Tag Provider

The TagProvider feature is a tool that allows you to access your Communication Device Data Model from any place inside the Engineering Environment without creating project Tags.

Unified Namespace

The Unified Namespace is a software solution that acts as a centralized repository of data, information, and context where any application or device can consume or publish data that is needed for specific actions.

It allows users to collect data from various sources and transform it into a format that other systems can understand. Without a centralized data repository, it could take months to deploy a new analytics application across an entire enterprise versus the mere hours it would take with a unified namespace.

System Requirements

In order to use this feature, you need to make sure your system matches these requirements.

- Product Major Version *9.2*.

Supported Communication Protocols

The TagProvider feature is available for the following Communication Protocols:

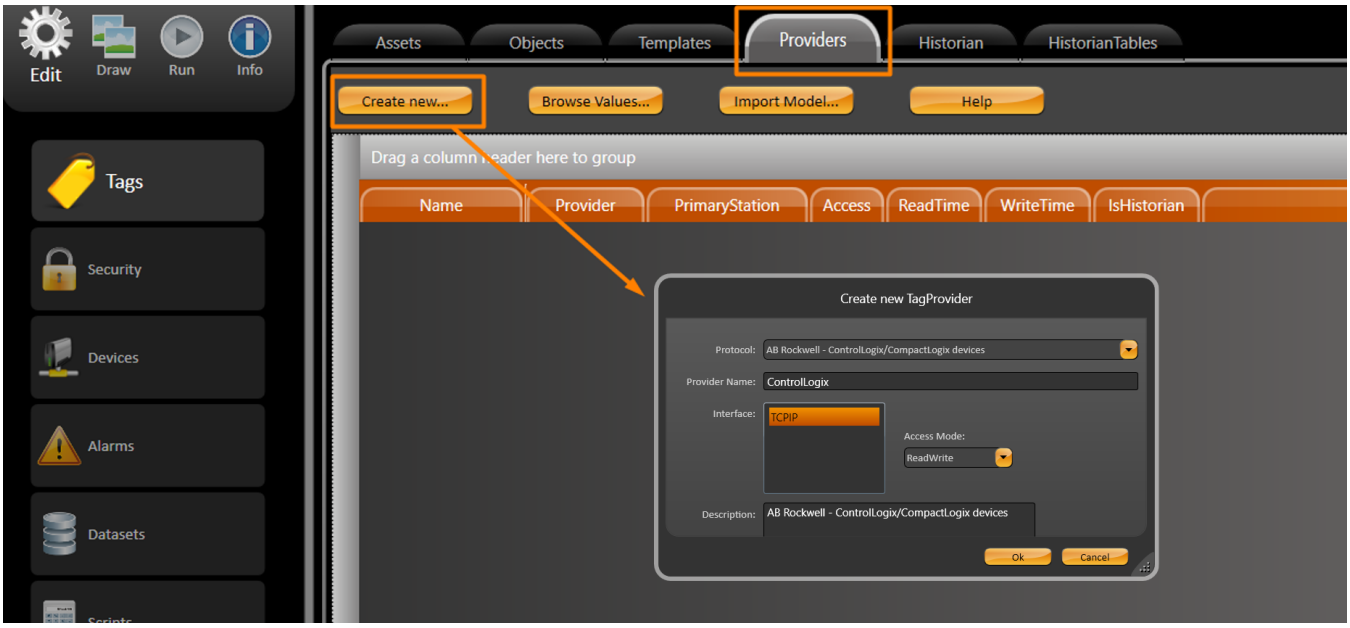
- AB Rockwell - ControlLogix/CompactLogix Devices.
- CanaryLabs (watch the video tutorial)
- OPC UA
- MQTT +SparkpluB - Message Queuing Telemetry Transport. (watch the video tutorial)

