

Import Tool for PanelBuilder

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Import Tool for PanelBuilder

InduSoft introduces the Import Tool for PanelBuilder™ — a powerful, flexible, easy-to-use tool that expands the capabilities of your installed plant-floor systems. The Import Tool is a fast and intuitive wizard for importing applications created with PanelBuilder™ (Allen-Bradley's programmer for PanelView™ HMIs) into InduSoft Web Studio.

Using the Import Tool to import PanelBuilder applications into IWS

After importing an application into InduSoft Web Studio features:

- **Flexibility:** IWS can run the project on any Microsoft® Windows® platform (Windows XP/Vista/7 or Windows Embedded). For example, you can run the project on devices powered with Windows Embedded, such as HMI panels and PDAs (iPAQ, Toshiba, Dell, etc.).
- **Expansibility:** You can use the IWS development environment to add functionality to your project in the form of historical data, XML reports, math scripts, etc.
- **Connectivity:** Because the project is running under the IWS runtime, you can take advantage of all connectivity tools embedded in the IWS package, such as:
 - Communication drivers for several protocols from different manufacturers (Modbus, Profibus DP, DeviceNET, ControlNET, Siemens S7 - MPI/PPI, Siemens S5 - RK512, GE-Fanuc SNP/SRTP and many others).
 - OPC client and server interfaces.
 - XML and ADO interfaces to exchange data with third-party systems, such as Enterprise Resource Planning (ERP) systems.
 - API Toolkits to integrate the project with third-party programs written in any language that supports DLLs (VB, C, C++, and so on).
 - TCP/IP modules for redundant and networked projects.
 - Web solution that provides remote access to your project using just a web browser, through any TCP/IP link (intranet, internet, or dial-up connection).
 - Remote management and debugging tools that allow you to manage (download, upload, run, stop and debug) your project remotely from a development station.

The Import Tool's greatest advantage is how easy it is to use, which can dramatically reduce the cost and hassle of modernizing the automation systems in your facility.

Importing a PanelBuilder application

The procedure to import a PanelBuilder application into your IWS project consists of three general steps.

To import a PanelBuilder application, you must have the following software on your computer:

- PanelBuilder programming software.
- PanelBuilder application file (*.pba).
- InduSoft Web Studio with the Import Tool for PanelBuilder add-on.

 **Note:** You can run the InduSoft Web Studio development environment on Windows XP/Vista/7 operating systems. For detailed information about IWS hardware and software requirements, see the *IWSUser Guide and Technical Reference*.

1. Add a Generic / Text Only printer to your computer. This allows you to "print" to a raw text file.
2. Generate a report file for the PanelBuilder application that you want to import.
3. Use the Import Tool for PanelBuilder to import the report file into IWS.

These general steps are explained in detail in the following sections.

Adding a Generic / Text Only printer

This section explains how to add a Generic / Text Only printer to your computer, so that you can "print" to raw text files.

1. Click the Windows **Start** button, and then on the Start menu, click **Devices and Printers**.
The *Devices and Printers* control panel is displayed.
2. Click **Add a printer**.
The *Add Printer* wizard is displayed.
3. Click **Add a local printer**.

Adding a local printer

The next step of the wizard is displayed.

4. Select **Use an existing port**, and then in the list of available ports, click **FILE**.

Choosing a printer port

5. Click **Next**.
The next step of the wizard is displayed.
6. In the **Manufacturer** list, click **Generic**, and then in the **Printers** list, click **Generic / Text Only**.

Selecting the Generic / Text Only printer

7. Click **Next**.
The next step of the wizard is displayed.
8. Leave the default printer name, and then click **Next**.

Specifying the printer name

The next step of the wizard is displayed.

9. Select **Do not share this printer**, and then click **Next**.

Do not share the printer

The next step of the wizard is displayed.

10. Clear the **Set as the default printer** option, and then click **Finish**.

Do not set it as the default printer

The printer is added to the *Devices and Printers* control panel.

Generating a PanelBuilder application report

This section explains how to generate a PanelBuilder application report that can be imported into InduSoft Web Studio.

1. Start the PanelBuilder programming software, and then open the application for which you want to generate a report.
2. On the **Tools** menu, click **Options**.
The *Options* dialog is displayed.
3. Click the **Report Setup** tab.
4. Select all of the options listed in the **Application** area, and then click **OK**.

