Automated Logic WebCTRL Driver for Tridium Niagara

User Guide

Introduction

Automated Logic or ALC [1], now part of Carrier Corporation, is one of the first building automation manufacturers who embraced BACnet standard and released a full line of BACnet products. They include fully programmable controllers for unitary / zone applications, small, medium and large extendable and non-extendable controllers, as well as front-end software WebCTRL with many advanced features like Environmental Index, Time-Lapse and Fault Detection and Diagnostics.

There is one thing ALC did differently from the rest of BACnet vendors. They chose ARCNET as a fieldbus, instead of more popular and slow MS/TP. Although ALC ARCNET uses RS-485 physical layer, it is not supported by Niagara JACE nor by almost anyone else.

Our ALC driver for Tridium Niagara communicates with ALC controllers indirectly via WebCTRL server – the standard front-end software deployed on virtually every Automated Logic BMS site. It provides access to the data in all connected controllers, ALC and third-party BACnet ones, as well as legacy ALC CMnet communication protocol.

The driver allows to automatically discover devices and points, import points into Niagara station, read point values and write into them. Points retain their names, types and unit facets, which greatly simplifies integration process.

The driver might be deployed in JACE or in Niagara Supervisor, which could reside either locally on site, or on remote premises, or on a cloud.

Requirements

- Niagara-powered device with software v4.0 (N4) or later, including Jace8000, Supervisor or their OEM versions [2]
- WebCTRL driver module and license
- Login and password to access ALC WebCTRL software with Enterprise feature enabled. This feature allows WebCTRL to communicate with Niagara via SOAP API.

Quick Start

1. Copy WebCTRL-rt.jar to the Niagara modules folder
2. Add **WebCTRLNetwork** to the station's driver manager
3. Open **WebCTRLNetwork** property sheet and copy the license code into the **License** property
4. Drag and drop a **WebCTRLDevice** from the palette

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[1] All trademarks or registered trademarks are property of their respective owners

[2] If support for older Niagara versions is required, please contact the vendor

5. Open the device property sheet and enter **Username**, **Password** and the **Address**
6. Open the device and click on **Discover**, this should receive the hierarchy from the WebCTRL server.
7. You can open the hierarchy and import the respective points to the Niagara station
8. The points can be of the following types - **Analog Input, Analog Output, Analog Value, Binary Input, Binary Output, Binary Value and similarly for Multistate**
9. While adding a point it can be configured as a read only point or a read-write point using the type property.

WebCTRL Network

1. Copy the license code to enable the driver
2. Add WebCTRLDevice to the network
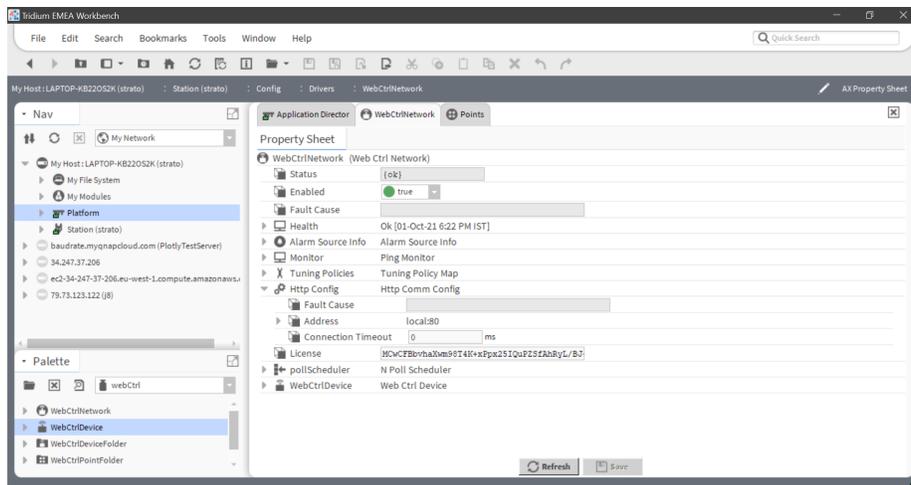
Figure 1: WebCTRL Network Properties

