

# Allen Bradley CIP Driver User Guide

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## Installation

Install `isoftAb-rt.jar` and `isoftAb-wb.jar` on the computer where Niagara N4 Workbench will run. To install, place a copy of the file in the modules directory of your Niagara N4 installation. This is typically `C:\Niagara\Niagara-4.n.nnn\modules`.

Install `isoftAb` module on the target station. Using a Niagara N4 workbench where the module has already been installed, connect to the stations platform service. Go to the software manager and install `isoftAb`.

Apart from installing the *4.n.nnn* version of the Niagara distribution files in the JACE, make sure to install the `isoftAb` module too (if not already present, or upgrade if an older revision). For more details, see “About the Commissioning Wizard” in the JACE Niagara N4 Install and Startup Guide.

Following this, the station is now ready for Allen Bardley software integration, as described in the rest of this document.

## Requirement

- Niagara N4 workbench 4.0.22.x or higher.
  1. TCP/IP.
- Niagara N4 platform JACE support:
  1. JACE-3E.
  2. JACE 6xx.
  3. JACE 7xx.
  4. JACE 8000 (Titan JACE).
- Niagara N4 platform PC support:
  1. Windows OS 32/64.
- Allen Bradley CIP Devices support:
  1. Logix5 series.
  2. PLC/SLC 5
  3. PLC/SLC 2.

Note: The connection only can be made via the CIP gateway connection 1756-ENBT/A Ethernet module

## Quick Start

This section provides a collection of procedures to use the Niagara N4 Allen Bradley drivers to build networks of devices with proxy points and other components. Like other Niagara N4 drivers, you can do most configurations from special “manager” views and property sheets using Workbench.

- For any of the Ab networks:
  - [“Configure the Ab network”](#)
  - [“Add Ab devices”](#)
  - [“Create Ab proxy points”](#)

### Configure Ab Network

To add and configure a Ab network, perform the following main tasks:

- Add the Ab network, as needed:
  - [Add a AbNetwork](#)

### Add a Ab Network

#### To add a Ab Network in the station

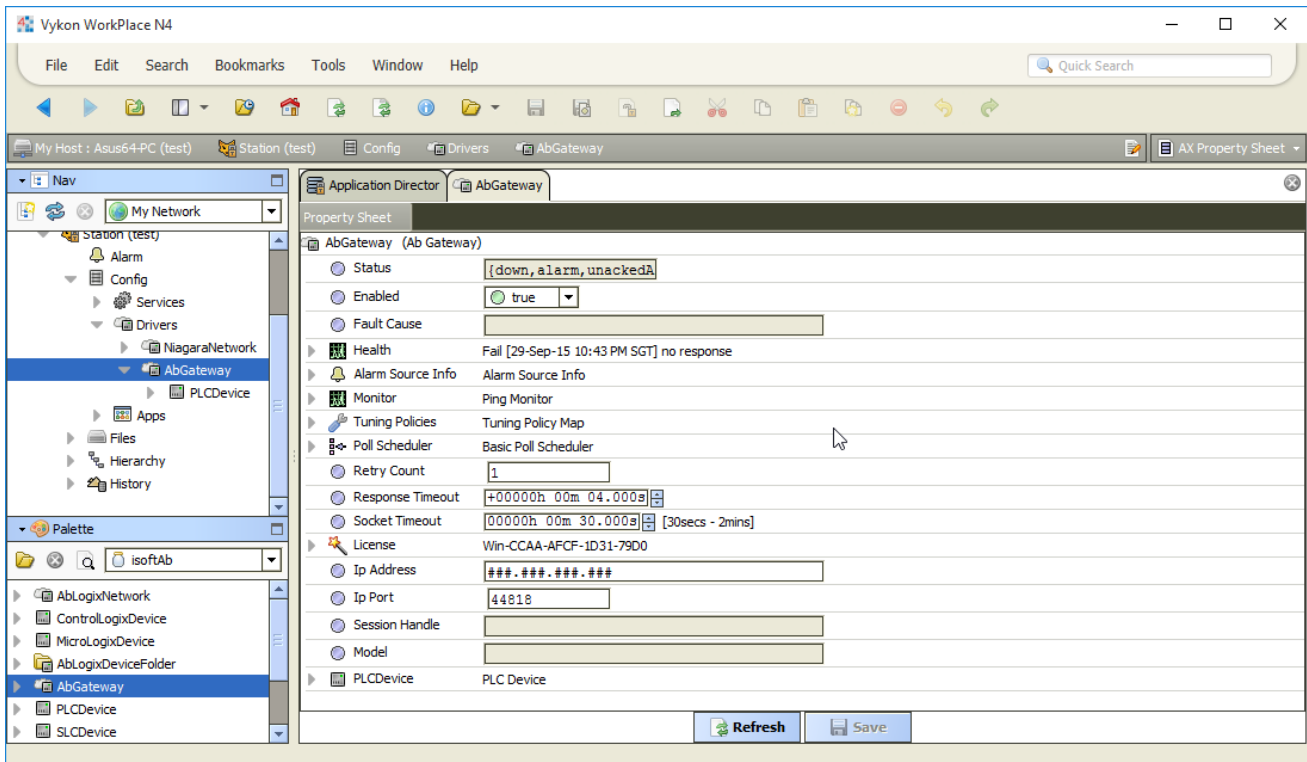
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Use the following procedure to add a AbNetwork component under the station’s Drivers Container.