Setting up the application report

5. On the **File** menu, click **Reports**.
The *Print Reports* dialog is displayed.
6. Click **Printer Setup**.
The *Printer Setup* dialog is displayed.
7. In the **Printer** area, click the **Name** combo-box and then select **Generic / Text Only** from the list.

Selecting the printer

8. In the **Paper** area, click the **Size** combo-box and then select **A3** from the list.

Selecting the paper size

9. In the **Orientation** area, select **Landscape**.

Selecting the orientation

10. Click **OK** to return to the *Print Reports* dialog.

Print Reports dialog

11. In the **Include** area, clear the **Screen Images** option.

Clearing the Screen Images option

12. Click **Print**.

The *Print to File* dialog is displayed.

13. In the **Output File Name** box, type the full path and name of the report file, and then click **OK**.

Specifying the output file name

PanelBuilder will save the application report file to the designated location. Now you can import this file into InduSoft Web Studio.

Using the Import Tool for PanelBuilder

The Import Tool provides a simple, straightforward wizard to guide you through the process of importing PanelBuilder applications into your IWS project.

1. In the IWS development environment, close all open project screens and worksheets.
2. On the **Home** tab of the ribbon, in the **Tools** group, click **Import Wizard**.
The *Import Wizard* dialog is displayed.
3. In the **Source Type** list, select **Import Tool for PanelBuilder™**, and then click **Next**.

 **Note:** You can use the Import Wizard to import application data from sources other than PanelBuilder applications. For more information about importing other application types, refer to the *IWS User Guide and Technical Reference*.

The *Import Tool for PanelBuilder™ Wizard* dialog is displayed.

Specifying import parameters in the Import Tool dialog

4. Use the dialog to specify the import parameters.
 - a) **Do not import duplicate tags:** Select this option to prevent the Import Tool from importing tags with the same name as tags in the current IWS project database.
 - b) **Replace duplicates with tags imported:** Select this option if you want the wizard to replace duplicate tag properties in the current IWS project database.
 - c) **Import Screens:** This option is selected by default. Clear this option to prevent the Import Tool from importing the PanelBuilder application screens.
 - d) **Import Comm. Configuration:** This option is selected by default. Clear this option to prevent the Import Tool from importing the communication properties configured for each tag in the PanelBuilder application.
 - e) **Report File:** This field displays the path and name of the folder where the PanelBuilder application report file is saved. To select a different file, click **Browse**.
 - f) **Use prefix:** Select this option if you want to add a prefix to all imported tags, and then type the prefix in the text field.
Because you can import multiple PanelBuilder applications into a single IWS project, this option is provided to help you identify where the imported application tags originated and to avoid duplications.

5. Click **Next**.

The Import Tool will read the database and then display a new dialog that lists all of the tags in the selected PanelBuilder application.

6. Review the list of tags and uncheck any that should not be imported.

The tags are color-coded:

- Red tags cannot be imported. If you selected the **Do not import duplicate tags** option, then the Import Tool will not import tags that already exist in your IWS project database.
- Blue tags will be imported. If you do not want to import one of these tags, clear the check-box to the left of the tag name.
- Gray tags *can* be imported but are not currently selected. Tags become gray in two circumstances:
 - You cleared the check-box to the left of an importable (blue) tag, which changes the blue tag to gray.

- You have exceeded the number of tags allowed by your InduSoft Web Studio license. For example, if your license allows 1,500 tags and you would exceed this limit by importing the grey tags, then IWS will not allow the wizard to add these tags to the project database.

You can import gray tags (by clicking the check-box to the left of the tag name), as long as you do not exceed the number of tags allowed by your license.

7. Click **Finish**.

The PanelBuilder application is imported into your IWS project, according to the specified parameters.

If your application uses bitmaps (*.bmp) other than those in the standard PanelBuilder list, export the bitmap files from PanelBuilder and then copy them to:

Lib

What is imported by the Import Tool for PanelBuilder

The Import Tool for PanelBuilder is still going through the development process. This first release implements the most important features. The following sections describe all of the features that are not imported automatically. Because both InduSoft Web Studio and CEView are much more powerful than PanelBuilder, it is possible to work around the items that are not imported by implementing some minor changes in the project. If, however, your project uses one of the features that the import wizard does not import, and you think that you will spend a lot of time implementing this feature in your project, please contact your InduSoft representative or go to www.indusoft.com. We will analyze the feasibility of implementing that specific feature.

