels to print.
  - **<number>.** Specified number of labels will print.
  - **VARIABLE.** Specifies that some label variable is defined as *variable quantity* and will contain the number labels to print. The label will determine how many labels to print.
  - **UNLIMITED.** If you use a database to acquire values for objects, unlimited printing will print as many labels as there are record in the database. If you do not use a database, the maximum number of labels that thermal printer internally supports will be printed.
- **Skip.** Specifies the number of labels you want to skip on the first page. The parameter is used for printing labels on sheets of paper. When the part of the page has already been used, you can reuse the same sheet by Shifting the start location of the first label.
- **Identical label copies.** Specifies how many copies of the same label must print.
- **Number of label sets.** Specifies the number of times the whole printing process should repeat itself.

NOTE: Make sure the quantity values are provided as the numeric value, not string value. Do not enclose the value in the double quotes.

PRINTER

```
PRINTER <printer name>
```

This command overrides the printer defined in the label file. If the printer name contains space characters, enclose it in double quotes (").

Use the printer name as displayed in the status line in the label design application. Printer names are usually the same as the printer names in Printers and Faxes from Control Panel, but not always. If using network printers, you might see the name displayed using syntax `\\server\share`.

PRINTJOBNAME

```
PRINTJOBNAME
```

This command specifies the print job name to be seen in Windows Spooler. If the name contains space characters or commas, you have to enclose the value in double quotes (").

SESSIONEND

```
SESSIONEND
```

This command closes the print stream. Also see **SESSIONSTART**.

NOTE: `SESSIONEND` must be sent as the only item in Send Custom Command action. If you would like to send additional commands, use separate Send Custom Command actions.

SESSIONPRINT

```
SESSIONPRINT <quantity> [,<skip>]
```

This command prints the currently referenced label and adds it into the currently open session-print stream. You can use multiple SESSIONPRINT commands one after another and join the referenced labels in a single print stream. The stream does not close until you close it using the SESSIONEND command. The meaning of quantity and skip parameters is the same as with NiceLabel command PRINT. Also see **SESSIONSTART**.

- **Quantity.** Specifies the number of labels to be printed.
- **Skip.** Specifies the number of labels you want to skip on the first page. The parameter is used for printing labels on sheets of paper. If a part of the page has already been used, you can reuse the same sheet by Shifting the start location of the first label.

SESSIONSTART

```
SESSIONSTART
```

This command initiates the session-print type of printing.

The three session-print-related commands (**SESSIONSTART**, **SESSIONPRINT**, **SESSIONEND**) are used together. When you use command PRINT, every label data will be sent to the printer in a separate print job. If you want to join label data for multiple labels into print stream, you should use the session print commands. You must start with the command SESSIONSTART, followed with any number of SESSIONPRINT commands and in the end the command SESSIONEND.

Use these commands to optimize label printing process. Printing labels coming from one print job is much faster than printing labels from a bunch of print jobs.

There some rules you have to follow so the session print will not break.

- You cannot change the label within a session.
- You cannot change the printer within a session
- You must set values for all variables from the label within a session, even if some of the variables will have empty values

SET

```
SET <name>=<value> [,<step> [,<number or repetitions>]]
```

This command assigns a `value` to the `name` variable. The variable must be defined on the label, or an error is raised. If the variable isn't on the label, an error occurs. `Step` and `number of repetitions` are parameters for counter variables. These parameters specify the counter increment and the number labels before the counter changes value.

If value contains spaces or comma characters, you must enclose the text in double quotes (`"`). Also see **TEXTQUALIFIER**.

If you want to assign multi-line value, use `\r\n` to encode newline character. `\r` is replaced with CR (Carriage Return) and `\n` is replaced with LF (Line Feed).

Be careful when setting values to variables that provide data for pictures on the label, as backslash characters might be replaced with some other characters.

EXAMPLE: If you assign a value "c:\My Pictures\raw.jpg" to the variable, the "\r" will be replaced with CR character.

SETPRINTPARAM

```
SETPRINTPARAM <paramname> = <value>
```

This command allows you to set fine-tune printer settings just before printing. The supported parameter for printer settings (`paramname`) are:

- **PAPERBIN.** Specifies the tray that contains label media. If the printer is equipped with more than just one paper / label tray, you can control which is used for printing. The name of the tray should be acquired from the printer driver.
- **PRINTSPEED.** Specifies the printing speed. The acceptable values vary from one printer to the other. See printer's manuals for exact range of values.
- **PRINTDARKNESS.** Specifies the printing darkness / contrast. The acceptable values vary from one printer to the other. See printer's manuals for exact range of values.
- **PRINTOFFSETX.** Specifies the left offset for all printing objects. The value for parameter must be numeric, positive or negative, in dots.
- **PRINTOFFSETY.** Specifies the top offset for all printing objects. The value for parameter must be numeric, positive or negative, in dots.
- **PRINTERSETTINGS.**Specifies the custom printer settings to be applied to the print job. The parameter requires the entire DEVMODE for the target printer, provided in a Base64-encoded string. The DEVMODE contains all parameters from the printer driver at once (speed, darkness, offsets and other). For more information, see topic Understanding printer settings and DEVMODE in NiceLabel Automation User Guide.

  NOTE: The Base64-encoded string must be provided inside double quotes (").

TEXTQUALIFIER

```
TEXTQUALIFIER <character>
```

Text-qualifier is the character that embeds data value that is assigned to a variable. Whenever data value includes space characters, it must be included with text-qualifiers. The default text qualifier is a double quote character (`"`). Because double quote character is used as shortcut for inch unit of measure, sometimes it is difficult to pass the data with inch marks in the JOB files. You can use two double quotes to encode one double quote, or use TEXTQUALIFIER.

Example

```
TEXTQUALIFIER %
SET Variable = %EPAK 12"X10 7/32"%
```

10.1.1.2 JOB Command File Example

This JOB file opens the `label2.nlbl` label, sets variable values and prints a single label. Because no PRINTER command is used to redirect printing, the label will be printed using the printer name as defined in the label.

```
LABEL "label2.nlbl"
SET code="12345"
SET article="FUSILLI"
SET ean="383860026501"
SET weight="1,0 kg"
PRINT 1
```

10.1.2 XML Command File

The commands available in the XML Command Files form a subset of NiceLabel commands. You can use the following commands: **LOGIN**, **LABEL**, **SET**, **PORT**, **PRINTER**, **SESSIONEND**, **SESSIONSTART**, and **SESSIONPRINT**. The syntax requires minor adaptation if used in an XML file.

XML command file can be executed using the following actions:

- Run Command File
- Send Custom Commands

The root element in the XML Command file is `<Nice_Commands>`. The next element that must follow is `<Label>`– it specifies the label to be used.

Two methods are available to start the label printing:

- Print the labels normally using the `<Print_Job>` element.
- Print the labels in a session using the `<Session_Print_Job>` element.

You can also change the printer using which the labels are going to be printed, and set the variable value.

10.1.2.1 XML Command File Definition

This section defines the XML Command file structure. There are several elements that contain attributes. Some attributes are required, while the others are optional. Some attributes can occupy pre-defined values only. For others, you can specify custom values.

- **<Nice_Commands>.** This is a root element.
- **<Label>.** Specifies the label file to be opened. If the label is already open, it won't be re-opened. The label file must be accessible from this computer. For more information, see the topic Access to Network Shared Resources in NiceLabel Automation user guide. This

element can occur several times within the command file.

  - **Name.** This attribute contains label name. You can include the path to the label name. Mandatory element.

- **<Print_Job>.** The element that contains data for one label job. This element can occur several times within the command file.

  - **Printer.** Use this attribute to override the printer defined in the label. The printer must be accessible from this computer. For more information, see the topic Access to Network Shared Resources. Optional element.
  - **Quantity.** Use this attribute to specify the number of labels to print. Possible values: numeric value, VARIABLE or UNLIMITED. For more information on parameters, see the topic Print Label. Mandatory element.
  - **Skip.** Use this attribute to specify the number of skipped labels at the beginning. This feature is useful if you print sheet of labels to laser printer, but the sheet is partial already printed. For more information, see the topic Print Label. Optional element.
  - **Job_name.** Use this attribute to specify the name of your job file. The specified name is visible in the print spooler. For more information, see the topic Set Print Job Name. Optional element.
  - **Print_to_file.** Use this attribute to specify the file name where you want to save the printer commands. For more information, see the topic Redirect Printing to File. Optional element.
  - **Identical_copies.** use this attribute to specify the number of copies you need for each label. For more information, see the topic Print Label. Optional element.

- **<Session_Print_Job>.** The element that contains commands and data for one or more sessions. The element can contain one or more `<Session>` elements. It considers session print rules. You can use this element several times within the command file. For available attributes look up the attributes for the element `<Print_Job>`. All of them are valid, you just cannot use the quantity attribute. See the description of the element `<Session>` to find out how to specify label quantity in session printing.
- **<Session>.** The element that contains data for a single session. When printing in session, all labels are encoded into a single print job and are sent to the printer as one job.

