Tech Note 1012
Configuring the Compact Panel ABCIP Driver to Communicate to a MicroLogix 1100 PLC

Topic#: 002844
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Introduction

The ABCIP Driver is one of Wonderware's Compact Panel based products that provides connectivity to compatible devices such as Allen-Bradley ControlLogix, FlexLogix, CompactLogix, and MicroLogix PLCs.

This *Tech Note* explains a basic step-by-step procedure on setting up the Compact Panel ABCIP Driver to communicate to a MicroLogix 1100 PLC through an ethernet connection. For more configuration options refer to the InTouch® Compact Edition ABCIP Configuration Guide.

Note: This *Tech Note* assumes you have created a Compact Panel InTouch application. You should also be familiar with the basic setup, configuration and publishing of a Compact Panel InTouch application. See Compact Edition Tech Notes **516** and **517** for information regarding InTouch Compact Panel Edition.

Create an Access Name

1. Click **Special/Access Names** from the WindowMaker menu.
2. Click **Add**.
3. Type an **Access Name**. This name is used in the ABCIP driver configuration.
4. Type an **Application Name**. For purposes of Compact Panel IO Driver configuration, this name is arbitrary, and does not point to an actual application.
5. Type a **Topic Name**. For purposes of Compact Panel IO Driver configuration, this name is arbitrary and does not point to an actual topic.

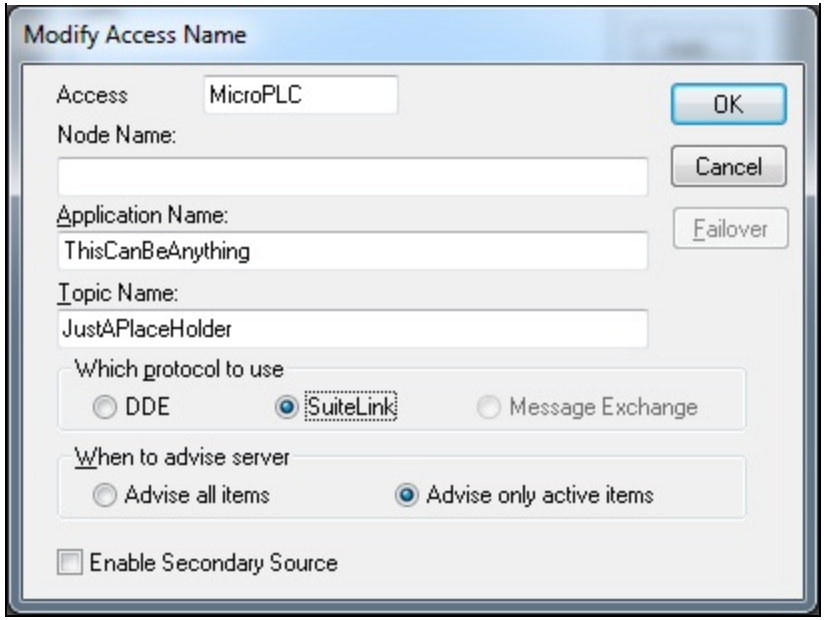

FIGURE 1: ACCESS NAME DEFINITION

6. Click **OK** then **Close**.

ABCIP Configuration

1. Click **Special / InTouch Compact Edition application / IO Driver Configuration** from the WindowMaker menu.
2. Select **ABCIP** from the list of available drivers.
3. Choose the Access Name defined above in the **Access Name Mapping** section. In the following example, **MicroPLC** is selected.
4. Select **ABCIP** from the **Mapping I/O Driver** drop-down list.
5. For a direct ethernet connection to a MicroLogix PLC, type the PLC Family (either **4** or **1100** for a MicroLogix PLC), then the IP Address in the **Station Address** dialog box using the following format:

   <PLC Family>:<IP Address>

   This example shows the **Station Address** for a MicroLogix **1100** PLC at IP address **10.2.68.134**.

Note: See the InTouch Compact Edition ABCIP Configuration Guide for a list of valid PLC families and configurations.