WebCTRL Devices

WebCTRL Device has the following properties -

- **Username** – Username of the WebCTRL server
- **Password** – Password used to access the WebCTRL server
- **Address** – The URL of the WebCTRL server
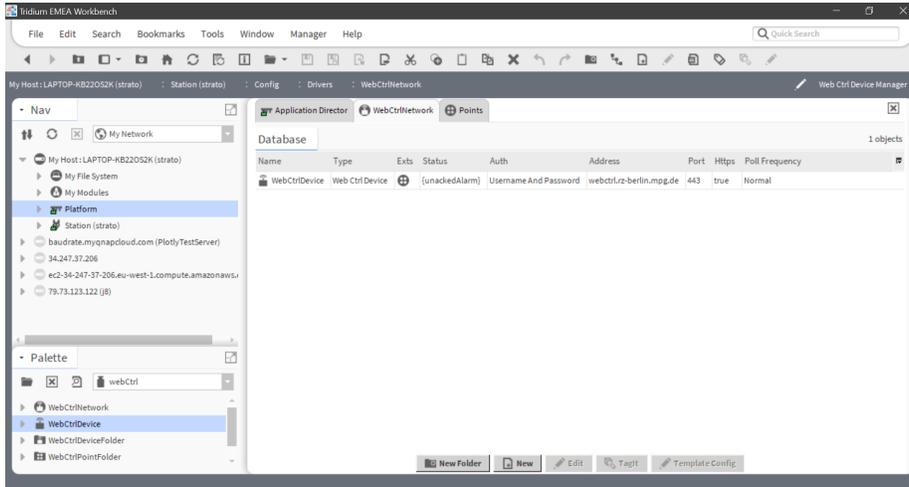
Figure 2: WebCTRL Device
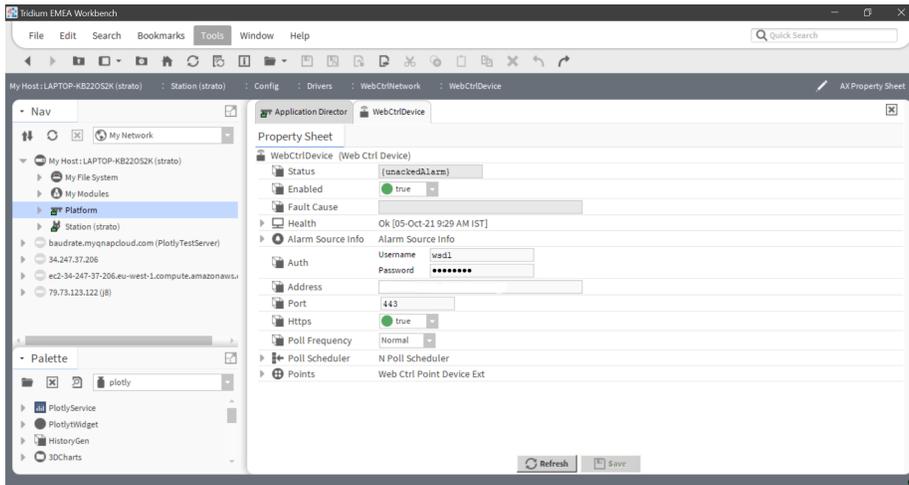
Figure 3: WebCTRL Device properties

WebCTRL Points

WebCTRL points are identified by a type. Types could be:

1. Analog Input/Output/Value
2. Binary Input/Output/Value
3. Multistate Input/Output/Value

Points are physical inputs and outputs, depending on controller model and configuration. Software points are variables, they could be writable – also called setpoints – or read-only.

Writing into point *overwrites* its value, i.e. "old" value will be replaced.

Each point is polled by driver when it is required. Polling rate is defined in Poll Scheduler as in the most Niagara drivers. This allows to find an optimal solution when reading a lot of points as often as suitable.

The way to get WebCTRL points into Niagara is by clicking on **Discover**.