  - **Quantity.** Use this attribute to specify the number of labels to print. Possible values: numeric value, string VARIABLE, or string UNLIMITED. For more information on parameters, see the topic Print Label. Required.

- **<Variable>.** The element that sets the value of variables on the label. This element can occur several times within the command file.

  - **Name.** The attribute contains the variable name. Required.

XML Schema Definition (XSD) for XML Command File

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema targetNamespace="http://tempuri.org/XMLSchema.xsd"
```

```
elementFormDefault="qualified" xmlns="http://tempuri.org/XMLSchema.xsd"
xmlns:mstns="http://tempuri.org/XMLSchema.xsd" xmlns:xs="http://www.w3.org/2001/X
MLSchema">
  <xs:element name="nice_commands">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="label" maxOccurs="unbounded" minOccurs="1">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="print_job" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="database" maxOccurs="unbounded" minOccurs="
0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="table" maxOccurs="unbounded" minOccurs="0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="variable" maxOccurs="unbounded" minOccurs="
0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                  <xs:attribute name="quantity" type="xs:string" use="required"
 />
                  <xs:attribute name="printer" type="xs:string" use="optional" />
                  <xs:attribute name="skip" type="xs:integer" use="optional" />
                  <xs:attribute name="identical_
copies" type="xs:integer" use="optional" />
                  <xs:attribute name="number_of_
sets" type="xs:integer" use="optional" />
                  <xs:attribute name="job_
name" type="xs:string" use="optional" />
                  <xs:attribute name="print_to_
file" type="xs:string" use="optional" />
                  <xs:attribute name="print_to_file_
```

```
append" type="xs:boolean" use="optional" />
                  <xs:attribute name="clear_variable_
values" type="xs:boolean" use="optional" />
                </xs:complexType>
              </xs:element>
              <xs:element name="session_print_
job" maxOccurs="unbounded" minOccurs="0">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="database" maxOccurs="unbounded" minOccurs="
0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="table" maxOccurs="unbounded" minOccurs="0">
                      <xs:complexType>
                        <xs:simpleContent>
                          <xs:extension base="xs:string">
                            <xs:attribute name="name" type="xs:string" use="requi
red" />
                          </xs:extension>
                        </xs:simpleContent>
                      </xs:complexType>
                    </xs:element>
                    <xs:element name="session" minOccurs="1" maxOccurs="unbounde
d">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element name="variable" minOccurs="0" maxOccurs="un
bounded">
                            <xs:complexType>
                              <xs:simpleContent>
                                <xs:extension base="xs:string">
                                  <xs:attribute name="name" type="xs:string" use=
"required" />
                                </xs:extension>
                              </xs:simpleContent>
                            </xs:complexType>
                          </xs:element>
                        </xs:sequence>
                        <xs:attribute name="quantity" type="xs:string" use="requi
red" />
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                  <xs:attribute name="printer" type="xs:string" use="optional" />
                  <xs:attribute name="skip" type="xs:integer" use="optional" />
                  <xs:attribute name="job_
name" type="xs:string" use="optional" />
                  <xs:attribute name="print_to_
file" type="xs:string" use="optional" />
                  <xs:attribute name="print_to_file_
```

```
append" type="xs:boolean" use="optional" />
                  <xs:attribute name="clear_variable_
values" type="xs:boolean" use="optional" />
                </xs:complexType>
              </xs:element>
            </xs:sequence>
            <xs:attribute name="name" type="xs:string" use="required" />
            <xs:attribute name="close" type="xs:boolean" use="optional" />
            <xs:attribute name="clear_variable_
values" type="xs:boolean" use="optional" />
          </xs:complexType>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="quit" type="xs:boolean" use="required" />
    </xs:complexType>
  </xs:element>
</xs:schema>
```

10.1.2.2 XML Command File Example

The sample below presents the structural view on the elements and their attributes as you can use them in an XML command file.

```
<nice_commands>
  <label name="label1.nlbl">

    <session_print_job printer="CAB A3 203DPI" skip=0 job_
name="job name 1" print_to_file="filename 1">
      <session quantity="10">
        <variable name="variable name 1" >variable value 1</variable>
      </session>
    </session_print_job>

    <print_job printer="Zebra R-402" quantity="10" skip=0 identical_
copies=1 number_of_sets=1 job_name="job name 2" print_to_file="filename 2">
      <variable name="variable1" >1</variable>
      <variable name="variable2" >2</variable>
      <variable name="variable3" >3</variable>
    </print_job>
  </label>
</nice_commands>
```

10.1.3 CSV Command File

The commands available in CSV command files form a subset of NiceLabel commands. You can use the following commands: **LABEL**, **SET**, **PORT**, **PRINTER** and **PRINT**.

CSV command file can be executed using the following actions:

- Run Command File
- Send Custom Commands

CSV command file is a text file in which the values are delimited by comma (,) character. The text file can contain Unicode value (important for multi-language data). Each line in the CSV command file contains commands for a single label print action.

The first row of CSV command file must contain commands and variable names. The order of commands and names is not important, but all records in the same data stream must follow the same structure. Variable `name-value` pairs are extracted automatically and sent to the label that is referred to them.

NOTE: No error is raised if the variable with its name included in the CSV does not exist on the label.

10.1.3.1 CSV Command File Definition

The commands in the first line of data must be expressed with at (`@`) character. The fields without @ at the beginning are names of variables, and they will be extracted with their values as `name-value` pairs.

- **@Label.** Specifies the label name to be used. It's a good practice to include label path and filename. Make sure the service user can access file. For more information, see the topic Access to Network Shared Resources in NiceLabel Automation user guide. Mandatory field.
- **@Printer.** Specifies the printer to use. It overrides the printer defined in the label. Make sure the service user can access the printer. For more information, see the topic Access to Network Shared Resources in NiceLabel Automation user guide. Optional field.
- **@Quantity.** Specifies the number of labels to print. Possible values: numeric value, VARIABLE or UNLIMITED. For more information, see the topic in NiceLabel Automation user guide. Mandatory field.
- **@Skip.** Specifies the number of labels to skip at the beginning of the first printed page. This feature is useful if you want to re-use the partially printed sheet of labels. Optional field.
- **@IdenticalCopies.** Specifies the number of label copies that should be printed for each unique label. This feature is useful when printing labels with data from database or when you use counters, and you need label copies. Optional field.
- **@NumberOfSets.** specifies the number of times the printing process should repeat. Each label set defines the occurrence of the printing process. Optional field.
- **@Port.** Specified the port name for the printer. You can override the default port as specified in the printer driver. You can also use it to redirect printing to file. Optional field.
- **Other field names.** All other fields define names of variables from the label. The field contents will be saved to the variable of the same name as its value.

10.1.3.2 CSV Command File Example

The sample below presents a structural overview of fields that you can use in a CSV command file.