To add a AbNetwork in the station:

- Double-click the station’s **Drivers** container, to bring up the **Driver Manager**.
- Click the **New** button to bring up the New network dialog. For more details, see [“Driver Manager New and Edit”](#) in the *Drivers Guide*.

- Select “AbNetwork,” number to add: 1 (or more, if multiple) and click **OK**. This brings up a dialog to name the network(s).
- Click **OK** to add the AbNetwork (s) to the station. You should have a AbNetwork named “AbNetwork” (or whatever you named it), under your Drivers folder, initially showing a status of “{ok}” and enabled as “true.”



## Add a Ab Devices

After adding a Ab Network, you can use the network’s default “device manager” view to add the appropriate Ab devices.

### To add a Ab device in the network

Use the following procedure to add the correct type of Ab device in the network. To add a Ab device:

- In the Nav tree or in the Driver Manager view, double-click the client network, to bring up the device manager (Ab Device Manager). All of these device manager views operate in a similar fashion.

**Note:** For general device manager information, see the “*About the Device Manager*” section in the *Drivers Guide*.

- Click the **New** button to bring up the **New** device dialog.
- Select for number to add: 1 (or more, if multiple) and click **OK**.  
This brings up a dialog to name the device(s), select the correct device type PLC or SLC and enter Slot, Channel and node address.
  - Any *Ab Device* needs the unique node address in use.
- Click **OK** to add the Ab device(s) to the network.  
You should see the device(s) listed in the Ab Device Manager view, showing a status of “{ok}” and enabled as “true.”

If a device shows “down” check the configuration of the network and/or node address. You can simply double-click a device in the device manager to review settings in an **Edit** dialog, identical to the **New** dialog when you added it.

After making any address changes, click **Save**, then right-click the device and select **Actions > Ping**.

## Create Ab Proxy Point


As with device objects in other drivers, each Ab device has a **Points** extension that serves as the container for proxy points. The default view for any Points extension is the Point Manager (and in this case, the “**Ab Point Manager**”). You use it to add Ab proxy points under any Ab device.