Graphical Interface

The graphical tools offered by InduSoft Web Studio overcome the expectations when compared with the other tools available in the market. When importing the application using the Import Tool, you will realize that the imported graphical interface will look even better than the original one. However, some features available in other products are very different from the way that IWS implements them. The InduSoft development philosophy is to implement Windows standards and use simple-to-use controls, making the product easy to use. You can develop good looking screens in a few minutes. During our development research we realized that some features available in the PanelBuilder are so "unusual" that most of the applications do not use them. These features are not being imported, because most of the applications that we tested against did not use them. The following properties, unless they are explicitly declared in the graphical compatibility list (see next topic), are not imported by the Import Tool: Shape, Fill Pattern, Graphic, Line Type and Print.

The following table has all the objects supported by PanelBuilder and the properties not supported by the Import Tool. Properties described as "Not supported¹" are features that we found in some of the applications that we tested against and will probably be implemented for future releases. Properties described as "Not supported²" are minor items that do not enhance the graphical interface and will not be implemented unless there is a strong reason to do so. If there is any property associated with an object that you could not find in this list, it means that the property is not being imported and that you should contact your InduSoft representative with the information about the specific property, or go to www.indusoft.com.

PanelBuilder	IWS	Property	Comment
Original Object	Converted Object		
Pushbutton – Momentary, Maintained, and Latched	Pushbutton	Write Tag	Tag / Expression
		Hold Time	Not supported ¹
		Indicator/Display Tag	Indicator
		Handshake Tag	Reset
		Data Type/Format	Not supported ²
		Contact Type	State
		Initial State	Not supported ¹
		States	<ul style="list-style-type: none"> • Number: <0 - Open / 1 - Closed / Error - Additional Pushbutton with Position> • Graphic: Not supported² • Blink: Blink set to slow • Value: Value • FG Color: Not supported¹ • BG Color: Color • Text Properties: All the properties are supported, but they need to be the same for all the states.
Screen Selector – Goto	Button + Command (Open Screen)	Text properties	All text properties are supported.
		FG Color	Not supported ²
		BG Color	Button – Fill Color

PanelBuilder	IWS	Property	Comment
Original Object	Converted Object		
		Destination	Parameter passed to Open Screen function of the Command animation.
Screen Selector – Return	Button + Command (Open Previous)	Text properties	All text properties are supported.
		FG Color	Not supported ²
		BG Color	Button – Fill Color
		Blink	Position animation applied to Button object.
Screen Selector – Goto Config Screen	Not supported ¹		
Screen Selector – Screen List Selector	List Box, Button + Command (Open Screen)	Wrap List	List Box – List Wrap option
		FG Color	List Box – Border Color
		BG Color	List Box – Fill Color
		Fix Cursor At State	Not supported ¹
		Text properties	Wrap is the only text property not supported. The font size and background color will be the same for all the items in the screen list.
Numeric Entry – Cursor Point	Rectangle + Command, Text + Text/Data Link	Text properties	Text/Data Link properties
		FG Color	Rectangle – Line Color
		BG Color	Rectangle – Fill Color
		Write Tag	Text/Data Link – Tag / Expression, Command – Keypad function
		Indicator/Display Tag	Not supported ²
		Notification Tag	Not supported ¹
		Handshake Tag	Not supported ¹
		Decimal Point	Format function in the tag / expression
		Blink	Position animation applied to object
Numeric Entry – Keypad Enable	Rectangle + Command, Rectangle with caption	Text properties	Rectangle caption properties
		FG Color	Rectangle – Line Color
		BG Color	Rectangle – Fill Color
		Write Tag	Used in the Command animation that activates the keypad
		Indicator/Display Tag	Used in the Rectangle caption
		Notification Tag	Not supported ¹
		Handshake Tag	Not supported ¹
		Decimal Point	Format function in the Rectangle caption
Numeric Entry – Inc/Dec	Not supported ¹		
Control List Selector (Standard and Piloted), Indicator – List	List Box	Write Tag	Write Tag
		Search Tag or Read Tag	Read/Search Tag
		Control Tag	Control Enable
		Block Write Start Tag	Not supported ¹
		Data Type/Format	Integer value, LSB and Single Bit modes are supported
		Initial State	Not supported ¹
		Write Value On Enter	Enter Req