```
@Label,@Printer,@Quantity,@Skip,@IdenticalCopies,NumberOfSets,@Port,Product_ID,
Product_Name
label1.nlbl, CAB A3 203 DPI, 100, , , , , 100A, Product 1
label2.nlbl, Zebra R-402, 20, , , , , 200A, Product 2
```

10.2 Variables Export File Definition

This section gives a structural overview of the elements and their attributes in a .NLVR variables export file. To understand the role of individual elements, see their definitions below.

10.2.1 .NLVR File Definition

<Variables> and <Variable>: list of all prompt label variables, each defined in a separate `Variable` element. Prompt variables are listed in the data entry table of the printing form. If there are no prompt variables defined in the label, the element `Variables` is empty.

- **Name:** variable name.
- **Description:** variable description.
- **Data Type:** defines what type of data is stored in a variable.
- **Initial value:** starting value that is assigned to a variable when created.
- **Initial value:** starting value that is assigned to a variable when created.
- **Provisional value:** defines a custom placeholder variable value in an object while designing labels or forms.
- **IsProvisionalValueAutoGenerated:** provisional value is auto-generated by the application.
- **IncrementType:** information if the variable is defined as counter, and if it is, what kind of counter it is.
- **IncrementStep:** information about the counter step. Counter value increments/decrements using this value on the next label.
- **IncrementCount:** information about the point of incrementing/decrementing the counter value. Usually, the counter changes its value on every label, but that can be changed.
- **Format:** type of content (characters) that can be accepted by the variable.
- **IsPrompted:** defines is the variable is prompted at print time or not.
- **PromptText:** text that is displayed to the print operator at print time.
- **IsValueRequired:** defines if the variable value should be defined or not.
- **IsDynamicValue:** information if the value is dynamically defined.
- **PrinterCounterType:** defines the counter type if enabled.
- **AllowedCharactersForCustomFormat:** defines if there is a specific character format allowed for the variable.
- **Length:** maximum number of characters a variable can contain.
- **MinLength:** minimum number of characters a variable can contain.
- **IsFixedLength:** the variable must contain the exact given number of characters.

- **HasMinimumValue:** defines if the minimum value is set for the variable.
- **MinimumValue:** minimum variable value.
- **HasMaximumValue:** defines if the maximum value is set for the variable.
- **MaximumValue:** maximum variable value.
- **InputFormat:** allowed input value format.
- **OutputFormat:** allowed output value format.
- **OutputLanguage:** language selection and regional variable value formatting.
- **InputFormatDecimalDelimiter:** data input format of character that separates the integer part from the fractional part of a number written in decimal form.
- **InputFormatDecimalPlaces:** data input definition for number of decimal places to be included in the variable value.
- **InputFormatDecimalSeparator:** data input format of separator (character) that groups the thousands into groups.
- **InputFormatCurrencySymbol:** data input symbol that represents the selected currency.
- **InputFormatCurrencySymbolPosition:** specifies data input position of the currency symbol.
- **OutputFormatDecimalDelimiter:** number of decimal places to be included in the variable value on the printed label.
- **OutputFormatDecimalPlaces:** number of decimal places to be included in the variable value on the printed label.
- **OutputFormatDecimalSeparator:** separator (character) that groups the thousands into groups on the printed label.
- **OutputFormatCurrencySymbol:** symbol that represents the selected currency on the printed label.
- **OutputFormatCurrencySymbolPosition:** specifies position of the currency symbol on the printed label.
- **HasPickList:** defines if pick list is enabled or not.
- **PickListValues:** the selection of pick list values.
- **HasRolloverOnMinimumMaximumValue:** defines if the counter is reset after the minimum or maximum value is reached.
- **Prefix:** prefix value that is added to the variable.
- **Suffix:** suffix value that is added to the variable.
- **PaddingType:** defines if the variable has padding characters added or not.
- **PaddingValue:** padding character.
- **HasMultilineEnabled:** divides text into multiple lines.

- **MultilineNumberOfLines:** maximum number of lines for a variable value.
- **MultilineLineLength:** maximum number of characters in a single line.
- **HasMultilineWordWrap:** divides the text into multiple lines at space character locations

NOTE: All measurement values are expressed in 1/1000 mm units.

10.2.2 XML Schema Definition (XSD) For Label Specification XML

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="Variables">
    <xs:complexType>
      <xs:sequence minOccurs="0" maxOccurs="unbounded">
        <xs:element name="Variable" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Name" type="xs:string" minOccurs="1" maxOccurs="1"></xs:element>
              <xs:choice minOccurs="0" maxOccurs="unbounded">
                <xs:element name="Description" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="DataType" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -Text variable type.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Date variable type.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Time variable type.-->
                      <xs:enumeration value="2"/>
                      <!--3 -Floating point variable type.-->
                      <xs:enumeration value="3"/>
                      <!--4 -Currency variable type.-->
                      <xs:enumeration value="4"/>
                      <!--1 -Current date variable type.-->
                      <xs:enumeration value="5"/>
                      <!--2 -Current time variable type.-->
                      <xs:enumeration value="6"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="InitialValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="ProvisionalValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="IsProvisionalValueAutoGenerated" type="xs:boolean" minOc-
curs="0"></xs:element>
                <xs:element name="IncrementType" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -None of the types used.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Incremental type.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Decremental type.-->
                      <xs:enumeration value="2"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="IncrementStep" type="xs:integer" minOccurs="0"></xs:element>
                <xs:element name="IncrementCount" type="xs:integer" minOccurs="0"></xs:element>
```

```
                <xs:element name="Format" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -All characters are allowed.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Numeric characters are allowed.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Alphanumeric characters are allowed.-->
                      <xs:enumeration value="2"/>
                      <!--3 -Letters characters are allowed.-->
                      <xs:enumeration value="3"/>
                      <!--4 -7 bit ASCI characters are allowed.-->
                      <xs:enumeration value="4"/>
                      <!--5 -Hex characters are allowed.-->
                      <xs:enumeration value="5"/>
                      <!--7 -Digits & capitals characters are allowed.-->
                      <xs:enumeration value="7"/>
                      <!--8 -Custom characters are allowed.-->
                      <xs:enumeration value="8"/>
                      <!--9 -Code 39 characters are allowed.-->
                      <xs:enumeration value="9"/>
                      <!--10 -Code 128A characters are allowed.-->
                      <xs:enumeration value="10"/>
                      <!--11 -Code 128B characters are allowed.-->
                      <xs:enumeration value="11"/>
                      <!--12 -Code 128C characters are allowed.-->
                      <xs:enumeration value="12"/>
                      <!--13 -Code 128 characters are allowed.-->
                      <xs:enumeration value="13"/>
                      <!--14 -Codabar characters are allowed.-->
                      <xs:enumeration value="14"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="IsPrompted" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="PromptText" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="IsValueRequired" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="IsDynamicValue" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="PrinterCounterType" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -Printer counter unknown.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Do not use printer counter.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Always use printer count.-->
                      <xs:enumeration value="2"/>
                      <!--3 -Use printer counter if possible.-->
                      <xs:enumeration value="3"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="AllowedCharactersForCustomFormat" type="xs:string" minOc-
curs="0"></xs:element>
                <xs:element name="Length" type="xs:integer" minOccurs="0"></xs:element>
                <xs:element name="MinLength" type="xs:integer" minOccurs="0"></xs:element>
                <xs:element name="IsFixedLength" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="HasMinimumValue" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="MinimumValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="HasMaximumValue" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="MaximumValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="InputFormat" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="OutputFormat" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="OutputLanguage" type="xs:integer" minOccurs="0"></xs:element>
```

```
                <xs:element name="InputFormatDecimalDelimiter" type="xs:string" minOc-
curs="0"></xs:element>
                <xs:element name="InputFormatDecimalPlaces" type="xs:integer"
minOccurs="0"></xs:element>
                <xs:element name="InputFormatDecimalSeparator" type="xs:string" minOc-
curs="0"></xs:element>
                <xs:element name="InputFormatCurrencySymbol" type="xs:string"
minOccurs="0"></xs:element>
                <xs:element name="InputFormatCurrencySymbolPosition" type="xs:integer" minOc-
curs="0"></xs:element>
                <xs:element name="OutputFormatDecimalDelimiter" type="xs:string"
minOccurs="0"></xs:element>
                <xs:element name="OutputFormatDecimalPlaces" type="xs:integer" minOc-
curs="0"></xs:element>
                <xs:element name="OutputFormatDecimalSeparator" type="xs:string"
minOccurs="0"></xs:element>
                <xs:element name="OutputFormatCurrencySymbol" type="xs:string" minOc-
curs="0"></xs:element>
                <xs:element name="OutputFormatCurrencySymbolPosition" type="xs:integer"
minOccurs="0"></xs:element>
                <xs:element name="HasPickList" type="xs:boolean" minOccurs="0"></xs:element>
                <xs:element name="PickListValues" minOccurs="0">
                  <xs:complexType>
                    <xs:sequence minOccurs="0" maxOccurs="unbounded">
                      <xs:element name="Value" type="xs:string" minOccurs="0"></xs:element>
                    </xs:sequence>
                  </xs:complexType>
                </xs:element>
                <xs:element name="HasRolloverOnMinimumMaximumValue" type="xs:boolean" minOc-
curs="0"></xs:element>
                <xs:element name="Prefix" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="Suffix" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="PaddingType" minOccurs="0">
                  <xs:simpleType>
                    <xs:restriction base="xs:integer">
                      <!--0 -Padding not used.-->
                      <xs:enumeration value="0"/>
                      <!--1 -Padding on left.-->
                      <xs:enumeration value="1"/>
                      <!--2 -Padding on right.-->
                      <xs:enumeration value="2"/>
                      <!--3 -Padding surrounding-->
                      <xs:enumeration value="3"/>
                    </xs:restriction>
                  </xs:simpleType>
                </xs:element>
                <xs:element name="PaddingValue" type="xs:string" minOccurs="0"></xs:element>
                <xs:element name="HasMultilineEnabled" type="xs:boolean" minOc-
curs="0"></xs:element>
                <xs:element name="MultilineNumberOfLines" type="xs:integer"
minOccurs="0"></xs:element>
                <xs:element name="MultilineLineLength" type="xs:integer" minOc-
curs="0"></xs:element>
                <xs:element name="HasMultilineWordWrap" type="xs:boolean"
minOccurs="0"></xs:element>
              </xs:choice>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

NOTE: XML Schema Definition (XSD) for Label Specification XML is by default accessible at: `c:\Program Files\NiceLabel\NiceLabel 2019\bin.net\Configuration\Variables.xsd`.

10.2.3 .NLVR File Example

