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WebAccess/SCADA

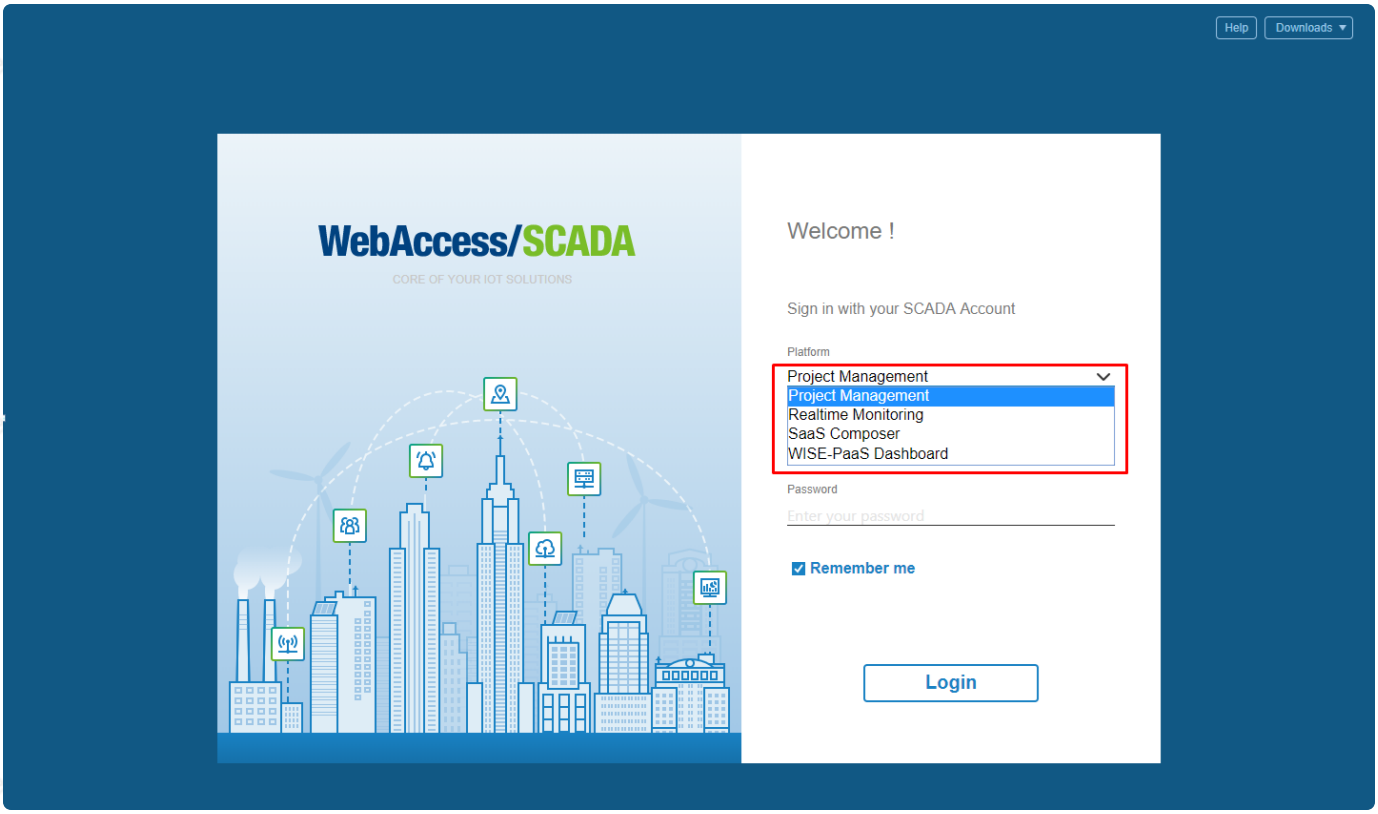
1. Login Page

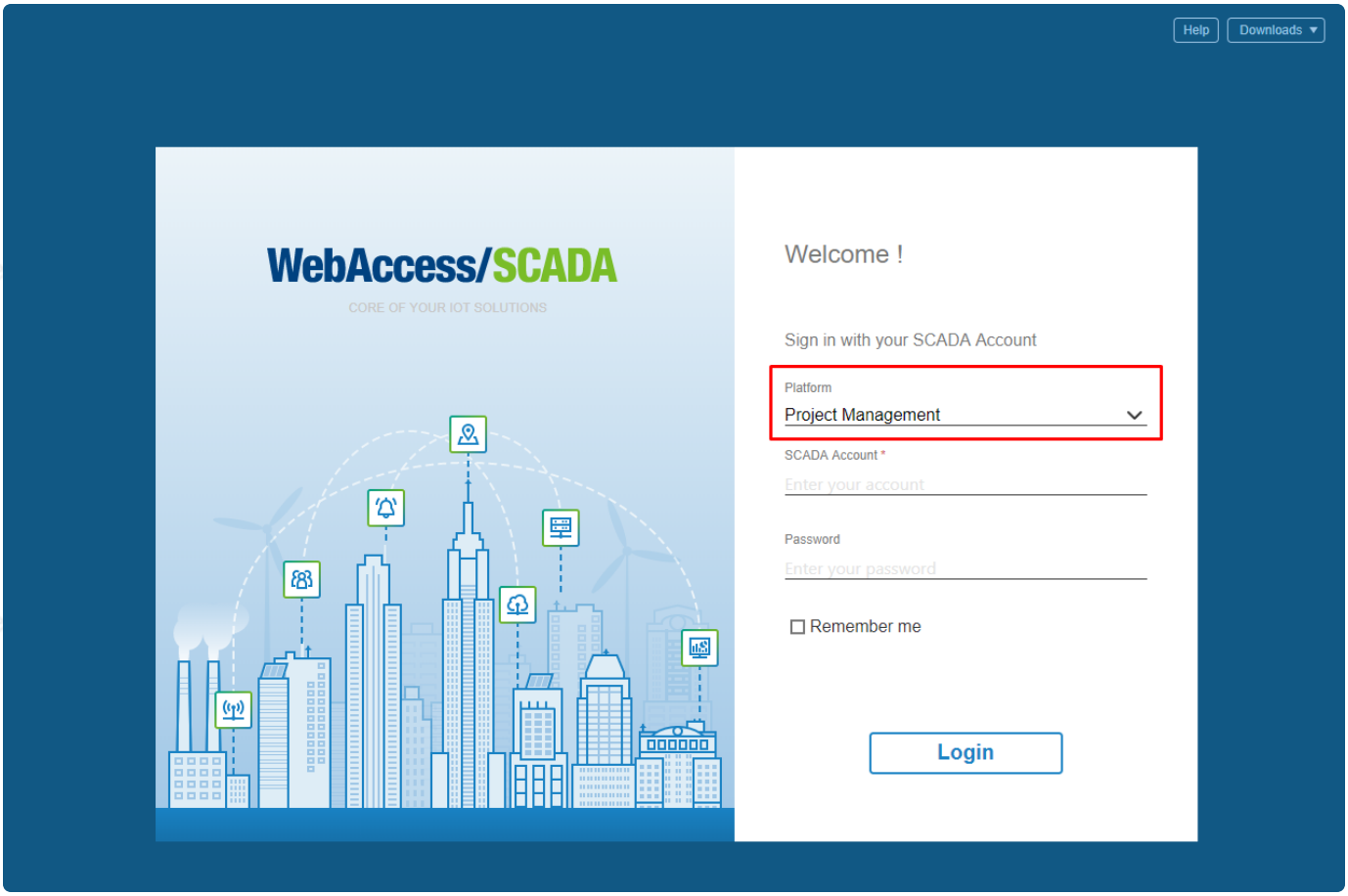
Login page consists of the central main area and the upper banner. In the right half of the central main area, you can enter your account and password to login the platform which you choose. You can get the current version under the WebAcccess/SCADA title if necessary. We provide downloads of related application on the upper banner.

Login to Project Management

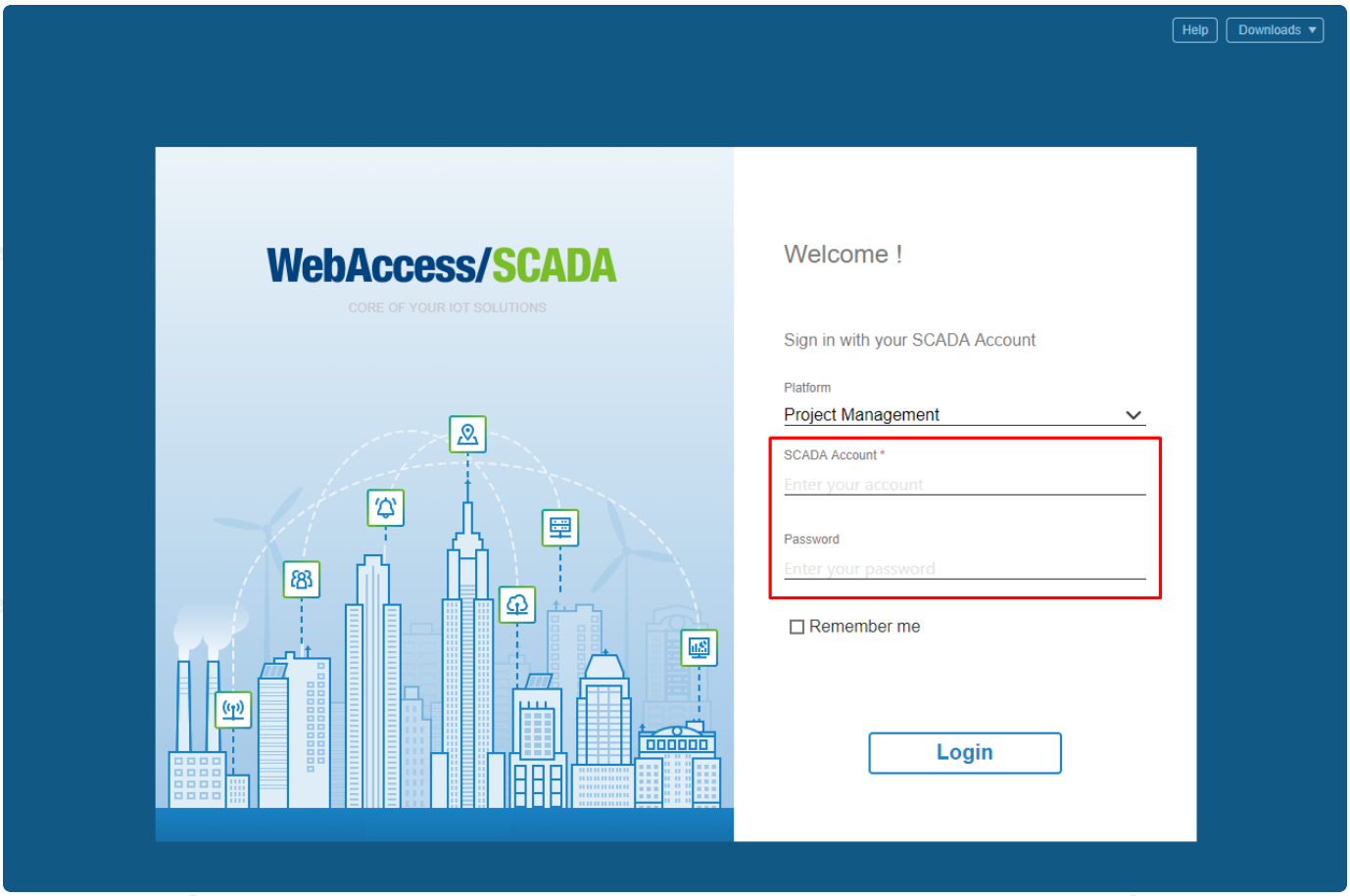
Select **Project Management** on platform.

> *Note – **SaaS Composer** and **WISE-PaaS Dashboard** option appears when specified application is installed.*

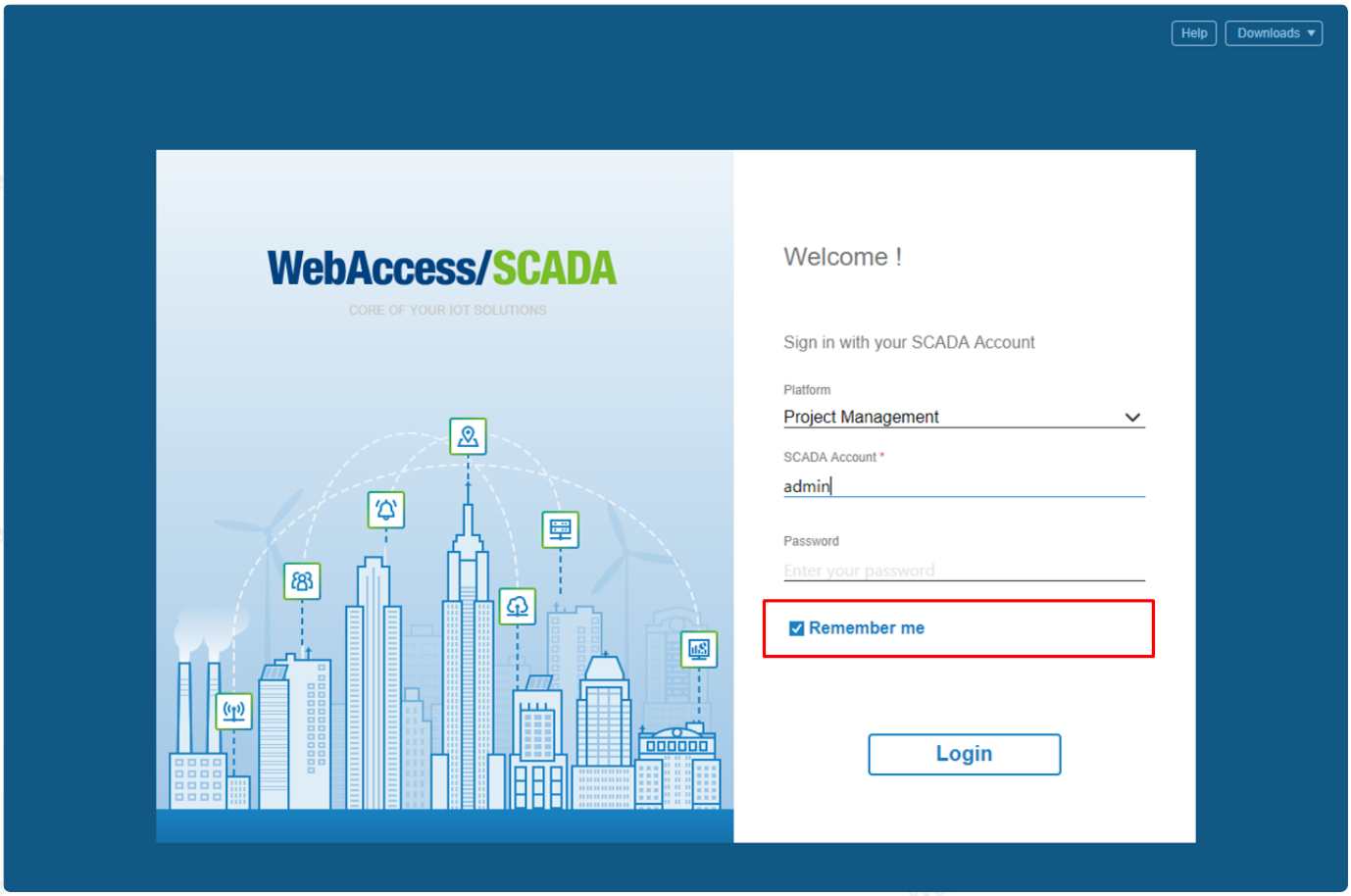




Enter your account and password.



If you want to remember your account on your browser, please tick the **Remember me** option.



An error message appears when your account or password is incorrect.

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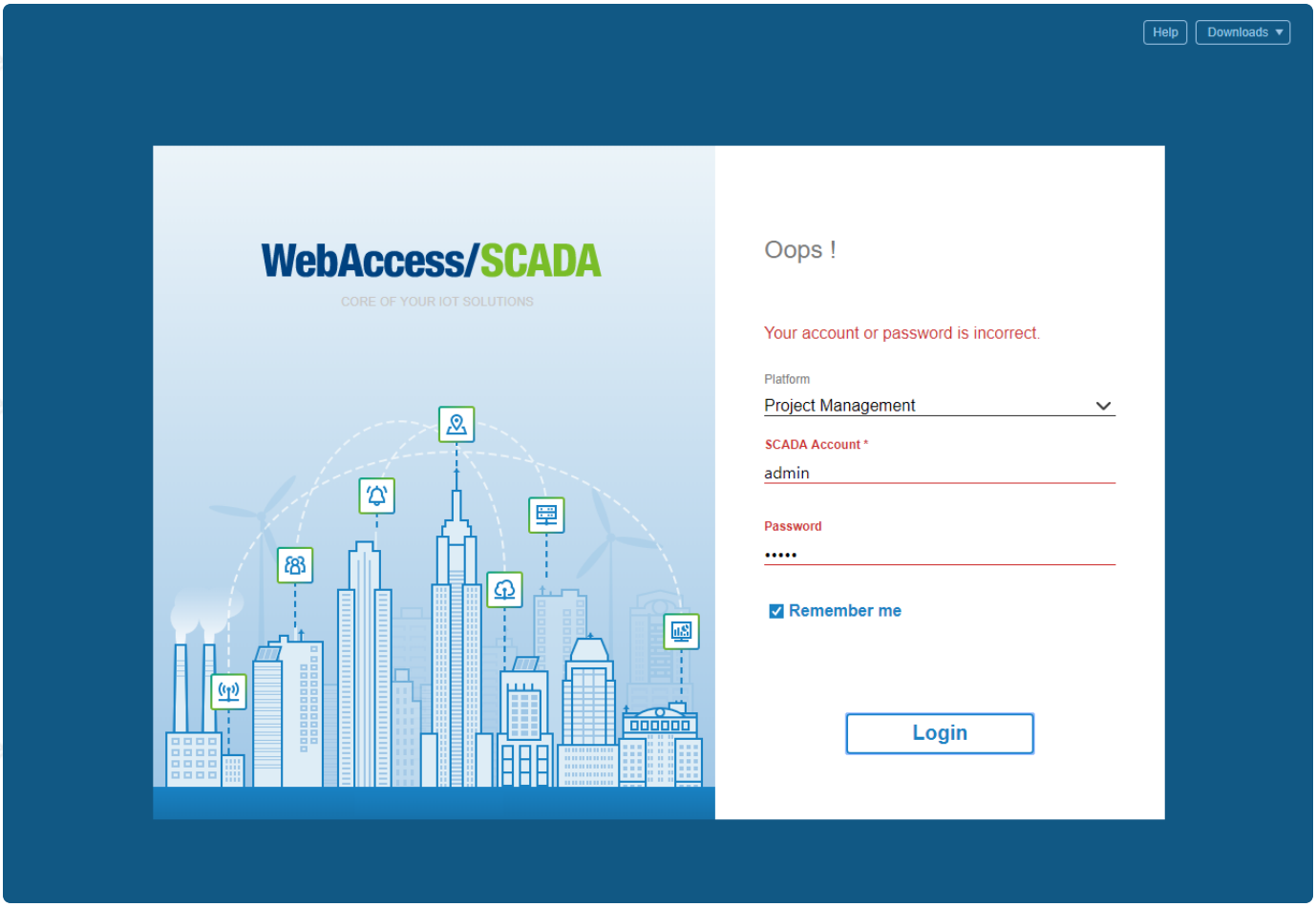
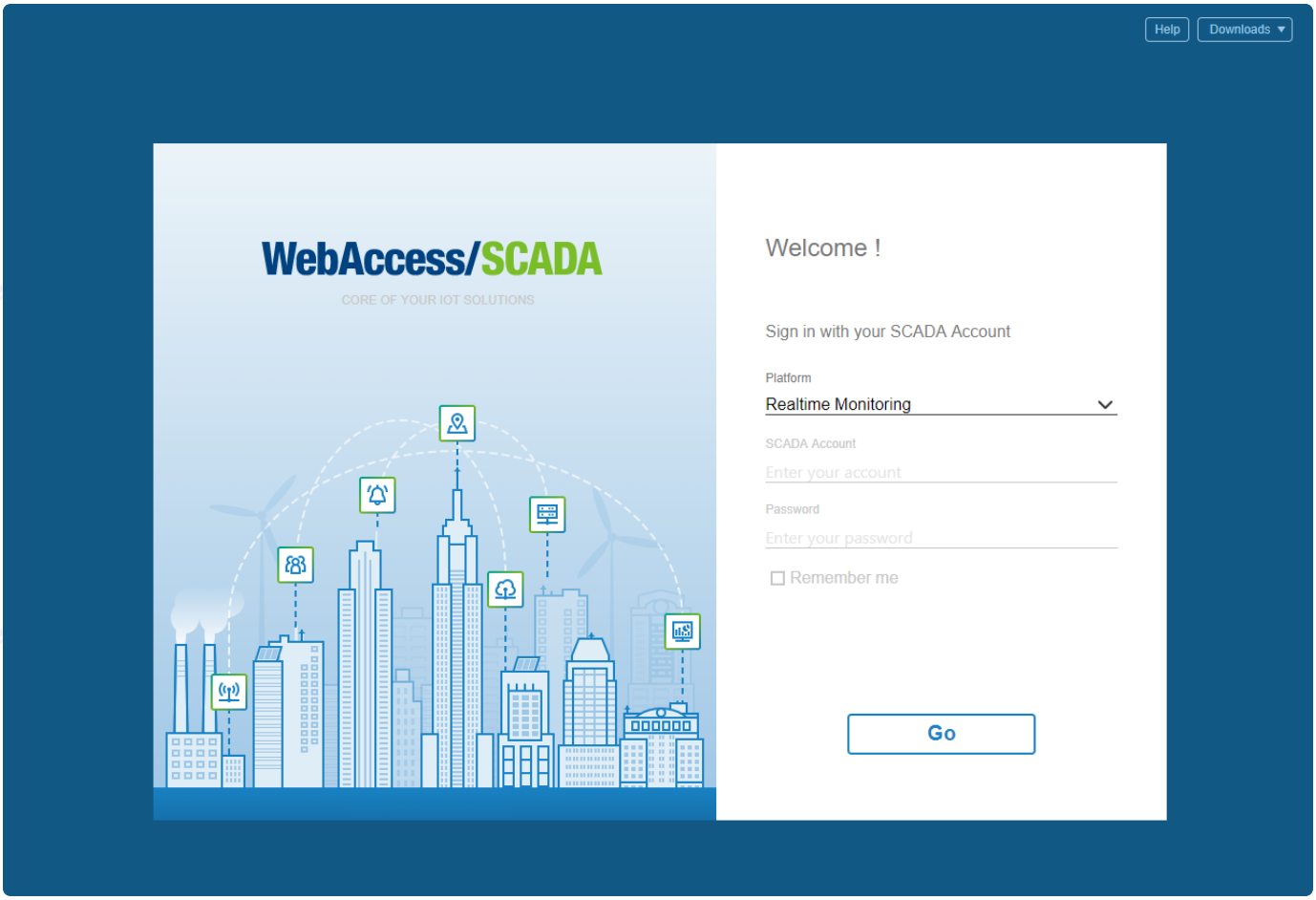


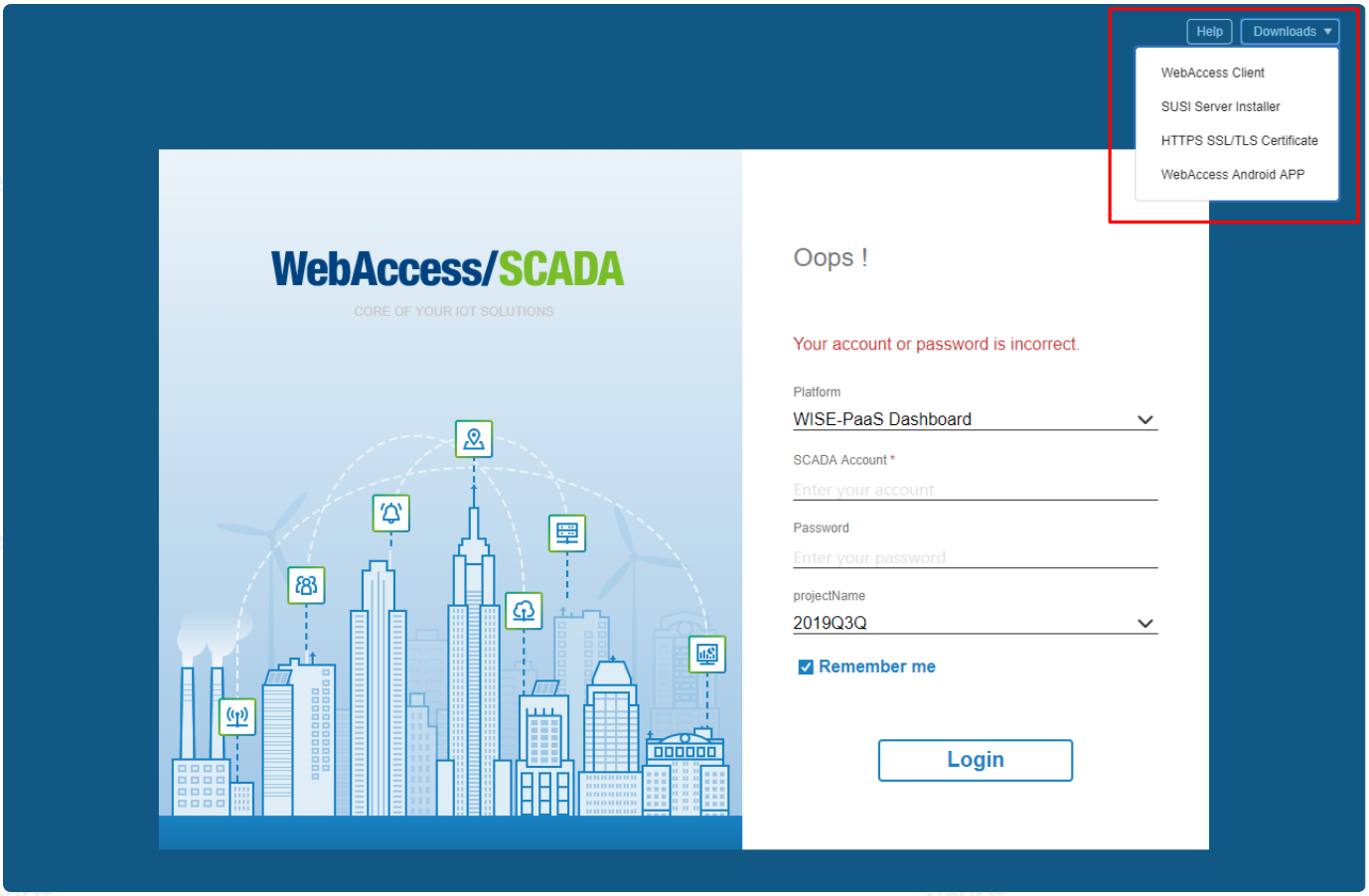
Enter Realtime Monitoring

Select **Realtime Monitoring** on platform, then push **GO**. You will see the Realtime Monitoring page.



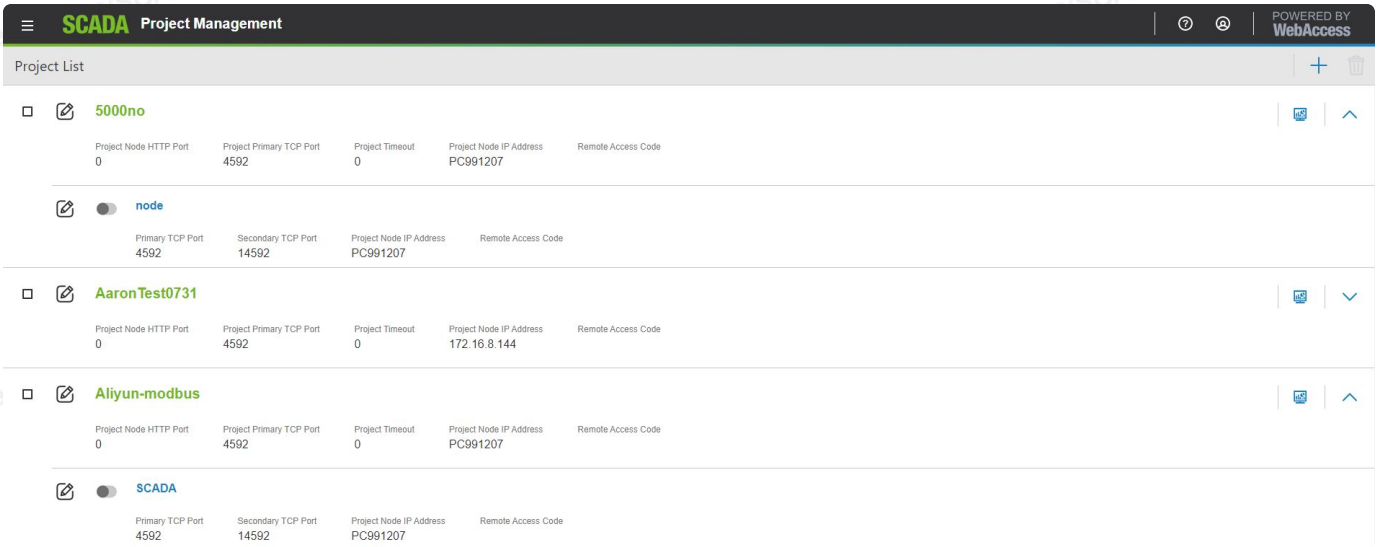
Download Related Applications

You can download applications contains **WebAccess Client**, **SUSI Server Installer**, **HTTPS SSL/TLS Certificate** and **WebAccess Android APP**.



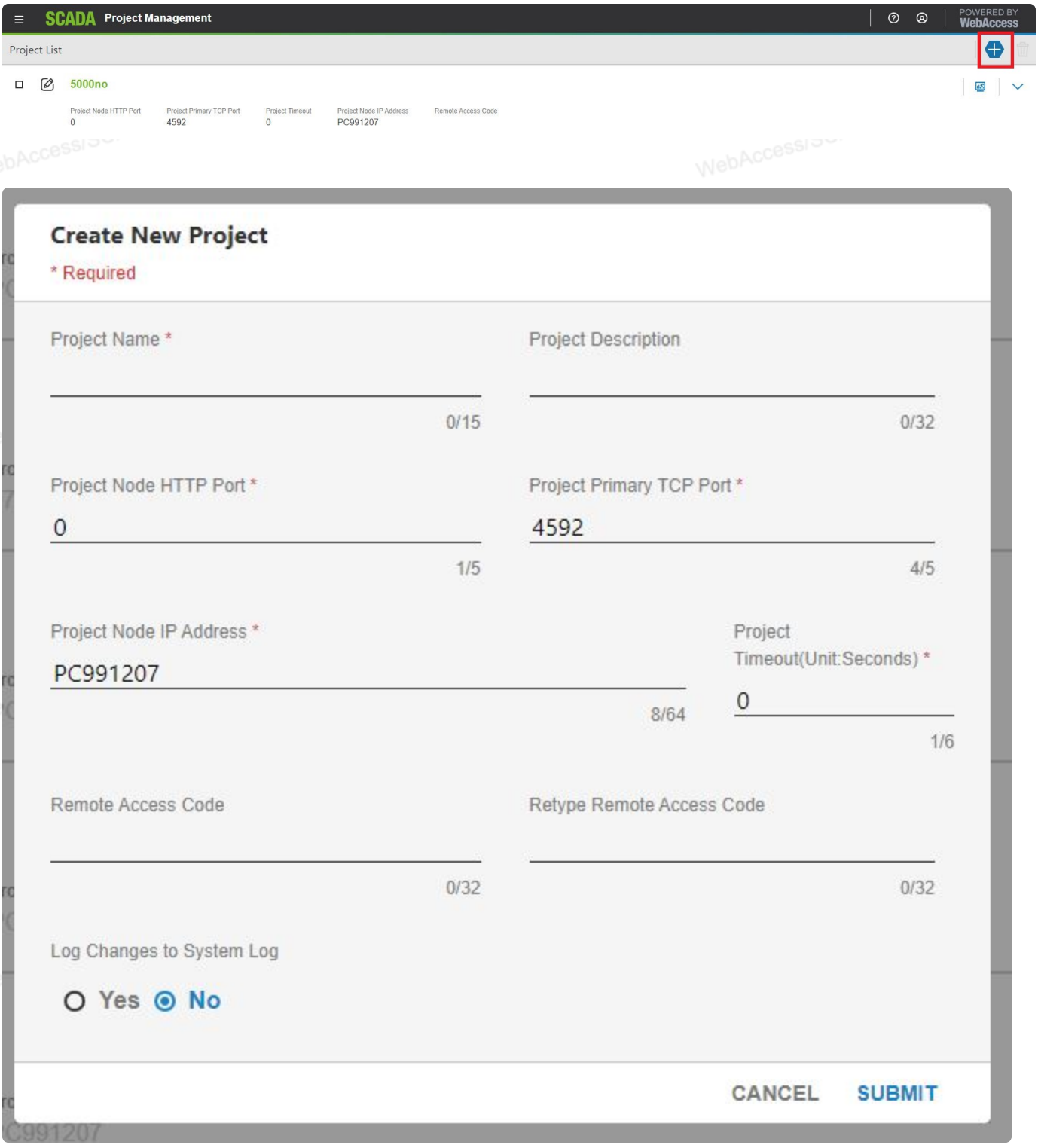
2. Project List (Home Page)

Project List is an overview of Project and SCADA node.



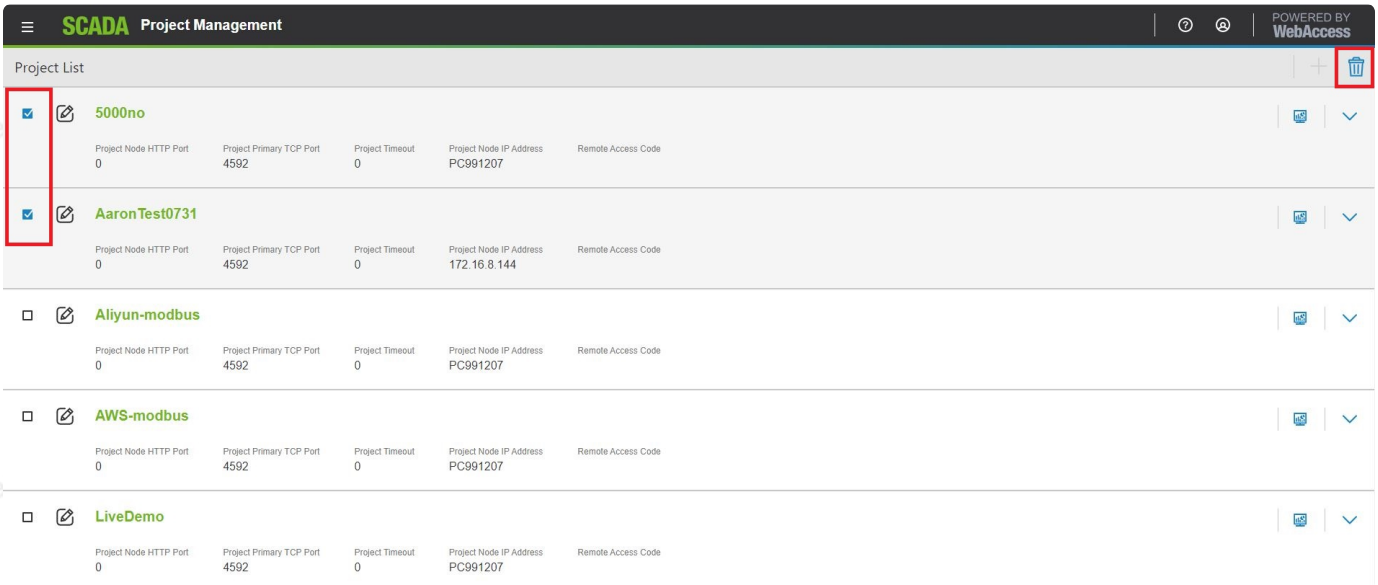
Add New Project

Click right-top **plus** icon, you can open the **Create New Project** dialog.



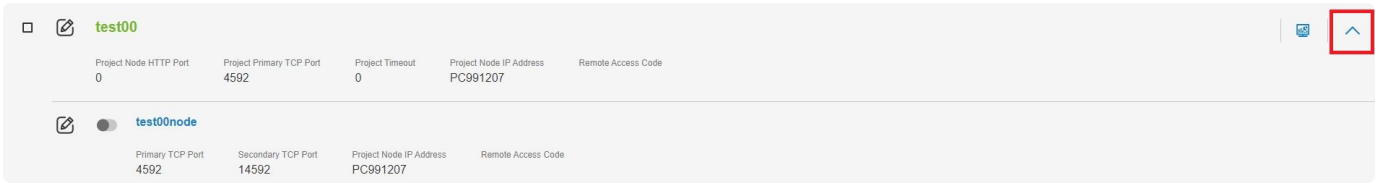
Delete Project

Click **checkbox** in project block，and then click right-top **delete** icon，you can delete the project.



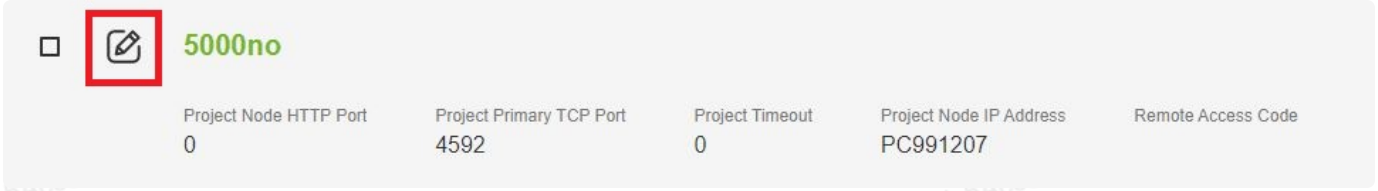
Expand SCADA Node

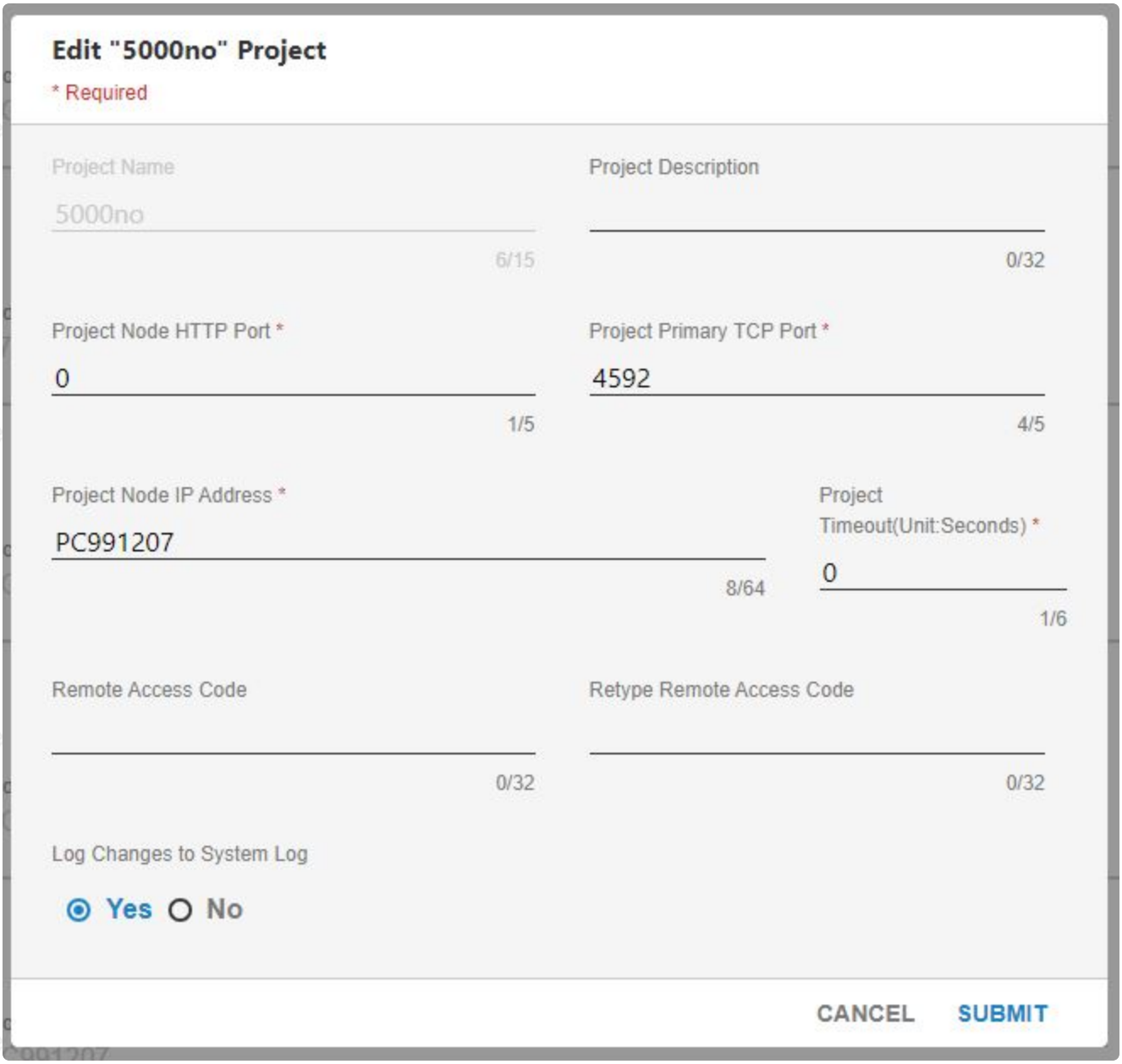
It can open SCADA Node Block by click right **arrow** icon.



Edit Project / SCADA Node basic info

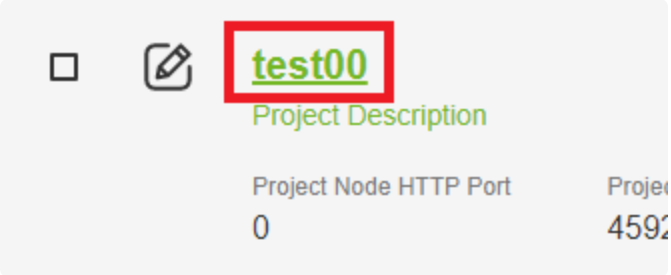
Click left **Edit** icon to open edit dialog.





Go to Project Manager

You can click any project name you want to see detail info，then you will go to the project organization chart for advanced configuration.

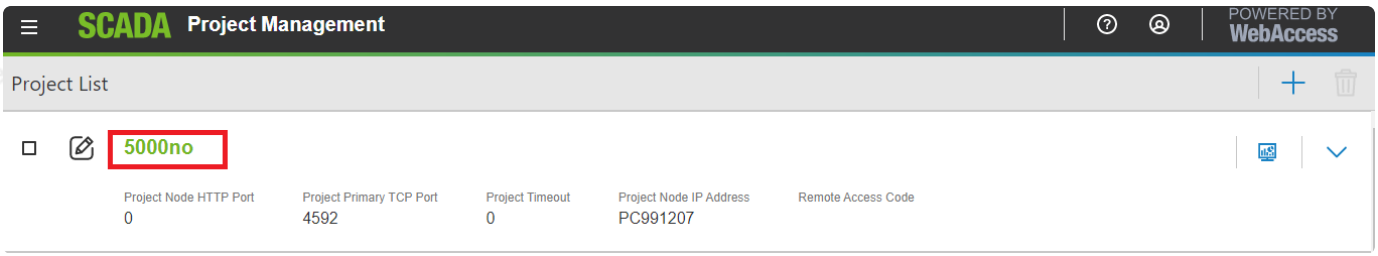


3. Getting Started

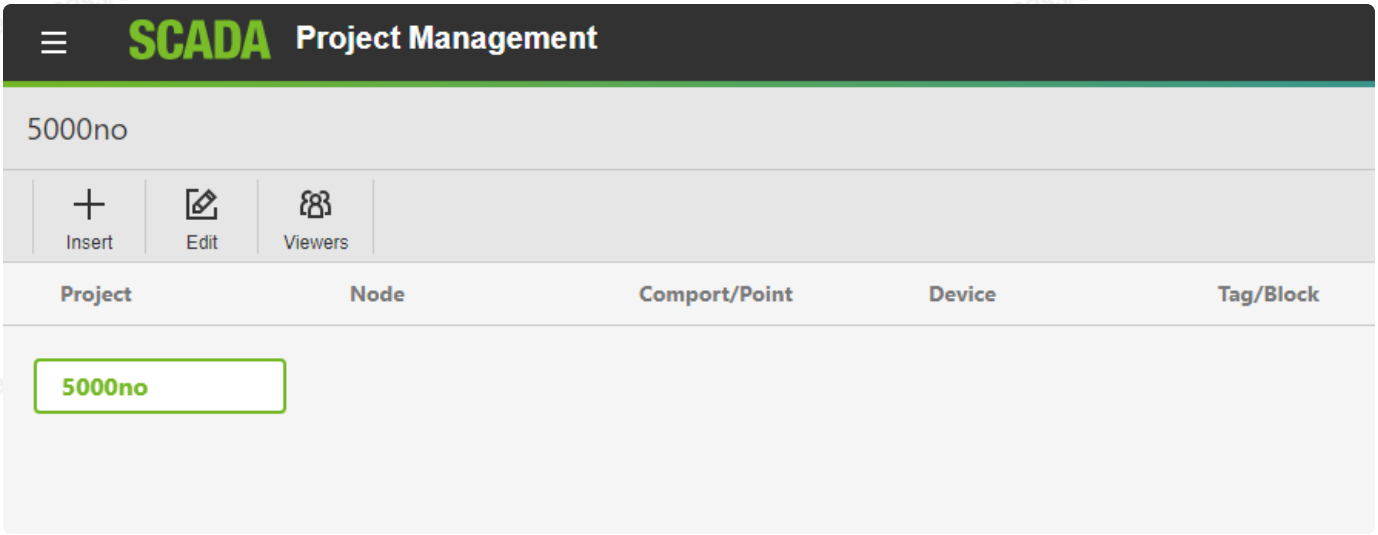
3.1 Project Manager

3.1.1 Add SCADA Node

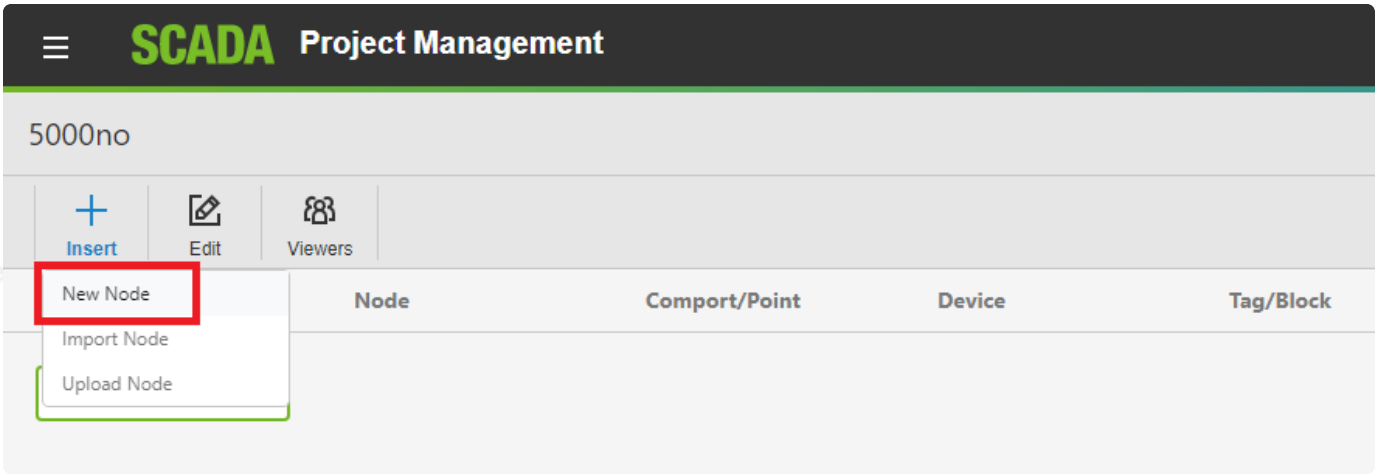
1. From Project List(2. Project List) select your Project Name.



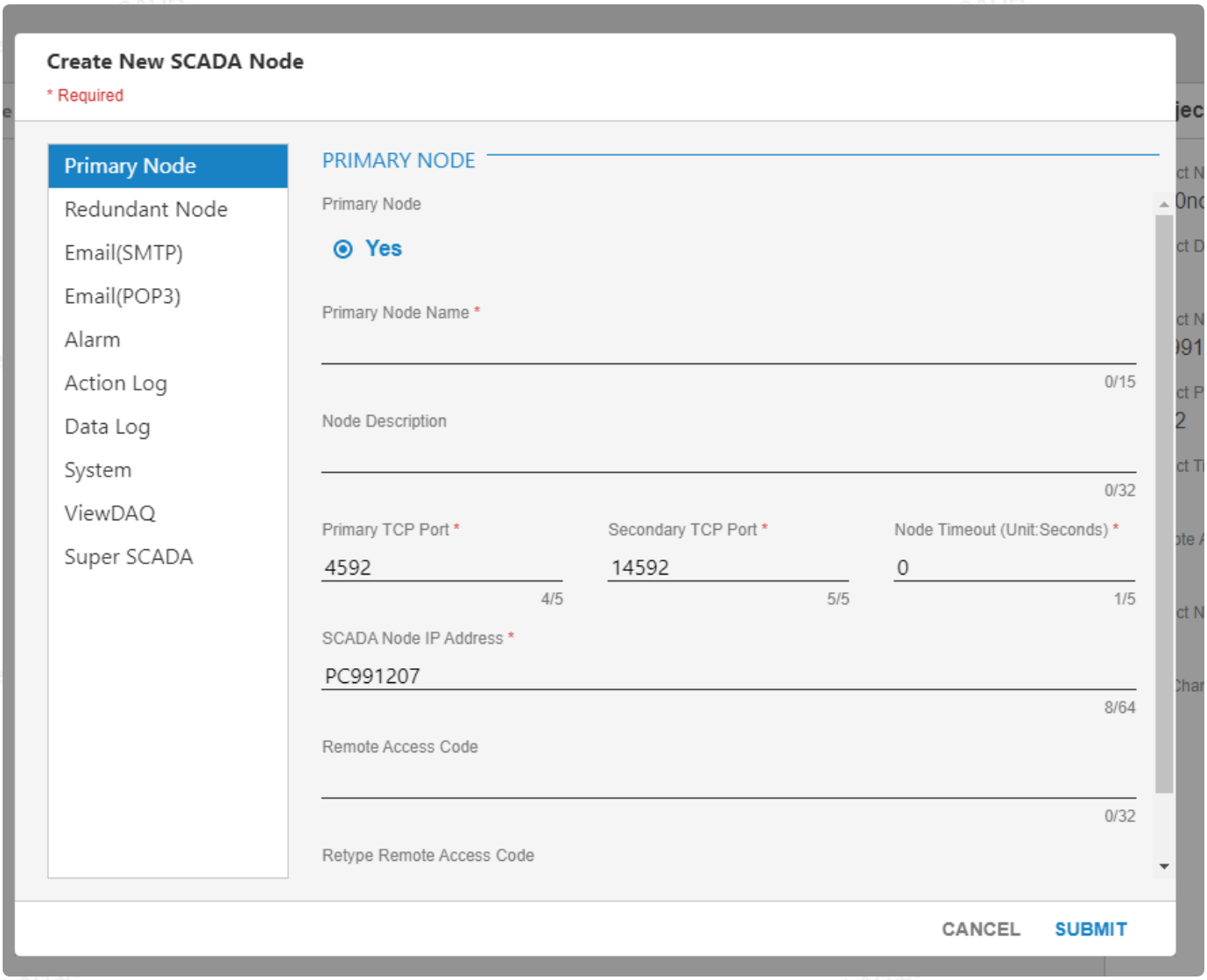
2. The Advantech WebAccess/SCADA **Project Manager** opens (Organization chart)



3. Select **New Node** in the Insert button



4. The **Create New SCADA Node** dialog opens



5. Enter a **Primary Node Name** for this SCADA node. This is the name that users will see in the caption bar og VIEW and use to select this node from a list of nodes if you have multiple SCADA nodes.

6. Optionally, enter a **Description.**

7. Enter the **SCADA Node IP address** of the SCADA node. The Project Node IP Address appears by default. Be sure to enter the IP Address of the SCADA node. You can also use a URL or Computer Name.

8. If connecting through a Firewall, enter the **Primary TCP Port** of a TCP port assigned by your system administrator.

If not using a Firewall, accept the default: 0. Note that 0 means the default primary port number (4592)

9. If connecting through a Firewall, enter the **Secondary TCP Port** of a TCP port assigned by your system administrator.

If not using a Firewall, accept the default: 0.

Note that 0 means the default secondary port number (14592).

10. It is recommended to accept the default **Node Time Out**. 0 means the default value is used (15 seconds). SCADA Node Time out can range from 1 to 60 seconds.

This is the time for normal communications between the SCADA Node and a VIEW Client, the Project Node and the ASP Server.

If you have a very slow network connection between the Project and SCADA nodes, you may have to increase this value.

11. Enter the **Remote Access Code** for the SCADA node entered during software installation of the SCADA node software. The Project Nodes Remote Access Code appears by default. The SCADA Node and Project Node do not necessarily have the same Access Code. This Remote Access Code is to prevent unauthorized use of your SCADA node. This code was established when the SCADA Node software was installed.

12. Leave the information about Alarm Log, Printers, Action Log, Alarm Beep, email and other fields blank for now.

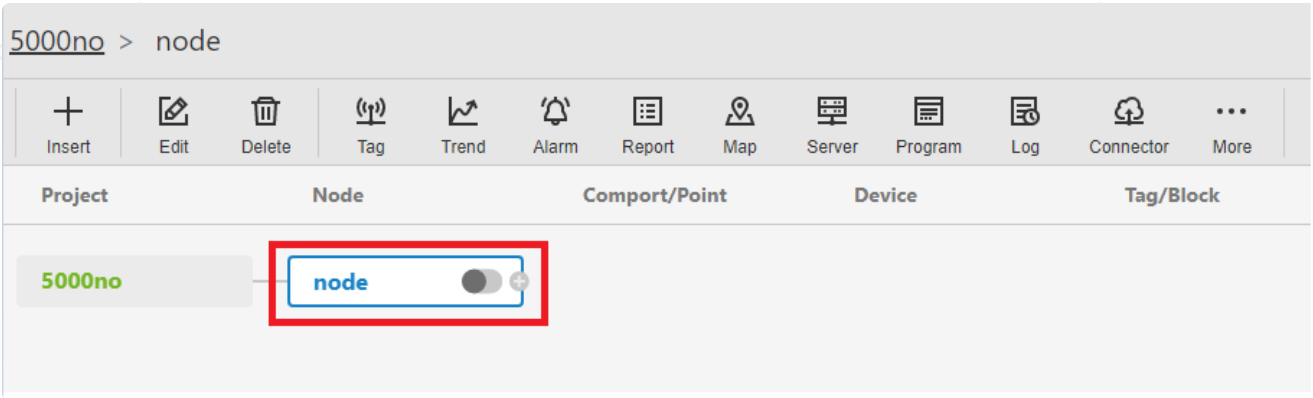
13. Most users should leave the information under Redundant SCADA node blank. If you have a

Redundant SCADA Node, enter its IP address, node name, firewall ports and remote access code.

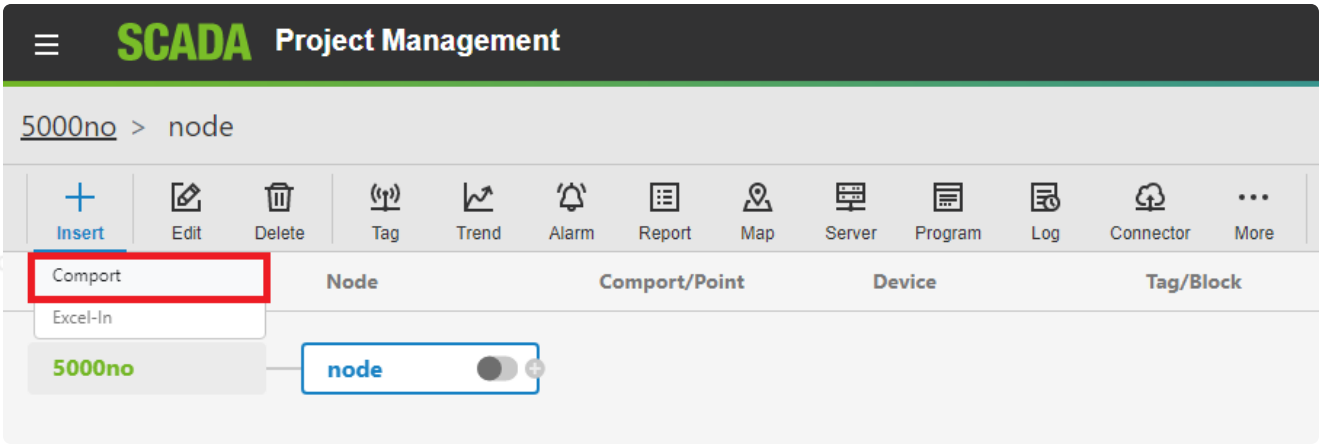
14. Press **Submit**.

3.1.2 Add Comport

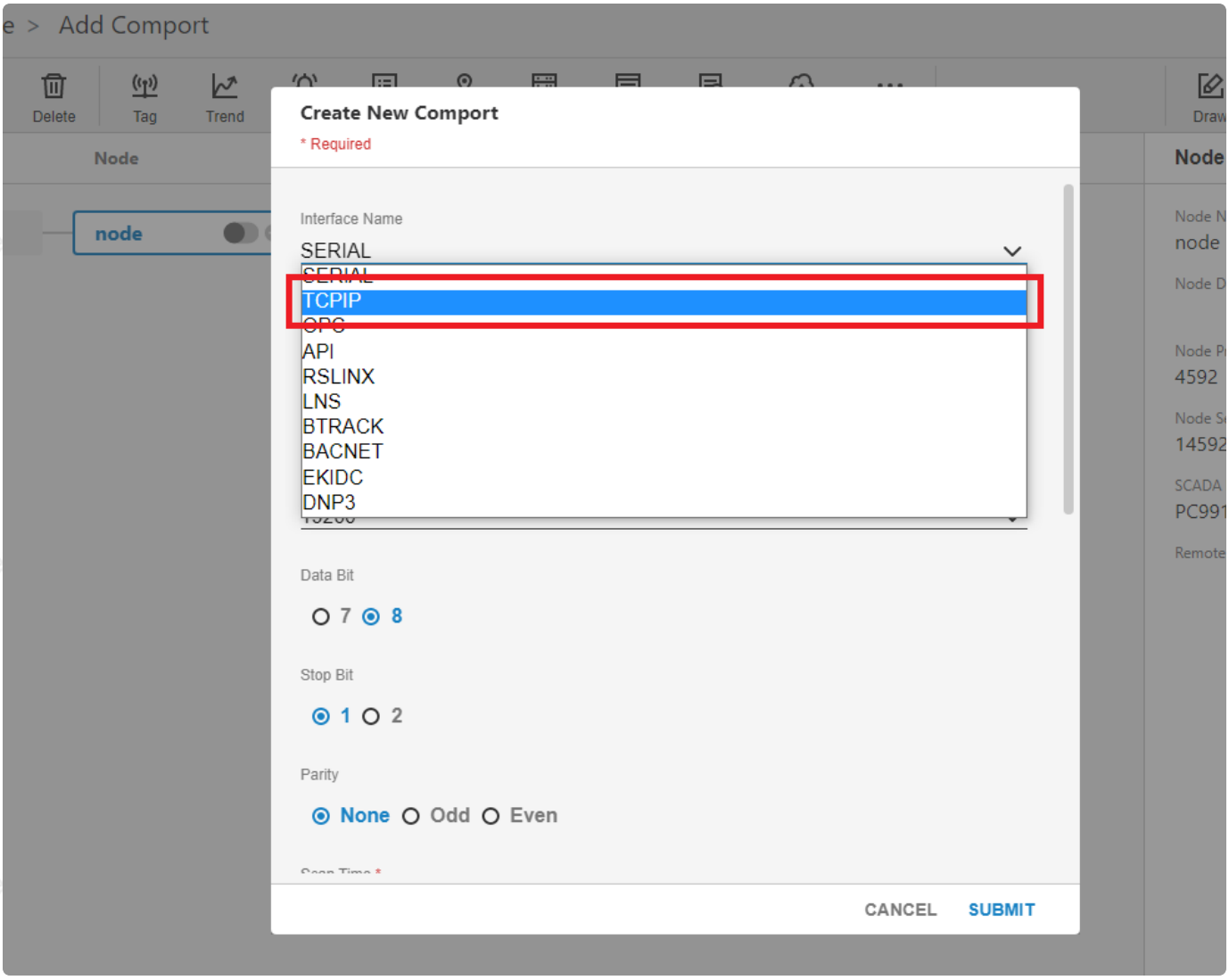
1. Select your SCADA node under the Project node.



2. Select **Comport** in the Insert button.

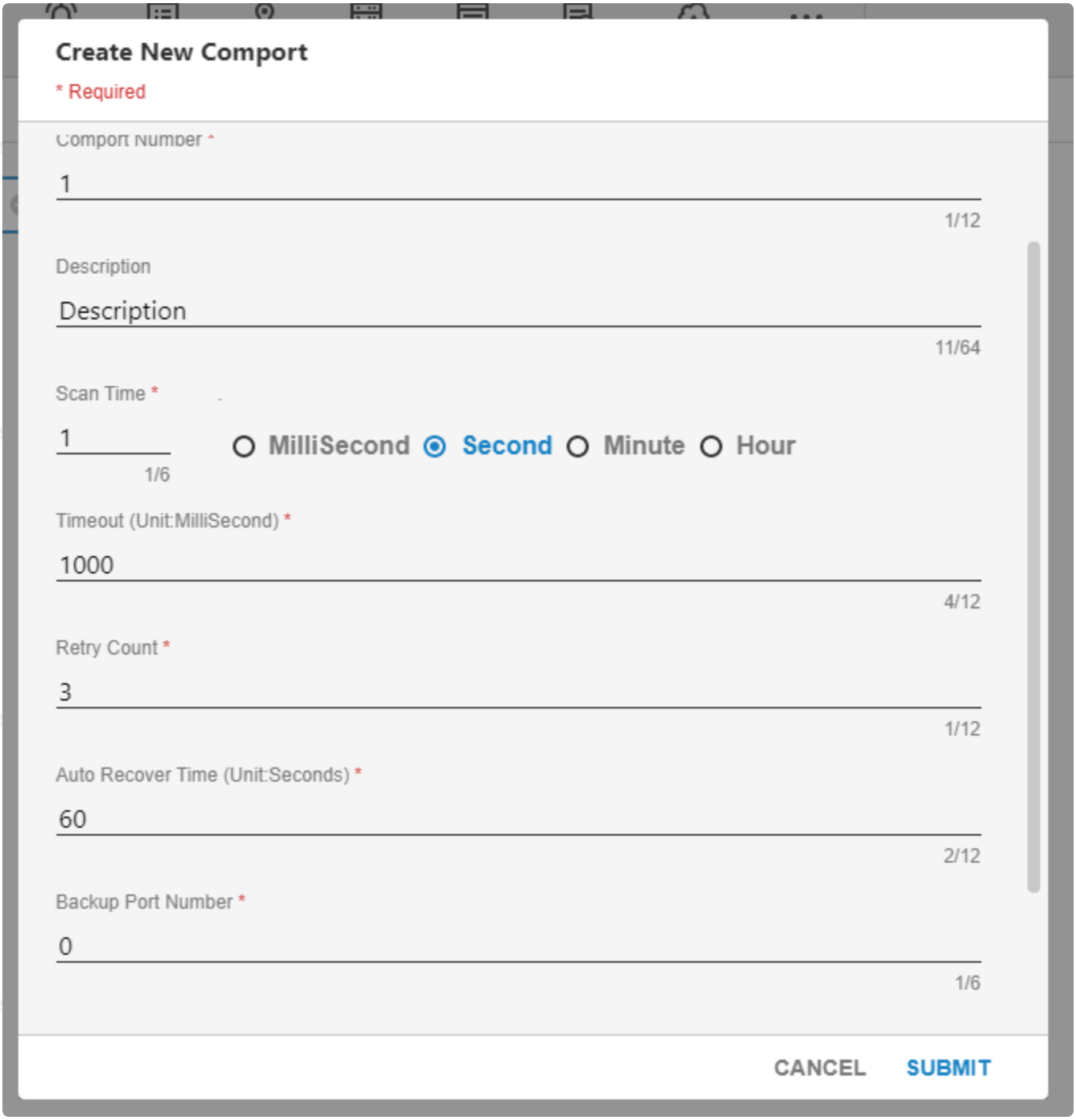


3. Select the **TCP/IP** as the **Interface Name** for this Comport. (Also called the Comport Type). The fields change depending on the Comport type.



4. The TCP/IP Comport Properties page appears.

WebAccess/SCADA



TCPIP – TCP/IP (transmission Control Protocol / Internet Protocol). Specifies a "Virtual Port" that uses the

TCP/IP service installed. Does not correspond to specific IO card or comport number. Will access any IO

card that uses the TCP/IP service installed on your PC.

5. Enter a **Comport Number**. It is recommended to use a number above 2 so you don't interfere with

adding a serial comport. Most PCs have 2 serial comports, if you configured a TCP/IP comport as 1 or 2,

you would not be able to use that serial comport in the future. It is not easy to change comport numbers.

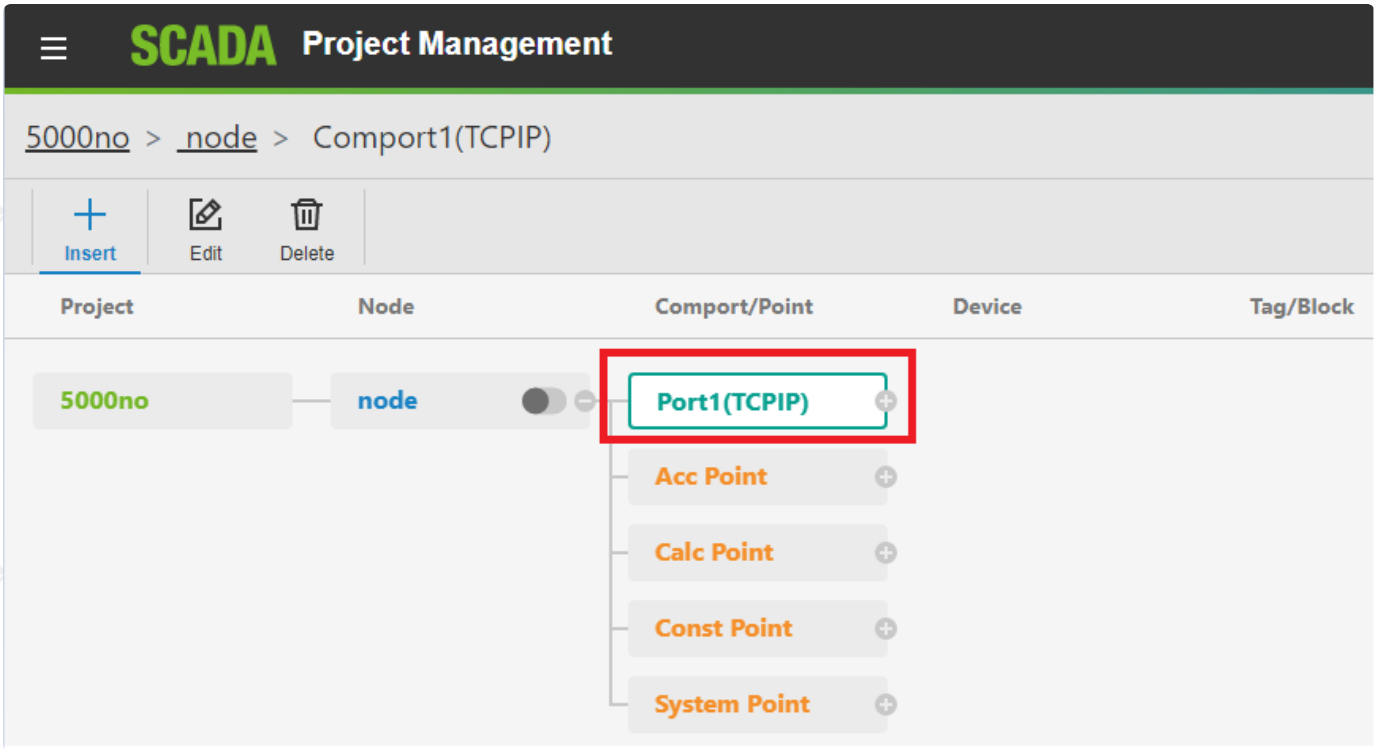
6. Optionally, enter a Description. This is just for your own reference.
7. Enter a **Scan Time** and select the **radio button** for the units (Millisecond, Second, Minute or Hour).

All devices are scanned at the same frequency on a given comport. All Constant Scan type Tags are scanned at the same frequency on a comport. Display Scan Tags are scanned at this same frequency, but only when they appears on a Display.

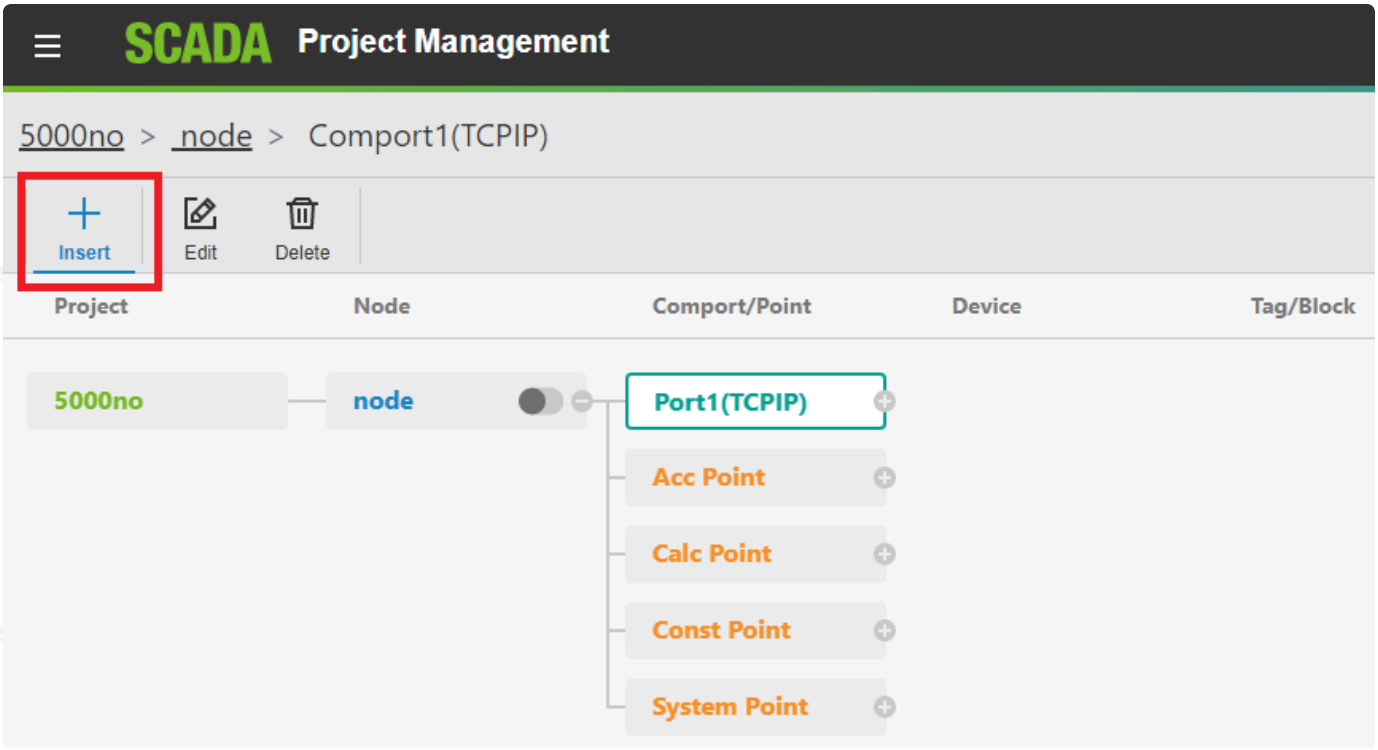
8. Accept the default values for the other fields, or modify them. For a description of the data entry fields for a TCP/IP Network Interface see, section 3.3.4 TCP/IP Com Port Properties.
9. Click **Submit**.

3.1.3 Add Device

1. Click on the **Port1(TCPIP)** which is created in the previous section 3.1.2.

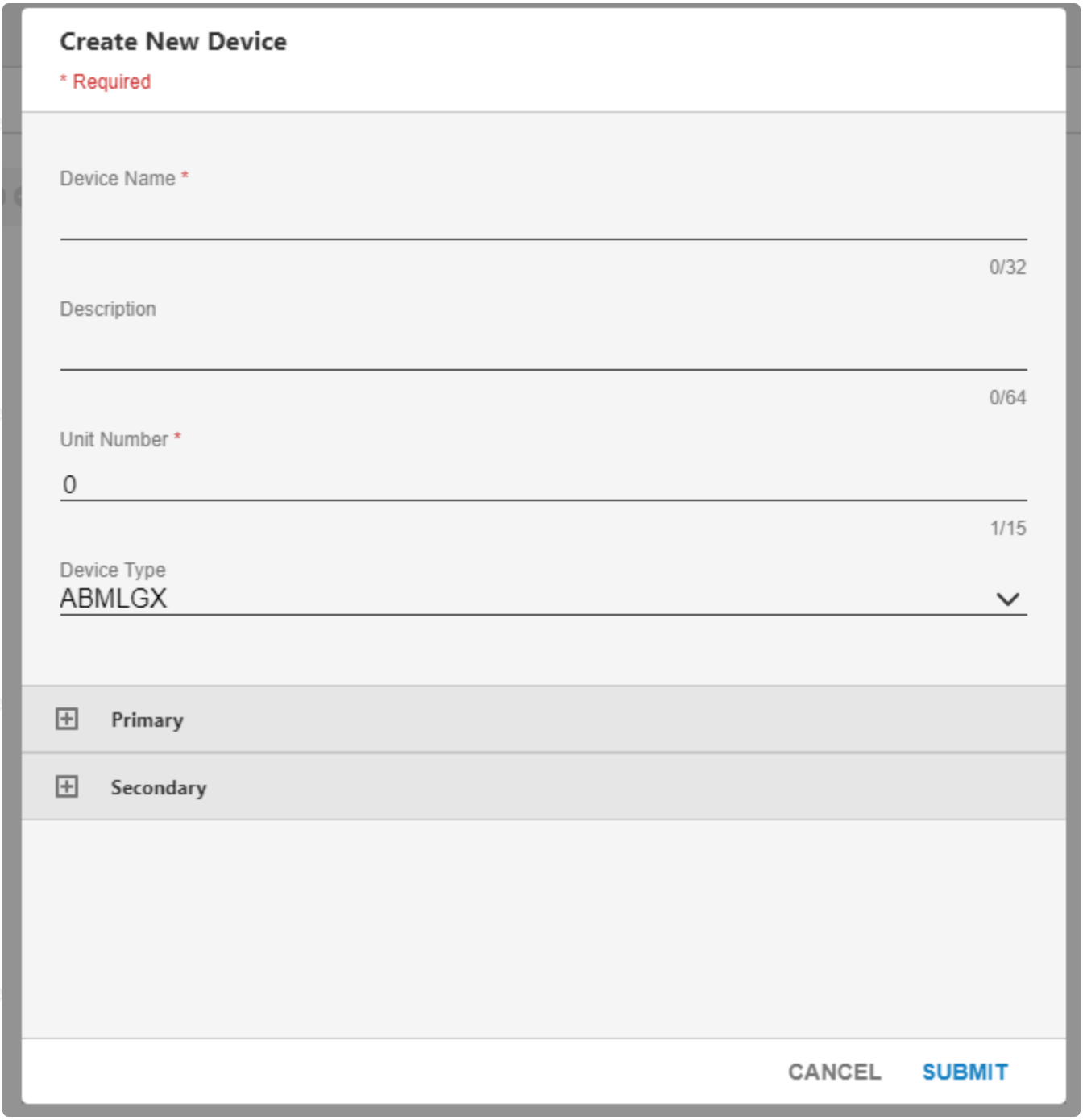


2. Click on the Insert button.



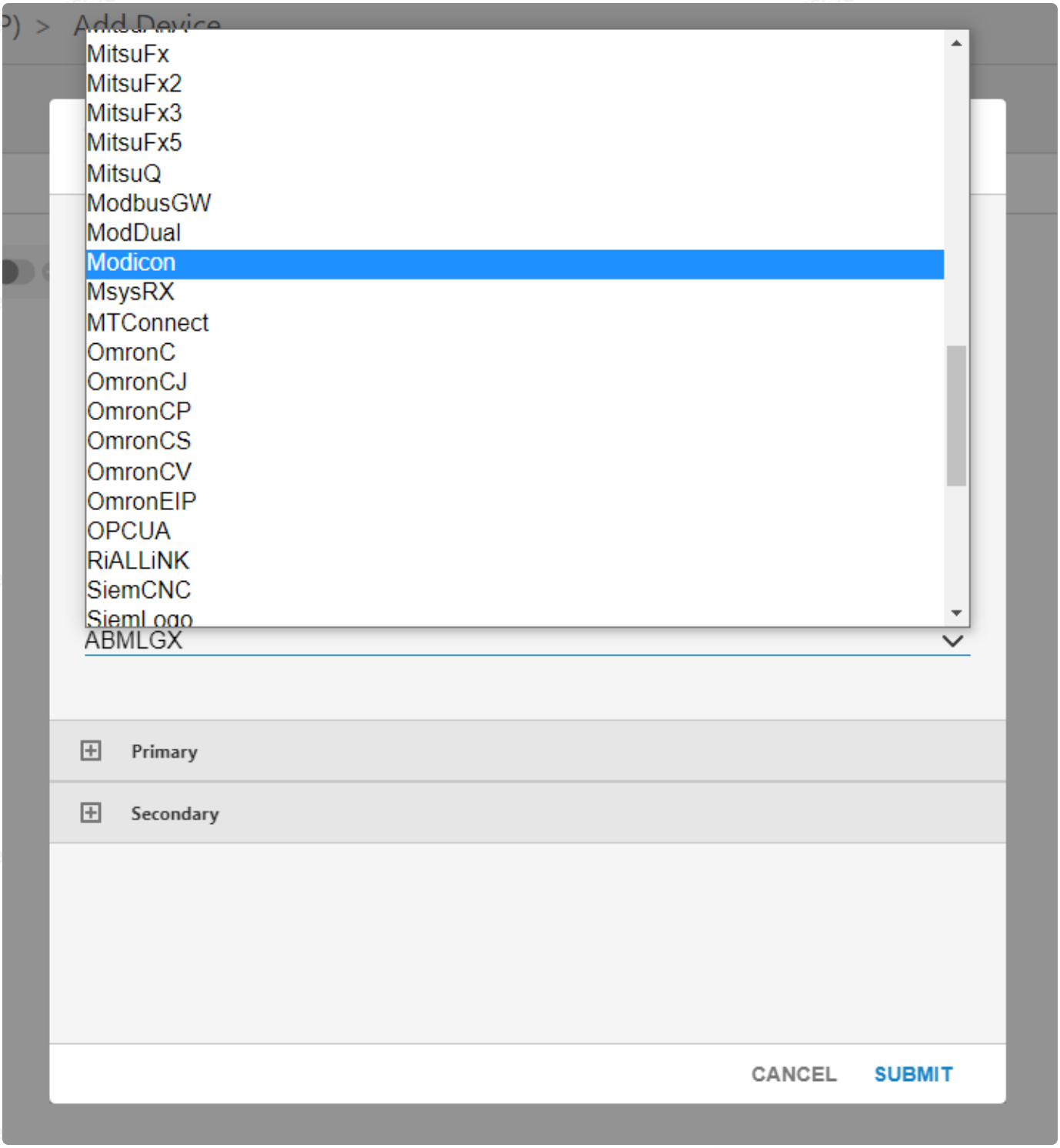
3. The **Create New Device** dialog opens.

WebAccess/SCADA



4. Select **Modicon** from the Device Type pull down list.

WebAccess/SCADA



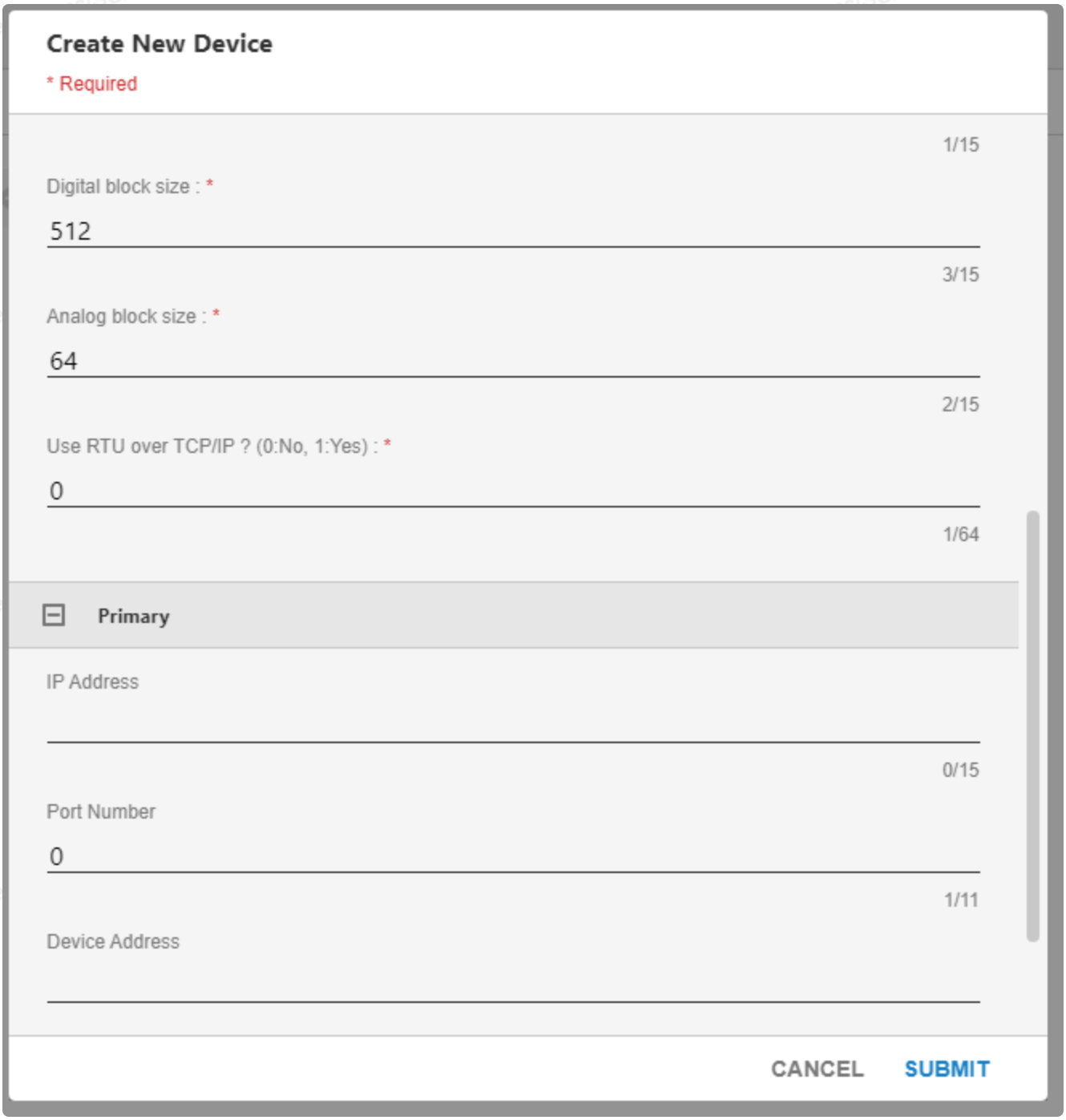
5. Enter a **Device Name**.
6. Optionally enter a description.
7. Enter the **Unit Number**. This number will appear in VIEW during runtime on the Station Status display and will be the reference to Enable and Disable communications to the Device. It also will be the reference for communication alarms. (1 to 254)

Logically, this usually matched the actual device number, but it is possible to assign a unit number for

VIEW users which does not match the actual Modbus Protocol Device Address. For example, each

Modbus PLC has a unique IP Address and all PLCs have Modbus Device address of 1 at these unique IP

Addresses.



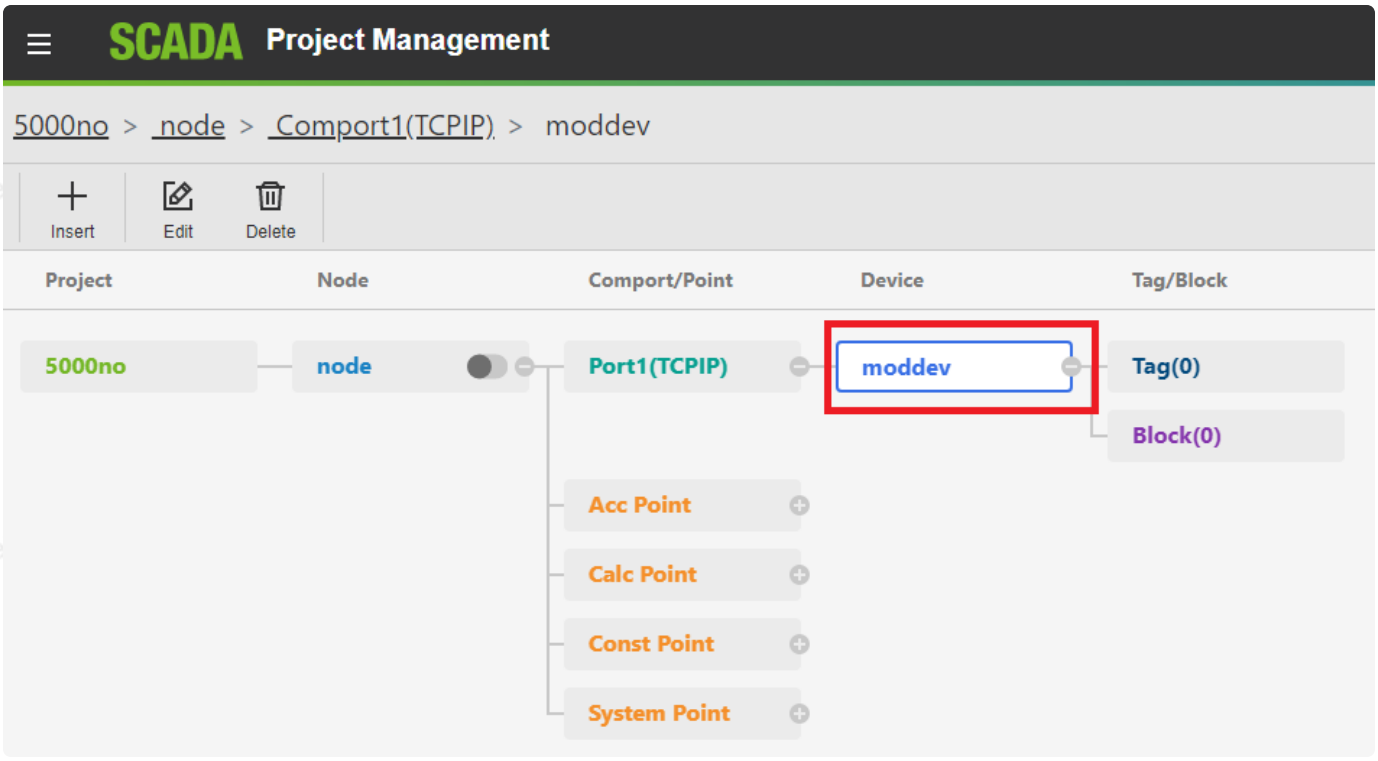
8. Enter an **IP Address** for the Device.
9. Enter the TCP or UDP **Port Number** for the Device.
10. Enter a **Device Address** if different from the Unit Number.
11. Optionally add Address and Port information for a redundant communication path to the

Device. For example, if the PLC has two Network Interface Cards (NICs).

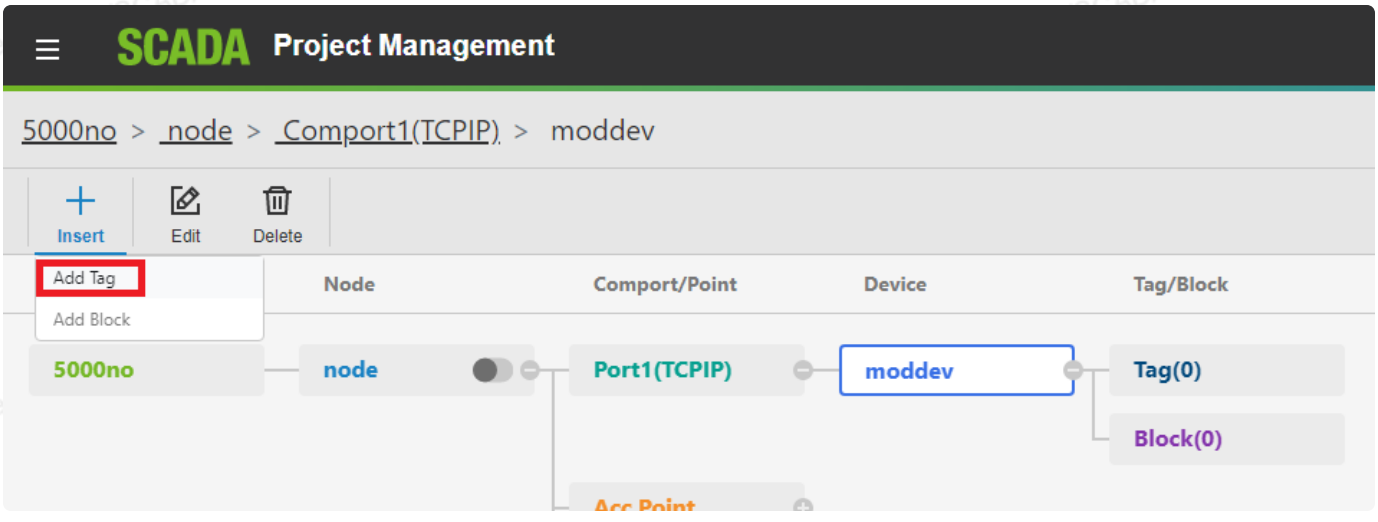
12. If using TCP (the official Modbus Ethernet protocol) leave 0 for **Use UDP.**
13. Press **Submit**. This can be a wait while datatables are created on the Project Node.

3.1.4 Add Tag

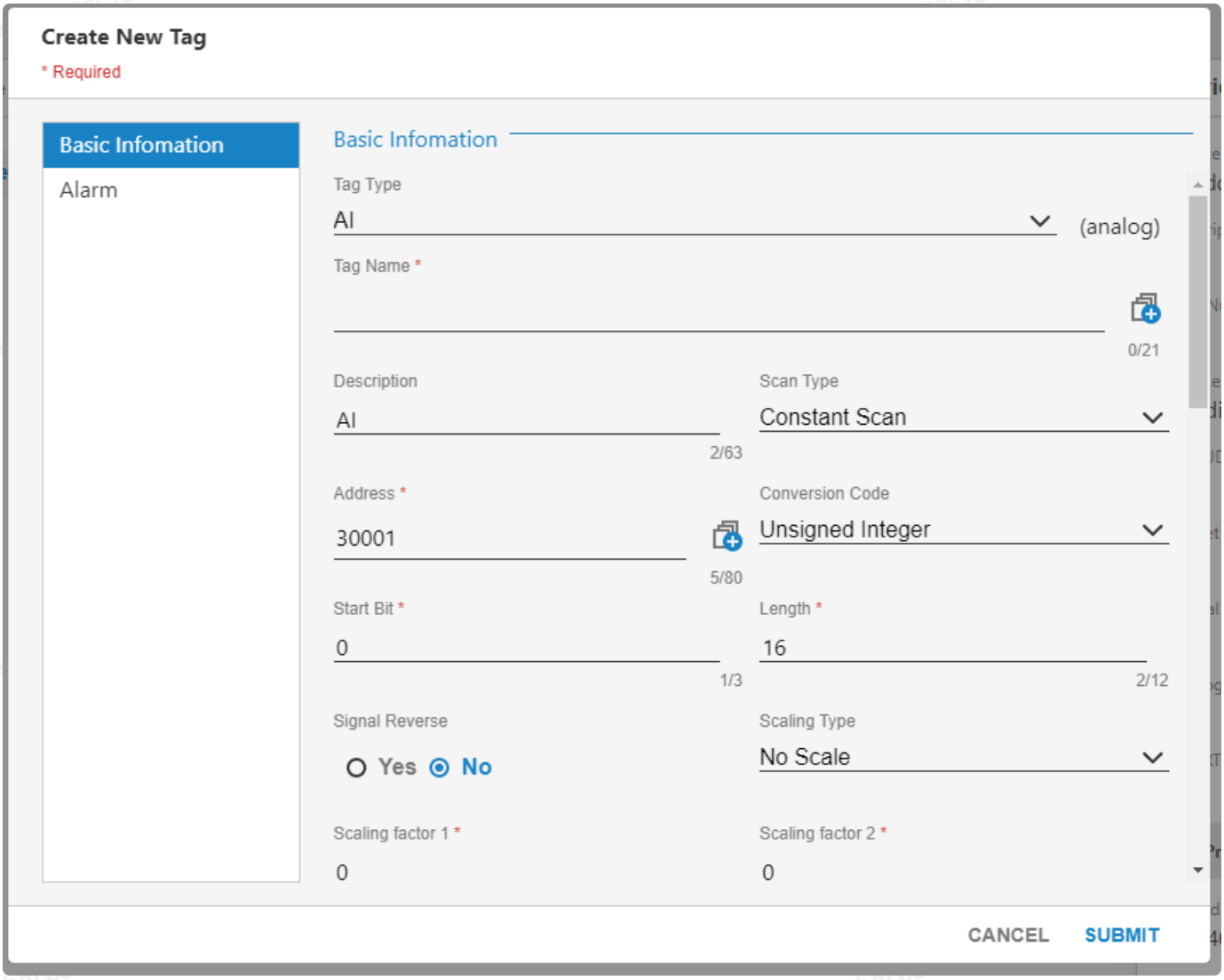
1. Click on the device node which is created in the previous section 3.1.3.



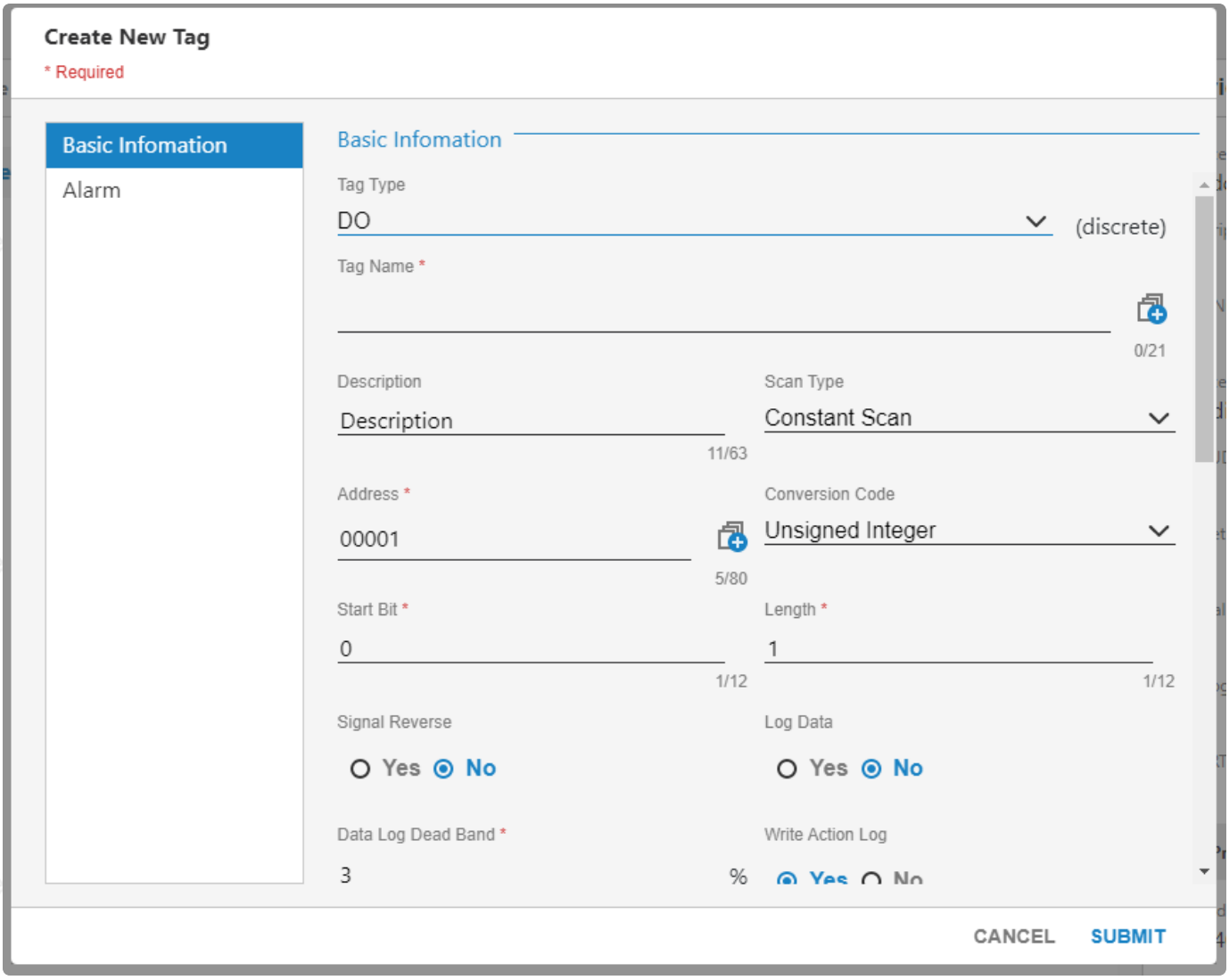
2. Select **Add Tag** in the Insert button.



3. The **Create New Tag** dialog opens.
4. Select the **AI** Parameter from the **Parameter** Pull Down List.
5. The AI Parameter Page opens.



6. Select **DO** from the Parameter Pull Down List (you have to scroll down to the bottom of the list.



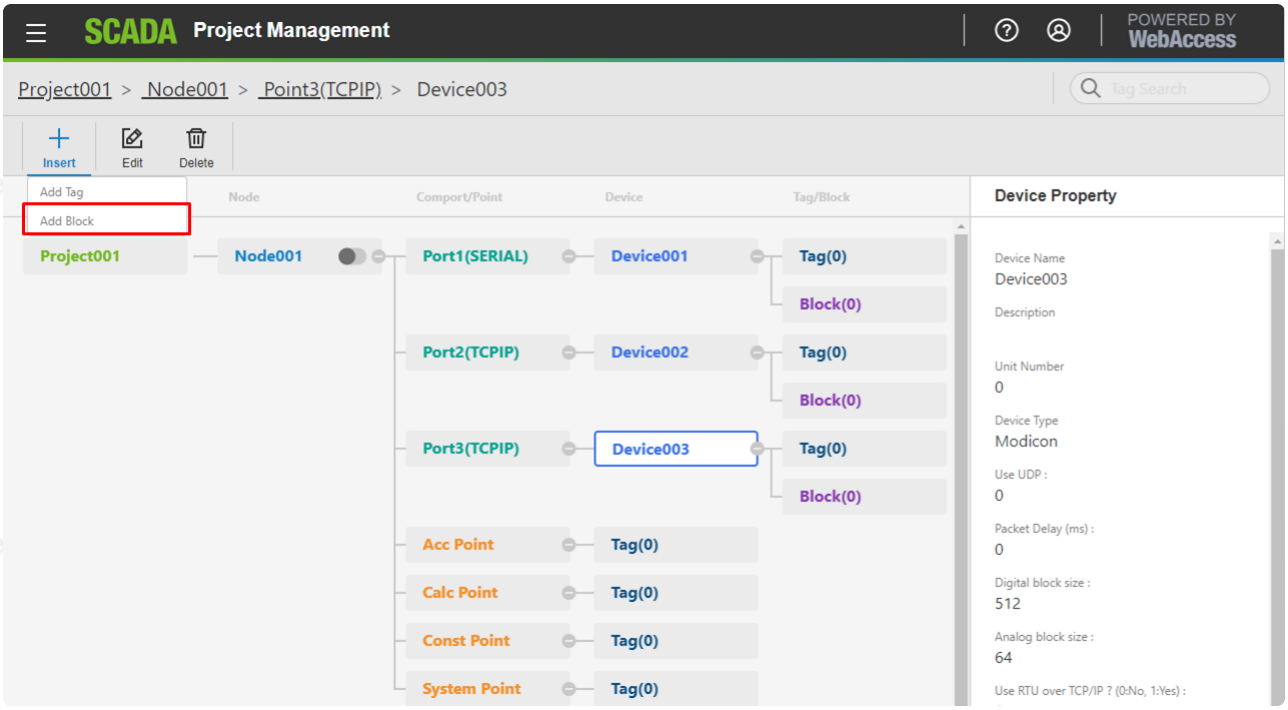
3.1.5 Block Configuration

Add Block

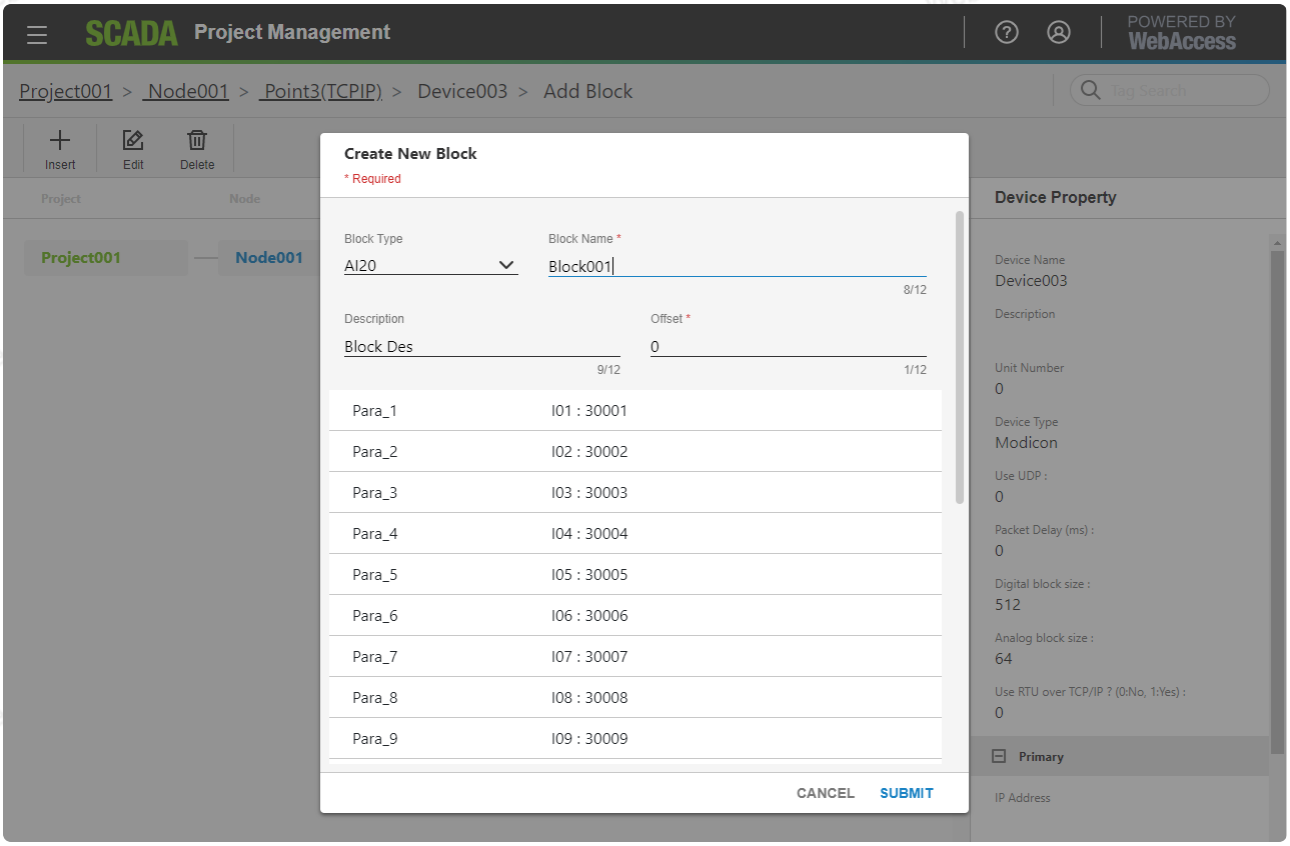
This section assumes you have already created the BLOCK TYPE you plan to use to act as a template for your Block Tag. Please refer to Add a Block Type section for information about building a Block Type Template.

This section also assumes you have configured a Comport and a Device. Please refer to Configure a Communication Port and Device Configuration for information on creating a Comport or Device.

This section assumes you have started Internet Explorer Web Browser and connected to your Project Node.



1. Focus on your Device.
2. Press Insert button and select Add Block.

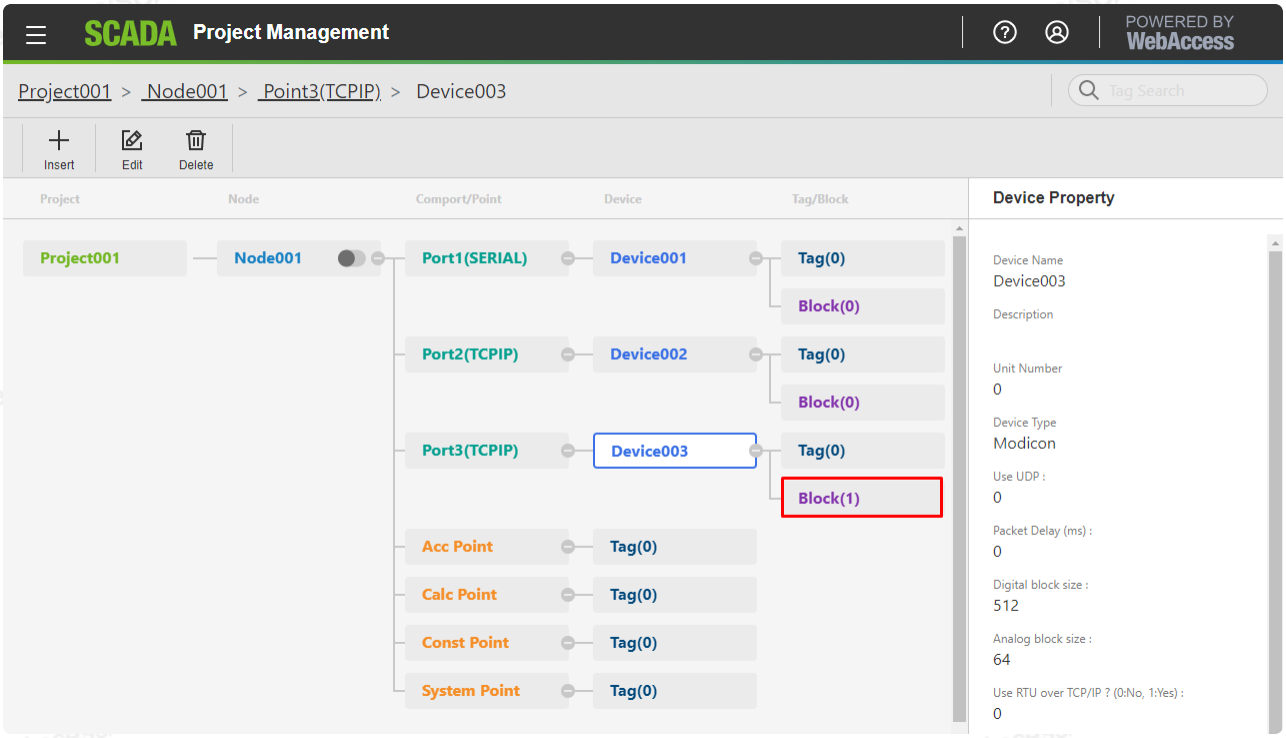


3. Select the Block Type from pull down list.
4. Enter a Block Name. This will become the Tag name for your Block Tag. Block Name is up

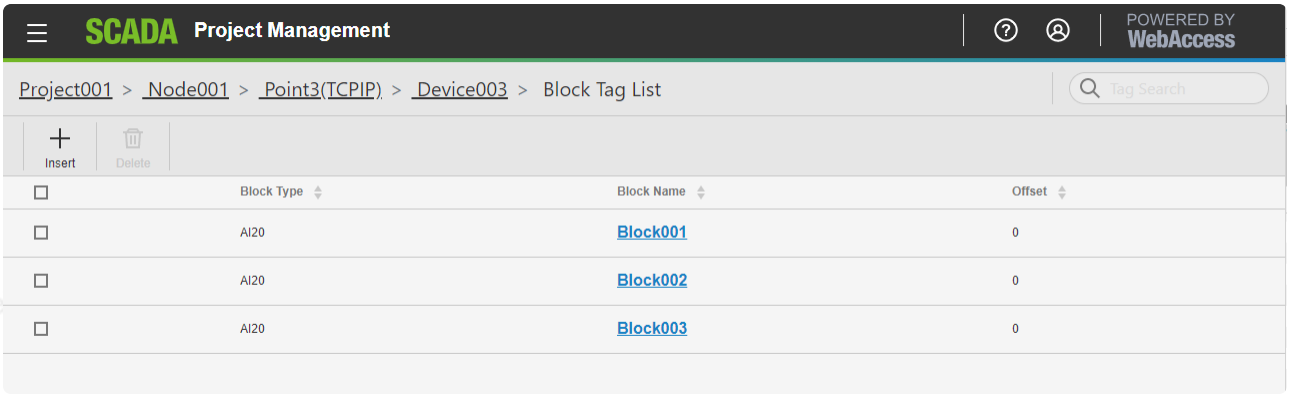
12 alphanumeric characters. This is the name that users and operators will use to access the data read by this tag. Typical Block Names are TIC1001, Zone11, and Pump61.

5. Enter an Offset. If you planned your addresses well, you will be able to use the Block Offset feature to create the proper addresses for all the parameters in the block with a single keystroke.
6. The offset may be as simple as an integer or may be a complex series of numbers, commas and letters. Refer to your specific device driver guide for the addresses used by your device.
7. The Block Offset feature will increment all the addresses of all the parameters in a block by a given amount. If your parameter addresses have a predictable pattern, the Block Offset feature can greatly reduce the time and effort to create blocks and establish communications with the field.
8. Press Submit when finished.

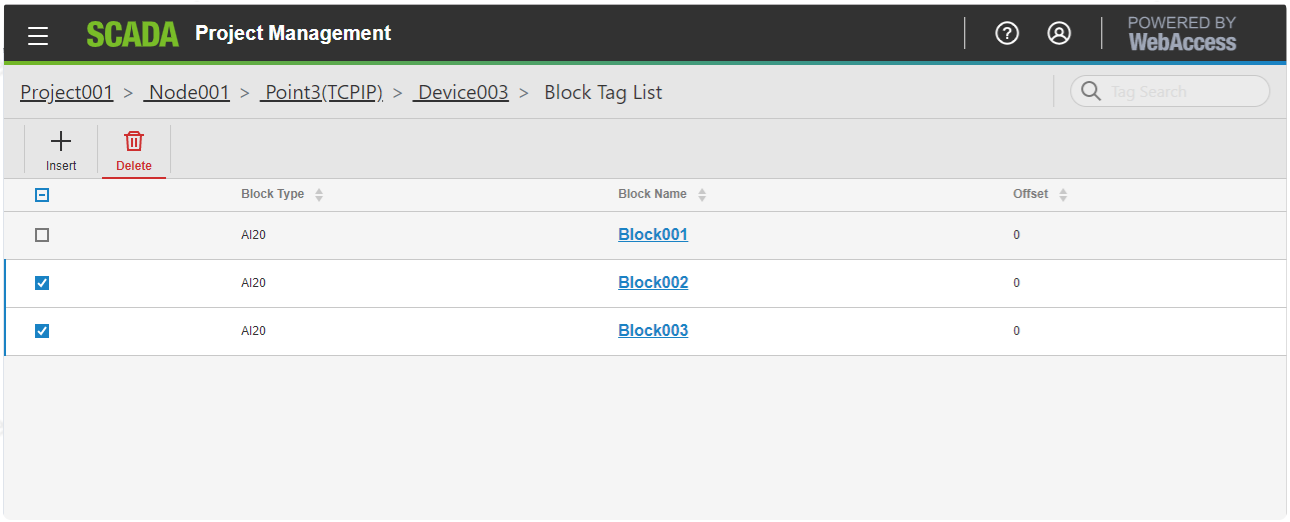
Delete Block



1. Click Block which you want to edit.



2. You will see the Block List page.
3. Select blocks which you want to delete.



4. Press Delete button on the above bar.

Configure Block Tags

1. Enter Block List.

2. Click the block name.

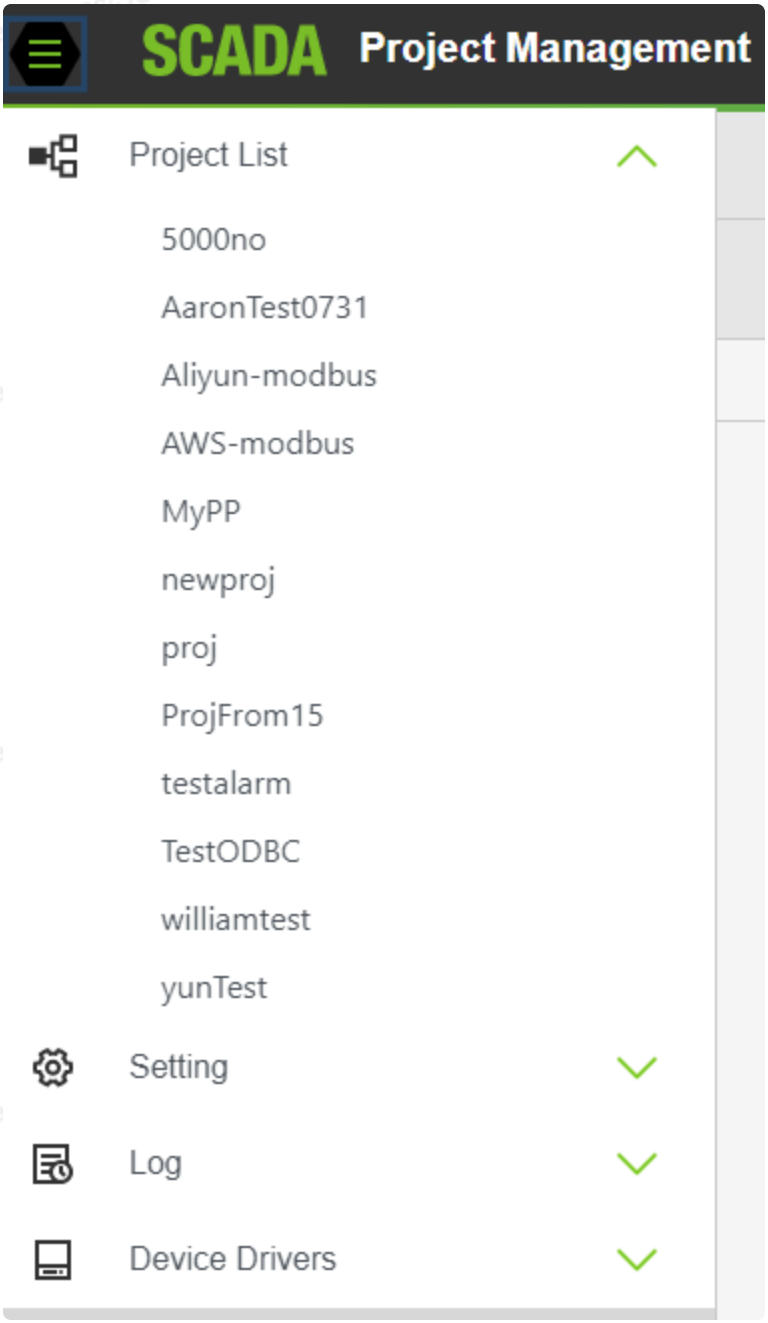
3. You will enter Block Tag
4. Choose the tag and click Edit, you can edit the configuration.

3.2 Features of Sidebar Menu

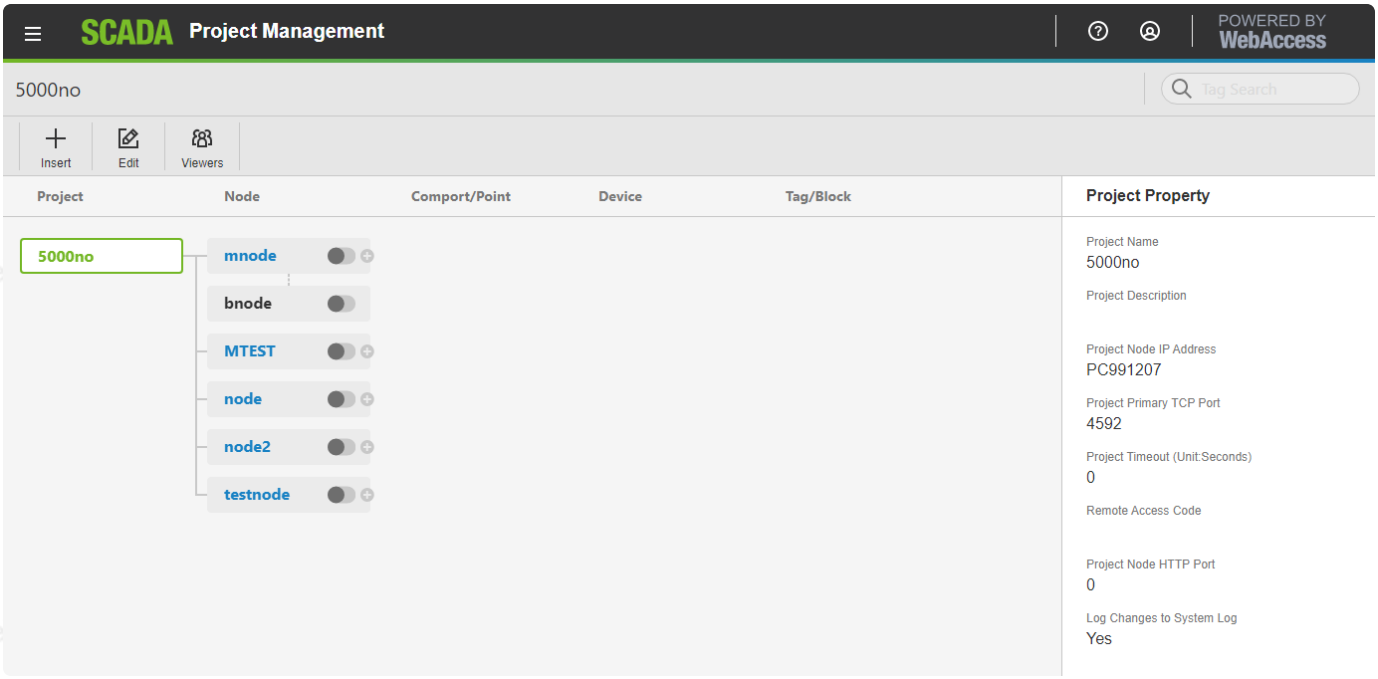
3.2.1 Project List

From the Project Manager, Project Users can see all project from the **Project List** block of side bar.

WebAccess/SCADA



Click project name will show project property and the nodes belonged to this project.

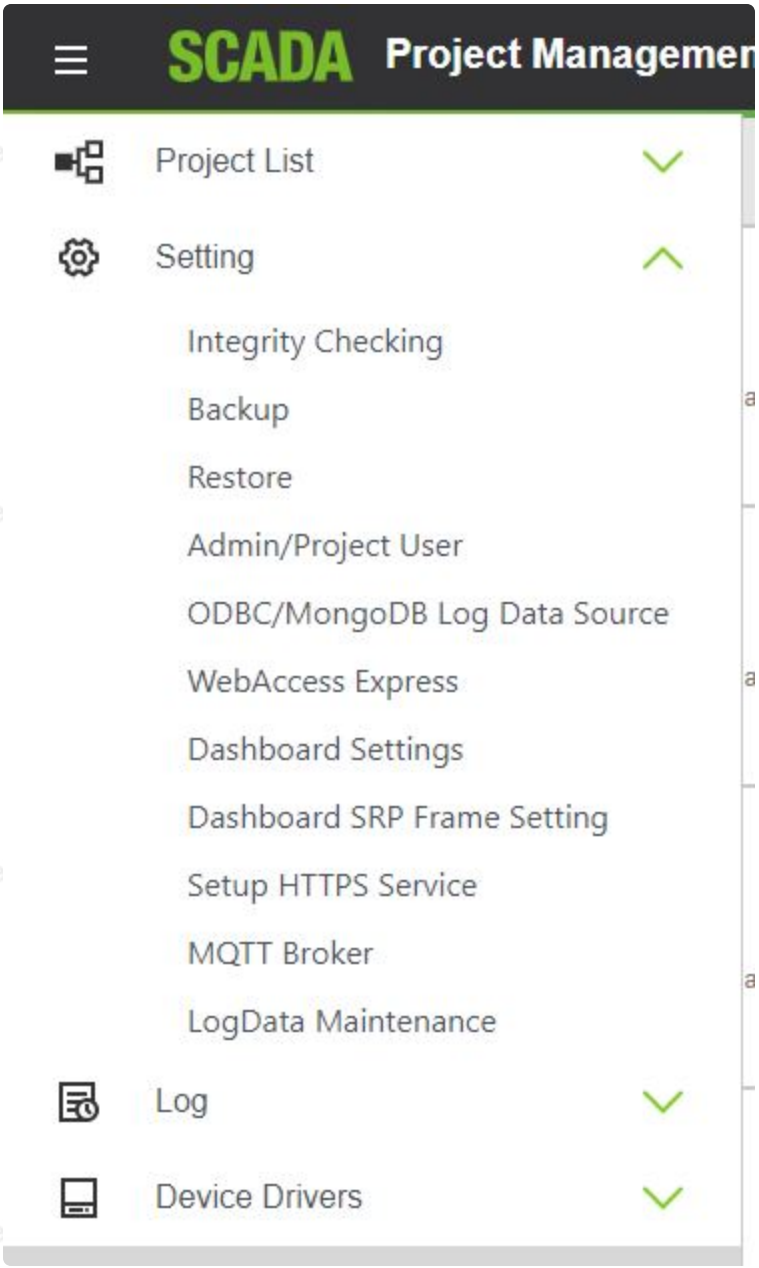


3.2.2 Setting

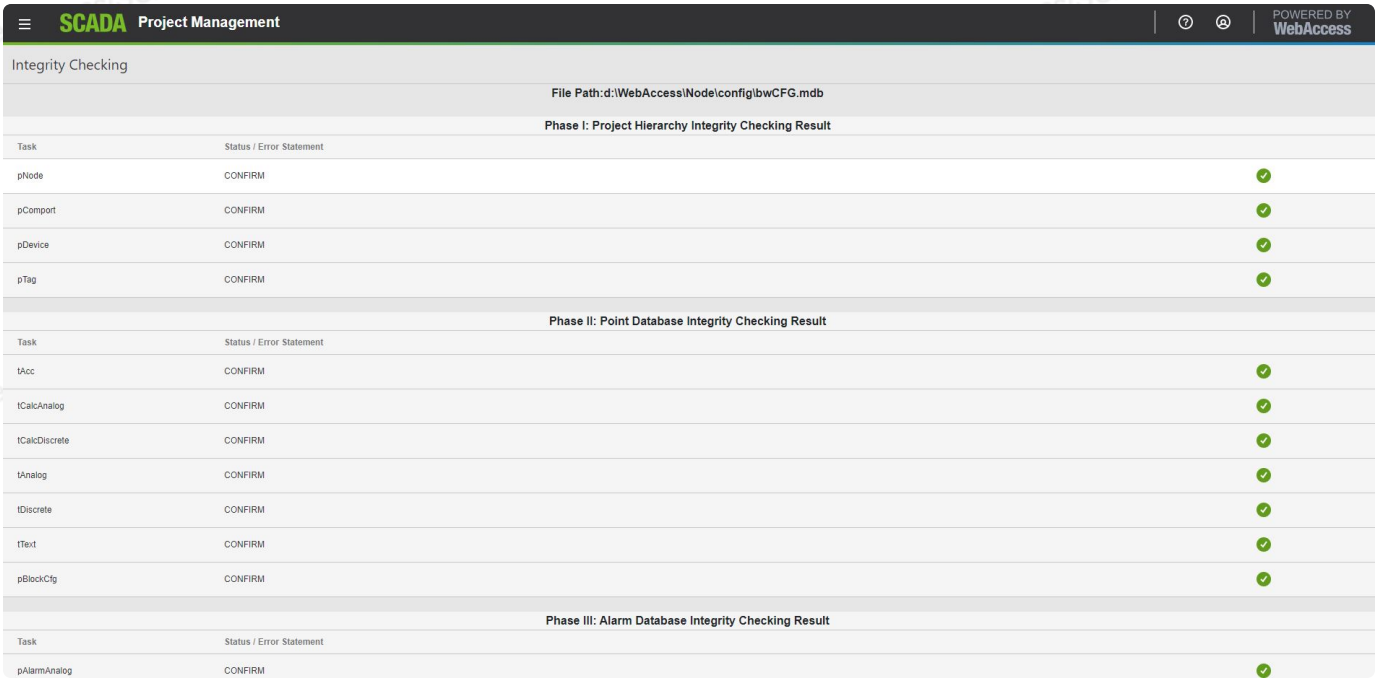
3.2.2.1 Integrity Checking

From the Project Manager, Project Users can see the **Integrity Checking** from the **Setting** block of side bar.

WebAccess/SCADA



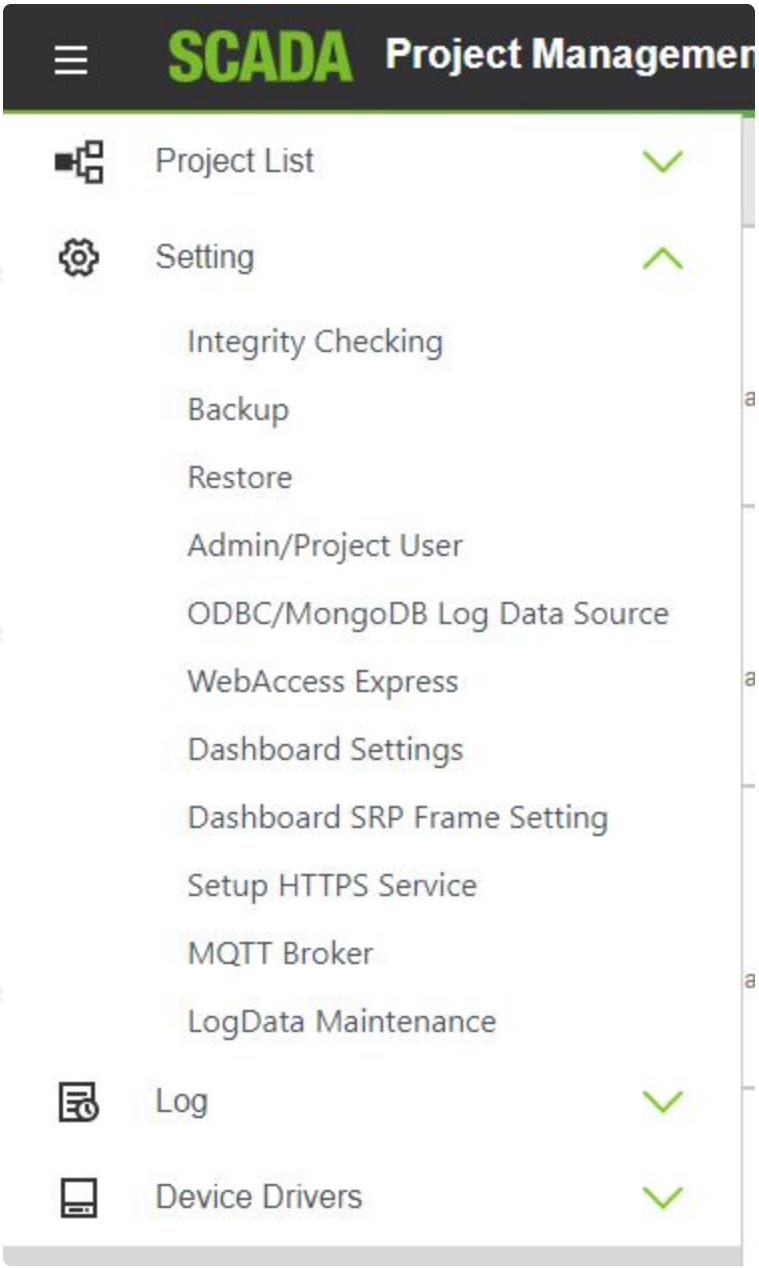
It will check the integrity of project hierarchy, point database and alarm database, then show checking result in Status/ Error Statement.



3.2.2.2 Backup

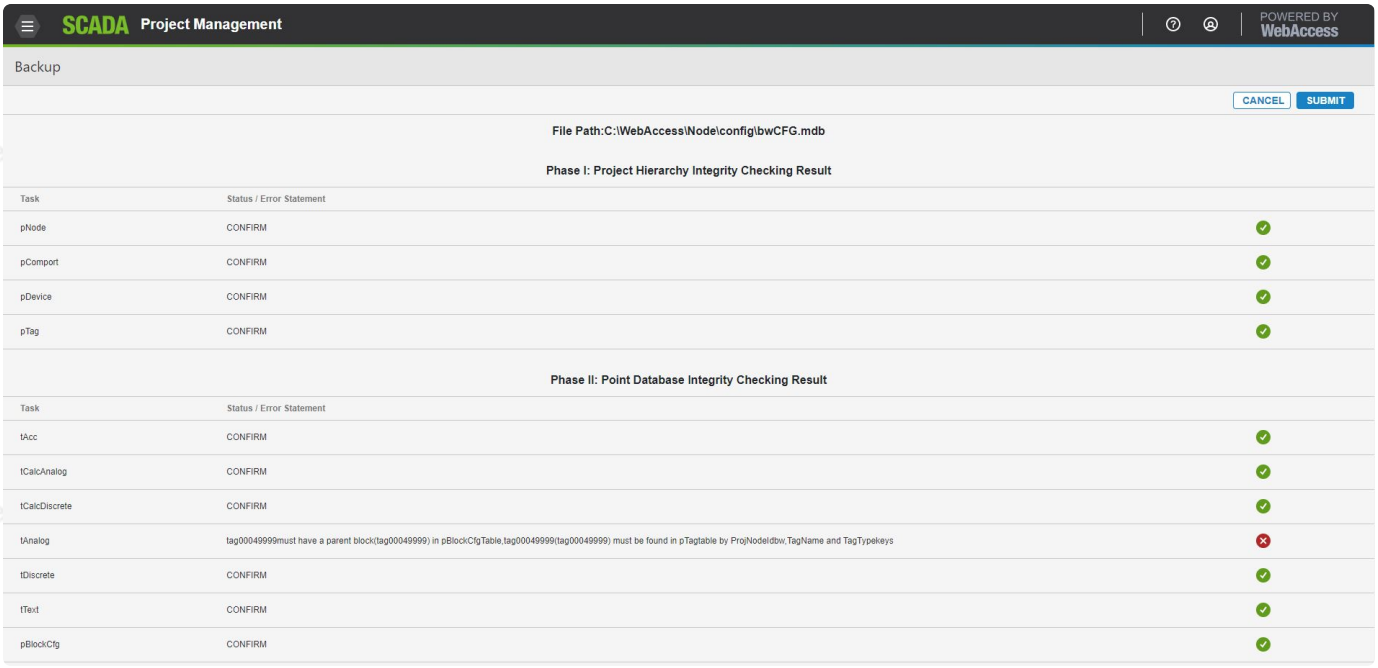
From the Project Manager, Project Users can see the **Backup** from the **Setting** block of side bar.

WebAccess/SCADA

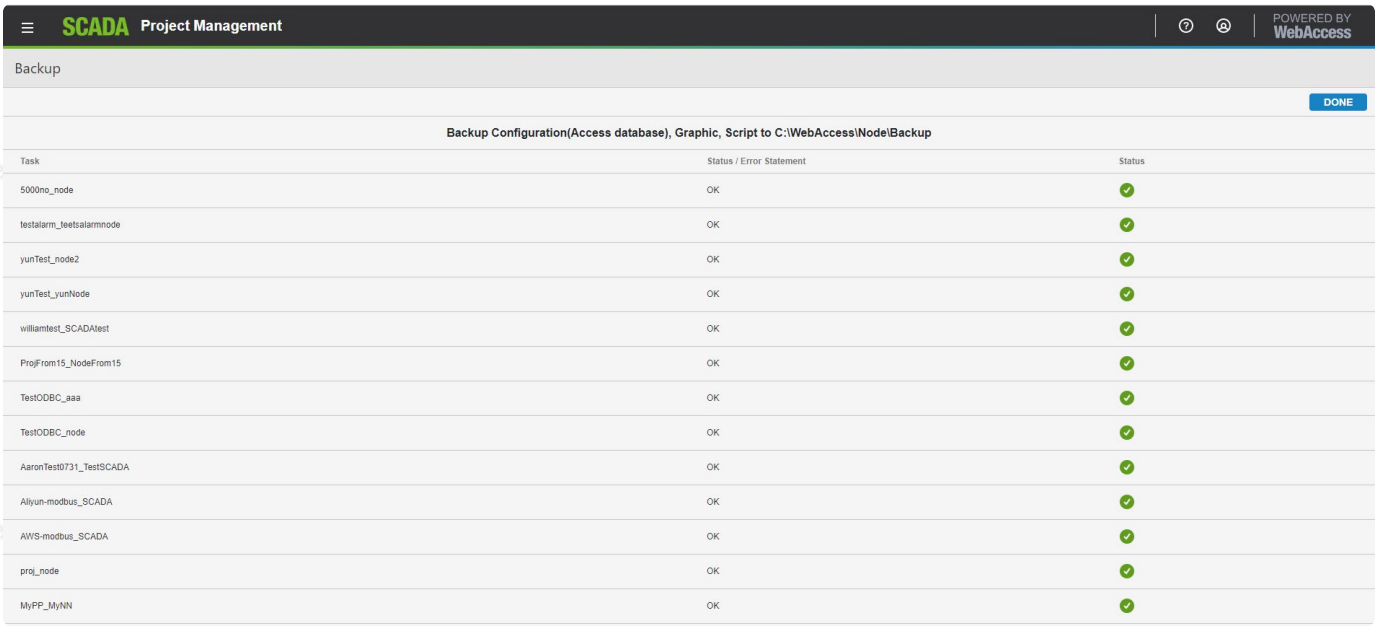


To Backup your Project(s)

1. Select Backup hyperlink.
2. This integrity check need a few minutes.
3. Click Submit for backup job.



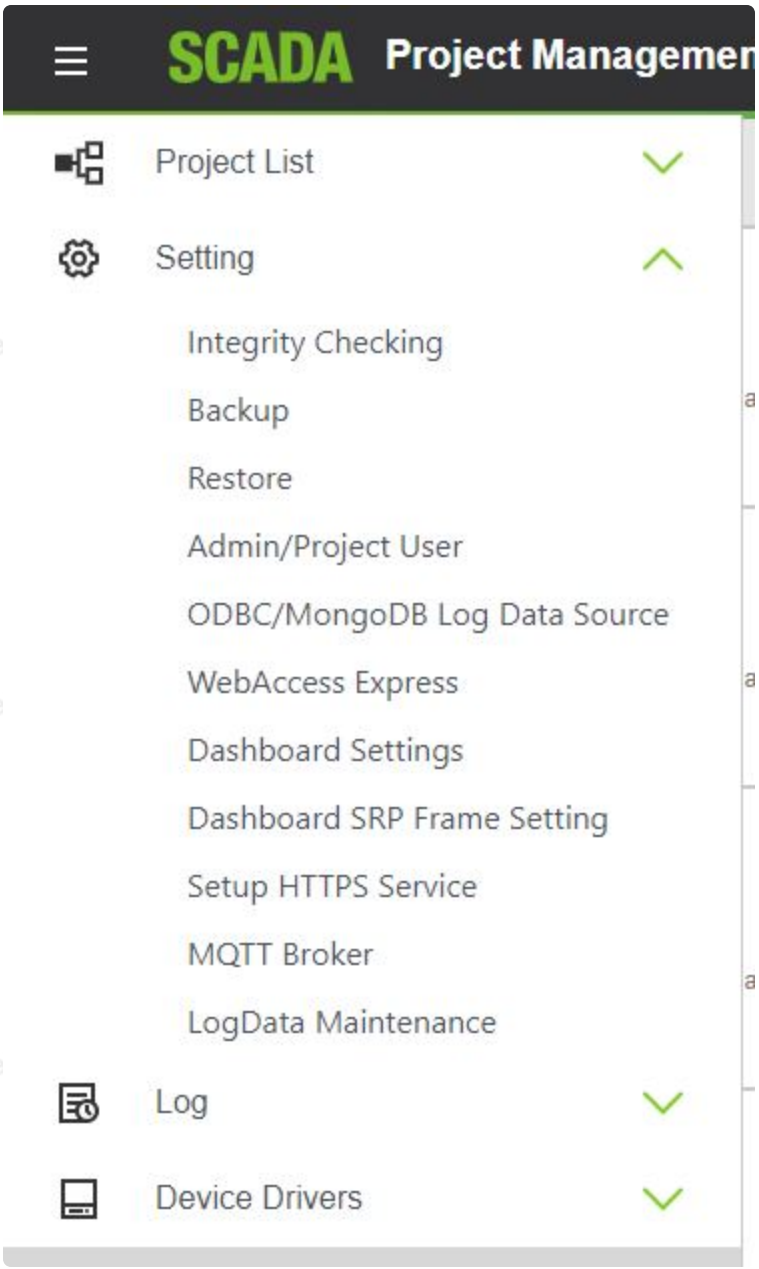
4. You will have a second waiting period, while the actual backup takes place. This can take several minutes for a large project. Very large databases may require increasing the Script Time Out on the Project Node (Web Server) in order for the Integrity Check to run to completion.
5. A completion Message appears describing the full path to the backup, typically: C:\WebAccess\Node\backup



7. Click done to return to Project Manager Home page.

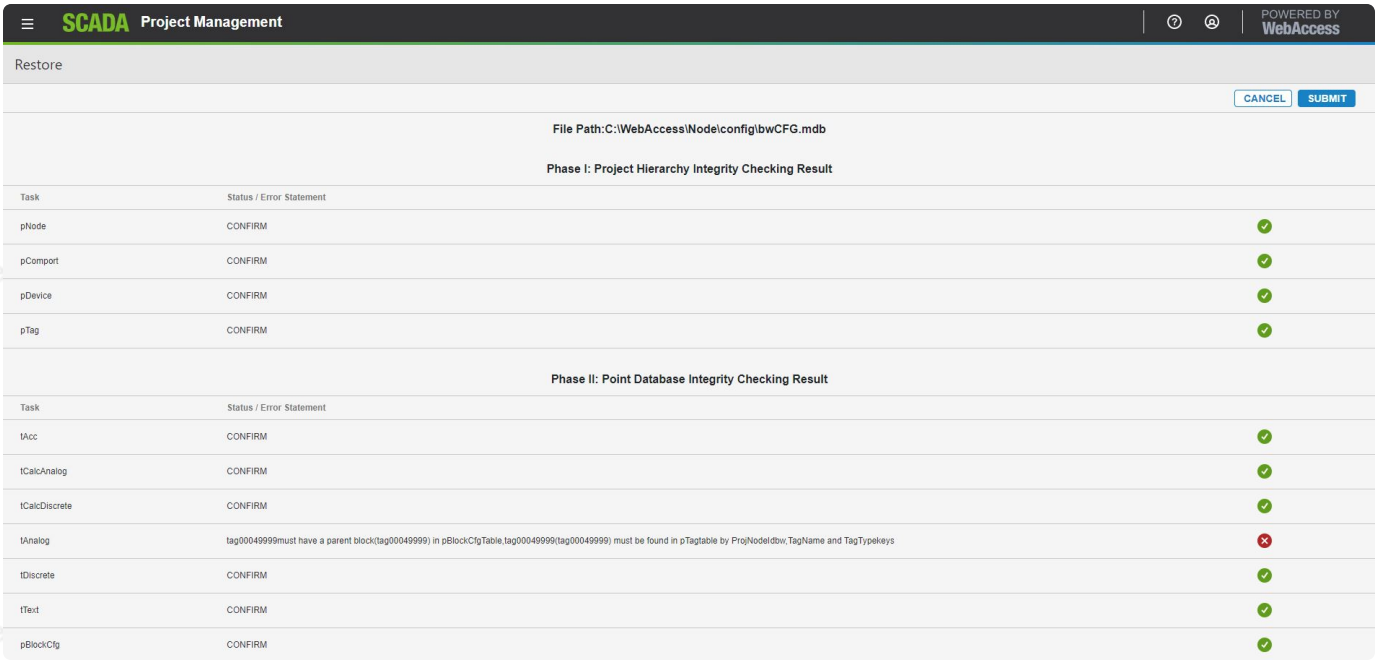
3.2.2.3 Restore

From the Project Manager, Project Users can see the **Restore** from the **Setting** block of side bar.

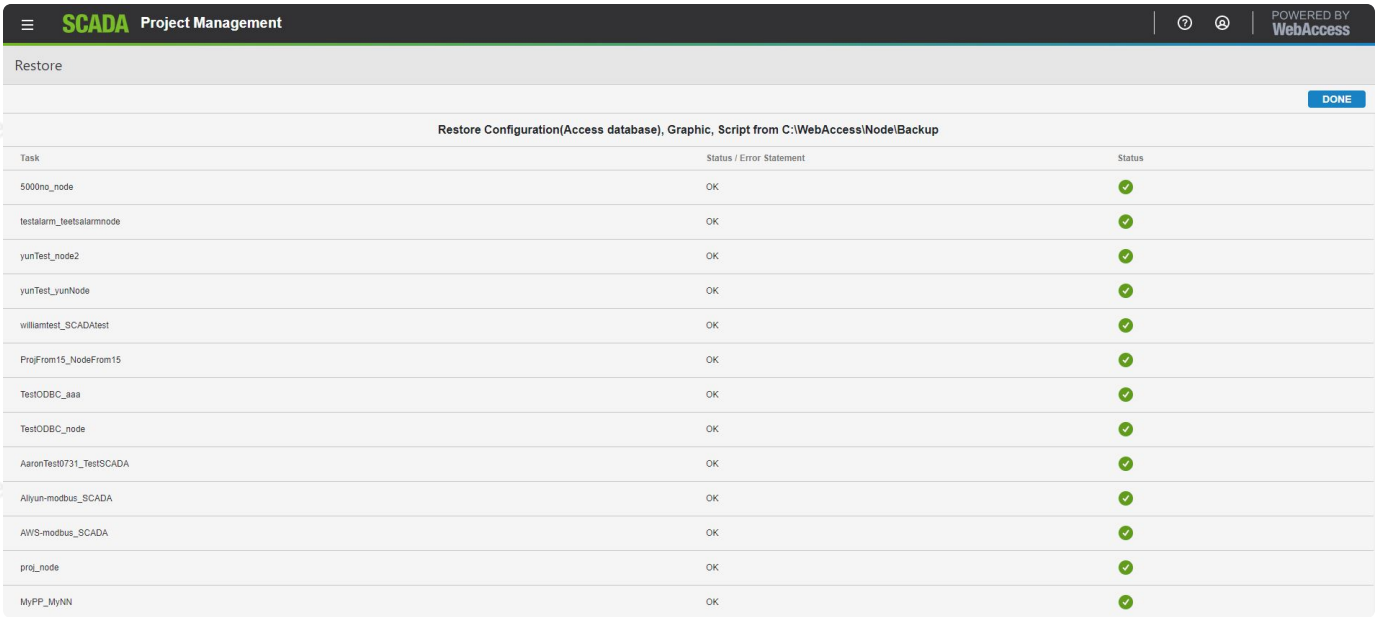


To Restore your Project(s)

1. Select Restore hyperlink.
2. This integrity check need a few minutes.
3. Click Submit for restore job.



4. The Confirmation appears confirming restore completion. This can take several minutes for a large database. Very large databases may require changing the script time out set in Project Properties in order for the Integrity Check to run to completion.