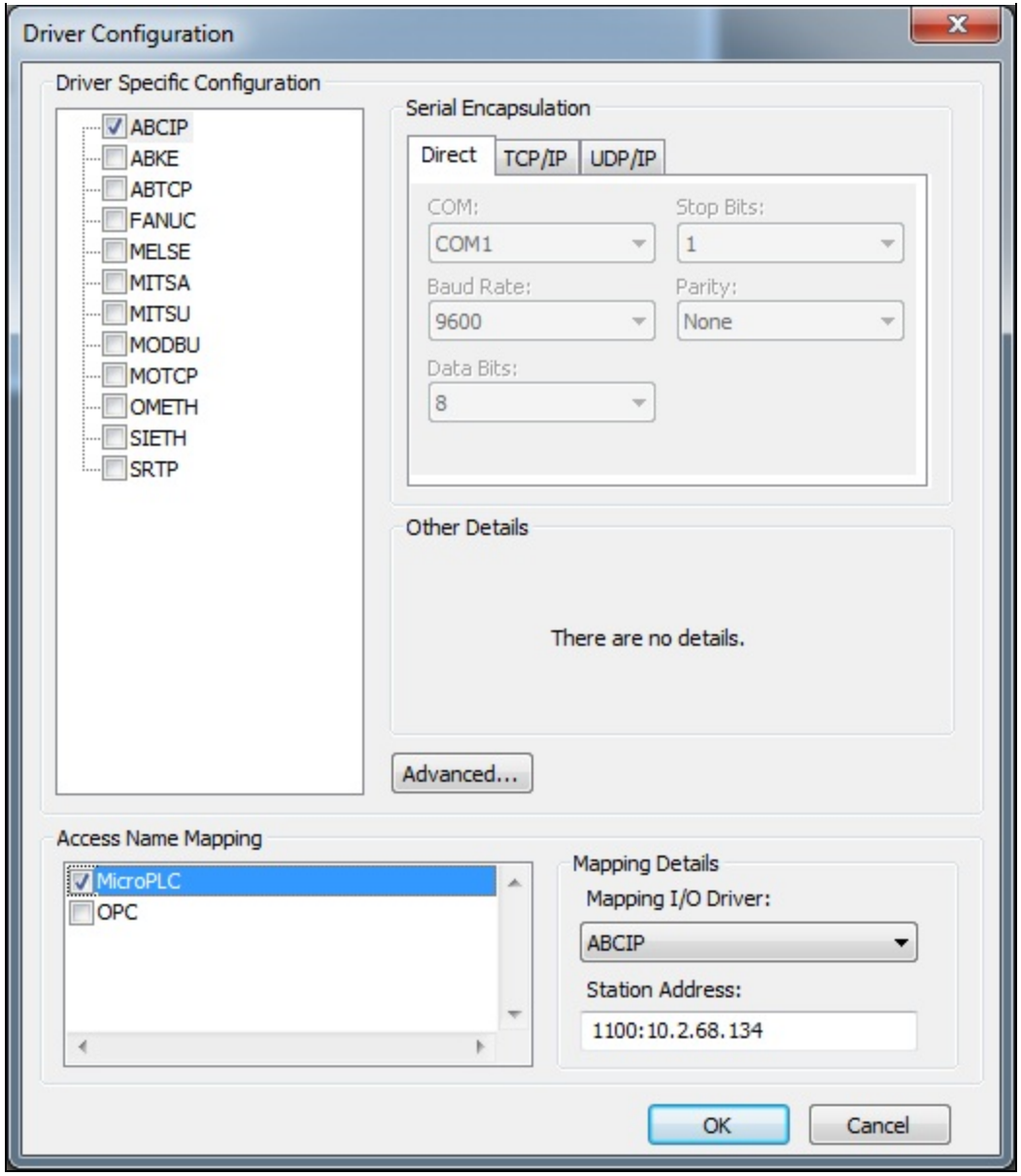

FIGURE 2: DRIVER CONFIGURATION

Create an IO Tag

1. Click **Special/Tagname Dictionary** from the WindowMaker menu.
2. Click **New**.
3. Click **Type** then select **I/O Integer**

4. Type a Tagname.
5. Click **Access Name**, then select the Access Name that has been assigned to the IO Driver above.

   In this example, **MicroPLC** is selected.
6. Proivde an item name that exists in the MicroLogix PLC. The item name in this example is an Integer tag named **n7:0**.