```
Variables>
  <Variable>
    <Name>Sample variable</Name>
    <Description>Describes the variable</Description>
    <DataType>0</DataType>
    <InitialValue>1</InitialValue>
    <ProvisionalValue>1</ProvisionalValue>
    <IsProvisionalValueAutoGenerated>1</IsProvisionalValueAutoGenerated>
    <IncrementType>0</IncrementType>
    <IncrementStep>1</IncrementStep>
    <IncrementCount>1</IncrementCount>
    <Format>0</Format>
    <IsPrompted>1</IsPrompted>
    <PromptText>Enter the required value.</PromptText>
    <IsValueRequired>1</IsValueRequired>
    <IsDynamicValue>0</IsDynamicValue>
    <PrinterCounterType>3</PrinterCounterType>
    <AllowedCharactersForCustomFormat />
    <Length>20</Length>
    <MinLength>0</MinLength>
    <IsFixedLength>0</IsFixedLength>
    <HasMinimumValue>0</HasMinimumValue>
    <MinimumValue />
    <HasMaximumValue>0</HasMaximumValue>
    <MaximumValue />
    <HasPickList>1</HasPickList>
    <PickListValues>
      <Value>1</Value>
      <Value>2</Value>
      <Value>3</Value>
    </PickListValues>
    <HasRolloverOnMinimumMaximumValue>0</HasRolloverOnMinimumMaximumValue>
    <Prefix>pre</Prefix>
    <Suffix>post</Suffix>
    <PaddingType>1</PaddingType>
    <PaddingValue>_</PaddingValue>
  </Variable>
</Variables>
```

10.3 Oracle WMS File Definition

This section describes the content of Oracle WMS file. Oracle defines the XML format so that the XML contents can be understood, parsed and then printed as a label.

The XML Document Type Definition (DTD) defines its XML tags to be used in an XML file. Oracle generates XML files according to this DTD and so does the 3rd party software translates the XML according to this DTD.

10.3.1 XML DTD

The below shown example is the XML DTD that is used in forming the XML for both the synchronous and asynchronous XML formats. DTD defines the elements that are used in the XML file, a list of their attributes, and the next level elements.

```
<!ELEMENT labels (label)*>
<!ATTLIST labels _FORMAT CDATA #IMPLIED>
<!ATTLIST labels _JOBNAME CDATA #IMPLIED>
<!ATTLIST labels _QUANTITY CDATA #IMPLIED>
<!ATTLIST labels _PRINTERNAME CDATA #IMPLIED>
<!ELEMENT label (variable)*>
<!ATTLIST label _FORMAT CDATA #IMPLIED>
<!ATTLIST label _JOBNAME CDATA #IMPLIED>
<!ATTLIST label _QUANTITY CDATA #IMPLIED>
<!ATTLIST label _PRINTERNAME CDATA #IMPLIED>
<!ELEMENT variable (#PCDATA)>
<!ATTLIST variable name CDATA #IMPLIED>
```

10.3.2 Sample Oracle XML

This is the Oracle XML providing data for a single label (there is just one `<label>` element).

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!DOCTYPE labels SYSTEM "label.dtd">
<labels _FORMAT ="Serial.nlbl" _QUANTITY="1" _PRINTERNAME="" _JOBNAME="Serial">
    <label>
        <variable name= "item">O Ring</variable>
        <variable name= "revision">V1</variable>
        <variable name= "lot">123</variable>
        <variable name= "serial_number">12345</variable>
        <variable name= "lot_status">123</variable>
        <variable name= "serial_number_status">Active</variable>
        <variable name= "organization">A1</variable>
    </label>
</labels>
```

When executing this sample Oracle XML file, the label `serial.nlbl` is printed with the following variable values.

Variable Name	Variable Value
item	O Ring
revision	V1
lot	123
serial_number	12345
lot_status	123
serial_number_status	Active
organization	A1

The label will be printed in a single `1` copy, with the spooler job name `Serial`. Printer name is not specified in the XML file, so the label will print to the printer as defined in the label template.

10.4 Importing Variables from Legacy Labels

The legacy label format (.LBL) is supported by NiceLabel 2019. This means that labels which have been created using the Designer Pro & PowerForms V6 can be imported into NiceLabel 2019 along with their variables.

Generally speaking, imported variables with matching names from legacy label files are merged with variables on labels created using NiceLabel 2019. Because you might come across issues with variable importing, please read the below listed rules under which the variables are imported and integrated into a .NLBL label file.

TIP:
Merged variable is a variable that displays the value after the import from Designer V6 to NiceLabel 2019 label file.
Merging variable is a variable that is imported to NiceLabel 2019 label file.
Original variable is a variable in NiceLabel 2019 label file.

1. **Variables** with matching names are merged in a NiceLabel 2019 label file in the following cases:
    - Data Type of variables (Text, date, Time, etc.) is the same.
    - Variable values are equal.
    - One of the variables is a Counter.
    - Variables have either defined fixed length or not.
2. **Variables** with matching names are merged with a reported conflict in the following cases:
    - Input formats, dynamic values, prefix/suffix, or padding types/values of variables are different.
    - Length of variable values is defined as fixed. In case of non-matching lengths of values, merged variables report a conflict.
    - Variables have multiline values. With non-matching number of lines, line length, or word wrap, merged variables report a conflict.
    - Min and max values of merged variables do not match.
3. **Counters** with matching names are merged with a reported conflict in the following cases:
    - Step, count, and increment type do not match. Merged variables report a conflict.
    - Differences in rollover settings: min/max value, counter type, rollover on variable change, variable reference, date/week rollover type, day rollover time. In case of non-matching values, merged variables report a conflict.

- Printer counter is enabled. If the internal counter types do not match, merged variables report a conflict.

4. General rules for conflicting values of merged variables.
    - Value of the original variable is used for prefix, suffix and padding. If these values are empty, the value of merging variable is used instead.
    - If one of the variable values is dynamic, the merged variable displays the dynamic value.
    - If the variables have values with fixed lengths, the higher value is assigned to the merged variable.
    - If one of the variables has enabled multiline value, its value is assigned to the merged variable.
    - If the variables have defined line length and number of lines, the higher value is assigned to the merged variable.
    - If one of the variables has enabled word wrap, its value is assigned to the merged variable.
    - If the both variables have defined min and max values, the merging variable value is assigned to the merged variable. If not, the original value is used instead.
    - In case of non-matching counter values, the value of merging variable is assigned to the merged variable.

10.5 Licensing and Printer Usage

PRODUCT LEVEL INFO: This section is applicable to PowerForms Suite.

Depending on the license type, your copy of NiceLabel 2019 may be limited to a specific number of printers you can use simultaneously. In case of a multi-user license, NiceLabel 2019 keeps track of the number and names of different printers you have used for printing on all NiceLabel clients in your network. The unique printer identifier is a combination of printer driver name (not printer name), printer location, and port.

"To use a printer" means that one of the below listed actions has been taken within a solution:

- Print Label
- Send Data To Printer
- Define Printer Settings
- Set Print Parameter

Each of these actions signalizes that a printer has been used. The associated printer is added to the list of used printers and remains listed for 7 days from the last usage. To remove a printer from the list, do not use it for a period of 7 days and it will be automatically removed. The

software will display the **Last Used** information so you know when the 7-day will pass for each printer. You can bind a printer seat with a specific printer, by clicking the **Reserved** checkbox. This will ensure the printer availability at all times.

WARNING: If you exceed the number of seats defined by your license, the software enters a 30-day grace period. While in this mode, the number or allowed printers is temporarily incremented to twice the number of purchased seats.

Grace period provides plenty of time to resolve the licensing problems without any printing downtime or loss of the ability to design labels. This is usually an effect of replacing printers in your environment, when the old and new printers are used simultaneously, or when you add new printers. If you do not resolve a license violation within the grace period, the number of available printers will be reduced to the number of purchased seats starting from the recently used printers that are visible on the list.

TIP: To learn more about NiceLabel 2019 licensing, read the dedicated document.

10.6 Spell Checking Support

Spell checker for entered text in Edit field and Memo field objects language support depends on the operating system. Table below lists languages that can be spell-checked in Windows 8.1 and 10.

Culture	IETF Language Tag	Win 8.1	Win 10
Arabic_SaudiArabia	ar-SA	Yes	Yes
Bulgarian_Default	bg-BG	Yes	Yes
Catalan_Default	ca-ES	Yes	Yes
Czech_Default	cs-CZ	Yes	Yes
Danish_Default	da-DK	Yes	Yes
German_German	de-DE	Yes	Yes
Greek_Default	el-GR	Yes	Yes
English_US	en-US	Yes	Yes
Finnish_Default	fi-FI	Yes	Yes
French_French	fr-FR	Yes	Yes
Hebrew_Default	he-IL	Yes	Yes
Italian_Italian	it-IT	Yes	Yes
Dutch_Dutch	nl-NL	Yes	Yes
Norwegian_Bokmal	nb-NO	Yes	Yes
Polish_Default	pl-PL	Yes	Yes
Portuguese_Brazil	pt-BR	Yes	Yes
Romanian_Default	ro-RO	Yes	Yes
Russian_Default	ru-RU	Yes	Yes
Croatian_Default	hr-HR	Yes	Yes
Slovak_Default	sk-SK	Yes	Yes

Culture	IETF Language Tag	Win 8.1	Win 10
Swedish_Default	sv-SE	Yes	Yes
Turkish_Default	tr-TR	Yes	Yes
Indonesian_Default	id-ID	Yes	Yes
Ukrainian_Default	uk-UA	Yes	Yes
Slovenian_Default	sl-SI	Yes	Yes
Latvian_Default	lv-LV	Yes	Yes
Lithuanian_Default	lt-LT	Yes	Yes
Hindi_Default	hi-IN	Yes	Yes
Portuguese_Portugal	pt-PT	Yes	Yes
Spanish_Modern	es-ES	Yes	Yes
Hungarian_Default	hu-HU	No	Yes
Urdu_Default	ur-PK	No	Yes
Vietnamese_Default	vi-VN	No	Yes
Malay_Malaysia	ms-MY	No	Yes
Punjabi_Default	pa-IN	No	Yes
Gujarati_Default	gu-IN	No	Yes
Tamil_Default	ta-IN	No	Yes
Telugu_Default	te-IN	No	Yes
Kannada_Default	kn-IN	No	Yes
Malayalam_Default	ml-IN	No	Yes
Marathi_Default	mr-IN	No	Yes
English_UK	en-GB	No	Yes
Bengali_Default	bn-BD	No	Yes

10.7 Session Printing

Session printing enables printing of multiple labels using a single print job. If session printing is enabled, the printer receives, processes and prints all labels in the print job at once. As a result, printing speed increases due to continuous process of bundled label printing.