### To add Ab proxy points

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Once a Ab device is added, you can add proxy points to read and write data. If programming online (and the device shows a status of “{ok}”), you can get statuses and values back immediately, to help determine if point configuration is correct. Use the following procedure:

To create Ab proxy points in a device:

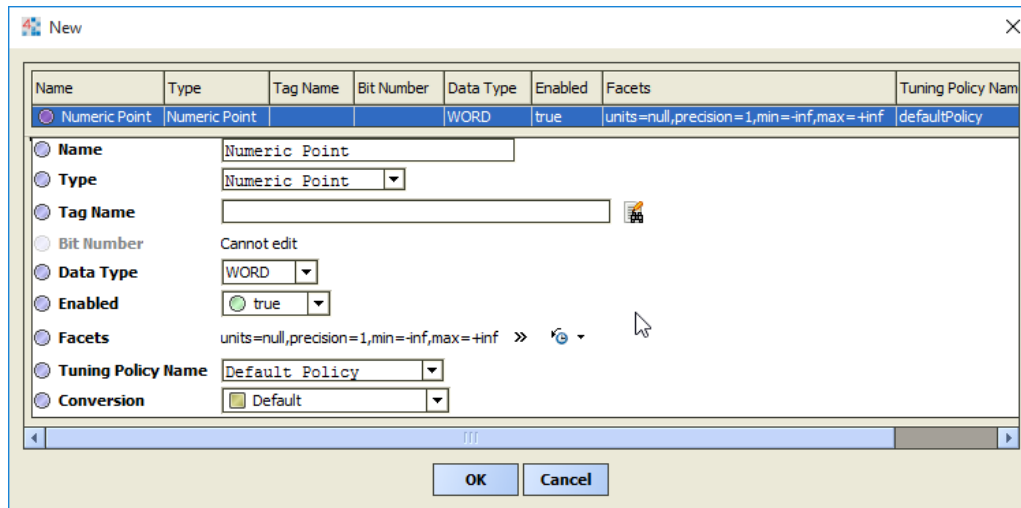
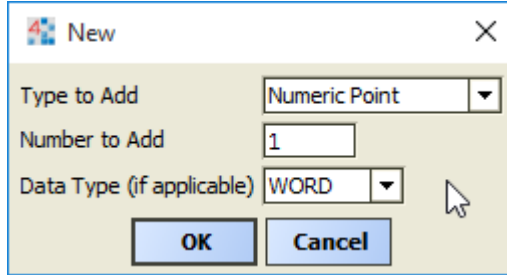
- In the **Device Manager**, in the **Exts** column, double-click the Points icon  in the row representing the device you wish to create proxy points.

This brings up the **Ab Point Manager**.

- (Optional) Click the **New Folder** button to create a new points folder to help organize points, and give it a short name, such as “TempNo1”, or whatever name works for your application. You

can repeat this to make multiple points folders, or simply skip this step to make all proxy points in the root of **Points**. Note that all points' folders have their own **Ab Point Manager** view, just like **Points**. If making points folders, double-click one to move to its location (and see the point manager).

- At the location needed (**Points** root, or a points folder), click the **New** button. The **New** points dialog appears, in which you select a point Type, data type and tag name.



For more details, see [“About Ab proxy points”](#)

- Click **OK** to add the proxy point(s) to the Points extension (or to the current points folder), where each shows as a row in the point manager.

If parameter correctly, each point should have a status of “{ok}” with a polled value displayed.

- If a point shows a “{fault}” status, check its ProxyExt “Fault Cause” property value, which typically includes a Ab “exception code” string, such as “Read fault: illegal data address”. In such a case, re-check the address in the point against the documented address for the data item.
- Continue to add proxy points as needed under the **Points** extension of each Ab device. As needed, double-click one or more existing points for the **Edit** dialog, similar to the **New** dialog



used to create the points. This is commonly done for re-editing items like data addresses, names, or facets.

## Ab View

- [Ab Device Manager](#)
- [Ab Point Manager](#)

### Ab Device Manager

The Ab Device Manager is the default view when you double-click on a Ab Network in the Nav tree. This manager view provides a quick and easy way to display.

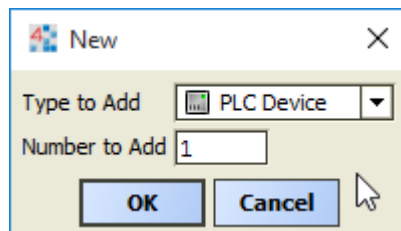
The Ab Device Manager is the default view for any Ab Network container. The Ab Device Manager is a table-based view, where each row represents a unique device. When building a network in the station, you use this view to create, edit, and delete device-level components. Below is an example Ab Device Manager view.