5. Click done to return to Project Manager Home page.

WebAccess/SCADA WebAccess/SCADA

3.2.1.4 Admin/Project User

The Users, Passwords & Security Section discusses Advantech WebAccess/SCADA user accounts in detail.

In brief, Project Users and the admin account can access the Project Manager. Project Users can not access the SCADA Nodes, unless a second account is created in Users in Project Properties.

The admin account is a special account that can not be erased or renamed. The admin account can access all SCADA Nodes and the Project Manager. The admin account and Project User passwords can be changed in either from the Admin / Project User on the Project Home Page or in Users under Project Properties.

Admin / Project User Properties allows you to modify the Admin account and to create other user accounts with ADMIN like properties to access the Project Manager. **Project Users** are not assigned VIEW access to run time SCADA Nodes (unless you create another user account with the same name under SCADA node properties).

Users must "Login" using a **Username** and **password**. All users are assigned a **User Type**. The User Types are **administrator**, **project user, power user**, **general user** and **restricted user**. Only Admin and Project Users can access the Project Manager.

Please refer to the Users, Passwords & Security for a complete description of security.

User names are not case sensitive. Passwords are case–sensitive.

Project User Types

Project Users and the admin account can access the Project Manager. Project Users can not access the SCADA Nodes using VIEW or ViewDAQ, unless a second account is created in Users (on Project Property Page) with the same user name and password. Similarly, other Users can not access the Project Manager, unless a Project User account is created.

Administrator

- Can use Database Configuration Tool (Project Manager).
- Can use Web DRAW to build and edit graphics.
- Can View all Displays in system through Web Browser (including Action Log, Alarm Log, User Programs and Station Status Displays)
- Access all tags using the Point List Dialog box.

Note – There is only one Administrator account in a project. The default name is admin and can not be renamed

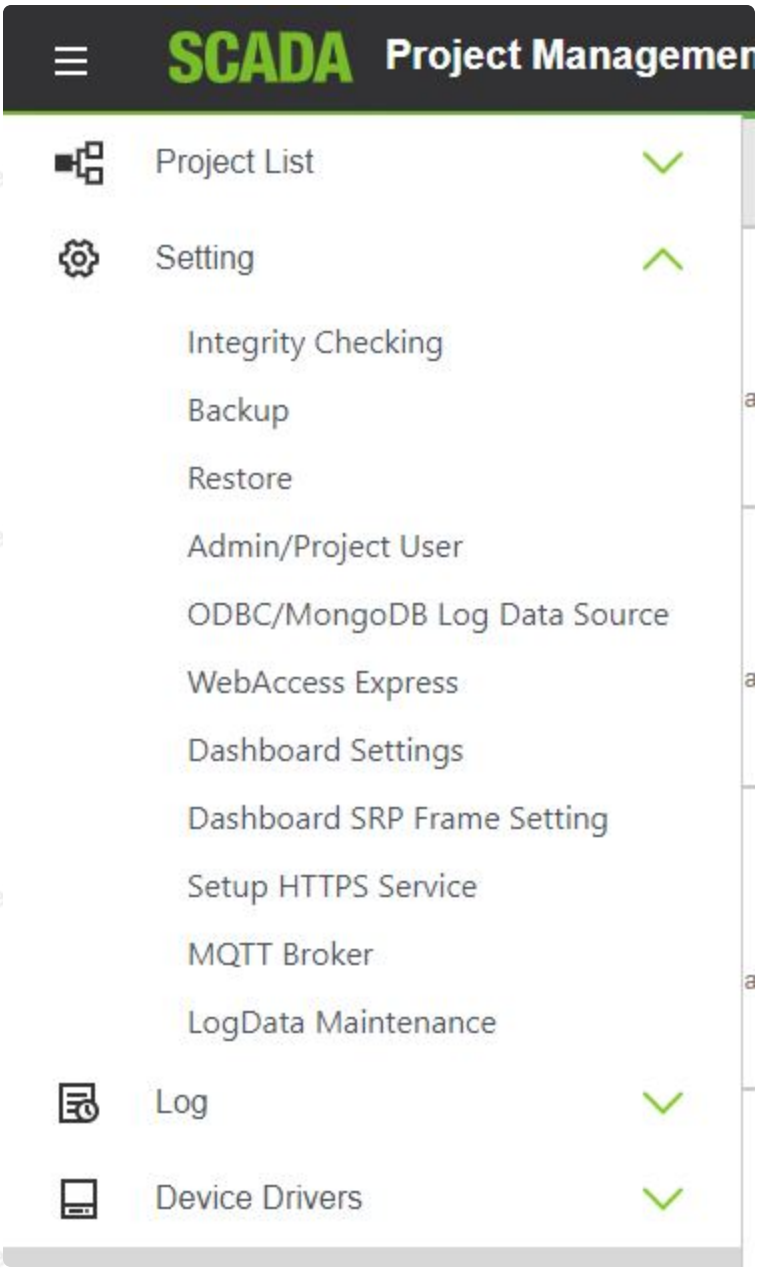
Project User

- Can use Database Configuration Tool (Project Manager).
- Can use Web DRAW to build and edit graphics.
- Can NOT View displays in run–time.
- Can View Reports, System Log, Analog Tag Log, Discrete Tag Log, Alarm Log and Action Log through Project Manager
- Can Create, Modify and Download Schedules through Project Manager.

Note – only Users that are assigned as Project Users can use the Database Configuration Tool (Project Manager) or use web-browser based DRAW.
Note 2 – The Project User can also be assigned as either a power, general or restricted user to enable viewing graphics in run-time View.
A user with all the security features of Admin can be created by creating two accounts with the same name, a Project User and a Power User (with security Level 127 for all Areas, Local Tag, View Tag, etc.).

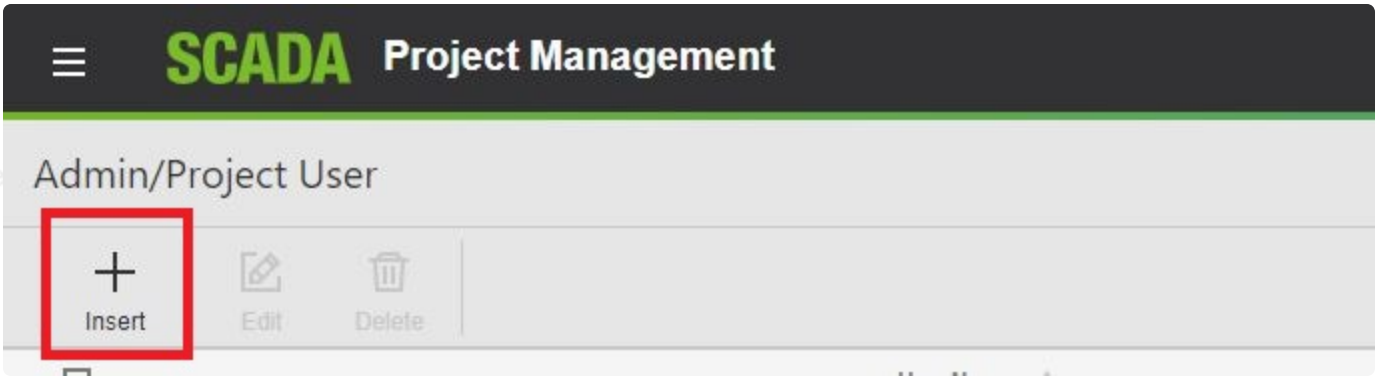
Create or Update Admin/Project User

1. Log in to Project Manager or if already connected.
2. If your login username is 'admin', from the Project Manager, Project Users can see the **Admin / Project User** Property from the **Setting** block of side bar.



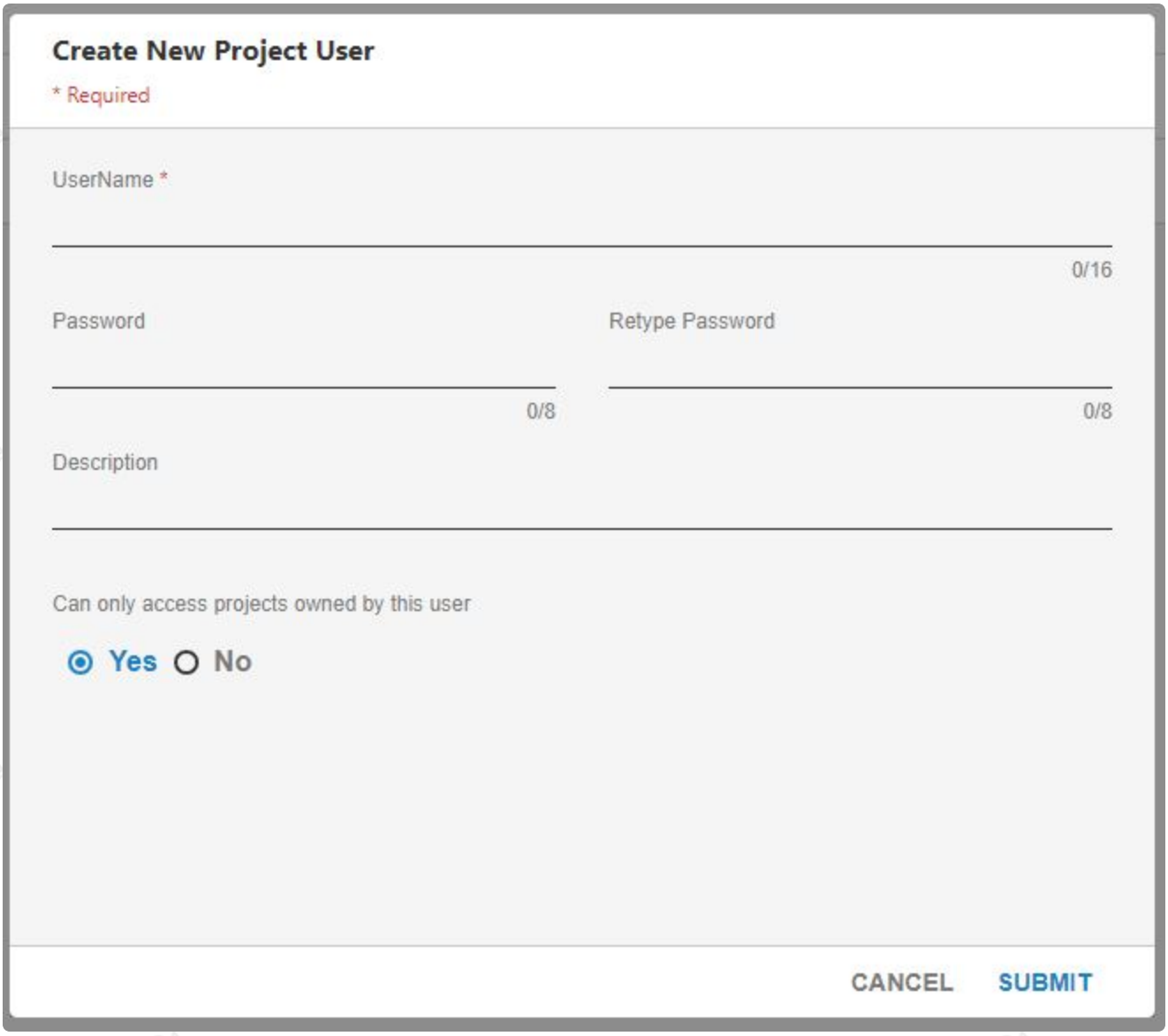
3. **Admin/Project User** appear.

4. Click the Insert button, the **Create Admin/Project User** dialog opens.

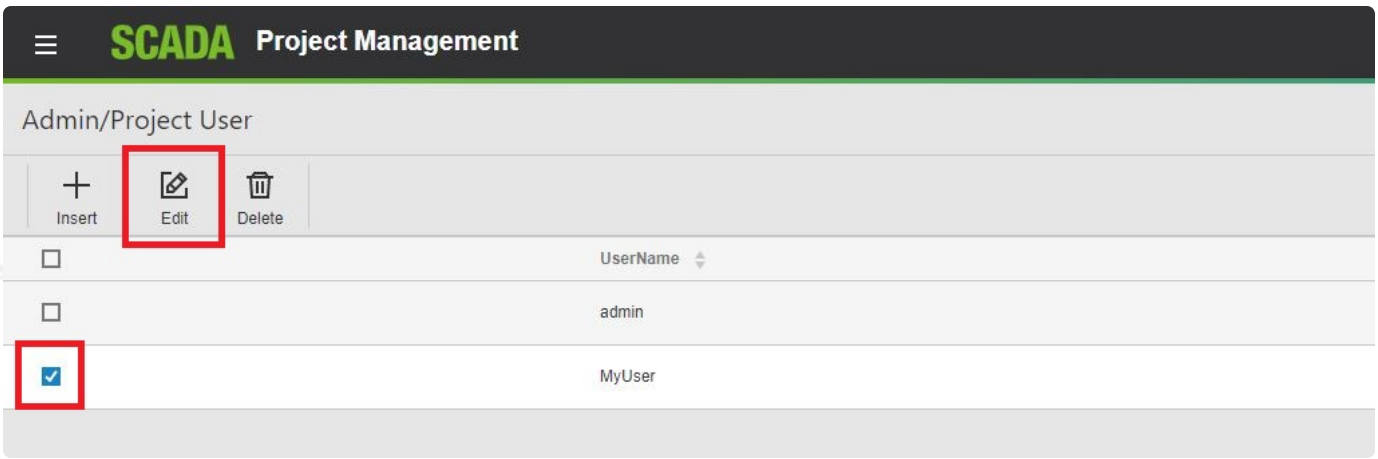


5. Enter **User name** and **password** to create a new users account.
6. Enter the password twice to verify correct entry.

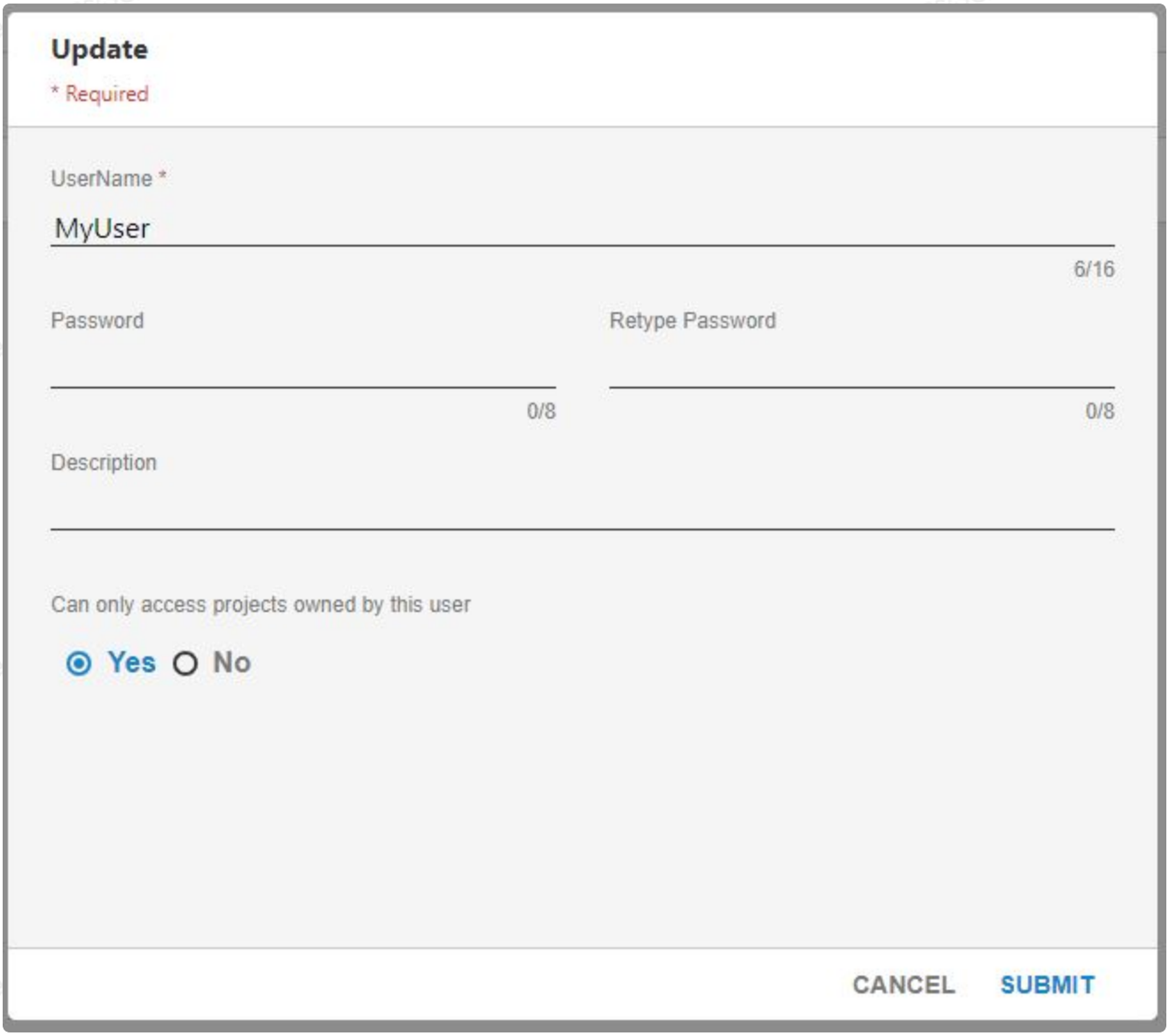
WebAccess/SCADA



7. Submit.
8. Select **Update** to modify an existing account.



9. The update **Admin/Project Users** page appears.

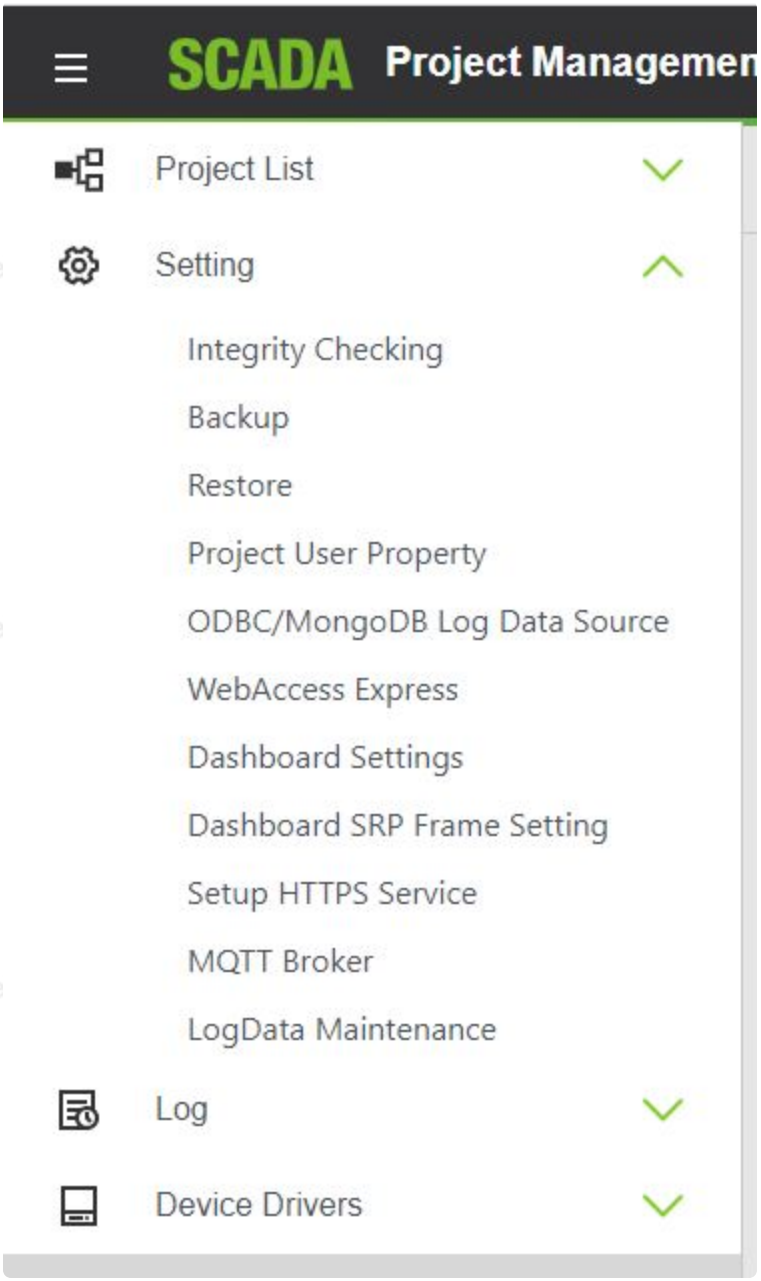


10. Make you changes and press submit.

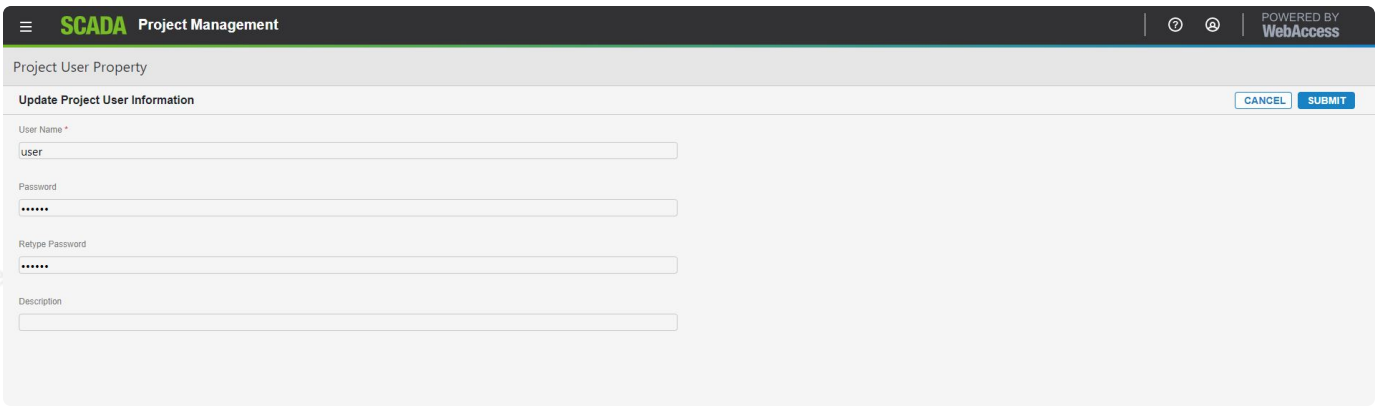
Update Project User Property

1. Log in to Project Manager or if already connected.
2. If your login username isn't 'admin', from the Project Manager, Project Users can see the **Admin / Project User** Property from the **Setting** block of side bar.

WebAccess/SCADA



3. **Updata Project User Imformation** appears.



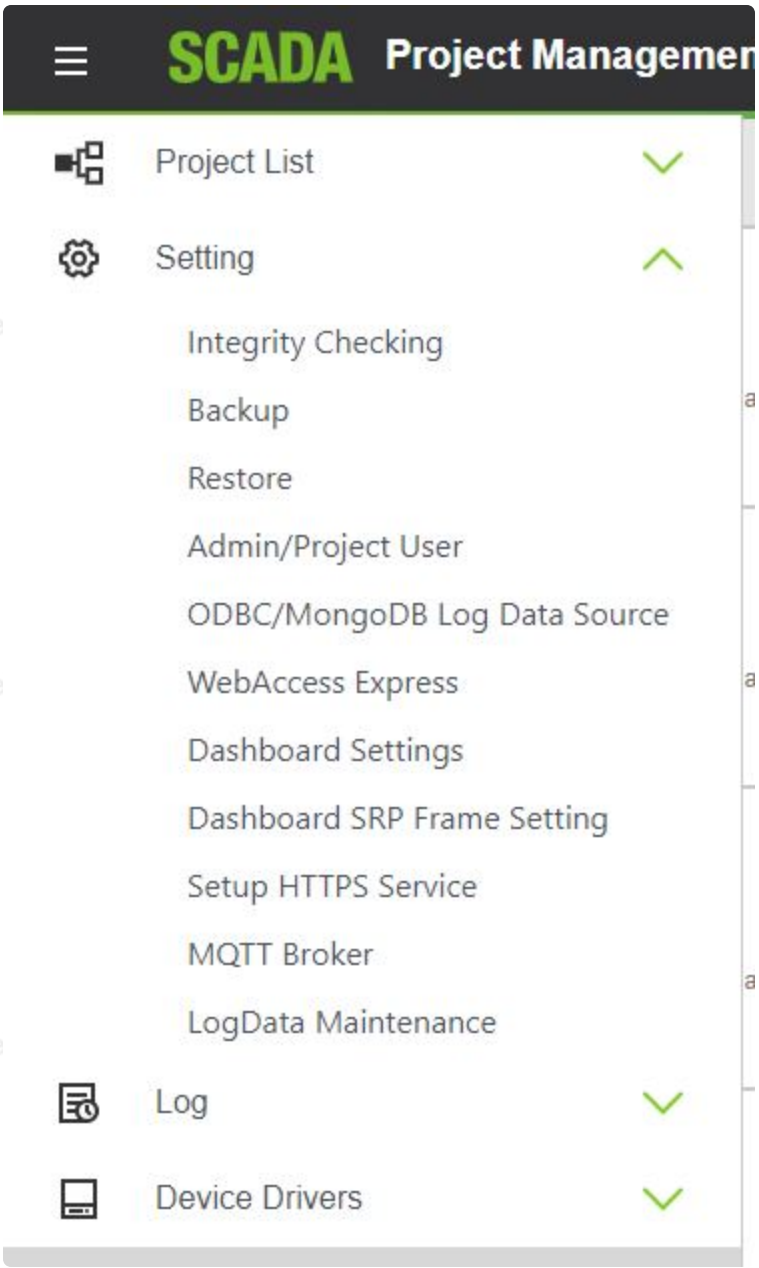
WebAccess/SCADA

> *Note — change then user name renames the existing account (it does not create a copy).*

You can create users with all the abilities of an admin by creating Project User account and a User Account with the same name. The user should be given Security level 127 (admin level) for all Areas, Local Tag, View Tag and Exit ViewDAQ.

3.2.2.5 ODBC/MongoDB Log Data Source

From the Project Manager, Project Users can see the **ODBC/MongoDB Log Data Source** from the **Setting** block of side bar.



Advantech WebAccess/SCADA users can configure flexible measuring point and events to store the database, and can let users choose to store data sheet to the month, shorten the query time when record data or generate reports, the user can also choose different data source to query. In the past, WebAccess/SCADA only can store the historical data into one database through the same DSN, but from V8.3, you can create multiple DSNs and store the data into them simultaneously.

Advantech WebAccess/SCADA can record real–time data to a database. A Microsoft Access database is supplied with Advantech WebAccess/SCADA (bwPdata.mdb) and includes:

- Analog Tag Log
- Discrete Tag Log
- Text Tag Log
- Analog Tag Log
- System Log
- Action Log
- Alarm Logs

The Data for Scheduled reports are also stored in this database.

The Project Node records data to this database. Multiple Users can view this database using the Project Logs or Scheduled Reports accessible from the Project Manager, VIEW and ViewDAQ. Note than even though Access is a single–user database, multiple users can access the IIS web server making the Access database act like a multi–user database though IIS.

Users may want to relocate this database to another hard drive or use another database. Advantech WebAccess/SCADA supports the following Databases:

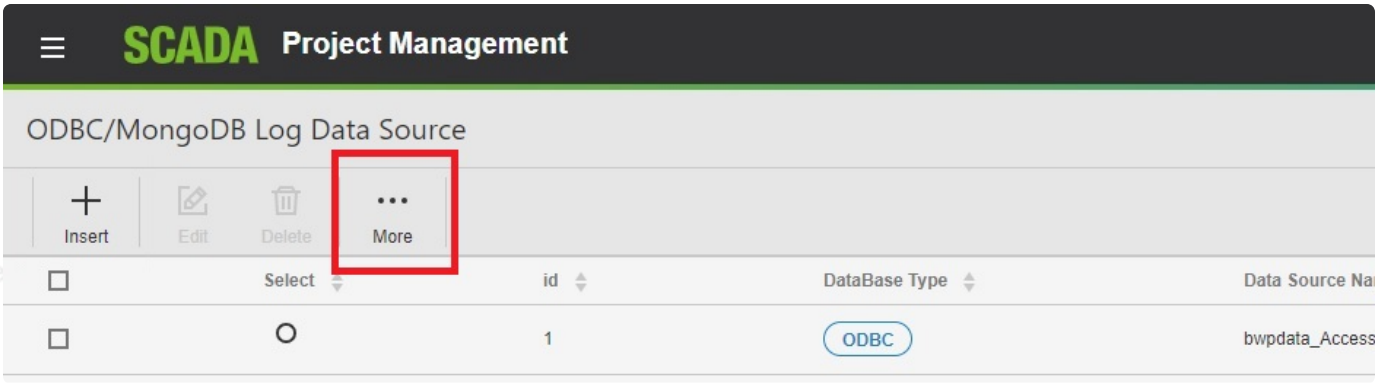
- Microsoft Access
- Microsoft SQL Server
- Oracle
- MySQL
- MongoDB

The Log Data Source allows users to replace or relocate the Access Database (bwPdata.mdb) that is the default database used for recording Process Data. This is done by creating another DSN (Data Source Name) that points to the new database and entering that name in the Log Data Source page in the Project Manager.

User Patitioned Tables

Users can through the drop–down menu enabled or disable using the monthly data table is stored, the monthly data table has analog measuring point, analogy change records, digital record of measuring points, points record table text. The existence of a monthly data sheet can help speed up the query.

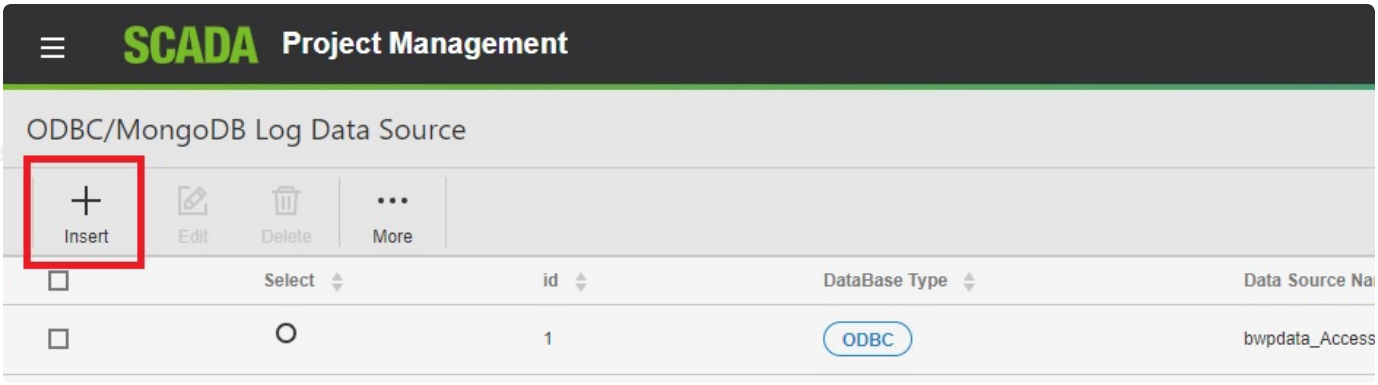
System records, action records, alarm records, and event records are still stored with a single data table.



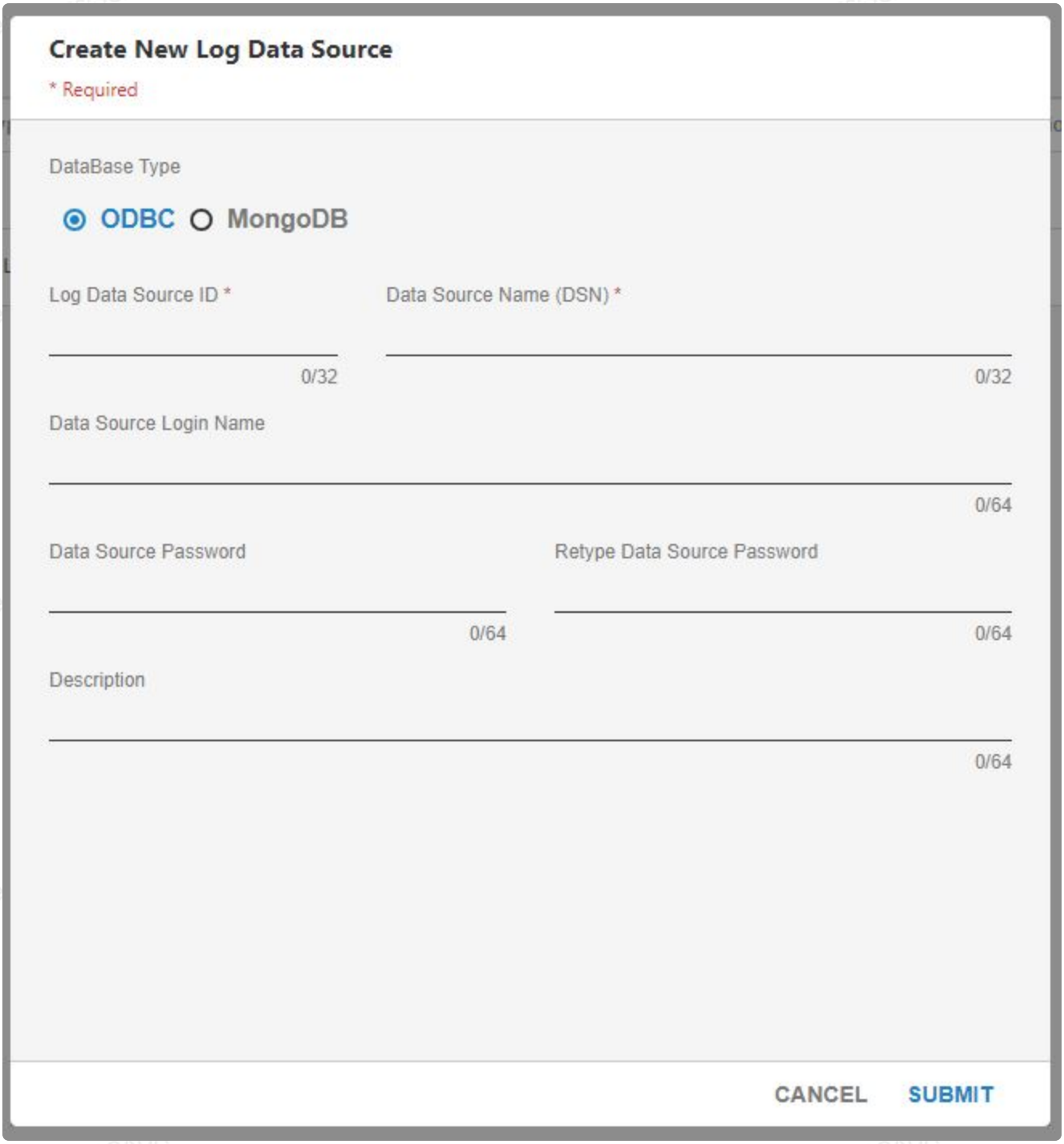
Create an ODBC/MongoDB Log Data Source

1. Select ODBC Log Data Source hyperlink.
2. **Log Data Source** appear.

3. Click the Insert button, the **Create New ODBC/MoggoDB Log Data Source** dialog opens.



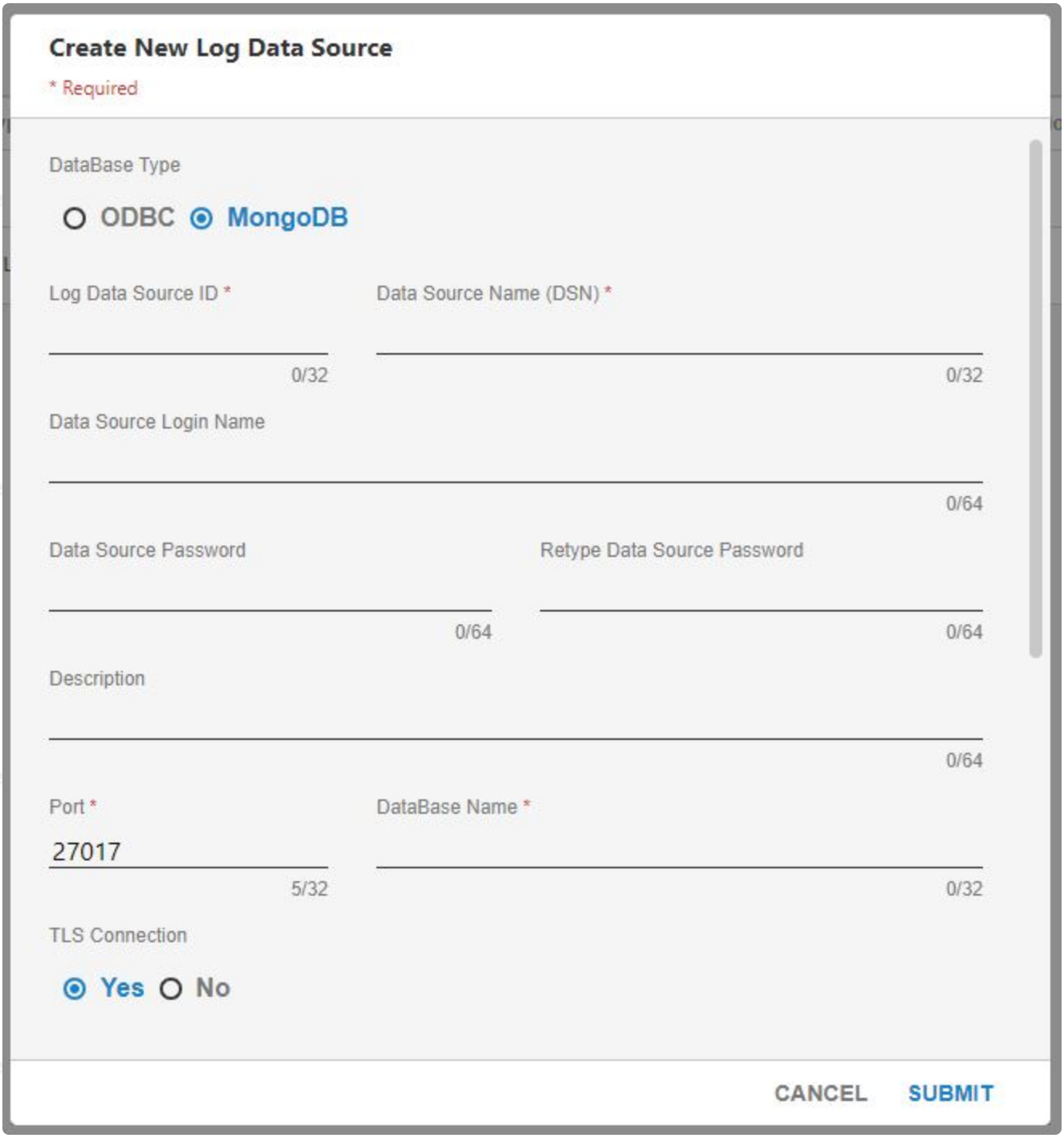
WebAccess/SCADA



- User can select the type of database is ODBC or MongoDB.
- Enter the Data Source ID, 1~255, it is unrepeatable.
- Enter the Data Source Name, the DSN that points to the new database.
- Enter the user name (Data Source Login Name) to log in to SQL Server using SQL Authentication. See Install SQL Server 2005 for more information.
- Enter the login users' password (Data Source Password)
- Retype Data Source Password.
- Optionally enter a Description.
- Press Submit.

If the Database type is MongoDB, you need setting other information:

- Enter the Database port, the default is 27017.
- Enter user will be connection the name of the database.
- Use TLS connection or not through the radio button. If choose yes, need upload TLS certificate file.
- Enter the name of the database that stores the account password.
- Other connection setting.



Select new ODBC/MongoDB Log Data Source

1. Select ODBC Log Data Source hyperlink.
2. The ODBC Log Data Source page opens.
3. Click the Radio Button under Select for the DSN to use.

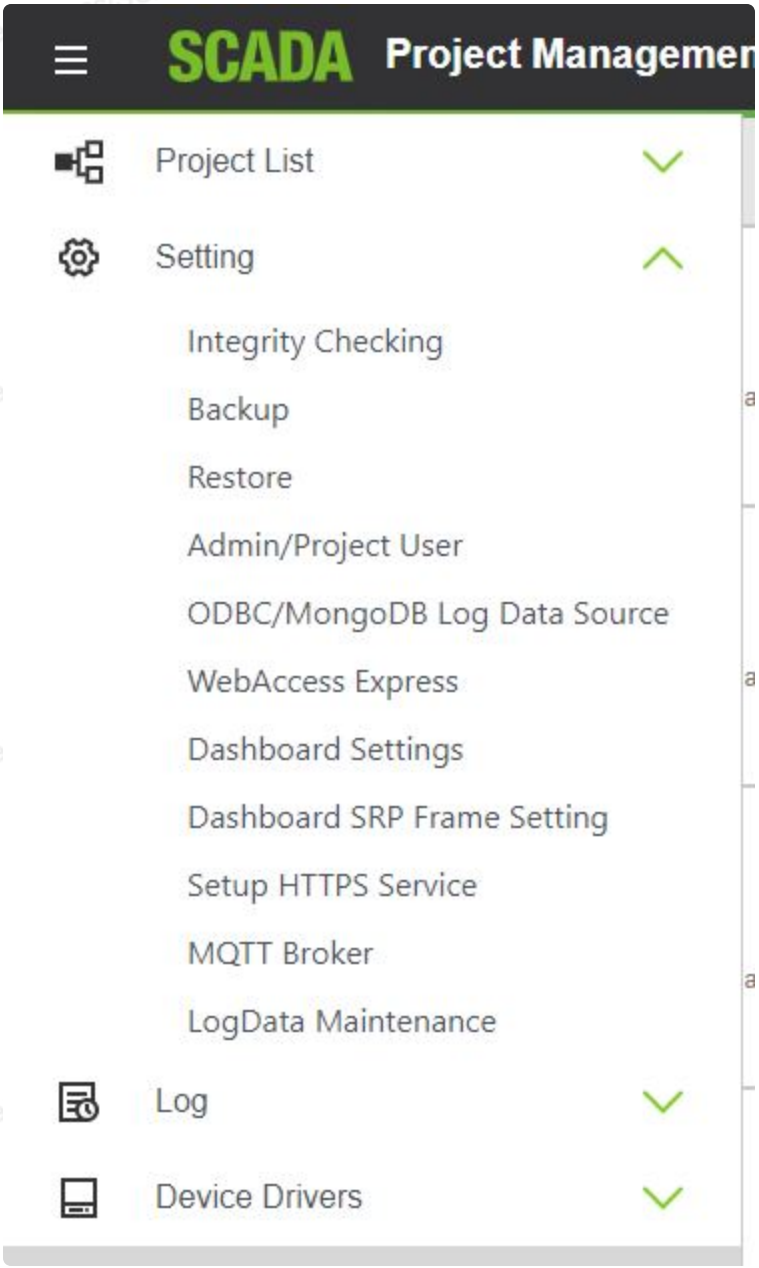
4. Select OK to confirm the change.

You do not need to download. The change is immediate.

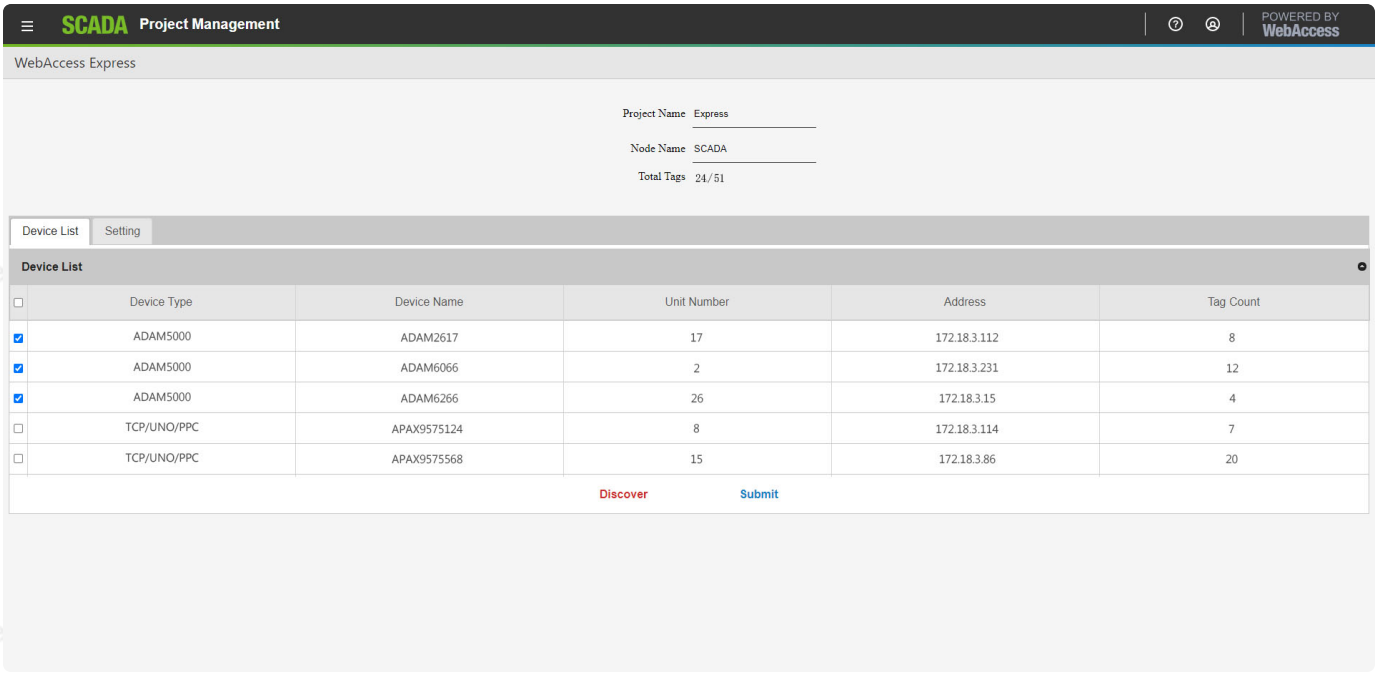
3.2.2.6 WebAccess Express

The Express Function also provides users with a global mode for auto discovery via the internet. All express functions are implemented from the WebAccess Express on Project node properties and the display page of the project will be shown directly on the Web Client.

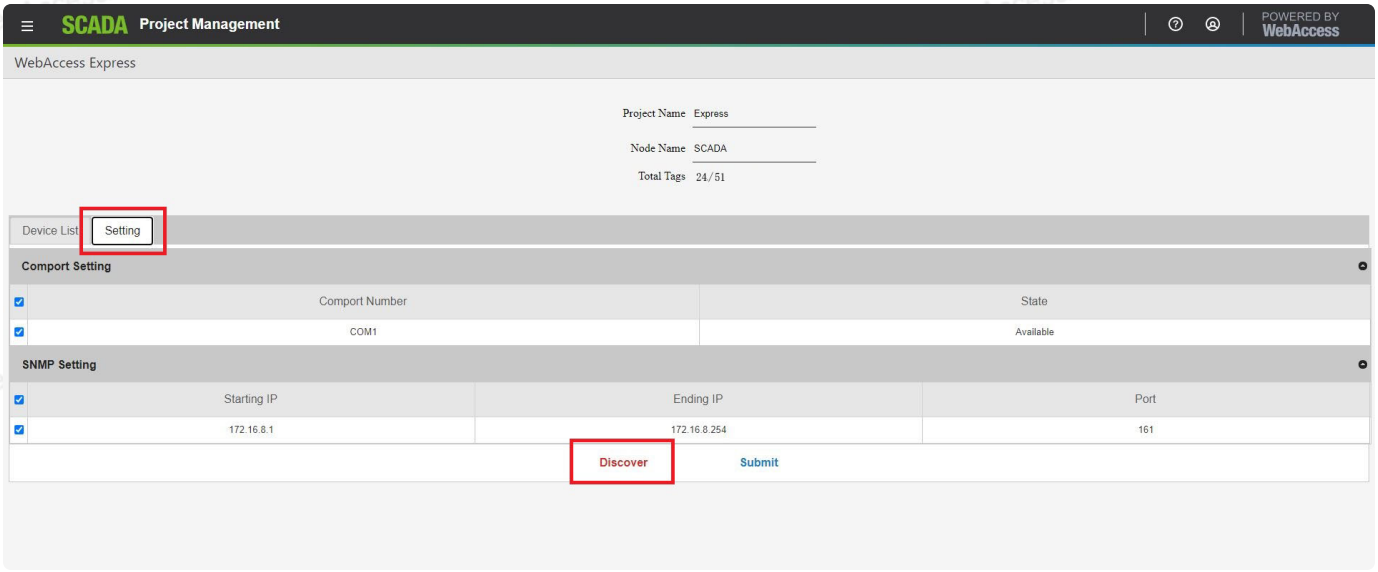
From the Project Manager, Project Users can see the WebAccess Express from the **Setting** block of side bar.



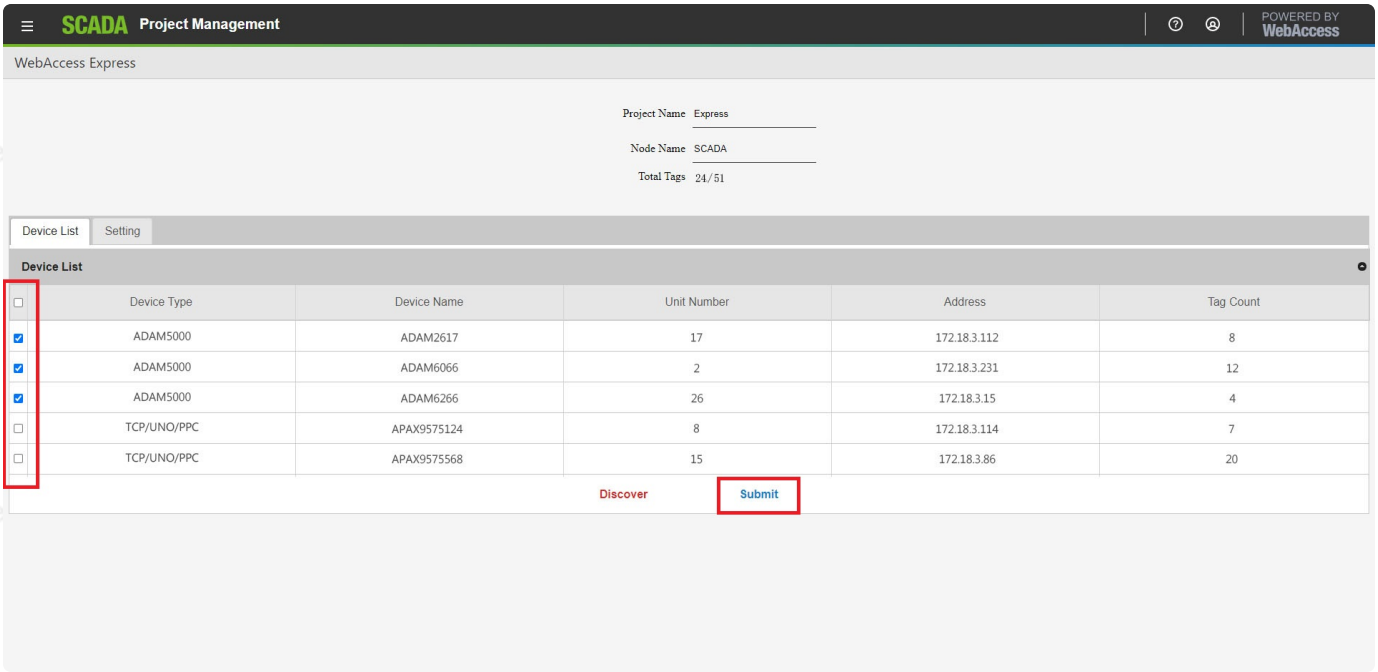
- WebAccess Express **main page**：The page will show the list of the last discovered devices. If users don't need to add devices to monitor, they can select the device and Go Online directly.



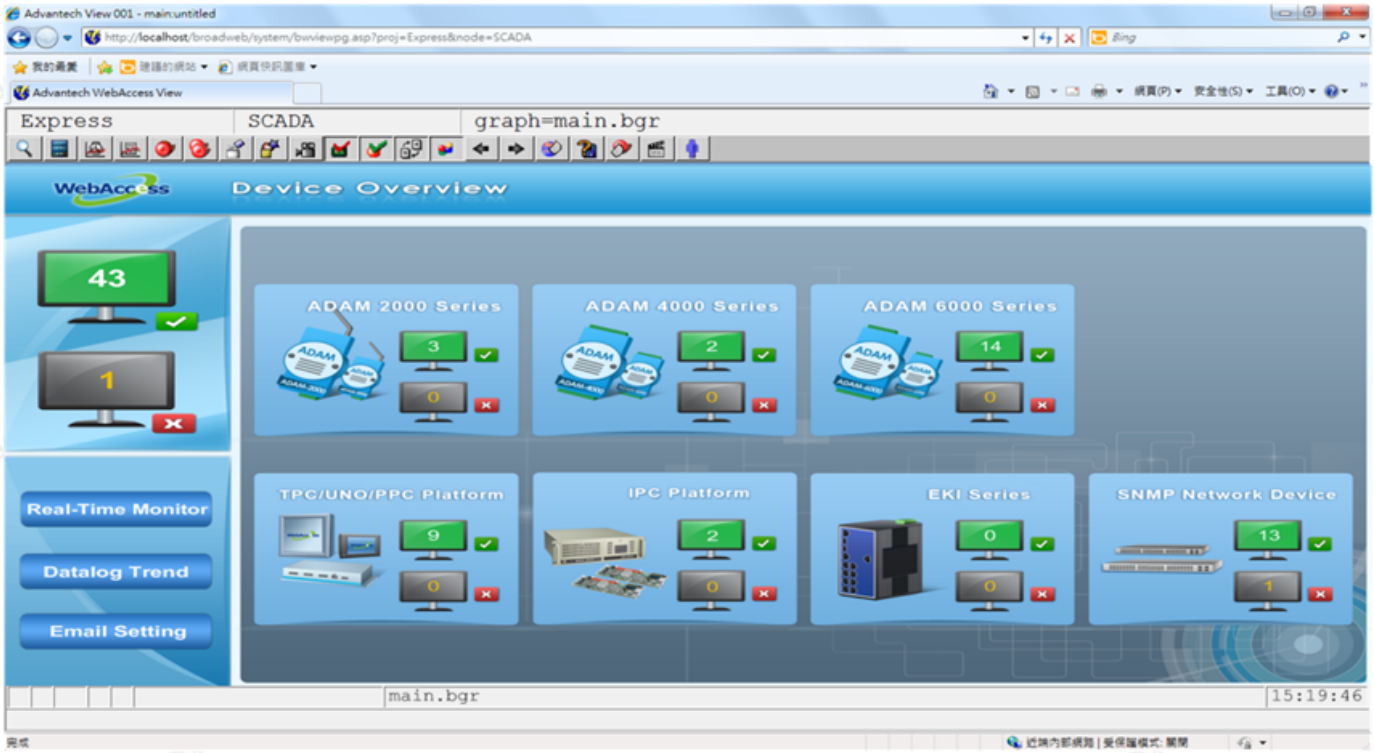
- **Setting**：Users can discover specific COM Ports and the SNMP IP range of the devices or platforms.
- Click **Discover** after setting the **COM Port** and **SNMP IP Address range** to auto-scan the device that WebAccess Express supports in the same domain.



- The page returns to the main page after discovering devices.
- Select the monitoring device from **Device list** and click **Submit** to display the data.

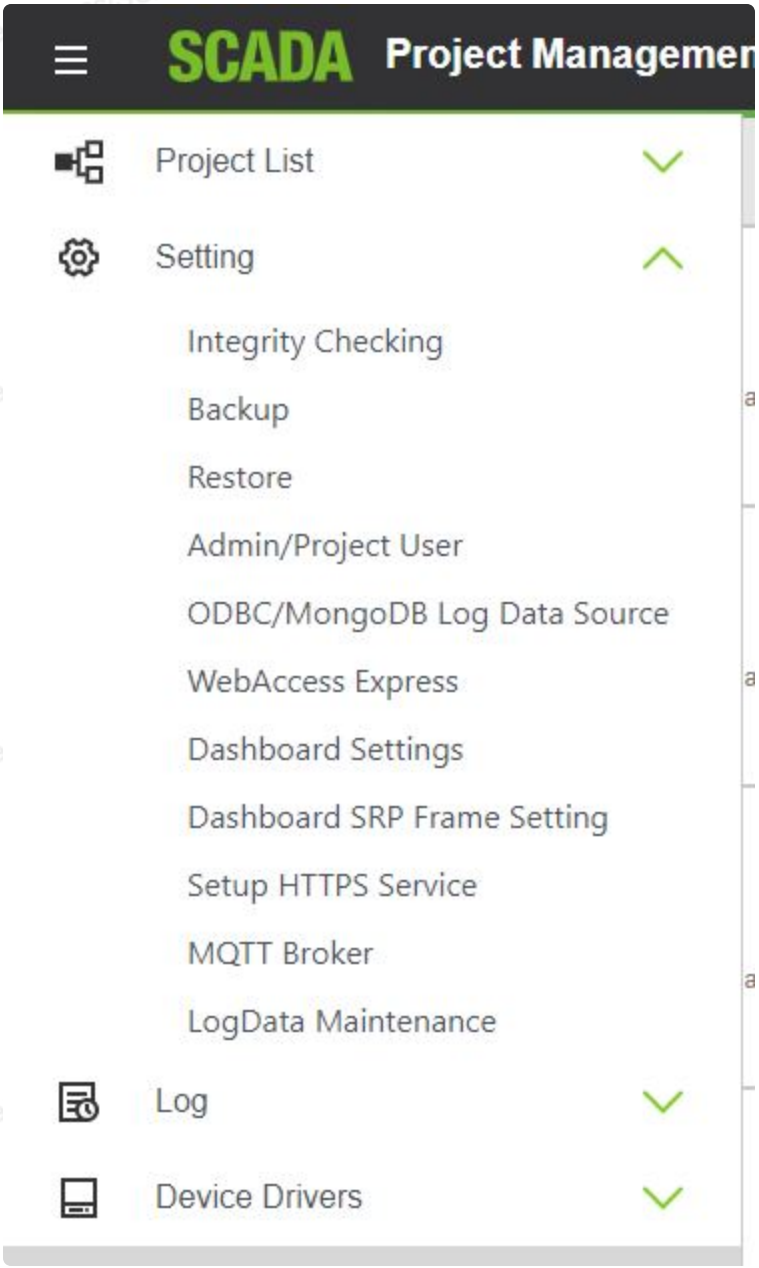


- Online graphics page

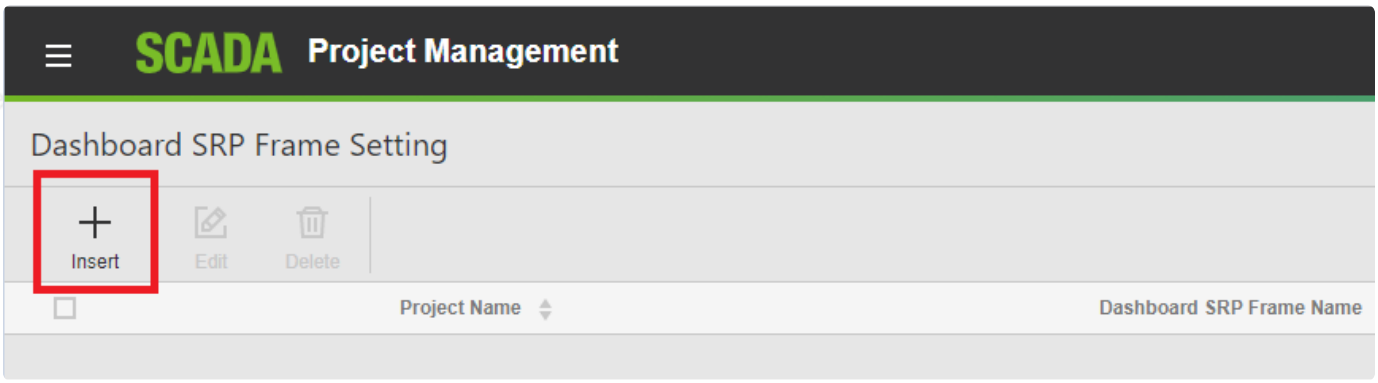


3.2.2.7 Dashboard SRP Frame

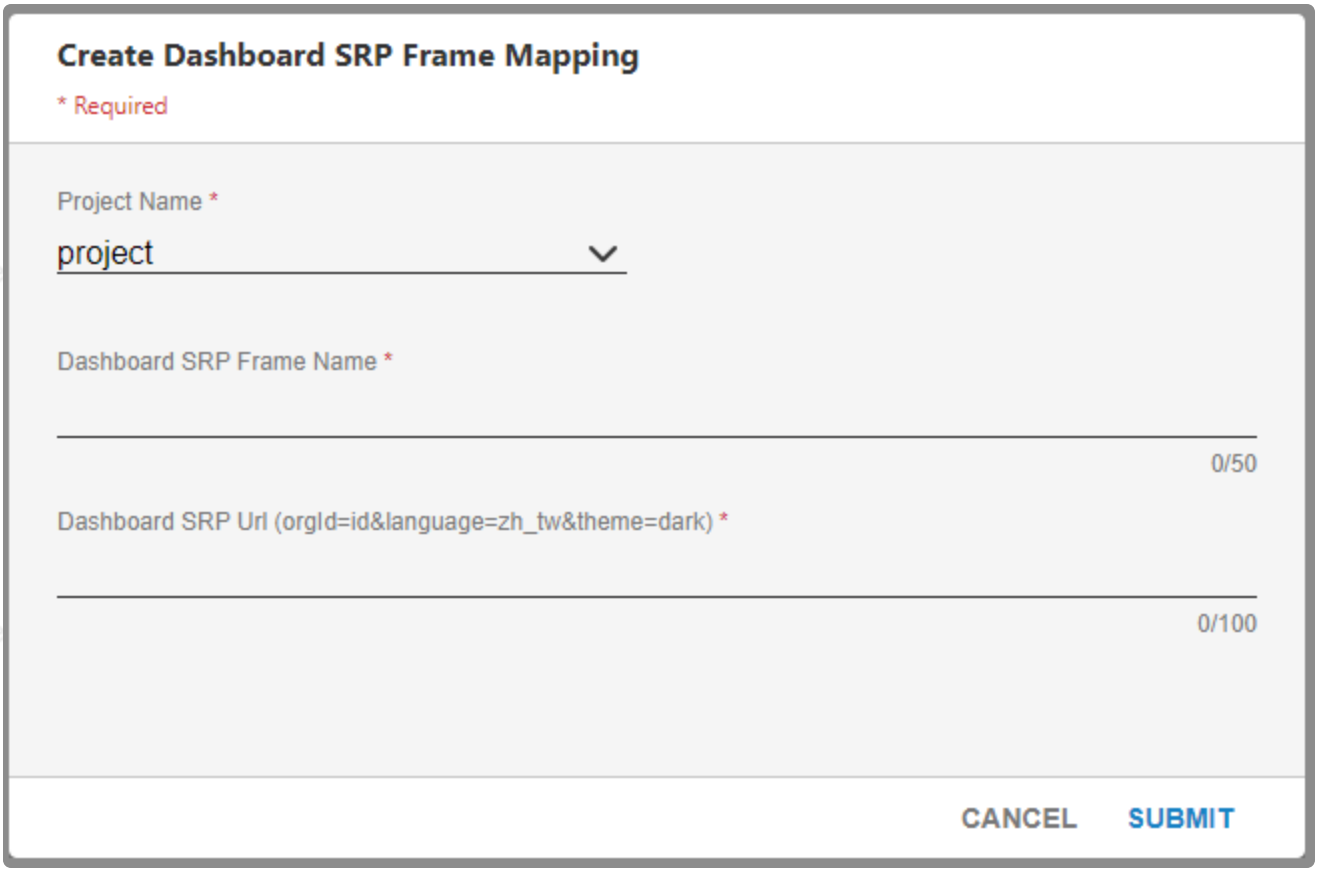
From the Project Manager, Project Users can see the Dashboard SRP Frame from the **Setting** block of side bar if installed WISE–Paas Dashboard.



1. Click the Insert button, the **Create New Dashboard SRP Frame Mapping** dialog opens.



WebAccess/SCADA

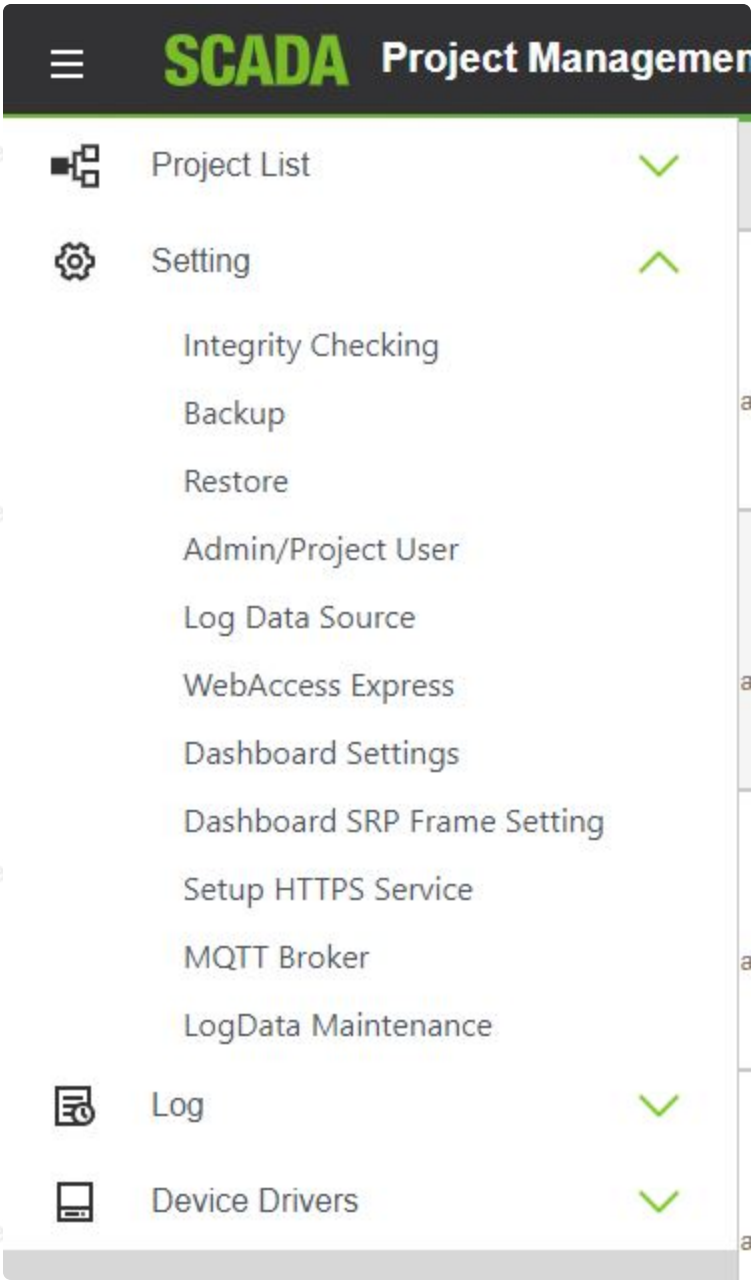


2. The name of Dashboard SRP Frame Name needs to match Dashboard setting.
3. Submit.

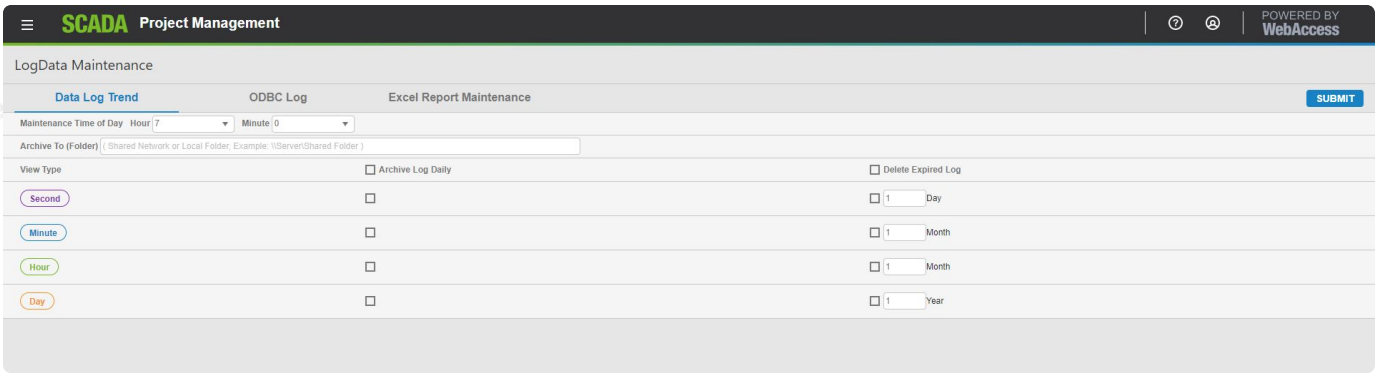
3.2.2.8 LogData Maintenance

Advantech WebAccess/SCADA will automatically archive the Data Log Trend Files and ODBC database records to another drive, network folder or other media (zip drive, tape drive, etc). This prevents the number of files from growing too numerous and consuming disk space.
Advantech WebAccess/SCADA can also delete Data Log Files and records from the ODBC Logs (System, Analog, Discrete, Alarm and Action Logs) to prevent files from growing to large, slowing response of reports and consuming disk space.
Advantech WebAccess/SCADA can automatically generate Excel report of ODBC database records in the form of daily,weekly or monthly.

From the Project Manager, Project Users can see the **LogData Maintenance** from the **Setting** block of side bar.



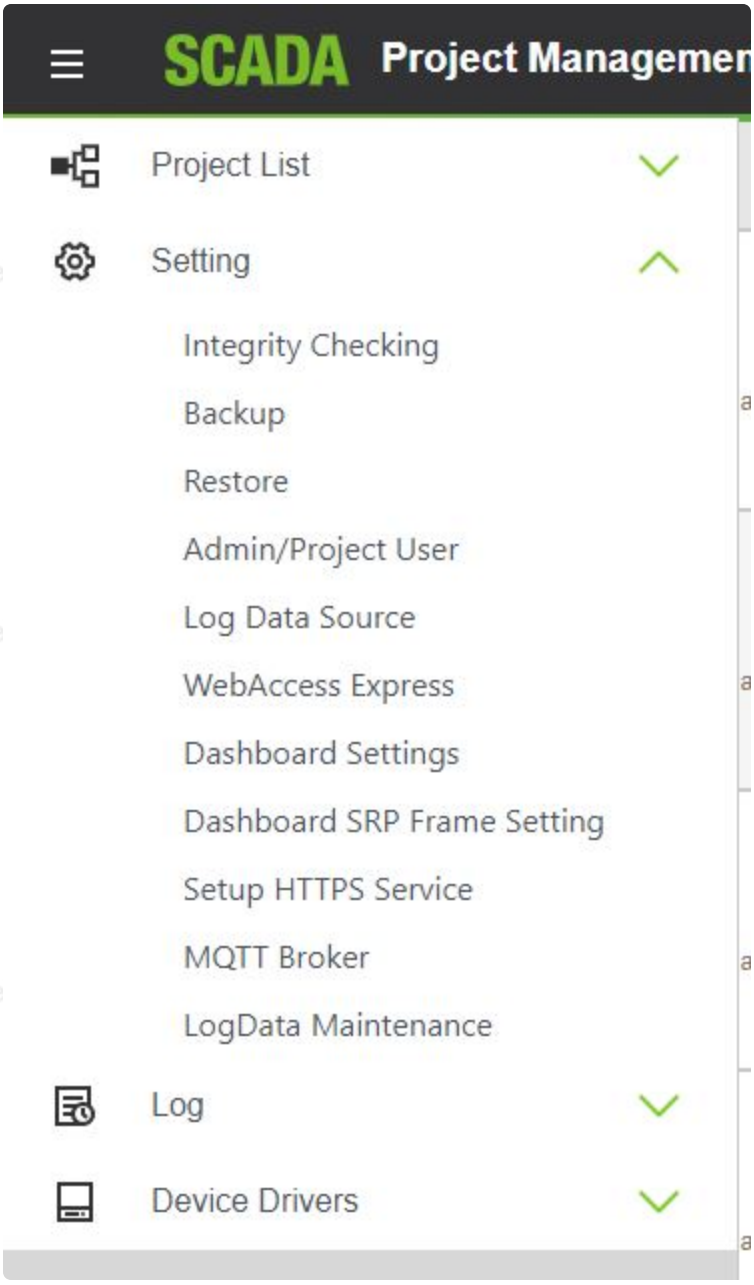
To enable the automatic archiving or deletion of older Trend and Log Data or generation of Excel report



1. Check **ARCHIVE** only if you have a fast network hard drive with sufficient capacity. A Zip drive is probably inadequate except for the smallest application (less than 0 tags). If Archive is selected, but the Archive can not be completed due to an error (the drive is full or folder not available) the Data will not be deleted (if Delete Expired Log is selected).
    a. Warning – Do not archive to the same drive or partition that Advantech WebAccess/SCADA is installed on. There is no benefit and it more than doubles the ODBC Databases and file sizes. The Archive media should be a second hard drive on the SCADA Node or Project Node, or a network drive. Zip drives are usually too small. Tape Drives are too slow. If want to Archive to tape, it is recommended to Archive to a second drive or network drive, then manually archive to tape.
2. Check **Delete Expired Log** to prevent your disk space from being consumed. You can select to delete files and data records without archiving. DataLog Trend files are deleted as complete files (since a file is created for each daily, monthly and yearly for each tag). Individual Records are deleted from the database.
    a. Note –Advantech WebAccess does not compact the BwPdata.mdb database used for Data logging. The database file size should be monitored (and compacted) if it grows too large.
3. Specify an Expiration Time for data.
4. Specify a Time of Day to perform the Archive and/or Deletion.

3.2.2.9 Setup HTTPS Service

From the Project Manager, Project Users can see the **Setup HTTPS Setting** from the **Setting** block of side bar.



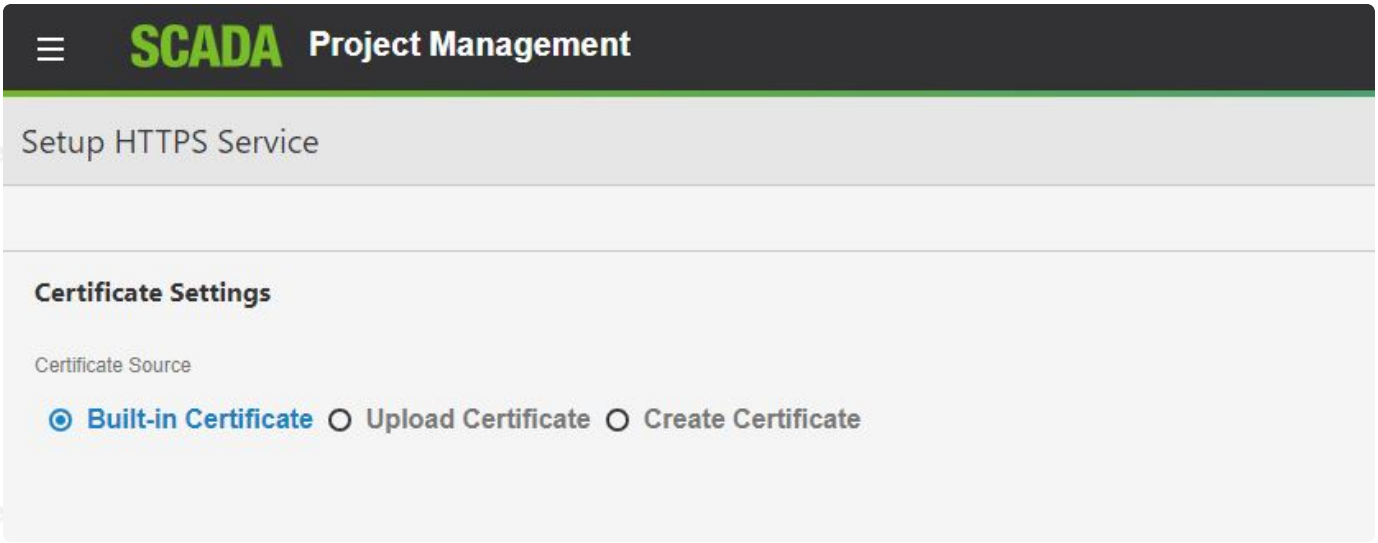
Choose Certificate

If HTTPS is enabled, certificate is required. Advantech WebAccess/SCADA provide 3 certifacte source options.

- Built–in Certificate
- Upload Certificate
- Create Certificate

Built–in Certificate

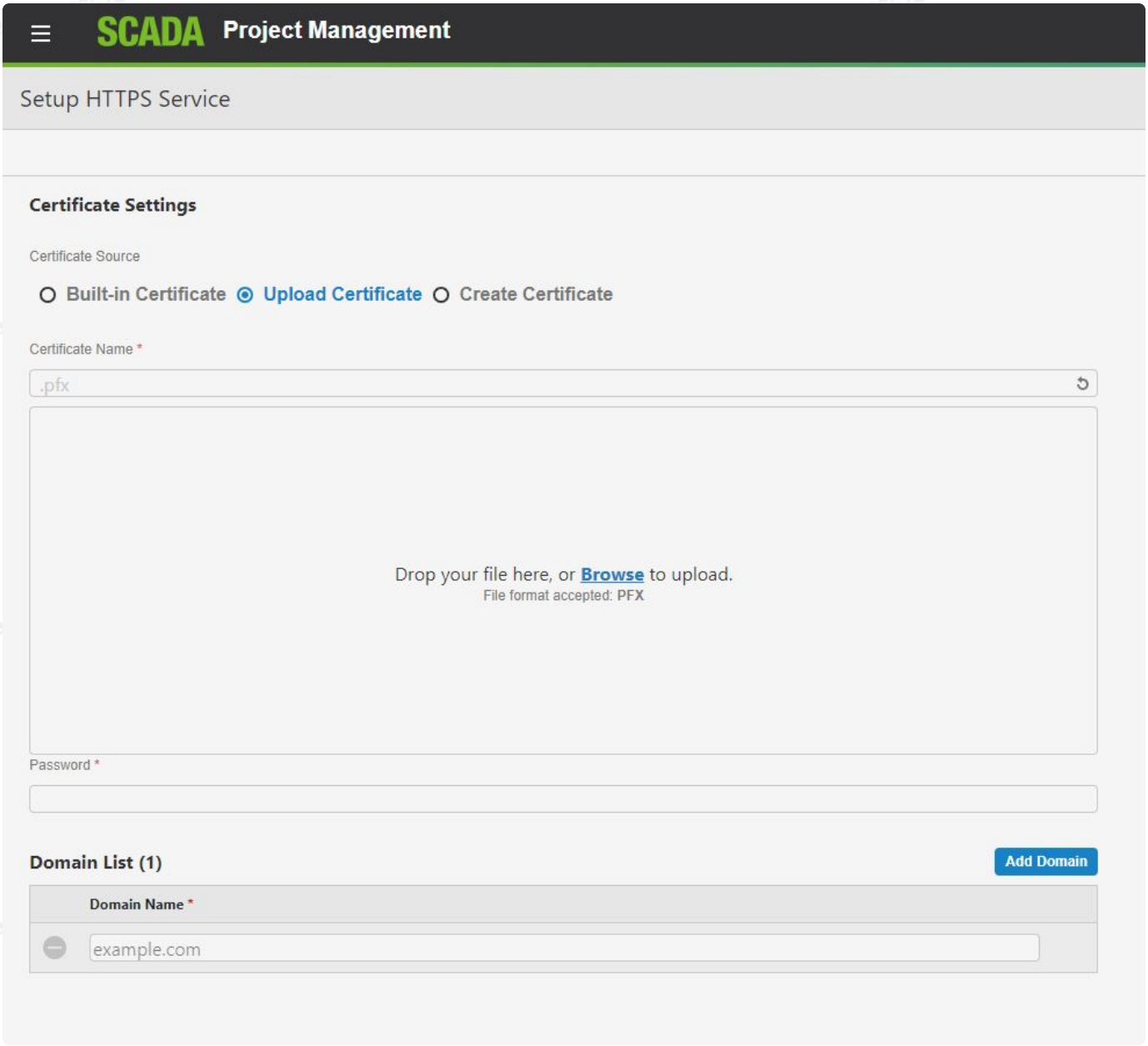
1. Please select "Built–in Certificate" if using this method.
2. And then click on "Save".



Upload Certificate

1. Please select "Upload Certificate" if you are using your own certificate.
2. Upload certificate file and enter the password.
3. Enter domain name of the Domain List.

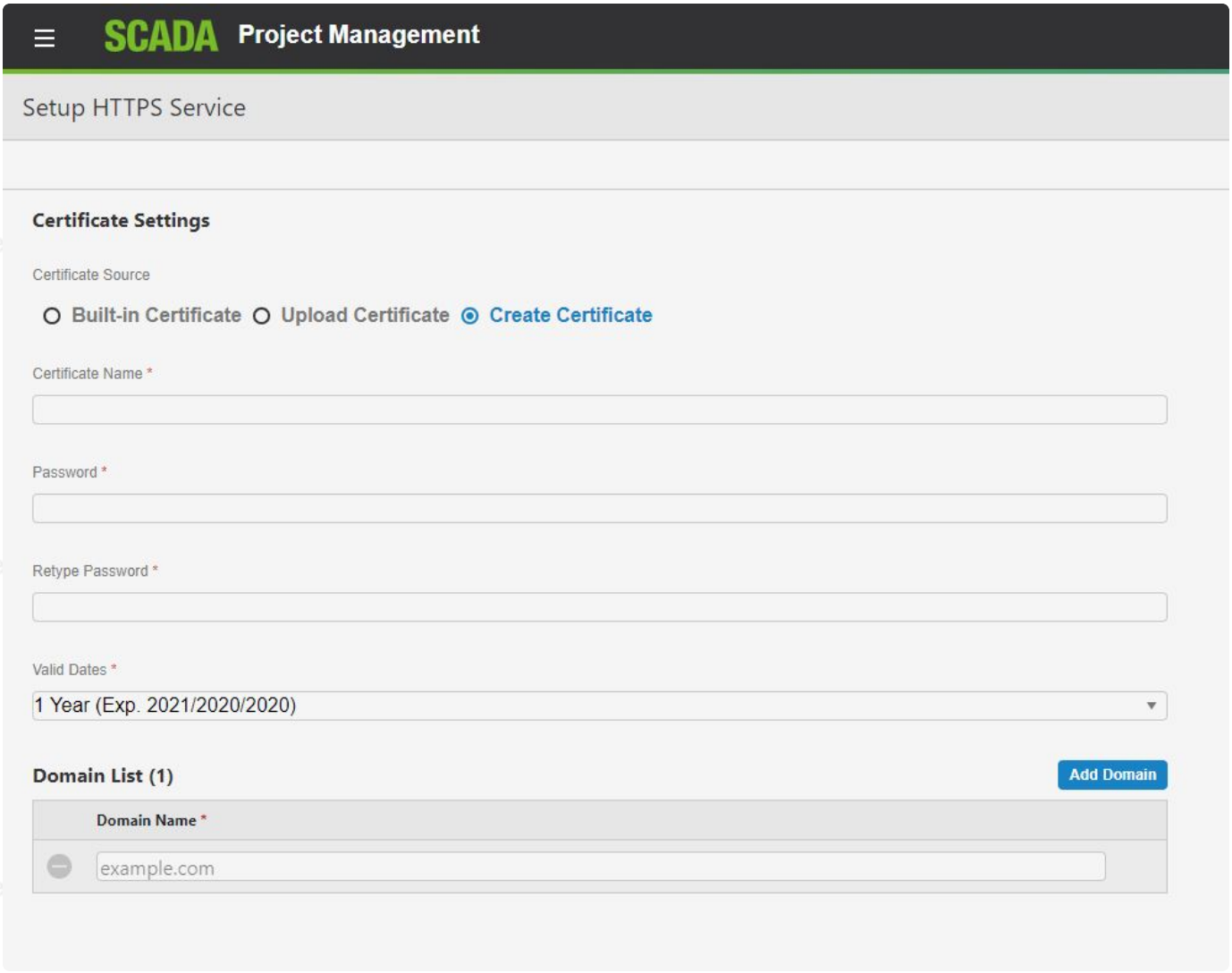
WebAccess/SCADA



Create Certificate

1. Enter the certificate name, passowrd, and domain.
2. Enter the years of validation.
3. Enter domain name of the Domain List.

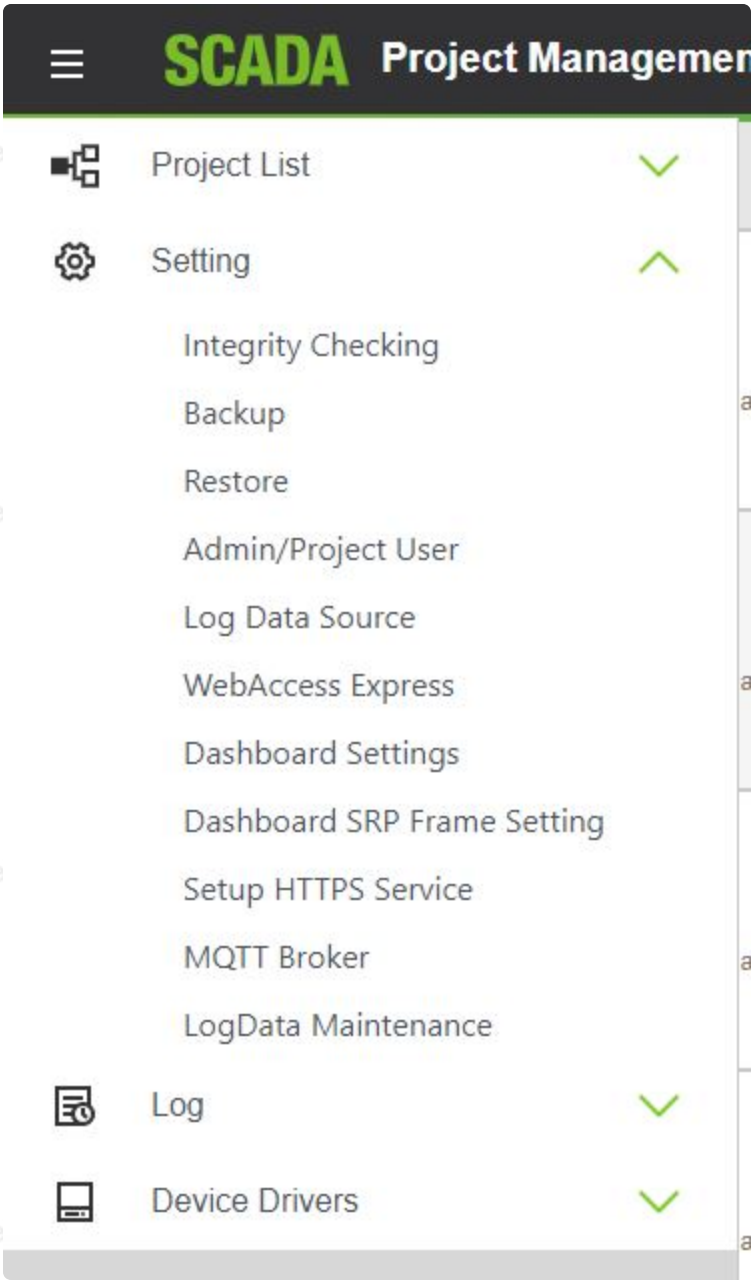
WebAccess/SCADA



3.2.2.10 MQTT Broker

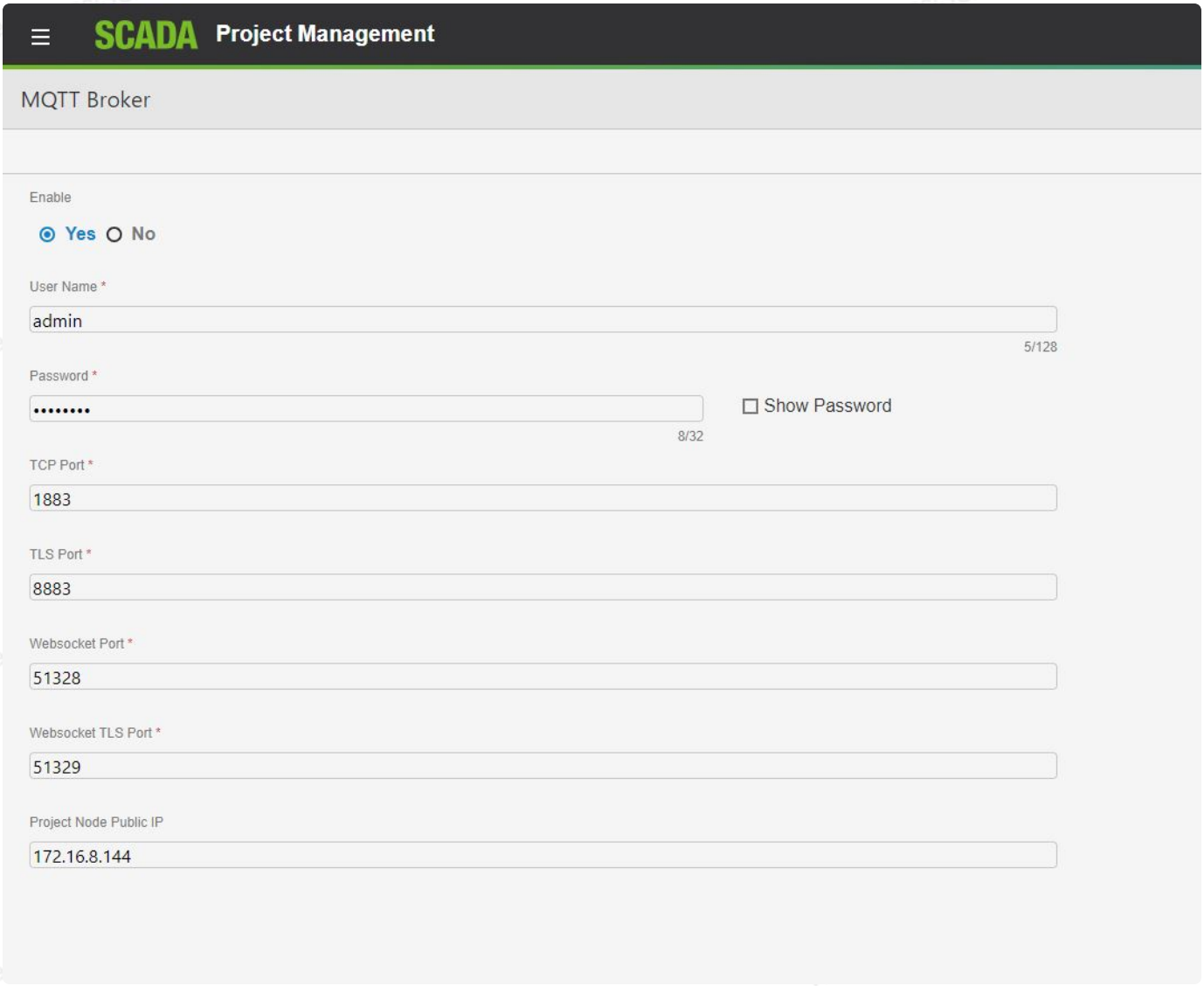
From the Project Manager, Project Users can see the **MQTT Broker** from the **Setting** block of side bar.

WebAccess/SCADA



Edit the MQTT connection information

- User can edit default data through click the Enable button.
- The MQTT broker username and password on the cloud connection setting must be the same as the MQTT broker setting the on the cloud WebAccess.
- If WebAccess is installed in the public domain server,please set the public IP address as the default node IP.



3.2.3 Log

3.2.3.1 System Log

The System Log monitors Project Users' Actions in the Project Manager.

Record Type

- Log In
- Log Out
- Start Node
- Stop Node
- Start View
- Start Draw
- Download database to Node
- Download Graphics

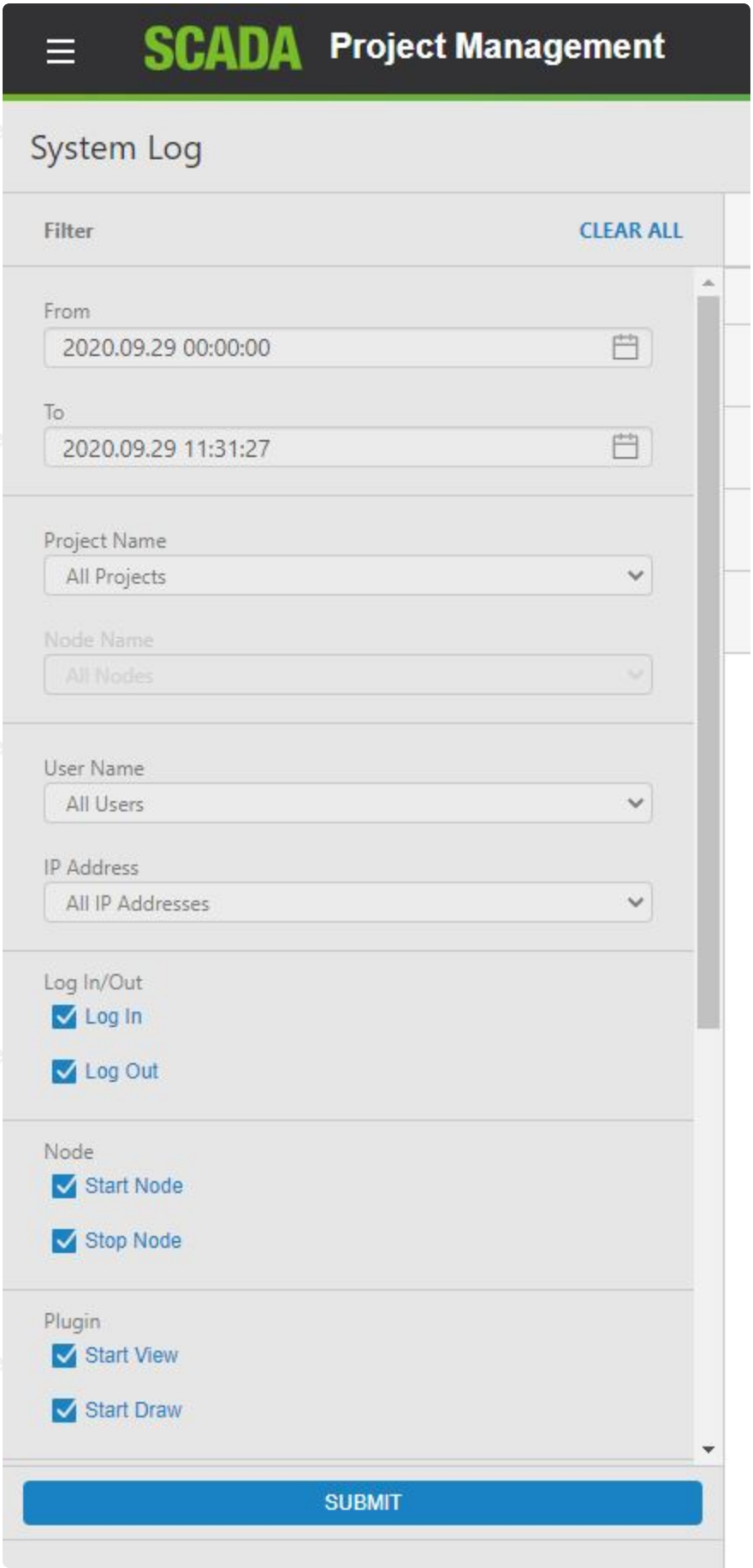
- Create or Delete SCADA Node
- Create or Delete a Project
- Log Data Maintenance modification
- Create, Delete or update Comport
- Create, Delete or update Device
- Create, Delete or update Tag
- Create, Delete or update other properties

Usage

Search

1. Select the filters for the records you would like to search.

WebAccess/SCADA



WebAccess/SCADA

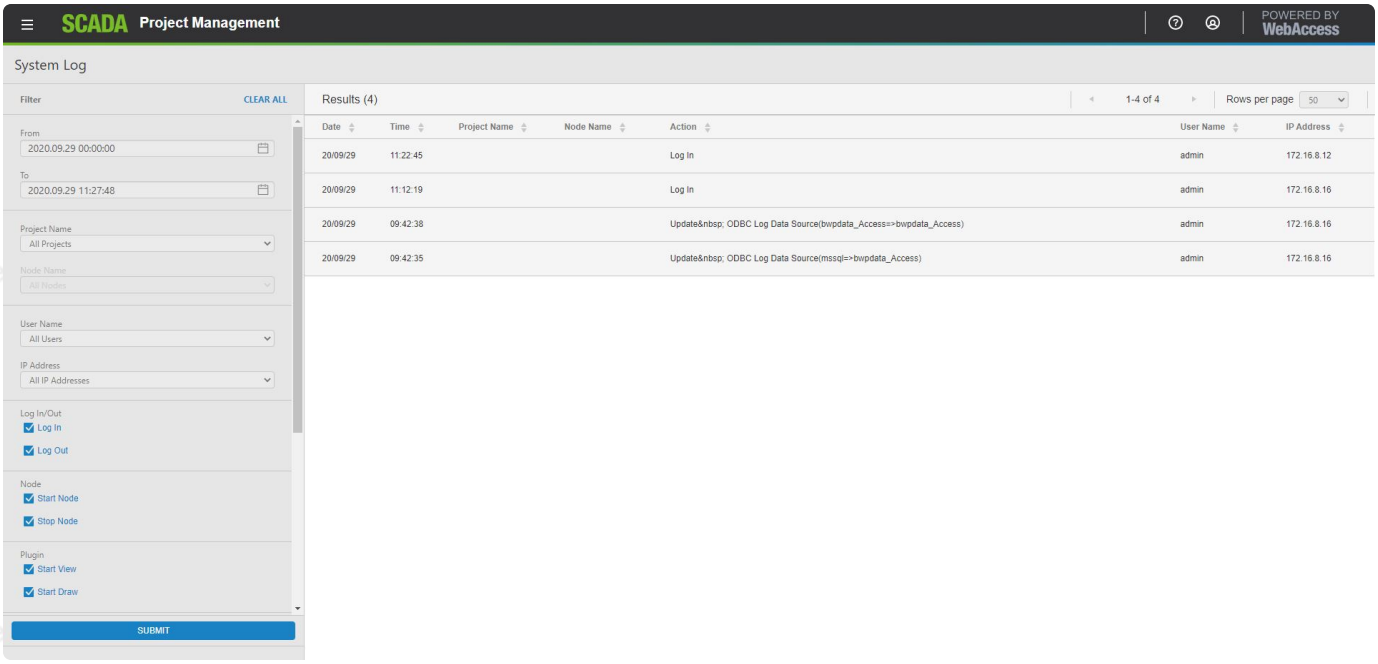
- **Starting Date** – is the Earliest Date the Query will search for records.
- **Ending Date** – is the Most Recent date the Query will search for records.
- **Project Name** –If you have multiple Projects, this will limit the project included. (Note — there is usually only one project in most systems). Use **ALL Projects** to query records from all projects.
- **Node Name** — is the **SCADA Node** the query is applied.
- **User Name** — is the **Project User**. (Note – Only Project Users and admin can access the Project Manager, download, start/stop nodes.)
- **IP Address** – IP Address of Node.
- Other — is the **Project Manager** actions used to configure tags, reports, build graphics, etc.
  - **Log In** — Project User Logins to Project Manager. *(Note – see System Action Log for user logins to SCADA Node using VIEW).*
  - **Log Out** — User logs out of Project Manager
  - **Start Node** — Start SCADA Node
  - **Stop Node** — Stop SCADA Node
  - **Start View** — Use the Start VIEW from Project Manager, SCADA Node Property page *(see System Action Log for user logins to SCADA Node using VIEW outside of Project Manager or ViewDAQ).*
  - **Start Draw** — Start DRAW from Project Manager — SCADA Node Property Page.
  - **Download** database to SCADA Node
  - **Download Graphics** using Graph Only link in SCADA Node Property
  - **Create or Delete** SCADA Node
  - **Create or Delete** a Project
  - **Log Data Maintenance** modification records Project Users changes to frequency and type of scheduled archive and scheduled data log record deletion.

2. Press "Submit" to query.

Result

The search result will be in form of a table.

Date , Time , Project Name, Node Name , Action, User Name and IP can be ordered by decending sequence.



3.2.3.2 Action Log

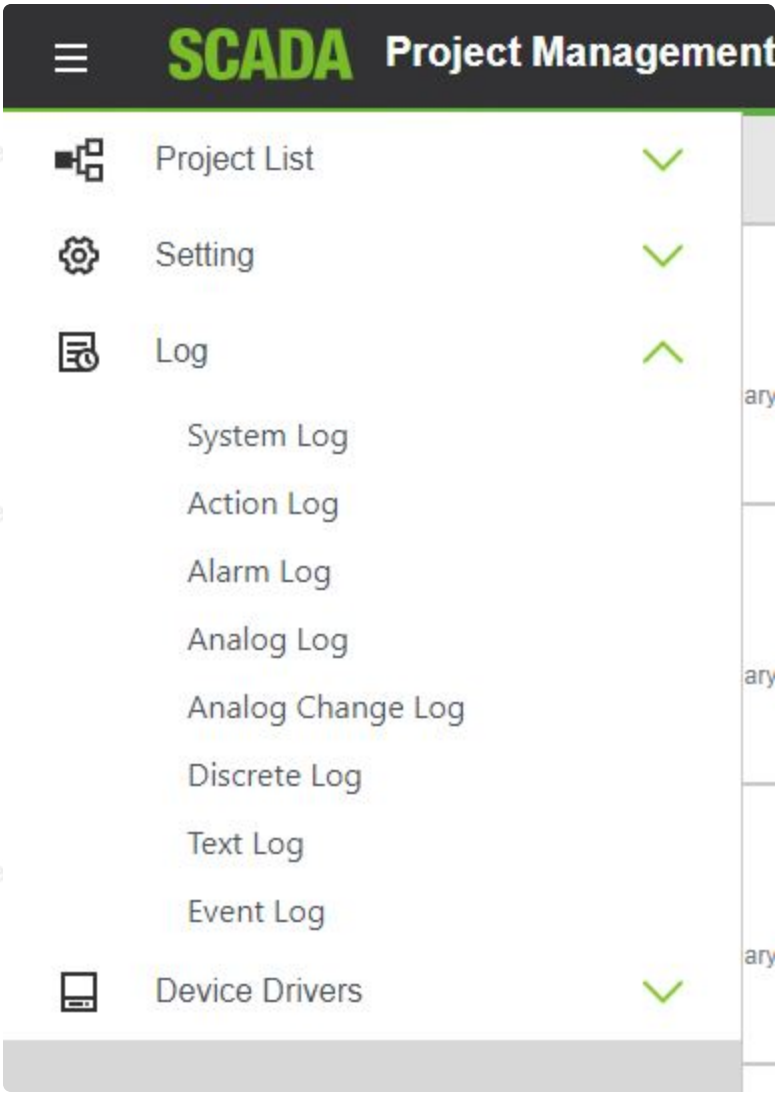
This shows a centralized Action Log for all SCADA Nodes in the project with **Action Log to ODBC** enabled. This is very similar to the Action Log in VIEW and ViewDAQ, but applied to all SCADA Nodes and Projects. The Action Log monitors Power User, General User, and Restricted User actions on the SCADA node. Action Log To ODBC or MongoDB must be enabled in the SCADA node properties.

The Action Log shows:

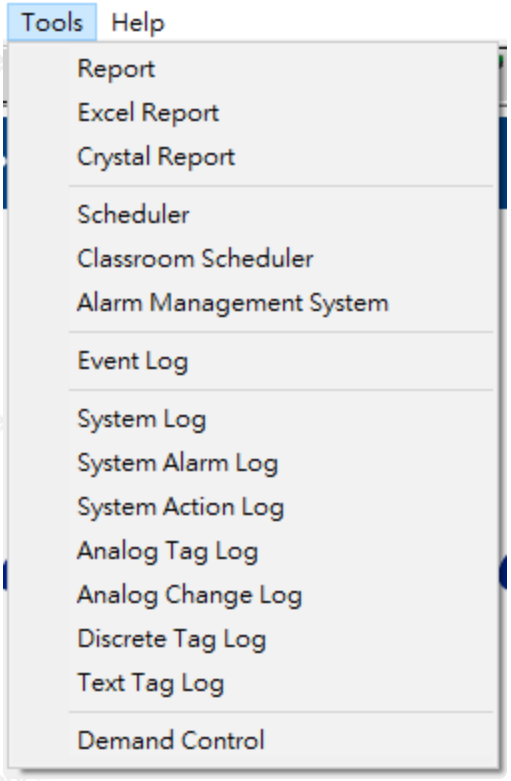
- **User changes to Tags** (e.g. setpoint changes, auto/manual and equipment changes).
- **User Log–ins** to SCADA Node using VIEW and ViewDAQ

From the Project Manager, Project Users can see the **Action Log** from the Log block of side bar.

WebAccess/SCADA



Power Users can also see this Action Log from **VIEW** using the Tools menu:**Right Click –> Tools –> System Action Log**.

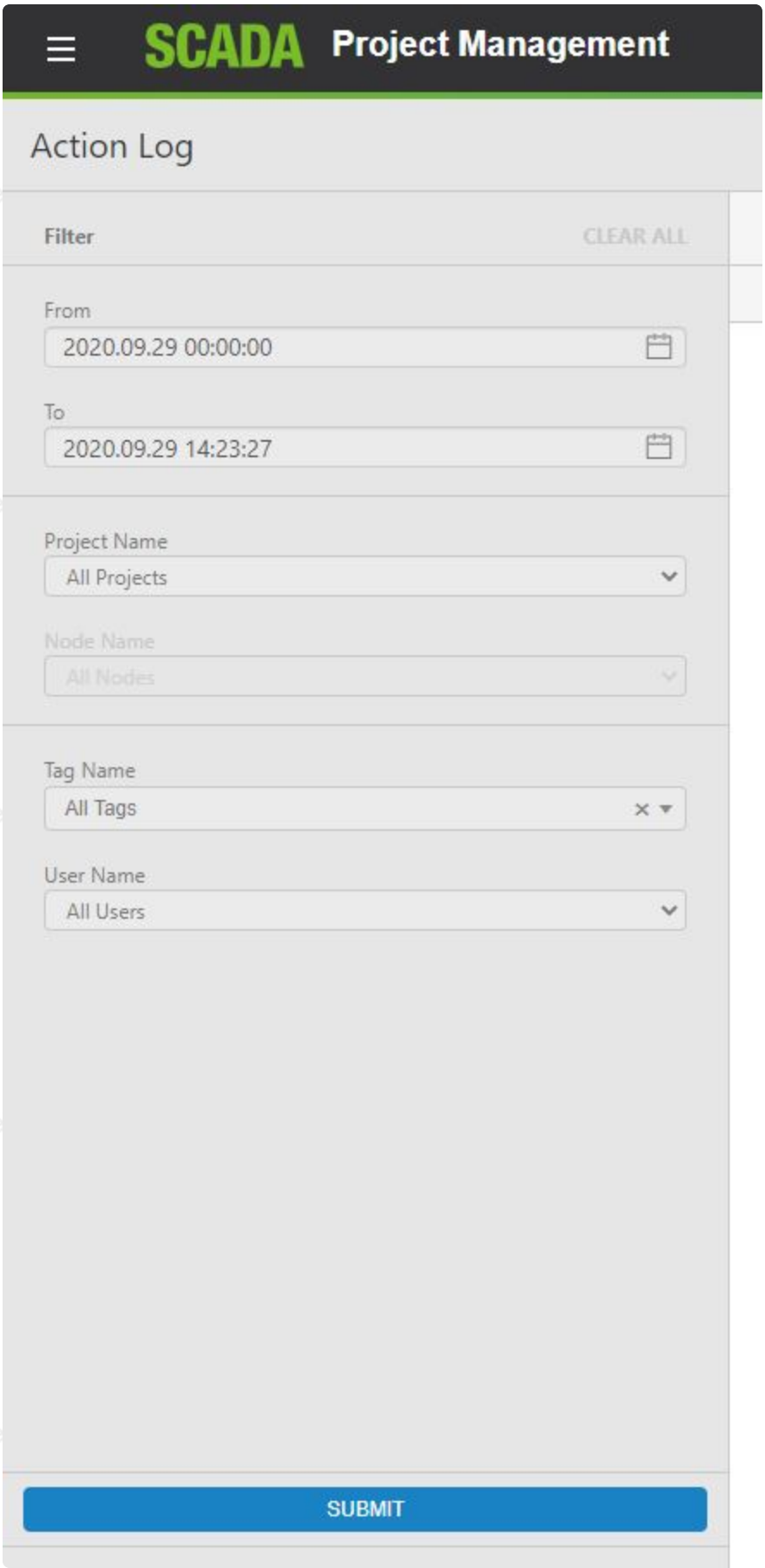


All Users can also see this Action Log from **ViewDAQ** using the menu bar:**Tools –> System Action Log**.

Search

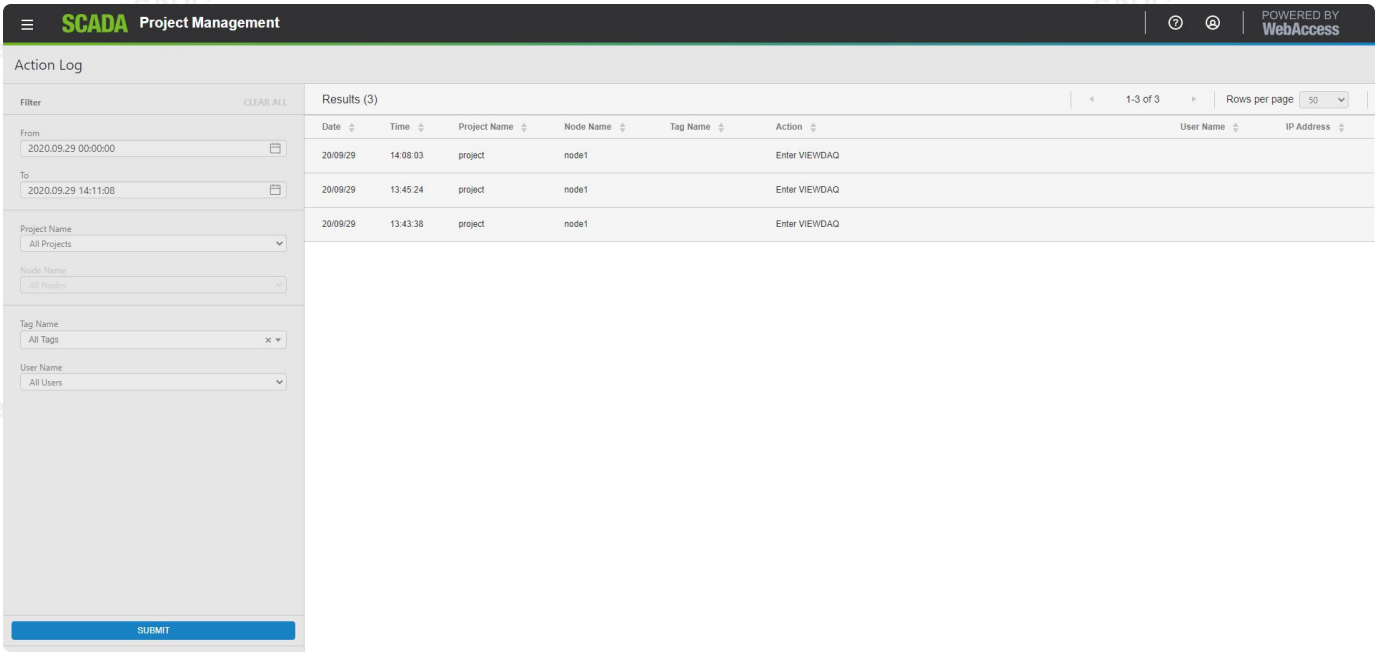
WebAccess/SCADA

The Action Log can be sorted and filtered by Time, Date, tag, computer, node and IP addresses.



WebAccess/SCADA

An HTML report is printed.



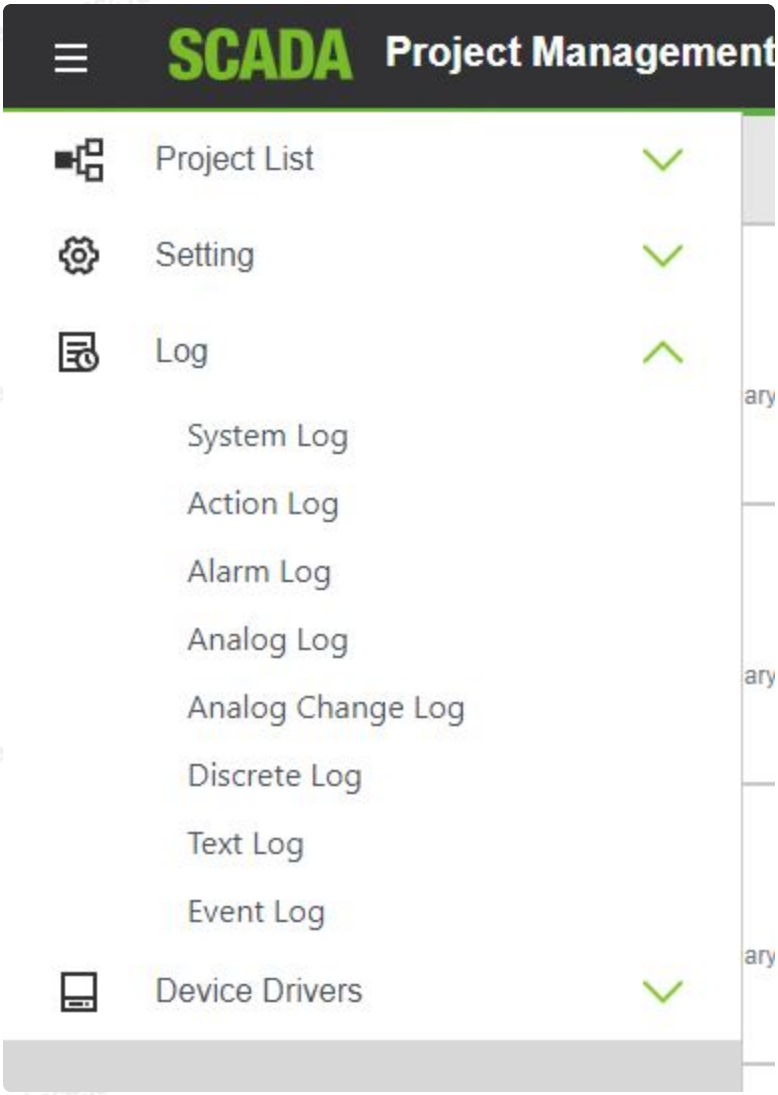
The system display used by VIEW and ViewDAQ is **bwActlog.uti**.
The data is contained on the Project Node at drive:\WebAccess\Node\bwPDATA.mdb
The database table is **BwActionTable**: User action log table.

- ProjNodeId : Unique ID for a SCADA node.
- LogDate : Date of the record was recorded.
- LogTime : Time of the record was recorded.
- Priority : Not Used.
- TagName : Tag name, if it is tag related record.
- Description : Tag Description
- Action : Description of the User Action
- UserName : The user who made the action
- NodeName : The node that this action happened.
- NodeIP : The IP address of the node where the action happened.

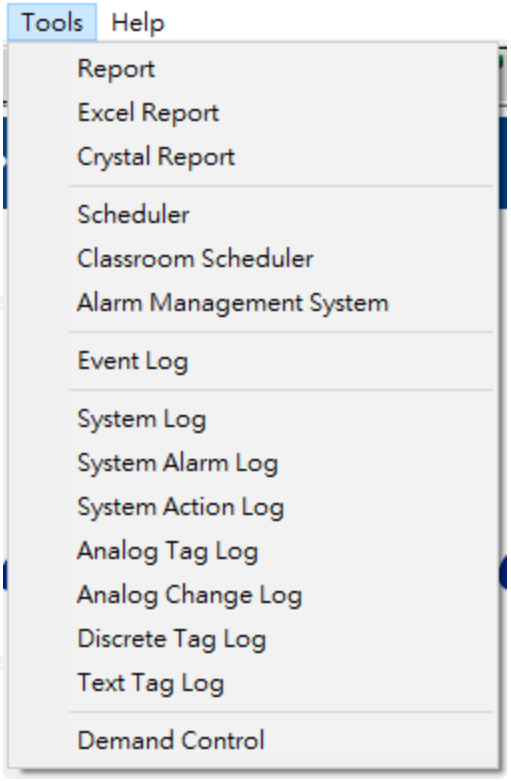
3.2.3.3 Alarm Log

This shows a centralized Alarm Log for all SCADA Nodes and all projects with Alarm Log to ODBC enabled.

From the Project Manager, Project Users can see the **Alarm Log** from the side bar.



Power Users can also see this Action Log from **VIEW** using the Tools menu:**Right Click –> Tools –> System Alarm Log**.

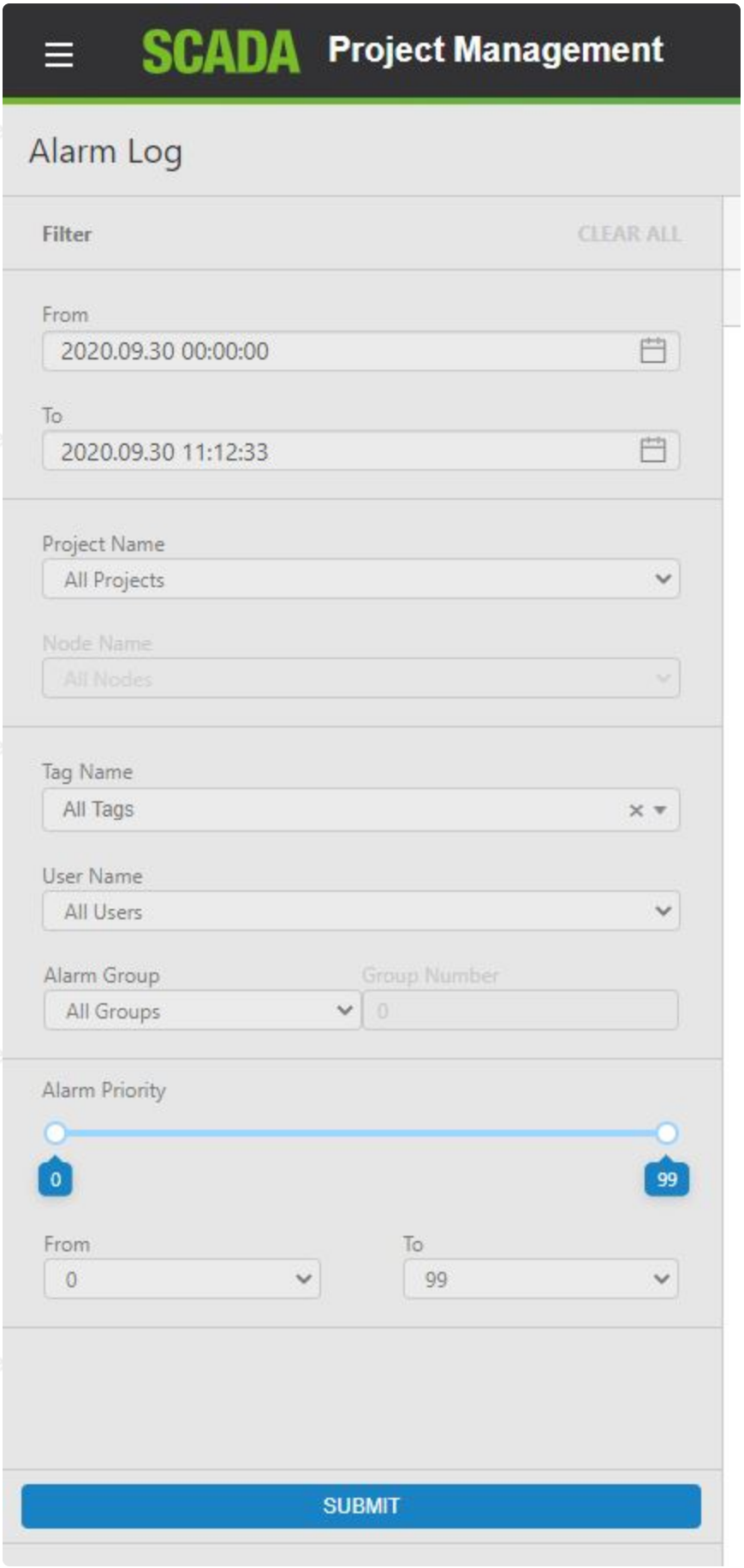


All Users can also see this Action Log from **ViewDAQ** using the menu bar:**Tools –> System Alarm Log**.

Search

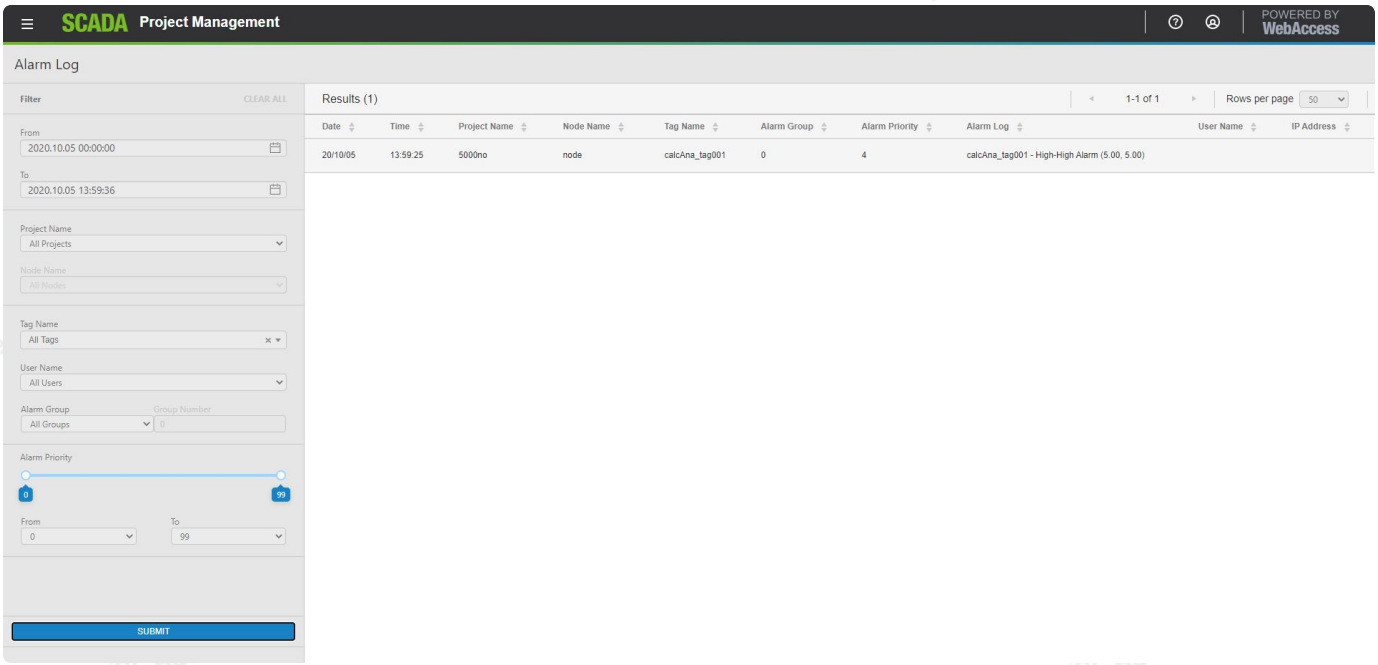
These can be sorted and filtered by Date, Project Name, Node Name, Tag Name, User Name, Alarm Group and Priority.

WebAccess/SCADA



WebAccess/SCADA

An HTML report is printed.



The system display used in VIEW is **bwalmlog.uti**

The data is contained on the Project Node at drive:\WebAccess\Node\bwPDATA.mdb

The database table is **BwAlarmTable**: Alarm log table

- ProjNodeId : Unique ID for a SCADA node.
- LogDate : Date of the record was recorded.
- LogTime : Time of the record was recorded.
- Priority : Alarm priority.
- TagName : Tag name.
- Description : Tag Description
- Action : Alarm information
- UserName : User involved in the alarm action.
- NodeName : SCADA Node
- NodeIP : Not used.

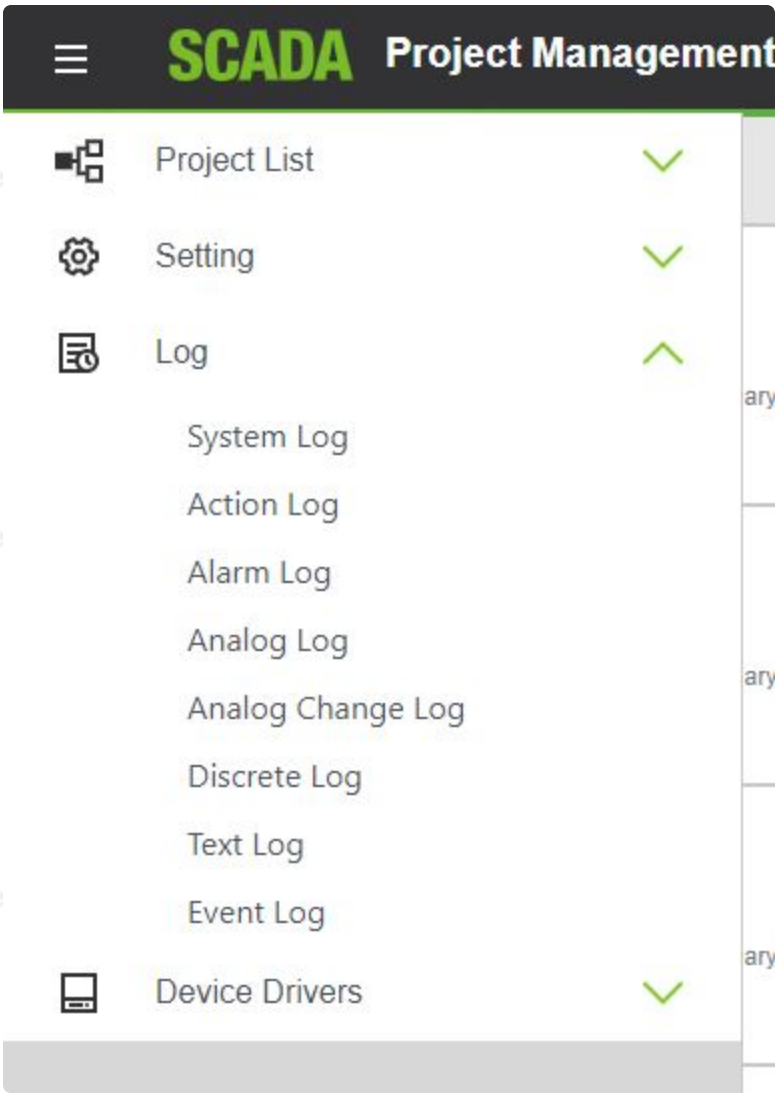
3.2.3.4 Analog Log

This shows a centralized database for all Analog Tags for all SCADA Nodes in the project with Data Log to ODBC enabled.

The individual tags must have both Data Log DB enabled and Log to ODBC Frequency must be greater than zero.

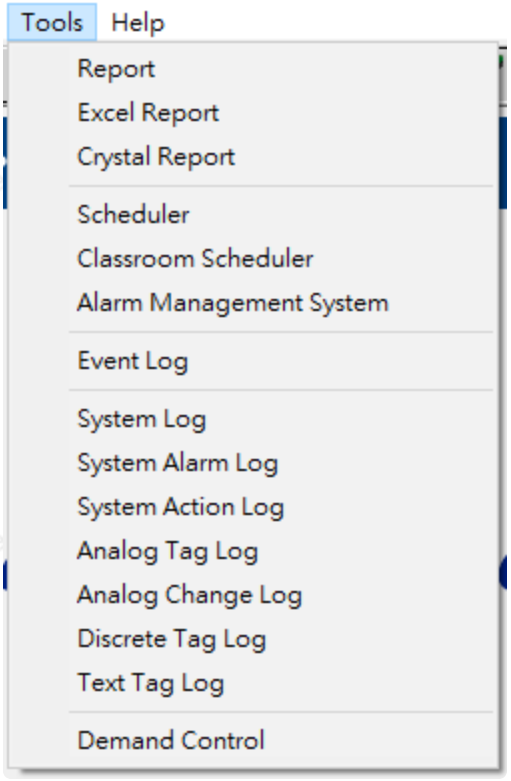
These can be sorted and filtered by Time, Date, and node addresses. An HTML report is displayed which can be copied and pasted into EXCEL, WORD and other office applications preserving the cell, column and other formatting.

From the Project Manager, Project Users can see the **Analog Log** from the side bar.



Power Users can also see this Log from VIEW using the Tools menu:**Right Click –> Tools –> Analog Tag Log**.

WebAccess/SCADA



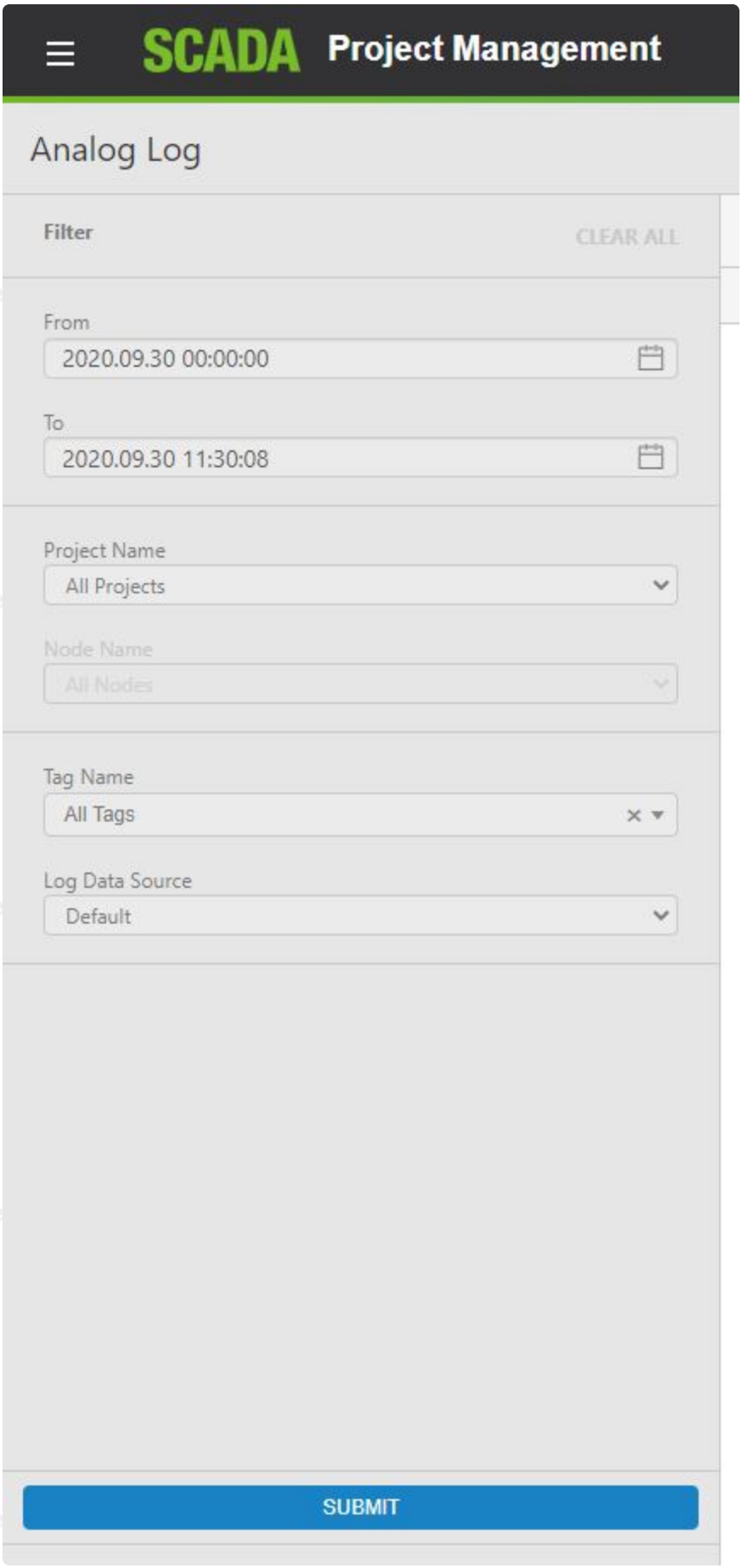
All Users can also see this Log from **ViewDAQ** using the menu bar:**Tools –> Analog Tag Log**.

Search

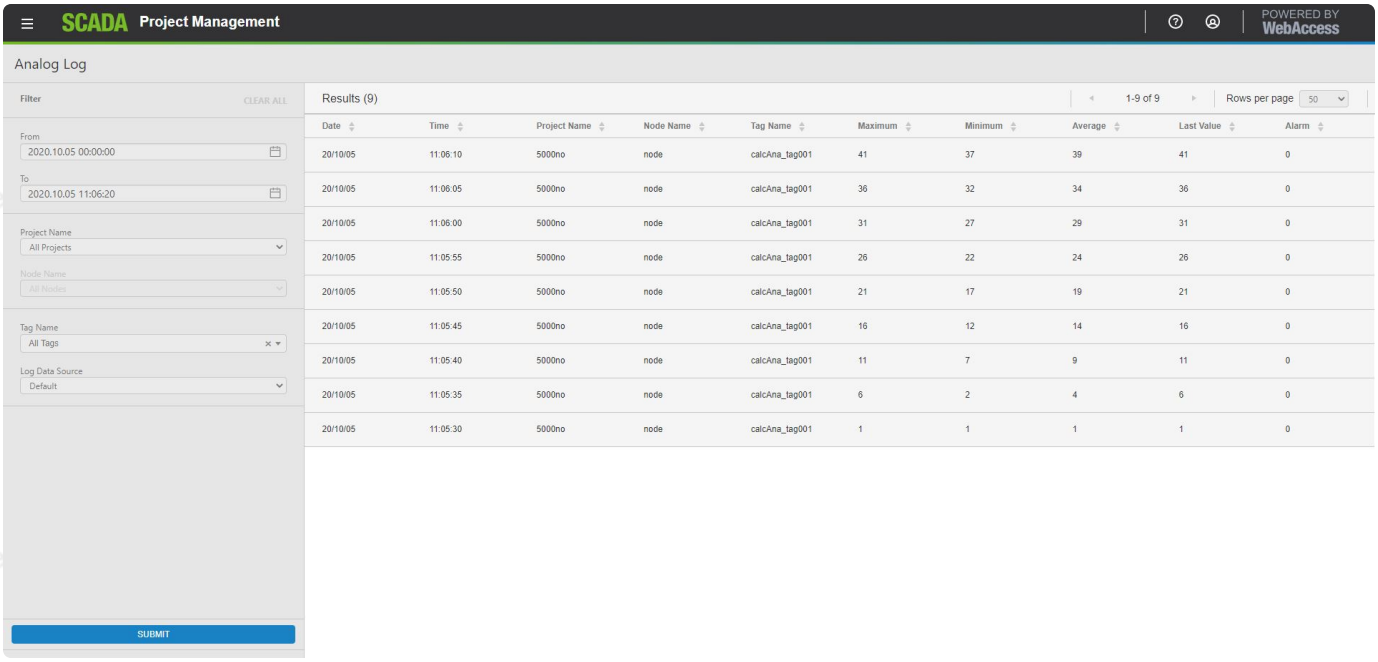
The Analog Tag Log contains values of all tags on all Project and All SCADA nodes that have log to ODBC enabled for the SCADA node and the tags.

WebAccess/SCADA

It can be sorted and filtered by Project, SCADA Node, Date, and Tag name.



An HTML report is displayed .



The reporting period is always one minute.

The number of samples in the reporting period is fixed at one minute. This is the same as the record interval in the bwAnalogTable in the ODBC database (default is bwPDATA.mdb). The number of samples used to make up a record (a one–minute value) is determined by the Tag's configuration of **Log to ODBC Frequency**. The Maximum, Minimum and Average values are based on how many samples at the **Log to ODBC Frequency** fit into one minute. If log to ODBC is 1 seconds, then there are 60 samples. If log to ODBC is one minute, then there is one sample. If communications fails or is very slow, there maybe fewer samples (i.e. if communications can not keep up with the Log to ODBC Frequency, then there may be fewer than the requested samples).

The default number of records per page for log displays is to 600.

The display used is bwanalog.uti.

BwAnalogTable : Data log for Analog tag

a. ProjNodeId : Unique ID for a SCADA node.
b. TagName : Tag Name.
c. LogDate : Date of the record was recorded.
d. LogTime : Time of the record was recorded.
e. MaxValue: Maximum value of the recording period.

f. AvgValue: Average value of the recording period.

g. MinValue: Minimum value of the recording period.

h. LastValue: The Maximum value of the recording period.

i. Alarm: If the tag is in alarm during the recording period.

–2147483648 (Decimal) or 0x80000000 (HEX) means there is no data during the minute of collection. Otherwise, the value of this field is a LOGICAL OR of all the Alarms that occurred during the interval.

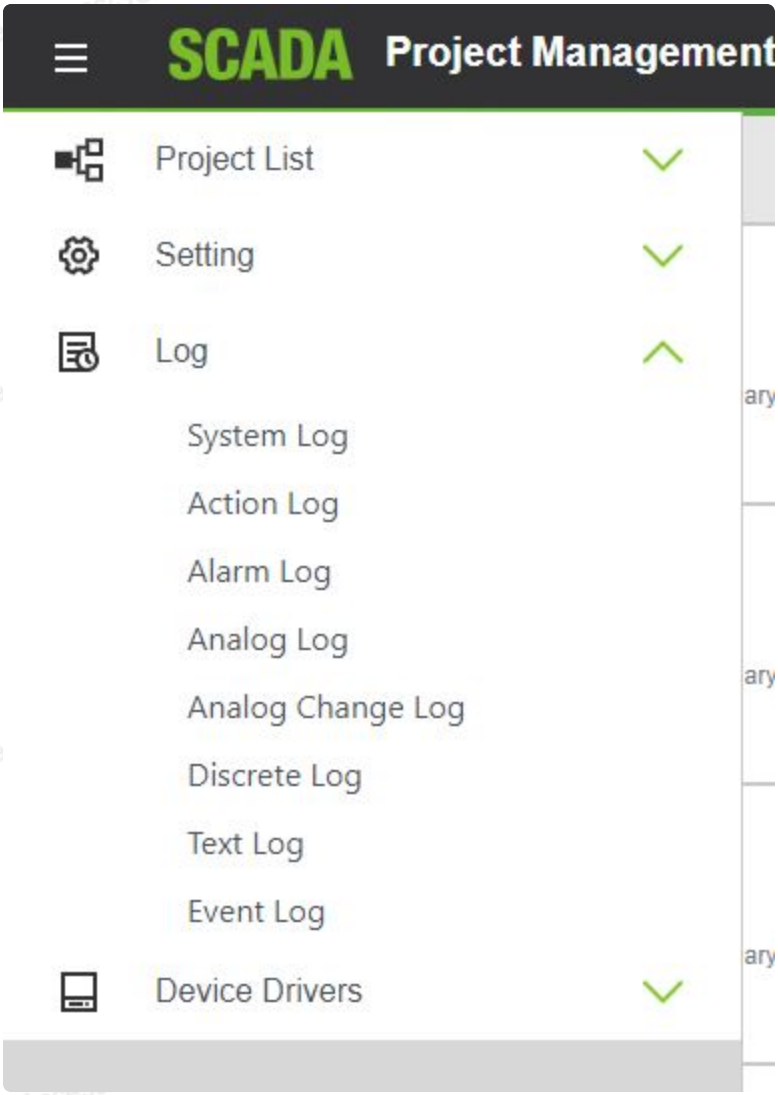
Alarm Code Decimal	Alarm Code Hex	Description
–2147483648	0x80000000	no data during the minute of collection.
2	0x02	Acknowledged Alarm
4	0x04	High High Alarm
8	0x08	High Alarm
16	0x10	Low Alarm
32	0x20	Low Low Alarm
64	0x40	Rate of change Alarm
128	0x80	High Deviation Alarm
256	0x100	Low Deviation Alarm

3.2.3.5 Analog Change Log

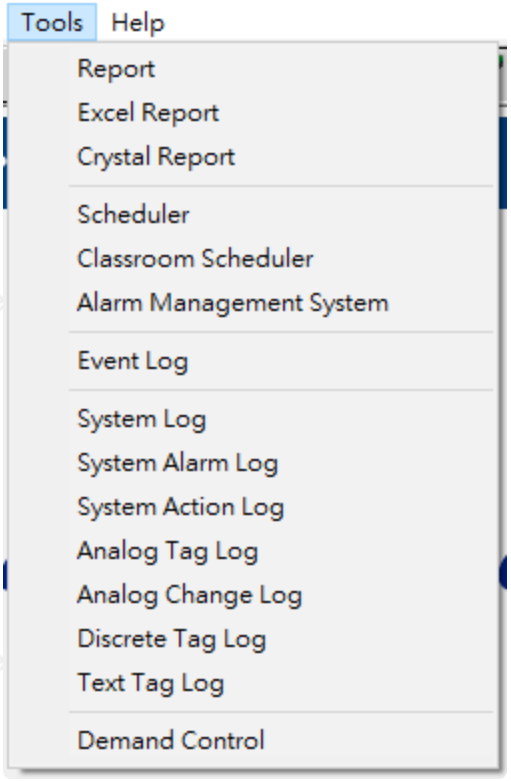
This shows a centralized database for all Analog Tags, with Analog Change Log enabled, for all SCADA Nodes and all Projects.

The individual tags must have both Analog Change Log enabled and the values must exceed the Analog Change Log Dead Band to be logged.

From the Project Manager, Project Users call the **Analog Change Log** from the side bar.



Power Users can also call this Log from VIEW using the Tools menu:**Right Click –> Tools –> Analog Change Log**.

