Bodno
creativity and security

MANUAL

Bodno

Creativity and Security

by Bodno

Ver 1.0

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Chapter 1. About Bodno

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Our primary objective at Bodno is to offer you the best identification solution. We believe there's a level of comfort knowing our clients on a 1st name basis. Relationships matter… even in a world of social media & modern technology and online shopping.

We are always pleased to hear from high-calibre individuals. Feel free to send us an email or call at anytime.

1.1 Overview

Welcome to **Bodno**.

Bodno is more than an application...

Bodno is the ultimate tool for your professional ID card production in a user-friendly way, designed to have the best performance with large databases with and without photos. **Bodno** facilitates all type of tasks related to card production such as the design, print and encode of ID cards.

Bodno is committed to a continuous software improvement by responding to the clients' requests, keeping in touch with new technologies and anticipating the needs of an ever-changing plastic card industry. Our worldwide staff is available to assist you as needed through training, technical support, sales information or through a wide range of services including full software customization, stand alone projects or embedded projects.

Bodno allows you to create a card from scratch to production, without any outsource program needed to deal with any aspect of the card creation process, such as image treatment, card encoding or even the database connection, because **Bodno** can connect to most any database.

Bodno's compatibility with Mac OS X Systems is the result of Bodno to offer a flexible software solution, satisfying our customers needs, no matter what operating system they are using.

Whether it's automating routine tasks or solving your toughest IT challenges, **Bodno** delivers rapid value and simplifies the plastic card creation process management, across physical, virtual and cloud environments. And that means less chaos and stress for you, plus, big cost-savings for your organization.

1.2 Features

▪ Software Box and Installation

Bodno comes with a full setup on an USB key that allows you to work on Windows or Mac and carry your work with you. It also brings a Digital Manual in PDF, card templates, clipart and shapes and allows a group and user log-in management.

▪ Tools & Image

Bodno has in its tools a strong hold for its users, like 1D and 2D barcodes, variable objects, templates, text setup, full image acquisition, face detection and a complete built-in image editor. You also have access to a multi-layout design option.

▪ User Interface

Bodno has five different views:
- the Welcome View where you define how you start or resume a previous card creation process,
- the Users View where you can define groups and user log-in management,
- the Document View that gives you a complete overview of the document and at the same time allows you to work directly on the card design,
- the Database View that is a full manipulation tool,
- and finally the encode view where you can setup your card encoding.

▪ Print

Bodno offers a front and back print option, SDK driver printing, Ethernet printer support, overlay panel management and batch printing, print status and in some editions conditional printing over database.

▪ Database

Bodno allows you to connect to any kind of database, such as CSV, Excel, Access, among others. **Bodno** brings an internal database with photo connection and a powerful database tool set where you can create and edit a database, link an image to a field, browse, filter and find records, and concatenation options.

▪ Encoding

This feature allows magnetic encoding, contact smartcard plugin, contact smartcard encoding, contactless RFID encoding and internal / external RFID encoding. **Bodno** also has internal / external RFID encoder support.

▪ Miscellaneous

Bodno gives you free updates and automatic edition upgrades.

A user log that permits a step-by-step follow up of your work.

A programming script (JavaScript, based on ECMA Script Language Specification).

1.3 Security

Bodno has opted for a USB key solution that comes with a full setup.

Why? Because through this USB key you can work in any PC or Mac with the advantage to carry your work with you and also because it makes easier to recover your license online through IdentiSys.

This is a 4GB USB key, which means that a lot of work can be carried on it, your card files, images, databases and anything elase you might need to carry with you.
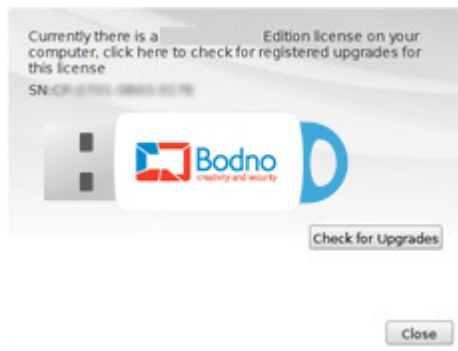
📣**Advice:** Always make a copy of your work. All data on your USB keys is recoverable except your work. A USB key is a piece of hardware as reliable as any other.

Chapter 2. Installation and Support

Chapter 2. Installation and Support

Bodno is easy to install and customize.

2.1 Installing Bodno

For Windows and Mac installation, please follow the steps covered on the topics [Windows Installation](#) and [Mac OS X Installation](#).

2.1.1 Windows Installation

Connect the provided USB key on one of your available USB ports. The AutoPlay will run automatically and choose the 'Open Folder to view files' option.

Double-click on the **Bodno** executable file and the Installation Wizard will run. The Installation Wizard is displayed where you can verify the Serial Number of your product and also select the language to install. To proceed with the installation click the 'Next' button.
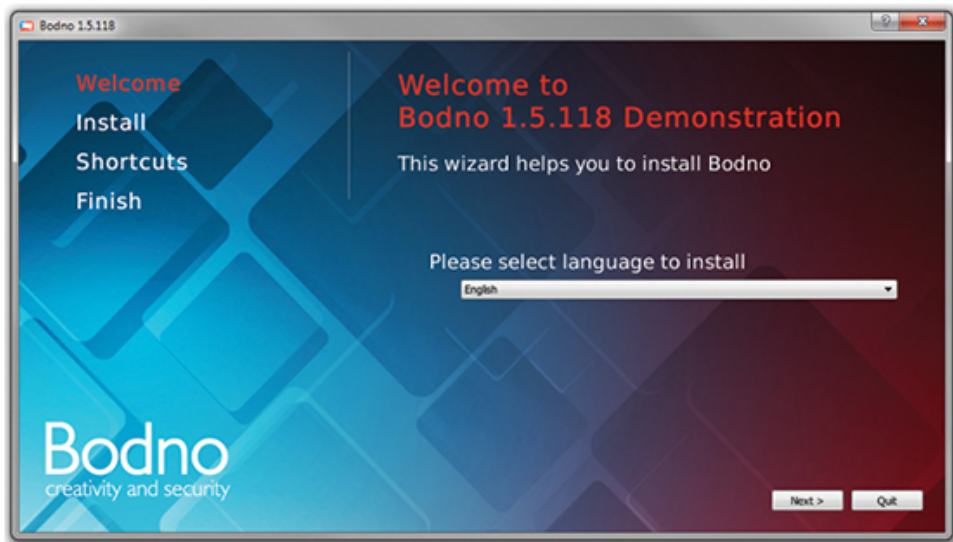
Install or Evaluate

Select the installation folder. By default **Bodno** software is installed on the Programs Folder but you can select another destination folder by selecting the 'Select Destination folder' option.

Check the option 'Install for all users' if you want other Windows users to also run **Bodno** software. Click 'Next' to continue.

If you want to run the application without installing it please click 'Evaluate'.
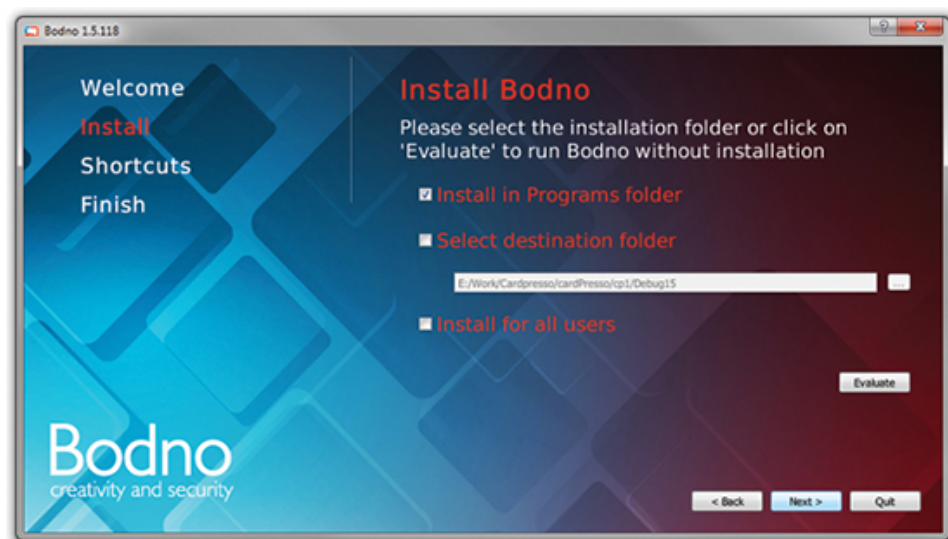
Shortcuts

Check the shortcuts that you want to create for easy access to the application, and if you wish to open card files immediately with **Bodno** select the file associations checkbox. Click 'Next' to continue.
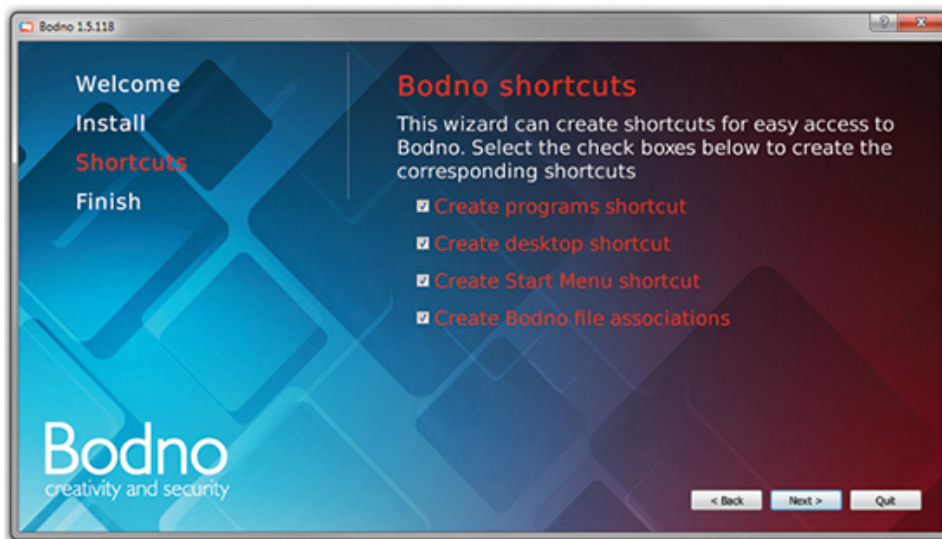
Finish

Click 'Finish' to install **Bodno** software.
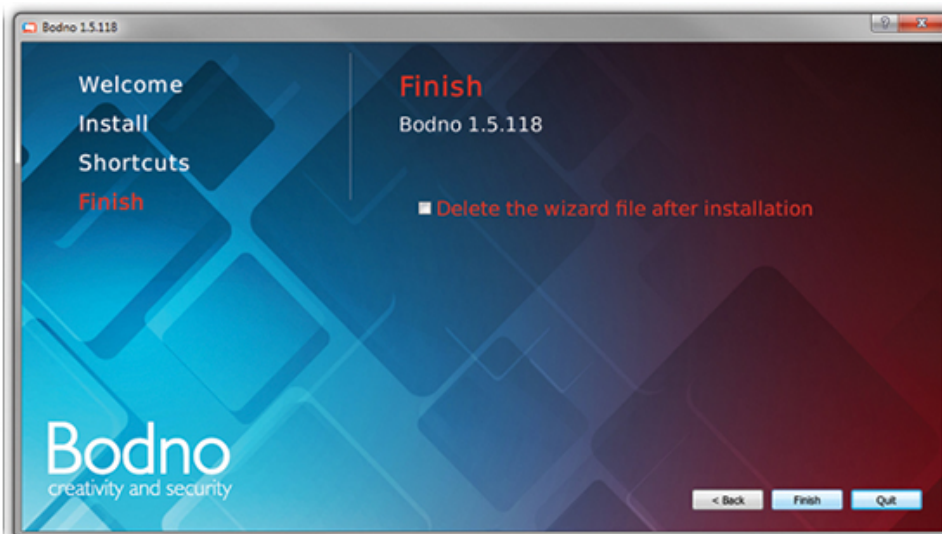
2.1.2 Mac OS X Installation_2

▪ Install

Plug-in the USB key and double click on USB drive icon, then double-click on the **Bodno**.dmg file and the end user license agreement appears, click 'Agree' in order to proceed.
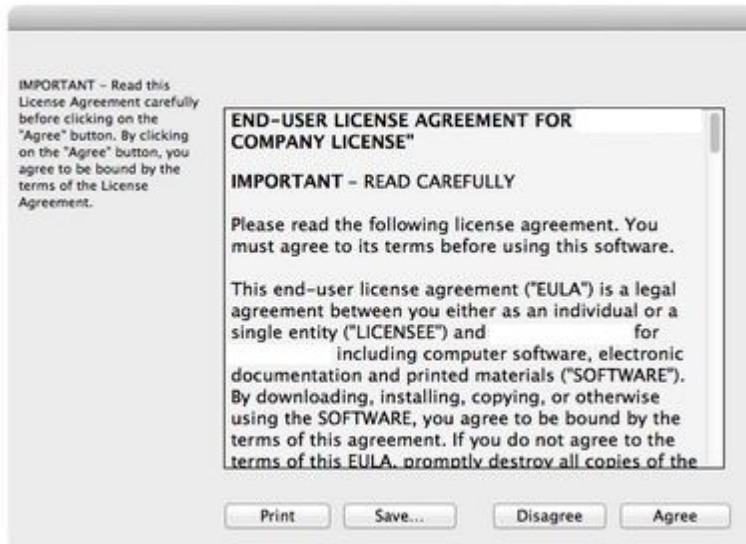
Now drag and Drop the **Bodno** icon into the Applications folder alias to install.

2.2 Changing Language

You can change the language of the user interface at any time.

To change the language of the **Bodno** software, click "BOD" -> Language. Choose the desired language from the list and restart the application to apply the new language settings.

2.3 Updating Bodno

We advise to keep always your **Bodno** software up-to-date. To do so go to and download the most recent version, according to your operating system.

2.4 Bodno Support

Bodno's team treasures the relationship with our customers, keeping it as close and personal as possible. We are committed to offer you the best support.

We offer support by email or remote sessions (Team Viewer):

✉ Software@Bodno.com

Chapter 3.
Getting Started

Chapter 3. Getting Started

ⓘ This chapter explains how to handle a document, model or template, how to create or open an existing file and also how to recover a backup file.

Document - Contains all data related to your work, including the chosen model or template, all objects, database connections, properties, and encoding properties. In summary, all the properties involved in your card document creation.

Model - Contains all the features and shape of your physical card. These features are size and card type, if it is a basic card, contactless, magnetic or smartcard. Please notice that the card settings depends on your chosen or created model type. For instance, you can't access the chip encoding settings if you've chosen or created a card without SmartCard capabilities..

Template - Is no more then a pre-made document layout used to create a new document with a similar design, pattern, or style. This means that you can use an existing template as it is or you can change it as you wish, creating a new document or template from the opened template.

Backup - **Bodno** automatically generates a backup file of your document every time it's saved. This backup is created in a pre-defined folder ('\My Cards\Backups') with the document name and date/time creation..

❗ This document can be recovered any time you need.
Example: documentname(yyyymmddThhmmss).cardBackup

3.1 - Welcome View

★ Welcome View

The welcome view is your starting point when it comes to working with **Bodno**. Here you can create new card models, open existing card models or previously made templates, or even create a basic card with a step by step guide.

Here you can also access the Production Mode (available on **Bodno SILVER)**, Users View (only on **Bodno PLATINUM** Edition or higher) or simply quit **Bodno.**
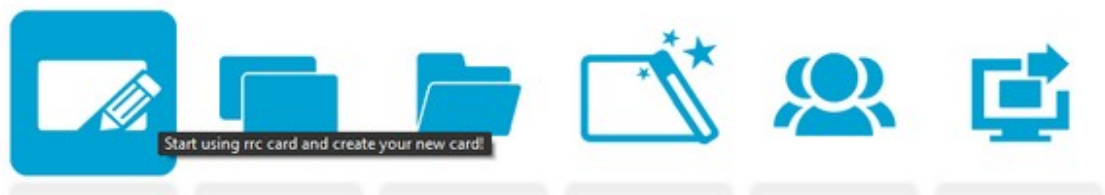
To return to the Welcome View at any time:

◉ **Click Window menu ▸ Welcome View**

╬ You can get help in different ways. Choosing "Help" from the Help menu or context-sensitive help that is always available by pressing the F1 with the cursor located on the element on which you want help. In addition, many dialog boxes contain a Help button.

3.1.1 - BOD Menu

The top menu bar, gives you access to the "BOD" menu.
Here you can find information related to **Bodno**.
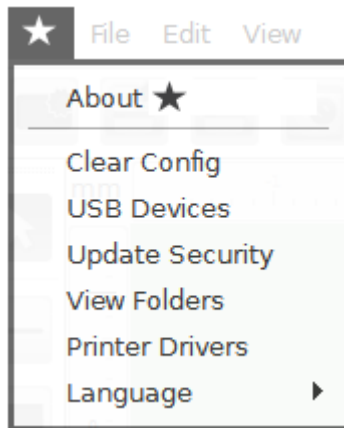
☑ **About Bodno -** Show your release, edition and serial number.

☑ **Clear Config -** Sets **Bodno** all settings to default, including print settings, object settings and work space.

☑ **USB Devices -** Show all information about your **Bodno** USB key, the drive ID and the serial number, if this information is not shown it means that your USB key has not been recognized by the system, please check it.

☑ **Bodno License -** Shows information about your **Bodno** USB key and allows online upgrade.
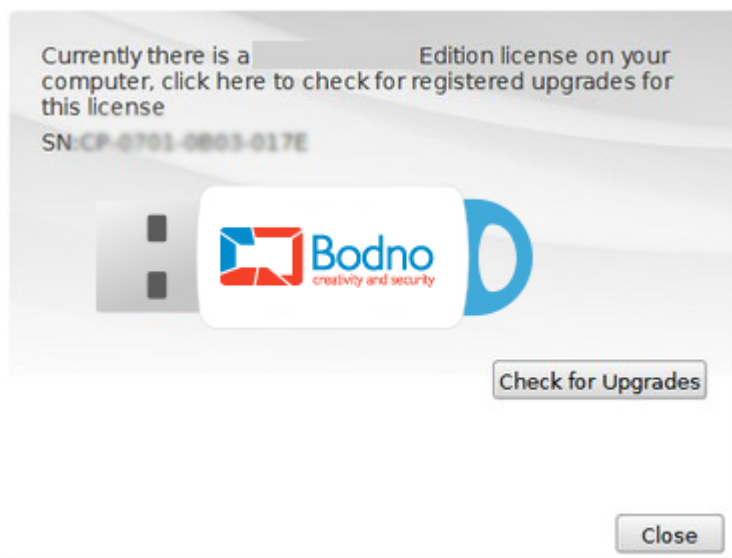
☑ **View Folders -** Show information about **Bodno** working folders. If you don't find a file or don't know where **Bodno** keeps it's folders like cliparts, backups, shapes, etc, you can check on this list its location.

Bodno Folders   ?   ✕

Bodno Folders,

BACKGROUNDS	E:/Bodno/ClipartFiles/Backgrounds
BACKUPS	C:/Users/rmess/Documents/My Cards/Backups
CLIPART	E:/Bodno/ClipartFiles/Clipart
COMPONENTS	C:/Program Files (x86)/Bodno/COMPONENTS
DATABASE	C:/ProgramData/Bodno/DATABASE
DOCUMENTS	C:/Users/rmess/Documents/My Cards
DOWNLOADEDTEMPLATES	C:/Users/rmess/Documents/My Cards/Downloaded Templates
MODELS	E:/Bodno/CardFiles/Models
MYMODELS	C:/Users/rmess/Documents/My Cards/My Models
MYSCRIPTS	C:/Users/rmess/Documents/My Cards/My Scripts
MYTEMPLATES	C:/Users/rmess/Documents/My Cards/My Templates
PICTURES	C:/Users/Public/Pictures/Bodno
PRINT	C:/ProgramData/Bodno/PRINT
PRINTSETTINGS	C:/ProgramData/Bodno/PRINTSETTINGS
SHAPES	E:/Bodno/ClipartFiles/Shapes
TEMPLATES	E:/Bodno/CardFiles/Templates

Close

☑ **Printer Drivers -** Shows information about the printers and drivers installed on your computer and if you click on 'View All Supported **Bodno** Printers' you have access to a list of compatible encoding printers.

☑ **Language -** Allows you to choose the language in which **Bodno** is presented.

3.2 - Creating a New Card

The first step to printing cards is creating your own card.

ⓘ To create new card, in the [Welcome View](#) ▣ **Click Create New Card button**

Or ▣ **Click File menu ▸ New (CTRL+N)**

CP	File	Window	Help

🖼 New	Ctrl+N
🖼 Open Template	Ctrl+Shift+O
Wizard	
🖼 Open	Ctrl+O
🖼 Save	Ctrl+S
🖼 Save as	
🖼 Close	
🖼 Print Settings	Ctrl+Shift+P
🖼 Print	Ctrl+P
Exit	
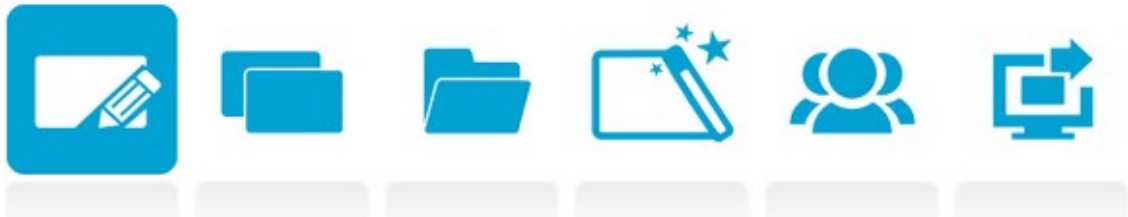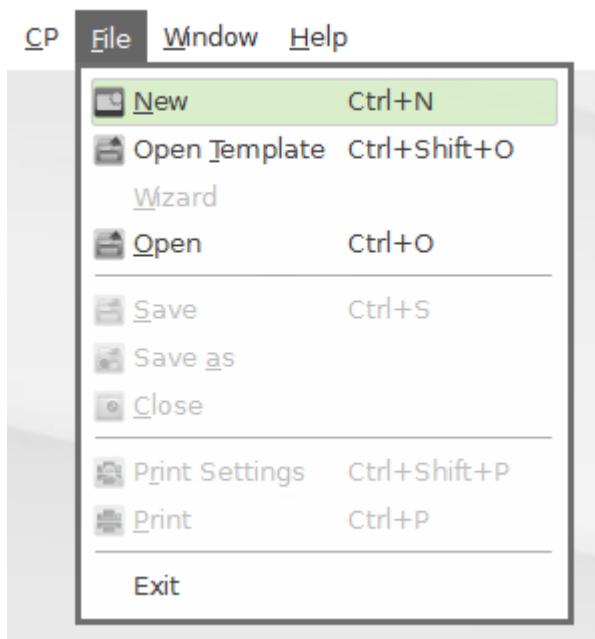
Then you can choose the card type that you intend to use from our list of supported card types:
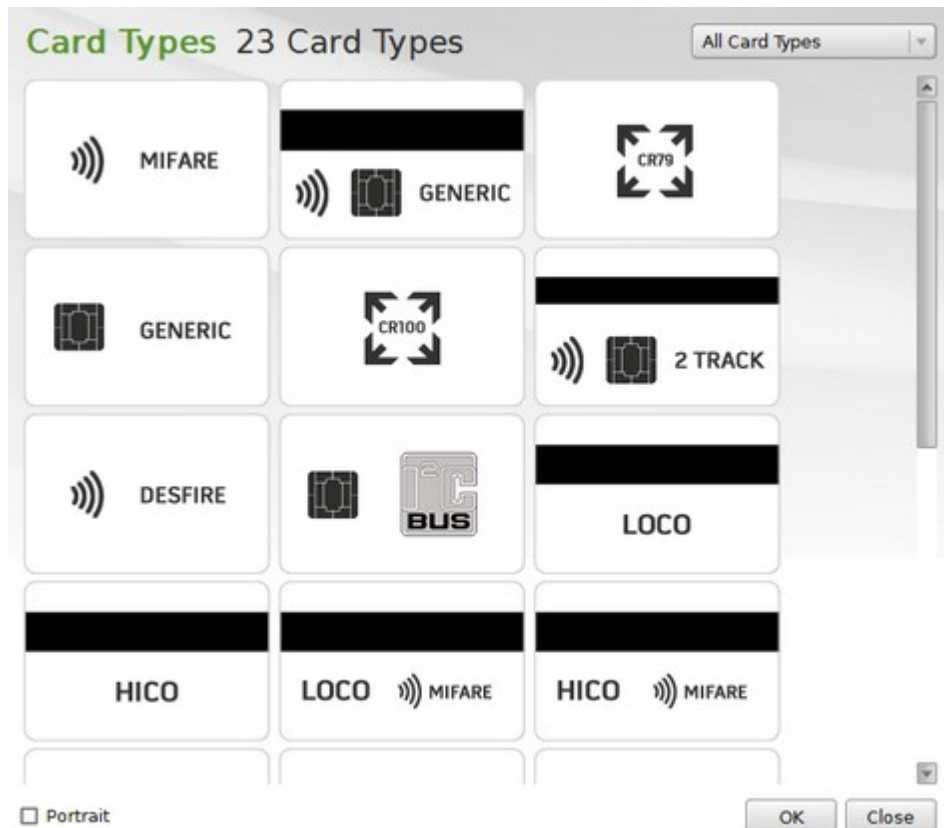
After selecting the card type, the **Bodno Design View** will automatically open, giving you access to all the tools you need to add and edit content to your new card.
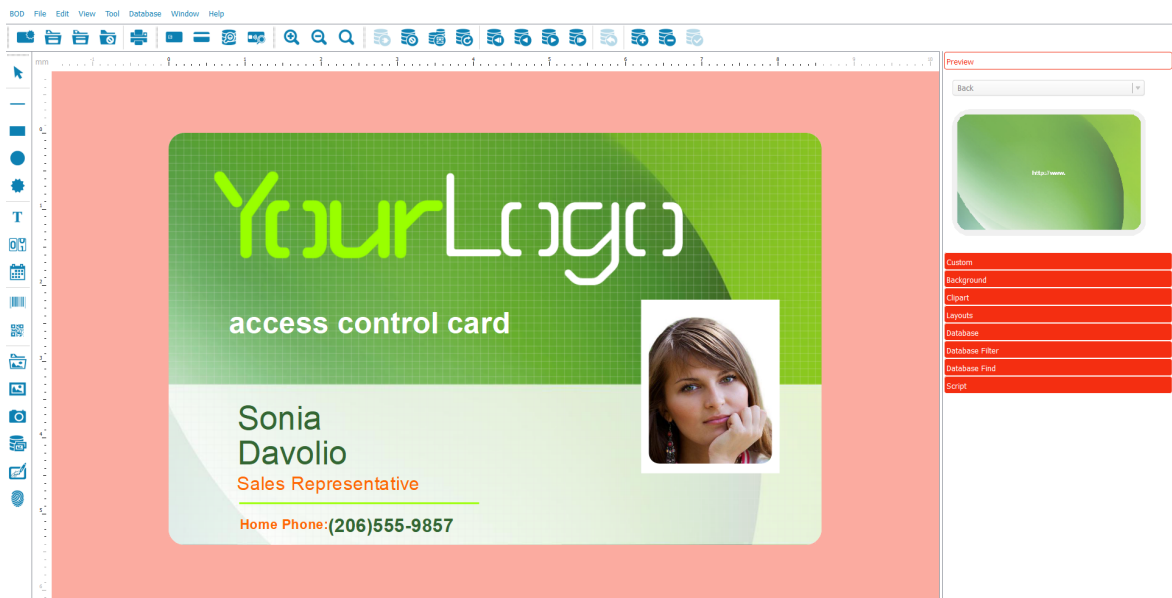
3.3 - Open Your Own Card Documents

ⓘ In **Bodno** there are two kinds of files, the ones you create, called card documents and the ones created by **Bodno** designated by backup files.

To better organize your documents, in the **"Open Card"** window, you find **"Bodno Favorites"** with two folders - **"My Recent Cards"** and **"My Cards"**. Or alternatively you may locate your file in another folder in **"My Computer"**.

You can sort the way how the cards are displayed. You may sort them by Name, Name Descending, Modification Time, Modification Time Descending, File Size and File Size Descending.
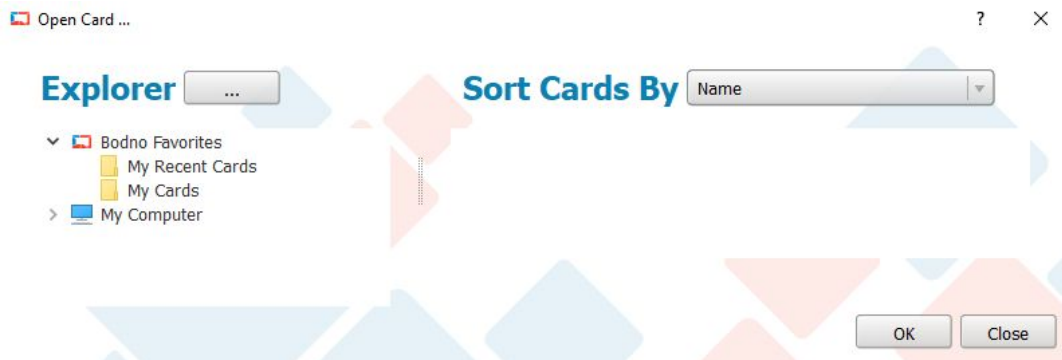
⚠ In the lower right corner you can find the information about how many readable documents are currently present in the selected folder, or the name for the current selected card document.

3.3.1 - Open an Existing Card Document

ⓘ You can open an existing card document to edit, change or even print again.

The first step will be to locate the card document that you wish to open. In order to do so, please click the 'Open' button on the **"Welcome View"** or use the 'Open' option from the 'File' menu.

Ⓒ Click **File ▸ Open (CTRL+ SHIFT + O) ▸ Explorer** and locate your card with extension **.card**

Ⓒ Click **OK.**
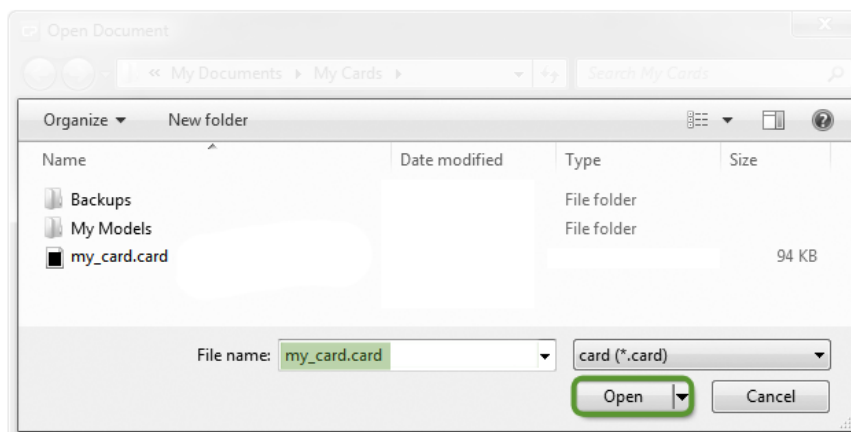
✎ Your file should have the extension **.card**

❗ Select the file extension in the corresponding Combo Box, otherwise your file will not be listed. To proceed **"Open"**.

3.3.2 - Recover Your Card Documents From Backups

ⓘ A backup is a file that **Bodno** automatically creates every time you save a document in an internal or external drive. The file will be saved with a date and time reference to make it easier to detect the last backup made. With this you have the assurance that you have a copy of your document in a specific date/time, in the backups folder.

Before opening your backup, you should know where **Bodno** created the backup folder during installation. To check the path:

◉ Click **BOD** ▸ **View Folders**

Bodno Folders	? ✕
Bodno Folders,	
BACKGROUNDS	E:/Bodno/ClipartFiles/Backgrounds
BACKUPS	C:/Users/rmess/Documents/My Cards/Backups
CLIPART	E:/Bodno/ClipartFiles/Clipart
COMPONENTS	C:/Program Files (x86)/Bodno/COMPONENTS
DATABASE	C:/ProgramData/Bodno/DATABASE
DOCUMENTS	C:/Users/rmess/Documents/My Cards
DOWNLOADEDTEMPLATES	C:/Users/rmess/Documents/My Cards/Downloaded Templates
MODELS	E:/Bodno/CardFiles/Models
MYMODELS	C:/Users/rmess/Documents/My Cards/My Models
MYSCRIPTS	C:/Users/rmess/Documents/My Cards/My Scripts
MYTEMPLATES	C:/Users/rmess/Documents/My Cards/My Templates
PICTURES	C:/Users/Public/Pictures/Bodno
PRINT	C:/ProgramData/Bodno/PRINT
PRINTSETTINGS	C:/ProgramData/Bodno/PRINTSETTINGS
SHAPES	E:/Bodno/ClipartFiles/Shapes
TEMPLATES	E:/Bodno/CardFiles/Templates

Close

ⓘ Now that you know where your backups are stored (**.../users/ .../Documents/Backups**), you can easily locate the backup document that you need to recover.

◉ **Click File ▸ Open ▸ Explorer ▸ Bodno Favorites ▸ My Cards ▸ [...] ▸ Backups** and select your backup document in the folder "Backups"

❶ Remember that your backup has a '*filename(savedateTsavetime).cardBackup'* filename convention.
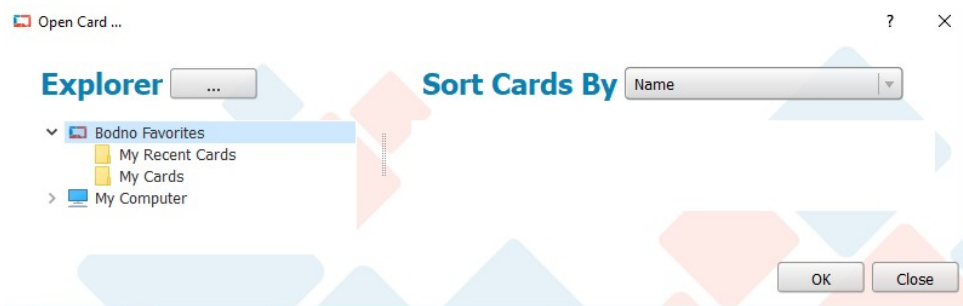
🅑 Click **OK.**
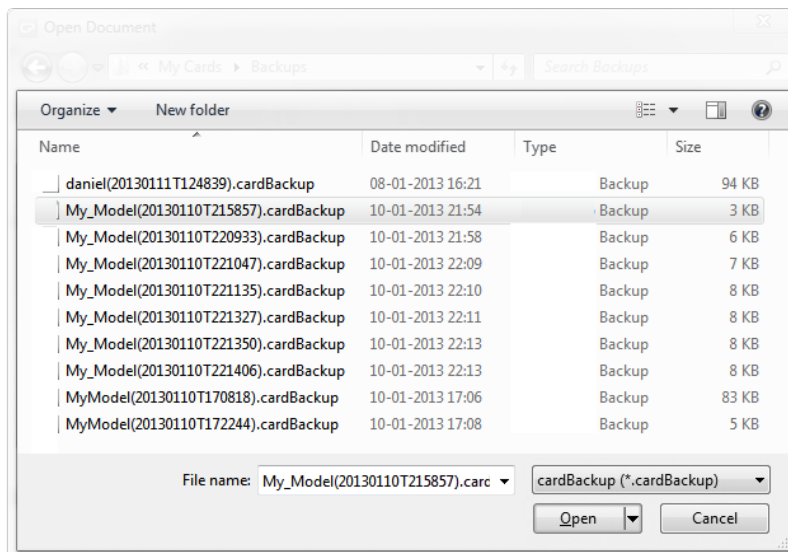
✏️ Your file should have the extension **.cardBackup**

ℹ️ Now all you have to do is to save your document with another name and with .card extension.

❗ Select the correct file extension in the corresponding Combo Box, otherwise your file will no be listed.

3.4 - Using Templates

ⓘ A template is a collection of styles that control the layout and appearance of a card document. You can quickly create your card document using one of our many templates.

Bodno provides these templates organized in categories, such as Test and Diagnostic; Sports; Shopping; Schools; Loyalty; Clubs & Resorts; Business; Activities and Access Control.

But if for some reason these categories don't fit your needs, you can always create new ones, just go to My Templates directory and once there create a new folder and **Bodno** will assume that folder to be a template category.

The Templates cover a wide range of graphics and variable field types, all of them fully editable. These professional templates are part of your **Bodno** software. Your **Bodno** USB dongle also contains additional templates.
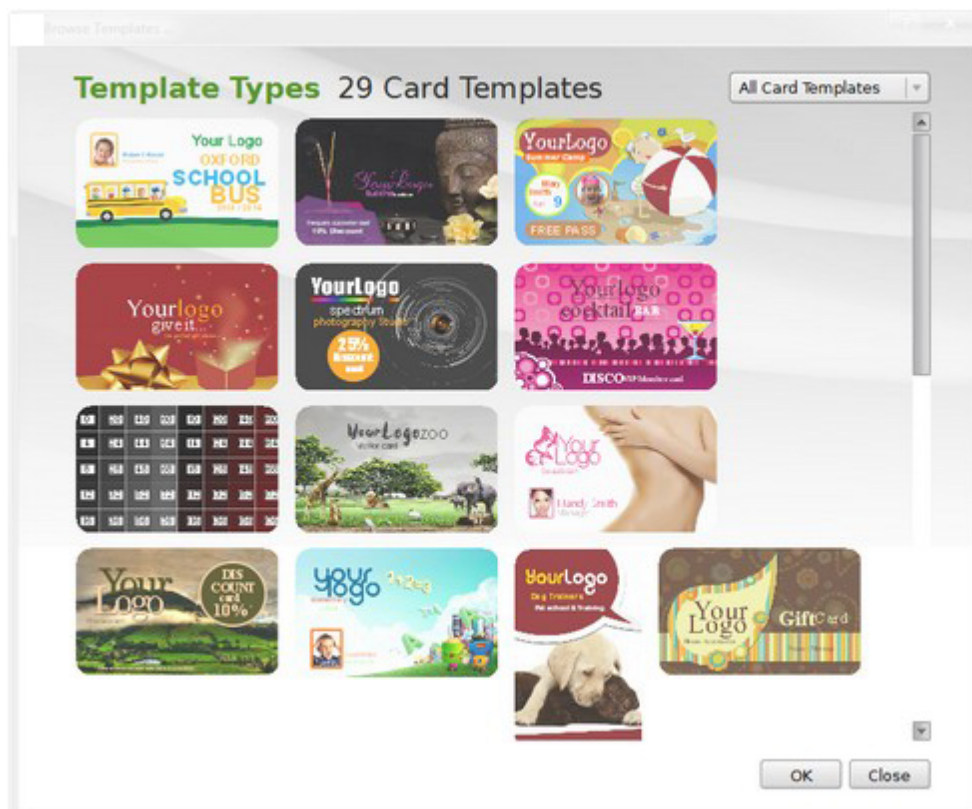
3.4.1 - Create from Existing Template

To create a document from a template, in <u>Welcome View</u> Click **Templates**
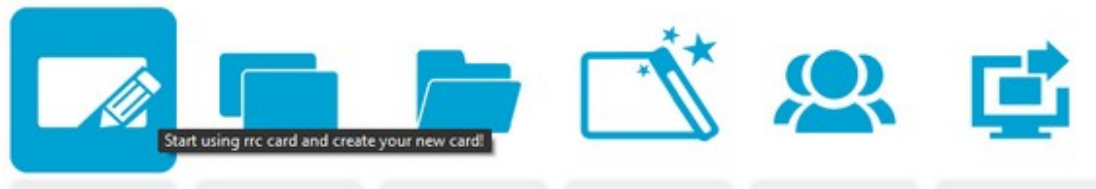
Or Click **File menu ▶ Open Template (CTRL+ SHIFT + O)**
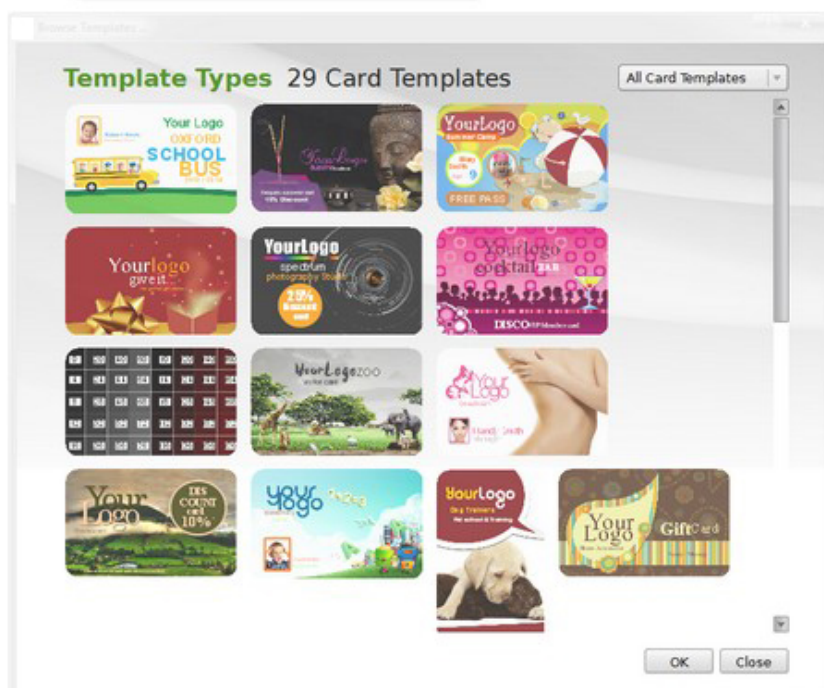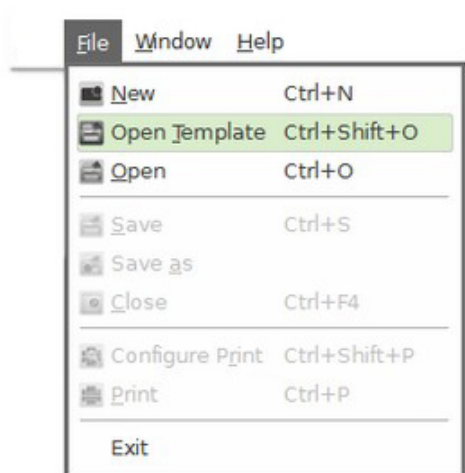
In the dialog box, search through the available templates.

ⓘ You can create a card based on a template and then modify the document without affecting the original template
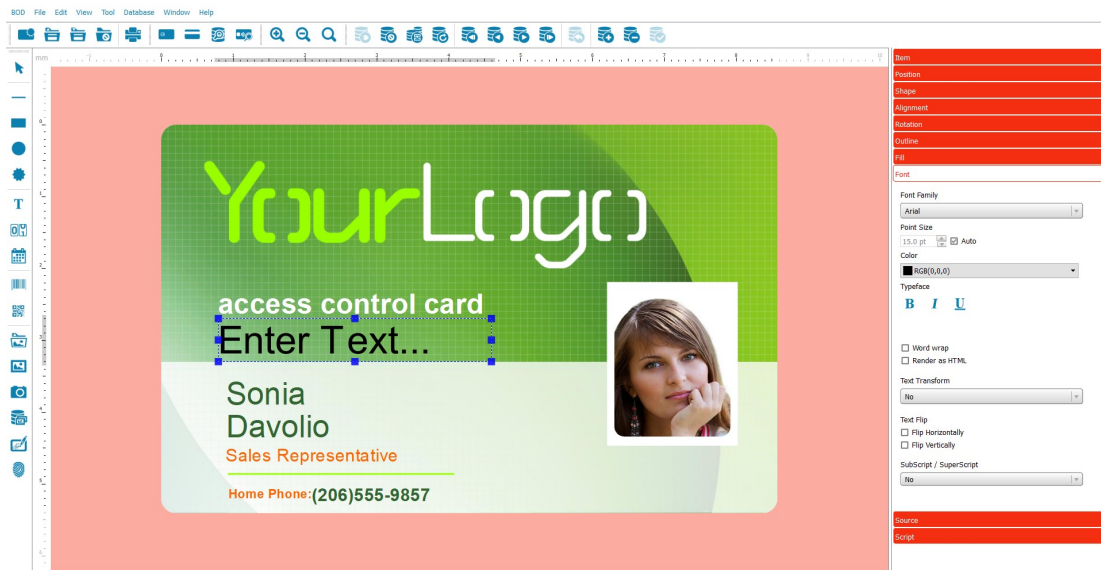
🗨 By making changes to the background, images, text, and orientation card. You can create a new design to suit your needs. You can also modify any card object in your document.

ⓘ All you have to do now is to save your new card document.

3.4.2 - Create Your Own Templates

ⓘ If the preset templates do not meet your requirements, you can create a template based on your own styles.

To create your own template, start by creating a new card and chose a model type that fits your need. For instance, if you chose a contactless model, the result will be a template based on your contactless, but with your own design.
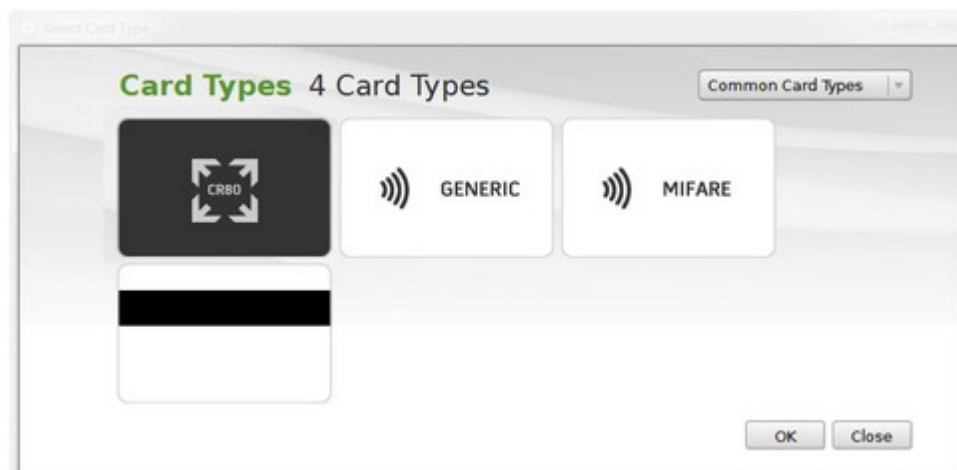
Click **'OK'.** If you want to continue. Otherwise click **'Close'** to revert to the previous window.

A template may include any object type, variable field or text that can be edited and **modified at any time**. Make all the changes you want on your template and then save it with '.cardTemplate' file extension, in the appropriate folder in **Bodno** (**.../My Cards/My Templates/...**).

Click File ▸ Save or Save as and create your file.
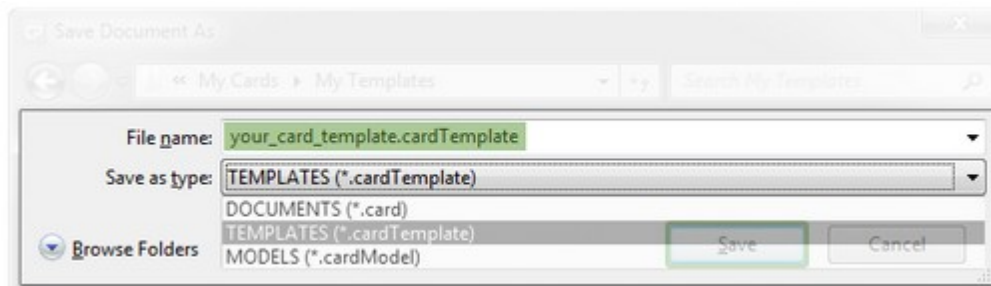
Your file should have the extension **.cardTemplate**

You can edit your template at any time.

Click File ▸ Open ▸ Explorer ⋯
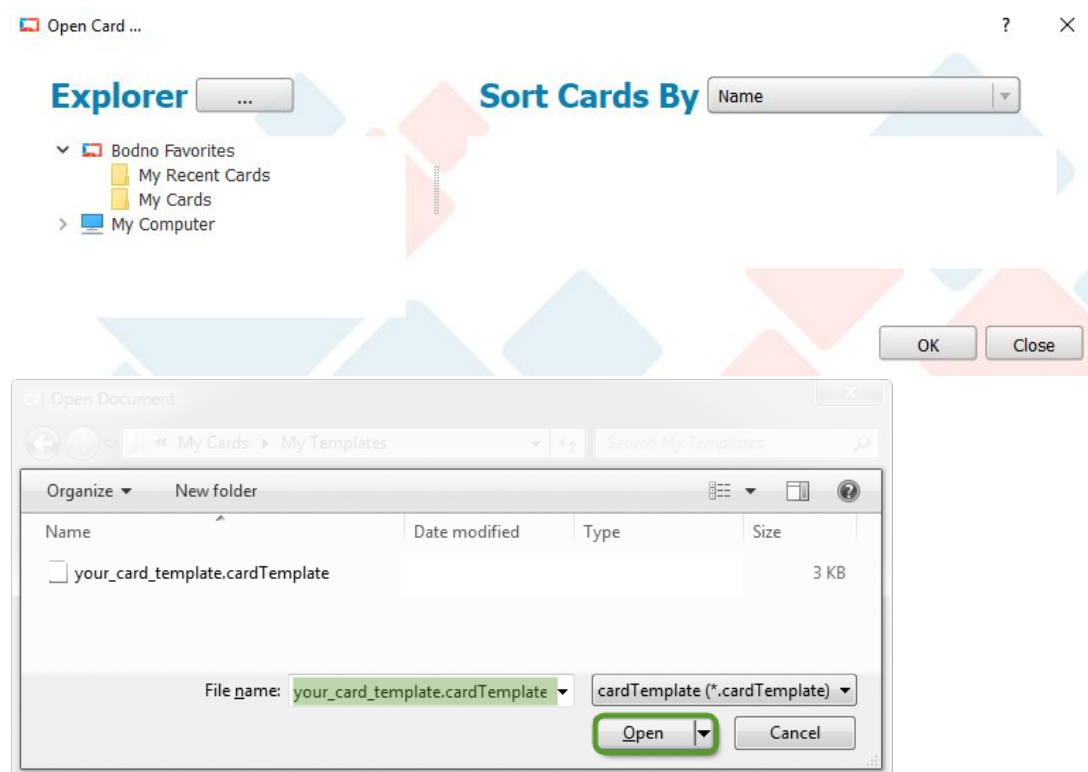
❶ Select the file extension ".cardTemplate" in the corresponding Combo Box, otherwise the template files will not be listed.

ⓘ After you have completed your template edition ⟲ click **Save** and your old template will be replaced with the new modifications**.**

3.5 - Using Models

ⓘ **Bodno** allows you to create a document in two different ways, by using an existing model or by creating your own card model.

The first one only requires you to choose one of the many different types of models that **Bodno** has at your disposal. Like mentioned before, you have four major kinds of card models: basic, contactless, contact smart card and magnetic, and each type can have different settings like sizes, different kinds of magnetic strips and so on, all listed on **Bodno** model type.

But if you have a specific type of card model that is not listed, **Bodno** allows you to create it and that's the other way to create a document, using a new card model.

❶ Note that whatever model you choose, it will restrict access to further settings and properties, like referred before. If you open a "Contact Smart Card", the result will be a model of your "Contact Smart Card", where you can only edit Smart Card Settings, and it will not allow you to access, for instance, RFID settings.

3.5.1 - Create from Existing Model

ℹ This topic guides you on how to create a new document using an existing model. You can start a creation procedure by clicking on the create button on the "**Welcome View**".

🌐 'Welcome View' ▸ 'Click Create'

Or 🌐 'Click File' menu ▸ 'New' (CTRL+ N)
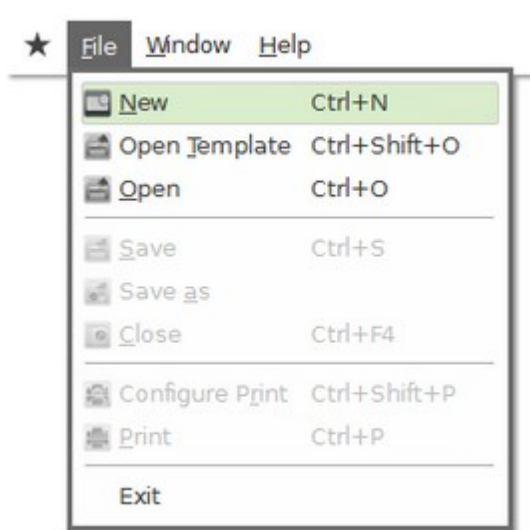
ℹ Then choose the type of model you want. The model types are organized in 5 groups:

☑ **Basic -** have no contacts, no microprocessors or internal memory. Simple piece of plastic that you can print on front and back side.

☑ **Common -** are the most common types of card models, used by the vast majority of users.

☑ **Magnetic** - this model type allows you to encode the magnetic stripe through **Bodno**. This means that you can print and encode your card at the same time or use an external encoder. These cards may contain secondary technology, like RFID technology.

☑ **Contactless** - any pocket-sized card with embedded integrated circuits that can process and store data, and communicate with a terminal via radio waves. This type of card model allows you to encode through **Bodno**. By using JavaScript language, you can program your card and perform the read and write operation on the card. This also means that you can print and encode your card at the same time or use an external encoder.

☑ **Mifare -** this card model, when chosen, allows you to read or write the several sectors of your card. By using JavaScript language you can connect the sectors to database fields and update them automatically or simply enter data through keyboard input, therefore you can print and encode at the same time. These cards may contain secondary technology, like Magnetic stripes.

☑ **Contact -** a smart card, chip card, or integrated circuit card (ICC) is any pocket-sized card with embedded integrated circuits. In **Bodno** you have four types of card models, I2C, JCOP (Java Card), SLE4442 and generic. This type of card model allows you to encode through **Bodno**. By using JavaScript language, you can program your card and perform read and write operation on the card. This also means that you can print and encode your card at the same time or use an external encoder.