PanelBuilder	IWS	Property	Comment
Original Object	Converted Object		
		Wrap List	List Wrap
		FG Color	Border Color
		BG Color	Fill Color
		States	<ul style="list-style-type: none"> • Number: List Box State number or Error State • Message: List Box message • Access: Not supported¹ • Value: Value • Text Properties: Alignment option is not supported. Text Foreground Color, Font and Size need to be the same for all the states.
Graphic Indicator – Bar Graph	Rectangle + Bargraph, Rectangle with caption	Text properties	Rectangle caption properties
		FG Color	Rectangle – Line Color
		BG Color	Rectangle – Fill Color
		Read Tag	Bargraph – Expression
		Fill	Bargraph – Foreground Color
		Blink	Color animation applied to object
		Fill From	Bargraph – Direction and Orientation properties
		Min/Max Range	Bargraph – Min and Max properties
Graphic Indicator – Gauge	Not supported ¹		
Graphic Indicator – Scale Linear	Set of Line objects representing the scale	Blink	Position animation with Blink Slow applied to each Line object
		FG Color	Color of each Line object
		Tickmarks	Import Tool creates a line per each tick
Graphic Indicator – Scale Circular	Not supported ¹		
Numeric Data Display	Rectangle	Text properties	Rectangle caption properties
		Read Tag	Used in the caption text between curly brackets ({ })
Indicator – Message Display and Multistate Pushbutton	Smart Message	Read Tag	Read Tag
		Graphic	Not supported ²
		Blink	Rec Blink
		Value	Value
		FG Color	Rec (FG)
		BG Color	Rec (BG)
		Graphic	Graphic File
Text properties	All properties are supported, but the Text Font and Size need to be the same for all states.		
Graphics – Line	Line	Blink	Position animation applied to Line
		FG Color	Color
		 Note: There is no way to determine the direction of the line based on the report information, so the Import Tool will always import the lines from down to up, left to right. In some cases, you will need to flip the lines after finishing the import.	

PanelBuilder	IWS	Property	Comment
Original Object	Converted Object		
Graphics – Connected Line and Free Form	Not supported ¹		
Graphics – Rectangle, Ellipse, Circle	Rectangle, Ellipse	FG Color	Line Color
		BG Color	Fill Color
Graphics – Graphic Image	Linked Picture	FG Color	Used to change the image color when importing
		BG Color	Used to change the image color when importing
Text	Rectangle with caption	Text properties	Rectangle caption properties
		Variables	All variables are inserted in the caption using the Format function, when formatting is necessary.
List Keys	Not supported ¹		
Alarm List and Alarm Buttons	Alarm Control	Alarm Control object inserted on screen, but its properties are not configured automatically. Alarm Buttons are not imported, but can be added later.	

Communication Interface

This release implements the most important communication drivers. However, some of the imported drivers have some differences due the way that InduSoft Web Studio treats the information. Most of the applications should not be affected by the differences, but in some cases small changes will be necessary. The following table lists all the drivers supported by the Import Tool and describes the limitations of each one.

PanelBuilder	IWS	Limitations, Restrictions, and Remarks
Protocol	Driver Name	
Modbus Serial	MODBU	<ul style="list-style-type: none"> Signed and Unsigned variables will be imported as signed. BCD Data Type is not supported. Char Array data types are not supported. Bit Arrays can only be used for readings.
DH+ / DH485 DF1 Serial DF1 Ethernet	ABKE, ABTCP, ABENI	<p>In order to communicate using DH+ or DH485, you will need to acquire a specific board for these protocols. Please refer to the ABKE driver documentation for more information about the hardware needed.</p> <ul style="list-style-type: none"> Signed and Unsigned variables will be imported as signed. Double words are not supported. You cannot have PLCs from different families in the same network. Bit Arrays can only be used for readings. Bit Arrays for counters and timers are not allowed. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> Note: These drivers were tested against the following devices: PLC5, Slick PLCs, Micrologix PLCs and Micrologix 1761-NET-ENI. According to the manufacturer documentation, the drivers should work with other devices. If you cannot establish communication with your device, please contact your InduSoft representative.</p> </div>
EthernetIP and ControlNet (ControlLogix)	ABCIP	<p>The Import Tool does not support the ControlNet network. When the ControlNet network is identified, the Import Tool will convert all the tags using the ABCIP driver for Ethernet.</p> <ul style="list-style-type: none"> Network path is not supported. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p> Note: This driver was tested against the following devices: ControlLogix5000 and FlexLogix 1761-NET-ENI. According to the manufacturer's documentation,</p> </div>