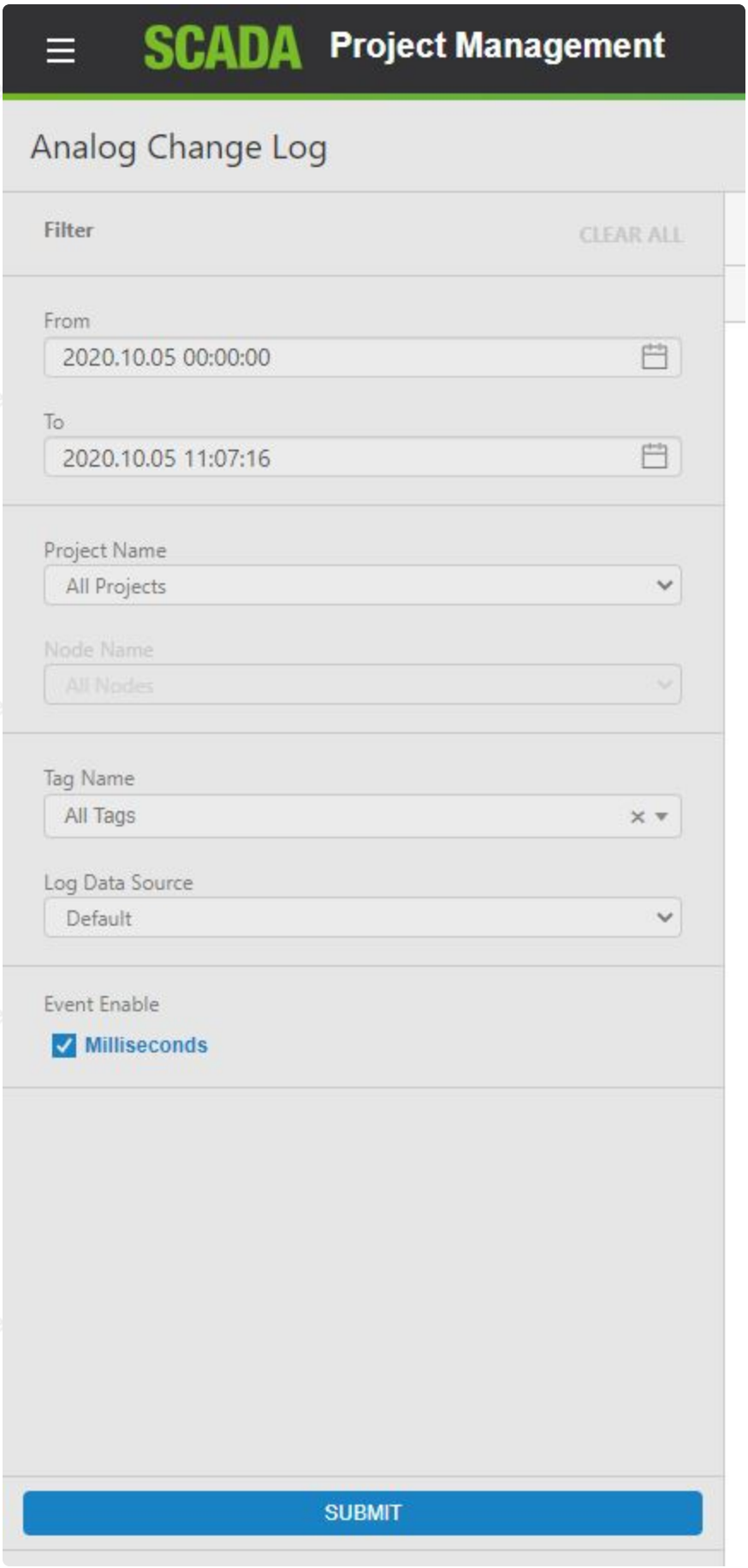


All Users can call this Log from **ViewDAQ** using the menu bar:**Tools –> Analog Change Log**.

Search

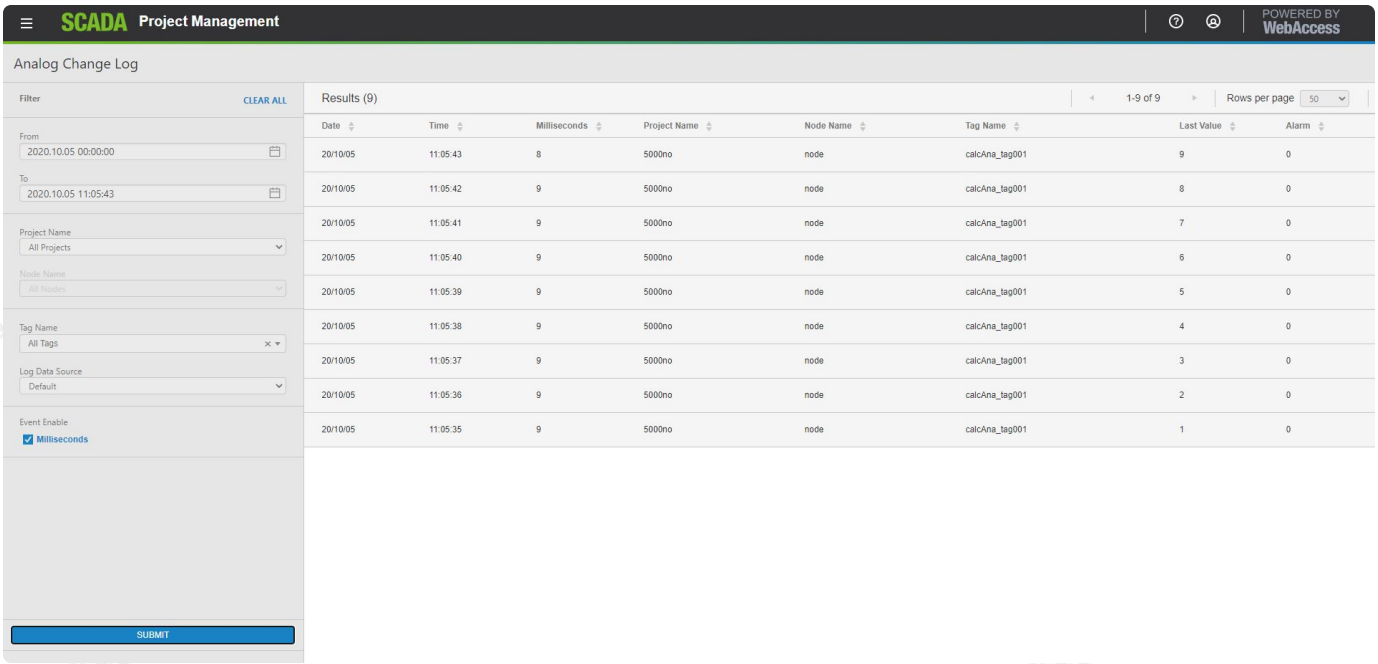
WebAccess/SCADA

The data can be sorted and filtered by Tagname, Date, Project, and SCADA Node.



WebAccess/SCADA

An HTML report is displayed .



The display used is bwchglog.uti.

BwAnaChglog : Data log for Analog tag

a. ProjNodeId : Unique ID for a SCADA node.

b. TagName : Tag Name.

c. LogDate : Date of the record was recorded.

d. LogTime : Time of the record was recorded.

e. LogMillisecond: Millisecond of the record.

f. LogValue: Value of the recording period.

g. MinValue: Minimum value of the recording period.

h. Alarm: If the tag is in alarm during the recording period.

–2147483648 (Decimal) or 0x80000000 (HEX) means there is no data during the minute of collection. Otherwise, the value of this field is a LOGICAL OR of all the Alarms that occurred during the interval.

Alarm Code Decimal	**Alarm Code Hex**	**Description**
–2147483648	0x80000000	no data during the minute of collection.
2	0x02	Acknowledged Alarm
4	0x04	High High Alarm
8	0x08	High Alarm
16	0x10	Low Alarm
32	0x20	Low Low Alarm
64	0x40	Rate of change Alarm

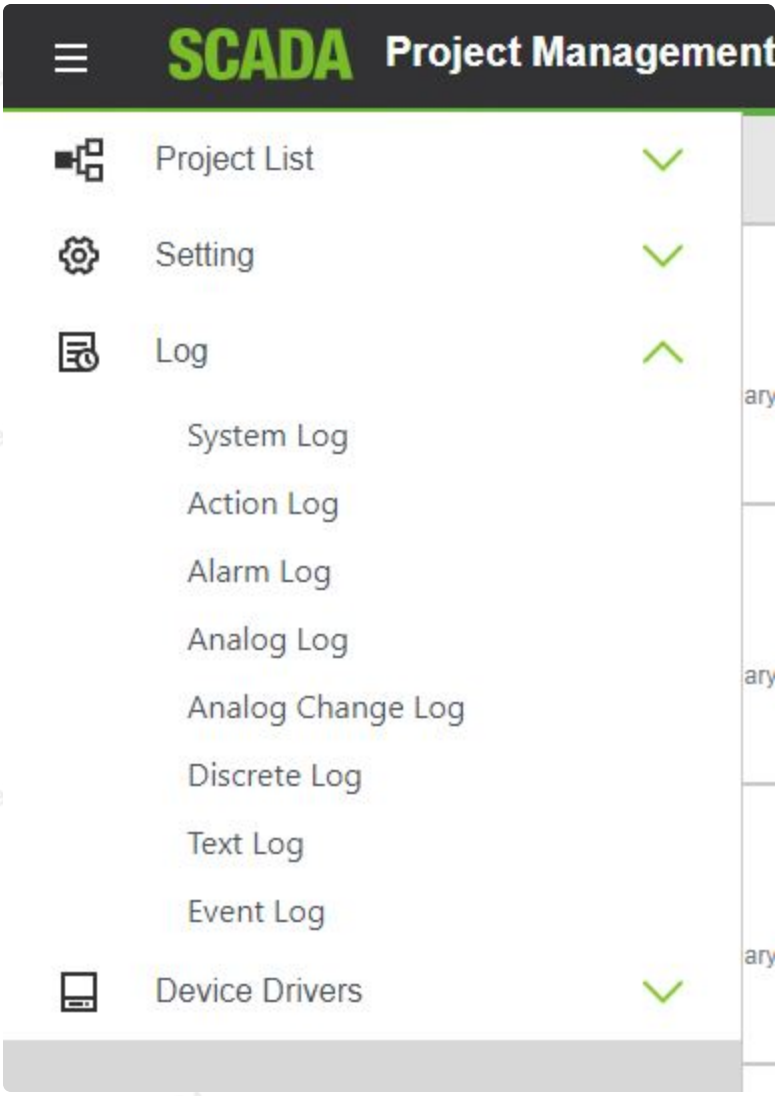
128	0x80	High Deviation Alarm
256	0x100	Low Deviation Alarm

3.2.3.6 Discrete Log

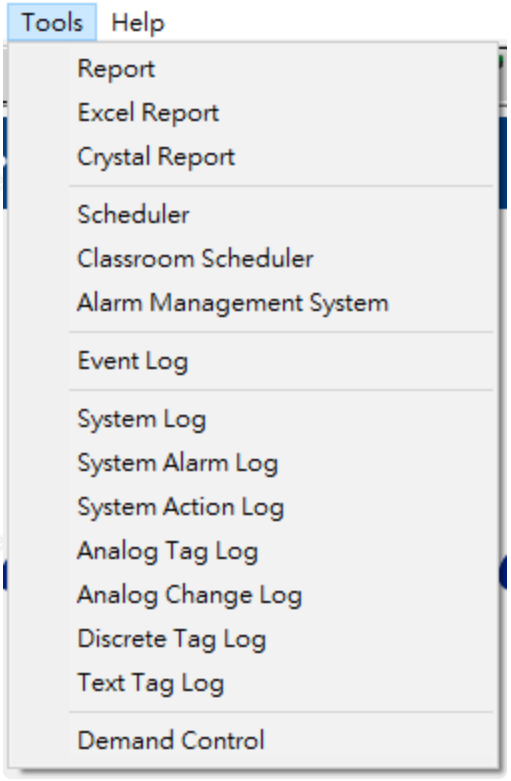
This shows a centralized database for all Discrete Tags for all SCADA Nodes in the project with **Data Log to ODBC** enabled.

The individual Tags must have both **Log Data** enabled and **Log to ODBC** enabled.

From the Project Manager, Project Users can see the **Discrete Log** from the side bar.



Power Users can also see this Log from VIEW using the Tools menu:**Right Click –> Tools –> Discrete Tag Log.**

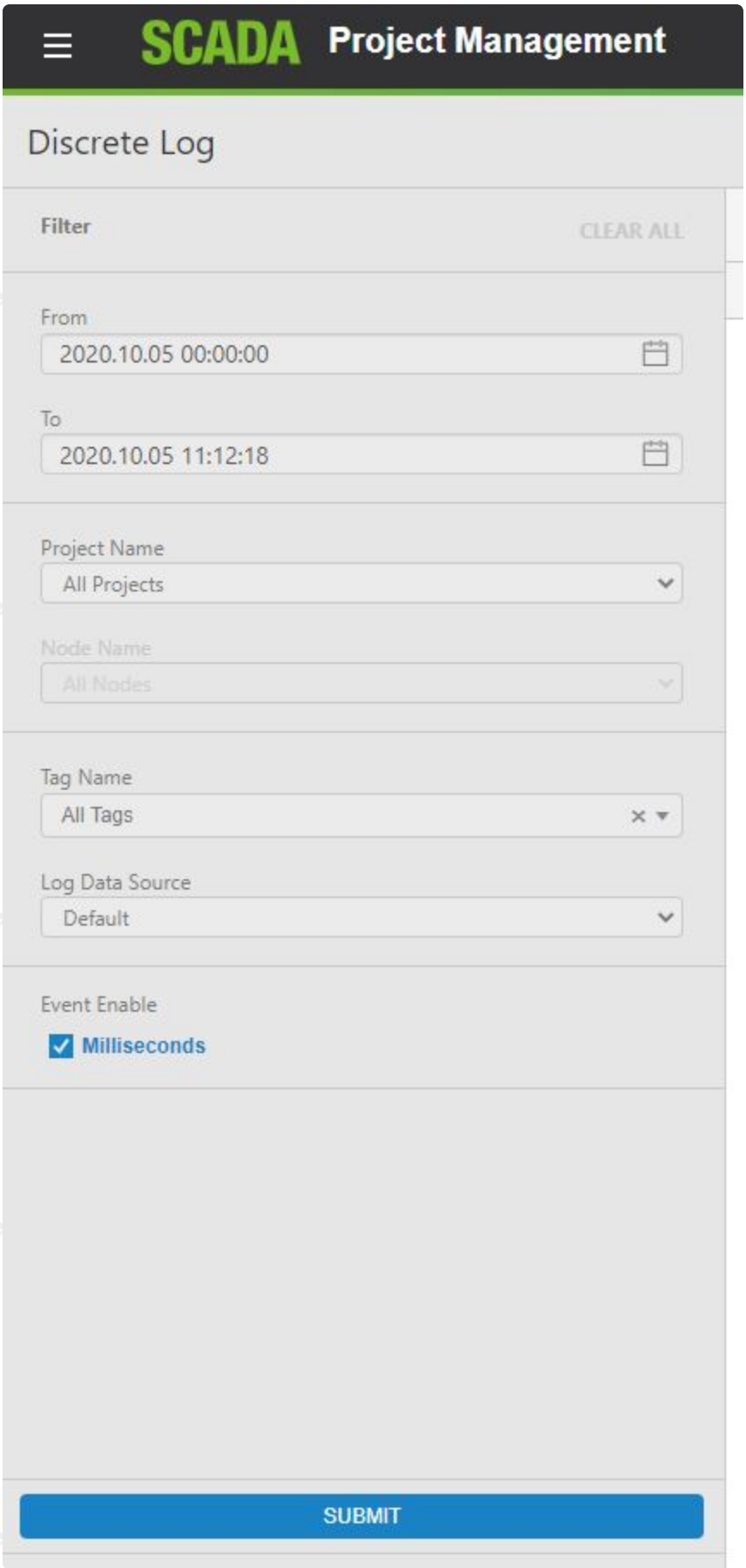


All Users can also see this Log from **ViewDAQ** using the menu bar:**Tools –> Discrete Tag Log.**

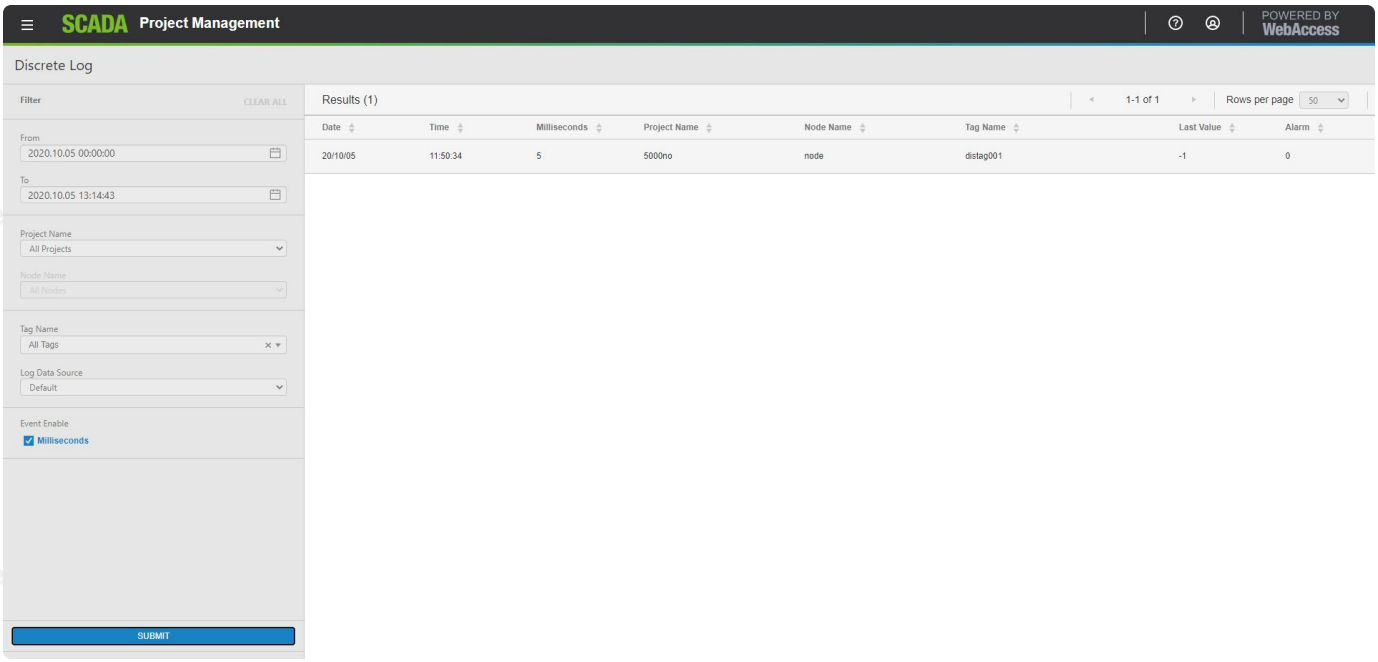
Search

WebAccess/SCADA

The data can be sorted and filtered by Time, Date, and node addresses.



An HTML report is printed.



The display used in VIEW is bwdislog.uti.

Data is recorded on a change of state basis. If the Discrete tag does not change, no data is recorded. The value of the state may range from 0 to 7 (a 3 bit integer) depending on how the Discrete Tag length is configured. A typical Digital tag will have two states (0 and 1). To evaluate the meaning of the state number, you must reference how the tag is configured for each state descriptor.

Length	State Descriptors Used
1–BIT	STATE 0 and STATE 1
2–BITS	STATE 0, 1, 2, and STATE 3
3–BITS	STATE 0 thru STATE 7

For related information, refer to **Data Log Trend Display** in the **System & Template Displays** section.

BwDiscreteTable : Data log for Discrete tags

a. ProjNodeId : Unique ID for a SCADA node.
b. TagName : Tag Name.
c. LogDate : Date of the record was recorded.
d. LogTime : Time of the record was recorded.
e. LogMilliSecond : The millisecond of the time of the record was recorded

f. LogValue : The value was recorded.

g. Alarm: If the tag is in alarm during the recording period.

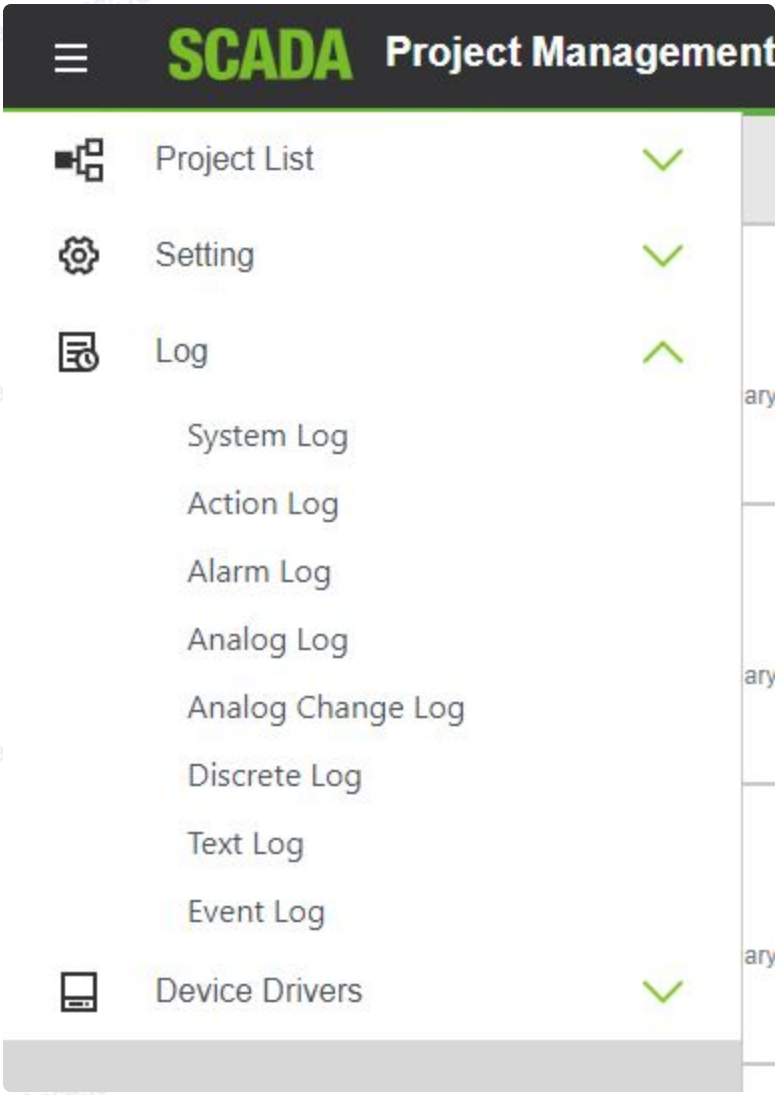
–2147483648 (Decimal) or 0x80000000 (HEX) means there is no data during the minute of collection. Otherwise, the value of this field is a LOGICAL OR of all the Alarms that occurred during the interval.

Alarm Code Decimal	Alarm Code Hex	Description
–2147483648	0x80000000	no data during the minute of collection.
2	0x02	Acknowledged Alarm
512	0x200	Discrete Alarm

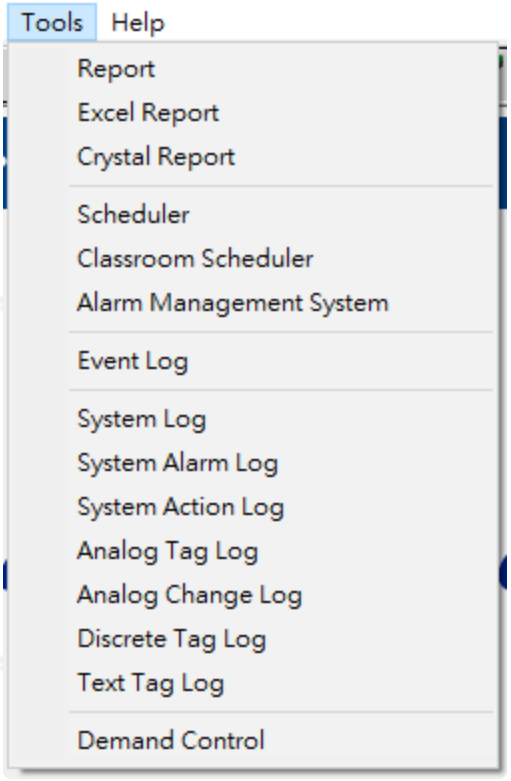
3.2.3.7 Text Log

This shows a centralized database for all Text Tags for all SCADA Nodes in the project with **Data Log to ODBC** enabled.
The individual Tags must have both **Log Data** enabled and **Log to ODBC** enabled.

From the Project Manager, Project Users can see the Text Tag Log from the side bar.



Power Users can also see this Log from **VIEW** using the Tools menu:**Right Click –> Tools –> Text Tag Log.**

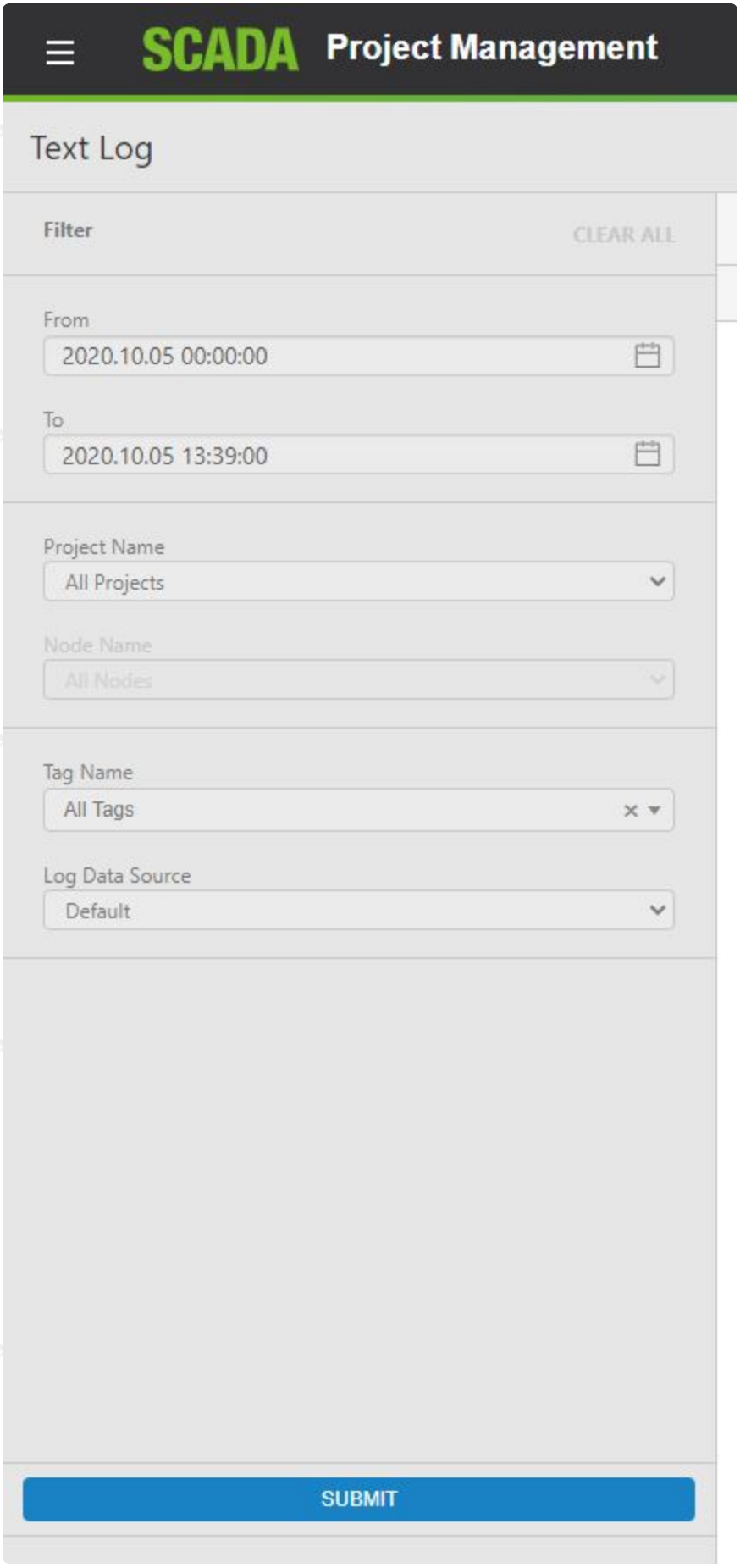


All Users can also see this Log from **ViewDAQ** using the menu bar:**Tools –> Analog Tag Log**.

Search

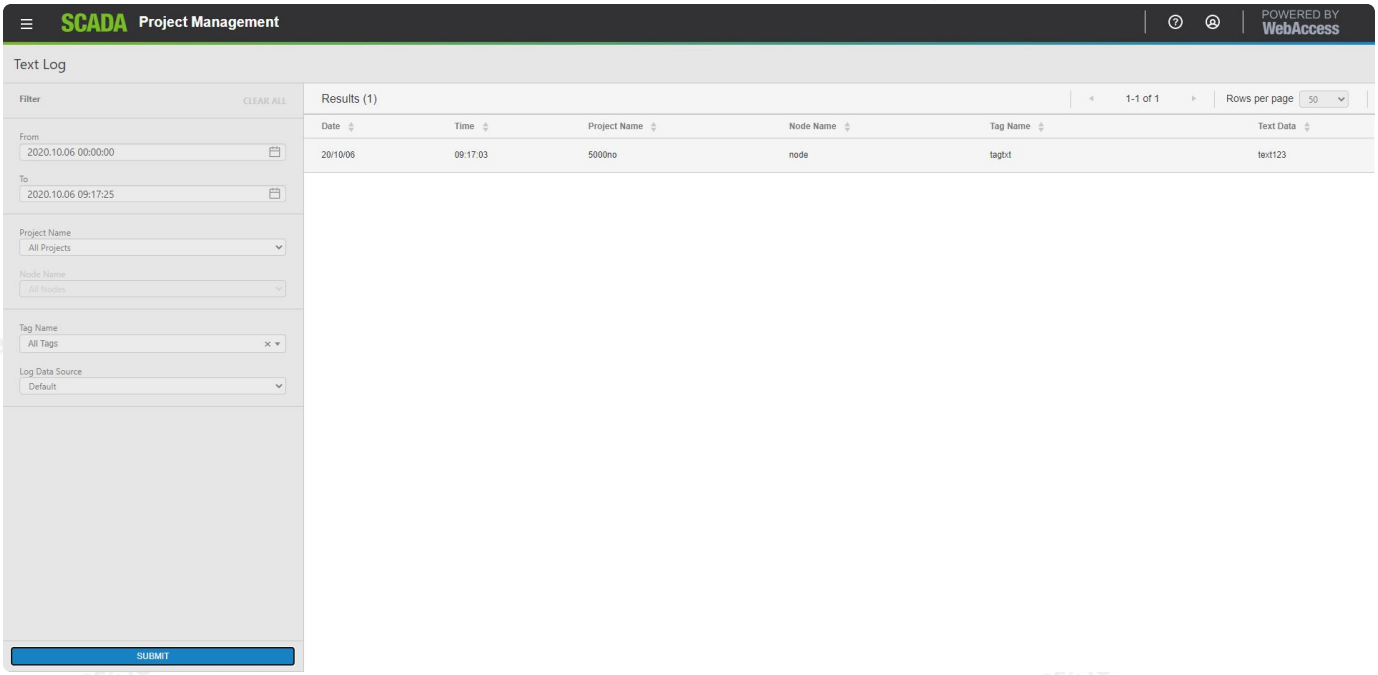
The data can be sorted and filtered by Time, Date, and node addresses.

WebAccess/SCADA



WebAccess/SCADA

An HTML report is printed.



The display used is bwtxtlog.uti.

BwTextTable : Data log for Analog tag

a. ProjNodeId : Unique ID for a SCADA node.

b. TagName : Tag Name.

c. LogDate : Date of the record was recorded.

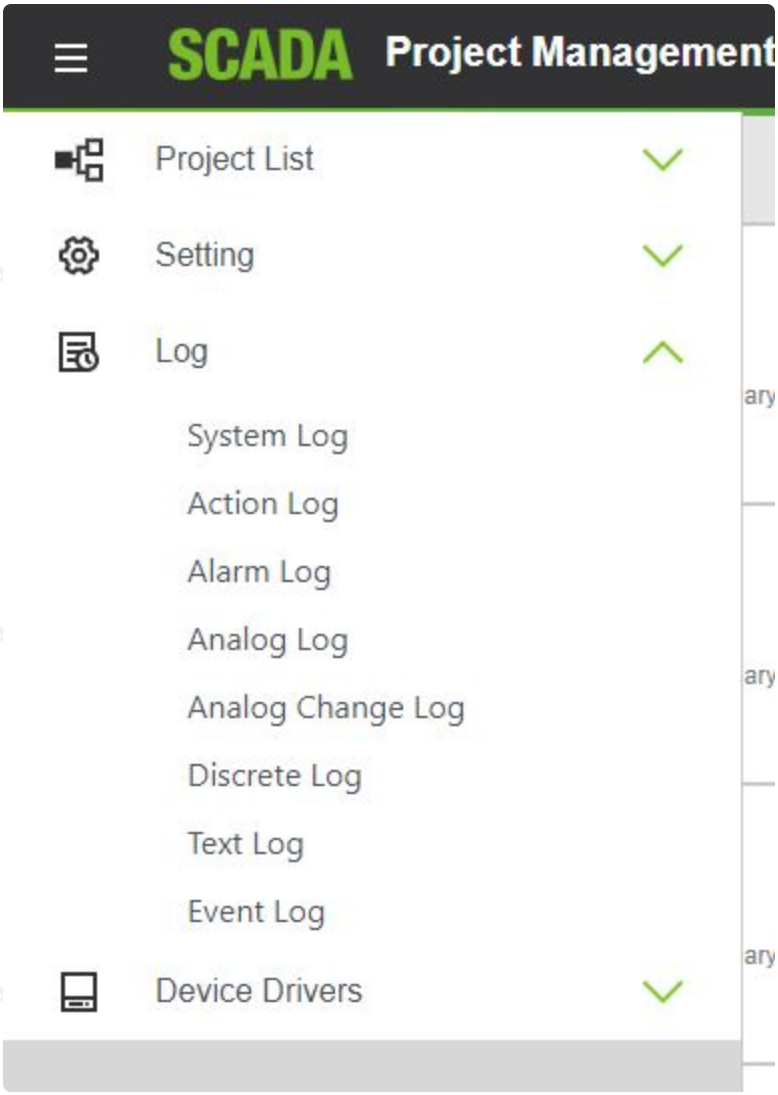
d. LogTime : Time of the record was recorded.

e. TextData : The data recorded.

3.2.3.8 Event Logs

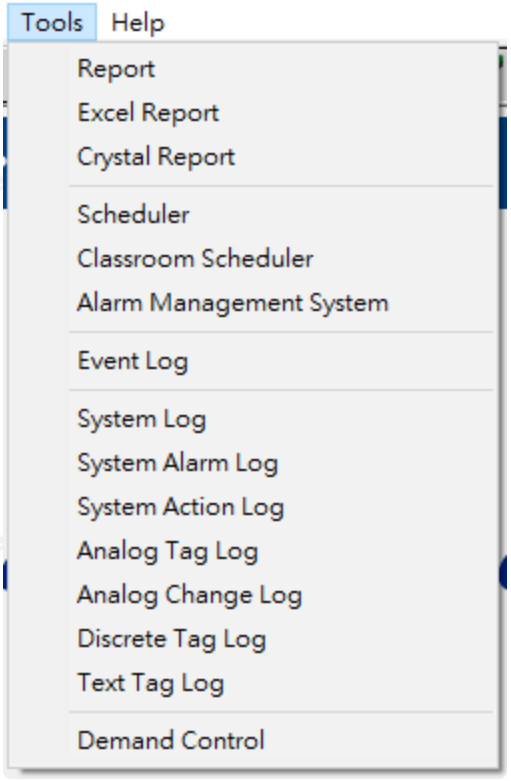
Similar in concept to a Sequence of Events Recorder, The Event log will log user–defined number of sample before the event and after the event. The data is logged to an ODBC database on the Project Node.

Project Users can view an Event Log from the Side bar.



All Users can also see this Action Log from **ViewDAQ** using the menu bar:**Tools –> Event Log**.

WebAccess/SCADA



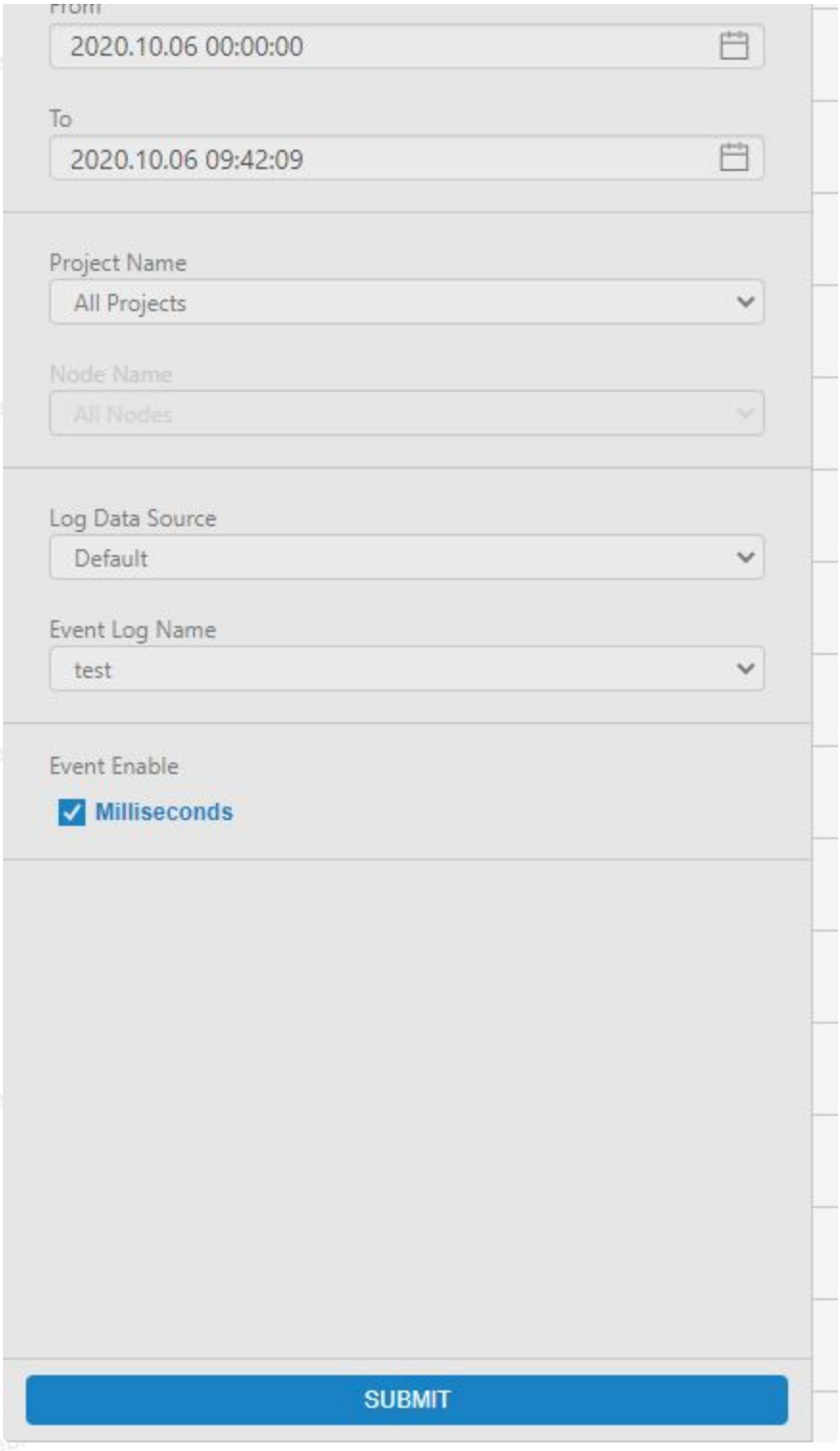
Search

Up to 22 Tags can be logged to a single Event Log based on the status of a single tag (the **Event Tag**). Resolution can be from 1 millisecond to 1 hour. The Actual resolution depends on you computer hardware, network connections and communications to field device (e.g. PLC). Multiple Event Logs can be configured.

Event Types that will trigger logging include:

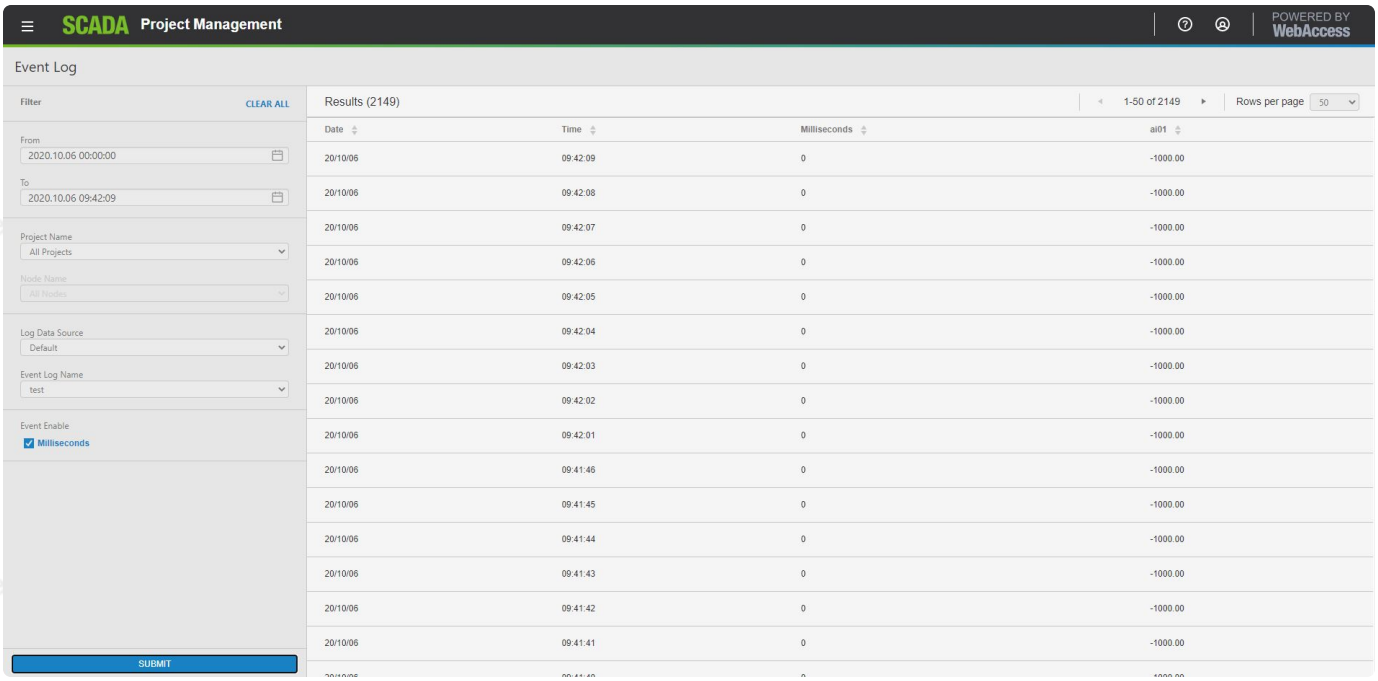
- Event Tag >= Reference Value
- Event Tag <= Reference Value
- Event Tag == Reference Value
- Event Tag >= Reference Tag
- Event Tag <= Reference Tag
- Event Tag == Reference Tag (Supports text tag)
- Record Every Sample Interval

WebAccess/SCADA



WebAccess/SCADA

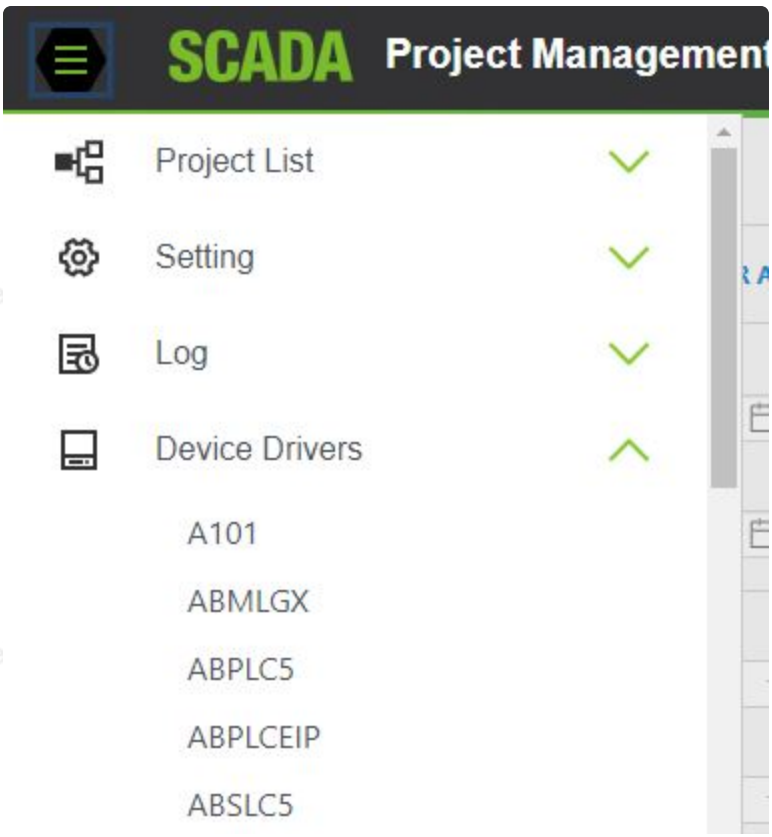
An HTML report is printed.



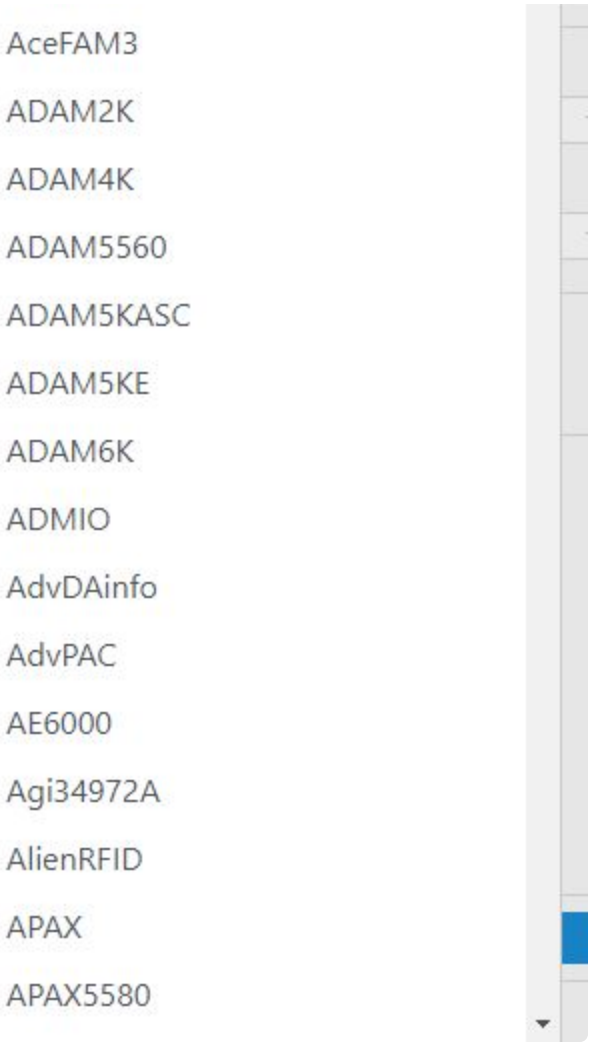
3.2.4 Device Drivers

Device Driver is setting Parameter of Device Type and Block.

Expand **Device Driver** block in **Side bar.**



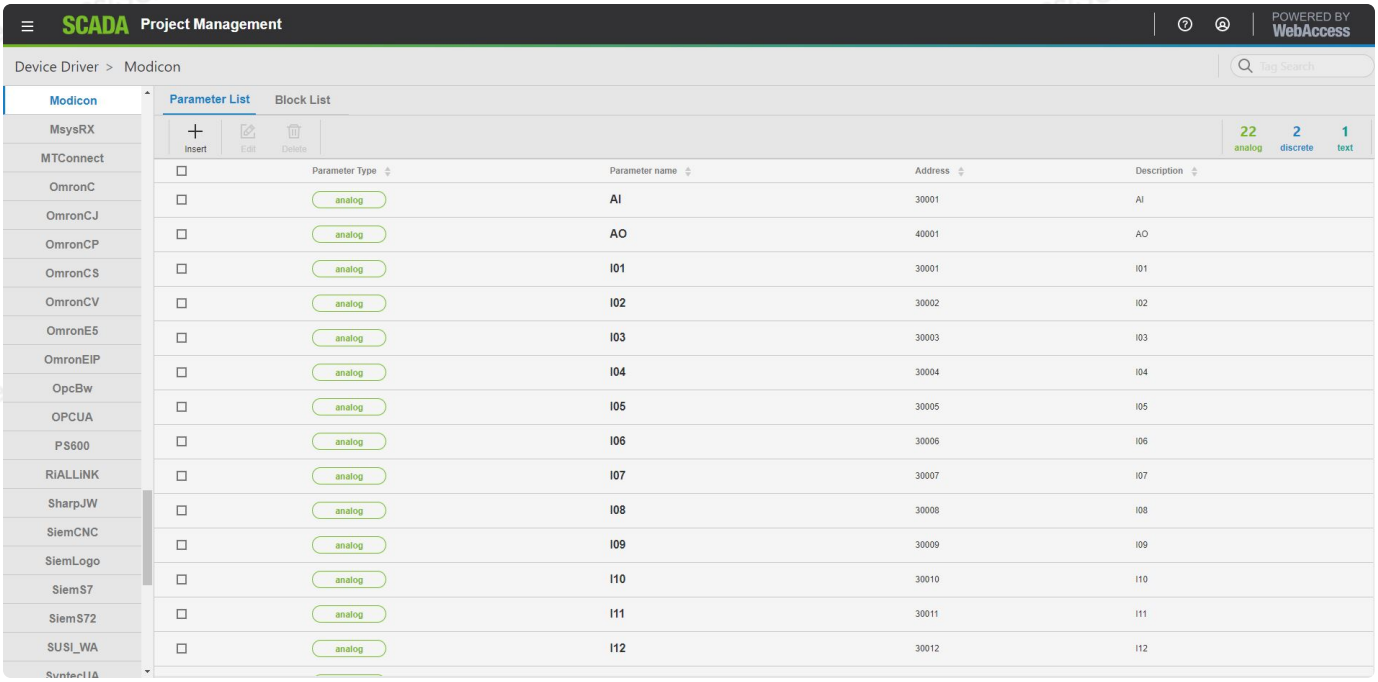
WebAccess/SCADA



3.2.4.1 Add Parameter

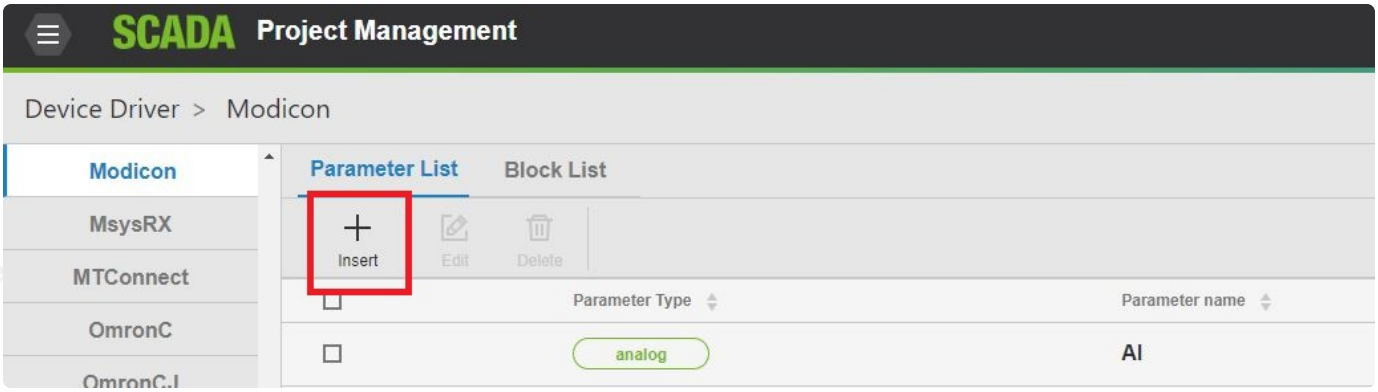
This section assumes you have started Internet Explorer 6.0 or later Web Browser and connected to your Project Node.

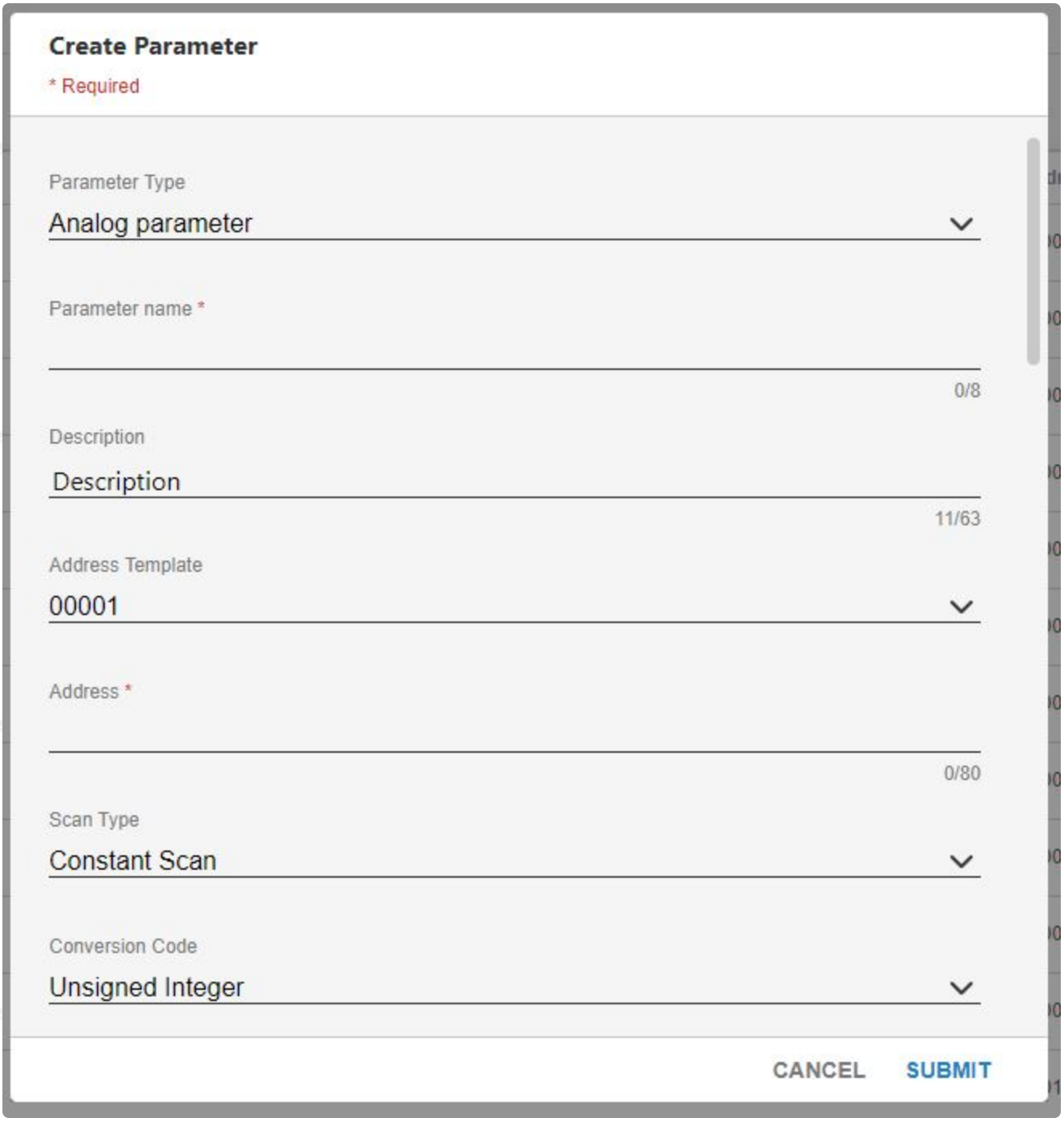
- Pick on your **Device Type** (for example, pick Modicon if you are to create a parameter for your Modbus Driver).
- The **Parameters Set** for the Device Type (driver) opens.



- Click insert button. The Create Parameter dialog opens.

WebAccess/SCADA


SCADA Project Management
Device Driver > Modicon
Modicon
MsysRX
MTConnect
OmronC
Parameter List
Block List
Insert
Edit
Delete
Parameter Type
Parameter name
analog
AI


Create Parameter
* Required
Parameter Type
Analog parameter
Parameter name *
0/8
Description
Description
11/63
Address Template
00001
Address *
0/80
Scan Type
Constant Scan
Conversion Code
Unsigned Integer
CANCEL
SUBMIT

- Select a Parameter Type from the Pull Down List.

This is the first step in creating a Parameter. The important thing is to get the Data type correct, you cannot change from Analog to Discrete to Text. All other properties can be changed.

Analog parameter is at least 4 bits of data and greater (up 16 bits or 32 bits depending on the driver) that are interpreted as numbers. Floating–point numbers and any value over 7 must be created as an Analog Type.

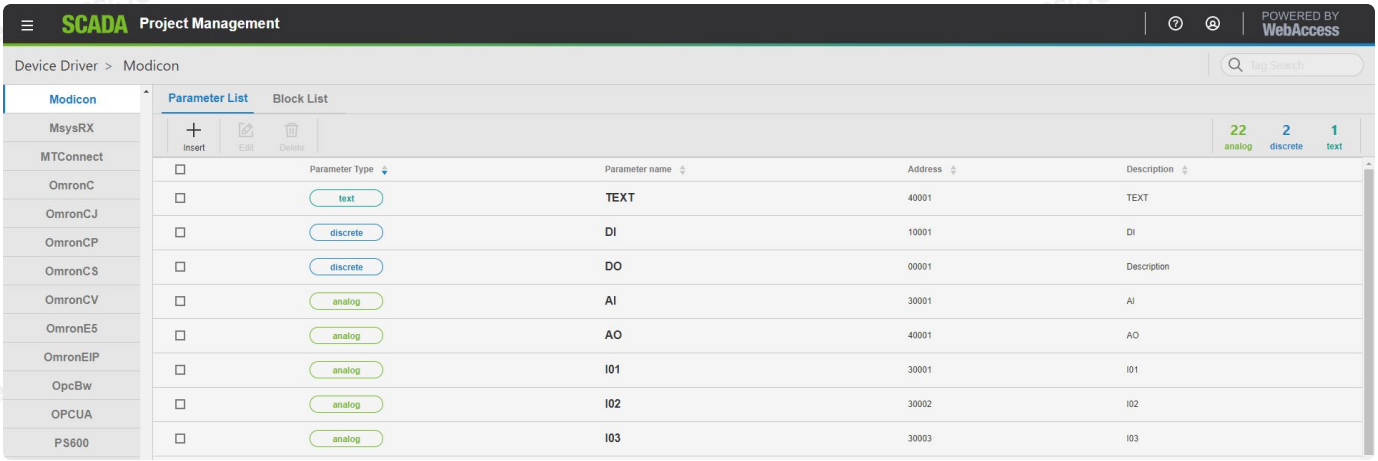
A Discrete parameter is 1 to 3 bits of data and is interpreted as "digital" (0 or 1) or as a "discrete" integer between 0 and 7.

Text parameter is data read as ASCII strings. The size is dependent on the driver, but always less than 70 characters.

- If you select a Discrete or Text type parameter, the Page will change to the appropriate page for Discrete of Text type parameters.
- Refer to the Following Sections for Analog, Discrete and Text Parameter Properties for a description of each entry on the Page.
  - **Analog Parameter Properties**
  - **Discrete Parameter Properties**
  - **Text Parameter Properties**
- Press **Submit** when you are finished entering Data.
- You can edit parameters using the Parameter Properties.

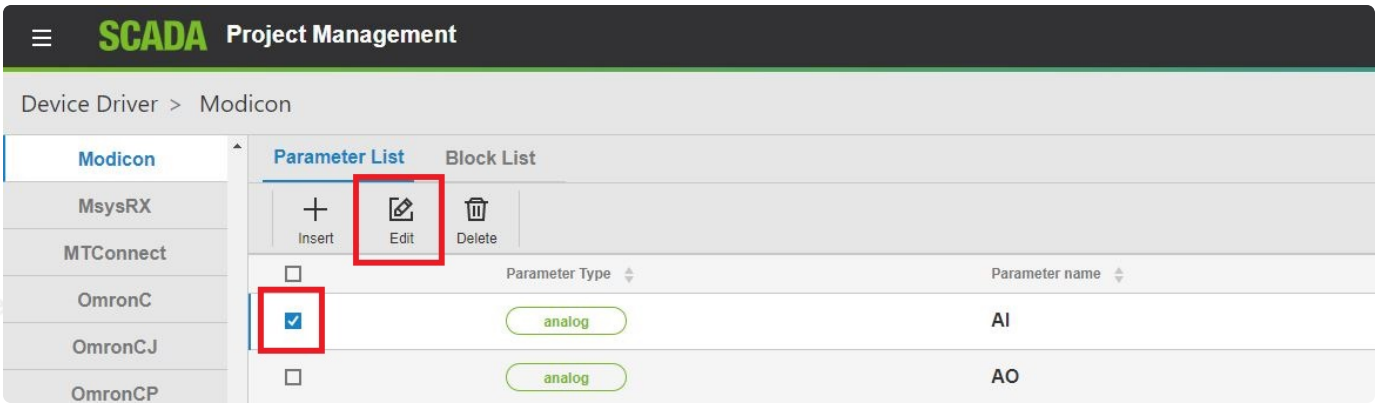
3.2.4.2 Edit Parameter Set

- Pick the Device (for example, pick Modicon)
- The **Parameter set** for the selected device appears.

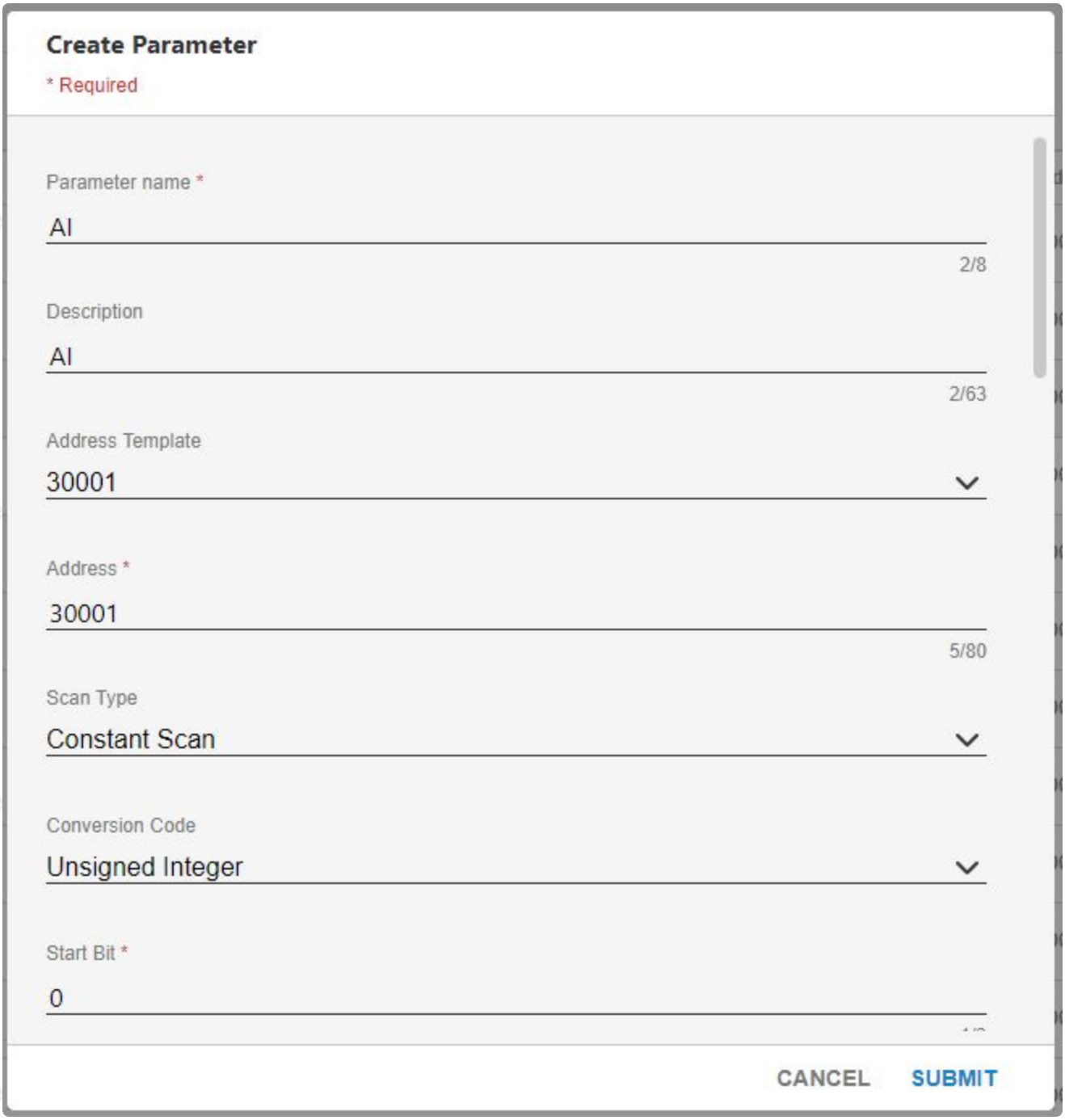


Parameters are organized by type, and then listed alphabetically. Digital or Text type parameters are listed separately from Analog parameters (and listed separately from each other). If you created a parameter and don't see it listed alphabetically with your analog parameters, try scrolling down to the Digital and Text parameters for your parameter type.

- Click update button.



- The Parameter Properties dialog opens.(for example, pick Analog Parameter Properties)
  - **Analog Parameter Properties**
  - **Discrete Parameter Properties**
  - **Text Parameter Properties**



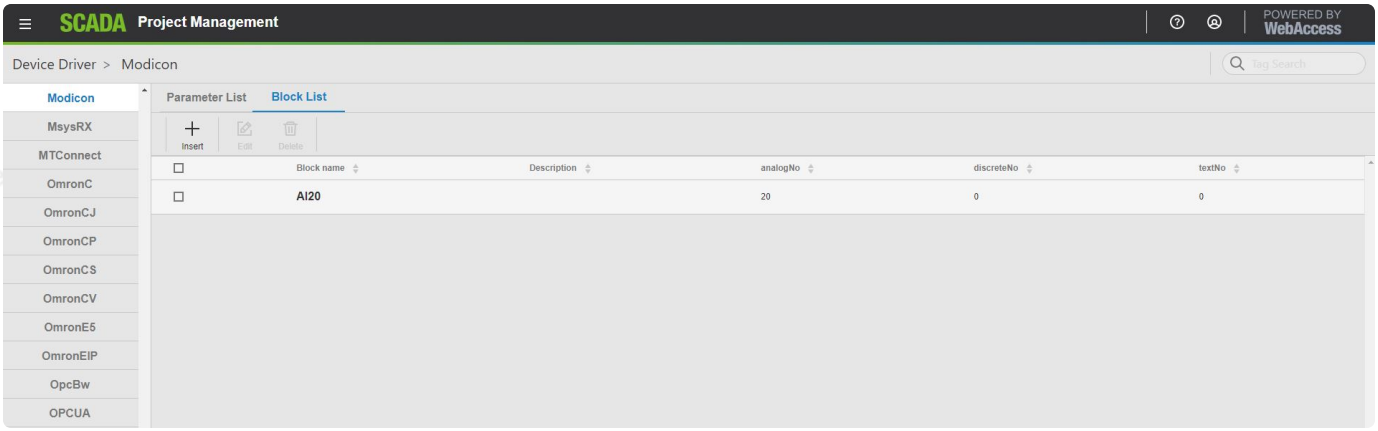
- Press **Submit** when you are finished entering Data.

Modifications to the Parameter Properties will only affect New Tags and Blocks. To modify the Parameters in an existing Tag or Block, you will have to update those tags and Blocks individually.

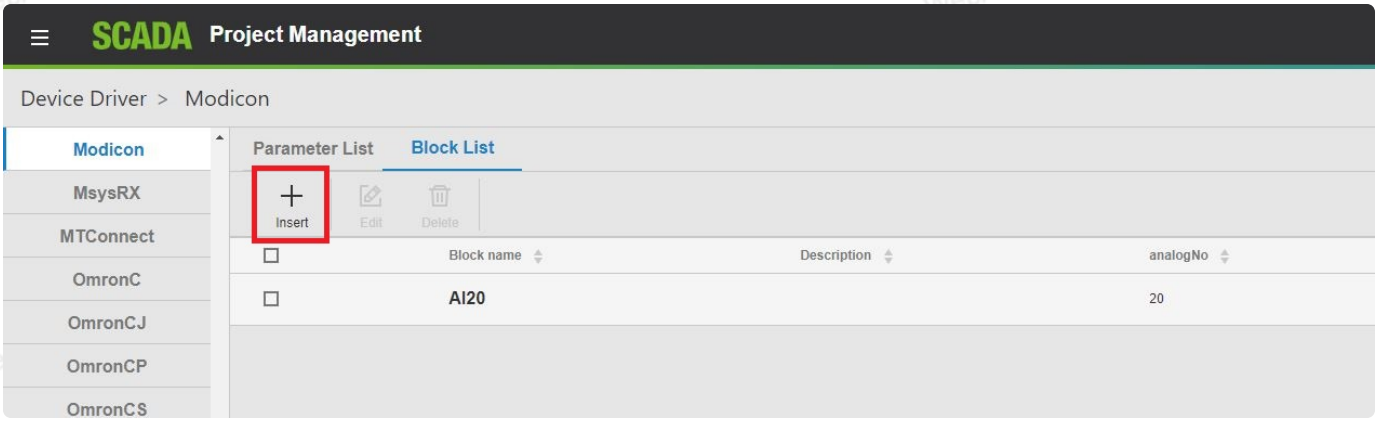
3.2.4.3 Add a Block Type

This section assumes you have already created the PARAMETERS you plan to group into a Block type. Please refer to **Add Parameter** section for information about building Parameters to use in your Block Type Template.

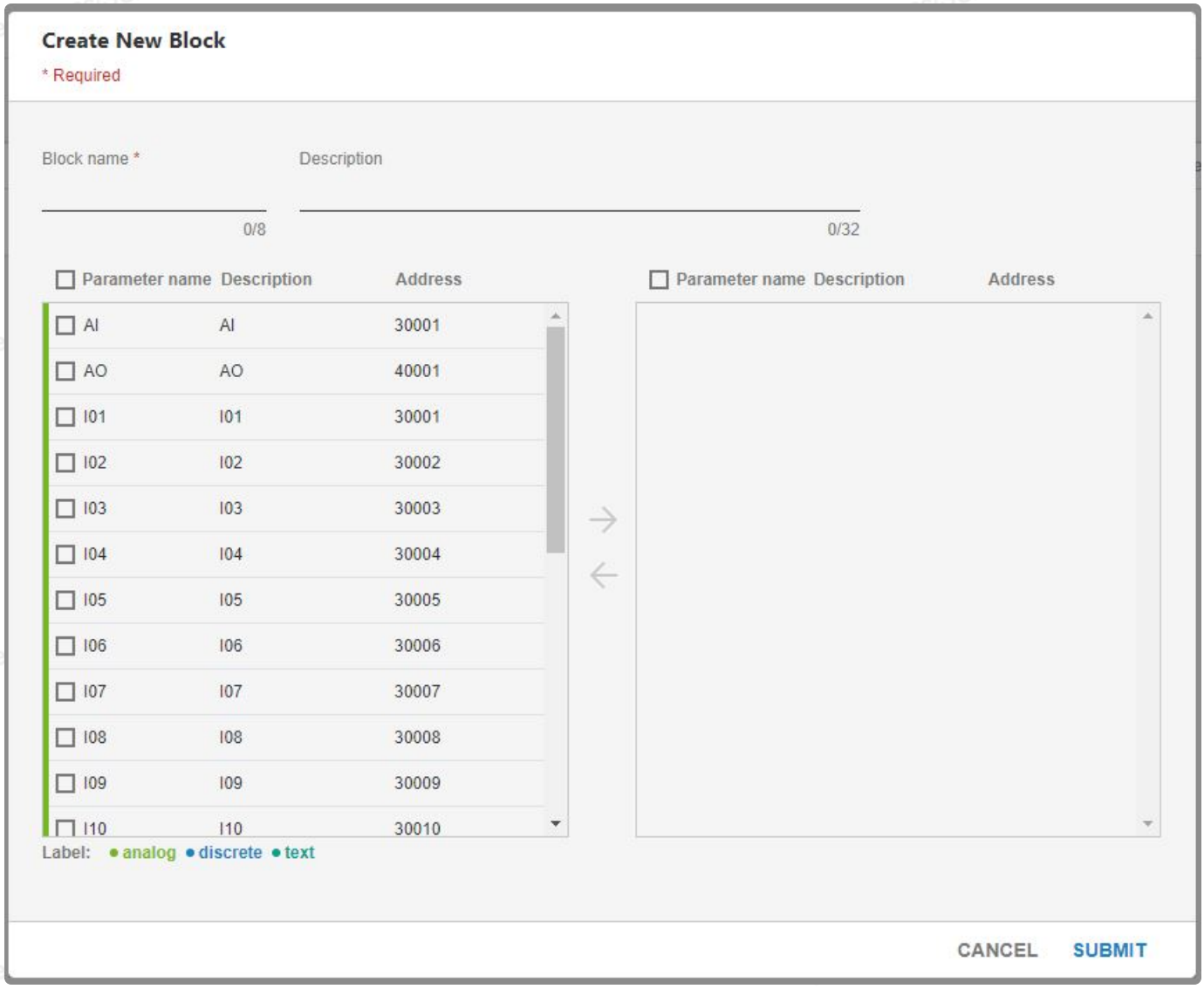
- Pick on your **Device Type** (for example, pick Modicon if you are to create a parameter for your Modbus Driver).
- The **Parameters Set** for the Device Type (driver) opens.



- Select **Block List**, and click insert button.



- The **Create New Block** dialog appears.



- Enter a **Block Name** for Your Block Type. Pick a name that is descriptive of its function. This name will also have to match the Block Detail Display if you are planning to use the Block Detail Display in your Project.

The Name will become the **Block Type** referenced when you create Block Tag. Typical Block Types include PID, CASCADE, VAV, AHU and PUMP. You can use the tag field **BTYPE** to read the BTYPE of an existing Block during the run–time VIEW.

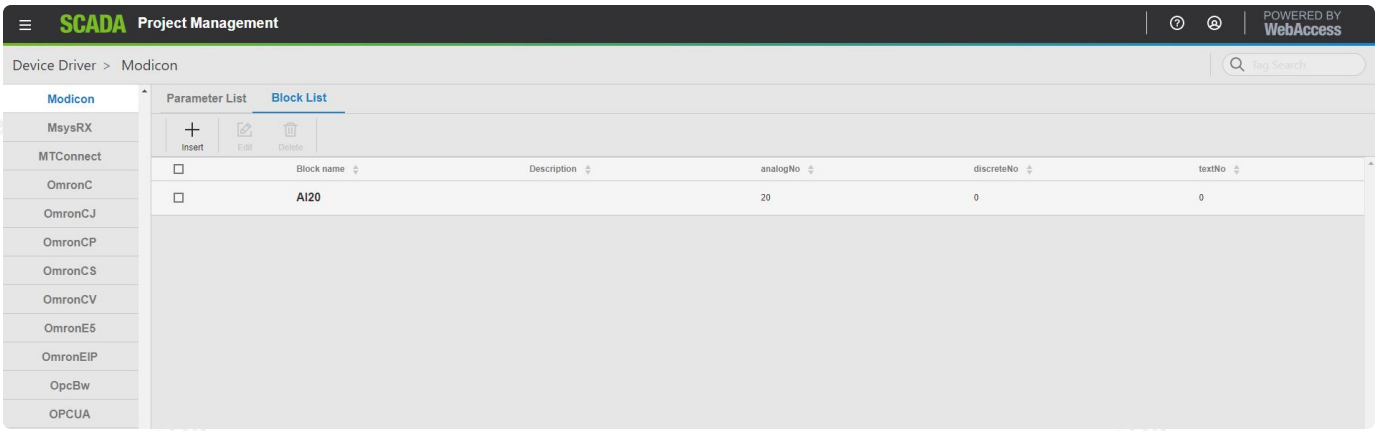
It is possible to use the same BTYPE in to different devices. This may cause difficulties with the GOTO Block Detail Display. If a Block Detail Display is named after this block, it can be called used the GOTO BDETAIL command in pushbutton keymacros, the GOTO Dialog Box and scripts

- Check the Parameters you want group into this Block Type.
- Select Submit when finished.

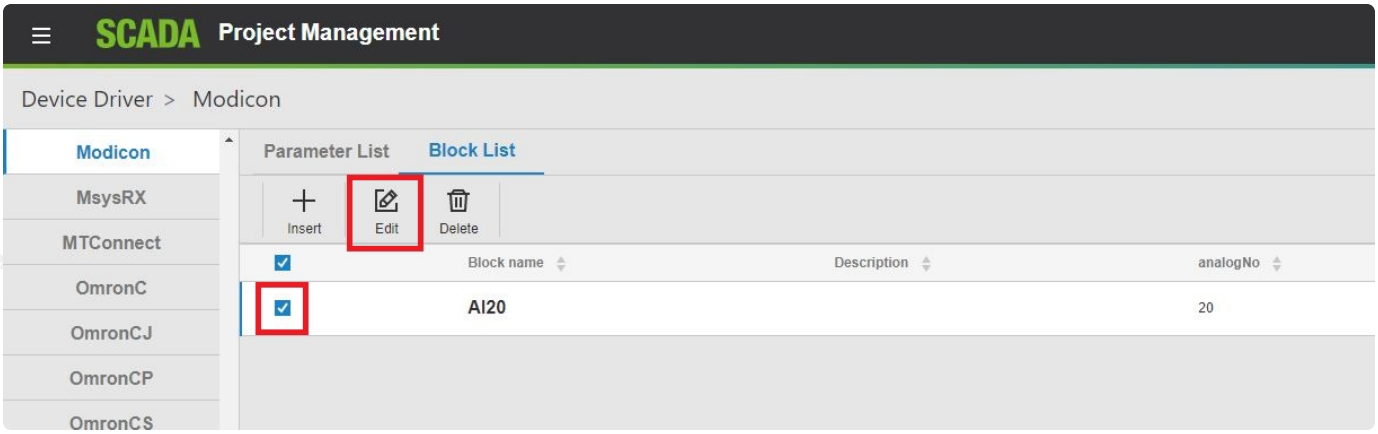
3.2.4.4 Edit Block Type

This section assumes you have already created the PARAMETERS you plan to group into a Block type. Please refer to **Add Parameter** section for information about building Parameters to use in your Block Type Template.

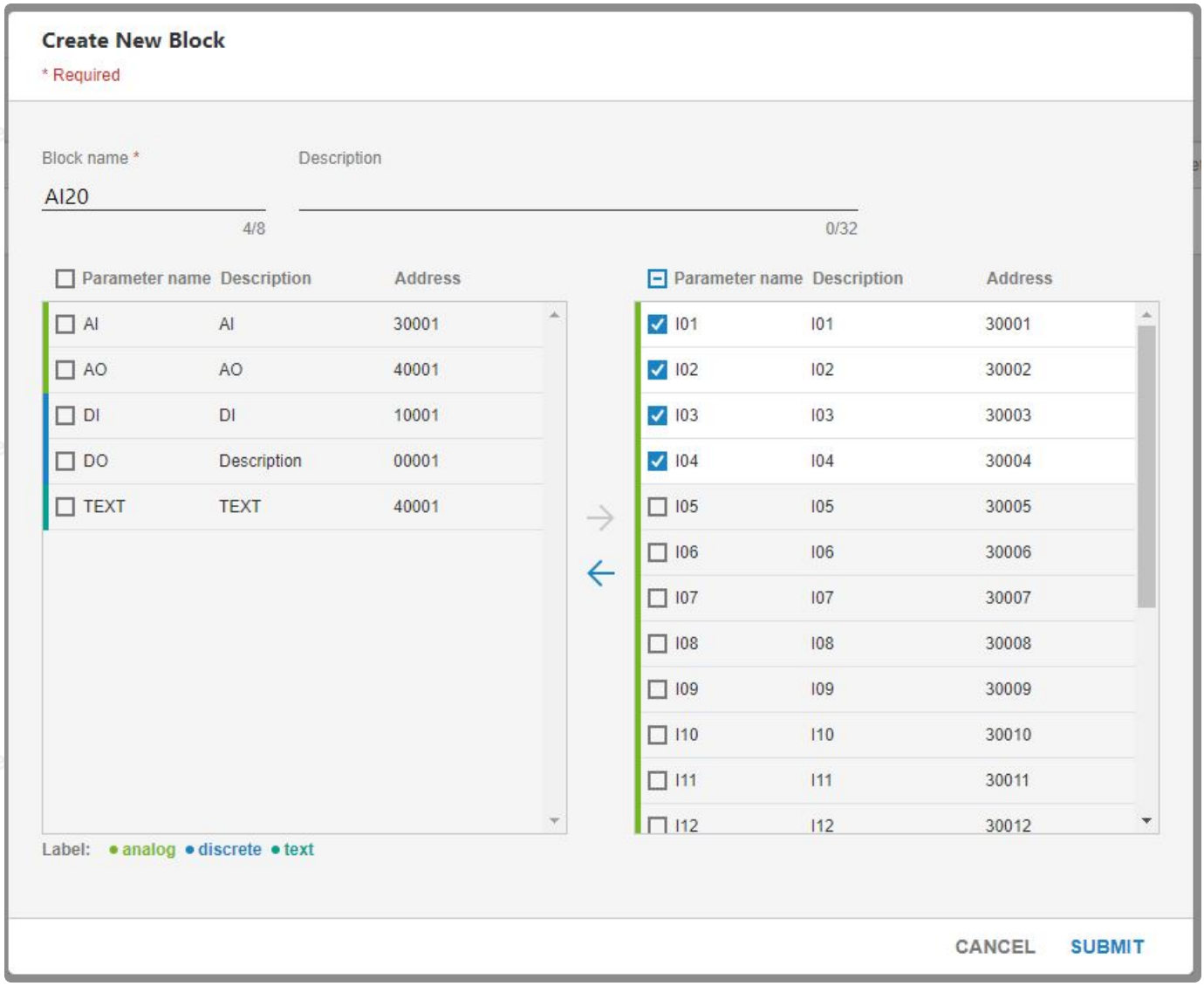
- Pick the Device (for example, pick Modicon)
- The **Parameter set** for the selected device appears. The Blocks are listed at the bottom of the page (you may have to use the scroll bar to see them).



- Select **Block List** and click edit button.



- The **Update New Block** dialog appears.



- You can add or delete Parameters from your Block Type by **checking** the box next to each parameter name.
- Changing the name will rename the Block Type. It will not create a new block.
- Select **Submit** when finished.

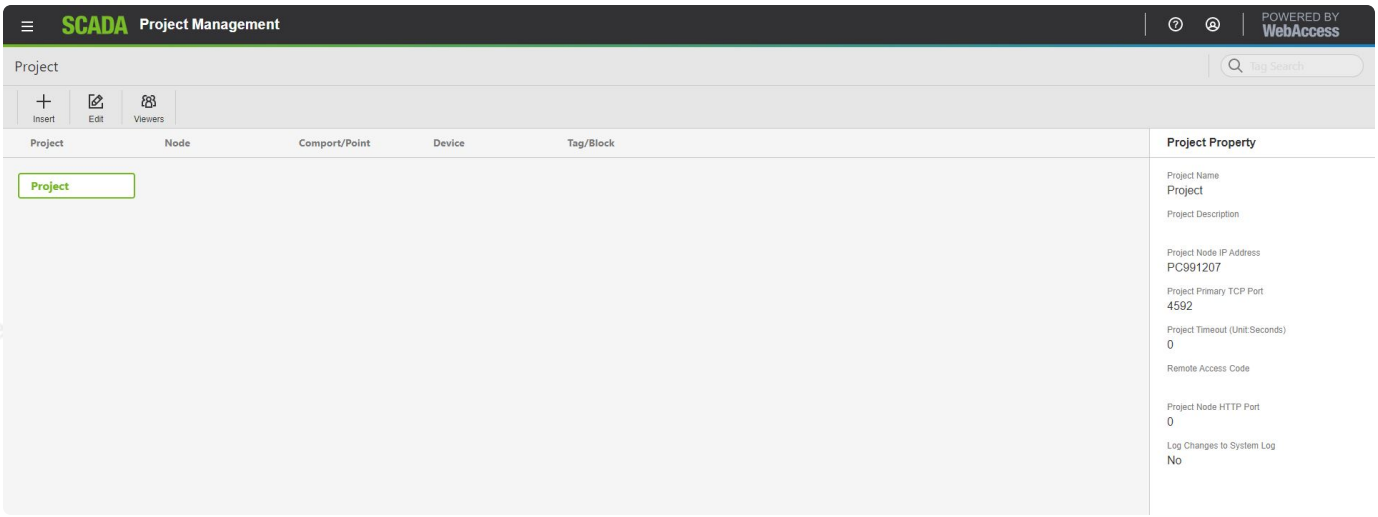
Changes to Block Type will only affect New Blocks that you create. You must re-create existing Blocks using this new Block Type in order to add parameters to an existing Block Tags.

If you rename your Block Type, you must rename the Block Detail Displays you have created. Any previous Block Tags created with the old Block Type Name will still have the reference to the old Block Type name, which may affect your Block Detail Displays.

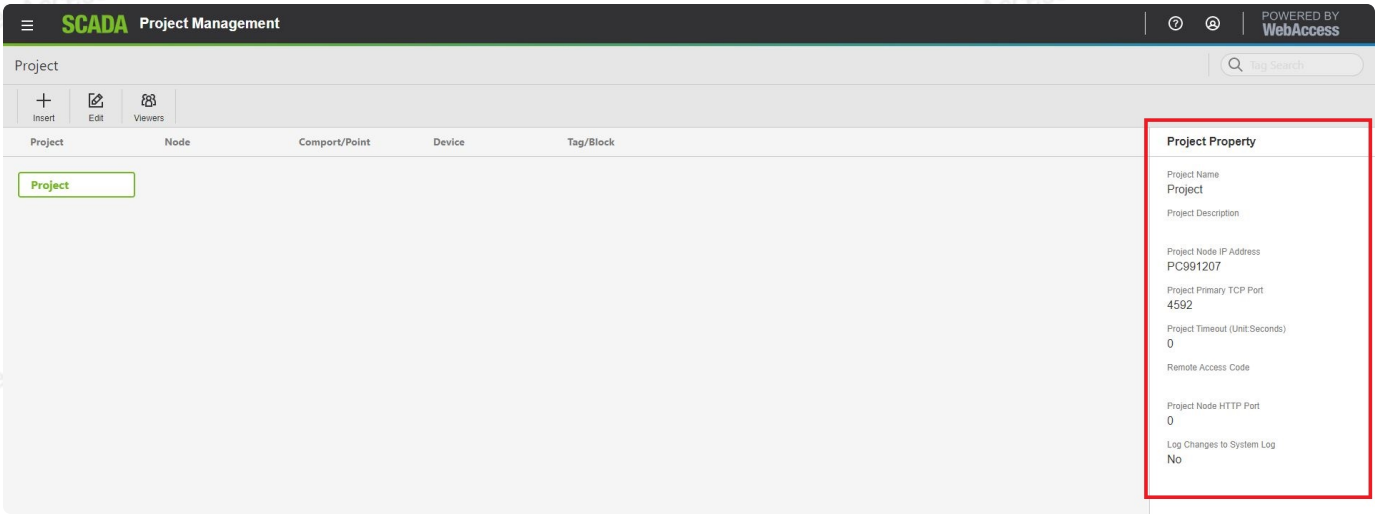
4. Project Configuration (Project Node)

Project Organizational Chart

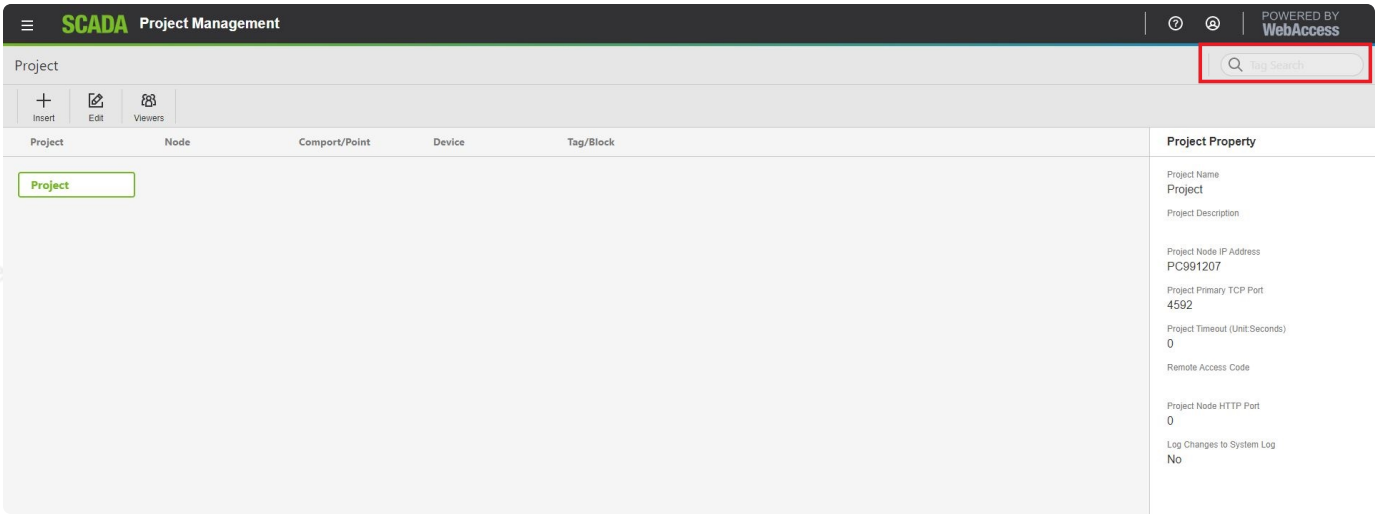
You can see the project organizational chart after you click the project name on project list. If this is the first time you configure this project, you will see the project name you clicked on the left.



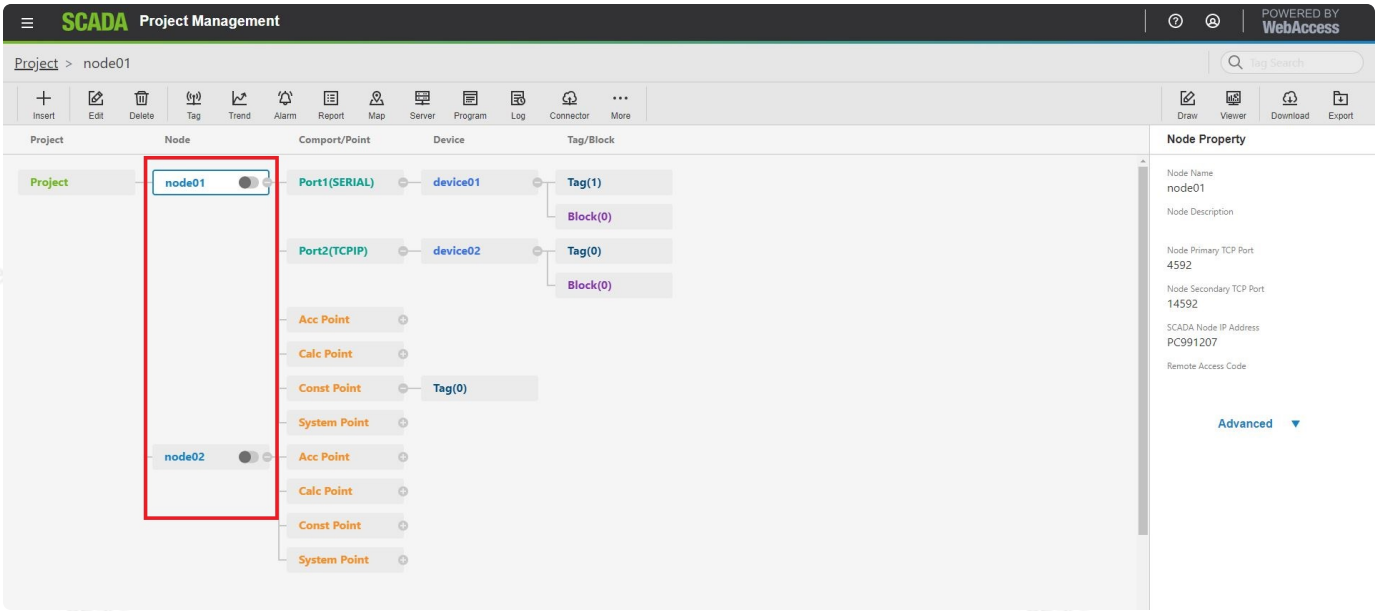
Project Property shows project details such as **Project Node IP Address, TCP Port**..., etc.



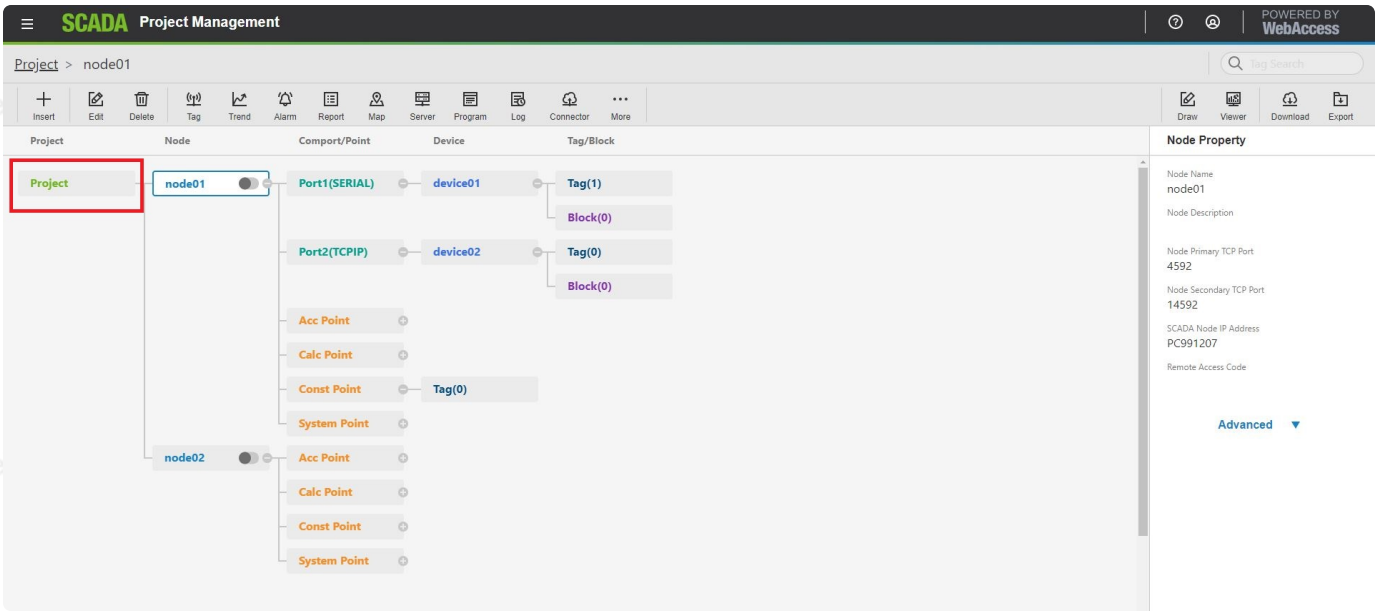
You can search any tags or blocks on the **tag search** box.



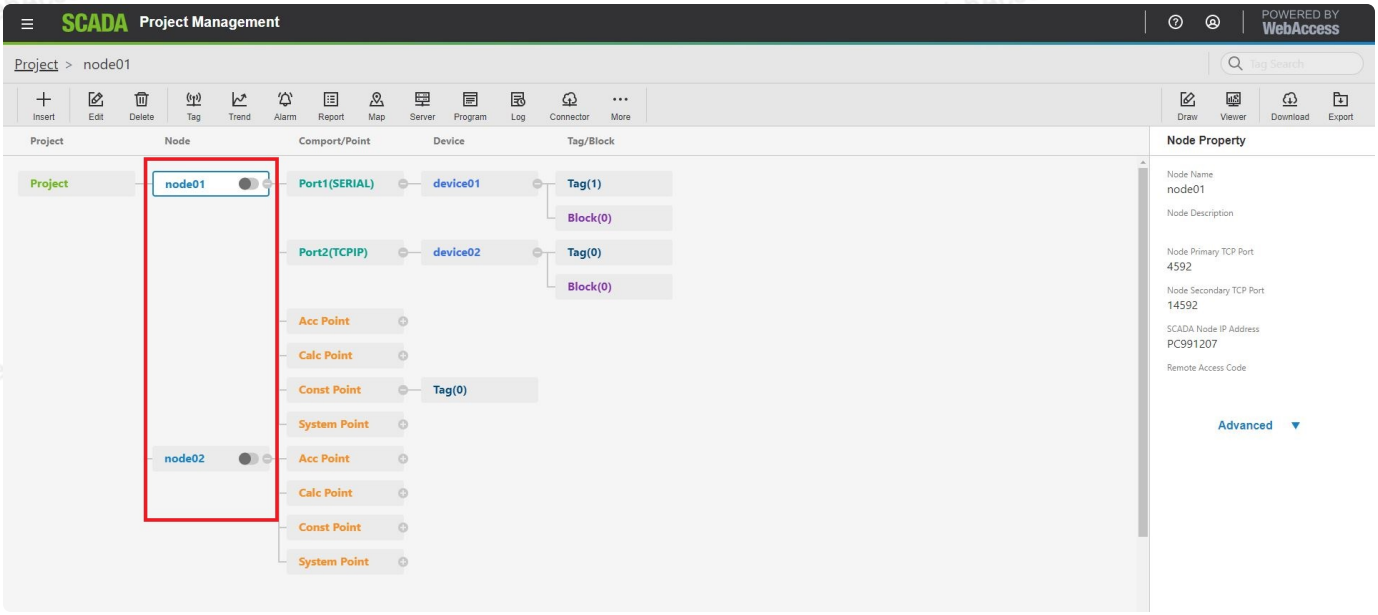
The complete project organizational chart generated when you finish related configuration. The first layer is **Project**



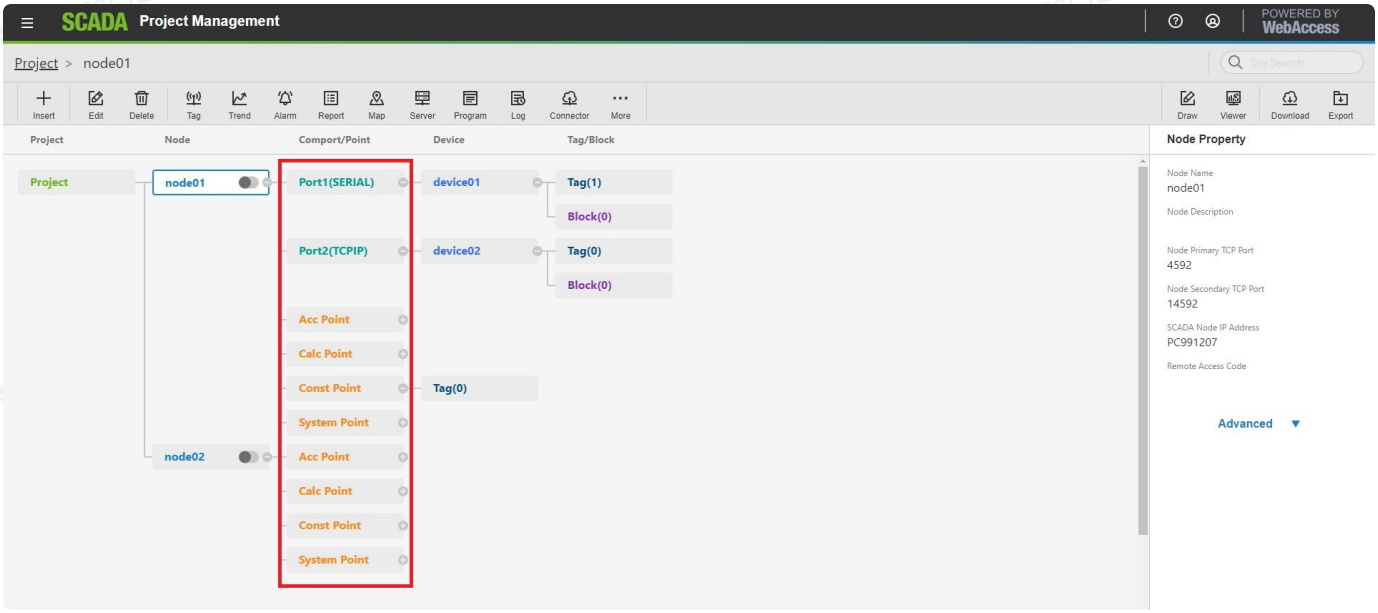
layer. The functions including Insert, Edit and Viewers on the upper banner.



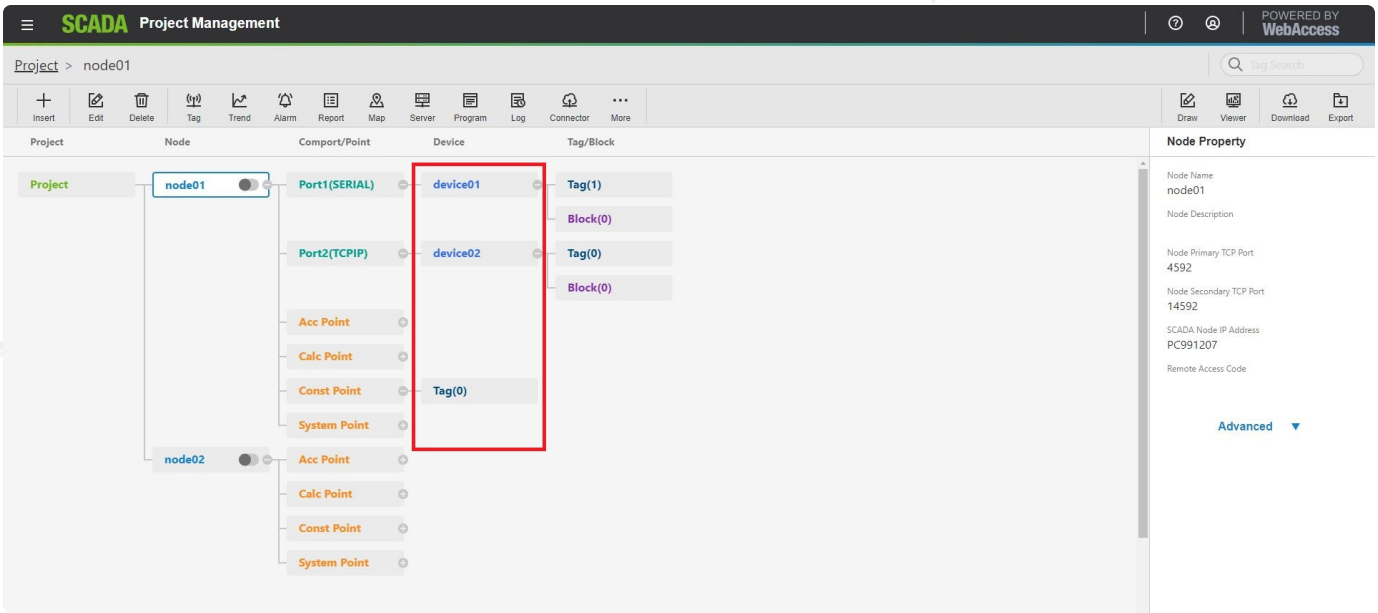
The second layer is **Node** layer. Node bar show on the upper banner. You can Insert **Comport/Point** here.



The third layer is **Comport/Point** layer. You can insert the **device** under the comport or point you selected.

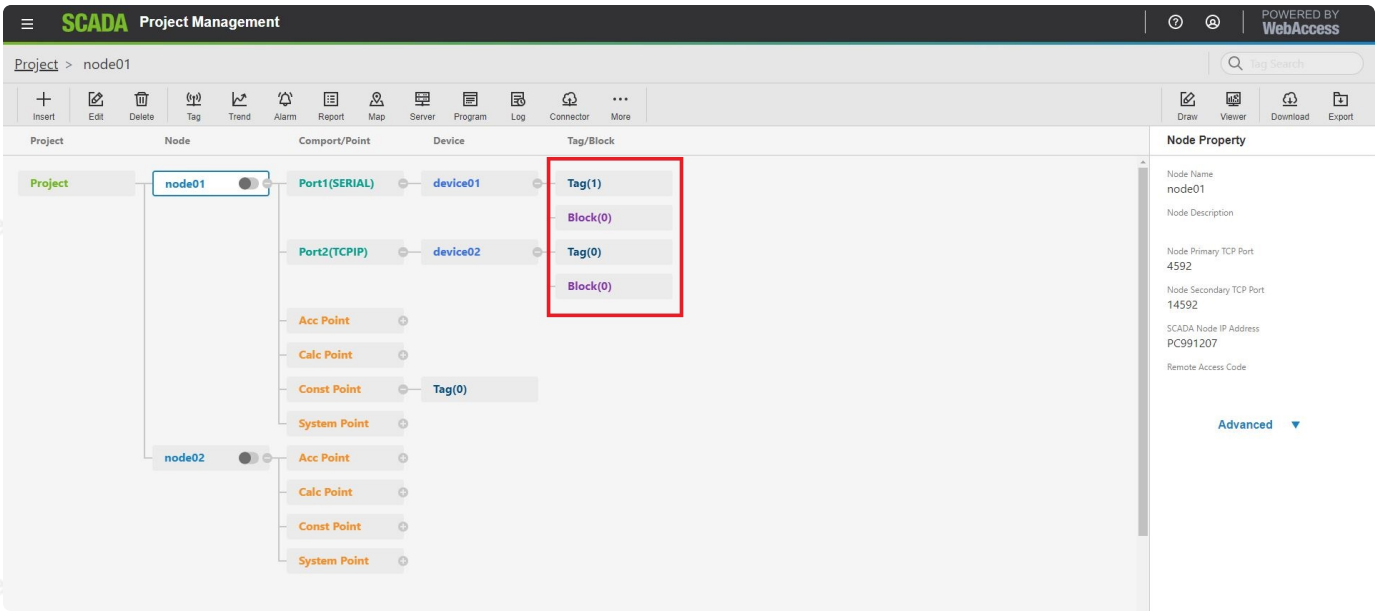


The fourth layer is **Device** layer. You can insert the **tag and block** under the device you selected.

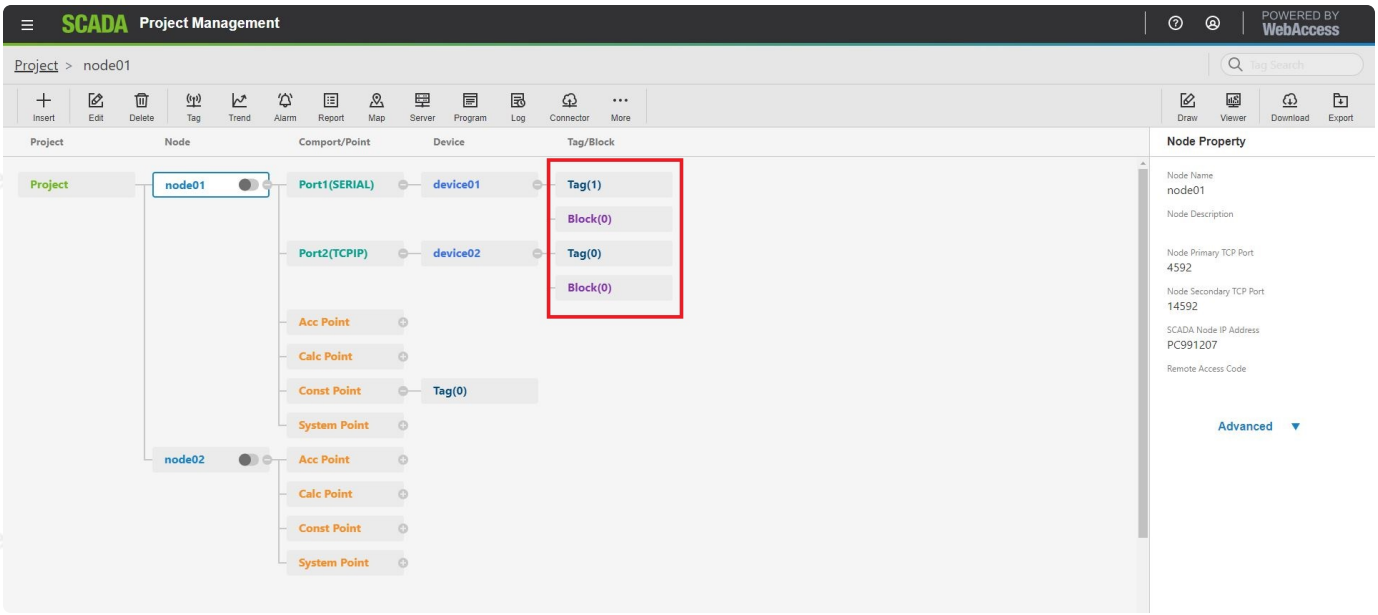


WebAccess/SCADA

The fifth layer is

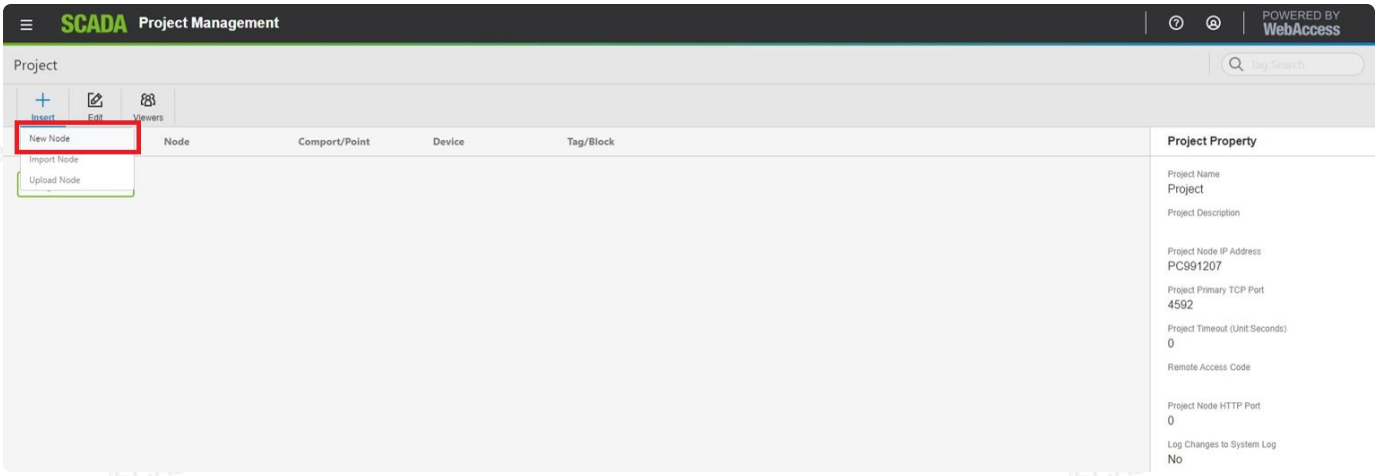


Tag/Block layer. You can enter the **Tag List/Block List** page when you click Tag/Block.

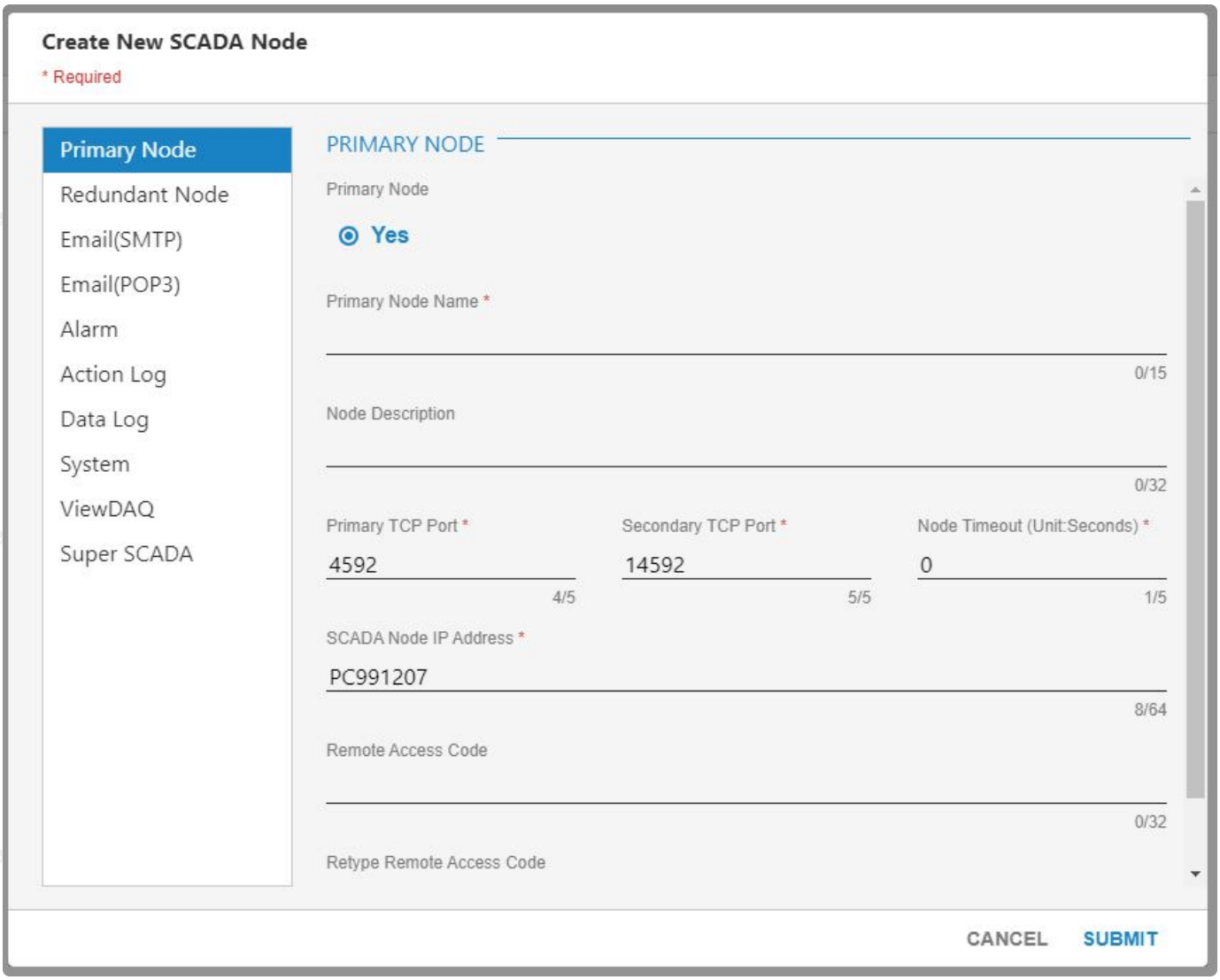


Add SCADA Node

1. Select your Project.
2. Click **Insert** classification on top banner, then select **New Node**.



3. You will see the **Create New SCADA Node** dialog.

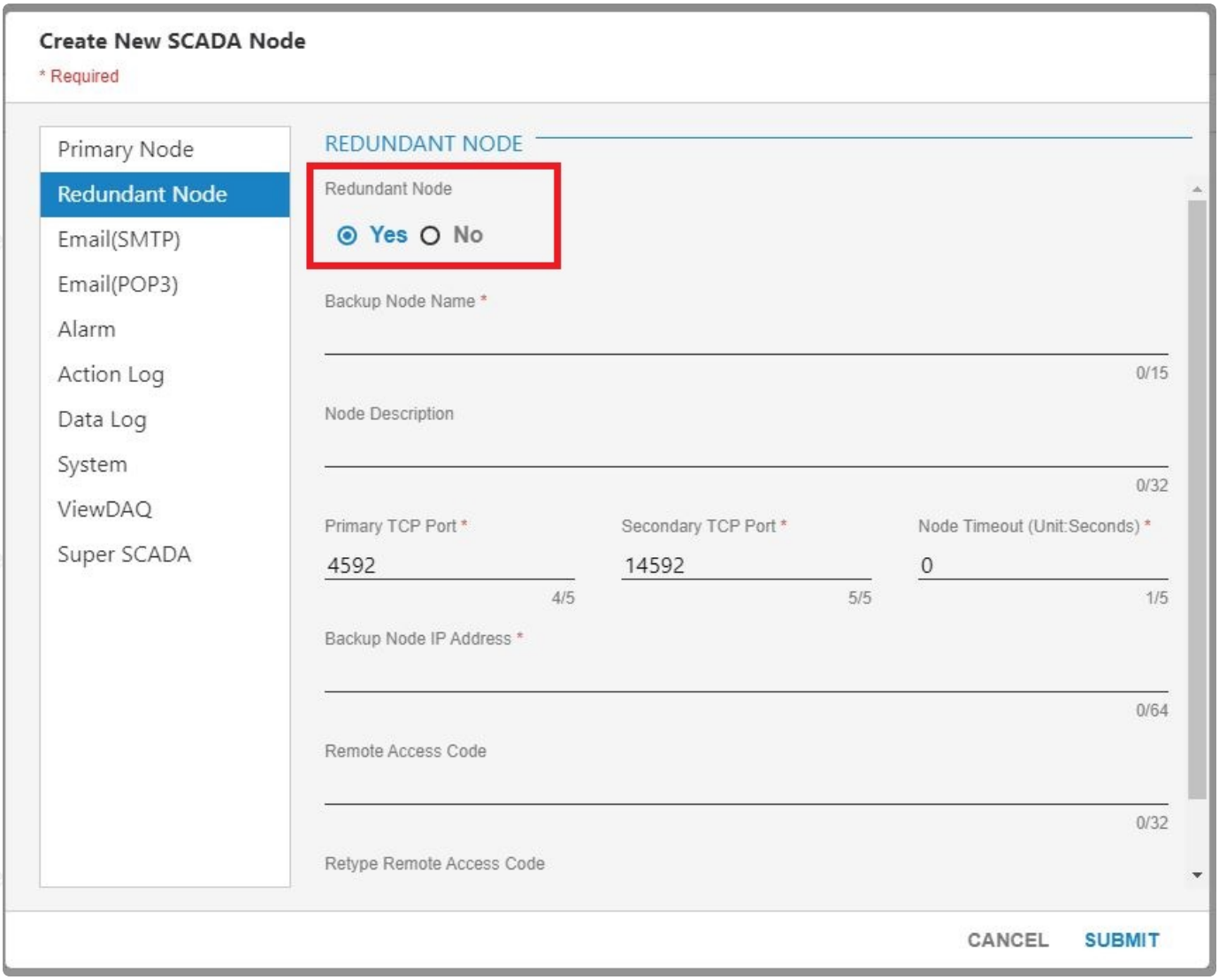


4. Enter a **Node Name** for this SCADA node. This is the name that users will see in the caption

bar of VIEW and use to select this node from a list of nodes if your have multiple SCADA nodes.

Note – The Project Name with the SCADA node name appended to it will appear in ViewDAQ and DrawDAQ menu lists (ProjectName_NodeName).

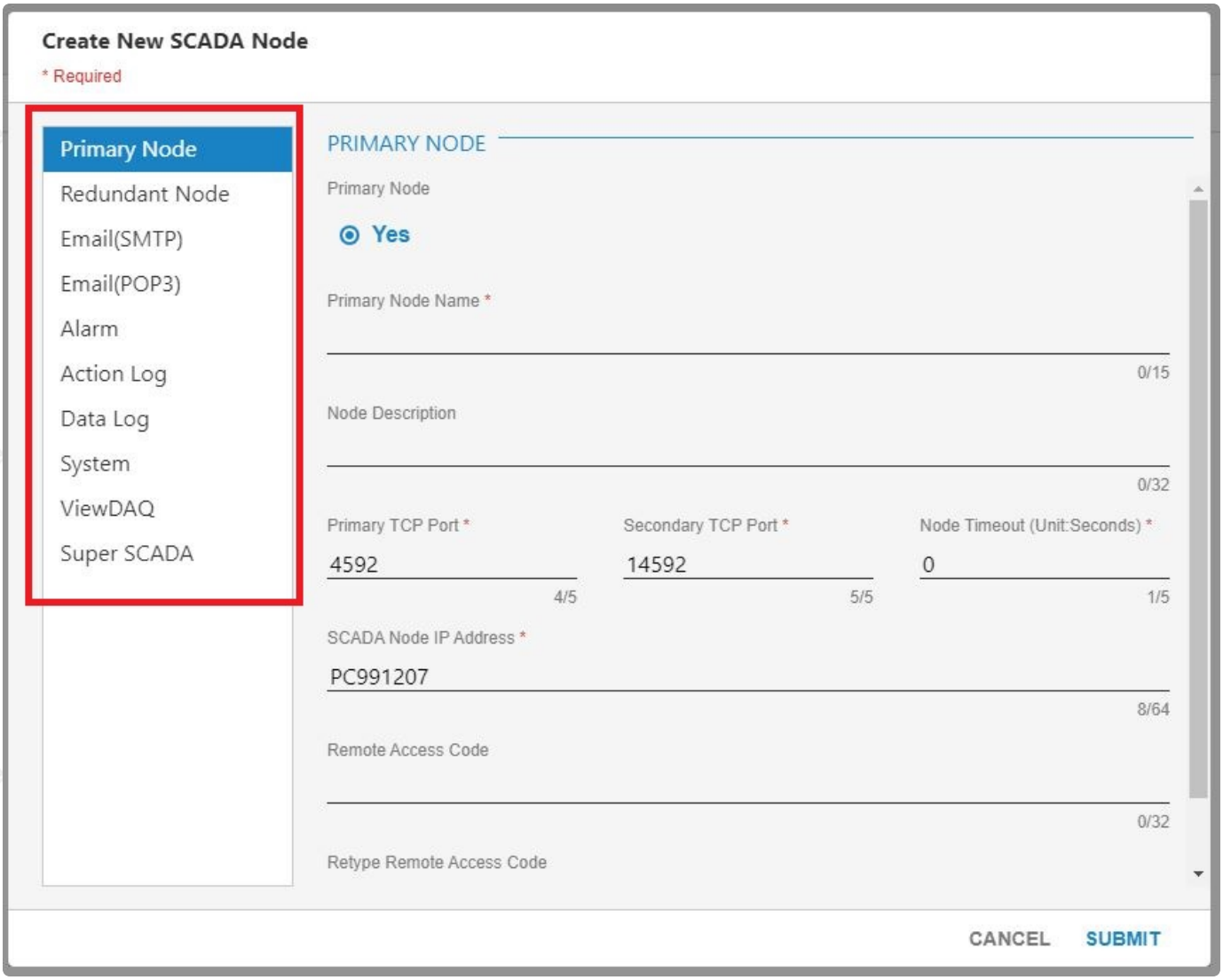
5. Optionally, enter a **Description**.
6. Enter the **IP address** of the SCADA node. The Project Node IP Address appears by default. Be sure to enter the IP Address of the SCADA node. You can also use a URL or Computer Name.
7. If connecting through a Firewall, enter the **Primary Port Number** of a TCP port assigned by your system administrator. If not using a Firewall, accept the default: 0. Note that 0 means the default primary port number (4592).
8. If connecting through a Firewall, enter the **Secondary Port Number** of a TCP port assigned by your system administrator. If not using a Firewall, accept the default: 0. Note that 0 means the default secondary port number (14592).
9. Advantech WebAccess/SCADA uses the HTTP port plus requires 2 additional TCP ports; do not use the same port number for both primary and secondary ports if you are connecting through a firewall.
10. Firewalls – Three (3) TCP ports are required. Typically port 80 is already open, this is the port for HTTP (web and ASP pages). Advantech WebAccess/SCADA needs two additional ports:
    a. Primary port (default 4592) for file transfer
    b. Secondary Port (default 14592) for real–time data
11. Port Mapping and Network Address Translation (NAT). This is were Private IP addresses of a corporate intranet use a single public IP address. The same ports described for firewall must be mapped in NAT also. For more information, see TCP Ports & Firewalls and Routers & NAT in the Security Section of this Manual or the Configuration Manual.
12. It is recommended to accept the default **Node Time Out**. **0 means the default value is used (15 seconds)**. SCADA Node Time out can range from 1 to 60 seconds. This is the time for normal communications between the SCADA Node and a VIEW Client, the Project Node and the ASP Server. If you have a very slow network connection between the Project and SCADA nodes, you may have to increase this value.
13. Enter the **Remote Access Code** for the SCADA node entered during software installation of the SCADA node software. The Project Nodes Remote Access Code appears by default. The SCADA Node and Project Node do not necessarily have the same Access Code. This Remote Access Code is to prevent unauthorized use of your SCADA node. This code was established when the SCADA Node software was installed.
14. Leave the information about Alarm Log, Printers, Action Log, Alarm Beep, email and other fields blank for now.



Choose **Yes** on **Redundant SCADA Node** if necessary. Enter its IP address, node name, firewall ports and remote access code.

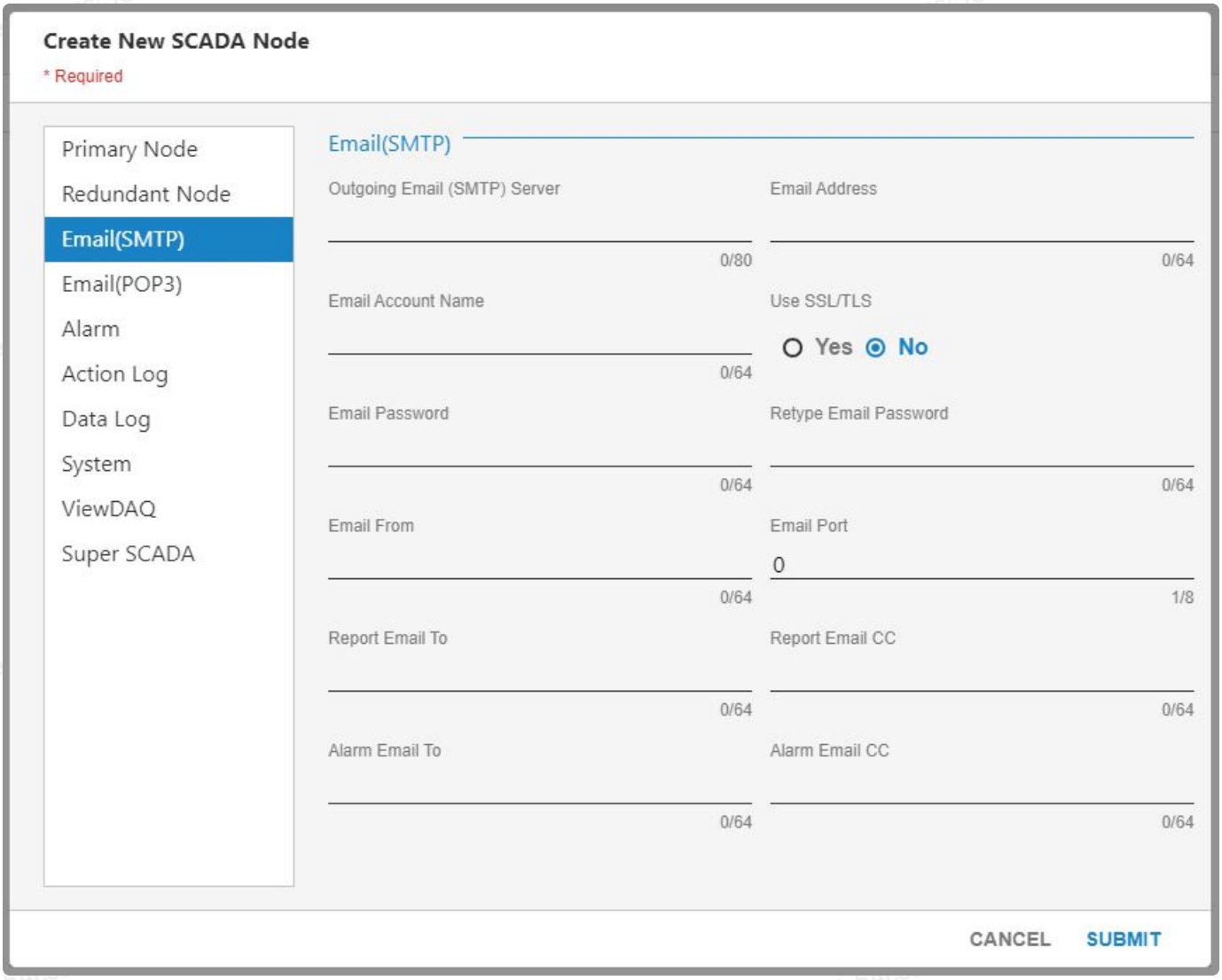
16. If you want more setting, the left navbar has other classifications: **Email(SMTP)**, **Email(POP3)**, **Alarm And Action**, **Data log**, **System**, **View** and **Super SCADA and SCADA**.

WebAccess/SCADA

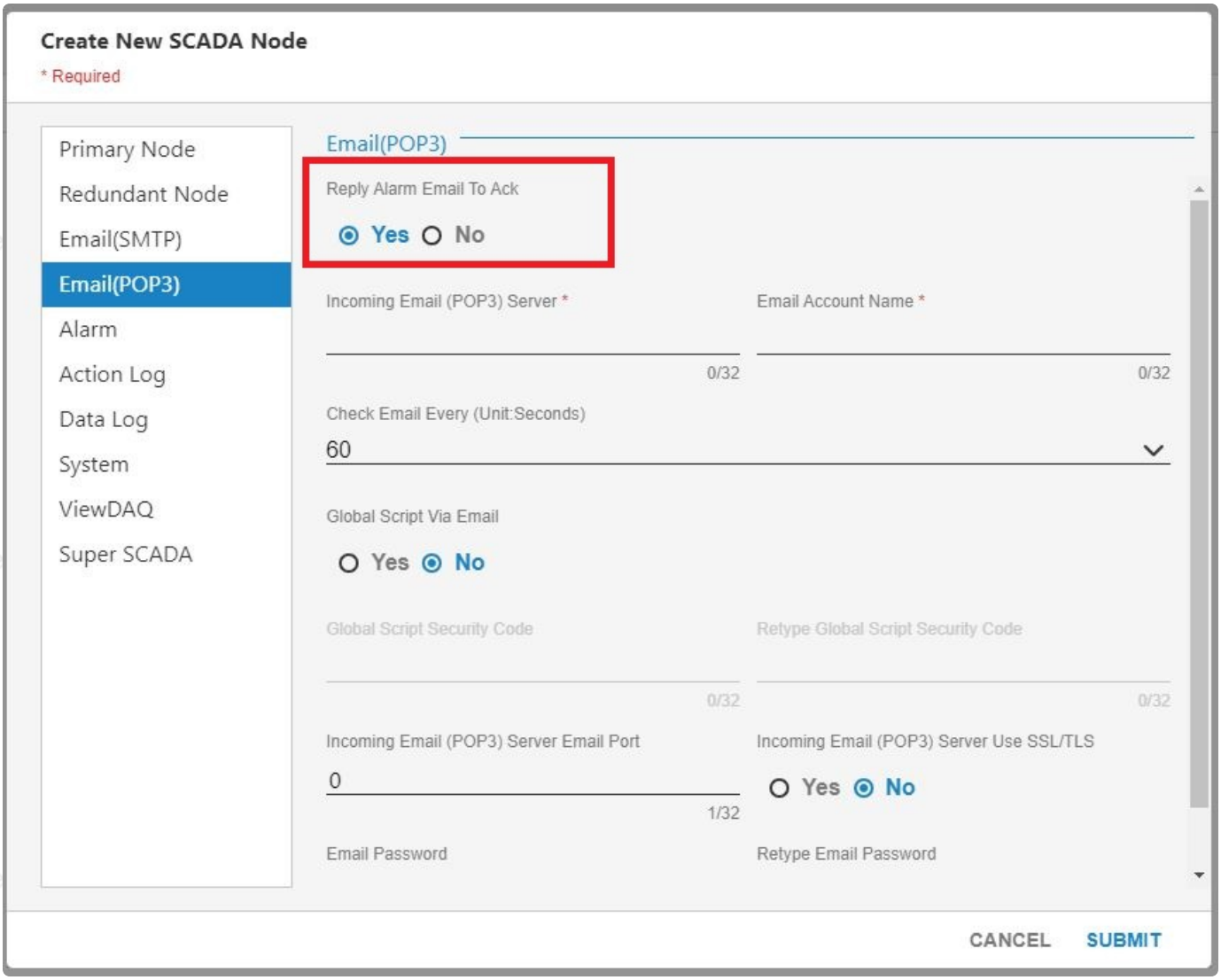


18. Enter **Email(SMTP)** information in this block.

WebAccess/SCADA

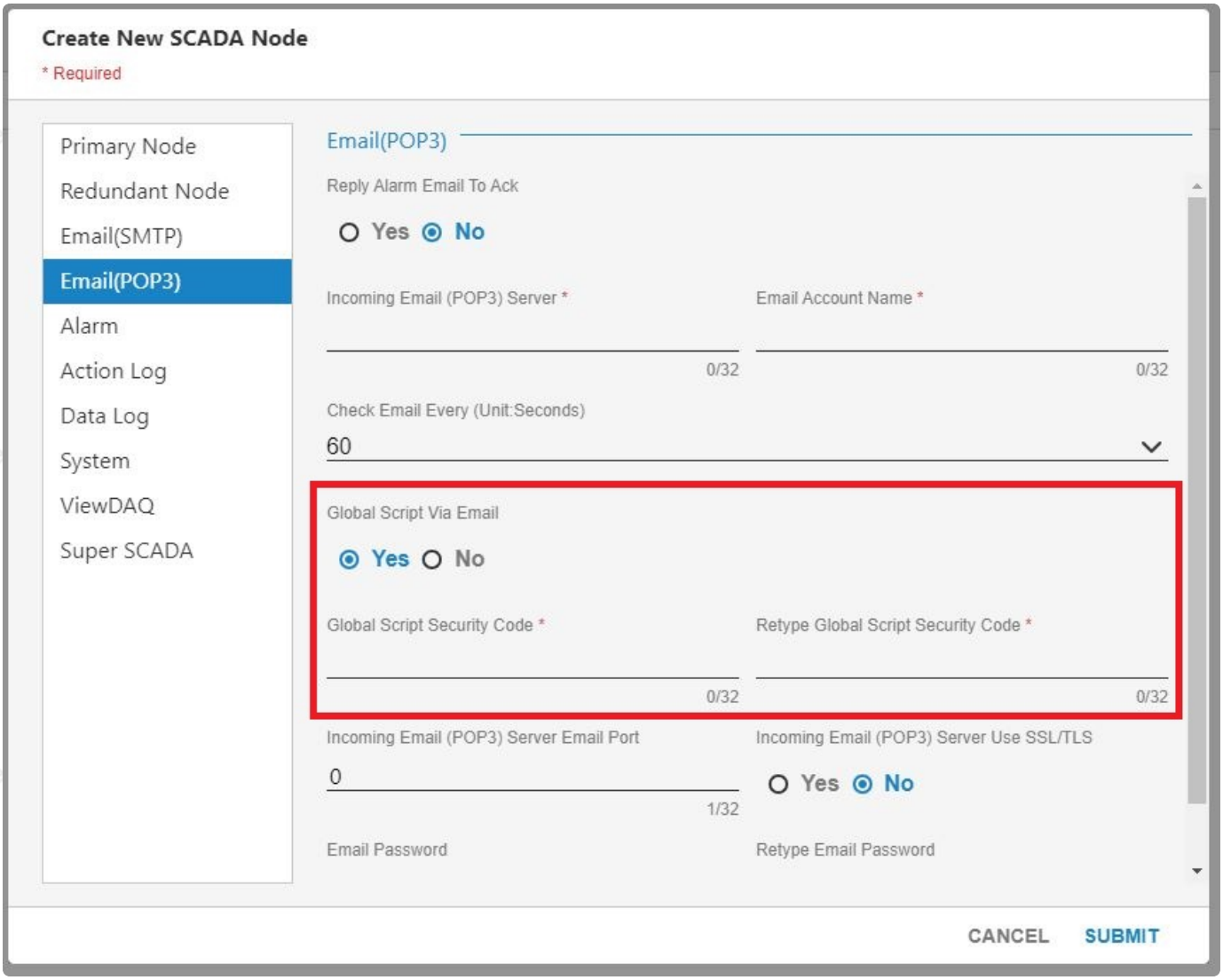


19. Choose **Yes** on **Reply Alarm Email To Ack**, then you can enter the **Email(POP3)** information in this block.



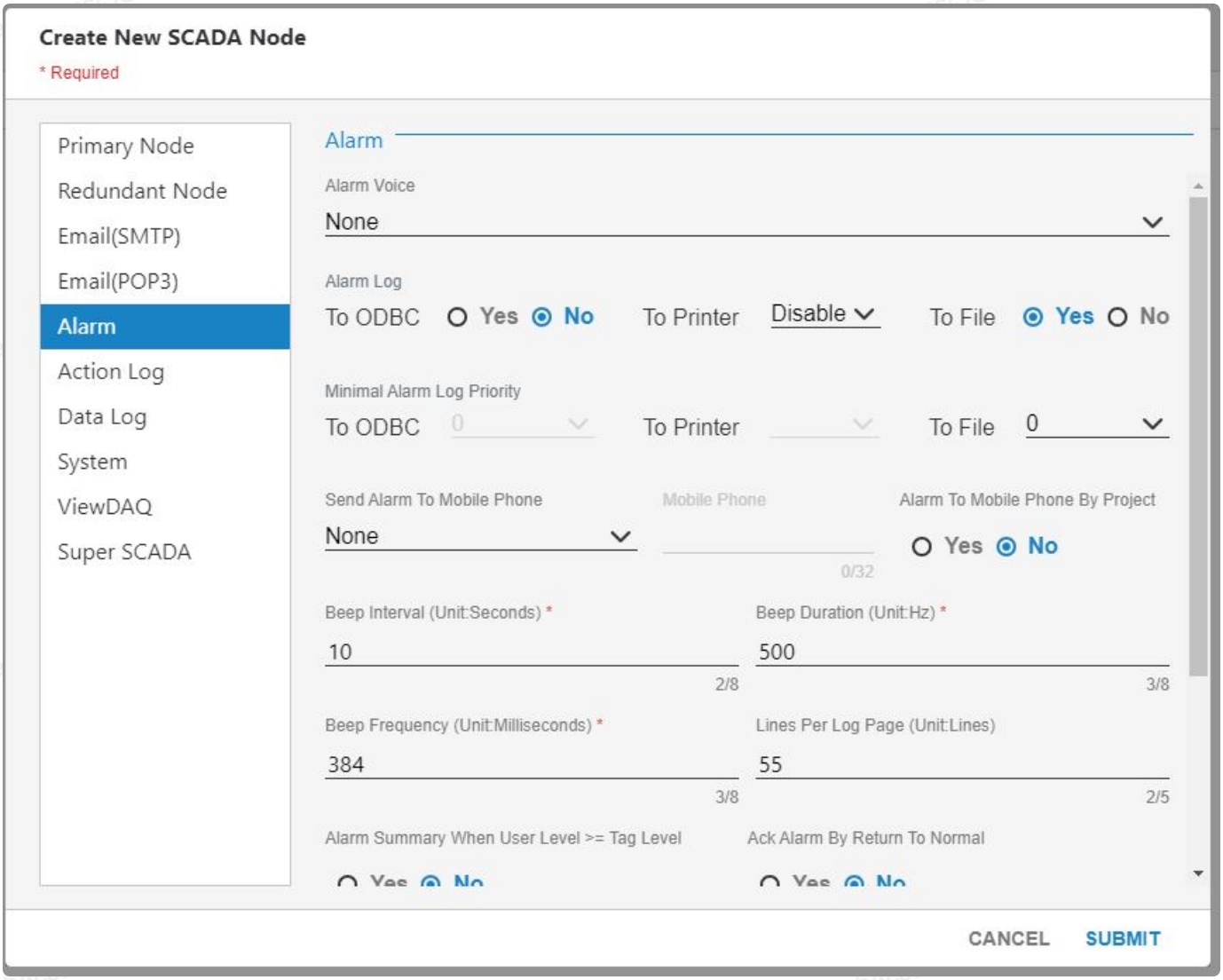
20. Choose **Yes** on **Global Script Via Email**, if you need. The **Global Script Security Code** and **Retype Global Script Security Code** is **required** when Global Script Via Email option status is Yes.