☑ **Unusual -** set of models used by a small number of users. Model types developed for specific projects are now included in this group.

☑ **User Models -** if you have any models in folder "My Models", they will become available in this group.
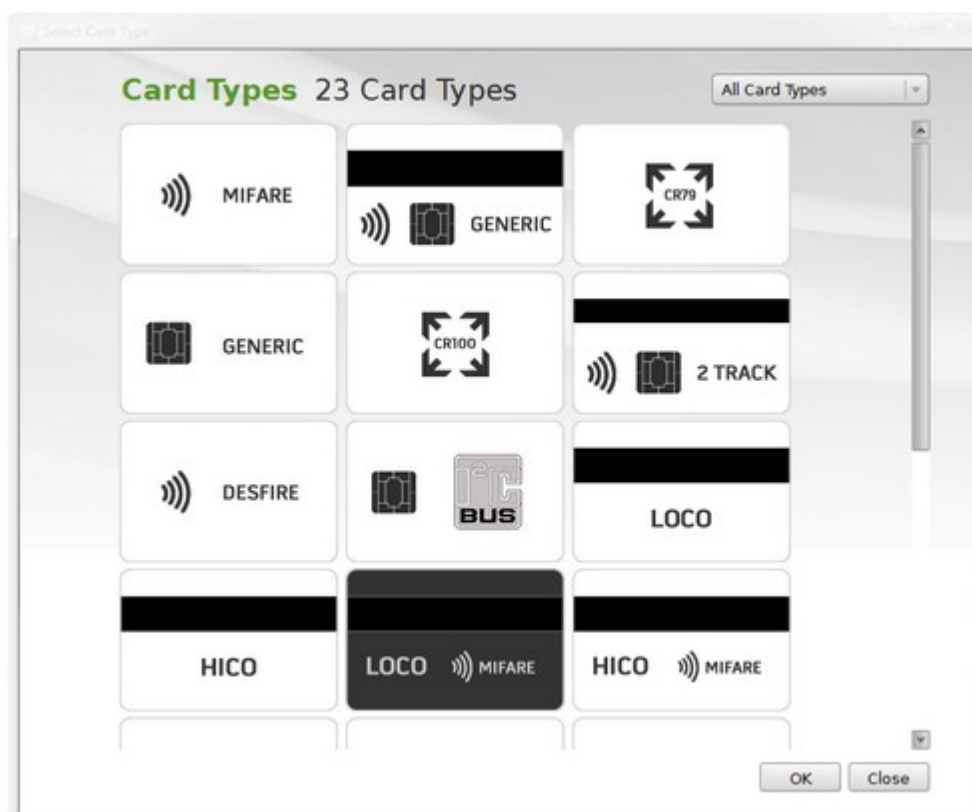
After you have chosen the model type, 🔄 '**Click OK'** and you will be able to start working on your new card. Or 🔄 '**Click Close'** if you want to revert to the previous window.
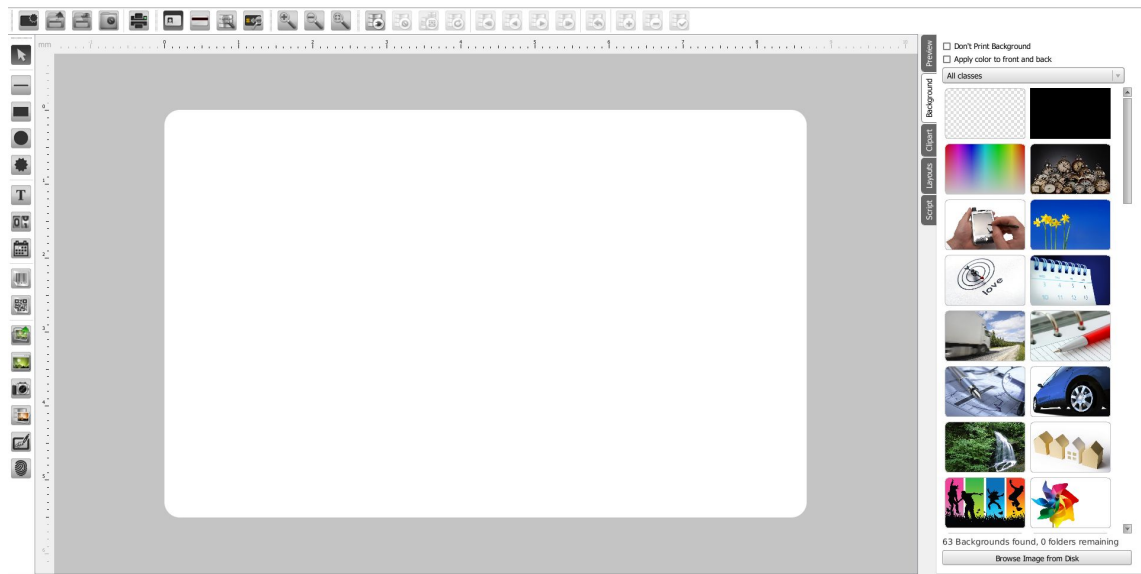
3.5.2 - Create Your Own Model

ⓘ To create a document using a new model, you have to start by creating the model. This will be your starting point to customize your own document.
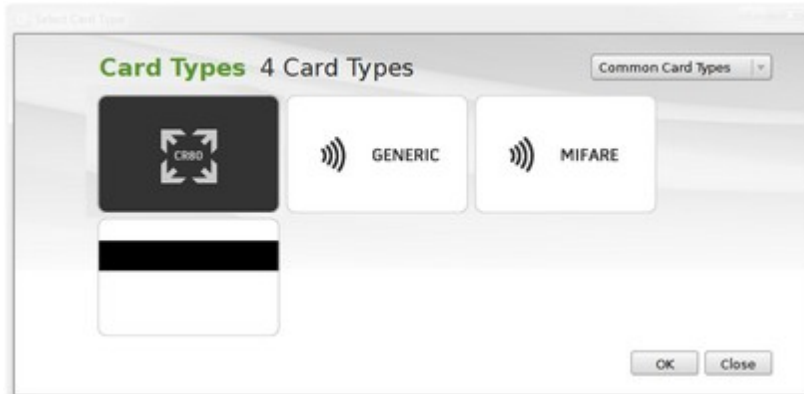
Your next step is to save that same model with the extension '.cardModel' and save it in the **Bodno** folder called **"Documents/My Models"** in order to be identified as a model.

❗ It is important that you save your file in the folder "My Models", to be displayed in the category "My Models" in "Select model type".

🔄 **Click File ▸ Save** or **Save as** and create your file as the example below, in your folder "Documents" (To see the folder location, please click on menu 🔄 **BOD ▸ View Folders**)
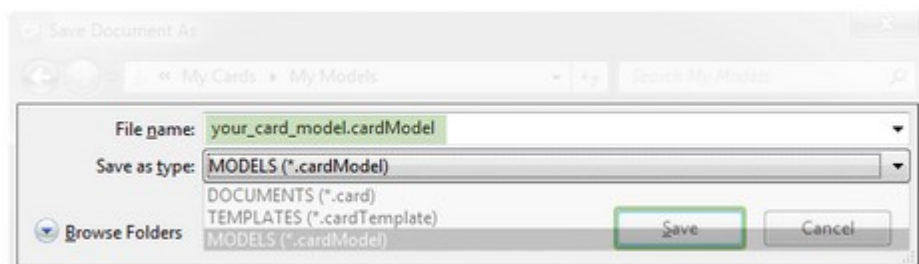
✎ Your file must be saved with the extension **.cardModel**

ⓘ At this point, you've created your new model "yourdoc.cardModel." The next step will be to locate your file and open it.

🔄 **Click File ▸ Open ▸ Explorer ▸ Bodno Favorites ▸ My Cards ▸** ⬚⬚⬚
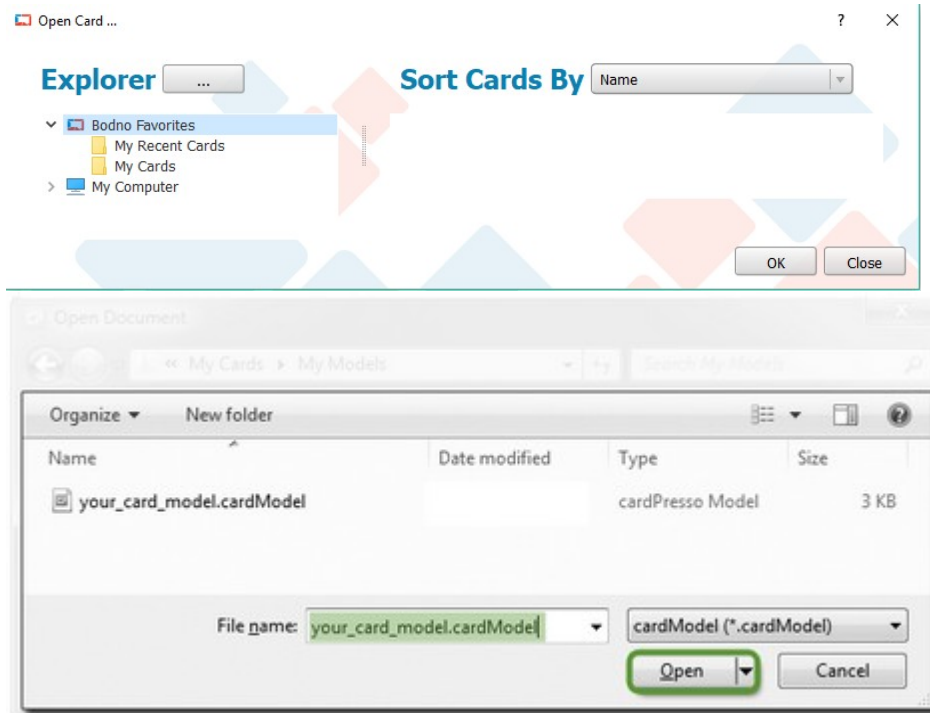
🔔 Select the file extension in the corresponding combo box, otherwise your file will not be listed.

ⓘ After opening the model, you can **customize the dimensions and corners radius**. On your right on the properties tabs you will find a tab named "Layout" where you can change the card dimensions and corners radius,
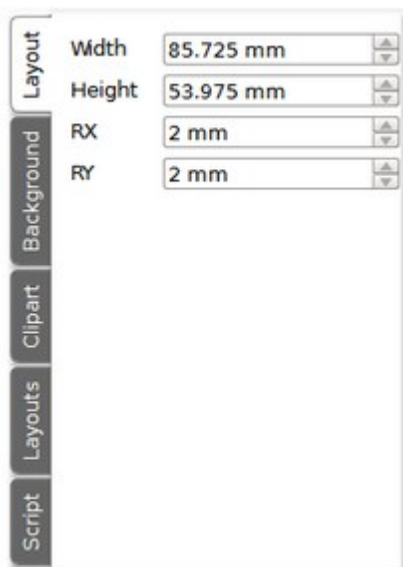
You can also change the orientation of your card by 🔄 clicking on **File menu** ▸ **Configure Print** and In "Print Layout" 🔄 **Click Orientation** and select your card orientation. The card orientation can be changed at any time, but this will be your card default orientation.
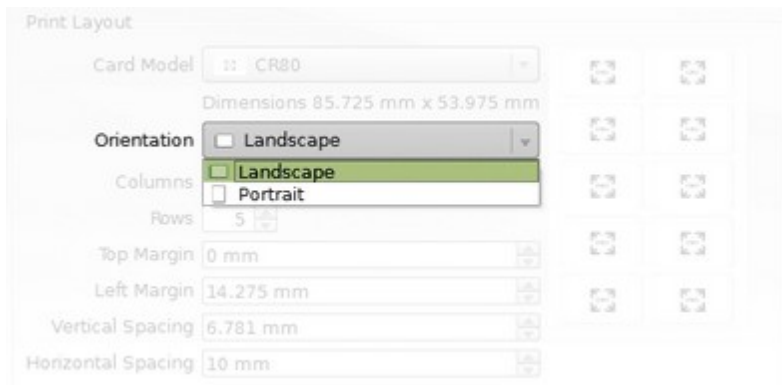
💡 You can add images, text or other elements to customize the thumbnail that you will see in the preview area.

ℹ The last step is to save the model that you've just created. From now on the new model will be displayed in the Create Document Dialog Box, under the category "My Models".

🔘 **Click File ▸ Save (CTRL+ SHIFT + S)**
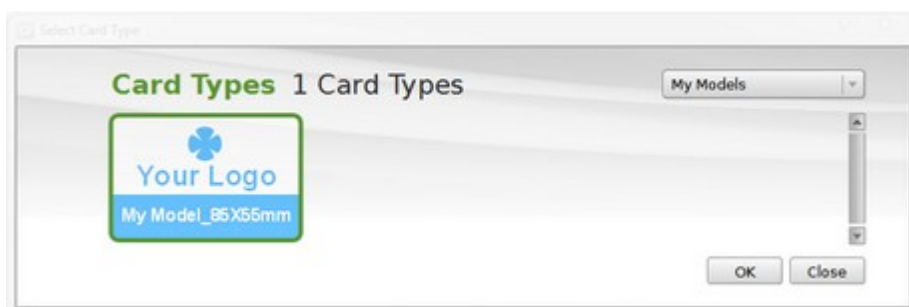
❶ Please note that cardModels can't be printed, they have to be saved as *.card before you can print.

Chapter 4.
Design

Chapter 4. Design

ⓘ The definition of **design** is the creation of a plan or convention for the construction of an object (as in architectural blueprints, engineering drawing, business process, circuit diagrams and sewing patterns). Design has different connotations in different fields. In some cases the direct construction of an object (as in pottery, engineering, management, cowboy coding and graphic design) is also considered to be design.

In **Bodno** you can design and build a layout. To accomplish this, **Bodno** provides the user with specific tools and objects, allowing you to build your layout according to your imagination, capabilities and needs.

❗ As you know, when you design you create a file, called document, this document keeps inside all the settings you will use on your creation.

4.1 - Workspace

ⓘ In **Bodno** you can customize your working area as you wish. You can reposition the menu bars or you can view or hide properties areas.

❗ On the View menu you have a set of options that allows you to change your working scenario.

ToolBars

☑ Here you can select all the dockbars that should be available in the working space.
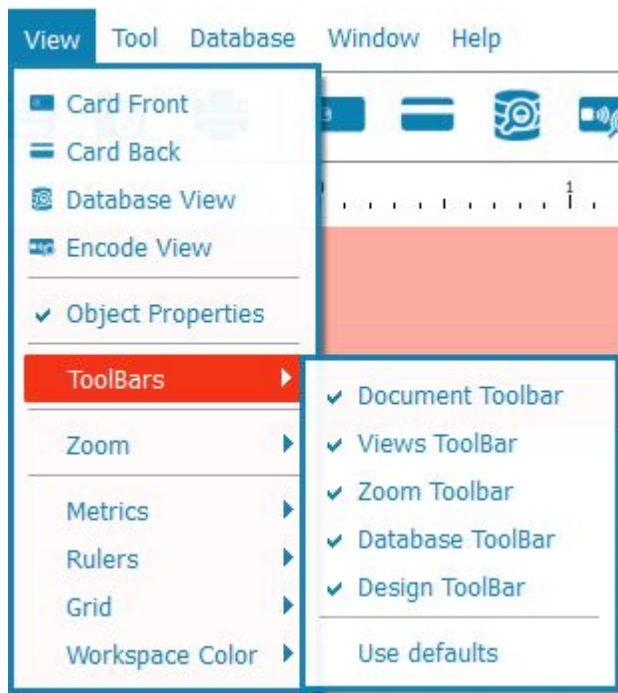
Metrics

☑ Allows you to define the measurement unit that you wish to work with.
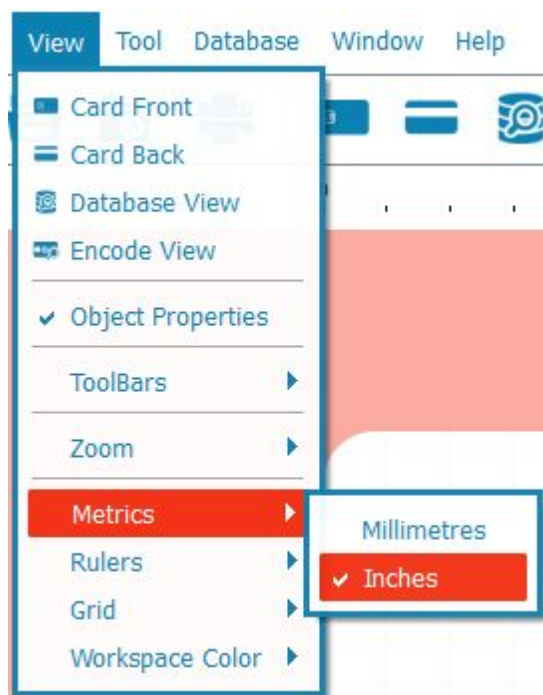
Rulers

☑ **Visible** - Show or hide the rules in the card design area.

☑ **Selected Items** - Shows or hides the area occupied by selected items on top of the card design rulers Set
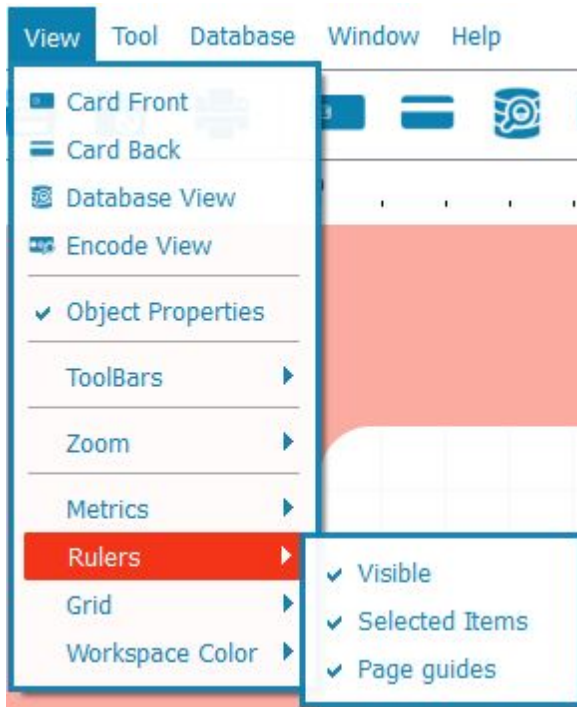
Grid

☑ **Visible** - Set the card visible or hidden

☑ **Snap to Grid** - Allows you to move and/or position the objects on a grid unit step or free move
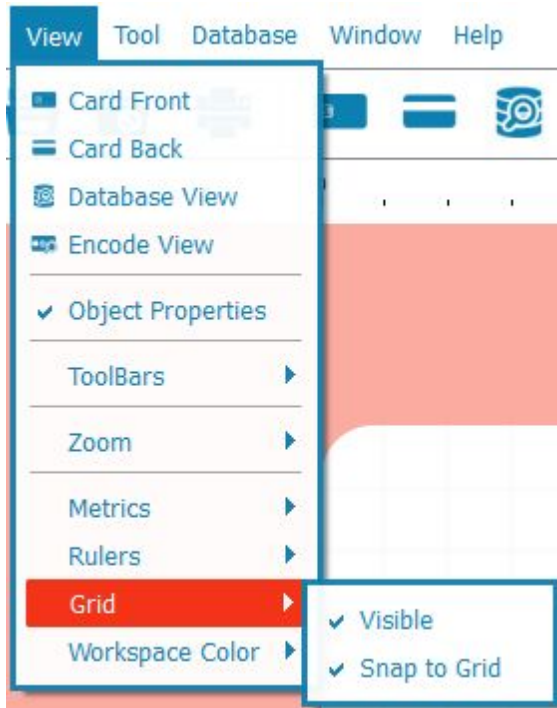
Workspace Color

☑ Allows you to chose the workspace background color
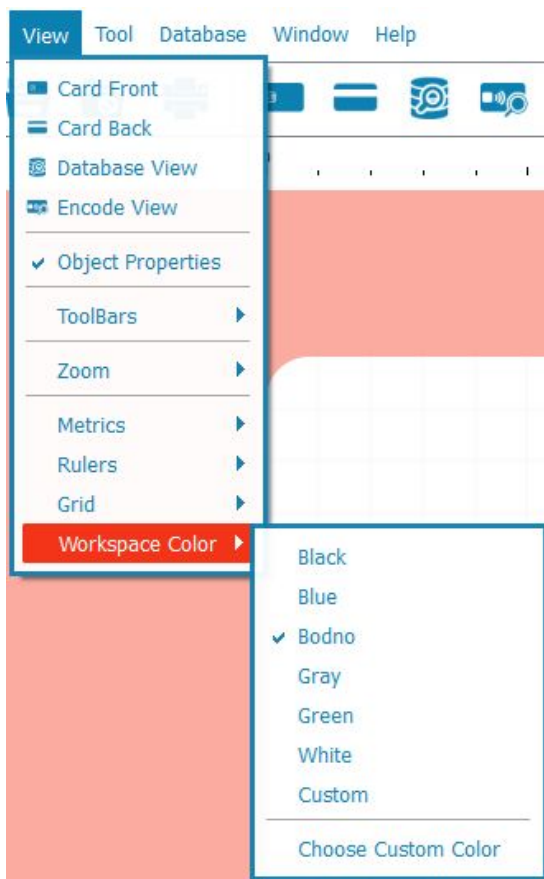
🛈 **Switch between front or back card side.**

❶ **Switch to Database View.**
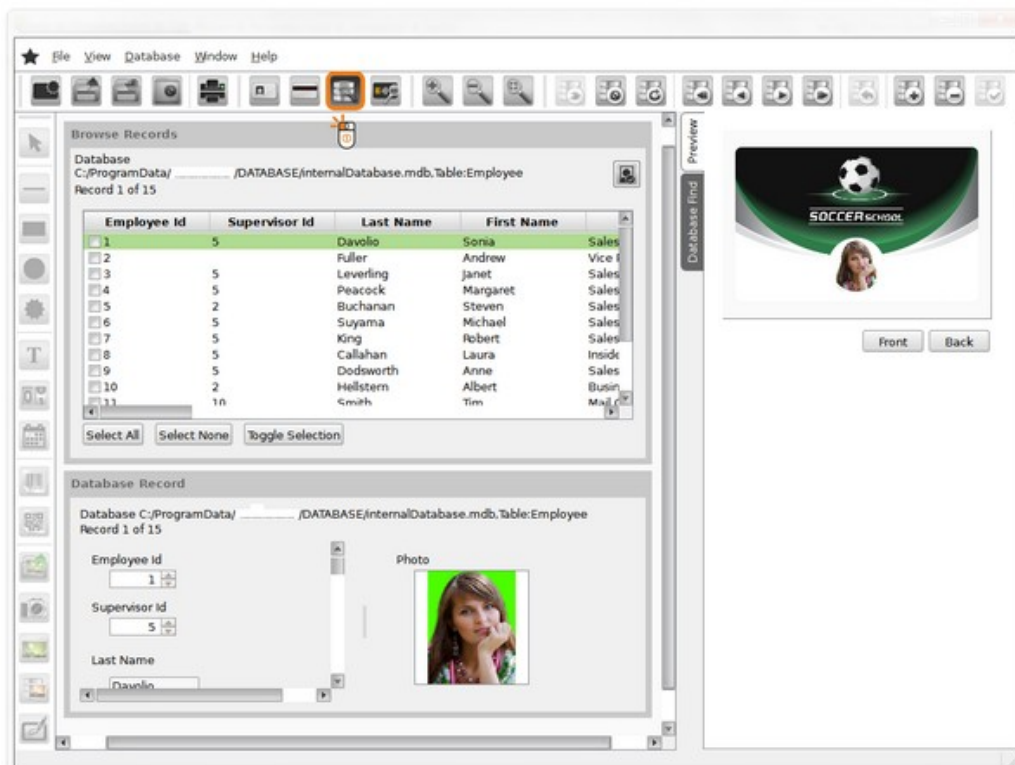
❷ **Switch to Encoding View.**
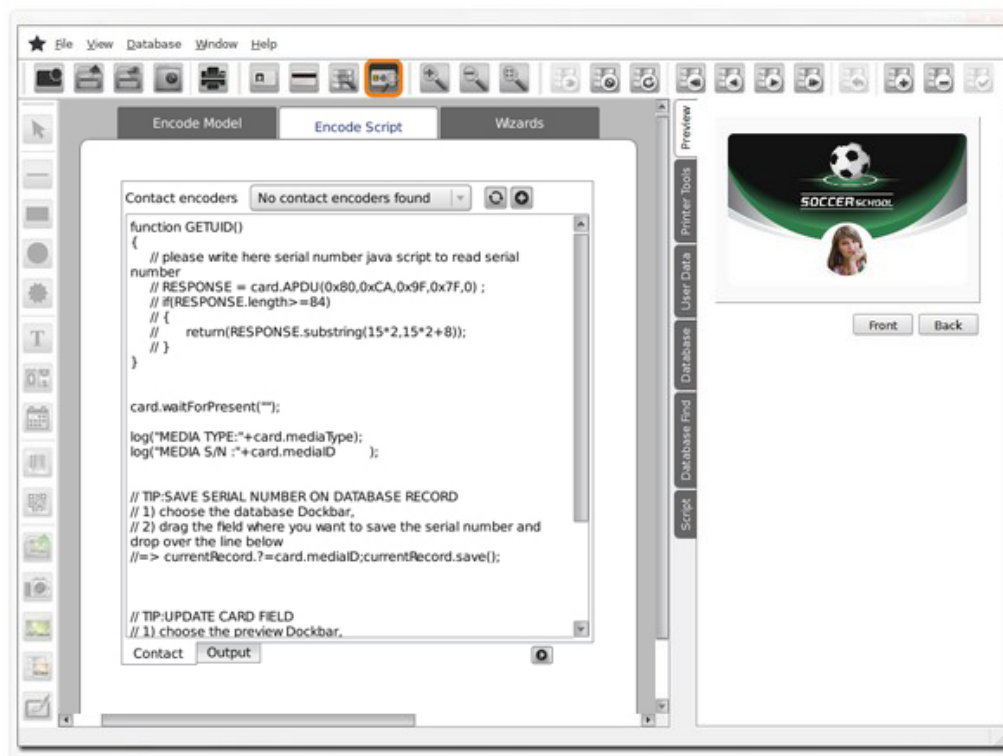
4.2 - Document Properties

ⓘ When you open the document view, the first thing you will see is the work space and on the right side the basic properties of your card document.

☑ **Backgrounds -** Each layout can have a unique background. You can access **Bodno** backgrounds library using the Backgrounds Tab. To apply a background just select it from the list and the background will be applied immediately to your card layout. You can also set the background using an image object.

☑ **Clipart -** You can access it using the Clipart Tab. They can be used as an image object, part of your card layout creation, or as a background. Please note that you can only change the background color of the object.

☑ **Layouts -** Like we said before in this manual, when you design a card, you are building a layout and in **Bodno**, a document can have as many layouts as you want. The Layouts Tab is our way to offer you a quick way to manage all the possible layouts on your card document.

☑ **Script -** The Script Tab allows you to write your own script commands, based on the ECMEAScript language specifications. This is a way to extend the already large number of features that **Bodno** offers you. It also allows you to interact with external software, using the results to apply on your document. You have three different kind of script boards, one for each object, one for the card document and one for encoding, three different ways to expand **Bodno** capabilities.

4.2.1 - Background

🛈 An image to be applied as the background of your card. **Bodno** offers you many background images that can be used from landscape cards to portrait cards.
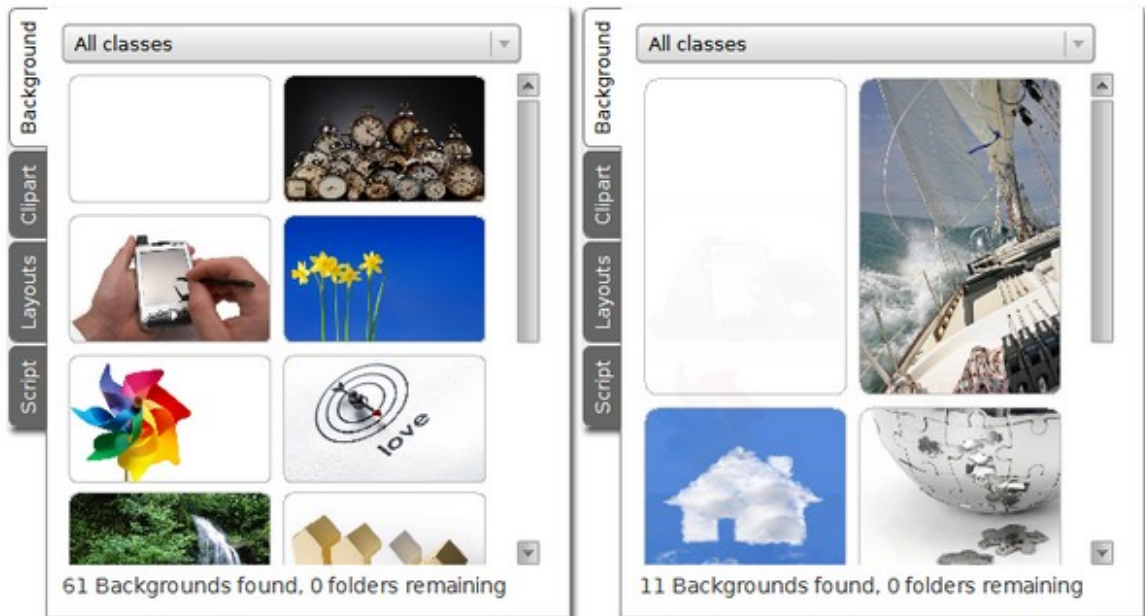
❗ Background images are divided into classes that are accessible through the background combo box.
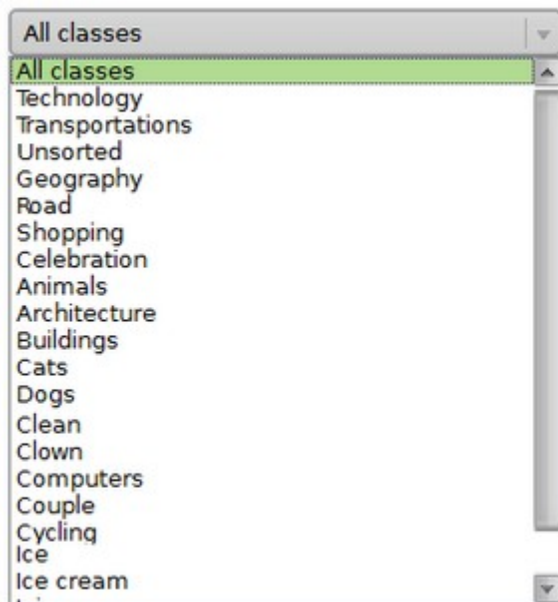
🛈 It is possible to add a folder with images to use as a background, in the Background Tab ◑**All classes** select ◑**#User Folder.**

And select through the Explorer Browser the Folder with the images to use as Background.
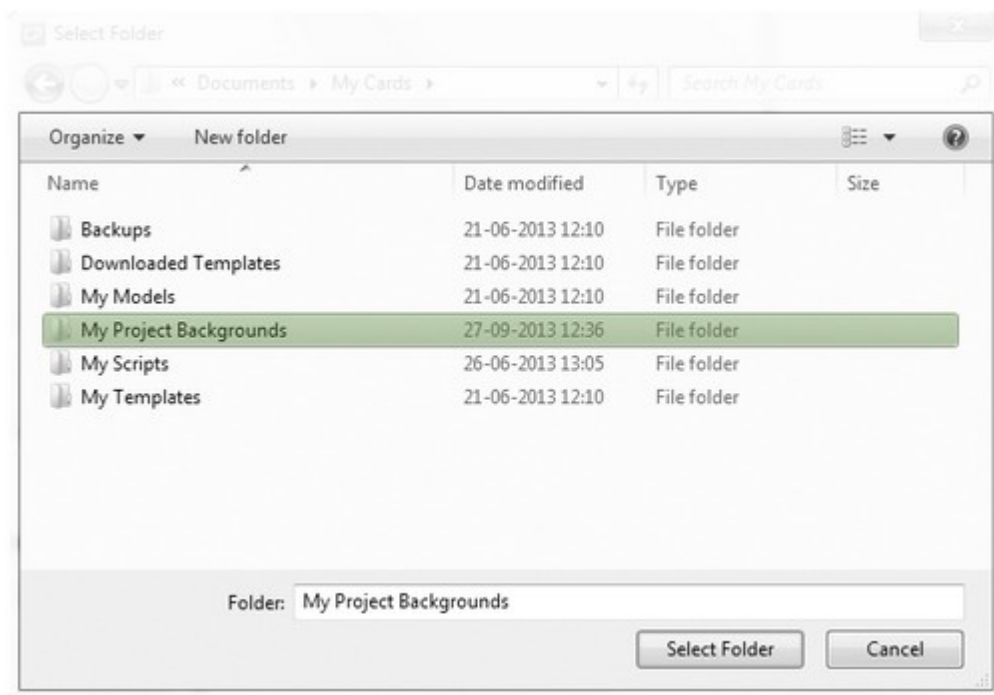
It's also possible to use your own image as the card background.

Add an image object to your layout, then right click on the object and chose **'Set as a Background'** option, like shown on the picture below.
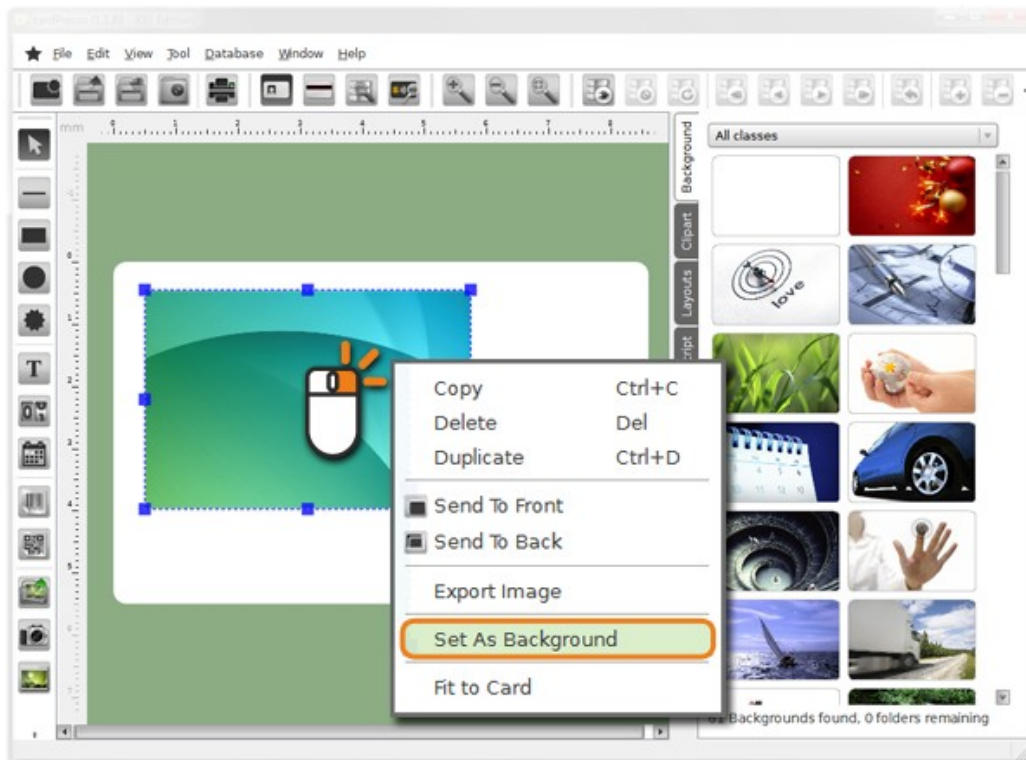
If you want to change or edit the background, **right click** on the card and choose 🖱 **'Edit background'**.
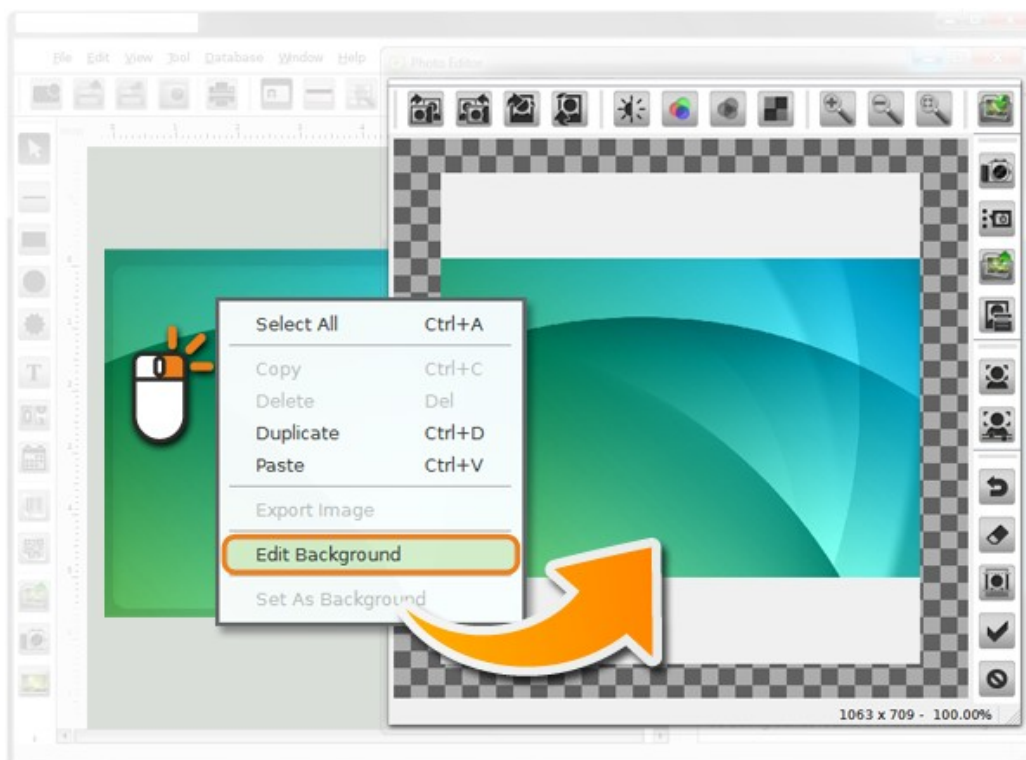
The Image Editor will open and from there you can edit the background image. To commit changes, 🖱 **click on the 'Save Changes'** button, otherwise press **'Cancel'** to continue.

4.2.2 - Clipart

ℹ Clipart images are pre-made images that can be used to help on the layout creation. **Bodno** offers you several.

❗ They are divided into classes. All you have to do is select one class from the dropdown combo box.
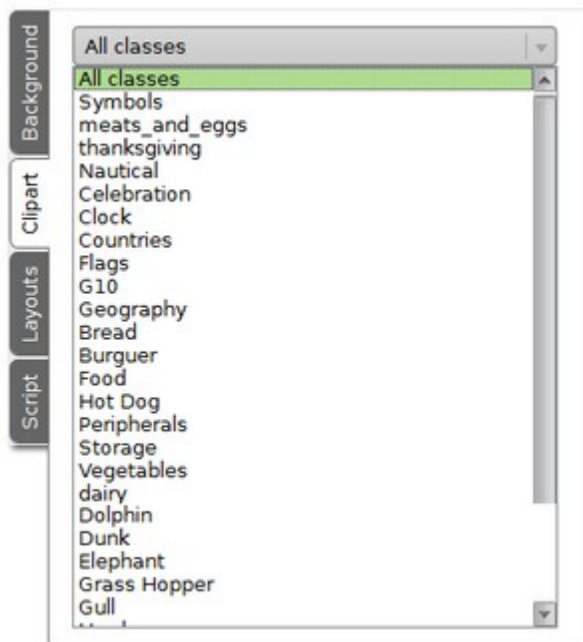
ℹ Select the image from the clipart list, and drag it to the card design area. The selected image will be used as an image object that you can modify.
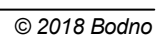
4.2.3 - Layouts

ⓘ The Layout Tab allows you to define properties, settings and conditions for the use of the layouts. This feature allows you to use the same card document on as many layouts as you need and conditionally print the ones you want.
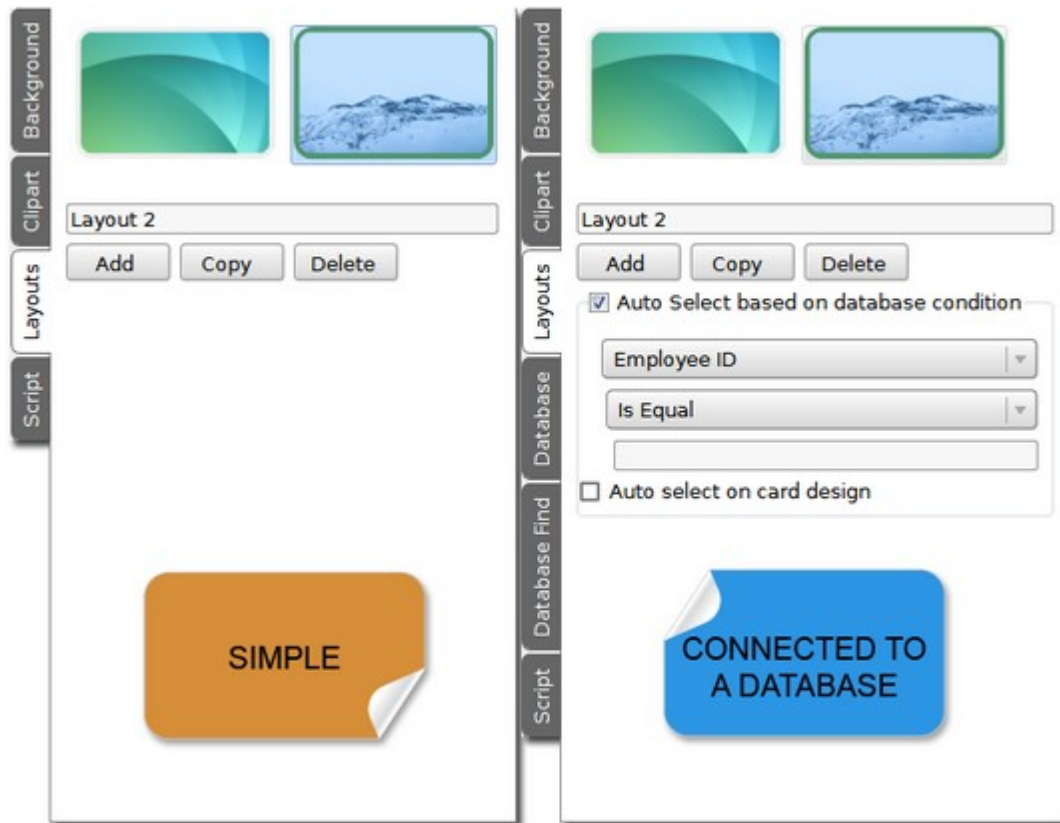
☑ **Name -** You can give a name to your layout.

☑ **Add -** You can add a new empty layout

☑ **Copy -** Creates a new layout based on the current selected layout.

☑ **Delete -** Delete the selected layout.

☑ **Auto Select Based on Database Condition -** When checked it allows access to a condition box, where you can define fields and conditions for every layout. Remember that these conditions are restricted to the selected layout.

ⓘ After you enable the checkbox, the first drop list shows all the available fields from the connected database. You can apply conditions based on the available fields as you can see below.

☑ **Is Equal** - Link the chosen layout to all records with the selected field equal to the input value.

☑ **Is Not Equal** - Link the chosen layout to all records with the selected field different from the input value.

☑ **Contains** - Link the chosen layout, based on the field value, to all the records that contains the input value.

☑ **Not Contains** -Link the chosen layout, based on the field value, to all the records that do not contain the input value.

☑ **Is Null** - Link the chosen layout to all records where the selected field is a null value.

☑ **Is Not Null** - Link the chosen layout to all records where the selected field is not a null value.

ⓘ After you have chosen one condition, you can set it to match any string, like shown on previous picture ③, however please notice that the condition is not case sensitive.

❗ If the record doesn't comply to any condition it will assume the layout of the previous record.

ⓘ What benefits may be obtained from using multiple layouts? To explain it, we will show you a sample case using one of the predefined templates available with

Bodno.

💡 Now let´s imagine that you have three different departments in your company, Sales, Marketing and another one that for this example purpose we will call it General, but only one database and you need distinguish them visually for faster identification. The process is simple:

❗ After opening one of our predefined templates, a connection to an internal database will be made.
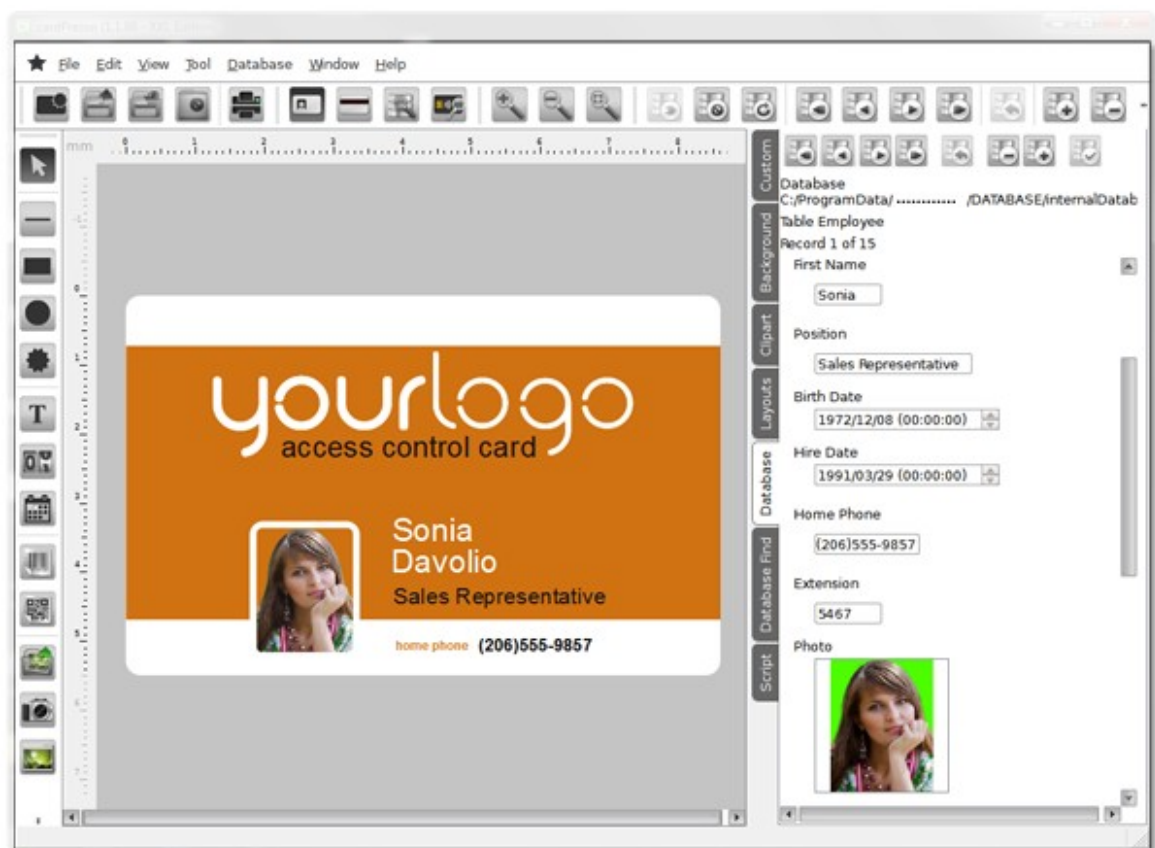
It's time to start working on the card layouts. Now click on the Layout Tab.

As you can see you already have one layout, from **Bodno** business card.

Now we will add two new layouts in order to have three different layouts for sales, marketing and general departments.

To start, change one of the layout's name to Marketing and then click on the auto select checkbox to set the conditions.

On the database field, choose the field that will define the layout selection, in this case will be the Position field.

Then in the next drop list set the condition for the chosen field, on our example we set it to 'Contains'.

And on the text box below add a value for the condition. In this case it is the department's name, remember that this is not case sensitive.

Finally, enable the 'Auto select' checkbox. This option allows you to see the card layout that depends on the condition field type when scrolling through the database records.

Now choose a distinguishing color for the card that in our example is what will define visually the different departments.
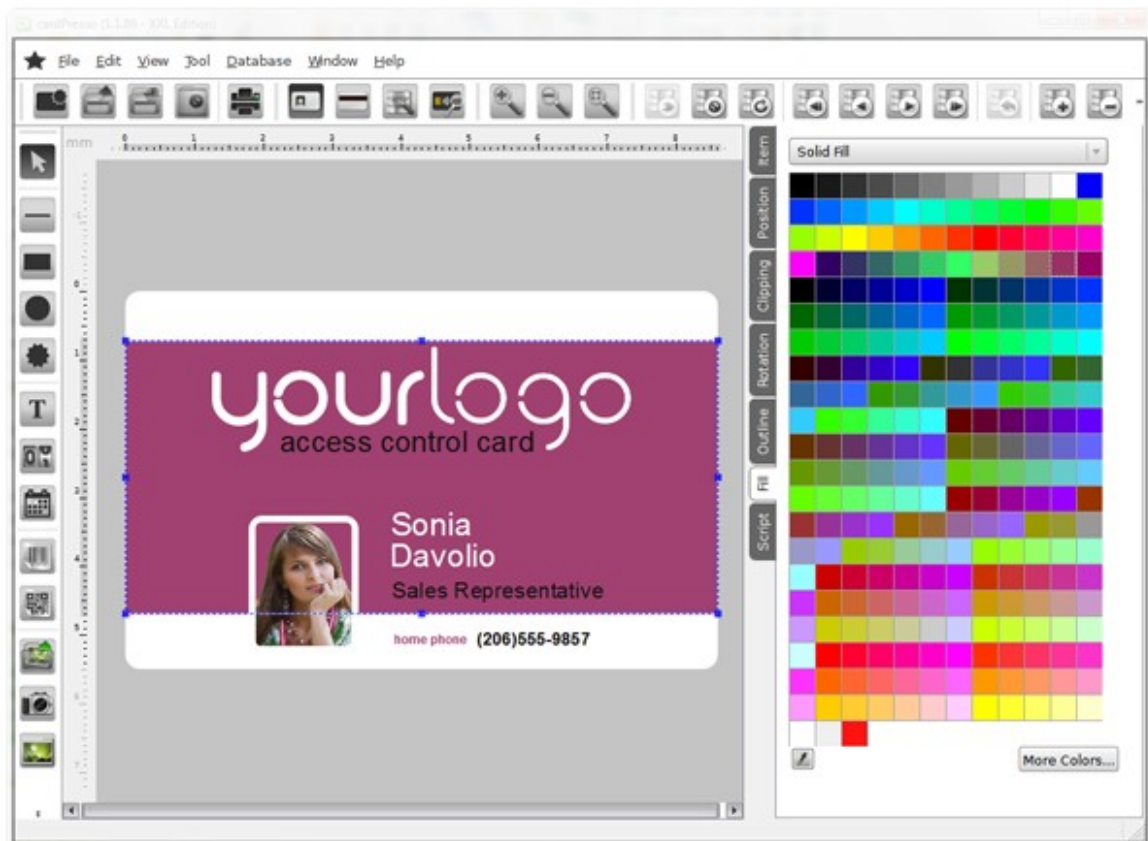
Now add a new layout for Sales and General departments. Click on the copy button twice.

As you see it copies our previous card to the new layout. All we need to do now is the same procedure we made for the Marketing layout.

Define database settings for each new layout.
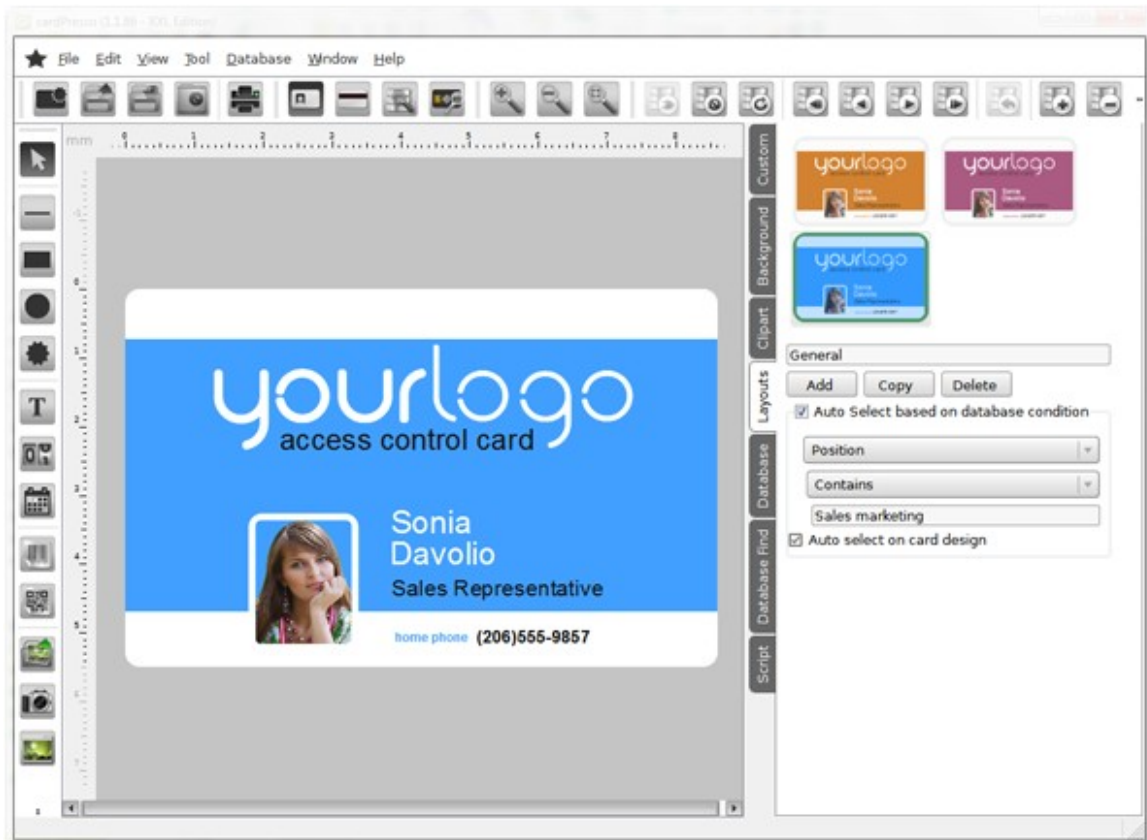
Now use the navigation buttons and start scrolling through the database records.