TIP: Session printing serves as an alternative to the normally used non-session printing, during which each label is sent to a printer as a separate print job.

NOTE: NiceLabel 2019 activates session printing automatically based on the configuration of actions.

How does session printing start?

Session printing automatically starts if For Loop or For Every Record actions are present in the workflow. In such case, the nested Print Label action automatically enables session printing. This means that print actions for all items in the loop are included in a single print job.

How does session printing end?

Each session printing ends either with a finished loop or with Print Label action combined with at least one of the following conditions:

- Printer changes. If you select another printer using the Set Printer action, session printing ends.
- Printer port changes. If you redirect the print job to a file using the Redirect Printing to File action, session printing ends.
- Label changes. If you select another label to be printed using Open Label action, session printing ends.
- Custom command that ends session printing is sent. If you send `SESSIONEND` command using the Send Custom Command action, session printing ends.

  NOTE: In this case, `SESSIONEND` must be sent as the only item in Send Custom Command action. If you would like to send additional commands, use separate Send Custom Command actions.

NOTE: More complex configurations might have multiple loops nested within each other. In such case, session printing ends when the outermost parent loop exits.

10.8 Tracing Mode

By default, NiceLabel 2019 logs events into the log database. This includes higher-level information, such as logging of action execution, logging of filter execution and logging of trigger status updates. For more information, see section Event Monitoring.

However, the default logging does not log the deep under-the-hood executions. When troubleshooting is needed on the lower-level of the code execution, tracing mode must be enabled. In this mode, NiceLabel 2019 logs the details about all internal executions that take place during event processing.

NOTE: Tracing mode should only be enabled during troubleshooting to collect logs and then disabled to enable normal operation.

WARNING: Tracing mode slows down processing and should only be used when instructed to do so by the technical support team.

To enable the tracing mode, perform the following:

1. Navigate to the System folder.

   EXAMPLE: %PROGRAMDATA%\NiceLabel\NiceLabel 2019

2. Make a backup copy of the `product.config` file
3. Open `product.config` in a text editor. The file has an XML structure.

4. Add the element `Common/Diagnostics/Tracing/Enabled` and assign value **True** to it.

   The file includes the following contents:

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
    <Common>
        <Diagnostics>
            <Tracing>
                <Enabled>True</Enabled>
                <Folder>c:\Troubleshooting\TracingLogs</Folder>
            </Tracing>
        </Diagnostics>
    </Common>
...
</configuration>
```

5. After you save the file, NiceLabel 2019 Service will automatically apply the setting.
6. By default, tracing files (*.LOG) will appear in the same System folder.

> NOTE: You can override the location of the log folder by specifying it in the element `Folder`. This element is optional.

10.9 Synchronizing Cutter Settings with Printer

NiceLabel 2019 synchronizes **Cutter** settings with the currently selected printer, and vice versa. After you enable cutter in Designer, this also enables cutter in **Printer Settings**.

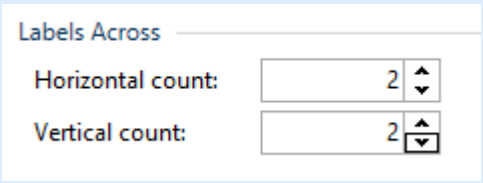
> **TIP: Printer Settings** is the printer driver dialog that helps you configure detailed printing properties. **Printer Settings** is accessible from printing form or printer and status bar.

Cutter mode selection in **Printer Settings** depends on how you configure **Cutter** settings in Designer:

- **Cut after the last printed label** activates the cutter in normal mode.
- **Cut after a specific number of labels** activates the cutter in **normal mode** in two cases:
  - **Horizontal** and **Vertical count** of labels under Labels Across remains 1.
  - If the web of labels creates no leftover blank labels on the paper.
- **Cut after a specific number of labels** activates the cutter in **advanced mode** in these two cases:
  - You print a web of labels and there are leftover blank labels on the paper.

    EXAMPLE:

    We configure a web of labels in Designer Cutter settings as shown in the picture below:



A single web of labels (labels across) contains 4 printed labels. If you set the cutter to activate after 4, 8, 12, ... printed labels, there are no leftover blank labels. Every 4, 8, 12, ... labels translate to every 1, 2, 3, ... printed pages in Printer Settings. As a result, cutter runs in normal mode.

If you set the cutter to activate after 1, 2, 3, 5, ... (not a multiplier of number 4) printed labels, cutter runs in advanced mode.

- You set a condition that activates the cutter under **Cut if condition is met option**.

11 How To

11.1 Insert Characters with <#hex_code> Syntax

Another method of entering special characters is using the syntax <#hex_code>. The hex_code stands for a two-character mark in hexadecimal numerical system. The appropriate values go from 0 (decimal 0) to FF (decimal 255).

EXAMPLE: <#BC> (decimal 188) would be the same as <FNC1>, as they both would encode the character with ASCII code 0188.

11.2 Insert Characters with <Alt>+<ASCII_code>

This method is valid only for characters that are above ASCII code 32. A typical example would be FNC codes that are used to encode GS1-128 barcode data. Labeling software encodes this type of barcode according to standards – normally, you would not have to change anything. However, sometimes it becomes necessary to manually add such character, to label data.

To include Function Codes, enter the appropriate character for a Function Code. ASCII codes of Function Codes are as follows:

FNC1	0188
FNC2	0189
FNC3	0190
FNC4	0191

To enter a character for FNC1, press and hold the `<Alt>` key and type in digits 0188 on the numeric keyboard. Note the leading zero is mandatory. Release the `<Alt>` and the FNC1 character appears.

11.3 Automatic Font Replacement

You might design your label templates to print text objects using internal printer fonts. These are the fonts that are stored in your printer's memory. If you try to print such labels on a different kind of printer, the selected internal fonts might not be available. The new printer probably supports an entirely different set of internal fonts. The font layout might be similar in such case, but is available under a different name.

Font mismatch might also occur if the Truetype font that you are using on your labels is not installed on the computer on which you run Designer to design and print labels.

You can configure Designer to automatically replace the fonts used on the label with compatible fonts. In such a case, Designer maps and replaces the fonts using their names. If the original font is not available, Designer uses the first available replacement font defined in the mapping table.

If there are no suitable replacement fonts, Designer uses the Arial Truetype font.

NOTE: After configuring the font replacement, mapping rules execute when you change the printer for your label.

11.3.1 Configuring Font Mapping

1. Open file explorer and navigate to the following folder:

   ```
   %PROGRAMDATA%\NiceLabel\NiceLabel 2019
   ```

2. Copy **fontmapping.def** file to **fontmapping.local.def**.
3. Open the **fontmapping.local.def** file in your favorite text XML editor.
4. Inside the element **FontMappings**, create a new element with a custom name.
5. Inside the new element, create at least two elements named as **Mapping**.
   - Value of the first element named **Mapping** must contain the name of the original font.
   - Value of the second element named **Mapping** must contain the name of the replacement font.

   NOTE: Additional Mapping elements with new font names are allowed. If the first replacement font is not available, Designer tries the next one. If no replacement fonts are available, Arial Truetype is used instead.

   NOTE: The file **fontmapping.local.def** is your file and is preserved during the upgrades. On the other hand, **fontmapping.def** belongs to NiceLabel and is overwritten during the upgrades. Do not modify the **fontmapping.def** file.

11.3.2 Sample Mapping Configuration

In the below shown example, two mapping rules are defined.

- The first mapping rule converts any **Avery** font into a matching **Novexx** font. For example, a font named **Avery YT100** will be replaced with a font named **Novexx YT100**, and a font named **Avery 1** will be replaced with a font named **Novexx**. If the **Novexx** font is not available, **Arial** Truetype font will be used.
- The second mapping rule converts a font named **Avery YT100** into a font named **Novexx YT104**. If this font is not available, font **Zebra 0** will be used. If this font is also not available **Arial** Truetype will be used.
- The second mapping rule overrides the first one.