WebAccess/SCADA

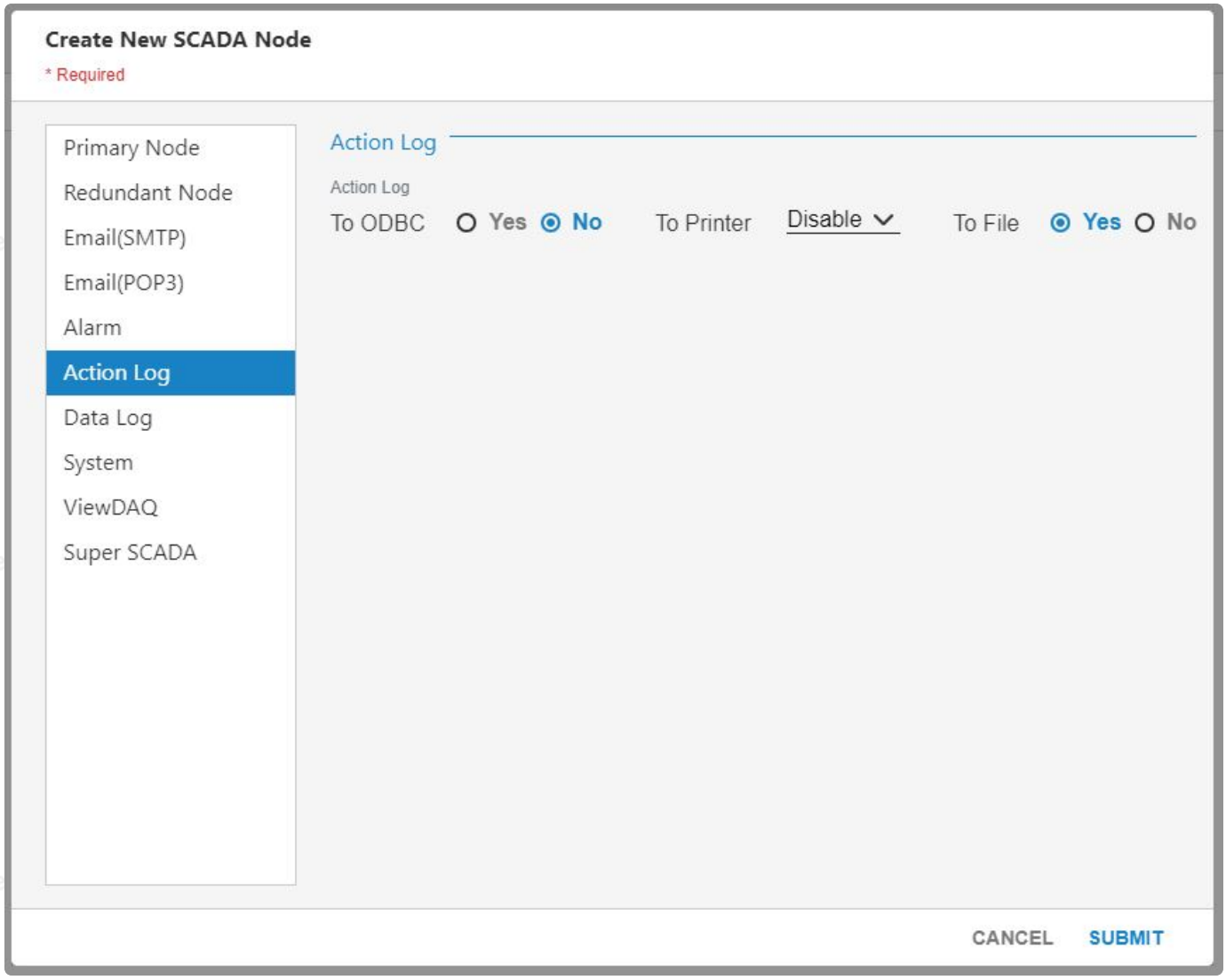


21. Enter **Alarm** information in this block.

WebAccess/SCADA

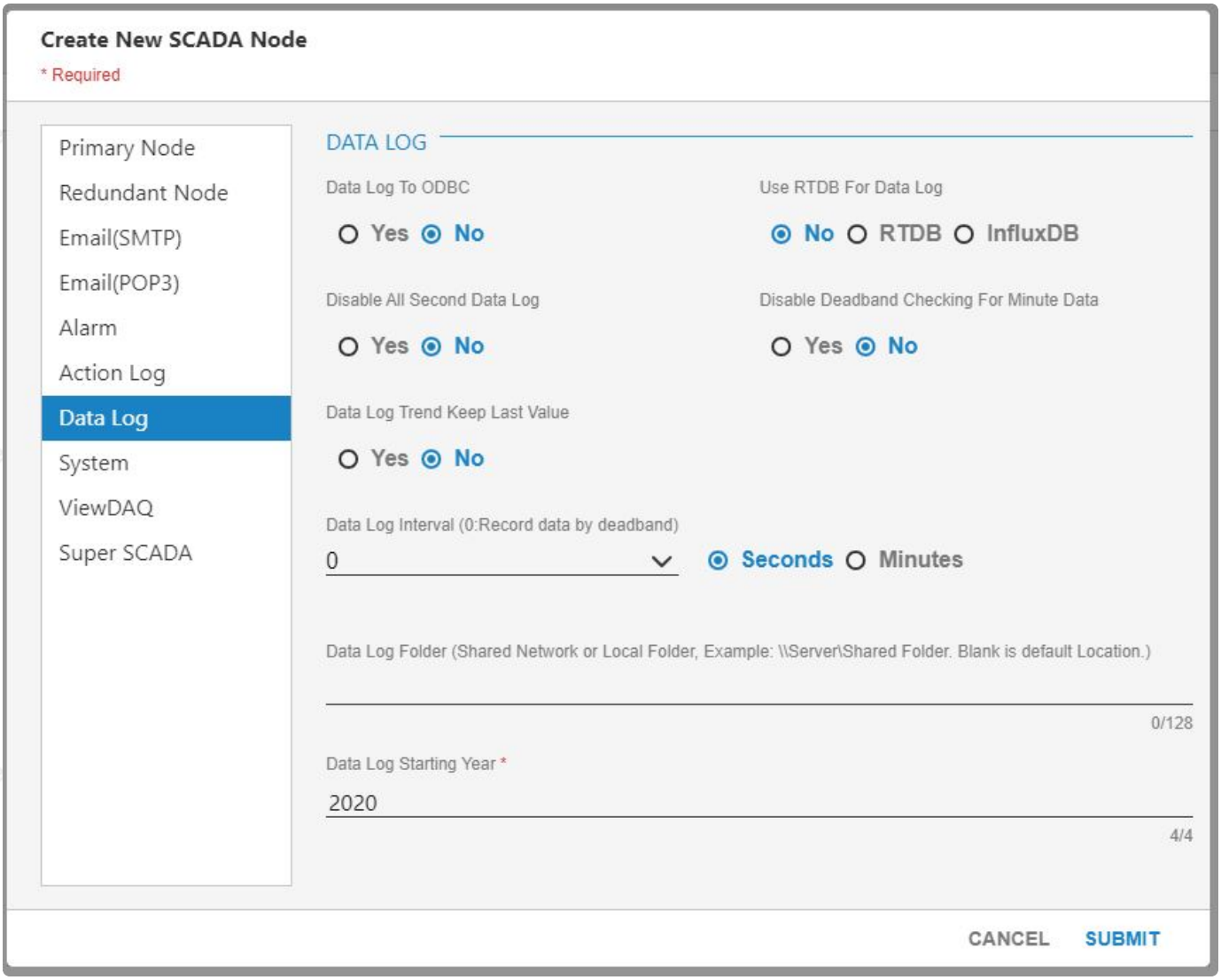


22. Enter **Action Log** information in this block.



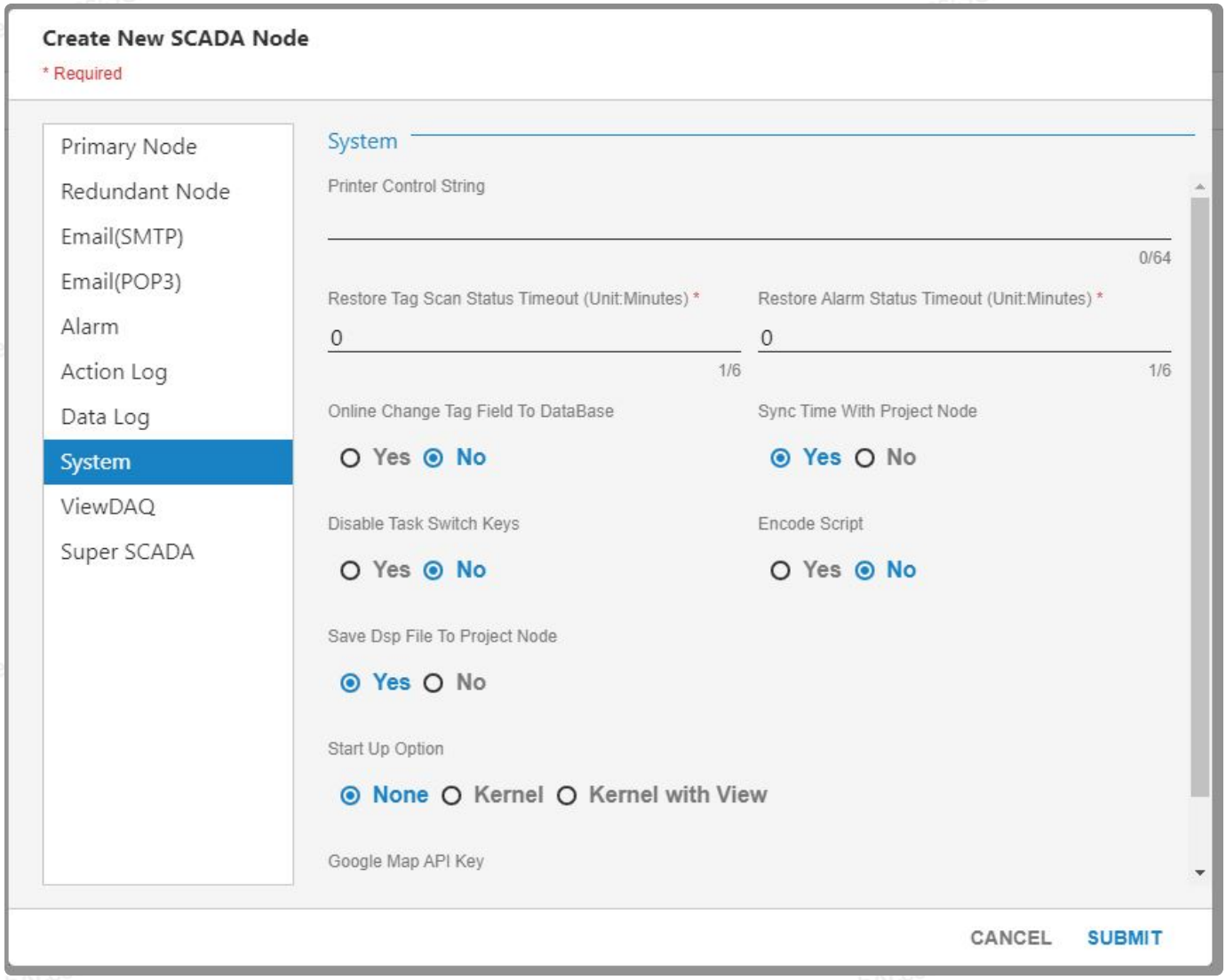
23. Enter **Data Log** information in this block.

WebAccess/SCADA



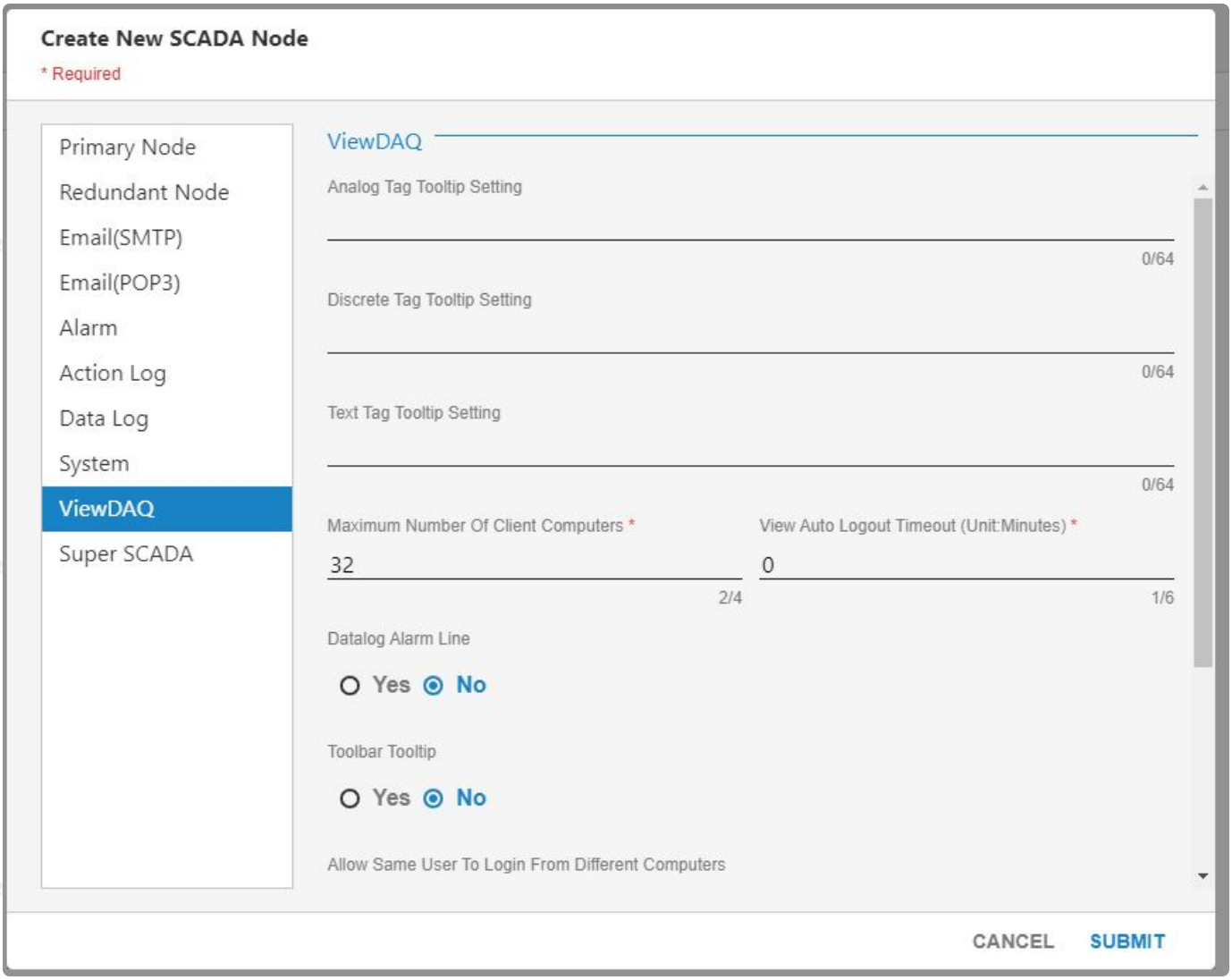
23. Enter **System** information in this block.

WebAccess/SCADA



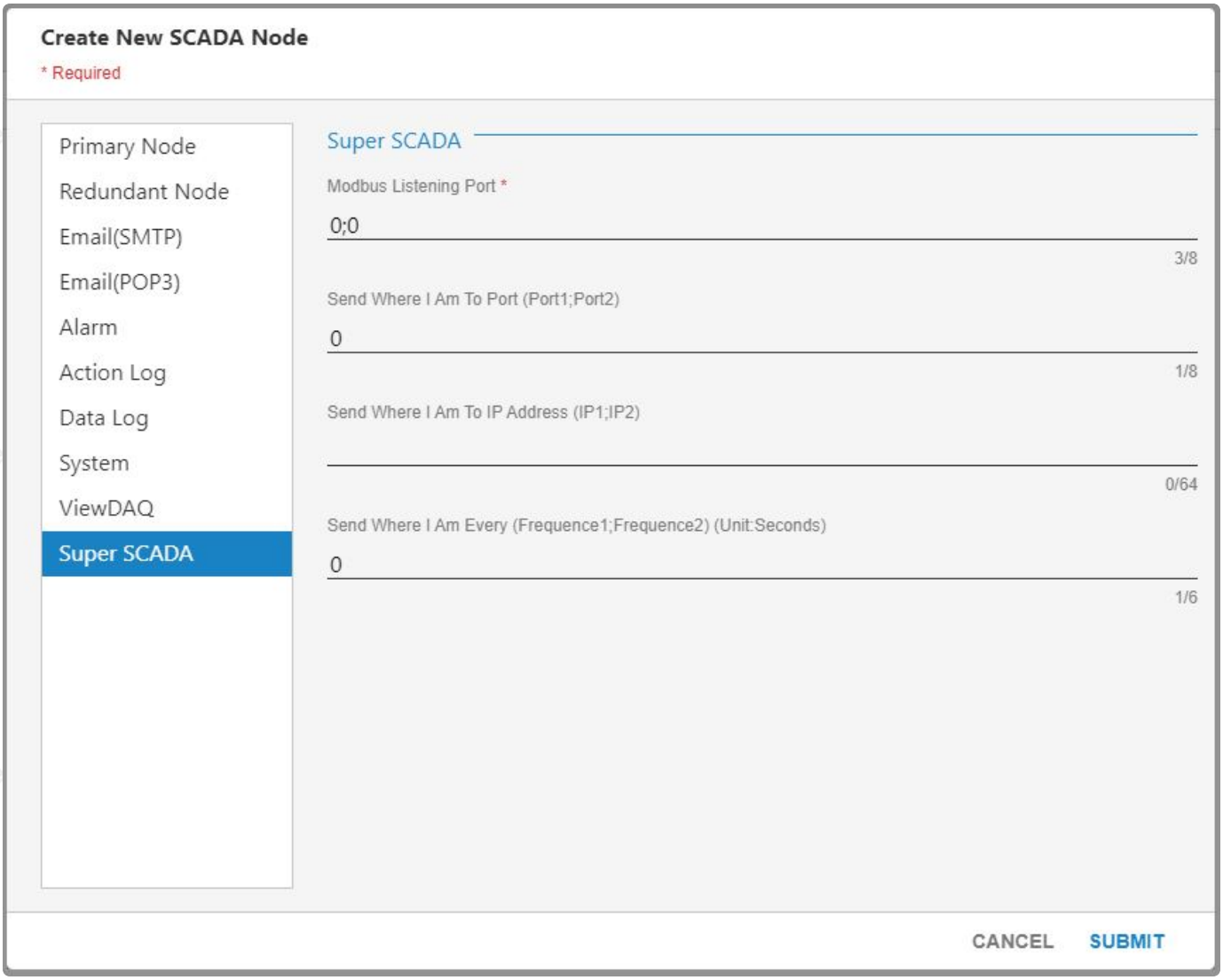
24. Enter **ViewDAQ** information in this block.

WebAccess/SCADA

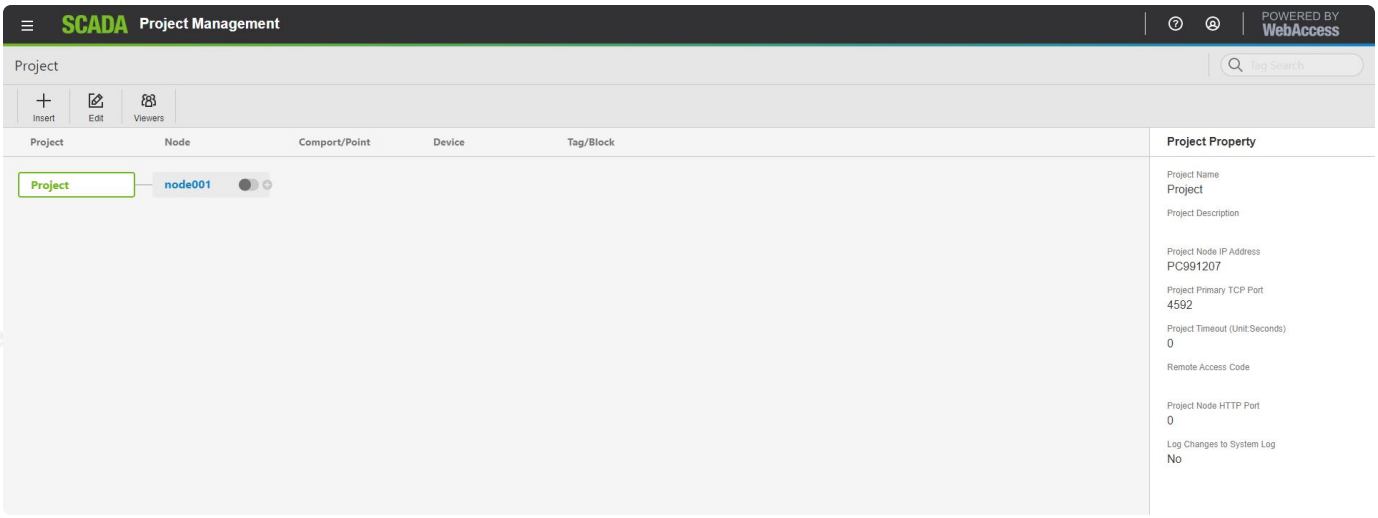


25. Enter **Super SCADA** information in this block.

WebAccess/SCADA



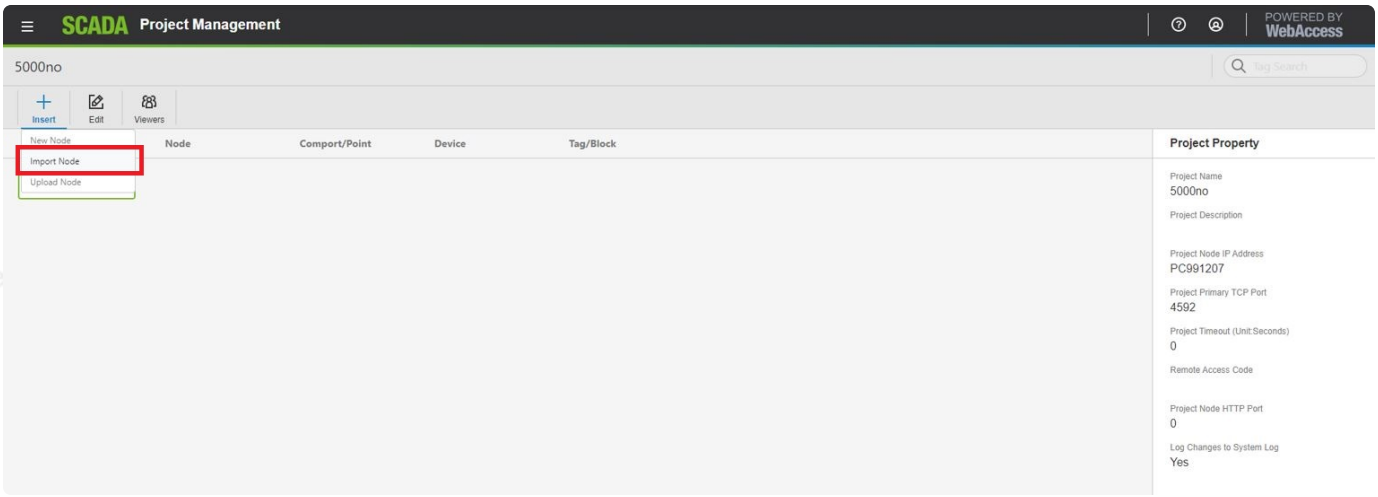
26. You will see the node under the project.

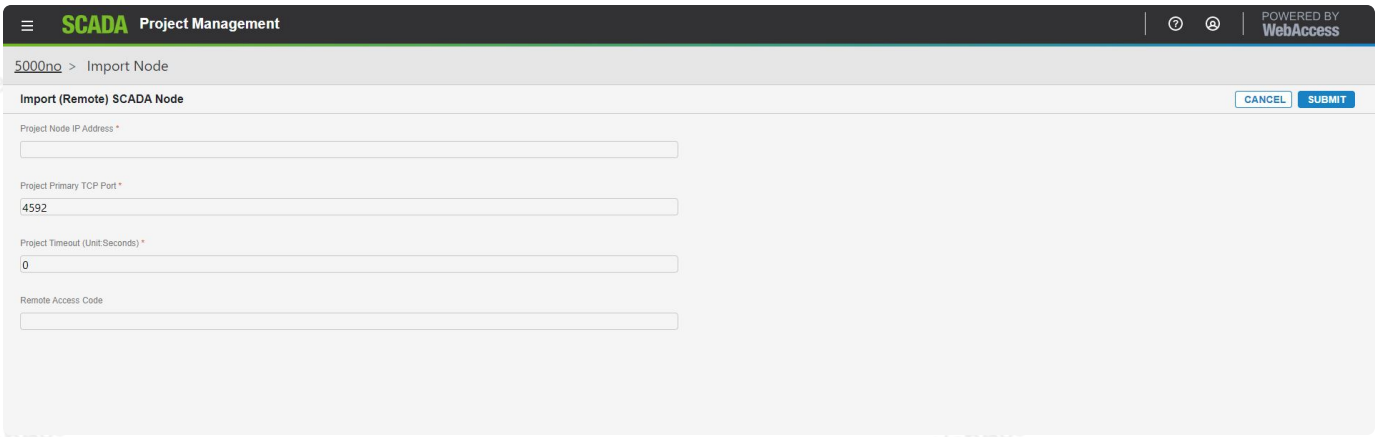


Import SCADA Node

Imports a SCADA node from another Project. All Tags, Blocks, Graphics, Scripts, Keymacro Files, Recipes, Schedules, etc. Everything. Import SCADA Node allows you to both Merge Projects and Split projects up.

1. Select your Project.
2. Click **Insert** classification on top banner, then select **Import Node**.

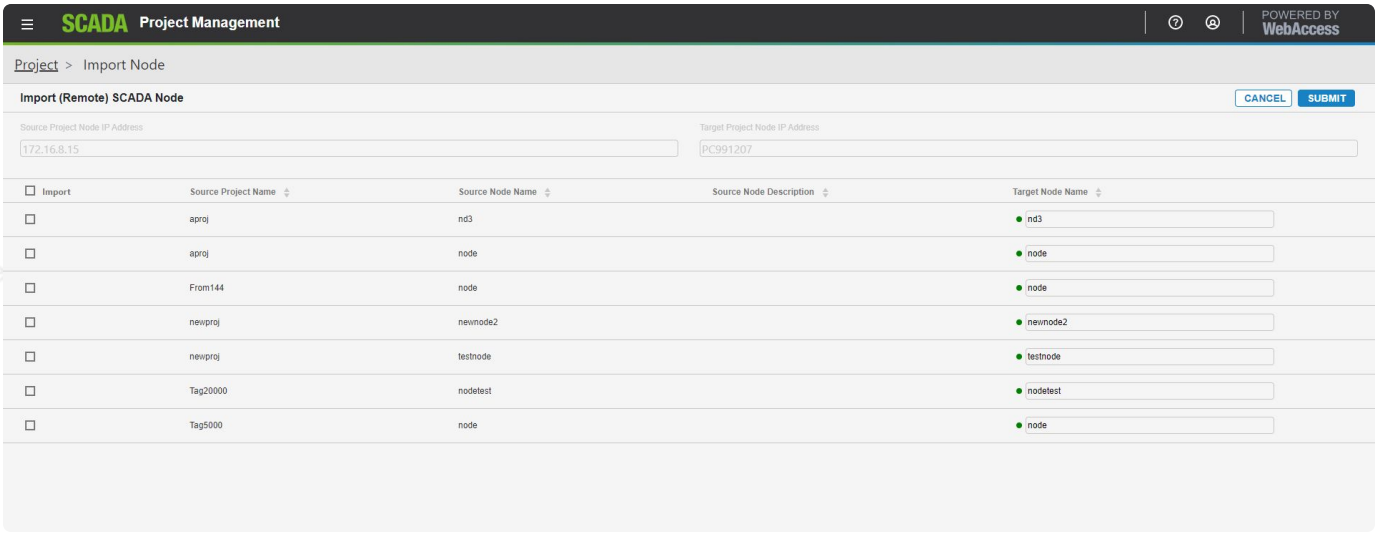




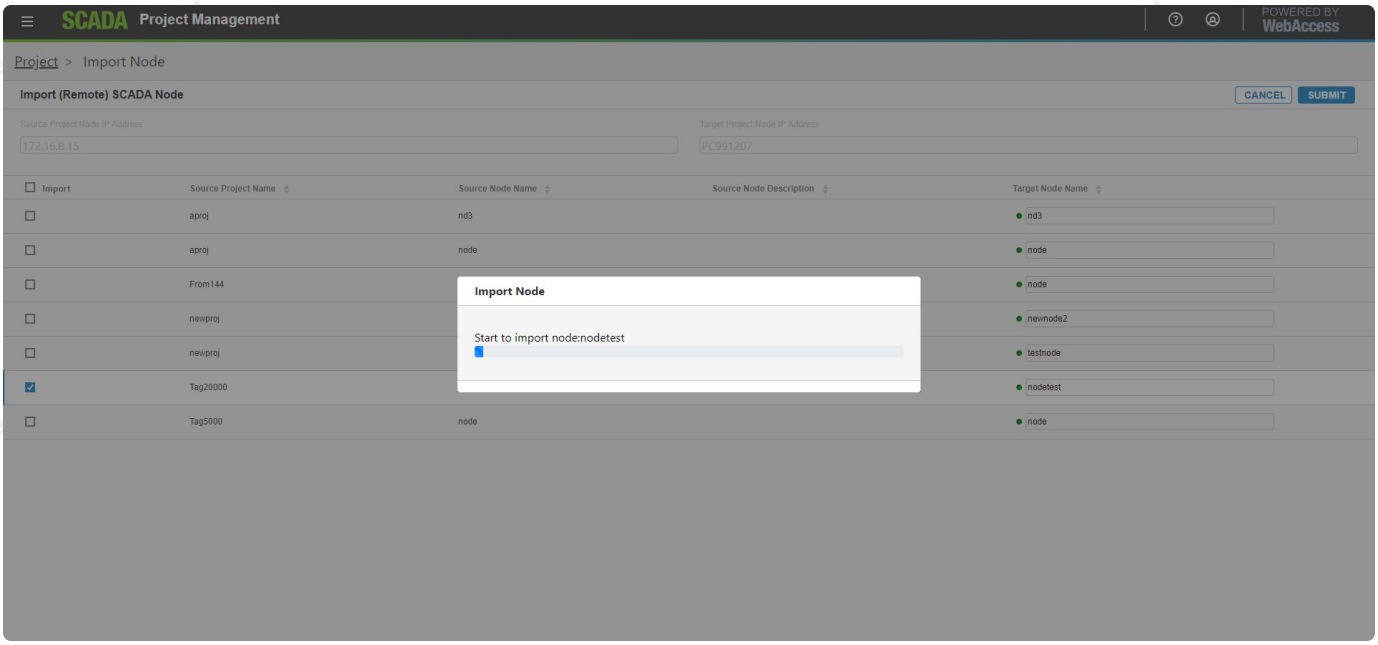
3. Enter **IP address** or URL of remote Project Node.
4. Enter Project **Primary TCP Port** .
5. Enter **Remote Access Code**.

> *Note – A Remote Access Code prevents others from copying your SCADA node*

6. A new page appears listing SCADA Nodes in the remote project.

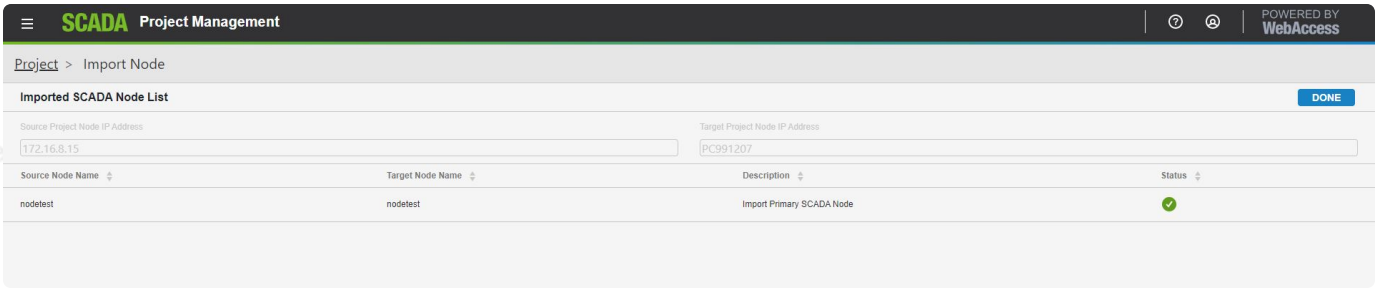


7. Optionally, check **Import** box to import all SCADA nodes.
8. Check the box for each SCADA node to be imported (if you are not importing all SCADA nodes.
9. Optionally Rename the new SCADA Nodes to be imported.
10. Submit.
11. A dialog will show progress of the import.

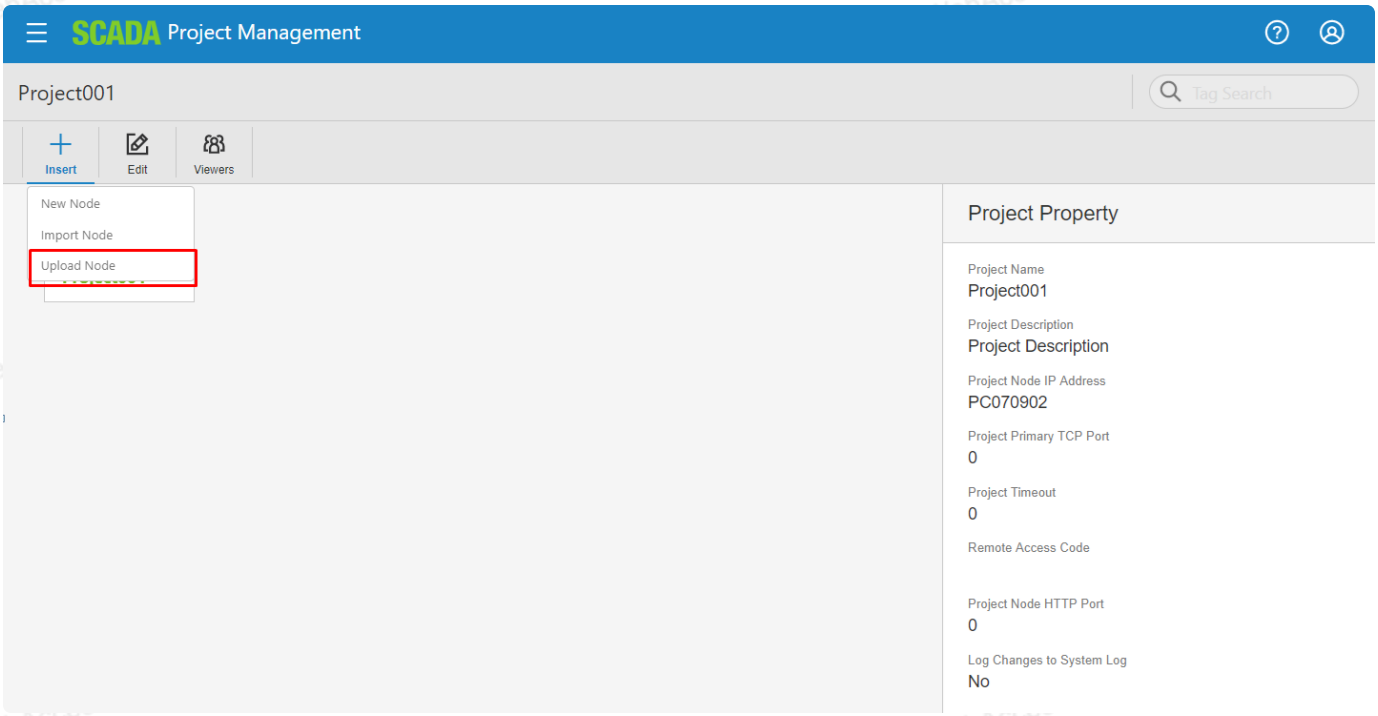


12. A success report should appear.

WebAccess/SCADA

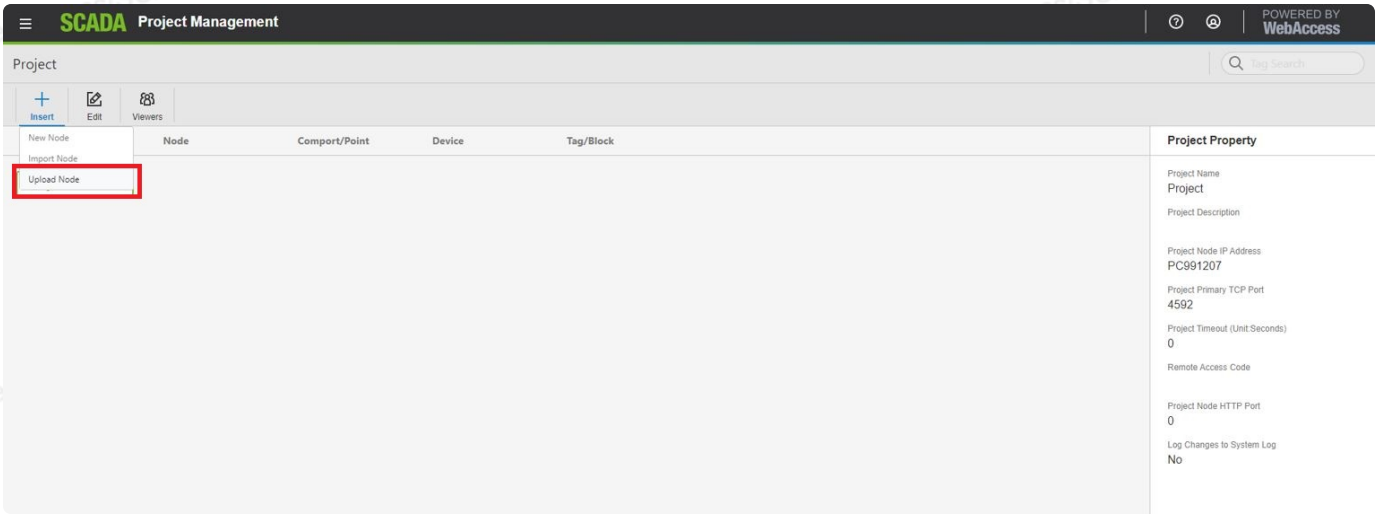


Upload SCADA Node

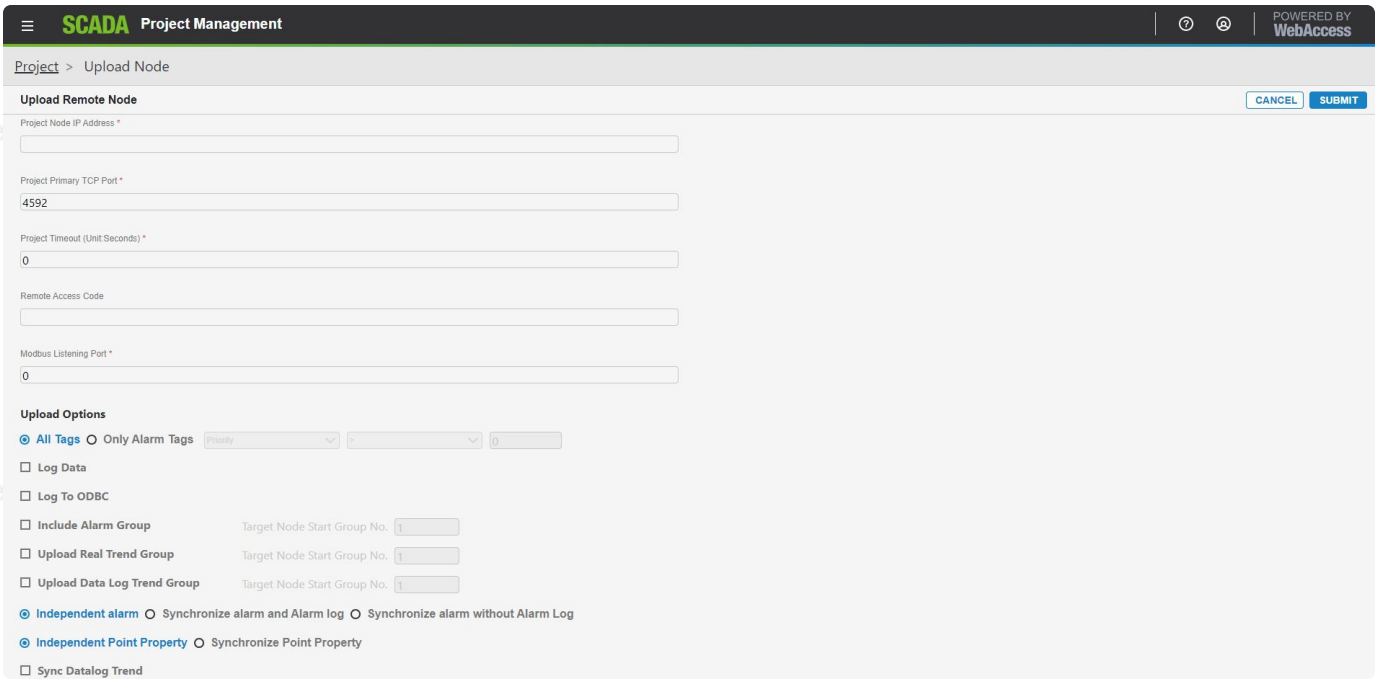


1. Select your Project.
2. Click **Insert** classification on top banner, then select **Upload Node**.

WebAccess/SCADA



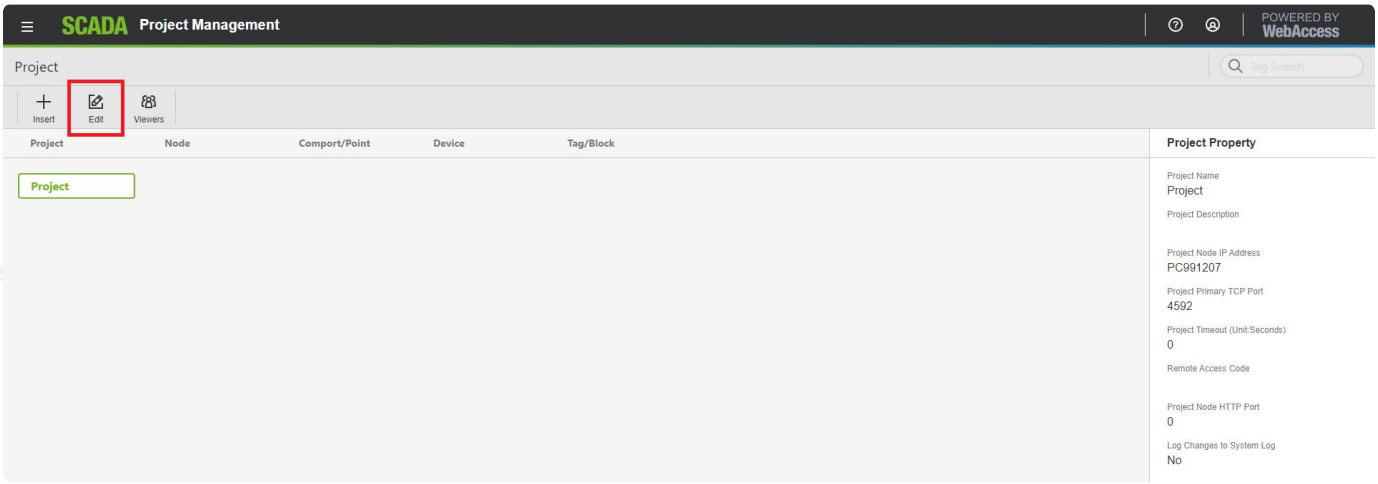
3. Enter **Project Node IP Address, Project Primary TCP** Port and other information.

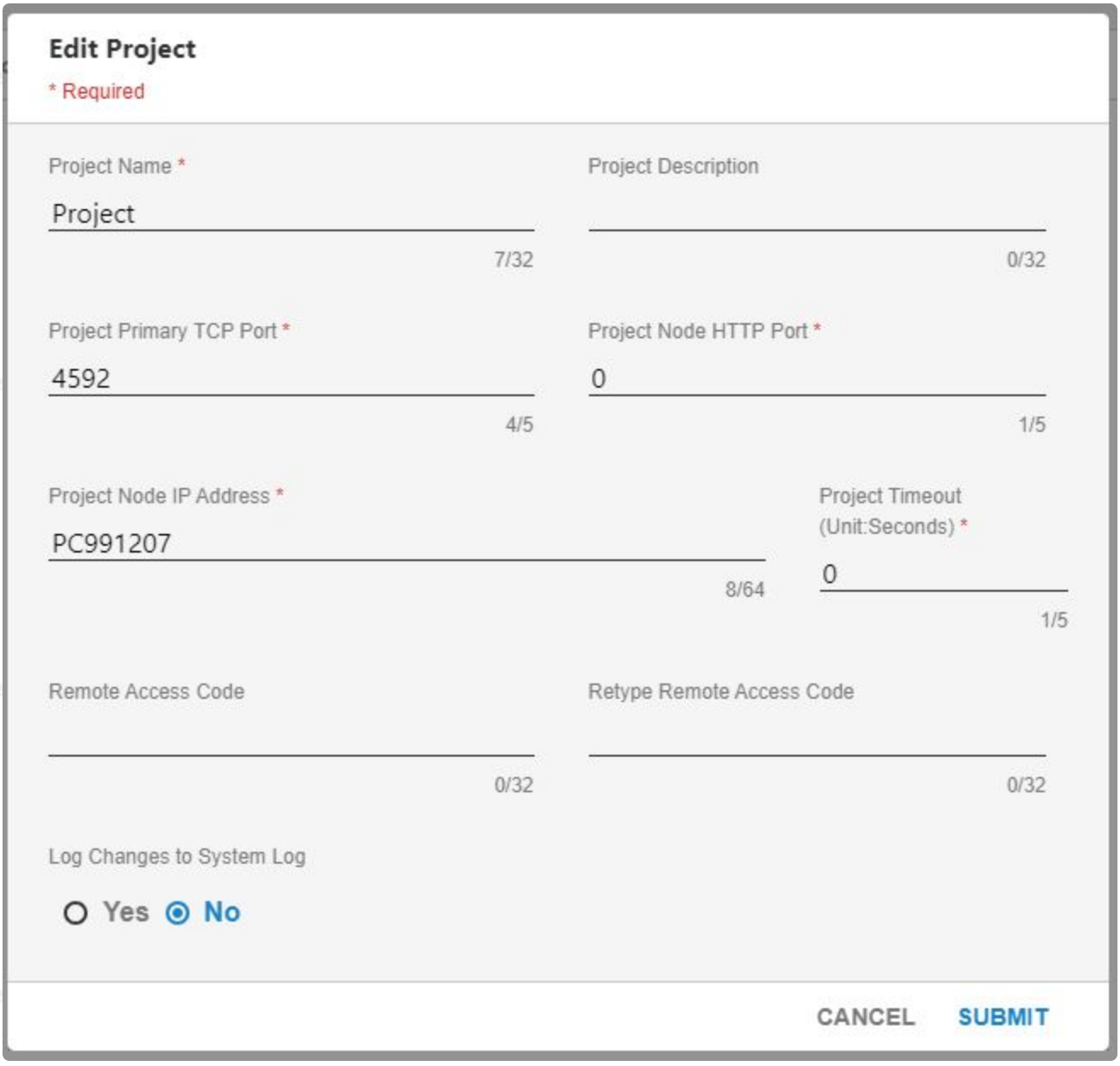


4. Submit.

Edit SCADA Node

1. Select your Project.
2. Click **Edit** on top banner.

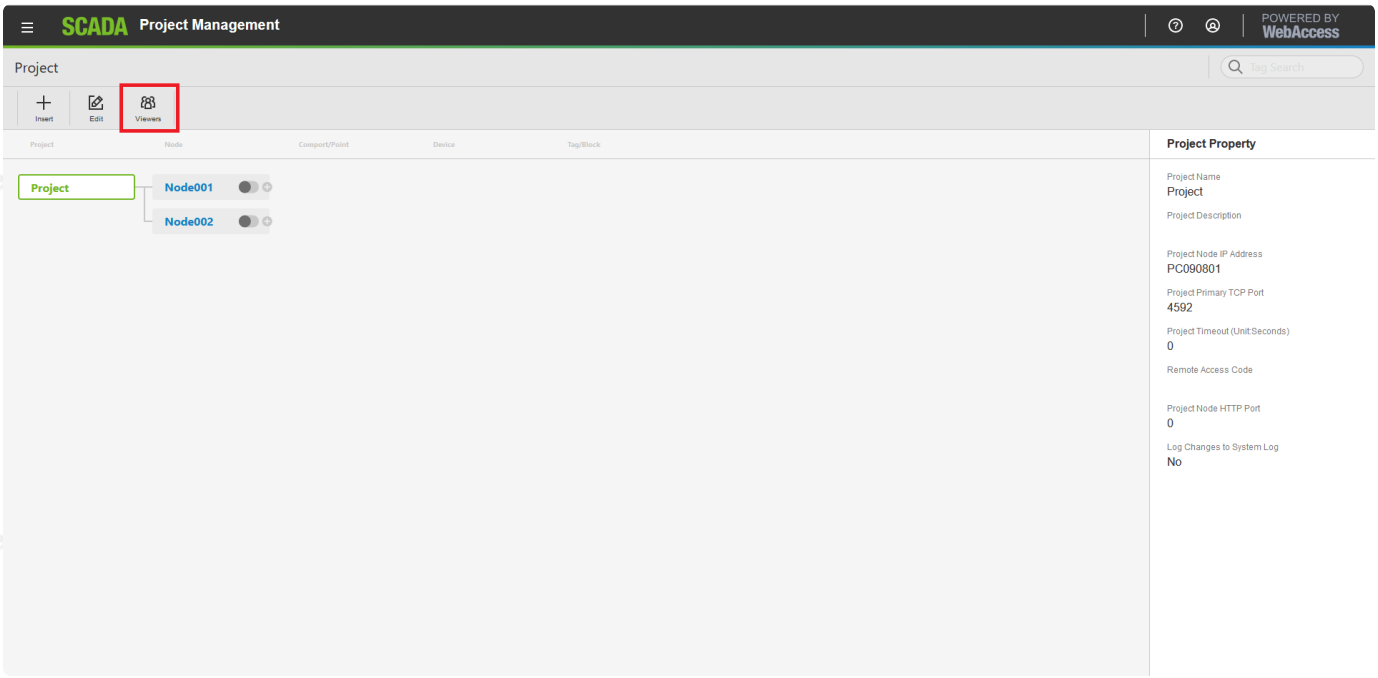

SCADA Project Management
POWERED BY WebAccess
Project
Insert
Edit
Viewers
Project
Node
Comport/Point
Device
Tag/Block
Project
Project Property
Project Name
Project
Project Description
Project Node IP Address
PC991207
Project Primary TCP Port
4592
Project Timeout (Unit:Seconds)
0
Remote Access Code
Project Node HTTP Port
0
Log Changes to System Log
No


Edit Project
* Required
Project Name *
Project
7/32
Project Description
0/32
Project Primary TCP Port *
4592
4/5
Project Node HTTP Port *
0
1/5
Project Node IP Address *
PC991207
8/64
Project Timeout (Unit:Seconds) *
0
1/5
Remote Access Code
0/32
Retype Remote Access Code
0/32
Log Changes to System Log
Yes
No
CANCEL
SUBMIT

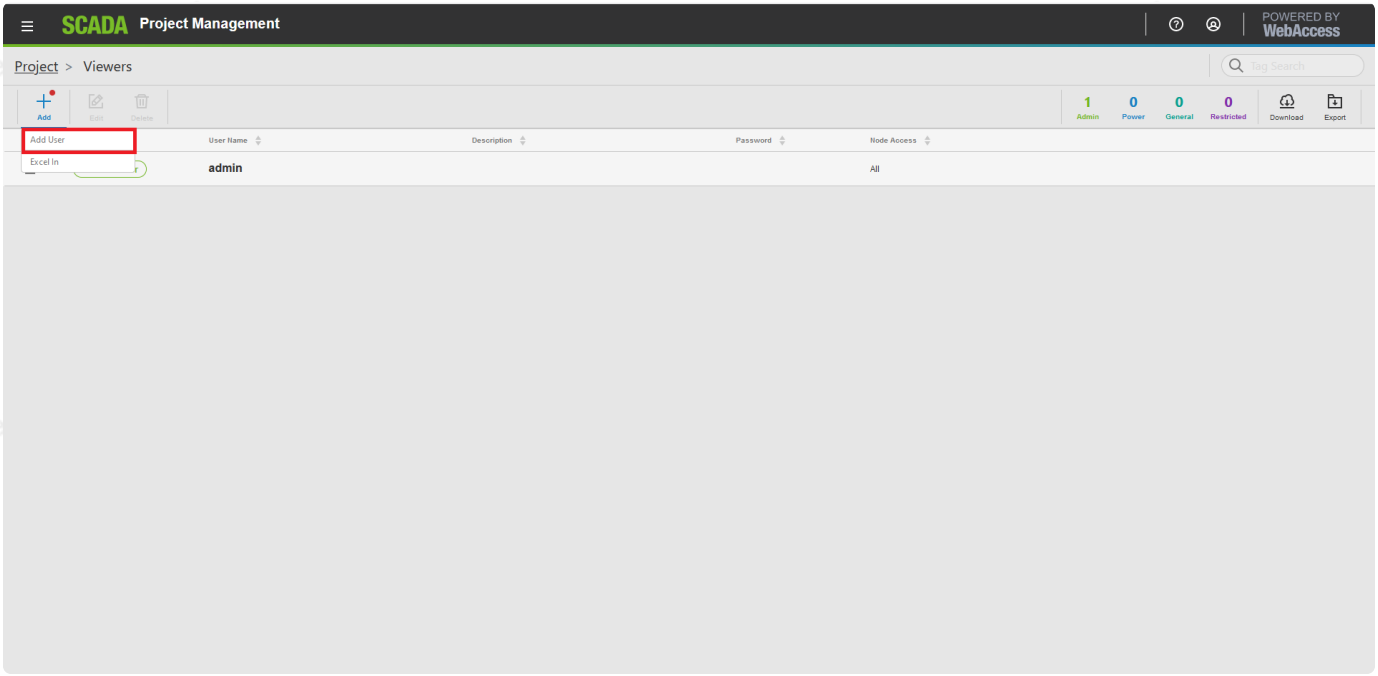
3. Modify the information you need.
4. Submit.

Add Viewers

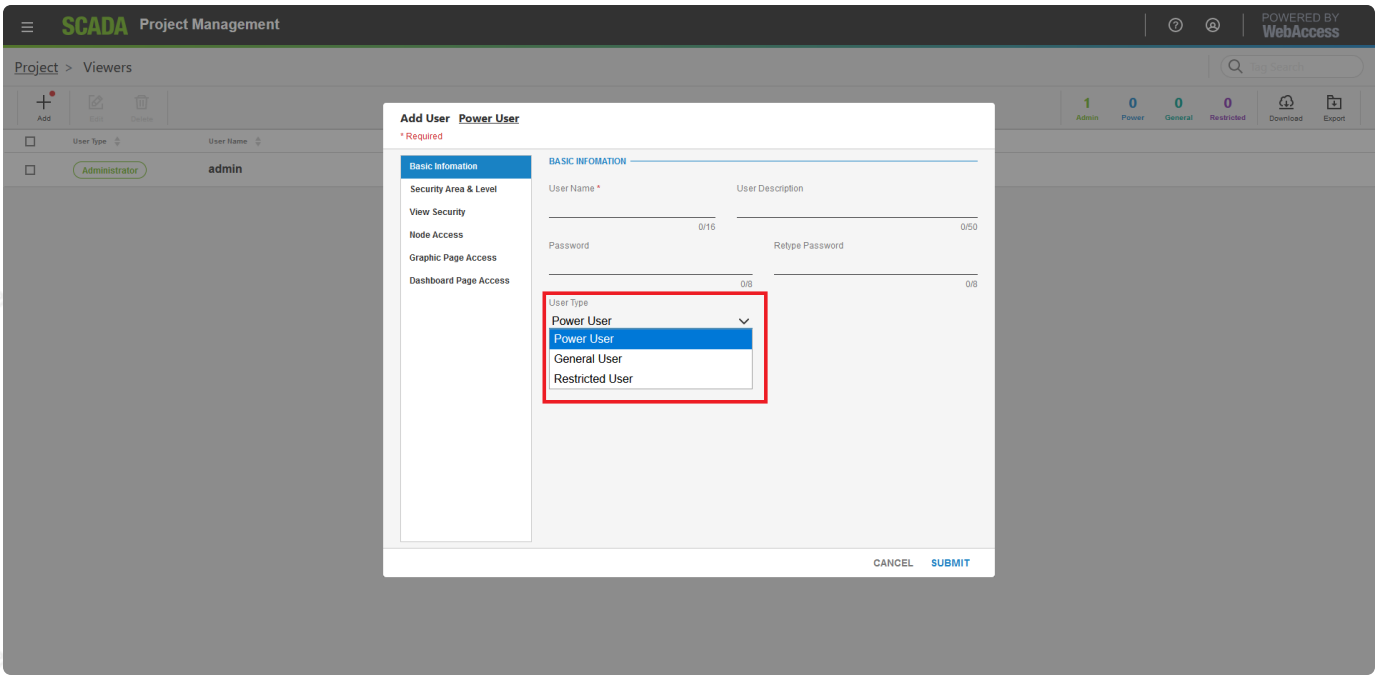
1. Select your Project, then click **Viewers** on top banner.



2. Click **Add** and select **Add User.**



3. Select **User Type**.



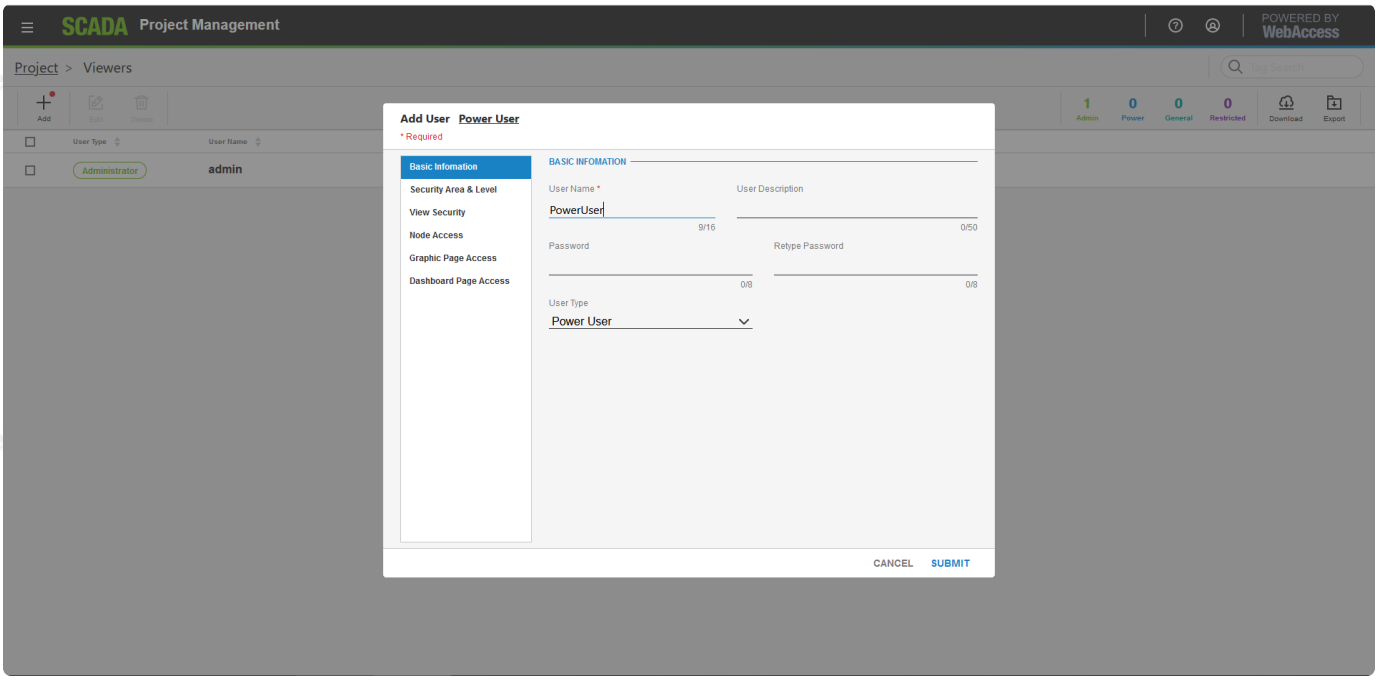
- **Power User**
  a. Access all user–built displays through Web Browser.
  b. All System Displays including Action Log, Alarm Log, User Programs and Station Status Displays through Web Browser.
  c. Access all tags through Point List through Web Browser.
  d. Can View Scheduled Reports and ODBC Logs from the Tools Menu in VIEW.

- **General User**
  a. Access all user–built displays through Web Browser.
  b. Cannot view System Displays: Action Log, Alarm Log, User Programs and Station Status Displays through Web Browser.
  c. Access all tags through Point List through Web Browser.

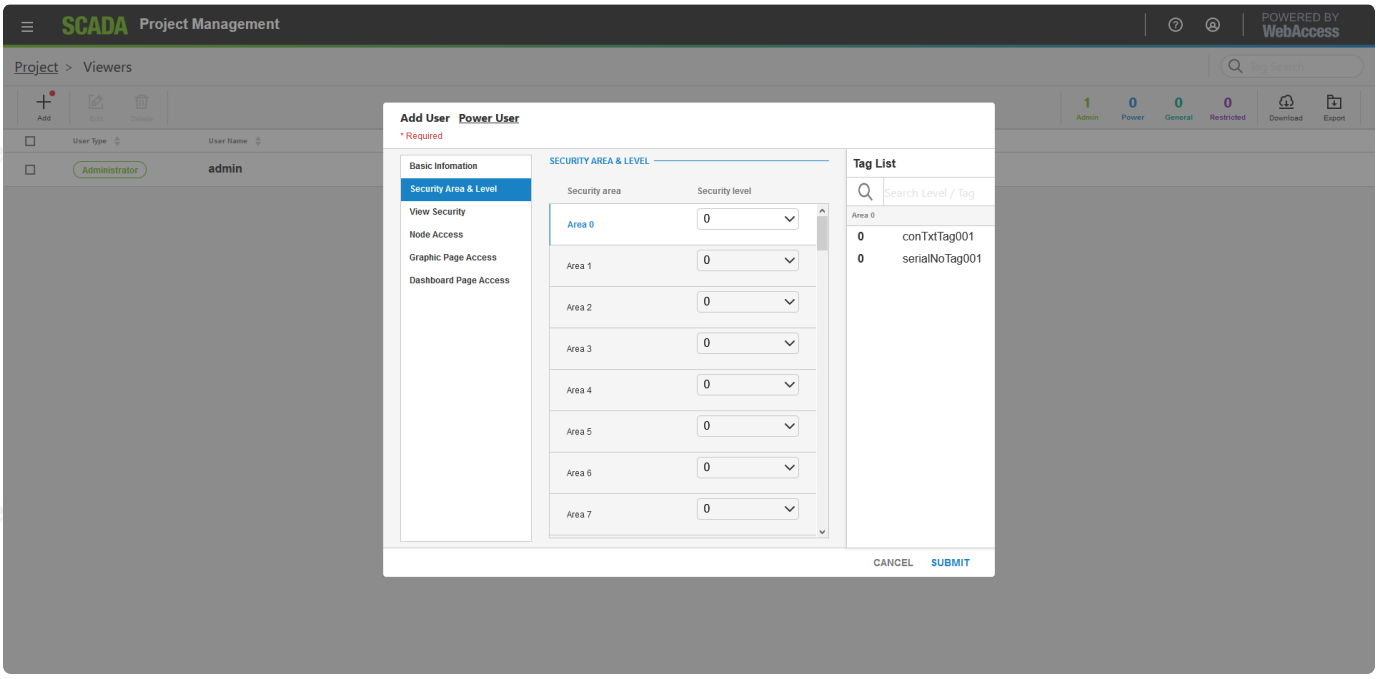
- **Restricted User**
  a. Must be assigned a default graphic on each SCADA in order to access any graphic displays on that SCADA Node through Web Browser. If no default graphic assigned, users cannot access that SCADA Node.
  b. Access only Specified Displays through a web browser. A maximum of 100 displays are available to a restricted user through a web–browser connection. (20 plus the default graphic).
  c. Access **Point Detail** and **Block Detail** Display of any tag on those graphics.

d. Cannot view **Alarm Summary**, **Overviews, Faceplates Groups, Trends** or **Alarm Groups** through Web Browser.
e. Cannot view System Displays **(Action Log, Alarm Log, User Programs and Station Status Displays)** through Web Browser.
f. Cannot view **Scheduled Reports, Scheduler, Logs** or other functions from the Tools Menu through a Web Browser.
g. Can view only tags appearing on assigned graphic displays in the **Point List.**
h. Acknowledge Alarms on assigned Displays with ACK enabled under Graphic Page Access (User Properties) by an engineer or technician using Project Manager.
i. Change Values on assigned Displays with Change enabled under Graphic Page Access (User Properties) by an engineer or technician using Project Manager
j. Display access restrictions apply only to Web Browser based clients. Restricted User can view all displays and can acknowledge all alarms in ViewDAQ (local SCADA node).
k. Restricted user account can be assigned different Display access on each SCADA node. If the user is to access multiple SCADA nodes in your project, the user account must be assigned at least one display on each SCADA node. Having access to one SCADA node does not guarantee access to other SCADA nodes in the system.

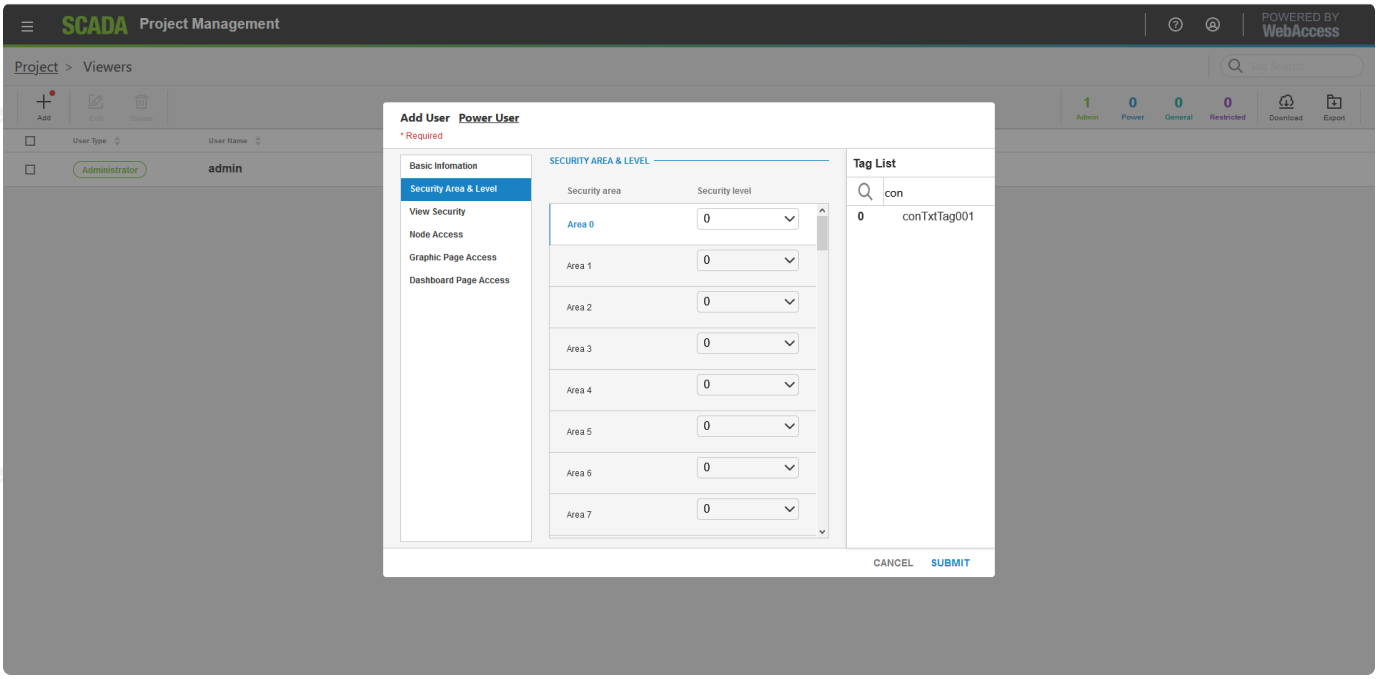
4. Enter the information in **Basic Information** block.



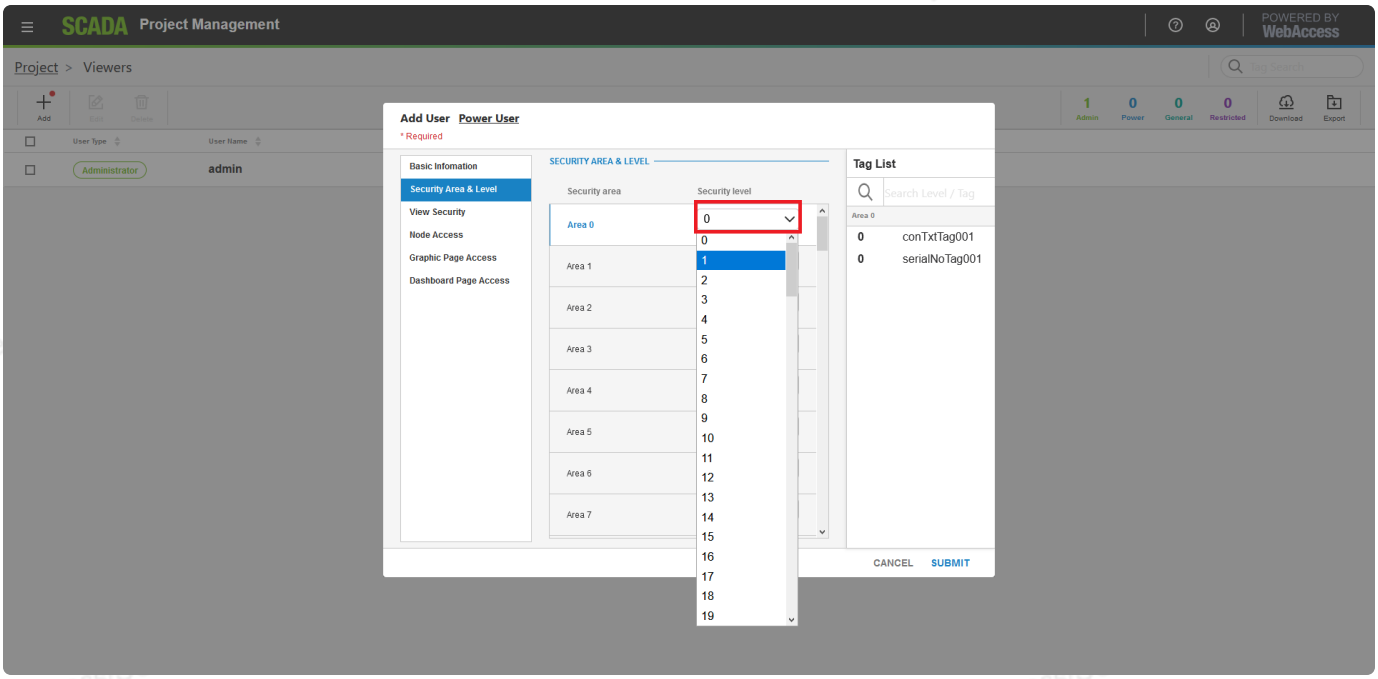
5. The Password can be up to **8 characters** and is case sensitive. There is no way to view the existing password. If you forgot it, you have to set a new password.
6. Enter the information in **Security Area & Level** block.



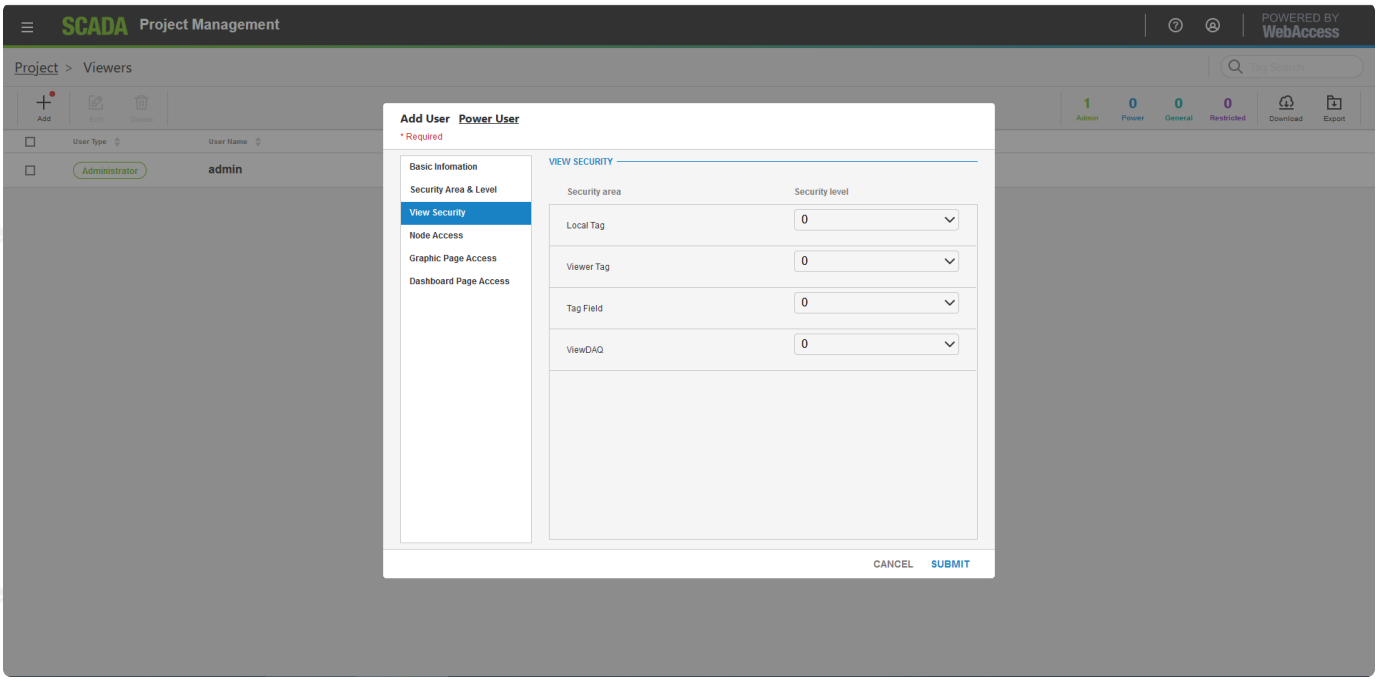
7. **Area** corresponds to the Security Area the tags are assigned a user may change. To change the value of a Tag, users must be assigned a Security Level greater or equal to the Level assign to the Tag in the same Area the Tag is assigned. A user may have a different Level for each Area of the project that the user is to access. Security Level can be from 0 to 127. (127 = admin) How many Areas you divide your plant by your design. Many projects start with only one Area (Area 0). Area 0 is the default for tags. You can leave unused Areas unchanged and fill in Level only for Areas that apply.
8. You can **search** current area **tag** in Tag List box.



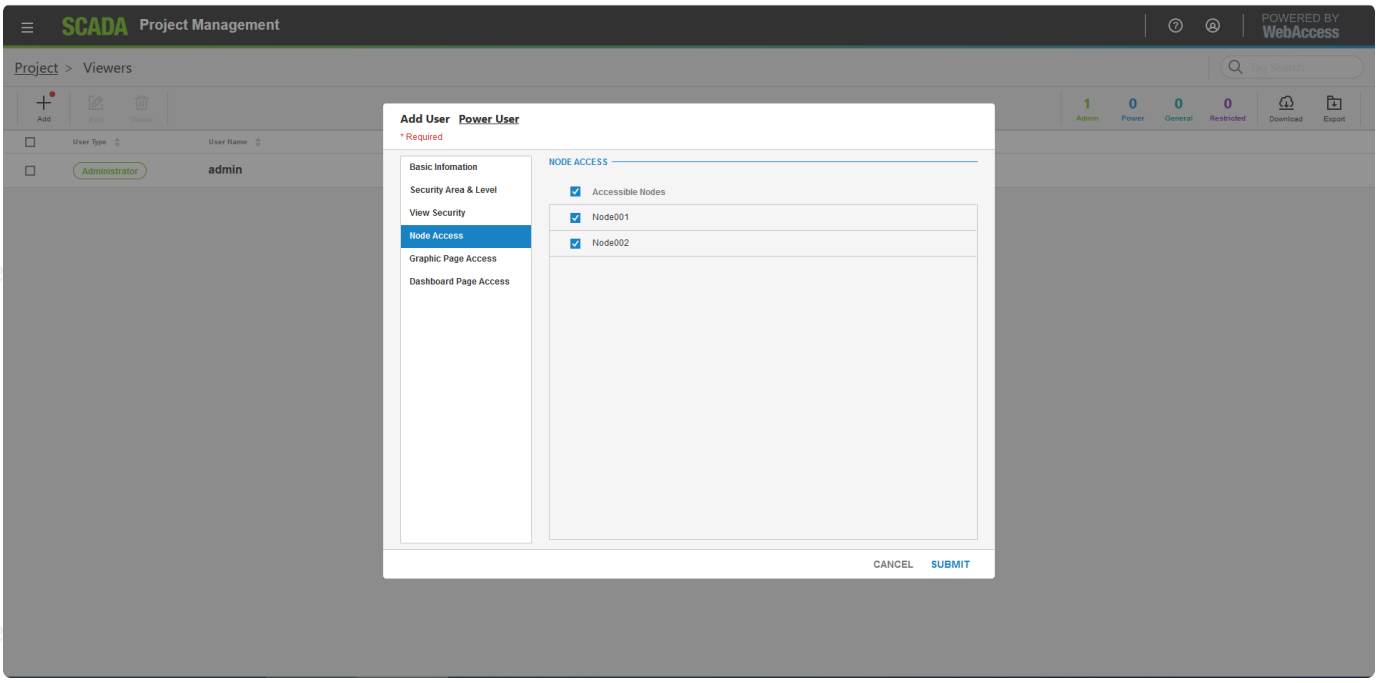
9. Select **Security Level** in every area.



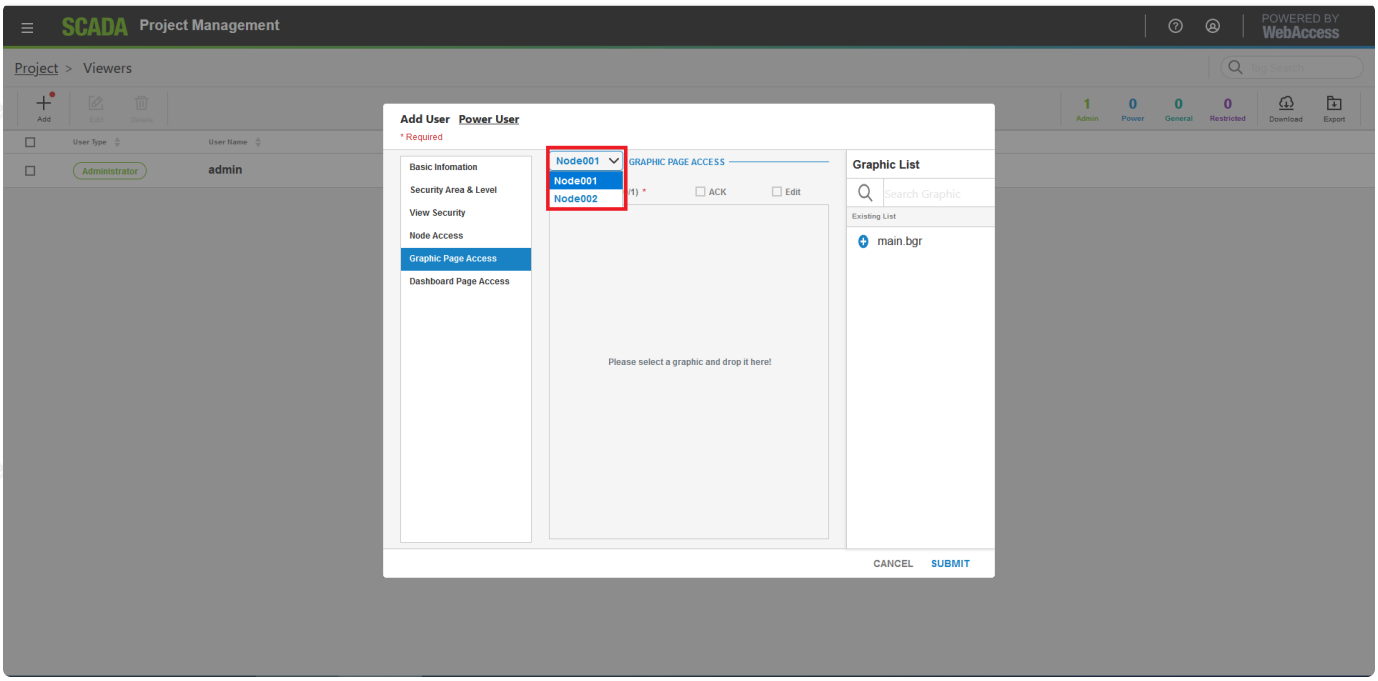
10. Enter the information in **View Security** block.



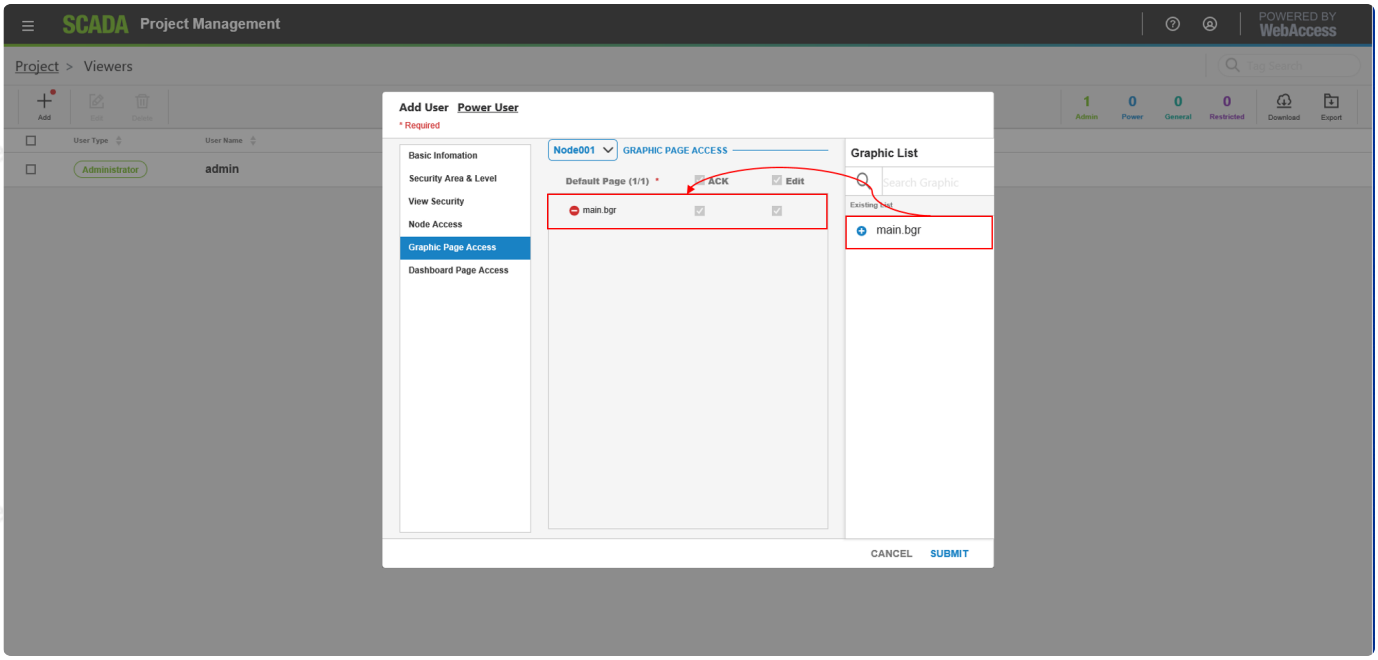
11. Select a value of 127 in **ViewDAQ** if the user is to be able to modify and Save Display Groups in ViewDAQ. A number less than 127 defines the Exit Password Level this user has when trying to close ViewDAQ windows on the SCADA Node in order to exit ViewDAQ and stop the SCADA Node kernel locally.
12. Enter the information in **Node Access** block.



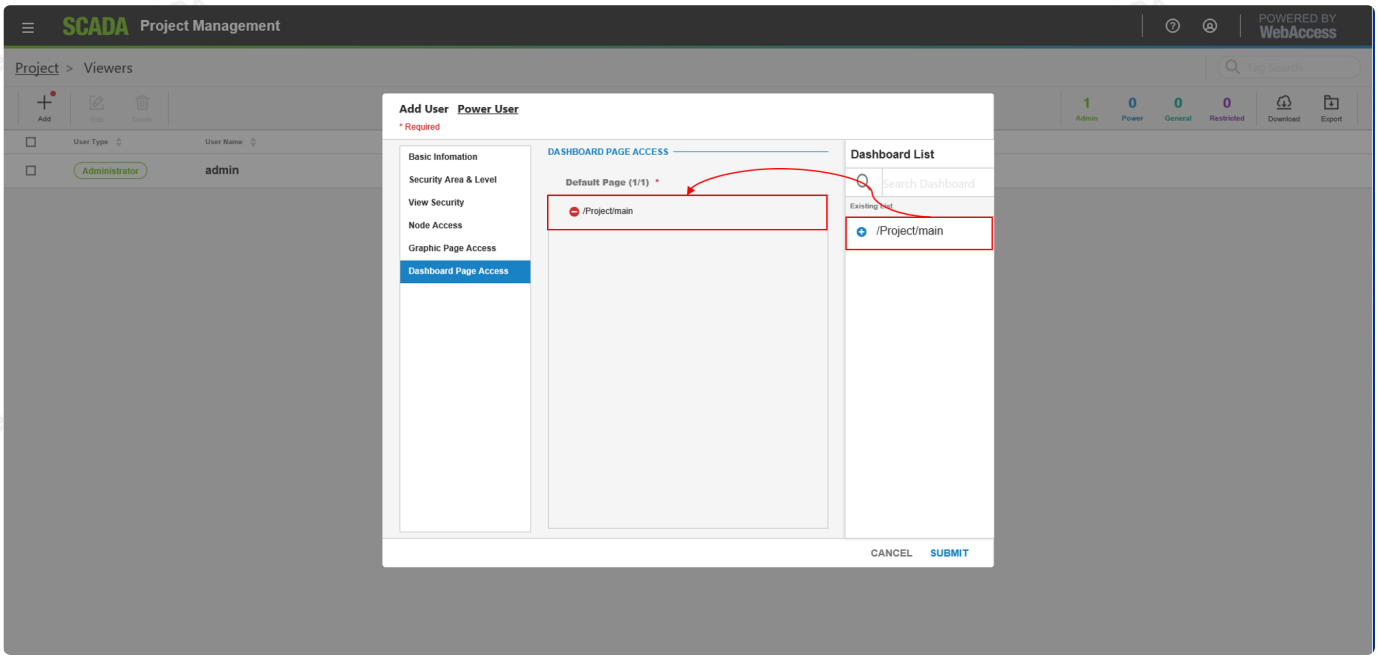
13. A user must be assigned to **at least one node** in the system. If the user is not assigned to a node, he/she will not be able to login to that node using VIEW or ViewDAQ.
14. Enter the information in **Graphic Page Access** block.



15. Power and General Users can be assigned a default Graphic that will appear when they log–in. Otherwise, the Main.bgr graphic will appear. Power Users can View all displays including the System Displays (Action Log, Alarm Log, Station Status and Global Script Displays). General users can view all user built displays, trends, alarm summary and alarm group displays.
16. **Drag** the **file** from **Existing List** to center field.

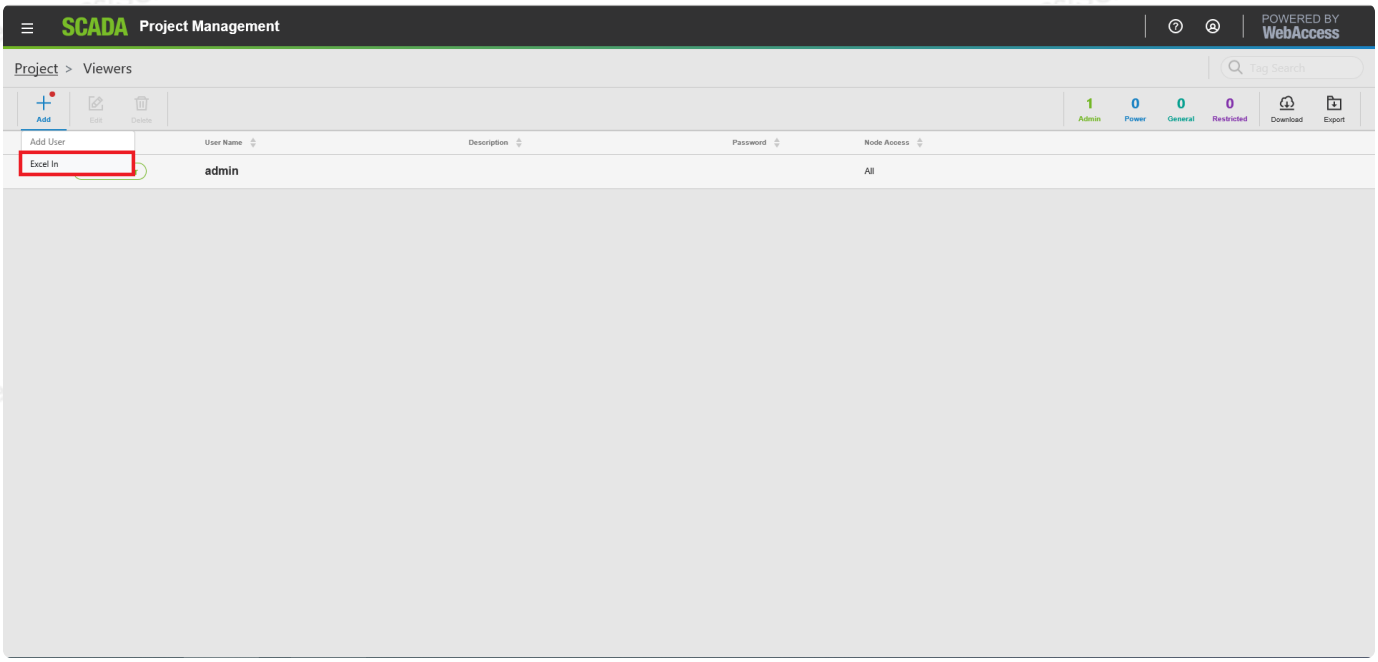


17. Enter the information in **Dashboard Page Access** block.
18. Drag the file from Existing List to center field.



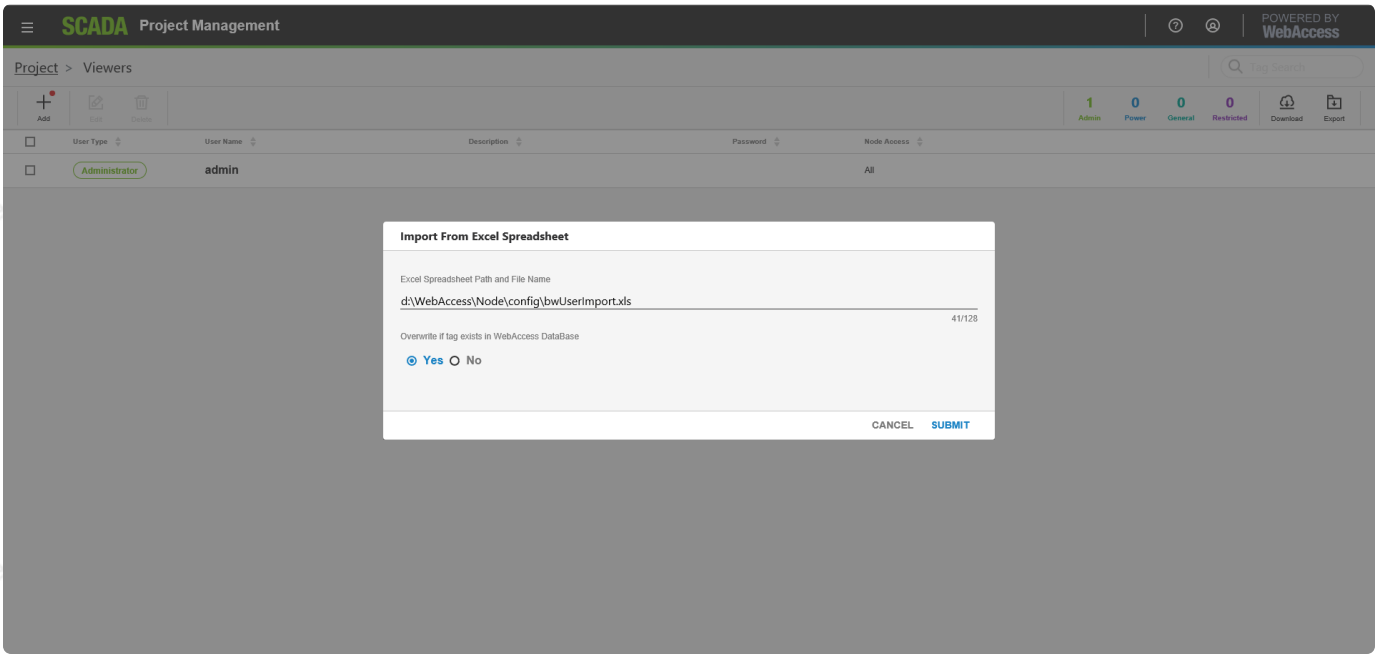
Import Viewer User

1. Choose **Add** and select **Excel In**.



2. Optionally modify the **path** and **file name** of the EXCEL Worksheet.

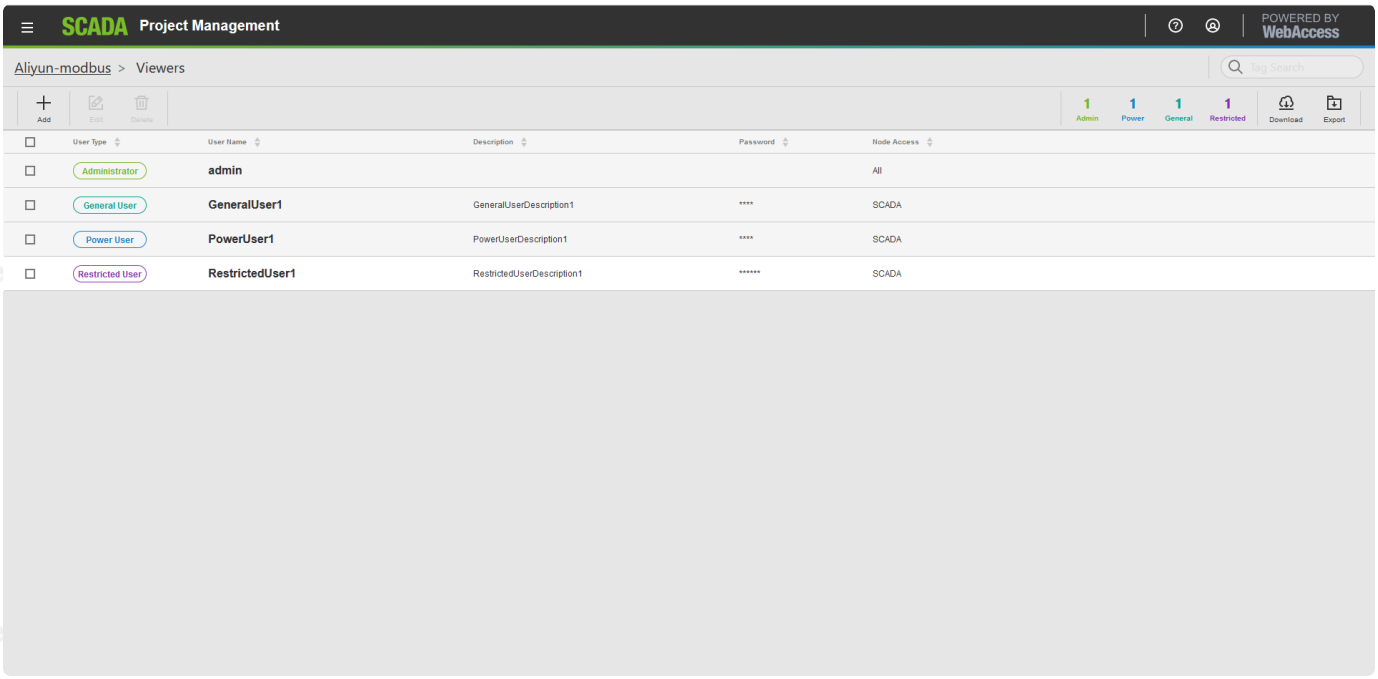
> *Note – this must be located on the Project Node.*



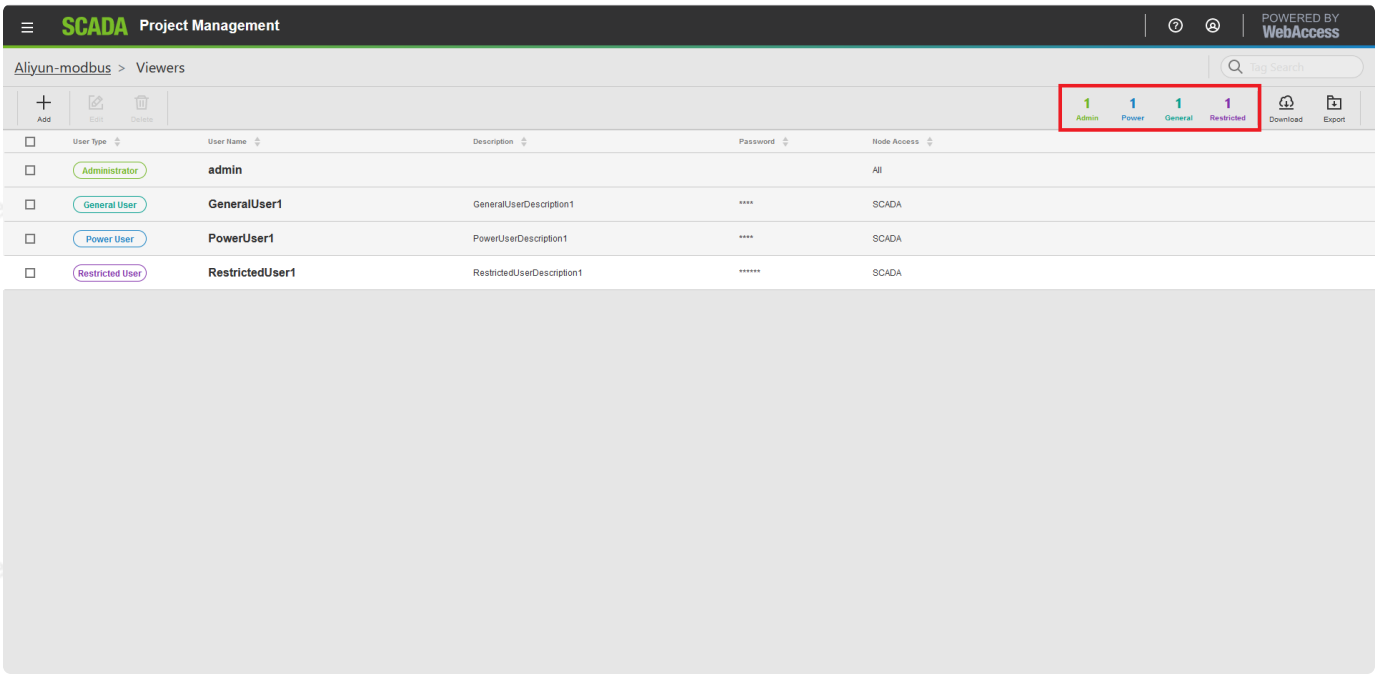
3. Select **No** if you only want to insert new tags without overwriting existing tags.
4. Submit.

User List

1. User List shows some user information like User Type, User Name and description.

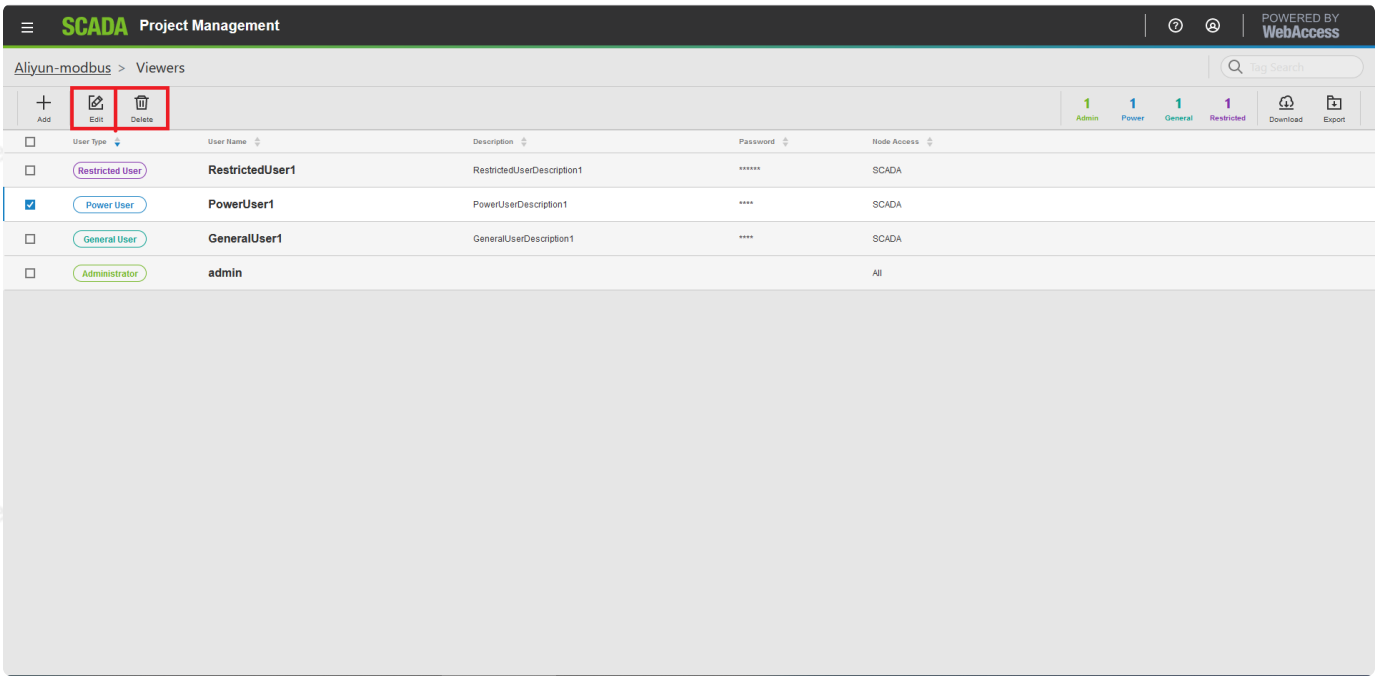


2. The count of different user **type** shows on upper banner.



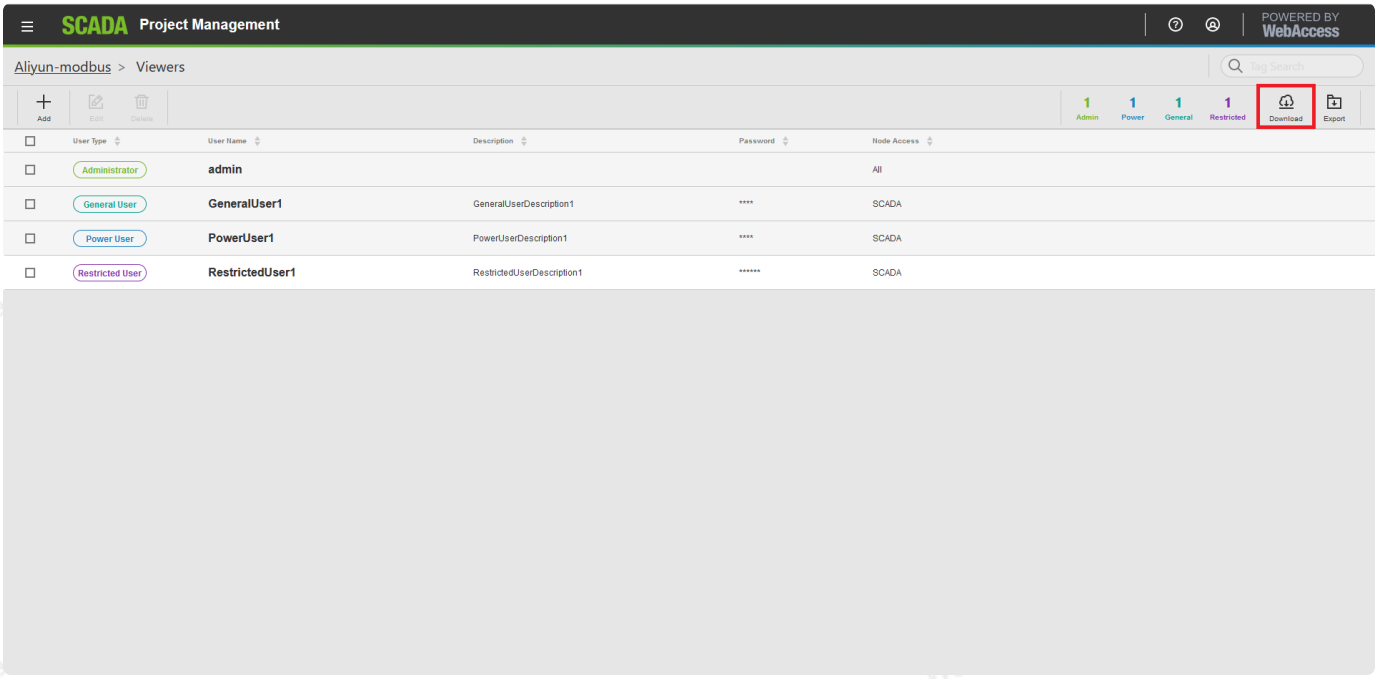
3. You can **sort** by User Type, User Name or Description.
4. Edit user when choose one user.
5. Delete users after you choose them.

WebAccess/SCADA

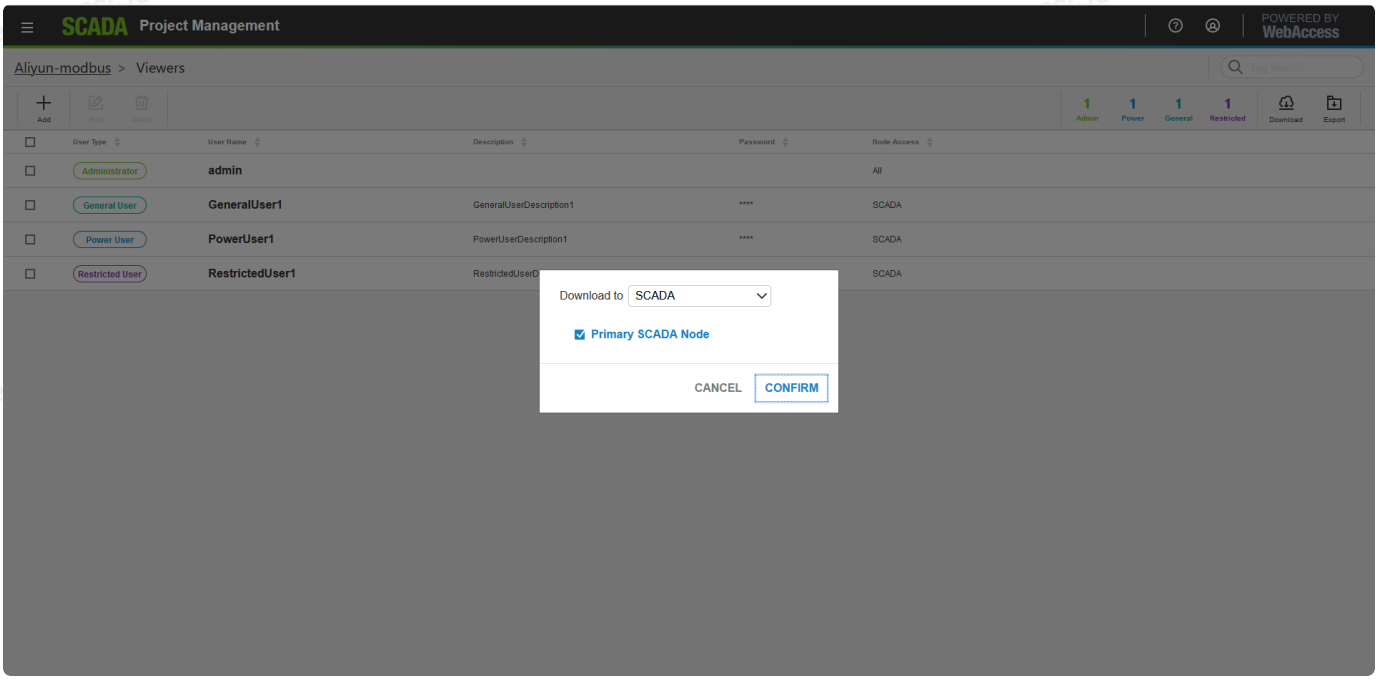


Download to SCADA

1. choose **Export** and select **Download to SCADA.**



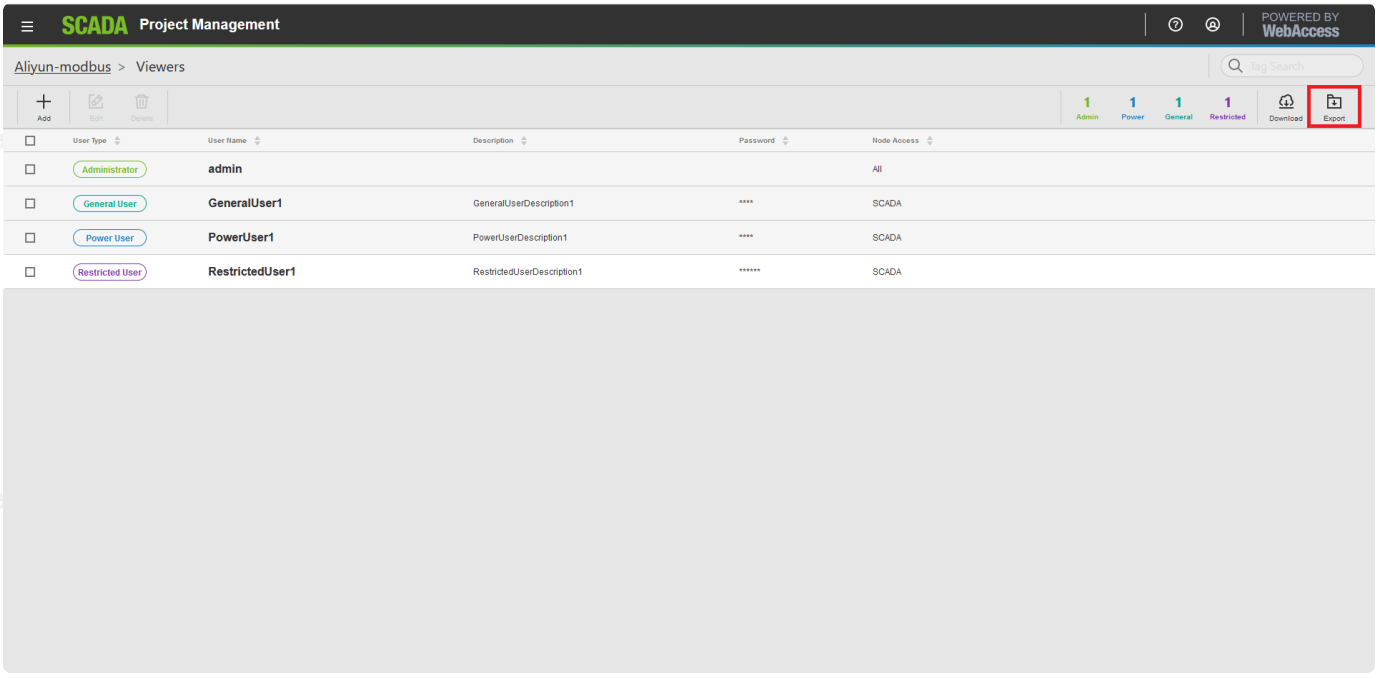
2. Select target node.



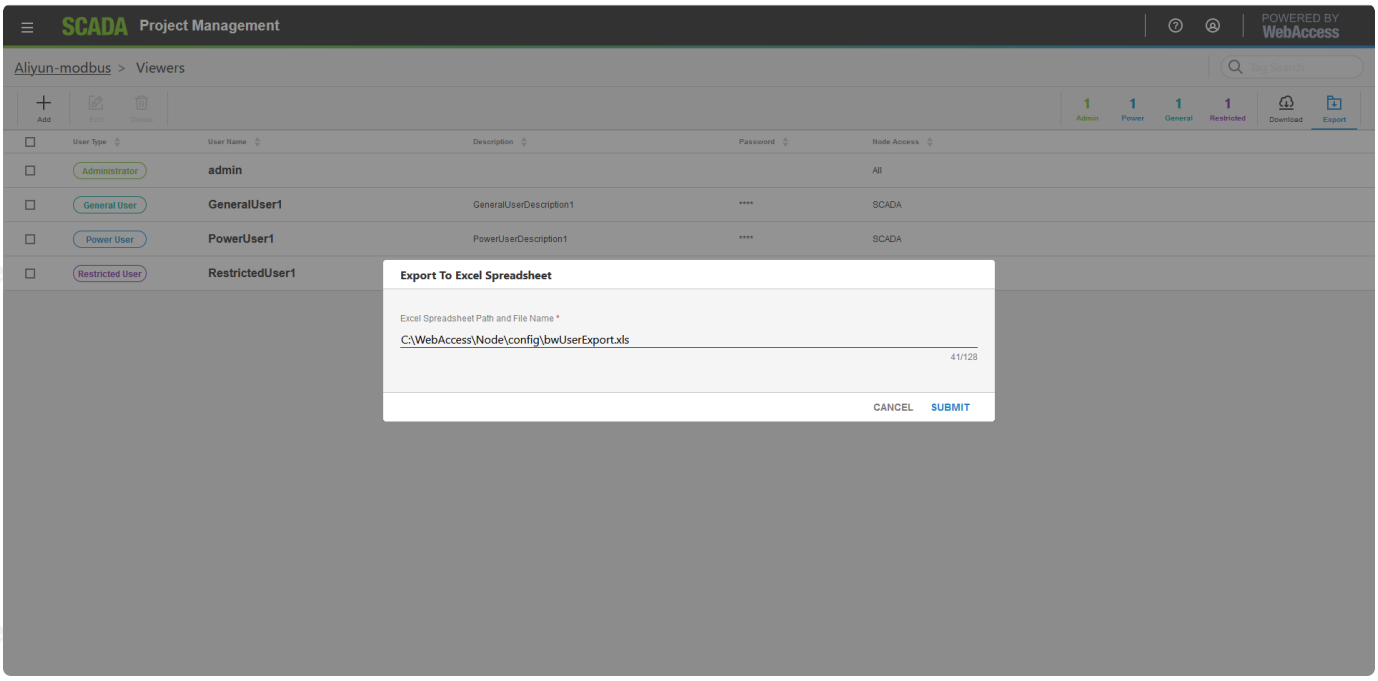
3. Waiting for downloading.

Export to Excel

1. Choose Add and select Export to Excel.



2. Enter the path and file name of the EXCEL Worksheet.



3. Submit.

5. Node Configuration (SCADA Node)

5.1 Data Transfer

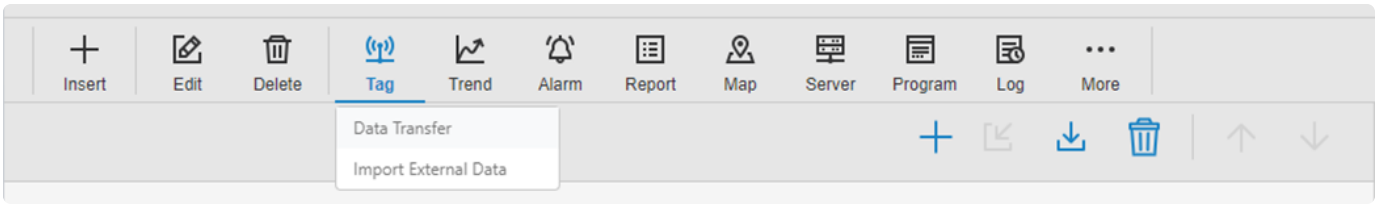
The Data Transfer function is for transfering data from one PLC or automation device to another. This is especially useful in single–master protocols or to exchange data between devices that have different communication protocols and are unable to communicate with each other directly.

The Data Transfer function allows you to designate pairs of tags in the Advantech WebAccess/SCADA to "transfer" data from the source to the target tag. With Data Transfer feature configured, the Advantech WebAccess/SCADA SCADA node "reads" data from the source tag, then "writes" this data to the Target tag. The Data Transfer function saves the user the effort to write scripts to do the same thing.

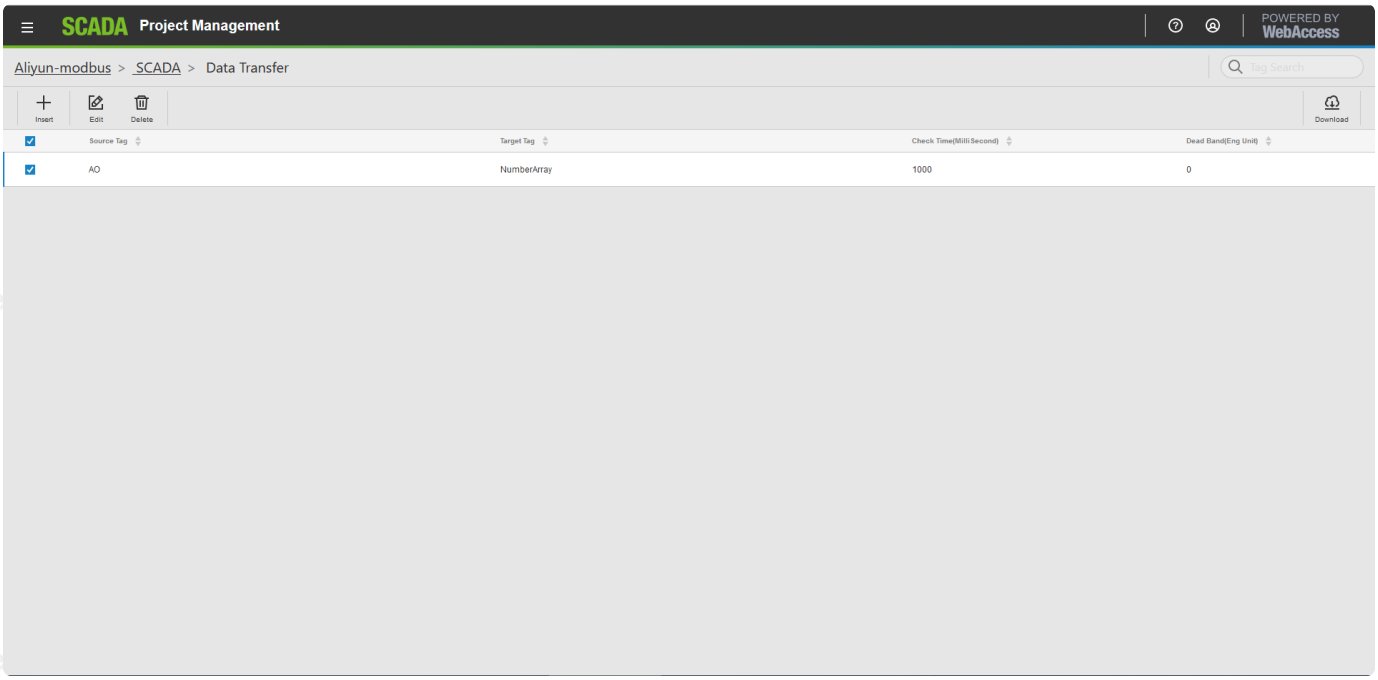
Each tag pair consists of a **source tag** and a **target tag** such that the value of the source tag is automatically transferred to the target tag. The values of the two tags are compared against a deadband. If the difference in values exceeds the dead band, the target tag is updated. This minimizes traffic on the network. The frequency of checking is set from 500 milliseconds to 60,000 milliseconds (½ second to 1 hour) for each tag pair.
With the Data Transfer, both points must reside on the same SCADA node.

5.1.1 Configure Data Transfer

1. Select your Project and the SCADA Node.
2. Click **Tag** classification on node bar, then select **Data Transfer**.

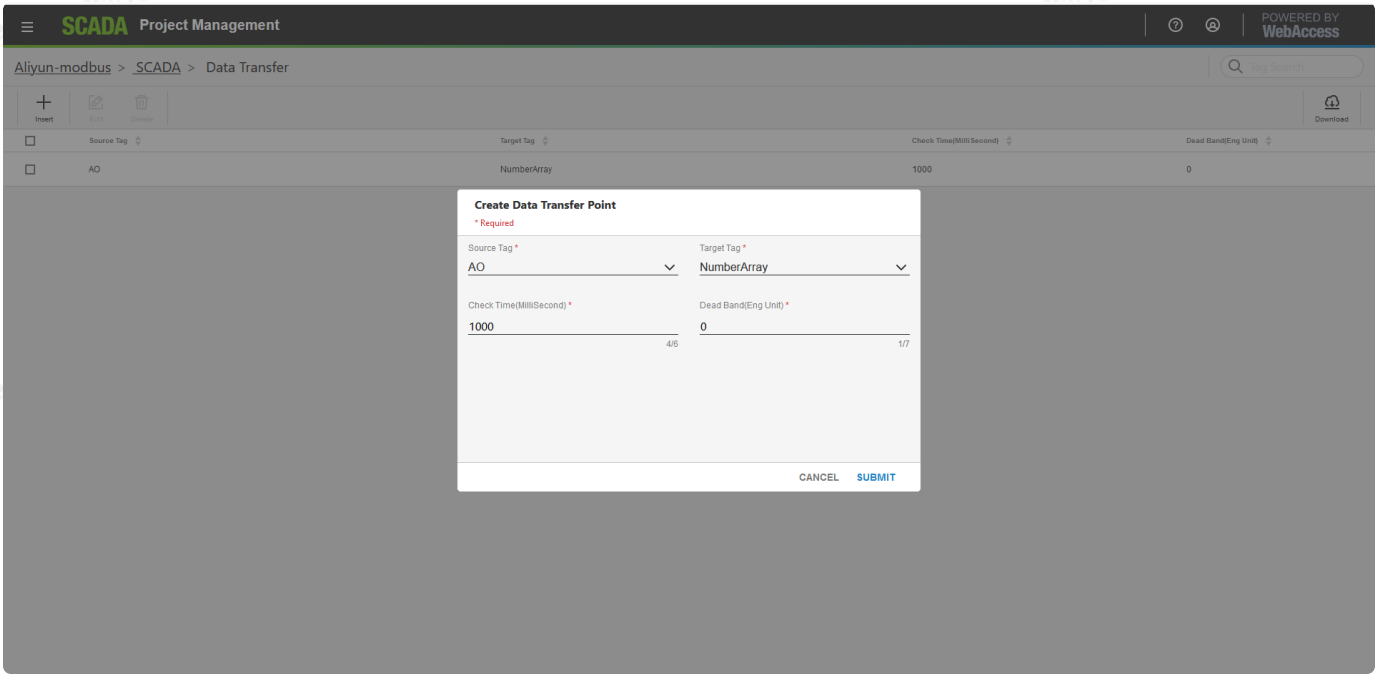


3. You will see the Data Transfer List.



4. Click **Insert.**
5. The Create Data Transfer Point page appears.

WebAccess/SCADA

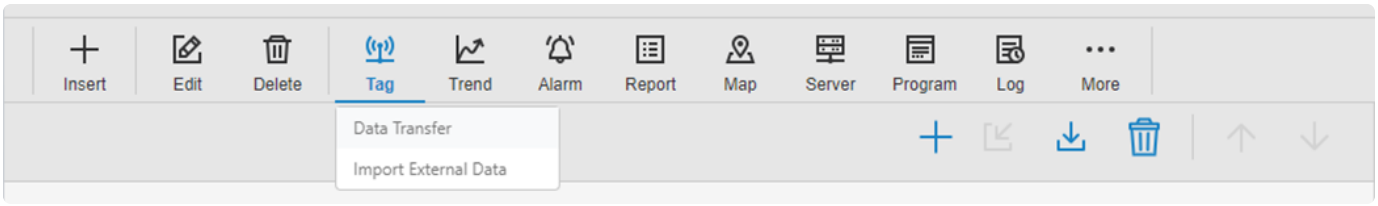


6. Click once on the **Source Tag** field, then use the pull down Tag List to select a tag. Alternatively, you can type the tag name or copy and paste in a tag name.
7. Click once on the **Target Tag** field, then use the pull down Tag List to select a tag. Alternatively, you can type the tag name or copy and paste in a tag name. This tag will receive the value from the source tag.
8. Input the **Check Time** field. This is the frequency of checking the two tags in milliseconds (500 to 60,000 milliseconds or ½ second to 1 hour).
9. Input the **Dead Band** (%) field. This is the difference in value (in percent of full scale) between the two tags that will result in a data transfer from the source to the target. A large dead band will minimize communications traffic. A smaller dead band will increase communications and accuracy.
10. Submit when you are finished entering data.
11. You can use **Edit** or **Delete** on the **Data Transfer List**.

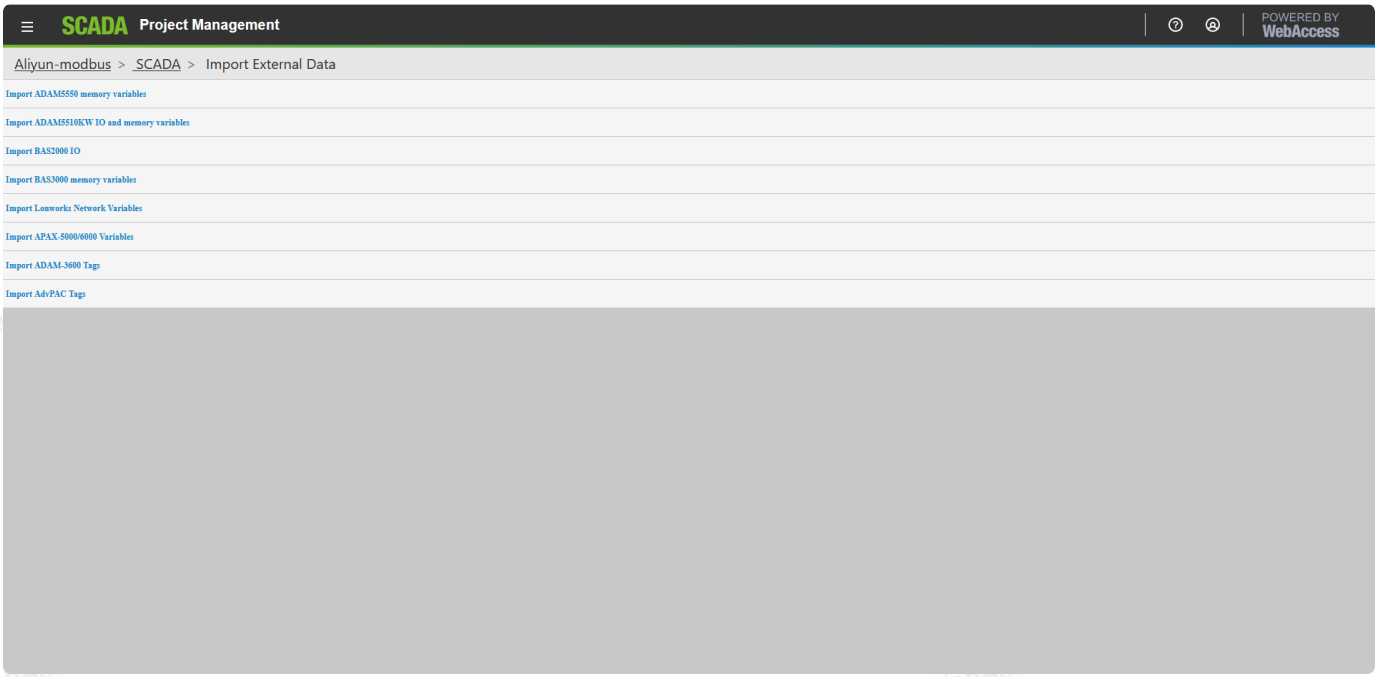
5.2 Import External Data

5.2.1 Entry

1. Select your Project and the SCADA Node.
2. Click **Tag** classification on node bar, then select **Import External Data**.

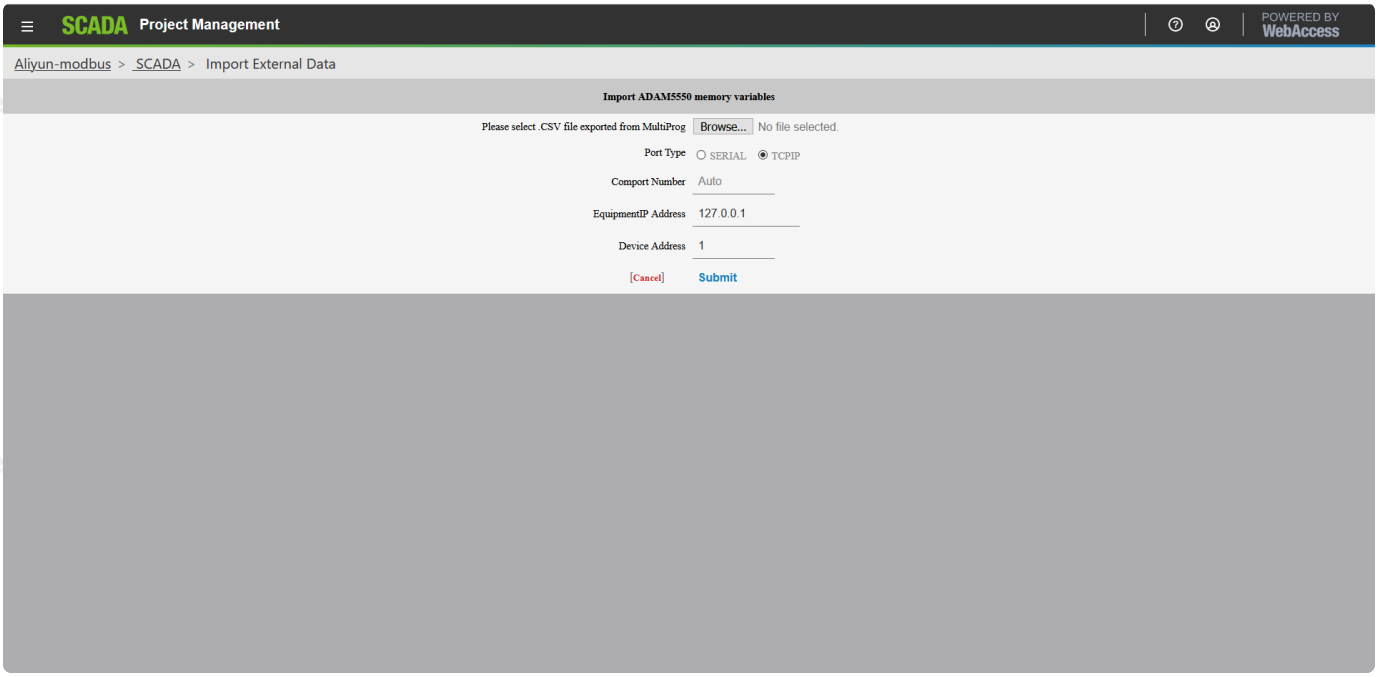


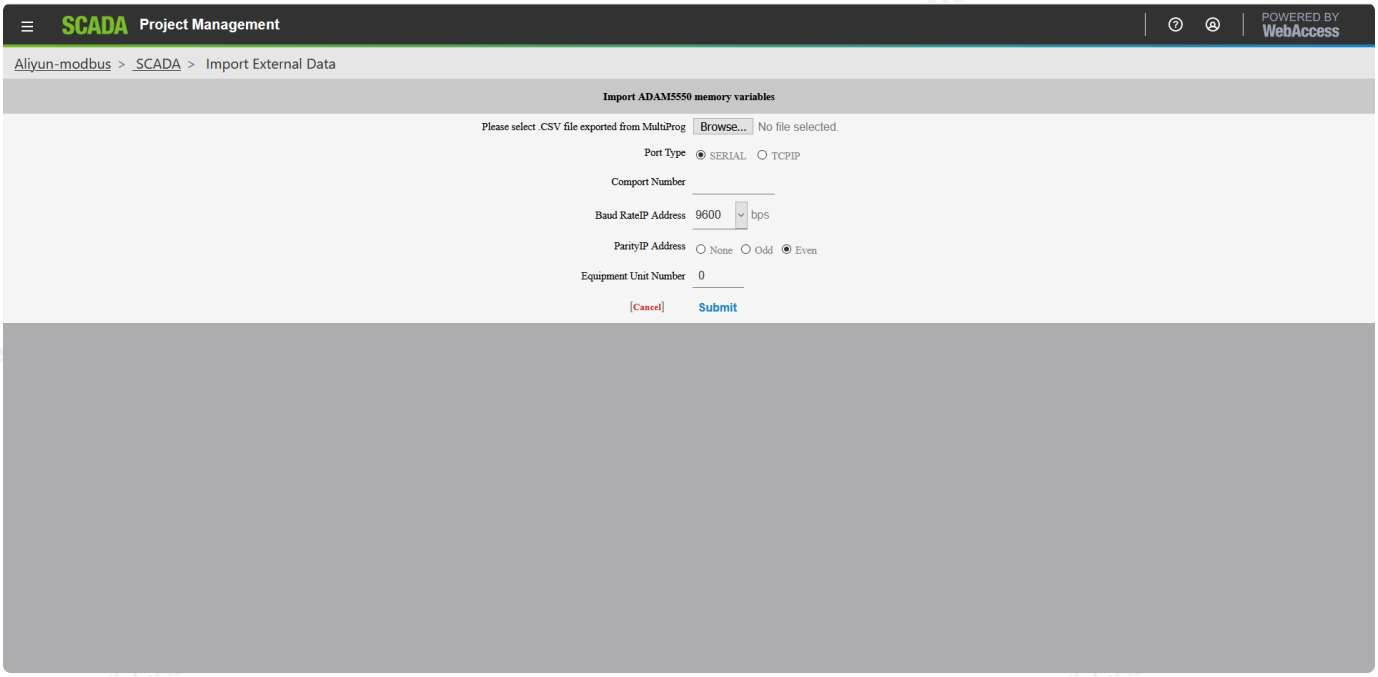
3. You will see the Import External Data List.