As you can see, now the setup of the card is finished, connected to an excel database and with three different layouts to define the different departments.

🛈 This is an example, you can choose as many layouts as you want and set your own conditions.

4.2.4 - Script

ⓘ There are two kinds of scripts in **Bodno**, one for each object and one for the document. In this chapter we focus on the card document script.

This is an advanced user area, where you can program actions and procedures in ECMEAScript language in order to define settings or update your object.
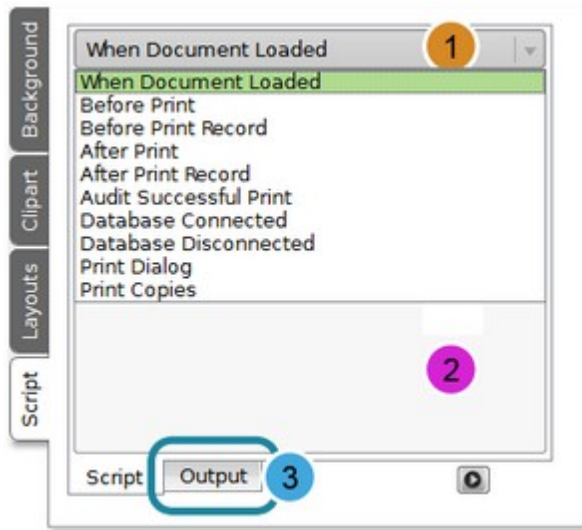
① This drop-menu allows you to define when the actions or procedures must take place.

② And in the space below you can write your lines of code.

③ To see the log of your program output, change tab below.

4.3 - Document Objects

ⓘ These objects are the most important features in your card document creation process. There are two major types of objects, static and dynamic.

The first class refers to objects that will never change along the creation or data input process, like backgrounds and shapes, for instance.

The dynamic objects can be text objects linked to database (changing while browsing through several records), print counters or date/time objects.

The objects can be placed throughout the card space, in the front and back side. And can be arranged as you wish in order to meet your creation needs.

There are also a set of specific settings to each object that you can use according to your own specifications, like color, size, source, among many others.

4.3.1 - Line

ⓘ This object is a simple straight line, but still has some features that you can setup. You can choose between five different kinds of lines and a custom one
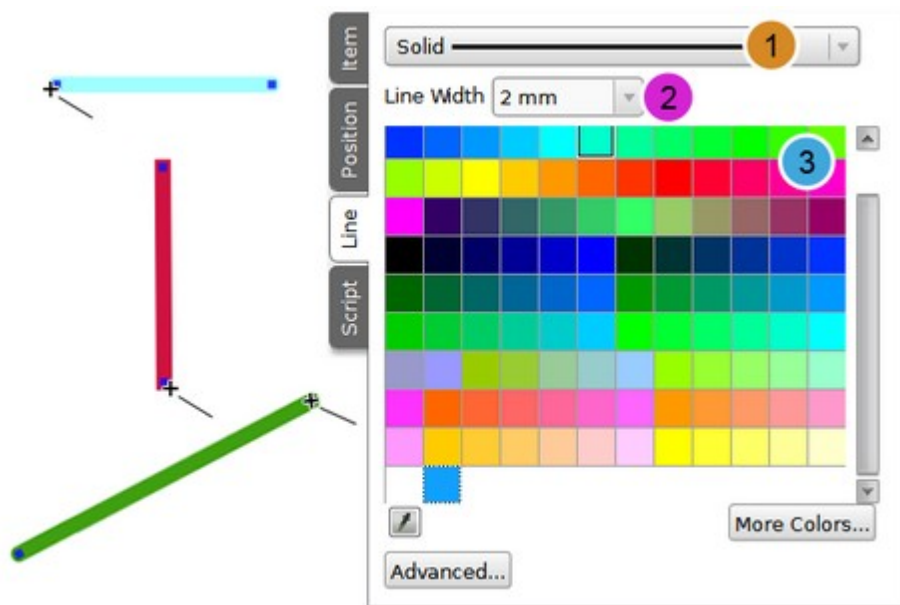
①

☑ **Solid Line**: Is a plain line.

☑ **Dash Line**: Dashes separated by a few pixels.

☑ **Dot Line**: Dots separated by a few pixels.

☑ **DashDot Line**: Alternate dots and dashes.

☑ **DashDotDot LIne**: One dash, two dots, one dash, two dots.

☑ The **Custom Line** is a line that you can define as you wish. By clicking on the **'advance'** button you can set additional parameters like offset and pattern.

② **Line width:** pre-defined options vary between 0.01" to 0.25", but you can type a customized value.

③ You can, also, change the **color** by clicking in one of the colored squares, acquire any color you have on your screen using the dropper or use the advance color settings by clicking on the **'More Colors'** button.

↻ By clicking on the **'advance'** button you have access to settings that allows you to change the shape of your line. All you have to do is to write the command on the line like shown below.

/RoundCap   /SquareCap

Pen Parameters:

/SquareCap

/SquareCap /FlatCap /RoundCap   OK   Cancel

☑ **SquareCap**: A square line end that covers the end point and extends beyond it by half the line width.

☑ **FlatCap**: A square line end that does not cover the end point of the line.

☑ **RoundCap**: A rounded line end.

↻ If you right click on the object a pop-up menu is shown allowing you to:

Copy   Ctrl+C
Delete   Del
Duplicate   Ctrl+D

▣ Send To Front
▣ Send To Back

Fit to Card

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

4.3.2 - Rectangle

ⓘ This object can be either a rectangle or a square, depending only on the side measures.

↻If you right click on the object a pop-up menu is shown allowing you to:

Copy	Ctrl+C
Delete	Del
Duplicate	Ctrl+D
▣ Send To Front	
▣ Send To Back	
Fit to Card	

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space

☑ **Send to Back** - Send the object to the back of all objects on the work space.

❗ You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.3.3 - Circle

ⓘ This object can be either a circle or an ellipse. By moving the delimitation lines you can change the appearance of the object.

If you right click on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

❗ You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.3.4 - Shape

ℹ️ This object can assume many different shapes. On the Shape Tab you have a dropdown menu with several categories of shapes. Inside each there are several shapes that you can add to your card.
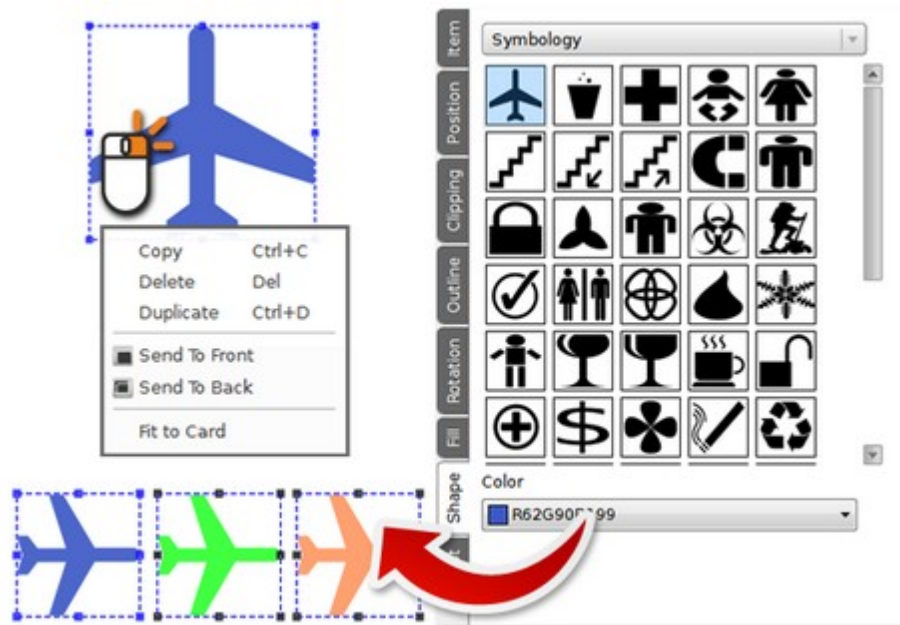
❗ You can change the color by clicking in one of the colored squares, acquire any color you have on your screen using the dropper or use the advance color settings by click on the **'More Colors'** button.

👉 If you right click on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

🛈 You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.3.5 - Text

ⓘ The text object allows you to add text to your card document. After positioning the text on the card design area double-click on it to start typing your text. The default text format is a text box.

❗ There are three kinds of text objects: alphanumeric, numeric and Lists.

With the alphanumeric text objects, you can use a single line text or a text box, that allows you to write more then one line of text.

The numeric type is divided in value, integer value and date/time.

There is also Lists and Database Lists, that are no more than a small list with two fields, one works as an index and the other as the data that the object should display.

If you right click on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

❗ You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.3.6 - Print Counter

ℹ The Print Counter object allows you to set a counter and print it on the card.

You can set the update of the object to manual or automatic and interact with a database field.

❗ It also allows you to define the counter numeric format and values.

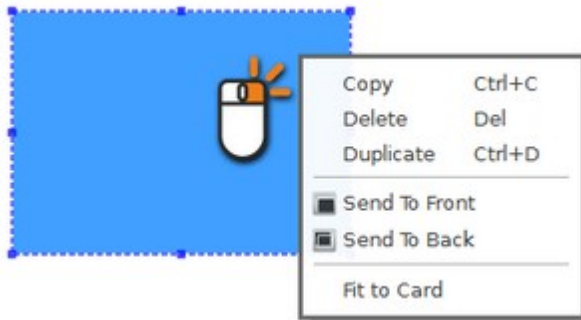👆If you right click on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

❗ You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.3.7 - Print Date

ⓘ The Print Date object allows you to print on the card the current printing date and/or time.

You can set the update of the object to manual or automatic and interact with a database field.

❗ It also allows you to define the date and time format.

↻ If you right click on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

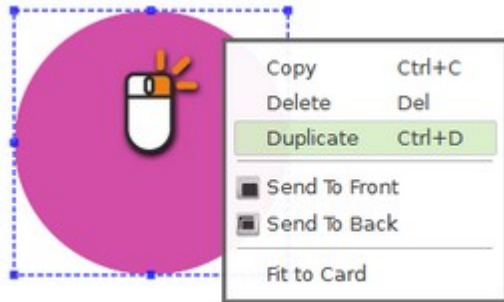☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

❗ You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.3.8 - 1D Barcode

ⓘ This object allows you to create a barcode. A barcode is an optical machine-readable representation of data relating to the object to which it is attached.

There are many different barcode types, Code 128, EAN-8, UPC among many others. Each one with different features and settings.

You can setup to see only the bars or complement it with readable data.

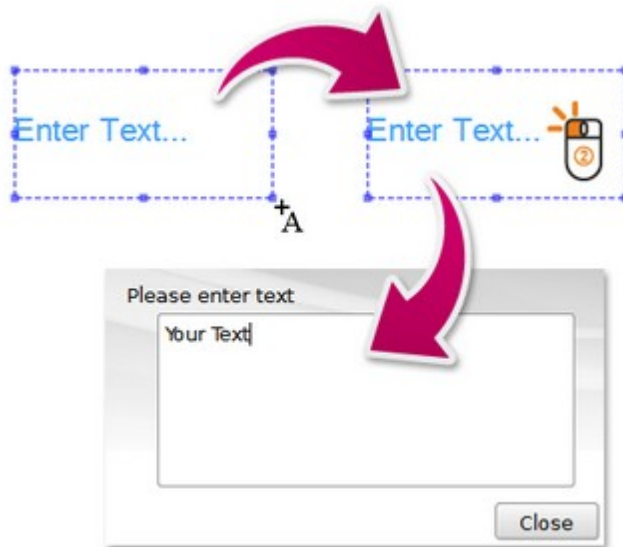❗ You can also connect the object to a database field to become a dynamic readable source.

ⓑ If you **right click** on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

⚠ You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.3.9 - 2D Barcode

ℹ This object allows you to create a 2D barcode. A 2D barcode is also an optical machine-readable representation of data relating to the object to which it is attached, evolved from the 1D barcode into rectangles, dots, hexagons and other geometric patterns in two dimensions (2D). Although 2D systems use a variety of symbols, they are generally referred to as barcodes as well.

There are many different 2D barcodes types, PDF417, Datamatrix, QR-Code and others. Each one with different characteristics.

❗ You can also connect the object to a database field to become a dynamic readable source.
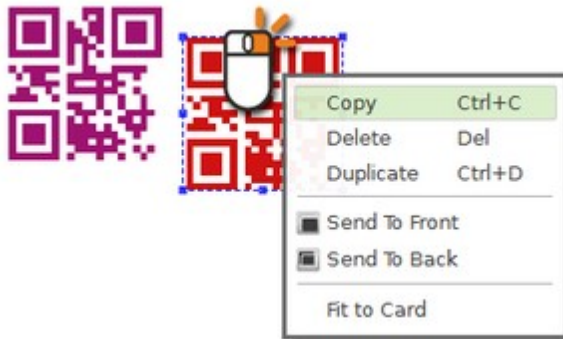
❗ Please be aware that this object is only supported from **GOLD** edition onwards.

◔ If you **right click** on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.
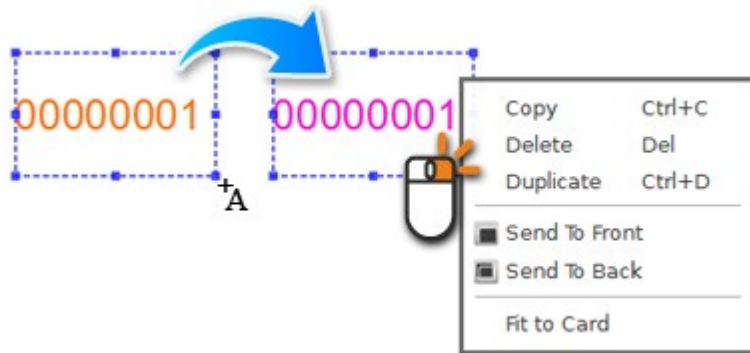
☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.3.10 - Image

ℹ This object is a very important one, not only because it allows you to add and work an image on your card, but also allows you to transform that image into your card background.

It can be added to your card from any source available like a scan device, camera, disc or cloud and allows any kind of image, jpg, png and others.

With **Bodno** you can transform that image as you want, changing **color, light, size and many other settings.**

❗ Making it your card background is easy, **right click** on the image and chose **'Set as Background'** and your picture is adapted to your card size.

🖱If you **right click** on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

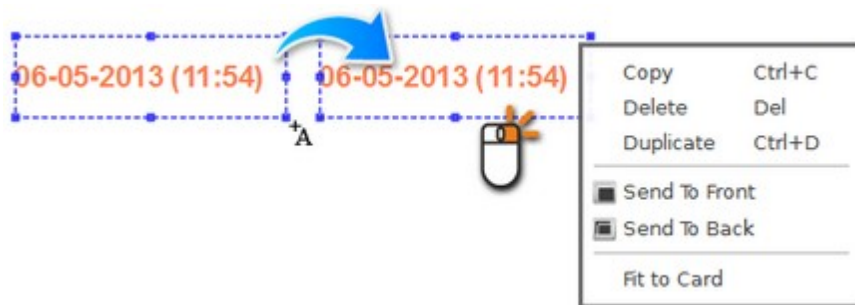☑ **Send to Back** - Send the object to the back of all objects on the work space.

☑ **Export Image** - Allows you to export the image as a file to anywhere on your computer.

☑ **Set As Background** - Set the image as the background of your layout.

❶ You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**
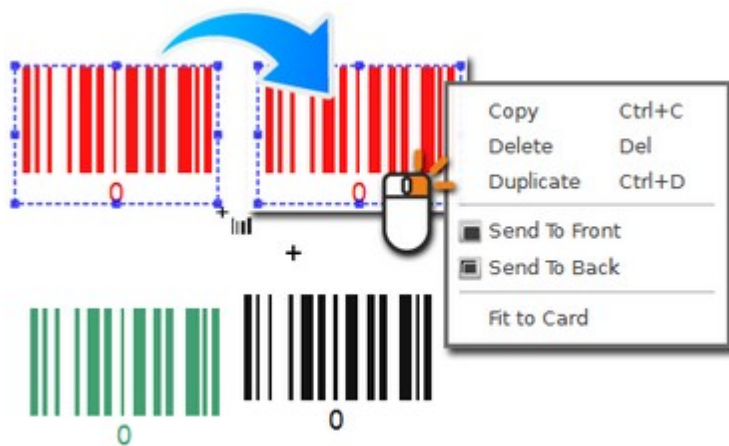
4.3.11 - Signature

ⓘ This object allows you to add a Signature on the card.

A Signature can be added from Signature Pad devices recognized by **Bodno**, which are the WinTab, Wacom Bamboo & Topaz:

- SigLite LCD 1x5 - T-L460-HSB-R and T-LBK460-HSB-R
- SigLite LCD 4x3 - T-LBK750-BHSB-R
- SignatureGem LCD 1x5 - T-L462-HSB-R and T-LBK462-HSB-R
- SignatureGem LCD 4x3 - T-LBK755-BHSB-R and T-LBK755SE-BHSB-R
- SignatureGem LCD 4x5 – T-LBK766-BHSB-R

The Signature can also be saved to a Database as an image.

🖰 If you **right click** on the object a pop-up menu is shown allowing you to:

☑ **Copy** - Click on the copy option or use the shortcut **(CTRL+ C)** to copy the object to the clipboard.

☑ **Delete** - Deletes the selected object.

☑ **Duplicate** - Creates an exact copy of the object on the work space.

☑ **Send to Front** - Send the object to the front of all objects on the work space.

☑ **Raise** - Send the object to a higher position on the work space.

☑ **Lower** - Send the object to a lower position on the work space.

☑ **Send to Back** - Send the object to the back of all objects on the work space.

☑ **Export Image** - Allows you to export the image as a file to anywhere on your computer.

☑ **Set As Background** - Set the image as the background of your layout.

❶ You can also setup a number of properties and settings on the properties tab, on the right of your screen. **All properties and settings will be addressed further on this manual.**

4.4 - Object Properties

ⓘ **Bodno** has a properties space, shown on the right side of your screen and you can display it as a set of tabs or as a tree or accordion set, as pictured below. To change, just **right click** on an empty space on the tab and check one of the options.
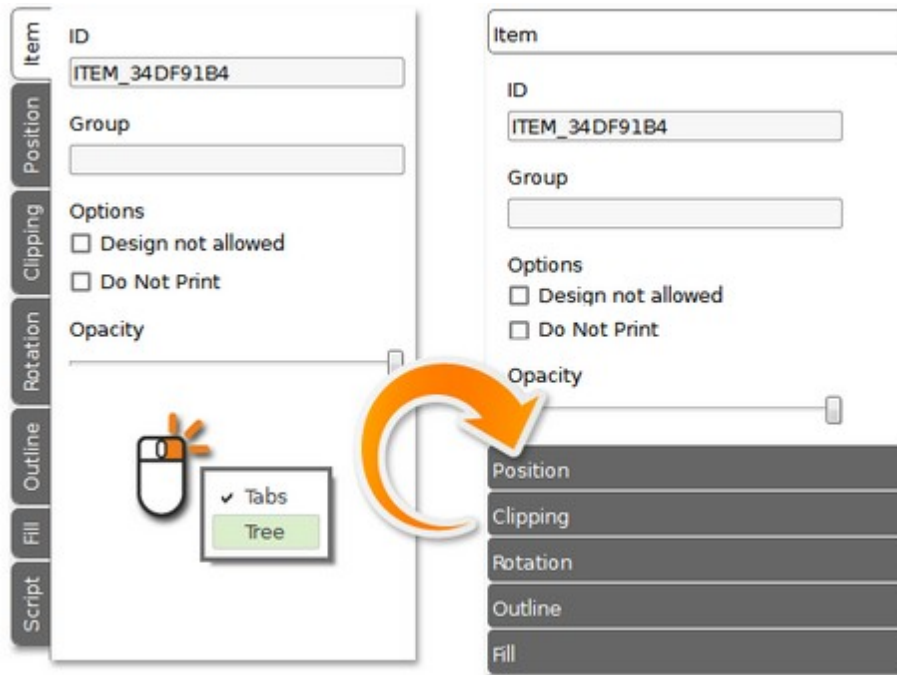
These tabs change depending on the object we are dealing with on the working area and as you will see further on in this manual.

ⓘ **Script, Layouts, Clipart and Background** are the four basic tabs already referred on the **'Card Document Settings'** chapter. These tabs are shown after you chose your card model and are previously referred to in this manual.

4.4.1 - Item

ⓘ The Item tab allows you to define the ID, Group and visibility of an object.

```
Item

ID
ITEM_34DF91B4

Group


Options
☐ Design not allowed
☐ Do Not Print

Opacity
─────────────────────────☐

Position
Clipping
```

☑ **Object ID** - Defining the object ID not only helps you organizing data on your document, but also gives you an easier object identification and helps you on encoding operations.

When manipulating a database you can use an ID to identify objects that will help you while programming a script.

The options settings allows you to:

☑ **Design Not Allowed** - Check the 'Design not allowed' box protecting the object from being changed, but only the graphical appearance and drag & drop position, not the content. This option is applied to all objects but background.

☑ **Print** - Lets you set if an item should be printed (**Yes**), if an item should not be printed (**No**), if it should only be printed when it contains data (**Only when has data**), or if it should only be printed when the data currently displayed in the item is valid for the type of item (**Only when has valid data**).
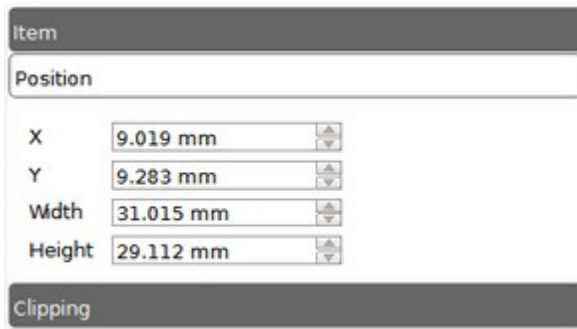
☑ **Opacity** - You can also define the opacity level of the object by scrolling the opacity button, from 100%, the default position to 0%.

☑ **Encoding** - For items that hold data to be encoded, like magnetic tracks, this option allows you to manually set if the date should be encoded (**Yes**), shouldn't be encoded (**No**) or to only encode if the item currently has data when being encoded (**Only when has data**).

4.4.2 - Position

ⓘ In this tab you can set the position manually or check the real-time position when moving and/or resizing the object directly in the card design area.

The same properties apply to the objects dimensions, allowing you to manually change the width and height of the object with a higher precision level.
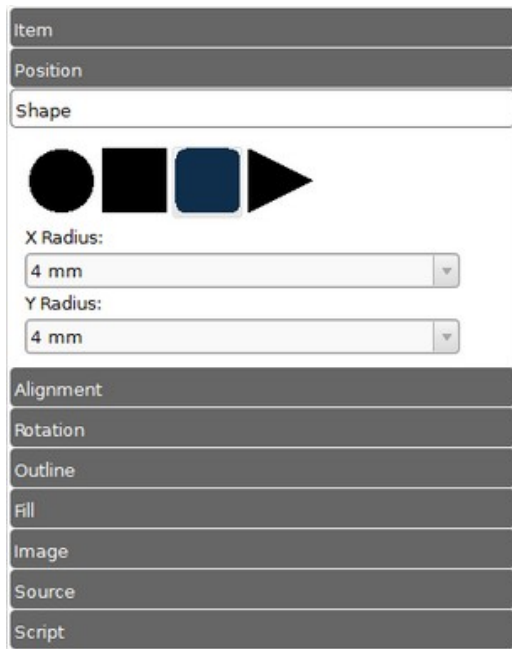
Item		
Position		
X	9.019 mm	
Y	9.283 mm	
Width	31.015 mm	
Height	29.112 mm	
Clipping		

4.4.3 - Shape

ⓘ This option allows you to change the visual shape properties of an object with different formats: circle, rectangle, rounded rectangle or a customizable one (by setting up the number of sides according to your needs).

It's like hiding the image behind a layer with a hole in the middle, and the shape of that hole define the visible part of our image, as shown below. For instance if you chose a circle shape the area of the photo that is sitting directly above the circle content area now remains completely visible.

Original   Clipping Effect Format   After Clipping Effect

❗To define the clipping area and format all you have to do is drag the image boundaries.

4.4.4 - Rotation

ℹ️ In this tab you can rotate or define a rotation angle to your object... Or you can select more than one object and apply a rotation to all the selected objects at the same time.

1️⃣ **Bodno** has quick rotation buttons for the most common rotations, 0, 90, 180 and 270 degrees rotation. You may also rotate the object in increments and /or decrements of 45 degrees (also available using the shortcut **'Backspace'**).

2️⃣ If you wish to apply a more specific rotation use the edit box available for those situations

3️⃣ Or turn the round button to the desired angle, updating at the same time the angle box value.

⚠️ **All these changes are seen in real-time on the object.**

4.4.5 - Outline

ⓘ Outline allows you to chose between five different types of predefined lines and a custom one.
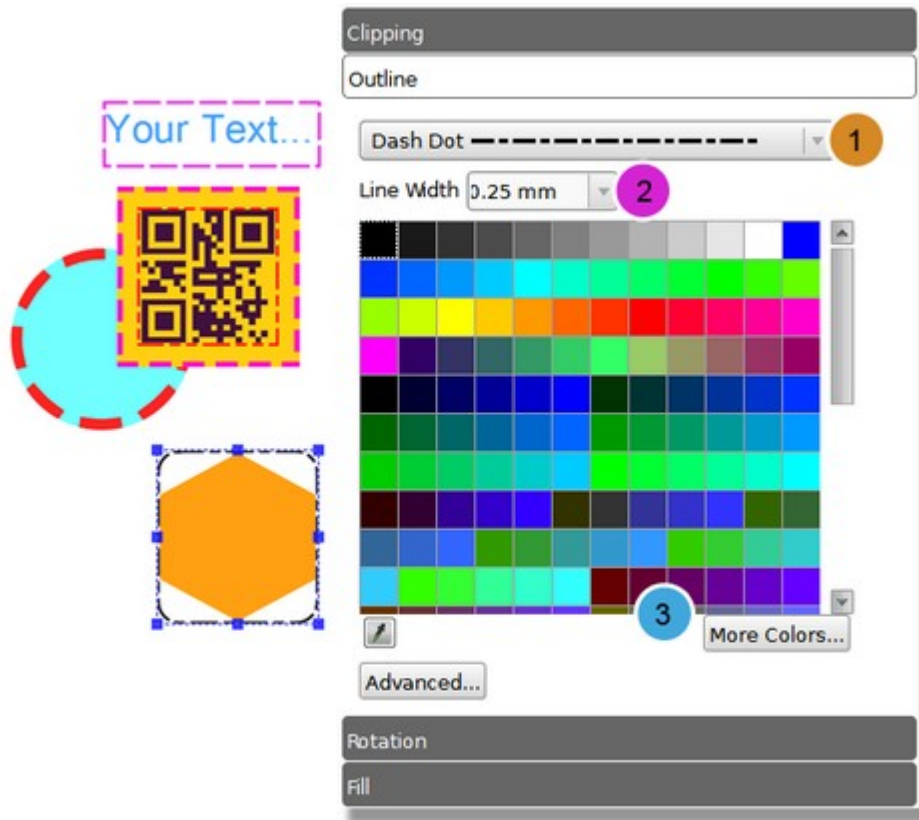
①

☑**Solid Line**: Is a plain line.

☑ **Dash Line**: Dashes separated by a few pixels.

☑ **Dot Line**: Dots separated by a few pixels.

☑ **DashDot Line**: Alternate dots and dashes.

☑ **DashDotDot LIne**: One dash, two dots, one dash, two dots.

☑ The **Custom Line** is a line that you can define as you wish and if click on the advance button besides the normal advanced parameters you are allowed to set offset and pattern parameters.

② **Line width** is one of the settings that you can change from 0.1mm to 10mm

3 You can also change the **color** by clicking in one of the colored squares, acquire any color you have on your screen using the dropper or use the advance color settings by clicking on the 'More Colors' button.

Clicking on the '**advance**' button you have access to a number of settings that allows you to change the shape of your line. All you have to do is to write the command on the line like shown below.

/RoundCap   /SquareCap

Pen Parameters:

/SquareCap

/SquareCap /FlatCap /RoundCap   OK   Cancel
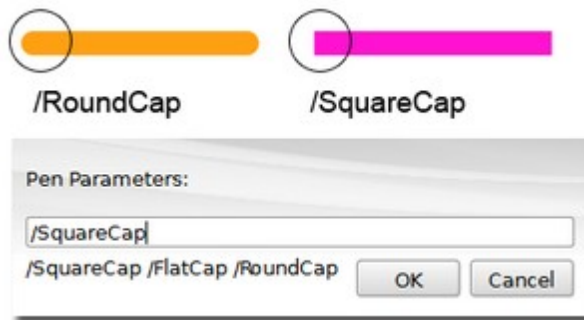
☑ **SquareCap**: A square line end that covers the end point and extends beyond it by half the line width.

☑ **FlatCap**: A square line end that does not cover the end point of the line.

☑ **RoundCap**: A rounded line end.

4.4.6 - Fill

ⓘ Define the fill color you want to see applied on your object, in case of lines, rectangles or circles it will change the color of the object, on all other cases it will change the background color.
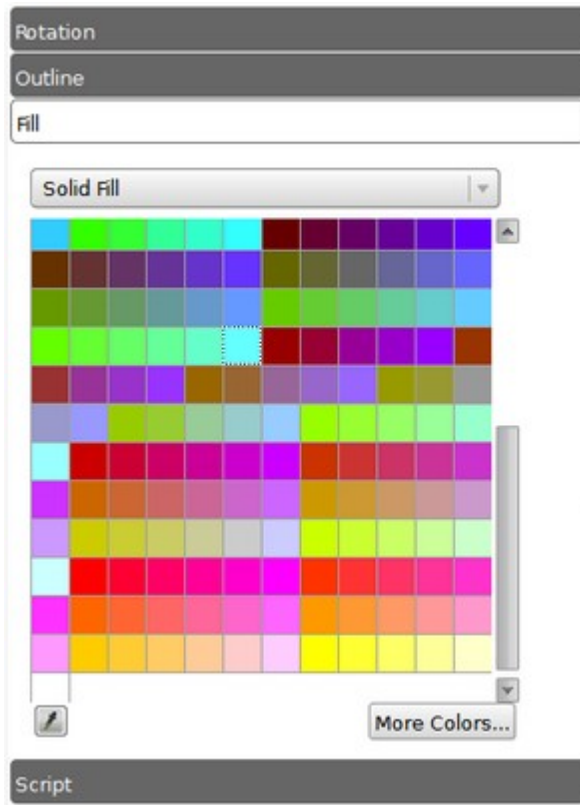
☑ **No fill**: No color is applied to the object. This option is extremely handy when placing Text over other objects.

☑ **Solid Fill**: Fill the area with only one color and you can define the color using the standard palette, the dropper or using the advanced palette within the "More Colors" button.

☑ **Gradient Fill**: Allows you to pick a second color and make a gradient effect with both colors and define both colors using standard palette, the dropper or clicking in "More Colors" button using the advanced palette.

☑ **Dropper:** In case of using the dropper you can select any color, even outside the program window, like shown on the first picture below. After that the color is applied to the object and added to the color palette as you can see on the second picture.
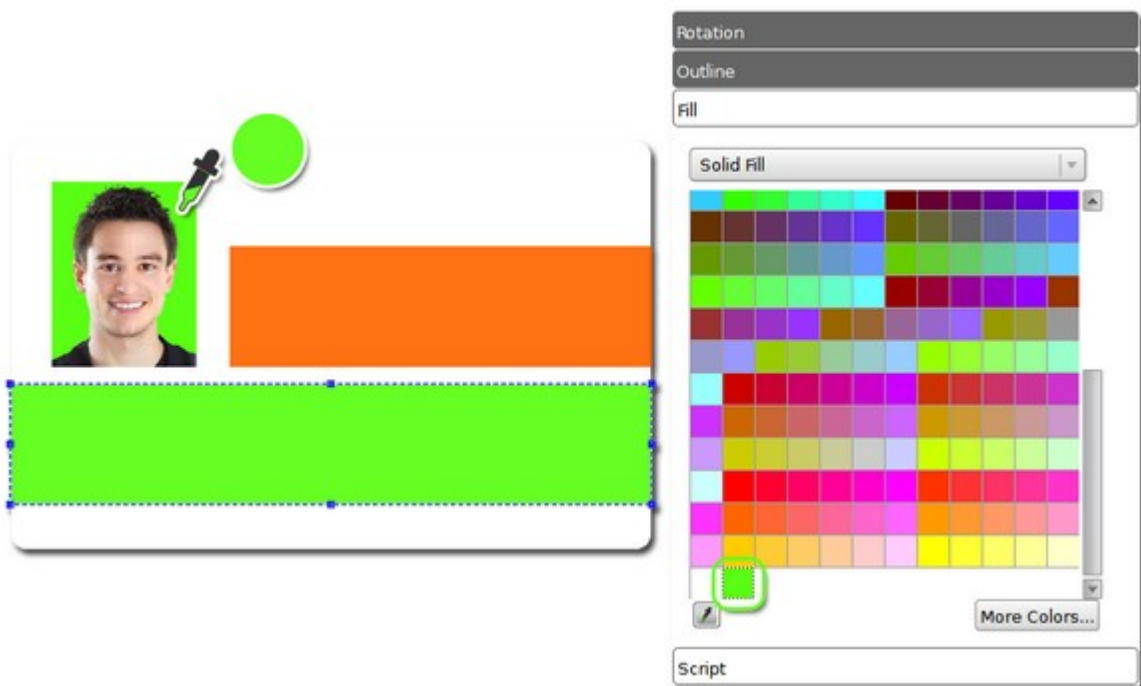
☑ **More Colors:** Gives you access to an advanced color palette.

☑ **Basic Palette Color Theme:** To chose a theme for your basic palette color use the drop menu like shown on the picture below and the theme is automatically applied to the basic palette color.

ⓘ In this example choosing the Rainbow option will apply to the basic color palette only colors related with the Rainbow theme.

☑ **Unusual Color:** In case you want to add an unusual color, you have two ways to do it, you can drag the crosshair through the panel or input directly the color values on the boxes.

After that, the new color is added to the basic color palette.

4.4.7 - Font

ⓘ When you select the 'Font' tab, a number of tools allows you to define the font of your object.

① First you have the **'Font Family'** where you can chose the font type, all fonts that you have in Windows or on Mac OSx are displayed here.

② **Point Size** - Allows you to define the font size, if you check on the checkbox the size is determined by the space available between boundaries, to change just drag and drop the selection handles.

③ **Color** - Chose the font color.

④ **Typeface** allows you to define more font settings that affect the whole Textbox, like:

⑤ You can also wrap the sentence on your object by checking the **'Word Wrap'** checkbox.

6 With **'Render as HTML'** checked, you can use some HTML codes in your text to change the 'Typeface' in parts of it, instead of the whole Textbox.
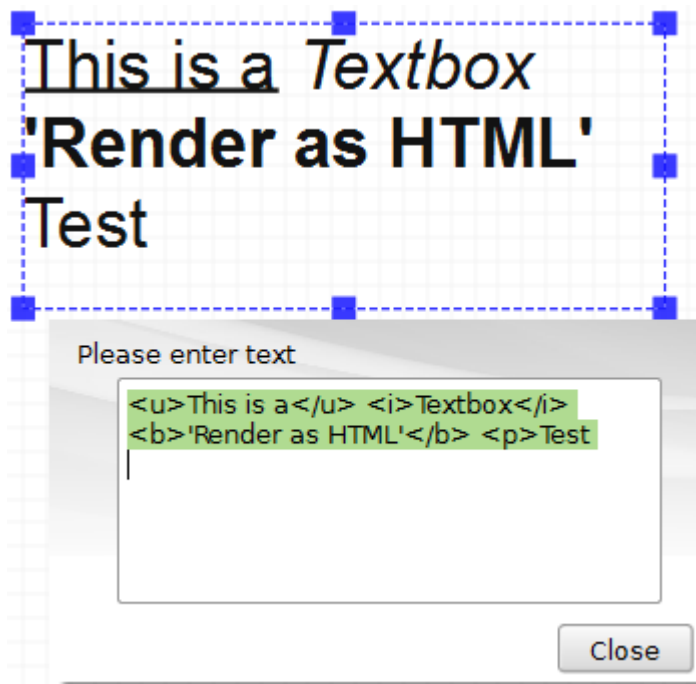
☑ Text between **<u> </u>** will be Underlined.

☑ Text between **<i> </i>** will be in *Italic*.

☑ Text between ** ** will be in **Bold**.

☑ The **<p>** starts a new paragraph.

4.4.8 - Barcode

ⓘ The bar code properties allows you to define some properties depending on the type of barcode you want to use. There are two major types of barcodes the 1D and 2D, illustrated below.
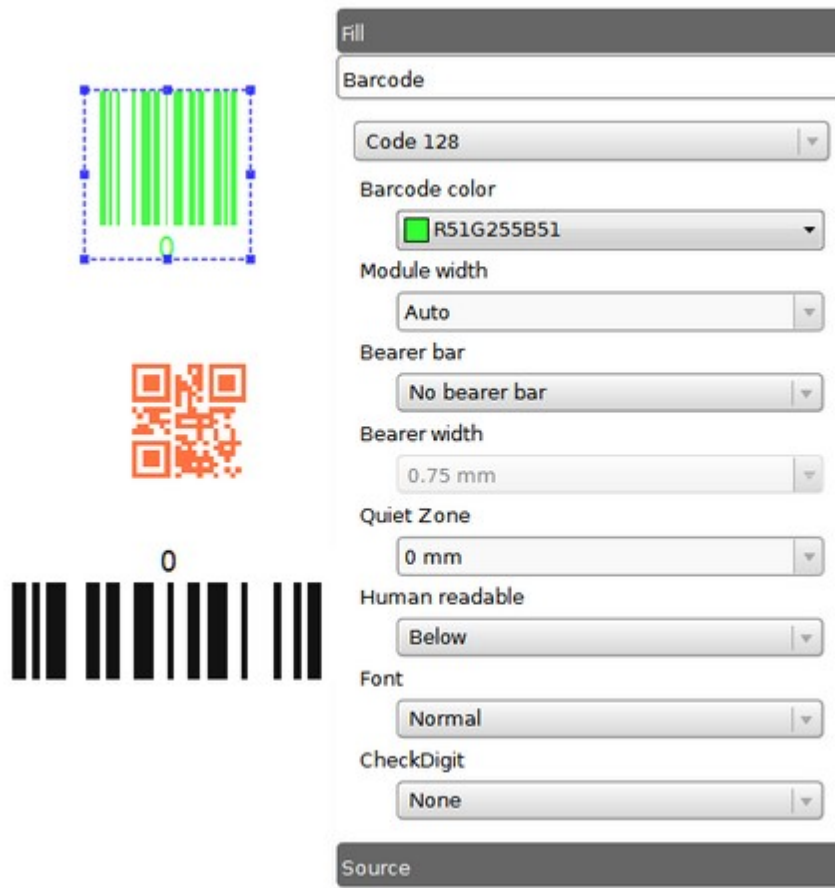
Let's start by making a general introduction, to the most common properties of barcodes, referenced in **Bodno**:

☑ **Type**: Chose the type of barcode you wish to use, keeping in mind that in some cases your choice may change other properties range of values.

☑ **Color**: Define your barcode color.

☑ **Human Readable**: Defines if the readable data, alphanumeric characters, is imprinted or not (only 1D barcode).

☑ **Font**: Defines the font of the readable data (only 1D barcode).

ⓘ Other properties and definitions are specific to each different type of barcode, will be addressed further on this manual.

4.4.9 - Image

ⓘ You can acquire images from any source available; from disk, from a database, from a camera or even from a scanner.
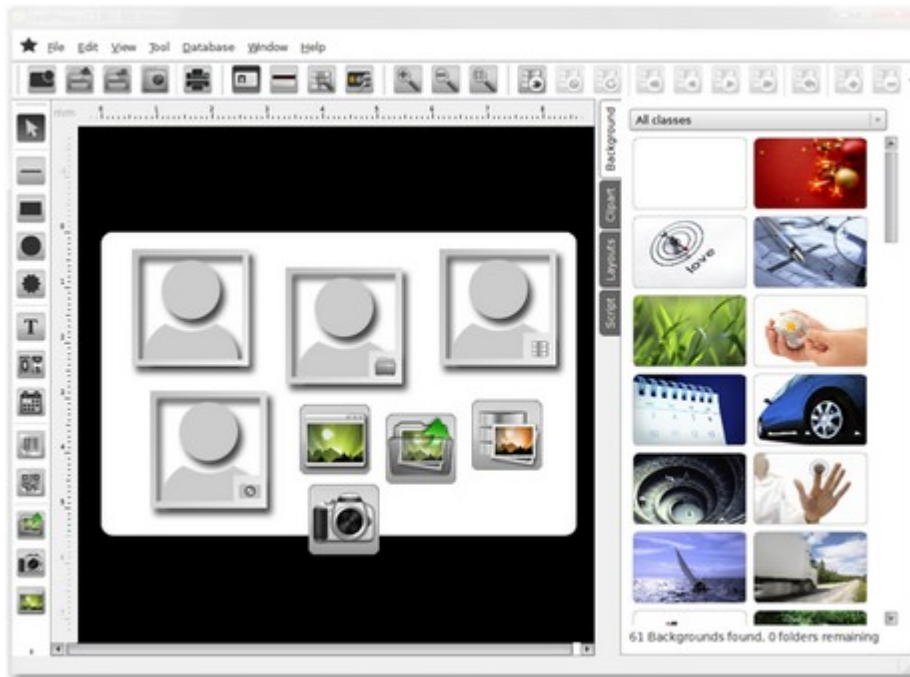
❗ After you select an image and apply it to your working area, you have access to a new tab, the image tab. On this tab you can change a set of properties as:

☑ **Keep Ratio:** Allows you to adapt the image to your object boundaries or keep the image ratio.

☑ **Reinforce Black:** This option forces the usage of Resin K on the black in the image.

☑ **Flip Horizontal:** This option reverses the active object horizontally, that is, from left to right. It leaves the dimensions of the object and the pixel information unchanged. It looks as if the image has been reflected along the central vertical axis of the object.

☑ **Flip Vertical:** This option reverses the active object vertically, that is, from top to bottom. It leaves the dimensions of the object and the pixel information unchanged. It looks as if the image has been reflected along the central horizontal axis of the object.

☑ **Grayscale:** Applies grayscale on the image in which the value of each pixel is a single sample, that is, it carries only intensity information. Images of this

sort, are composed exclusively of shades of gray, varying from black at the weakest intensity to white at the strongest.

☑ **Chromakey Effect:** Turn the chromakey effect on and off in which a color range in the top layer is made transparent, revealing another image behind.

☑ **Color:** Allows you to choose the color range on which the effect will act. Use the dropper to chose any color on the image.

☑ **Tolerance Level** - Allows you to change the tolerance level of the effect. The bigger the tolerance, the larger the range of colors affected by the effect.

☑ **Effect area** - Select the area of the image affected by the effect, if all image or only on the frame.

◐ If you **double click** on the image the Image Editor opens with more edition tools.

4.4.10 - Source

ⓘ   The Source Tab allows you to define the origin of the object and parameterize that same object. In **Bodno** you have two major object classes, the images and the text objects.
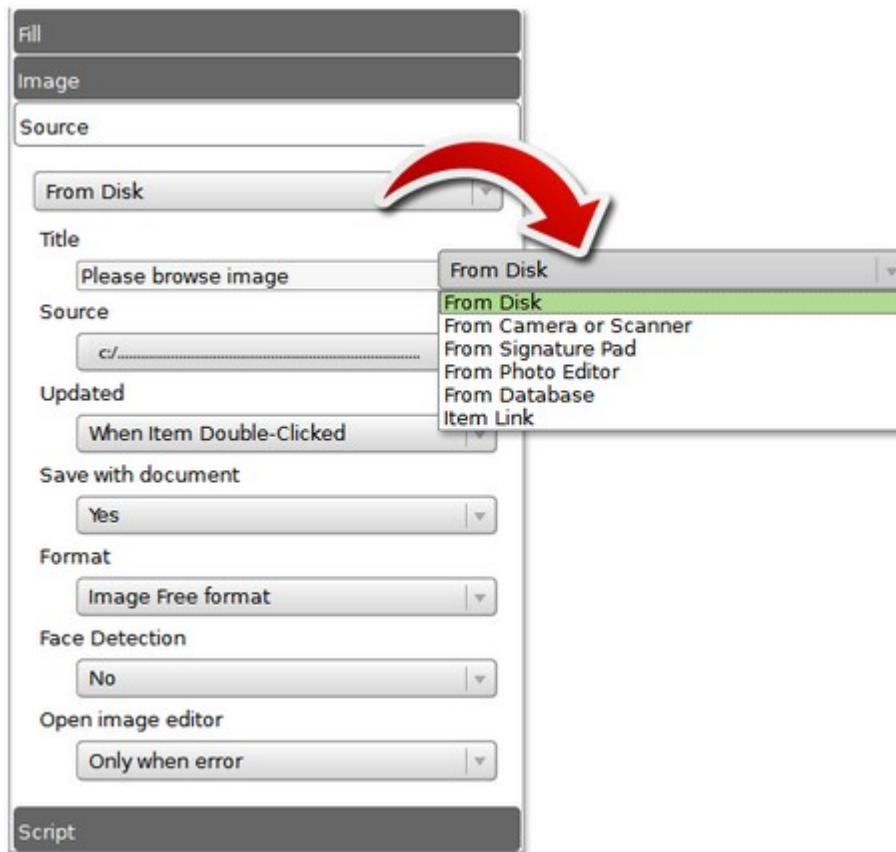
❗ On text objects and barcodes, the source can be a print counter, a print date, a keyboard input, database or item link.

On image objects and signatures, the source can be the disk, a camera or scanner, the image editor, a database field or an item link.

On the next chapters we will show you how to use them and how to define them, in sum: how easy it is to manipulate any of the sources or its properties.

4.4.10.1 - Text & Barcode

ℹ️ When you have a text or barcode object selected you can use the Source Tab to set the input options for the object.

❗ On this tab you will define what kind of object it is, how it is updated, under what condition it will be updated, when it will be updated and the final result.
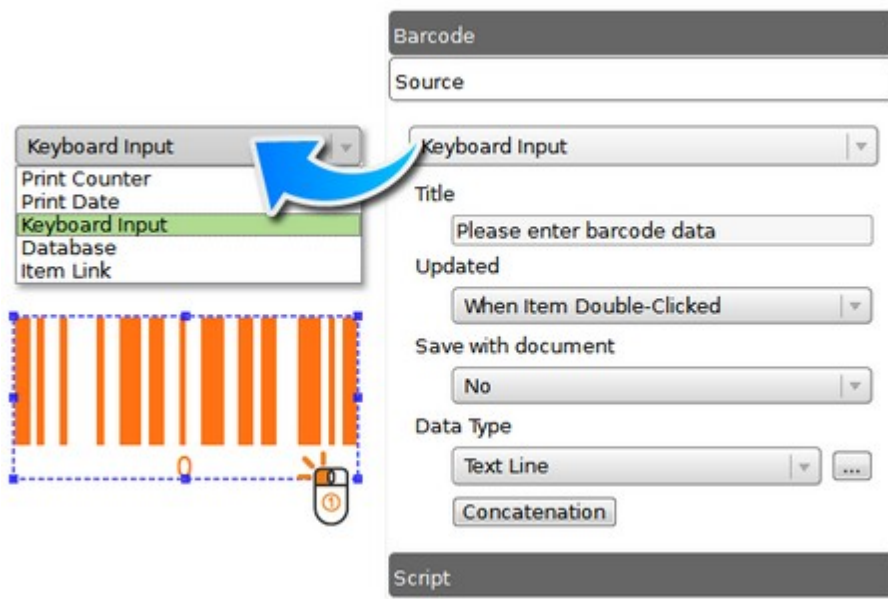
4.4.10.1.1 4.4.10.1.1 - Print Counter

ⓘ This feature allows you to add a print counter to your card. It can be updated automatically and saved with your card file, thus keeping the counter status. You can also define values, justify and set the number of digits of the counter as explained further on this manual.

When a text object is selected you can go to the Source Tab and, on the drop down menu on top, choose the Print Counter option or click on the 'Print Counter' button on the design toolbar.

❗ You can **update** your counter in five different situations:
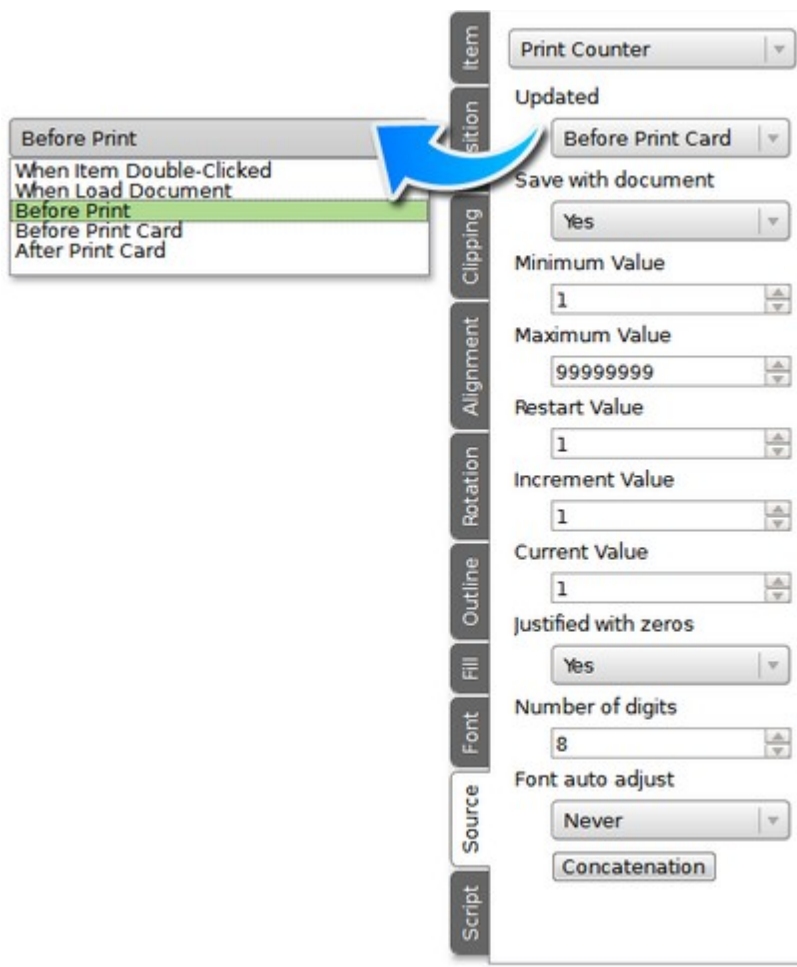
☑ **When Item Clicked** - When you double-click the object it will update the counter according to all the settings.

☑ **When Load Document** - Every time the card document is opened.

☑ **Before Print** - Count the number of times you send a print order and update the counter before the printing procedure.

☑ **Before Print Card** - Count the number of cards you're going to print and update the counter before each card is printed.

☑ **After Print Card** - Count the number of cards you printed and update the counter after printing each card.

❶ And **set** the following properties:

☑ **Save with Document** - Save the settings and counters with the document so you don't lose any data.

☑ **Minimum Value** - Defines the counter minimum value in case of negative incrementation.

☑ **Maximum Value** - Defines the counter maximum value in case of positive incrementation.

☑ **Restart Value** - Is the value assumed by the counter when it reaches the maximum or minimum values. (Min Value < Restart Value < Max Value)

☑ **Increment Value** - Defines the incrementation value, it can be positive or negative.

☑ **Current Value** - Shows the current value.

☑ **Justified with Zeros** - Justify with zeros until the desired number of digits.

☑ **Number of Digits** - Defines the number of digits used in the counter, you can justify with zeros.

☑ **Font Auto Adjust** - Automatically adjust the font size, but only if font point size is set to auto.

☑ **Concatenation** - Allows you to add a prefix or suffix to your counter value. If you don't want these to be printed check the **Ignore on print** check box.

4.4.10.1.2 4.4.10.1.2 - Print Date

ⓘ This feature allows you to add a date object to your card. It can be updated automatically and saved with your card file, thus keeping the date status. You can also format the date and time as explained further on this manual.