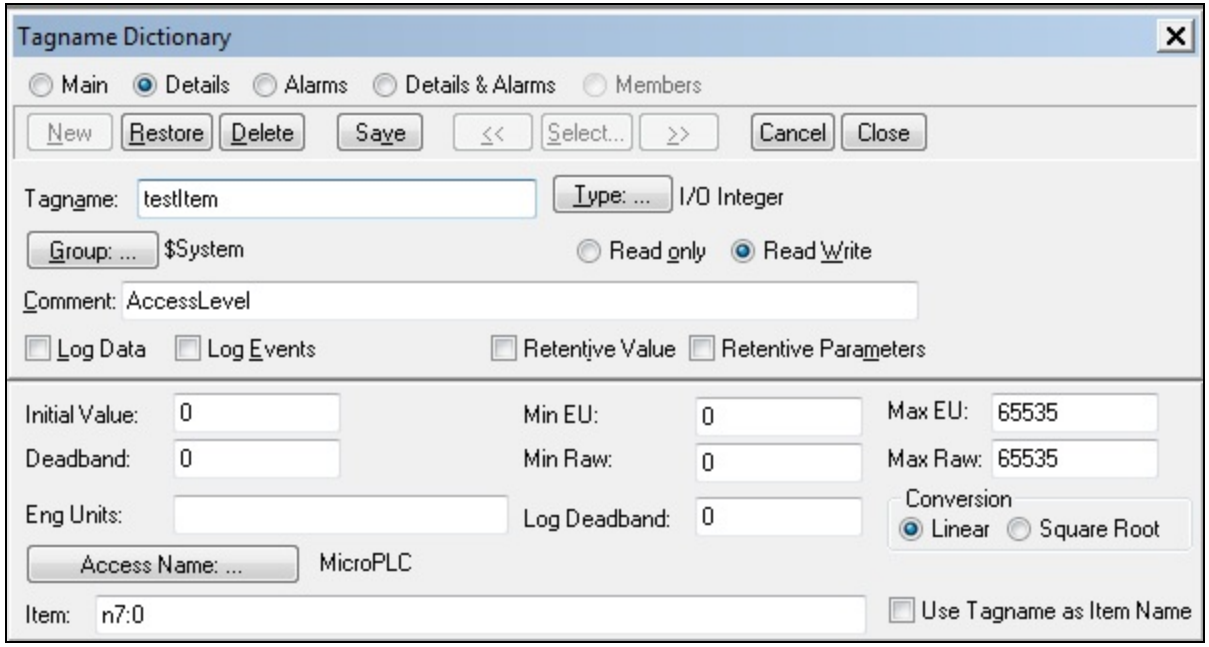

FIGURE 3: TAGNAME CONFIGURATION

7. Click **Save** then **Close**.

Note: For a list of supported MicroLogix item names, see the InTouch® Compact Edition ABCIP Configuration Guide.

Create an InTouch Window

1. Create a new window in WindowMaker.
2. Place a pound sign (**#**) on the window and double-click the pound sign.
3. Select an **Analog Value Display**.
4. Type the Tagname defined above in the **Expression** dialog box.