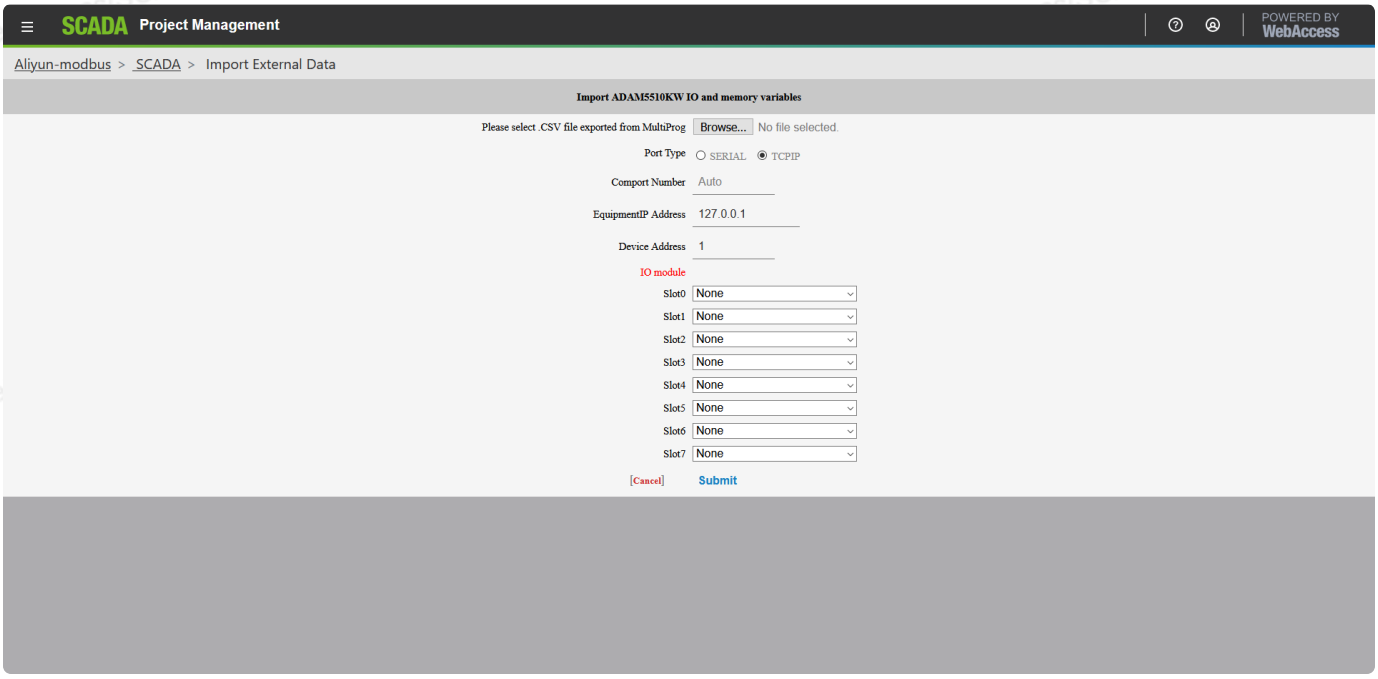
5.2.2 Import ADAM5550 memory variables

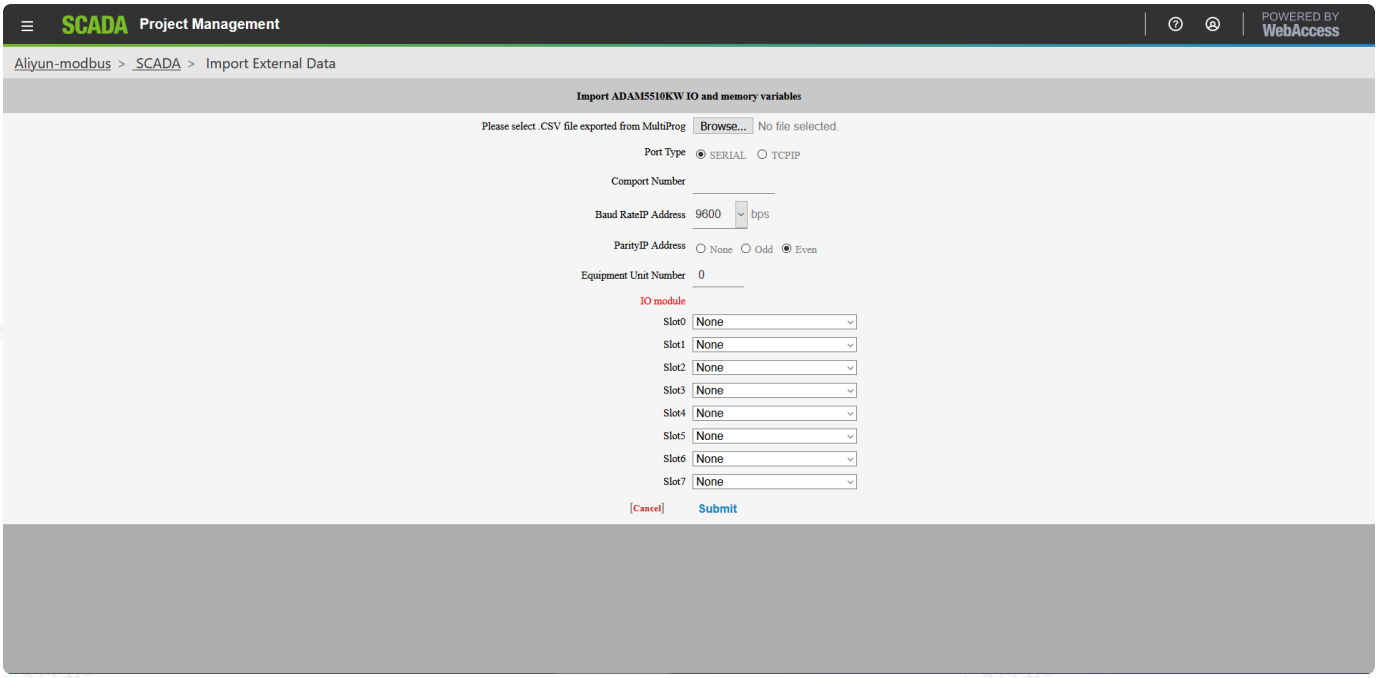
WebAccess/SCADA



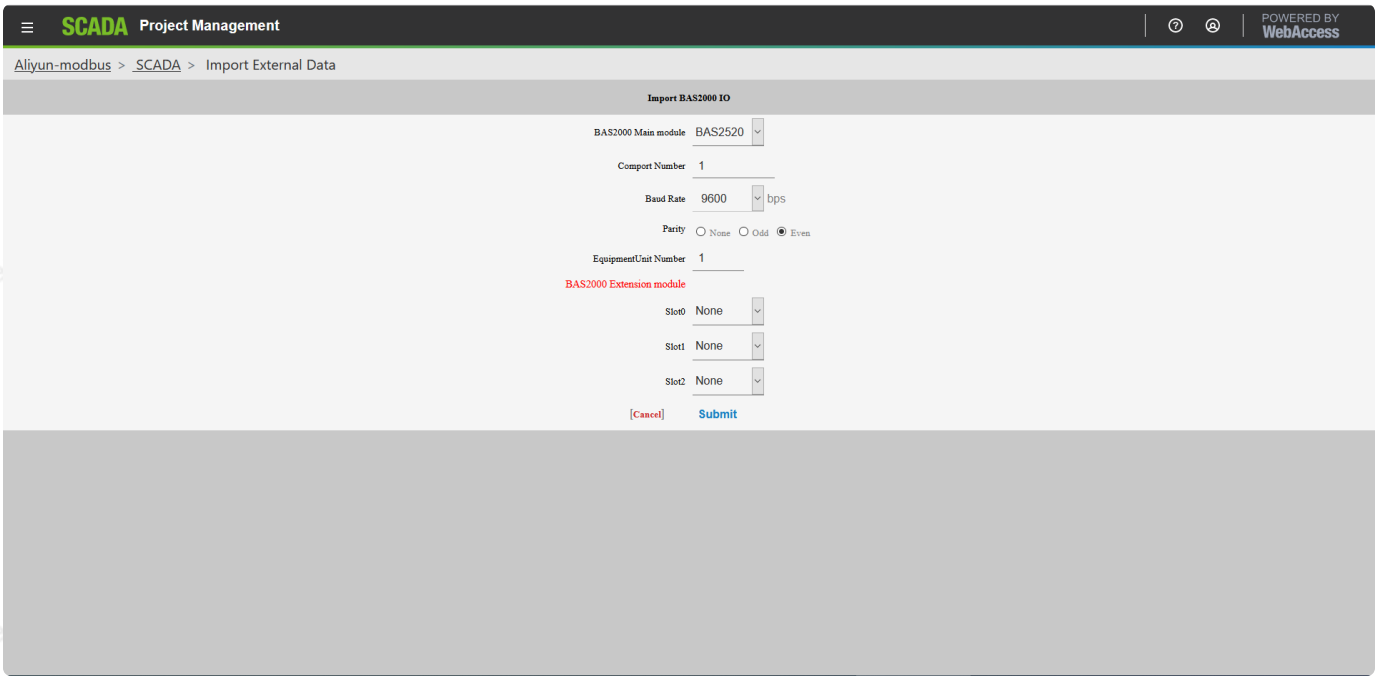


5.2.3 Import ADAM5510KW IO and memory variables

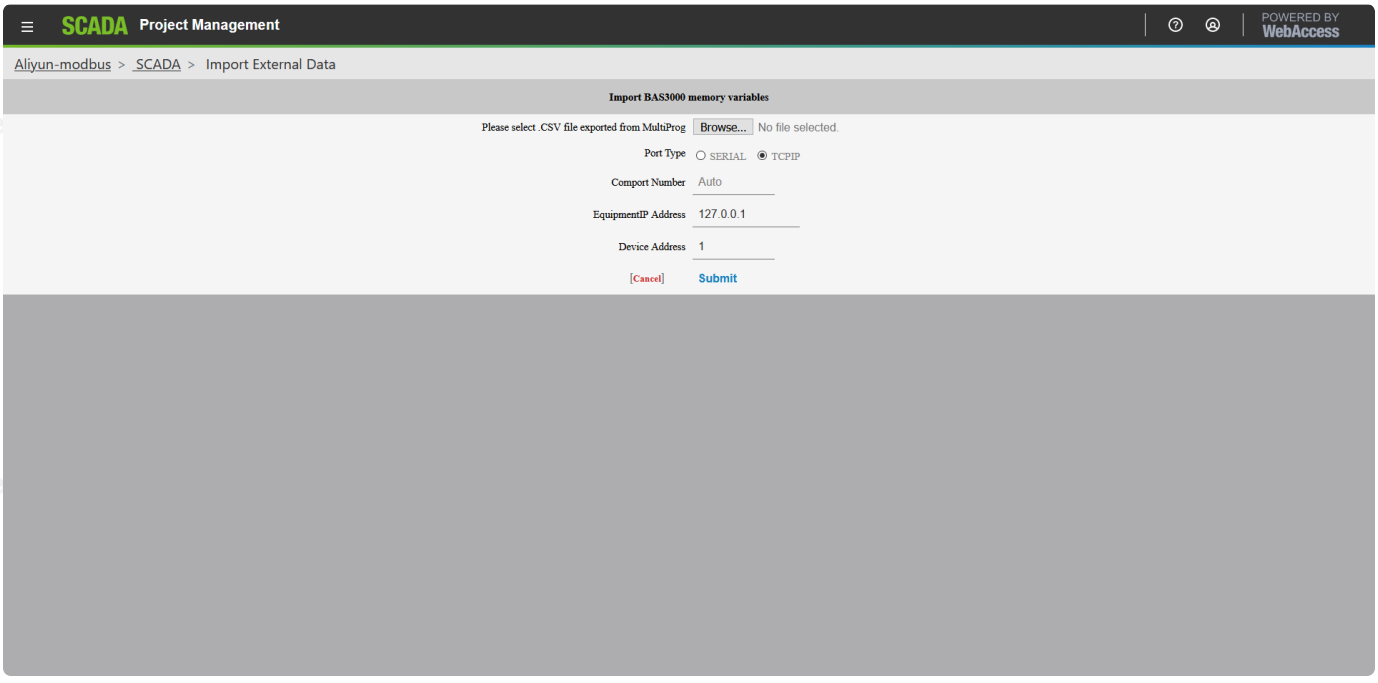




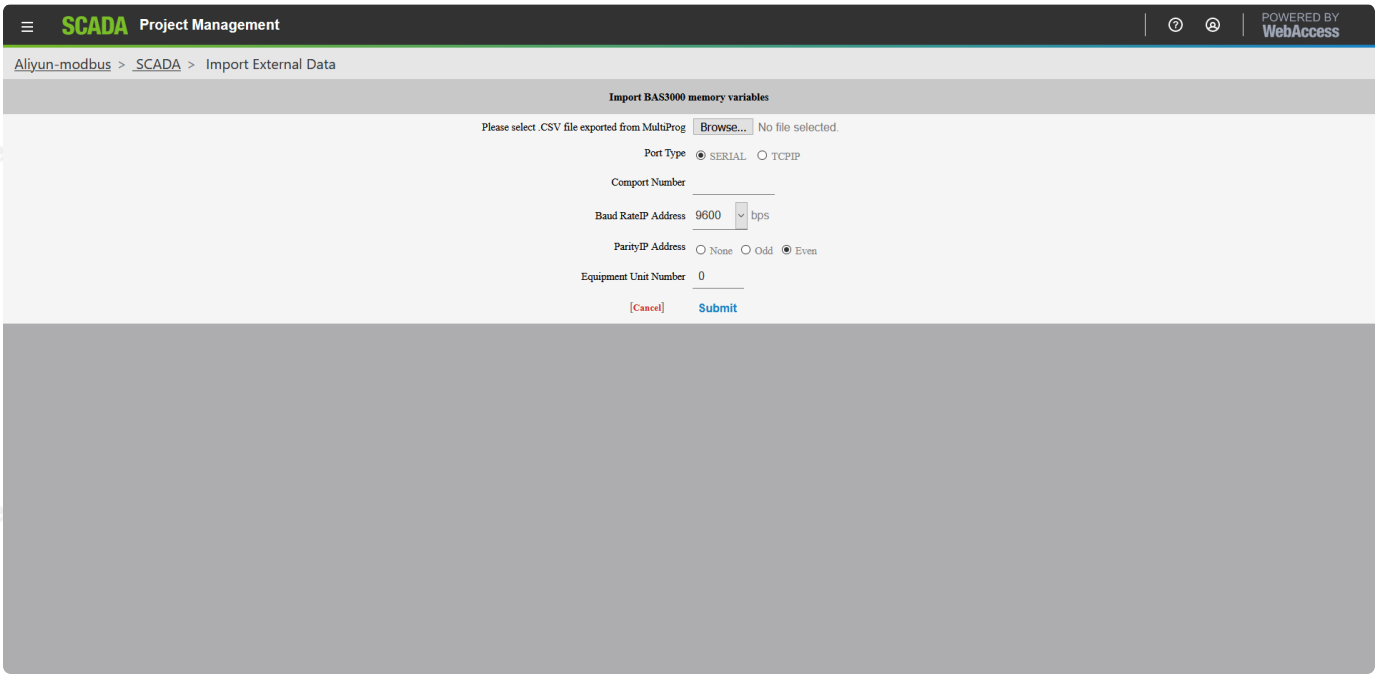
5.2.4 Import BAS2000 IO



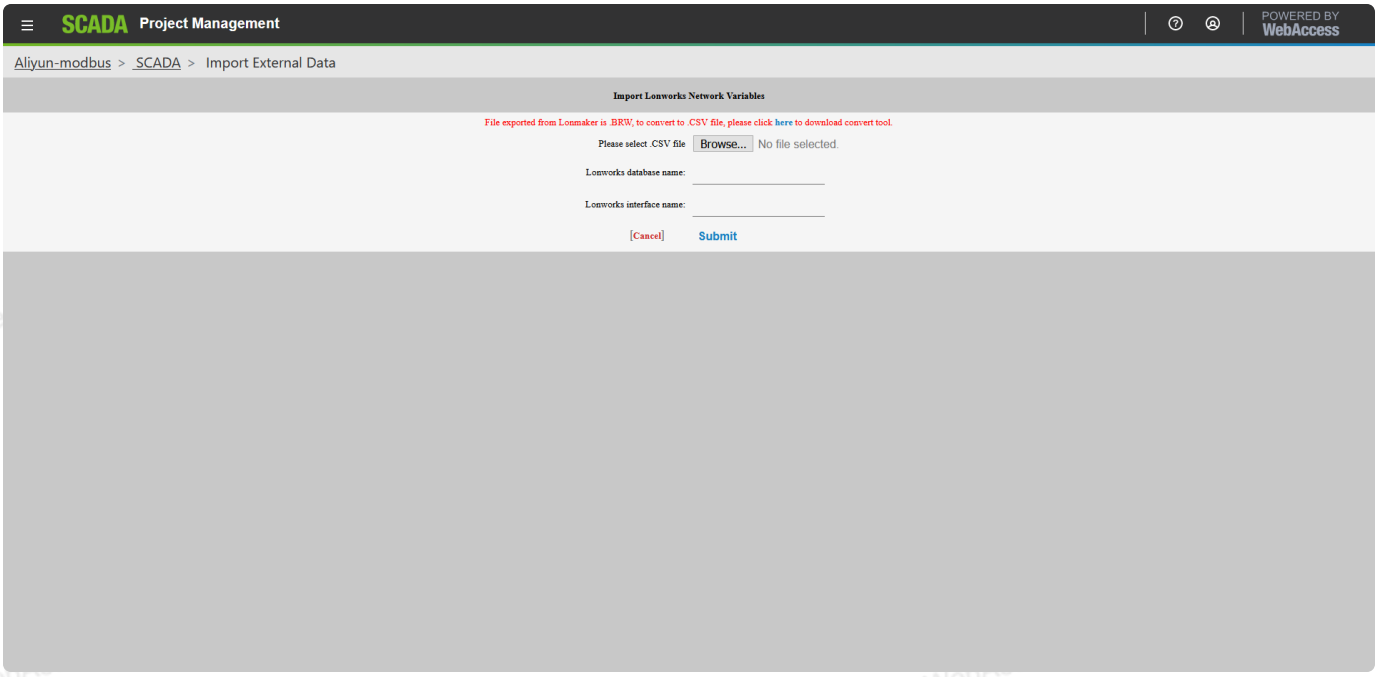
5.2.5 Import BAS3000 memory variables



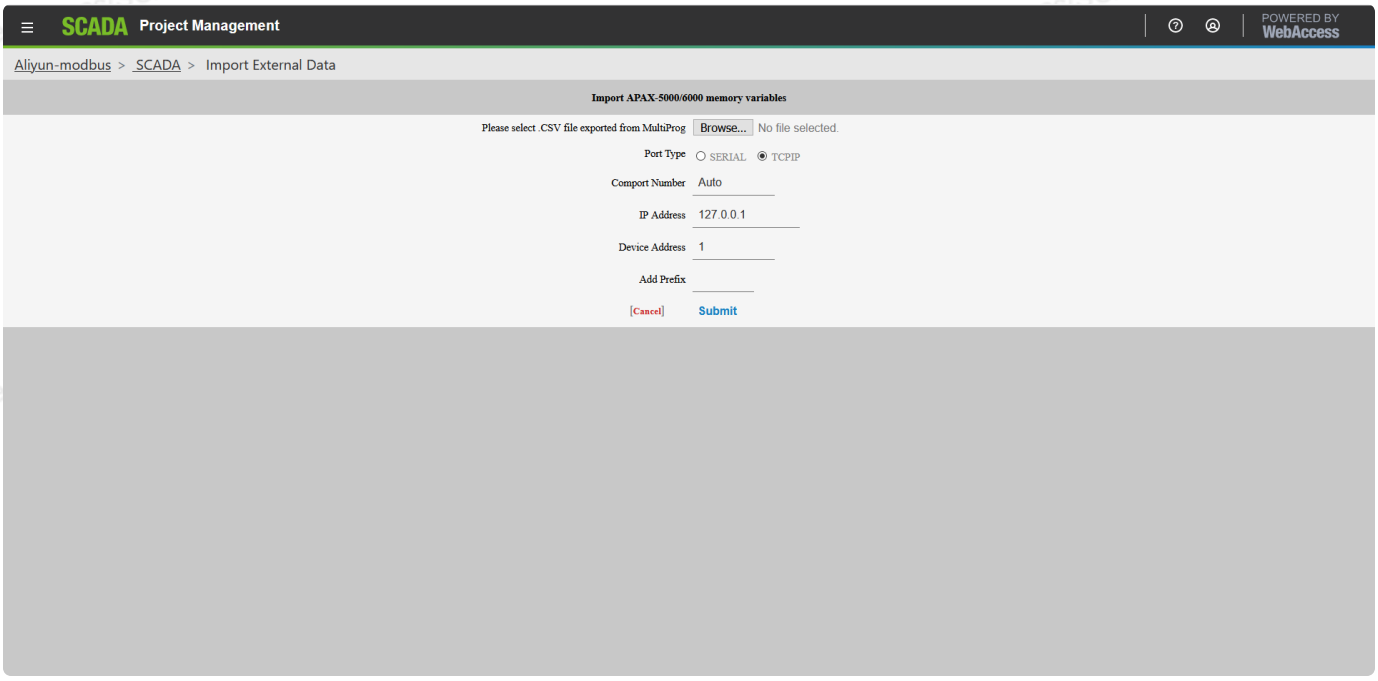
WebAccess/SCADA
WebAccess/SCADA

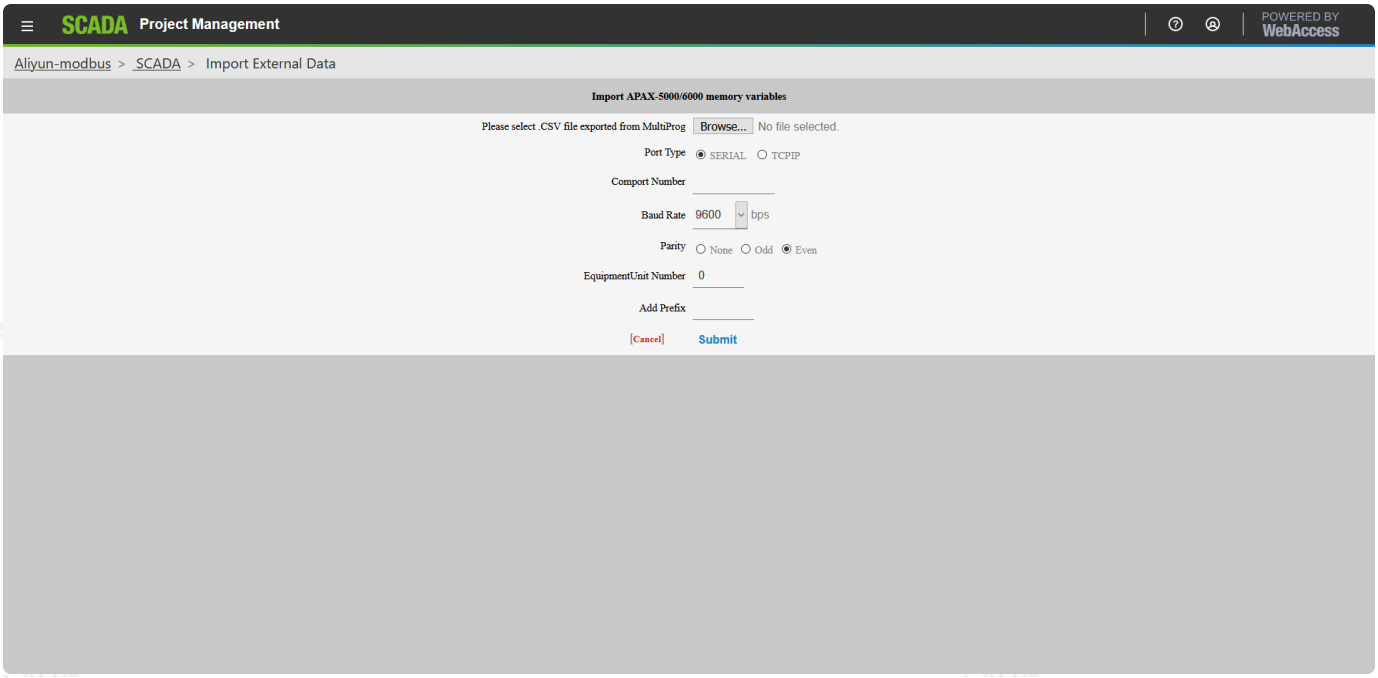


5.2.6 Import Lonworks Network Variables

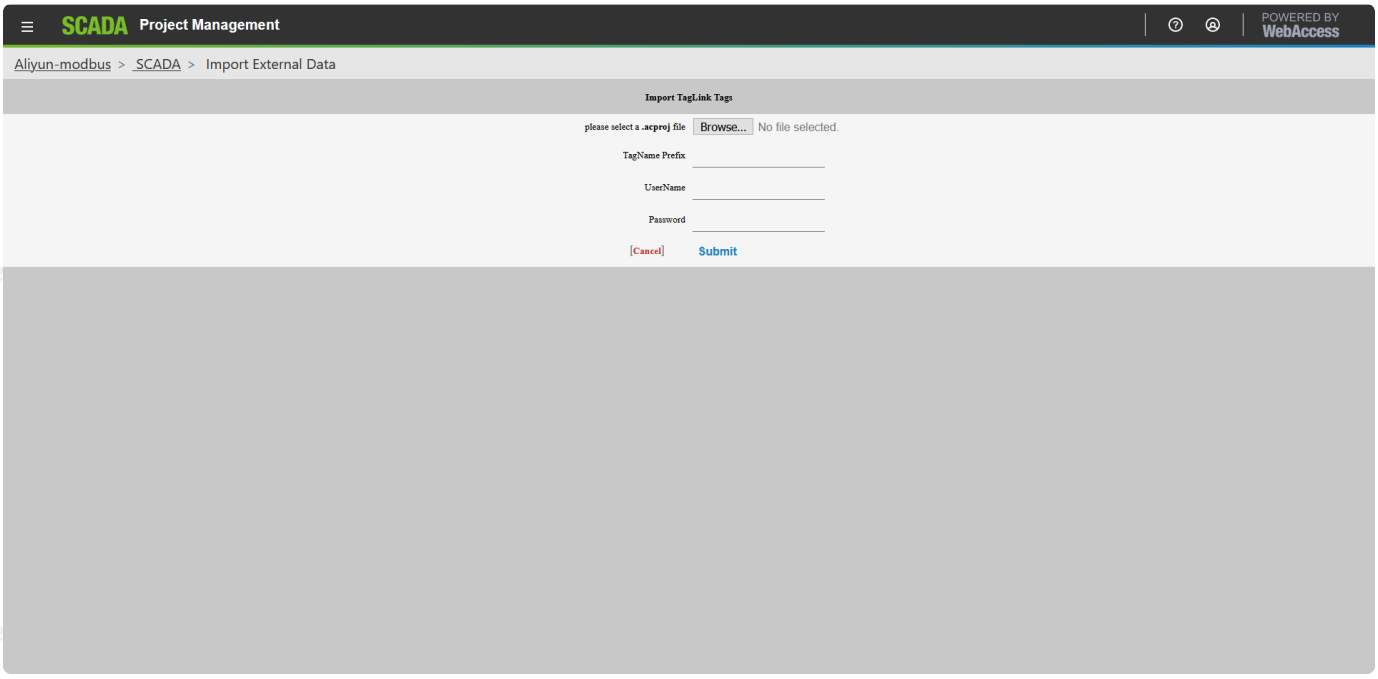


5.2.7 Import APAX–5000/6000 memory variables

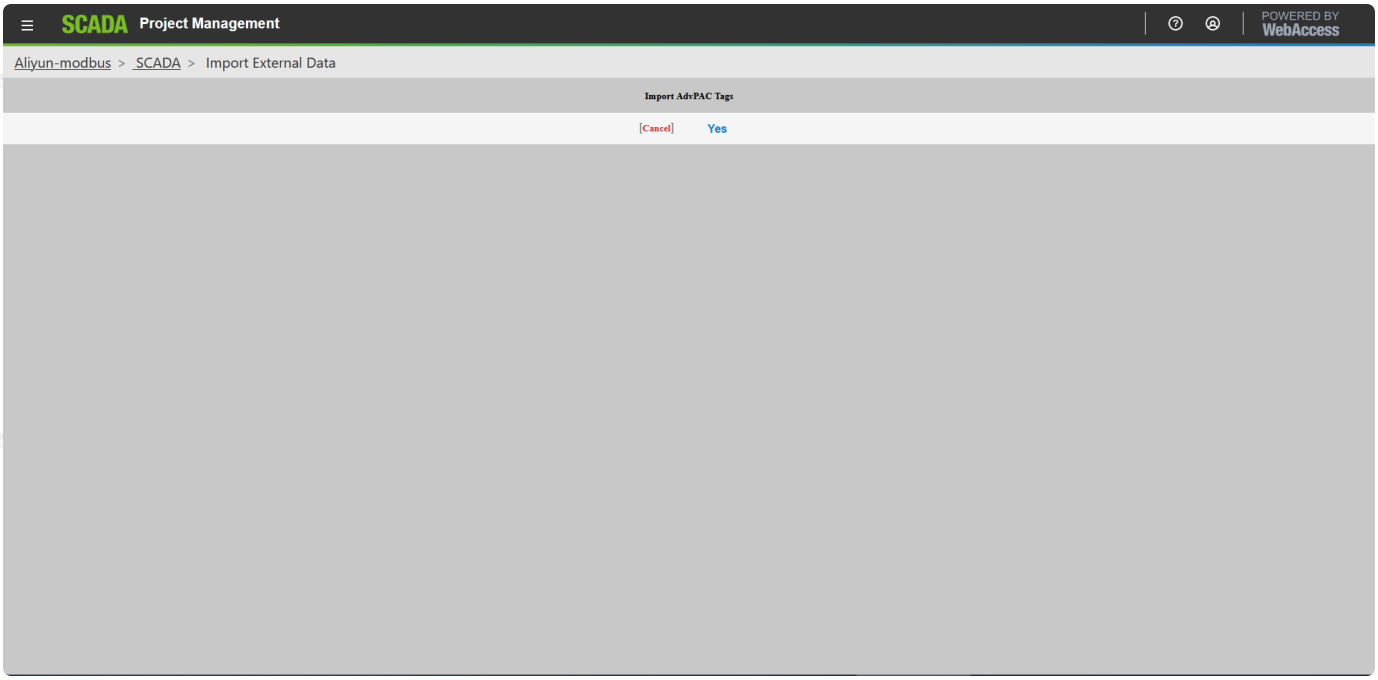




5.2.8 Import ADAM–3600 Tags



5.2.9 Import AdvPAC Tags



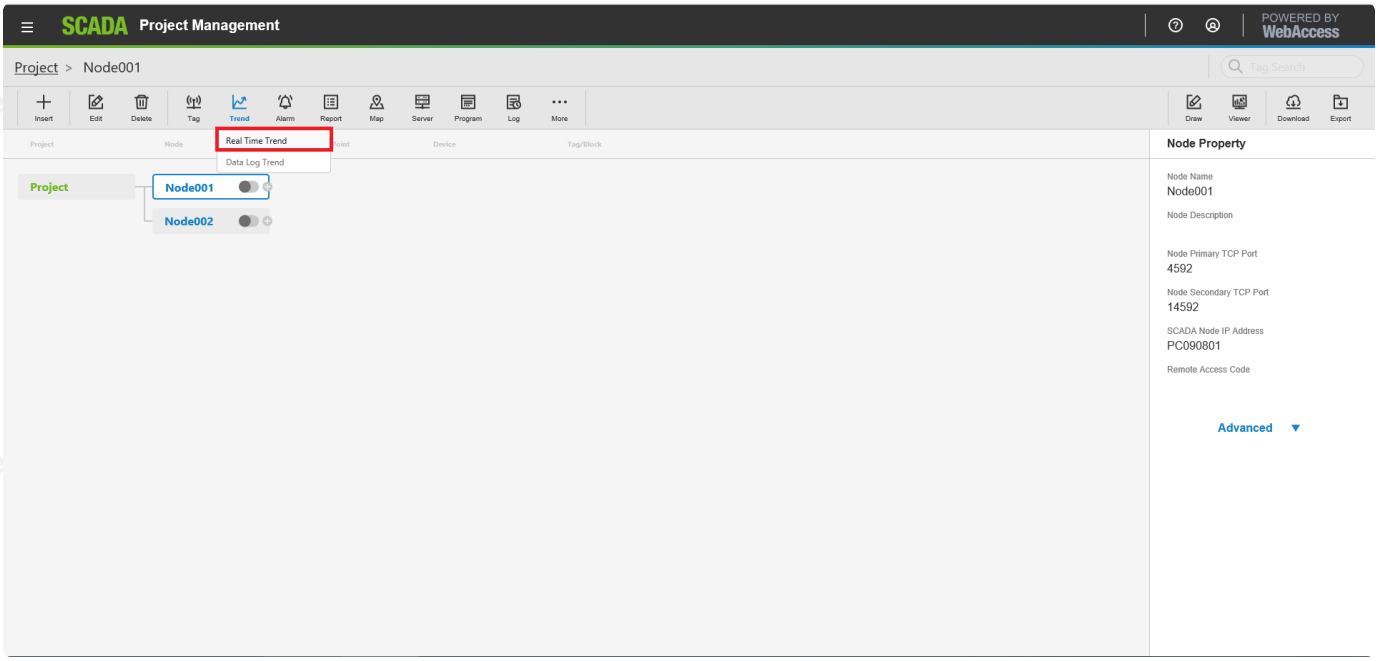
5.3 Real Time Trend

5.3.1 Configure Real Time Trend

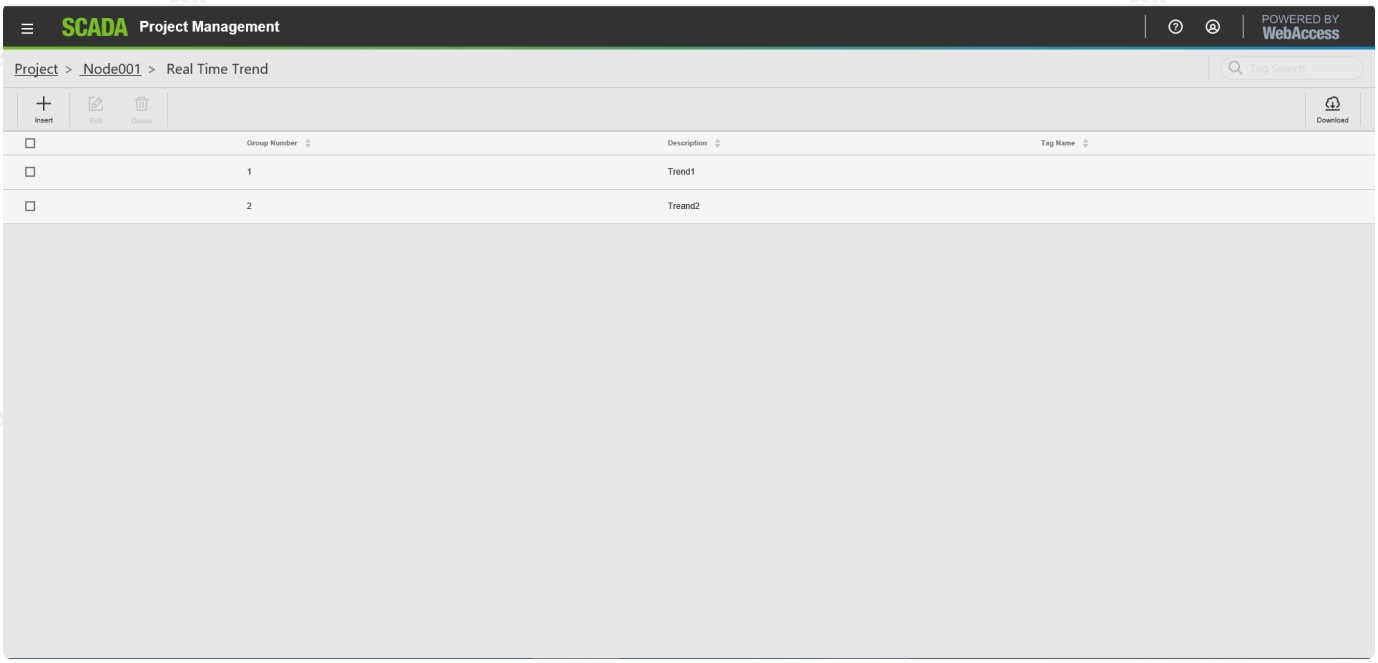
1. Select your Project and the SCADA Node.

WebAccess/SCADA

2. Click **Trend** classification on node bar, then select **Real Time Trend**.

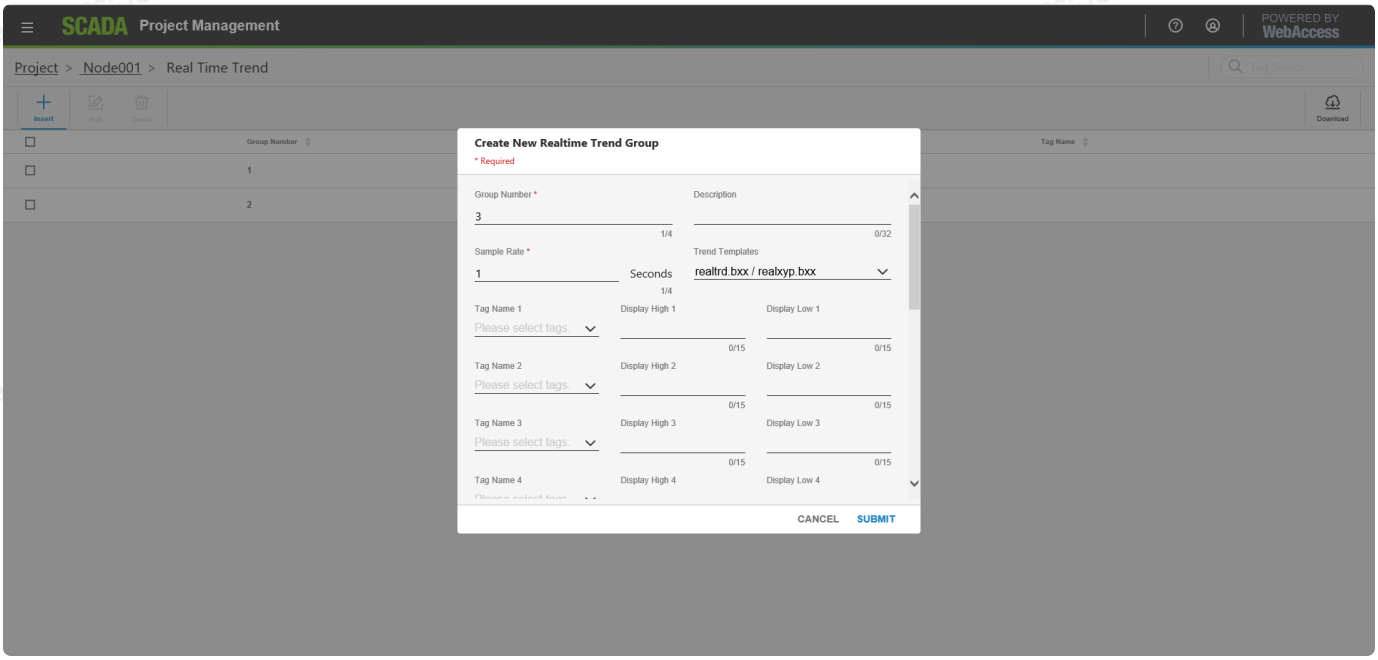


3. You will see the **Real Time Trend List**.



4. Select **Insert**.
5. The Real Time Trend configuration page appears.

WebAccess/SCADA



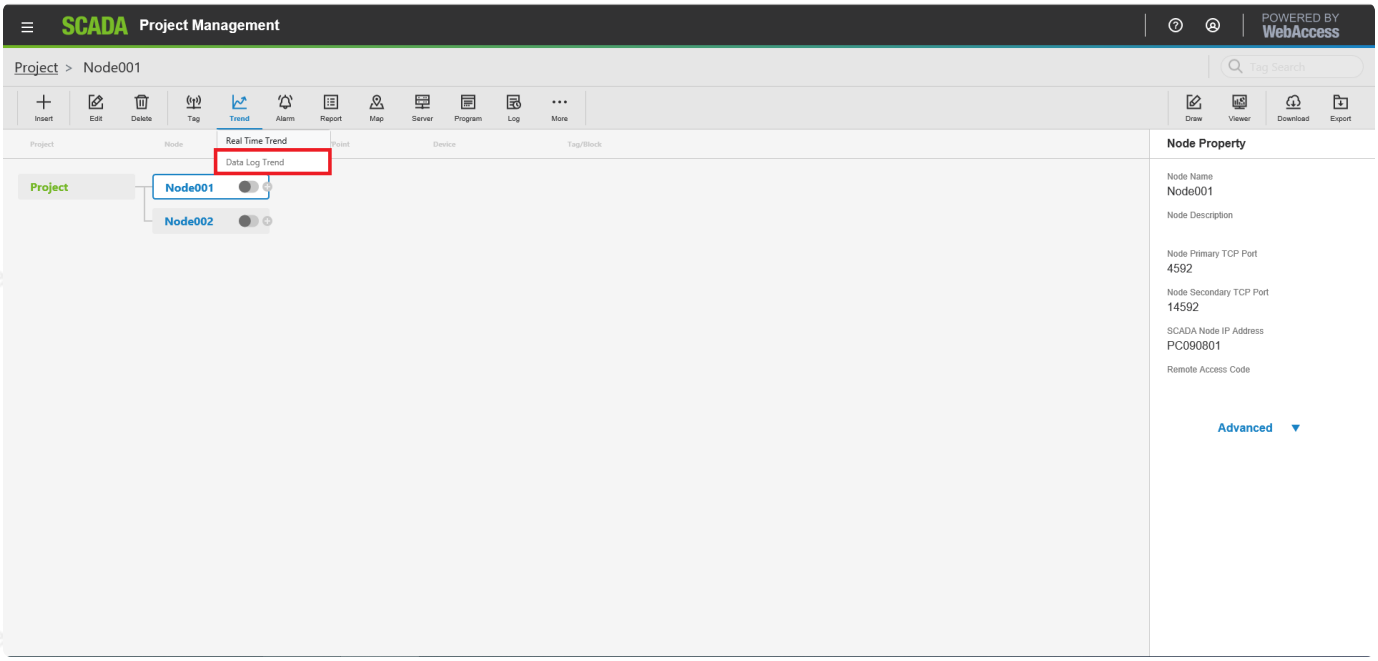
6. Enter a Unique Group Number (between 1 and 1000). This is how the Group will be ordered in the Real Time Trend Dialog Box in VIEW and identified to Operators and Users.
7. Enter a **Description** for the group. This will appear in the Real Time Trend Group List Dialog Box seen by users and operators in VIEW.
8. Enter a **Sample Rate**. This is the frequency of updating the Trend Display with new Data. Real Time Trends are fixed at 240 samples. Sample Rate for Real Time Trends range from **1 to 180 seconds**.
   If 1 second interval and 240 samples = 1 x 240 = 240 seconds (4 minutes)
   If 180 second interval and 240 samples = 180 x 240 = 43200 seconds
9. Select the field next to Tag Name 1.
10. Open the Pull down list by clicking on Tag List. This shows the names of all Analog Tags and Discrete Tags.
11. Scroll down the Tag List. Click the Tag Name desired. The Tag Nameshould appear on the Tag Name 1 field.
12. Repeat for Tag Name 2 to 12.
13. You can Type Tag names and Blocks (BLOCK: PARAMETERs). You can also copy and paste Tag Names and Block Names from the Left Frame of your browser.
14. The **Display High** and **Display Low** to "zoom in" or "zoom out" of trend data. By default, Advantech WebAccess/SCADA uses the High Span and Low Span of the Tag. Data Log Trend Displays have configurable Display High and Display Low values for the y–axis (and x–axis in X–Y Plots). Trend displays will “remember” changes made to Display High and Low from VIEW and ViewDAQ. The Display High and Low are assigned to the Trend Group, allowing the same tag to have different sets of Display High and Low when assigned to multiple display groups.
15. **Submit** when you are finished.

16. You can **Edit** or **Delete** the objects on the **Real Time Trend List**.

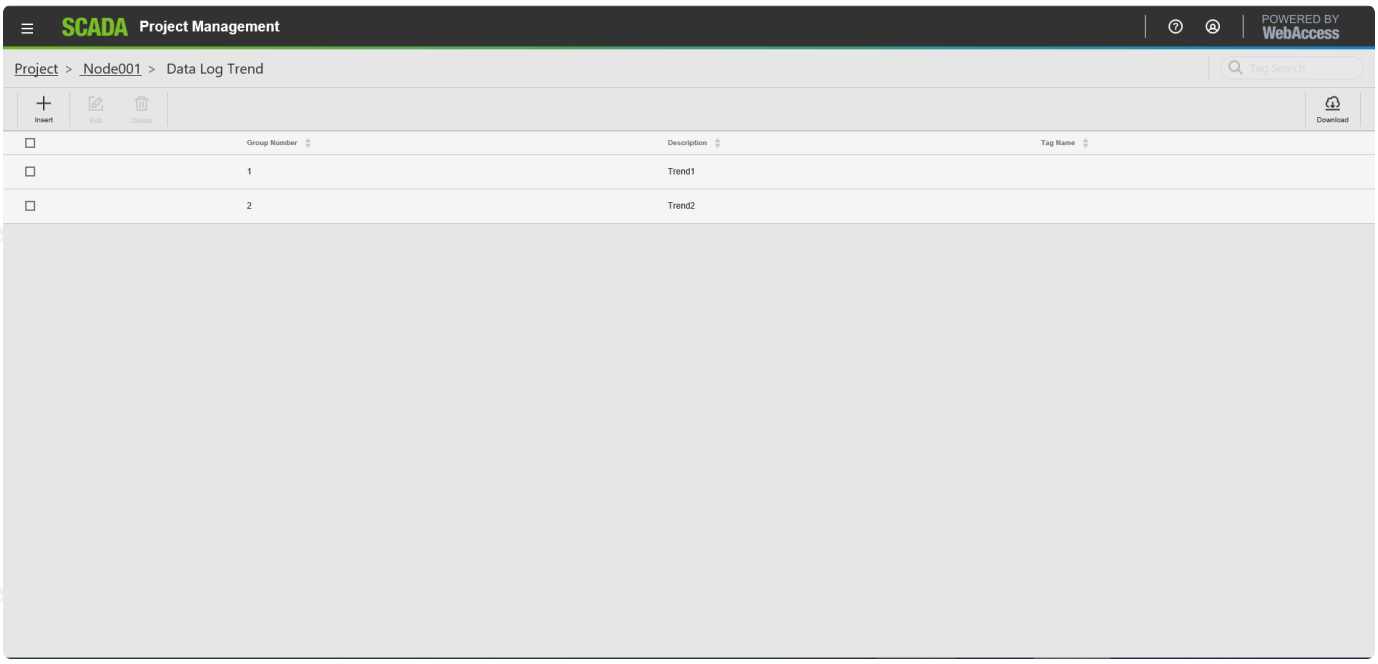
5.4 Data Log Trend Server

5.4.1 Configure Data Log Trend

1. Select your Project and the SCADA Node.
2. Click **Trend** classification on node bar, then select **Data Log Trend**.

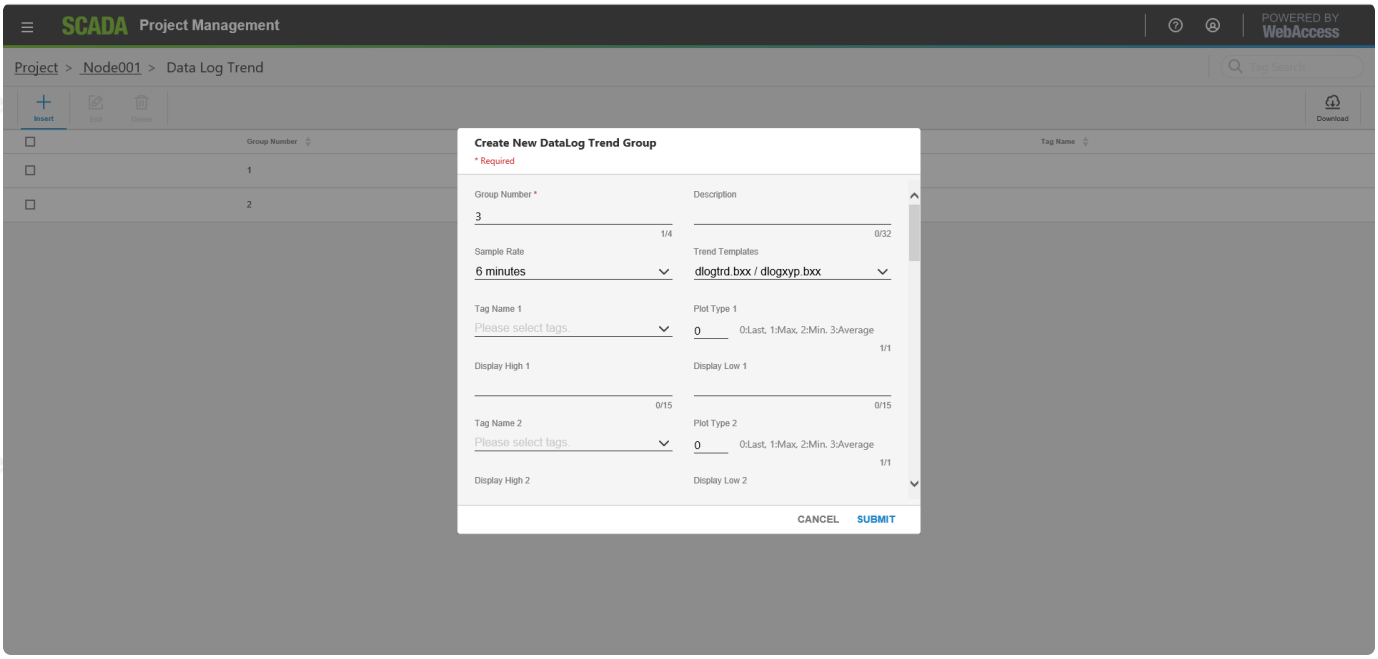


3. You will see the **Data Log Trend List**.



4. Select **Insert**.

5. The Data Log Trend configuration page appears.



6. Enter a Unique Group Number (between 1 and 1000). This is how the Group will be ordered in the Data Log Trend Group Dialog Box in VIEW and identified by Operators and Users.
7. Enter a **Description** for the group. This will appear in the Data Log Trend Group List Dialog Box seen by users and operators in VIEW.
8. Select the pull–down list next to **Time Span**. The default value is 6 minutes. This will determine the default time span and sample interval when this display first opens (the user can modify this on the fly). Data Log Trend supports the following **time spans** for viewing data: 6 minutes, 12 minutes, 30 minutes, 1 hour, 2 hours, 4 hours, 6 hours, 12 hours, 18 hours, 24 hours, 2 days, 4 days, 1 week, 1/2 months, 1 month, 2 months, 3 months, 4 months, 6 months, 1 year, 2 years, 3 years, 4 years, and 5 years. This feature allows the viewing of data at a sample frequency different than the recording frequency. The intent is to allow users to adjust the time span across the screen. This does not affect the actual data recording rate.
    - 6 min is 1 second sample interval.
    - 12 min is 2 second samples
    - 30 min is 5 second samples
    - 1 hour is 10 second samples
    - 4 hour is 40 second samples
    - 6 hour is 1 minute samples
    - 12 hour is 2 minute samples
    - 1 day is 4 minute samples
    - 2 day is 8 minute samples
    - 1 week is 28 minute samples
    - 15 days is 1 hour samples

- 1 month is 2 hour samples
- 3 months is 6 hour samples
- 1 Year is daily samples

9. Select the field next to Tag Name 1.
10. Open the Pull down list by clicking on Tag List. This shows the names of all Analog Tags with **Log Data** and Discrete Tags with **Log Data** set to yes.
11. Scroll down the Tag List. Click the Tag Name desired. The Tag Name should appear on the Tag Name 1 field.
12. Repeat from Tag Name 2 to 12.
13. If you did not enabled Data Log for a tag, you can enable data Log later and enter the tag name now. You can Type **Tag names** and **Blocks (BLOCK: PARAMETERs)**. You can also **copy and paste** Tag Names and Block Names from the **Left Frame** of your browser.
14. Select the opening **Plot Type** that will appear for each tag. Users can change this from VIEW in combination with the Time Period Chosen (Seconds, Minutes Hours, and Days).
    - LAST shows the last recorded value of the Tag during the time period.
    - Average shows the average value.
    - Minimum will show the smallest value.
    - Maximum will show the largest value.

    If seconds are the time period chosen by the user, the Last value is always shown.

    Seconds is the default period chosen. You entry here will affect the Minutes, Hours and Day time periods.
15. The **Display High** and **Display Low** to "zoom in" or "zoom out" of trend data. By default, Advantech WebAccess/SCADA uses the High Span and Low Span of the Tag. Data Log Trend Displays have configurable Display High and Display Low values for the y–axis (and x–axis in X–Y Plots). Trend displays will “remember” changes made to Display High and Low from VIEW and ViewDAQ. The Display High and Low are assigned to the Trend Group, allowing the same tag to have different sets of Display High and Low when assigned to multiple display groups.
16. **Submit** when you are finished.
17. There are two ways to **download** these changes to the SCADA Node:
    a. **Download and Restart the SCADA node** from the **SCADA Node properties** page. If you have never downloaded the SCADA node before, then this is required. This will temporarily stop the SCADA node (if it is running).
    b. Use the **Export** on the **Data Log Trend Display Group List** Page. This will download changes to the Data Log Trends without stopping the SCADA node.

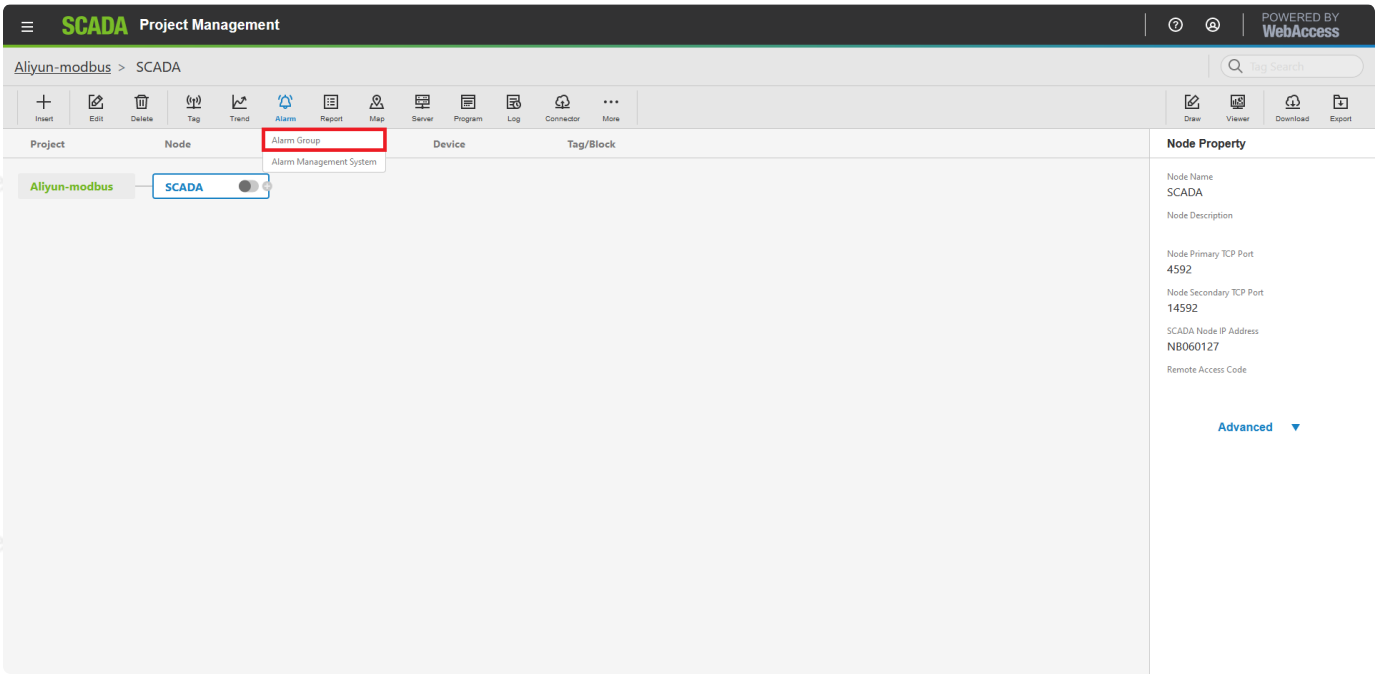
At least one Data Log Trend Display group must be configured to view Data Log Trends.
The New Tag button can be used to add tags (temporarily) to any Data Log Trend Display. If your users will regularly view the same tags in a trend, it is probably best to configure multiple Data Log trend groups for their convenience.

5.5 Alarm Group

You have already created the BLOCKS and TAGS you plan to add to your Alarm Group Displays. You can type in the Tag Names and Block Names of tags and blocks you plan to build. You can also select Blocks and Tags from the Pull Down List.

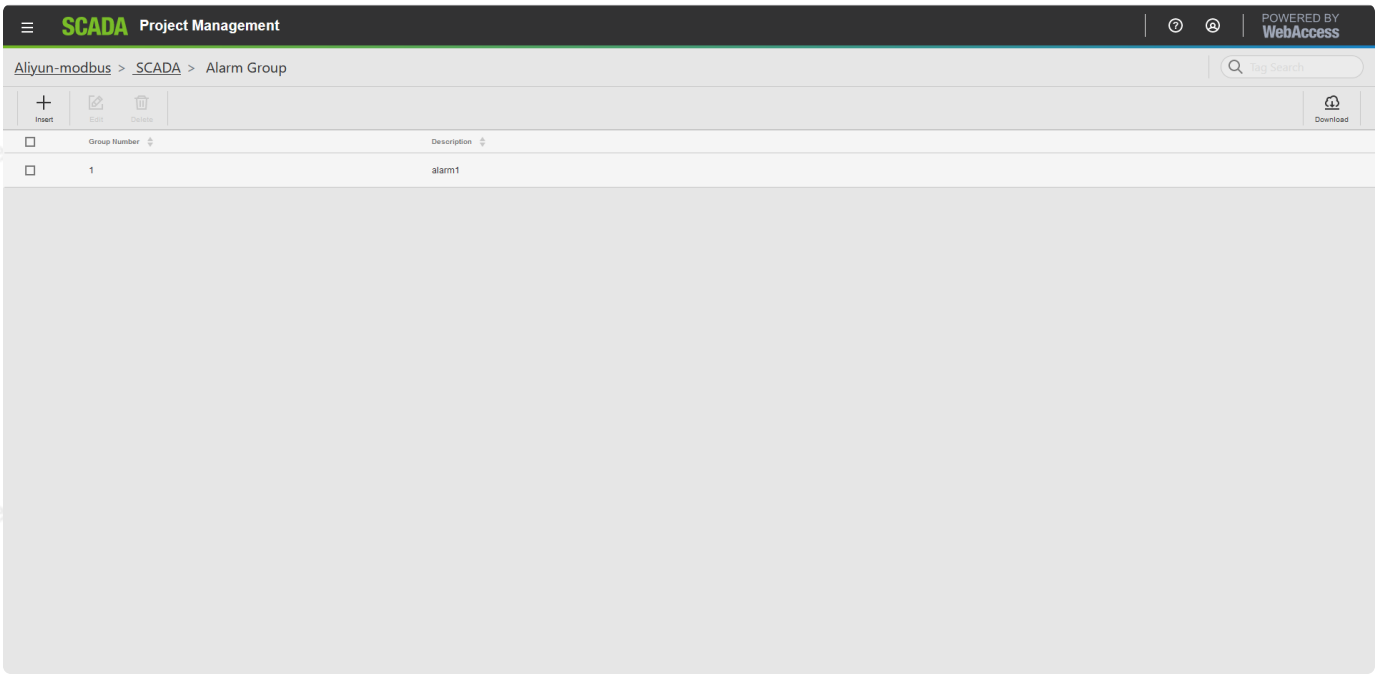
5.5.1 Configure alarm group

1. Select your Project and the SCADA Node.
2. Click **Alarm** classification on node bar, then select Alarm Group.

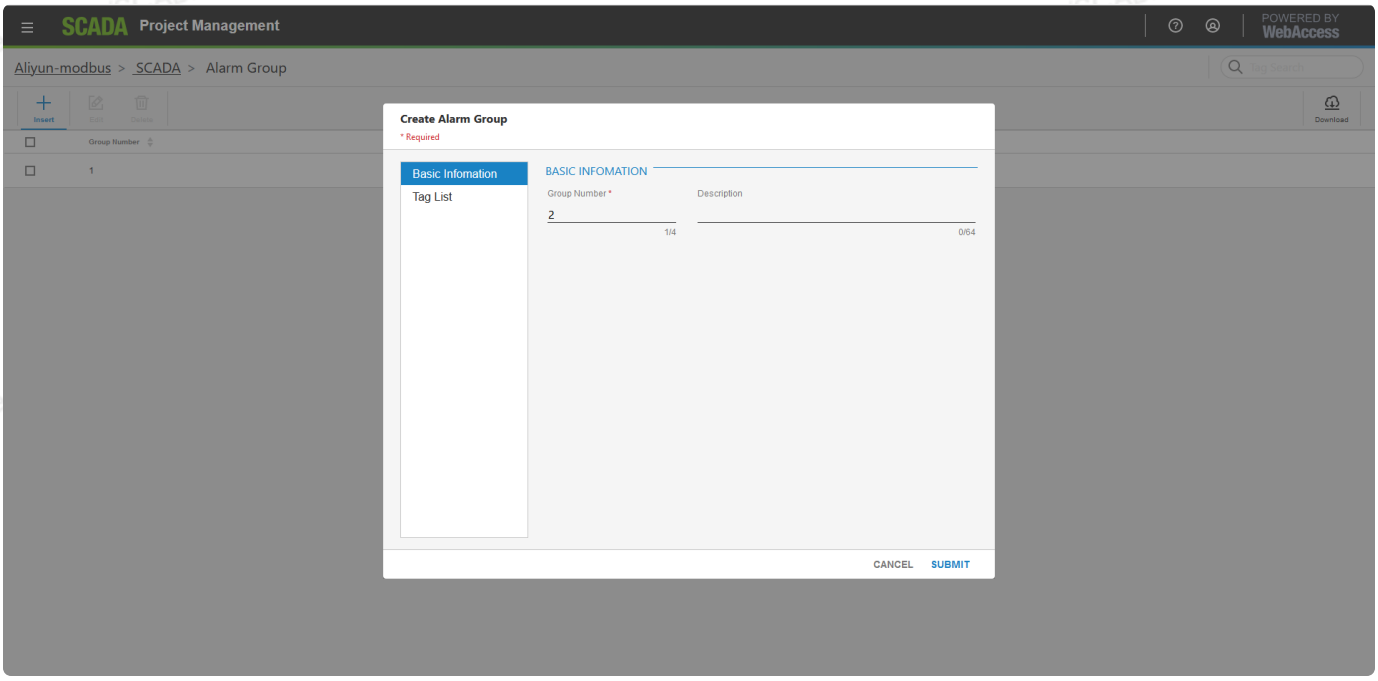


3. You will see the Alarm Group List.

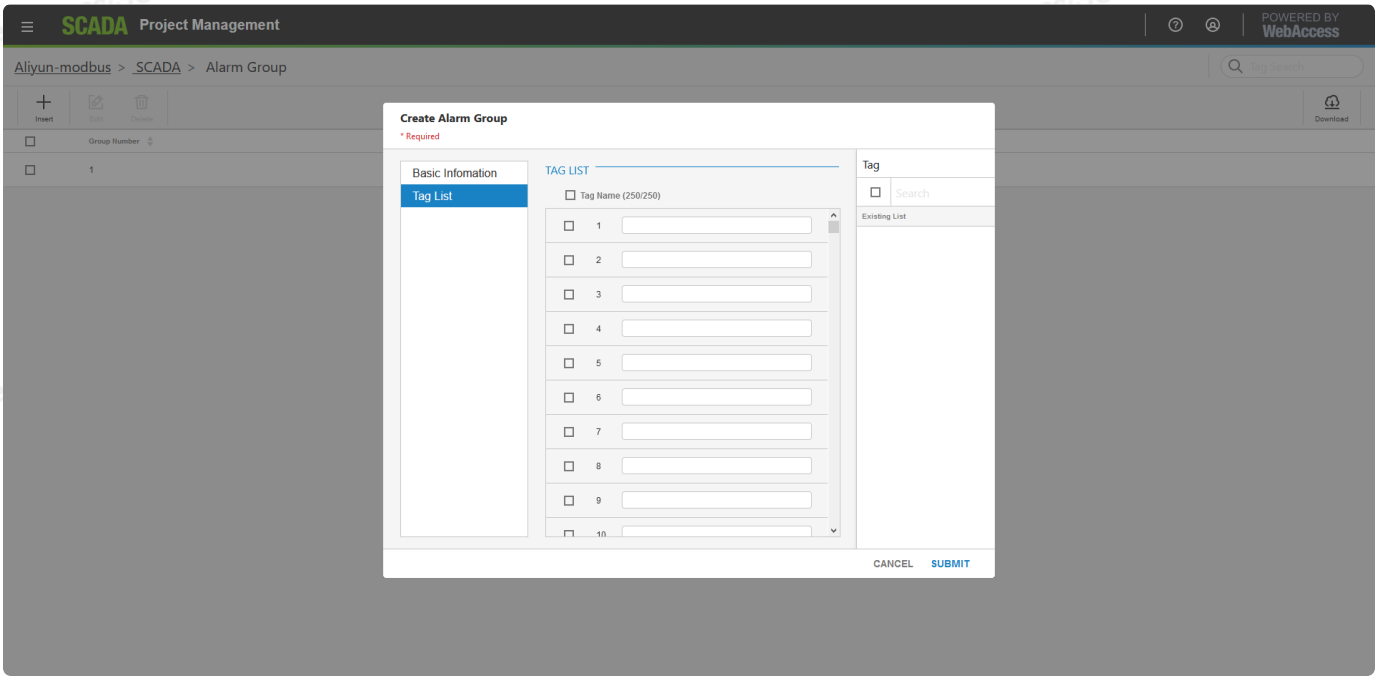
WebAccess/SCADA



4. Click **Insert.**
5. The Create Alarm Group page appears.



6. Enter a Unique Group Number (between 1 and 9999). This is how the Group be ordered in the Alarm Group Dialog Box in VIEW and identified to Operators and Users.
7. Enter a Description for the group. This will appear in the Alarm Group Dialog Box Dialog Box seen by users and operators in VIEW.
8. Select the **Tag List** in the left side, then choose the **Tag List** in the right side which shows the names of all Analog Tags and Discrete Tags to enter data into the Tag Name.



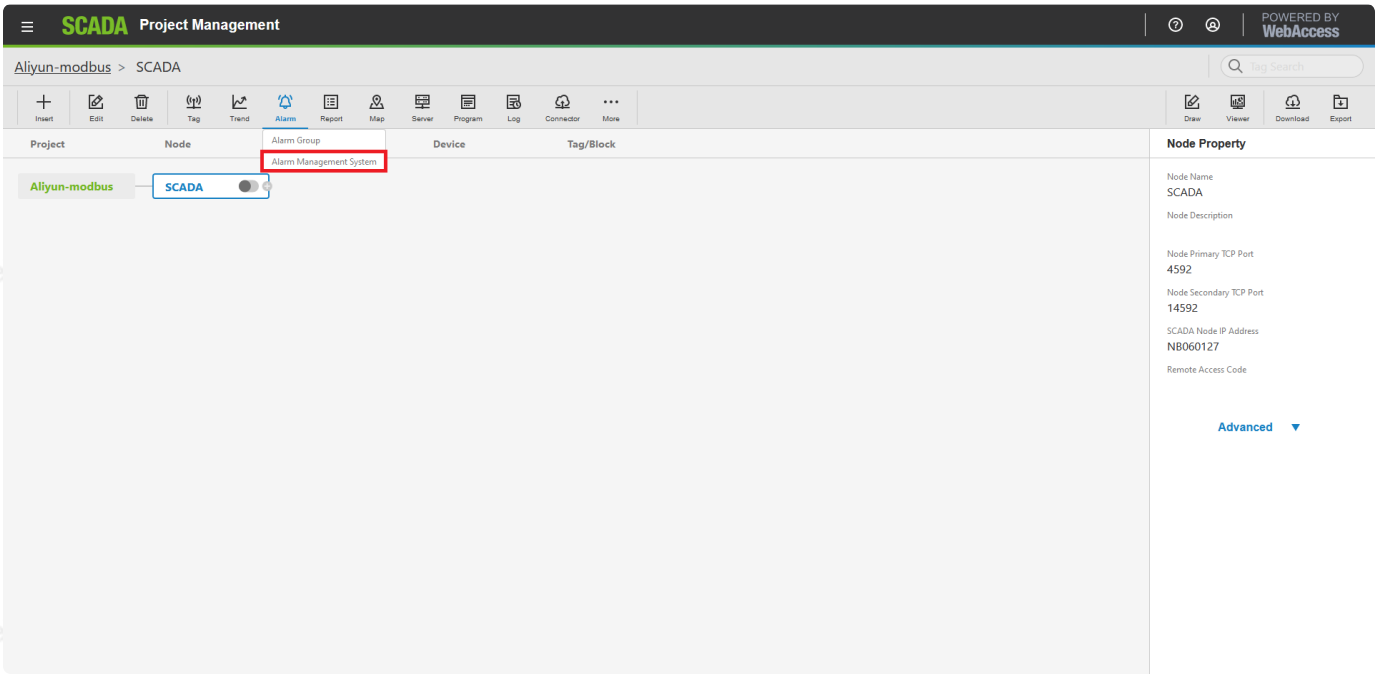
9. Repeat step 8 to add more tag names.
10. **Submit** when you are finished.
11. There are two ways to **download** these changes to the SCADA Node:
    - Download and Restart the SCADA node from the SCADA Node properties page. If you have never downloaded the SCADA node before, then this is required. This will temporarily stop the SCADA node (if it is running).
    - Use the Download hyperlink on the Alarm Group List Page. This will download changes to the Alarm Groups without stopping the SCADA node.
12. You can use **update** or **delete** on the **Alarm Group List**.

5.6 Alarm Management System

WebAccess/SCADA advanced Alarm Management System (AMS) delivers alarm messages via SMS, email or audio announcements to multiple receivers by predefined alarm groups, user groups, time schedules and priority settings.

5.6.1 Entry

1. Select your Project and the SCADA Node.
2. Hover **Alarm** ribbon button
3. Click **Alarm Management System**.



5.6.2 Configuration

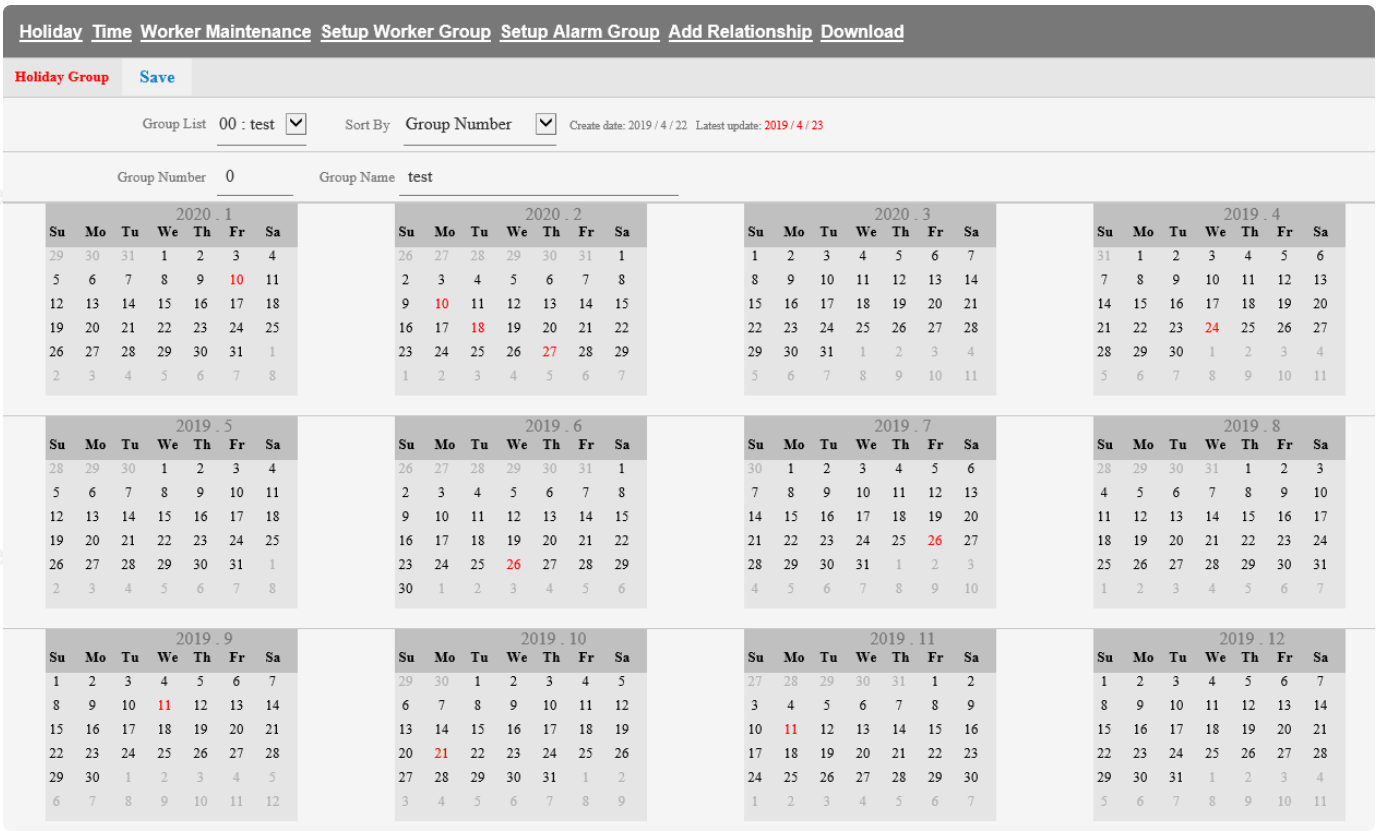
Alarm Management System Configuration:

1. Define **Holidays**: **Holiday** handles exceptions to the 7 day weekly schedule. The "Holiday" is any unusual event or series of events. The Holiday setting can be defined, redefined and assigned at any time.
2. Define **Time**: **Time** has Workday and Holiday settings. Users can set the Working Start Time and Work hours for a Workday and Holiday schedule. Users can also define Time groups for different shifts.
3. **Worker Maintenance**: Assign worker information, like name, e-mail and phone number. Users can maintain the information.
4. **Setup Worker Group**: One or multiple workers, a single Time group and a Holiday group are assigned to each Worker Group. Worker Groups are groups of Workers that frequently share the same Time and Holiday Schedule to send an alarm to.
5. **Alarm Group**: Alarm Groups will build "Tags" that will always share the same Schedule to send the alarm.
6. **Add Relationship**: Connect the **Worker Group** and **Alarm Group** to share the same schedule with alarm tags to workers.
7. **Download**: Download the setting to the SCADA node. You can download the setting without stopping the SCADA node. The new setting will take effect immediately. If a tag is supposed to be ON, it will be set to the ON value.

Project users can add, modify, and download **Alarm Management System** from the Project Manager.

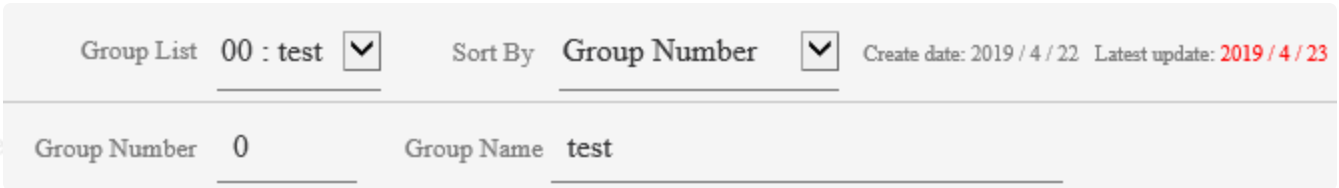
5.6.2.1 Holiday

Holiday can be used for any calendar event or series of events, based on the Month, Day of Month and Year, up to 1 year in the future. Multiple schedules can be configured and assigned to different groups of tags.
Its typically usage is to create "Holiday" groups to have an "exception" to the normal weekday schedule. A Holiday Schedule can be created for any calendar event.



Holidays and exceptions to normal schedules are shown in RED. Click once on a date to add or remove a "holiday".

- Group List： A list of all configured Holidays.
- Sort By: How Holiday Groups are sorted in the Group List: by Name, or by Number.



  - Group Number: In the Group list, the Group Name is shown next to the Group Number.
  - Group Name: In the Group list, the Group Number is shown next to the Group Name.
- Group Number: A user defined number for the Holiday Schedule.
  - Entering a New number, not already specified, will create a new Holiday Group

- Entering a number that already exists in group will try to overwrite or update the Holiday Group.

- **Group Name**：The user defined Name for this Holiday Schedule.
- **Save**：Save without downloading the currently displayed Holiday Group, as the group number specified in Group Number.
  - If the group number does not exist, it will create a new Holiday Schedule.
  - If the group number does exist, it will try to overwrite the existing group with this Holiday Schedule and description.
- **Delete**：Delete the specified Holiday group, specified by the Group Number.

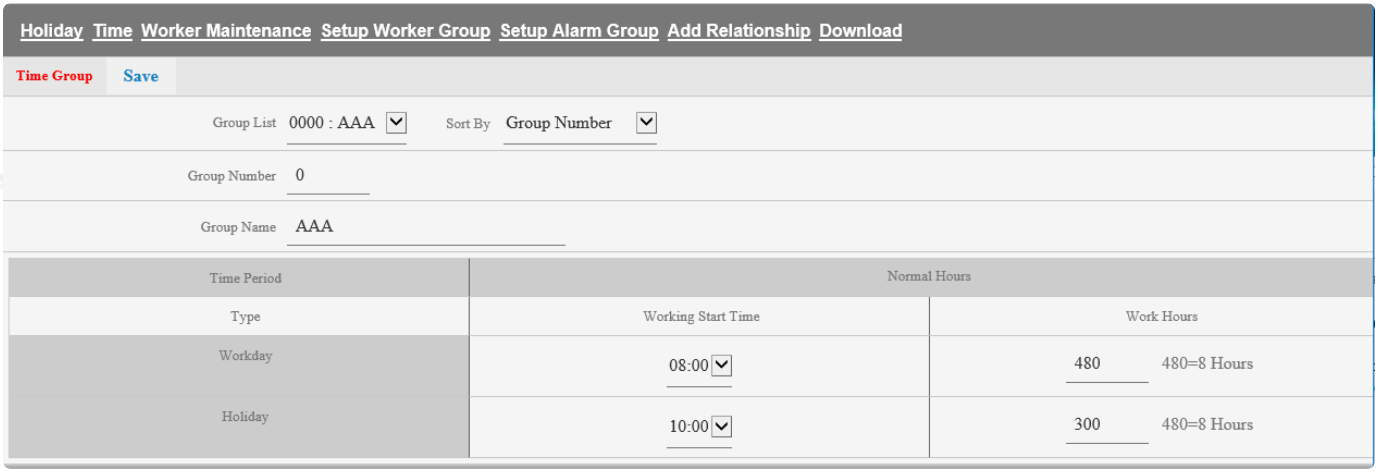
Each Worker Group has one Holiday Group assigned to it. This Holiday Schedule becomes the "exception" to the normal weekday schedule defined in each Worker Group. The same Holiday Group can be assigned to multiple Worker Groups.

5.6.2.2 Time

Time defines the Work start time and Working hours for Workdays and Holidays. Users can define the Time group for different shifts. The same Time Schedule can be assigned to multiple Worker Groups.

Users can define different work times and hours for each Time Group to assign the alarm message to different Worker Groups based on the Time scheduler. The alarm tags will be managed and workers can immediately check the situation.

Users can build an unlimited number of Time Groups. For example, if you have multiple shift table for workers, they may each have their own Time Group. It's recommend to start out with one Time Schedule. If you are in need some day, just create a new Time Group.



- **Group List**：A list of all configured Times.

- **Sort By**：Changes how Time Groups are sorted in the Group List: by Name or Number.
  - Group Number：In the Group list, the Group Name is shown next to the Group Number.
  - Group Name：In the Group list, the Group Number is shown next to the Group Name.
- **Group Number**： User defined numbers for the Time Schedule.
  - Entering a New number, not already specified, will create a new Time Group
  - Entering a number of an existing group will try to overwrite or update that Time Group.
- **Group Name**：A user defined Name for this Holiday Schedule.
- **Time Period**：Sets Work Start Time and Work Hours for Workday and Holiday
    - Work Start Time：Provides Time span every five minutes from 0:00 to 23:55
    - Work Hours：The unit is minutes. For example, 480 is for 8 hours (8*60)
- **Save**：Save without downloading the currently displayed Holiday Group.
  - If the Group number does not already exist, this will create a new Holiday Schedule.
  - If the group number does exist, it will overwrite the existing group with this Holiday Schedule and description.
- **Delete**：Delete specified Holiday group, specified in Group Number.

5.6.2.3 Worker Maintenance

Worker Maintenance builds workers information, such as name, e-mail and phone number. Users can maintain the information. The worker will be assigned to the Worker Group with the same Holiday and Time Group.

Add Worker：Build the worker information

WebAccess/SCADA

- **Number**：The number of the Worker. The worker list will list follow the number after submitting.
- **Name**：The name of the worker
- **Phone number**：The worker's phone number
- **E-mail**：The worker's e-mail address
- **App Notification:** Enable or disable to receive alarm push notification through mobile APP
- **Line:** Enable or disable to receive alarm through Line

- **WeChat**: Enable or disable to receive alarm through WeChat
  - Company ID: WeChat Company ID
  - Application ID: WeChat Application ID
  - Application Secret: WeChat Application Secret
  - User ID: WeChat User ID
- **IFTTT**: Enable or disable to receive alarm through IFTTT
  - Outgoing Email (SMTP) Server: IFTTT Outgoing Email (SMTP) Server
  - Email Port: IFTTT Email Port
  - Use SSL/TLS: IFTTT Use SSL/TLS
  - Email Address: IFTTT Email Address
  - Email Password: IFTTT Email Password
- **Submit**：Save the information of the worker
- **Cancel**：Cancels the building of the worker information and returns to the Worker List.

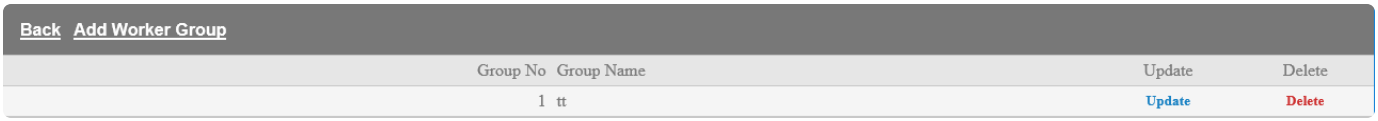
Users can Update and Delete the worker on Worker List page.

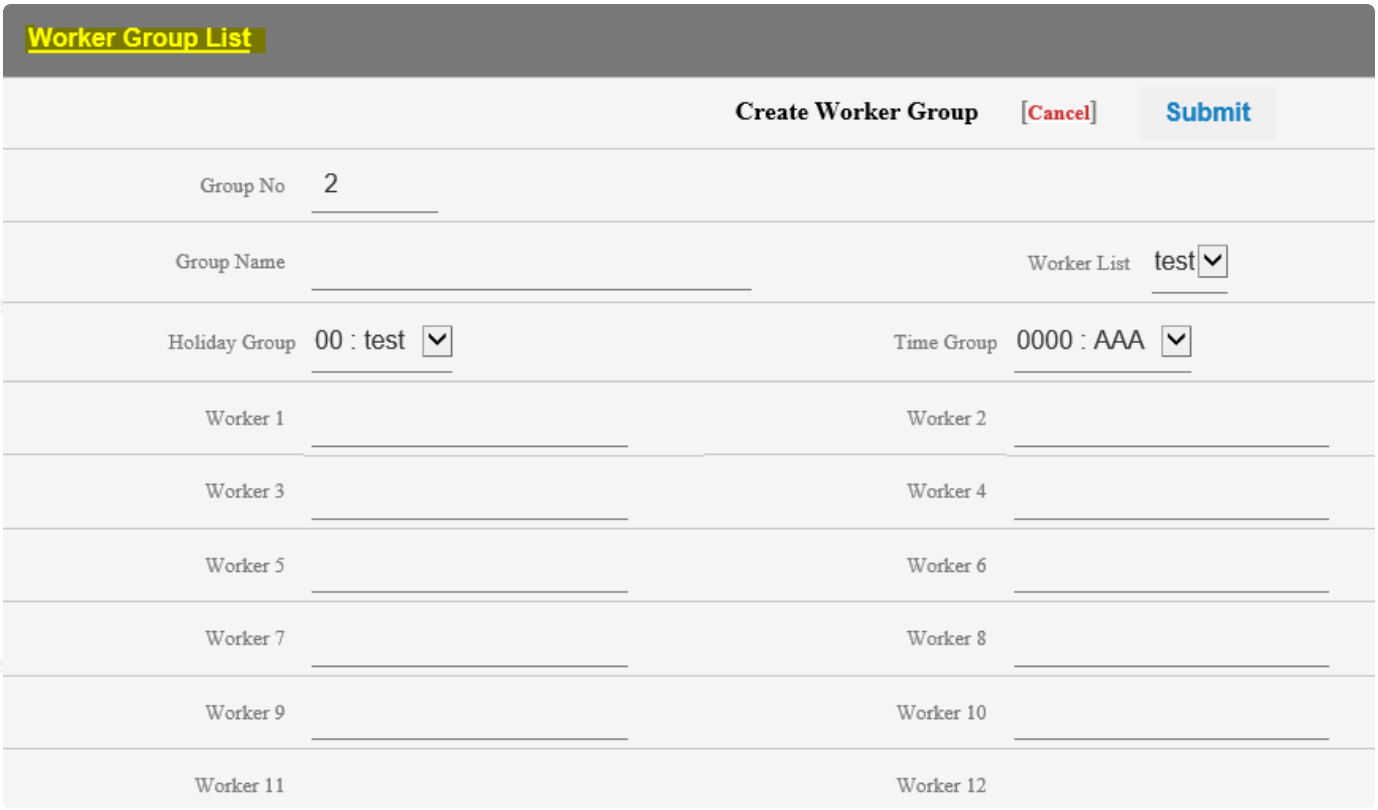
- **Update**：Update the information
- **Delete**：Delete the data of the worker

5.6.2.4 Set Worker Group

One or multiple workers, a single Time group and a Holiday group are assigned to each Worker Group. Worker Groups are groups of Workers that frequently share the same Time and Holiday Schedule to send an alarm to.

Add Worker Group：Add a new Worker Group



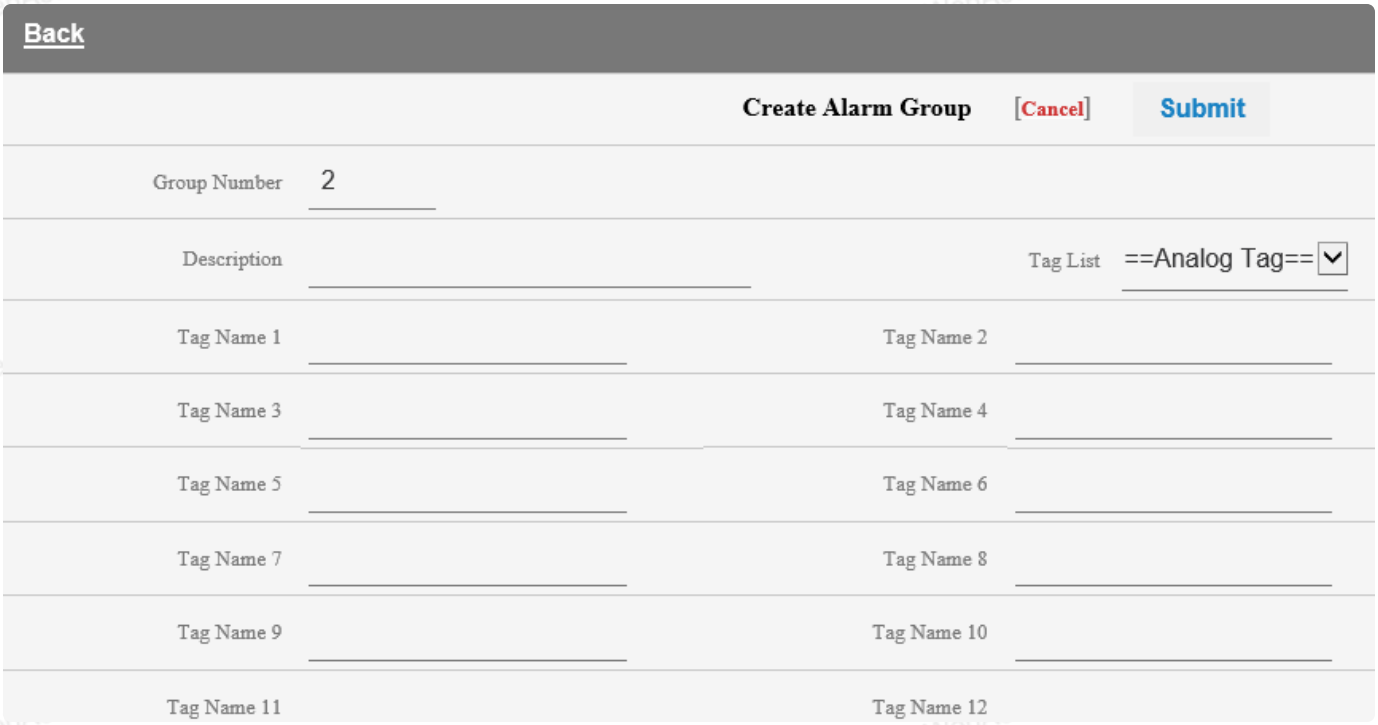


- **Group No**: The number of the Worker Group. The Worker Group list will follow this number once submitted.
- **Description**: The description of the Worker Group
- **Worker List**: The worker list provides a pull down menu of Worker names for easy data entry. Click the fields listed under the Worker and then open the Worker List by clicking it. Scroll down to find the Workers name. Click once on the Workers name to enter it into the selected Workers name field.
- **Holiday Group**: Lists all Holiday Groups and assigns this Worker Group to the specified Holiday Group.
- **Time Group**: Lists all Time Groups and assigns this Worker Group to the specified Time Group.
- **Worker**: The column lists the Workers associated with this Worker Group.
- **Submit**: Saves the Worker Group. By only entering the Number users can submit the data.
- **Cancel**: Cancels the building of the Group and returns to the Worker Group List.
- **Update**: Update the information
- **Delete**: Deletes the data of Worker Group

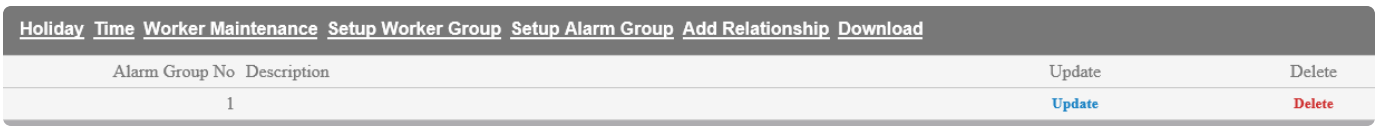
5.6.2.5 Setup Alarm Group

The Alarm Group connects to the Worker Group to send alarm messages with the same Holiday and Time Group. The alarm message of one tag can be received by multiple workers.

Click Setup Alarm Group



- Group Number: The Number of the Alarm Group. The next number in the Alarm Group is automatically assigned once the first is submitted.
- Description: The description of the Alarm Group
- Tag List: The Tag List provides a pull down menu of tag names for easy data entry. Click the fields listed under the Tag Name and then open the Tag List by clicking it. Scroll down to find the tag name. Click once on the tag name to enter it into the selected tag name field.
- Submit: Save the Alarm Group.
- Cancel: Cancel building the Group and return to the Alarm Group List.



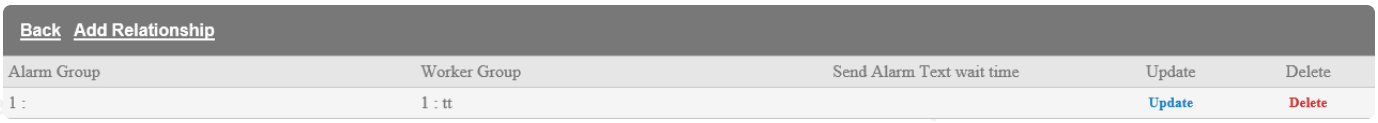
- Update: Update the information
- Delete: Delete the data of Alarm Group

5.6.2.6 Add Relationship

Add Relationship means making the connection between the Worker Group and Alarm Group. The tags in the specified Alarm Group can send alarm messages to multiple receivers in the

Worker Group with the specified Time and Holiday Group. Workers can manage the alarm situation of tags via the Time and Holiday schedule.

- Click **Add Relationship** to set the connection between the Worker group and Alarm Group



- Chose the connection of the specified Alarm Group and Worker Group

- **Delete**: Delete the data of Alarm Group

5.6.2.7 Download Schedule from Project Manager

Schedule changes will be downloaded to the SCADA Node without stopping the SCADA node.
This can be done from any configuration page in the Alarm Management system.
A dialog box prompts the user to confirm to download the schedule to SCADA Node. All "submitted" changes made to the scheduler are downloaded.
All Manual ON or Manual OFF states are also downloaded.
To download a changed SCADA node from Project Manager:

1. Login to Project Manager.
2. Select Project and SCADA Node.
3. Select Scheduler from SCADA Node main page.
4. Make the desired changes in Holiday, Time, Worker Group, Alarm Group and the Relationship.

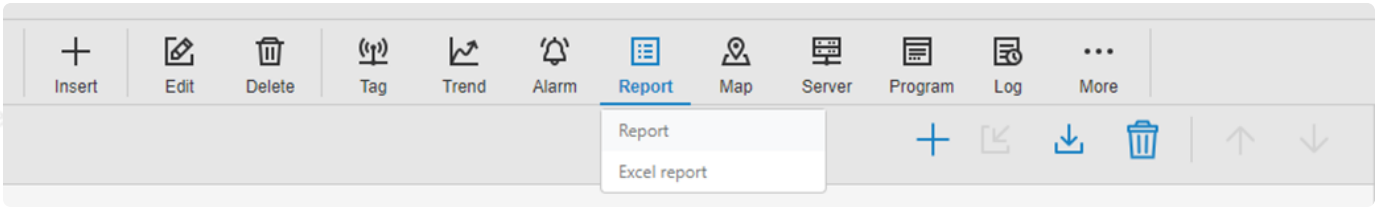
5. Submit.
6. Click to download to SCADA Node.

Select OK at the dialog box to download the Scheduler.

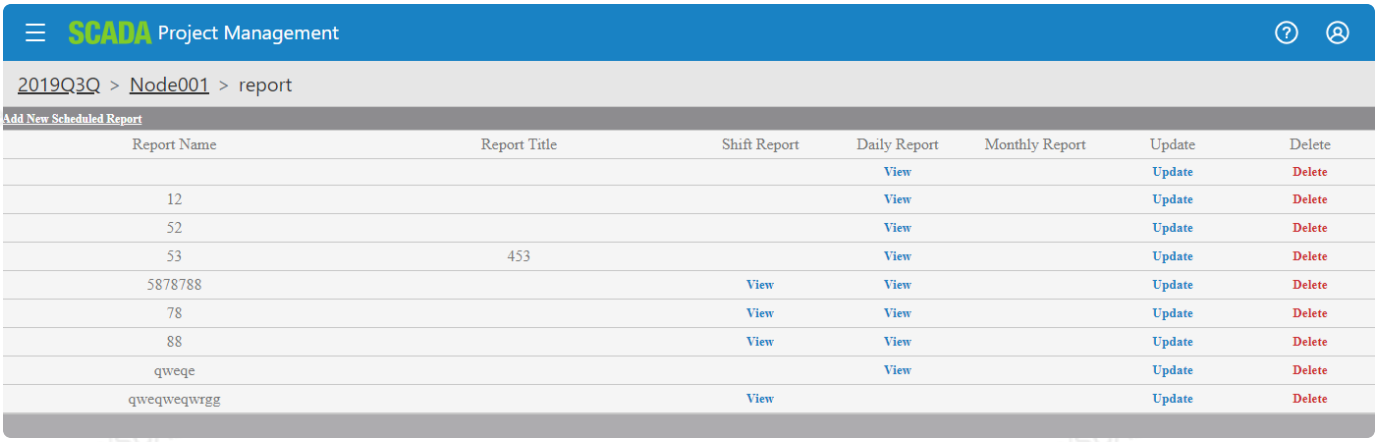
5.7 Report

5.7.1 Configure Report

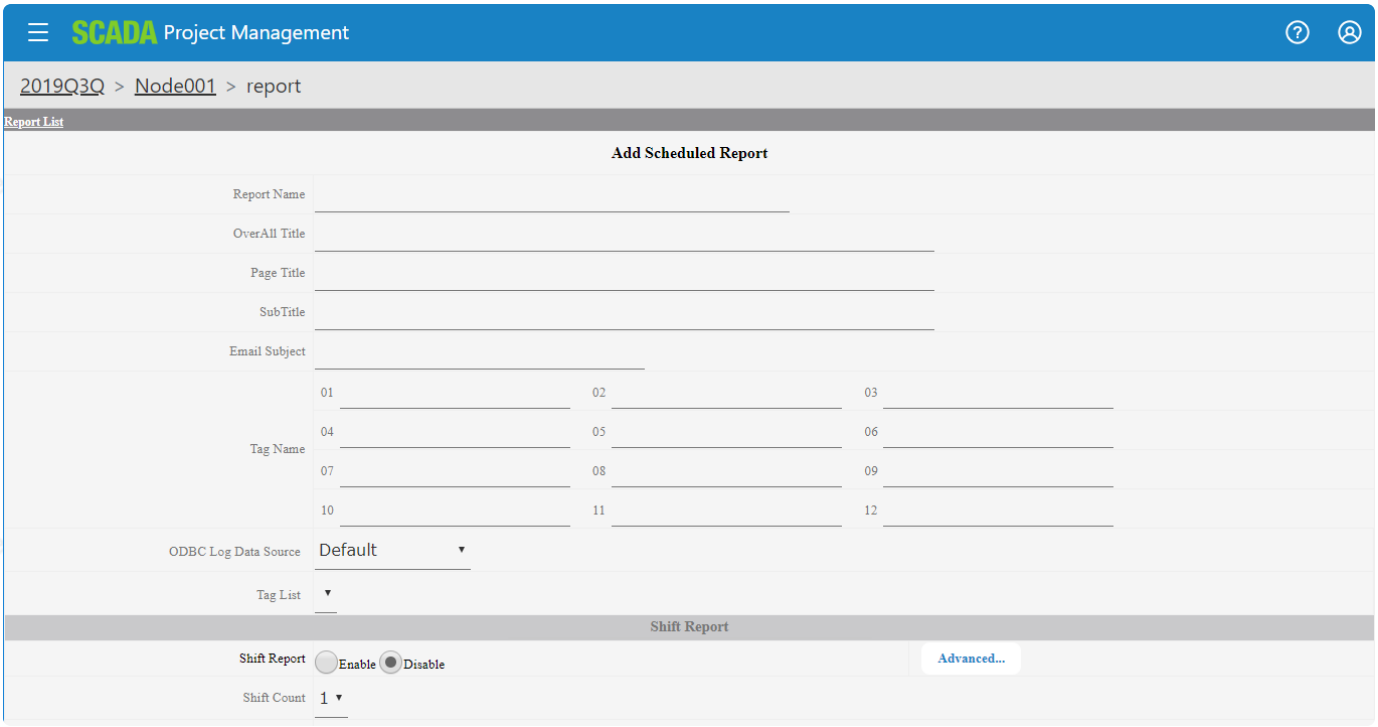
1. Select your Project and the SCADA Node.
2. Click **Report** classification on node bar, then select **Report**.



3. You will see the **Report List**.



4. Select **Add New Scheduled Report.**
5. The Report configuration page appears.



6. Enter a **Report Name**. This is the name that will appear in the Scheduled Report List. This is a required field.
7. Optionally, fill in the **Title** for the Report. The Title consists of three lines of text at the Top of the Report.
8. Optionally enter an **Email Subject**. This is the subject Line that will appear in **Emailed Scheduled Reports**. The Date will be “pre–fixed” to this subject when sent. The tags from for the twelve (12) columns the report are entered in the **Tag Name** area, from **01** to **12**.
9. Click on the **01** field.
10. Select the **pull down list** of tags at the right of **Tag List**. Only Analog Tags with Log to ODBC Frequency > 0 appear in the list.
11. Scroll down to the **Tag Name** to add data to column 1.
12. Repeat from fields **02** to **12** as desired.
13. **Enable** or **Disable** Shift Report, Daily Report and Monthly report by checking the radio button.

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14. If you are using **Shift Report**,
    a. Enter the **Shift Count** (number of shifts per day).
    b. Enter the **Start Time** for the **first Shift** (usually 8 hrs 0 minutes in the USA, 8:00 am).
    c. Enter a **Shift Duration** (usually 8 hours if there are 3 shifts per day).
    d. Enter a **Recording Time Interval.** This applies to **Shift reports only.**
15. For **Shift**, **Daily** and **Monthly** Report:
    a. Enter **Email addresses** of recipients in **Email To**. This will be combined with the Global Report Email TO in SCADA Node Properties.
    b. Enter **Email CC** (carbon Copy line). This will be combined with the global Report Email CC in SCADA Node Properties. *Hint — Email To and CC fields can be a Text tag that contains the name(s) of email recipients (use @tagname) for use with the Scheduler to schedule who receives the reports by Time of Day, Day of Week, Holiday or calendar.*
    c. Use the radio buttons (Yes or No) to enable **Print to Printer**. This will print the scheduled report on the **Default Printer** of the SCADA Node. The report will print at the end of the shift, day or month.
    d. Use the radio buttons (Portrait or Landscape) to enable **Orientation** of reports printed on a printer.
    e. Use the pull down menus to select **Font Size** (Larger, medium, smaller).
    f. Enter a value for the **Margins** (top, left, right and bottom) of printed reports. If the report will not fit on a single page, Advantech WebAccess/SCADA will print multiple pages with the Title, Time, and summary data on each page
16. All three reports use the same Tags in the same columns. Different calculations (Average, Total, Min, Max, Last Value) can be performed in the Shift, Daily and Monthly Reports. These are specified under the Tag Property Button for each report. The Titles of the Columns for the Reports are specified in the Tag Property for each report (a column represents one Tag's data). The three reports can have different Titles for each column or share the Titles based on another report (e.g. import Shift Report Titles to Daily, or Daily into Monthly).
17. Enable printing to the default printer on the Project Node by checking the "Yes" radio button

under **Print to Printer**.

a. Modify **Orientation** (Landscape or Portrait)
b. Modify **Font Size** (uses fonts installed on the Project Node)
c. Modify **Margins** for the printing to a printer using

18. Continue to Shift Tag Property or Daily Report Tag Property or Monthly Tag Property (in the following sections).
19. Press **Submit**.

> *Hint – If you press submit without updating Tag Property for each report type, all values will be Averages and the Titles for each column will be blank.*

5.8 Excel Report

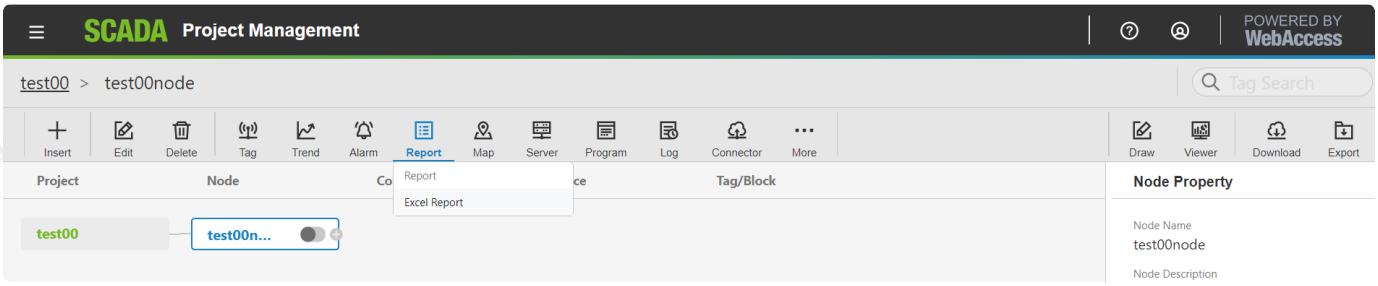
WebAccess/SCADA Excel reports are generated from the historical **Data log, ODBC data (Analog, Discrete, and Text Tag), Alarm Log, Action log, and Event log** based on the templates built by the data table and analysis charts as the report format in the WebAccess SCADA Node. Users & Operators can build customized report templates based on EXCEL functions and key words and uploaded in the WebAccess Excel report function to automatically generated daily/weekly/monthly or specific date reports. The function provide extensive analysis and viewing functions for statistical and event data. Reports are built using easy to follow “Report Template Forms” based on Excel format. View immediately in View DAQ via IE or local PC or store as “Predefined Reports” for later use.

Note：

- Microsoft Excel version up to 2007
- Windows XP only supports Daily/Weekly/Monthly report types
- Support 32 tags and 7200 data

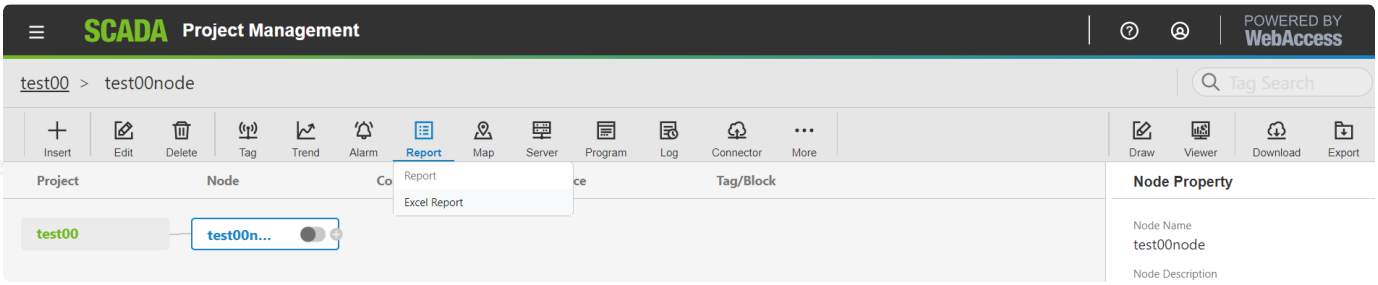
5.8.1 Excel Report Configuration

1. Start Advantech WebAccess/SCADA Project Manager.
2. Login with the User Name and Password and select your Project Name.
3. Click the SCADA node on Org chart.
4. Choose the **EXCEL Report** in Report ribbon：Go to the EXCEL report list page



5.8.1.1 Data Log Type

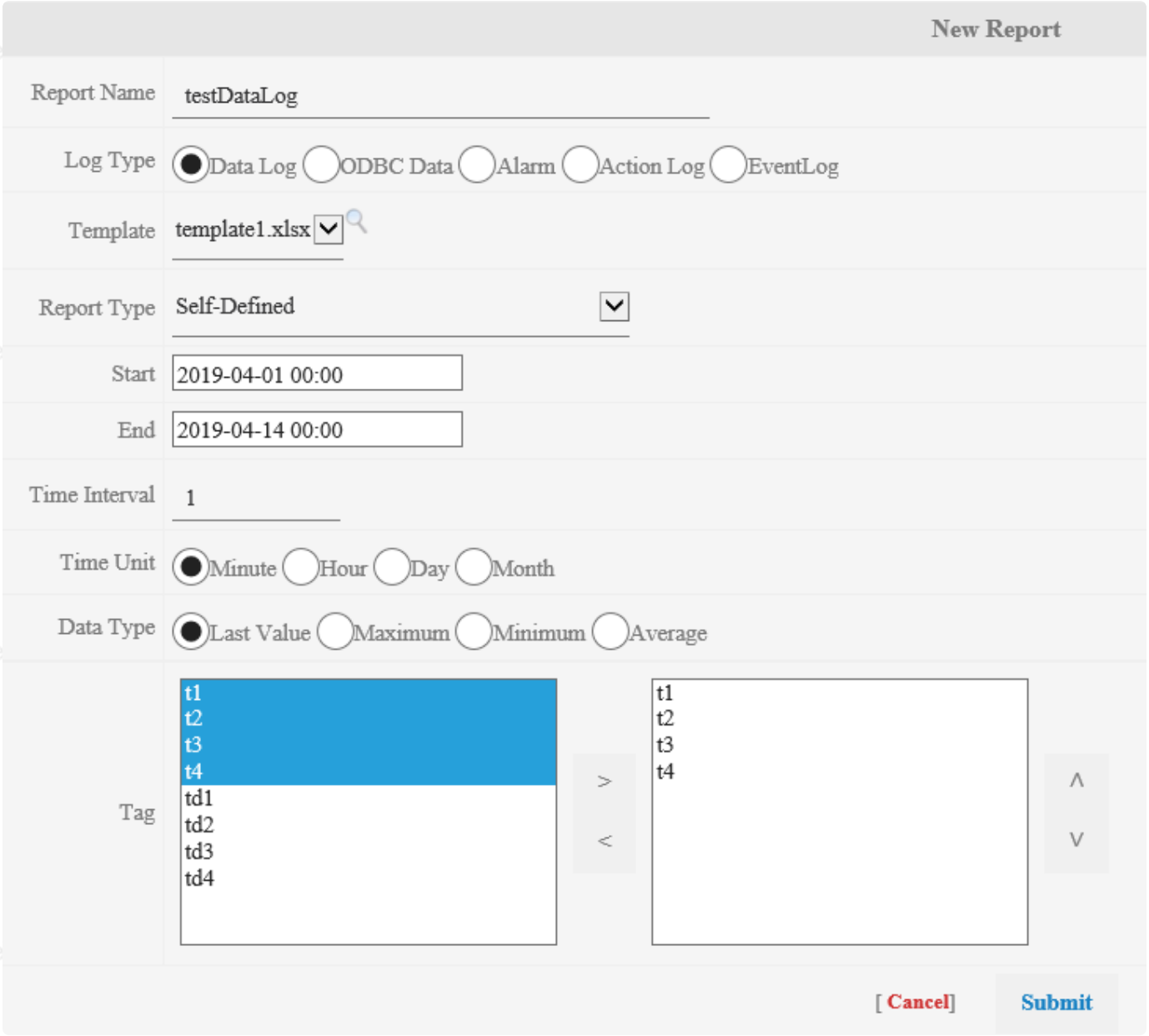
1. Start Advantech WebAccess/SCADA Project Manager.
2. Login with the User Name and Password and select your Project Name.
3. Click the SCADA node on Org chart.
4. Choose the **EXCEL Report** in Report ribbon：Go to the EXCEL report list page



5. Click **New Report** to create NEW EXCEL report

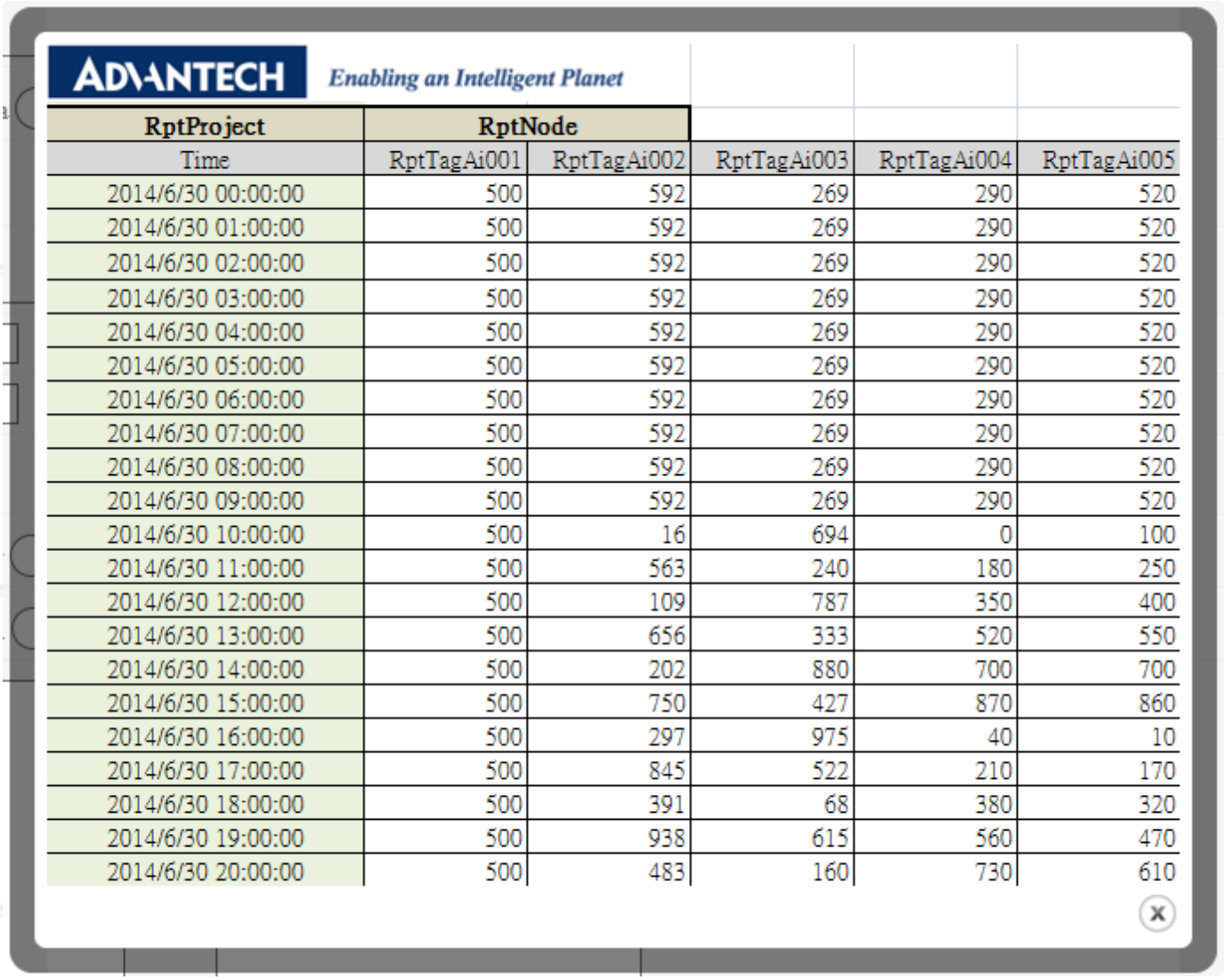
6. Configure the Report information

WebAccess/SCADA



- Report Name: Define the Report name. The maximum length of the name is 32 alphanumeric characters and it can't have spaces.
- Log Type: Choose the source of Data Log Type. Support Data log, ODBC data (Analog, Discrete, and Text Tag), Alarm Log, Action log, and Event log.
- Template: Default has four templates. Users can upload the predefined template to generate the report. Click the icon to preview the template to check the template format.

WebAccess/SCADA



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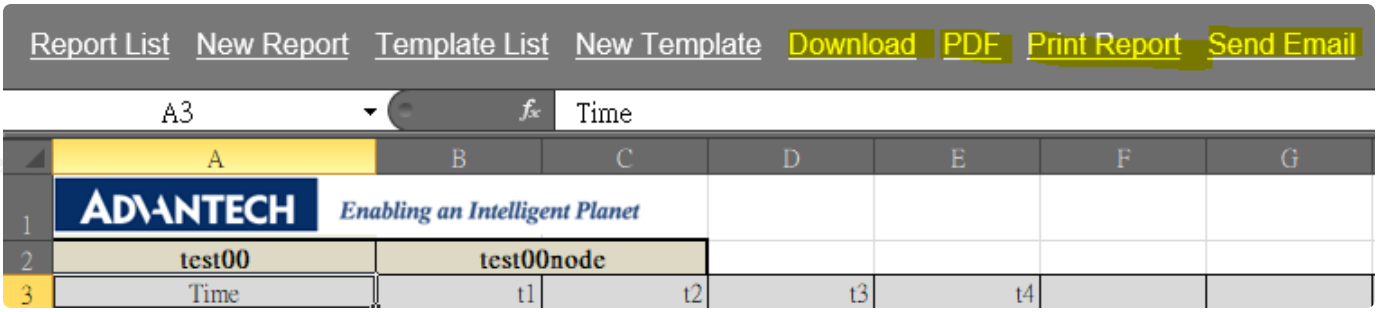
RptProject	RptNode				
Time	RptTagAi001	RptTagAi002	RptTagAi003	RptTagAi004	RptTagAi005
2014/6/30 00:00:00	500	592	269	290	520
2014/6/30 01:00:00	500	592	269	290	520
2014/6/30 02:00:00	500	592	269	290	520
2014/6/30 03:00:00	500	592	269	290	520
2014/6/30 04:00:00	500	592	269	290	520
2014/6/30 05:00:00	500	592	269	290	520
2014/6/30 06:00:00	500	592	269	290	520
2014/6/30 07:00:00	500	592	269	290	520
2014/6/30 08:00:00	500	592	269	290	520
2014/6/30 09:00:00	500	592	269	290	520
2014/6/30 10:00:00	500	16	694	0	100
2014/6/30 11:00:00	500	563	240	180	250
2014/6/30 12:00:00	500	109	787	350	400
2014/6/30 13:00:00	500	656	333	520	550
2014/6/30 14:00:00	500	202	880	700	700
2014/6/30 15:00:00	500	750	427	870	860
2014/6/30 16:00:00	500	297	975	40	10
2014/6/30 17:00:00	500	845	522	210	170
2014/6/30 18:00:00	500	391	68	380	320
2014/6/30 19:00:00	500	938	615	560	470
2014/6/30 20:00:00	500	483	160	730	610

- **Report Type**：The data type of report. Users can choose different data time types of report. There are six types, Self-defined, Last day, Last month, Multi-time, Daily Report, Weekly Report, Monthly Report
- **Start Time**：The start time of the data of the report based on the Report type
- **End Time**：The end time of the data of the report based on the Report type
- **Time Interval**：Data time interval display in Report.
- **Time Unit**：The Time unit of the Time interval.
- **Data Type**：Choose to show the Last/Maximum/Minimum/Average value of time interval in the report.
- **Send E-mail**：Choose send report to e-mail or not. Support Excel and PDF report file Type
- **Email To**：Type Email receiver
- **Email Cc**：Type Email Carbon Copy receiver

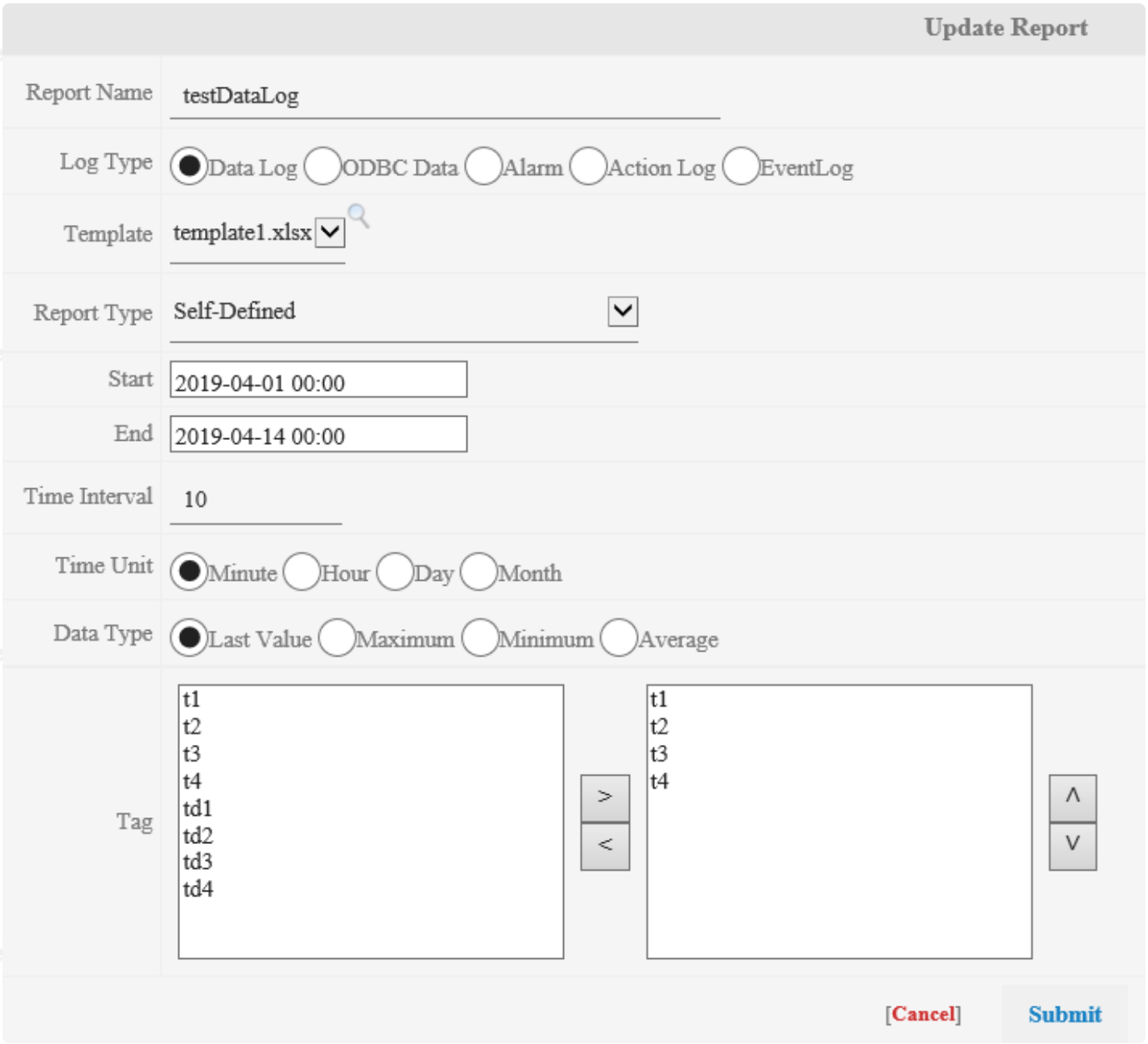
> Note: **Send E-mail**, **Email To**, **Email Cc** only enable on **Daily Report**, **Weekly Report**, **Monthly Report** and **Yearly Report**.

7. **Submit** the New Report
8. **Generate** the Report：Click Generate to get the Report. If the report has been generated, the report link is shown in the View column.



   - **Download**：Download the Excel file
   - **PDF**：Export to PDF file.
   - **Print**：Report Print the report directly
   - **Send E-mail**：Send the report to e-mail receiver directly.

9. **Update / Delete** Report：Click Update and go to the update page

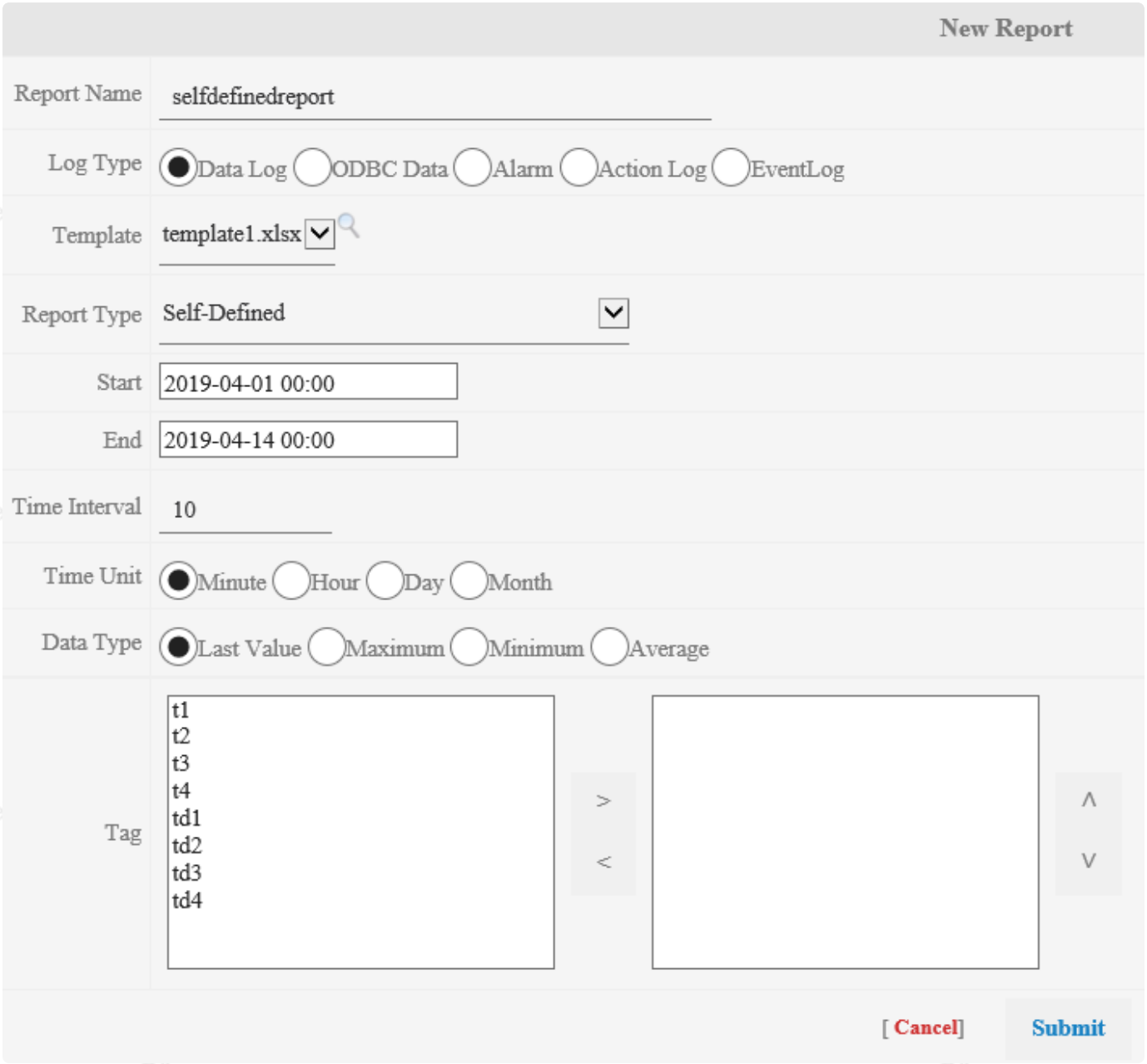


> Note:
>
> 1. One report can gather a maximum of 32 tags and 7200 records.
> 2. The report backup is in C:\inetpub\wwwroot\broadweb\WaExlViewer\report

1. Self-Defined Reports

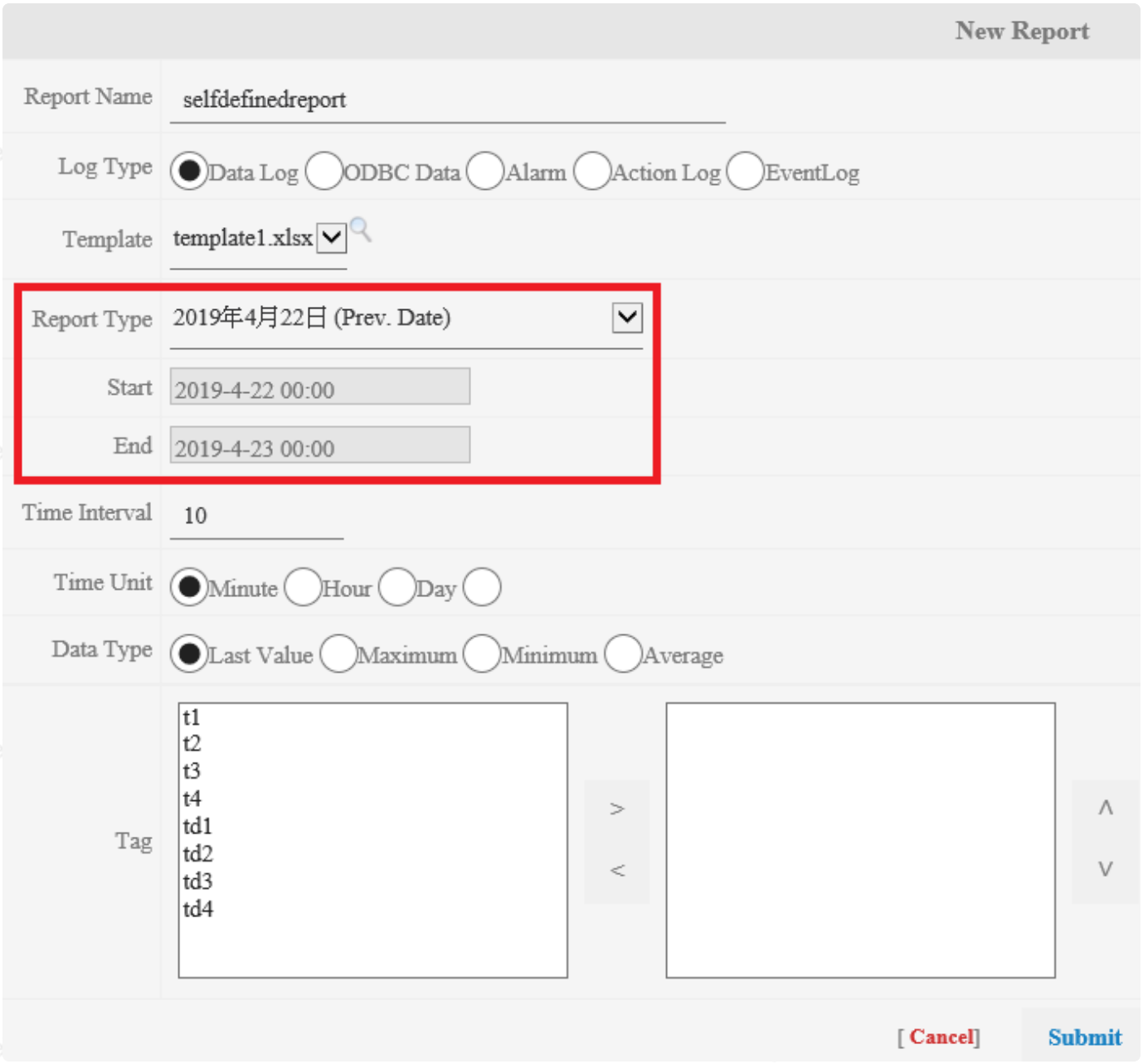
Self-Defined reports provide users with the option to choose selg-defined time to generate the report.

- Report Type: Self-Defined.
- Start Time/End time: The start time and end time of the time period.
- **Time Interval**: Time interval of all time periods.



2. Last day Report type

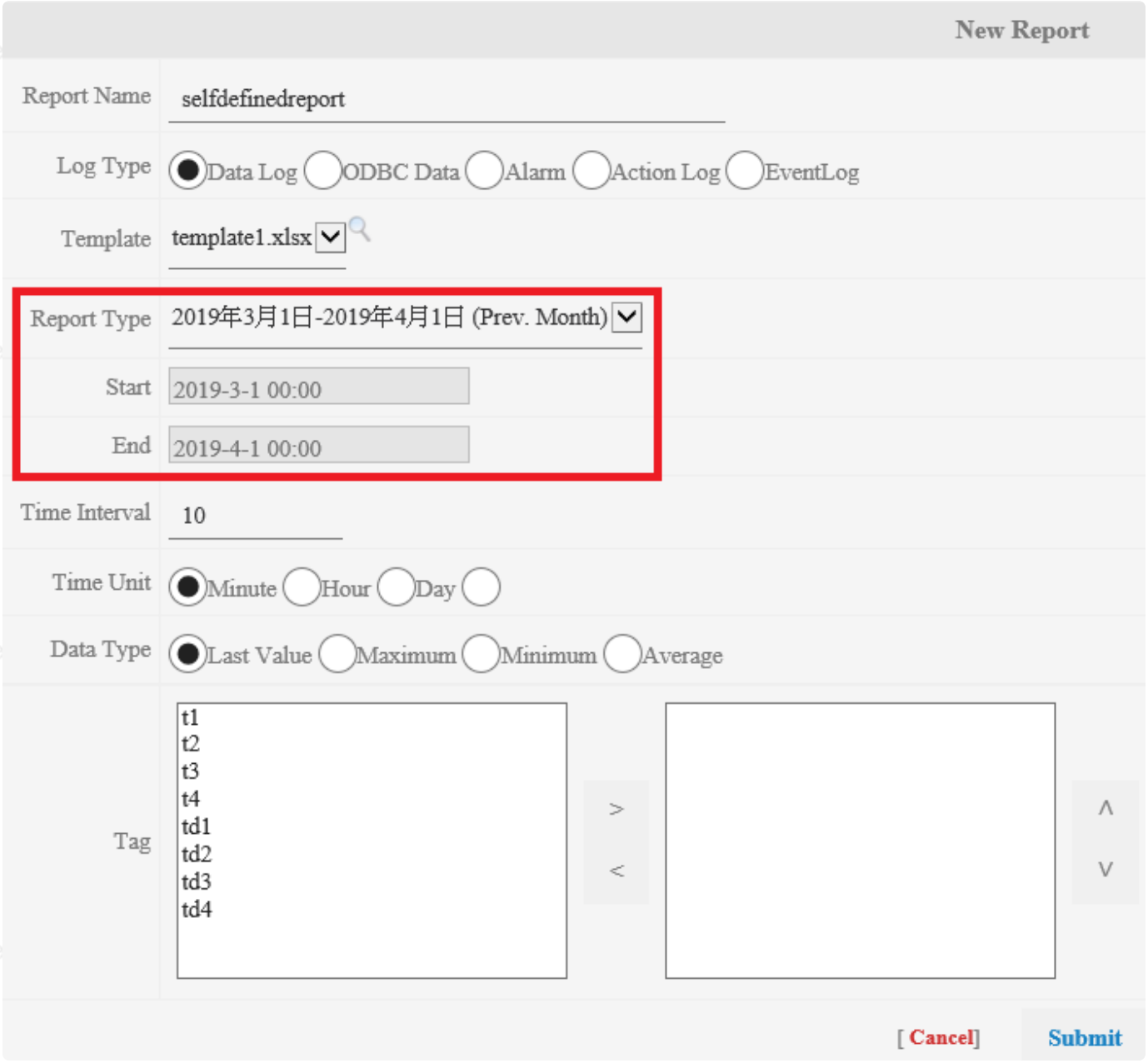
Users can get the report based on the data with the day before the day of the WebAccess system from 0:00 to 24:00. The default start time and end time are already set when user chooses this report type.



3. Last Month Report type

Users can get the report based on the data with the last month of the WebAccess system. The default start time and end time are already set when the user chooses this report type.

WebAccess/SCADA
WebAccess/SCADA

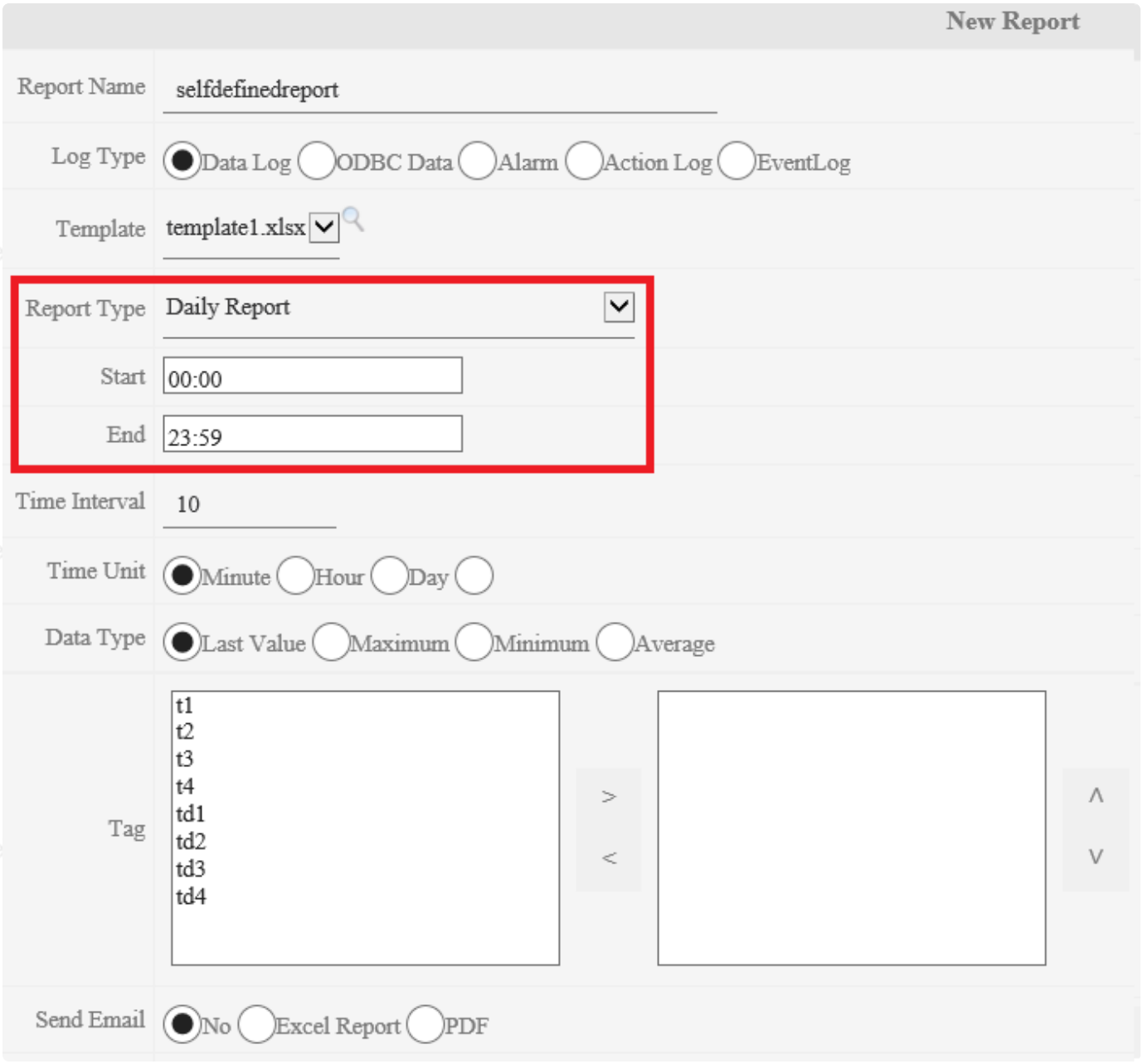


4. Daily Report

Daily reports are automatically generated based on the defined time period every day. The report list will show each daily report and view the report.

The daily report also can be generated manually in the report list at any time.

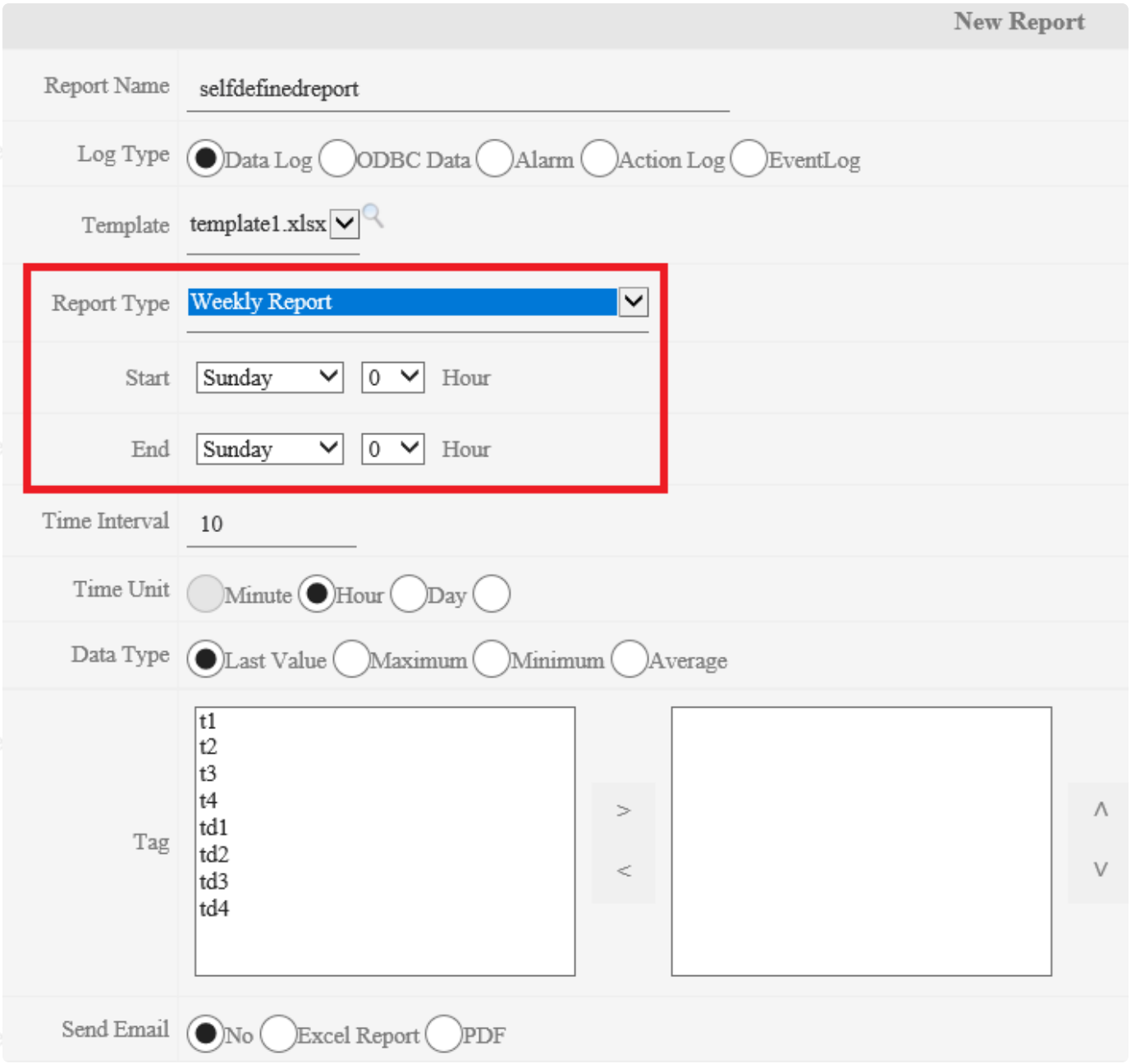
WebAccess/SCADA



5. Weekly Report

Weekly reports are automatically generated based on the defined time period every week. The report list will show each weekly report and view the report.

The weekly report also can be generated manually in the report list at any time.

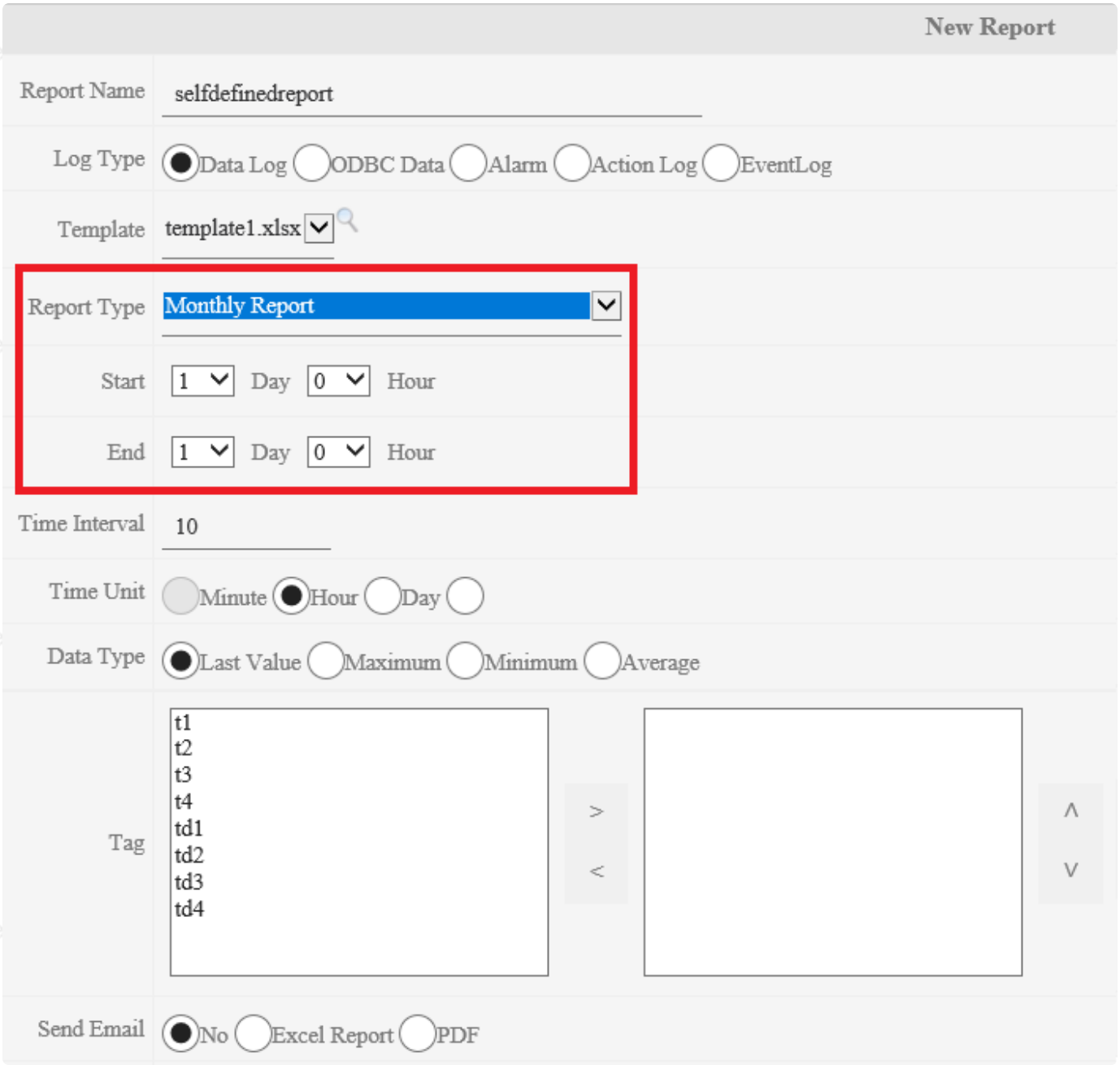


6. Monthly Report

Monthly reports are automatically generated based on the defined time period every month. The report list will show each weekly report and view the report.

The monthly report also can be generated manually in the report list at any time.

WebAccess/SCADA

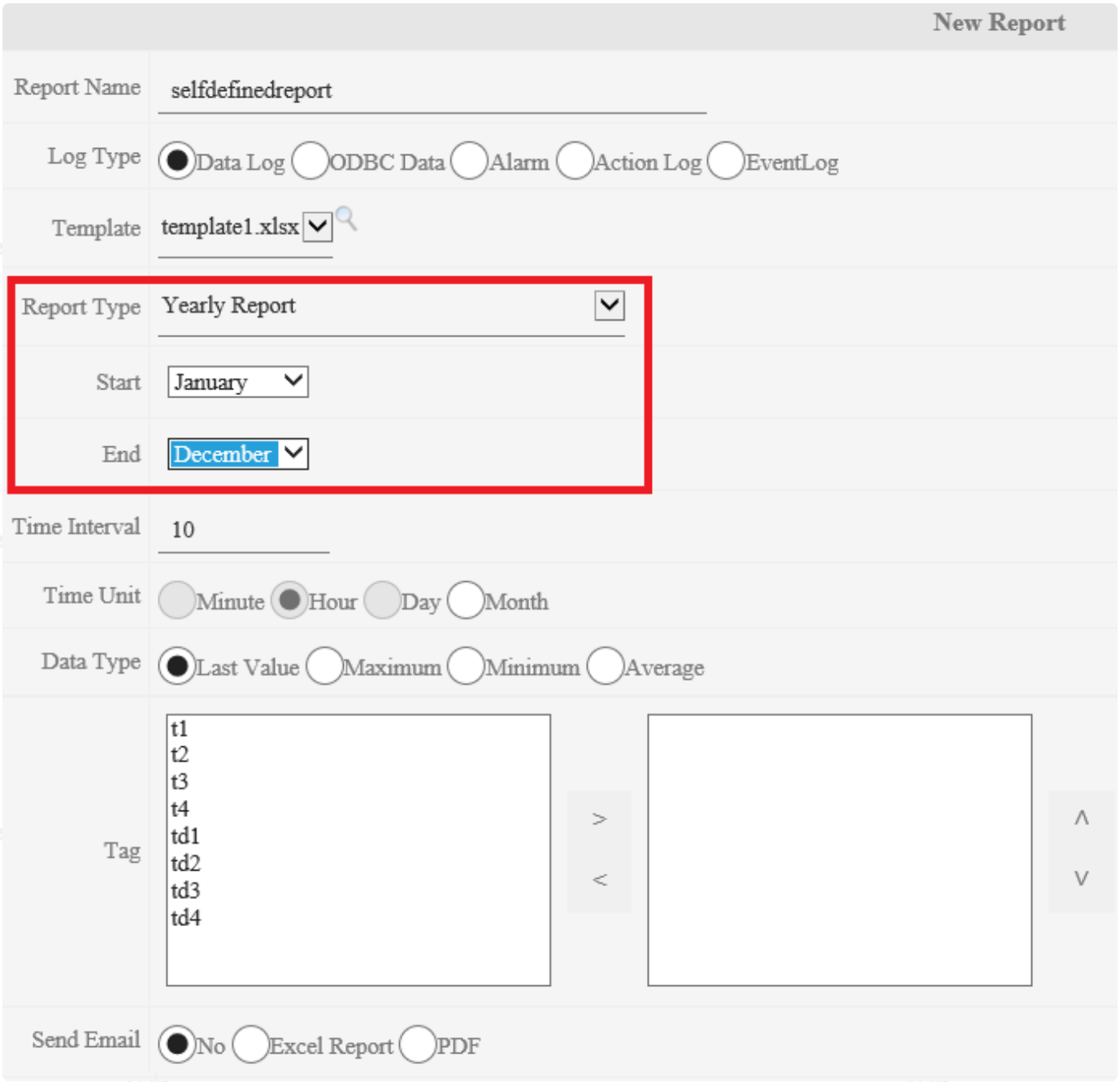


7. Yearly Report

Yearly reports are automatically generated based on the defined time period every year. The report list will show each yearly report and view the report.

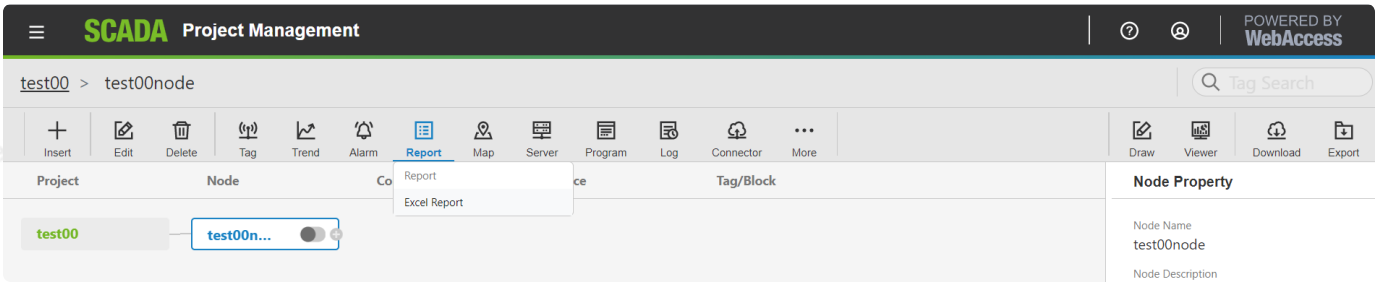
The yearly report also can be generated manually in the report list at any time.

WebAccess/SCADA



5.8.1.2 ODBC Log Configuration

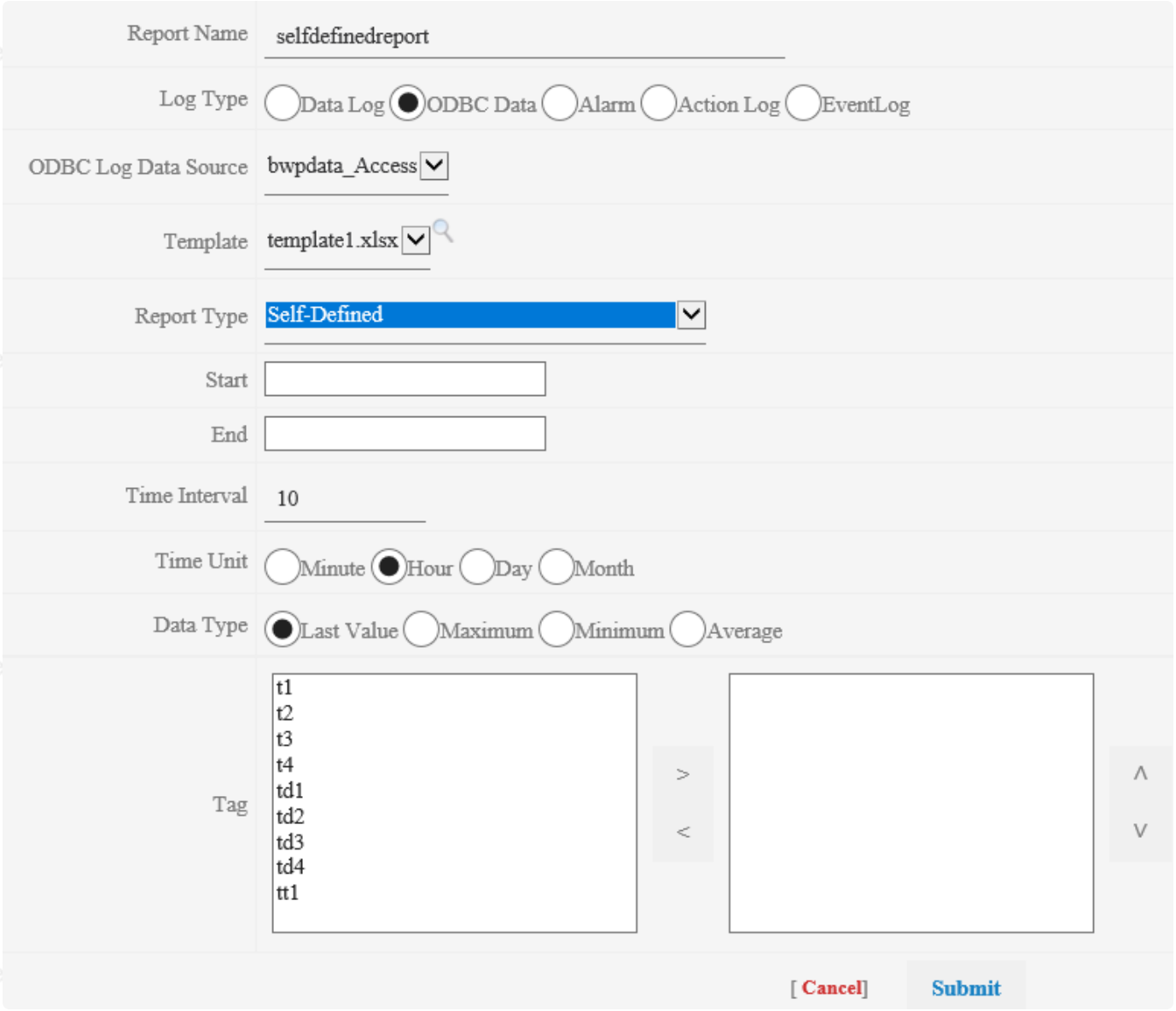
1. Start Advantech WebAccess/SCADA Project Manager.
2. Login with the User Name and Password and select your Project Name.
3. Click the SCADA node on Org chart.
4. Choose the **EXCEL Report** in Report ribbon：Go to the EXCEL report list page



5. Click **New Report** to create NEW EXCEL report

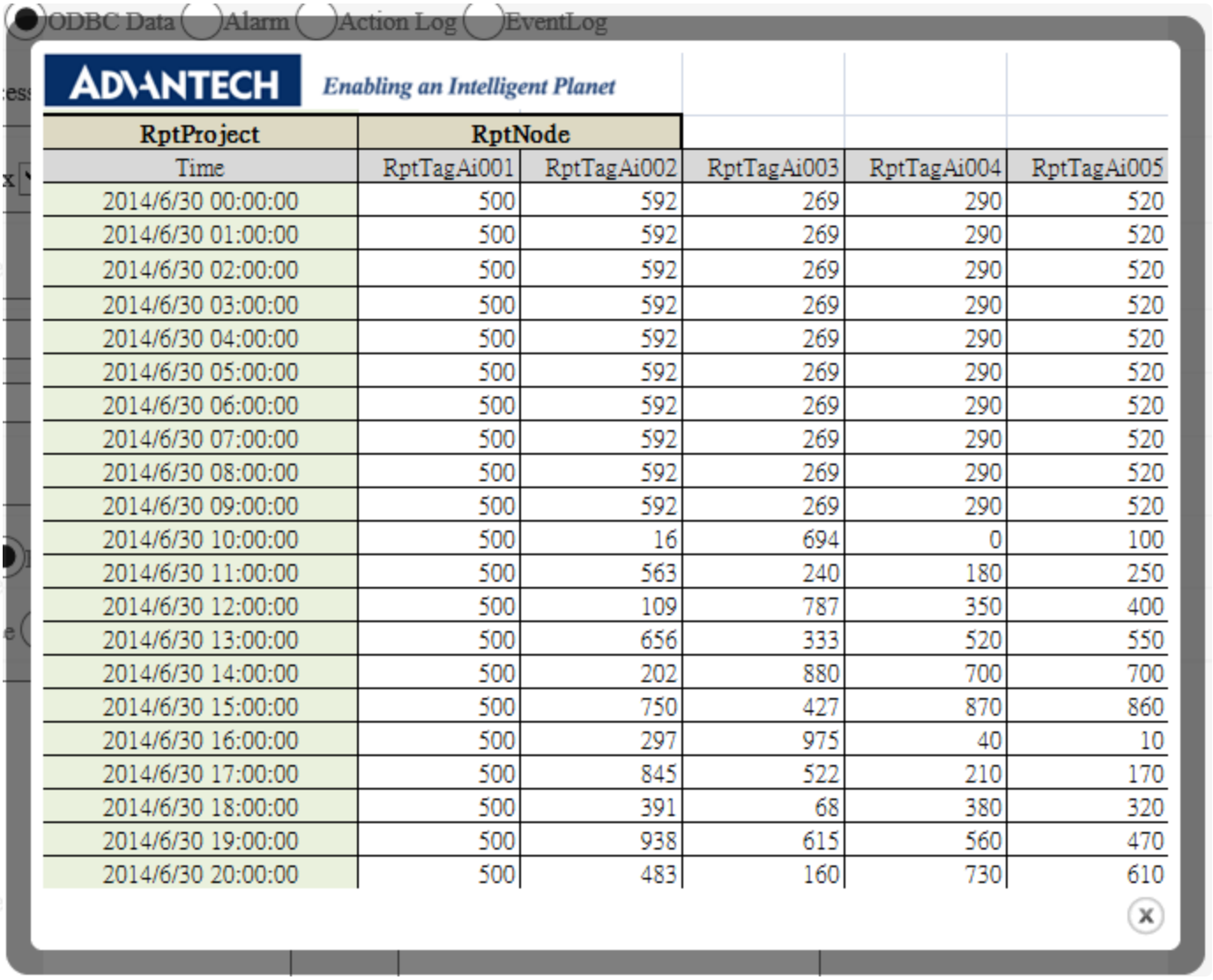
6. Configure the Report information

WebAccess/SCADA



- Report Name: Define the Report name. The maximum length of the name is 32 alphanumeric characters and it can't have spaces.
- Log Type: Choose the source of ODBC Data Type. Support Data log, ODBC data (Analog, Discrete, and Text Tag), Alarm Log, Action log, and Event log.
- ODBC Log Data Source : Choose the source of ODBC DSN.
- Template: Default has four templates. Users can upload the predefined template to generate the report. Click the icon to preview the template to check the template format.