When a text object is selected you can go to the Source Tab and, on the drop down menu on top, choose the Print Date option or click on the **'Print Date'** button on the design toolbar.
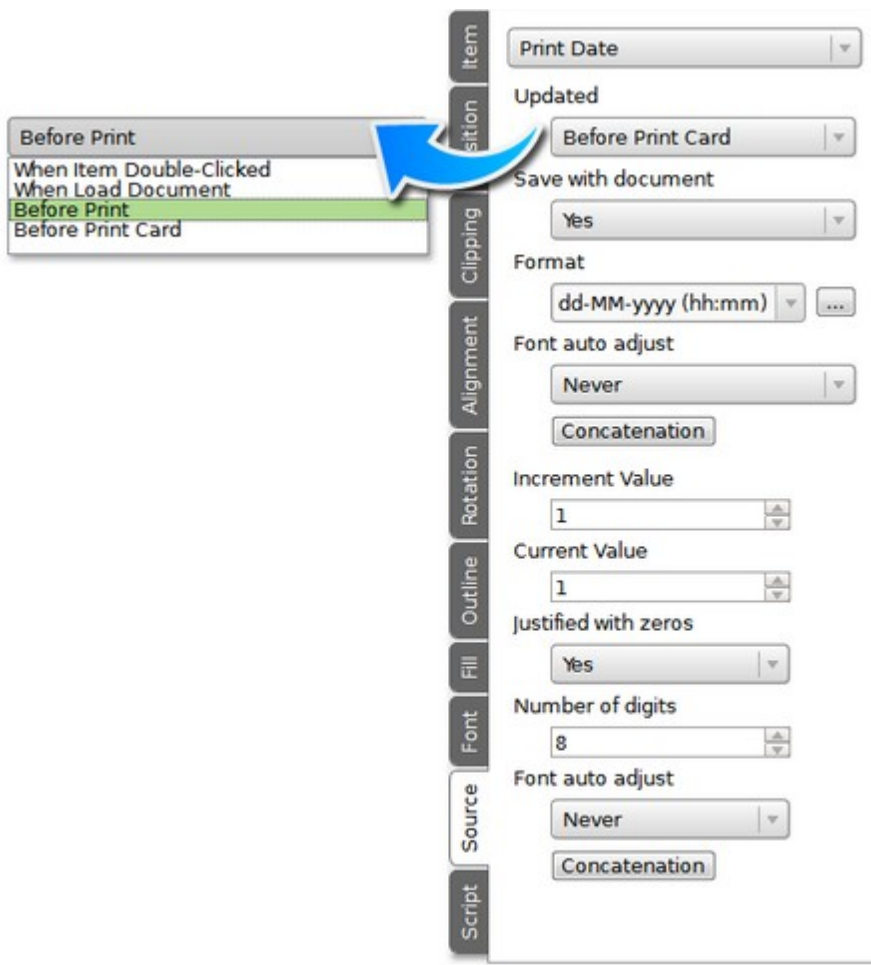
❗ You can **update** your date/time in four different situations.

☑ **When Item Clicked** - When you double-click the object it will update the date and time.

☑ **When Load Document** - Every time you open the document it will automatically update the date object.

☑ **Before Print** - Update the counter before the printing procedure starts and all the cards are printed with the same date and time.

☑ **Before Print Card** - Update date and time before printing each card.

❶ And **set** the following properties:

☑ **Save with Document** - Save the settings and date/time of the last printing procedure with the document so you don't lose any data.

☑ **Format** - You can format the date using one of the preset formats available thru the drop down menu or by creating your own format by clicking on the pointed button and then write it according with the legend below.
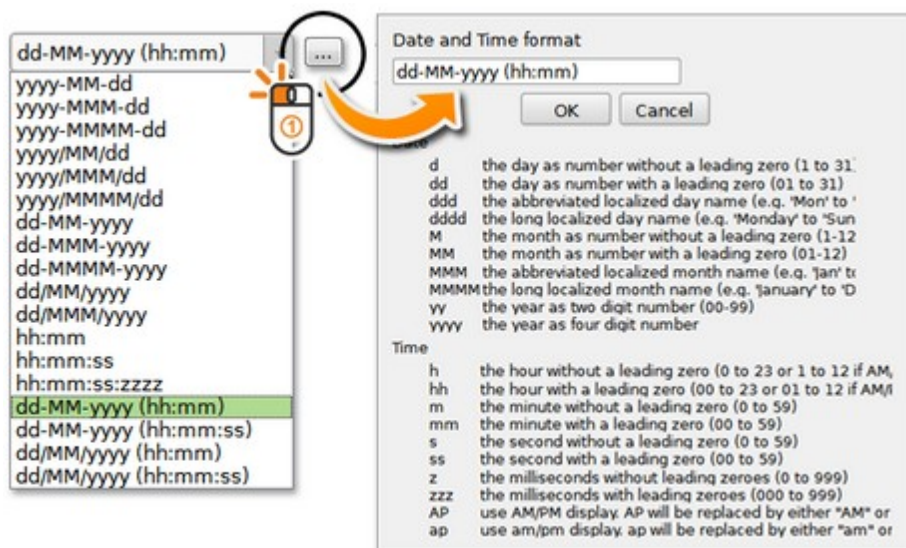
☑ **Font Auto Adjust** - Automatically adjust the font size, but only if font point size is auto.

☑ **Concatenation** - Allows you to add a prefix or a suffix to your date and it can be printable, to do that just check on the check-box.

4.4.10.1.3 4.4.10.1.3 - Keyboard Input

❶ This setting allows you add an object to your card that is updated by keyboard input. It can be updated automatically, saved with your card file. You can also choose the data type like explained further on this manual.

When a text object is selected, you can go to the Source Tab and on the dropdown menu, on top, chose Keyboard Input option.

☑ **Title** - You can give a name to your object, it will make it easier for further identification.

❶ You can **update** the object in six different situations.
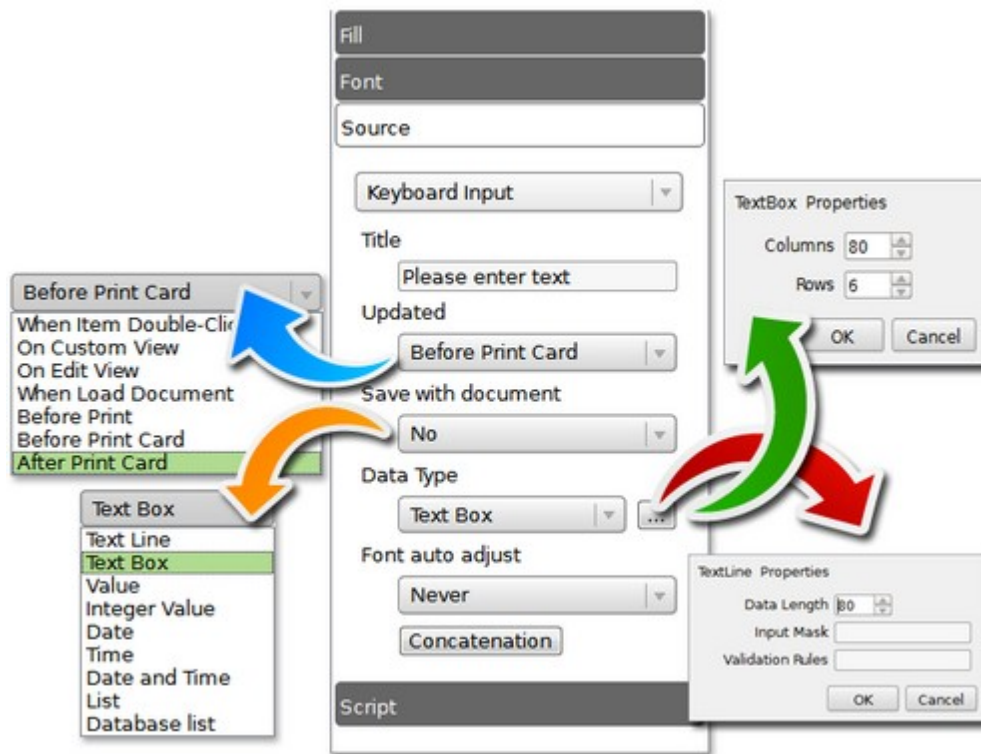
☑ **When Item Clicked** - When you double-click on top of the object it will open an input window to update.

☑ **On EditView** - This setting, when chosen, allows you add a new field to a small internal database, as you'll see further on this manual.

☑ **When Load Document** - When the card document is loaded this object is updated.

☑ **Before Print** - After the print order and before start printing, it will open an input data window in order to allow you to update the object, after that it will not be update again until next print order, on the example below was date field.

☑ **Before Print Card** - Before print each card, it will open an input data window in order to allow you to update the object, on the example below was date field.

☑ **After Print Card** - After print each card, it will open an input window in order to allow you to update the object for the next card, on the example below was date field.
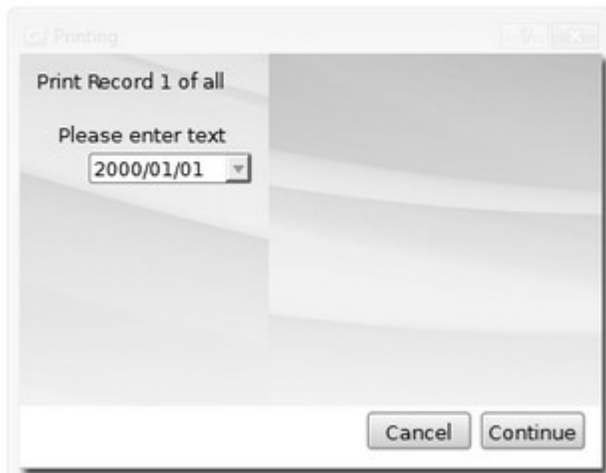
☑ **Save with Document** Save on your card document the last object update**.**

☑ **Data Type** On this setting you can define what kind of data your object can hold.

☑ **Text Line** - Allows you to input text information in one line.
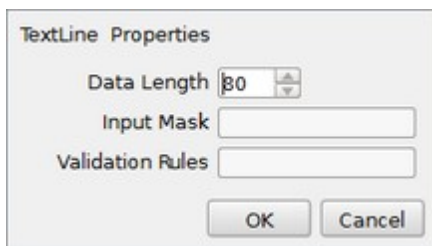
☑ **Data Length** - Defines the length of your text line (maximum of 128 characters).

☑ **Input Mask** - The mask consists of a string of mask characters and separators. You can define your object input guide by choosing the mask or the Validation Rules, when both the mask prevails.

Character	Meaning
A	ASCII alphabetic character required. A-Z, a-z.
a	ASCII alphabetic character permitted but not required.
N	ASCII alphanumeric character required. A-Z, a-z, 0-9.
n	ASCII alphanumeric character permitted but not required.
X	Any character required.
x	Any character permitted but not required.
9	ASCII digit required. 0-9.
0	ASCII digit permitted but not required.
D	ASCII digit required. 1-9.
d	ASCII digit permitted but not required (1-9).

Character	Meaning
#	ASCII digit or plus/minus sign permitted but not required.
H	Hexadecimal character required. A-F, a-f, 0-9.
h	Hexadecimal character permitted but not required.
B	Binary character required. 0-1.
b	Binary character permitted but not required.
>	All following alphabetic characters are uppercased.
<	All following alphabetic characters are lowercased.
!	Switch off case conversion.
\	Use \ to escape the special characters listed above to use them as separators.

Examples:

Mask	Notes
000.000.000.000;_	IP address; blanks are _.
HH:HH:HH:HH:HH:HH;_	MAC address
0000-00-00	ISO Date; blanks are space
>AAAAA-AAAAA-AAAAA-AAAA-AAAAA;#	License number; blanks are - and all (alphabetic) characters are converted to uppercase.

Validation Rules - Validation Rules are built up from expressions, quantifiers, and assertions. The simplest expression is a character, e.g. x or 5. An expression can also be a set of characters enclosed in square brackets. [ABCD] will match an A or a B or a C or a D. We can write this same expression as [A-D], and an expression to match any capital letter in the English alphabet is written as [A-Z].

A quantifier specifies the number of occurrences of an expression that must be matched. x{1,1} means match one and only one x. x{1,5} means match a sequence of x characters that contains at least one x but no more than five.

Note that in general Validation Rules cannot be used to check for balanced brackets or tags. For example, a Validation Rule can be written to match an opening HTML and its closing , if the tags are not nested, but if the tags are nested, that same Validation Rule will match an opening tag with the wrong closing . For the fragment bold bolder, the first would be matched with the first , which is not correct. However, it is possible to write a Validation Rule that will match nested brackets or tags correctly, but only if the number of nesting levels is fixed and known. If the number of nesting levels is not fixed and known, it is impossible to write a Validation Rule that will not fail.

Suppose we want a Validation Rule to match integers in the range 0 to 99. At least one digit is required, so we start with the expression [0-9]{1,1}, which matches a single digit exactly once. This Validation Rule matches integers in the range 0 to 9. To match integers up to 99, increase the maximum number of

occurrences to 2, so the Validation Rule becomes [0-9]{1,2}. This Validation Rule satisfies the original requirement to match integers from 0 to 99, but it will also match integers that occur in the middle of strings. If we want the matched integer to be the whole string, we must use the anchor assertions, ^ (caret) and $ (dollar). When ^ is the first character in a Validation Rule, it means the Validation Rule must match from the beginning of the string. When $ is the last character of the Validation Rule, it means the Validation Rule must match to the end of the string. The Validation Rule becomes ^[0-9]{1,2}$. Note that assertions, e.g. ^ and $, do not match characters but locations in the string.

If you have seen Validation Rules described elsewhere, they may have looked different from the ones shown here. This is because some sets of characters and some quantifiers are so common that they have been given special symbols to represent them. [0-9] can be replaced with the symbol \d. The quantifier to match exactly one occurrence, {1,1}, can be replaced with the expression itself, i.e. x{1,1} is the same as x. So our 0 to 99 matcher could be written as ^\d{1,2}$. It can also be written ^\d\d{0,1}$, i.e. From the start of the string, match a digit, followed immediately by 0 or 1 digits. In practice, it would be written as ^\d\d?$. The ? is shorthand for the quantifier {0,1}, i.e. 0 or 1 occurrences. ? makes an expression optional. The Validation Rule ^\d\d?$ means From the beginning of the string, match one digit, followed immediately by 0 or 1 more digit, followed immediately by end of string.

To write a Validation Rule that matches one of the words 'mail' or 'letter' or 'correspondence' but does not match words that contain these words, e.g., 'email', 'mailman', 'mailer', and 'letterbox', start with a Validation Rule that matches 'mail'. Expressed fully, the Validation Rule is m{1,1}a{1,1}i{1,1}l{1,1}, but because a character expression is automatically quantified by {1,1}, we can simplify the Validation Rule to mail, i.e., an 'm' followed by an 'a' followed by an 'i' followed by an 'l'. Now we can use the vertical bar |, which means or, to include the other two words, so our Validation Rule for matching any of the three words becomes mail|letter|correspondence. Match 'mail' or 'letter' or 'correspondence'. While this Validation Rule will match one of the three words we want to match, it will also match words we don't want to match, e.g., 'email'. To prevent the Validation Rule from matching unwanted words, we must tell it to begin and end the match at word boundaries. First we enclose our Validation Rule in parentheses, (mail|letter|correspondence). Parentheses group expressions together, and they identify a part of the Validation Rule that we wish to capture. Enclosing the expression in parentheses allows us to use it as a component in more complex Validation Rules. It also allows us to examine which of the three words was actually matched. To force the match to begin and end on word boundaries, we enclose the Validation Rule in \b word boundary assertions: \b(mail|letter|correspondence)\b. Now the Validation Rule means: Match a word boundary, followed by the Validation Rule in parentheses, followed by a word boundary. The \b assertion matches a position in the Validation Rule, not a character. A word boundary is any non-word character, e.g., a space, newline, or the beginning or ending of a string.

Characters and Abbreviations for Sets of Characters

Element	Meaning
c	A character represents itself unless it has a special regexp meaning. e.g. c matches the character c.
\c	A character that follows a backslash matches the character itself, except as specified below. e.g., To match a literal caret at the beginning of a string, write \^.
\a	Matches the ASCII bell (BEL, 0x07).
\f	Matches the ASCII form feed (FF, 0x0C).
\n	Matches the ASCII line feed (LF, 0x0A, Unix newline).
\r	Matches the ASCII carriage return (CR, 0x0D).
\t	Matches the ASCII horizontal tab (HT, 0x09).
\v	Matches the ASCII vertical tab (VT, 0x0B).
\xhhhh	Matches the Unicode character corresponding to the hexadecimal number hhhh (between 0x0000 and 0xFFFF).
\0ooo (i.e., \zero ooo)	matches the ASCII/Latin1 character for the octal number ooo (between 0 and 0377).
. (dot)	Matches any character (including newline).
\d	Matches a digit (QChar::isDigit()).
\D	Matches a non-digit.
\s	Matches a whitespace character (QChar::isSpace()).
\S	Matches a non-whitespace character.
\w	Matches a word character (QChar::isLetterOrNumber(), QChar::isMark(), or '_').
\W	Matches a non-word character.
\n	The n-th backreference, e.g. \1, \2, etc.

☑ **Text Box** - The multiline text box is used only if more than one line of input is required and allows you to input text information. To input a new line the user must press CTRL+Enter. By pressing only the Enter key will close the text box.
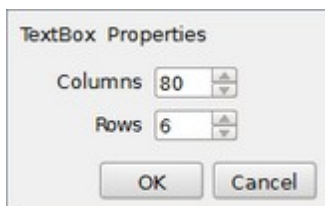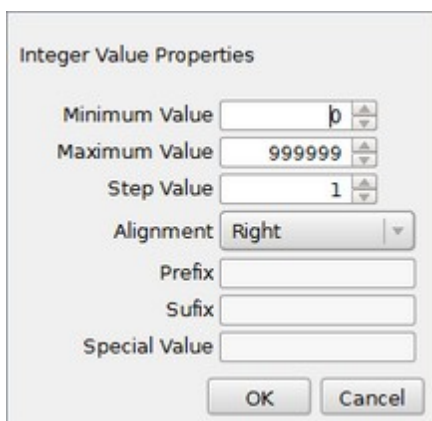
☑ **Columns** - Define the number of columns of you text box (max: 128)

☑ **Rows** - Define the number of rows of you text box (max: 128)

☑ **Value** - Defines the object as a numeric value.
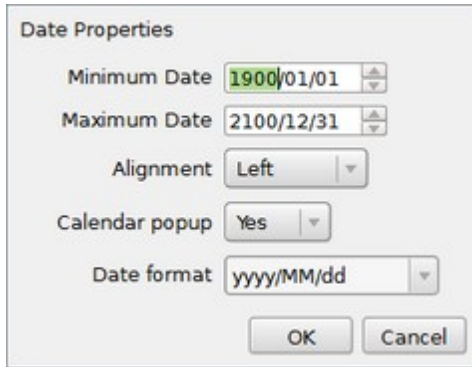
☑ **Minimum Value** - Defines the minimum value reachable, normally used to countdown.

☑ **Maximum Value** - Defines the maximum value.

☑ **Step Value** - Define step value when updated, use negative value for countdown.

☑ **Decimals** - Defines the number of decimal places.

☑ **Alignment** - Set horizontal alignment

☑ **Prefix** - Defines character set that precedes the number.

☑ **Suffix** - Defines character set shown after the number.

☑ **Special Value** - Is the value the object will assume after reaching the maximum or minimum values.

☑ **Integer Value** - Allows you to write any integer value in one line box.

```
Integer Value Properties

     Minimum Value [          0 ▲▼]
     Maximum Value [     999999 ▲▼]
        Step Value [          1 ▲▼]
         Alignment [ Right      ▼]
            Prefix [            ]
             Sufix [            ]
     Special Value [            ]

              [ OK ]  [ Cancel ]
```

☑ **Maximum Value** - Defines the maximum value.

☑ **Step Value** - Define step value when updated, use negative value for countdown.

☑ **Alignment** - Set horizontal alignment

☑ **Prefix** - Defines character set that precedes the number.

☑ **Suffix** - Defines character set shown after the number.

☑ **Special Value** - Is the value the object will assume after reaching the maximum or minimum values.

☑ **Date** - Allows you to write any date value in single line box.

☑ **Minimum Date** - Set the minimum value to date to avoids backdating.

☑ **Maximum Date** - Set the maximum value to date to avoids introducing later dates.

☑ **Alignment** - Allows you to align text date inside object.
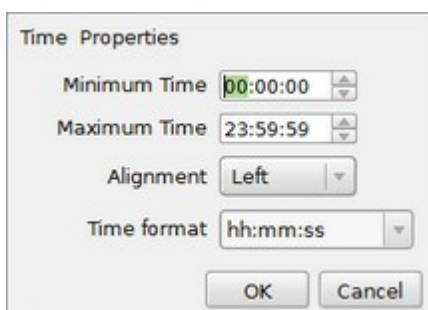
☑ **Calendar Pop-up** - Every time you change settings on date field it pops up a calendar to easy date manipulation.

☑ **Date Format** - Helps you set a date value format, you have some predefined.

☑ **Time** - Allows you to write any time value in one line box.
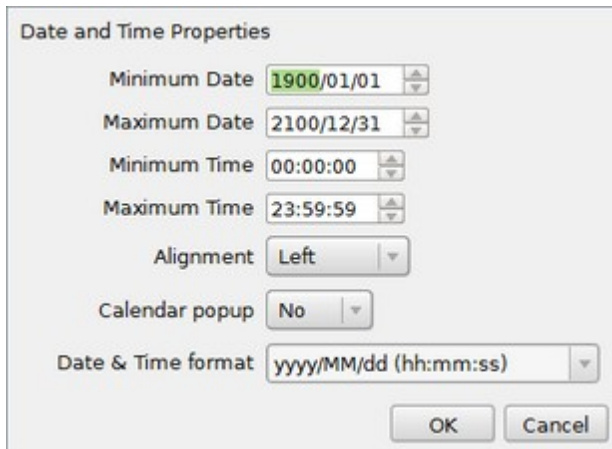
☑ **Minimum Time** - Set the minimum value to time to avoids backtiming

☑ **Maximum Time** - Set the maximum value to date to avoids introducing later time.

☑ **Alignment** - Allows you to align time text inside object.

☑ **Time Format** - Helps you set a time value format, you have some predefined.

☑ **Date and Time** - Allows you to write any date and time value in one line box.

☑ **Minimum Date** - Set the minimum value to date to avoids backdating.

☑ **Maximum Date** - Set the maximum value to date to avoids introducing later dates.

☑ **Minimum Time** - Set the minimum value to time to avoids backtiming

☑ **Maximum Time** - Set the maximum value to date to avoids introducing later time.

☑ **Alignment** - Allows you to align text date inside object.

☑ **Calendar Pop-up** - Every time you change settings on date field it pops up a calendar to easy date manipulation.

☑ **Date and Time Format** - Helps you set a date and time value format, you have some predefined.

☑ **List** - Allows you to create a list, composed by two columns, the first is an index column and the second is the data column.
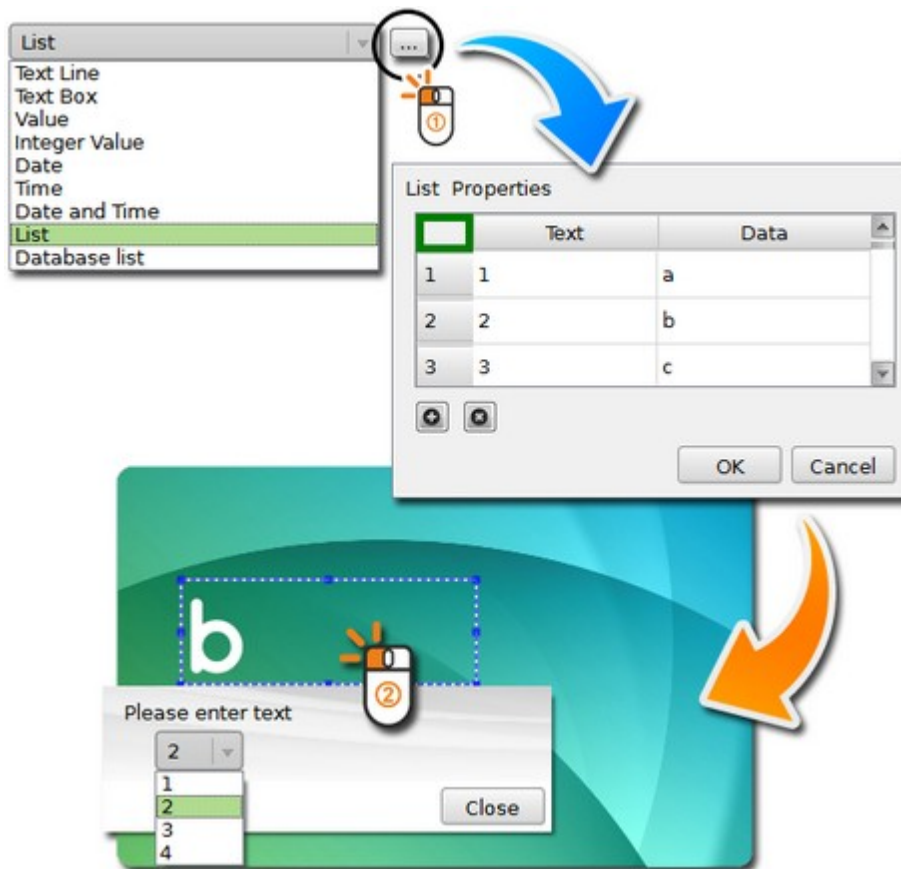
☑ **Database List** - Allows you to create a combobox to select the update data to your object. This only works if connected to a SQL database.

❶ The SQL Select statement is part of the SQL code and below we describe some examples in how to use that code, specially how to use the select statement.

SELECT column_name(s)
FROM table_name

Lets consider the example below, from our internal database, where we select the position, extension and salary fields, from the employee database. This is the first step, the second is to set a condition, only consider the records with the field salary with a value lower than 35000.
Now the selection is made and the condition is set.

List From database Properties

SQL Select

    SELECT position, extension, salary
    FROM employee
    WHERE salary<35000

User column   0

Data Column   1

Limit Rows   40

    OK   Cancel

☑ **User Column** - Here you define what column will be listed on the combo box, as a reference to the Data Column.

☑ **Data Column** - Define to wish column belong the data that will be shown on the database list object.

☑ **Limit Rows** - Setup the maximum rows to be listed on the combo box, to a maximum of 99.

After we define the User Column as 0 and the Data Column as 1, we define the column to be listed as the first (the count starts from zero) and the Data Column as the second and the result will be as shown below.
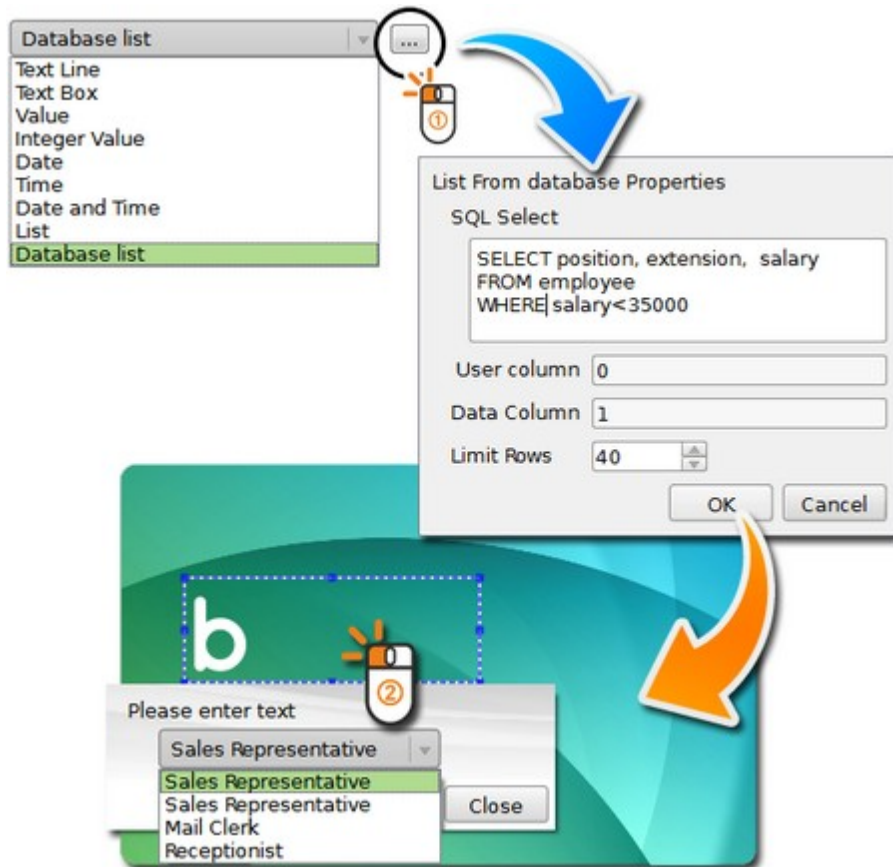
On your combo box is only listed the position field records (User Column 0) that matches the condition (salary<35000). And when the position Mail Clerk is selected the object assume the extension field record of the selected position 6261.

☑ **Font Auto Adjust** - Automatically adjust the font size, but only if font point size is auto.

☑ **Concatenation** - Allows you to add a prefix or a suffix to your date and it can be printable, to do that just check on the check-box.

4.4.10.1.4 4.4.10.1.4 - Database

ⓘ   There are two ways to add an object linked to a database to the card document. Open a database and drag and drop the fields like explained further on this manual or create the object and then connect it to a database. We will address the last option now.

After creating an object go to the Source Tab and select the Database option.

❶ After you have chosen this option your tab changes.
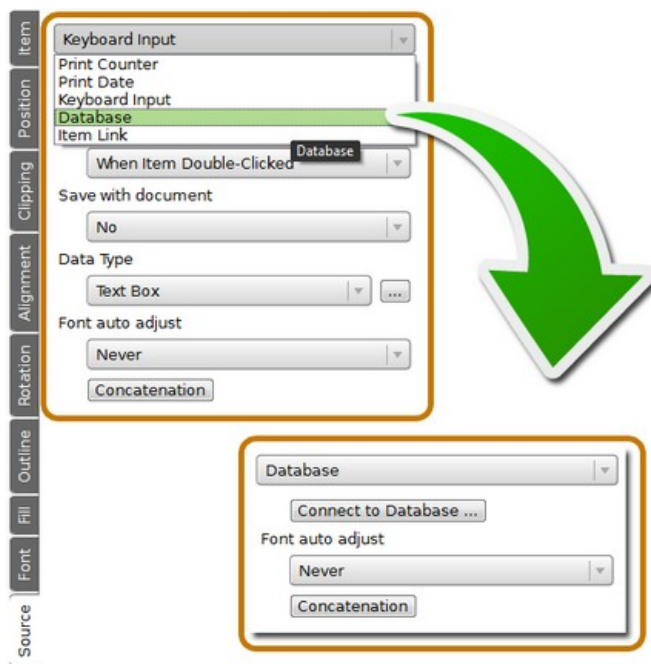
ⓘ   And the next step is to ↻ **click** on the button **'Connect to a Database'**. The Database Connection Wizard will start allowing you to connect to any database you want.

After the database is opened, by default the object will be connected to the first table and first column of your database, like shown on picture below. All you have to do now is define the table and column that you want your object to be linked to.

☑ **Font Auto Adjust** - When you have defined a size for your object it allows you to choose if you want **Bodno** to automatically adjust the font size.
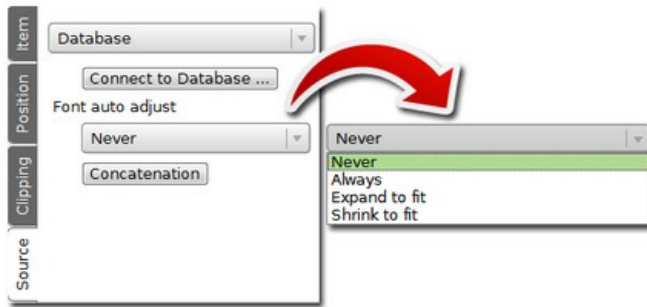
☑ **Concatenation** - Allows you to add a prefix or a suffix to your data and print it. While in datatabase mode you can concatenate up to four columns on the same object and define a prefix separator if needed.
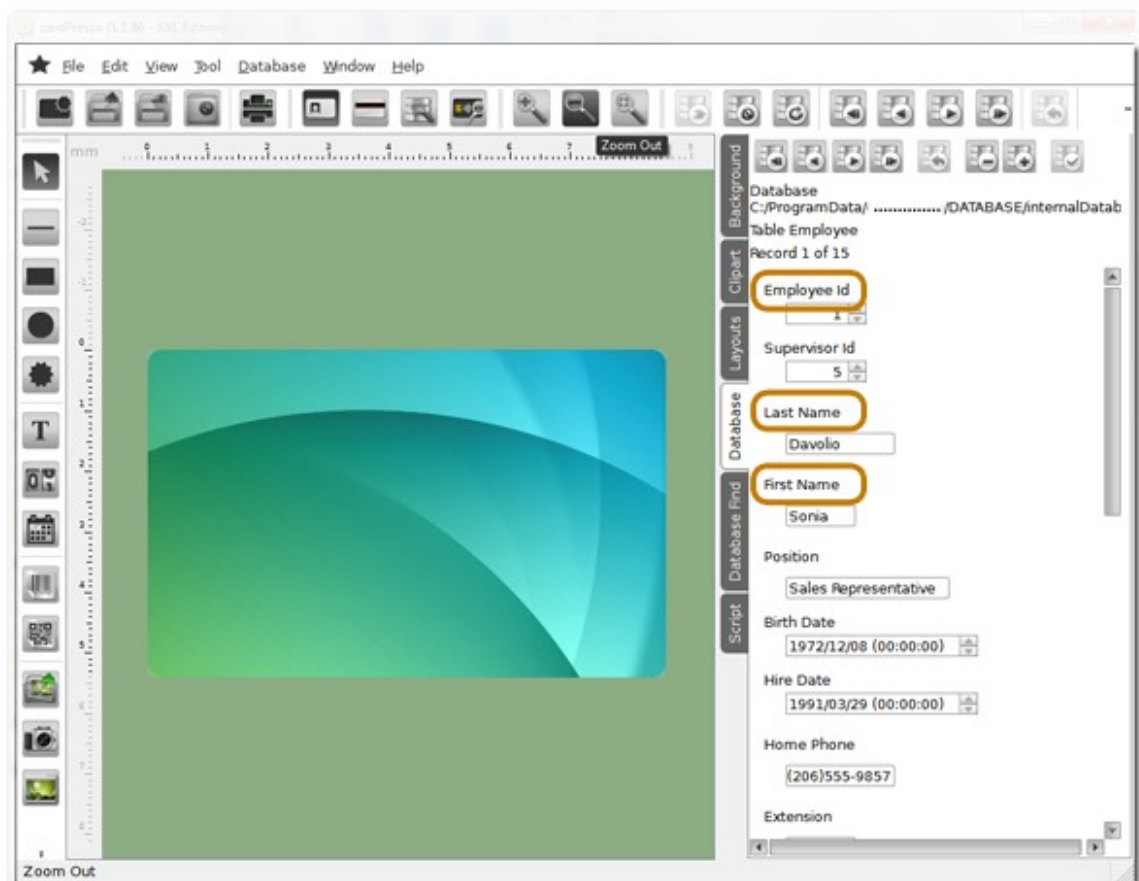
As you can see the first element on our object is **'Employee ID'** the one connected by default and the two others we choose to merge in our object, the first and last names.

4.4.10.1.5 4.4.10.1.5 - Item Link

ⓘ This option allows you to connect an object to another, assuming the same values with automatic update.
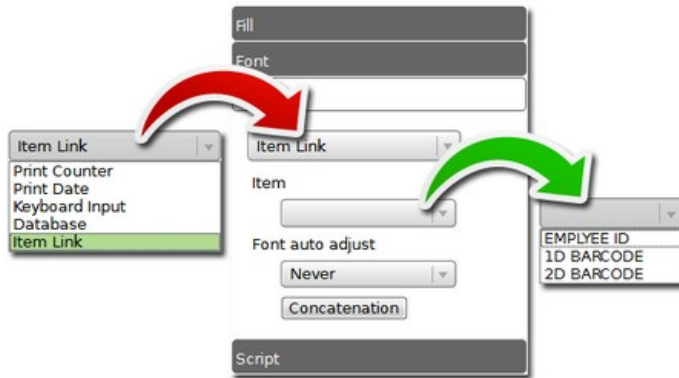
When you chose this option your tab changes, allowing you to chose an object to link, showing on the list all objects that are on the card space and which is possible to connect, in this particular case we have a card with three other objects..

❶ When connected, the object will assume the linked object value and every time it is updated so is the object.

4.4.10.2 - Image & Signature

ⓘ When you select an image object a new tab is added to properties tabs, the Image Tab, where you will be able to define your image settings. But the source tab also changes, allowing you to define the source settings of your image file.
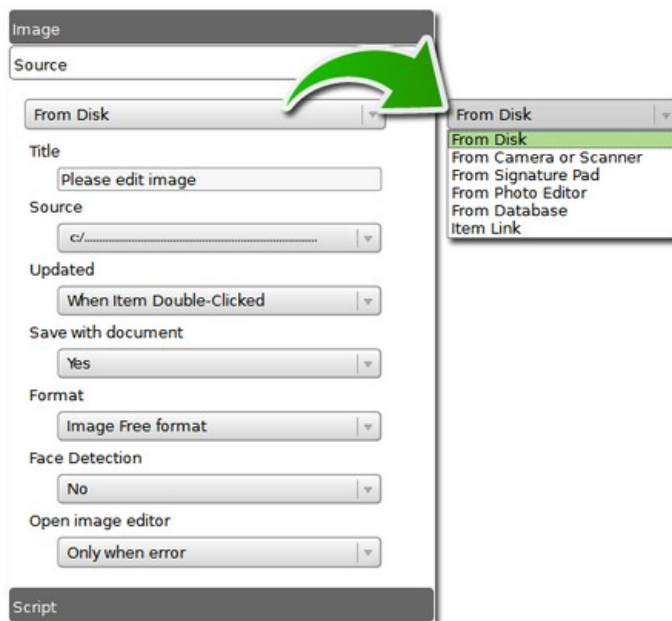
4.4.10.2.1 4.4.10.2.1 - From Disk

ⓘ This option sets the image source as the disk. When the object is updated the browser opens allowing you to pick an image from disk.

To open an object from disk the procedure is simple, just click on the **'Browse Image'** button, add a picture object to your card and a window will open allowing you to browse for your file.

Like shown on the picture below:

☑ **Title -** Here you can give a name/title to your image, it will be easier for you to identify your object later in further operations.

☑ **Source** - Opens a dropdown list with all cameras or scanners that are installed on your pc or mac.

☑ **Updated** - Your object is **updated** in five different situations:

☑ **When Item Double-Clicked** - When you double-click on top of the object it will open the interface related to the source you have chosen.

☑ **When Load Document** - Every time you open the card document.

☑ **Before Print** - Before the printing procedure it will open the interface related to the source you have chosen.

☑ **Before Print Card** - Before each time a card is printed it will open the interface related to the source you have chosen.

☑ **After Print Card** - After printing each card it will open the interface related to the source you have chosen.

☑ **Save with Document** - Save the image with the document so you don't lose any data, but on the other hand, if you don't want to keep the image for a smaller card document just chose 'No'.

☑ **Format** - The image can have a pre-established format, like shown on the image above, adapting the image to it or a free format, allowing you to keep the image source format.

☑ **Face Detection** - When you chose yes, after the image as been acquired the image editor opens, allowing you to chose the face detection option.

☑ **Open Image Editor** - You can open the editor every time the image is updated (yes), never open the editor (no), or open the editor only when an error is detected (Only when error).

4.4.10.2.2 4.4.10.2.2 - From Camera or Scanner

🛈 After you add an image to your card, the first thing that opens is the image editor, but you can change your image source any time you want and a camera or scanner is one of your options.
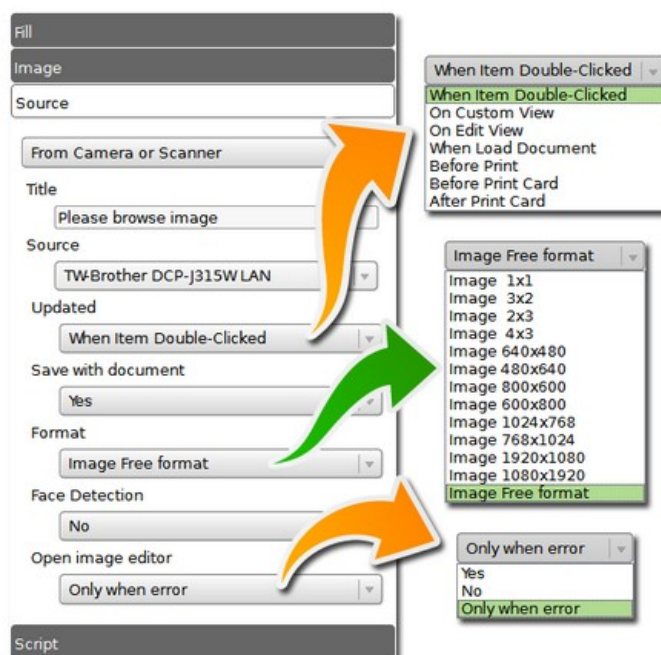
After choosing this option, your source pad changes allowing setup of the camera or scanner options.

☑ **Title -** Here you can give a name/title to your image, it will be easier for you to identify your object later in further operations.

☑ **Source** - Opens a drop down list with all cameras or scanners that are installed on your pc or mac.

☑ **Updated** - Your object is **updated** in five different situations:

☑ **When Item Double-Clicked** - When you double-click on the object it will open the interface related to the source you have chosen.

☑ **When Load Document** - Every time you open the card document.

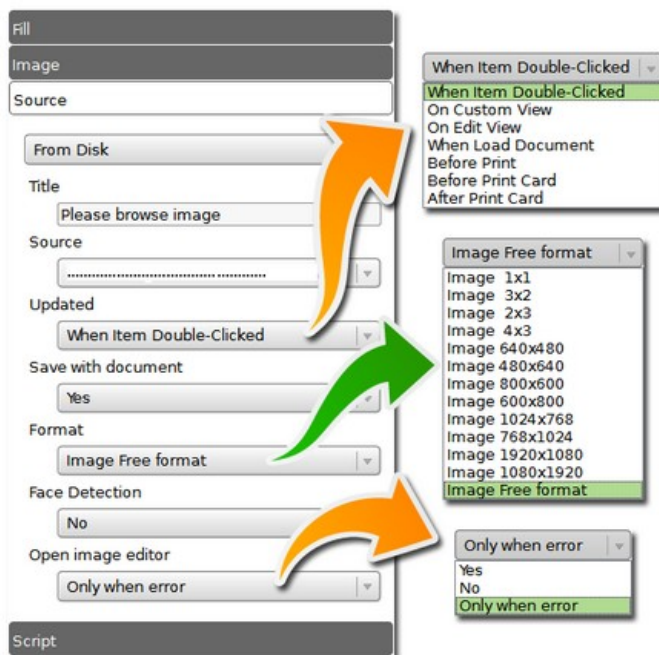☑ **Before Print** - Before the printing procedure it will open the interface related to the source you have chosen.

☑ **Before Print Card** - Before each time a card is printed it will open the interface related to the source you have chosen.

☑ **After Print Card** - After printing each card it will open the interface related to the source you have chosen.

☑ **Save with Document** - Save the image with the document so you don't lose any data, but on the other hand, if you don't want to keep the image for a smaller card document just chose 'No'.

☑ **Format** - The image can have a pre-established format, like shown on the image above, adapting the image to it or a free format, allowing you to keep the image source format.

☑ **Face Detection** - When you chose yes, after the image as been acquired the image editor opens, allowing you to chose the face detection option.

☑ **Open Image Editor** - You can open the editor every time the image is updated (yes), never open the editor (no) or open the editor only when an error is detected (Only when error).

4.4.10.2.3 4.4.10.2.3 - From Signature Pad

ⓘ Signature pad is a signature acquisition device, **Bodno** works essentially with two kinds, the Topaz or any device that work with WinTab drivers.

The acquisition procedure is simple: click on the **'Signature'** button and add the signature object to the card a list will pop-up to allow you to chose the device in case of the Topaz, like shown below.

After choosing the device the interface window will show and wait for you to add the signature to the device like in the pictures below:
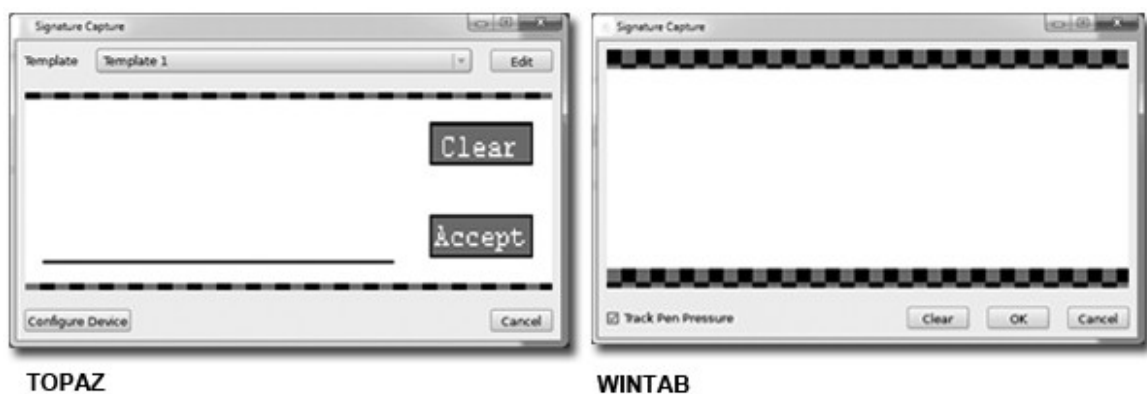
The Topaz device also allows you to have templates for the signature frame. The Wintab driver has a track pressure setting that according with the pressure made by the pen, makes the line thinner or thicker.

Like any other image object, **Bodno** allows you to use an existing object, all you have to do is to click on the object and change the source to 'From Signature Pad' and starts the procedure of signature acquisition.

☑ **Source** - Opens a dropdown list with all signature devices that are installed on your computer.

☑ **Updated** - Your object is **updated** in five different situations:
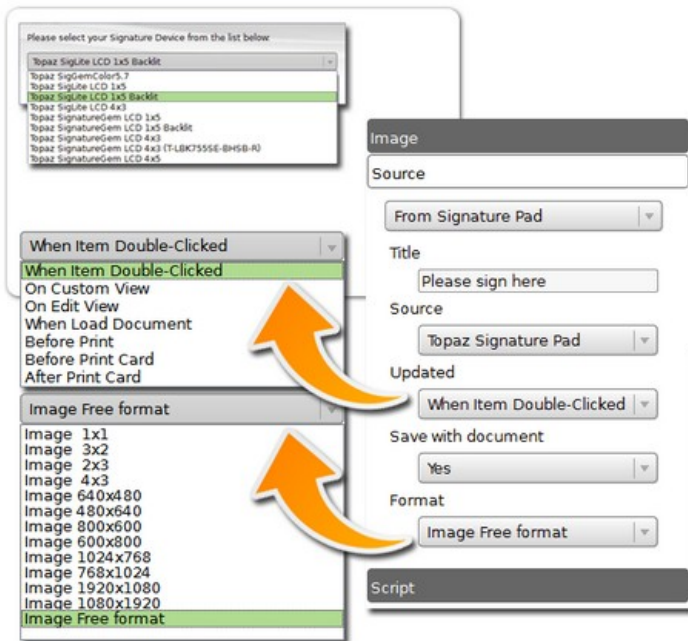
☑ **When Item Double-Clicked** - When you double-click on the object it will open the interface related to the source you have chosen.

☑ **When Load Document** - Every time you open the card document.

☑ **Before Print** - Before the printing procedure it will open the interface related to the source you have chosen.

☑ **Before Print Card** - Before each time a card is printed it will open the interface related to the source you have chosen.

☑ **After Print Card** - After printing each card it will open the interface related to the source you have chosen.

☑ **Save with Document** - Save the signature image with document so you don't lose any data, but on the other hand, if you don't want to keep the image for a smaller card document just chose 'No'.

☑ **Format** - The image can have a pre-established format, like shown on the image above, adapting the image to it or a free format, allowing you to keep the image source format.

4.4.10.2.4 4.4.10.2.4 - From Image Editor

ⓘ The Image Editor brings you new tools for image editing, there are many ways to open the image editor, but to acquire only one, open an image object and then change the source to 'From Image Editor'.

On the tool bar you can set these settings on your image:

☑ **Rotate clockwise** - Is the circular motion is one that proceeds in the same direction as a clock's hands: from the top to the right, then down and then to the left, and back up to the top.

☑ **Rotate counter-clockwise** - Is the circular motion is one that proceeds in the opposite direction as a clock's hands: from the top to the left, then down and then to the right, and back up to the top.

☑ **Flip Horizontal** - This option reverses the active object horizontally, that is, from left to right. It leaves the dimensions of the object and the pixel information unchanged. It looks as if the image has been reflected along the central vertical axis of the object.

☑ **Flip Vertical** - This option reverses the active object vertically, that is, from top to bottom. It leaves the dimensions of the object and the pixel information unchanged. It looks as if the image has been reflected along the central horizontal axis of the object.

☑ **Brightness and Contrast** - The Brightness/Contrast adjustment lets you make simple adjustments to the tonal range of an image. Moving the brightness slider to the right increases tonal values and expands image highlights, to the left decreases values and expands shadows. The contrast slider expands or shrinks the overall range of tonal values in the image. To change values you can drag the slider to the left or to the right or setup manually typing the values on the boxes. The values can go from -128 to 128.

☑ **Color Balance** - Is the global adjustment of the intensities of the colors (typically red, green, and blue primary colors or RGB system). Changing the overall mixture of colors in an image and is used for color correction and when you drag any of the sliders, you can see those corrections taking place, adjustments are made to the color values RGB (on screen) or CMY (on printers). The values can go from -128 to 128.

☑ **Color to Grey** - Apply gray scale on the image in which the value of each pixel is a single sample, that is, it carries only intensity information. Images of this sort, are composed exclusively of shades of gray, varying from black at the weakest intensity to white at the strongest.

☑ **Color to Monochrome** - Not a combination of black and white in a continuum producing a range of shades of gray, but really starkly contrasted black and white.

☑ **Zoom In** - This tool allows you to obtain a larger image, or a closer view.

☑ **Zoom Out** - This tool allows you to obtain a smaller image, or a farther view.

☑ **Zoom Auto** - Reset image to its initial size.

☑ **Export Image** - You can save the image as... in many different formats like png, jpg, bmp, tiff and others.

☑ **Select Image Acquisition Source** - Allows you to select the image acquisition source from any device that is connected or installed on your pc. It may appear some devices that are not connected but are installed.

☑ **Image Acquisition** - This tools opens the interface related with the image acquisition source you had chosen.

☑ **Open Image File** - Opens an image file from your system, including disk, USB key, memory card or any other source.

☑ **Select Image File Path** - Allows you to chose your default image file path from all that you had already used before on your document.

☑ **Face Detection**

☑ **Face Detection Setup**

☑ **Undo** - It erases the last change done to the document reverting it to an older state.

☑ **Clear Image** - Erases the image from Image Editor.

☑ **Cut / Crop** - On **Bodno** crop tool you don't use the traditional handlers, the visual area is automatically resized to the image object boundaries, to cut/crop the image all you have to do is to drag or zoom in on the image and every thing that is on the blur area (gray and black squares) when you click the cut/crop button, goes away. And the image is automatically adjusted to the object area.

☑ **Save Changes** - Click on this button to accept the changes.

☑ **Cancel** - Click on this button to cancel the changes.

4.4.10.2.5 4.4.10.2.5 - From Database

ⓘ **Bodno** allows you to connect an image object to a database image, this way you can setup the object as you want and then connect to the database image adapting it to your object.

The procedure is simple, first add a image object to your card change the source to **'From Database'**.

❶ If not connected to a database yet 🕒 click on the **'Connect to Database'** button.
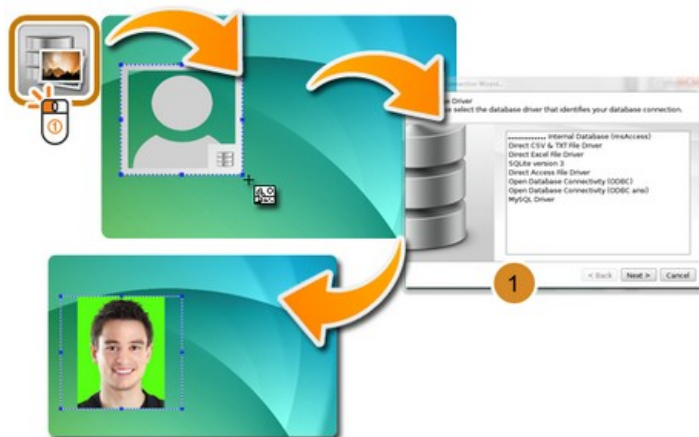
❶ The connection wizard will start

ⓘ After the connection is made, if there is no image field, the link is not made and the list stays like the image below, empty.

If there is only one image field, the **Bodno** recognizes it and the link is automatic.

❶ **If more then one then a list will show you the options for you to chose, like shown below.**

	J	K	L	M	N	O	P	Q	R	S
	Photo	cardID	Image							
	Rui Faria	F2D09435	C:\Users\Public\Pictures\Sample Pictures\Penguins.jpg							
	João Lucas	32A48035	C:\Users\Public\Pictures\Sample Pictures\Koala.jpg							
	Daniel Gomes	82ED7F35	C:\Users\Public\Pictures\Sample Pictures\Jellyfish.jpg							
	Nuno Martins	F2D09435								
	Carlos Pinheiro	32A48035								

DATABASE
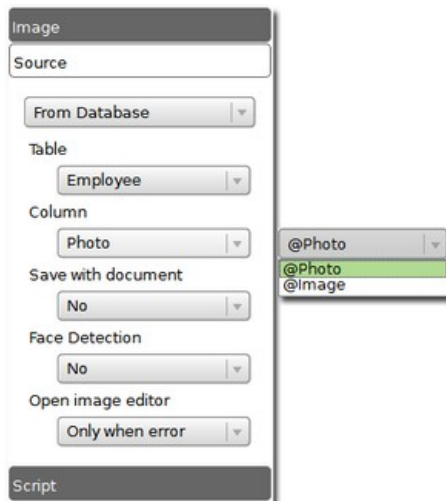
❗ If you add a field image, please don't forget to refresh the database.

4.4.10.2.6 4.4.10.2.6 - Item Link

ℹ This option allows you to connect (link) one object to another object, assuming the same data values with automatic updates.