How to Use

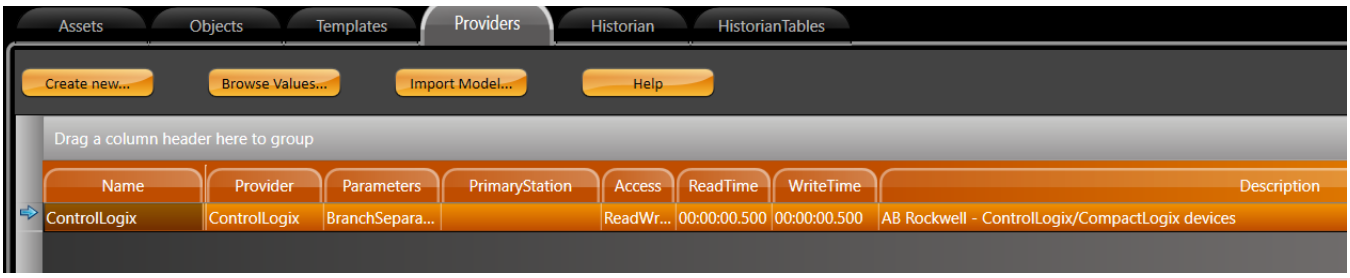
Project Configuration

In your Engineering Environment, navigate to **Edit** > **Tags.** You should see a tab called **Providers**.

Click on the "*Create new...*" button to open a dialog window. Select a Communication Protocol from the list, and define its name.



After you select a Protocol, you will see a configuration table with columns that are similar to the ones in the Channels, Nodes, and Points pages. However, the columns will all be grouped on a single page.



The column configuration settings are detailed below:

- *Name*: Name of the provider. This will be used to access elements from this namespace.
- *Provider*: Communication Protocol of choice.
- *Parameters*: Char separator for the communication protocol of choice.
- *Primary/Backup Station*: Connection String information used to establish a communication (same as in **Devices > Nodes**).
- *Access*: AccessType for this connection (Read/Write/ReadWrite).
- *ReadTime*: Read Pooling Rate.
- *WriteTime*: Write Rate.

The Primary/Backup Station will be configured according to the communication protocol. For more information, please refer to the specific protocol documentation.

The functionalities of the 4 buttons at the top are listed below:

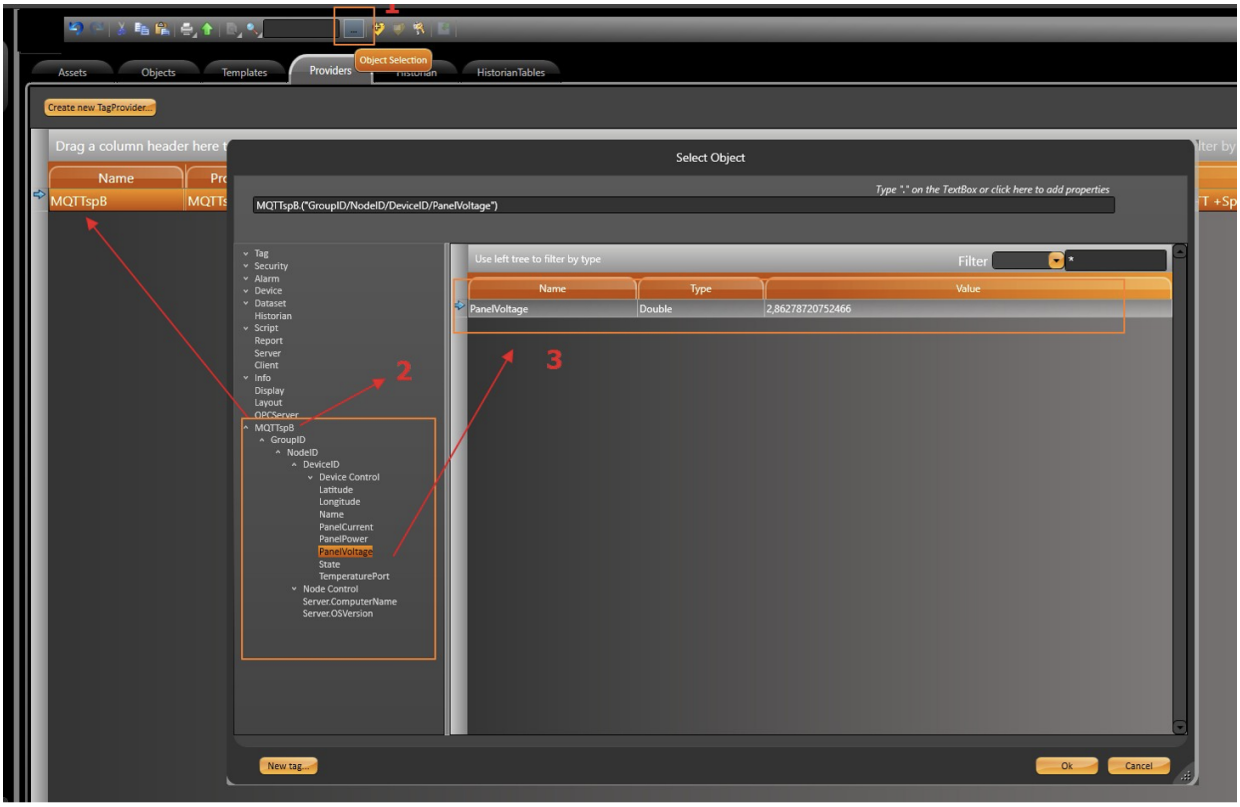
- Create new: Create a new Provider connection.
- Browse Values: Search for the tags and values in the IP connection from PrimaryStation.
- Import Model: It will create a device from this provider. You can do this manually going in Edit > Devices, but using this button is faster.
- Help: This button directs you to the respective Provider document selected.