WebAccess/SCADA


ODBC Data Alarm Action Log EventLog

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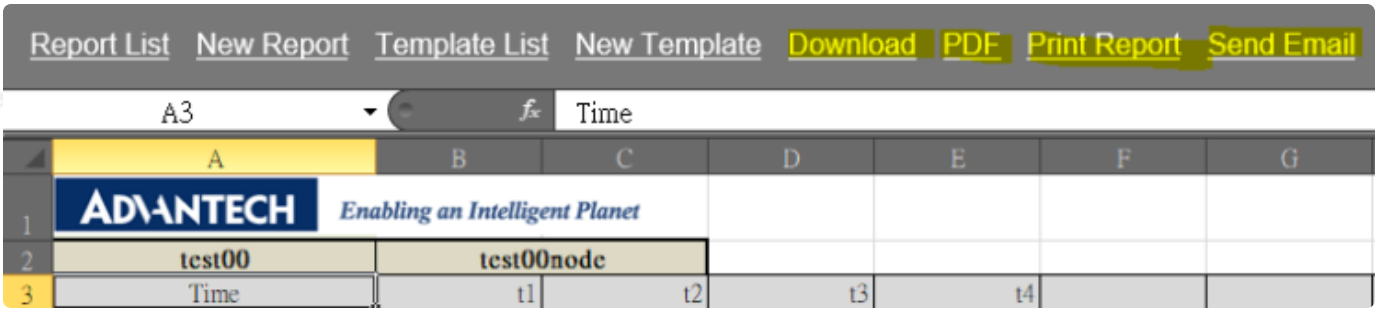
RptProject	RptNode				
Time	RptTagAi001	RptTagAi002	RptTagAi003	RptTagAi004	RptTagAi005
2014/6/30 00:00:00	500	592	269	290	520
2014/6/30 01:00:00	500	592	269	290	520
2014/6/30 02:00:00	500	592	269	290	520
2014/6/30 03:00:00	500	592	269	290	520
2014/6/30 04:00:00	500	592	269	290	520
2014/6/30 05:00:00	500	592	269	290	520
2014/6/30 06:00:00	500	592	269	290	520
2014/6/30 07:00:00	500	592	269	290	520
2014/6/30 08:00:00	500	592	269	290	520
2014/6/30 09:00:00	500	592	269	290	520
2014/6/30 10:00:00	500	16	694	0	100
2014/6/30 11:00:00	500	563	240	180	250
2014/6/30 12:00:00	500	109	787	350	400
2014/6/30 13:00:00	500	656	333	520	550
2014/6/30 14:00:00	500	202	880	700	700
2014/6/30 15:00:00	500	750	427	870	860
2014/6/30 16:00:00	500	297	975	40	10
2014/6/30 17:00:00	500	845	522	210	170
2014/6/30 18:00:00	500	391	68	380	320
2014/6/30 19:00:00	500	938	615	560	470
2014/6/30 20:00:00	500	483	160	730	610

- **Report Type**: The data type of report. Users can choose different data time types of report. There are six types, Self-defined, Last day, Last month, Multi-time, Daily Report, Weekly Report, Monthly Report
- **Start Time**: The start time of the data of the report based on the Report type
- **End Time**: The end time of the data of the report based on the Report type
- **Time Interval**: Data time interval display in Report.
- **Time Unit**: The Time unit of the Time interval.
- **Data Type**: Choose to show the Last/Maximum/Minimum/Average value of time interval in the report.
- **Send E-mail**: Choose send report to e-mail or not. Support Excel and PDF report file Type
- **Email To**: Type Email receiver
- **Email Cc**: Type Email Carbon Copy receiver

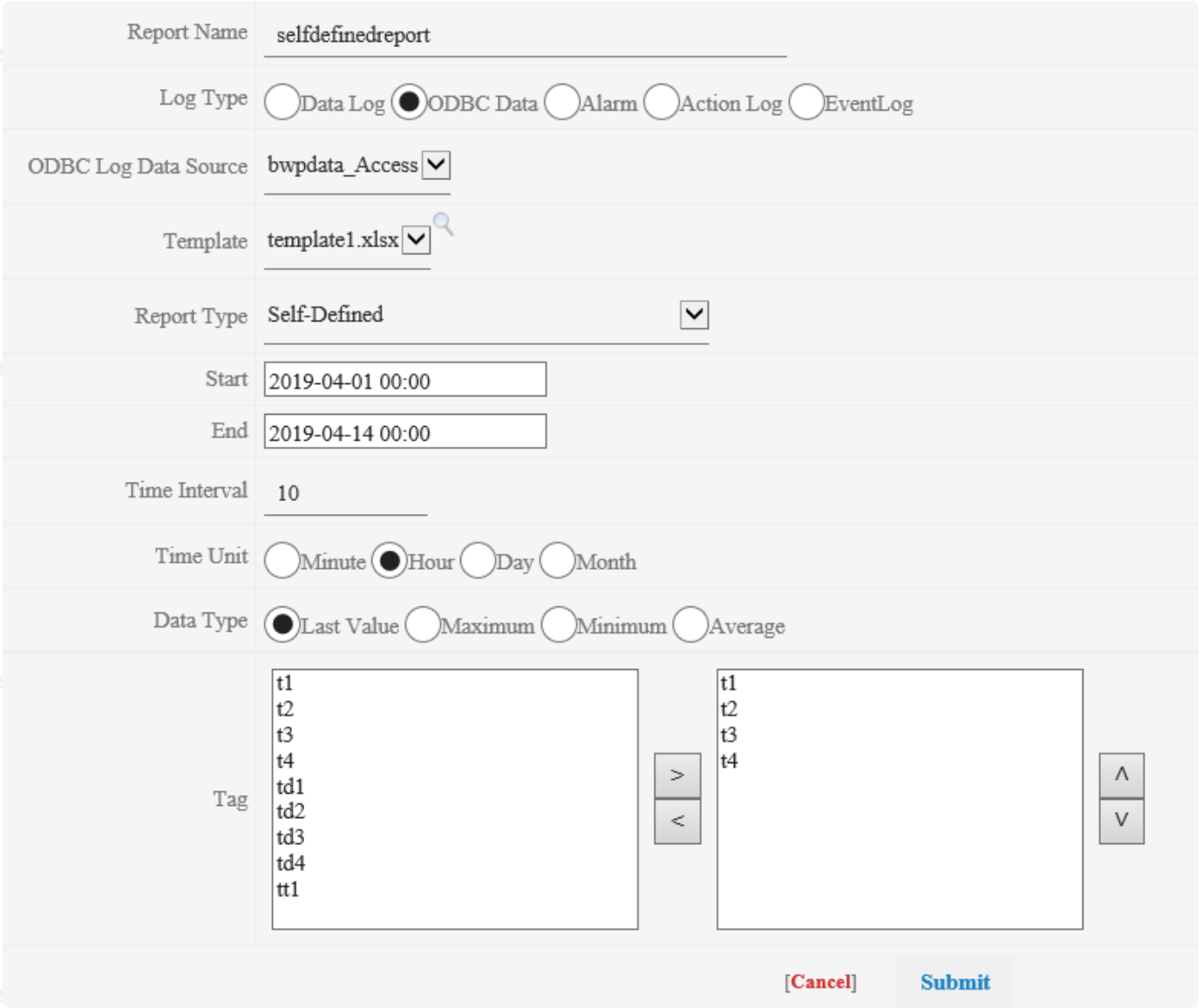
> Note: **Send E-mail**, **Email To**, **Email Cc** only enable on **Daily Report**, **Weekly Report**, **Monthly Report** and **Yearly Report**.

7. **Submit** the New Report
8. **Generate** the Report：Click Generate to get the Report. If the report has been generated, the report link is shown in the View column.



- **Download**：Download the Excel file
- **PDF**：Export to PDF file.
- **Print**：report Print the report directly

9. **Update / Delete** Report：Click Update and go to the update page



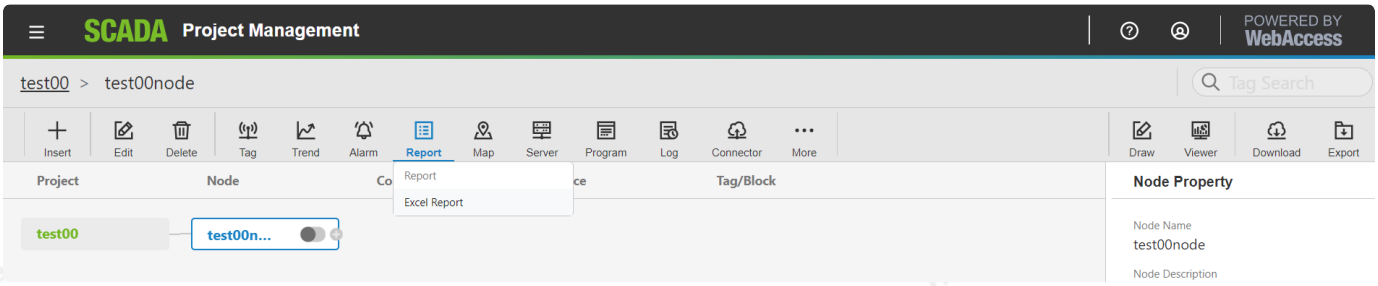
Note：

1. One report can gather a maximum of 32 tags and 3600 records.
2. The report backup is in C:\inetpub\wwwroot\broadweb\WaExlViewer\report

5.8.1.3 Alarm Log Configuration

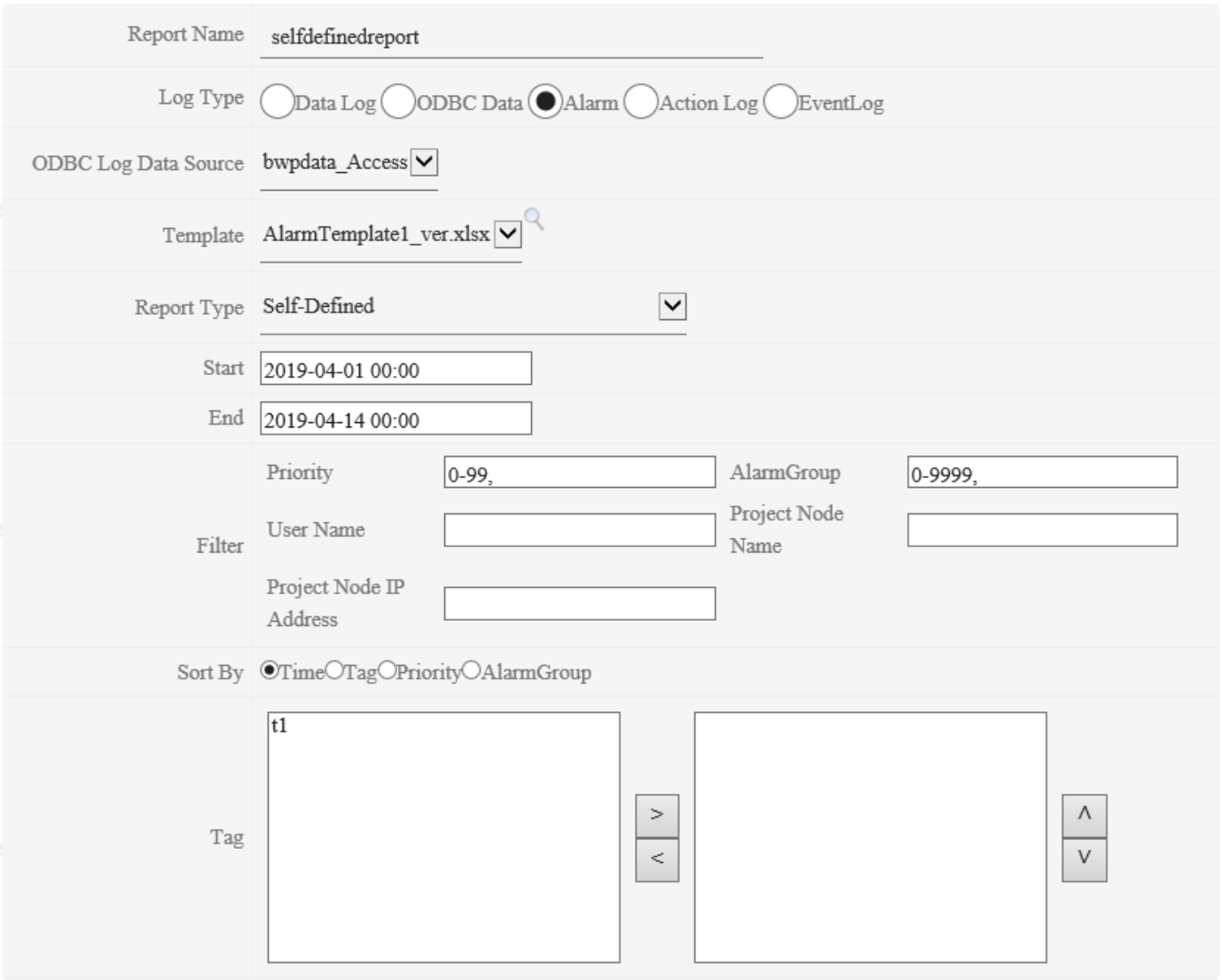
1. Start Advantech WebAccess/SCADA Project Manager.
2. Login with the User Name and Password and select your Project Name.
3. Click the SCADA node on Org chart.
4. Choose the **EXCEL Report** in Report ribbon：Go to the EXCEL report list page

WebAccess/SCADA



5. Click **New Report** to create NEW EXCEL report

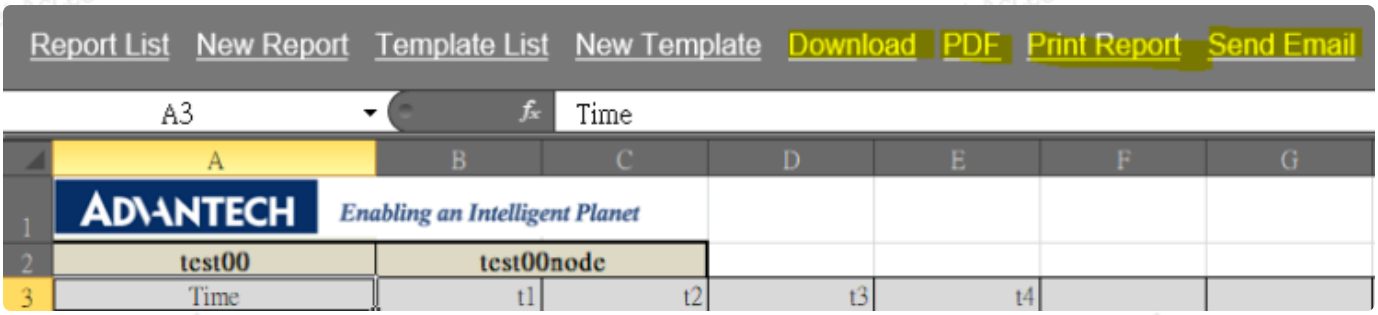
6. Configure the Report information



- **Report Name**：Define the Report name. The maximum length of the name is 32 alphanumeric characters and it can't have spaces.
- **Log Type**：Choose the source of Alarm Log Type. Support Data log, ODBC data (Analog, Discrete, and Text Tag), Alarm Log, Action log, and Event log.
- **ODBC Log Data Source** : Choose the source of ODBC DSN.
- **Template**：Default has four templates. Users can upload the predefined template to generate the report. Click the icon to preview the template to check the template format.
- **Report Type**：The data type of report. Users can choose different data time types of report. There are six types, Self-defined, Last day, Last month, Multi-time, Daily Report, Weekly Report, Monthly Report
- **Start Time**：The start time of the data of the report based on the Report type
- **End Time**：The end time of the data of the report based on the Report type
- **Filter**：
- Priority：Set Alarm Priority. User can type the range with (-) and (,), ex, 0-80, 88, 90.
- Alarm Group：Choose Alarm group. User can type the range with (-) and (,).
- Worker Name：WebAccess User Name
- Project Node Name：Project Node Name
- Project Node IP Address：Project Node IP Address
- **Sort By**：Sort by Time/Tag/Priority/Alarm Group
- **Time Interval**：Data time interval display in Report.
- **Time Unit**：The Time unit of the Time interval.
- **Data Type**：Choose to show the Last/Maximum/Minimum/Average value of time interval in the report.
- **Send E-mail**：Choose send report to e-mail or not. Support Excel and PDF report file Type
- **Email To**：Type Email receiver
- **Email Cc**：Type Email Carbon Copy receiver

> Note: **Send E-mail**, **Email To**, **Email Cc** only enable on **Daily Report**, **Weekly Report**, **Monthly Report** and **Yearly Report**.

7. **Submit** the New Report
8. **Generate** the Report：Click Generate to get the Report. If the report has been generated, the report link is shown in the View column.



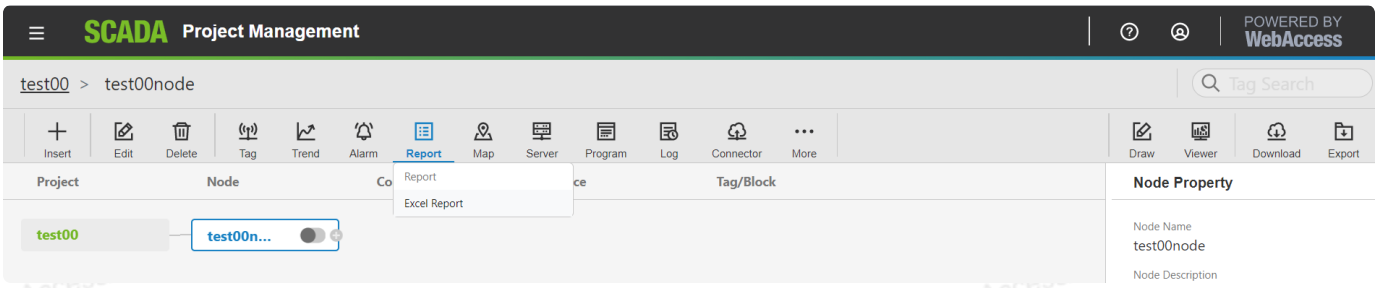
- **Download**：Download the Excel file
- **PDF**：Export to PDF file.
- **Print**：Report Print the report directly
- **Send E-mail**：Send the report to e-mail receiver directly.

9. **Update / Delete** Report：Click Update and go to the update page

> Note：
> 1. One report can gather a maximum of 32 tags and 7200 records.
> 2. The report backup is in C:\inetpub\wwwroot\broadweb\WaExlViewer\report

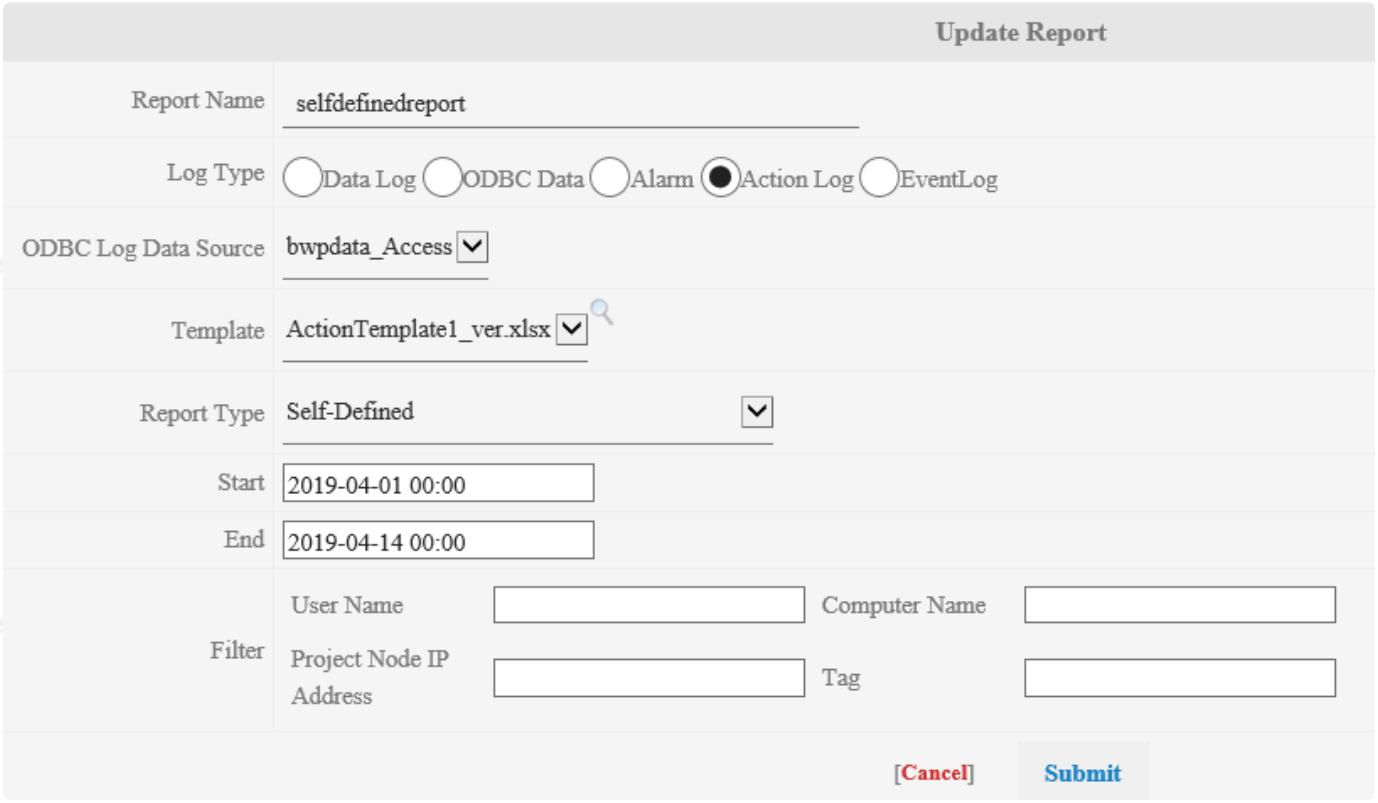
5.8.1.4 Action Log Configuration

1. Start Advantech WebAccess/SCADA Project Manager.
2. Login with the User Name and Password and select your Project Name.
3. Click the SCADA node on Org chart.
4. Choose the **EXCEL Report** in Report ribbon：Go to the EXCEL report list page



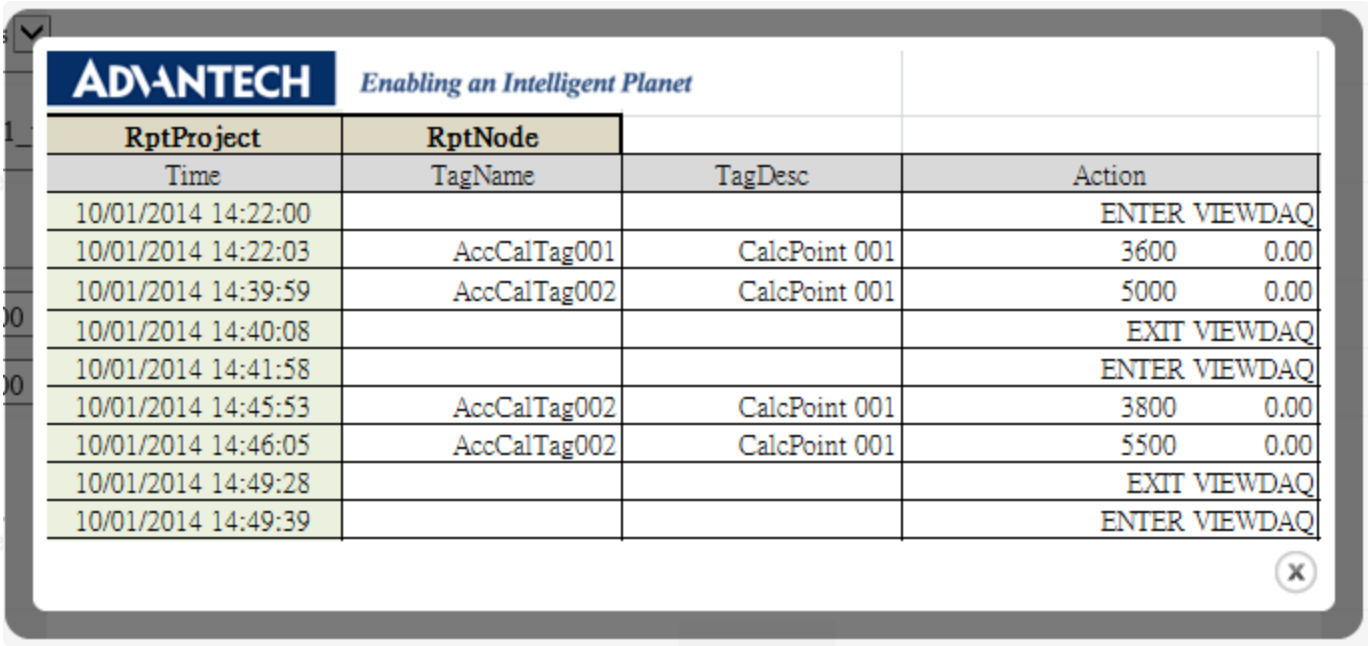
5. Click **New Report** to create NEW EXCEL report

6. Configure the Report information



- **Report Name**: Define the Report name. The maximum length of the name is 32 alphanumeric characters and it can't have spaces.
- **Log Type**: Choose the source of Action Type. Support Data log, ODBC data (Analog, Discrete, and Text Tag), Alarm Log, Action log, and Event log.
- **ODBC Log Data Source** : Choose the source of ODBC DSN.
- **Template**: Default has four templates. Users can upload the predefined template to generate the report. Click the icon to preview the template to check the template format.

WebAccess/SCADA



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RptProject	RptNode		
Time	TagName	TagDesc	Action
10/01/2014 14:22:00			ENTER VIEWDAQ
10/01/2014 14:22:03	AccCalTag001	CalcPoint 001	3600 0.00
10/01/2014 14:39:59	AccCalTag002	CalcPoint 001	5000 0.00
10/01/2014 14:40:08			EXIT VIEWDAQ
10/01/2014 14:41:58			ENTER VIEWDAQ
10/01/2014 14:45:53	AccCalTag002	CalcPoint 001	3800 0.00
10/01/2014 14:46:05	AccCalTag002	CalcPoint 001	5500 0.00
10/01/2014 14:49:28			EXIT VIEWDAQ
10/01/2014 14:49:39			ENTER VIEWDAQ

- **Report Type**: The data type of report. Users can choose different data time types of report. There are six types, Self-defined, Last day, Last month, Multi-time, Daily Report, Weekly Report, Monthly Report
- **Start Time**: The start time of the data of the report based on the Report type
- **End Time**: The end time of the data of the report based on the Report type
- **Filter**:
- Worker Name: WebAccess User Name
- Project Node Name: Project Node Name
- Project Node IP Address: Project Node IP Address
- Tag: Tag recorded Action
- **Send E-mail**: Choose send report to e-mail or not. Support Excel and PDF report file Type
- **Email To**: Type Email receiver
- **Email Cc**: Type Email Carbon Copy receiver

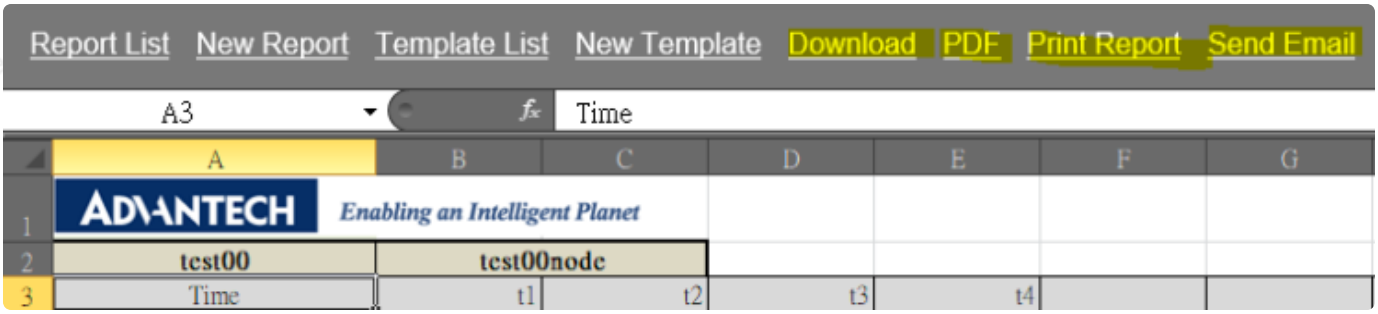
> Note: **Send E-mail**, **Email To**, **Email Cc** only enable on **Daily Report**, **Weekly Report**, **Monthly Report** and **Yearly Report**.

7. **Submit** the New Report
8. **Generate** the Report: Click Generate to get the Report. If the report has been generated, the report link is shown in the View column.

Report List | New Report | Template List

Report List

Report Name	View	Template	Report Type	Time Interval	Update	Delete	Generate
test	test_ex.xlsx	template1.xlsx	2019年4月21日	1 Minute	Update	Delete	
testtset		template1.xlsx	Self-Defined	5000 Minute	Update	Delete	Generate



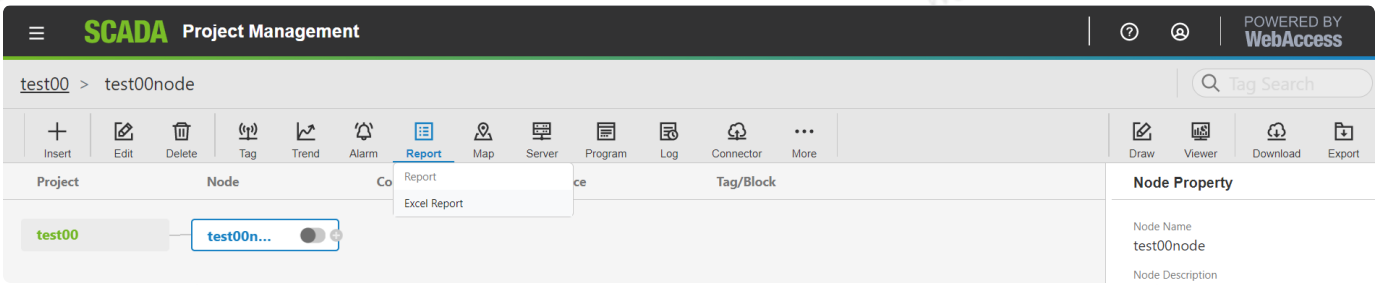
- **Download**：Download the Excel file
- **PDF**：Export to PDF file.
- **Print**：Report Print the report directly
- **Send E-mail**：Send the report to e-mail receiver directly.

9. **Update / Delete** Report：Click Update and go to the update page

> Note：
> 1. One report can gather a maximum of 32 tags and 3600 records.
> 2. The report backup is in C:\inetpub\wwwroot\broadweb\WaExlViewer\report

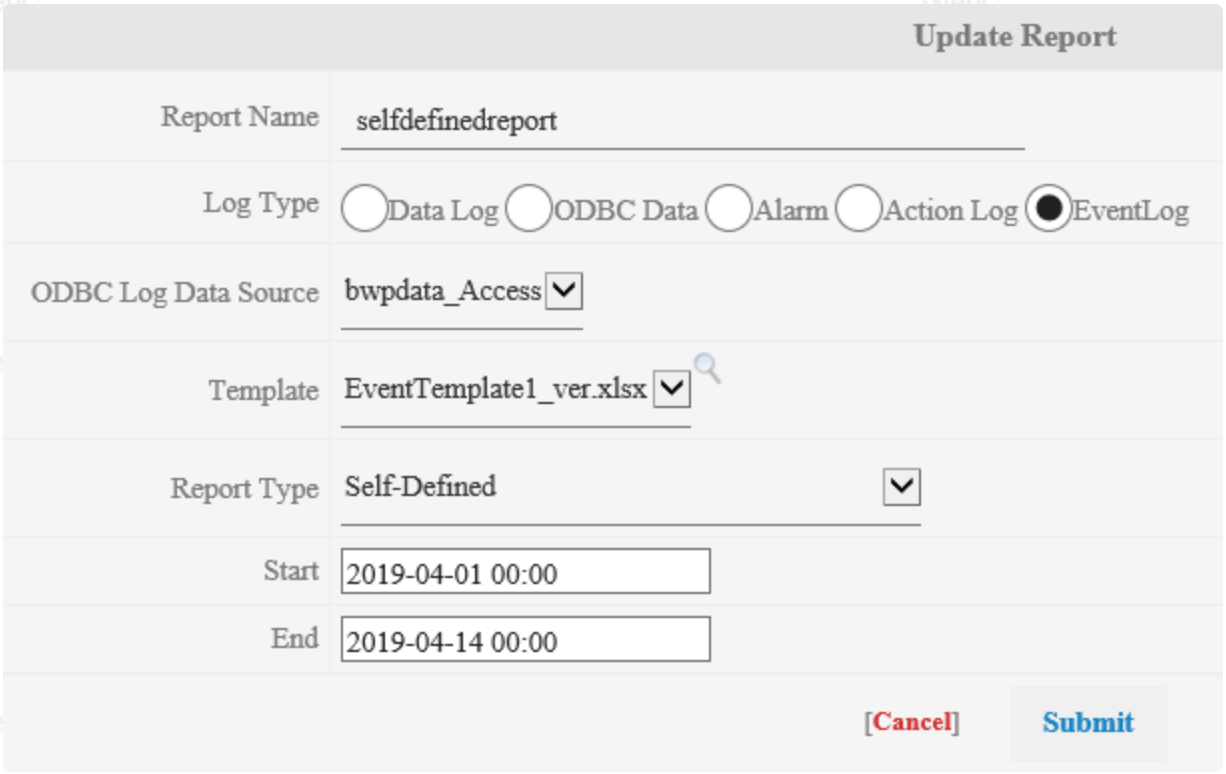
5.8.1.5 Event Log Configuration

1. Start Advantech WebAccess/SCADA Project Manager.
2. Login with the User Name and Password and select your Project Name.
3. Click the SCADA node on Org chart.
4. Choose the **EXCEL Report** in Report ribbon：Go to the EXCEL report list page



5. Click **New Report** to create NEW EXCEL report

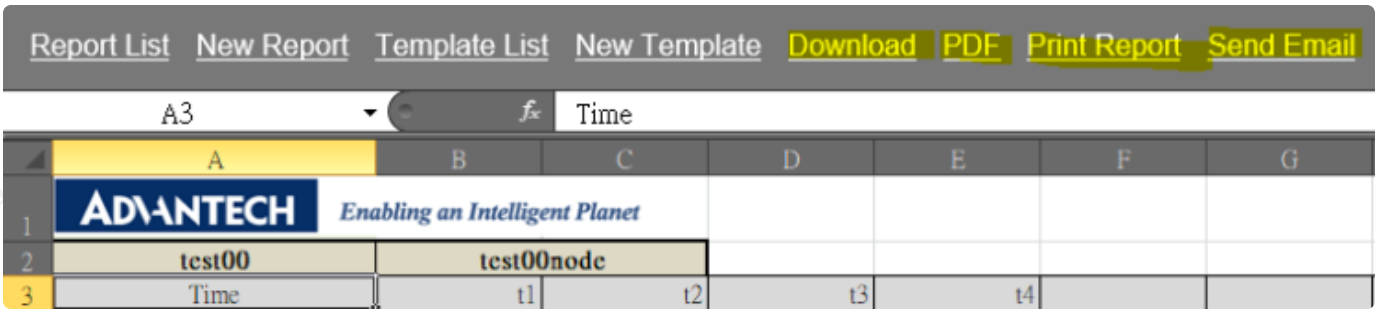
6. Configure the Report information



- **Report Name**: Define the Report name. The maximum length of the name is 32 alphanumeric characters and it can't have spaces.
- **Log Type**: Choose the source of EventLog Type. Support Data log, ODBC data (Analog, Discrete, and Text Tag), Alarm Log, Action log, and Event log.
- **Template**: Default has four templates. Users can upload the predefined
- **Report Type**: The data type of report. Users can choose different data time types of report. There are six types, Self–defined, Last day, Last month, Multi–time, Daily Report, Weekly Report, Monthly Report
- **Start Time**: The start time of the data of the report based on the Report type
- **End Time**: The end time of the data of the report based on the Report type
- **Time Interval**: Data time interval display in Report.
- **Time Unit**: The Time unit of the Time interval.
- **Data Type**: Choose to show the Last/Maximum/Minimum/Average value of time interval in the report.

7. **Submit** the New Report

8. **Generate** the Report：Click Generate to get the Report. If the report has been generated, the report link is shown in the View column.



   - **Download**：Download the Excel file
   - **PDF**：Export to PDF file.
   - **Print**：Report Print the report directly
   - **Send E-mail**：Send the report to e-mail receiver directly.

9. **Update / Delete** Report：Click Update and go to the update page

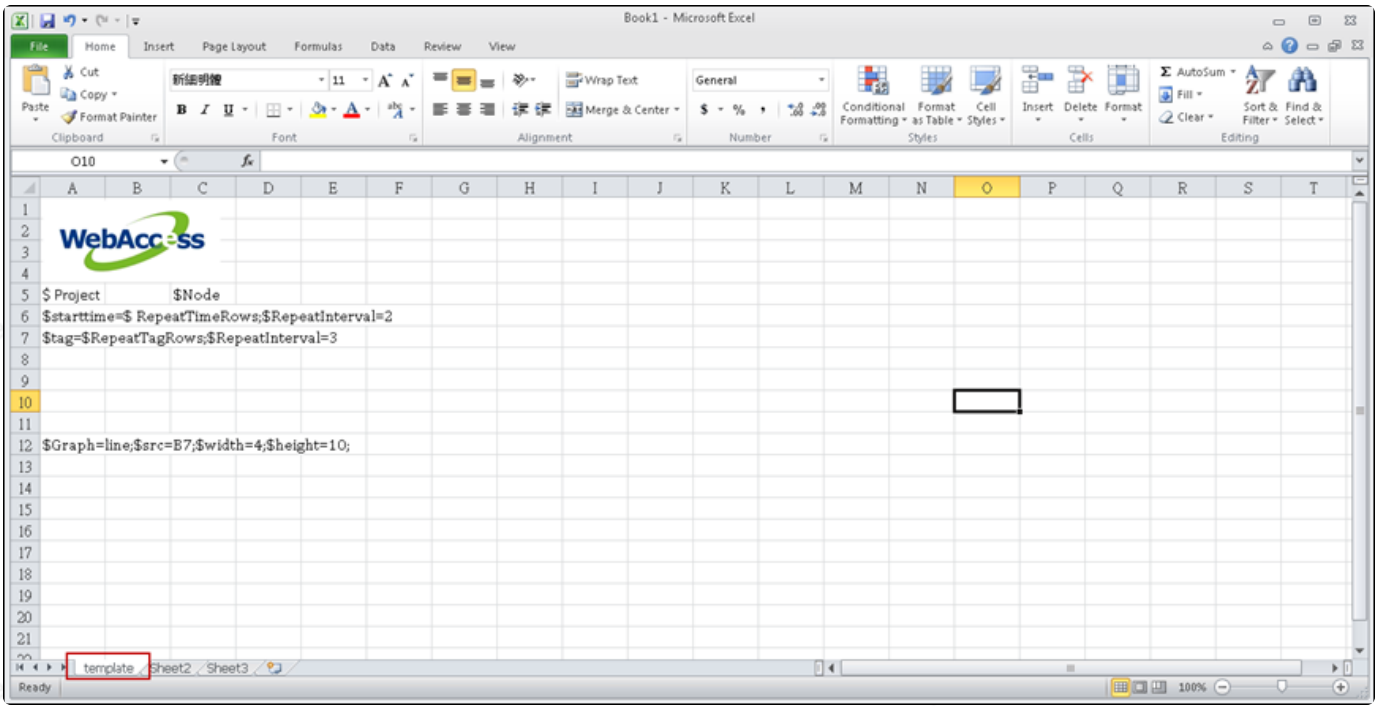
> Note：
> 1. One report can gather a maximum of 240 records.
> 2. The report backup is in C:\inetpub\wwwroot\broadweb\WaExlViewer\report.

5.8.2 Build the Template

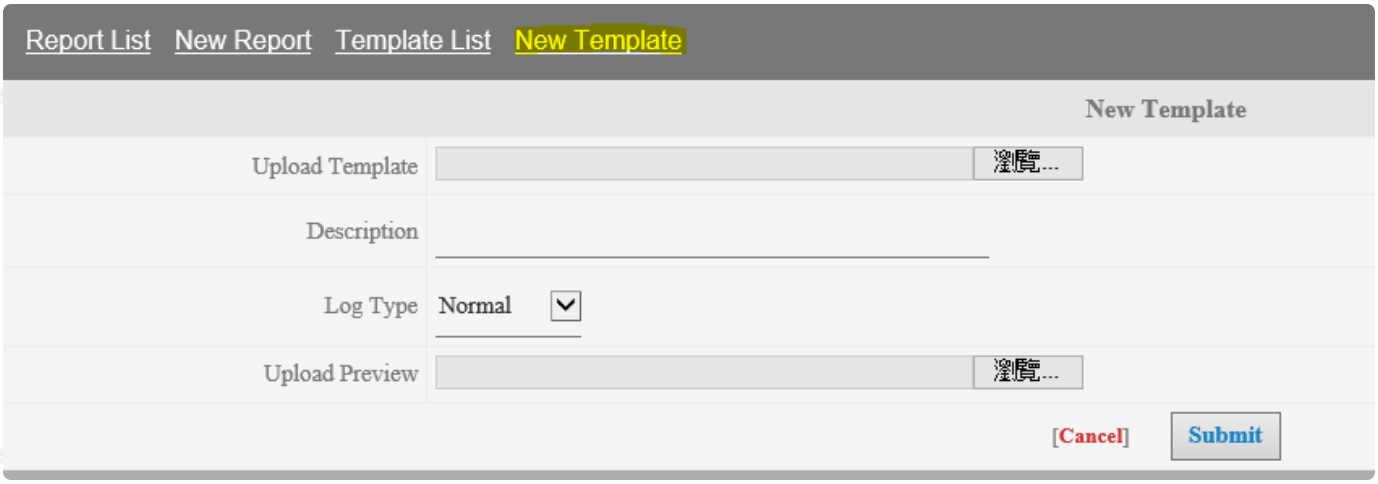
Users & Operators can build customized report template based on EXCEL functions and key words and upload in WebAccess Excel report function to automatically generated daily/weekly/monthly or the specific date report.

1. Open the Microsoft office EXCEL
2. Rename Sheet 1 to “**template**”. WebAccess's Excel Report function identifies the name

"template" as the sheet to be the report template.

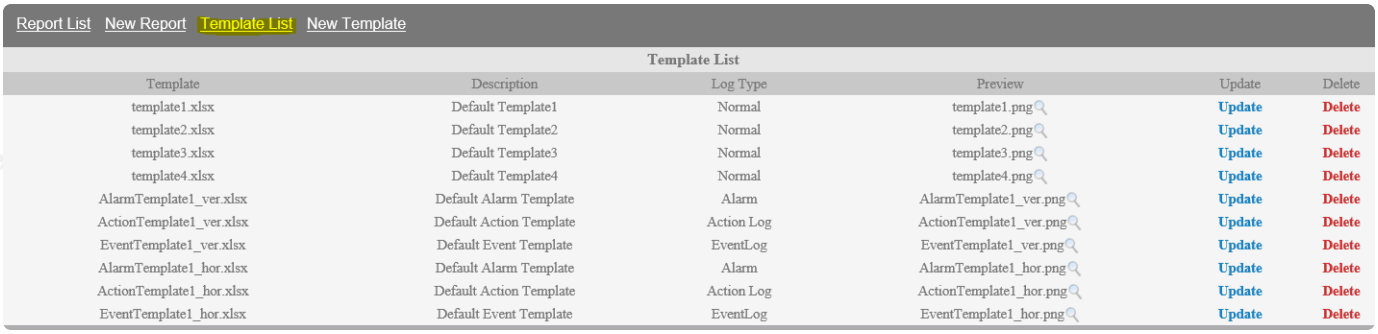


3. Key in the key words about Time / Tag / Project/Node information. Save the file and the file name will be the name of Template in the WebAccess
4. Upload the template in the system：**New Template**



- Upload Template：Upload the pre-built template.
- Description：The description of the template
- Upload Preview：Upload the preview picture. The picture will show up when users create the new report and click the icon to preview the template.
- Submit：Submit and upload the template.

5. Template list：List all templates. The template list includes four default templates and the new uploaded templates. The template list based on the upload date.


Report List New Report Template List New Template

Template List

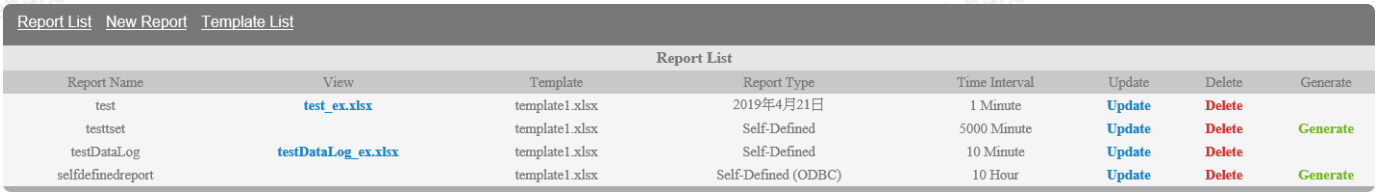
Template	Description	Log Type	Preview	Update	Delete
template1.xlsx	Default Template1	Normal	template1.png	Update	Delete
template2.xlsx	Default Template2	Normal	template2.png	Update	Delete
template3.xlsx	Default Template3	Normal	template3.png	Update	Delete
template4.xlsx	Default Template4	Normal	template4.png	Update	Delete
AlarmTemplate1_ver.xlsx	Default Alarm Template	Alarm	AlarmTemplate1_ver.png	Update	Delete
ActionTemplate1_ver.xlsx	Default Action Template	Action Log	ActionTemplate1_ver.png	Update	Delete
EventTemplate1_ver.xlsx	Default Event Template	EventLog	EventTemplate1_ver.png	Update	Delete
AlarmTemplate1_hor.xlsx	Default Alarm Template	Alarm	AlarmTemplate1_hor.png	Update	Delete
ActionTemplate1_hor.xlsx	Default Action Template	Action Log	ActionTemplate1_hor.png	Update	Delete
EventTemplate1_hor.xlsx	Default Event Template	EventLog	EventTemplate1_hor.png	Update	Delete

6. Update the template：Click **Update** in the Template list and change the template information.

5.8.3 View Report

5.8.3.4 View in Report list

1. Go to Report list.
2. Click **Generate** to generate and view the report for the new report.
3. Click View link to view the old report.


Report List New Report Template List

Report List

Report Name	View	Template	Report Type	Time Interval	Update	Delete	Generate
test	test_ex.xlsx	template1.xlsx	2019年4月21日	1 Minute	Update	Delete	
testtset		template1.xlsx	Self-Defined	5000 Minute	Update	Delete	Generate
testDataLog	testDataLog_ex.xlsx	template1.xlsx	Self-Defined	10 Minute	Update	Delete	
selfdefinedreport		template1.xlsx	Self-Defined (ODBC)	10 Hour	Update	Delete	Generate

4. For Daily/Weekly/Monthly/Yearly report, the reports are automatically generated Daily/Weekly/Monthly/Yearly with the file name ”Daily/Weekly/Monthly/Yearly Report_ Date” and list in the View link. Choose one report and click to open.
   You can also click "Generate" in the report list at any time.

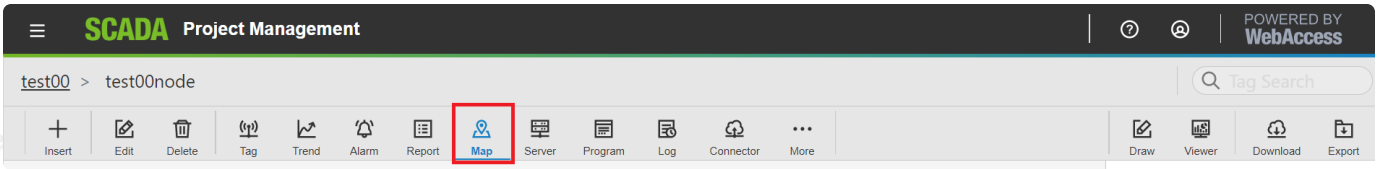
5.9 Map

WebAccess now allows users to create map files that contain markers on Google Map or Baidu Map. A marker contains Icons which can be displayed according to the value of a tag. A marker also contains a title and up to three label/value combinations to be displayed as the marker information. And a left–click Macro can also be associated with a marker.

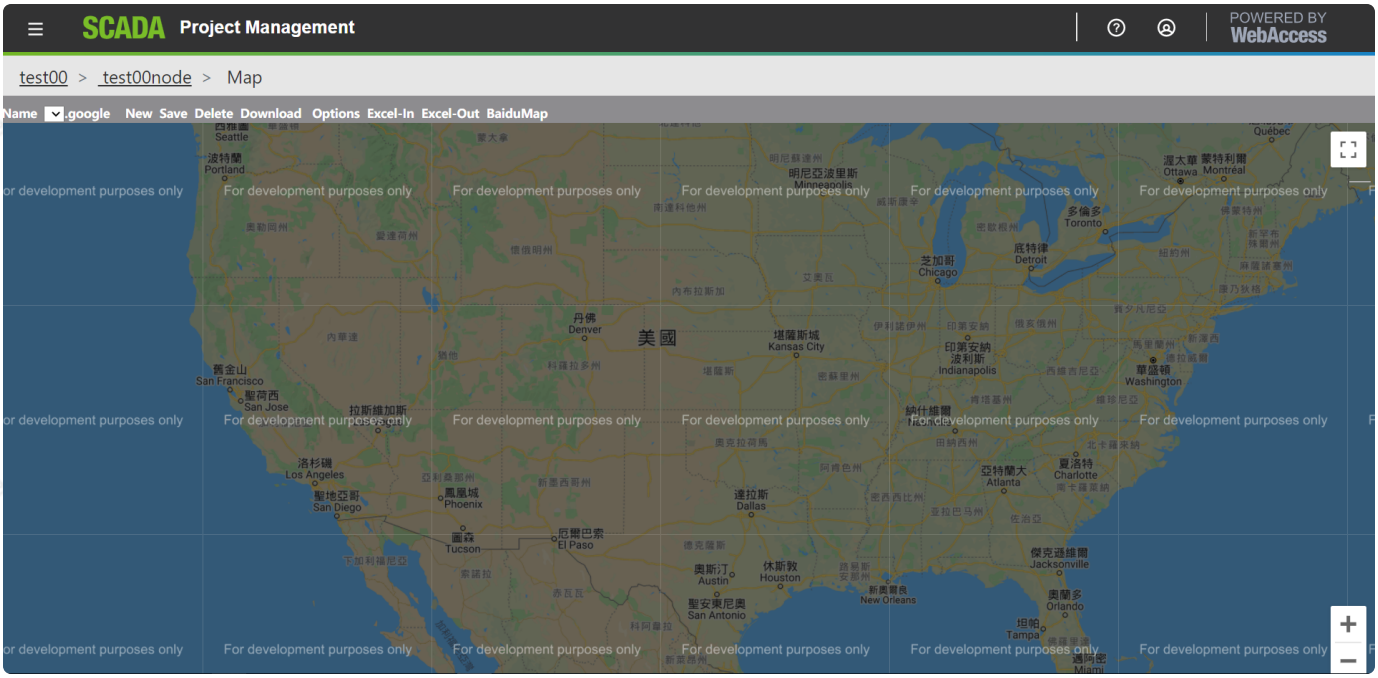
The map list dialog box can be accessed via Map menu item under Tools for map files already created and downloaded to be displayed in ViewDAQ or View Client.

5.9.1 WebAccess Map Configuration

1. Select your Project and the SCADA Node.
2. Click **Map** classification on node bar.

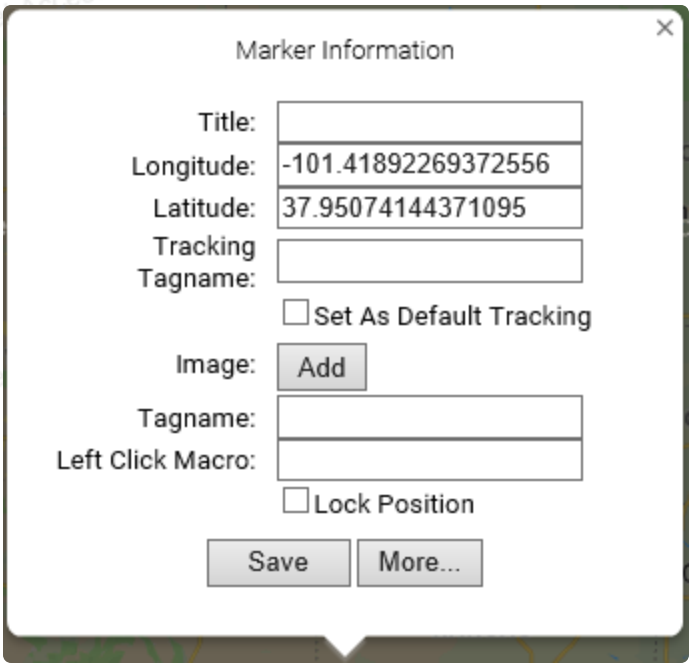


3. The window will connect and show Google Map.

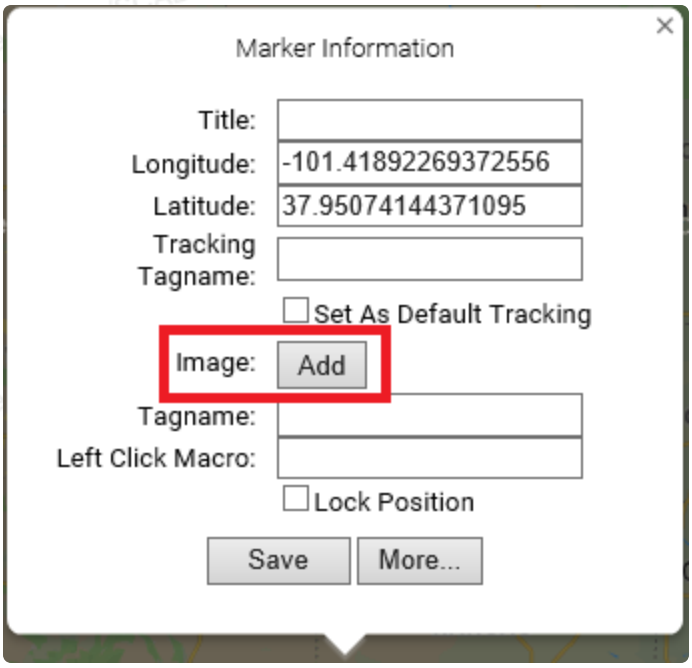


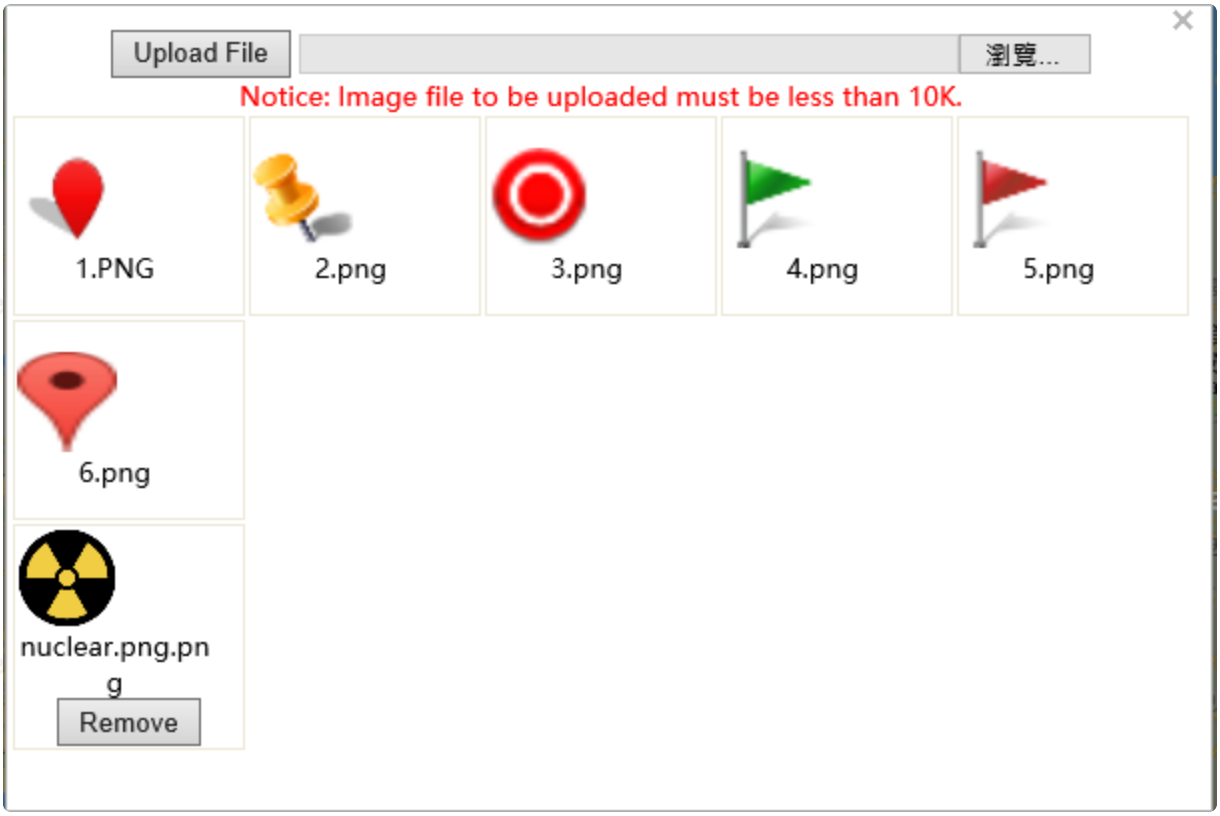
4. Click **New** to create the new map.

5. Choose the location.
6. Click twice on the location to add the **Marker Information**, and the window will show the configuration tool.



7. Type the title. The marker can't save without the title.
8. When choosing the location, the Latitude and Longitude of the location will be shown on the Marker information.
9. Go to the **Image**, click the **ADD.**
10. **ADD**: you can upload images as icons in the map, the notice is the file of image must be less than 10 KB. If you want to delete the image you uploaded, click **Remove** under the image.

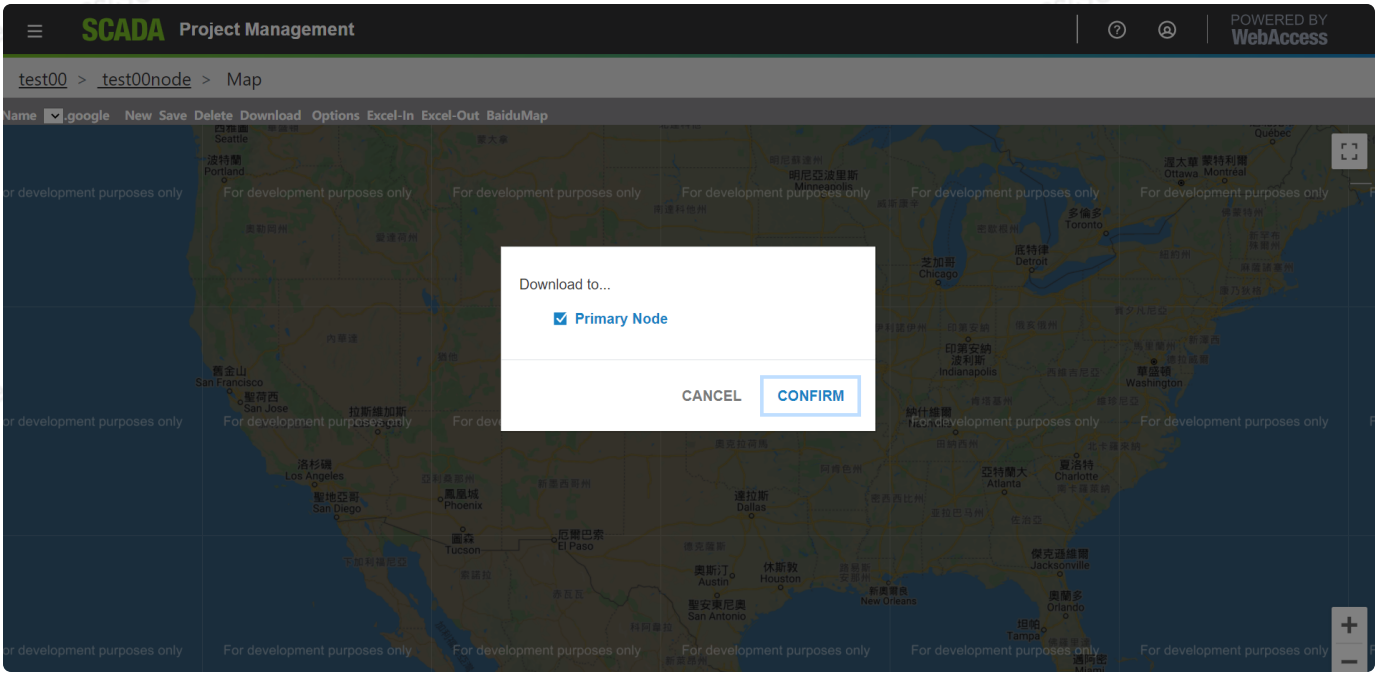




11. The marker's image can change with the measure value. First, click the image and give **Value** to the image. The value can be one or more number, the range and mix the number and range. When running the WebAccess, the tag value get the set value, the image will be shown on the map.
12. Type the **Tagname** and **Left click Macro**.
13. Click **Save** on the Marker Information. The image and title will be shown on the map.
14. Change the marker information. Click the image on the map, and the window of marker information will pop up.
15. Change the location of the marker. Use the mouse to drag the image to new location. Add more marker information. Click More on the Marker information to add three text labels. As for the picture, there are three labels, one Label has one Label name and Tagname.

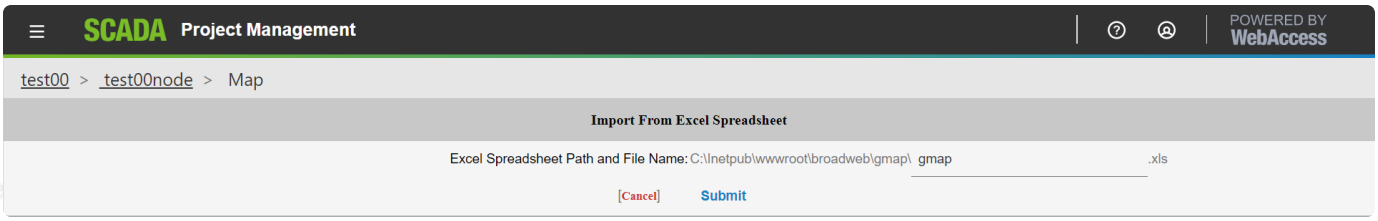
- **Label Name** : The Name of label
- **Tag Name** : Type the **Tag Name** to connect the Web access node, if the name is the same as the tag node. The marker can show the value of the tag node on the map after typing the **Tagname**.
- **Normal / Alarm / Alarm Ack** : Select **Colors** and blink for **Normal**, **Alarm** and **Alarm ACK** State to display Alarm Status with **Tag Name**.

16. Click the maker and select **Remove** to delete this maker.
17. **Save map**: After creating tag locations, click **Save** on the top bar of map. Type the **Map Name** and click **OK**. After saving, the coordinate of the center and ration will become the default.
18. **Delete Map** : Click **Delete** to cancel the map on the screen and the saved map.
19. **Download map**: Click **Download** to download the map to the DAQ. View DAQ will update the map.

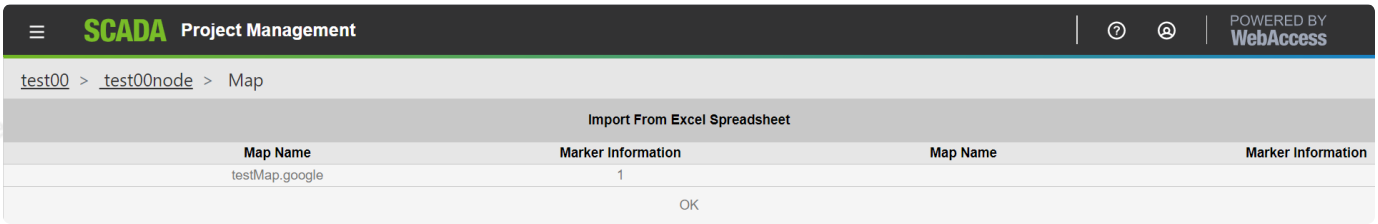


20. Excel–In:

- Choose Excel In.
- Choose the import Excel file.

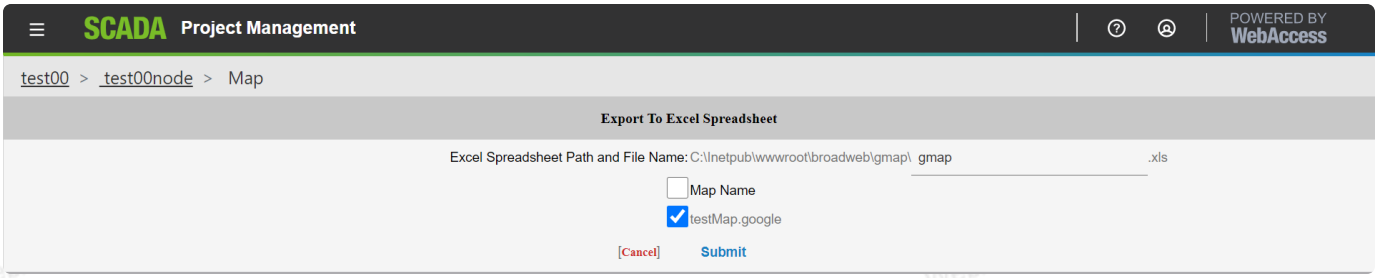


- The file will list in the page after uploading, and display map name and number of markers.

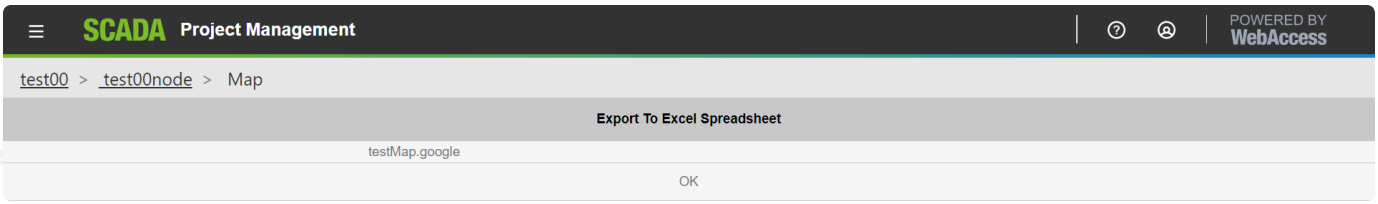


21. Excel–Out:

- Choose Excel Out.
- Maps files are list in the page and choose export file.



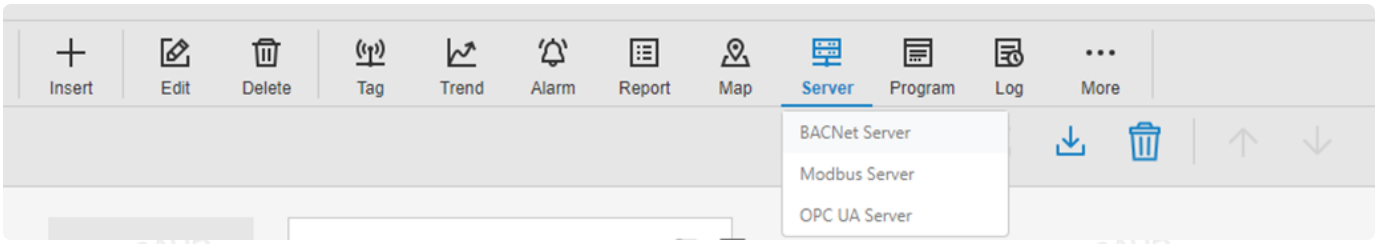
- Click Submit. The Export file will be in the defined path.



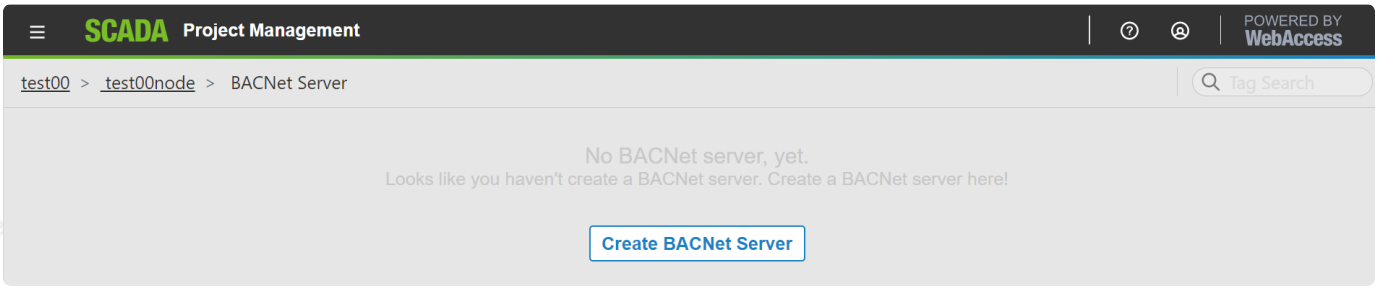
5.10 BACNet Server

5.10.1 Configure BACNet Server

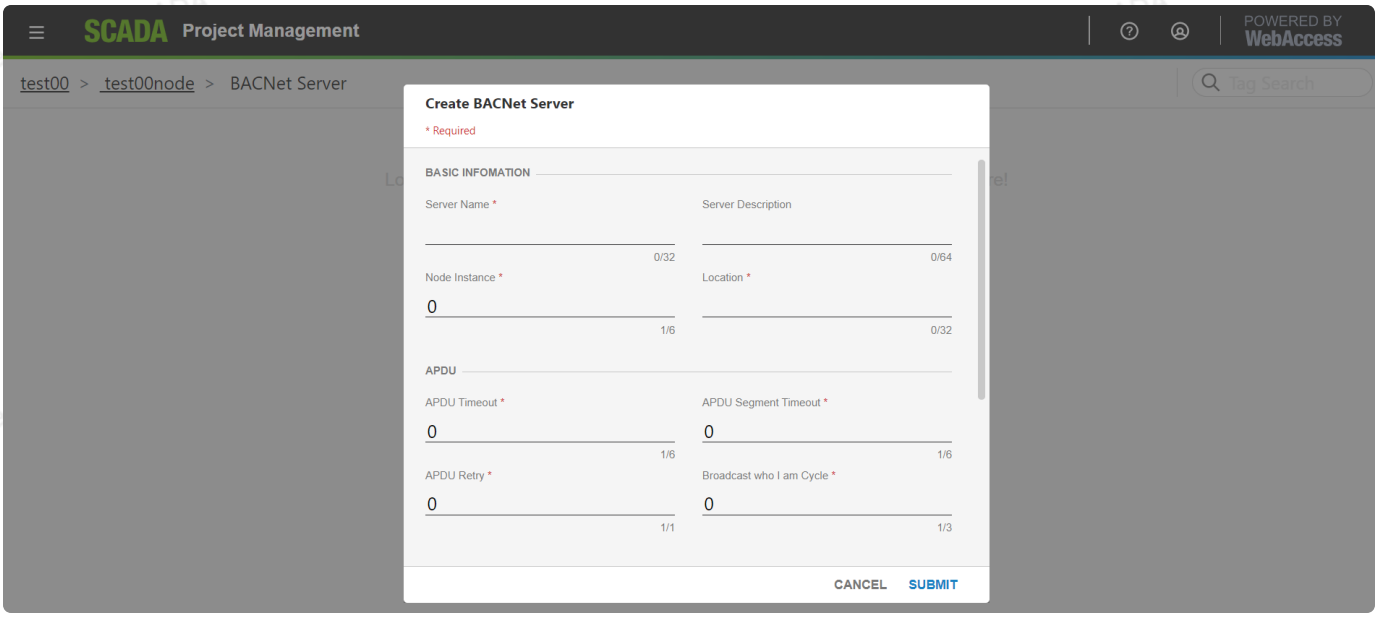
1. Select your Project and the SCADA Node.
2. Click **Server** classification on node bar, then select **BACNet Server**.



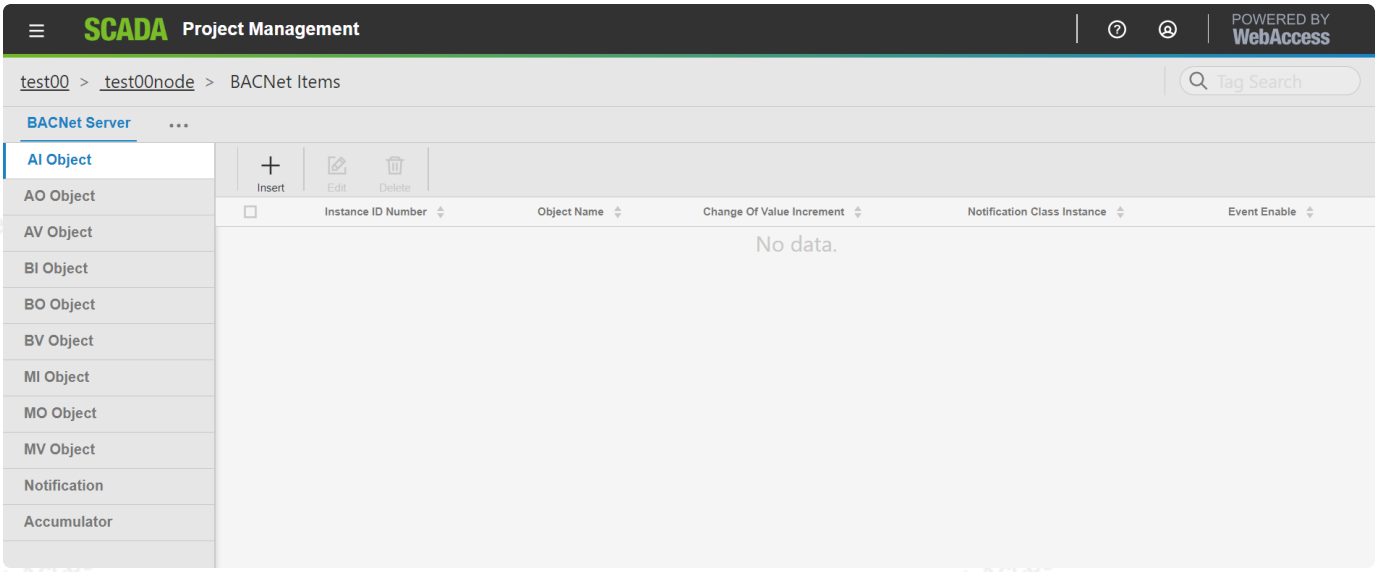
3. If this is the first time to configure BACNet Server, you will see the BACNet Server Page.



4. Click **Create BACNet Server button**.



5. The BACNet Server configuration page pops up.
6. Fill the basic information and APDU fields, then press **SUBMIT**. BACNet Server is already created.

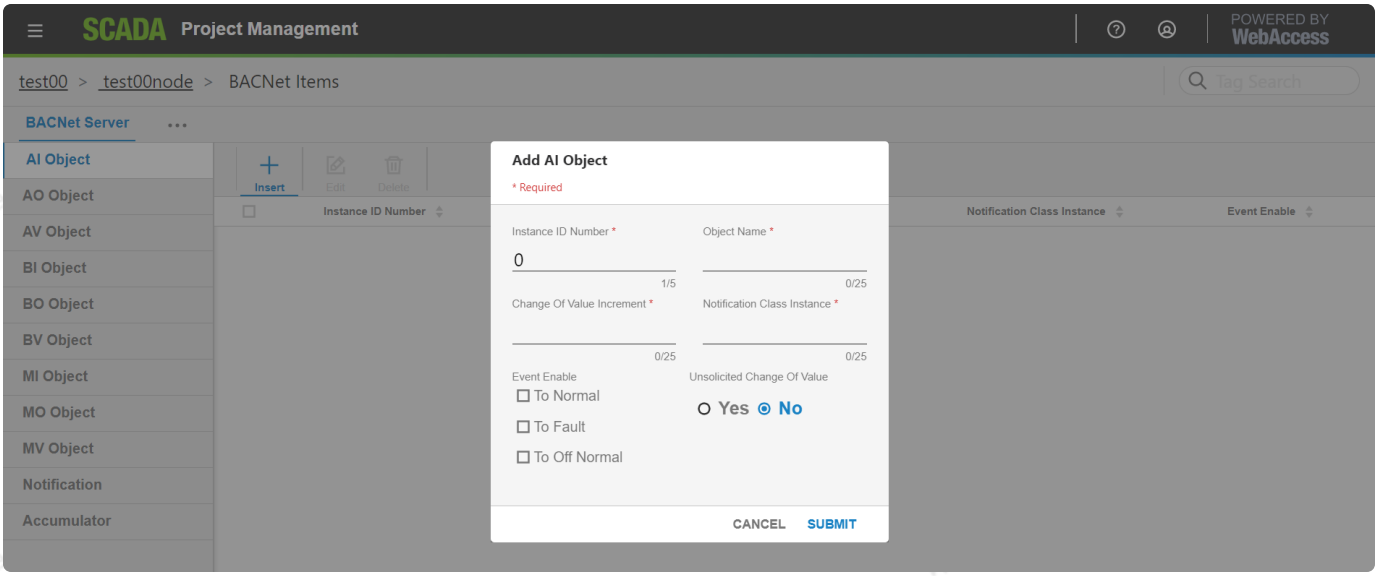


7. After create BACNet Server, you will see the BACNet Server Object List .
8. You can press the icon "..." to **Edit Server** or **Reset Setting**.

> Note – if you **Reset Setting** ,all the object settings will be cleared.

9. Then configure **Objects**, if necessary.

10. There are AI, AO, AV, BI, BO, BV, MI, MO, MV, Notification and Accumulator object type on the left side.
11. Choose the object type you want, then click **Insert** on the top bar.

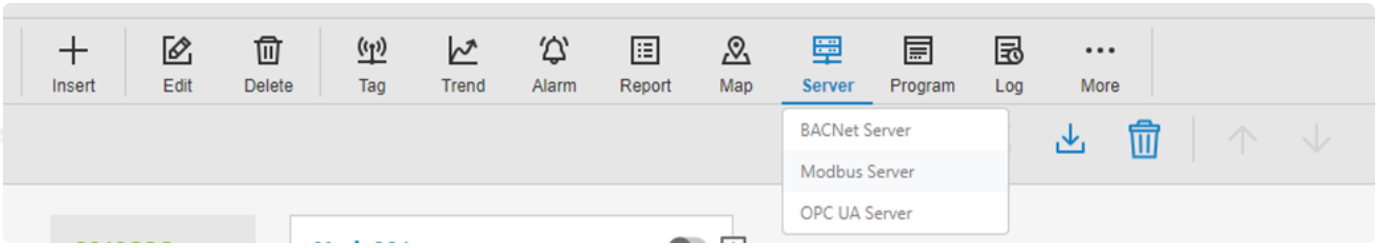


12. The BACNet Object configuration page pops up.
13. Fill the fields and SUBMIT data, object create successfully.
14. You can **Edit** or **Delete** the objects on the **Modbus Server Object List**.

5.11 Modbus Server

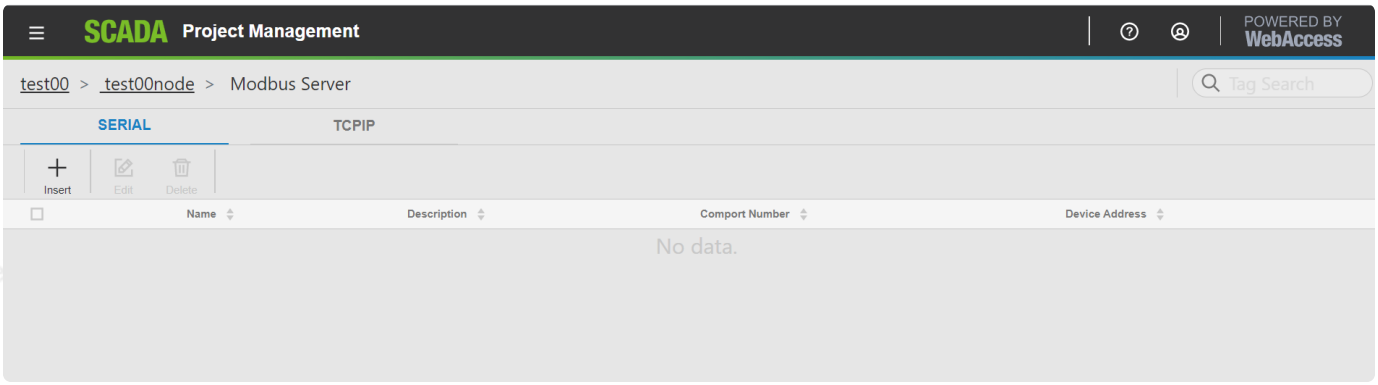
5.11.1 Configure Modbus Server

1. Select your Project and the SCADA Node.
2. Click **Server** classification on node bar, then select **Modbus Server**.

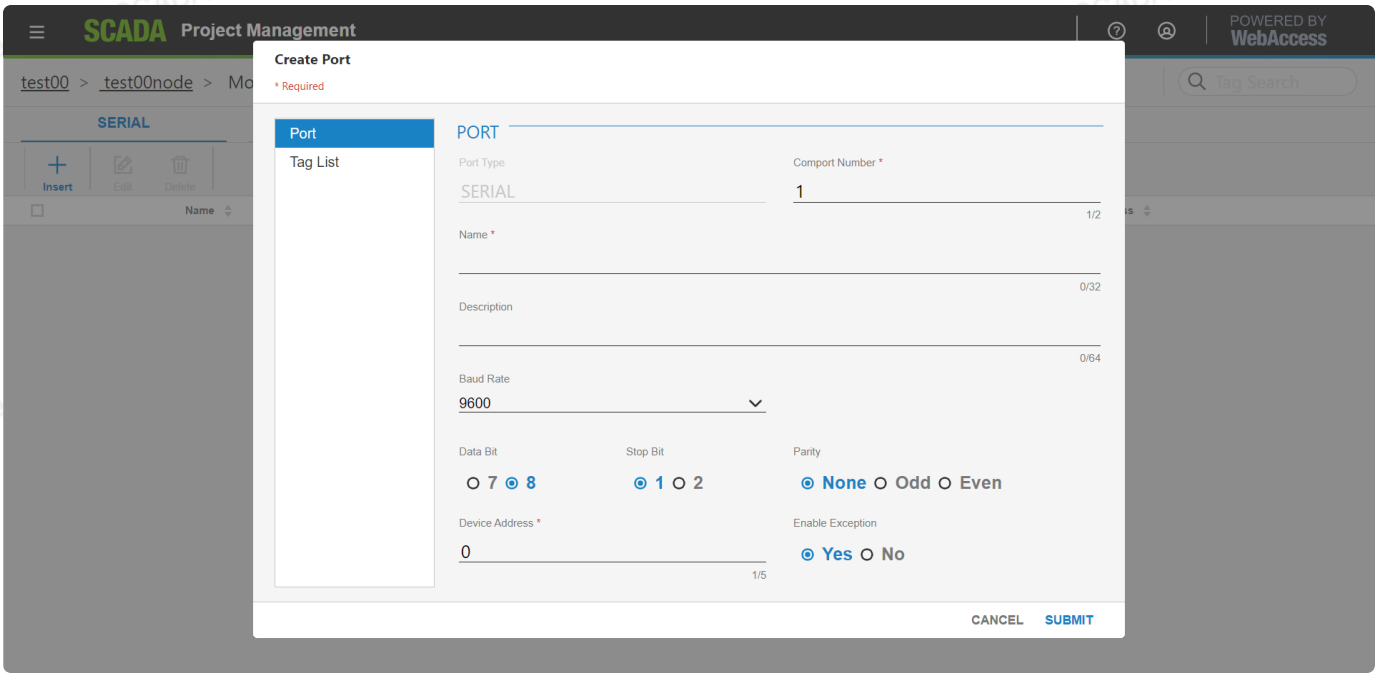


3. You will see the Modbus Server List . Serial port type is in left tab, and TCP/IP port type is in right tab.

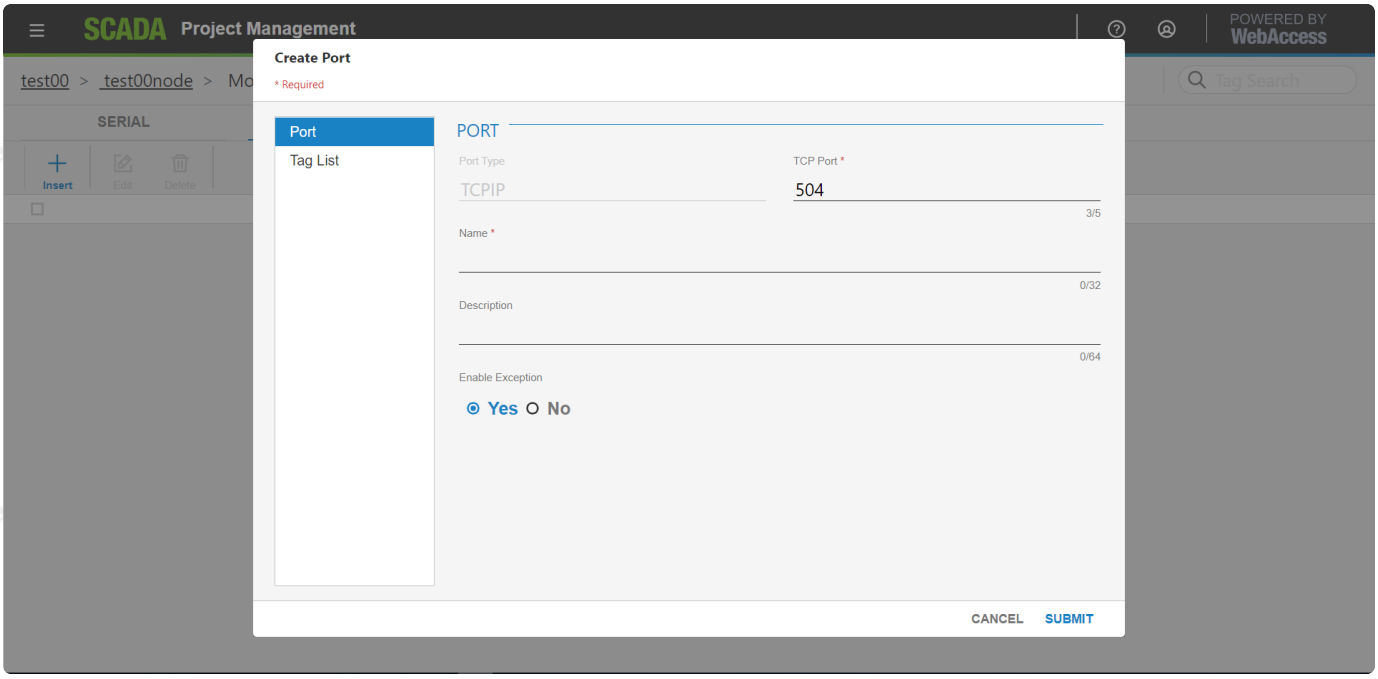
WebAccess/SCADA



4. Choose the port type you want and click **Insert,** then you will see different field.



WebAccess/SCADA



5. If you choose port type **SERIAL**, you need to fill **Comport**, **Description**, **Baud Rate**, **Data Bit**, **Stop Bit**, **Parity**, **Device Address** and **ENABLE_EXCEPTION** fields.

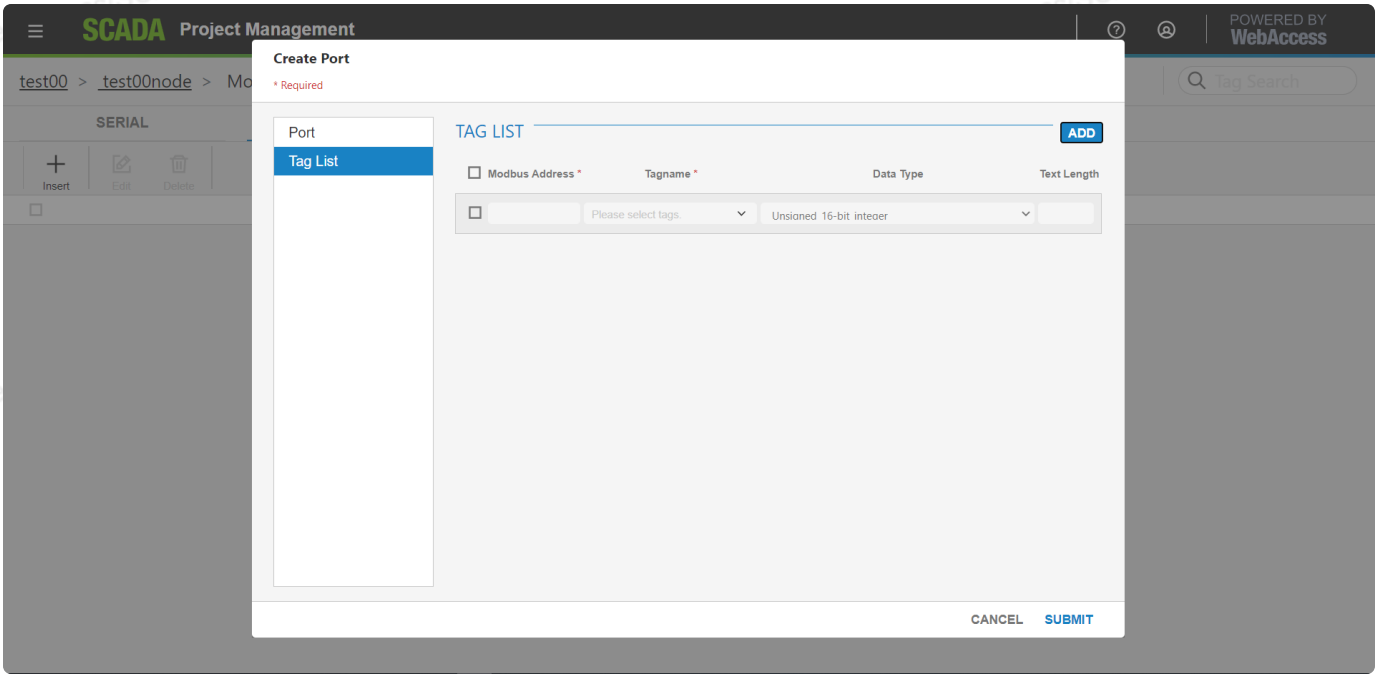
> Note – The **Comport Number** must be an **unique number**.

6. If you choose port type **TCP/IP**, you need to fill **TCP port**, **Description** and **ENABLE_EXCEPTION** fields.

> Note – The **TCP port** must be an **unique number**.

7. After you finish the basic information of modbus port, you can click Tag List, if necessary.
8. The **Modbus Server Tag List** page appears.
9. Click **ADD**, the Modbus Server Tag configuration page appears .

WebAccess/SCADA

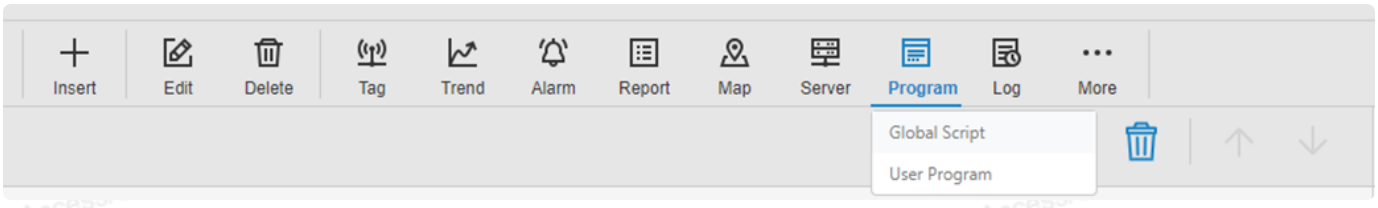


10. Fill the **Modbus Address**, **Tag Name** and **Data Type**. You need to input **Text Length** when you choose the **TEXT** data type.
11. Click **Submit** when you are finished.
12. You can use **Edit** or **Delete** on the **Modbus Server List**.

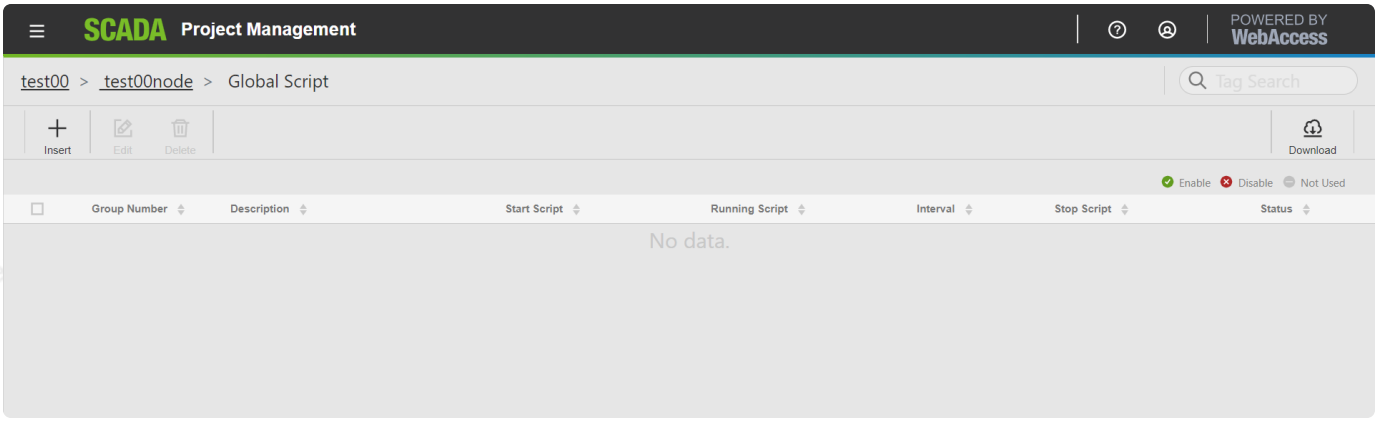
5.12 Global Script

5.12.1 Configure Global Script

1. Select your Project and the SCADA Node.
2. Click **Program** classification on node bar, then select **Global Script**.

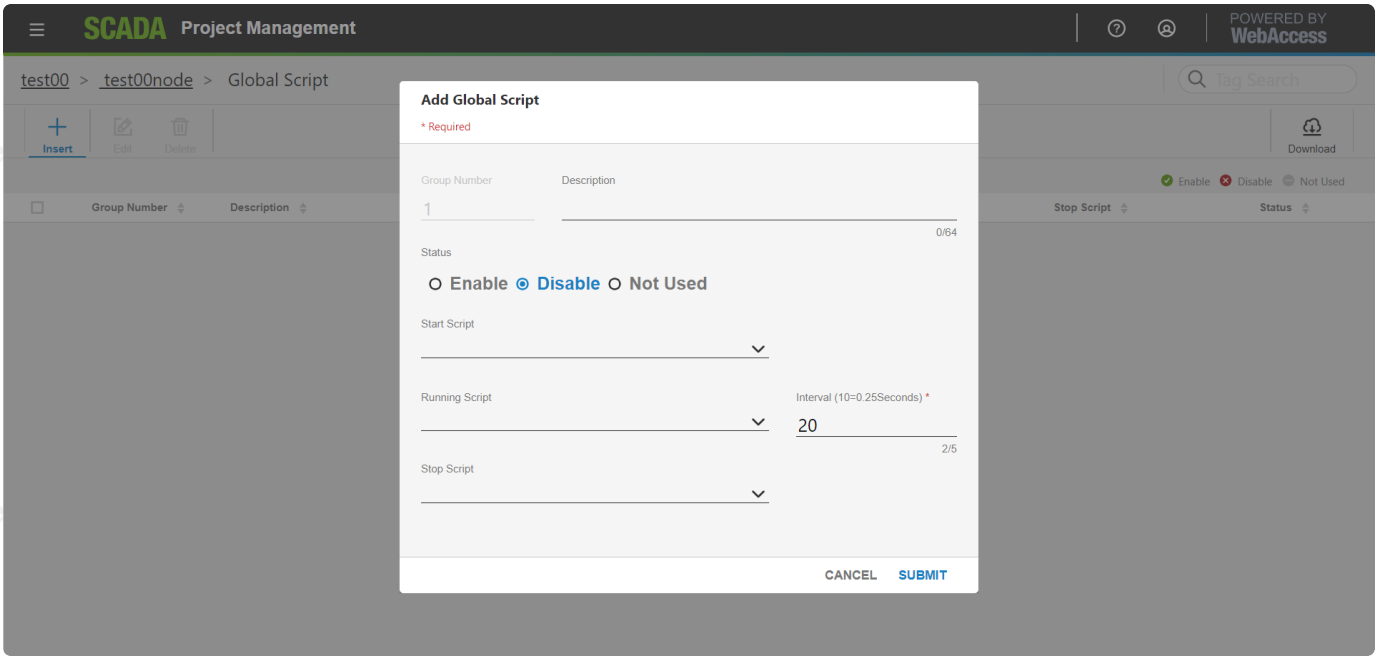


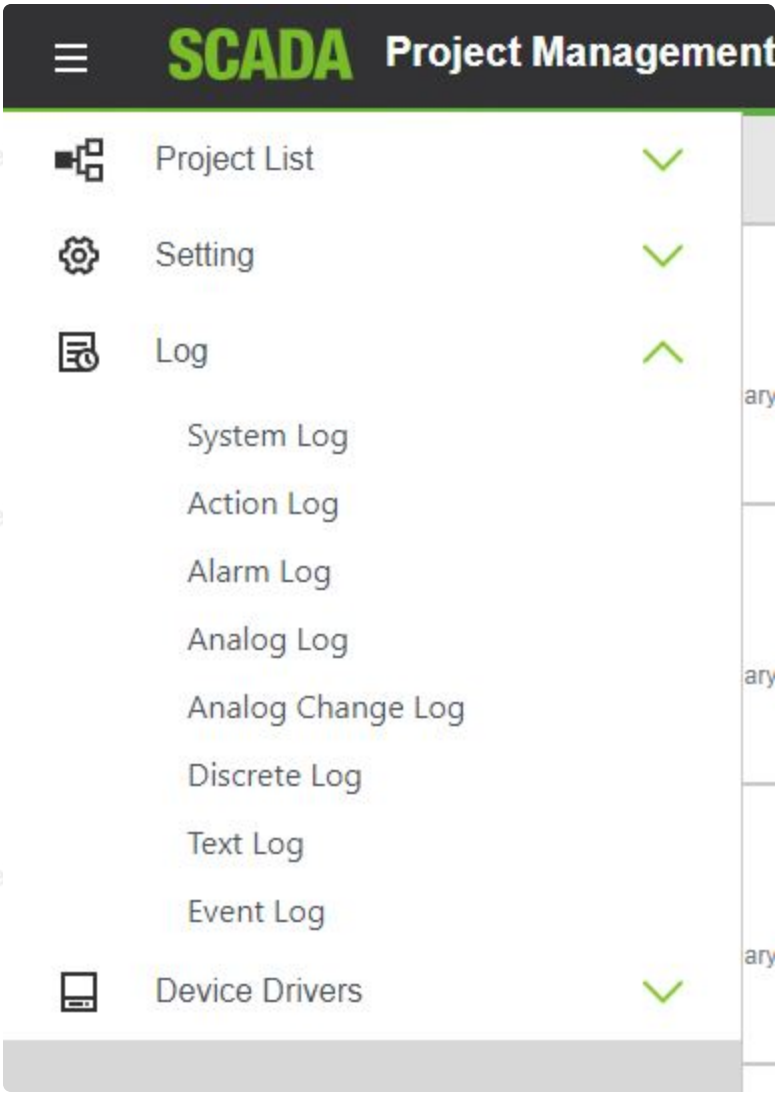
3. You will see the **Global Script List**.



4. Select **Insert**.
5. The **Global Script configuration** page appears.

WebAccess/SCADA





WebAccess/SCADA

6. Description is any user–defined description for this group of scripts.
7. Select **Start Script** if you want a script to run when the **SCADA node starts.** This script will run once when the SCADA node starts or restarts.This file must be located in the project root directory, typically c:\WebAccess\node\config\projectname\bgr. Scripts are built using the Script Editor in DRAW.
8. Select **Stop Script** to specify a script to run when the **SCADA node is stopped** or **stopped as part of a restart**. This acts as a Shutdown Script. The Stop script runs when the SCADA Node is stopped using either bwkCTRL, the task bar menu or Project Manager.
9. Select **Running Script** if you want a script to run repeatedly at specified Interval while the **SCADA node is running** . The While Running Script runs continuously on the SCADA Node (as long as the kernel is running).
10. Type an Interval for the While Running Script. These are in 25 millisecond intervals. 10 = 0.25 sec = ¼ second 2400 = 60 sec = 1 minute.
11. Select **ENABLE** for the **STATUS**.
12. There are two ways to download these changes to the SCADA Node:
    a. **Download and Restart the SCADA node** from the **SCADA Node properties** page. If you have never downloaded the SCADA node before, then this is required. This will temporarily stop the SCADA node (if it is running).
    b. Use the **Export** on the **Global Script List** Page. This will download changes to the Global Script without stopping the SCADA node.

5.12.2 Configure Global Script

This data can also be viewed in runtime using the Global Script System Display or %DGSST, %TGSSCRPT1, %TGSSCRPT2 and %TGSSCRPT3.

5.12.3 Global Script INI file

This information is stored in a Global Script Initialization file which is downloaded to the SCADA node. You can view this file a drive:\WebAccess\Node\config\Project_Node\BWSCRRDT.INI on the Project Node or drive:\WebAccess\Node\Project_NodeBWSCRRDT.INI on the SCADA node

[ssnumber] A group of three scripts: Start, While Running and Stop controlled by same STATUS flag.

DESCRIPTION – Any user description for the group of three scripts

Start Script – Optionally, this Script runs only once on **START of the SCADA node**. It will run once if the STATUS=1=ENABLE. This defines the name of the script file (the script.scr).
This file must be located in the project root directory, typically C:\WebAccess\Node\config\projectname*bgr*

Stop Script – Optionally, this Script runs only once on **STOP of the SCADA node**. It will run once if the STATUS=1=ENABLE. This defines the name of the script file (the script.scr).
This file must be located in the project root directory, typically
C:\WebAccess\Node\config\projectname*bgr*

Running Script – This Script **Runs** Continuously. This defines the name of the script file (the script.scr).
This file must be located in the project root directory, typically
C:\WebAccess\Node\config\projectname*bgr*

INTERVAL – The frequency it runs at (in 25 milliseconds, 0.025 seconds, 20 = once every 1/2 second, 40 = once every 1 seconds, 240=6 seconds, 400 = once every 10 seconds, 1200=30 seconds, 2400=every 21 minutes)

STATUS – Enables of Disables the entire block of System Scripts. 0=all three scripts Startup, While Running and Shutdown are disabled (will not run).
1= enables the SCADA System Scripts in this block (i.e. all scripts defined under the [ssnumber} tag).

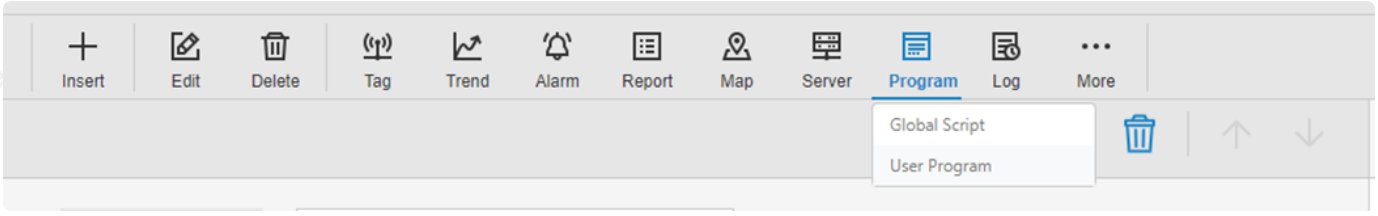
5.13 User Program Configuration

The SCADA node can call a custom User Program or any third party program including *.exe and *.bat files. These 3rd party programs are called when the SCADA Node starts.

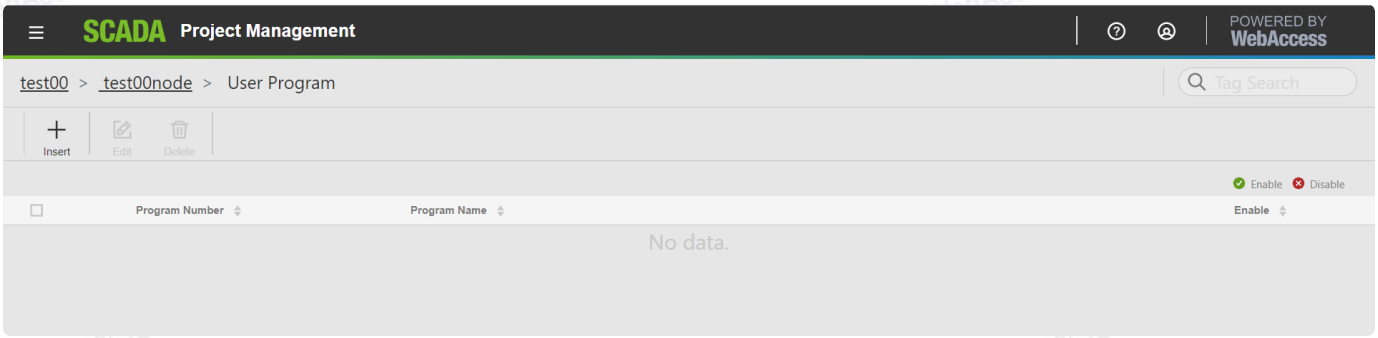
You can use Scripts to schedule User Programs based on calendar or time–of–day or events using the WINEXEC Action Command.

5.13.1 Configure User Program

1. Connect to Advantech WebAccess/SCADA Project Node.
2. Start Configuration.
3. Login to Project Manager.
4. Select the SCADA node.
5. Click **Program** classification on node bar, then select **User Program**.



6. The User Program configuration page appears.



7. Enter the **full path** and **program name**.

> Note – if you copy your User Program to C:\WebAccess\Node\config\Projectname_Nodename , you do not need to enter the full path here.

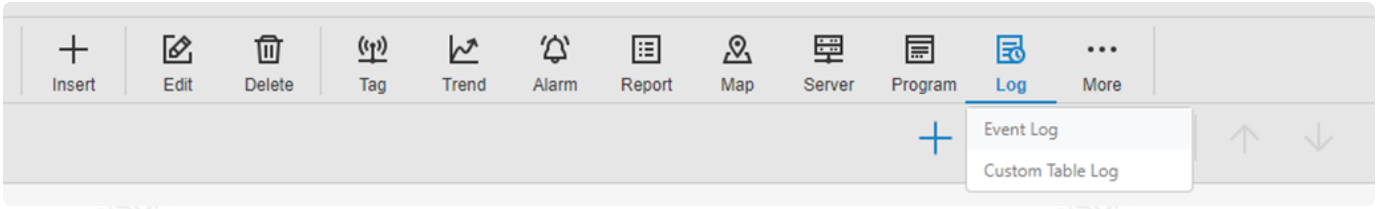
8. Click **Enable** if you want the program to run when the SCADA node starts.

5.14 Event Log

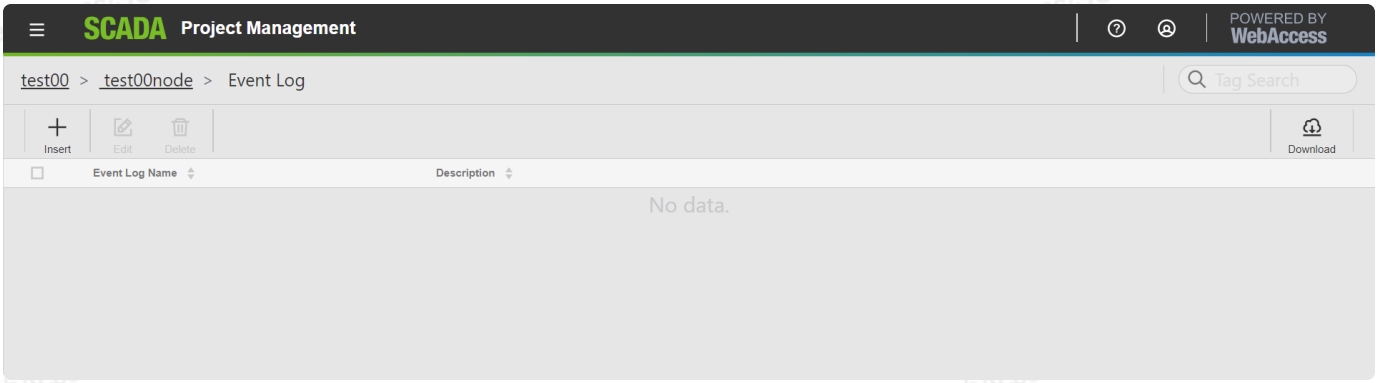
Similar in concept to a Sequence of Events Recorder, The Event log will log user–defined number of sample before the event and after the event. The data is logged to an ODBC database on the Project Node.

5.14.1 Configure Event Log

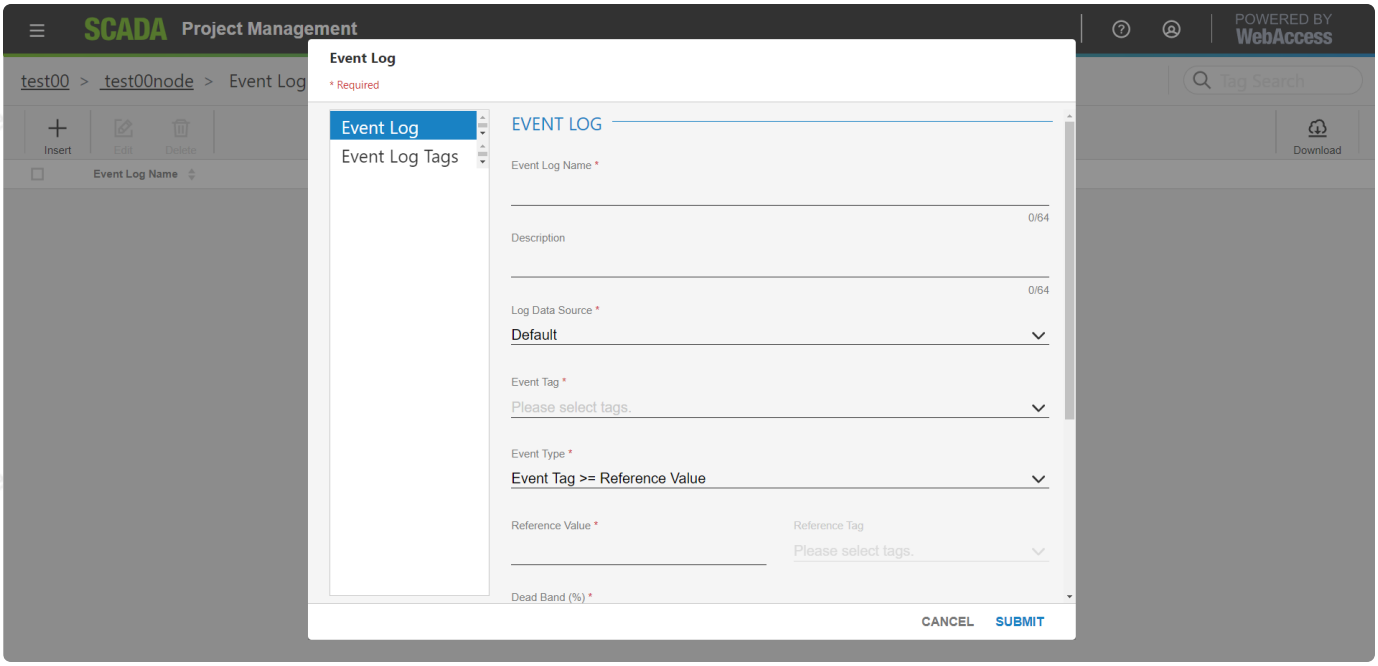
1. Select your Project and the SCADA Node.
2. Click **Log** classification on node bar, then select **Event Log**.



3. You will see the Event Log List.



4. Click **Insert**.
5. The Event Log configuration page appears.



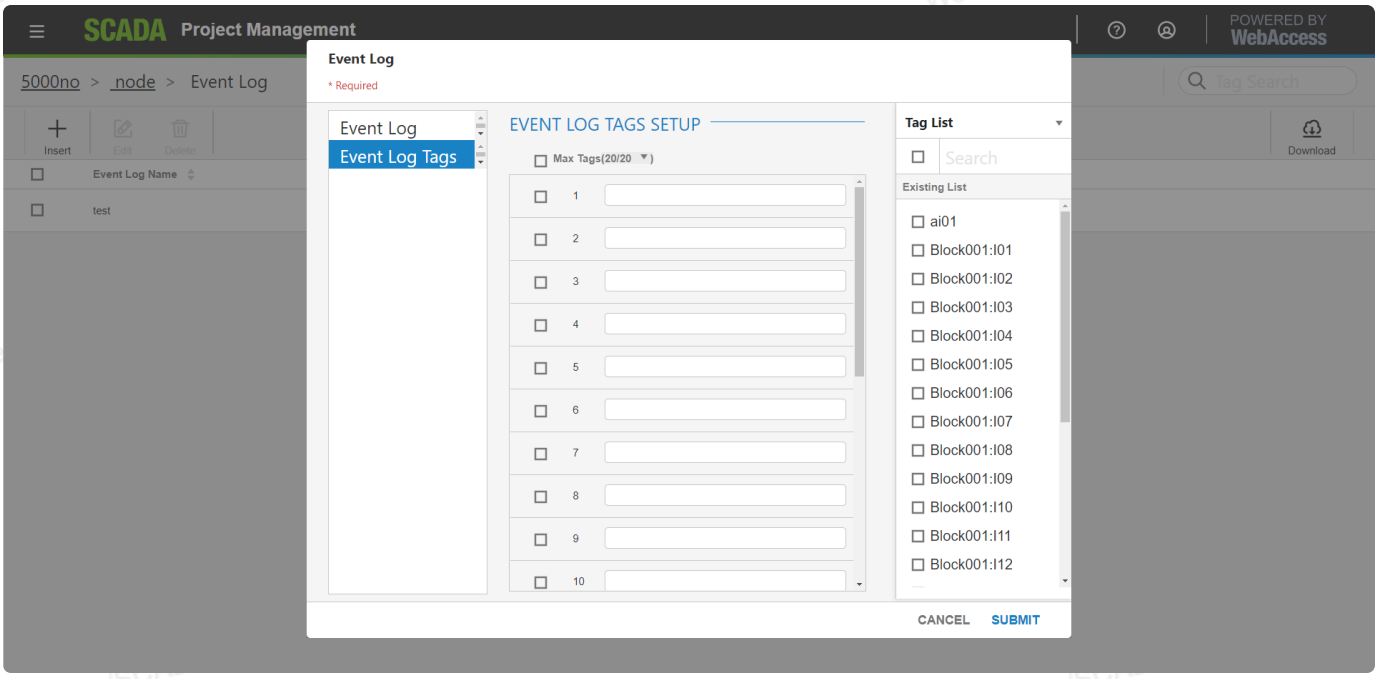
6. Enter an **Event Log Name** (no blank spaces).
7. Optionally, enter a **Description**.
8. Click once on the **Event Tag** field, then use the pull down Tag List to select a tag. The Event Tag is the tag which will cause logging to start. It can be an Analog or Discrete Tag. It can also be a Calculation Tag if you need a complex relationship to start logging.
9. Select the **Event Type** from the pull down list.
   Event Types that will trigger logging include:
   - Event Tag >= Reference Value
   - Event Tag <= Reference Value
   - Event Tag == Reference Value

- Event Tag >= Reference Tag
- Event Tag <= Reference Tag
- Event Tag == Reference Tag
- Record Every Sample Interval

9. If Event Tag >= Reference Tag or Event Tag <= Reference Tag is selected, then click once on the **Reference Tag** field then use the pull down Tag List to select a tag. Alternatively, you can type the tag name or copy and paste in a tag name.
10. Select an **ODBC Log Data Source** to store the event log.
11. Enter a **Dead band**. This is the Percent of Span that is considered big enough to start logging.
12. Enter a **Sample Interval**. This is the frequency of logging.

> Note – the Sample Interval is a function of this entry and the specified Scan Time for the communication port and the effective Scan Time (e.g. how fast the PLC or IO actually can be polled or scanned).

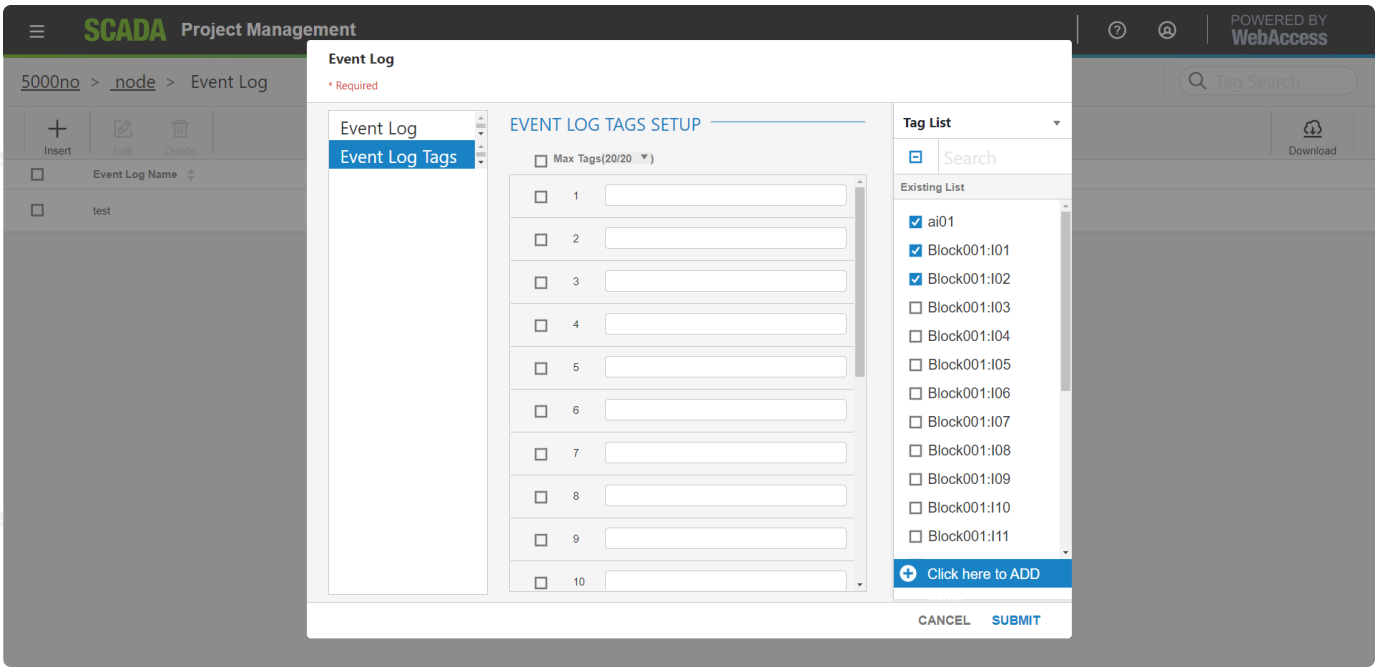
13. Enter the **Number of Sample before the Event** to be recorded. This is to see what lead up to the event and helps to diagnose what caused the event.
14. Enter the **Number of Samples After the Event** to be recorded. Choose **Log Continuously** to record the event data from the event began until the event ends.
15. Select the **Event Log Tags** tab. The second page of the Event Log Tags Setup page appears.



16. Use the **Max Tags** pull down list to increase or decrease the number of tags from 2 to 240.

> *Note – **Max Size** will affect this one Event Log. Changing the Size of this Event Log will result in the data table being re-created to increase the number of columns. This will delete all previous data for this one Event Log the next time the SCADA Node is downloaded and restarted. A dialog box opens to warn you that changing the size of the event log will delete previously logged data.*

17. Click tags and Click **Click here to ADD** from the pull down **Existing List** to select a tag. Alternatively, you can type the tag name or copy and paste in a tag name.



18. Repeat step 17 to add more tags.

> *Note – Optionally, you can also enter the name of a Script to run. This should be used with caution since it can affect system performance if fast recording of live data is also required. The names with extensions ".SCR", ".JS" or ".VBS" are treated as a script file names. When the event is triggered, the script(s) will be executed and a value "0" will be recorded in event log. The scripts should be located in the \bgr sub directory for the project and node.*

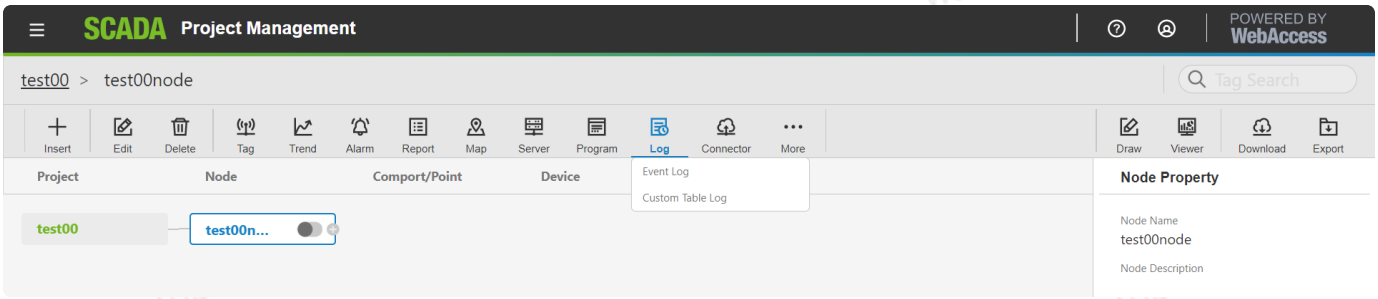
Up to 22 Tags can be logged to a single Event Log based on the status of a single tag (the **Event Tag**).
Multiple Event Logs can be configured if you need multiple tags to trigger logging.
Resolution can be from 1 millisecond to 1 hour. The Actual resolution depends on you computer hardware, network connections and communications to field device (e.g. PLC)
The record time of Event Log data (i.e. Record every sample period) now aligns to 00:00:00 regardless of when the SCADA node started. For example, if you specify recording every 10 seconds, then the data will record on :00, :10, :20, :30, :40 and :50 seconds after the minute for the duration specified.

19. You can use **Edit** or **Delete** on the **event Log List**.

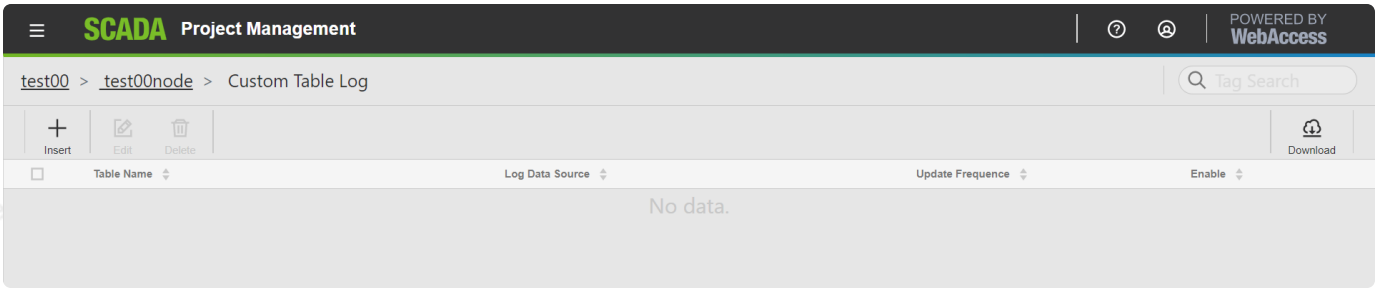
5.15 Custom Table Log

5.15.1 Configure Customized Database Schema

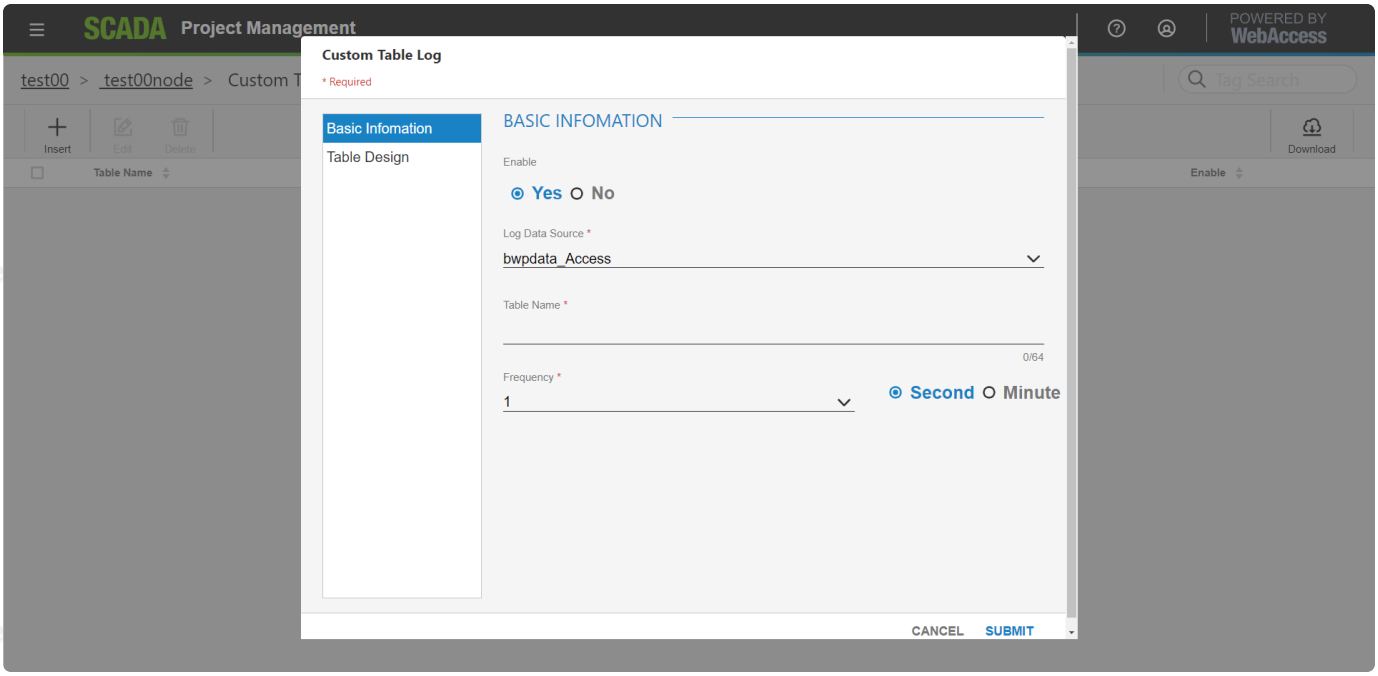
1. Select your Project and the SCADA Node.
2. Click **Log** classification on node bar, then select **Custom Table Log**.



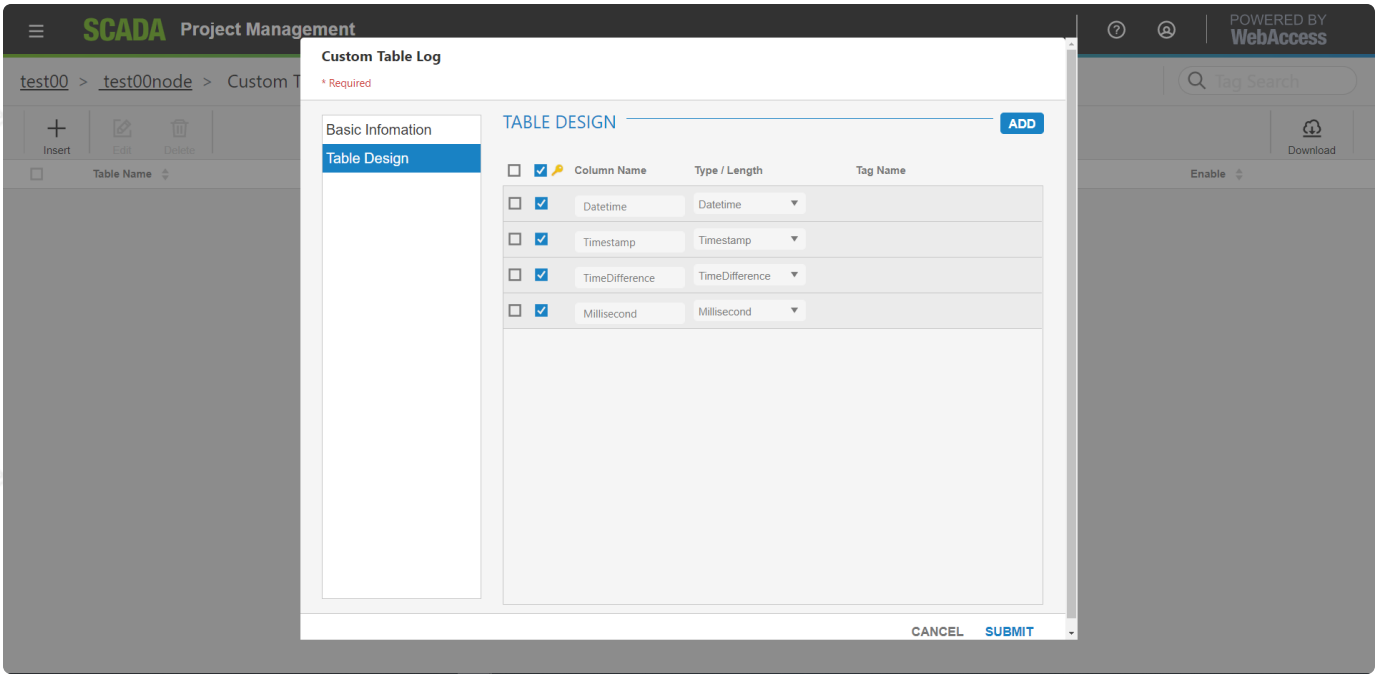
3. You will see the **Custom Table Log List**.



4. Click **Insert**.
5. The **Customized Database Schema Configuration** page appears.



6. You can design the column details like column type in **Table Design**.



7. You can **Edit** or **Delete** the objects on the **Custom Table Log List**.

WebAccess/SCADA
WebAccess/SCADA

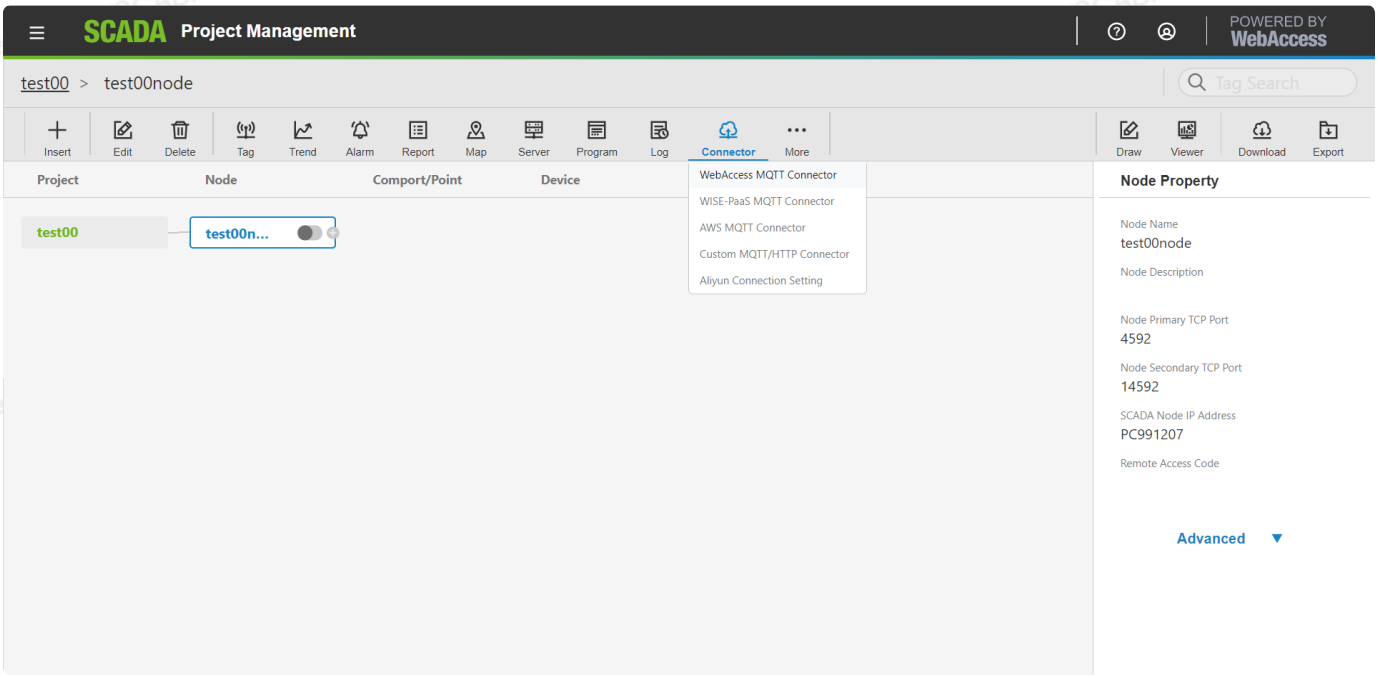
5.16 MQTT Connection Setting

MQTT Connection Setting has two parts:

- WebAccess MQTT Connection Settings
- WISE-PaaS Connection Settings

5.16.1 Entry

- Click SCADA Node on Org Chart.
- Hover More Connector on the Ribbon.

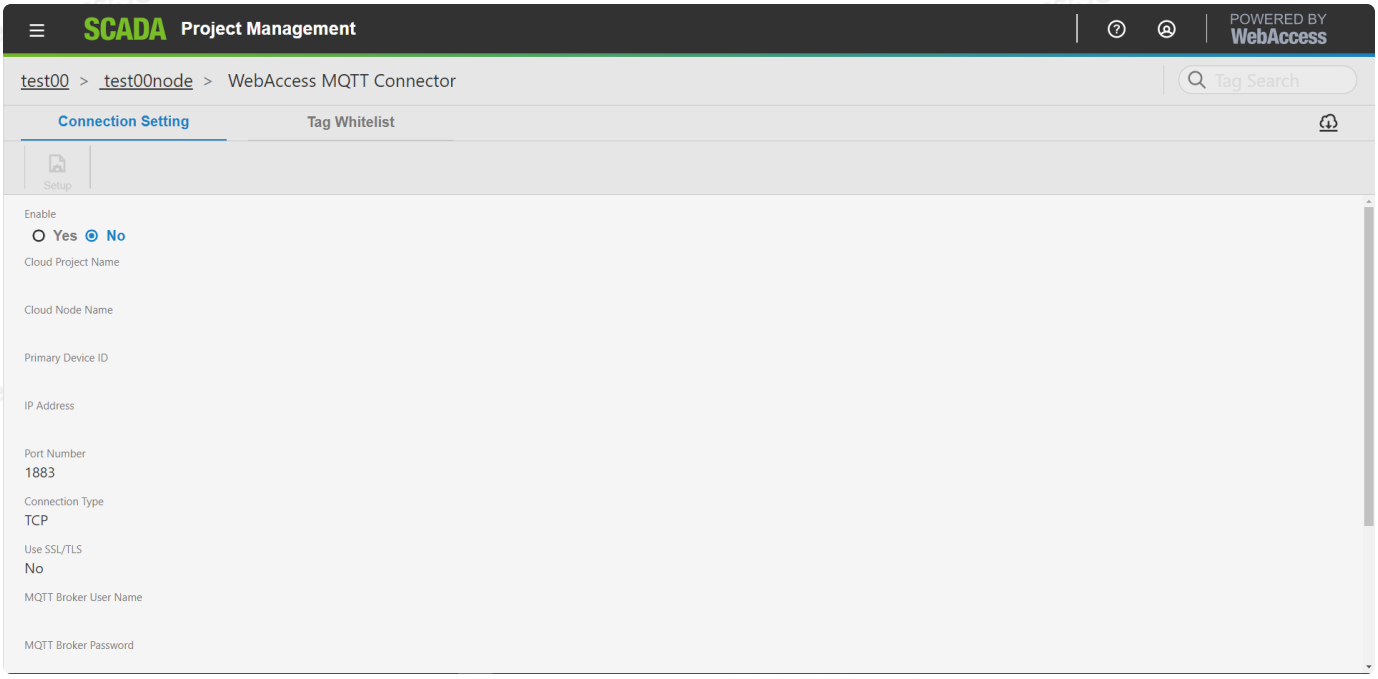


5.16.2 WebAccess MQTT Connection Settings

WebAccess/SCADA is dedicated to offer the comprehensive solutions to meet our customers' needs. WebAccess Cloud Connection is an integrated Internet of Things (IoT) solution which provides various types of services such as data communication, data synchronization, IoT administration.

5.16.2.1 Editing Connection Setting

- Click WebAccess MQTT Connection Settings.
- Configuring the connection information on the **Connection Setting.**



Connection setting properties:

- **Enable:** the connection status with the Boolean attribute, Enable property can be set to keep a cloud connection until the connection attribute is disable.
- **Cloud Project Name:** The cloud project name.
- **Cloud Node Name:** The cloud SCADA node name.
- **Primary Device ID:** The cloud device identity with **unique** value. The default value is "Cloud Project Name _ Cloud SCADA Node Name"
- **IP Address:** The MQTT broker connection address such as domain name (e.g., WebAccess) or IP address (172.18.3.157).
- **Comport Number:**

  TCP comport–1883

  TLS comport–8883

  Windows 7 (or earlier version):

  WebSocket and SSL – 51329

  WebSocket and Non–SSL= 51328

  Windows 8 (or above version):

  WebSocket and SSL –443

  WebSocket and Non–SSL=80

> *Note —*
> *1) WebSocket and SSL*
> *2) WebSocket and Non–SSL*
> *For above two comports, they need to be set in Windows 7 (or earlier version), while Windows 8 (or above version) do not need to be set.*

- **Connection Type:** MQTT connection type: using webscocket and TCP.

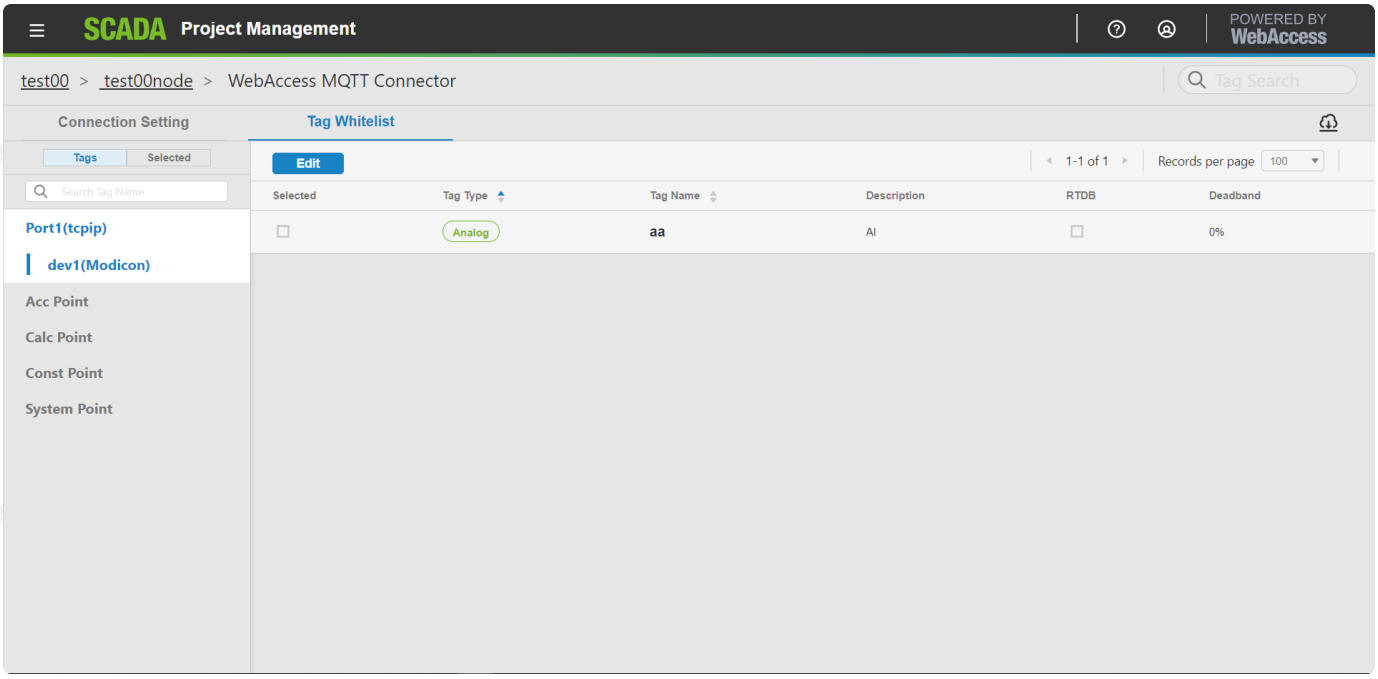
> Note–MQTT broker in Win7 (or Earlier version) only can connect with TCP type.