When you choose this option your tab changes allowing you to choose an object to link, showing on the list all objects that are on the card document that you can connect to,

💡 For the next sample we will use an image object.
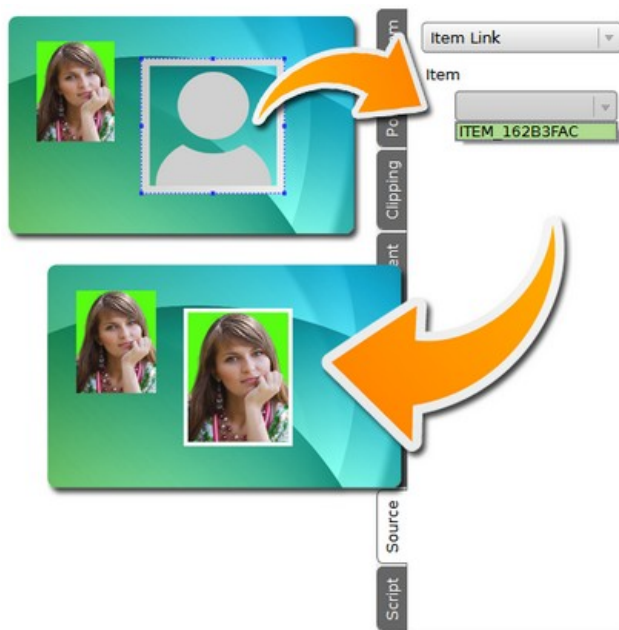
ℹ When connected, the object will assume the linked object value and every time it is updated, the first object will also reflect the data from the linked object.

This option allows you to have two image objects, one at the front of the card and another at the back of the card, sharing the same data.

4.4.11 - Alignment

ⓘ The alignment tab allows you to define the object alignment inside the boundaries.
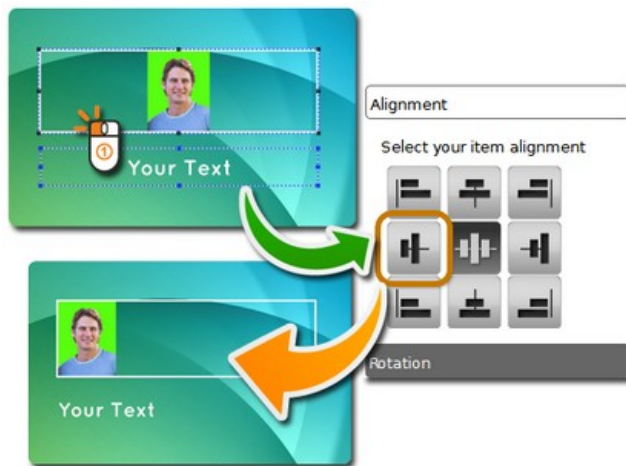
As you can see you can define vertically from top, middle or bottom and horizontally from left, middle or right.

When the point size is in auto, on the font tab, it means that the font size justify the text to the boundaries what makes the horizontal adjustment very small

❗ **The default position is left and middle.**

4.4.12 - Script

ⓘ There are two different locations where you can write in **Bodno**'s design area. One for each object and one for the document. In this chapter we focus on the object script.

This is an advanced user area, where you can program actions and procedures in javascript language in order to define settings or update your object.
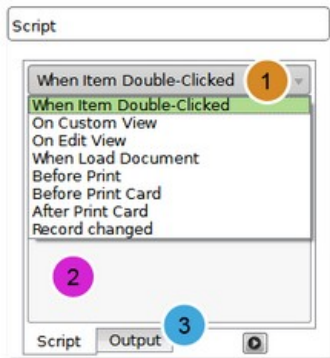
① This drop-menu allows you to define when the actions or procedures must take place.

② And in the space below you can write your lines of code.

③ To see the log of your program output, change tab below.

4.4.13 - Multi Align

ⓘ The multi align tab is only displayed when three or more objects are selected and is divided in two classes, the alignment between objects and the distribution.

☑ **Alignment Between Objects** - Aligns vertically and horizontally the objects to top, middle or bottom and to left, middle or right using as boundaries the card limits.

☑ **Distribution** - Allows you to distribute the objects on the card area equitably, but instead of using the card limits as a reference uses the object boundaries referring to the last object selected that is marked with blue selection handles.

All other objects will be allocated according to the selection and having as a reference the last one selected, notice that the reference object is also the anchor and will not move, all the others will be placed according with the distribution settings.

In short, the space occupied by the three or more objects will always be the same, the space between them is the one that will be arranged.

Chapter 5.
Database

Chapter 5. Database

ⓘA database is an organized collection of data. A database is typically organized to model relevant aspects of reality in a way that supports processes requiring this information

This chapter explains you how to connect to a database through **Bodno** and how to use it to your advantage

5.1 - Connection

ⓘ In **Bodno** there are two ways to connect to a Database.

One of them is by clicking on the Connect Database icon in the Dockbar.

The other is by selecting **Connect** in the Database Menu.
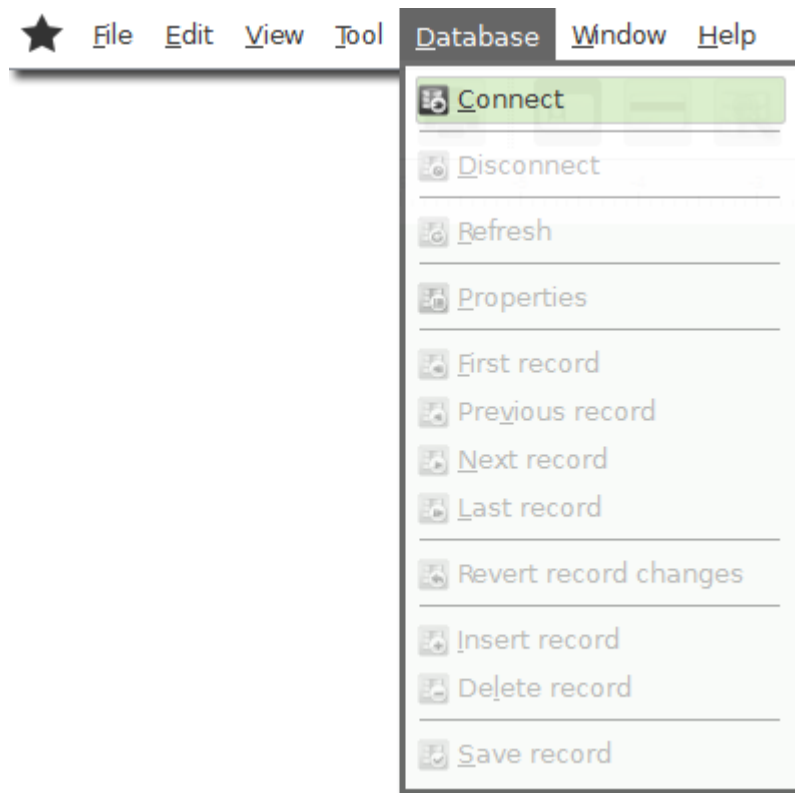
5.1.1 - Configuration

ⓘ Depending on your **Bodno** Edition there are several Database Drivers at your disposal:

BRONZE has an internal database with photo connection.

SILVER has the **Direct CSV & TXT File Driver**, that can only read the fields in these databases. Edition of their records isn't possible through **Bodno.**
And the **Direct Excel File Driver** through which **Bodno** can edit the fields and records of the Database.

With these drivers it is also possible to add Links to images and their Folders.

GOLD can connect to **SQLite version 3** and the **Direct MS Access File Driver**. From here on it is possible to Alter Tables and in the records add images as Binary file.

The **Bodno Internal Database (msAccess)** becomes available in this Edition.

PLATINUM adds the **ODBC Drivers** and with them it is possible to connect to any Database with ODBC Support, like: SQL Server; Oracle; MySQL; as others.
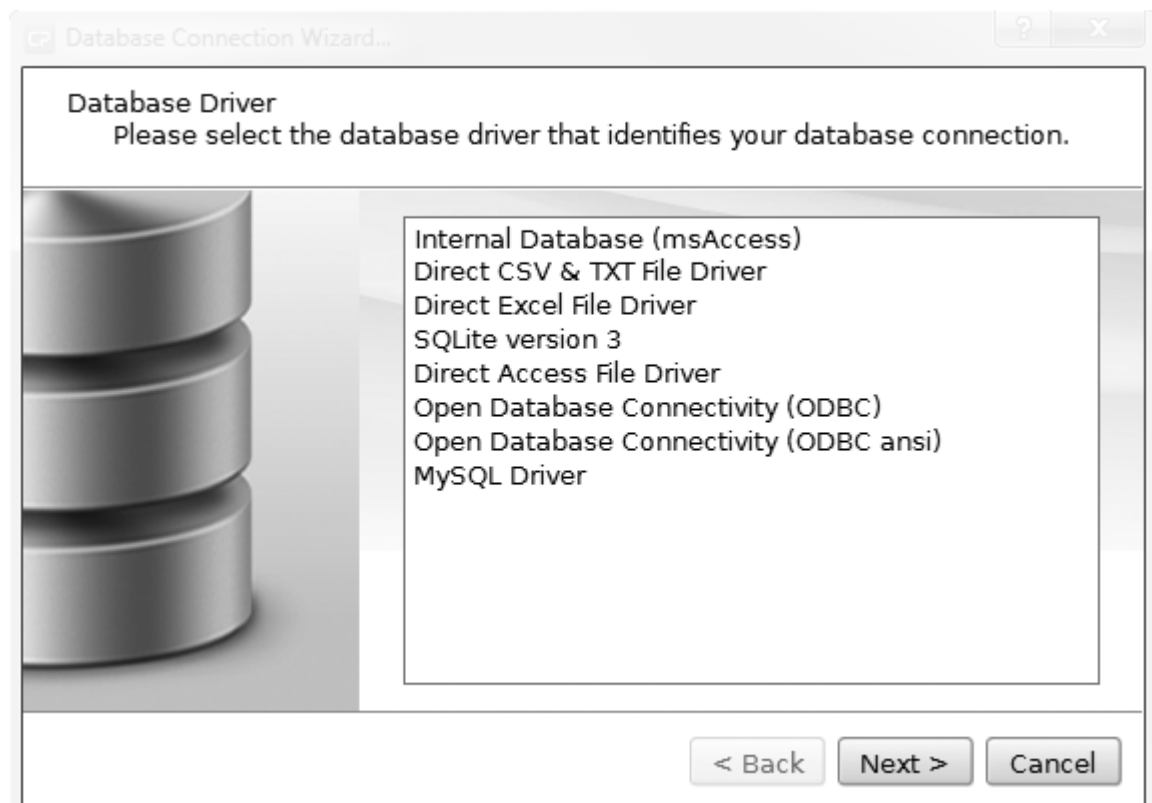
After selecting the Driver you will be prompted to **Select** or **Browse** to the Database.
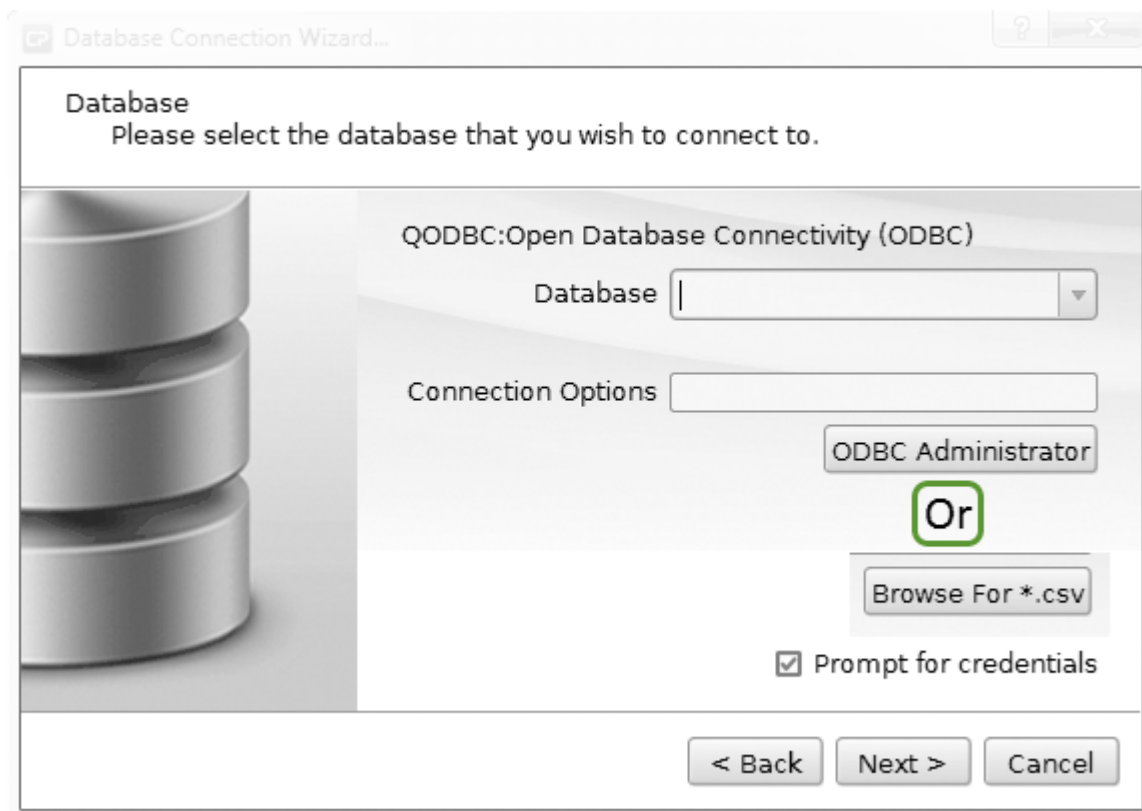
● The instructions on how to configure each Driver connection, **will be addressed further on this manual.**

5.1.1.1 - Direct CSV & TXT Driver

ⓘ In the **Direct CSV & TXT Driver** there are several configuration options, usually **Bodno Guess** function does the required configuration when the CSV or TXT file are opened.
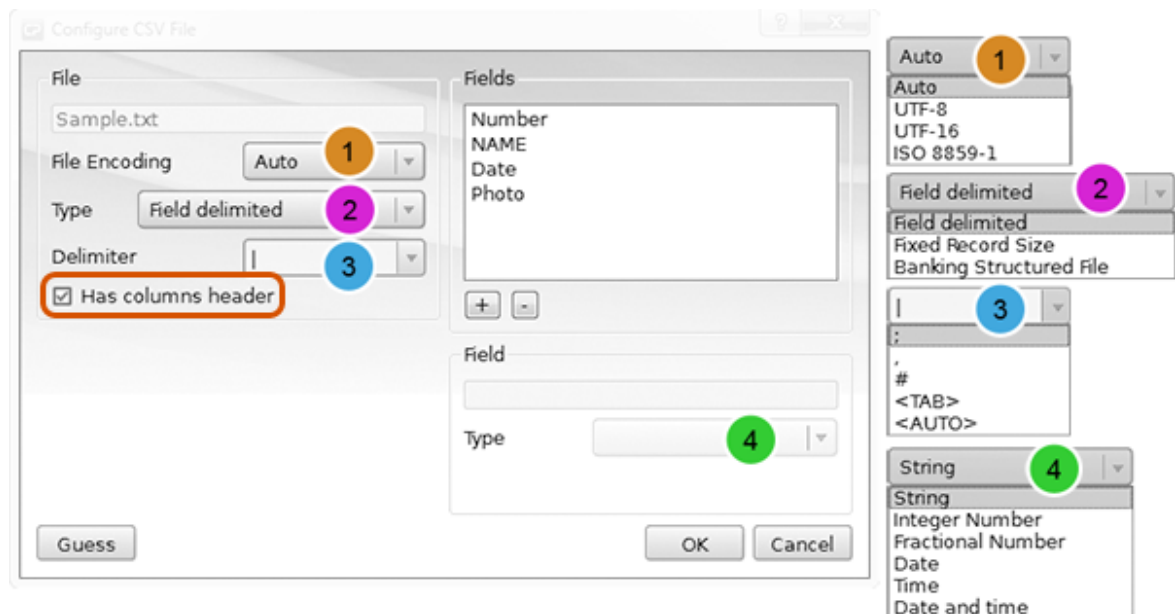
1️⃣ **File Encoding** - The File encoding is by default as 'Auto', if the encoding used by the database is on the dropdown list chose it.

2️⃣ **Type** - Is for the Size of the Fields in the Database.

3️⃣ **Delimiter** - It is possible to chose the Delimiter used in the Database or Input it.

4️⃣ **Field Type** - Select the Field Type accordingly.

❗ Explanation on the next connection steps **will be addressed further on this manual.**

5.1.1.2 - Direct Excel Driver

ⓘ In the **Direct Excel Driver** it is possible to confirm the structure of the database and if needed add more Fields to it. The **Bodno Guess** recognizes the structure and configures the connection, if the configuration isn't correct, change it accordingly.
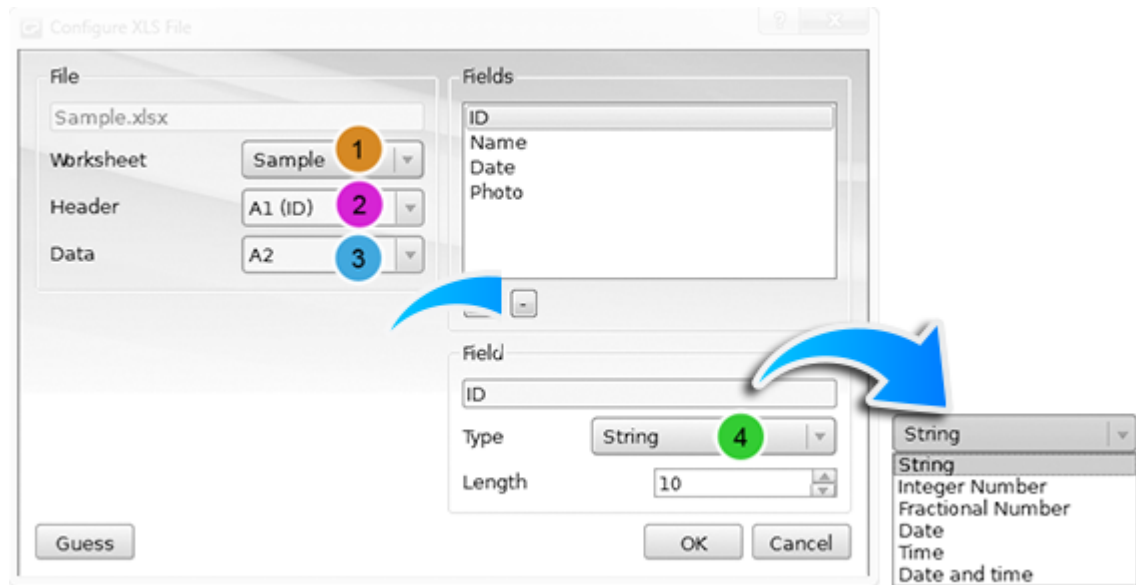
1️⃣ **Worksheet** - Chose the Worksheet to which the card is to be connected.

2️⃣ **Header** - Select the Header of the Database.

3️⃣ **Data** - Select from where the Rows start.

4️⃣ **Type** - Select the Field Type accordingly.

⚠ Explanation on the next connection steps **will be addressed further on this manual.**

5.1.1.3 - Direct MS Access Driver

ⓘ Since the data stored in the MS Access and the SQLite Databases has a fixed format, no special configuration is needed. Just browse to the Database and open it, and select which table you want to import.

The **Bodno Internal Database** is a MS Access Database provided with the **Bodno** installer and serves as a Sample and for test purposes.
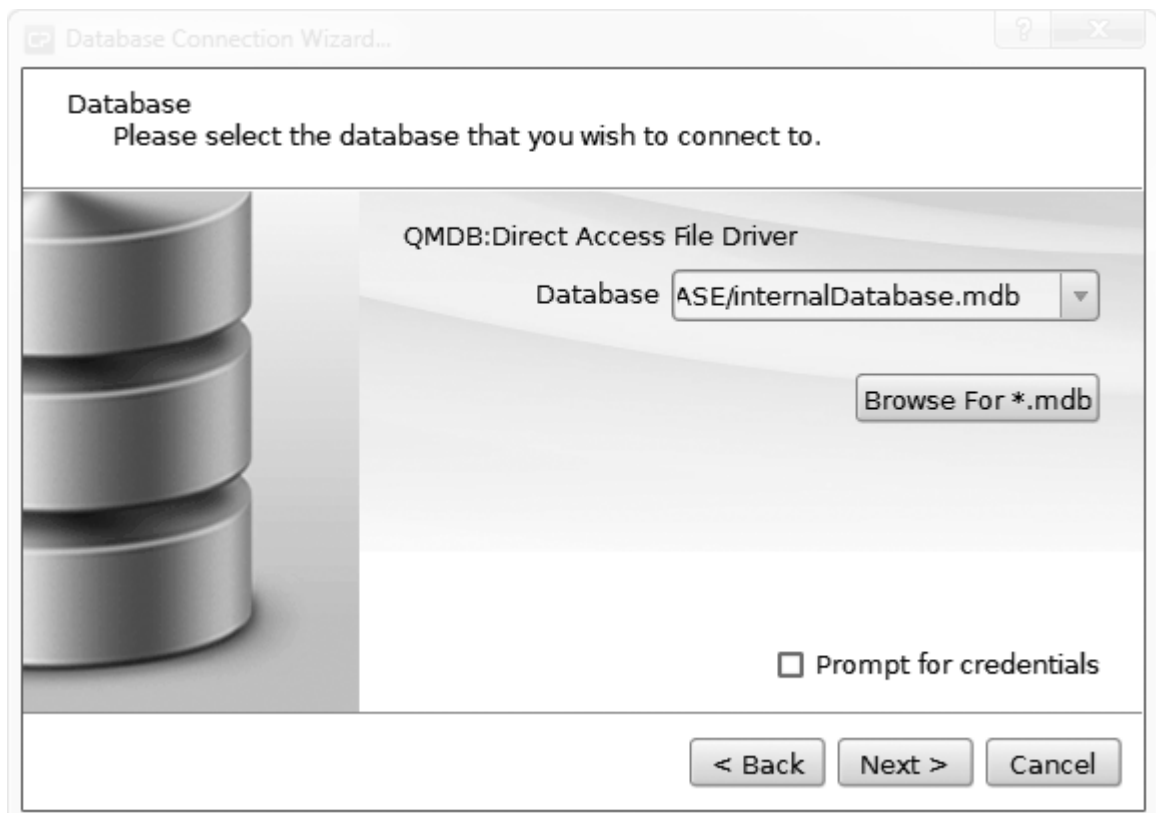
ⓘ Explanation on the next connection steps **will be addressed further on this manual.**

5.1.1.4 - Internal Database

ⓘ Each **Bodno** document contains an internal database as a smaller yet more convenient way to keep records. This means you can have your own database records saved within the **Bodno** document itself, without need of external database files.

To connect to the internal database you can use the **Connect to Database** button.

On the following window select **document Internal Database.**

Database Driver
    Please select the database driver that identifies your database connection.

document Internal Database
cardPresso Internal Database (msAccess)
Direct CSV & TXT File Driver
Direct Excel File Driver
SQLite version 3
Direct Access File Driver
Open Database Connectivity (ODBC)
Open Database Connectivity (ODBC ansi)
MySQL Driver

< Back   Next >   Cancel
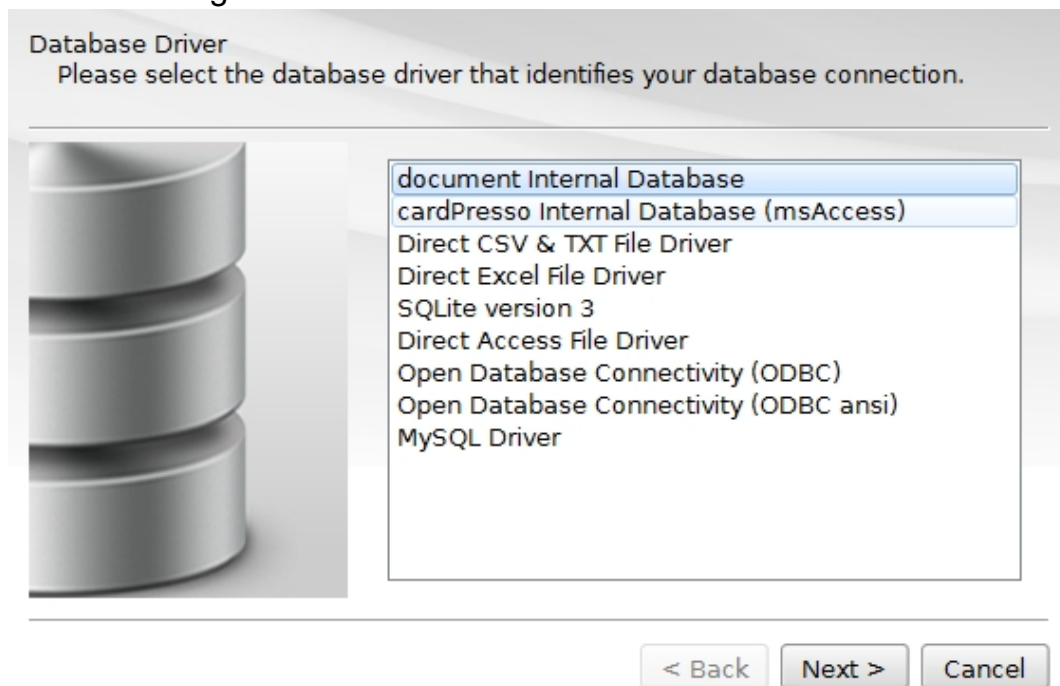
You can then use **Database Operations** to create your own tables and columns and save them on your **Bodno** document.

5.1.1.5 - ODBC

ℹ The **Open Database Connectivity (ODBC)** provides the means to connect to several Databases, such as, SQL Server, Oracle, IBM, Fox Pro, dBase and others.

In case of Databases containing special characters, the usage of the **Open Database Connectivity (ODBC) ansi** is advised.
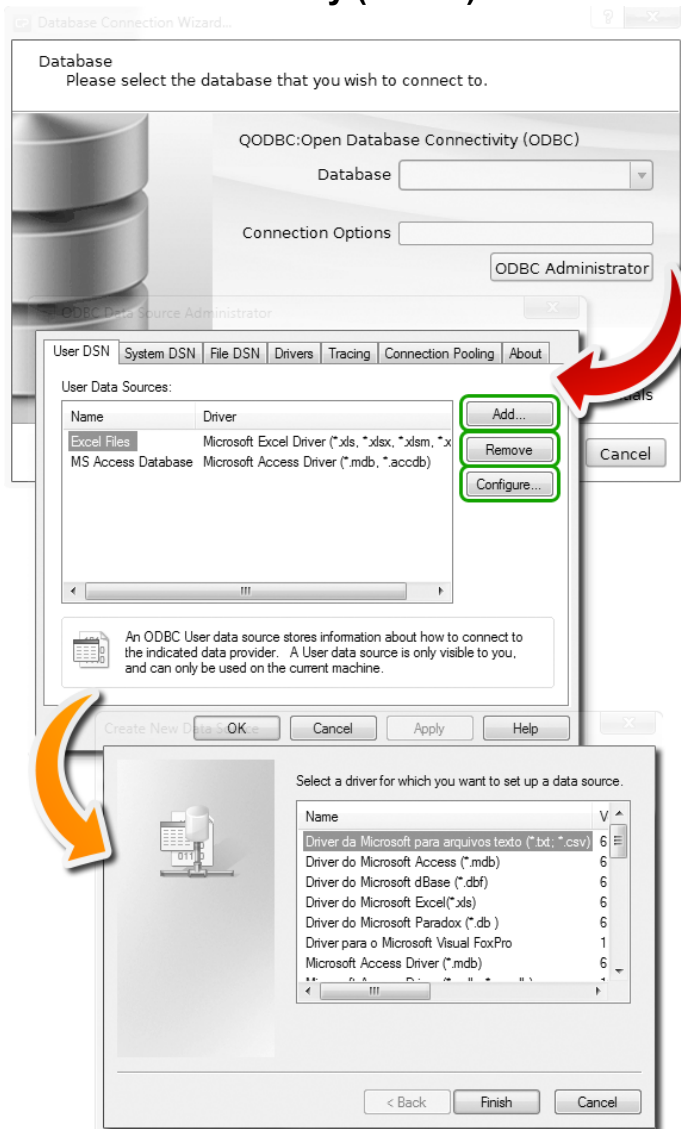
By selecting the **ODBC Administrator** these options are available:

User DSN - Shows the existing connections and provides the possibility to **Add** more connections and **Remove** or **Configure** existing connections.

System DSN - Shows the existing connections and provides the possibility to **Add** more connections and **Remove** or **Configure** existing connections.

File DSN - Provides the means to connect to a data provider.

Drivers - Shows the connection Drivers installed on the system.

Tracing - Provides the means to log the calls to the ODBC drivers for use by the support personel or to aid in debugging your applications.

Connection Pooling - Provides the means to reuse open connection handles.

About - Shows the ODBC core components available.

ⓘ Please contact your SysAdmin for the configurations required to connect with your Database.

❗ Explanation on the next connection steps **will be addressed further on this manual.**

5.1.1.6 - MySQL Driver

ℹ The MySQL Driver allows to connect to a MySQL Database.
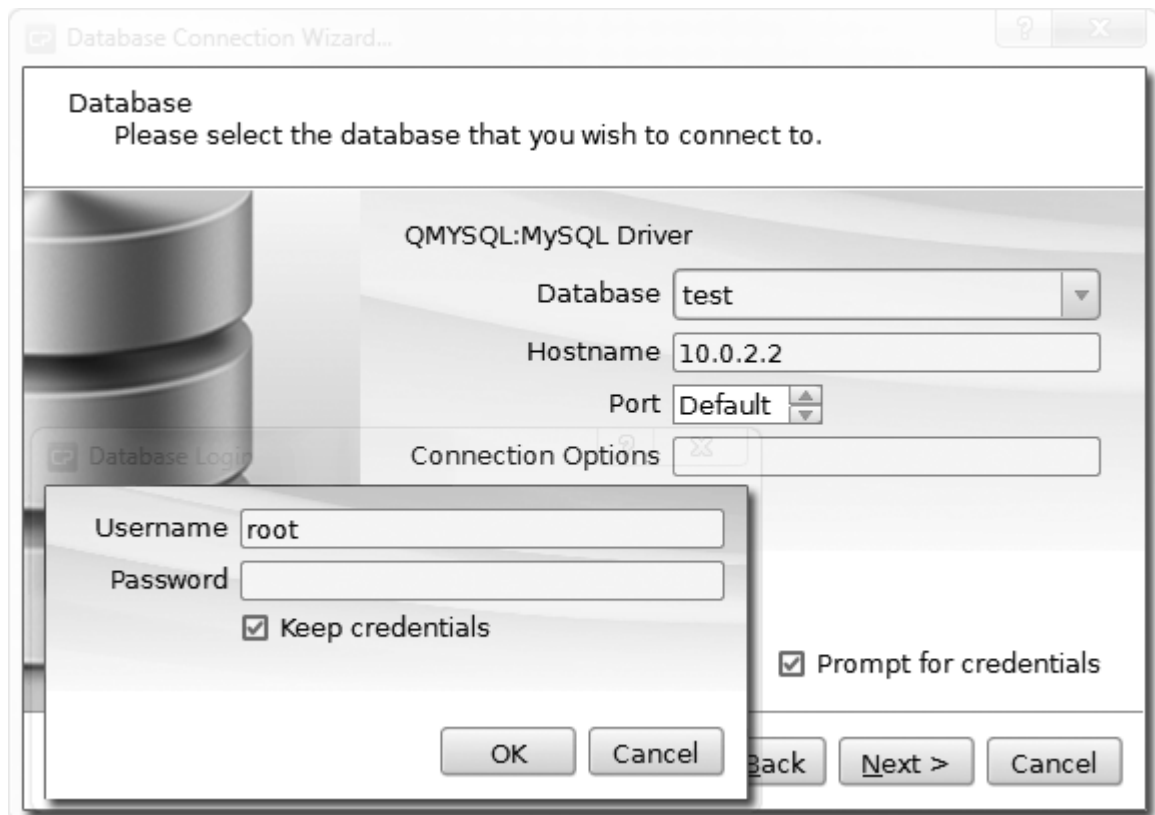
ℹ Please contact your SysAdmin for the configurations required to connect with your Database.

❗ Explanation on the next connection steps **will be addressed further on this manual.**

5.1.2 - Database Operations

ⓘ The **Database Operation** is an important function for GOLD and higher Editions. In the Database Operation it is possible to Select, Create, Alter or Drop Database Tables, making it possible to personalize a Database with **Bodno.**

Since the CSV, TXT and Excel Databases do not have multiple Tables only the Select Table is possible in their case.
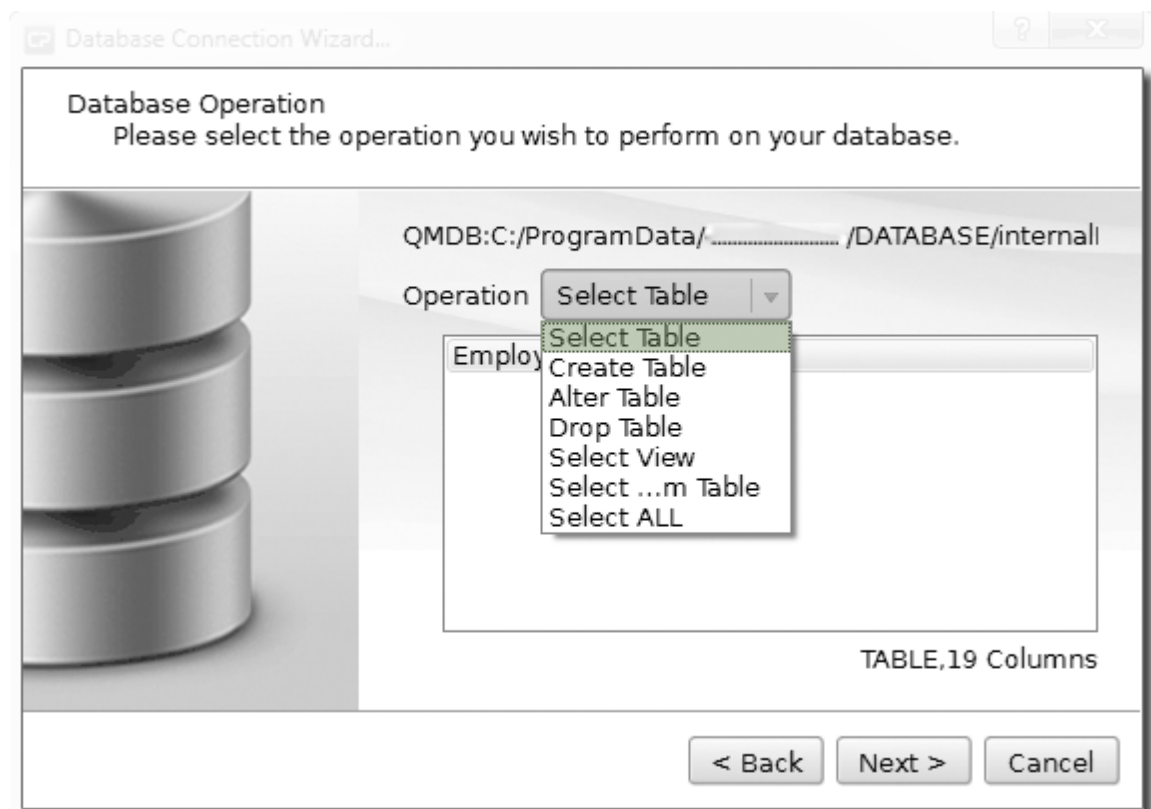
This example is based on the **Bodno** Internal Database.

5.1.3 - Table Columns

ⓘ In this part of the Database Connection Wizard it is possible to select which columns of the selected Table you need. Columns order will be defined according to your selection.
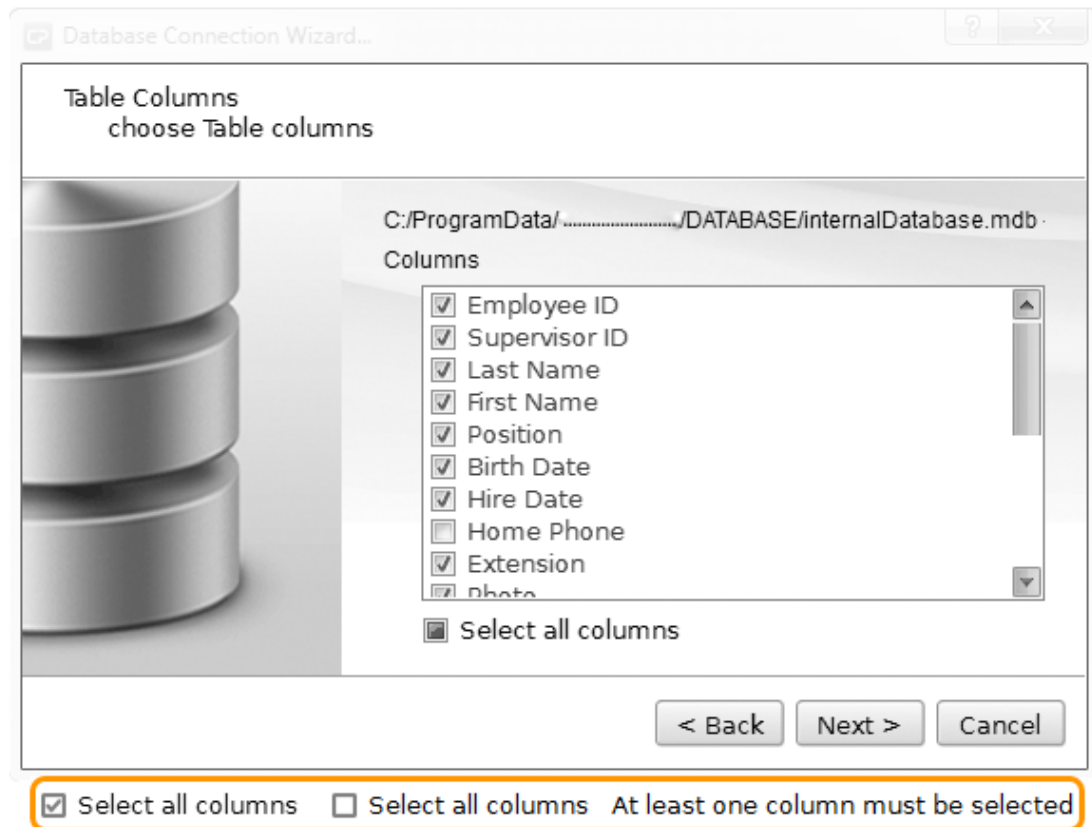
ⓘ If no column is selected the Wizard won't continue.

5.1.4 - Guide Columns

ℹ The **Guide Columns** will work as an Index of the Database.
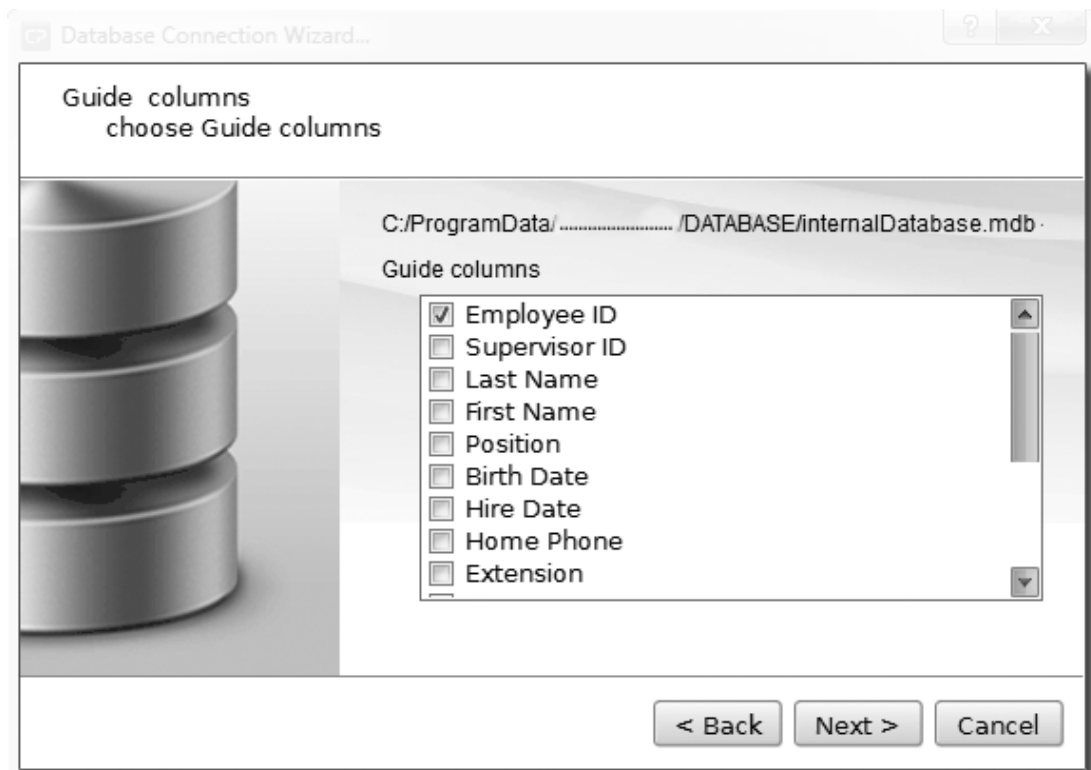
5.1.5 - Database Filter

ⓘ In the **Database Filter** you can add conditions to filter what is shown from the database. These conditions have to be written in SQL Script without the "Select * where".

5.1.6 - Order Columns

ⓘ With the **Order Columns** it is possible to change how the columns' contents is shown in **Bodno.**

The organization rules used by **Bodno** for the selected columns are:
Empty fields first, then the Numeric fields from the smallest value (0) to the biggest value (±9), followed by the fields in Alphabetic order.
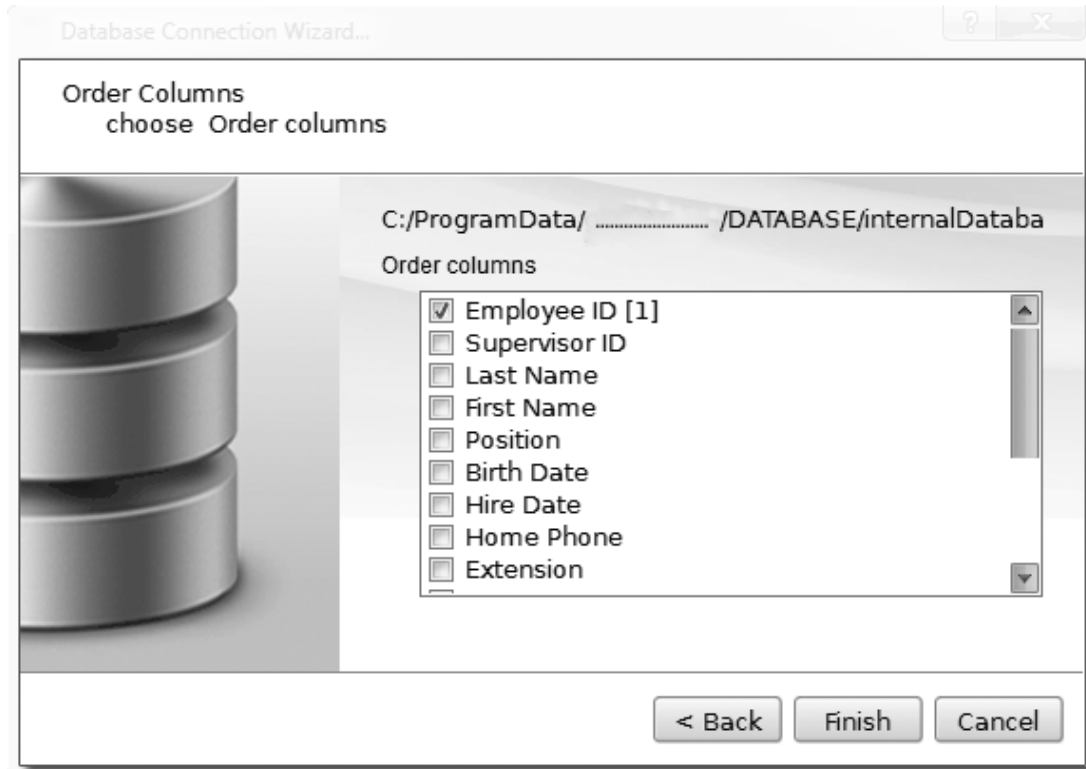
5.1.7 - Properties

ℹ️ It is possible to review the configuration of the Database connection through the **Database** Menu and selecting **Properties**.

Database   Window   Help

- Connect
- Import
- Disconnect
- Refresh
- Properties
- First record
- Previous record
- Next record
- Last record
- Revert record changes
- Insert record
- Delete record
- Save record
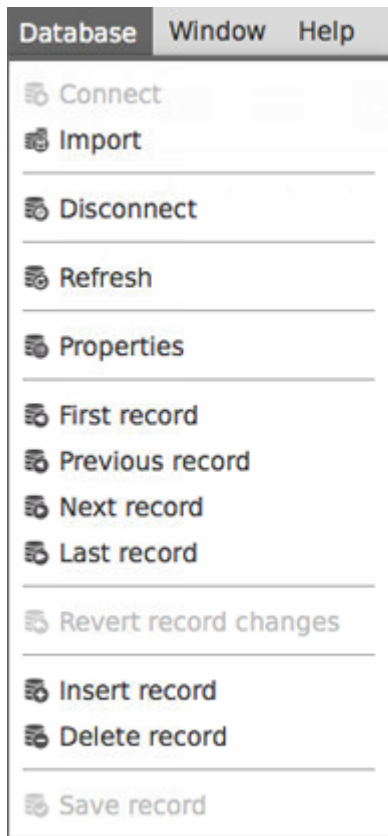
❗ The Database Properties are mainly used to check the configurations of the connection. Do **not** change them unless necessary.
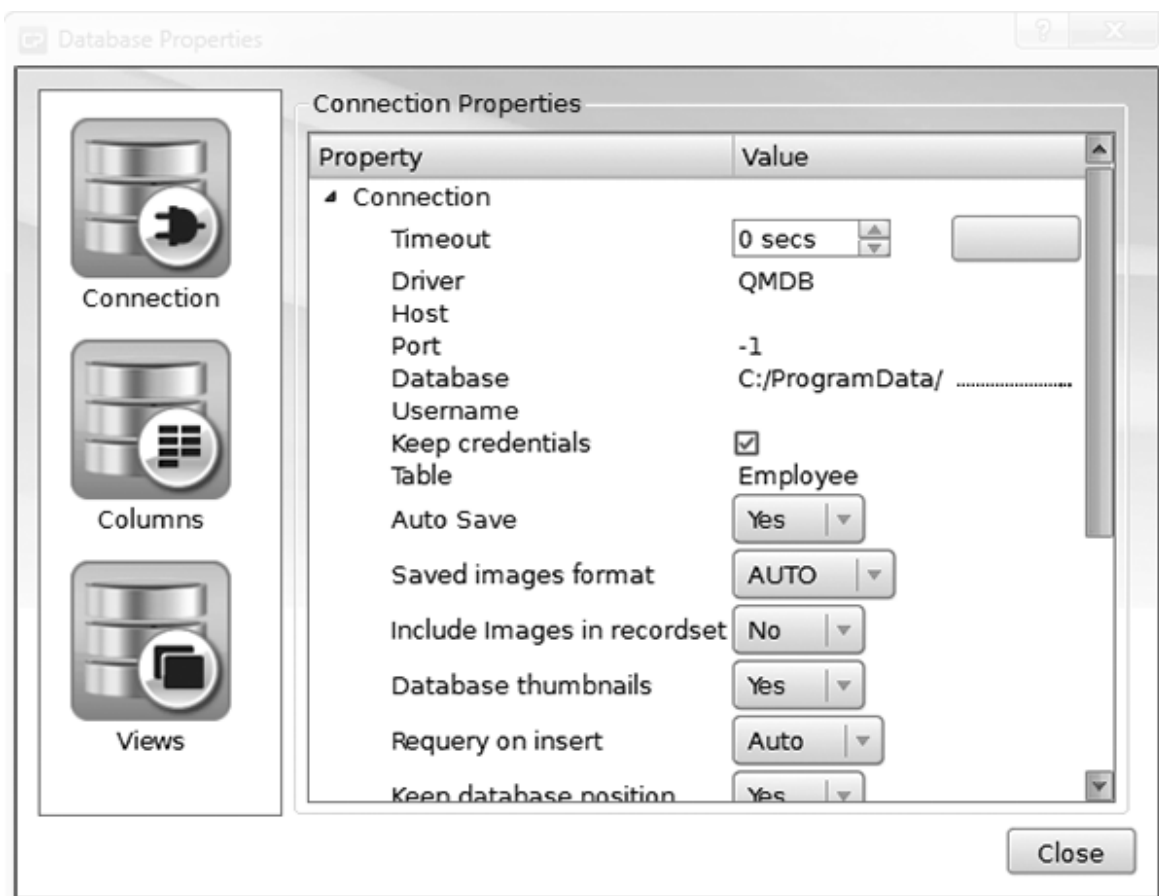
5.2 - Dockbar

5.3 - Database

ⓘ As it is with **Bodno** Document Objects, the Database Fields can also be added to the card Layout through Drag & Drop. These Objects will be connected to the Database Field and update when the field in the database is changed or when moving between records.
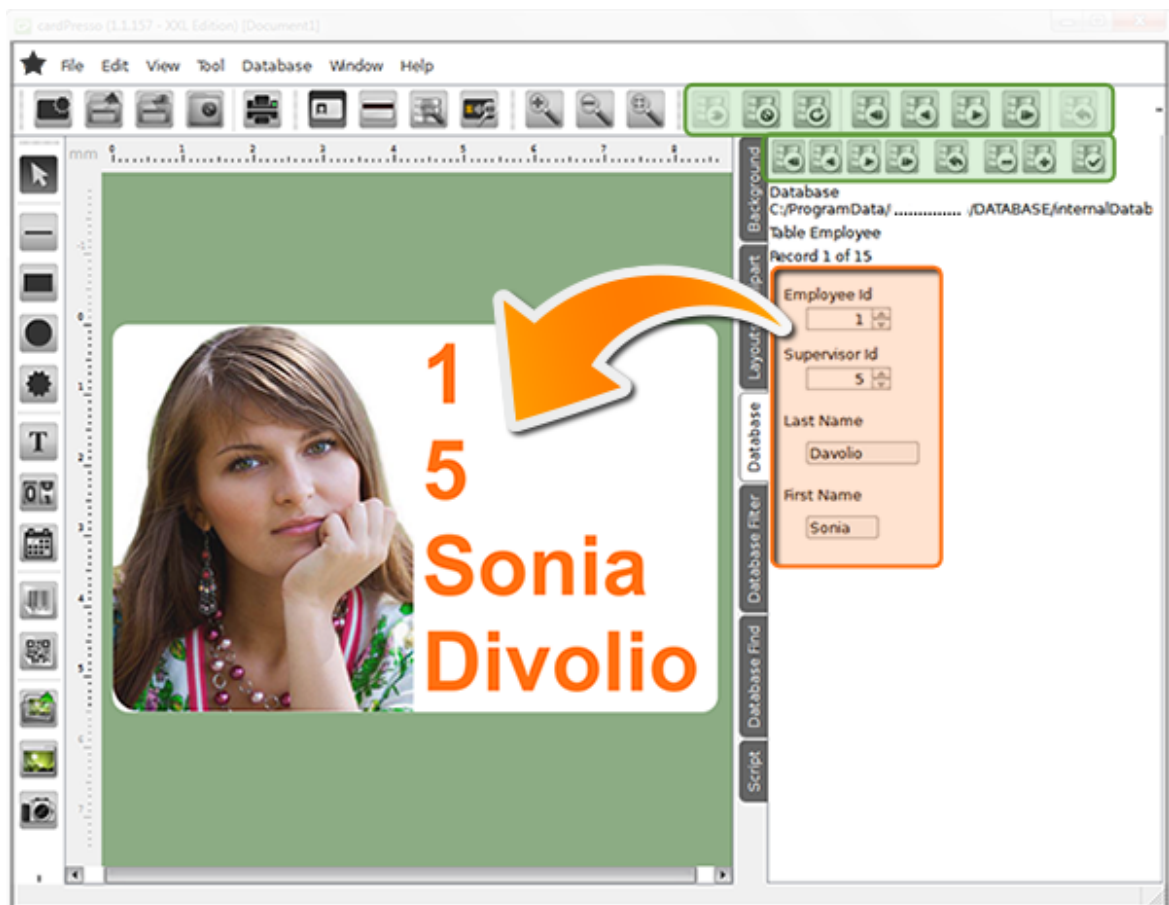
5.4 - Find or Filter

ⓘ The **Database Find** Tab eases the search for specific records in the Database.