Access Elements in Engineering

Once you finish your configuration and establish a successful connection, you will be able to access the variables from the Device in various places within the Engineering Environment.

You can start by clicking on the *Object Selection* button (1). In the left portion of the popup window, you should see a list of objects from every the Project Namespace. Use the name that you defined in the TagProvider configuration (2) to search for the namespace.

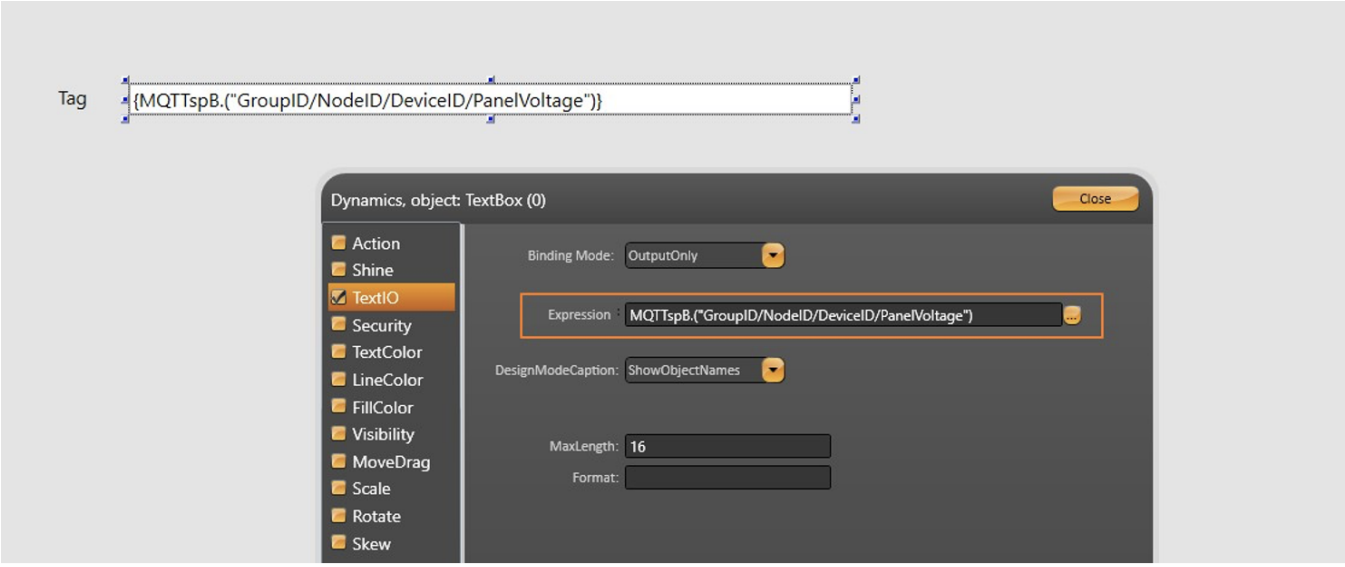
Expand the list so you can see all the variables from that Device. By selecting an element, you can see the current value read from the Device (3).