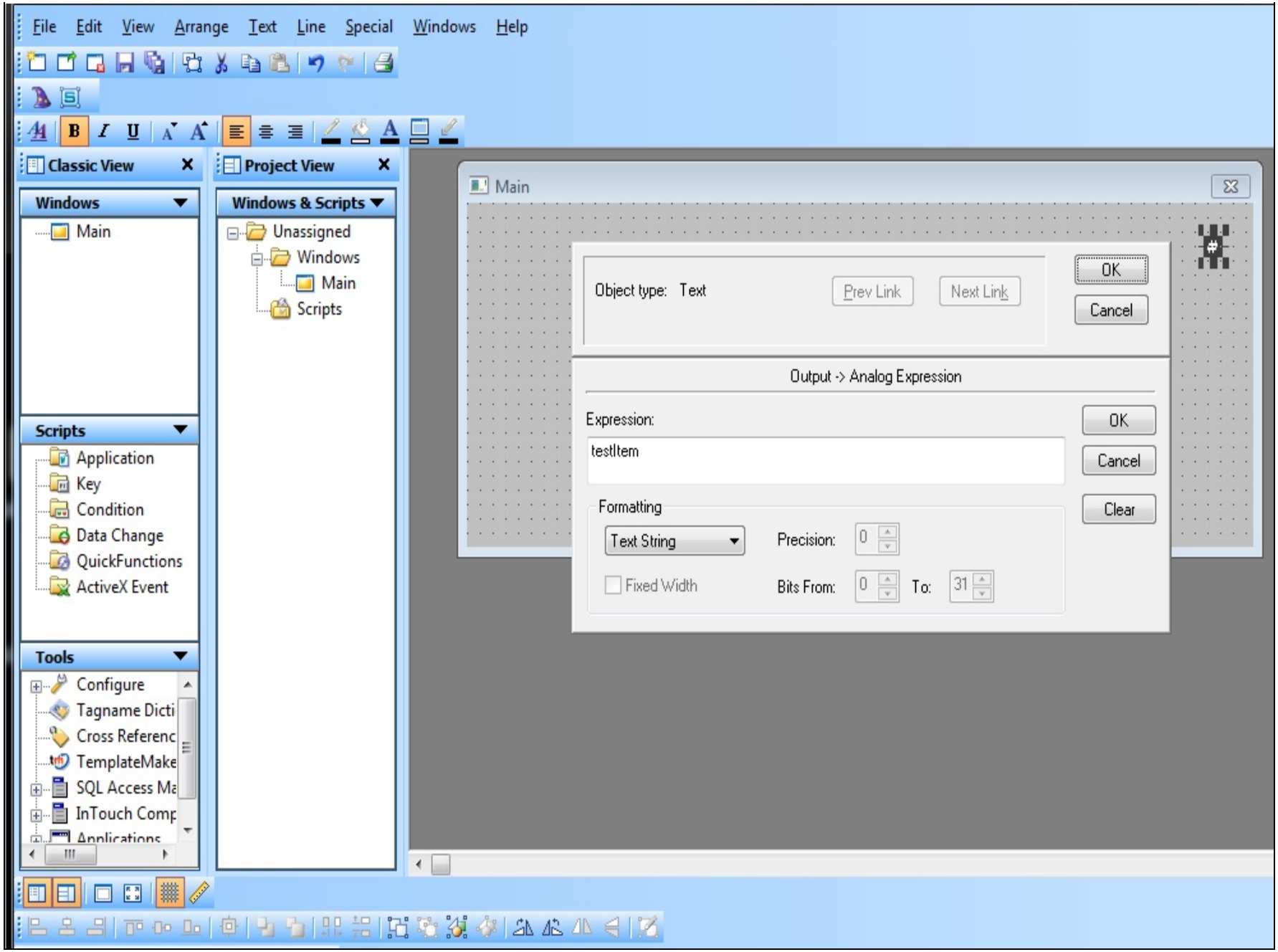

FIGURE 4: VALUE DISPLAY

5. Select **OK** then save the window.
6. Close WindowMaker.

Publish the Application

1. Click **Special / InTouch Compact Edition application / Validate / Publish** from the WindowMaker menu. The application should validate without errors.
2. Click **Publish**. When Publish is complete click **Download**.
3. Connect to the Compact Panel, then send the InTouch application to the Compact Panel. When this is complete, run the application.

Troubleshooting

You can use the following ABCIP built-in items to help troubleshoot issues between the ABCIP IO Driver and the PLC:

1. **SysReadStatus** - This tag contains an error code for a failed read operation from the PLC.
2. **SysWriteStatus** - This tag contains an error code for a failed write operation from the PLC.

   These items can be configured as **IO Integer** tags in your InTouch application. The tags can then be displayed in a window and will contain an error code.

   The following table lists error codes descriptions and possible causes:

Code	Description	Possible Cause
0	OK	Communication without problems
3	Invalid command	Invalid data type for item name
6	Invalid IRQ	Internal error
7	Invalid block size	Internal error when generating the protocol block sizes
8	Invalid write command	The PLC does not recognize the tag that the application is trying to write to
9	Out of memory	There is not enough memory for the I/O Server
10	Fail to allocate memory	HMI ran out of memory
11	Invalid read command	The PLC did not recognize the tag that the application is trying to read from
12	Rx buffer empty	Internal error
13	Rx buffer full	Internal error
15	Time out waiting to start a message	Response was not received from the device
16	Time out waiting for a message to finish	Started receiving a response but the communication was suspended
17	Time out between rx char	Response was not received from the device
18	Time out between tx char	Started receiving a response but communication was suspended
19	No carrier detected	Started receiving a response but communication was suspended
22	Invalid data type	Invalid data type for item name
23	Error in send_RR_data function	The driver is not getting the logical connection to the PLC
32	Time out waiting for a tx message to finish	Started receiving a response but the communication was suspended
33	Invalid driver configuration file	Internal error

34	Invalid or unsupported item name	Item name specified is either invalid or unsupported
35	Driver API not initialized	Internal error
36	Invalid or unsupported item name	Item name specified is either invalid or unsupported
37	Invalid or unsupported item name	Item name specified is either invalid or unsupported
38	Invalid station	Station specified for this driver is invalid
39	Invalid block size	Internal error when generating the protocol block sizes
1004	Time out	IP Address may be wrong or the SLOT configuration in STATION field may be incorrect
1005	Time out	IP Address may be wrong or the SLOT configuration in STATION field may be incorrect
-15	Time out start message	Disconnected cables. PLC is turned off, in stop mode, or in error mode. Wrong station number.
-17	Time out between rx char	PLC in stop mode or in error mode. Wrong station number.

For more troubleshooting information refer to the InTouch® Compact Edition ABCIP Configuration Guide.

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Tech Notes are published occasionally by Wonderware Technical Support. Publisher: Invensys Systems, Inc., 26561 Rancho Parkway South, Lake Forest, CA 92630. There is also technical information on our software products at **Wonderware Technical Support.**

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