It is possible to search in the available variables if the data in a column of the Database is or has a value, as input by the user to the Textbox.
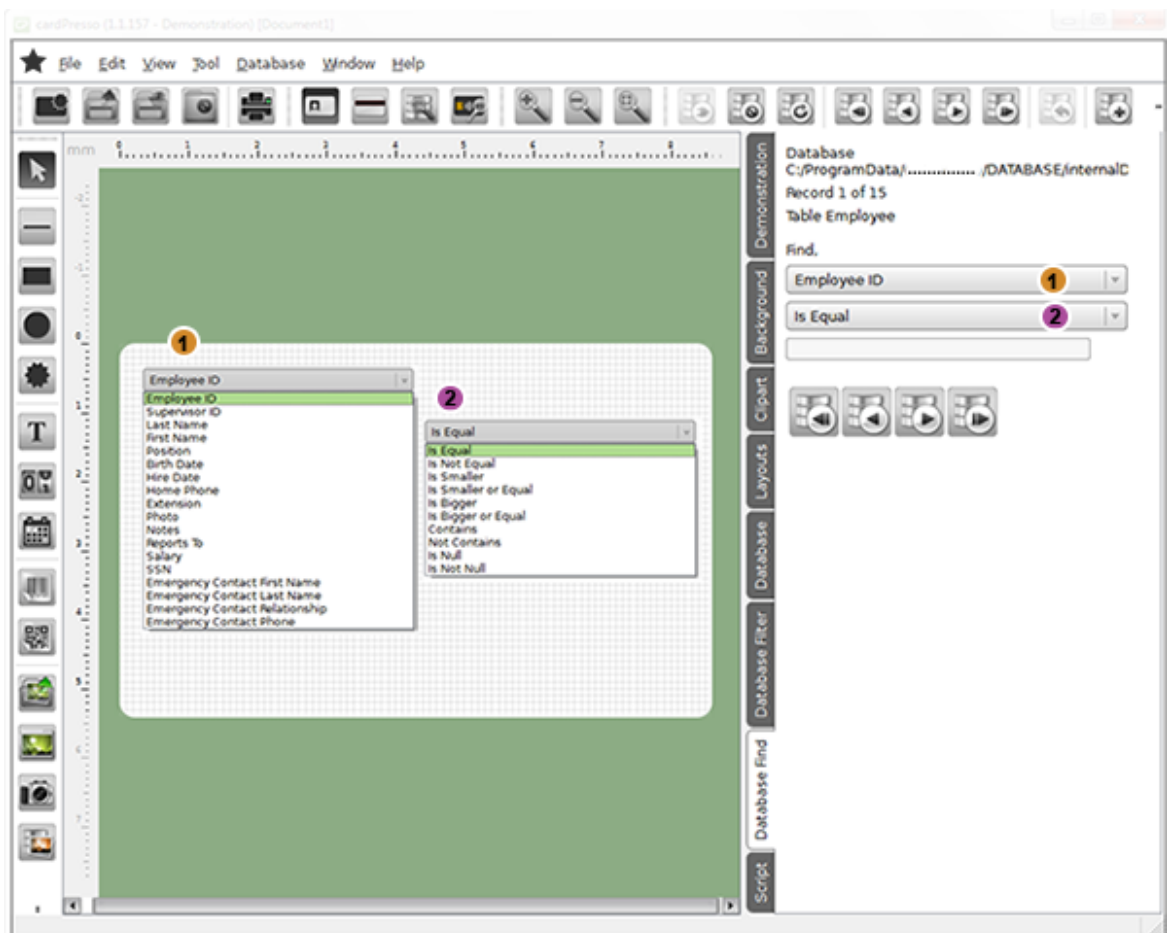
ⓘ The **Database Filter** works as an SQL Query and in it there are available the same options as in the Database Find with the possibility to search with multiple rules and with a personalized Script.

The **Database Filter** Tab can also be used to generate the Script for the Database Filter in the Connection Wizard.

Database
C:/ProgramData/ .... /DATABASE/interna
Table Employee
Record 1 of 19

Conditions,

Supervisor ID

Is Equal (=)

5

Or

Supervisor ID

Is Equal (=)

3

Add Condition ...

SQL:

`` `Supervisor ID` = 5 OR `Supervisor ID` = 3 ``

Reset   Apply

Is Equal (=)

Is Equal (=)
Is Not Equal (<>)
Is Bigger (>)
Is Bigger or Equal (>=)
Is Smaller (<)
Is Smaller or Equal (<=)
Is Null (IS NULL)
Is Not Null (IS NOT NULL)
Contains (LIKE)
Not Contains (NOT LIKE)

Add Column ...

Add Column ...
Employee ID
Supervisor ID
Last Name
First Name
Position
Birth Date
Hire Date
Home Phone
Extension
Photo
Notes
Reports To
Salary
SSN
Emergency Contact First Name
Emergency Contact Last Name
Emergency Contact Relationship
Emergency Contact Phone
Test

Add Condition ...

Add Condition ...
And
Or

When using the **Contains** filter, if you are searching with a partial word, you must use the **%** symbol on the search term.

Eg: Searching for a word that starts with "Bo": **Bo%**
    Searching for a word that ends with "dno": **%dno**
    Searching for a word that contains the text "odn": **%odn%**

5.5 - Database View

Browsing and editing a database is made simple with the **Database View**. Here you can see a list of all the database records and edit them with in a convenient interface, made to simplify browsing and editing records.

To access the **Database View,** click the **Database View** button or open the **Bodno** menu **View > Database View**.

ℹ️**Note: The Database View will only show data when connected to a database.**
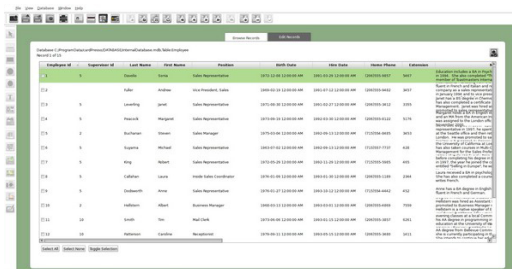
☑ **Browse Records -** Opens the **Browse Records** tab which lists all the records in a reader friendly way .

☑ **Edit Records -** Opens the **Edit Records** tab provides you with a more convenient interface to edit each database record.

5.5.1 - Browse Records

The **Browse Records** view is a tool that allows you to see all the records in your database in a simple and reader friendly environment.

Here you can also individually select records for when you want to print several specific records in the database (see more on Printing Selected Records in a Database).

You can access the **Browse Records** window through the **Database View** button, then **Browse Records** button, or through the **Bodno** menu **View > Database View**, then **Browse Records Button**.

Double-click above a Record to edit it. When doing so, you will be redirected to the **Edit Records** tab. When finishing your edition, **Save** changes and return to **Browse Records** view.

☑ **Hide/Show Photo Columns -** Toggles between hiding or showing database columns which contain images. Ideal for larger databases with a large amount of pictures, which can be very memory intensive.

When disabled this option allows for higher performance in computers with slower resources.

☑ **Select All -** Selects all the records in the database.

☑ **Select None -** Deselects all the records in the database.

☑ **Toggle Selection -** Individually toggles the selection on all database items that are listed (Does not apply to items that are not visible through Database Filter).

5.5.2 - Edit Records

The **Edit Records** view is another powerful tool in **Bodno** which allows you to quickly edit database records, making database management fast and simple.

On the left side of the **Edit Records** window you can find the columns which contain text.
On the right side, you can find all the the **Image** items contained in the database.

Simply browse the records with the top **Database Toolbar** until you find the database record you want to edit, then edit the database record and click the **Save Record** button.

5.6 - Managing Records

Adding, deleting and editing records are core tasks when managing a database and when working with large databases, it can become a time costly task.

With all the tools provided by **Bodno**, managing databases becomes simple and intuitive.

5.6.1 - Adding Records

Adding records in **Bodno** is quick and simple:

1 - Make sure you are connected to a database (see more on chapter 5.1 - Connection)

2 - Open the **Database** sidebar when working on the **Card Design** view (see more on chapter 5.3 Database).

Alternatively open the **Browse Records** window on the **Database View** (see more on chapter 5.5.2 Edit Records).

3 - Click the **Insert Record** button on either the Database Toolbar or through the **Bodno** menu **Database > Add Record**.

4 - The **Database Items** will now be empty and ready to be written.
Finally, fill the items with the required data and click the **Save Record** button to save the changes.

Prior to saving you can cancel any changes with the **Revert Record Changes** buton:

5.6.2 - Editing Records

Editing existing records is also a quick and simple task:

1 - Make sure you are connected to a database (see more on chapter 5.1 - Connection)

2 - Open the **Database** sidebar when working on the **Card Design** view (see more on chapter 5.3 Database).

Alternatively open the **Edit Records** window on the **Database View** (see more on chapter 5.5.2 Edit Records).

4 - Use the database toolbar to find the record you wish to edit.

4 - Finally, fill the items with the required data and click the **Save Record** button to save the changes.

Prior to saving you can cancel any changes with the **Revert Record Changes** buton:

5.6.3 - Deleting Records

Deleting existing records is also a quick and simple task:

1 - Make sure you are connected to a database (see more on chapter 5.1 - Connection)

2 - Open the **Database** sidebar when working on the **Card Design** view (see more on chapter 5.3 Database).

Alternatively open the **Browse Records** window on the **Database View** (see more on chapter 5.5.2 Edit Records).

4 - Use the database toolbar to find the record you wish to delete.

5 - Click the **Delete Record** button and when prompted if you want to delete the record, click the **Yes** button.

Note: Deleting a record is a permanent action that cannot be reverted, canceled or undone.

Chapter 6.
Printing

Chapter 6. Printing

ⓘ Printing your cards is the core function of **Bodno.** Within this chapter we describe the several printing configurations **Bodno** provides for printing and how those settings work with your printer to achieve the best printing results.

To ensure that the finished card appears as intended you should understand basic printing principles such as the resolution of your printer or the calibration and resolution of your monitor. These specifications are provided by the printer manufacturer and in the display settings of your Operating System.

Make sure you have the latest printer driver and firmware versions for the printer you have installed.

6.1 - Printing with Bodno

ⓘ The computer you wish to print a card from must be connected either to a local, shared, or network printer and be configured to use that printer.

1. Make sure that you've installed the correct printer driver for your printer.

2. ◎ Click the **Print Button**, or choose **File > Print**.

3. If connected to a database (see more on Chapter 5. Database) you can use the **Database Selection** options to select the records you want to print (see more on Chapter 6.1.1 Printing With a Database):

4. **Update record after print** writes a user determined value in the selected database field of each database record that is printed, after being printed.

5. **Copies** sets the number of copies to print for each print job / record.

6. **Advanced Options** opens the Printer Driver properties of your currently selected printer. Set additional printer driver options in your operating system. See your printer driver documentation for details.

7. **Print Operations** allows you to select the operations you wish to run on each print job.

Click **OK** to start the print job with your currently selected options.
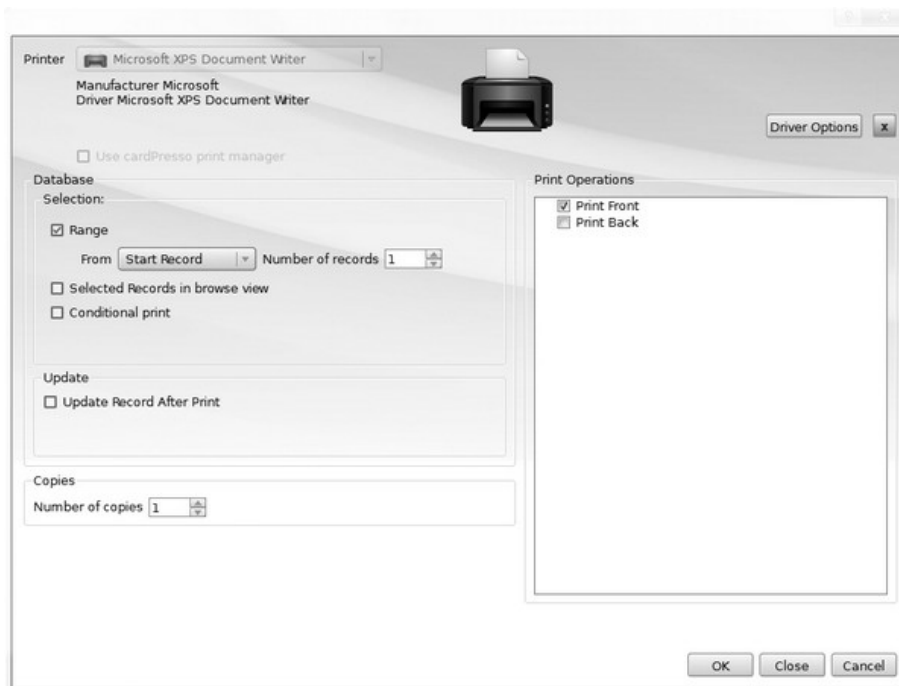
6.1.1 - Printing With a Database

ⓘ Print jobs with large databases can be very lengthy and complicated. That's why **Bodno** provides you with several options you can use to your advantage to, make printing with large databases a much simpler job.

6.1.1.1 - Printing a Database Range

ⓘ **Print Range** allows you to choose a range of records within a database to be printed automatically. This range can vary from one card to several cards.

1 - In the **From** field, select the starting point you want for your print job.

2 - In the **Number of records**, type the number subsequent records you want to print.

When selecting a range, you have 3 options to select which is the record you want to start to print from:

Start Record starts printing from the first database record.

Current Record starts printing from the database record that's currently open.

Last Record starts printing from the last database record.

All Records prints all the existing records in the database.

Custom Records allows you to define a specific range of records to be printed. Use comma (,) to enumerate records and dash (-) to choose a range of records (e.g. 1, 3, 5-9).

After selecting which record to start from, **Number of records** let's you choose how many subsequent records you want to print besides the starting record

Eg: If selected **From:** *Start Record,* **Number of records:** *100* **Bodno** would print all database records ranging from 1 to 100.

6.1.1.2 - Printing Selected Records in a Database

ⓘ **Selected Records in browse view** lets you select which records to print, one by one, by selecting them previously in the **Browse Records** window in **Database View**.

1 - ◯ Click the **Database View** button, or choose **View > Database View**

2 - Select the records you want to print on the **Browse Records** window, using the checkboxes.

3 - ◯ Click the **Print button**, or choose **File > Print**.

4 - Select the **Selected Records in browse view** option and click OK to print.
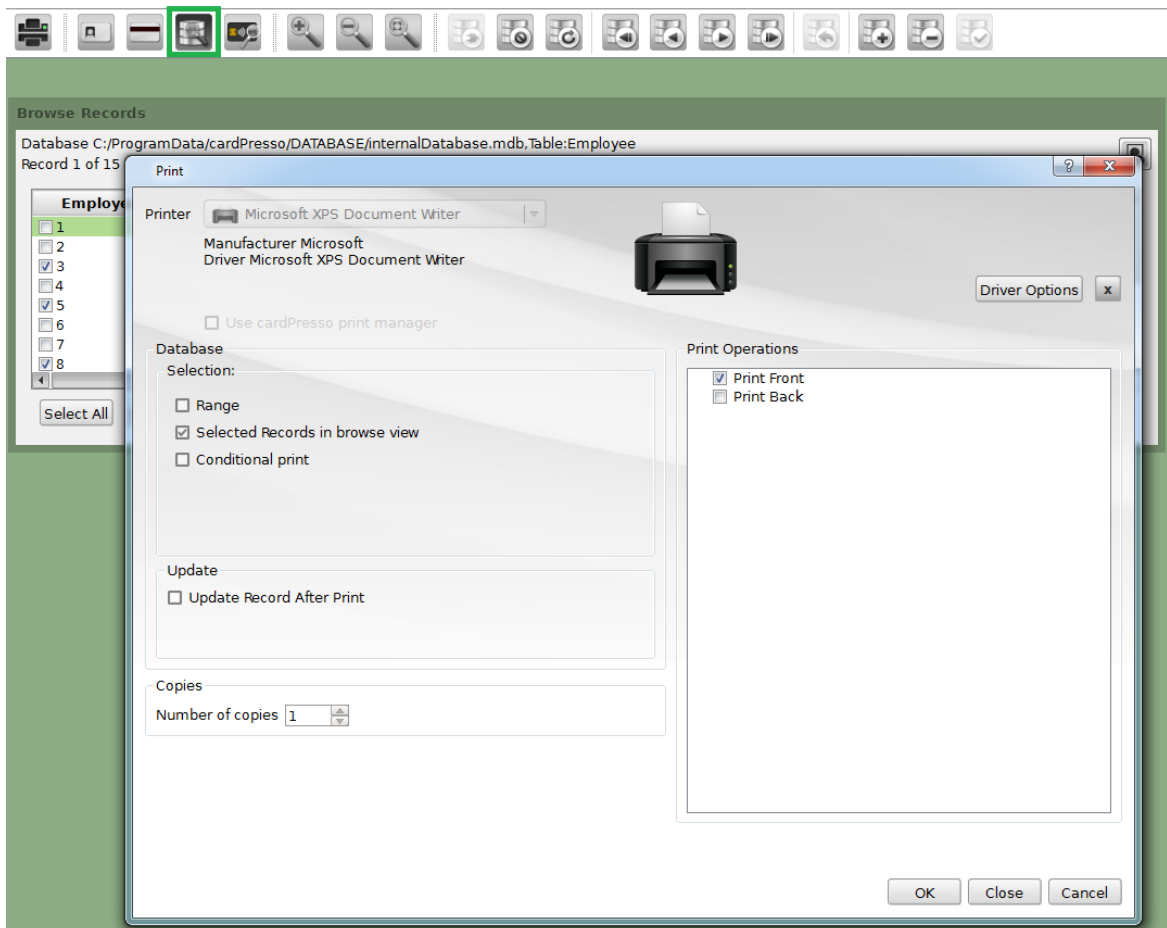
6.1.1.3 - Printing with Conditional Printing from a Database

ⓘ **Conditional Print** lets you configure a print rule using a value from the database records. When printing, **Bodno** will search through all records within the database and will only print the records that comply to the rule you have configured.

1 - Select the database **Column** which contains the data to be validated.

2 - Select the condition that fits the print rule you want.

3 - Click **OK** to print only the database records that follow your print rule.
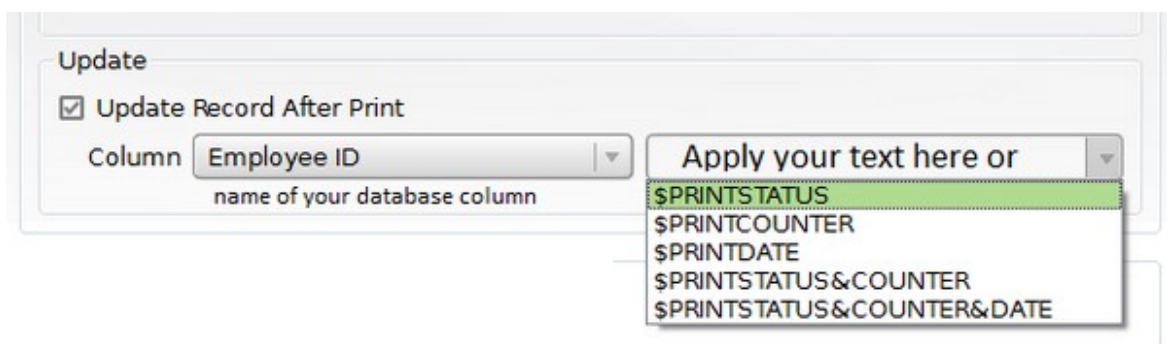
6.1.1.4 - Update after Print

ⓘ **Update Record after Print** allows you to change a record to save relevant print information, after being printed.

By using your own text or one of the options available in **Bodno** it is easier to mark in the database the records that have been printed, the amount of cards printed for that specific record and/or the print date of the last card.

1 - Select the **Column** wich you wish to update.

2 - Type the data you want to store, or choose one of the available options **Bodno** provides.

6.1.2 - Copies
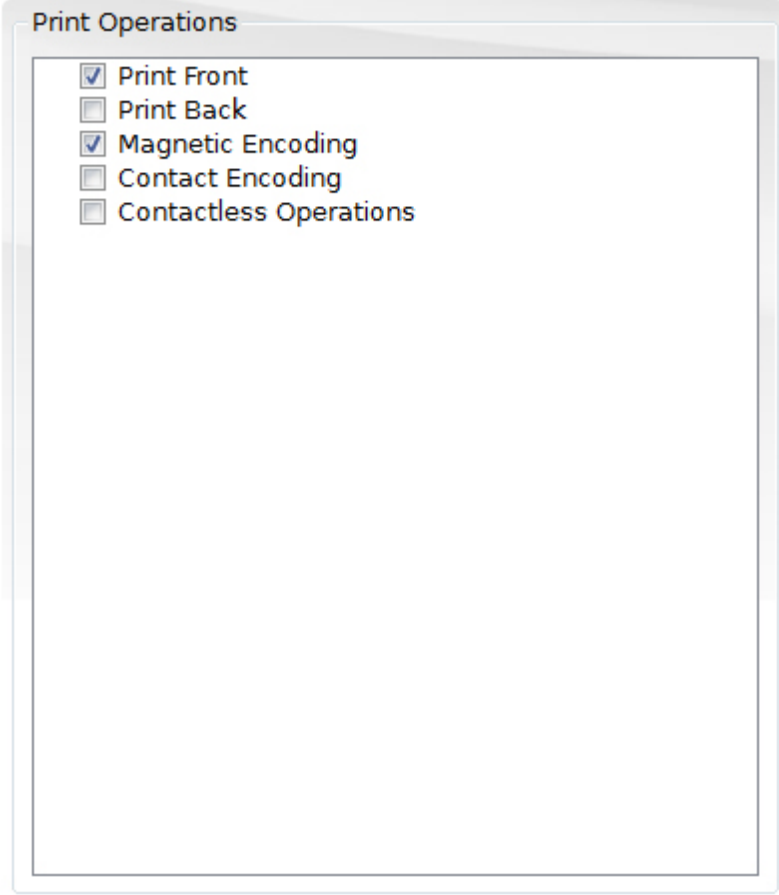
ⓘ **Number of copies** lets you set the number of times each card will be printed.

6.1.3 - Print Operations

ℹ In the Print Operations you can find the print and encode tasks that occur in each print, depending on the **Card Type** in use.

As an example, a CR-80 **Card Type** layout would only show the Print Front and Print Back operations.

Print Operations

- ☑ Print Front
- ☐ Print Back
- ☑ Magnetic Encoding
- ☐ Contact Encoding
- ☐ Contactless Operations

ℹ The operations selected in this area are the only ones sent for printing.

6.2 - Print Settings

ⓘ **Printer Settings** allows you to configure the basic layout settings of your card, configure **Print Options** which adapt to your printing needs, and gives you access to your printer's **Advanced Options.**

▣ To configure your **Printer Settings**, click **File ▸ Configure print** or **CTRL+P.**

❶ **Paper Size,** selects the paper size supported by the chosen printer.

❷ **Orientation,** selects the orientation of your document. **Landscape** or **Portrait**.

❸ **Print Layout**, selects the card model you wish to print to.

In print situations as shown above, in this case to paper, we also provide you with **Orientation** (Portrait/Landscape), **Columns, Rows, Margins** and **Spacing** options.

❹ **Print Options**, shows you the current **Driver** Properties, select the **Rendering**, **Advanced** options and the **Overlay**.

❺ **Advanced Options,** opens the configurations of the currently selected **Printer**.
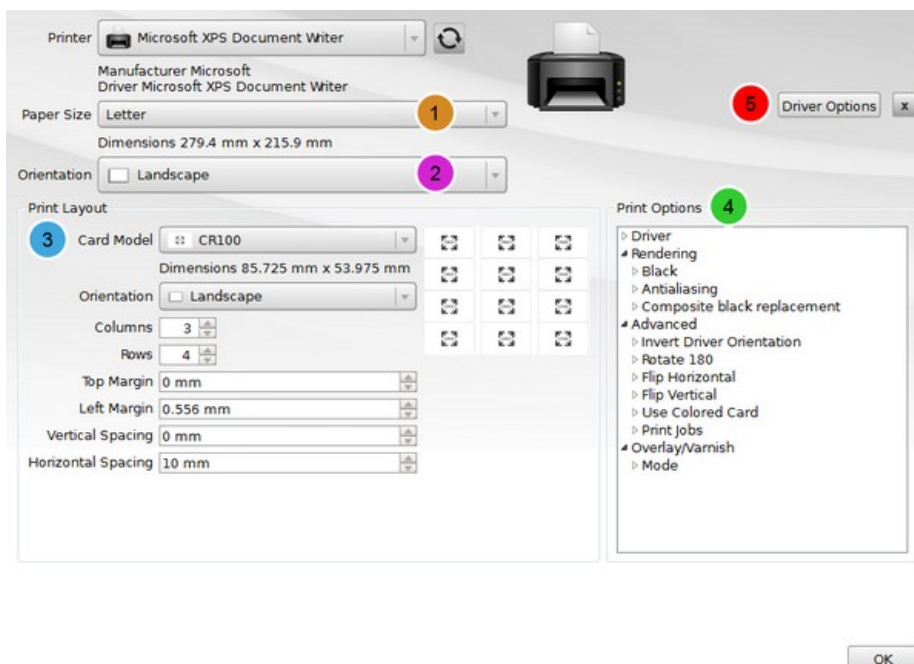
6.2.1 - Printer

ⓘ In this area you can choose which **Printer** you want to use, its **Paper Size** whether it is Letter as used by A4 printers, CR-79, 80, 90 or any size recognized by the card printer and the card **Orientation**.
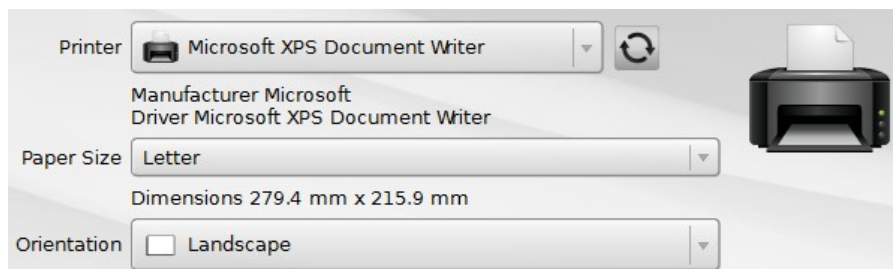
ⓘ To view the Printers installed on your computer and their Driver version click **BOD ▸ Printer Drivers**.

6.2.2 - Print Layout

ⓘ The **Print Layout** settings change depending on the **Card Model** you choose. In its drop-down list you can choose the **Card Types** available in your **Bodno** Edition**.**
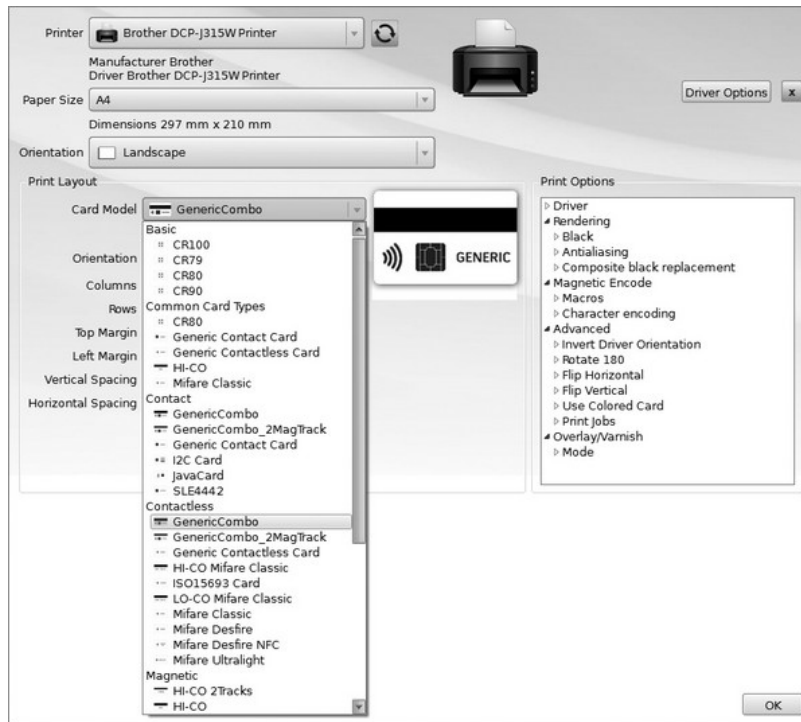
ⓘ Different **Card Models** have different **Print Layout** settings.

In the case of paper printers you can print multiple cards in one page. **Bodno** provides you with a simple grid system that you can modify to fit your printing needs.

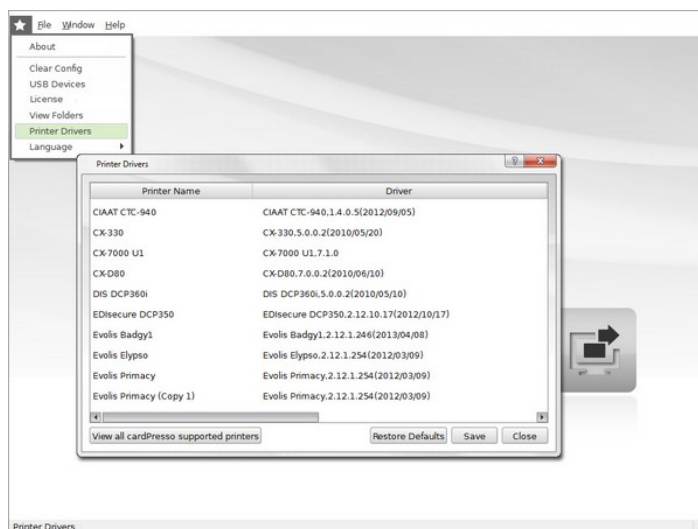**Print Layout** lets you choose the number of rows, number of columns, top margin, left margin, vertical and horizontal spacing. As you can see in the image below.

1 **Card Model,** selects your card type.

2 **Orientation,** selects the orientation of your card in document.

3 **Columns,** number of columns.

4 **Rows,** number of rows.

5 **Top Margin,** left margin of your document.

6 **Left Margin,** top margin of your document.

7 **Vertical Spacing,** vertical spacing between cards.

8 **Horizontal Spacing,** horizontal spacing between cards.

Print Layout

1 Card Model   ⊡ CR80   ▼

Dimensions 85.725 mm x 53.975 mm

2 Orientation   ☐ Landscape   ▼

3 Columns   3

4 Rows   4

5 Top Margin   0 mm

6 Left Margin   0.556 mm

7 Vertical Spacing   0 mm

Horizontal Spacing   10 mm   **8**

6.2.3 - Options

ⓘ The **Print Options** section contains information and configuration settings on how the print job is sent to the printer **Driver**.

Print Options
```
▷ Driver
▷ Rendering
▷ Advanced
▷ Overlay/Varnish
```
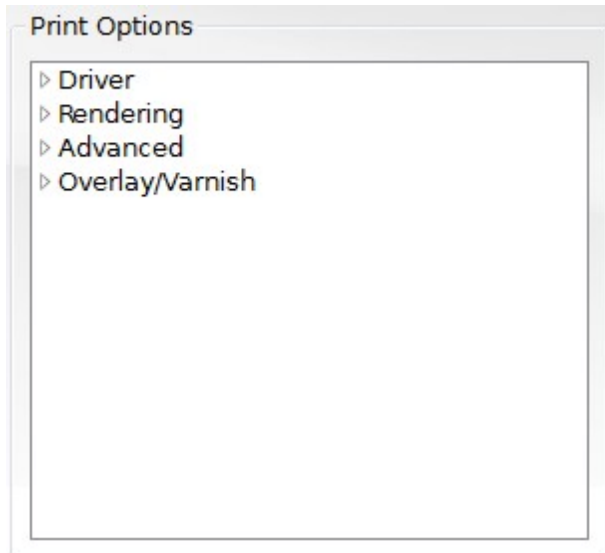
ⓘ The **Driver** section shows the basic driver info of the printer currently selected.

Print Options
```
◢ Driver
   ◢ Manufacturer
      Windows (R) Win 7 DDK provider
   ◢ Name
      Matica Printer Driver
   ◢ Version
      6.1.7600
   ◢ Class
      Matica Espresso
   ◢ Model
      Matica Espresso
   ◢ Print Class
      WIN32API
   ◢ Print Test
         Print Test
▷ Rendering
```
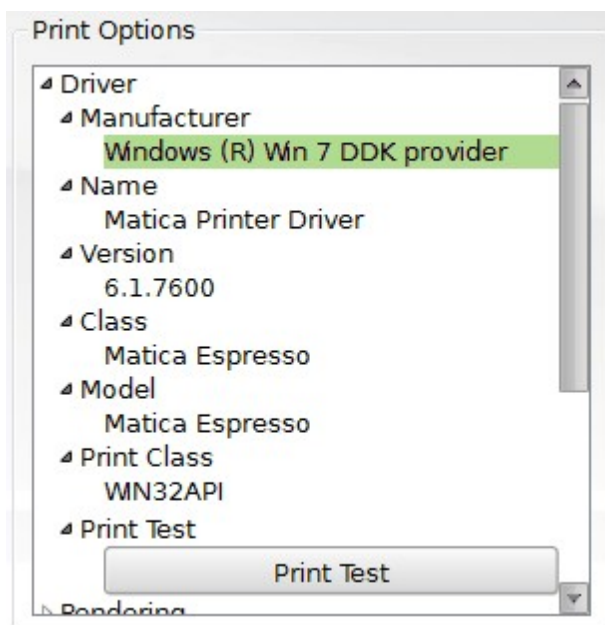
ⓘ The **Rendering** settings allows you to configure advanced **Black** rendering options, **Antialiasing**, and **Composite Black Replacement**.
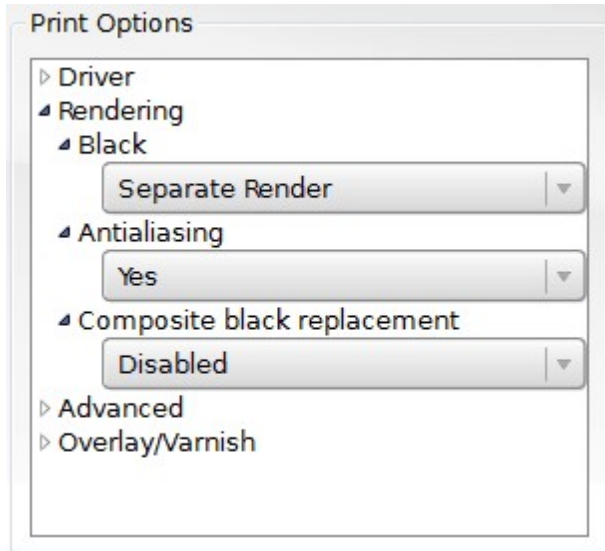
Black - configures how the black color is sent to the printer. You can **Send as RGB**; **Send as Monochrome**; **Send as RGB and Monochrome**; **Send Composite**; **Send Composite and Monochrome** or send as a **Separate Render** (default option).

Antialiasing - lets you enable or disable Antialiasing for either the whole card, **Text** only and for **Images** only.By default, the option is active.

Composite black replacement - You can use composite black replacement with one of the following options: Using the options available: Grayscale (Low, Medium or High), Color Decrement (Low, Medium or High) Red Increment (Low, Medium or High).

Black - To obtain the desired results, you can submit the black in RGB; monochrome; RGB and monochrome; composite; composite and monochrome and separate render.

Composite black replacement - You can activate composite black replacement, using the options available: Grayscale (Low, Medium or High), Color Decrement (Low, Medium or High) Red Increment (Low, Medium or High).

ⓘThe **Advanced** section provides you with the following options.
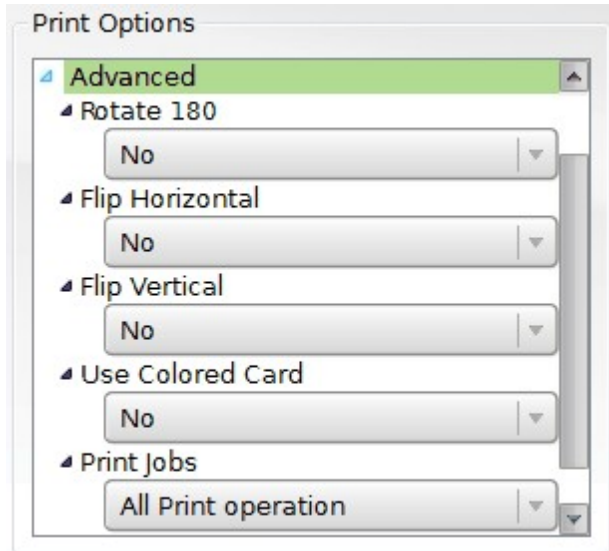
Rotate 180, Rotates the layout by 180º when sending the print job.

Flip Horizontal, Flips the layout horizontally when sending the print job.

Flip Vertical, Flips the layout vertically when sending the print job.

Use Colored Card, Sends the print job optimized for when your card is other than white.

You can select from **Black**, **Green** and **Yellow**.

Print Jobs, By default the print job is sent as "**All Print operations**", in this case **Bodno** sends all print jobs whether each print job was successful or not.

With **Card by Card** option **Bodno** only sends the next card to be printed, after receiving a success signal from the printer.

With **Card by Card and Wait** option **Bodno** sends the print job one by one, and waits for a user input. **Bodno** will wait for a user confirmation that each selected print job is successful before sending the next print job.

Overlay/Varnish:

Mode: By default the Overlay is **Disabled**. Depending on the Printer in use it is possible to send the Overlay Layout during the print job to the driver by saving it to an **External file** or directly to the printer as **Separate Page**.

Print Options

Driver
Rendering
Advanced
Overlay/Varnish
  Mode

    Disabled
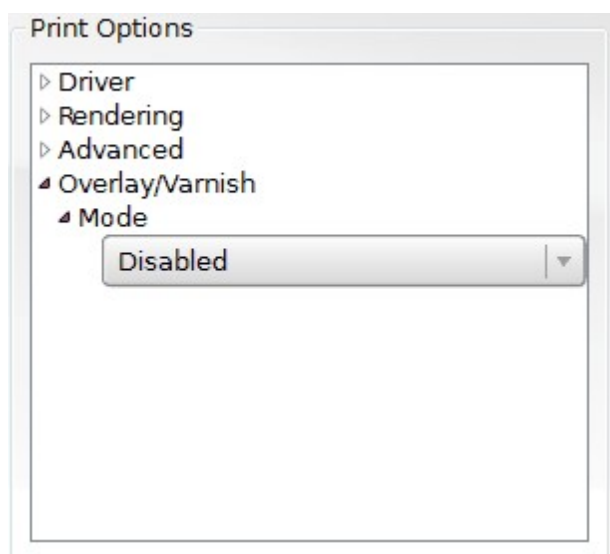
Chapter 7.
Encoding

Chapter 7. Encoding

ⓘ **Bodno's** other core function is encoding. The process of encoding consists in converting information from one format to another, and in the context of **Bodno**, storing that information in a card.

To that end **Bodno** provides you with a dedicated workspace stocked with tools focused solely on **Encoding** and managing the way information is sent to your card.

This workspace is called **Encode View**.

7.1 - Encode View

ⓘ The **Encode View** is where you view manage the encoded information in your card and the encoding operations to be performed when encoding to your cards.

You can access it by clicking the **Encode View** button, or through the menu **View > Encode View**.

This section gives you access to the various sections that manage the encoding process.

The **Encode Model** window shows a visual representation of the way data is stored in each card.

The **Data Inspector** window shows the data currently being browsed in the **Encode Data** window.

The **Encode Script** window shows the encode commands that run when the card is encoded.

The **Properties** window, to the right, has its own set of options in the **Properties** section which provide you with convenient information and tools to make **Encoding** fast and easy.
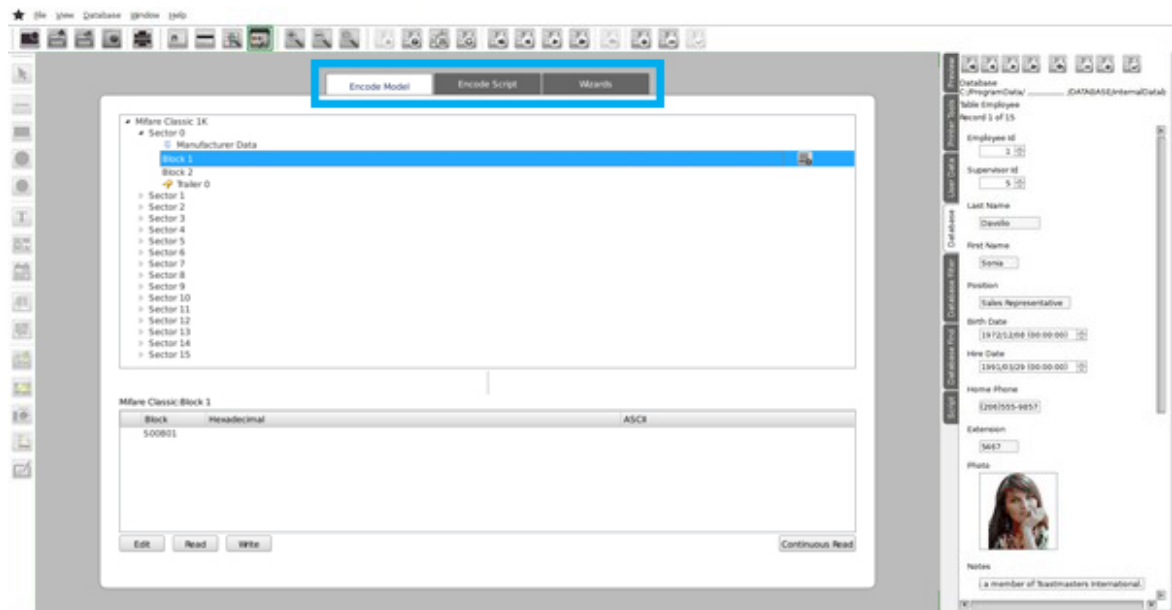
7.2 - Encode Model

ℹ The **Encode Data** window is a visual representation of the way information is stored in your card. It allows you to easily browse the card for a quick access to the information stored.

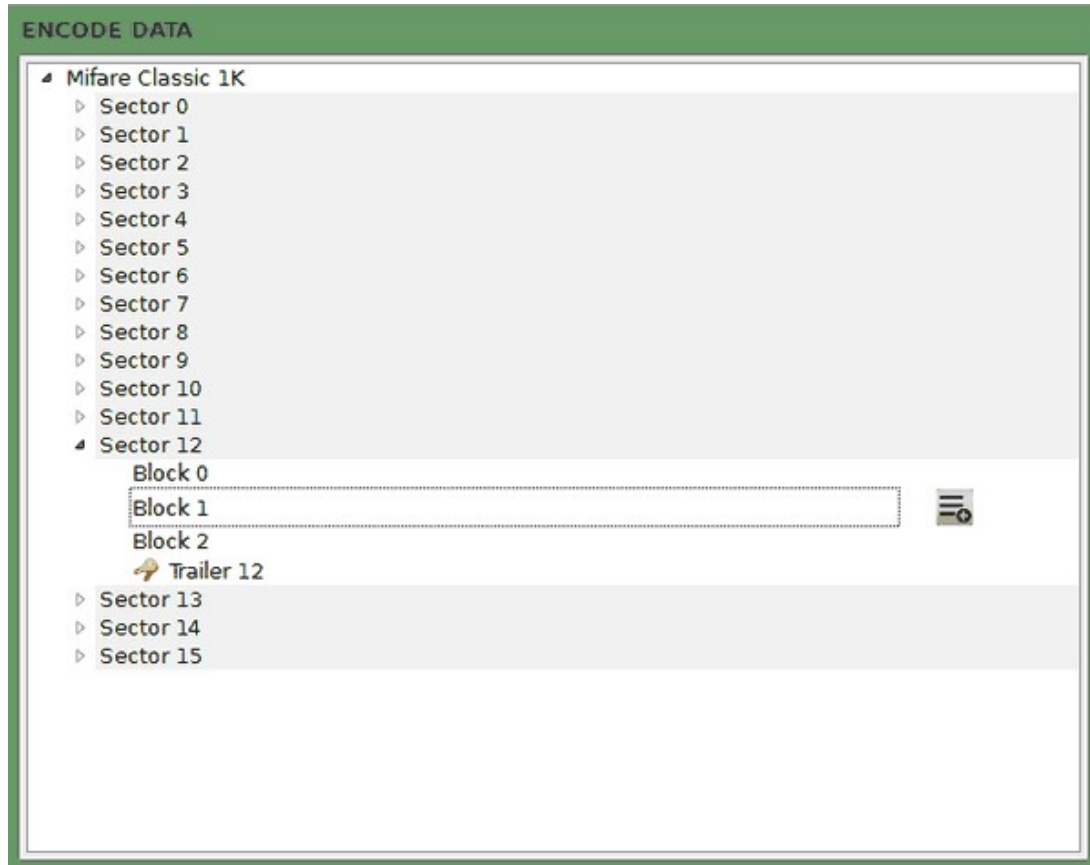You can find it by clicking the **Encode View** button.

Different **Card Types** have different types of **Encode Data** organization.

Here is an example of the **Encode Data** window of a Mifare card:

7.3 - Data Inspector

ⓘ The **Data Inspector** window shows you the data currently stored on the item you select on the **Encode Data** window and allows you to manipulate the stored data. This gives you a quick reference of the data stored in your card and eases the workflow while working on your **Encode Operations**.

You can find the **Data Inspector** window by ◐ clicking the **Encode View** button, or clicking **View > Encode View**.

The information shown on **Data Inspector** also changes depending on the **Card Type**.

The **Data Inspector** window organizes the information stored in your card in 3 columns:

Block shows the card block currently selected in the **Encode Data** window.

Hexadecimal shows the hexadecimal value of the data currently stored on the selected card block.
If the user has changed the value using the **Edit** button, it will show the new value entered by the user)

**ASCII** shows the value of the **Hexadecimal** field in regular text format.

Here is an example of the **Data Inspector** window of a Mifare card where we wrote the hexadecimal value for the word "**Bodno**":
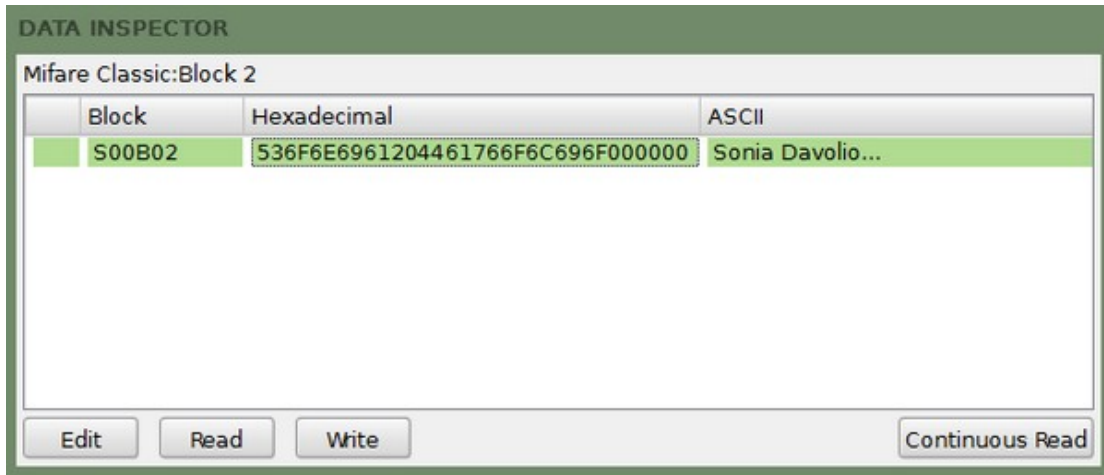
ℹ The **Data Inspector** window comes with a set of tools that allow you to quickly view and modify the data stored in your card:

The **Edit** button allows you to directly modify the information stored in the item currently selected in the **Encode Data** window. The **Edit** button works with Hexadecimal values.

The information will only be written in the card when you press the Write button.
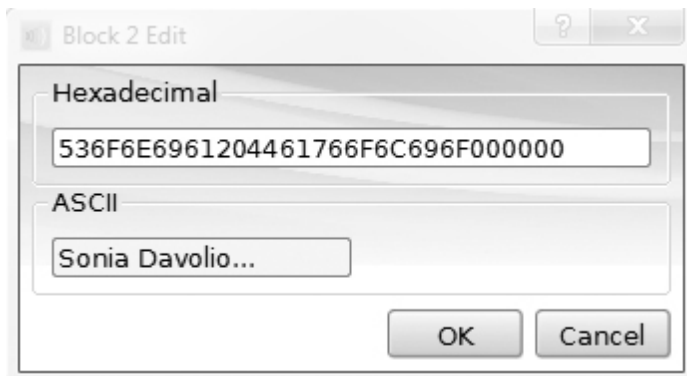
The **Read** button allows you to read the information stored in the item currently selected in the **Encode Data** window.

The **Write** button writes in the card the value currently visible in the **Hexadecimal** separator of the item currently selected in the **Encode Data** window.

The **Continuous Read** button makes **Bodno** repeatedly read the data in the currently selected item every two seconds.
This allows you to perform several write functions in the **Encode Operations** window and immediately see the results on the **Data Inspector** window.
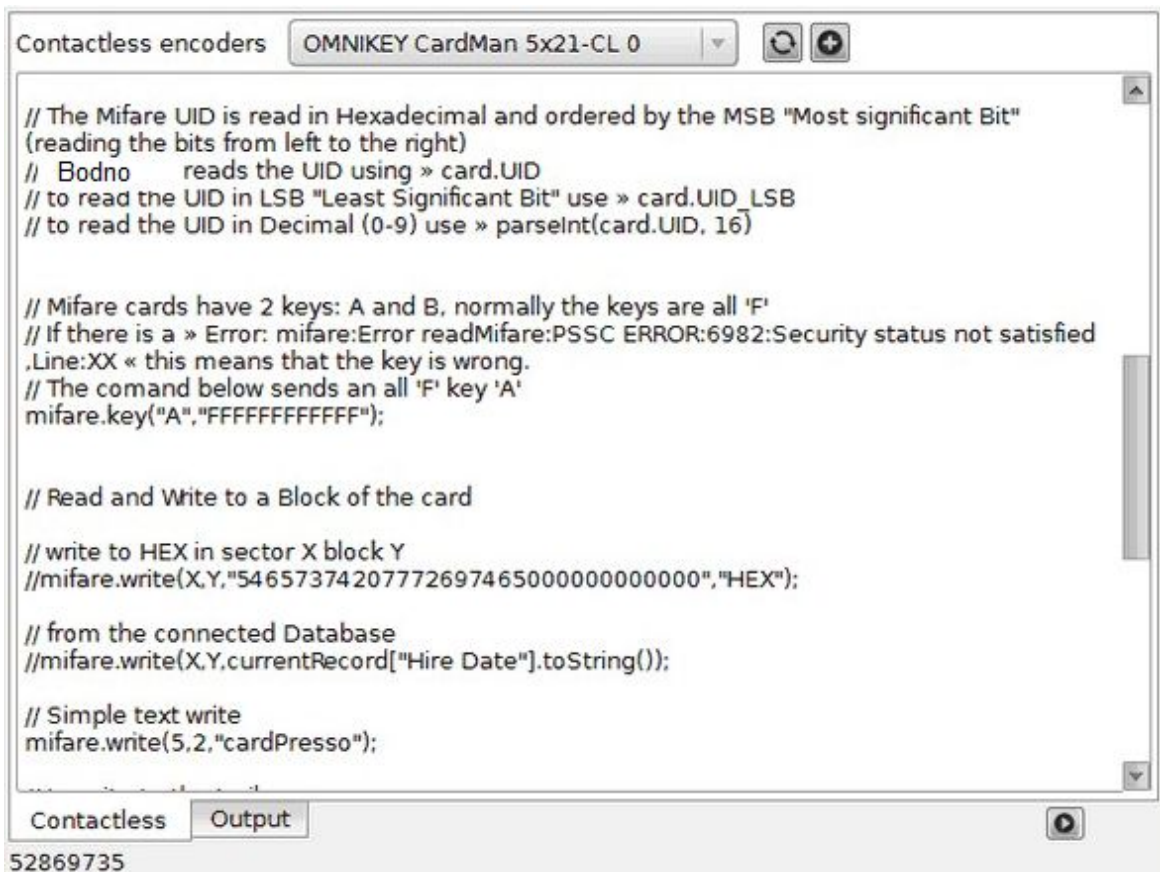
7.4 - Encode Script

ℹ️ The **Encode Script** window is where all the codes that manipulate how information pertaining to your card is written. You can program and test all the encoding actions you want before printing through this window.

You can find the **Encode Script** window by 🔘 clicking the **Encode View** button, or clicking **View > Encode View**.

The actions written here will then occur each time the card is encoded.

Here is an example of the **Encode Operations** window of a **Mifare** card type:

ℹ️ By default the **Encode Operations** window comes with some commented basic sample code to get you started on the most common **Encode Operations** of the selected card type.

If a line is commented the code it contains will not run under any circumstance. To run you must remove the comment tag (*//*) in the beginning of the line).

In the previous example the line containing the code **"mifare.write(5,2"Bodno");"** is the only one that will run because it's the only code line that is not commented.

The various **Encode Operations** also change with each **Card Type**.

7.5 - Properties

ⓘ The **Encode View** also has it's own set of **Properties** tabs located as usual to the right. It provides you with several separators which contain convenient information about your card, your printer, your users, your database and scripts. All with more tools to make your **Encoding Operations** even smoother and easier to implement.

You can find the **Encode View Properties** tab by ⓞ clicking the **Encode View** button, or clicking **View > Encode View**.

7.5.1 - Preview

ⓘ The **Preview** tab provides you with a quick overlook on the card design. You can swap between the front and the back of the card design preview by clicking the **Front** button and **Back** button respectively.

You can find the **Preview** tab by ⓞ clicking the **Encode View** button, or clicking **View > Encode View** and clicking the **Prevew** tab on the right.
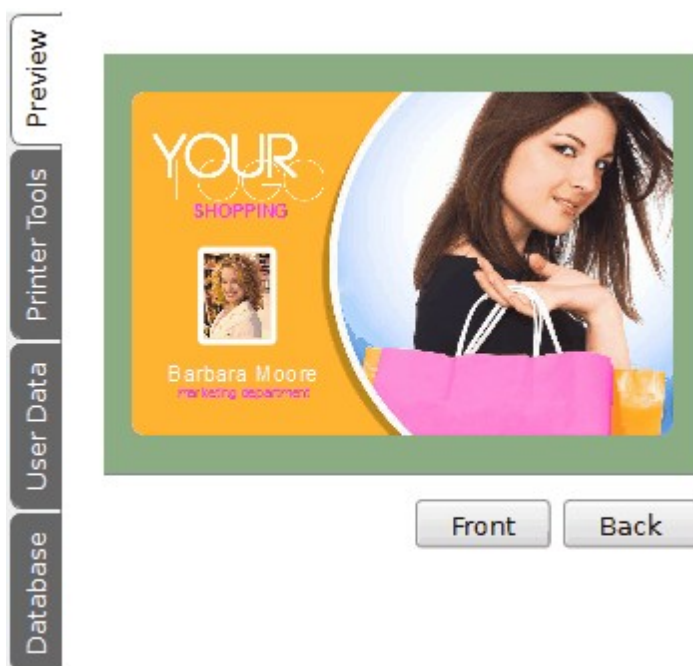
7.5.2 - Printer Tools

ⓘ **Printer Tools** are a powerful set of tools that allow you to manually navigate your card inside your printer (in printers that support these functions) so you have more control over how your printer uses your card while writing your **Encode Operations**.