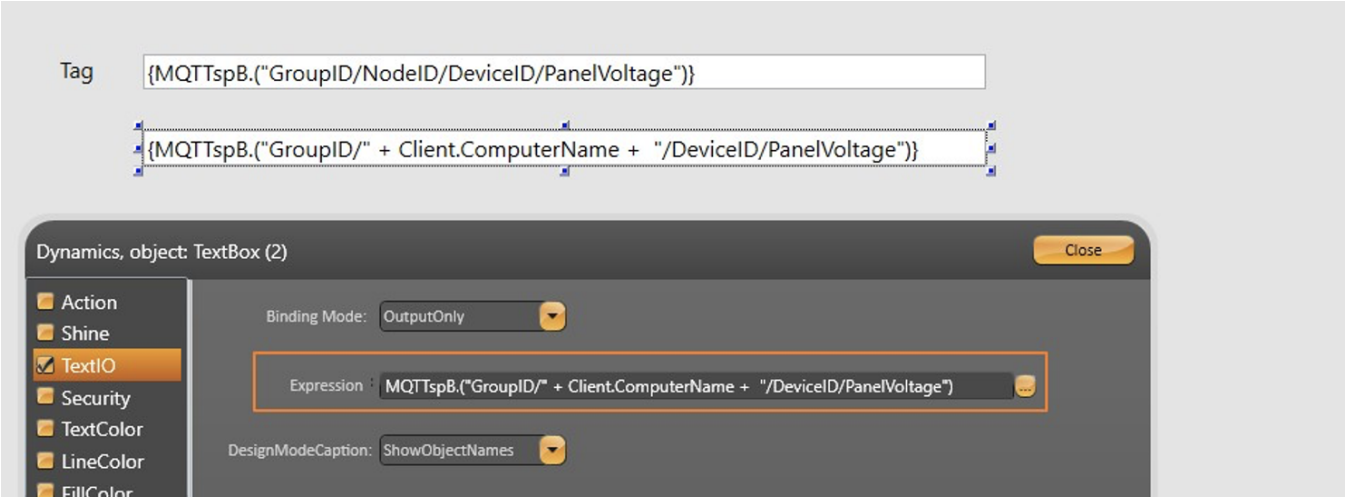
You can also add a Remote Tag to your Display. Go to the **Draw** Environment, select a TextBox element (or any other component/symbol), and add it to your display. Double-click on it and add a TextIO Dynamic with the same method as if you were assigning a tag.

In the **ObjectName** field, select the Browse button and search for the desired variables. By doing this, you can display the information from the Communication Protocol directly in you Display, without the need to create a Tag and Communication Point.