```
<?xml version="1.0" encoding="utf-8"?>

<FontMappings>

    <AveryNovexx>

        <Mapping>Avery</Mapping>

        <Mapping>Novexx</Mapping>

    </AveryNovexx>

    <TextReplacement>

        <Mapping>Avery YT100</Mapping>

        <Mapping>Novexx YT104</Mapping>

        <Mapping>Zebra 0</Mapping>

    </TextReplacement>

</FontMappings>
```

11.4 Formatting Allergens for Food Ingredients

PRODUCT LEVEL INFO: This section applies to NiceLabel 2019 Pro and PowerForms editions.

The European Union's mandatory food labeling legislation, formalized in Regulation (EU) No. 1169/2011 not only specifies what information must be shown, but also how that specific information is presented, including font, color and contrast. The regulation deals in detail with font size, but leaves the exact type of allergen highlighting to the user. The ingredient allergens must be printed using a font that distinguishes them from the rest of the list (such as bold, italic, underlined, inverse, different color).

NiceLabel offers a built-in support for allergen formatting using custom functions. These are predefined functions that you can use to highlight the allergens in the list of ingredients. To highlight them, you can use **bold**, *italic*, underline, CAPS formatting or combination of this formatting. The function result is RTF-formatted data you can use with the Rich Text Box object.

The allergen word might appear inside a certain ingredient that is not categorized as an allergen. In this case you can use the "WithExceptions" type of functions. These functions will accept another input parameter – a list of exceptions. These are words or sentences that must not be formatted even if they contain the allergen word. For example, if you define the word **"milk"** as allergen, it will also be highlighted in the ingredient **"**coconut **milk"**, which is incorrect. You can define "coconut milk" as an exception and Designer will not highlight the word "milk" when used in combination "coconut milk".

NOTE: For samples and additional how-to documentation see NiceLabel web page: EU Food Allergen Labeling Regulation.

11.4.1 Prerequisites

The Food Allergens functions connect to the provided data source and read the included allergens. To open the data source, the appropriate database drivers (ODBC drivers) must be installed on the computer.

- **For Excel and Access data sources.** If you have Microsoft Office installed on the same computer, you already have the database drivers. If not, install the drivers separately. Visit Microsoft Download Center to download and install **Microsoft Access Database Engine 2010 Redistributable** or **Microsoft Access 2013 Runtime**.
- **For MS SQL data sources.** The ODBC driver has been released within the **Microsoft SQL Server Feature Pack**. You must have installed support for the provider **SQLSQLNCLI11**. Visit Microsoft Download Center and download the driver.

11.4.2 Applying Formatting To Allergens

To format allergens in the list of ingredients, you have to execute the formatting function and provide the input parameters. The formatting functions are executed as VBScript function and will provide result in the output variable, which can be used directly in the Rich Text Box object. The function that you would use must match the data location, where you keep the list of allergens, such as CSV string, Microsoft Excel spreadsheet, or Microsoft Access database.

To format the allergens from a list in Excel, do the following:

1. Create a new label in Designer and open Dynamic Data Manager.
2. Click Functions and select **VBScript** and type in the function **Name**.
3. Open **Script editor**.
4. Change the line `Result = "0"` into `Result =` and position the cursor after the equal sign.
5. Under **Available scripting elements** expand **Food Alergens** and select **FormatAllergensFromExcel**
6. In the **Script editing field** category, define the function parameters, for example:

   ```
   Result = FormatAllergensFromExcel
   ([Products.Ingred],"c:\Data\DB.xlsx","Allergens","Allergen","bold,it
   alic,underline")
   ```

   This will read the list of ingredients provided in the variable `Products.Ingred`, read the list of allergens from Microsoft Excel file `DB.xls` in the Product column in the sheet `Products` and apply bold formatting to all allergens within.
7. Click **OK**.
8. In **Output variable name**, define the variable name, where the formatted allergens will be saved.

NOTE: Make sure the variable begins with the prefix **RTF_**, such as RTF_ FormattedIngredients. This will instruct Rich Text Object to honor the control codes specified in the variable.

9. Click **OK**.
10. Select **Rich Text Box** object and add it ot the design surface.
11. In **Rich Text Editor**, select your variable in the list and add it into the content.

    You can add additional variables or fixed text if necessary.
12. You can use the controls available in the Rich Text Editor to format the font type, size and colors.
13. Click **OK**.

11.4.3 Syntax Of Allergen Formatting Functions

11.4.3.1 User Provided List Of Allergens

This function accepts the list of ingredients and list of allergens in two variables and creates the RTF code with highlighted allergens. All words from the `Allergens` that are matched in the `Ingredients` will be formatted by the `Highlight` specification.

Syntax:

```
FormatAllergens(Ingredients,Allergens,Highlight)
```

Parameter	Description
Ingredients	The CSV list of ingredients.
Allergens	The CSV list of allergens.
Highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is an optional parameter. If provided as empty value (""), **bold** format is used.

EXAMPLE:

```
FormatAllergens("wheat flour,salt,veg
fat,hazelnuts","wheat,hazelnuts","bold,italic")

FormatAllergens(Ingredients,"wheat,hazelnuts","bold,italic")
```

11.4.3.2 Allergens From Microsoft Excel Spreadsheet

This function accepts the list of ingredients and location of the Microsoft Excel spreadsheet. The function reads the allergens from the spreadsheet and creates the RTF code with highlighted allergens. All words from the spreadsheet that are matched in the `Ingredients` are formatted by the `Highlight` specification.

Syntax:

```
FormatAllergensFromExcel
(Ingredients,ExcelFile,Spreadsheet,Column,Highlight)
```

Parameter	Description
Ingredients	The CSV list of ingredients.
Excel file	The full path and filename to the Microsoft Excel file containing the allergens.
Spreadsheet	The name of the spreadsheet containing the list of allergens.
Field	The name of the field (column name) containing the allergens. You can also provide the column index number containing the list of allergens. Column A must be provided as "1", column B as "2", etc.
Highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is an optional parameter. If provided as empty value (""), **bold** format is used.

11.4.3.3 Allergens From Microsoft Access Database

This function accepts the list of ingredients and location of the Microsoft Access database. The function reads the allergens from the table and creates the RTF code with highlighted allergens. All words from the database table that are matched in the `Ingredients` are formatted by the `Highlight` specification.

Syntax:

```
FormatAllergensFromAccess(ingredients,AccessDb,table,field,highlight)
```

Parameter	Description
ingredients	The CSV list of ingredients.
AccessDb	The full path and filename to the Microsoft Access database file containing the allergens.
table	The name of the table containing the list of allergens.
field	The name of the field (column name) containing the allergens. You can also provide the column index number containing the list of allergens. Field1 must be provided as "1", Field2 as "2", etc.
highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is an optional parameter. If provided as empty value (""), **bold** format is used.

11.4.3.4 Allergens From Microsoft SQL Database

This function accepts the list of ingredients and location of the Microsoft SQL Server database. The function reads the allergens from the table and creates the RTF code with highlighted allergens. All words from the database table that are matched in the `Ingredients` are formatted by the `Highlight` specification.

Syntax:

```
FormatAllergensFromMSSQL(ingredients,sqlserver,dbusername,dbpassword,
dbname,table,field,highlight
```

Parameter	Description
ingredients	The CSV list of ingredients.
sqlserver	The full path and filename to the Microsoft SQL Server database file containing the allergens.
dbusername	User name for accessing the database.
dbpassword	Password for accessing the database.
dbname	The name of the database which contains the list of allergens.
table	The name of the table containing the list of allergens.
field	The name of the field (column name) containing the allergens.
highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is an optional parameter. If provided as empty value (""), **bold** format is used.

11.4.3.5 Allergens From SQL Server

This function accepts the list of ingredients and location of the SQL Server database. The function reads the allergens from the table and creates the RTF code with highlighted allergens. All words from the database table that are matched in the `Ingredients` are formatted by the `Highlight` specification.

Syntax:

```
FormatAllergensFromSQL(ingredients,connectionstring,table,field,
highlight)
```

Parameter	Description
ingredients	The CSV list of ingredients.
connectionstring	Connection string which is used to connect to the SQL Server database.
table	The name of the table containing the list of allergens.
field	The name of the field (column name) containing the allergens.
highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is an optional parameter. If provided as empty value (""), **bold** format is used.

11.4.3.6 Allergens From Tags

This function reads the formats enclosed in custom tags to highlight the allergens among ingredients. The function reads the allergens from the table and creates the RTF code with highlighted allergens. All words which include matching tags under `Ingredients` are formatted by the `Highlight` specification.

Syntax:

```
FormatAllergensFromTags(ingredients,tag,highlight)
```

Parameter	Description
ingredients	The CSV list of ingredients.
tag	Tag used to identify the ingredient as an allergen.
highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is an optional parameter. If provided as empty value (""), **bold** format is used.

11.4.4 Syntax Of Allergen Formatting Functions With Support For Exclusions

11.4.4.1 User Provided List Of Allergens

This function accepts the list of ingredients and the list of allergens in two variables and creates the RTF code with highlighted allergens. All words from the `Allergens` that are matched in the `Ingredients` are formatted by the `Highlight` specification. The last parameter provides the CSV list of sentences that must not be highlighted even if they contain the allergen words.

Syntax:

```
FormatAllergensWithExclusions(Ingredients,Allergens,Highlight,Exclusions)
```

Parameter	Description
Ingredients	The CSV list of ingredients.
Allergens	The CSV list of allergens.
Highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is optional parameter. If provided as empty value (""), **bold** format is used.
Exclusions	The CSV list of words & sentences that will not be highlighted even if they contain allergen words. **EXAMPLE:** Milk is an allergen so the word "milk" must be highlighted, but not when used in context "coconut milk". In this case "coconut milk" must be defined as exception.

EXAMPLE:

```
FormatAllergensWithExclusions("wheat flour,salt,veg fat,hazelnuts, coconut
milk","wheat,hazelnuts,milk","bold,italic","coconut milk")
```

11.4.4.2 Allergens From Microsoft Excel Spreadsheet

This function accepta the list of ingredients and location of the Microsoft Excel spreadsheet. The function reads the allergens from the spreadsheet and creates the RTF code with highlighted allergens. All words from the spreadsheet that are matched in the `Ingredients` are formatted by the `Highlight` specification. The last parameter provides the CSV list of sentences that must not be highlighted even if they contain the allergen words.

Syntax:

```
FormatAllergensFromExcelWithExclusions
(Ingredients,ExcelFile,Spreadsheet,Field,Highlight,SpreadsheetEx,FieldEx)
```

Parameter	Description
Ingredients	The CSV list of ingredients.
Excel file	The full path and filename to the Microsoft Excel file containing the allergens.
Spreadsheet	The name of the spreadsheet containing the list of allergens.
Field	The name of the field (column name) containing the allergens. You can also provide the column index number containing the list of allergens. Column A must be provided as "1", column B as "2", etc.
Highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is optional parameter. If provided as empty value (""), **bold** format is used.
SpreadsheetEx	The name of the spreadsheet containing the list of word & sentences to be excluded from allergen formatting.
FieldEx	The name of the field (column name) containing the strings to be excluded from the formatting. You can also provide the column index number containing the list of allergens. Column A must be provided as "1", column B as "2", etc.

EXAMPLE:

```
FormatAllergensFromExcelWithExclusions("wheat flour,salt,veg
fat,hazelnuts","c:\files\data.xlsx","Sheet1","1","bold,italic","Sheet2","2")

FormatAllergensFromExcelWithExclusions
(Ingredients,"c:\files\data.xlsx","Sheet1","1","bold,italic","Sheet2","2")
```

11.4.4.3 Allergens From Microsoft Access Database

This function accepts the list of ingredients and location of the Microsoft Access database. The function reads the allergens from the table and creates the RTF code with highlighted allergens. All words from the spreadsheet that are matched in the `Ingredients` are formatted by the `Highlight` specification. The last parameter provides the list of strings that must not be highlighted even if they contain the allergen words.

Syntax:

```
FormatAllergensFromAccessWithExclusions(ingredients,accessdb,table_with_
allergens,field_with_allergens,highlight,table_with_exclusions,field_
with_exclusions)
```

Parameter	Description
Ingredients	The CSV list of ingredients.
accessdb	The full path and filename to the Microsoft Access database file containing the allergens.
table_with_allergens	The name of the table containing the list of allergens.
field_with_allergens	The name of the field (column name) containing the allergens.

Parameter	Description
table_with_exclusions	The name of the table containing the list of word & sentences to be excluded from allergen formatting.
field_with_exclusions	The name of the field (column name) containing the strings to be excluded from the formatting.

11.4.4.4 Allergens From Microsoft SQL Database

This function accepts the list of ingredients and location of the Microsoft SQL Server database. The function reads the allergens from the table and creates the RTF code with highlighted allergens. All words from the database table that are matched in the `Ingredients` are formatted by the `Highlight` specification. The last parameter provides the list of strings that must not be highlighted even if they contain the allergen words.

Syntax:

```
FormatAllergensFromMSSQLWithExclusions
(ingredients,sqlserver,dbusername,dbpassword,dbname,table_with_
allergens,field_with_allergens,highlight,table_with_exclusions,field_
with_exclusions)
```

Parameter	Description
ingredients	The CSV list of ingredients.
sqlserver	The full path and filename to the Microsoft SQL Server database file containing the allergens.
dbusername	User name for accessing the database.
dbpassword	Password for accessing the database.
dbname	The name of the database which contains the list of allergens.
table_with_allergens	The name of the table containing the list of allergens.
field_with_allergens	The name of the field (column name) containing the allergens.
highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is an optional parameter. If provided as empty value (""), **bold** format is used.
table_with_exclusions	The name of the table containing the list of word & sentences to be excluded from allergen formatting.
field_with_exclusions	The name of the field (column name) containing the strings to be excluded from the formatting.

11.4.4.5 Allergens From SQL Server

This function accepts the list of ingredients and location of the SQL Server database. The function reads the allergens from the table and creates the RTF code with highlighted allergens. All words from the database table that are matched in the `Ingredients` are formatted by the `Highlight` specification. The last parameter provides the list of strings that must not be highlighted even if they contain the allergen words.

Syntax:

```
FormatAllergensFromSQLWithExclusions(ingredients,connectionstring,table_
with_allergens,field_with_allergens,highlight,table_with_
exclusions,field_with_exclusions)
```

Parameter	Description
ingredients	The CSV list of ingredients.
connectionstring	Connection string which is used to connect to the SQL Server database.
table_with_allergens	The name of the table containing the list of allergens.
field_with_allergens	The name of the field (column name) containing the allergens.
highlight	The CSV list of formatting switches you want to apply to the allergen. You can use "bold", "italic", "underline", "caps", text color and/or background color. The colors are formatted in hex syntax for RGB scheme, for example "#FF0000" for red. For text color just provide the color code, for the backround, prefix the color code with "bg:", such as "bg:#FF0000". This is an optional parameter. If provided as empty value (""), **bold** format is used.
field_with_exclusions	The name of the field (column name) containing the strings to be excluded from the formatting.

11.5 Designing Labels with Variable Length

In most label printing scenarios you design and print the label with fixed dimensions. The label width and height do not change so you must make sure to fit all objects on the label.

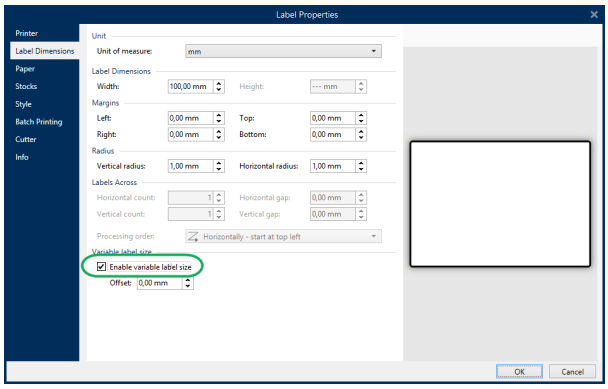
However, in some cases you need the ability to design the label with the variable length. The label length changes in accordance to the size of the label objects. When you assign more data to the label objects, their size increases and occupies more space on the label. In order to fit such objects on the label, the label height must change.

NOTE: The requirement for variable label sizing is quite often in the textile industry, where labels print to endless label material. There are no gaps between the labels. The printer cutter cuts the material after the label prints.

To enable the variable label sizing, do the following:

1. Open the label properties dialog.
2. Go to the Label Dimensions tab.

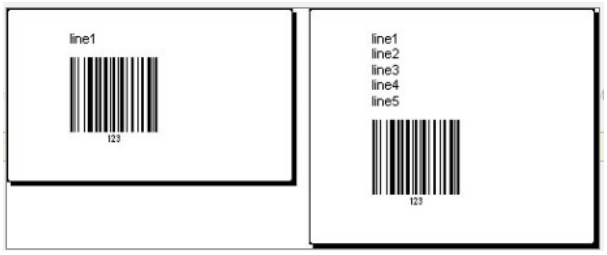
3. Enable the **Enable variable label size** option.



4. **Offset** defines the amount of space between the last object on the label and the bottom label edge.

See the screenshots below to understand the automatic label resizing function.

Variable label size is enabled on the label. A 1 cm wide gap is set between the bottom label border and the last object on the label – barcode in this case. The text object is a multi-line object. If you enter more data for the text object, the label height must increase to accommodate for the larger text object.



Variable label sizing feature increases label height on demand

To make the most of variable label sizing, enable object relative positioning (open **object properties > Position > Relative position** tab). In this case, the objects are not always be placed on the same spot on the label. Their placement changes in accordance with the placement of reference objects.

NOTE: If you enable variable label sizing, the Labels Across option can no longer be used.

11.6 Multicolor Printing

Some thermal printers support multicolor printing. They use multiple heads, each head for a ribbon of a different color. The colors for each printer head are customizable and can be defined in the printer driver. Each printhead is assigned a color that matches the used ribbon. The same colors become available in the labeling software. For multicolor printing to work, you need to use the appropriate NiceLabel printer driver.

Color palette synchronizes the available colors with settings in the printer driver. All colors you have defined in the printer driver are retrieved in the labeling software and made available for color selection. Color palette, color selection dialog box and label properties dialog box all display only the available colors from the printer. Each label object can then easily be assigned some of the available colors. The object is then printed using that same color. More than one color cannot be used with a single label object.

When you use color images on the label, their appearance on the label changes. They cannot be printed in more colors than supported by the printer. The images are not displayed in full color. Each image is converted to monochrome graphics and previewed on the label as such. Conversion from color to monochrome graphics is done using dithering setting in the driver. You can assign the image one color and thus the printhead where the image will be printed.

The colors on the label identify which printer head will be used for printing the objects.

11.7 How to Create GS1 Compliant Labels

The GS1 System provides for the use of unambiguous numbers to identify goods, services, assets, and locations worldwide. These numbers can be represented in barcodes to enable their electronic reading wherever required in business processes.

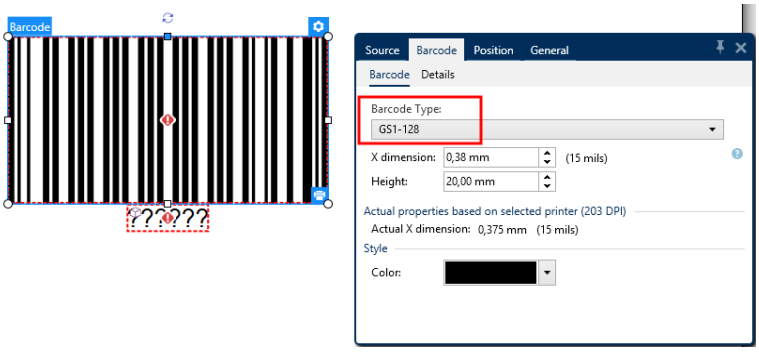
GS1-128 is an application standard of the GS1 implementation using the Code 128 barcode specification. The former name was UCC/EAN-128.

GS1-128 uses a series of Application Identifiers (AI) to include additional data such as best before dates, batch numbers, quantities, weights, and many other attributes needed by the user.

- See section describing the GS1 function to read more about the AIs.
- Official recommendations for creating a GS1 compliant label are available here.

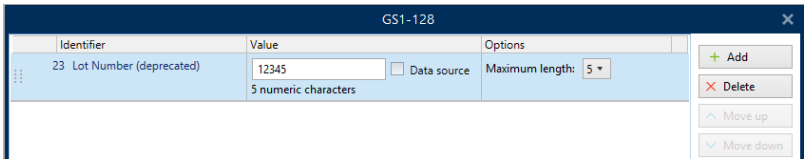
Complete the following steps to assign GS1-128 compliant data structure to a barcode:

1. Create a new label.
2. Add a Barcode object to design surface.
3. Select GS1-128 as barcode type on **Barcode** tab.



NOTE: GS1-128 barcode selection results in creating a Barcode and a Text object. Barcode object includes the symbol while the Text object includes GS1-128 function content. GS1-128 function to which both objects are connected is automatically added to the dynamic data explorer.

4. Click **Source** tab and open the **Edit Function Definition** dialog.
5. Add LOT Number AI.
6. Enter the sample data, for example 12345.



7. Add another AI, such as Expiration Date, for example June 3, 2016 (in YYMMDD format).
8. Click **OK**. The GS1-128 barcode is placed on the label containing LOT and expiration date.

11.8 Printing of Unlimited Data

When printing labels with **All (unlimited quantity)** option selected, the labels are printed in various quantities, depending on the label content.

All (unlimited quantity) option sets the printing quantity in two ways.

11.8.1 Label With Connected Database Or Counter

With **All (unlimited quantity)** option selected, the number of printed labels is not limited up front. It is determined by one of the following properties:

- Number of database records to be printed.
- Quantity set by the counters used on the label.

TIP: All (unlimited quantity) option is useful when printing labels connected to a database. The number of labels to be printed for such labels is usually not known in advance. After selecting this option, all relevant records from the connected database are printed.

NOTE: With multiple databases or counters for print quantity, the one with the lowest value actually determines the number of printed labels.

EXAMPLE:
Counter value: 90
Number of database values: 100
Number of printed labels under All (unlimited quantity): 90

11.8.2 Label Without Connected Database Or Counter

If a label does not use database or counter objects, a maximum supported number of identical label copies is printed. In such case, the printing continues until:

- Printer is switched off.
- Printer receives a command to clear its memory buffer.

NOTE: When printing identical label copies, use a NiceLabel printer driver to print the labels. The driver is aware of printer's quantity limitations and prints the exact supported number of labels.

NOTE: If you select **All (unlimited quantity)**, and the maximum supported print quantity is 32000, the printer will print all of them.

11.9 Using the Internal Printer Counter

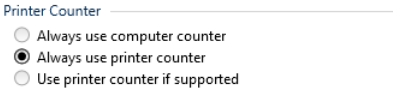
Almost all thermal printers support an internal increment counter functionality. This is a special printer counter that counts labels internally. The printer only receives the first value of the counter and automatically increments the counter by 1 on the subsequent labels.

TIP: Internal counters reduce the amount of data transferred between computer and printer as only the start value is sent to printer. This speeds up the label production significantly.

To use counter as internal printer element, pay attention to the following settings:

- The variable's maximum length is limited by you printer. You should find this value in your printer's Owner Manuals. If you can not find this value, experiment.
- The variable length has to be set by enabling the **Limit length** option (go to **Counter properties > Input rules**).
- Set allowed characters to **Numeric**.
- The Text object linked to the variable must be formatted as internal printer font (make sure the **Show printer fonts only** option is enabled.

- Enable the option **Always use printer counter** in the **Source** tab. This option is available only if the counter variable has been set up properly.



- A symbol for internal printer must appear in the bottom right corner of the Text object which contains the counter value.

11.10 Installation of Printer Drivers

There are two ways to install NiceLabel printer drivers:

- Use NiceLabel **PrnInst** application (recommended).
- Use **Windows Add** printer process (alternative option).

NOTE: For detailed instructions on how to install printer drivers, refer to the document NiceLabel Printer Drivers Installation Guide.

11.11 Creating Hyperlinks and Sending Emails on Forms

PRODUCT LEVEL INFO: This section is applicable to PowerForms.

To allow your users to visit web pages or to send emails via hyperlinks on their forms greatly improves the usability of your solutions.

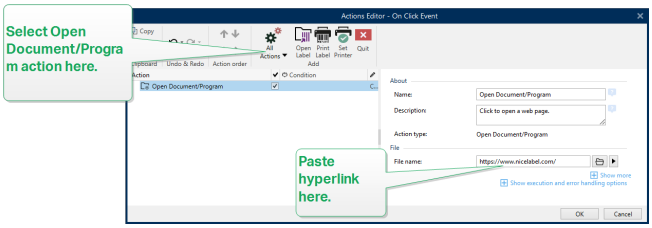
NiceLabel 2019 allows you to embed hyperlinks and email addresses in all form objects that can execute Actions. The action that allows you to directly visit web pages or send emails from forms is the Open Document/Program action.

To add a hyperlink to your form:

1. Add an object to a form. For this explanation, we use the Text object.

   NOTE: To see which events are available with various form objects, see section Form Objects.

2. Open object **Properties > Events** tab.
3. Normally, you click on hyperlinks, so use the **On Click** event.
4. Assign the **Open Document/Program** action. Click the **Actions...** button.
   - Action Editor opens.
5. Add the **Open Document/Program** action.
6. Go to **File**. Paste the hyperlink to the web page in the **File name** field.



7. Click **OK**. When you run the form, clicking the Text object opens the web page in your web browser.

To send emails from your form:

1. Repeat previous steps from 1 to 6.
2. Go to **File**. Paste the email address in the **File name** field. Use this format: `mailto:user@youremail.com`.

   NOTE: You can also configure the email hyperlink to open a message with predefined content. For example, to open a message with predefined subject, use this format: `mailto:user@youremail.com?subject=My%20subject`.

3. Click **OK**. When you run the form, clicking the Text object opens the your default email client with a new message addressed to your recipient.

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You can find the latest builds, updates, workarounds for problems and Frequently Asked Questions (FAQ) on the product web site at www.nicelabel.com.

For more information please refer to:

- Knowledge base: https://www.nicelabel.com/support/knowledge-base
- NiceLabel Support: https://www.nicelabel.com/support/technical-support
- NiceLabel Tutorials: https://www.nicelabel.com/learning-center/tutorials
- NiceLabel Forums: https://forums.nicelabel.com/

NOTE: If you have a Service Maintenance Agreement (SMA), please contact the premium support as specified in the agreement.

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