The available printer tools vary with the printer modules installed on your printer.

You can find the **Printer Tools** tab by ⊙ clicking the **Encode View** button, or ⊙ clicking **View > Encode View** and clicking the **Printer Tools** tab on the right.

Insert card from card input feeder inserts a card positioned in the printer input feeder into the printer circuit.

Insert card manually allows you to manually insert the card directly in the position you desire.

Position card at contact encoding unit moves the card from its current position to the contact encoding unit.

Position card at contactless encoding unit moves the card from its current position to the contactless encoding unit.

Move card out of contactless encoding unit moves the card out of the contactless encoding unit.

Eject card to dispenser unit moves the card from it's current position to the card dispenser unit.

Eject card to reject unit moves the card from it's current position to the card dispenser unit.

Magnetic Encoder allows you to read the content the 3 tracks of a magnetic card.

Direct Commands allows you to send commands directly to the printers who support this feature (please refer to the printer manufacturer for a list of supported commands).

⚠ These options work only with printers that support commands.

7.5.3 - Database

ℹ The **Database** separator works **Encode View** exactly the same way as in the other views. You can browse your records, edit them and drag them into the **Encode Operations** window. Making your work with **Encode Operations** in **Bodno** even easier and faster!

You can find the **Database** tab by ⓚ clicking the **Encode View** button, or ⓚ clicking **View > Encode View** and clicking the **Database** tab on the right.

7.5.4 - Database Filter

ℹ️ **Database Filter** is yet another strong tool that makes the work-flow on **Encoding Operations** much smoother and faster in **Bodno**.

You can apply **Database Filters** on **Bodno** so you only see the records with the information that matters the most to you. Making browsing database records a much easier and cleaner task.

You can find the **Database Filter** tab by clicking the **Encode View** button, or clicking **View > Encode View** and clicking the **Database Filter** tab on the right.

To do so, simply select the column which contains the data you want to filter.

Select the condition to filter which matches your needs.

Insert the value you want to filter

Select **Add Condition** and click **Apply** (You can add more filters by selecting **And** or **Or**).

Now when you browse your database records on the **Database** tab, only those that follow the condition will show.

7.5.5 - Database Find

ⓘ **Database Find** is a quick reference tool that lets you find specific values throughout your database.

You can find the **Database Find** tab by clicking the **Encode View** button, or clicking **View > Encode View** and clicking the **Database Find** tab on the right.

Select the **Column** in which you want to find a value.

Select the condition that fits your situation.

Insert the value you want to search for.

Use the buttons to navigate through the records which comply with the condition.

7.5.6 - Script

ℹ The **Script** separator is the Document script and if you previously added code, it will be located here. See more on Chapter 4.4.12 - Script.

Chapter 8. Users

Chapter 8. Users

ⓘ When working with multiple collaborators, managing and providing select permissions to each individual becomes crucial.

Users is yet another powerful management tool provided with **Bodno** to help you specifically with user management, allowing you to limit who can access **Bodno** and what they can do**.**

Users provides you with tools that allow you to create and manage user logins for **Bodno.** This gives you full control over who has access to **Bodno** and what they can do. With the added ability to create groups, managing large numbers of users becomes as simple as a single click.

8.1 - Users View

ⓘ The **Users View** gives you access to all the tools that allow you browse, add, remove and edit **Users** and **Groups**. It also gives you access to an overview of all their operations and an additional option to print customized audits.

You can access the **Users View** by clicking **Window > Users View**:

The **Users View** is separated in 5 smaller sections:

The **Users View Toolbar** provides you with the basic tools to add and remove users, add and remove groups and print audit reports:

🖶	**Audit Report**	Prints an **Audit Report** for different files formats.
👤	**Add User**	Creates a new user.
👤	**Remove User**	Removes the user currently selected in the **Users** section.
👥	**Add Group**	Creates a new group.
👥	**Remove Group**	Removes the user currently selected in the **Users** section.
🗄	**Refresh Views**	Reloads the users database on the **Users View**.

ⓘ The **Users** section located in the top left of the **Users Vew** shows a list with all the users you currently have configured in **Bodno**.

ℹ️ The **Groups** section shows you a list with all the groups you currently have configured in **Bodno** and it's respective users.
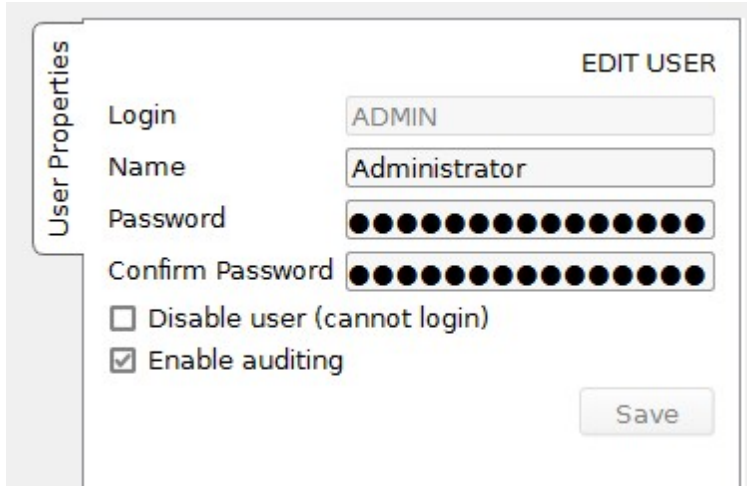
The **Auditing** section is located in the bottom half of the **Users View** and it shows a list of all the actions performed by each user.

ℹ️ You must first enable auditing for the intended users in the **User Properties** tab by editing the user (see more on: Chapter 8.2.5 Edit a User).

The **Properties** tab is located as always to the right of the **Users View**. It's contents also change depending on what you are currently doing, whether it's adding new users and groups or editing their respective settings, all the information is shown and edited here.

ⓘ **Above is the properties tab while a user is selected.**

8.2 - Users

ⓘ A **User** system is a combination of a user name and a password and, if enabled, are required to access **Bodno**. The user name and password identify each person that accesses **Bodno** and determines what they can or can not do within **Bodno** by attributing each user with its own set of permissions.

8.2.1 - Enabling User Logins_2

ⓘ The first step to work with users is enabling user logins. You can do this by accessing the **Users View** by clicking the **Bodno** menu **Window > Users View** and in the bottom of the window clicking the **Enable user logins** checkbox.

The first time you enable user logins, you will be prompted with the default user name and password.

The default user name is **ADMIN** and the default password is **admin**:

This information will only appear **once**.
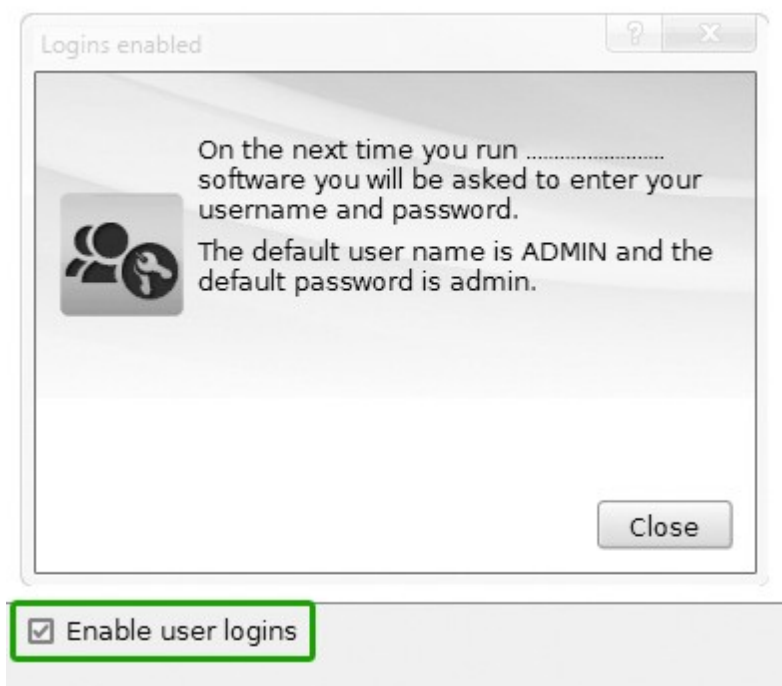
8.2.2 - Login

ⓘ After enabling users logins, when you open **Bodno** you will be required to enter the login credentials on the welcome screen.

Simply type the credentials and ⊙ click the **OK** button.
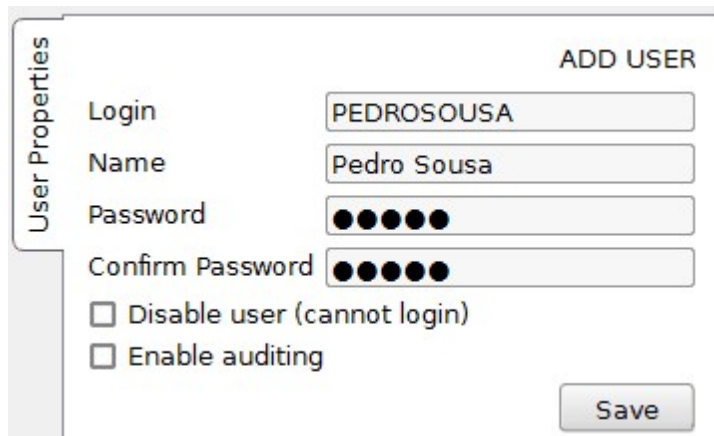
Every user that is created can login in this fashion.

8.2.3 - Add User

ⓘ With user logins enabled the next step to managing your users is adding them. You do this by clicking the **Add User** button found in the **Users View Toolbar**.

Doing so will open the new user options in the properties tab where you will be prompted to fill various fields required to create a new user:

Login: Write the user name the user must insert when logging in **Bodno**.

Name: Write the name of the owner of this user name.

Password: Write the password the user must insert when logging in **Bodno**.

Confirm Password: Repeat the password to validate it.

Diable user (cannot login): The user won't be able to log in **Bodno** until this option is disabled (unchecked).

Enable auditing: Every user action within **Bodno** will be recorded and visible in the **Auditing** section.

 Click **Save** to save the new user. It will then be available for editing in the **Users** section.

 A new user will have no permissions until assigned to a **Group (**see more on Chapter 8.3.2 Add Group).

8.2.4 - Remove User

 To keep a clean and up to date user base you can remove **Users** that are no longer needed by selecting the user you want to remove and clicking the **Remove User** button found in the **Users View Toolbar**.

If a user is removed its user name and password will no longer work when logging in losing all access to **Bodno**.
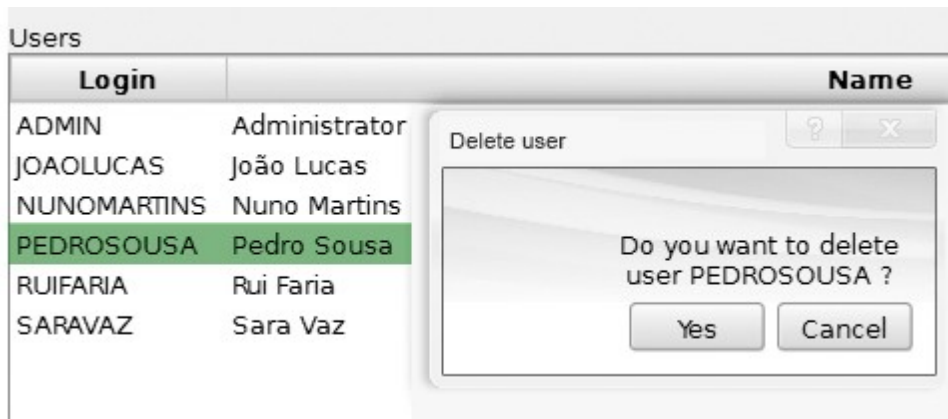
ℹ️ **Removing a user is a permanent action that cannot be undone.**

8.2.5 - Edit a User

ℹ️ To edit an existing **User** select the user you want to edit in the **Users** section on the **Edit Vew**:

Once selected, the user's data will be editable in the properties window to the right:

When done editing, to save the changes 🕒 click the **Save** button.

ⓘ **Once created, the user Login field cannot be edited.**

8.3 - Groups

ⓘ **Bodno** adds **Groups** to its **User** management system to ease editing large numbers of users.

Here you can add **Groups** and select each group's specific permissions and assign them to multiple users.

When a **User** is assigned to a **Group**, it inherits all the permissions the **Group** currently has. Every change to the group's permissions affects the permissions of all the users assigned to it.

⊘ A user with no group assigned will have no permissions.

8.3.1 - Add Group

ⓘ To add a **Group** 🕒 click the **Add Group** button found in the **Users View Toolbar**.

Doing so will open the new group options in the properties tab where you will be prompted to fill various fields required to create a new group:

Group Properties

ADD GROUP

Group

Name

Location

Users

☐	ADMIN	Administrator
☐	JOAOLUCAS	João Lucas
☐	NUNOMARTINS	Nuno Martins
☐	PEDROSOUSA	Pedro Sousa
☐	RUIFARIA	Rui Faria
☐	SARAVAZ	Sara Vaz

Permissions

⊿ Design
  ▷ ☐ File
  ▷ ☐ Edit
  ▷ ☑ View
  ▷ ☐ Tool
  ▷ ☑ Help
⊿ Database
  ▷ ☑ Database
⊿ User Logins
  ▷ ☐ Users
⊿ DockBars
  ▷ Document
  ▷ Users

Group*: Write the unique name **Bodno** will use to identify the group.

Name: Write the name of the **Group** for easier identification.

Location: Write the name of the location / department / category of the users assigned to this group.

Users: Select the **Users** that belong to this group.

🛈 **One user can belong to more than one group.**

Permissions: Select the permissions that the users assigned this group will have.

⚓ Click the **Save** button to save the group with the selected settings.

*required field

8.3.2 - Remove Group

ⓘ If a group is no longer needed you can remove it by selecting the **Group** you want to remove and clicking the **Remove Group** button found in the **Users View Toolbar**.

If a group is removed all users assigned to it will lose all permissions the **Group** had.
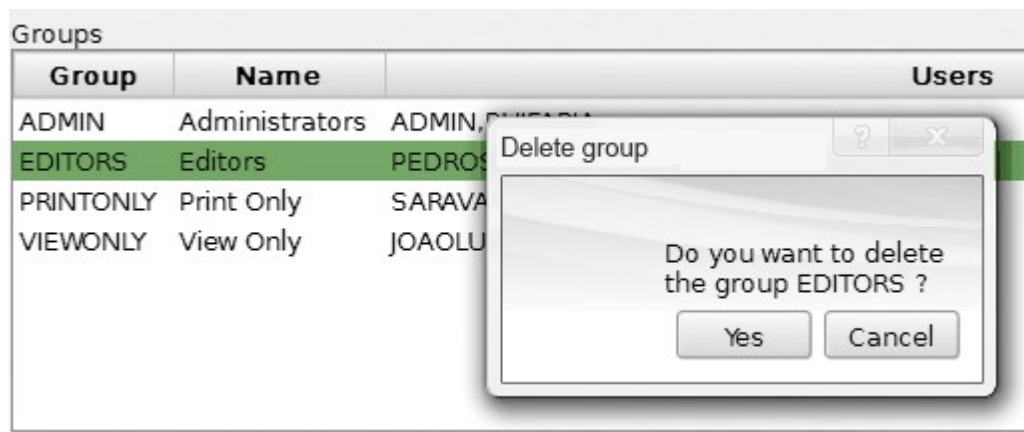
ⓘ **Removing a group is a permanent action that cannot be undone.**

8.3.3 - Edit a Group

ⓘ To edit an existing **Group** select the group you want to edit in the **Group** section on the **Edit Vew**:

Once selected, the groups data and permissions will be editable in the properties window to the right:

Group Properties

EDIT GROUP

Group   EDITORS
Name   Editors
Location   HQ
Users

☐ ADMIN   Administrator
☐ JOAOLUCAS   João Lucas
☐ NUNOMARTINS   Nuno Martins
☑ PEDROSOUSA   Pedro Sousa
☐ RUIFARIA   Rui Faria
☐ SARAVAZ   Sara Vaz
☐ TEST   test

Permissions

⊿ Design
    ▷ ☑ File
    ▷ ☑ Edit
    ▷ ☑ View
    ▷ ☑ Tool
    ▷ ☑ Help
⊿ Database
    ▷ ☑ Database
⊿ User Logins
    ▷ ☐ Users
⊿ DockBars
    ▷ Document
    ▷ Users

When done editing, to save the changes click the **Save** button.

ℹ **Once created, the user Group field cannot be edited.**

8.4 - Auditing

ℹ The **Auditing** section in **Users View** is where you can see every action performed by any user in **Bodno**.

To audit a user you must first **Enable Auditing** for the intended user in the **User Properties** tab by editing the user (see more on: Chapter 8.2.5 Edit a User).

After enabling auditing for a user every future action that user performs in **Bodno** is registered and listed in the **Auditing** section.

Auditing

Date	Computer	Location	Operation	User	Document	Description
2013-12-16 20:12:35	CPPEDROSOUSAPC		Users View	ADMIN		
2013-12-16 20:12:32	CPPEDROSOUSAPC		Welcome view	ADMIN		
2013-12-16 20:12:22	CPPEDROSOUSAPC	HQ	Exit	PEDROSOUSA		
2013-12-16 20:12:15	CPPEDROSOUSAPC	HQ	Save Document As	PEDROSOUSA	Sales Card	
2013-12-16 20:11:59	CPPEDROSOUSAPC	HQ	Save Document	PEDROSOUSA	MyCard1	
2013-12-16 20:11:53	CPPEDROSOUSAPC	HQ	New Rectangle	PEDROSOUSA	MyCard1	
2013-12-16 20:11:49	CPPEDROSOUSAPC	HQ	New Circle	PEDROSOUSA	MyCard1	
2013-12-16 20:11:37	CPPEDROSOUSAPC	HQ	New Image	PEDROSOUSA	MyCard1	
2013-12-16 20:11:34	CPPEDROSOUSAPC	HQ	Browse Image	PEDROSOUSA	MyCard1	
2013-12-16 20:11:31	CPPEDROSOUSAPC	HQ	Delete	PEDROSOUSA	MyCard1	
2013-12-16 20:11:28	CPPEDROSOUSAPC	HQ	Open Document	PEDROSOUSA	MyCard1	
2013-12-16 20:11:22	CPPEDROSOUSAPC	HQ	Welcome view	PEDROSOUSA		
2013-12-16 20:11:09	CPPEDROSOUSAPC		Exit	RUIFARIA		
2013-12-16 20:11:05	CPPEDROSOUSAPC		Save Document	RUIFARIA	MyCard1	
2013-12-16 20:10:53	CPPEDROSOUSAPC		Connect to database	RUIFARIA	Document1	
2013-12-16 20:10:47	CPPEDROSOUSAPC		Delete	RUIFARIA	Document1	

8.4.1 - Audit Report_2

ⓘ For an easier view purposes **Bodno** allows you to print or export customizable **Auditing Reports**.
You can do this by clicking the **Audit Report** button on the **Users View Toolbar**.

Doing so will open the Audit Report editor window, where you can customize your reports before printing or exporting them to files.

Audit Report

From date	01-01-2000
To date	31-12-2100
From time	00:00:00
To time	23:59:59
Computer	All Computers
Location	All Locations
Operation	All Operations
User	All Users
Group	All Groups
Document	All Documents
Description	*
Event Result	*
Order	eventDate
Report model	auditModel
Output to	PDF File

OK   Cancel

Appendix A - DIAMOND Net License

Appendix A - DIAMOND Net License

To use this service, one computer must have the **Bodno DIAMOND** Edition USB dongle and be connected to the same LAN as the other computers. When the Net License service is activated on this computer, it acts as the Server and provides the license to a total of 15 computers connected to the same LAN.

ⓘ **The Bodno Net License Service only works on a LAN. It does not work through the internet.**
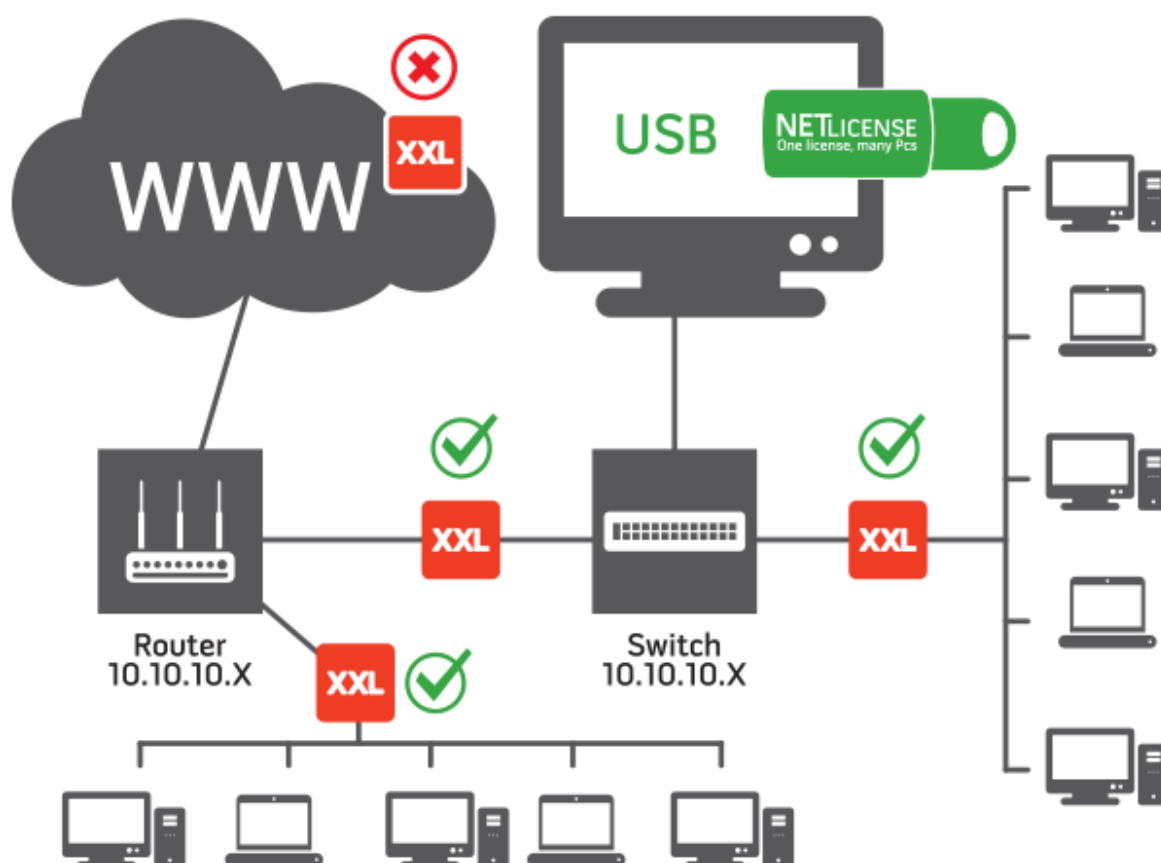
ⓘ For best results, the computer with the **Net License Service** should have a Static IP Address. The computer acting as the Net License "Server" does **not** need to have a Server type Operating System.

To ensure the **Net License Service** is always available to the other computers, the USB dongle should be connected to a computer that is either always turned on, or at least when the other computers require the **Net License Service**.

Appendix A.1 - Installing the DIAMOND Net License Service

ⓘ To install **Bodno**'s Net License service please do the following:

1 - Install **Bodno** on the computers but without the service.
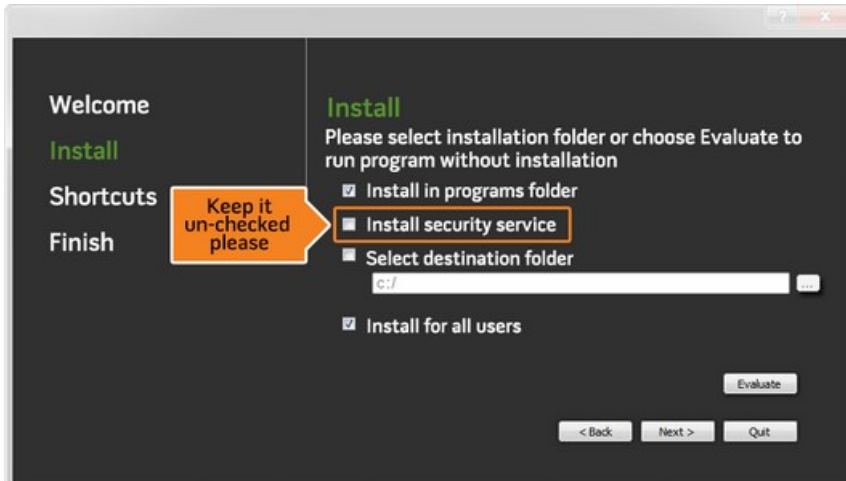
2 - In the computer that will run the service and act as the server, open the **Bodno** menu **BOD>Bodno License.**

3 -In the **Bodno License** window, click the **Net** tab click on the **Run as Application** button:
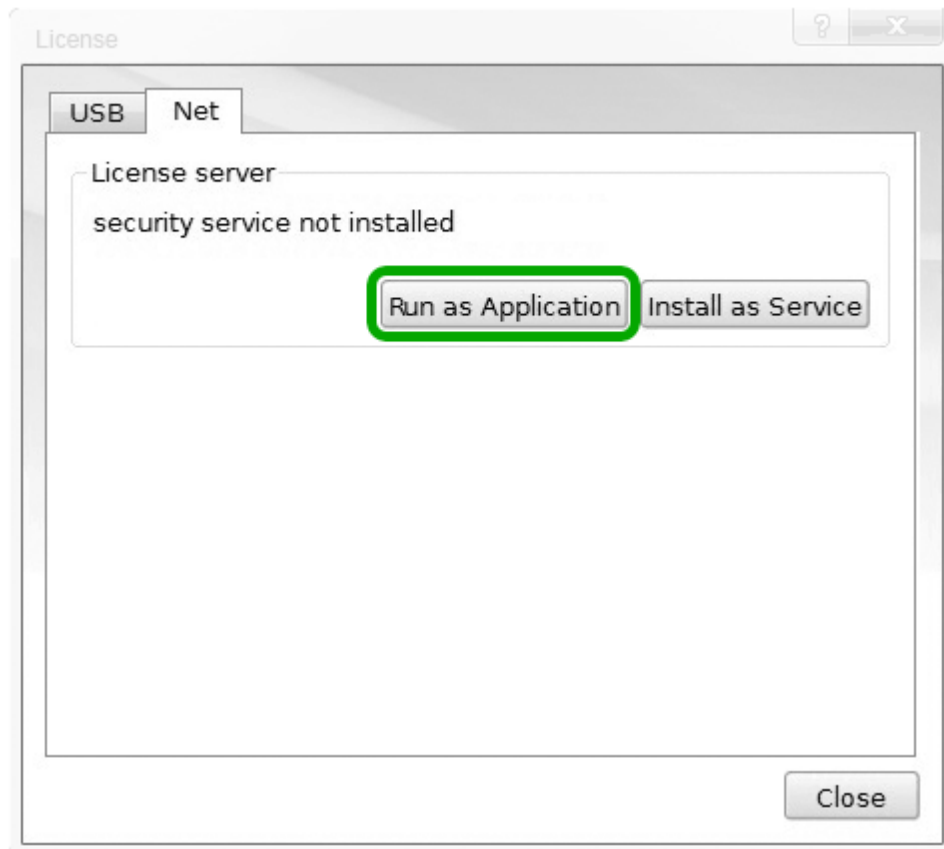
ℹ️ On systems using Windows Firewall, a warning will pop-up, please allow the Bodno connection through the Local Area Network.

ℹ️Some Firewall applications will not show any warnings and automatically block the License Service, the required permissions are at the end of these instructions.

This will open a command line window which will show you if the ports are open and if a **Bodno** application is running in the network.
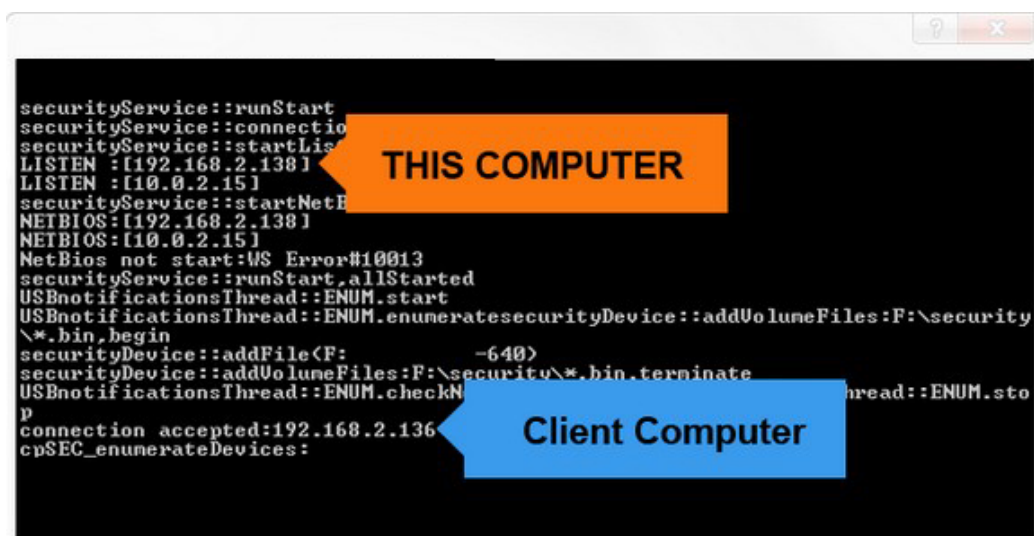
In this example:

192.168.2.138 is the **Host** computer acting as a Net License server, providing the license.

192.168.2.136 is the **Client** computer receiving the license.

4 - Close the BodnoLS.exe window and click Install as Service
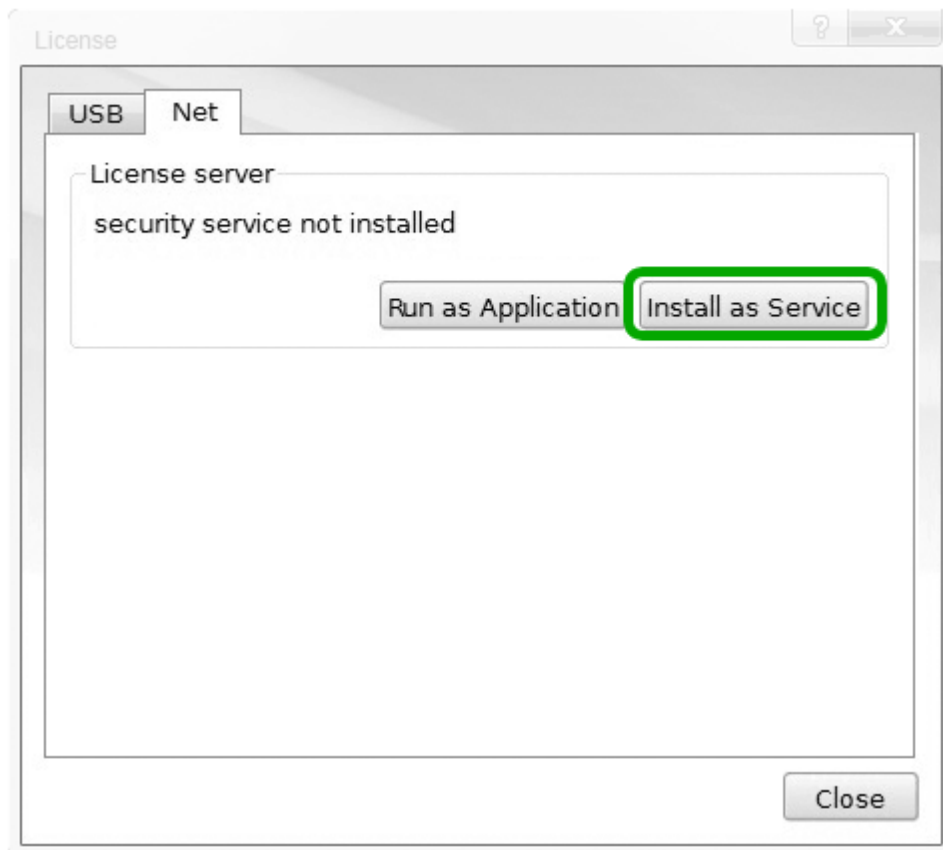
5 - Run the service and confirm it's running.
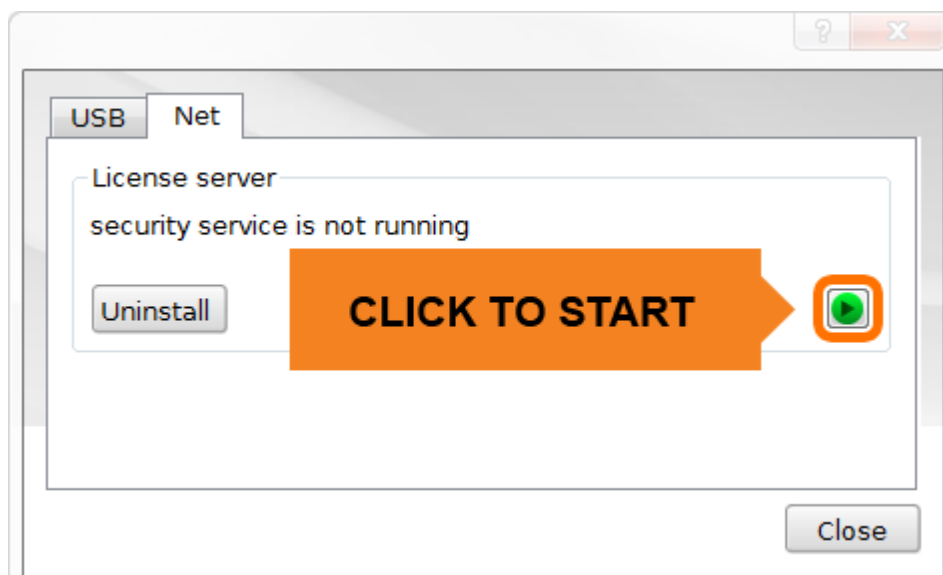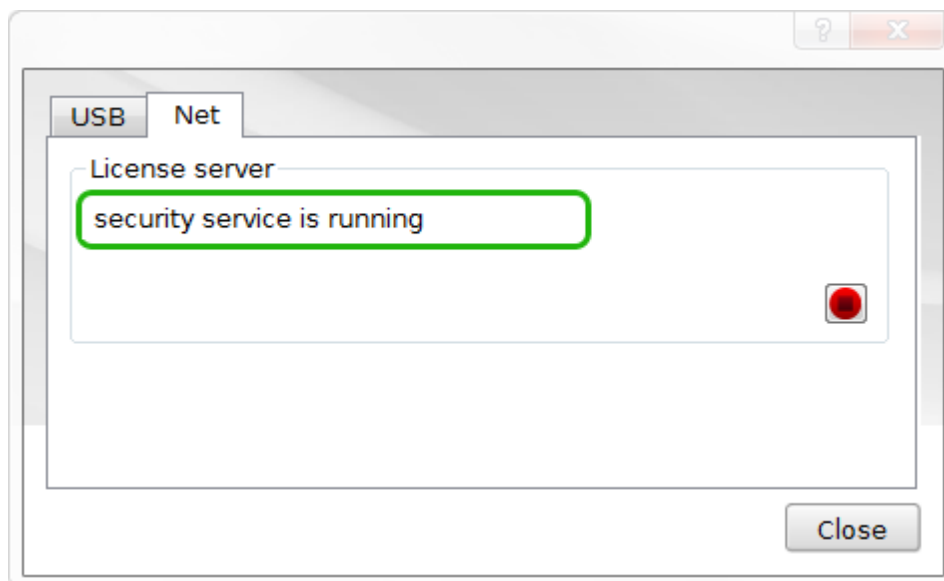
6 - In the License Service **Client** Computer use the default configurations or change it based on your networks characteristics.
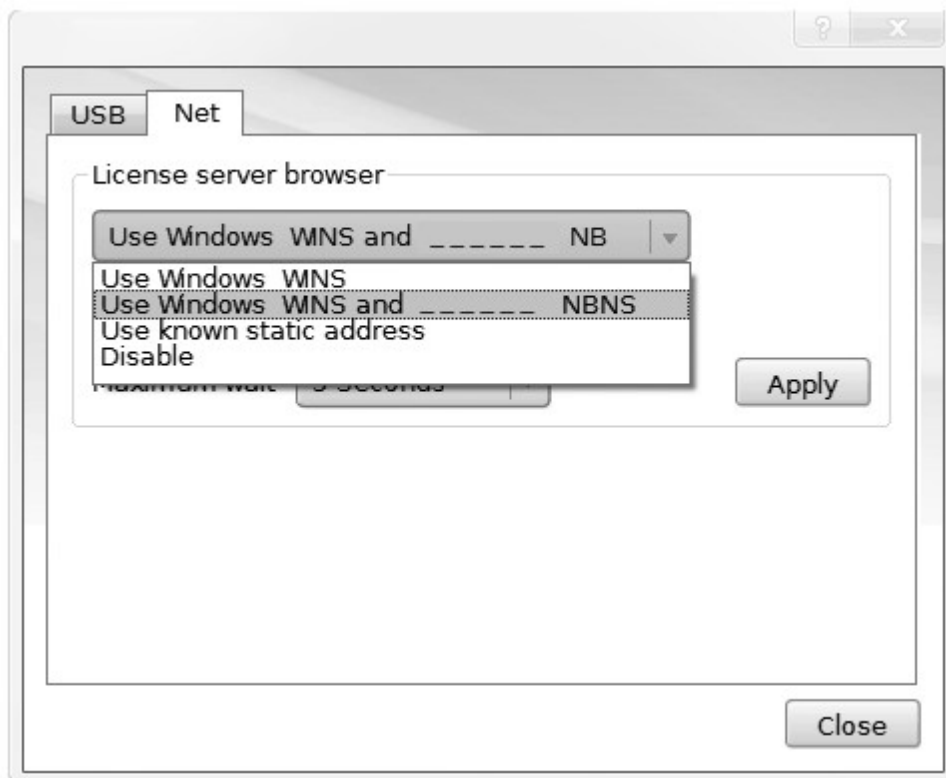
Now you can have up to 16 computers in your Local Area Network, including the one acting as a server, running **Bodno <%EDXXLEQUIV%>**edition.

ℹ If **Bodno** doesn't automatically detect the license in a Client computer, open a command prompt window (Start Menu > Run> cmd.exe) type "**ping Bodno_LS**" and hit return.

If the host isn't found as shown above, please confirm that it is in the same Local Area Network, and if so, open a port in the firewall for:
CPSECURITY_SERVICENAME "Bodno_LS"
CPSECURITY_SERVICEPORT 1947
(TCP to communicate and UDP for the name)

If the ping requests an answer from an IP address that doesn't belong to the Local Area Network and has no answer, retest the ping after rebooting the Router and/or use a different router.

 Warning : If the License Service is added (Step 3) to multiple computers, a License Service "cluster" is created and it will drown the real License Server.

Also, the Net License uses WINS or NetBios to assign the License to the client computers. Therefore the License won't be assigned to a **Bodno** application outside the WINS or NetBios range.

Appendix B - Advanced Print Operations

Appendix B - Advanced Print Operations

ℹ **Bodno** contains several advanced features to provide you with the flexibility required to adapt to any circumstance.

In this chapter we will show you an overview on which features are available, how they work, and how to best use them to make your printing jobs simple, fast and most importantly, exactly the way you want them.

Appendix B.1 - Overlay

ℹ By default **Bodno** uses the printer's default overlay pattern. However **Bodno** also gives you other options regarding how you work with the Overlay ("O" Ribbon).

You can access the Overlay options through the **Bodno** menu **File>Print Settings.**

Bodno gives you three options:

1 - **Separate Page** lets you design your own Overlay with **Bodno's Design Vew**.

2 - **External File** lets you design an Overlay within **Bodno** so later when printing it can be used through your printer's driver settings.

3 - Use the printer's default overlay pattern by disabling **Bodno's** overlay customization.

Important notes regarding how printers work with Overlay:

ℹ Printers which support overlay printing have their own overlay settings. These settings override **Bodno's** settings. This means the printer's settings determine if the overlay is printed or not, regardless of **Bodno's** configuration.

You can find your printer settings on the **Printer Options** through the **Bodno** menu **File>Print Settings**, **Driver Options** button.

ℹ **Bodno** can only print overlay if the printer being used supports overlay ribbons, has an overlay ribbon installed and has the overlay option enabled in it's own **Driver Options**.

ℹ If the overlay option is **Disabled** in **Bodno** but the printer **Driver Options** have overlay enabled, the printer will still print overlay.

ℹ If an overlay option is enabled in **Bodno** but the printer **Driver Options** have overlay disabled, the printer will not print overlay.

ⓘ   To prevent unintentional Overlay printing, we recommend disabling the Overlay printing option on your printer driver settings while designing your Overlay. Enable it only it when you are ready to print.

Appendix B.1.1 - Separate Page Overlay

ⓘ   One of the ways **Bodno** allows you to customize your own Overlay is by providing you with a separate page within **Bodno** where you can design your Overlay the same way you design your cards.

This option is found through the **Bodno** menu **File>Print Settings**, **Print Options>Overlay/Varnish>Mode>Separate Page**.

When this option is selected, below it, you will have access to another setting:

Side: Lets you choose the side of the card where the Overlay is to be printed. You can choose either **Front** or **Back**.
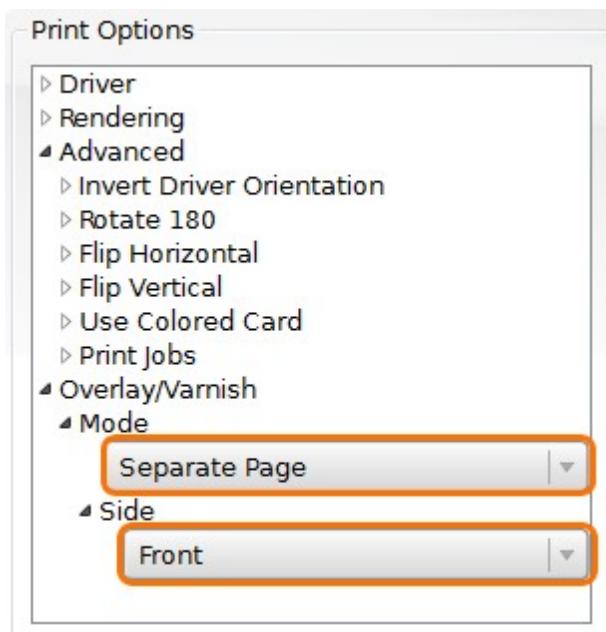
Once **Separate Page** is enabled, **Bodno** will display an **Overlay/Varnish** tab in the bottom left corner of the **Design View** as shown highlighted in the image below:
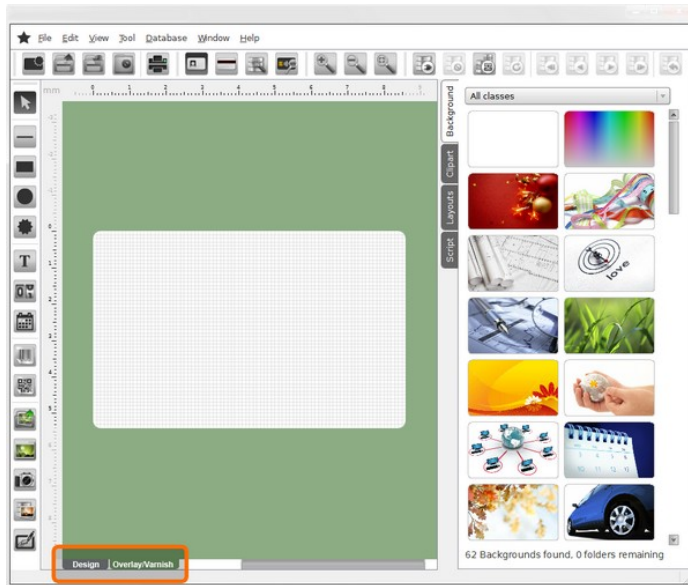
When you click this tab you will have all the design tools **Bodno** provides to design your own Overlay.

ⓘ **The Overlay/Varnish page can only be printed with the Overlay Ribbon.**

Appendix B.1.2 - External File Overlay

ⓘ External file lets you design an Overlay within **Bodno** and then export it as an image file so you can open it through your printer's driver configuration. This way your printer will print all images with the selected image as the Overlay design.

This option is found through the **Bodno** menu **File>Print Settings**, **Print Options>Overlay/Varnish>Mode>External File**.

When this option is selected, below it, you will have access to more settings:

File: Lets you save your **Overlay/Varnish** design to a **.bmp** file, to later be used by your printer driver when printing.

Side: Lets you choose the side of the card where the Overlay is to be printed. You can choose either **Front** or **Back**.

Print Options

Driver
Rendering
Advanced
  Invert Driver Orientation
  Rotate 180
  Flip Horizontal
  Flip Vertical
  Use Colored Card
  Print Jobs
Overlay/Varnish
  Mode

  External file

  File

  aries/My Pictures/Overlay.bmp   ...

  Side

  Front
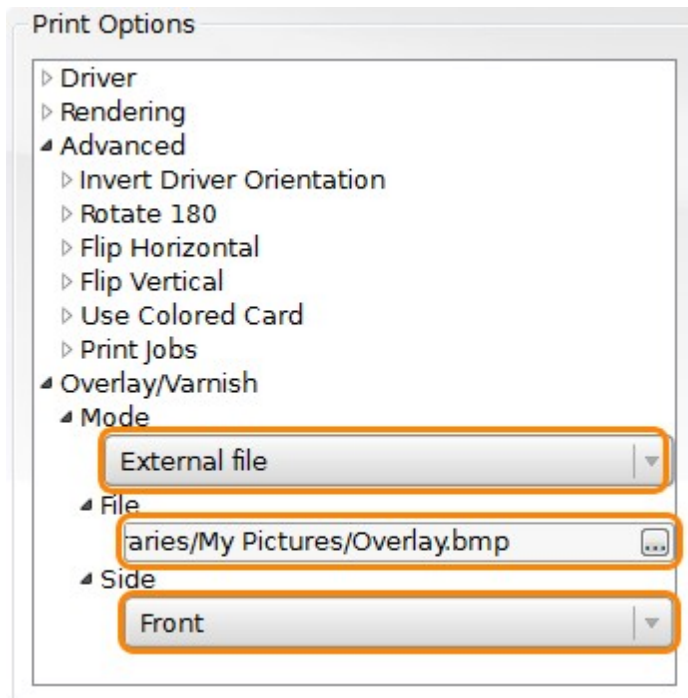
Once **External File** is enabled, **Bodno** will display an **Overlay/Varnish** tab in the bottom left corner of the **Design View** as shown highlighted in the image below.

You can then open the **Overlay/Varnish** tab and use **Bodno's** design tools to design your own Overlay.
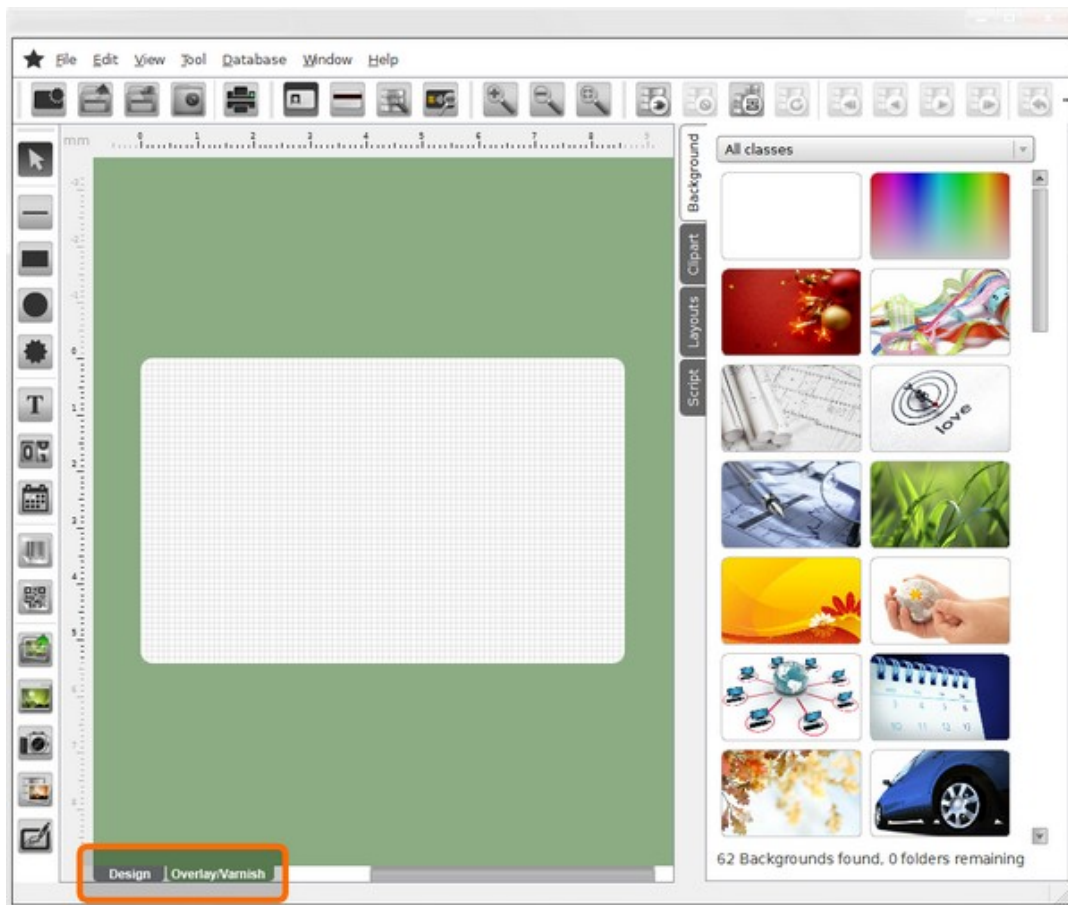
After you finish designing your overlay in the **Overlay/Varnish** tab, you can use the **Overlay File** button in the **Print Options** shown above to save your design to a **.bmp** file.

Access your printer driver options and confirm that the correct options are marked, according to the printer you are using. Always return to the Design tab, so that you are viewing your Layout Design instead of your Overlay design, before printing.

Appendix B.1.3 - Printer Default Overlay

ⓘ By default the printers which support overlay have their own overlay design. The third (and default) **Overlay Mode** option is **Disabled**. When this option is selected **Bodno** lets the printer use it's default Overlay design.

This option is found through the **Bodno** menu **File>Print Settings**, **Print Options>Overlay/Varnish>Mode>Disabled**.

When this option is selected, no more options are available and **Bodno** will not send any overlay designs to the printer.
When printing, the printer will either not print overlay if the option is disabled on the printer settings, or it will print overlay using it's default design enabled on the printer settings.

Appendix B.1.4 - IDP SMART 50 Overlay Settings

ⓘ The way the IDP Smart 50 printer works with Overlay requires the following configuration:
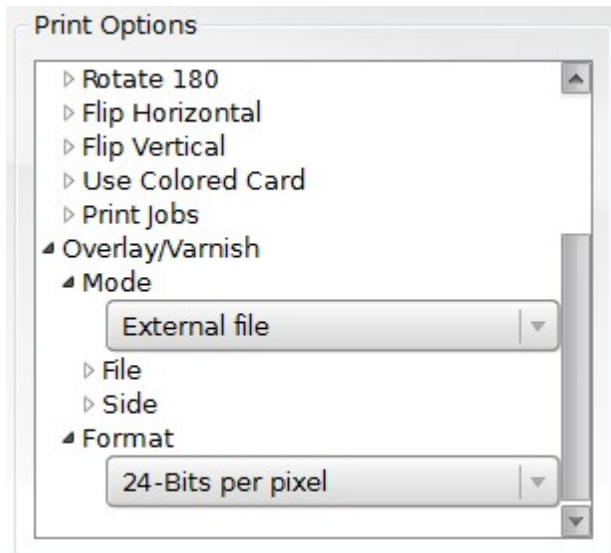
The **RGB** value of objects in a "user defined mask" is the factor that SMART uses to distinguish which panel is used.
R value is for the Overlay (O) panel
G value is for the printing (YMCK) panel
B value is for Fluorescent (F) panel.

Value "0" means 'activated' and value "255" means 'deactivated'.

❗ **Examples:**
- Blue = RGB(0, 0, 255) : printing and Overlay
- Pink = RGB (255, 0, 255) : printing only
- Black = RGB(0, 0, 0) : printing, Overlay and UV printing
- Red = RGB (255, 0, 0) : printing and UV printing

Appendix B.2 - Web Print Server

ⓘ The **Web Print Server** alllows you to remotely print cards from a computer that doesn't have **Bodno** installed.

To use the **WebPrint Server** you are required to:

1 - Have a computer with **Bodno DIAMOND Edition** connected to a working local area network (LAN or Internet) to act as the **Web Print Server**.

2 - Have another computer (Client Computer) connected and to the same local area network (LAN or Internet).

3 - Use an external application on the Client Computer to send the **Print Job** through IP to the server. The Print Job format must comply to the standard we provide in our website, available for download here.