- **Use SSL/TLS:** A Boolean attribute to distinguish use and non–use the SSL/TLS on MQTT broker connection.
- **MQTT broker User Name:** The authorized MQTT broker user's name
- **MQTT broker Password:** The authorized MQTT broker user's password
- **Keep–Alive Interval:** the keep–alive interval is used to maintain the connection with the broker and retry for delivering messages.
- **Data Publish Interval (second):** Setting the time interval to publish the data. The kernel will publish data according to this interval.
- Publish Data **via Value Changed:** A Boolean attribute to determine the way to send data. Select "Yes" means send data to MQTT broker when value changed. Select "No" means to send data to MQTT broker by data publish time interval, no matter the data value changed or not.
- Publish Data at Kernel Startup: A Boolean attribute to determine when devices will start to send the data. Select "Yes" means data start to be sent when the kernel startup. Select "No" means data will not be sent until the kernel received start–to–send command from the MQTT Broker.

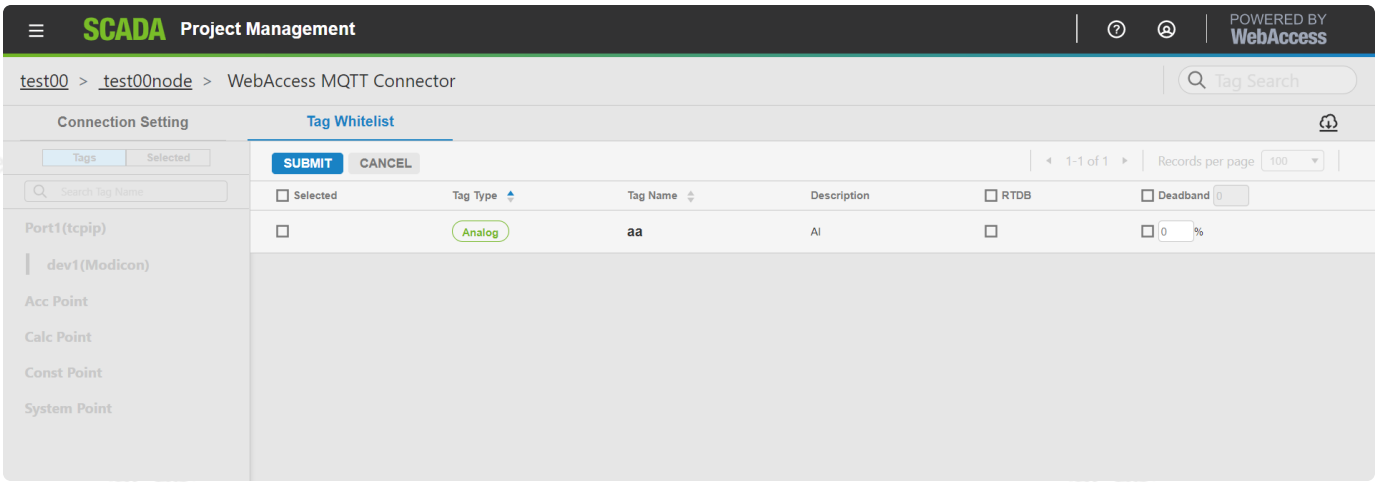
> *Note —The device ID is critical for cloud device, as the device ID is unique for each record. The MQTT broker user name and the MQTT broker password must be consistent with the MQTT broker setting on the cloud project.*

5.16.2.2 Editing the MQTT white list

Using WebAccess cloud white–list, users can configure the tag on the ground project.



- **Find the Tag you want to edit:**
  - Click **Tags**, you can see different node types like **Acc Point**. Select one node type, the tags which are belonged to the node type will show in the list.
  - Click **Selected,** the tags was set selected will show in the list.
  - Using the search under Tags/Selected tab.



- Click **Edit** in tag list, then click **submit** to save your change.

User can set the tag property in cloud white-list, and the cloud white-list has configurable properties including dead band, RTDB and upload. The tag can upload to the cloud project by setting the white list. The following Parameters appear for a cloud white-list configuration:

> *Note —The first column is the "upload" property. If you want to update the tag to the cloud device, the checkbox of first column must be checked.*

- The cloud white-list properties

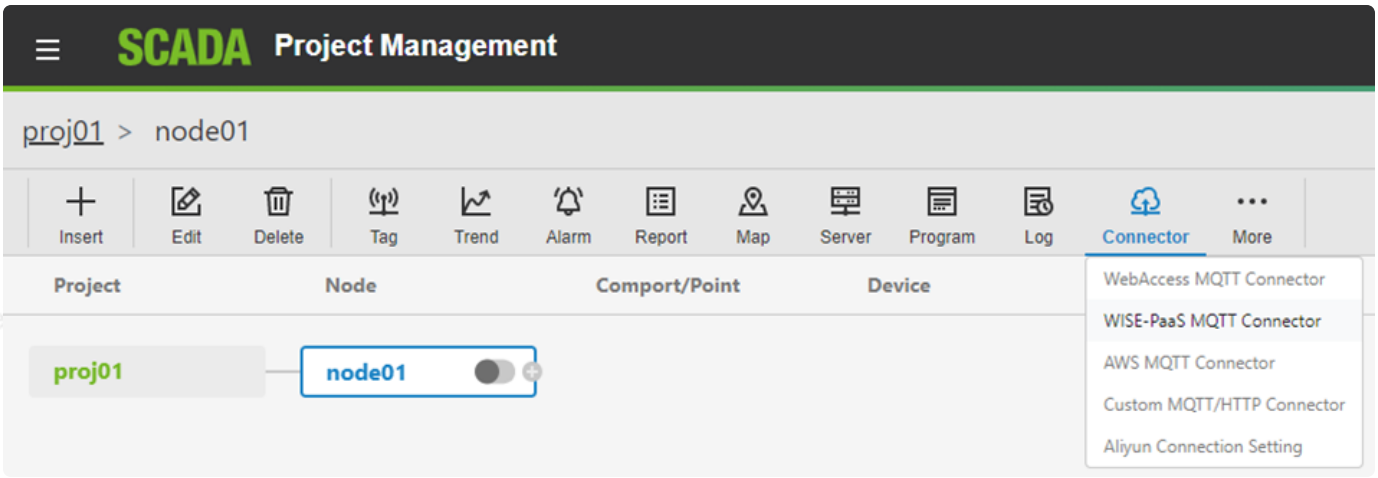
Property Name	Description	Type
Upload	Enabling to uploading to the cloud	Checkbox
Tag name	Tag name	The default string
Dead band	The threshold (percentage) of difference between the current and last published value.	Textbox
Real time database log (RTDB)	Enabling to log in the RTDB	Checkbox
Description	The description of tag	The default string

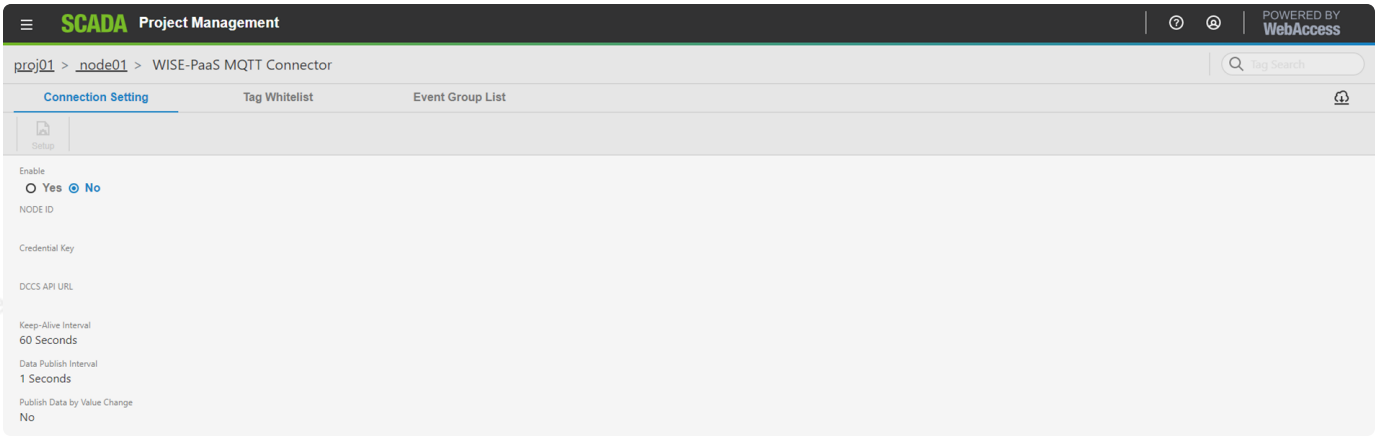
5.16.3 WISE-PaaS Connection Settings

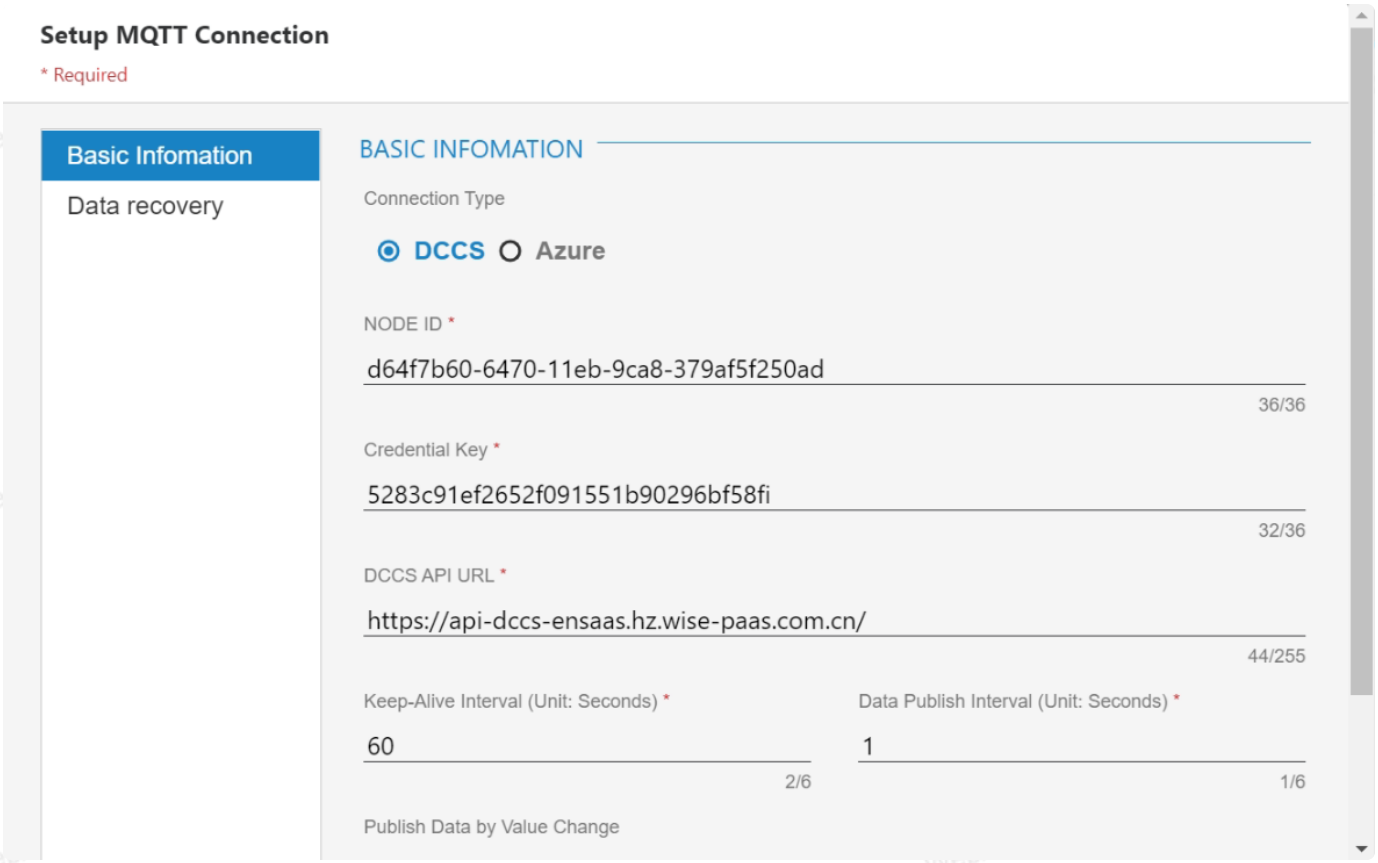
5.16.3.1 Editing Connection Settings

- Click WISE-PaaS MQTT Connection Settings.

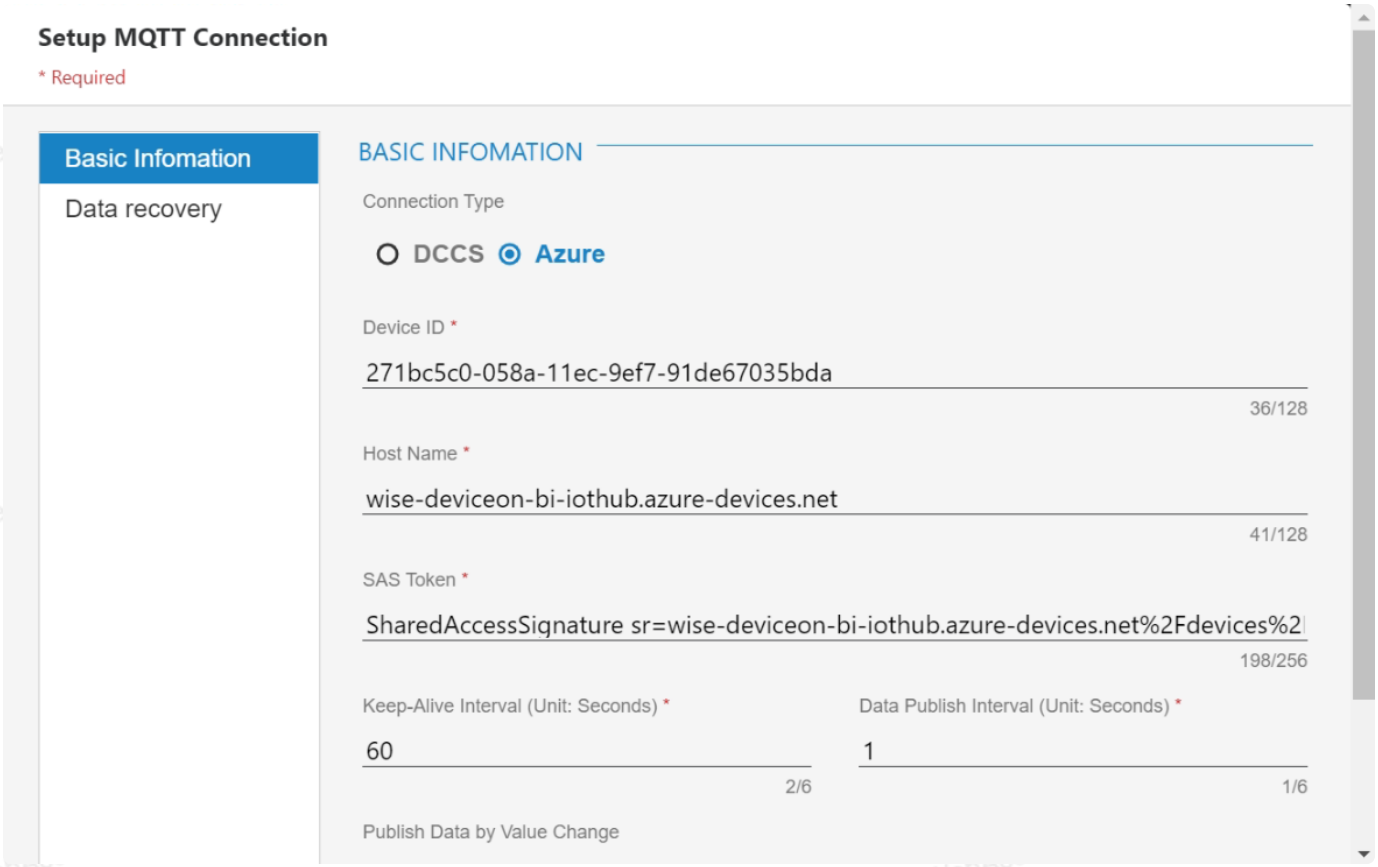
Configuring the connection information on the **WISE-Paas MQTT Connector.**







WebAccess/SCADA



Connection setting properties:

- Enable: the connection status with the Boolean attribute, Enable property can be set to keep a cloud connection until the connection attribute is disabled
- Connection Type: select to connect with WISE–PaaS (DCCS) or Azure

[While selecting DCCS]

- Node ID: The unique ID of the SCADA
- Credential Key: the credential key is used to access DCCS
- DCCS API URL: Provides Edge Device to quickly obtain credentials and connect to WISE–PaaS platform

[While selecting Azure]

- Device ID: The unique ID of the SCADA
- Host Name: Azure IoTHub host name or IP address
- SAS Token: Connection secret key for data encryption

[Common setting]

- Keep–Alive Interval: the keep–alive interval is used to maintain the connection with the broker and retry feature for delivering messages
- Data Publish Interval (second):Setting the time interval to publish the data. The kernel will publish data according to this interval.
- Publish Data via Value Changed: A Boolean attribute to determine the way to send data.

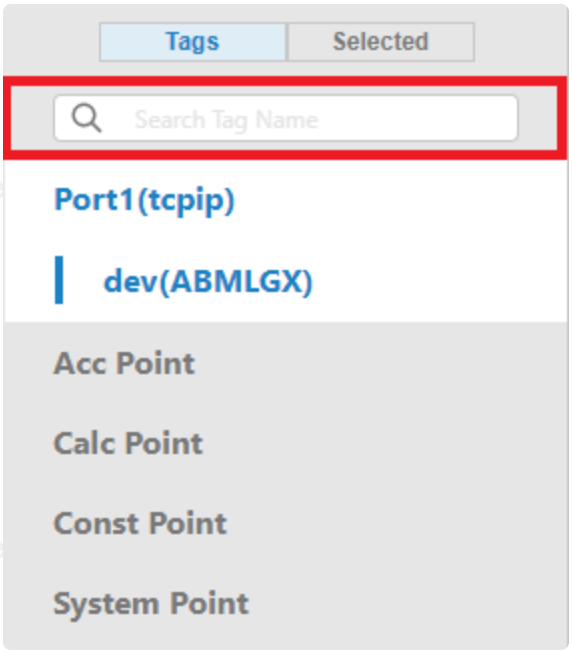
Select “Yes” means send data to MQTT broker when value changed. Select “No” means to send data to MQTT broker by data publish time interval, no matter the data value changed or not.

> *Note* —The device ID is critical for cloud device, as the device ID is unique for each record.

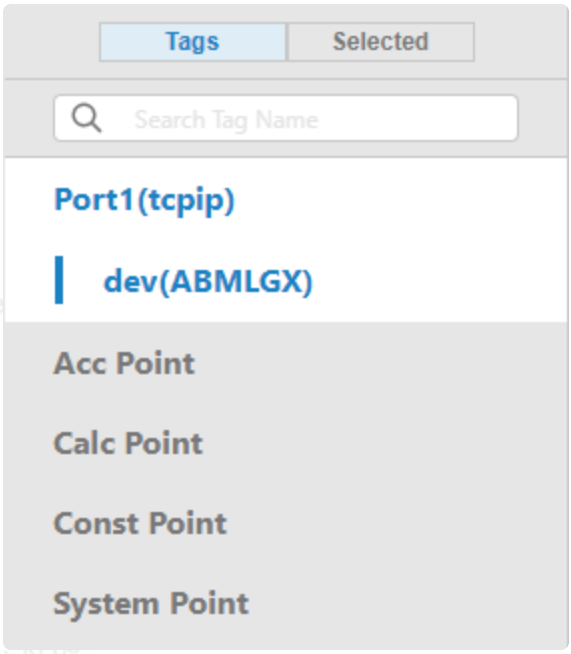
5.16.3.2 Editing the WISE–PaaS white list

The WISE–PaaS white–list link is found on the top side of the SCADA node setting. Using WebAccess cloud white–list, users can configure the tag on the ground project.

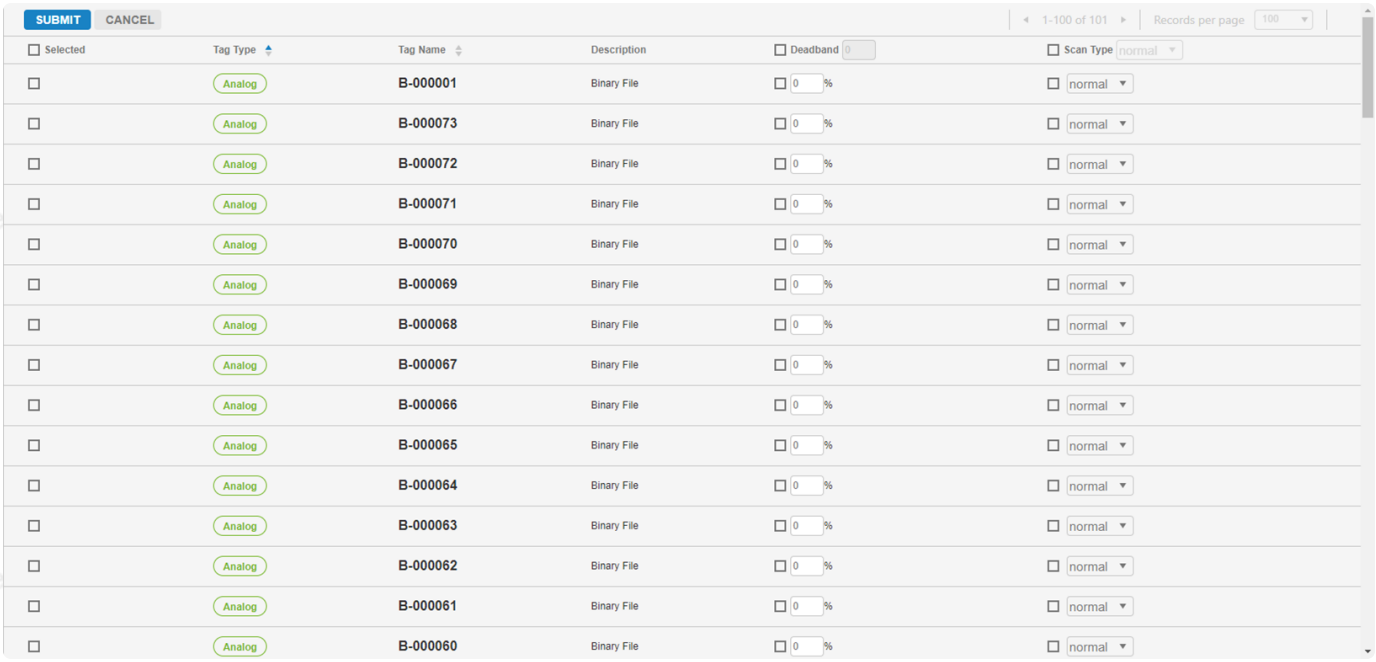
- On the WISE–PaaS Connection Setting, you can search the selected tag:



- **Select** the node type (via the left menu)

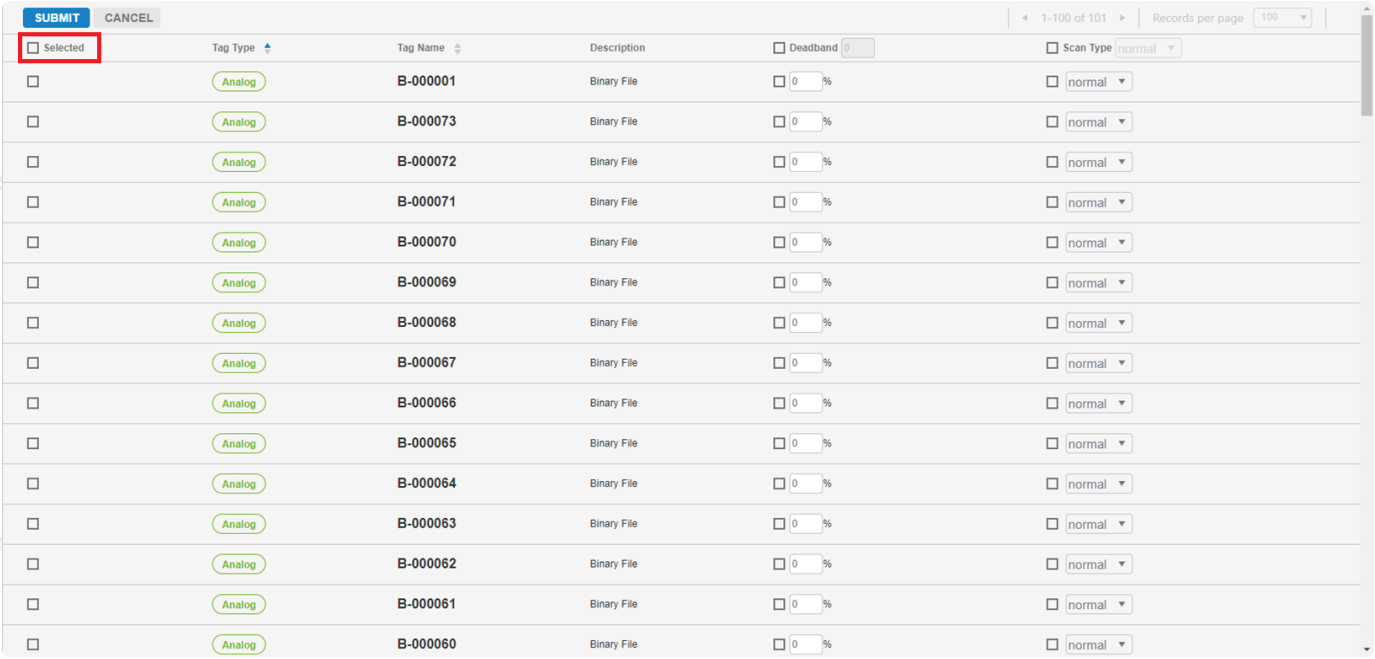


- **Click** the device name –> the tag lists of each device is display the right screen –**>Modify** the whitelist attribute –> **Click Submit**



> *Note —You can select all tags in the specific attribute by checking the checkbox in the column title.*
> *Select All:*

WebAccess/SCADA



- The user can set the tag property in the cloud white-list, and the cloud whitelist has configurable properties including dead band and upload. The tag can upload to the cloud project by setting the white-list. The following parameters appear for a cloud white-list configuration:

> *Note —The first column is the "upload" property. If you want to update the tag to the cloud device, the checkbox of the first column must be checked*

- The cloud white-list properties

Property Name	Description	Type
Upload	Enabling to uploading to the cloud	Checkbox
Tag Type	The type of tag	The default string
Tag name	Tag name	The default string
Description	The description of tag	The default string
Dead band	The threshold (percentage) of difference between the current and last published value.	Textbox
Scan Type	The type of scanning	Drop Down List

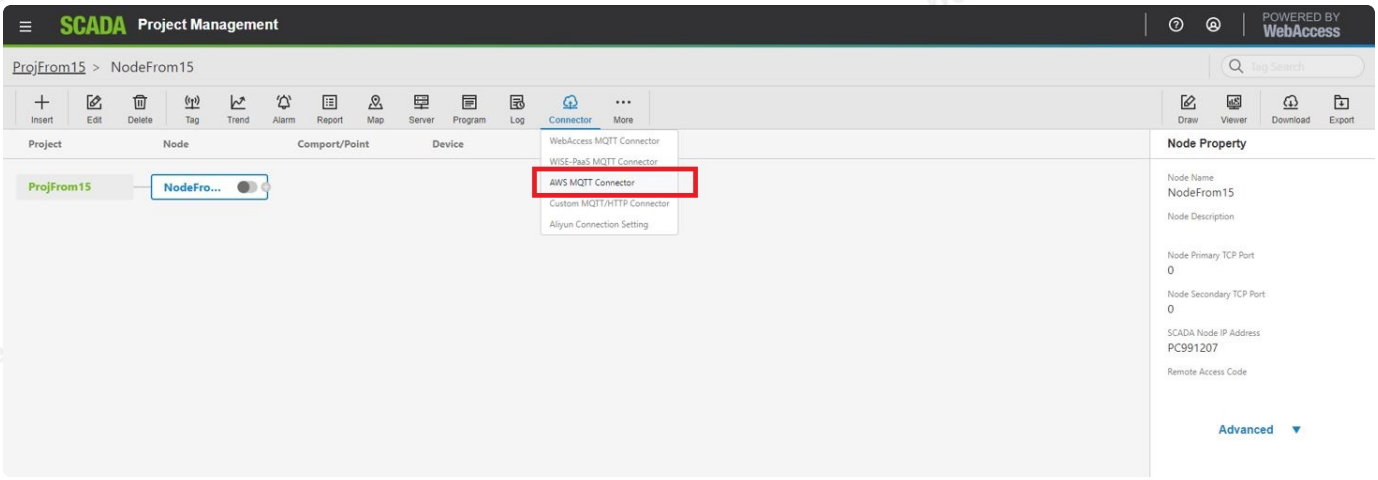
Then download the SCADA node and start the kernel.

5.16.4 AWS Connection Settings

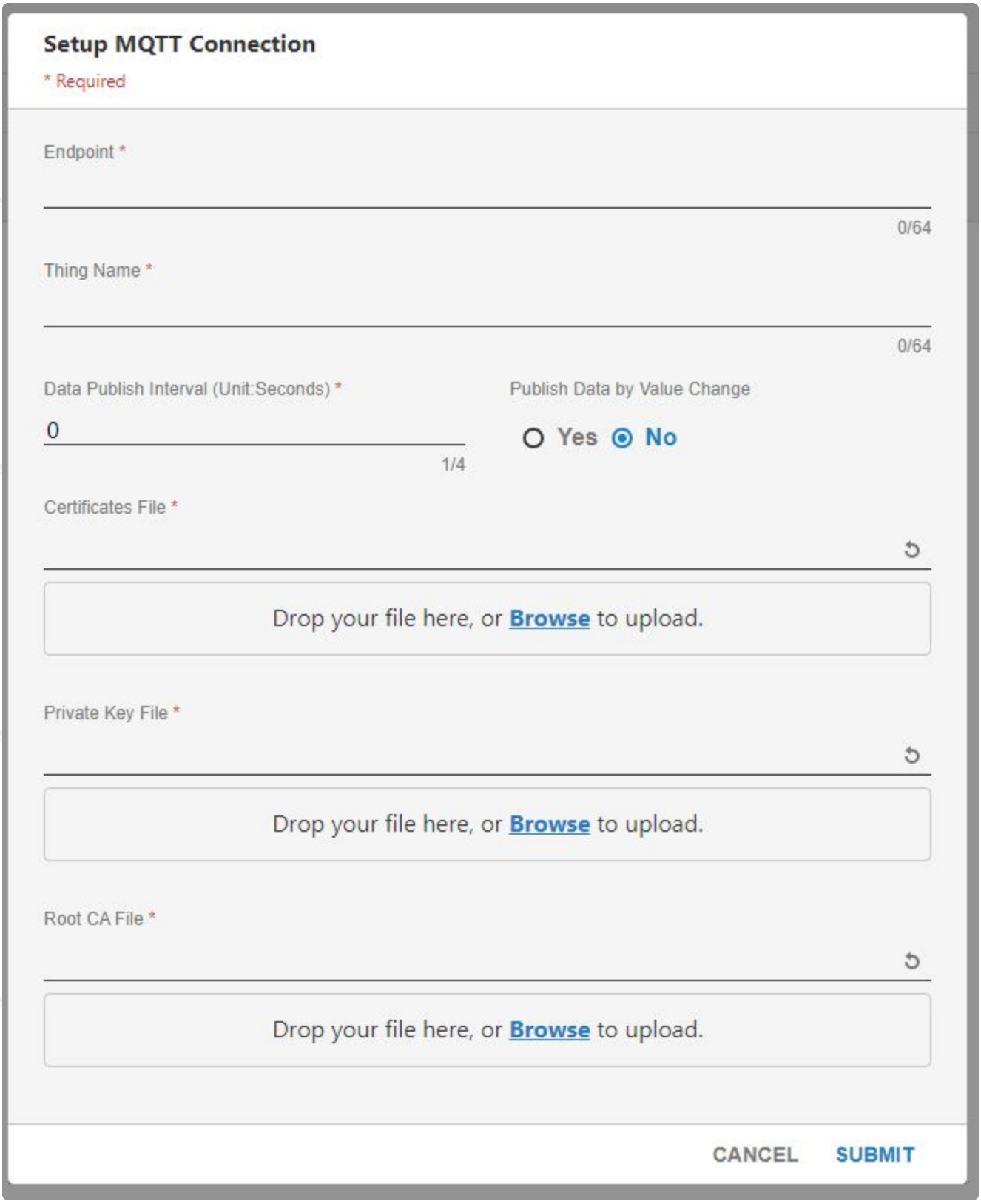
AWS IoT is a managed cloud platform that lets connected device easily and securely interact with cloud applications and other device.

5.16.4.1 Editing Connection Setting

1. Click AWS Connection Settings.



2. Configuring the connection information on the **Connection Setting.**



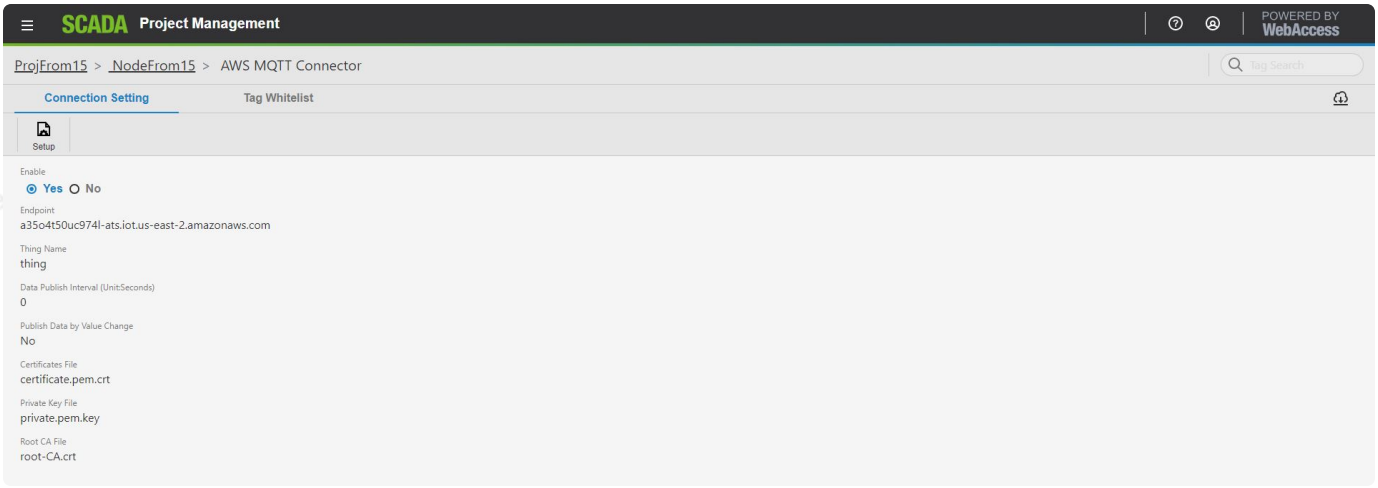
Connection setting properties:

- **Enable:** the connection status with the Boolean attribute, Enable property can be set to keep a cloud connection until the connection attribute is disable.
- **Endpoint:** Enter your custom endpoint that allows you to connect to AWS IoT. This is an

important property to insert when using an MQTT client.

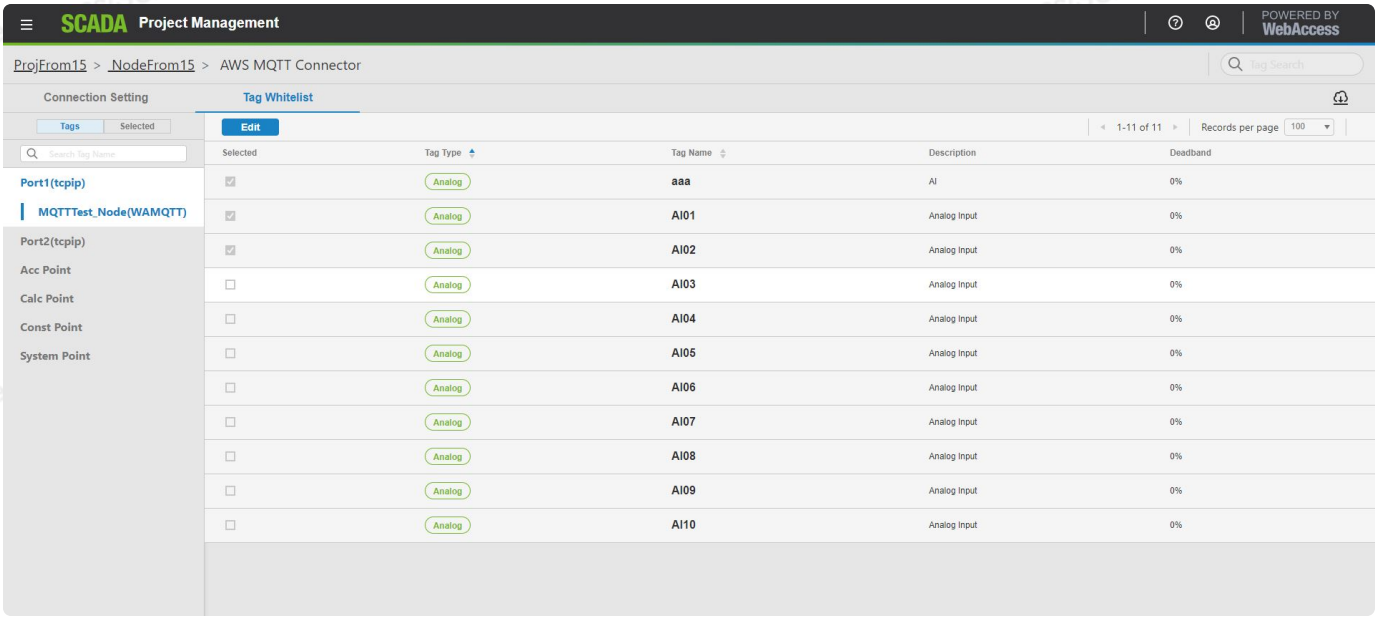
- **Thing Name:** An IoT thing is a representation and record of your physical device in the cloud. Any physical device needs a thing record in order to work with AWS IoT.
- **Certificates File:** A certificate for this thing.
- **Private Key File:** A private key for this thing.
- **Root CA File:** A Root CA for this thing.
- **Data Publish Interval (second)**:Setting the time interval to publish the data. The kernel will publish data according to this interval.
- **Publish Data by Value Changed**: A Boolean attribute to determine the way to send data. Select “Yes” means send data to MQTT broker when value changed. Select “No” means to send data to MQTT broker by data publish time interval, no matter the data value changed or not.

3. Press Submit.

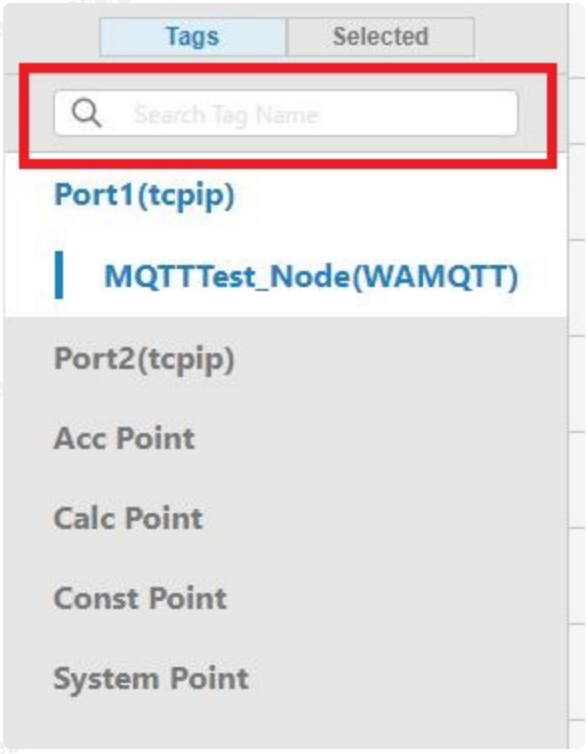


5.16.4.2 Editing the AWS white list

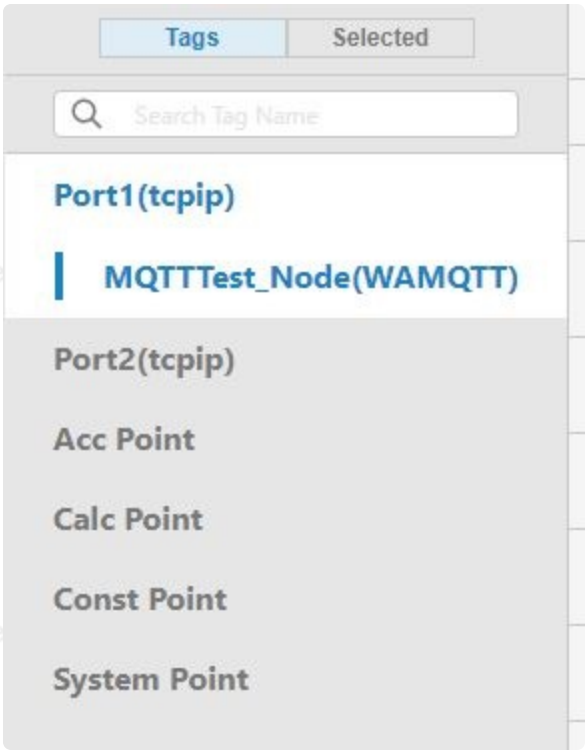
The AWS white–list link is found on the top side of the SCADA node setting. Using WebAccess cloud white–list, users can configure the tag on the ground project.



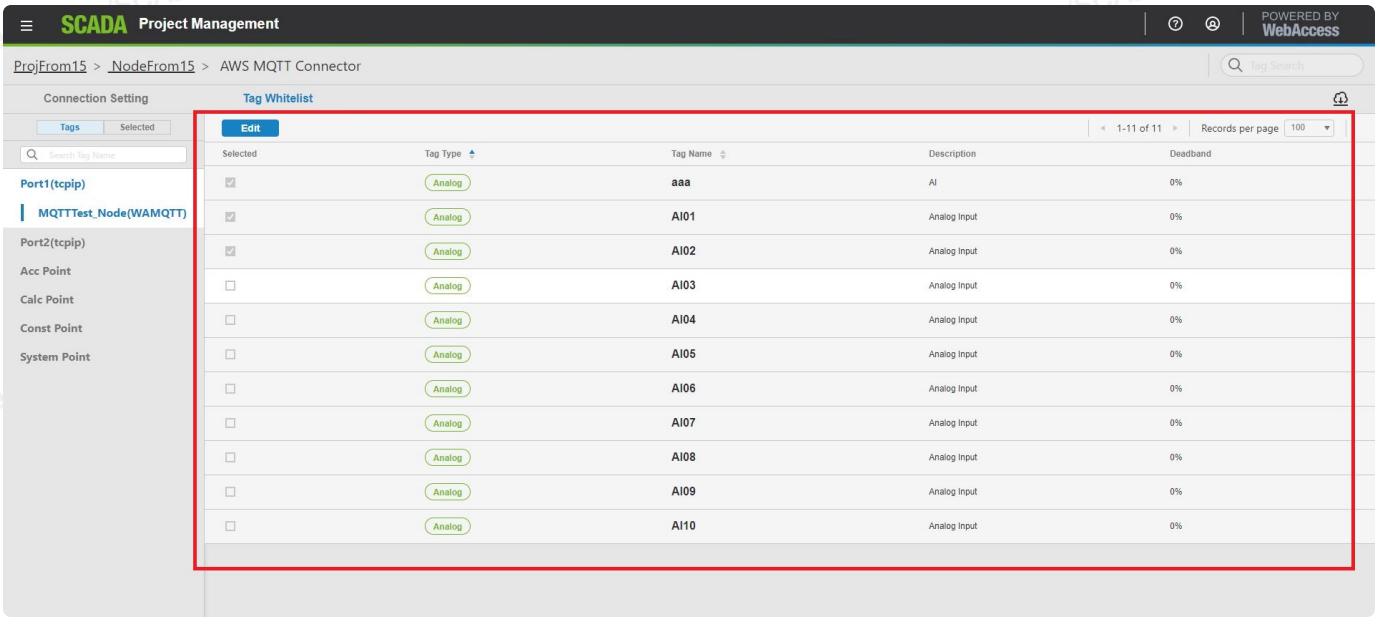
- On the AWS Tag Whitelist, you can search the selected tag:



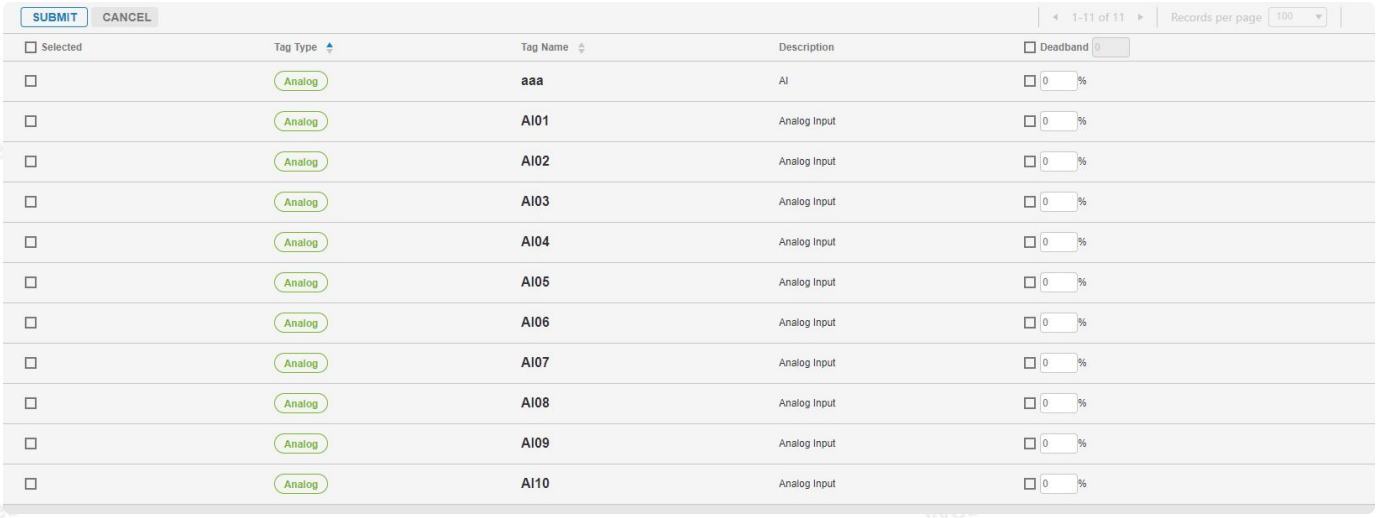
- **Select** the node type (via the left menu)



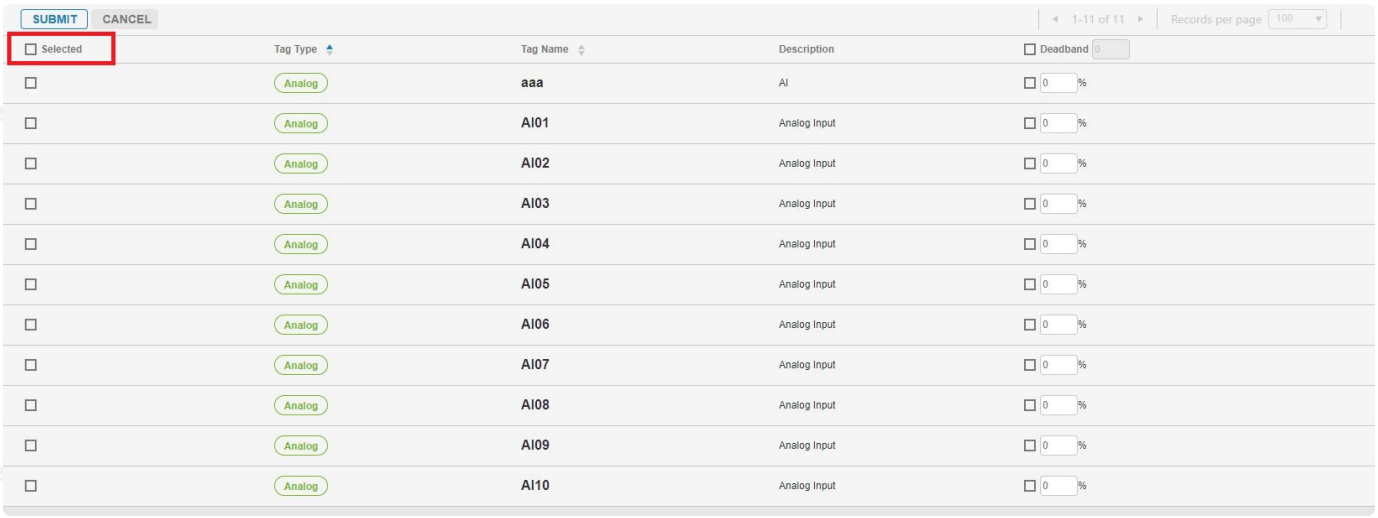
- **Click** the device name –> the tag lists of each device is display the right screen **–>Modify** the whitelist attribute –> **Click Submit**



WebAccess/SCADA



> *Note —You can select all tags in the specific attribute by checking the checkbox in the column title.*
> *Select All:*



- The user can set the tag property in the cloud white–list, and the cloud whitelist has configurable properties including dead band and upload. The tag can upload to the cloud project by setting the white–list. The following parameters appear for a cloud white–list configuration:

> *Note —The first column is the "upload" property. If you want to update the tag to the cloud device, the checkbox of the first column must be checked*

- The cloud white–list properties

Property Name	Description	Type
Upload	Enabling to uploading to the cloud	Checkbox
Tag Type	The type of tag	The default string
Tag name	Tag name	The default string
Description	The description of tag	The default string
Dead band	The threshold (percentage) of difference between the current and last published value.	Textbox

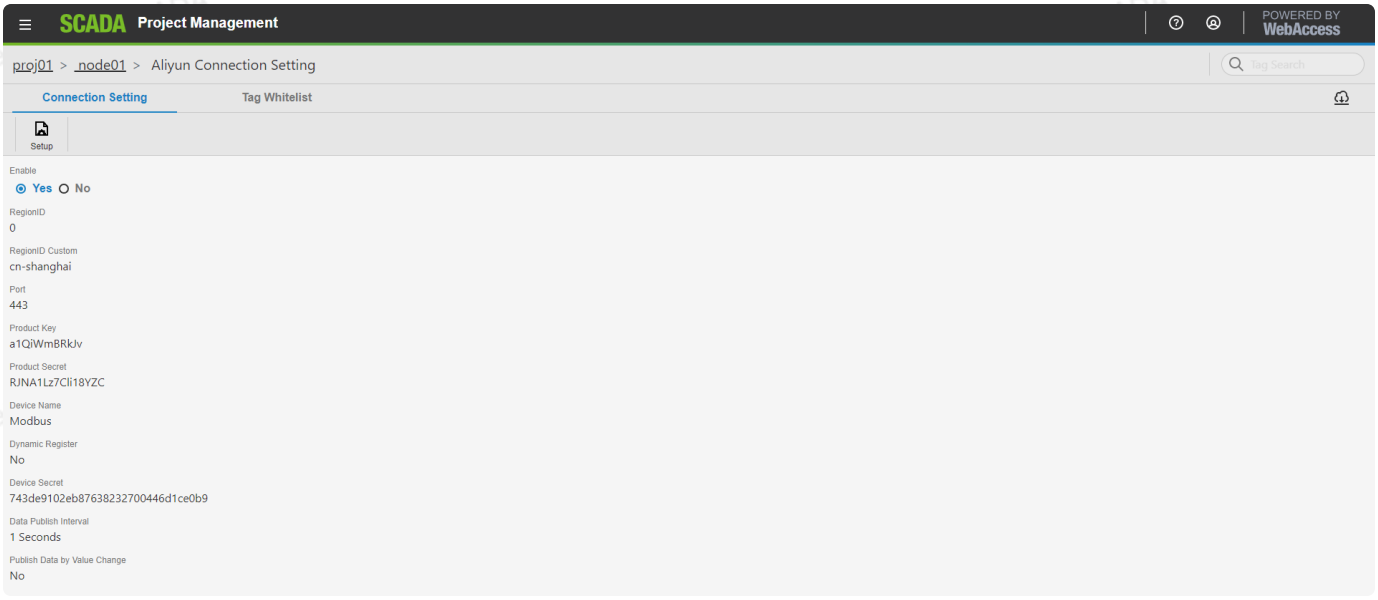
Then download the SCADA node and start the kernel.

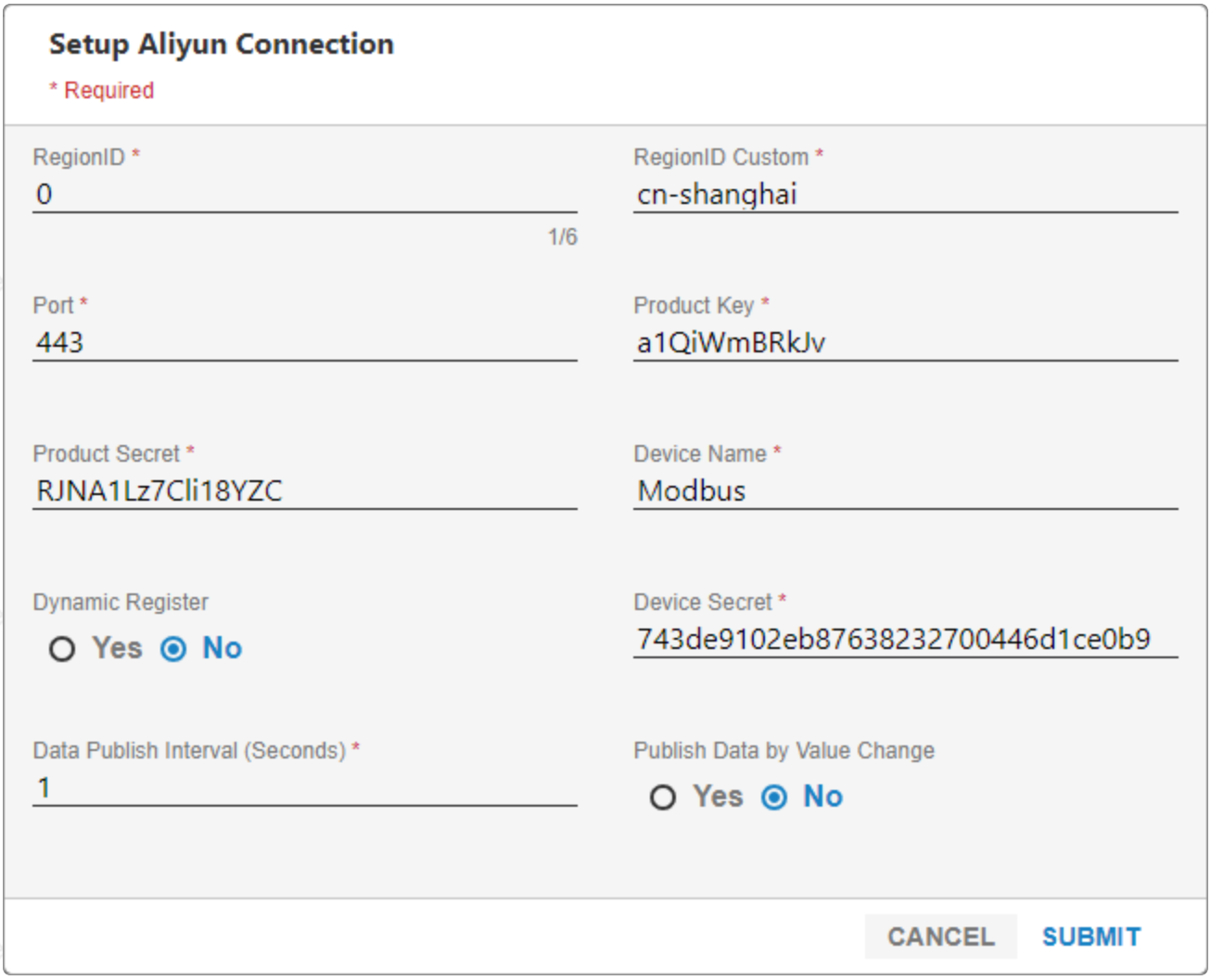
5.16.5 Aliyun Connection Setting

Aliyun Connection is an integrated Internet of Things (IoT) solution which provides various types of services such as data communication, data synchronization, IoT administration.

5.16.5.1 Editing Connection Setting

- Clicked **Setup**.





Connection setting properties:

- Enable: the connection status with the Boolean attribute, enable property can be set to keep a cloud connection until the connection attribute is disabled
- Region ID: The region ID is a code of geographic area where a data center resides. (Default: 0)
- Region ID Custom: The Region ID custom is a geographic area where a data center resides.
- Port: The default value is 443 with TLS.(Default: 0)
- Product Key: The product key is the unique identifier of a product in IoT Platform. This parameter is used in device authentication and communication.
- Product Secret: The product secret is the private key issued by IoT Platform for each product and usually used in pair with the Product Key for unique–certificate–per–product authentication.
- Device Name: The device name is automatically generated or defined by the user during device registration.
- Device Secret: The device secret is the private key issued by IoT Platform for each device and used in pair with device name. You could pass this column if the Dynamic Register was

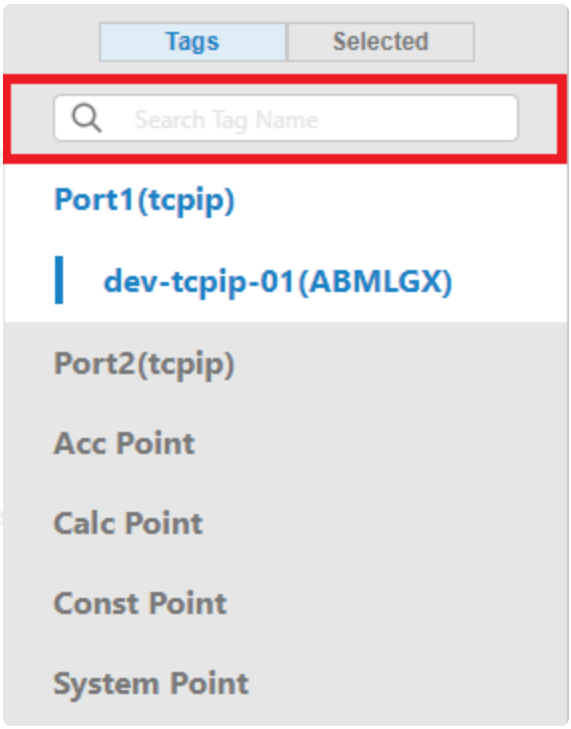
selected “Yes”.

- Dynamic Register: A Boolean attribute to determine the way to register the Device Secret. Select “Yes” means register Device Secret dynamically. (Default: No)
- Data Publish Interval (second): Setting the time interval to publish the data. The kernel will publish data according to this interval. (Default: 0)
- Publish Data by Value Change: A Boolean attribute to determine the way to send data. Select “Yes” means send data to Aliyun when value changed. Select “No” means to send data to Aliyun by data publish time interval, no matter the data value changed or not. (Default: No)

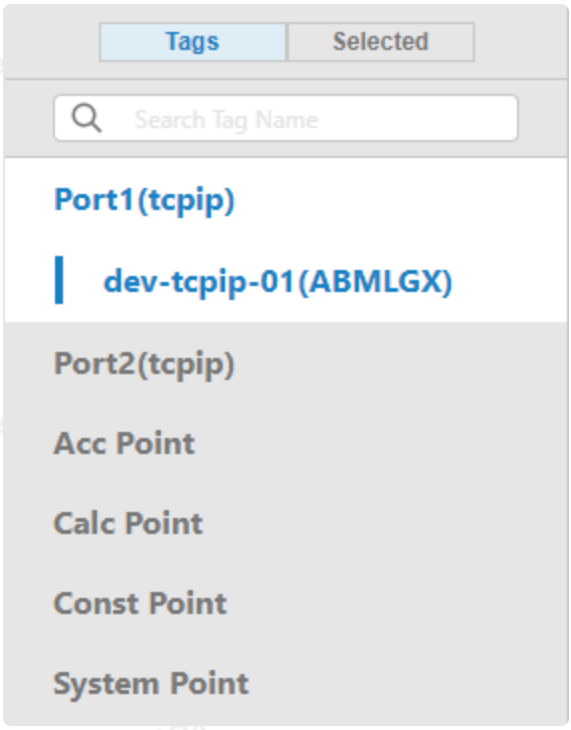
5.16.5.2 Editing the Aliyun white list

The Aliyun white–list link is found on the top side of the SCADA node setting. Using WebAccess cloud white–list, users can configure the tag on the ground project.

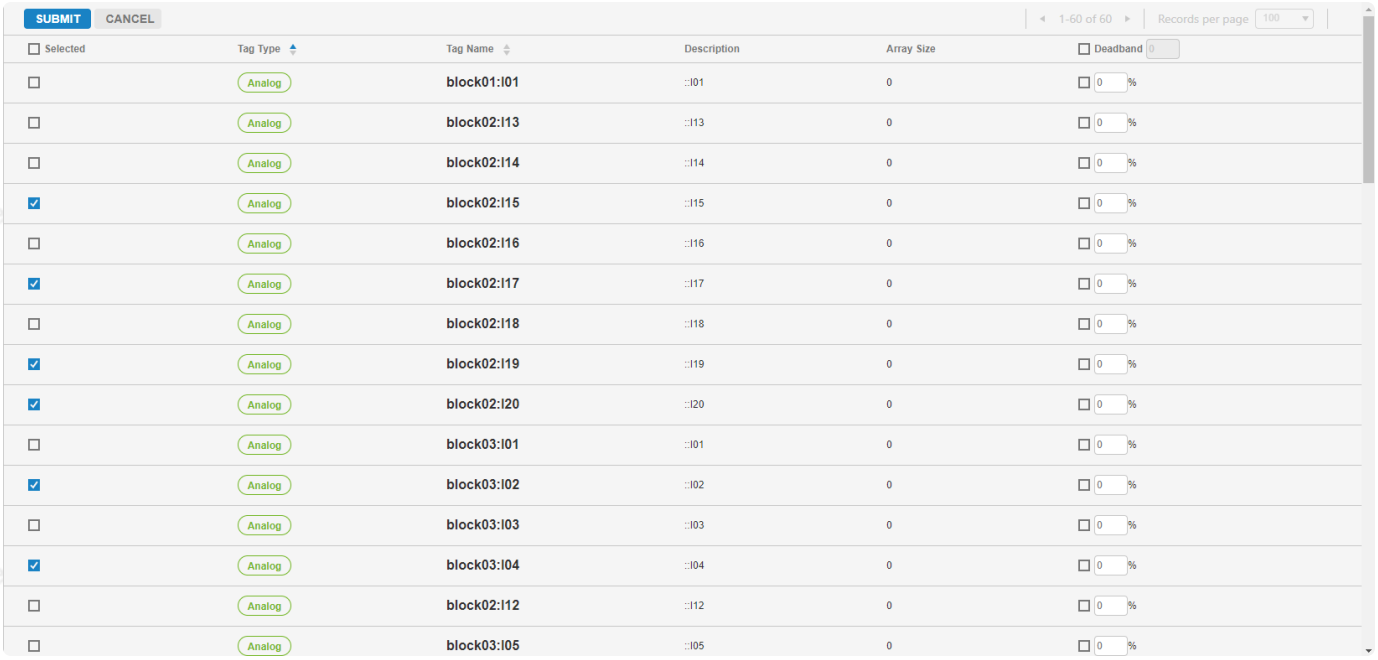
- On the Aliyun Connection Setting, you can search the selected tag:



- **Select** the node type (via the left menu)

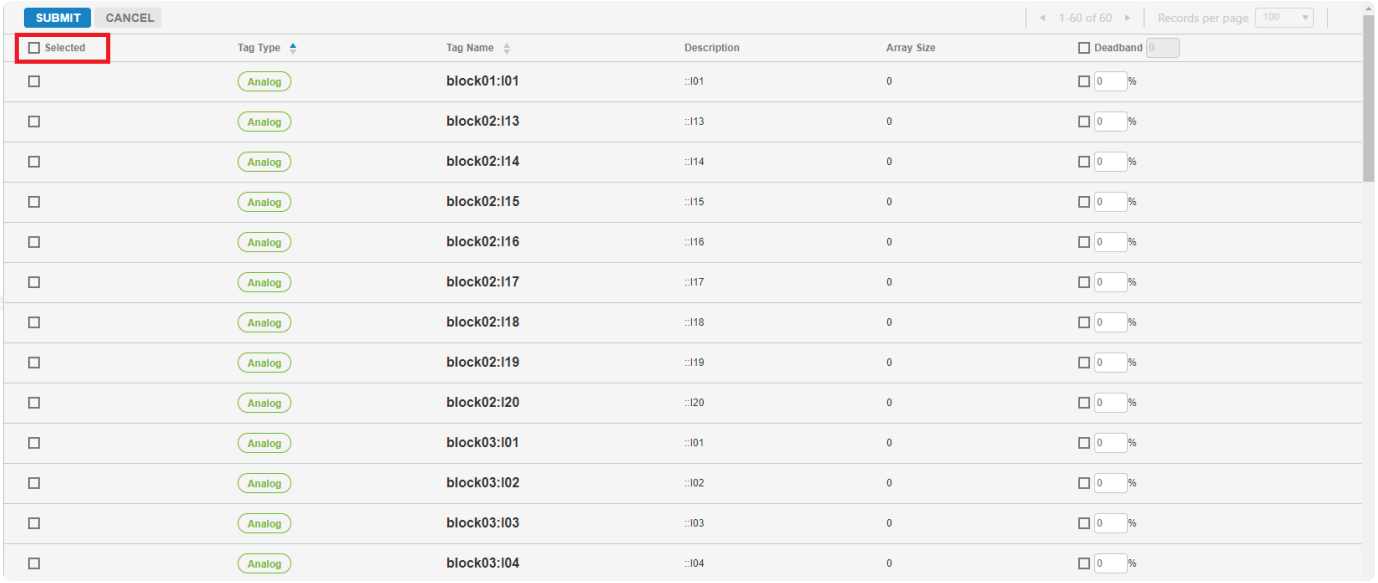


- **Click** the device name –> the tag lists of each device is display the right screen –> **Modify** the whitelist attribute –> **Click Submit**



> Note – You can select all tags in the specific attribute by checking the checkbox in the column title.
> Select All:

WebAccess/SCADA



- The user can set the tag property in the cloud white-list, and the cloud whitelist has configurable properties including dead band and upload. The tag can upload to the cloud project by setting the white-list. The following parameters appear for a cloud white-list configuration:

> Note — The first column is the "upload" property. If you want to update the tag to the cloud device, the checkbox of the first column must be checked

- The cloud white-list properties

Property Name	Description	Type
Upload	Enabling to uploading to the cloud	Checkbox
Tag Type	The type of tag	The default string
Tag name	Tag name	The default string
Description	The description of tag	The default string
Array Size	The size of tag	The default integer
Dead band	The threshold (percentage) of difference between the current and last published value.	Textbox

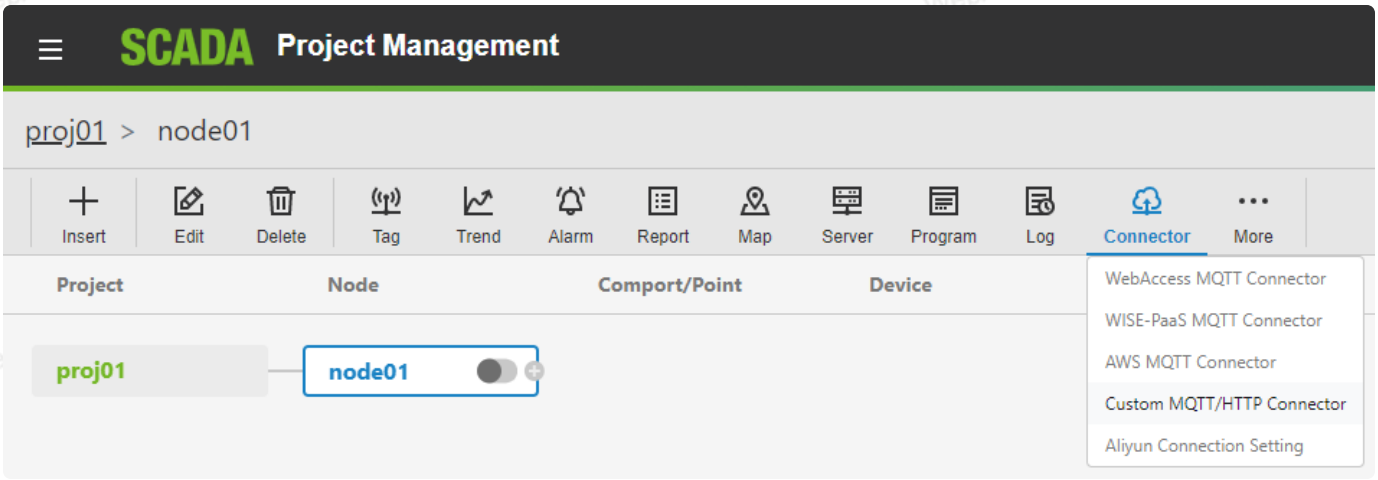
Then download the SCADA node and start the kernel.

5.17 Custom MQTT/HTTP Connector

Custom connector can send data which collected by WebAccess/SCADA via MQTT or HTTP to the third party service. Also, that can receive control message via MQTT from the service. The transfer message is defined freely by no-code user interface on web in JOSN format for compatible with the service. It reduces much development effort for third party to connect data between SCADA and their self-hosting service.

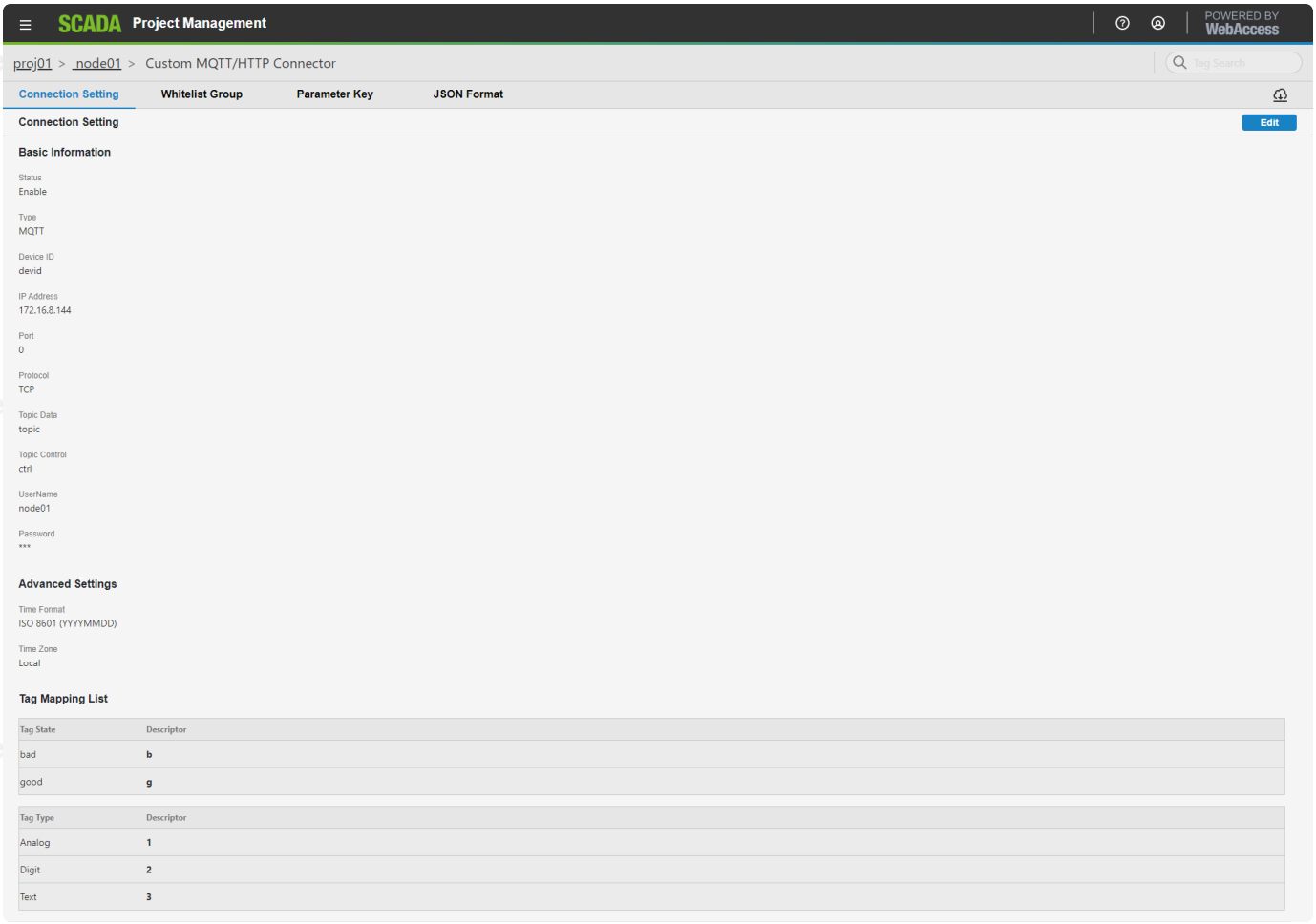
5.17.1 Entry

Select SCADA Node in **Org Chart** -> Open **Connector** options -> Select **Custom MQTT/HTTP Connector**.

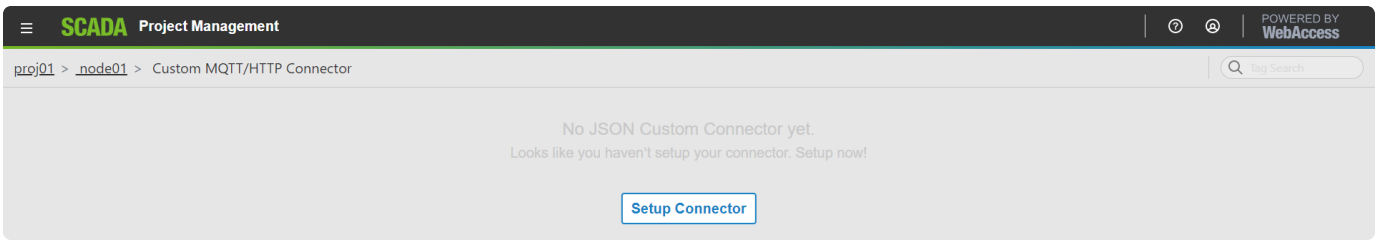


5.17.2 Custom MQTT/HTTP Connector Configuration

5.17.2.1 Connection Setting



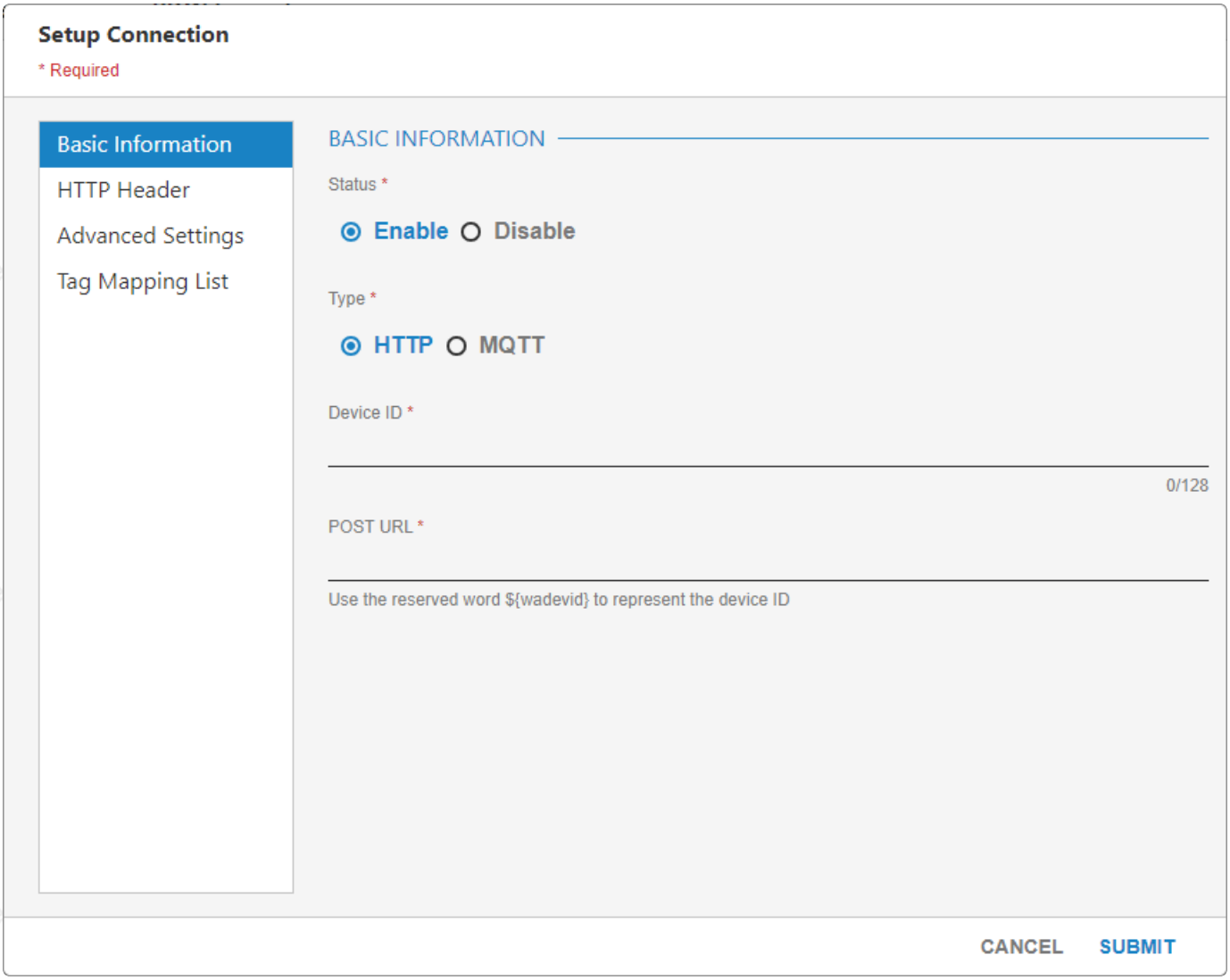
- Click **Setup Connector** if you never set the connector.
- Click **Edit** if you already set the connector.



– Editing the Connection Setting

- Basic Information

WebAccess/SCADA



Setting properties:

- Status: To enable or disable the connection. (Default: Enable)
- Type: The protocol of connection. (Default: HTTP)
- Device ID: Identity with a unique string.

Setting for HTTP Only:

- POST URL: The URL of the third party service.

Setting for MQTT Only:

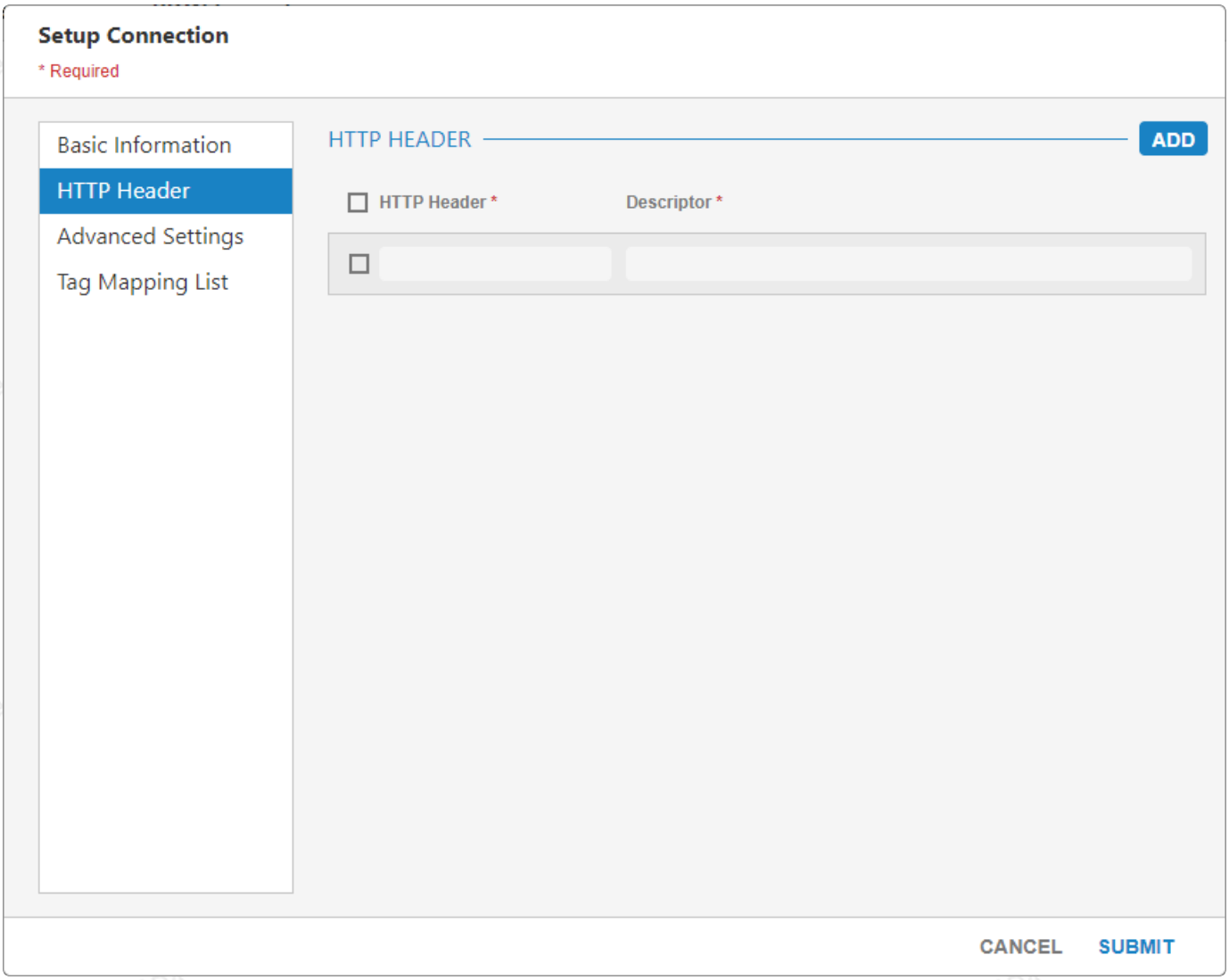
- IP Address: The IP or domain name of MQTT broker.
- Port: Port number of MQTT broker. (Default: 0)
- Protocol: TCP(TCP)/TCP Secure(TLS)/Websocket(WS)/Websocket Secure(WSS) connection type. (Default: TCP)
- Topic Data: MQTT topic defined for sending data from SCADA to third party service.
- Topic Control: MQTT topic defined for receiving control message from third party service.
- UserName: login user to MQTT broker.

- Password: login password to MQTT borker.

> Note – You can use the reserved word “${wadevid}” in POST URL, Topic Data and Topic Control as Device ID property.

- **HTTP Header**

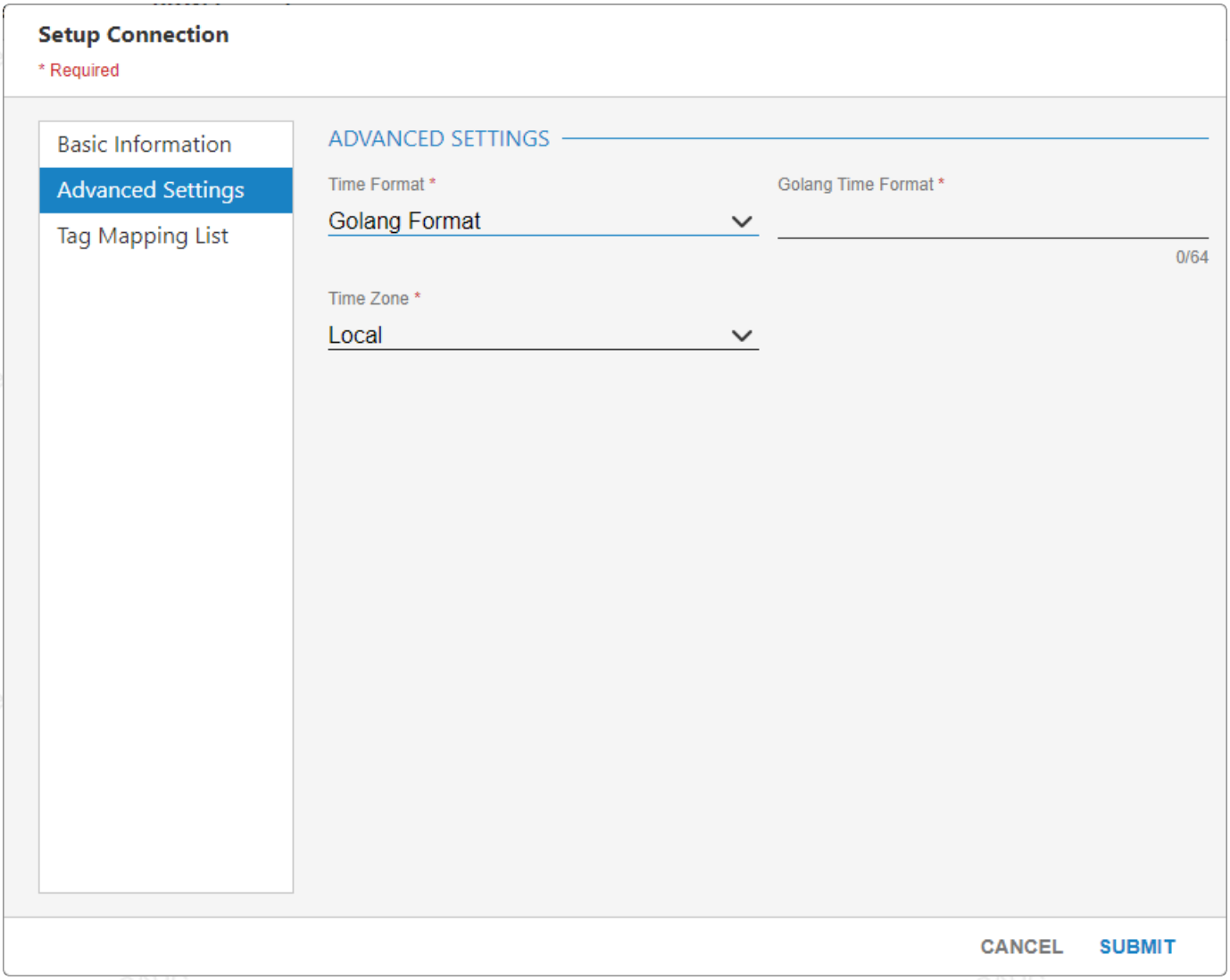
HTTP header fields are components of the header section of request messages in the HTTP. Only for HTTP.



Connection setting properties:

- Header: The field name of HTTP header.
- Descriptor: The field value of HTTP header and pairs to Header.

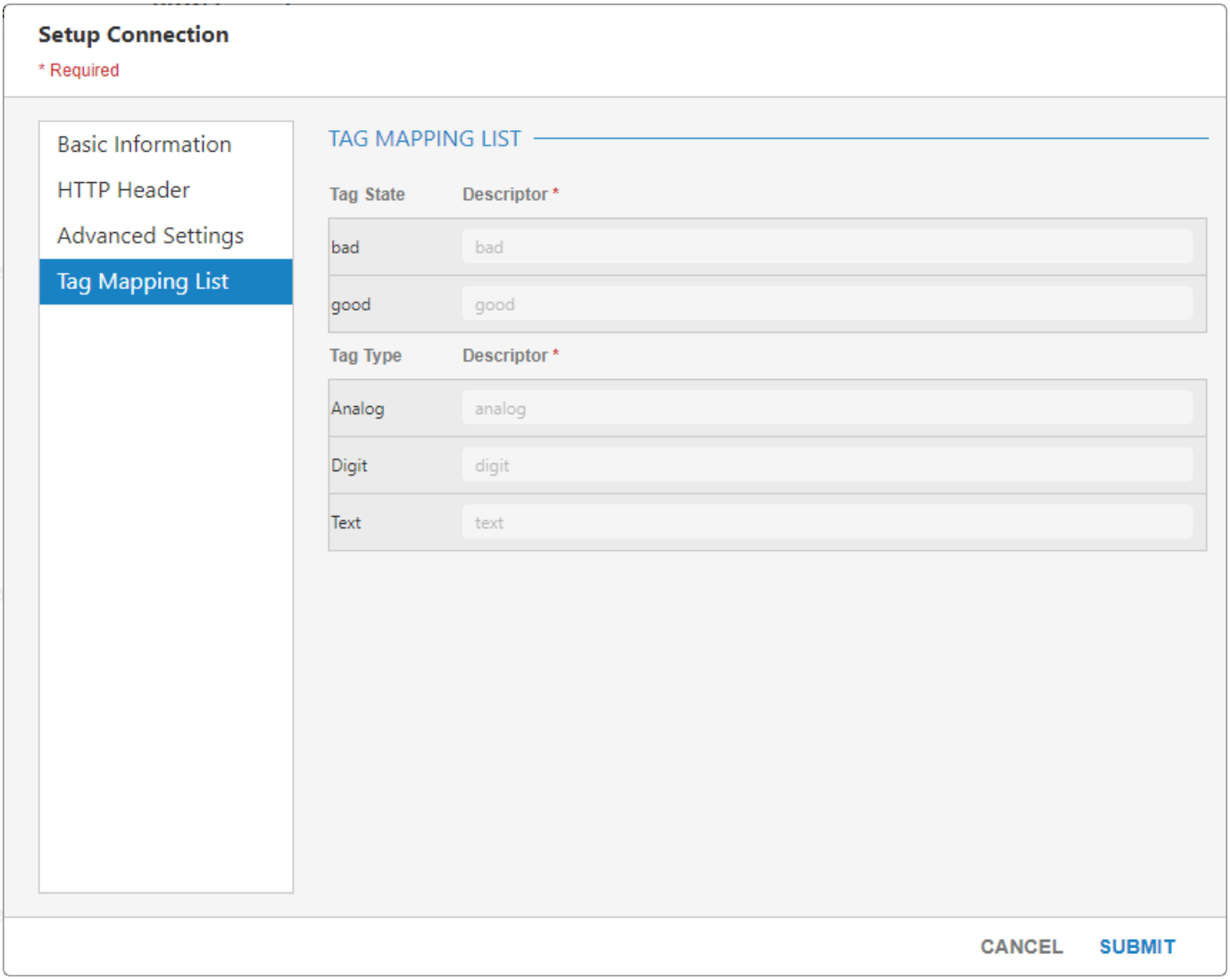
- **Advanced Settings**



Setting properties:

- Time Format: Time stamp format definition for transfer data. (Default: ISO 8601)
- Golang Time Format: Define the format of time in transfer data with golang way. This field is required if the Time Format is Golang Format. Reference: https://programming.guide/go/format-parse-string-time-date-example.html and https://golang.org/src/time/format.go
- Time Zone: Determine the time zone in transfer data. (Default: Local)

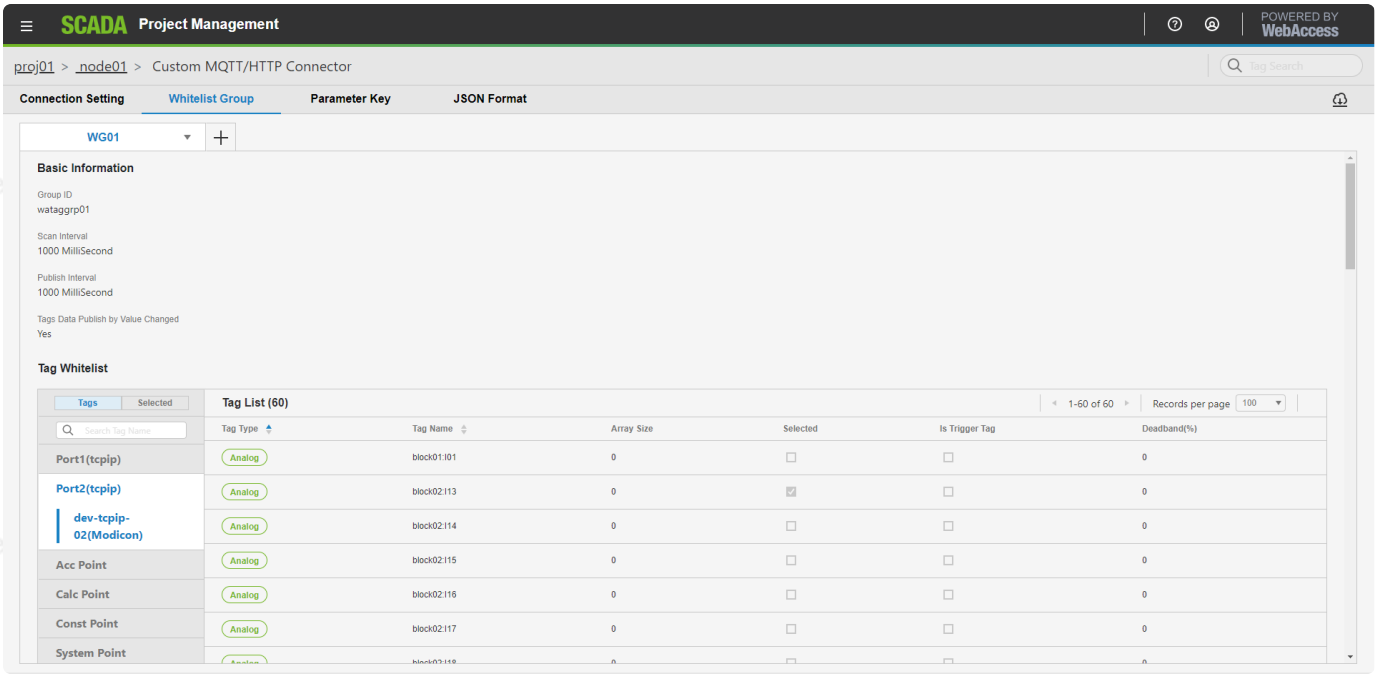
- **Tag Mapping List**



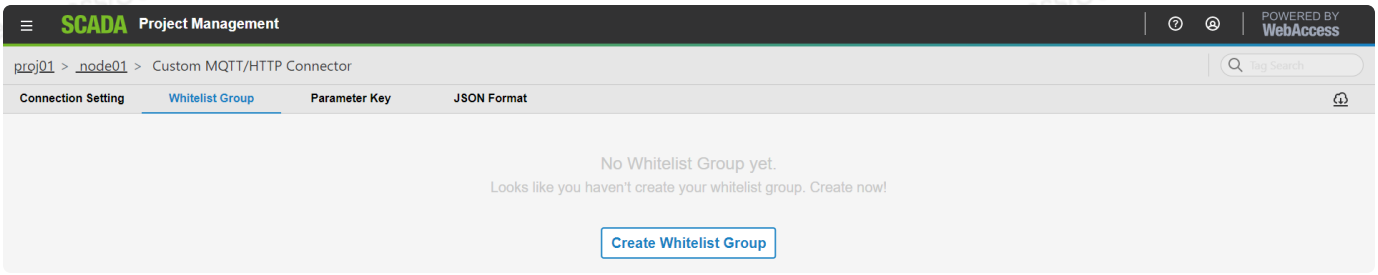
Setting properties:

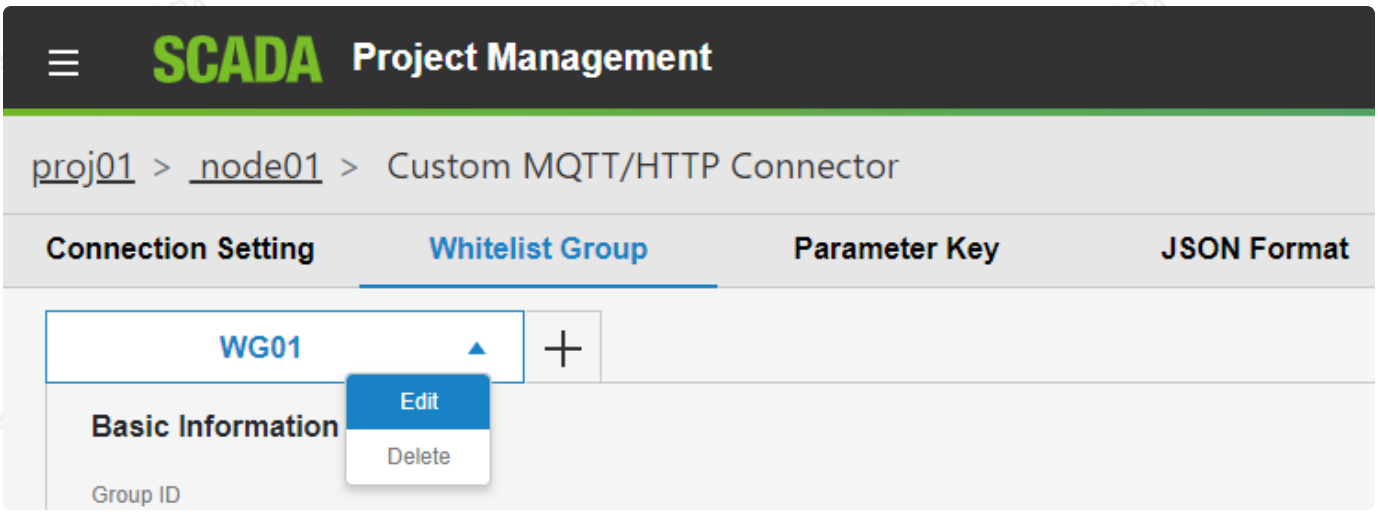
- Tag State: This value is going to replace the reserved word “watagstate” that is the value of tag status if the status of tag is the same.
- Tag Type: This value is going to replace the reserved word “watagtype” that is the value of tag type if the type of tag is the same.

5.17.2.2 Whitelist Group

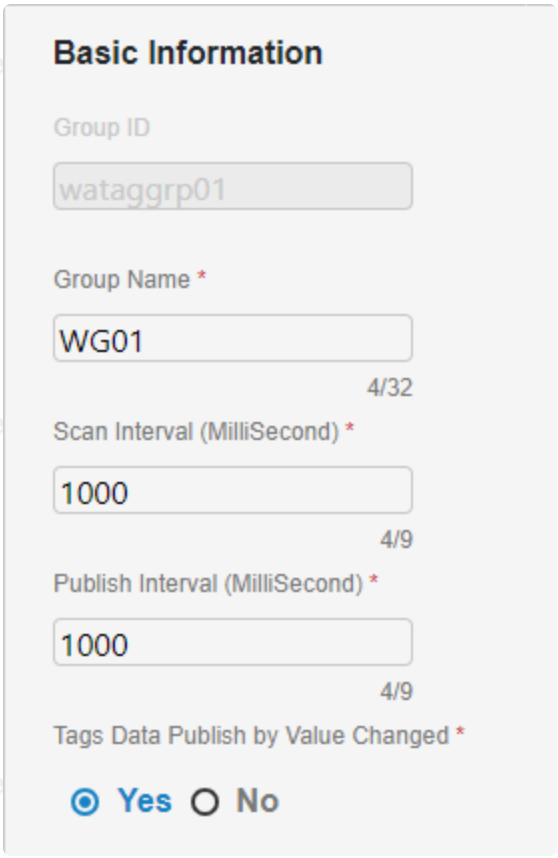


- Click **Create Whitelist Group** if there hasn't any whitelist group.
- Click the **Triangle** at the right of the name of whitelist group and press **Edit**.





– Editing the group information

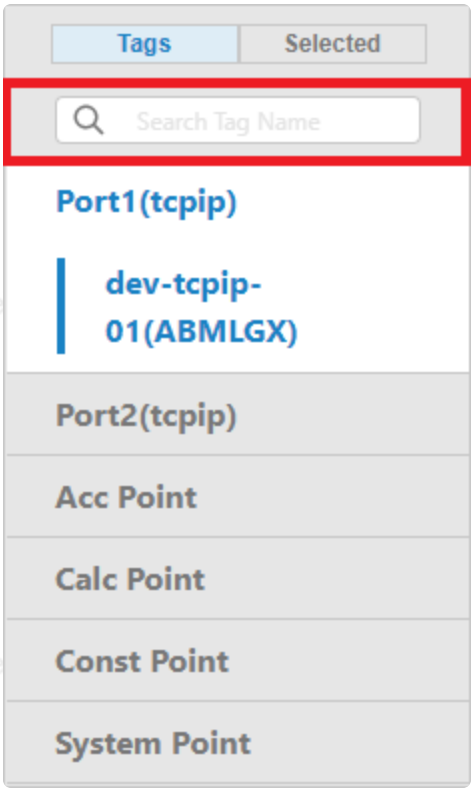


- Group ID: The unique ID of the tag group.
- Group Name: Identify the group and show in the top of tabs.
- Scan Interval (Millisecond): Collect data interval from SCADA. Tags Data Publish by Value Changed is Yes. (Default: 1000)
- Publish Interval (Millisecond): Publish data interval to service. Tags Data Publish by Value Changed is No. (Default: 1000)
- Tags Data Publish by Value Changed: A Boolean attribute to determine the way to send data. Select “Yes” means send data to the third party service when value changed. Select “No” means to send data to the third party service by data publish time interval, no matter the data value changed or not.(Default: Yes)

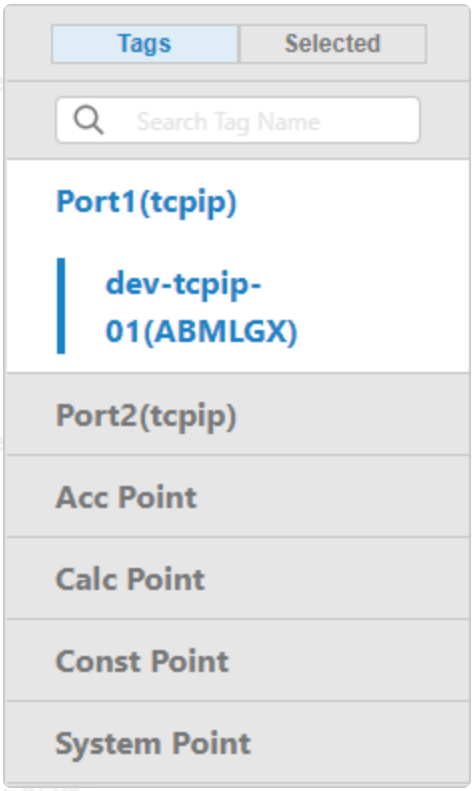
– Editing the white list

The white–list link is found on the top side of the SCADA node setting. Using WebAccess cloud white–list, users can configure the tag on the ground project.

- You can search the selected tag:

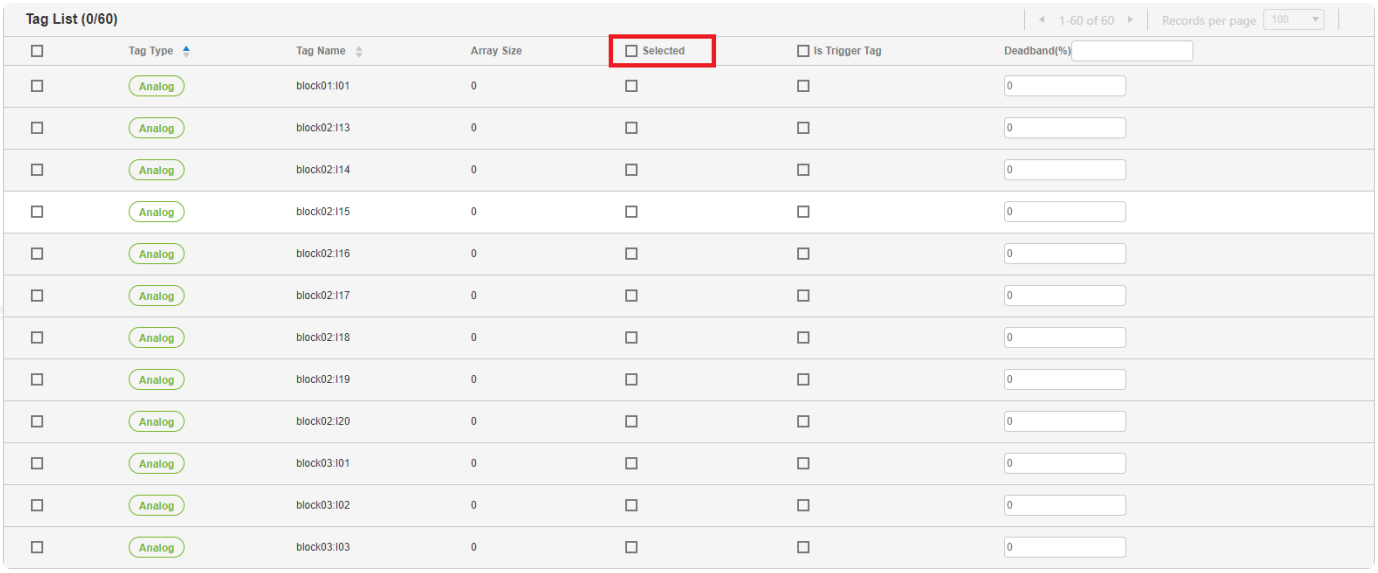


- **Select** the node type (via the left menu)



- **Click** the device name –> the tag lists of each device is display the right screen –> **Modify** the whitelist attribute

> Note – You can select all tags in the specific attribute by checking the checkbox in the column title.
> Select All:



- The user can set the tag property in the cloud white–list, and the cloud whitelist has configurable properties including dead band and upload. The tag can upload to the cloud project by setting the white–list. The following parameters appear for a cloud white–list configuration:

> Note — The selected column is the “upload” property. If you want to update the tag to the cloud device, the checkbox of the first column must be checked

- The cloud white–list properties

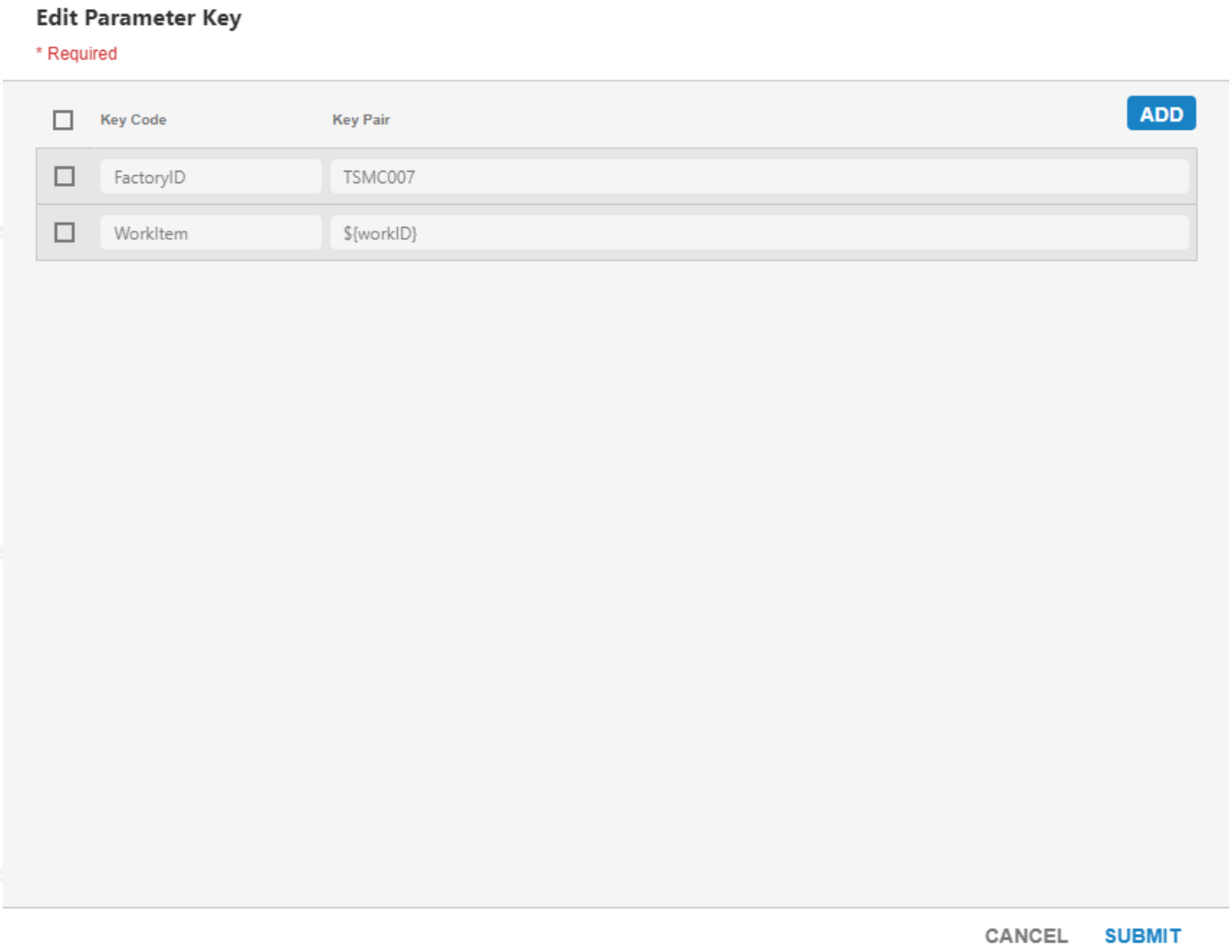
Property Name	Description	Type
Tag Type	The type of tag	The default string
Tag name	Tag name	The default string
Array Size	The size of tag	The default integer
Upload	Enabling to uploading to the cloud	Checkbox
Is Trigger Tag	Enabling to trigger tag	Checkbox
Dead band	The threshold (percentage) of difference between the current and last published value.	Textbox

Then download the SCADA node and start the kernel.

5.17.2.3 Parameter Key

- Clicked **Edit**.

– Editing Parameter Key



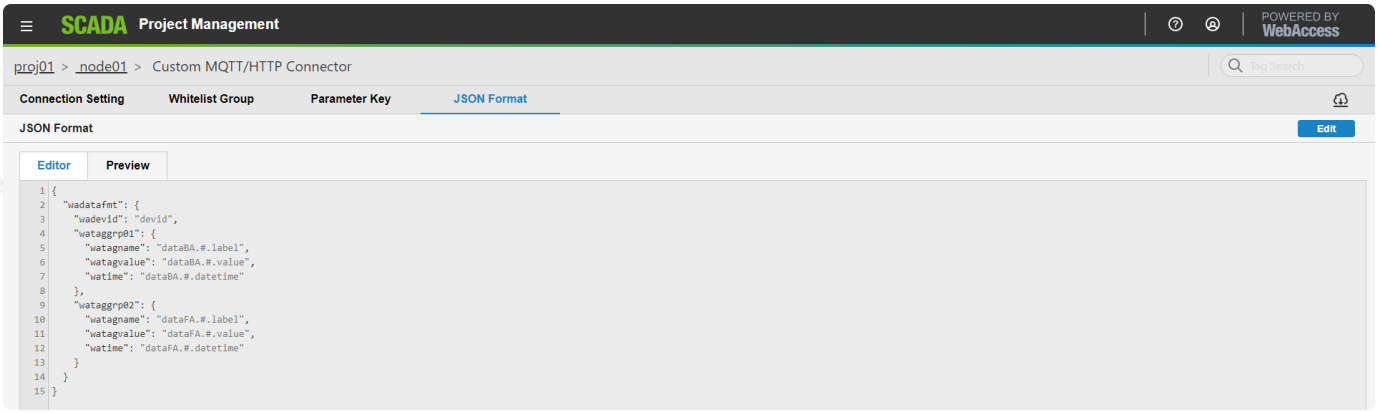
Setting properties:

- Key Code: Key Code is a field name you defined.
- Key Pair: Key Pair is a field value pair for Key Code. Indicate tag value with "${ }", ex: ${workID}, "workID" is a tag name in WebAccess/SCADA.

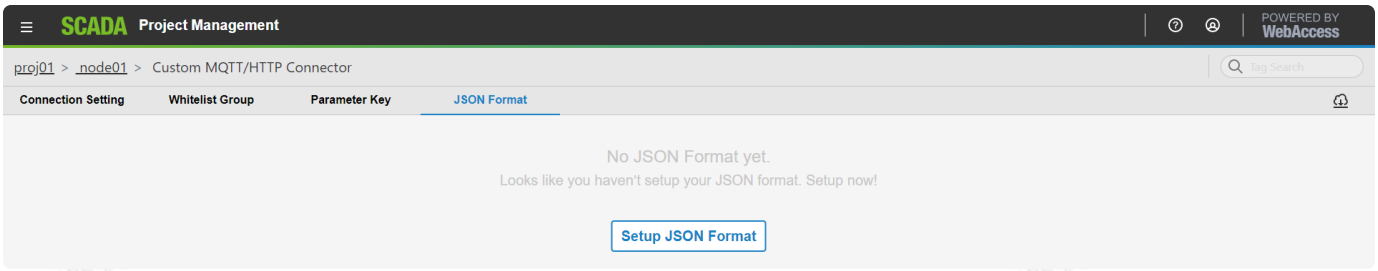
5.25.2.4 JSON Format

JOSN Format helps you set the format of transfer data. The **Reserved Word** and the **Parameter Key** are used for converting to the transfer data.

WebAccess/SCADA

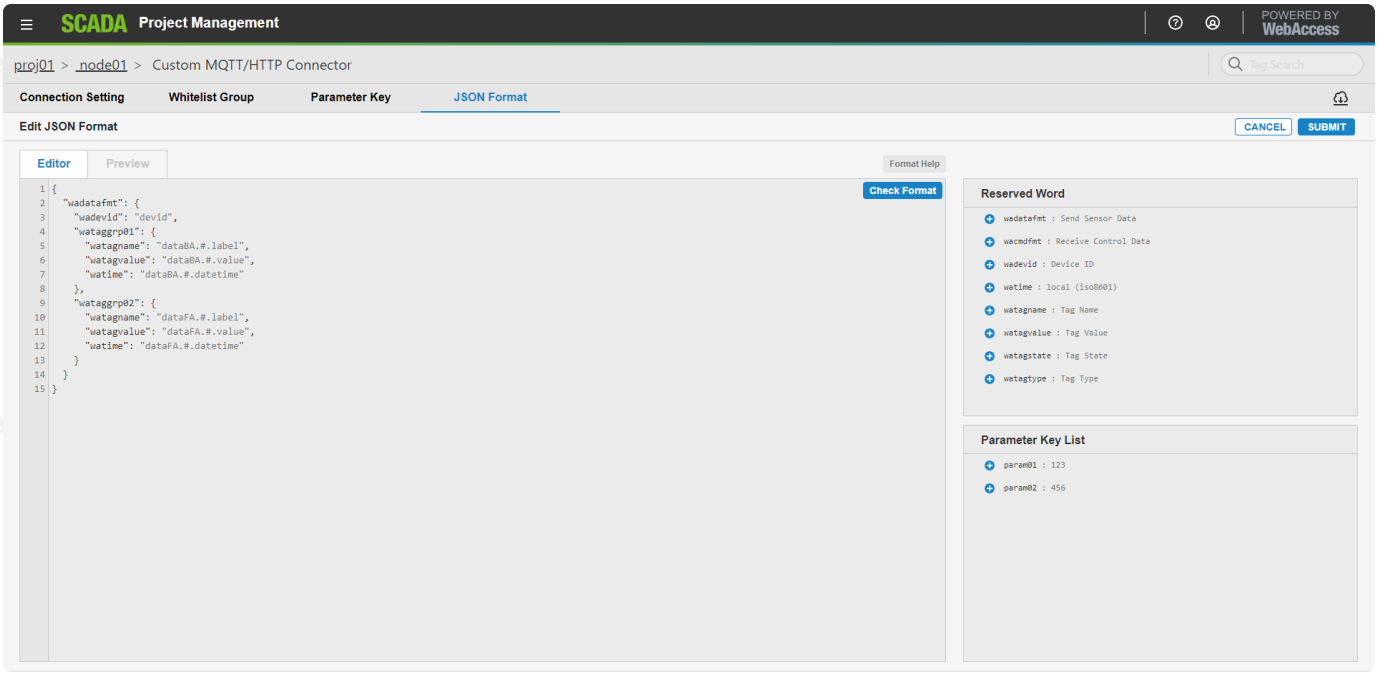


- Click **Setup JSON Format** if you never set the JSON format.
- Click **Edit** if you already set the JSON format.



– Edit JSON Format

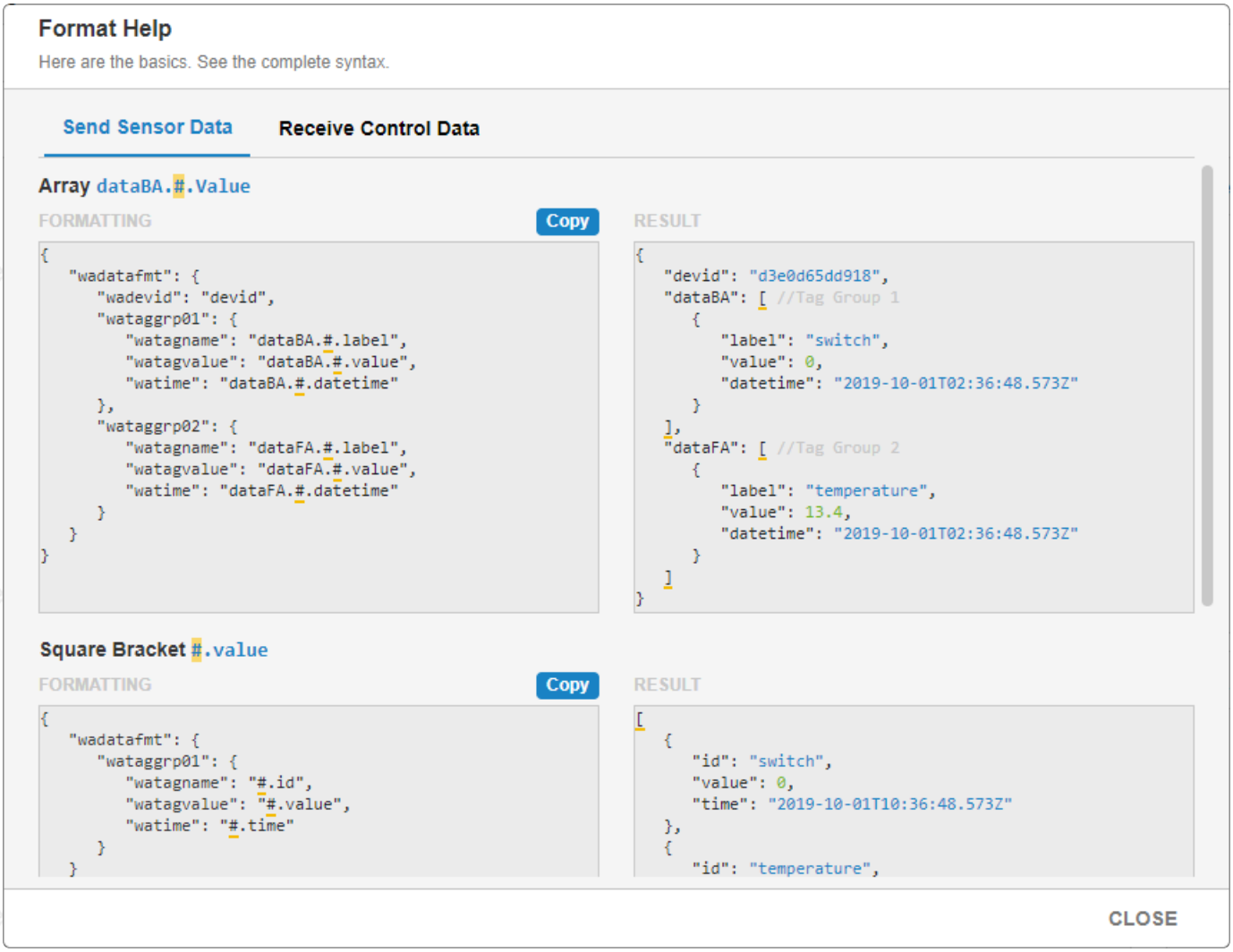
WebAccess/SCADA



- **Format Help**

The left panel is the sample format and the right panel is the result that is converted from the formatting. You can use the Copy button for pasting up the formatting content in Editor.

WebAccess/SCADA



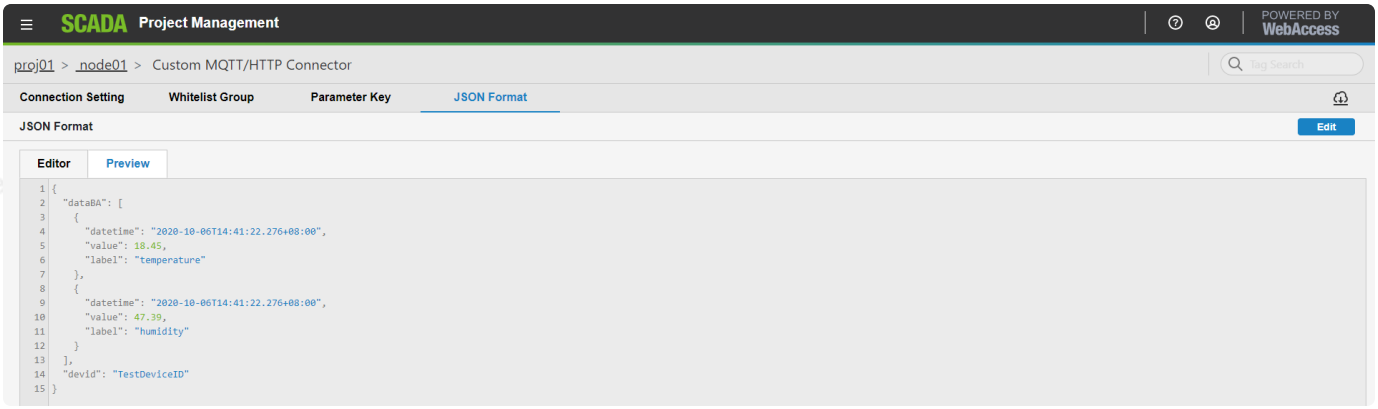
Setting properties:

- Editor: To type the JSON format here. Press the Check Format button for confirming and beautifying the content.
- Reserved Word: The key words are about configuration. The reserved word you click is going to paste in Editor content.
- Parameter Key List: The key words that you set at the function is named parameter key. The parameter key you click is going to paste in Editor content.

> Note — The reserved word “wadatafmt” stands for the format of send data. The reserved word “wacmdfmt” stands for the format of receive data. The important thing is to make sure the reserved word “wadevid” is in command format or Topic Control content.

– Preview Transfer Data

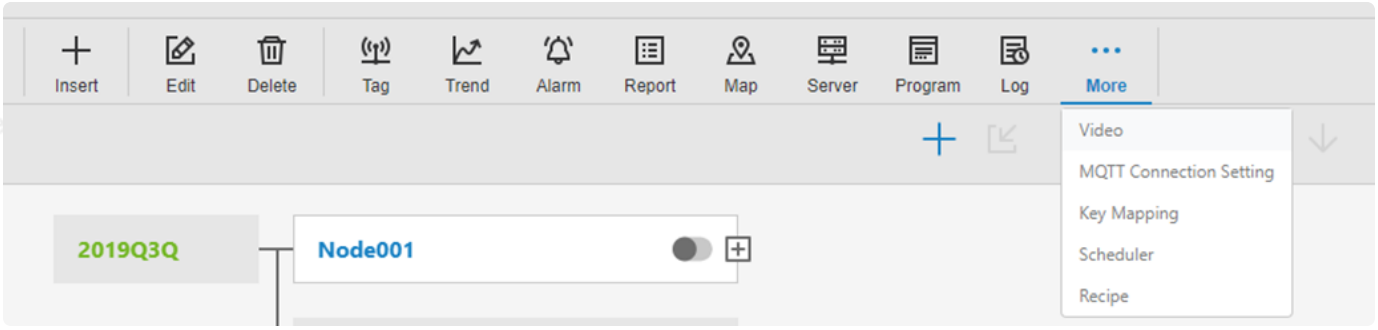
The preview content is send data that is converted from the Editor content.



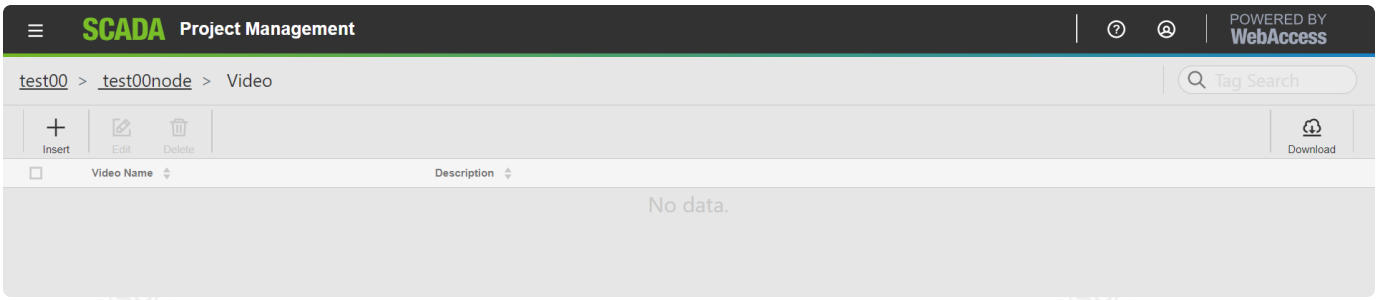
5.18 Video

5.16.1 Configure Video

1. Select your Project and the SCADA Node.
2. Click **More** classification on node bar, then select **Video**.

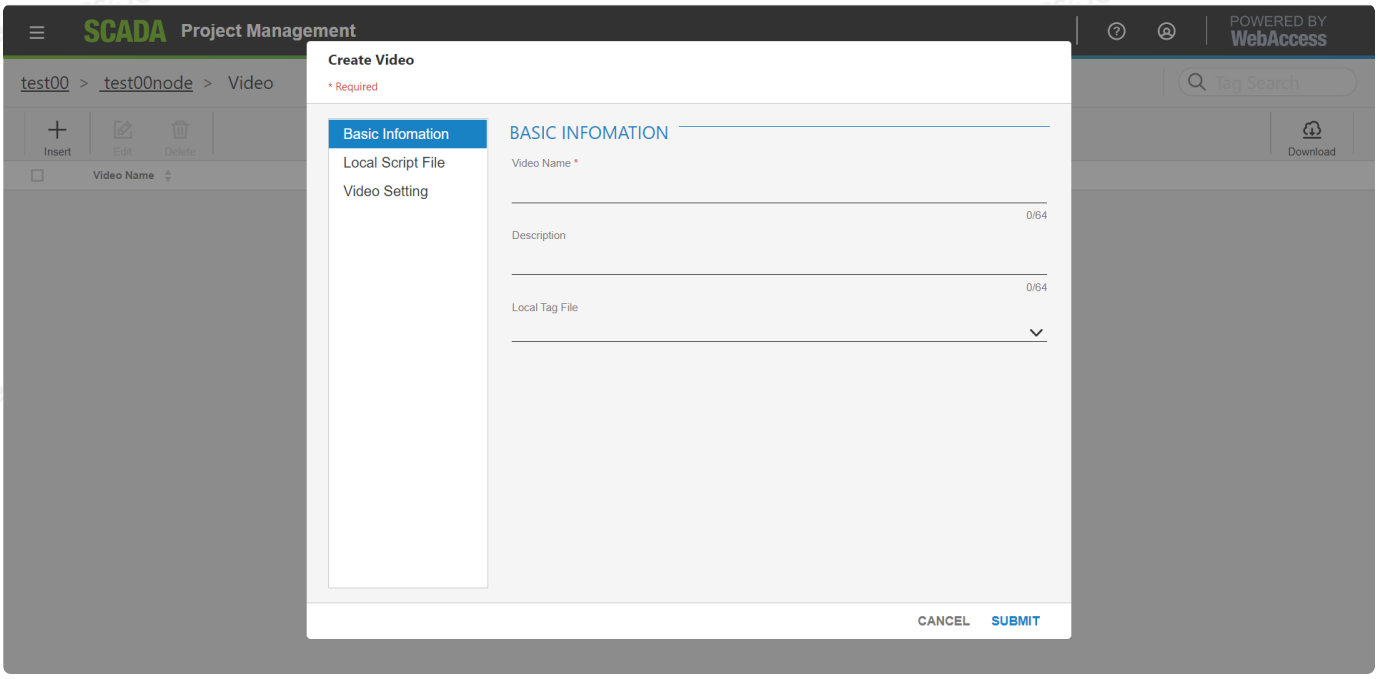


3. You will see the **Video List**.

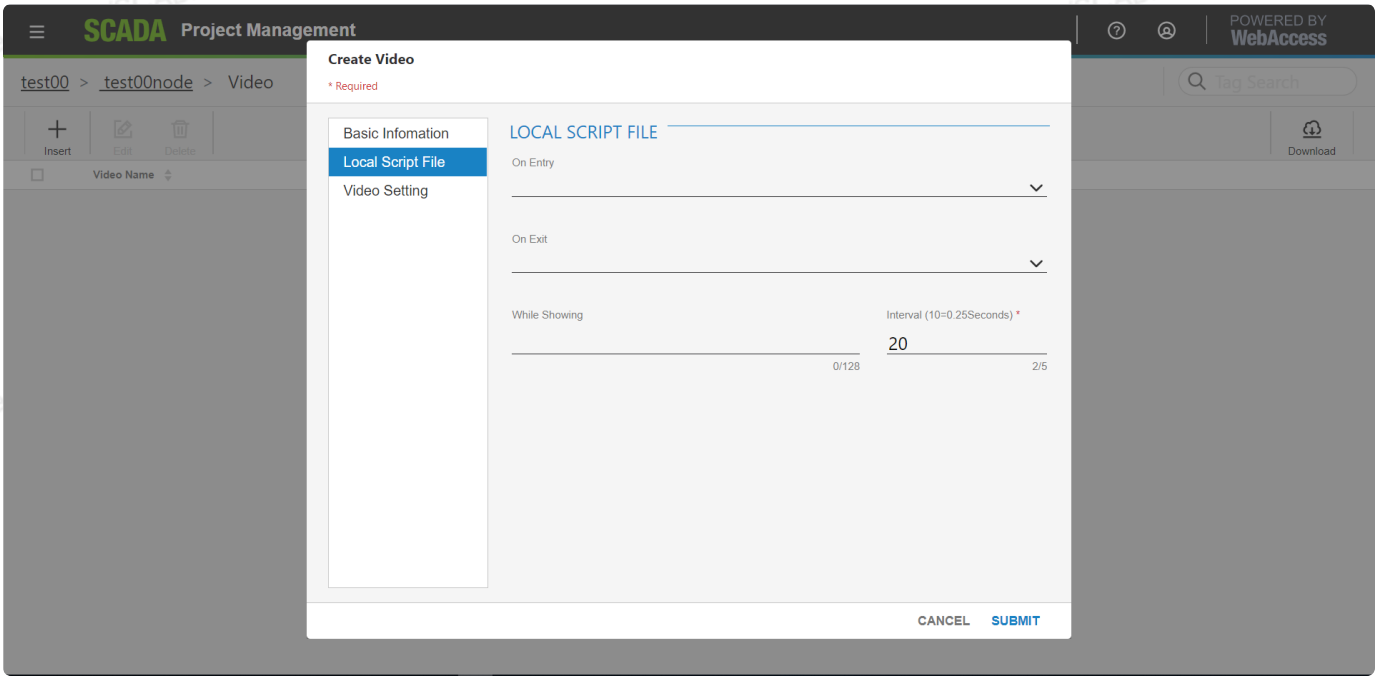


4. Click **Insert .**
5. The Video configuration page appears

.

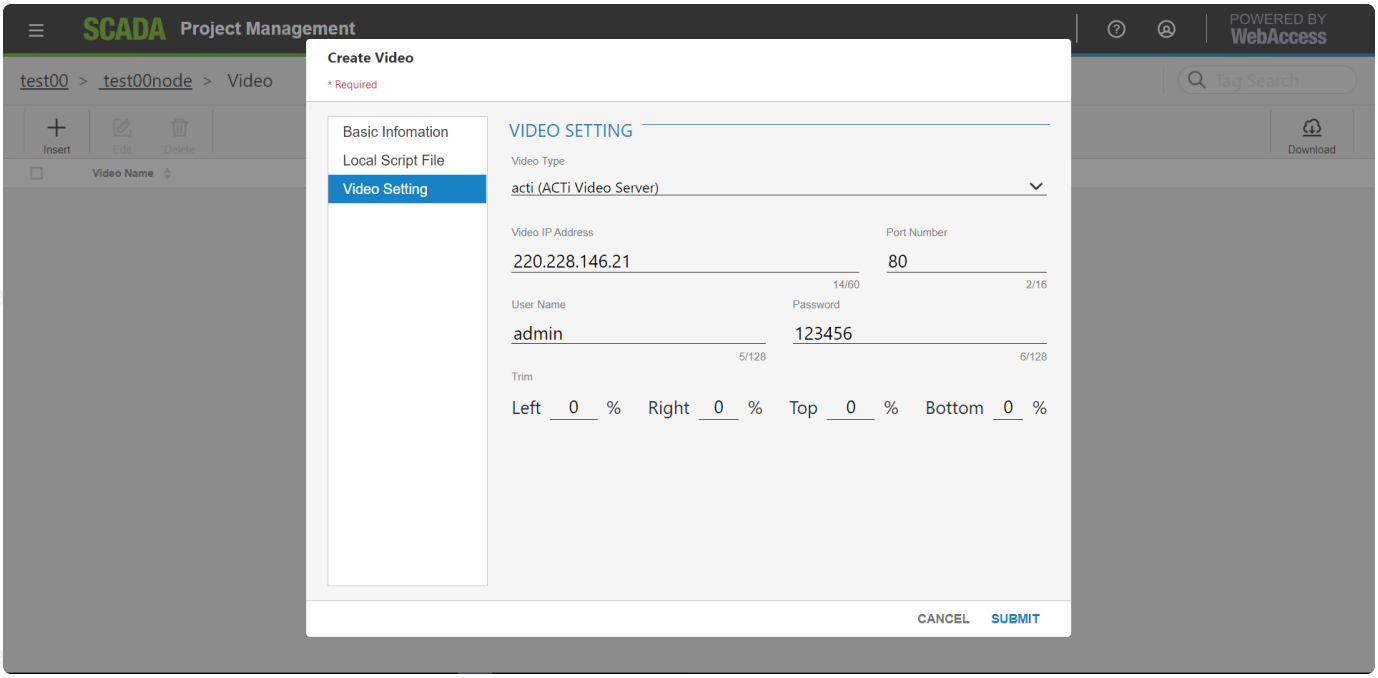


6. Enter a **Video Name** that will appear in Dialog Boxes used by operators and users.
7. Enter a **Description** that will appear in the project manager.
8. **Local Tag File**. Optionally, screen tags can be associated with the Video. These are a Local Tag file configured DRAW. These allow a screen script to use Local Tags for rotating between video cameras or other customization.



9. **Local Script File**. Optionally, screen scripts developed in the script editor of DRAW can be used to rotate between video cameras or other customization.

a. **On Entry** is a screen script that executes once when the Video Display is called in VIEW.
b. **On Exit** is a screen script that executes once another Display is called and this display is exited.
c. **While Showing** is a screen script that executes continuously at the specified **Interval** while this Display is displayed in VIEW.
d. **Interval** is the frequency the While Showing Script repeats.



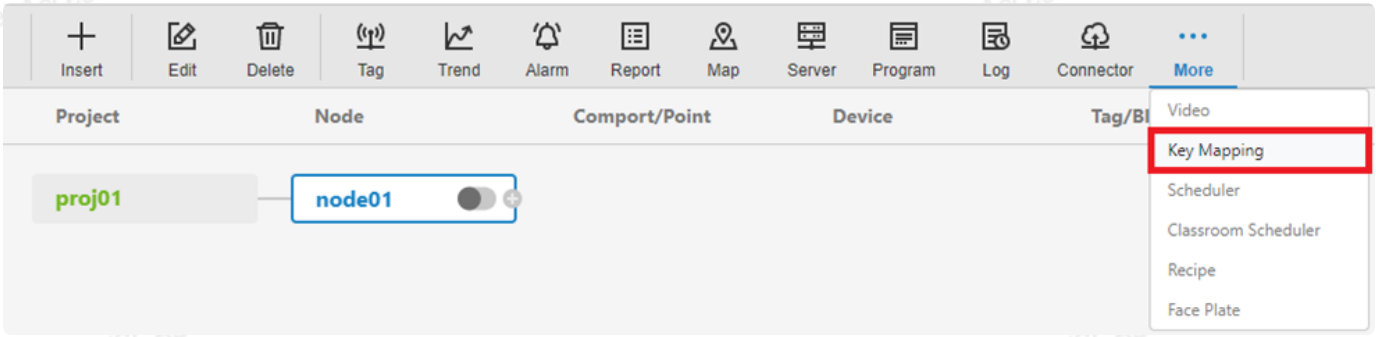
10. Select the **Video Type** from the Pull down list. The Video type matches the camera you are connecting to. These correspond to Active X controls supplied by the camera manufacturer. If your camera's manufacturer is not listed on the pull-down list, it is not supported by Advantech WebAccess/SCADA. Some are multi-purpose Video Types: snapshot (JPEG pull), server push (JPEG Image push). Most are pre-configured to a demo camera on the Internet.
11. **Port Number**. Enter the TCP port assigned to the camera. 0 (zero) is the default port number for most cameras. TCP ports are used with firewalls and enhanced security.
12. Press **submit.**
13. Download to the SCADA node.

5.19 Key Mapping

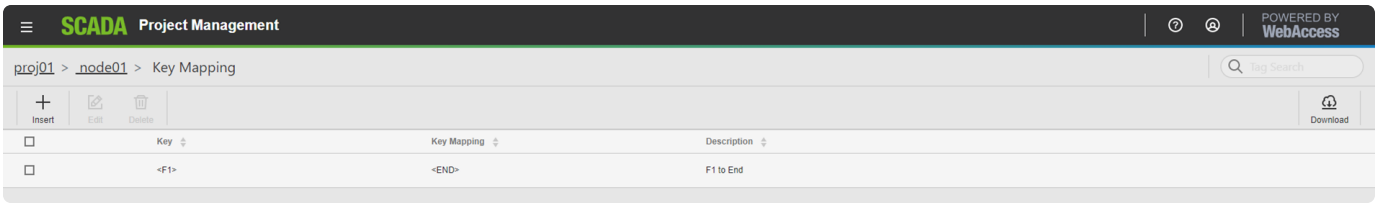
Key Mapping for applies to all graphic displays, all VIEW clients and all ViewDAQ is implemented from the Key Mapping link on SCADA node properties.

5.19.1 Configure Key Mapping

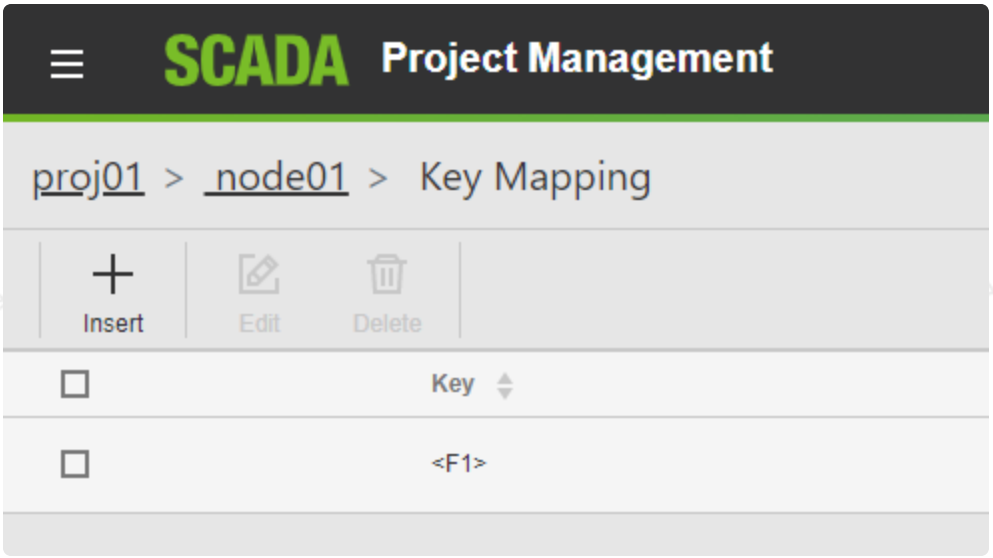
1. Select your Project and the SCADA Node.
2. Click **More** classification on node bar, then select **Key Mapping**.



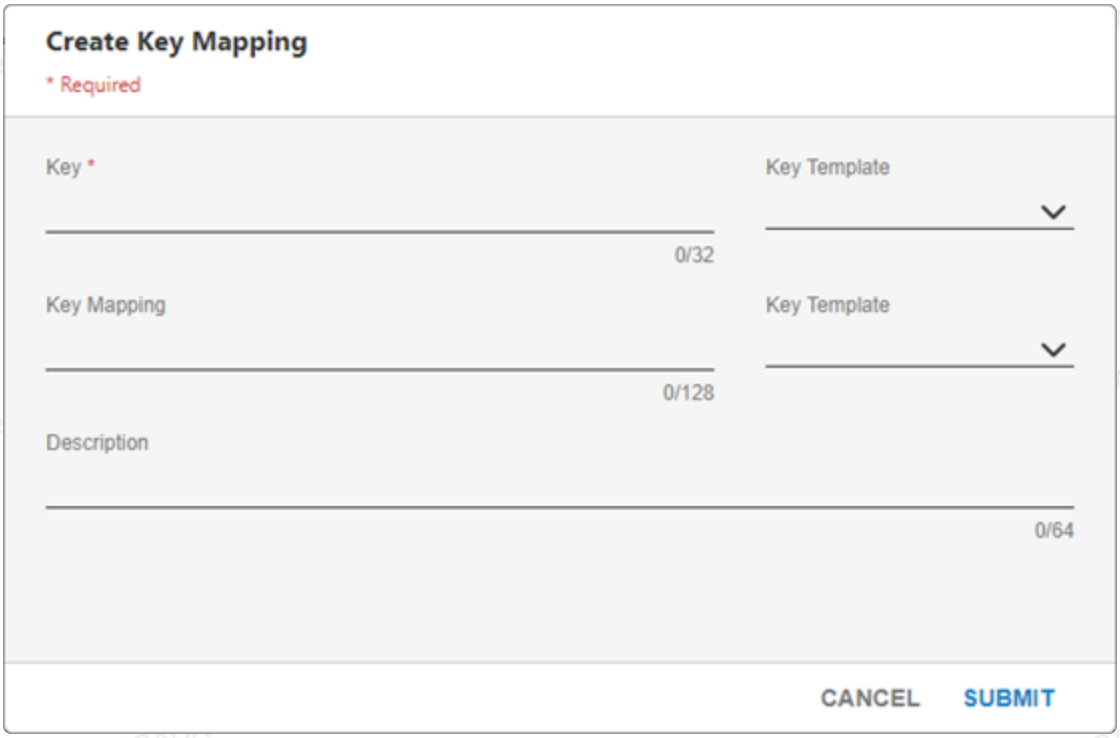
3. You will see the Key Mapping List.



4. Click **Insert New Key Mapping.**



5. The Key Mapping configuration page appears.



6. Select the **Key** from the pull down list next to **Key Template**. In the example, select the UP key (the arrow up on most keyboards).
7. Select the **Key Mapping** from the pull down list next to **Key Template**. Alternatively, you can type the the Key Macro command in this field. In the example enter: <GOTO>GRAPH= MAIN.BGR .