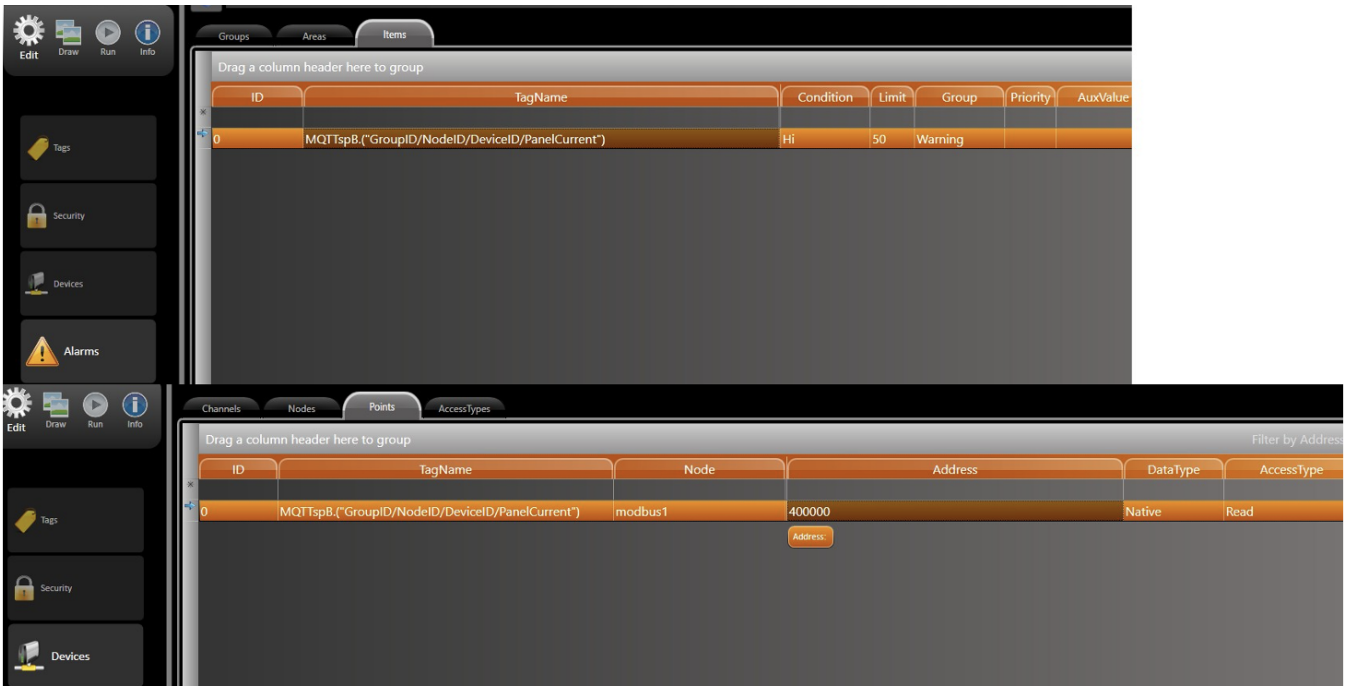
The expression field will be filled with the syntax: ?**TagProviderName**?.("? *Address In Provider* ?").



Since the address in the expression is a string, you can assign other Tags or Properties so that it has a Dynamic Configuration.



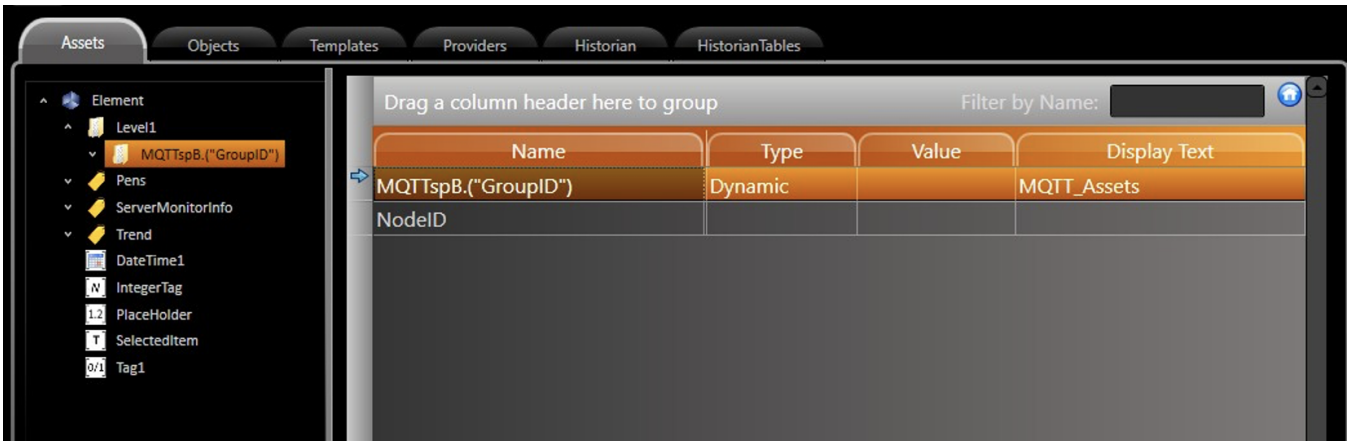
This feature is not limited to Displays. You can create AlarmItems, store data in Historian Tables, and use this remote variable as a Communication Point to Write Data for a different Protocol.