Database									17 objects
Name	Type	Exts	Channel	Node	Device Name	Connection Id	Status	Health	
FIU_1	Ab Plc Device		A	1	BMS_ST01	B4ExAA==	{ok}	Ok [03-Sep-09 5:49 PM EST]	
FIU_2	Ab Plc Device		A	2	BMS_ST02	Ct8xAA==	{ok}	Ok [03-Sep-09 5:49 PM EST]	
FIU_3	Ab Plc Device		A	3	BMS_ST03	C+ExAA==	{ok}	Ok [03-Sep-09 5:49 PM EST]	
FIU_4	Ab Plc Device		A	4	BMS_ST04	AAFkAA==	{down,alarm,unackedAlarm}	Fail [03-Sep-09 5:48 PM EST] No response	
FIU_6	Ab Plc Device		A	6	BMS_ST06	CJUxAA==	{ok}	Ok [03-Sep-09 5:49 PM EST]	
FIU_7	Ab Plc Device		A	7	BMS_ST07	DHsxAA==	{ok}	Ok [03-Sep-09 5:49 PM EST]	
FIU_8	Ab Plc Device		A	10	BMS_ST10	CZ0xAA==	{unackedAlarm}	Ok [03-Sep-09 5:48 PM EST]	
FIU_9_10	Ab Plc Device		A	11	BMS_ST11	AAFJAA==	{down,alarm,unackedAlarm}	Fail [03-Sep-09 5:47 PM EST] No response	
FIU_13	Ab Plc Device		A	14	BMS_ST14	CZsxAA==	{unackedAlarm}	Ok [03-Sep-09 5:47 PM EST]	
AIR_5	Ab Slc Device		A	31	AB5	DZ8xAA==	{unackedAlarm}	Ok [03-Sep-09 5:48 PM EST]	
AIR_6	Ab Slc Device		A	32	AB6	DqExAA==	{unackedAlarm}	Ok [03-Sep-09 5:48 PM EST]	
BRIDGE_2	Ab Slc Device		A	33	AB2	D6MxAA==	{down}	Fail [03-Sep-09 5:48 PM EST] No response	
BRIDGE_3	Ab Slc Device		A	34	AB3	EKUxAA==	{unackedAlarm}	Ok [03-Sep-09 5:49 PM EST]	
BRIDGE_4	Ab Slc Device		A	35	AB4	EacxAA==	{unackedAlarm}	Ok [03-Sep-09 5:49 PM EST]	
AIR_1	Ab Slc Device		A	36	AB1	EqloxAA==	{unackedAlarm}	Ok [03-Sep-09 5:49 PM EST]	
BAGGAGE	Ab Slc Device		A	30			{ok}	Ok [03-Sep-09 5:49 PM EST]	
AbPlcDeviceAzmiSample	Ab Plc Device		A	1	BMS_ST01	E6sxAA==	{unackedAlarm}	Ok [03-Sep-09 5:49 PM EST]	

The view above shows a typical Ab Device Manager view.

The “New Folder”, “New”, and “Edit” buttons are not unique to the Ab Device Manager, and are explained in the “Niagara N4 User’s Guide” in the “Driver Architecture” section. The “Match” button is not used for the Ab driver.

You can now add the devices to the station database by clicking the “Add” button. This will pop up the “Add” dialog box:



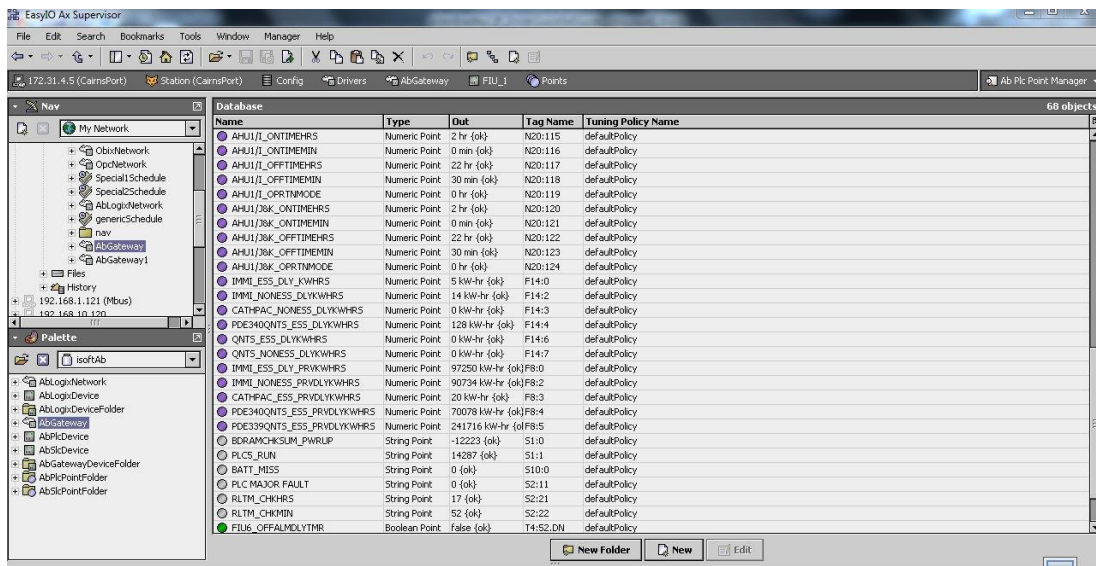
The “Add” dialog box affords you the opportunity to tweak the display name, enabled state, and/or device type or node address of each of the selected devices. Click the “OK” button to add the devices to the database, or click “Cancel” to bail out.

## Ab Point Manager

The Ab Point Manager is the default view when you double-click on a “points” folder (a AbPointDeviceExt type folder) under a AbDevice in the Nav tree. This manager view provides a quick and easy way to display and learn Ab points in a Ab device.

The Ab Point Manager is the default view for any Ab PointDeviceExt container. The Ab Point Manager is a table-based view, where each row represents a unique Ab address within a device.

Below is an example Ab Point Manager view.



The “New Folder”, “New”, and “Edit” buttons are not unique to the Ab Device Manager, and are explained in the “Niagara N4 User’s Guide” in the “Driver Architecture” section. The “Match” button is not used for the Ab driver.