PanelBuilder	IWS	Limitations, Restrictions, and Remarks
Protocol	Driver Name	
		the driver should work with other devices. If you have a problem establishing communication with your device, please contact your InduSoft representative.

 **Note:** Driver configuration can be imported only once into an IWS project. If you change the communication settings of a PanelBuilder application and try to import it again over a previously imported application, the new settings will not be imported. You have to create a new blank IWS project and import the modified PanelBuilder application into it.

Alarms Configuration

InduSoft Web Studio is very powerful and manages the entire alarm system without any additional PLC programming. PanelBuilder, however, requires the alarms to be configured in the PLC and is only able to display the alarm messages and provide the acknowledgment feature. Using the PanelBuilder philosophy and migrating the whole PanelBuilder system to your IWS project would make applications as complex as they are in PanelBuilder. The Import Tool has adopted a different approach by importing the information necessary to turn on the IWS alarm system and displaying all the alarm messages with Acknowledge capabilities. Depending on the PanelBuilder features that you are using on your application, you will have to perform some minor configurations in your imported application. Read the following topics to understand how the Alarm Configuration is imported and which features are not imported automatically.

Alarm Banner

Instead of importing the PanelBuilder alarm banner, the Import Tool creates an alarm banner screen with the powerful Alarm Control object and all the corresponding alarm buttons. You can eliminate some of the buttons if necessary. The alarm banner has also a default size (the size is not imported). If the object size is not appropriate for your application, you can open the Alarm_Banner screen in the development environment and customize it.

Alarm Setup

Banner Pop Up: Implemented automatically by Import Tool by selecting the alarm banner as Pop Up or Dialog.

Print Items: IWS will print the alarms in the way that they are formatted in the alarm object. You can customize the columns as well as the order in which the alarms will be printed. This powerful capability is imported in the alarm object that is inserted in your screen and can be customized. Because of this functionality we ignore the print items parameter.

Ack Hold Time and Snapshot: IWS's Alarm Control object is a scroll list with many capabilities. These parameters are also not applied.

Remote Ack and Use Optional Fields: IWS supports remote acknowledgment by alarm message and alarm group. PanelBuilder works very differently and in some cases the user is required to associate bits of tags to acknowledge alarms. If you are using this functionality you will have to implement some minor scripts using a Math or Script worksheet. This parameter is ignored.

Alarm Triggers

Trigger Tag: Tag used as a base to generate the alarm messages inside the imported project.

Trigger Type: The Import Tool supports Bit and Value triggers.

Ack, Remote and Handshake and Ack All: When importing the alarm list, the Import Tool creates an Alarm worksheet with all the alarm messages. In order to implement this command, you will need to implement some additional configuration in the worksheet.

Alarm Messages

The Alarm Messages are implemented using auxiliary tags. The names of the auxiliary tags are formed using the formula `[Trigger Tag]_Alr_[Value]`, where:

- `[Trigger Tag]` is the name of the tag used as trigger; and

- *[Value]* is the value specified in the value column.

The auxiliary tags will have the alarm HI configured to 1 (one) with the PanelBuilder alarm message. If the trigger is a Bit, the tag will be associated with the specific bit in the Driver worksheet, otherwise it will be in a Scheduler worksheet and will go off when the trigger value assumes the value specified in the value column. All the parameters available in the Alarm Messages configuration are available in IWS, but because the concept is completely different (PanelBuilder requires that the user configures colors per individual alarms instead of configuring per groups), they are not automatically imported.

Security System

The current version of the Import Tool does not import the security system automatically. After importing the application, you can reconfigure the security system manually, using the [Security System](#) editor.