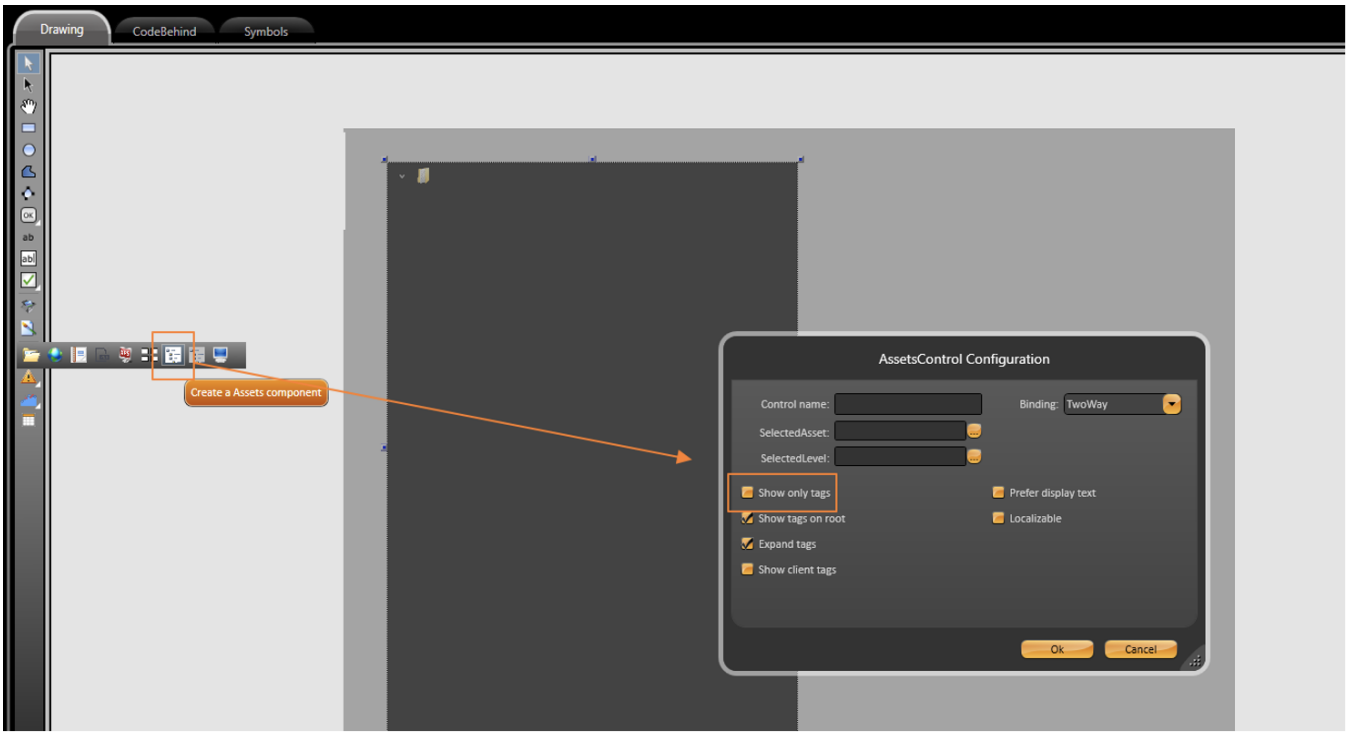
Asset Modeling

It is possible to have a full or partial view of the Data Model inside your Project. In **Edit > Assets**, you can create your own Levels and assign a part of the Device's structure to it from the Namespace discussed in the previous section.