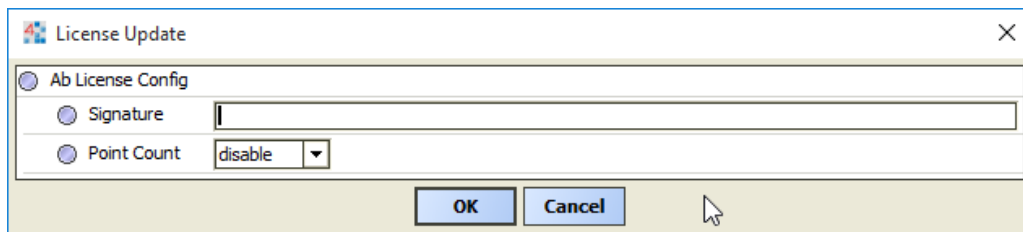
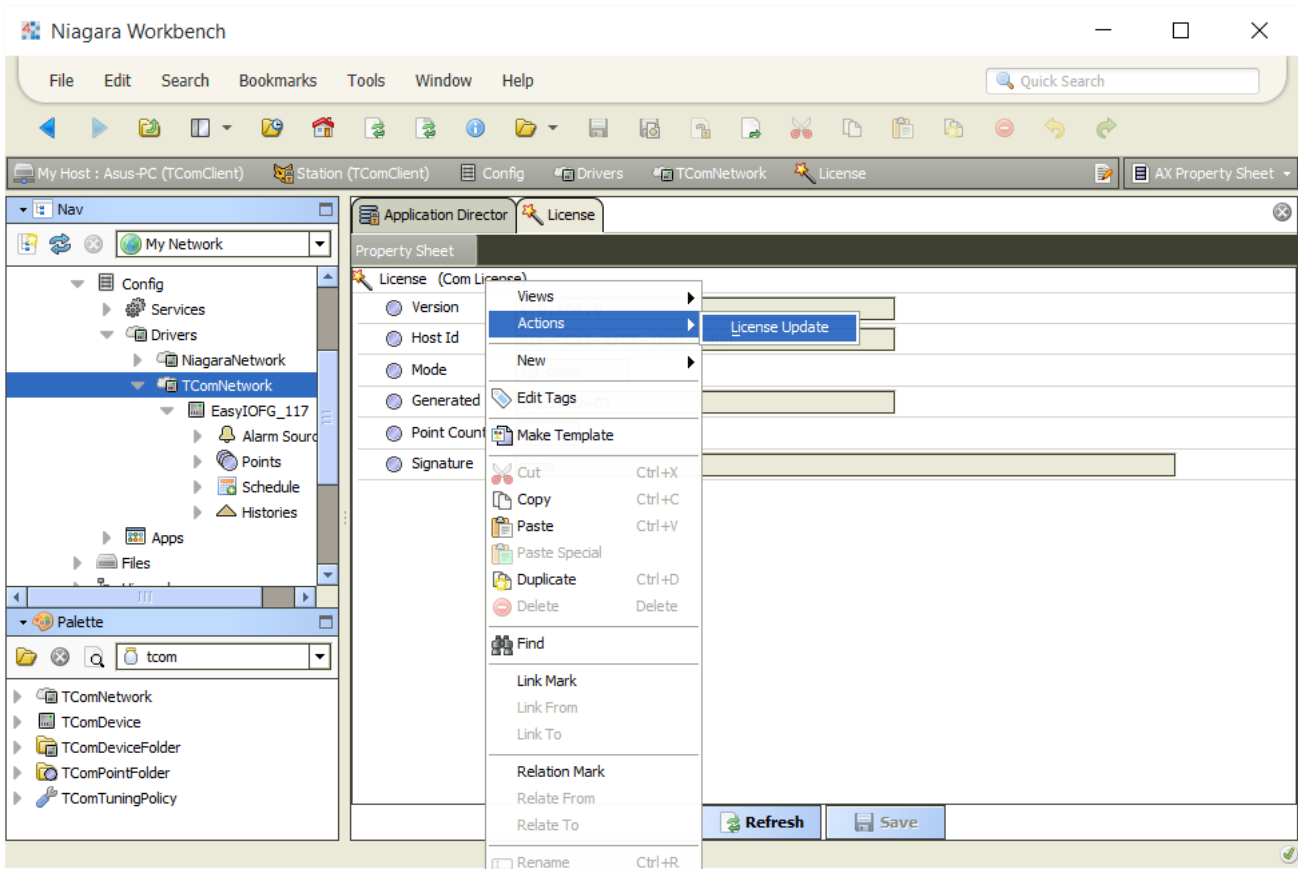
Once the point(s) are satisfactorily edited, click “OK” to create the proxy points corresponding to the point property.

## Licensing

Ab driver License is running independently from the Tridium license, it has no restriction to run to any of the existing license vendor.

The Ab license provide 2 hour demo license without the signature code. After the demo license expired the Ab Driver communication will stop automatically and will show fatal fault at the Ab Network level. "isoftAb license expired". To extend the demo period user required to restart the station.

To request the license please submit the JACE/Web Supervisor host ID, to unlock the driver simply go to the license property, select the word "License" and click right mouse button, action and invoke command "License Update", the dialog "License Update" will appear as below. Place the Signature code at the "Unlock Code" and select the point Count (if applicable) property. Please take note the license only provide by authorize vendor. If the signature code is successful enter the property "Mode" will automatically change to "registered" and user is required to reboot the JACE to apply the change.



\*\*\*End\*\*\*