Point Discovery

Discover is a method which allows to get point information directly from the server. This point information will contain the exact hierarchy extracted from the WebCTRL server which can then be expanded and minimized accordingly. Once you have reached the points level you can click on **Add** to import the point into the Niagara Station. The **Add** popup will have a *Type* property under which you can either choose it to be a read-only point or a read-write point. **Note** This property is only valid if the point supports write operation.
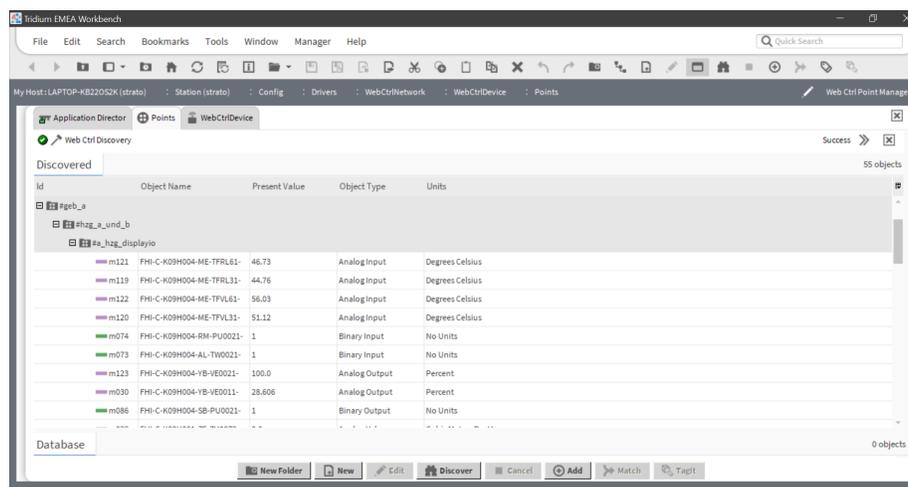
Figure 4: Point Discovery
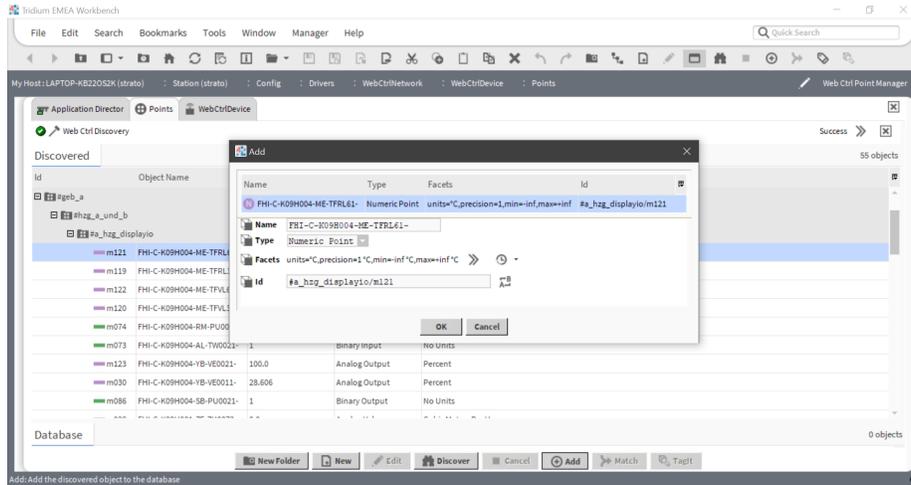
Figure 5: Point Import
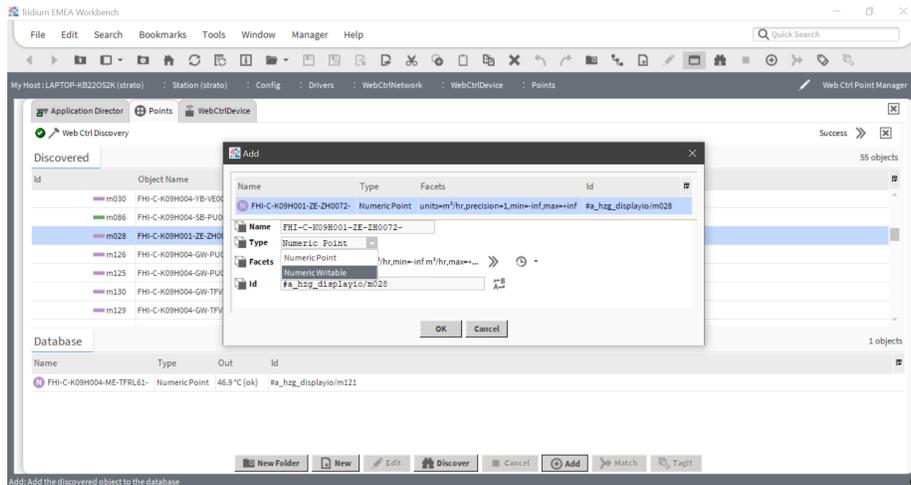
Figure 6: Point Type Property

Point - Write Operation

Once the point has been added to the station as a writable point, to set a new value right click on the point -> then click on Actions -> and then click on Set as shown below. Enter the new value and click ok to set the new value.
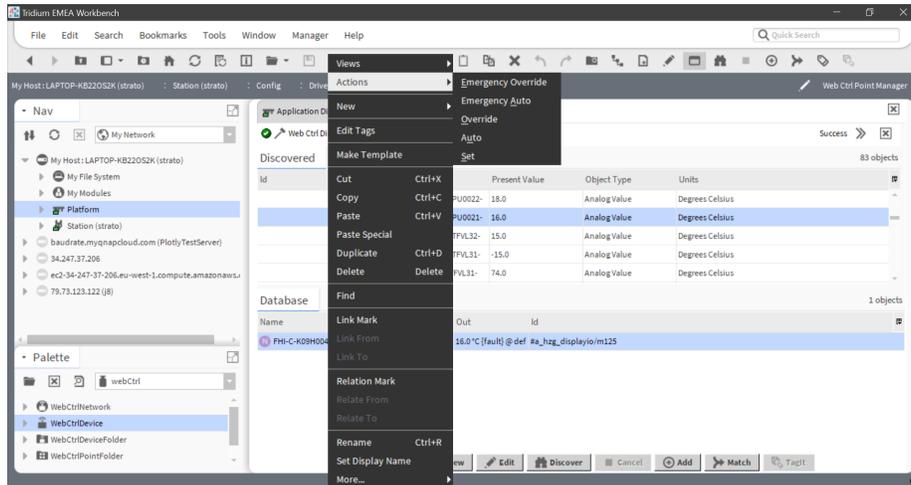
Figure 7: Point Actions Set

Figure 8: Point New Value