ⓘ **To use this service, the Web Print Server computer with the Bodno DIAMOND Edition USB dongle must be accessible to the Client Computer via IP connection either through a LAN or an Internet connection.**

Appendix B.2.1 - Configuring a Web Print Server

ⓘ The first step to use the **Web Print Server** service is configuring the computer that will be running **Bodno** and receiving the print jobs.

To configure the **Web Print Server** you must:

1 - Save the card file you wish to print remotely on the **My Cards** folder:
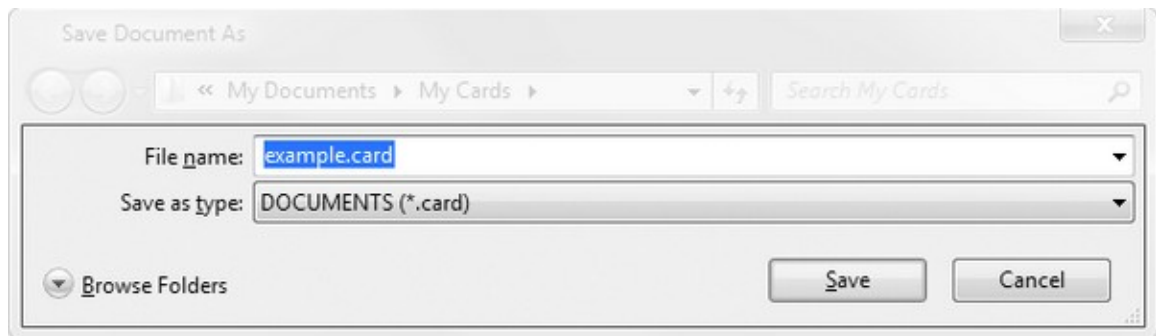
1 - Create a copy or use an existing **Bodno** windows shortcut, **right click** it and select **Properties**.
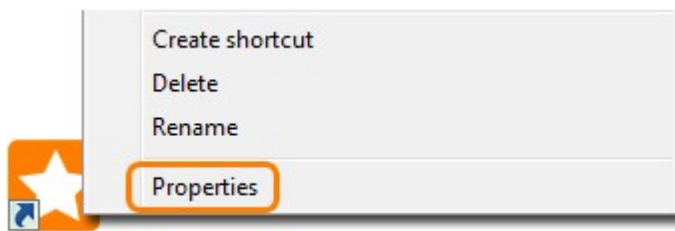
 2 - Add the /PRINTSERVER switch to the shortcut **Target** after the quotation mark and click **OK**:
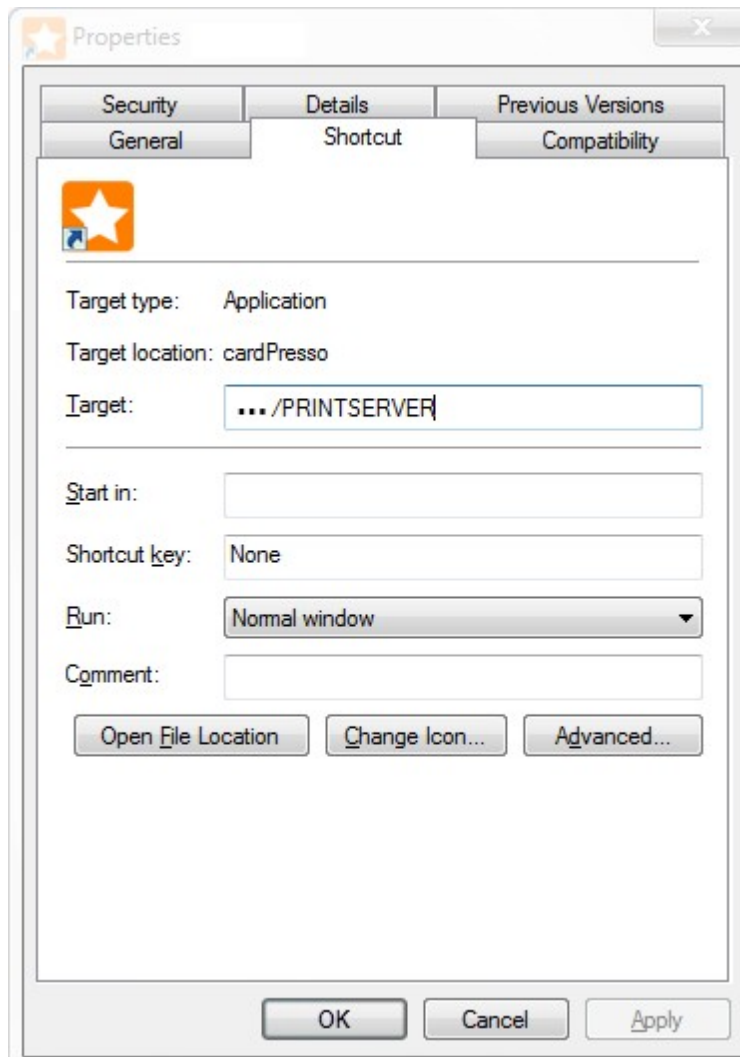
3 - Open **Bodno** as a **Web Print Server** with the new shortcut.

4 - On the **Web Print Server** window you must configure:
The **IP Address** of the computer acting as the **Web Print Server**.
The **Port Bodno** should use to receive print jobs.
The **User Groups** (see more on Chapter 8.3) that can access the **Web Print Server**.

When all the settings are configured, press the **Save** button to save the changes and press the green **Start Service** button, on the bottom right to start the **Web Print Server**.

If correctly configured, the button will turn red and the **Status** box will display a **listen OK** message as shown below:
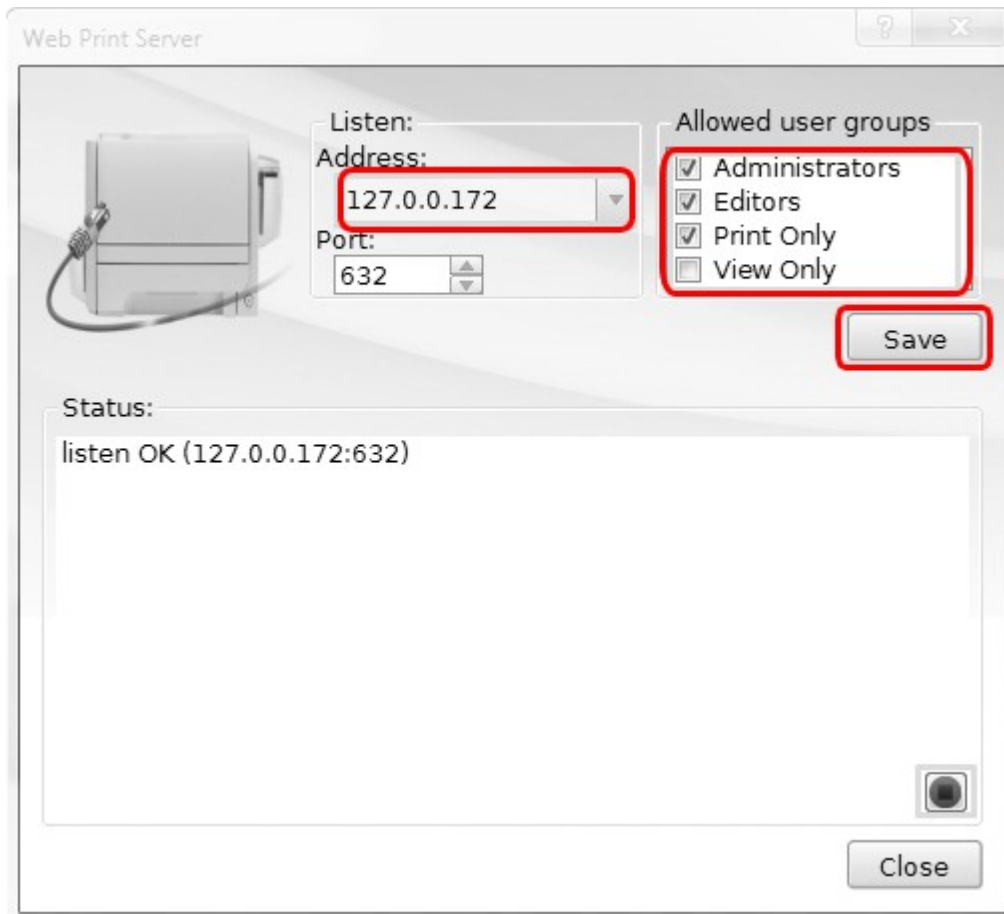
Your **Web Print Server** is now running and has a **.card** file ready to be printed.

ⓘ **When working within a LAN (Local Area Network) the WebPrint Server computer must be connected to the same network as the Client computer that will send the remote print jobs.**

ⓘ **When working through an internet connection, both the WebPrint Server computer and the Client computer must be accessible to each other through a TCP/IP connection.**

Appendix B.2.2 - Print XML Structure

ⓘ With the **Web Print Server** configured and ready to recieve print jobs the last step to print using this service is sending a print job to the server.

The transmission of print jobs to the web print server will be handled by a user developed application (see sample application files in Appendix B.2.4 - Sample Files for the Web Print Server

The print job data must be sent to the Web Print Server in an XML structured document. A complete XML sample is available for visualization in Appendix B.2.3 - Web Print Job XML Sample.

The XML strucure of a print job requires the following elements:
The **Bodno** element specifies the beginning of a Bodno Web Print Server document. It must always contain a **login** element and a **cardDocument** element.

The **login** element contains the **user name** and **password** elements. Each specific to the user configuration in the Bodno Web Print Server application. These elements are mandatory.

The **cardDocument** element contains properties and elements with the data specific to the print job.

The **cardDocume**nt element contains three **attributes**:
The **filename** attribute specifies the name of the .card document file to be used in the print job.
The **printer** atribute specifies the printer to be used in the print job.
The **printerType** attribute specifies the printer group to which the printer belongs. (not available yet)

Note: There can be multiple cardDocument elements with different **attributes** and elements for the handling of multiple files and printers.

Within the **cardDocument** element we can specify the data to send to each item in the .card document design by using **item** elements.

Besides the value to be sent to the item, each **item** element contains an **id** property and a **type** property.

The **id** property is used to specify the item in the card design to which we want to send the data (read more in chapter 4.4.1 - Item).
The Item IDs sent to the Web Print Job must match the IDs of the items on the .card document file that is to be printed.

The **type** property specifies if the item we are trying to send data to is a **text** item or an **image**.

When sending Images to the **Web Print Server** they should follow the **Base64** encode scheme (read more here).

Appendix B.2.3 - Web Print Job Sample

ⓘ Below is a sample of a completely formatted Web Print Job data to be sent to the **Web Print Server**:

This follows a strict structure that must be followed when sending the print job information to the server.

You can see an in depth explanation of each element and property of the XML structure in <ins>Appendix B.2.2 - Print XML Structure</ins>

```xml
<?xml version="1.0" encoding="utf-8"?>
<Bodno xmlns="http://tempuri.org/wpsRequest.xsd">
<login>
    <name>ADMIN</name>
    <password>admin</password>
</login>
<cardDocument filename="example.card" printer="Microsoft XPS Document
Writer">
    <item id="NAME">RUI FARIA</item>
    <item id="ADDRESS">FUNCHAL</item>
    <item id="PHOTO" type="image">
```

iVBORw0KGgoAAAANSUhEUgAAAFoAAABWCAIAAADACBYuAAAAAX
NSR0IArs4c6QAAAARnQU1BAACx\njwv8YQUAAAAJcEhZcwAADsMAAA7
DAcdvqGQAAAANUSURBVHhe7Zq9T9tAGMb7rzB07tC5UvdKnUEw\nF2UvZ
e/HjphYSrsw8SHBFIhUJkRQOyGRwpSBwMSSbEztl/VVxPOe7Tvb5/SSvl9+
my/vnX//xnX1O\nnnj3j3fWjDGmA7CdBCmgzAdhOkgTQZgOwnQQpoM
wHYTplEwHYTolO0GYDsJ0ELV0vNx+sXK0\ntPlrowLrp2uq2phWe1U1DgQff
L3zSlUrRRUdslCT+f3Q+1MvBzd7qjLAWcnhqsHAUASDVJVVDKK3j\ny9mn0e
Nleq4d98uMVRx1IEUV91JCB3x3+ifSW6Rgrqle5ECk4EopNX1CdcBF/dnhp
mkdCC6Tt7tv\nVC95hOpowgUyAR3IYDQIXEqCdNRf3vlyGR0lprnqKBO/Dsw
9KRk7w8eh6gt0787lcOy46l38Or5f\nbku9qlGLzPFhnvcerqRR1Fzcd1VfLn4dx
Xe+wej289nH5cNF9akJA4kffrz3Xlneu4xHB7qRSlnZ\nv95V7f87+G5kcFkpe
BT+h0cHHrqkkpNO/1g1ToSChR8TXzVWeHQUIK65O2gULEwySo53+aiuQ7
VM\nCpy2jJJjOiimg2I6KKaDYjoopoNiOiimgzKnOgajgYySM486Wu1VGaKT
BvcsqmUiFOw5EZyOaq9I\nUQc2hzgrdF2Kg5u9vDkyjvcdcnl61k/XplPYGYxu
VV8uyenwfsOV4333A5LTldVjp3t3t3rjrKZC50\nDB+HgS+rZI8Hloxov8JNuw7M
kVI/5c+sDIwUeB5Txb3Mmg4sE/vXu632O1U2kKnRgct+8+dGHsuH\ni6D+y/2
p0YGRqJZNUF1HQ7+zSHUnSego2BE1ND6p7iQJHStHSzKcrlQ89pZFSSjtJ
QgeQ4eSk0z8J\nf8gJQeo6SUUHNs4yosJg63Vx3w0HHjNXHynnJBUdxfOlT
mBQ9QXkmJNUdlBO/1gGFTvuRJMDThLS\ngcd+PPPKuKlm/K9yCekA+Brz
/jRRJ9OqA8BI9GtkinUAzJpvl19IgDEylWuHAjdl7Brrz53ew5Wq\nDPLu6+511
ARVdIzBJhK7SajBdrMs+FTeixnUfNoS97XJuAC1dMwepoMwHYTpIEwHYToI
00GYDsJ0\nEKaDMB2E6SBMB2E6CNNBmA7CdBCm4wlbC38Bnj6GloLN
wKIAAAAASUVORK5CYII=\n

```xml
    </item>
</cardDocument>
</Bodno>
```

Appendix B.2.4 - Sample Files for the Web Print Server

Contact us (Software@Bodno.com) to receive a sample application to send the print job to the web print server.

Appendix B.2.5 - Database Communication

Each **Bodno** document can have a design associated to a database.

Bodno has the ability to save all the data printed using the web print sever (using a form or a web-based platform that retrieves an XML file).

If no specific settings are applied regarding database connection (as described), what happens is the following:

- If the folder [PRINT] exists in the following location - C:/Users/Your Name/AppData/Local/Bodno/PRINT Bodno will save the data in a SQLite database in the folder.

- If not, it will look for the folder [DATABASE] and if it exists it will save the SQLite database there.

- If [DATABASE] folder doesn´t exist, it will save the SQLite in the C: \Users\Your User\AppData\Local\Temp).

To specify a custom database connection set the following settings in the **[PRINTING]** section of the Bodno.conf file:

Setting	Description
driver	The name of the database driver (if left empty, the default **printing.sqlite** database mentioned above will be used). The possible values are: **QPSQL** – PostgreSQL **QMYSQL** – MySQL **QOCI** – OCI (Oracle Call Interface) **QODBC** – ODBC **QDB2** – DB2 **QTDS** – TDS **QSQLITE** – SQLite **QIBASE** – iBase
database	The name of the database
host	The address of the database server
port	The port of the database server
user	The user name to use when connecting to the database server
pass	The password to use when connecting to the database server

Appendix B.2.6 - Print Job Status Request

As print jobs are sent to the Web Print Server to be printed, they are attributed a print job id. This id can later be used to request the current status of the print job.
This can be achieved with a print job status request.

The print job status request follows the same norms as a regular print job, but instead of sending the **cardDocument** element, a **getJobStatus** element is sent with a **printJobId** attribute containing the ID of he print job for which the status is to be returned.

Upon receiving a print job status request the Web Print Server will return a response (read more on Appendix B.2.6 - Print Server Response)

Below is a sample of the XML structure of a Print Job Status Request which will return the status of the print job with the ID 5 as specified by the printJobId element.

```
<?xml version="1.0" encoding="utf-8"?>
<Bodno xmlns="http://tempuri.org/wpsRequest.xsd">
<login>
    <name>ADMIN</name>
    <password>admin</password>
</login>
<getJobStatus printJobId="5"/>
</Bodno>
```

Appendix B.2.6 - Print Server Response

Upon receiving a print job status request (see more in [Appendix B.2.6 - Print Job Status Request](#)) the Web Print Server will return a response which can be parsed by the user application.

The response will return an **Bodno** element.

This element will contain a **jobStatus** element with a status message of the print job.

The **jobStatus** element will also contain two attributes:

The **printJobId** attribute specifying the ID of the print job to which the response refers.

The **status** attribute specifying the current status of the print job.
Status attribute can be one of the following vales:
CREATED
PENDING
PRINTING
DELETED
ERROR

The **Bodno** element will also have a **status Message** element, containing a detailed message regarding the status.

Appendix B.3 - AutoPrint

ⓘ One of the advanced print features you can use with **Bodno** is the ability to automate print jobs and use external applications to run custom print jobs. This feature is called **AutoPrint**.

For these purposes **Bodno** allows you to use the Windows Command Prompt to run print jobs you have previously prepared.

The possibility to use the Command Prompt to run customizable print jobs allows you to create **.bat** files with your custom settings and run those **.bat** files whenever you need.
You can also use external programs to run custom print jobs, either by running the **Bodno AutoPrint** commands, or by running a previously saved **.bat** file.

To work with **AutoPrint**, the card you are going to use must be previously saved with your printer settings configured.

Appendix B.3.1 - AutoPrint Commands

ⓘ Below are the commands used to interact with **Bodno** through the command prompt:

/P - Print

/FILTER:"data" - Conditional Print Filter

/CONTINUOUS:*seconds* - Continuous printing with seconds delay

/SHOWPRINTDIALOG - Always show Print Dialog Box

/DBFILTER:"Filter" - Where "Filter" is the equivalent to a SQL WHERE clause

/SAVE:"optionalFileName" - Saves the document opened in the command line applying all changes made by Print or DBFilter.
If optionalFileName is specified, then the card document will be saved with the new name.

For example:
/SAVE - saves the document with the current file name.

/SAVE:"D:/Tickets/newCard.card" - saves the document with the new file name
Using the Save command with a filter allows you to preview the card fields filled with data that meets the determined conditions before printing.

/EXIT - Forces **Bodno** to Close & Exit after printing.

The syntax for the **/P** print command to be used from Run or Command Prompt is:

"c:\Program Files\Bodno\Bodno.exe" "c:\cP Test.card" /P

where:

"c:\Program Files\Bodno\Bodno.exe" - **Bodno's** executable file location

"c:\cP Test.card" - card file location

/P - print command

ⓘnote: Bodno's executable file location may vary depending on your operating system and the location you selected when installing Bodno.
The card file location is where you saved your Bodno .CARD document.

Appendix B.3.2 - AutoPrint with Command Prompt and Windows Run

ⓘ **AutoPrint** commands can be run directly either from the Windows **Run** dialog box, or from the Windows **Command Prompt**.

To run an **AutoPrint** command from the Windows **Run** dialog box, open the dialog box through the Windows Menu **Start>Run** type the **AutoPrint** command in the dialog box and click the **OK** button:
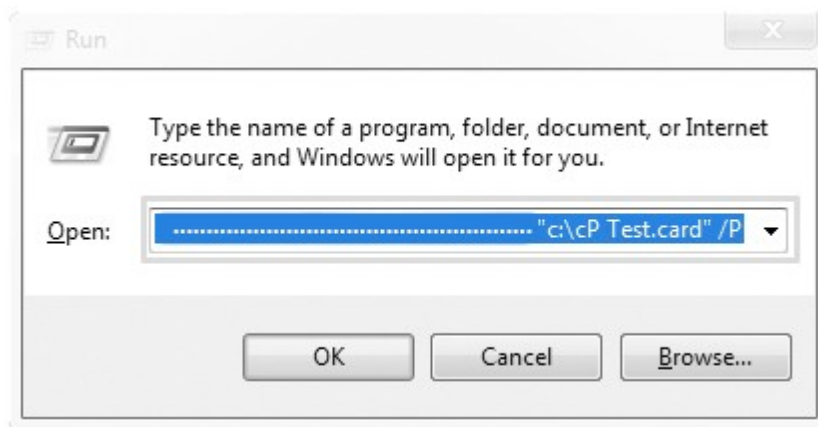
To run an **AutoPrint** command from the Windows **Command Prompt**, open the command prompt through the Windows menu **Start>Accessories>Command Prompt**. And type the **AutoPrint** command in the **Command Prompt** window:
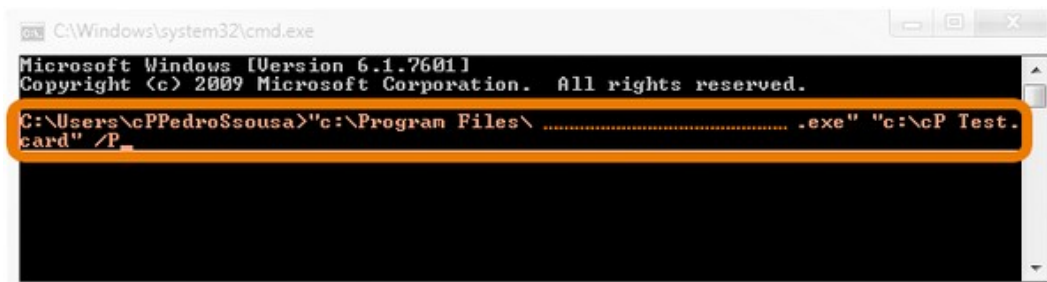
Appendix B.3.3 - AutoPrint Batch File

ℹ **AutoPrint** commands can be stored in a batch file (**.bat**) for later use. This way you can create as many batch files as you like, each with it's custom settings, and run your desired file with the desired settings whenever it's needed.

You can create a batch file in any regular text editor like **Notepad**.
Simply create a new text document. Type the **AutoPrint** commands you want to run and save the file with the **.bat** extension.
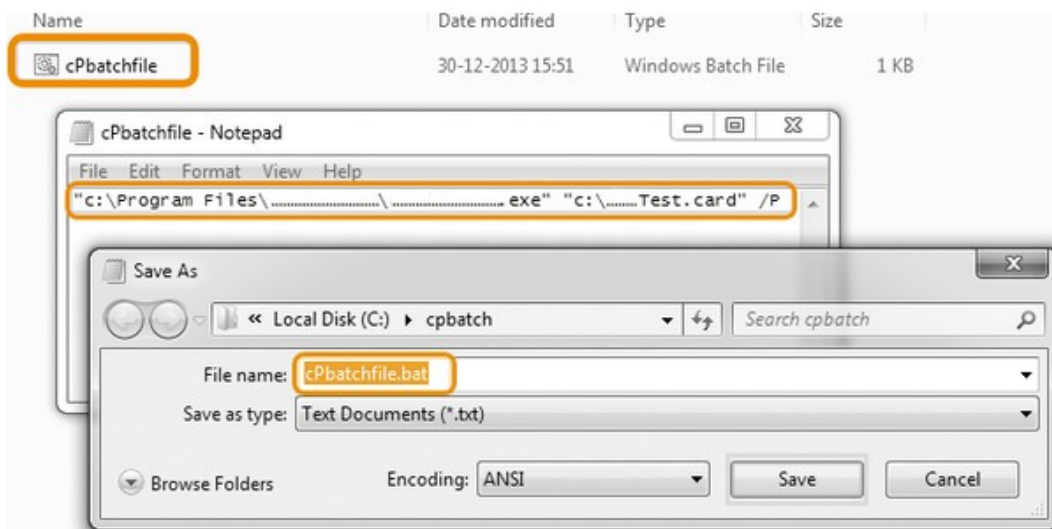
You can then run the **.bat** file directly, or through an external program such as the Windows Task Scheduler.

Appendix C - Encoding

Appendix C - Encoding

ⓘ The multiple types of encoding available in **Bodno** provides the best flexibility when working with multiple card types.

To ensure a good knowledge base, in this chapter we will further develop the topic of encoding, addressing each type of encoding and how to perform it within **Bodno**.

ⓘ **For testing purposes, we recommend disabling Front and Back printing on the print window (menu File>Print) before printing.**
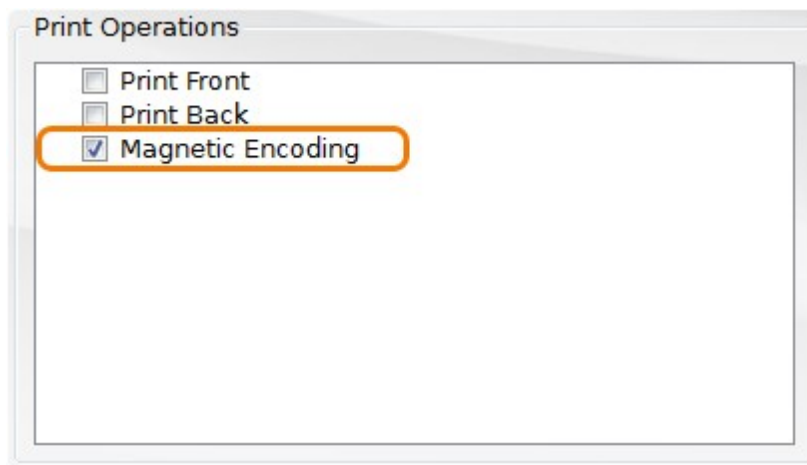
Appendix C.1 - Magnetic Stripe

ⓘ Magnetic encoding is a contactless type of encoding performed on the magnetic stripe (Magstripe) of a magnetic card. **Bodno** supports both High Coercivity (HiCo) and Low Coercivity (LoCo) magnetic cards.

There are up to 3 tracks on magnetic cards: **Track 1**, **Track 2** and **Track 3**

Each Track supports a specific data type and size.

Track 1 - 80 Alphanumeric Characters
Track 2 - 40 Numeric Characters
Track 3 - 110 Numeric Characters

When a magnetic card type is created, **Bodno** displays a visual representation of the Magstripe on the **Card Back** view. This allows you to individually select each Track and edit the data to be encoded directly through the card design view.

You can access it by clicking the **View Card Back** button, or through the menu **View > Card Back**.

Appendix C.1.1 - Macros / Sentinels

ⓘ When encoding data into a **Track** the data must follow a specific set of formatting rules. These are what determine which **Track** is being written and what data is to be written.

To do this, encoders use a set of characters named **Sentinels** which determine where the data to be encoded starts, where it's separated and where it ends.

Start Sentinel (generally **'%'**) marks where the data to be encoded is going to begin.

End Sentinel (generally '?') marks where the data to be encoded ends.

Field Separator (generally '^') separates different fields within a track.

ex: %Example^Text?

Where:

 '%' is the **Start Sentinel**.

 'Example' is the first field of data to be encoded on the current track.

'^' is the **Field Separator**.

'Text' is the second field of data to be encoded on the current track.

'?' is the **End Sentinel**.

 Bodno simplifies the process by using **Macros**: an array of **Sentinel** presets for several manufacturers, making changing **Sentinels** as simple and easy as a click (see more on Appendix C.1.5).

Appendix C.1.2 - Adding Data to a Track

  ⓘ Tracks in magnetic cards can work as easily as any other item in **Bodno** when it comes to adding data. Simply double click the data track you wish to encode, input the data in the textbox and click the **Close** button. The change will be immediate:
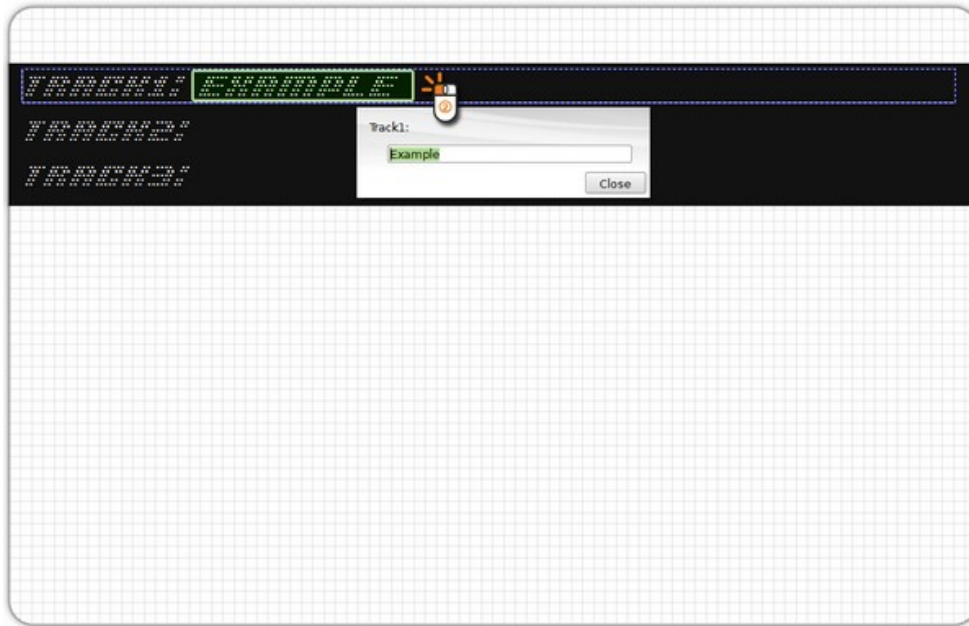
This allows you to quickly add information into a magnetic card without any previous knowledge on magnetic encoding.

Appendix C.1.3 - Adding a Database Source to a Track

  ⓘ When working with databases, having the versatility to add a database item to a **Track** is fundamental.

As with any item in **Bodno**, each Track contains its own set of properties which can be used for advanced encoding operations.

To add a database source to a Track:

1 - Select the **Track** in the **Card Back** view.

2 - On the **Source** tab, to the right, change the **Source** type to Database

3 - Select the **Table** where the database data is stored.

4 - Select the **Column** which contains the data to be encoded.

All changes are immediately visible in the **Design View**:

Appendix C.1.4 - Concatenation With Databases

ⓘ **Concatenation** allows you to stack up to three database fields within the same **Track**. This is allows for a much more dynamic and space efficient data generation when working with magnetic tracks.

To use **Concatenation** on a **Track** select the **Track**, on the **Track Properties** select the **Source** tab and click the **Concatenation** button.

The **Concatenation** pop-up provides the following options:

Data Prefix allows you to customize the text prefix that appears on the currently selected track.

Ignore on print disables or enables encoding the **Data Prefix**.

Data Suffix allows you to customize a text suffix that appears on the currently selected track.

Ignore on print disables or enables encoding the **Data Suffix**.

Concatenate database columns enables or disables **Concatenation.**

Column Prefix adds a text prefix to the data obtained from the selected data column.

ⓘ **Usually used for the Field Separator Sentinel**

Column selects the database column from which to obtain the data.

Item

Database

Font

Table

Employee

Source

Column

Employee Id

Script

Font auto adjust

Never

Data Prefix

TRACK1: ☑ Ignore on print

Data Suffix

☑ Ignore on print

☑ Concatenate database columns

Column Prefix

^

Column

First Name

Column Prefix

^

Column

Last Name

Column Prefix

^

Column

Extension

OK   Cancel

Appendix C.1.5 - Editing Magnetic Macros / Sentinels

ⓘ Different encoder manufacturers use different **Sentinels**. To simplify managing sentinels **Bodno** provides several **Macros** with preset **Sentinels** from several manufacturers.

You can change **Macros** through the **Bodno** menu **File > Print Settings > Print Options > Magnetic Encode > Macros** and select your encoder/printer manufacturer.
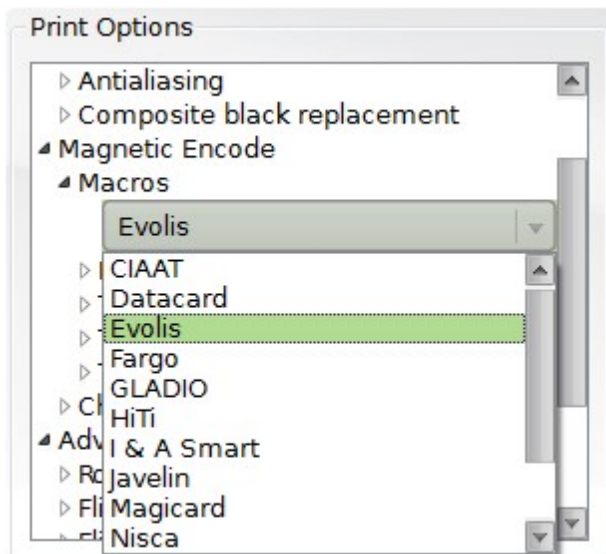
To manually configure **Macros** open the **Bodno** menu **File > Print Settings > Print Options > Magnetic Encode > Macros** and select **User Defined**.

This will allow you to manually type the **Start Sentinel** and **End Sentinel** as shown below. All 3 **Tracks** must be manually set.
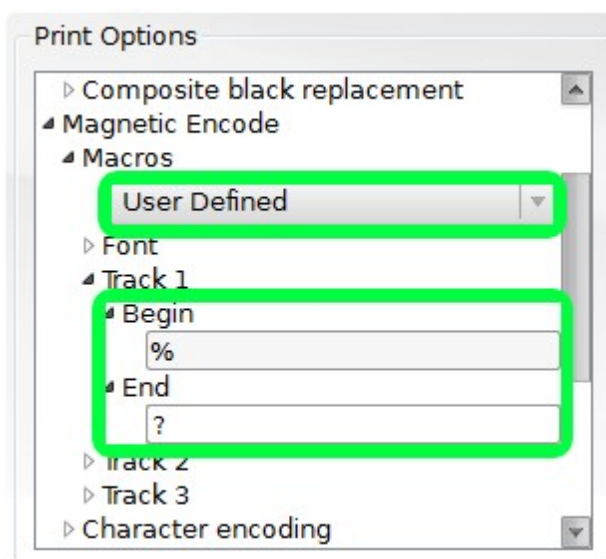
Appendix C.1.6 - Script Encoding

ⓘ **Bodno** also allows you to manipulate **Track** data through **Scripts**. This powerful feature allows for even more advanced operations to customize your encoded data to its full potential.

In **Bodno** each **Tracks** has a unique ID. Namely **ISOTRACK1**, **ISOTRACK2**, and **ISOTRACK3** for **Track 1**, **Track 2**, and **Track 3** respectively.
The data on this item can be manipulated through scripting as with any other item.

ⓘ **The encoded data must still follow each Track's data type (see more on Appendix C.1 - Magnetic Stripe).**

To create a **Script** click an empty area of the card design and select the **Script** tab in the **Properties Dock**..

ⓘ**Scripts can also be added to an item by selecting it and clicking the Script tab in the properties Dock.**

On the **Script** tab you can select when the script should executed and on the text box, write the script.

Ex: item.ISOTRACK1="Example Text"
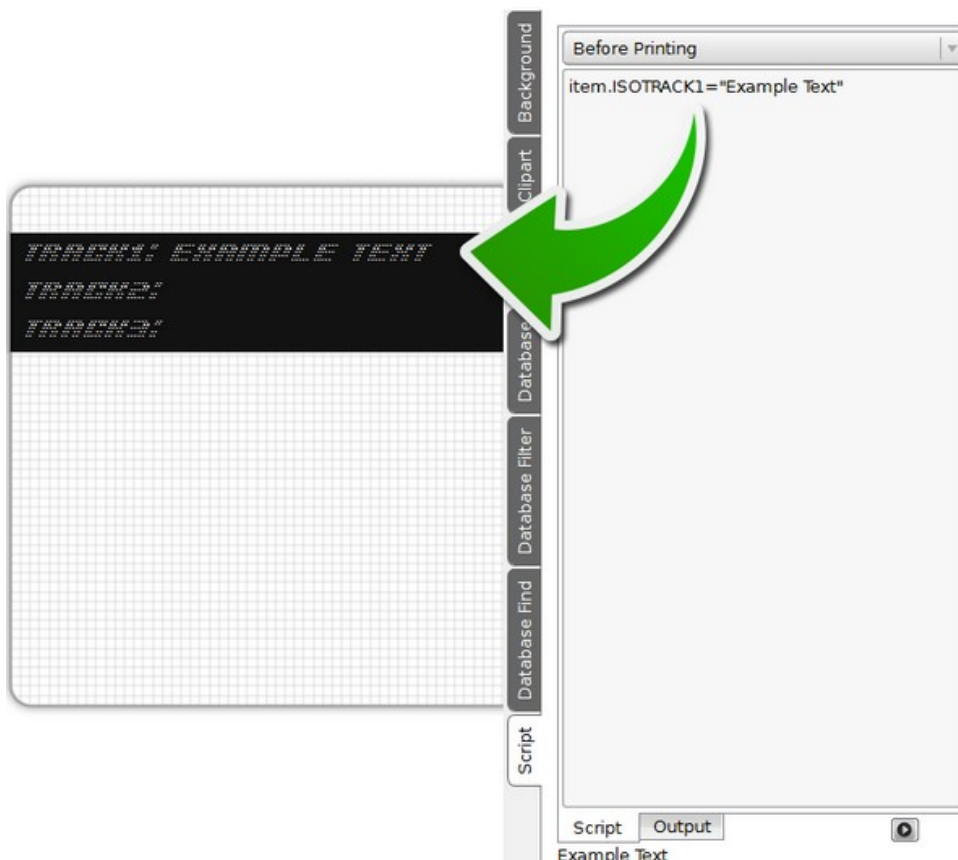
Appendix C.2 - Contact Encoding

ⓘ Contact encoding in **Bodno** is done with the **Encode Operations** window in the **Encode View**. Here you can develop your customized encoding operations for all the supported contact Card Types.

This allows you to manipulate the data stored in your Card, the data in the Card Design Items and the data stored in your database, if connected to one.

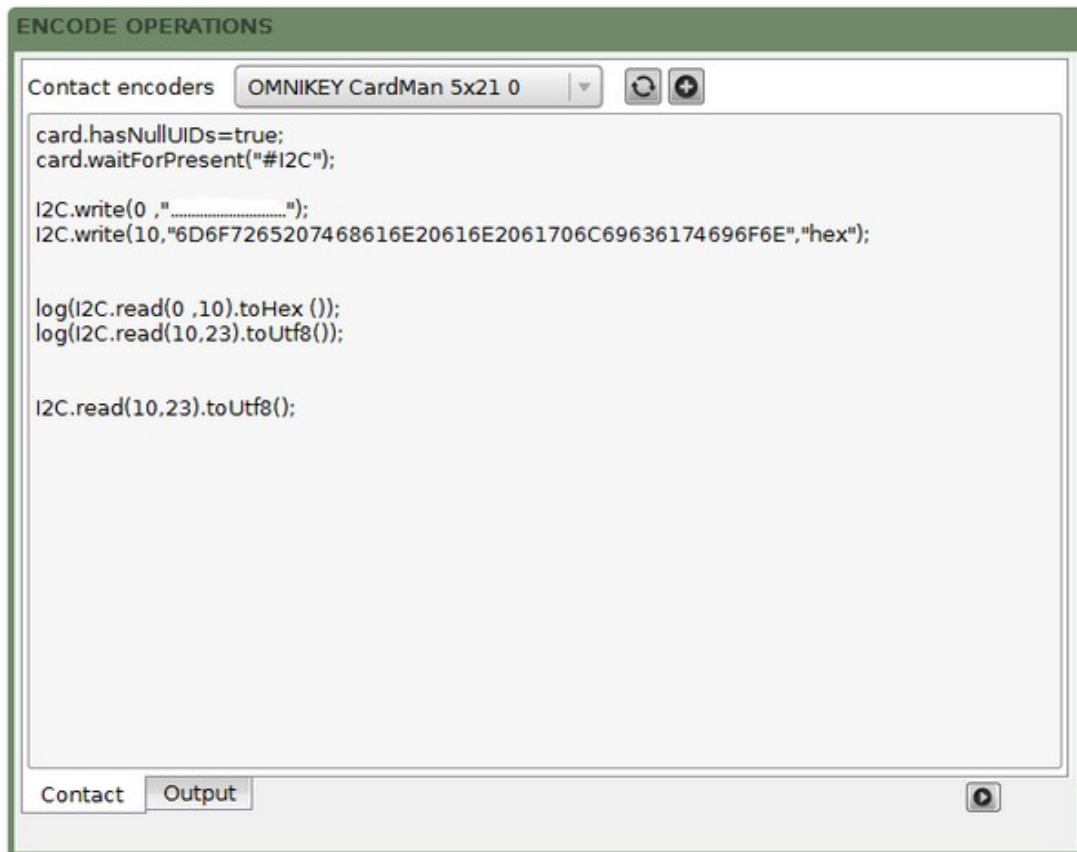The code varies with each Card Type. **Bodno** comes with sample code for the supported Card Types designed to get you familiar with the basic operations of each Card Type.

Below is the sample code of an I2C script.

```
ENCODE OPERATIONS

Contact encoders    OMNIKEY CardMan 5x21 0    ▼   ↻ ⊕

card.hasNullUIDs=true;
card.waitForPresent("#I2C");

I2C.write(0 ,"........................");
I2C.write(10,"6D6F7265207468616E20616E2061706C69636174696F6E","hex");


log(I2C.read(0 ,10).toHex ());
log(I2C.read(10,23).toUtf8());


I2C.read(10,23).toUtf8();




Contact   Output                                    ▶
```
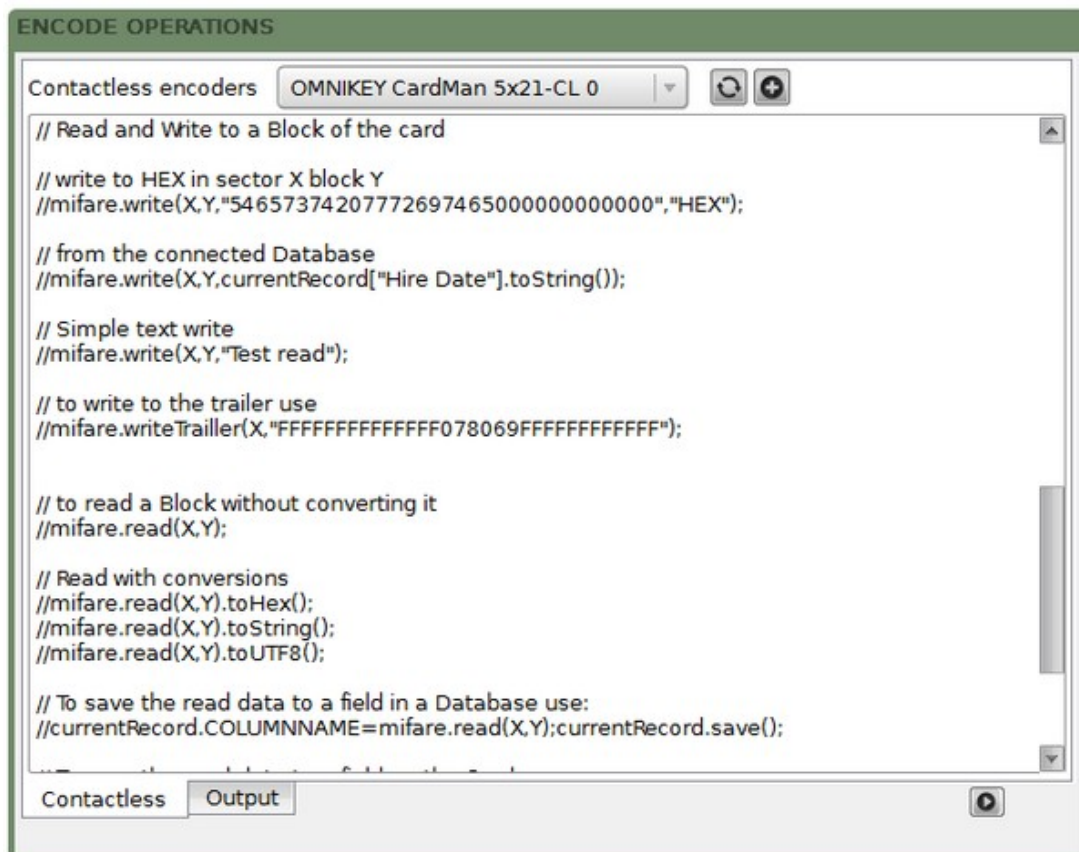
Appendix C.3 - Contactless Encoding

ⓘ Contactless encoding in **Bodno** is done with the **Encode Operations** window in the **Encode View**. Here you can develop your customized encoding operations for all the supported contact Contactless Types.

This allows you to manipulate the data stored in your Card, the data in the Card Design Items and the data stored in your database, if connected to one.

The code varies with each Card Type. **Bodno** comes with sample code for the supported Card Types designed to get you familiar with the basic operations of each Card Type.

Below is the sample code of a Mifare script.


```
ENCODE OPERATIONS

Contactless encoders    OMNIKEY CardMan 5x21-CL 0    ▾    ↻  ⊕

// Read and Write to a Block of the card

// write to HEX in sector X block Y
//mifare.write(X,Y,"546573742077726974657465000000000000","HEX");

// from the connected Database
//mifare.write(X,Y,currentRecord["Hire Date"].toString());

// Simple text write
//mifare.write(X,Y,"Test read");

// to write to the trailer use
//mifare.writeTrailler(X,"FFFFFFFFFFFFFF078069FFFFFFFFFFFF");


// to read a Block without converting it
//mifare.read(X,Y);

// Read with conversions
//mifare.read(X,Y).toHex();
//mifare.read(X,Y).toString();
//mifare.read(X,Y).toUTF8();

// To save the read data to a field in a Database use:
//currentRecord.COLUMNNAME=mifare.read(X,Y);currentRecord.save();


Contactless    Output                                    ▶
```

Appendix D - Barcodes

Appendix D - Barcodes

ⓘ Barcodes are a staple of today's industry and **Bodno** follows through in this feature as well.

Supporting 1D and 2D barcodes libraries with various customizations allows for a wide application area.

To create a barcode simply click on the **New Barcode** or **New 2D Barcode** button on the **Design Toolbar** and then click-drag the new barcode to the size you want.

Appendix D.1 - 1D Barcode

ⓘ A **1D Barcode** is the most common barcode type also known as a Linear Barcode.

To create a **1D Barcode** click the **New Barcode** button in the **Design Toolbar** or through the **Bodno** menu **Tool>Barcode**.
You can then click-drag to place the new barcode with the desired size.

To customize the barcode, select it and click the **Barcode** separator in the **Properties Dock**.

The following options are availlable:

Symbology lets you select the symbology the barcode should use.

Barcode color lets you change the color of the barcode.

Module width lets you customize the width of the module.

Bearer bar customizes the positioning and shape of the barcode bearer bar.

Bearer width customizes the width of the **Bearer Bar**.

Quiet zone customizes the size of the quiet zone.

Human readable customizes or disables the barcode caption text.

Font customizes the size of the caption text.

CheckDigit enables or disables the Check Digit.

Appendix D.2 - 2D Barcode

ⓘ A 2**D Barcode** also know as a matrix code, is an advanced barcode type which can hold more data per area.

◐ To create a **2D Barcode** click the **New 2D Barcode** button in the **Design Toolbar** or through the **Bodno** menu **Tool>2D Barcode**.

You can then click-drag to place the new barcode with the desired size.

To customize the barcode, select it and click the **Barcode** separator in the **Properties Dock**.

The following options are available:

Symbol format changes the symbol format of the barcode.

Barcode color changes the color of the barcode.

QRCode Format changes the barcode encode system.

Module Width changes the width of the barcode.

Mask changes the barcode mask.

EC Level changes the error correction level.

Size/Version changes the barcode size/version.

Appendix D.3 - Database Generated Barcodes

ⓘ **Bodno's** barcodes also supports having database items as the data source. This means **Bodno** can dynamically generate barcodes using the data from an existing database.

As with any item in **Bodno**, each **Barcode** contains it's own set of properties which can be used for advanced barcode generation.

To add a database source to a **Barcode**:

1 - Select the **Barcode** in the **Card Design** view.

2 - On the **Source** tab, to the right, change the **Source** type to Database

3 - Select the **Table** where the database data is stored.

4 - Select the **Column** which contains the data to be written on the **Barcode**.

Concatenation allows you to stack up to three database fields within the same **Barcode**. This is allows for a much more dynamic and space efficient data generation when working with barcodes.

To use **Concatenation** on a **Barcode** click the **Concatenation** button on the **Source** tab.

The **Concatenation** pop-up provides the following options:

Data Prefix allows you to customize the text prefix that appears on the currently selected track.

Ignore on print disables or enables encoding the **Data Prefix**.

Data Suffix allows you to customize a text suffix that appears on the currently selected track.

Ignore on print disables or enables encoding the **Data Suffix**.

Concatenate database columns enables or disables **Concatenation**

Column Prefix adds a text prefix to the data obtained from the selected data column.

Column selects the database column from which to obtain the data.

Appendix D.4 - Script Generated Barcodes_2

ⓘ **Bodno** also allows you to manipulate **Barcode** data through **Scripts**. This powerful feature allows for even more advanced operations to use your barcodes to their full potential.

In **Bodno** the data on this item can be manipulated through scripting as with any other item.

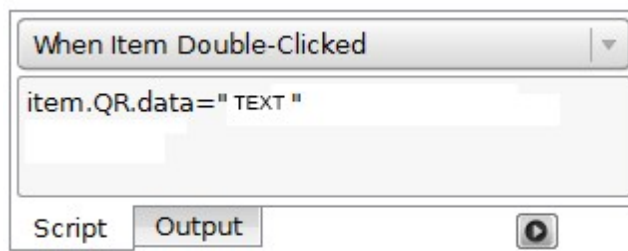ⓘ**The encoded data must still follow each Barcode's format rules.**

To create a **Script** click an empty area of the card design and select the **Script** tab in the **Properties Dock**..
ⓘ**Scripts can also be added to an item by selecting it and clicking the Script tab in the properties Dock.**
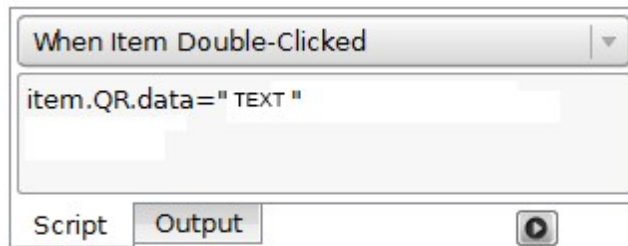
On the **Script** tab you can select when the script should executed and on the text box, write the script.

ⓘ Ex: in the example below the QR code being used was given the ID **QR**.

When Item Double-Clicked ▾

item.QR.data=" TEXT "

Script | Output | ▶

Result:

When Item Double-Clicked ▾

item.QR.data=" TEXT "
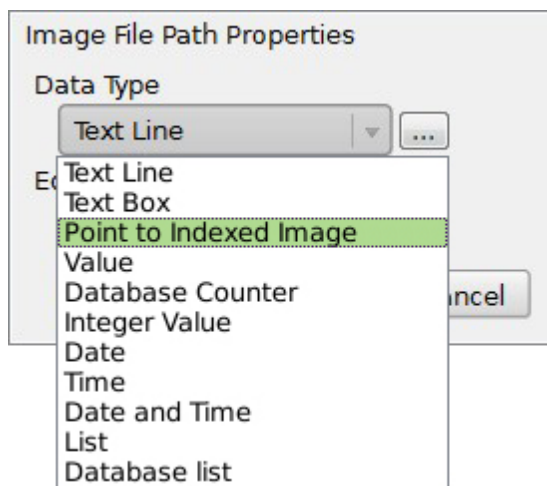
Script | Output | ▶

Appendix E - Link Image to DB Field

Appendix E - Link Image to DB Field

ⓘ Pictures and images are a recurring element of ID cards. When connected to a database Bodno allows you to quickly set up a database field as a source for images on your computer.

To set a database field as a link to an image file follow these steps:

1 - Locate the database field that contains the name of the picture files. In the example image below, the field name is **Image File Path**:
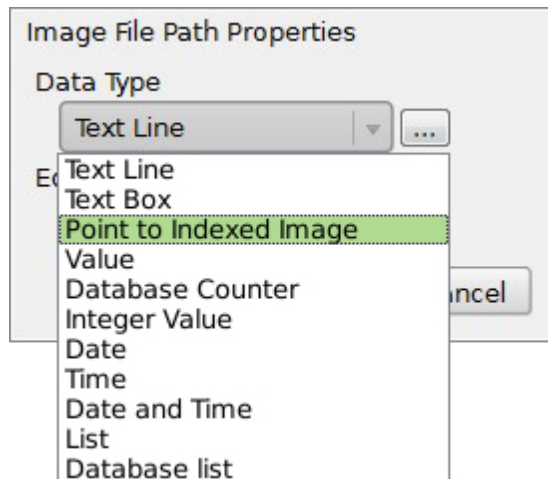
2 - Right click the database field to open it's **Properties** menu and change change the **Data Type** to **Point to Indexed Image**.

Image File Path Properties

Data Type

| Text Line | ▼ | ... |

E
> Text Line
> Text Box
> Point to Indexed Image
> Value
> Database Counter   ncel
> Integer Value
> Date
> Time
> Date and Time
> List
> Database list

3 - Before closing the **Properties** menu, click the "..." button to the right of the **Data Type** drop down list.

4 - On the **Indexed Image Properties** menu in the **Images Folder** type the path to the folder which contains your images.

Alternatively, click the "..." button to the right of the **Images Folder** path and browse to your images folder.

Image File Path Properties

Data Type

Text Line

Text Line
Text Box
Point to Indexed Image
Value
Database Counter
Integer Value
Date
Time
Date and Time
List
Database list

When you're done. Click the **OK** button on the **Indexed Image** menu. Then click the **OK** button on the **Properties** menu and finally click the **Database refresh** button as prompted.

When refreshed, if correctly configured and the database field contains valid image paths, the database field will now show the images from the folder.

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