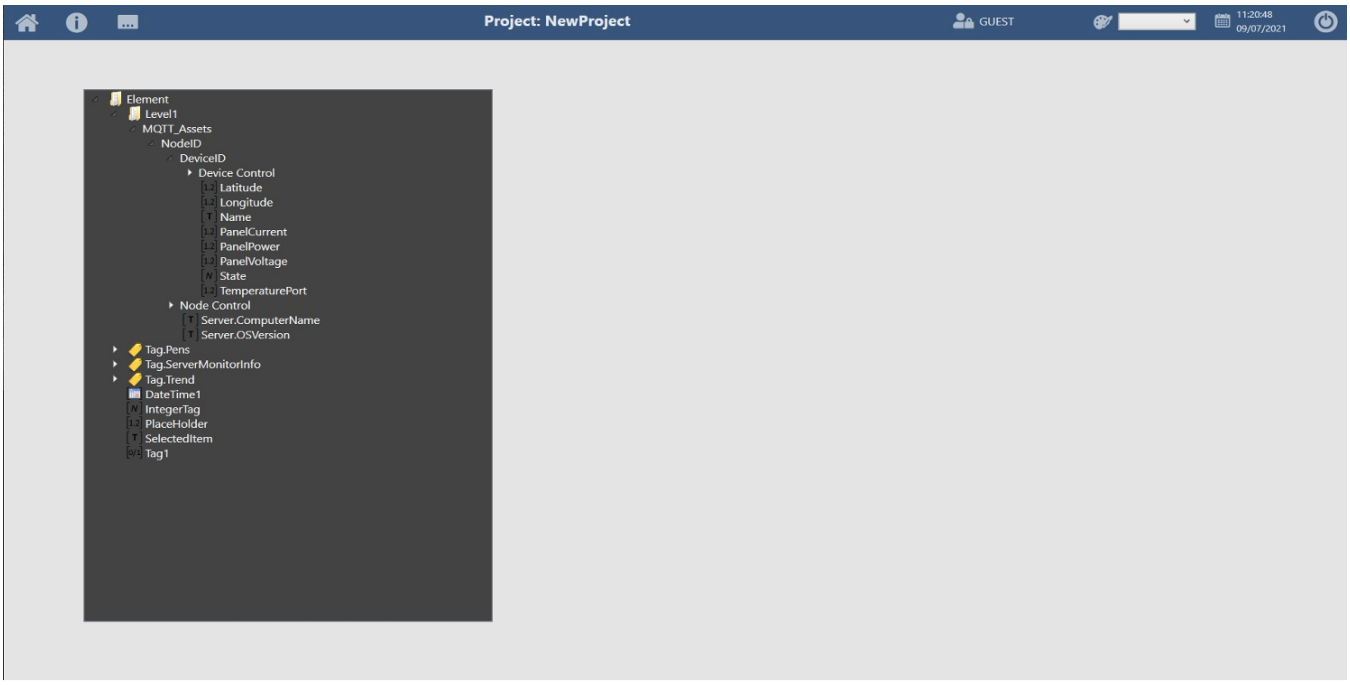
This method allows you to import all of your model, or just a piece of it, from the selected node down. The name of the Level in the Asset Tree (in Runtime) can be edited in the **Description** column.



In your **Draw** Environment, add the **AssetControl** component, open its configuration, and uncheck the **Show only tags** check box.



If you have done everything correctly, your Asset View should look something like this in Runtime.



It is vital to ensure that the information displayed both in Runtime and in the Engineering Environment are Dynamic. The asset tree that is displayed will depend on what information is available in the Device.