- about Key Template :
  - <FLICKBT> is for Flick down to up gesture. This example means the N7CON1 tag will change to 0 when users make the “Flick down to up” gesture.
  - <FLICKLBRT> is for the “Flick down to up” gesture.The example means the N7CON1 tag will change to 1 when users make the “Flick —lower left to upper right” gesture.

Gestures	Keycodes
Flick — Up to down	<FLICKTB>
Flick —upper right to lower left	<FLICKRTLB>
Flick — right to left	<FLICKRL>
Flick —lower right to upper left	<FLICKRBLT>
Flick — Down to Up	<FLICKBT>
Flick —lower left to upper right	<FLICKLBRT>
Flick — left to right	<FLICKLR>
Flick —upper left to lower right	<FLICKLTRB>
Two-finger Tap	<TAP2F>
Three-finger Tap	<TAP3F>
Four-finger Tap	<TAP4F>
Five-finger Tap	<TAP5F>
Three-finger Grab	<GRAB3F>
Four-finger Grab	<GRAB4F>
Five-finger Grab	<GRAB5F>
Three-finger Spread	<RGRAB3F>
Four-finger Spread	<RGRAB4F>
Five-finger Spread	<RGRAB5F>

7. Optionally, add a description that will remind you and others of the function.
8. Press **Submit** when done.
9. There are two ways to **download** these changes to the SCADA Node:
    - Download and Restart the SCADA node from the SCADA Node properties page. If you have never downloaded the SCADA node before, then this is required. This will temporarily stop the SCADA node (if it is running).
    - Use the Download hyperlink on the Key Mapping List Page. This will download changes to the Key Mapping without stopping the SCADA node.

If a local key mapping table is defined, both local and global key mapping will be performed. To turn off/on local or global key mapping functions for each individual View/ViewDAQ, please set

%DKEYMAPFILE (local) or %DKEYMAPPING (global) to 0/1.

10. You can use **edit** or **delete** on the **Key Mapping List**.

5.20 Scheduler

The Scheduler in Advantech WebAccess/SCADA provides on/off control and setpoint changes based on time–of–day, day of week and the calendar.

The scheduler can turn lights on and off, lower or raise the temperature at night or during the work day, set temperature to normal levels during each work day, reduce temperature to save energy during unoccupied periods, cycle equipment for load balancing, etc.

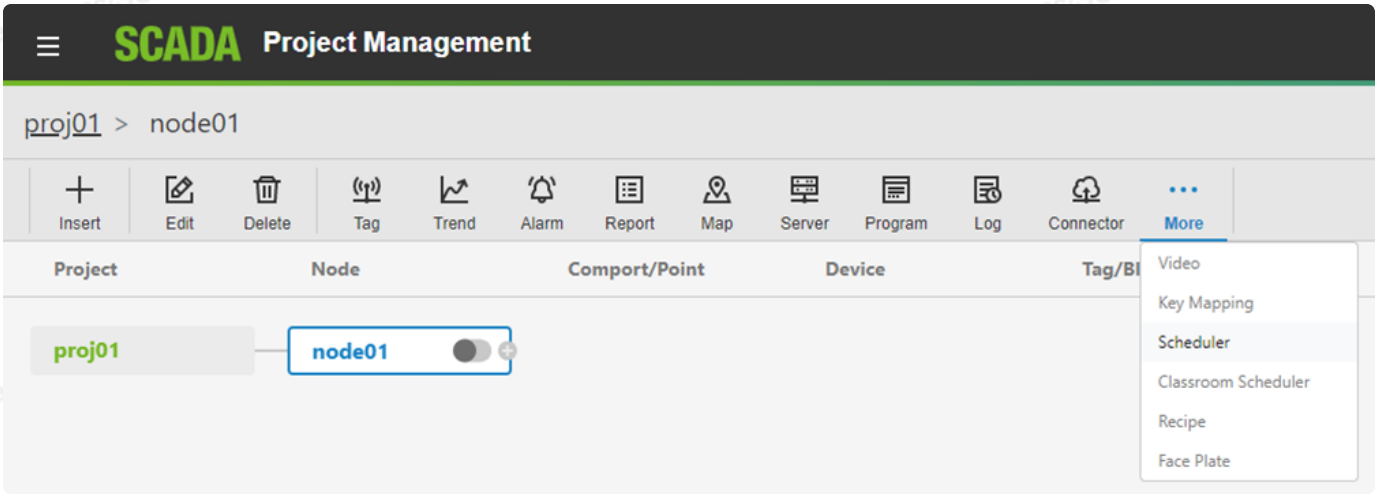
The typical use of the Scheduler is in Building Automation, where Lights, Fans, and HVAC equipment are turned on and off based on the time of day and day week. The Scheduler is also used in process control and manufacturing applications.

An unlimited number of Circuit Groups and Equipment Groups (i.e. Zone Controls) can be programmed each with its own unique schedule. Multiple Circuits and Equipment Groups can also share a schedule.

The Scheduler runs on the SCADA Node (or redundant SCADA Nodes).

5.20.1 Entry

Select SCADA Node in **Org Chart** –> Open **More** options –> Select **Scheduler**.



5.20.2 Overview of Scheduler Functions

The scheduler can provide both "On/Off" and Setpoint changes. For example, an "OFF" hours Temperature Setpoint may be "setback" during evening hours to save energy while the "ON" hours Temperature Setpoint may be set for occupant comfort. The **On Value** and **Off value** are specified for each Tag (or Circuit). These can be any two values (i.e. not just 0 and 1) to allow setpoint changes and other value changes (included text strings).

The On Values and Off Values are specified for each tag in the **Circuit Group.** A tag can be viewed as representing a single electrical circuit (for example on/off control of lights). Hence, groups of tags are called "Circuit Groups". A "Circuit Group" can be any group of tags (or even a single tag) that will always share the same schedule.

The **Time** specifies the **Start Time** and **Stop Time** for each day of the Week. Each day of a schedule consists of **Normal Hours**, two sets of **Extra Hours** and a **Default** time period. Separate Start and Stop Time can be defined for **Normal Hours**, **Extra Hours I** and **Extra Hours II**. The Default applies to any time outside of Normal or Extra Hours. The Normal Hours, and Extra Hours, combined with the "Default", allows 4 time periods per day (minimum) to be specified. Additional schedules can be defined if more "periods" per day are required.

A **Cycle Time,** in 1–minute intervals, can also be specified to allow On/OFF cycling of equipment during the schedule (for example, turn the Fans on for 10 minutes, then off for 20 minutes from 8:00 am to 5:00 pm). The **ON CYCLE TIME** and **OFF CYCLE TIME** can be defined for each Normal, Extra Hours and default period of the day. If both ON Cycle = 0 and OFF Cycle=0, then nothing happens, the tags remain unchanged during the time period. If ON Cycle=1 and OFF Cycle=0, then no cycling happens and the tags are set to the ON values for the duration of the Start to Stop time.

Holiday defines calendar–based events. It allows "Holiday Schedules" to be set to account for non–occupancy or special events. The Holiday schedule can be used for any calendar event (based on Month, Day of Month and Year) up to 1 year in the future. Multiple holiday schedules can be configured and assigned to different groups of tags.

There is no limit to the number of Schedules that can be configured. Each schedule has a START TIME, STOP TIME, optional CYCLE time, ON and OFF values for each day of week plus the "Holiday schedule".

An **Equipment Group** associates a **Time** Schedule with one or more **Circuit Groups** . Multiple "Circuit Groups" can be linked to a single "Time Schedule" in an "Equipment Group". For example, the lights for each floor a building might be grouped into a Circuit group each (1stFloorCircuit, 2ndFloorCircuit, 3rdFloorCircuit, ... 40thFloorCircuit). Each 'Occupied" floor might be assigned to the "Occupied Equipment Group" with the "Occupied Schedule". If a

tenant moves, that floor would be reassigned to the "Unoccupied" Equipment group, which uses the "Unoccupied Schedule".

A **MANUAL ON** and **MANUAL OFF** feature allow a schedule to be "overridden" and forced to the ON or OFF values for a Circuit Group. MANUAL ON/OFF is typically used to enable occupancy (i.e. turn on the lights) for non–scheduled events. **AUTOMATIC** follows the defined schedule when specified in a Circuit Group.

New schedules and changes to schedules will **Download to the SCADA node** without stopping the SCADA Node.

Power Users can download and Modify Schedules from VIEW (and ViewDAQ) from the Tools menu. Web browser VIEW clients must be log in as Power Users to Download or Modify a Schedule. Any ViewDAQ user can download a schedule.

To access Scheduler from **VIEW**:**Right Click –> Tools –> Scheduler**

To access Scheduler from **ViewDAQ:**
From the Menu Bar select **Tools –> Scheduler**

or a pushbutton can be built using **<GOTO>tool=bwsch.uti**

5.20.3 Scheduler Configuration

The usual steps to build a set of schedules are:

1. Define **Holiday** Schedules to handle exceptions to the 7 days per week schedule. The "Holiday" is any unusual event or series of events. The Holiday Schedule can be defined, redefined and assigned at any time, but usually is defined first to allow easy assignment to the Time Schedules as the "exception" to the schedule.
2. Define the **Time Schedules**. These are the START TIME and STOP TIME for Normal and Extra Hours for a weekly schedule. A single "Holiday Schedule Group" is assigned to each Time Schedule.
3. Define **Equipment Groups**. One or multiple Circuit Groups and a single Time Schedule are assigned to each Equipment Group. Equipment Groups are groups of Circuits that frequently share the same Time Schedule.
4. Define **Circuit Groups**. These are "Tags" that will always share the same Schedule.
5. **Download the Schedules to the SCADA node.** You can download the SCHEDULER without stopping the SCADA node. The new schedule will take effect immediately. If a tag is supposed to be ON, it will be set to the ON value.

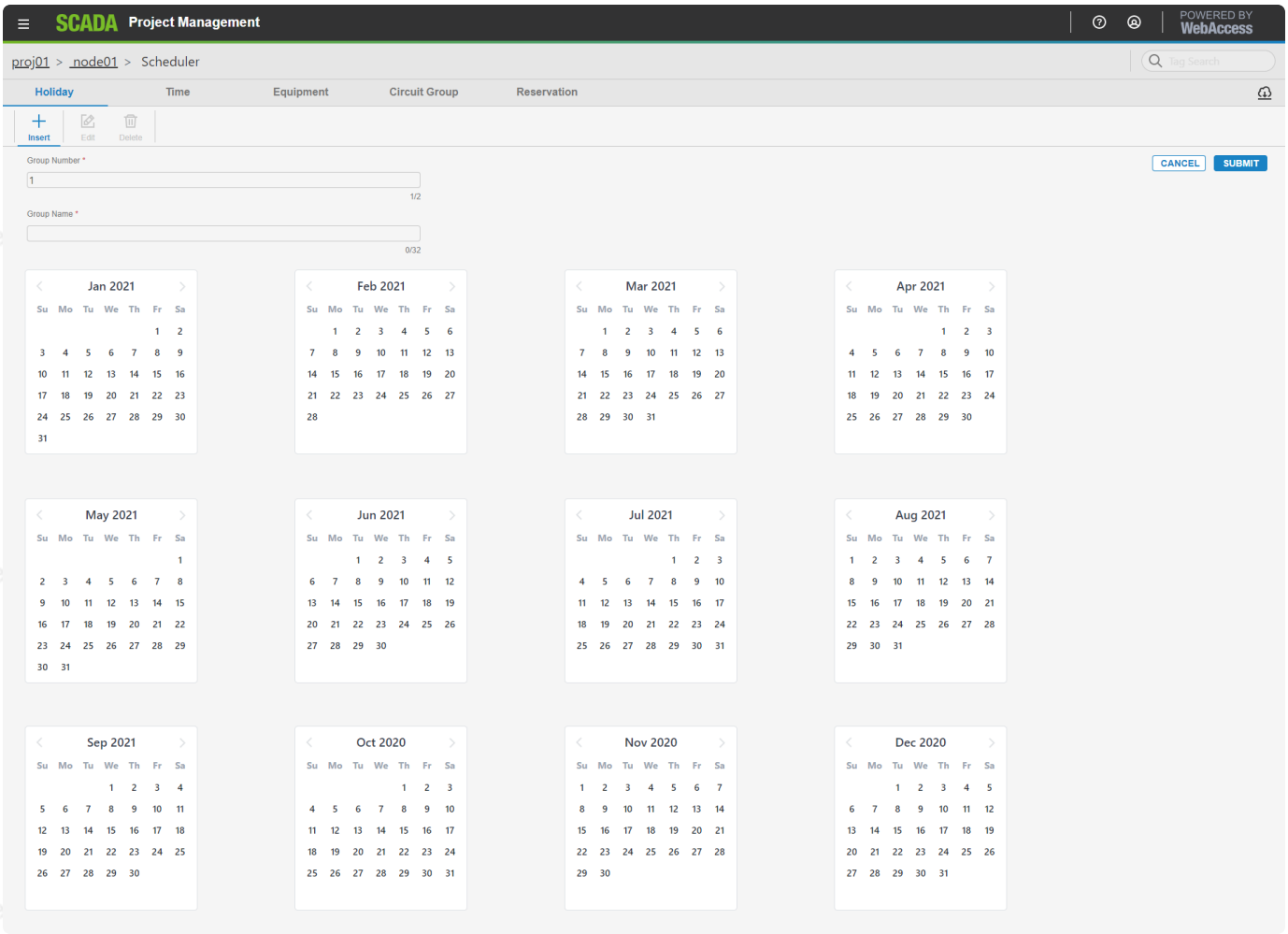
Project Users can add, modify and download Schedules from the Project Manager.

Power Users can add, modify and download Schedules from VIEW.

5.20.3.1 Holiday

The Holiday schedule can be used for any calendar event or series of events, based on Month, Day of Month and Year, up to 1 year in the future. Multiple holiday schedules can be configured and assigned to different groups of tags.

The typical use is to create "Holiday" schedules to account for non-occupancy of buildings in order to have an "exception" to the normal weekday schedule. A Holiday Schedule can be created for any calendar event, not just holidays, that are based on the Day, Month and Year.



Holidays and exceptions to normal schedule are shown in BLUE. Single-click on a date to add / remove it as a "holiday".

- **Group List** (Holiday) – is a List of all configured Holidays.

- **Group Number** (Holiday) – the user defined number for the Holiday Schedule. Entering a New number, not already specified, will create a new Holiday Schedule Group. Entering a number of an existing group will try to overwrite or update that Holiday Group.
- **Group Name** (Holiday) – the user defined Name for this Holiday Schedule.
- **Insert** (Holiday) – creates a new blank Holiday Schedule Group.
- **Submit** (Holiday) – Saves without downloading the currently displayed Holiday Schedule Group, as the group number specified in **Group Number.** If that Group number does not already exist, this will create a new Holiday Schedule. If that group number does exist, it will try to overwrite the existing group with this Holiday Schedule and description.
- **Save and Download to SCADA Node —** Saves this Holiday schedule and downloads this and all other changes to Scheduler (including saved changes to Equipment Groups, Circuit Groups and Time Groups).

You can create a very large number of Holiday Schedule Groups. For example, if you have multiple clients in a high rise building, they may each have their own holiday schedule.

Each Time Schedule has one Holiday Schedule Group assigned to it. This Holiday Schedule becomes the "exception" to the normal weekday schedule defined in each Time Schedule. The same Holiday Schedule can be assigned to multiple Time Schedules.

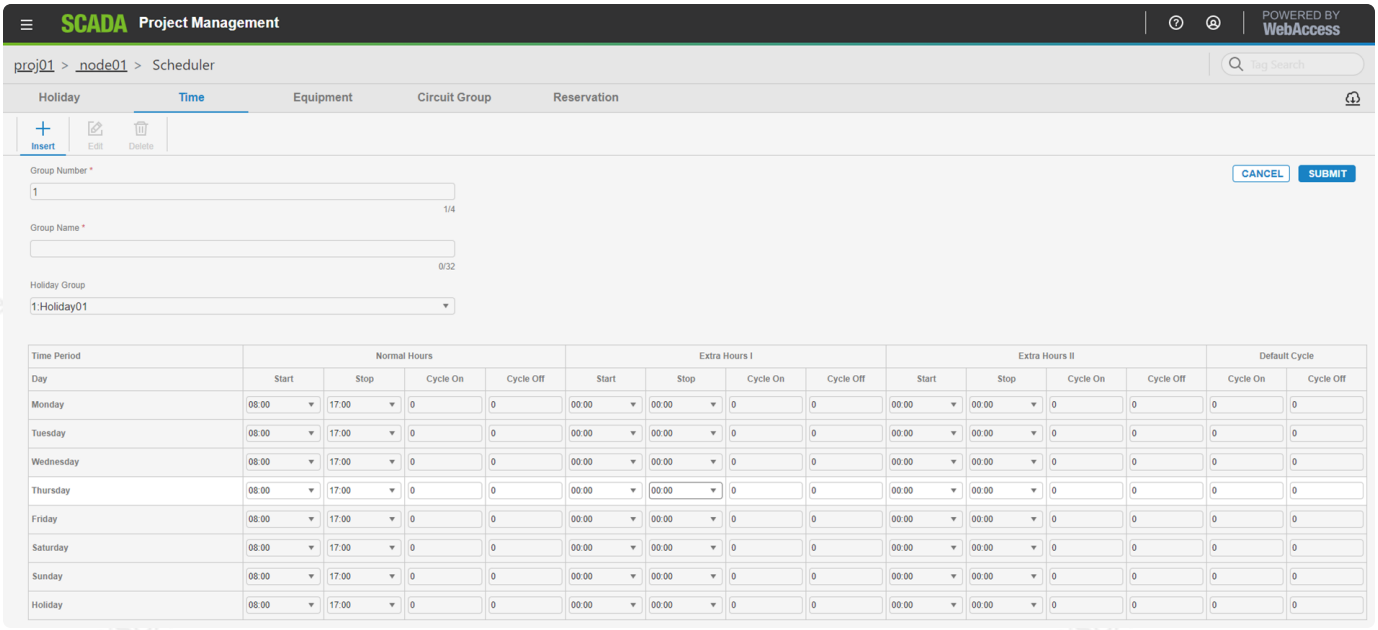
It's probably best to start out with one Holiday Schedule, than as you find exceptions to that Holiday Schedule, create new holiday schedules and assign those the Time Schedules that require a different exception Schedule.

5.20.3.2 Time

The **Time Schedule** specifies the **Start Time** and **Stop Time** for each day of the Week. There is no limit to the number of Schedules that can be configured. Each schedule has a START TIME, STOP TIME, Normal Hours, two sets of Extra Hours, and optional CYCLE time for each day of week plus the "Holiday schedule". The same Time Schedule can be assigned to multiple Equipment Groups.

You can build an unlimited number of Time Schedule Groups. For example, if you have multiple clients in a high rise building, they may each have their own Time schedule.

It's probably best to start out with one or two Time Schedules; then as you find exceptions, create new Time Schedules as needed. For each new Time Schedule you create, you will probably need to create a new Equipment Groups in order to assign that new Time Schedule to the desired Circuit Group(s).



- **Time Period** – Each day of a schedule consist of **Normal Hours** time period, two sets of **Extra Hours** time periods and a **Default** time period. The Normal Hours, Extra Hours and Extra Hours II , combined with the "Default", allows 4 time periods per day (minimum) to be specified.
- **Normal** – is any user defined Time period. Usually it is associated with normal business hours.
- **Extra Hours I** – is any user defined Time period. Usually it is associated with after normal work hours. It is equivalent to Normal; it is a second time period that can be defined.
- **Extra Hours II** – is any user defined Time period. Usually it is associated with after normal work hours. It is equivalent to Normal; it is a third time period that can be defined.
- **Default** – applies to any time outside of Normal, Extra Hours I or Extra Hours II.
- **Start –** defines the beginning of each time period: Normal Hours, Extra Hours I and Extra Hours II. The time can be specified in 5–minute intervals. If both Start=0:00 and Stop=0:00 no action is taken and the period (its undefined).
- **Stop –** defines the end of each time period: Normal Hours, Extra Hours I and Extra Hours II. The time can be specified in 5–minute intervals. If both Start=0:00 and Stop=0:00 no action is taken and the period (its undefined).
- **Cycle ON** – specifies an "ON Cycle Time", in 1–minute intervals, to allow On/OFF cycling of equipment during the schedule (for example, turn the Fans on for 10 minutes, then off for 20 minutes from 8:00 am to 5:00 pm). The ON CYCLE TIME can be defined for each Normal, Extra Hours and default period of the day. For any non–zero value of ON Cycle, if OFF Cycle=0, no cycling occurs. If ON Cycle=1 and OFF Cycle=0, then no cycling happens and the tags are set to the ON values once at the Start Time and set to OFF value ONCE at the Stop time.

If both ON Cycle = 0 and OFF Cycle=0, then nothing happens, the tags remain unchanged during the time period. If ON Cycle=5 and Off Cycle=10, then the equipment will cycle from ON to OFF every 15 minutes: 5 minutes ON and 10 minutes OFF.

- **Cycle OFF** – specifies a "OFF Cycle Time", in 1–minute intervals, to allow On/OFF cycling of equipment during the schedule (for example, turn the Fans on for 10 minutes, then off for 20 minutes from 8:00 am to 5:00 pm). The OFF CYCLE TIME can be defined for each Normal, Extra Hours and default period of the day.

If both ON Cycle = 0 and OFF Cycle=0, then nothing happens, the tags remain unchanged during the time period. For any non–zero value of OFF Cycle, if ON Cycle=0, no cycling occurs. If ON Cycle=1 and OFF Cycle=0, then no cycling happens and the tags are set to the ON values once at the Start Time and set to OFF value ONCE at the Stop time. If ON Cycle=5 and Off Cycle=10, then the equipment will cycle from ON to OFF every 15 minutes: 5 minutes ON and 10 minutes OFF.

- **Group List** (Time Schedule) – a list of all configured Time Schedules.
- **Group Number** (Time Schedule) – the user defined number for the Time Schedule. Entering a New number, not already specified, will create a new Time Schedule Group. Entering a number of an existing group will try to overwrite or update that Time Schedule.
- **Group Name** (Time Schedule) – – the user defined Name for this Time Schedule.
- **Holiday Group –** Lists all Holiday Groups and assigns a "Holiday Schedule" to this Time Schedule. Each Time Schedule has one Holiday Schedule Group assigned to it. This Holiday Schedule becomes the "exception" to the normal weekday schedule defined in each Time Schedule. The same Holiday Schedule can be assigned to multiple Time Schedules. "Holiday Schedules" are used commonly to account for non–occupancy or special events. The Holiday schedule can be used for any event based on Month, Day of Month and Year, up to 1 year in the future.
- **Submit** (Time Schedule) – Saves the currently displayed Time Schedule as the specified Group Number. If that Group number does not already exist, this will create a new Time Schedule. If that group number does exist, it will try to overwrite the existing group with this Time Schedule and description.
- **Save and Download to SCADA Node —** Saves this Time schedule and downloads this and all other changes to Scheduler (including saved changes to Equipment Groups, Circuit Groups and Holiday Schedule).

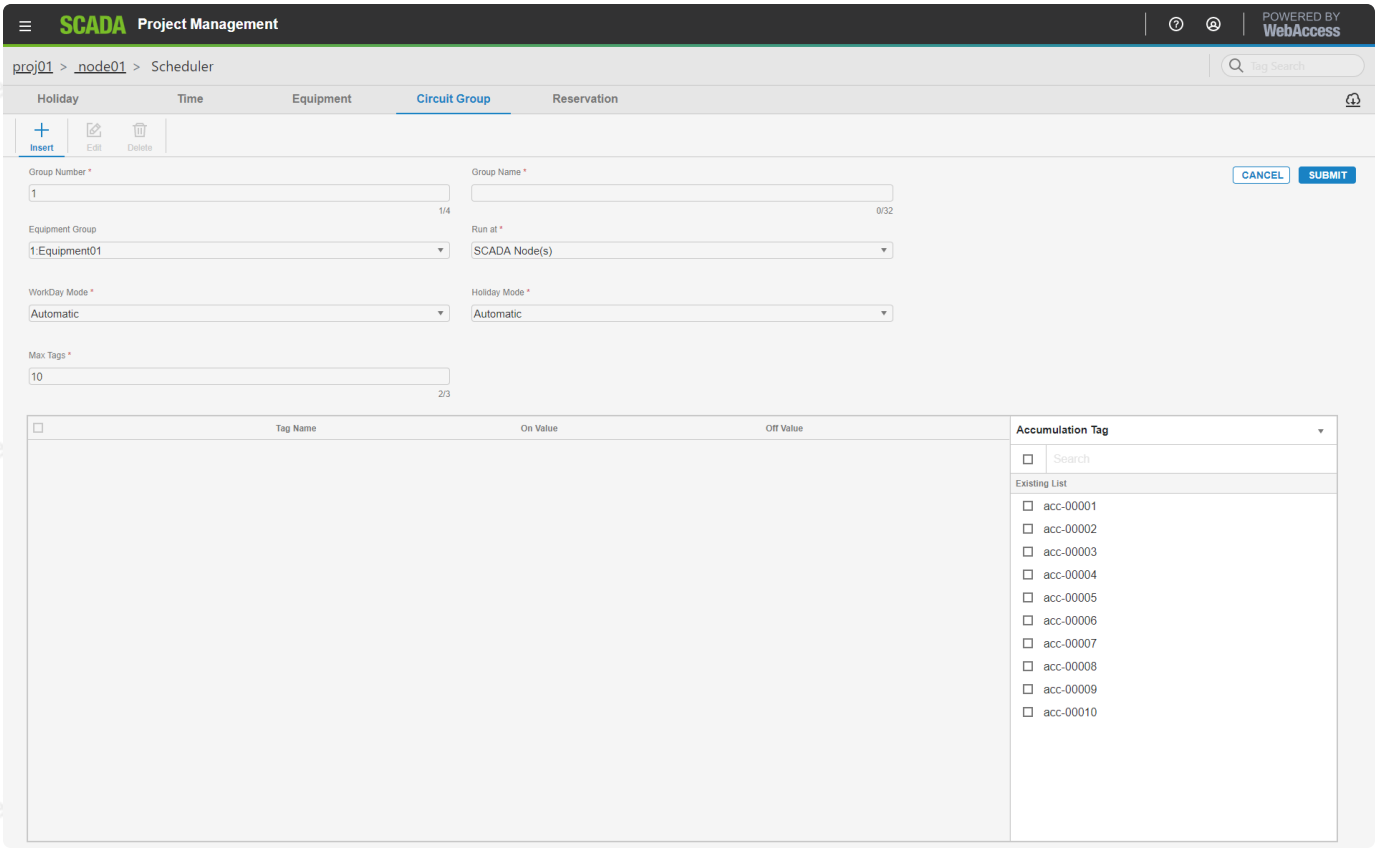
5.20.3.3 Circuit Group

A "Circuit Group" can be any group of tags (or even a single tag) that will always share the same schedule. A "Circuit" typically is all the On/OFF relays for the Lights in a given area of the plant.

Multiple "Circuit Groups" can be linked to a single "Time Schedule" in an "Equipment Group". Circuit Groups are easily moved from one Equipment Group to another, thereby

changing the Time Schedule that applies to the Circuit Group.

For example, the lights for each floor a building might be grouped into a Circuit group each (1stFloorCircuit, 2ndFloorCircuit, 3rdFloorCircuit, ... 40thFloorCircuit). Each "Occupied" floor might be assigned to the "Occupied Equipment Group" with the "Occupied Schedule". If a tenant moves, that floor would be reassigned to the "Unoccupied" Equipment group, which uses the "Unoccupied Schedule".



- **Max Tags All Groups** – this is the maximum number of Tags that can be specified in any Circuit Group. This applies to all circuit groups. You can change this at any time. Making this larger than necessary will increase file sizes and download times. You can not change this to less than the number of tags in any existing Groups.
- **Tag List –** provides a pull down menu of tag names for easy data entry. Click the fields listed under Tag Name, then open the Tag List by clicking on it. Scroll down to find the tag name. Click once on the tag name to enter it into the selected tag name field.
- **Tag Name** – this column lists the Tags associated with this Circuit group. A tag can be any Analog, Discrete or Text IO Tag, Constant or Calculation Tag.
- **On Value** – is the value the Tag will be changed to at the **Start Time** if ON Cycle or OFF Cycle is non–zero for the time period. Applies to Normal, Extra Hours I, Extra Hours II and Default time periods. ON Value can be an analog, discrete or text value. ON Value for a temperature setpoint is any analog value (e.g. 72). ON Value for a Text value can be any

text string. ON Value for a Digital is usually "1". Digital and Discrete tags must be set to an integer value between 0 and 7 (you can not use the state descriptor for discrete tags).

- **Off Value** – is the value the Tag will be changed to at the **Stop Time** if ON Cycle or OFF Cycle is non–zero for the time period. Applies to Normal, Extra Hours I, Extra Hours II and Default time periods. OFF Value can be an analog, discrete or text value. OFF Value for a temperature setpoint is any analog value (e.g. 68). OFF Value for a Text value can be any text string. OFF Value for a Digital is usually "0". Digital and Discrete tags must be set to an integer value between 0 and 7 (you can not use the state descriptor for discrete tags).
- **Circuit Group List –** a list of all configured Circuit Groups.
- **Circuit Group Number** – the user defined number for the Circuit Group. Entering a New number, not already specified, will create a new Circuit Group. Entering a number of an existing group will try to over–write or update that Circuit Group.
- **Circuit Group Name** – the user defined Name for this Circuit Group.
- **Equipment Group –** Lists all Equipment Groups and assigns this Circuit Group to the specified Equipment Group.
- **Workday Mode** – specifies the Monday through Sunday schedule mode as either Automatic or Manual. This allows the schedule for the circuit group to be overridden, disabled or enabled. MANUAL ON/OFF means all tags will be manually set by an operator using the "Download to SCADA Node" button. Manual ON/OFF is typically used to enable occupancy (i.e. turn on the lights) for non–scheduled events and to disable automatic scheduling.
  - **AUTOMATIC** – follows the defined schedule when specified in a Circuit Group.
  - **MANUAL ON** – forces all tags in this Circuit Group to their ON Value at the next Download to SCADA Node. The schedule will be ignored and disabled until reset to automatic.
  - **MANUAL OFF** – forces all tags to their OFF Value at the next Download to SCADA Node. The schedule will be ignored and disabled until reset to automatic.

If the MANUAL ON/OFF is temporary, it is recommended to change the Mode back to automatic, and submit the change, after the download. Every Download to SCADA Node will enforce all Manual ON and Manual OFF settings for all Circuit Groups.

- **Holiday Mode** – specifies the Holiday schedule mode as either Automatic or Manual. allows the schedule for the circuit group to be overridden, disabled or enabled. MANUAL ON/OFF means all tags will be manually set by an operator using the "Download to SCADA Node" button. Manual ON/OFF is typically used to enable occupancy (i.e. turn on the lights) for non–scheduled events and to disable automatic scheduling.
  - **AUTOMATIC** – follows the defined schedule when specified in a Circuit Group.
  - **MANUAL ON** – forces all tags in this Circuit Group to their ON Value at the next Download to SCADA Node. The schedule will be ignored and disabled until reset to automatic.
  - **MANUAL OFF** – forces all tags to their OFF Value at the next Download to SCADA Node. The schedule will be ignored and disabled until reset to automatic.

If the MANUAL ON/OFF is temporary, it is recommended to change the Mode back to automatic, and submit the change, after the download. Every Download to SCADA Node will enforce all Manual ON and Manual OFF settings for all Circuit Groups.

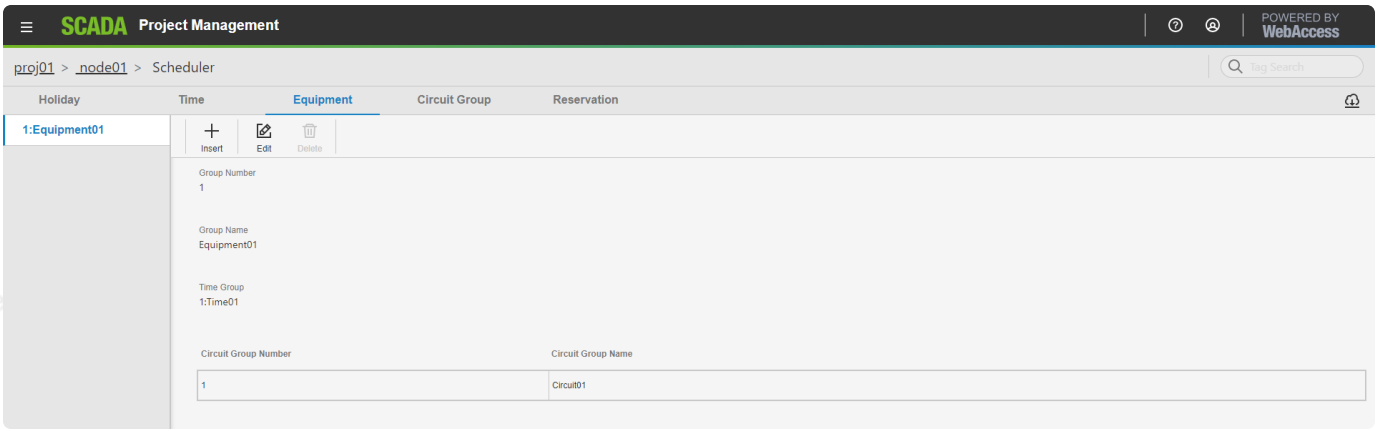
- **Delete** (Circuit Group) – deletes specified Circuit Group, specified in **Group Number.**
- **Submit** (Circuit Group) – Saves the currently displayed Circuit Group as the specified Group Number. If that Group number does not already exist, this will create a new Circuit Group. If that group number does exist, it will try to over–write the existing group with the displayed Tags, On Values, Off Values, Modes and description.
- **Save and Download to SCADA Node —** Saves this Circuit Group and downloads this and all other changes to Scheduler (including saved changes to Holiday Schedule, Equipment Groups and Time Groups).

5.20.3.4 Equipment Group

Equipment Groups associate one or multiple Circuit Groups with a Time Schedule. Equipment Groups allow a single Time Schedule to be assigned to multiple Circuit Groups quickly and reduces the need to re–create the same schedule.

The philosophy in designing an Equipment Groups is to view an Equipment Groups as Tags (Circuits) that frequently share the same Time Schedule. In contrast, Circuit Groups are best viewed as Tags that "always" share the same schedule.

An example of multiple "Circuit Groups" linked to a single "Time Schedule" in an "Equipment Group" are, the lights for each floor a multi–story building. The Lights of each Floor might be grouped into a Circuit group each (1stFloorCircuit, 2ndFloorCircuit, 3rdFloorCircuit, ... 40thFloorCircuit). Each "Occupied" floor might be assigned to the "Occupied Equipment Group" with the "Occupied Schedule". If a tenant moves, that floor would be reassigned to the "Unoccupied" Equipment group, which uses the "Unoccupied Schedule".



- **Group List** (Equipment Group) – a list of all configured Equipment Groups.
- **Group Number** (Equipment Group) – the user defined number for the Equipment Group.

Entering a New number, not already specified, will create a new Equipment Group. Entering a number of an existing group will try to over–write or update that Equipment Group.

- **Group Name** – the user defined Name for this Equipment Group.
- **Time Group –** The most important feature. Assigns a Time Schedule to all the Circuit Groups Listed in this Equipment Groups. Also lists all configured Time Schedules (Time Groups).
- **Circuit Group** – Lists all Circuit Groups assigned to this Time Group. Note that you assign Circuit Groups to a Time Group from the Circuit Group Configuration page.
- **Delete** (Equipment Group) – deletes specified Equipment Group, specified in **Group Number.**
- **Submit** (Equipment Group) – Saves the currently displayed Equipment Group as the specified Group Number. If that Group number does not already exist, this will create a new Equipment Group. If that group number does exist, it will try to over–write the existing group with displayed Time Group and Name.
- **Save and Download to SCADA Node —** Saves this Equipment Group and downloads this and all other changes to Scheduler (including saved changes to Holiday Schedule, Circuit Groups and Time Groups).

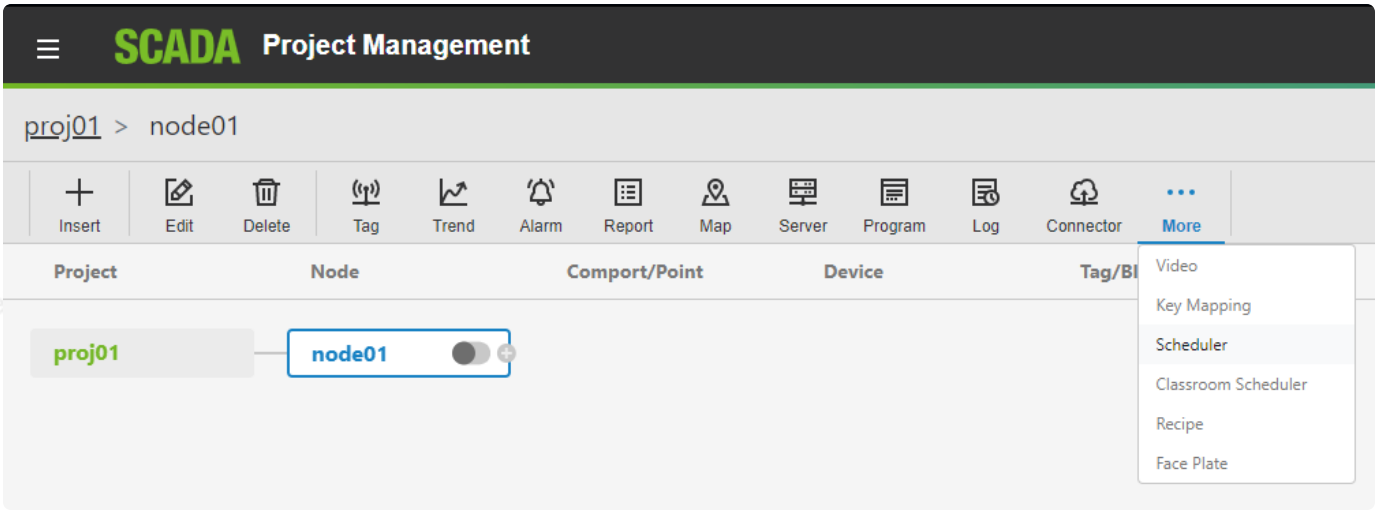
5.20.3.5 Create or Modify a Schedule

Schedules can be created, edited and downloaded from:

- the Project org chart (Project Users and admin)
- VIEW (Power Users and admin)
- ViewDAQ

– Start Scheduler in Org chart

1. **Login** in to Project org chart
2. Select **SCADA Node**
3. From **More** drop down list, select **Scheduler**.



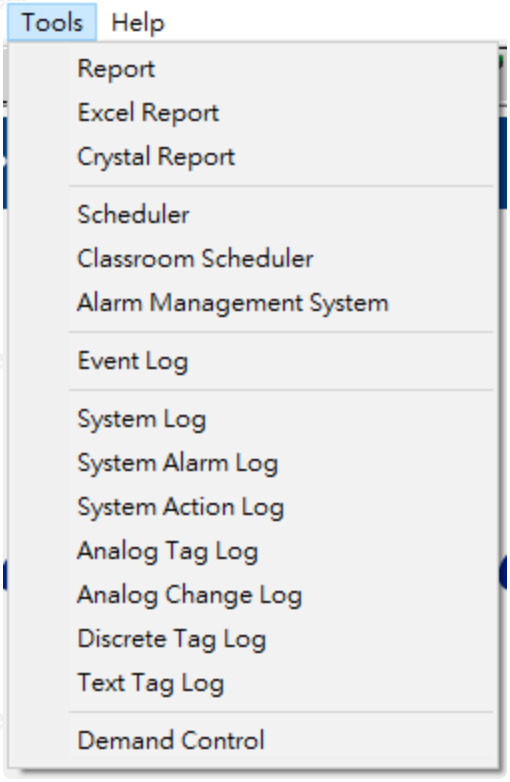
– Start Scheduler in View or ViewDAQ

Start Scheduler from VIEW:

1. Login as a Power User or Admin.
2. **Right Click –> Tools –> Scheduler**

Start Scheduler from ViewDAQ:

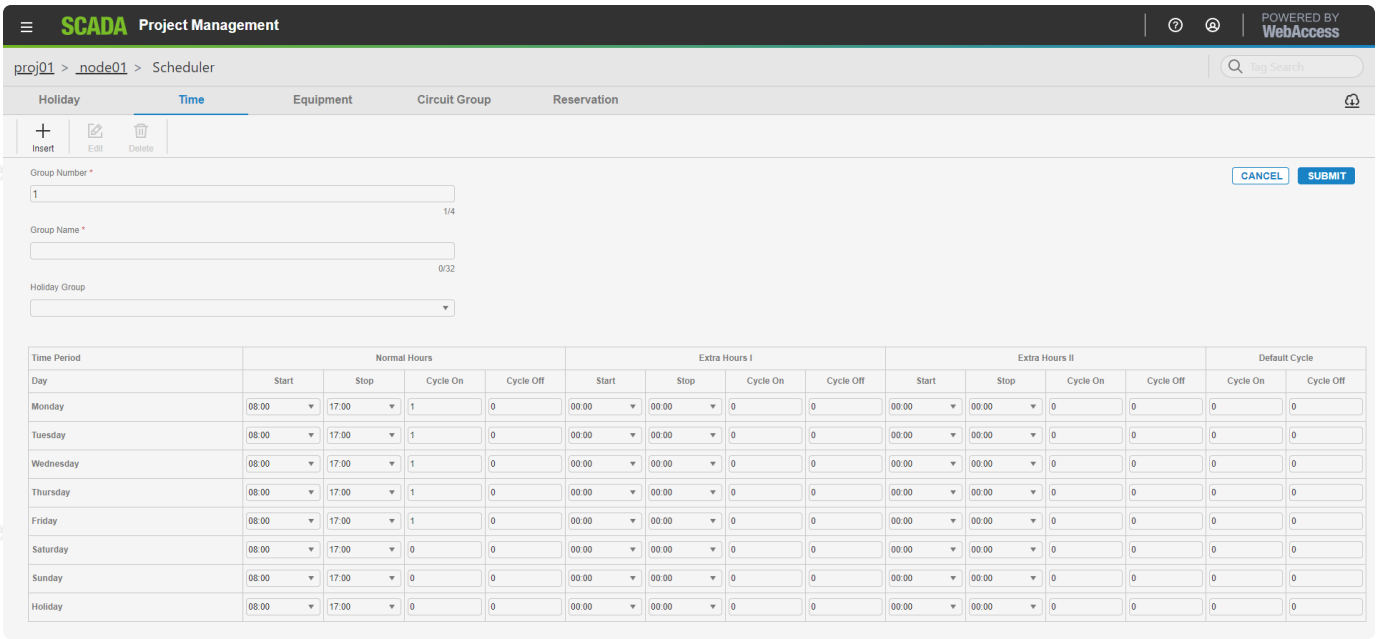
1. From the Menu Bar, select **Tools –> Scheduler**



WebAccess/SCADA

– Create a Schedule

1. Start Scheduler from **Project Manager**, **VIEW** or **ViewDAQ**.
2. From the **Holiday page**, create at least one holiday schedule. It can be blank. The Holiday Schedule defines “exceptions” to the 7 day per week schedule. The "Holiday" is any unusual event or series of events. The Holiday Schedule can be defined, redefined and assigned at any time, but usually is defined first to allow easy assignment to the Time Schedules as the "exception" to the schedule.
   a. Enter a **name** for the Holiday Schedule.
   b. Enter a Group Number.
   c. Press **submit.**
3. Select **Time**.
4. On the **Time Group page**, define the Time Schedules. These are the START TIME and STOP TIME for Normal and Extra Hours for a weekly schedule. A single "Holiday Schedule Group" is assigned to each Time Schedule.



   a. Enter a **Time Group Number**.
   b. Enter a **name** the Time Group.
   c. From pull down list, select **Holiday** Schedule.
   d. Under **Normal Hours**, use the pull down list to select **Start and Stop** times (Monday through Sunday and Holiday).
   e. Enter 1 under Cycle ON and leave 0 as Cycle Off if value is continuously ON.
   f. Repeat for Extra Hours, Extra Hours II and default cycle if there are multiple scheduled per day. (See **Time** for more detailed information)
   g. Press **submit**.
5. Select **Equipment Group**.

6. Define Equipment Groups by:
    a. Enter **Group Number**
    b. Enter a **Name**
    c. Select a **Time Group** (a Schedule) from the pull down menu.
    d. Press **submit**.
7. Select **Circuit Group**
8. Define **Circuit Groups**. These are "Tags" that will always share the same Schedule.
    a. Enter a **Name** for the Circuit Group.
    b. Accept 0 or enter a **Circuit Group Number.**
    c. Select an Equipment Group from the pull down menu. The Equipment Group associates a Time Group (a Schedule) with this Circuit and, optionally, the same time group/schedule with other circuits.
    d. Select **Tags**.
    e. Click the add bar at the bottom of tag list.
    f. To increase the number of tags, modify the **Max Tags** field.
    g. Press **submit**.
9. **Download the Schedules to the SCADA node.** You can download the SCHEDULER without stopping the SCADA node. The new schedule will take effect immediately. If a tag is supposed to be ON, it will be set to the ON value.

5.20.3.6 Download to SCADA Node (Scheduler)

A Power User can Down Load Schedules from VIEW (the web browser).

A Project User can Down Load Schedules from the Project Manager (web browser).

Any user can download schedules from ViewDAQ.

– Download Schedule from Project Manager

Schedule changes will **Download to SCADA Node** without stopping the SCADA node. This can be done from any configuration page in the Scheduler (Time, Equipment, and Circuit Group).

A dialog box prompts to confirm the Download Schedule to SCADA Node. All "submitted" changes made to the scheduler are downloaded.

All Manual ON or Manual OFF states are also downloaded.

To Download a change to the SCADA node from **Project Manager**:

1. Login to Project Manager
2. Select SCADA Node in Project org chart.
3. Select **Scheduler** from SCADA Node main page.
4. Make the desired change in **Holiday**, **Time**, **Circuit Group**, or **Equipment Group**.
5. Press the "Submit" button
6. Click on **Download to SCADA Node**.
7. Select **OK** at the prompt to Download Scheduler.

– Download Schedule from VIEW

Power Users can download and Modify Schedules from VIEW (and ViewDAQ) from the Tools menu. Web browser VIEW clients must be logged in as a Project Users to Download or Modify a Schedule. Any ViewDAQ user can download a schedule.

To access Scheduler from **VIEW**:
Right Click –> Tools –> Scheduler

To access Scheduler from **ViewDAQ**:
From the Menu Bar, select **Tools –> Scheduler**

Or a pushbutton can be built using **<GOTO>tool=bwsch.uti**

Schedule changes will **Download to SCADA Node** without stopping the SCADA node. This can be done from any configuration page in the Scheduler (Time, Equipment, and Circuit Group).

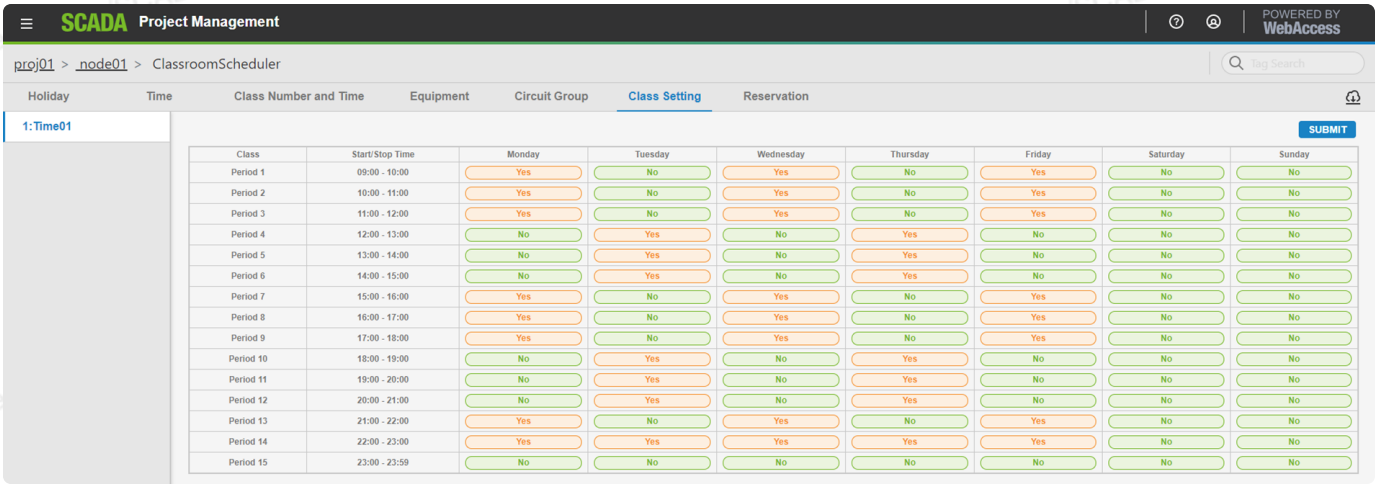
A dialog box prompts to confirm the Download Schedule to SCADA Node. All "submitted" changes made to the scheduler are downloaded.

All Manual ON or Manual OFF states are also downloaded.

To Download a change to the SCADA node from Project Manager:
1. Make the desired change in Time, Holiday, Equipment or Circuit Group.
2. Press the "Submit" button
3. Click on **Download to SCADA Node**.
4. Select **OK** at the prompt to Download Scheduler

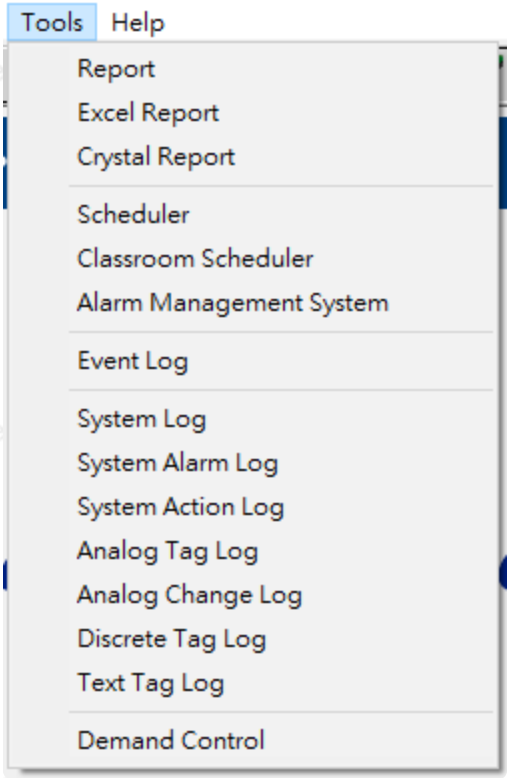
5.20.4 Overview of Classroom Scheduler Functions

The Classroom Scheduler is a licensed option. It allows the definition of up to 16 periods per day.



Class	Start/Stop Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Period 1	09:00 - 10:00	Yes	No	Yes	No	Yes	No	No
Period 2	10:00 - 11:00	Yes	No	Yes	No	Yes	No	No
Period 3	11:00 - 12:00	Yes	No	Yes	No	Yes	No	No
Period 4	12:00 - 13:00	No	Yes	No	Yes	No	No	No
Period 5	13:00 - 14:00	No	Yes	No	Yes	No	No	No
Period 6	14:00 - 15:00	No	Yes	No	Yes	No	No	No
Period 7	15:00 - 16:00	Yes	No	Yes	No	Yes	No	No
Period 8	16:00 - 17:00	Yes	No	Yes	No	Yes	No	No
Period 9	17:00 - 18:00	Yes	No	Yes	No	Yes	No	No
Period 10	18:00 - 19:00	No	Yes	No	Yes	No	No	No
Period 11	19:00 - 20:00	No	Yes	No	Yes	No	No	No
Period 12	20:00 - 21:00	No	Yes	No	Yes	No	No	No
Period 13	21:00 - 22:00	Yes	No	Yes	No	Yes	No	No
Period 14	22:00 - 23:00	Yes	Yes	Yes	Yes	Yes	No	No
Period 15	23:00 - 23:59	No	No	No	No	No	No	No

If the SCADA Node has the license, then the Classroom Scheduler shows in the Right Click –> Tools menu in VIEW below the Scheduler.



The scheduler can provide both "On/Off" and Setpoint changes. For example, an "OFF" hours Temperature Setpoint may be "setback" during evening hours to save energy while the "ON" hours Temperature Setpoint may be set for occupant comfort. The **On Value** and **Off value** are specified for each Tag (or Circuit). These can be any two values (i.e. not just 0 and 1) to allow setpoint changes and other value changes (included text strings).

The On Values and Off Values are specified for each tag in the **Circuit Group.** A tag can be viewed as representing a single electrical circuit (for example on/off control of lights). Hence, groups of tags are called "Circuit Groups". A "Circuit Group" can be any group of tags (or even a single tag) that will always share the same schedule.
The **Time** specifies the **Start Time** and **Stop Time** for each period of the day, up to 16 periods. (Note that the standard Scheduler allows only time 4 periods per day).

Class Setting enables the **ON** setting if the time period is set to YES (orange color). If the class setting is NO (green color) , then the OFF value is used.

Holiday defines calendar–based events. It allows "Holiday Schedules" to be set to account for non–occupancy or special events. The Holiday schedule can be used for any calendar event (based on Month, Day of Month and Year) up to 1 year in the future. The OFF value is used for Holidays in the CLassroom Scheduler (unlike the Scheduler).

An **Equipment Group** associates a **Time Group** with one or more **Circuit Groups** . Multiple "Circuit Groups" can be linked to a single "Time Schedule" in an "Equipment Group". For example, the lights for each floor a building might be grouped into a Circuit group each (1stFloorCircuit, 2ndFloorCircuit, 3rdFloorCircuit, ... 40thFloorCircuit). Each 'Occupied" floor might be assigned to the "Occupied Equipment Group" with the "Occupied Schedule". If a tenant moves, that floor would be reassigned to the "Unoccupied" Equipment group, which uses the "Unoccupied Schedule".

A **MANUAL ON** and **MANUAL OFF** feature allow a schedule to be "overridden" and forced to the ON or OFF values for a Circuit Group. MANUAL ON/OFF is typically used to enable occupancy (i.e. turn on the lights) for non–scheduled events. **AUTOMATIC** follows the defined schedule when specified in a Circuit Group.

New schedules and changes to schedules will **Download to the SCADA node** without stopping the SCADA Node.

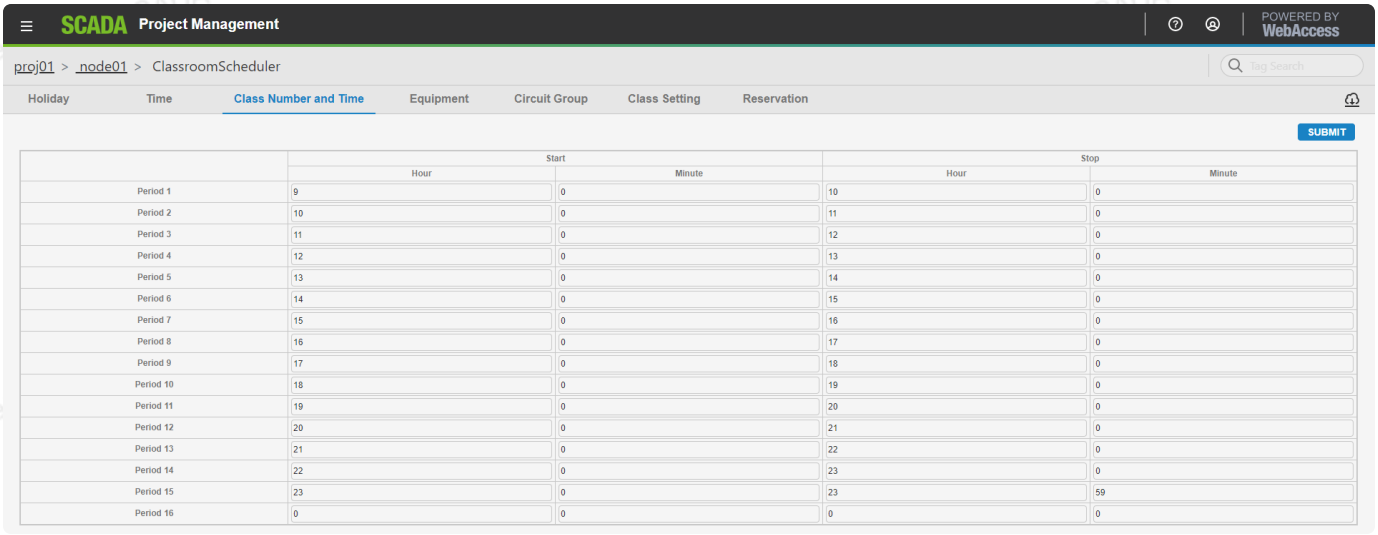
Power Users can download and Modify Schedules from VIEW (and ViewDAQ) from the Tools menu. Web browser VIEW clients must be log in as Power Users to Download or Modify a Schedule. Any ViewDAQ user can download a schedule.

To access Scheduler from **VIEW:Right Click –> Tools –> Classroom Scheduler**

To access Scheduler from **ViewDAQ:**
From the Menu Bar select **Tools –> Classroom Scheduler**

5.20.4.1 Class Number and Time

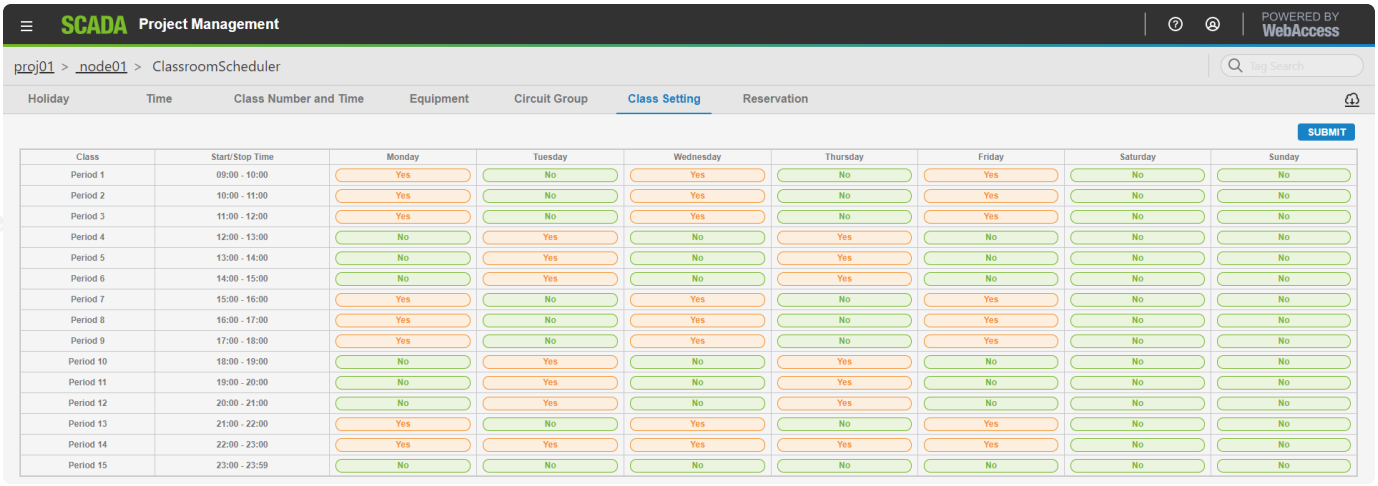
The **Class Number and Time Class Number and Time** The number of Time Periods in the Days of the week. And it defines the Start Time and Stop Time of each classroom period. Up to 16 classroom periods can be defined. They apply to all days of the week.



	Start		Stop	
	Hour	Minute	Hour	Minute
Period 1	9	0	10	0
Period 2	10	0	11	0
Period 3	11	0	12	0
Period 4	12	0	13	0
Period 5	13	0	14	0
Period 6	14	0	15	0
Period 7	15	0	16	0
Period 8	16	0	17	0
Period 9	17	0	18	0
Period 10	18	0	19	0
Period 11	19	0	20	0
Period 12	20	0	21	0
Period 13	21	0	22	0
Period 14	22	0	23	0
Period 15	23	0	23	59
Period 16	0	0	0	0

5.20.4.2 Class Setting

Class Setting is used to set the Occupancy (Yes or No) during each period. The these periods where defined in the **Class Number and Time Class Number and Time. Class Setting** enables the **ON** setting if the time period is set to **YES** (orange color). If the class setting is NO (green color) , then the OFF value is used.



Class	Start/Stop Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Period 1	09:00 - 10:00	Yes	No	Yes	No	Yes	No	No
Period 2	10:00 - 11:00	Yes	No	Yes	No	Yes	No	No
Period 3	11:00 - 12:00	Yes	No	Yes	No	Yes	No	No
Period 4	12:00 - 13:00	No	Yes	No	Yes	No	No	No
Period 5	13:00 - 14:00	No	Yes	No	Yes	No	No	No
Period 6	14:00 - 15:00	No	Yes	No	Yes	No	No	No
Period 7	15:00 - 16:00	Yes	No	Yes	No	Yes	No	No
Period 8	16:00 - 17:00	Yes	No	Yes	No	Yes	No	No
Period 9	17:00 - 18:00	Yes	No	Yes	No	Yes	No	No
Period 10	18:00 - 19:00	No	Yes	No	Yes	No	No	No
Period 11	19:00 - 20:00	No	Yes	No	Yes	No	No	No
Period 12	20:00 - 21:00	No	Yes	No	Yes	No	No	No
Period 13	21:00 - 22:00	Yes	No	Yes	No	Yes	No	No
Period 14	22:00 - 23:00	Yes	Yes	Yes	Yes	Yes	No	No
Period 15	23:00 - 23:59	No	No	No	No	No	No	No

5.21 Recipe

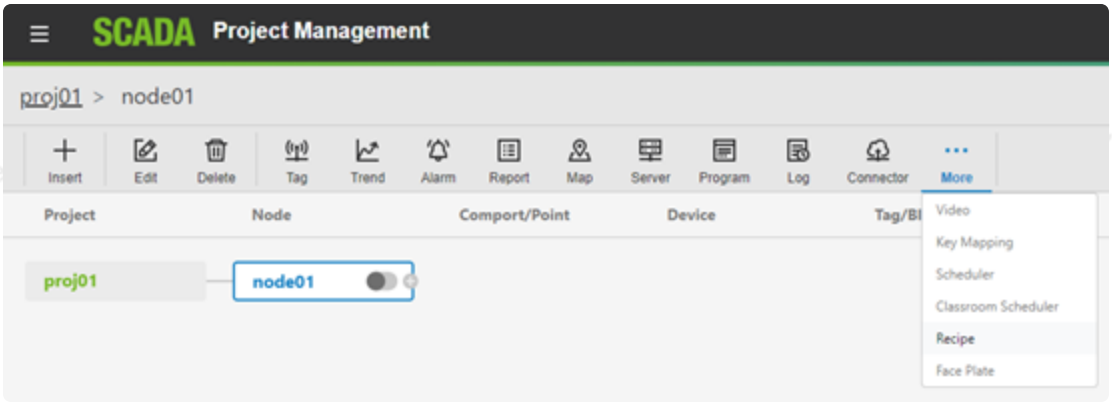
The Recipe File is a group of recipes and Units associated with those recipes. This is an organizational feature. You can group all of your recipes into a single recipe file or spread them

over multiple recipe files. The recipe file consists of a specific file downloaded to the hard drive of the SCADA node.

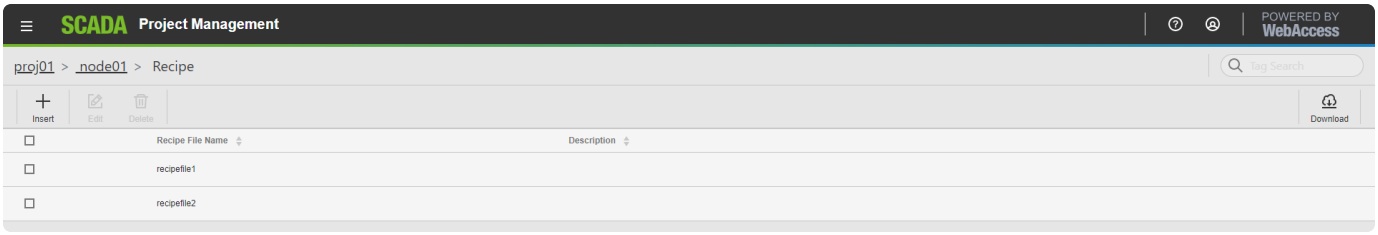
All the "units" and "recipes" within a given recipe file must have the same number of "items".

5.21.1 Configure Recipe

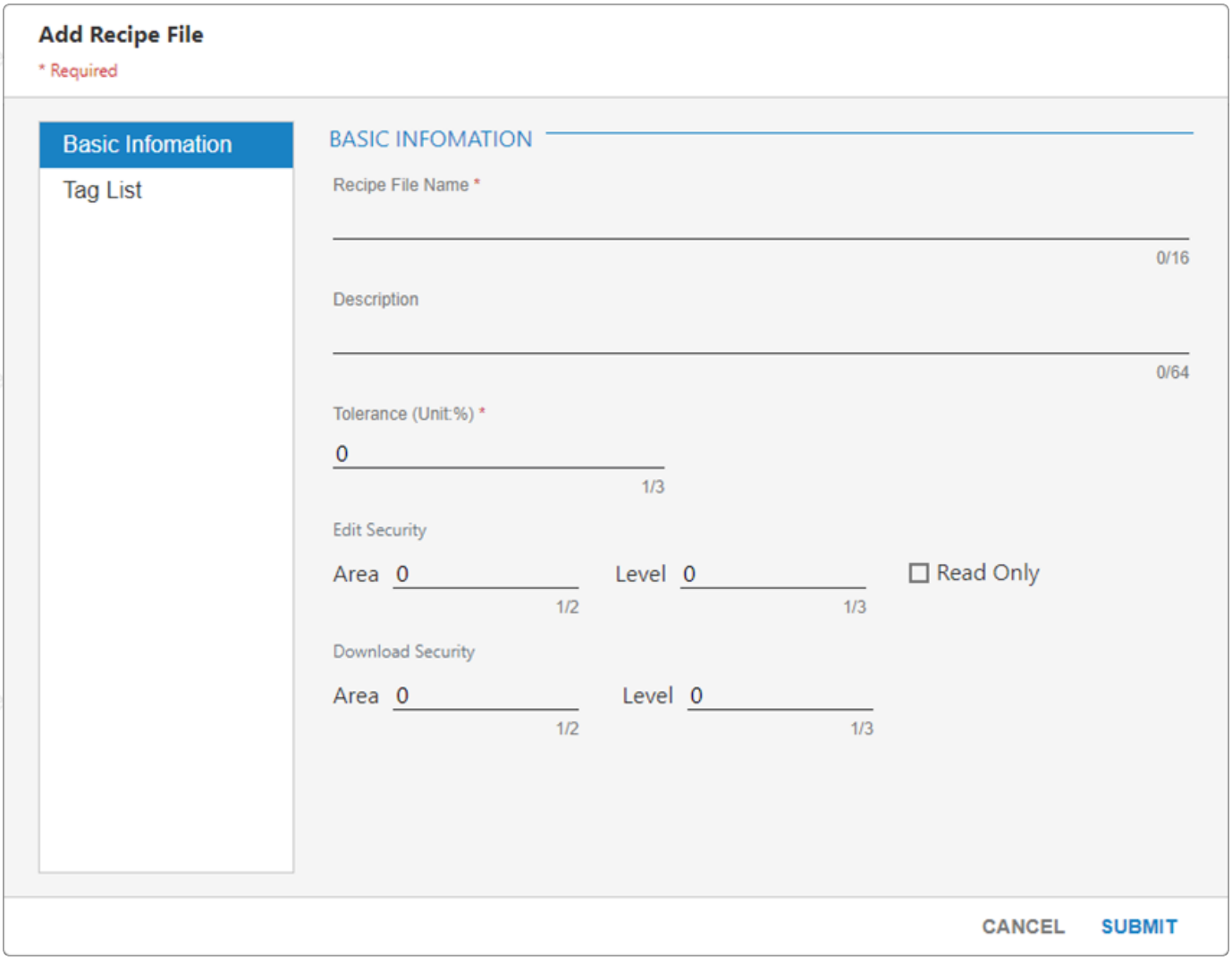
1. Select your Project and the SCADA Node.
2. Click **More** classification on node bar, then select **Recipe**.



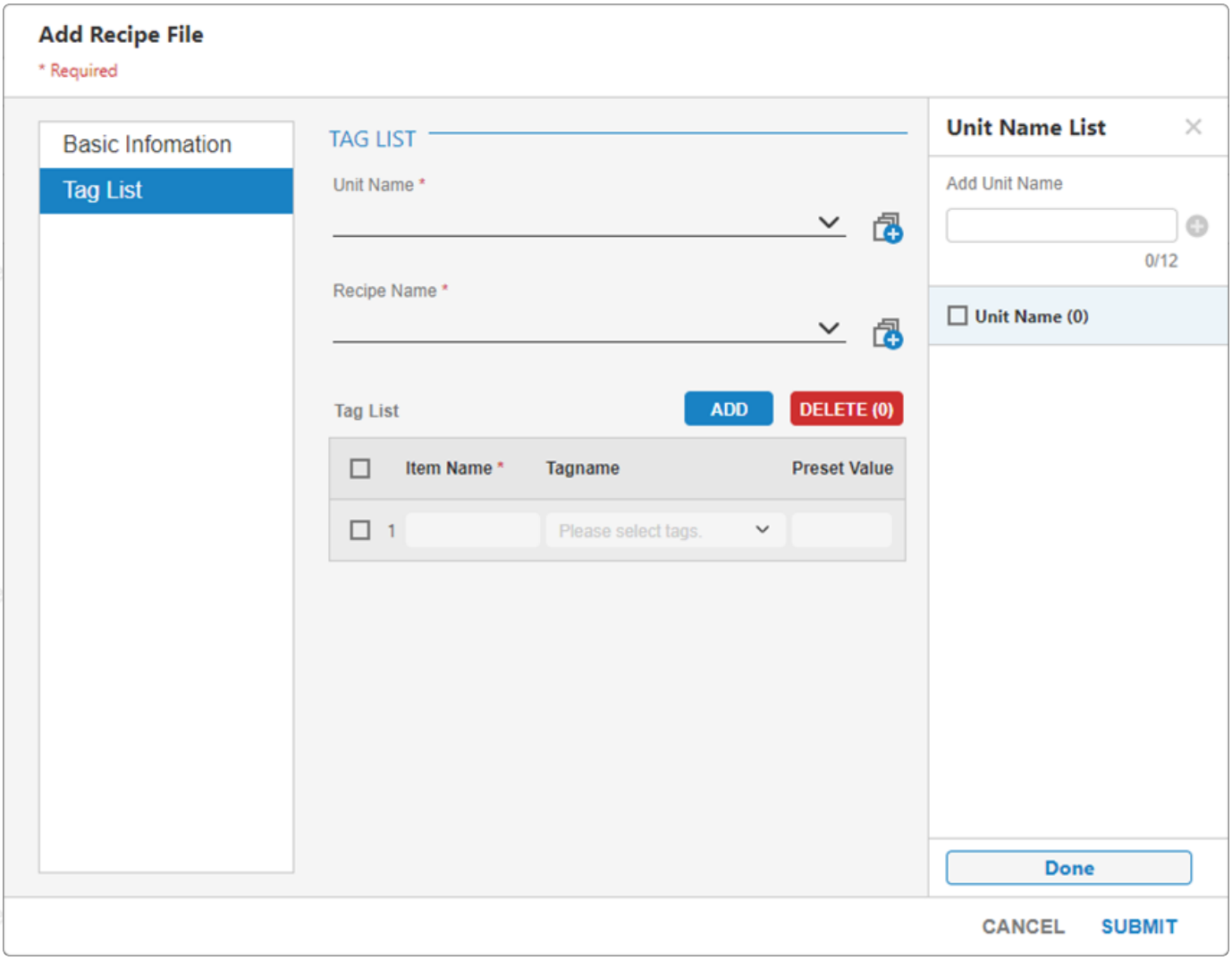
3. You will see the **Recipe List**.



4. Select **Insert Recipe File.**
5. The Recipe configuration page appears.



WebAccess/SCADA



6. Recipe File Name. Enter a name that will appear in dialog boxes and displays in run–time View.
7. **Tolerance.** Enter a numeric value (in % of full scale) that will generate a recipe error after download. Tolerance is in % of full scale (SpanHi – SpanLo). A zero value means that the tag must match the preset exactly. Tolerance is used to account for the variation in the representation of numbers in the field device (e.g. 12–bit devices), the accuracy of IO and the conversion to/from engineering units. For example, if you download a 1.9 to some devices, round–off or other representation errors will result in a 2.0 reported.
8. **Edit Security.** Enter the Area and Level required of a User to change a preset value in this recipe. Read Only prevents all users from changing the preset values in a recipe. Read Only allows users and operators to download the recipe, but not edit it. This applies to all recipes in this recipe file.
9. **Download Security.** Enter the Area and Level required of a User to download this recipe to field device. This applies to all recipes in this recipe file.
10. **Unit Name.** The Unit can be any name, but usually corresponds to a physical device (for example MixTank1, MixTank2, MixTank3 etc.) Equipment Lineup and Process Unit are other

terms for Unit. The Unit will consist of a group of tags. When Operators or Users select the Unit in Run–time, the Tags to be downloaded will change to those associated with this unit. There can be multiple units assigned to the same recipe file allowing the same recipe to be used by different groups of tags. By defining multiple Units, the same recipe can be downloaded to different groups of tags by operators and users. In selecting a recipe, operators select the recipe and unit to download.

11. Recipe Name. A recipe is a group of Preset Values. This allows dozens or hundreds of tags to be changed with a single button push. These can be numbers or text. Operators and users during run–time will select the desired recipe to download. A recipe contains the list or pre–set values defined by an engineer that will be downloaded using a single button push. Multiple recipes are the most common usage. For example, if you are mixing paint, each recipe might represent a different color of paint. The Pre–set Values will the amounts of each component color used to make the final color.
12. **Item Name**. Enter a descriptive name to help understand the tags in the recipe. Item names are usually ingredient names. Tag names are usually structured (like FI101:SP). Item Names are usually descriptive (Flour, Water, Blue Dye, Red Dye, etc). The item names remain the same for all recipes in a recipe file. The tag names will change depending on the Unit selected. The pre–set values will change depending on the Recipe selected.
13. **Tag Name**. These are the physical IO tags that are associated with this recipe process Unit. For example, if the Unit is Tank1, then all the tags would normally be IO tags associated with Tank1 in the field. These can be Analog, Discrete or Text tags, IO tags, Block Tags, Constant Tags even calculation or accumulation tags. For Block tags, the full name must be specified (Blockname : parameter).
14. **Tag List**. Tag Names can be selected from a Pull Down List or typed.
15. **Submit**. Press submit to enter the data changes. Press cancel to abort any changes. Delete will delete the entire recipe file including all units and all recipes in that file.
16. There are two ways to download these changes to the SCADA Node (this will not download to the PLC or field device):
    a. **Download and Restart the SCADA node** from the **SCADA Node properties** page. If you have never downloaded the SCADA node before, then this is required. This will temporarily stop the SCADA node (if it is running).
    b. Use the Download hyperlink on the **Recipe List** Page. This will download changes to the Recipe without stopping the SCADA node
    c. **Tag List**. The items in the recipes and units in this recipe file. To add more Items to your recipe, click ADD button.

5.21.2 Configure or copy a Unit or Recipe Name

To add another Recipe Name or Unit Name to a Recipe File, just type a new Name for the Recipe or Unit and click add icon then click "Done". This will actually make a copy of the original Unit

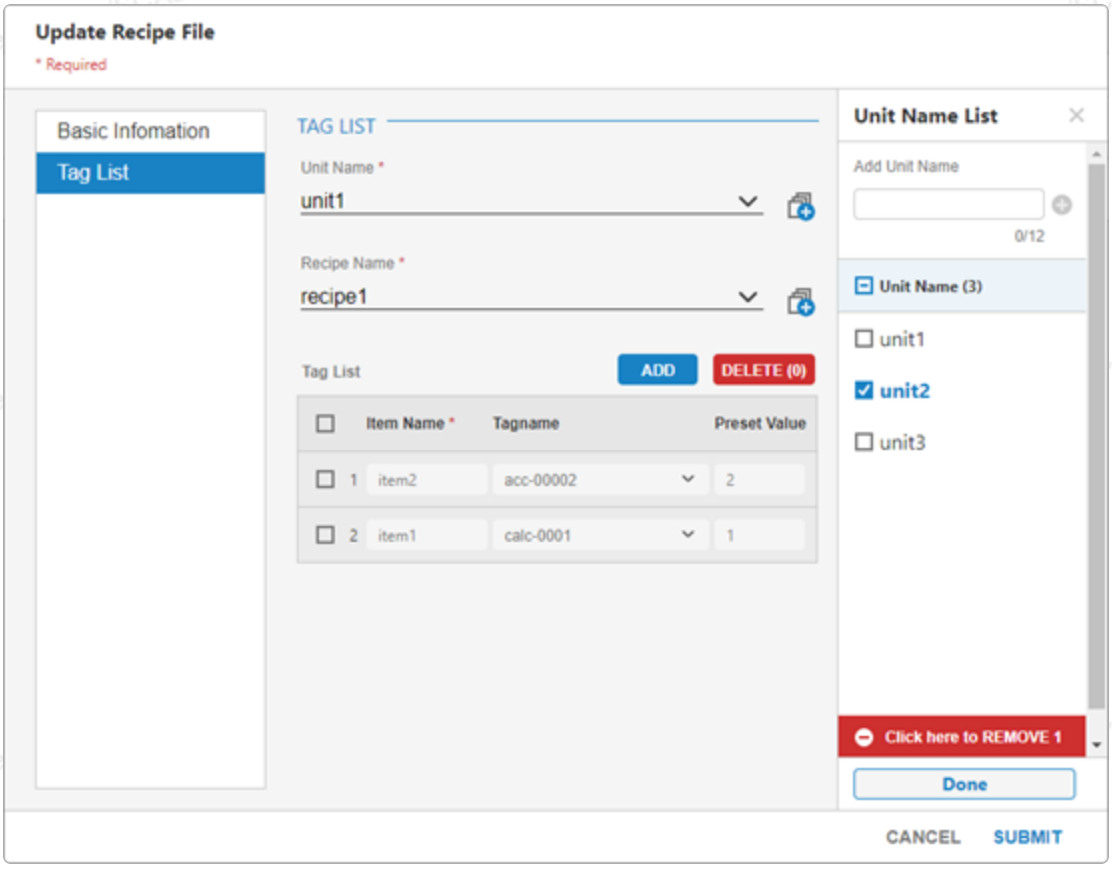
or Recipe that was selected.
For a new Unit, edit the Tag Names.
For a new Recipe Name, edit the Preset Values.
Remember to press "Submit" when you are done.

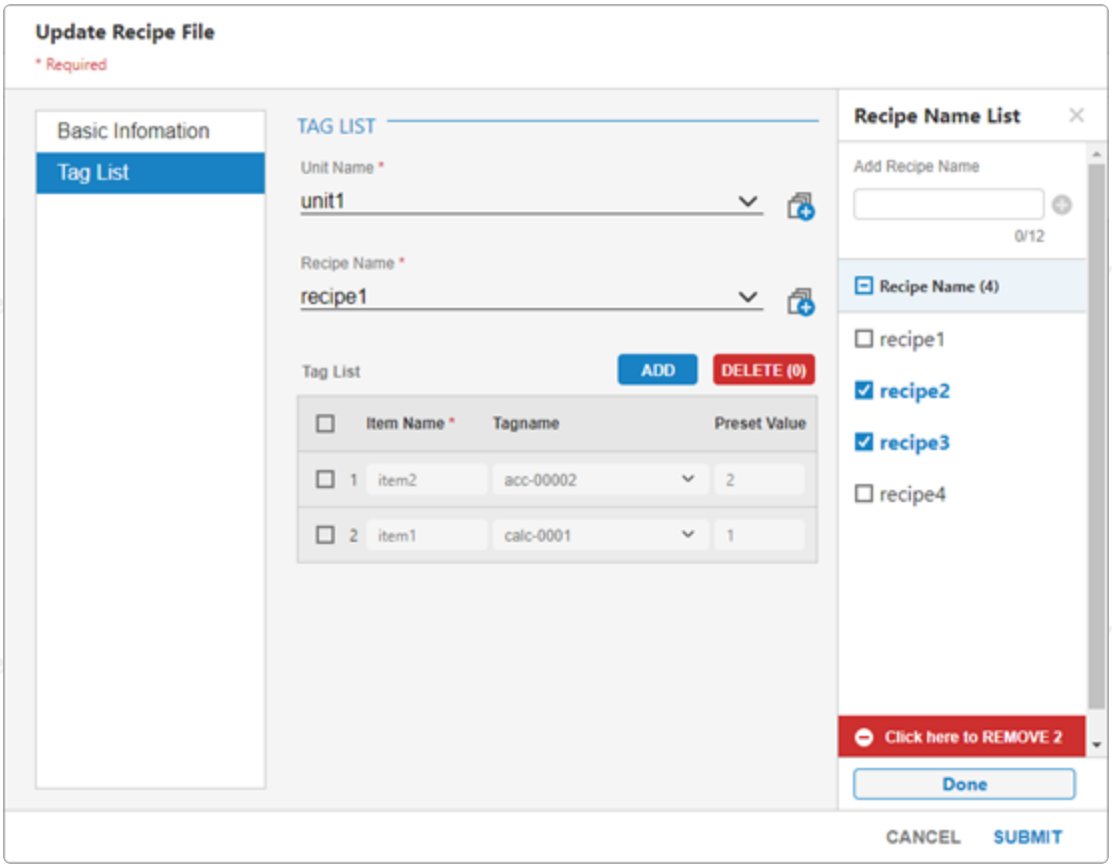
5.21.3 Rename a Unit or Recipe Name

You actually make a copy of the Unit or Recipe Name with the new name. Just select the Unit or Recipe, type a new name and click add icon then click "Done".
You can **Delete Unit Name** or **Recipe Name** from the **Unit Recipe List** or the **Recipe Recipe List** if you want to remove the old Unit or Recipe Name from Recipe Lists.

5.21.4 Delete a Unit or Recipe

To Delete a Unit or a Recipe from a Recipe File, select the Recipe from **Recipe List** then select **Unit Names** or **Recipe Names** and click the remove bar at the bottom of the list.





You will be given a list of each Unit in every Recipe File or a list of Each Recipe Name in every Recipe File.

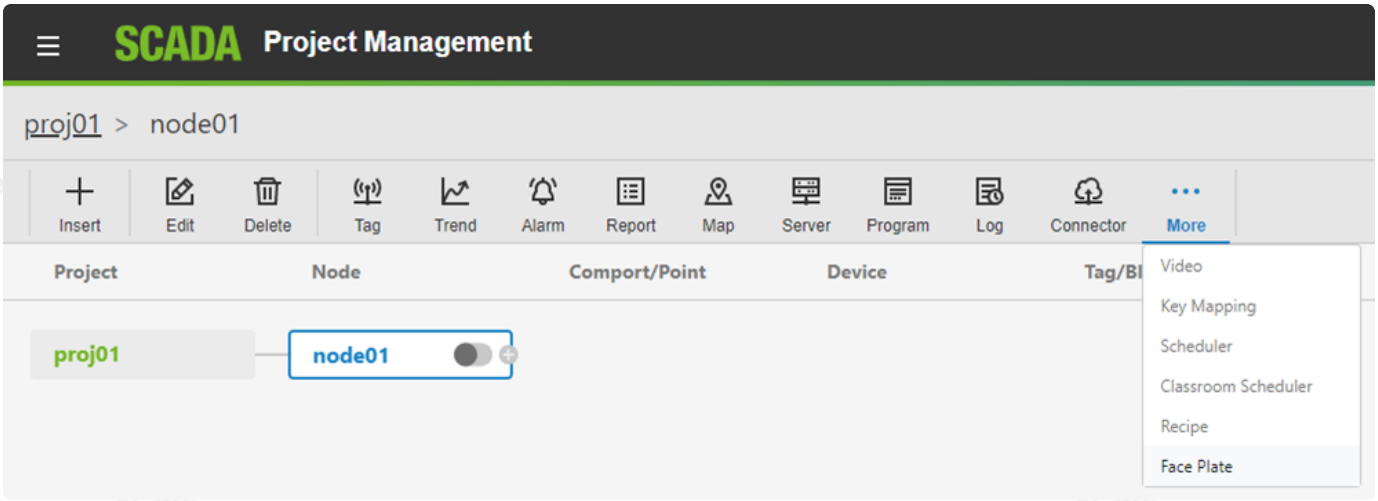
5.22 Faceplate

5.22.1 Add Faceplate Group

This section assumes you have already created the BLOCKS and TAGS you plan to add to your Faceplate Groups and Overview Group Displays. You can type in the Tag Names and Block Names of tags and blocks you plan to build.

This section assumes you have started Internet Explorer web browser and connected to your Project Node.

- Select your **Node** on **Org chart**.

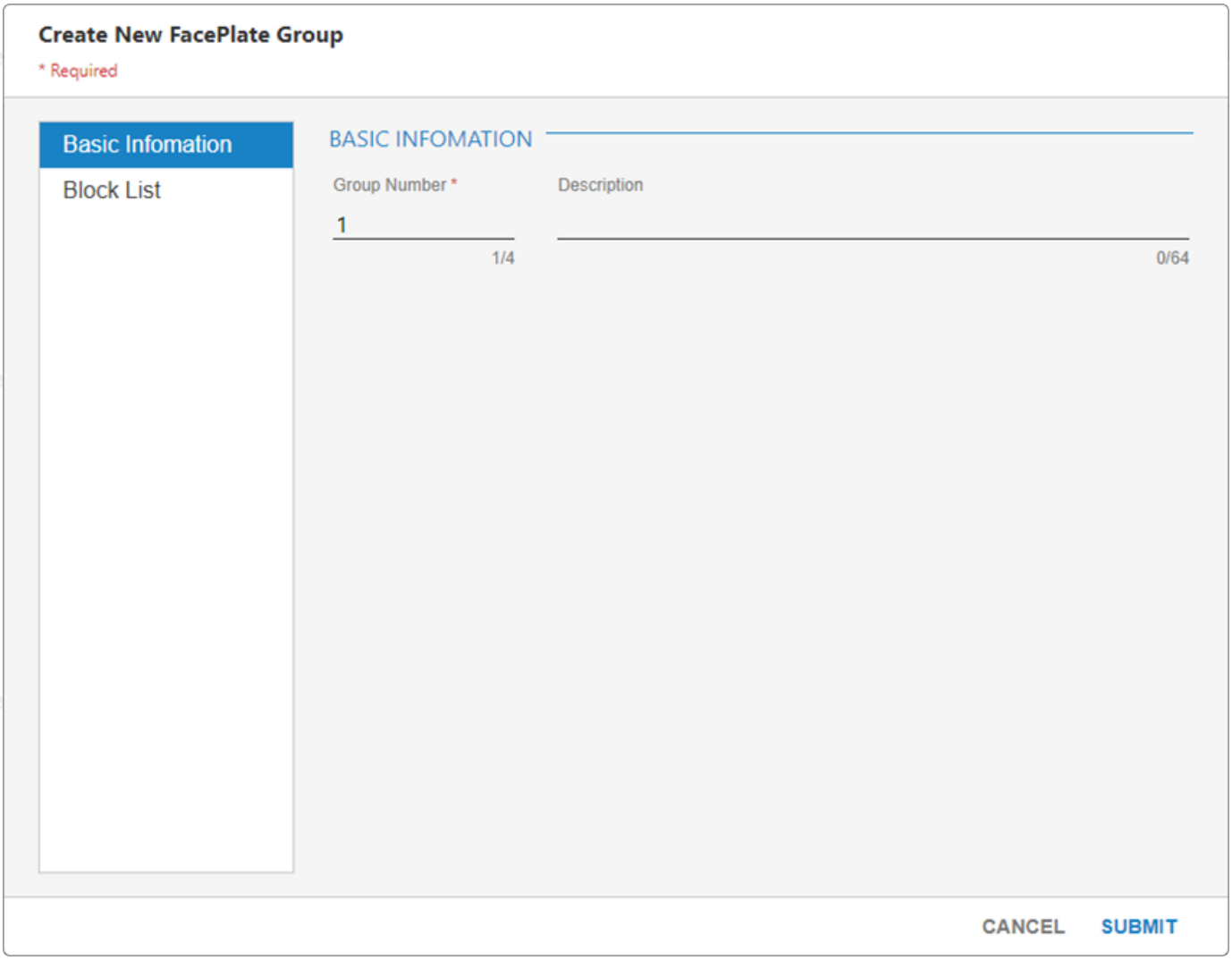


- Select **Faceplate**. The **Faceplate Group List** Page appears.

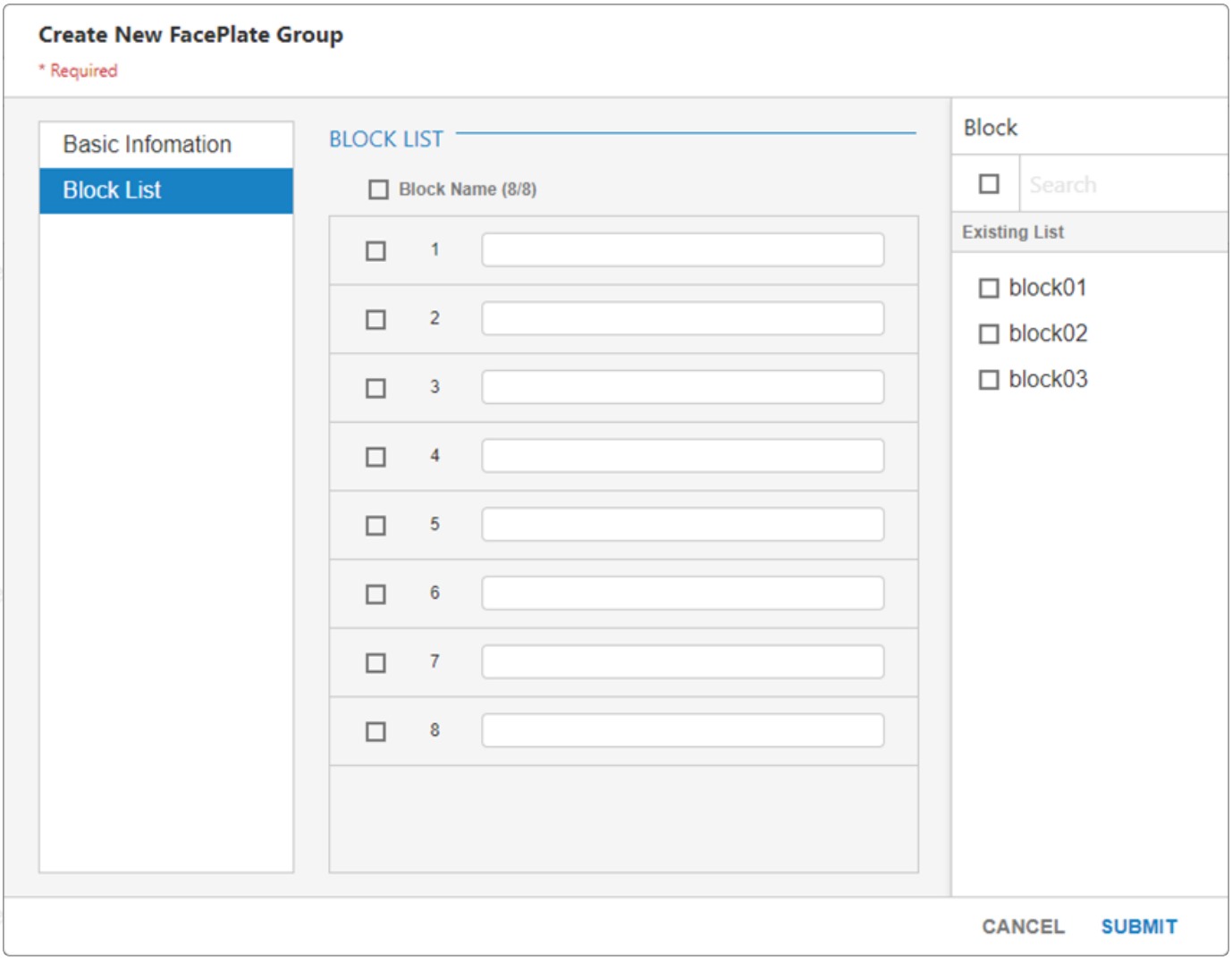
- Select **Insert Faceplate**.

- The **Create Faceplate Dialog** appears.

WebAccess/SCADA



WebAccess/SCADA



- Enter a Unique Group Number (between 1 and 1000). This is how the Group will be ordered in the Faceplate Group Dialog Box in View and the Position on the Overview Display Group.
- Enter a **Description** for the group. This will appear in the Faceplate Group List Dialog Box seen by users and operators in VIEW.
- **Tag List** (Figure 5–30) shows the names of all Analog Tags and Discrete Tags. Lists both Blocks and Tags
- Select the Block Name or Tag Name desired then click the add bar at the bottom of the list. The Block or Tag name should appear on the **Block List**.
- You can Type Tag names and Blocks. You can also copy and paste Tag Names and Block Names from the Right List of dialog card (be sure to type block name with parameter).

If you want to enter a Block, type only the Block Name. For example, enter **TIC101.** This will show all parameters for the block.

> Note – If you enter the full Blockname:parameter, only that one parameter would appear. For example entering TIC101:MEAS would not show the other parameters for the block TIC101.

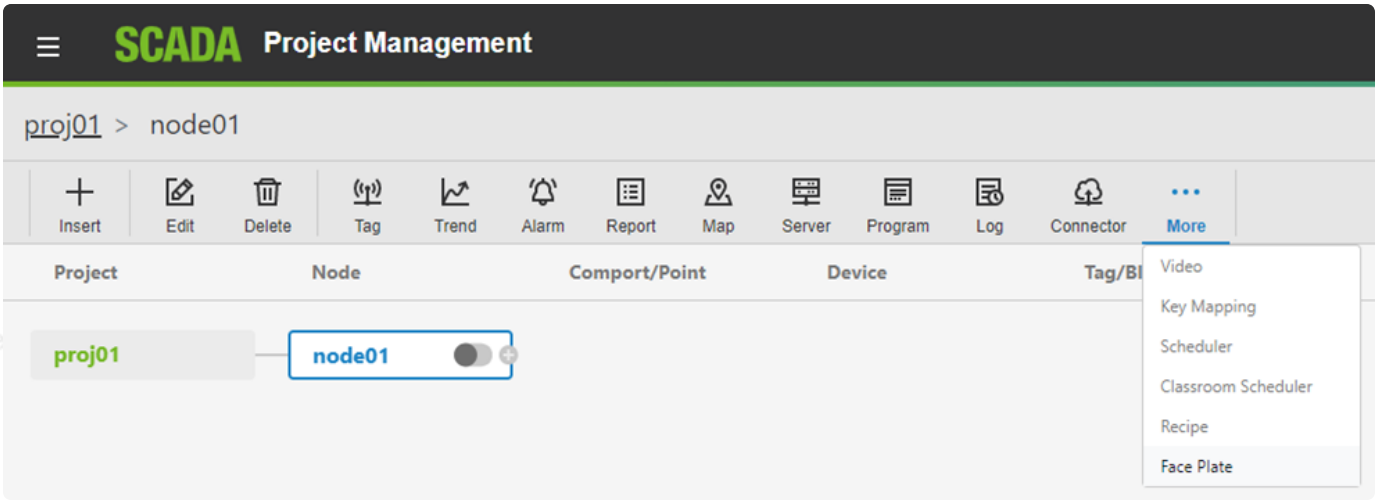
- Click **Submit** when you are finished.

5.22.2 Modify a Faceplate Group

This section assumes you have already created the BLOCKS and TAGS you plan to add to your Faceplate Groups and Overview Group Displays. You can type in the Tag Names and Block Names of tags and blocks you plan to build.

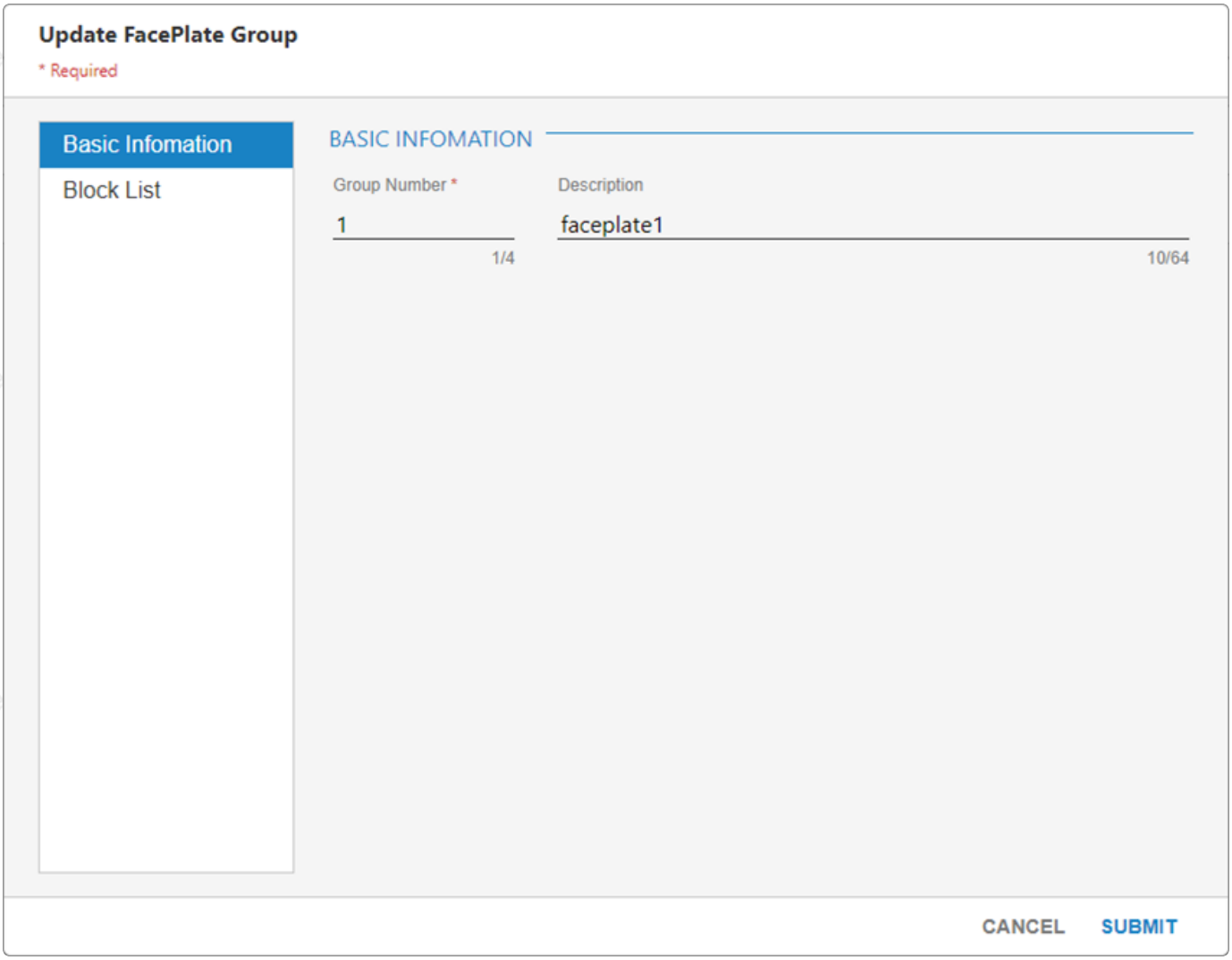
This section assumes you have started Internet Explorer web browser and connected to your Project Node.

- Select your **Node** on **Org chart**.

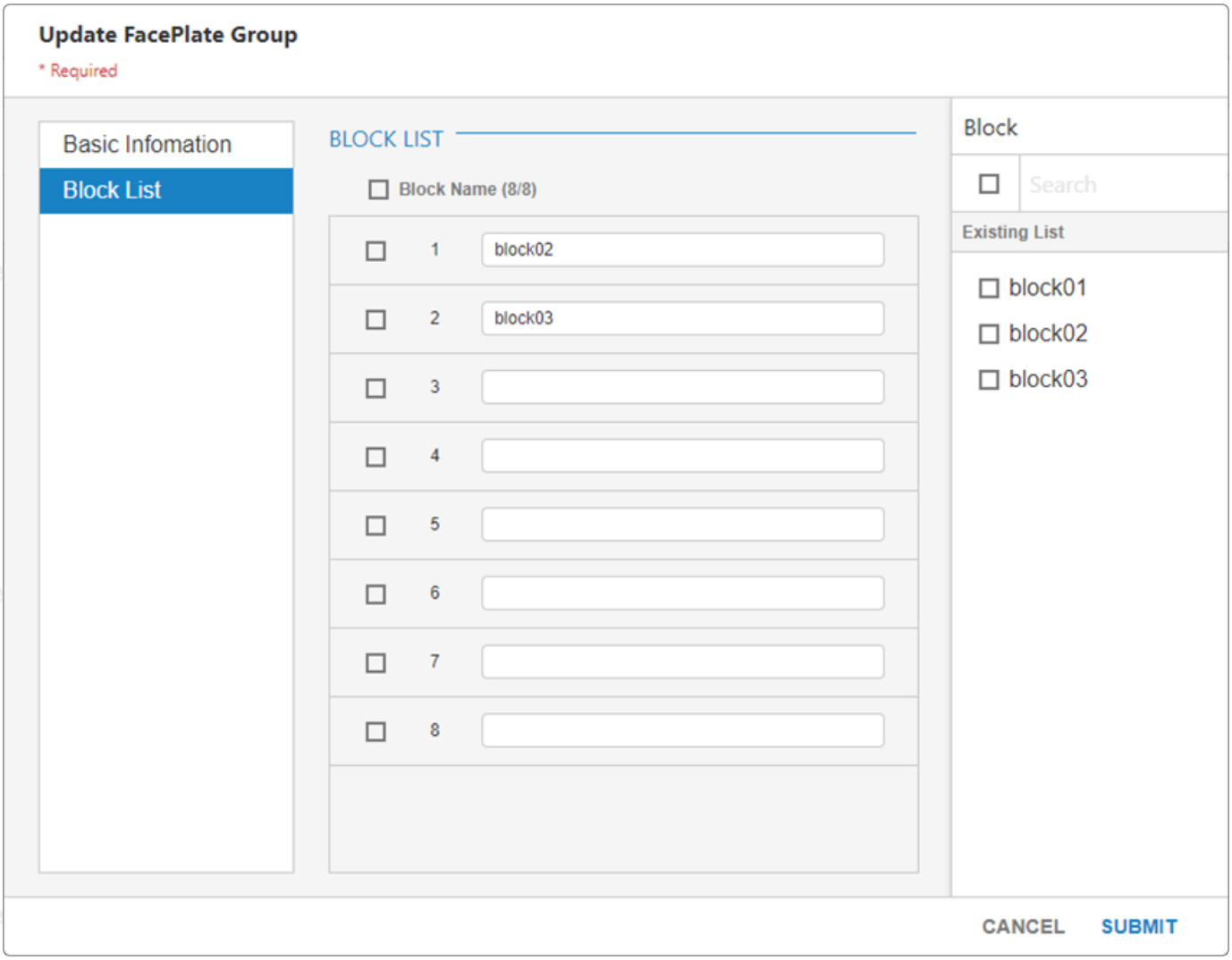


- Select **Faceplate**. The **Faceplate Group List** Page appears.

- Select **Edit** of the Faceplate Group you want to modify.
- The Update Faceplate Group dialog opens.



WebAccess/SCADA



- **Tag List** (Figure 5–30) shows the names of all Analog Tags and Discrete Tags. Lists both Blocks and Tags.
- Seletct the Block Name or Tagname desired then click the add bar at the bottom of the list. The Block or Tag name should appear on the **Block List**.
- You can Type Tag names and Blocks. You can also copy and paste Tag Names and Block Names from the Right List of dialog card (be sure to type block name with parameter).

If you want to enter a Block, type only the Block Name. For example, enter **TIC101.** This will show all parameters for the block.

> Note – If you enter the full Blockname:parameter, only that one parameter would appear. For example entering TIC101:MEAS would not show the other parameters for the block TIC101.

- Press **Submit** when finished making changes to your Faceplate Group.

5.23 EXCEL IN & EXCEL OUT

The database export and import to EXCEL (EXCEL IN and EXCEL OUT) allow users to modify Tags and Blocks in EXCEL using copy, paste, edit and other EXCEL tools.
The EXCEL OUT function is used to transfer Tag and Block configuration information to an EXCEL Spreadsheet. EXCEL OUT exports all the Tags and Blocks for one SCADA Node to an EXCEL workbook. After exporting the SCADA Node's Tag database, you can modify the Tags and Blocks by editing the entries or creating additional records (rows).
EXCEL IN imports the modified Tag database back into any SCADA Node in any Advantech WebAccess/SCADA Project.
The most common use of EXCEL is to copy and paste recurring values to a group of tags (for example, copy DEGF as the EUNIT for all Temperature Tags).
The recommended method of using an EXCEL spreadsheet to edit tags is to first configure tags (and or Blocks) using the standard Advantech WebAccess/SCADA ASP pages. These will act as "templates" that you can export to EXCEL (EXCEL OUT).
Users can add new Tags and Blocks by copying existing tags or blocks, inserting the copied rows, then editing the copy to make unique tag and block names. The address must also be changed to match the actual address in the field device.
Note also that each EXCEL worksheet has a limit of 65,536 rows (i.e. tags). If your database is large, and any one tag–type exceeds 65,000 (e.g. analog tags exceed 65,000) on one SCADA Node, you might consider working on the Access database directly.
EXCEL IN and EXCEL OUT export and import to the PROJECT NODE. You can initiate EXCEL import/output from any client, but the EXCEL spreadsheet will be created on the Project Node. If you are working from a client, you can download the EXCEL workbook (spreadsheet) using your web browser. To download the EXCEL spreadsheet (workbook) to a client, open a Web Browser and entering the IP address of the Project Node with the broadweb/excel path and the name of the Excel workbook you created. For example, to download from the Live Demo the bwCfgExport.XLS, type:
http://www.advantech.com.cn/eAutomation/WebAccess/index.asp
If you are working from a Client, and would like to copy the modified EXCEL workbook back to the Project Node, you will need access to a shared folder on the project node or FTP should be enabled on the project node with privileges to write to the ftp server. Then, you could use EXCEL IN, browse to the shared folder or FTP server's folder and import the EXCEL spreadsheet using EXCEL IN. EXCEL 97 and EXCEL 2000 are supported by the EXCEL import functions.
EXCEL IN requires the **Project Name and SCADA Node name match the target project and node.** You must rename the Project and SCADA Node columns in all the sheets (BwAnalog, BwDiscrete, BwAlarmAnalog, etc.) if you are copying a node to a new node name or project.
When importing tags to a SCADA Node, **the Comport and Device specified must already exist in the target Node Configuration,** EXCEL IN imports only Tags and Blocks, it does not create SCADA Nodes, comports or devices.
CAUTION: BACKUP your PROJECT BEFORE using EXCEL IN! Importing a database to a Advantech WebAccess/SCADA project will overwrite the configuration data in the original

project's SCADA Node. Before you import data to an existing database, be sure you backup your database so that you have the option to restore the database to its original form if required.

When you export, you can define any name and path for your EXCEL Workbook (i.e. spreadsheet). Advantech WebAccess/SCADA will create a new Workbook with spread sheets named: BwAnalog, BwDiscrete, BwText, BwCalcAnalog, BwCalcDiscrete, BwAcc. BwAlarmAnalog and BwAlarmDiscrete. The utility also creates three blank spreadsheets, sheet1, sheet2, and sheet3 that you can use for any purpose.

BwAnalog – contains all Analog type IO Tags, Analog Block Tags (Parameters) and Constant Tags. Analog tags have real numbers as their value (e.g. 100.1, 0.0, 1955). These are distinguished by the "Tag Type" column:

Tag Type	Description
3	Constant Tag – analog type
6	IO Tag – analog type
b	Block Tag Parameter – analog type

Constant Tags usually have a blank address fields.

BwDiscrete – contains all Discrete type IO Tags, Discrete Block Tags (Parameters) and Discrete Constant Tags. Discrete tags have integers as their value (0 to 7). Digital tags (ON / OFF, True/False, 0/1) are considered discrete. These are distinguished by the "Tag Type" column:

Tag Type	Description
4	Constant Tag – discrete type
7	IO Tag – discrete type
b	Block Tag Parameter – discrete type

Constant Tags usually have a blank address fields.

BwText – contains all Text type IO Tags, Text Block Tags (Parameters) and Text Constant Tags. Text tags have text strings as their value (e.g. ASCII strings).

Tag Type	Description
5	Constant Tag – text type
8	IO Tag – text type
b	Block Tag Parameter – text type

Constant Tags usually have a blank address fields.

BwCalcAnalog – contains all Analog–type Calculation Tags. Analog tags have real numbers as their output value.

BwCalcDiscrete – contains all Discrete–type Calculation Tags. Discrete tags have integers as their output value (0 to 7). Digital tags (ON / OFF, True/False, 0/1) are considered discrete.

BwAcc – contains all Accumulation Tags.

BwAlarmAnalog – contains all Alarms for Analog–type tags. The corresponding tag must exist in one of the BwAnalog, BwCalcAnalog or BwAcc worksheets.

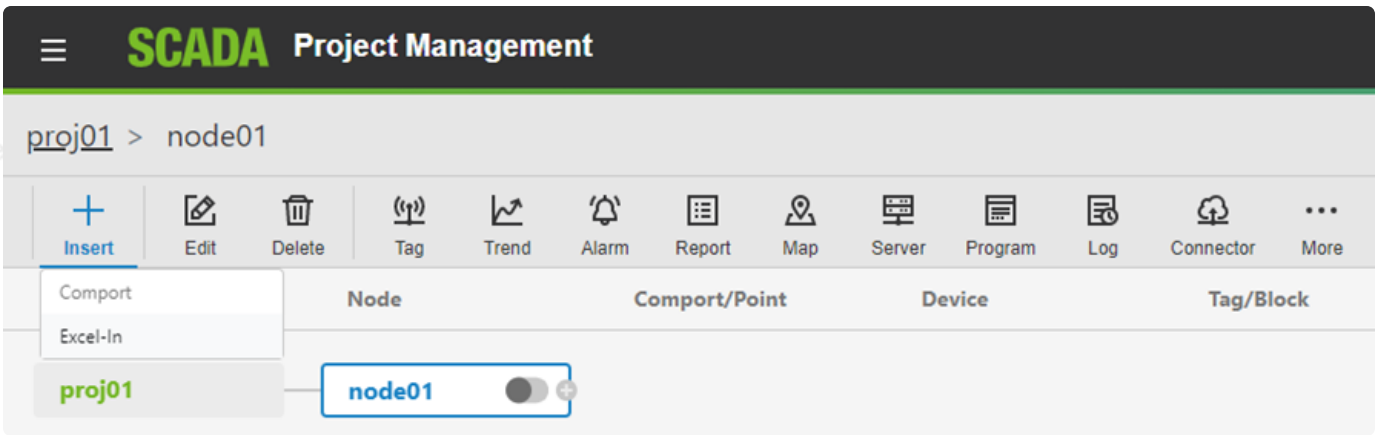
BwAlarmDiscrete – contains all Alarms for Discrete–type Tags. The corresponding tag must exist in either the BwDiscrete or BwCalcDiscrete worksheets.
If you use the default path and filename for EXCEL OUT, Advantech WebAccess/SCADA copies the previous EXCEL spreadsheet that was exported to the backup folder on the Project Node.
To simplify the process of configuring a Advantech WebAccess/SCADA database, you can use EXCEL IN to export the Tag database to EXCEL, edit the exported file and import it back to any Advantech WebAccess/SCADA project.
Importing data can only be done if there are valid worksheet names with valid column names. Typically, data is first exported from Advantech WebAccess/SCADA to an external spreadsheet to create the appropriate worksheets and columns. The data can then be imported back into Advantech WebAccess/SCADA.

5.23.1 EXCEL IN Example

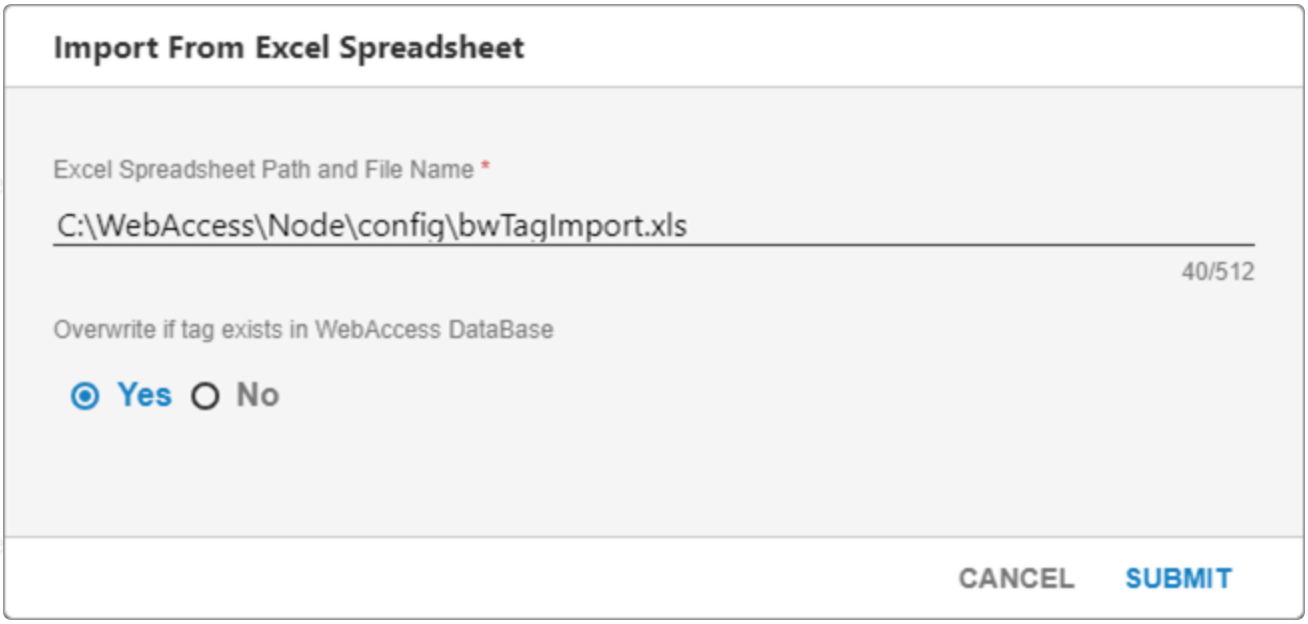
EXCEL IN – imports Tags from EXCEL Spreadsheet. EXCEL IN allows tags to be imported into the Project or another project.
It is recommended to create tags only by copying tags already exported using EXCEL OUT.
EXCEL IN imports an EXCEL Worksheet on the Project Node. You must be on the Project Node or the Project Node must have access to a Shared Drive to import this EXCEL Worksheet.
The Project Name and SCADA Node name for the Tags you want to import from the Worksheet must match the Project and SCADA node you are importing to.

To import Tags from EXCEL

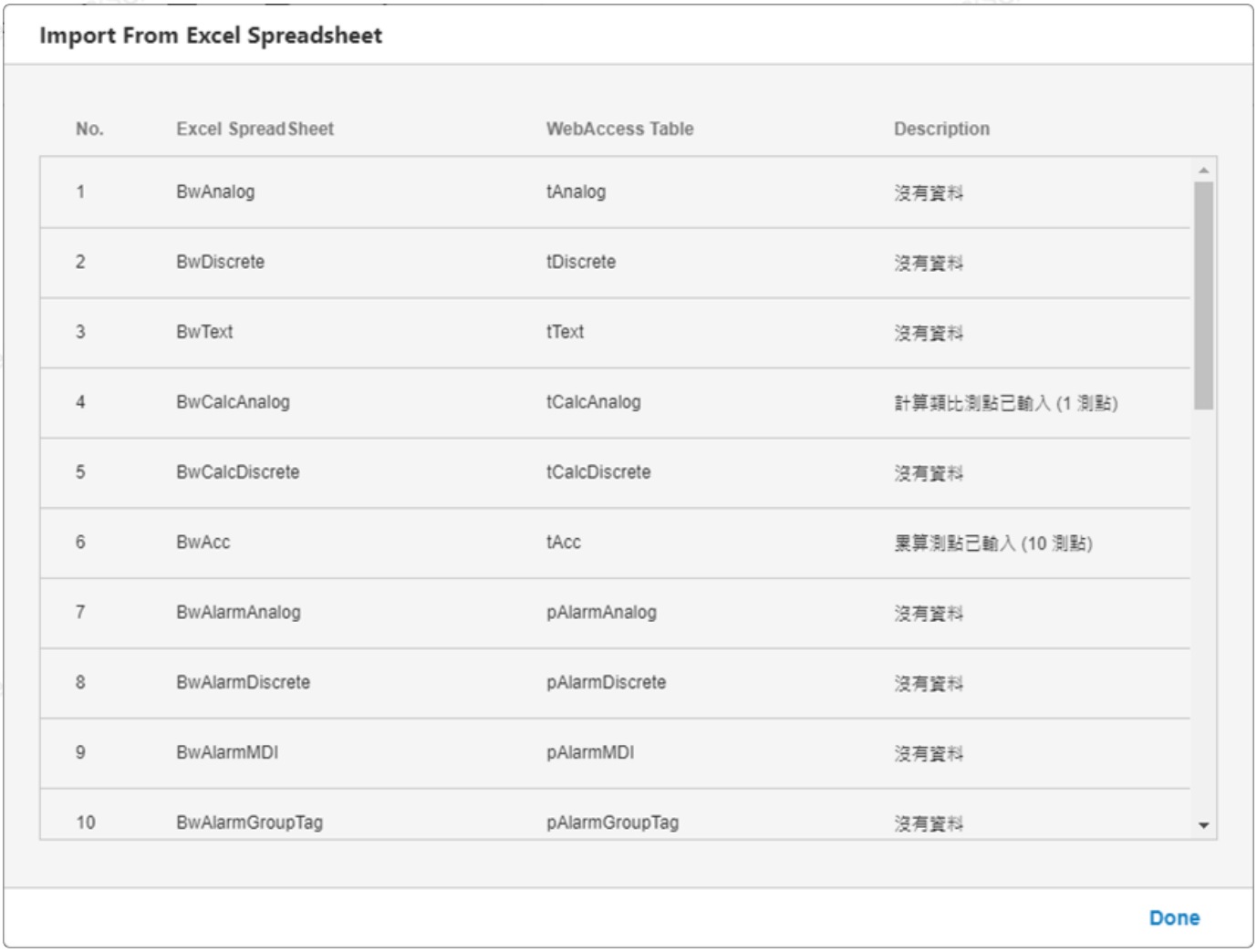
1. Select your Project and SCADA Node.
2. Click **Insert** classification on node bar, then select Excel–In.



3. Optionally modify the path and file name of the EXCEL Worksheet. (note – this must be located on the Project Node).



4. Select **No** if you want only to insert new tags without overwriting existing tags.
5. Press **Submit**.
6. A page appears listing Tags imported from Excel.



7. Optionally, Print the list.
8. Press **Done** when finished.

The new tags should appear in the Project Under your SCADA node.

Common Errors

- An entire Column was pasted. This will create 65,535 rows of mostly empty data and will result in a very long time to import via EXCEL IN. The web server may timeout resulting in no imported tags.
- B. File name is not correct.
- C. The original EXCEL OUT saves as bwTagExport. It will be overwritten the next time EXCEL Out is used and will erase your work
- D. The worksheet is on the Project Node. If you are on a remote client or remote SCADA node, you will not be able to see the exported worksheet. Contact your system administrator to Map a network drive or have an FTP service set up on the Project node that you can access.
- E. The Project or SCADA node name in the EXCEL spreadsheet does not match the Project or SCADA Node you are importing to.
- F. The leading Apostrophe (' or single quote))is omitted from a cell or multiple cells. On newer versions of EXCEL ODBC driver (EXCEL 2000 and later) you can correct this problem by formatting the cells with the missing Apostrophe (') as Text.
  Format –> Cells –> Number Tab –> Text.

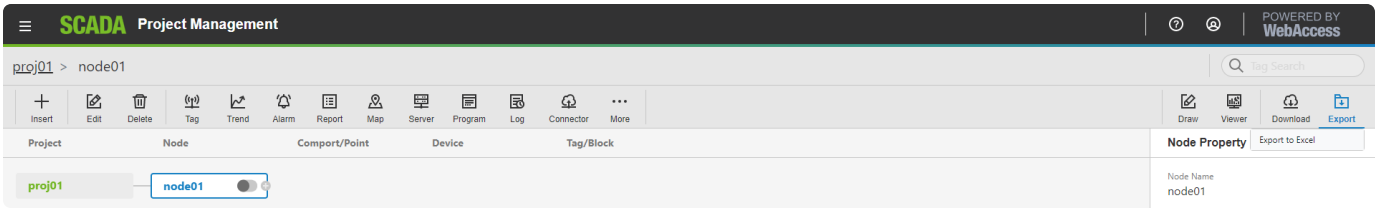
The page of the EXCEL IN expects data to be formatted as text, including numbers. The leading apostrophe and Format –> Cells –> Text both are interpreted by the ODBC driver a text.

5.23.2 EXCEL OUT Example

EXCEL OUT – exports the Tag Database of a SCADA node to an EXCEL Spreadsheet on the SCADA node, to allow editing of the tags and adding new tags by copying existing tags. EXCEL IN allows those changes to be imported into the Project or another project.
It is recommended to create tags only by copying tags already exported using EXCEL OUT.
EXCEL OUT creates a EXCEL Worksheet on the Project Node. You must be on the Project Node or have access to a Shared Drive or an FTP directory on the Project Node to edit this EXCEL Worksheet.

To export Tags to EXCEL

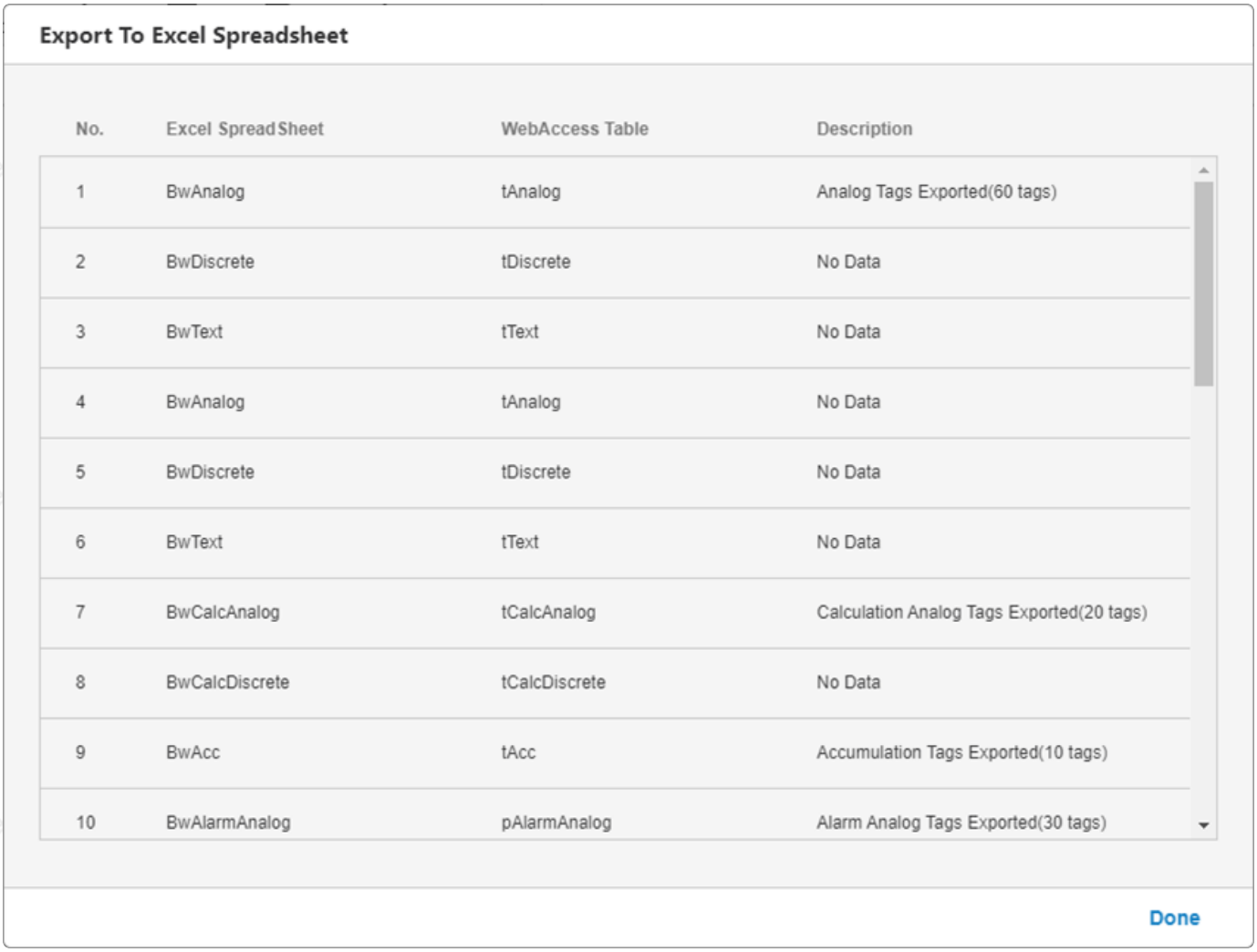
1. Select your Project and SCADA Node.
2. Click **Export** classification on node bar, then select Export to **Excel**.



3. Optionally modify the path and file name of the EXCEL Worksheet. (note – this will be located on the Project Node)

4. Press **Submit**.
5. A page appears listing Tags exported to Excel.

WebAccess/SCADA



6. Optionally, Print the list.
7. Press **Done** when finished.

Open EXCEL on the Project Node to edit the file named in step 3 above

6. WISE-PaaS/Dashboard

6.1 Login

6.1.1 Login on Home Page

Select **WISE-PaaS Dashboard** on platform.

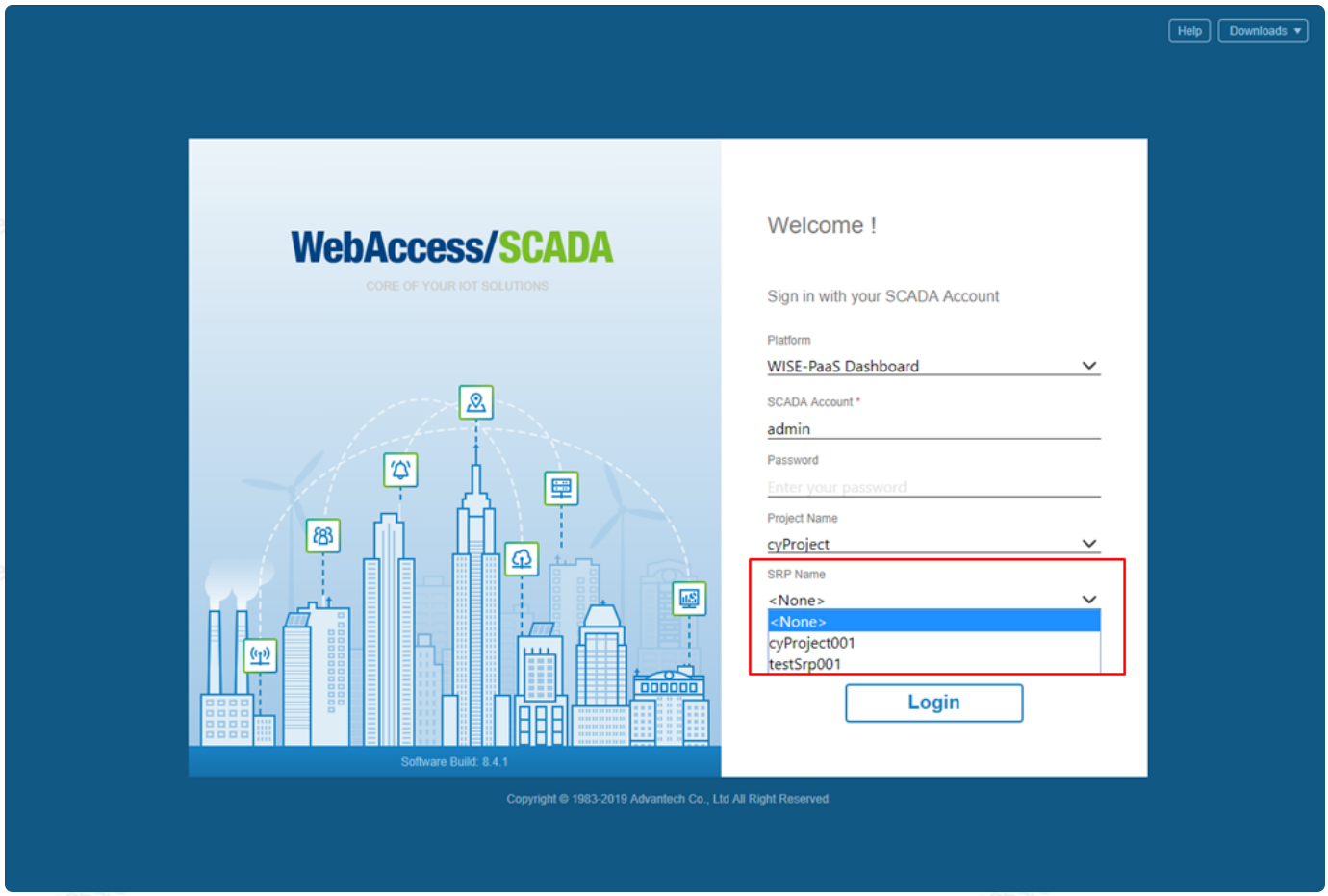
> *Note – This option is available when **WISE-PaaS Dashboard is installed.***

Enter your account and password, then choose **Project name**.

If you want to remember your account on your browser, please tick the **Remember me** option.

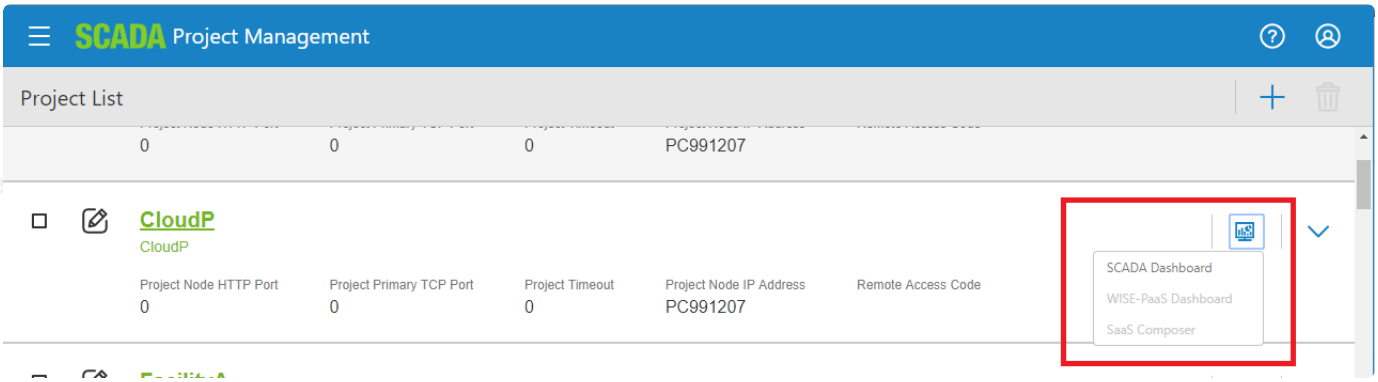
The option SRP Name is a function that can help you login to WIESE–PaaS Dashboard SRP–Frame page directly. After selecting <None>SRP–Frame name and logging in, the page will be directed to WIESE–PaaS Dashboard page. Otherwise, the page will be directed to the SRP–Frame you selected.

Before using this feature, you must first configure it in WebAccess Project Management / Setting / Dashboard SRP Frame Setting. The SRP name list will appear when you select the corresponding project name.



6.1.2 Login on Project List Page

Click **Monitor icon** which in project block you want to login on Project List page.



Select **WISE-PaaS Dashboard** in the drop down list.

> Note: This options is available when **WISE-PaaS Dashboard is installed**.

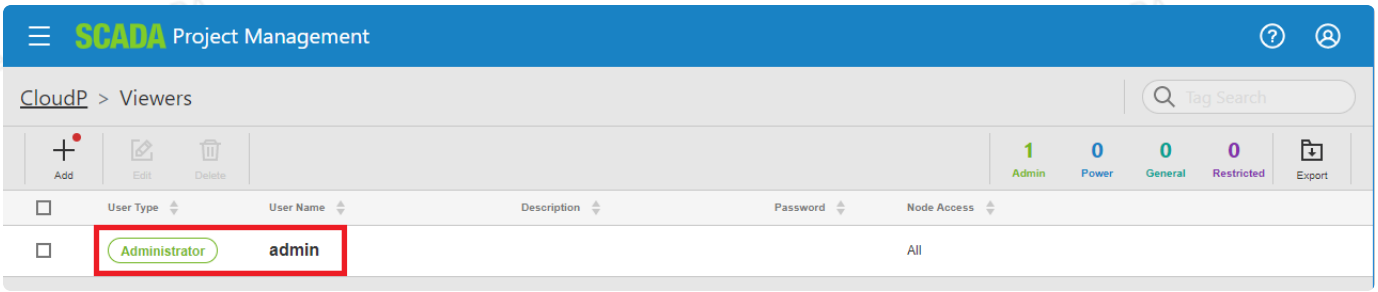
It will use the current account and the project to login **WISE-PaaS Dashboard.**

6.2 User Management

The WISE-PaaS Dashboard user has three role: server admin, org admin and org viewer.

6.2.1 Server Admin

Only the **WebAccess admin** owns server admin role.

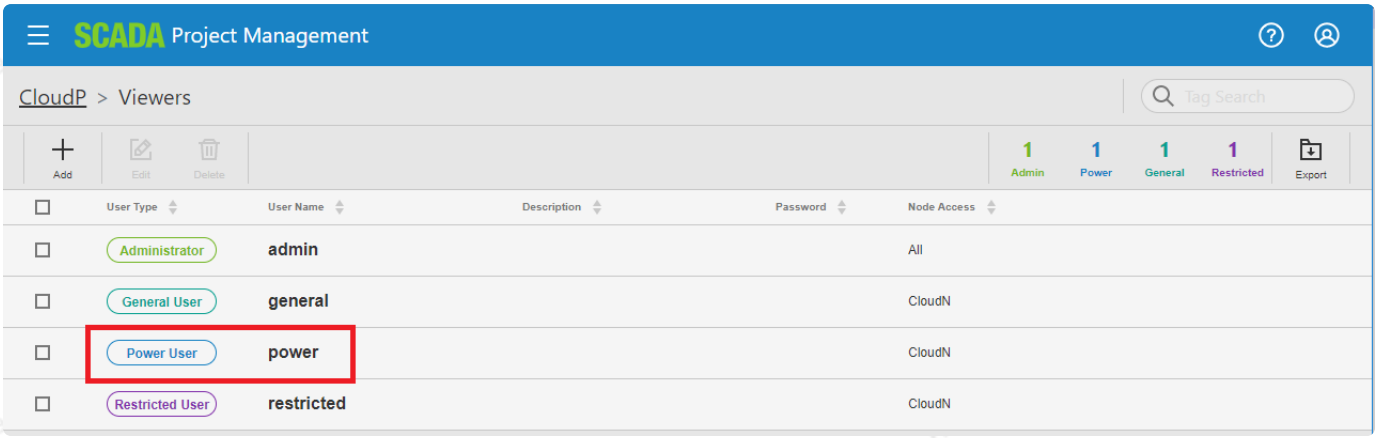


This role can do everything to every organization. For example:

- Add & Edit data sources.
- Add & Edit Dashboard.
- **Switch organization**.
- Configure **Server Admin Settings**.

6.2.2 Org Admin

Only the **WebAccess power user** owns org admin role.



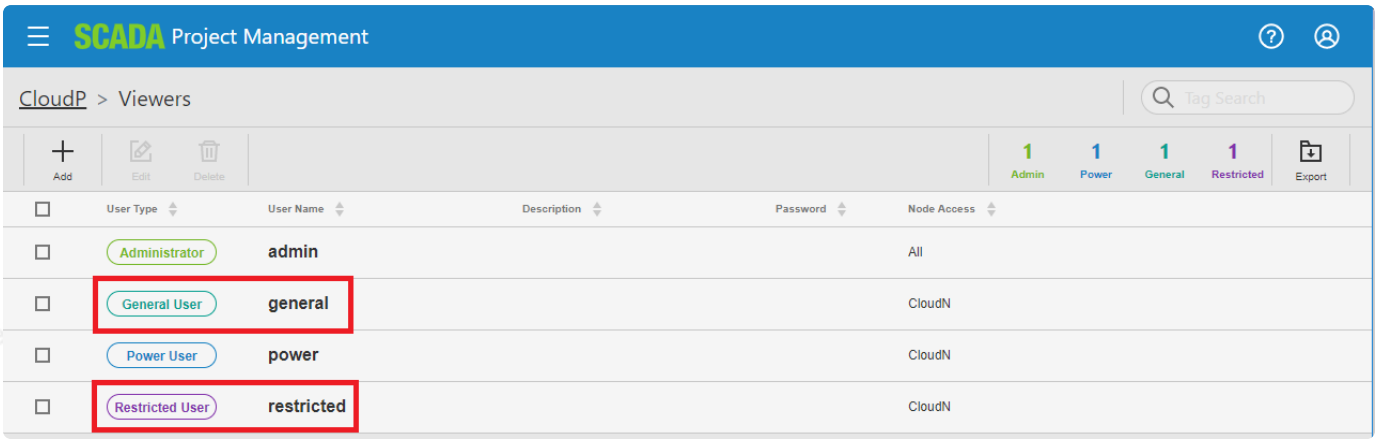
> Note: The org admin user belongs **only** to the project that created it.

This role can do everything to this project name organization. For example:

- Add & Edit data sources.
- Add & Edit Dashboard.

6.2.3 Org Viewer

The **WebAccess general and restricted user** owns org viewer role.



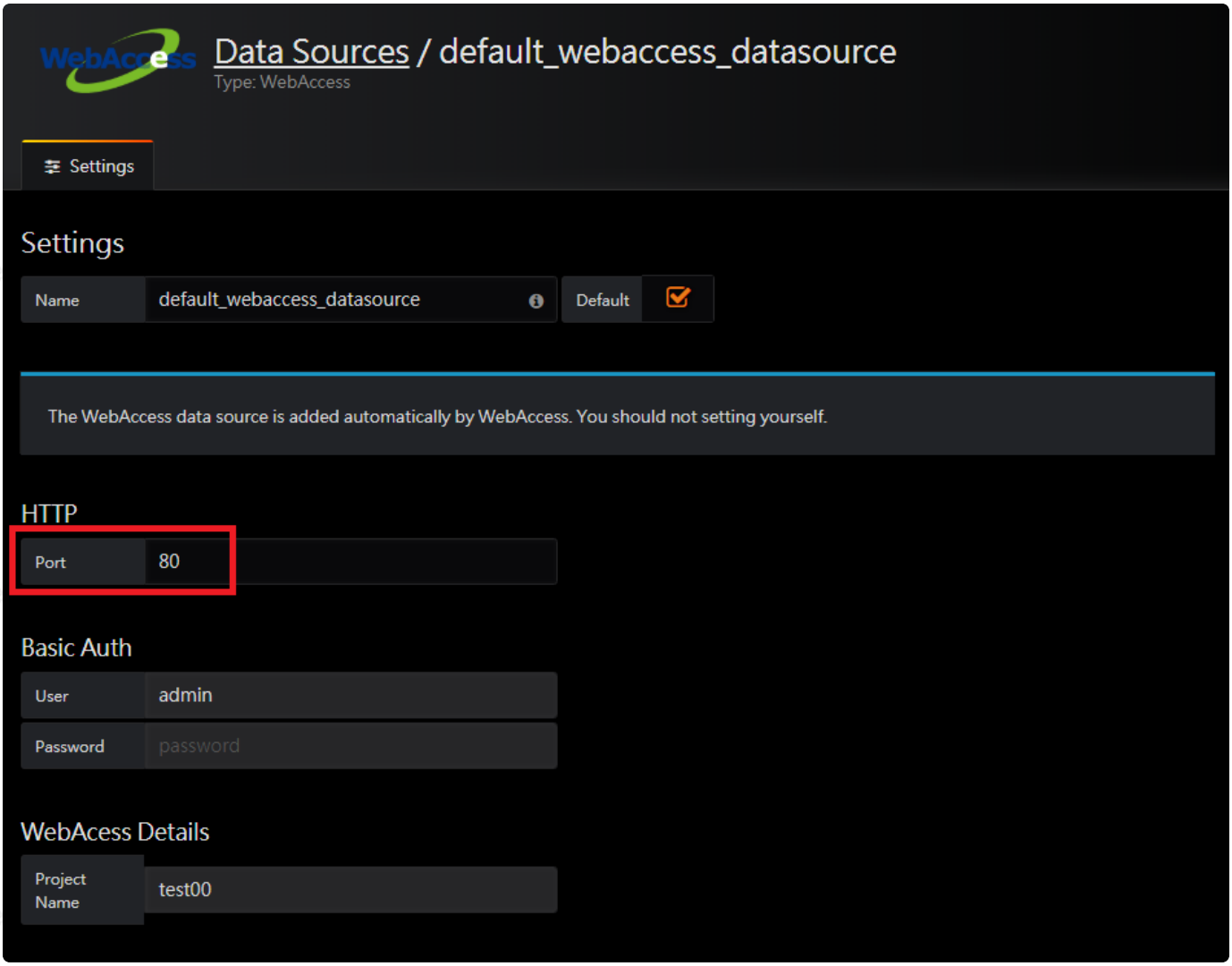
- View any dashboard on this project name organization.
- **Cannot** create or edit dashboards nor data sources.

6.3 Data Source

The WebAccess Data Source Plugin will **auto setting** when you login WISE-PaaS Dashboard.

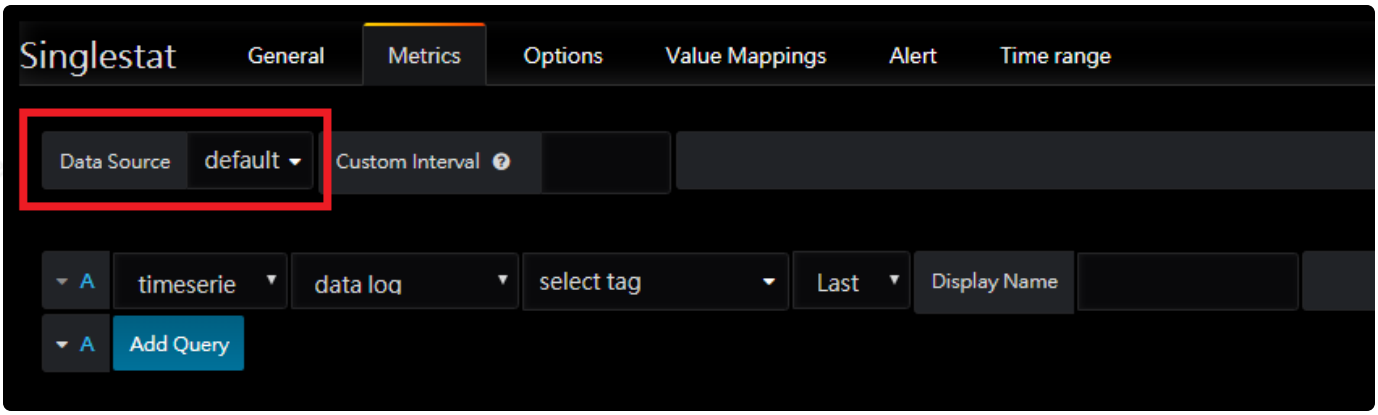
6.3.1 Data Source Settings

You can only setting WebAccess **port** by yourself.



6.3.2 How to use Data Source

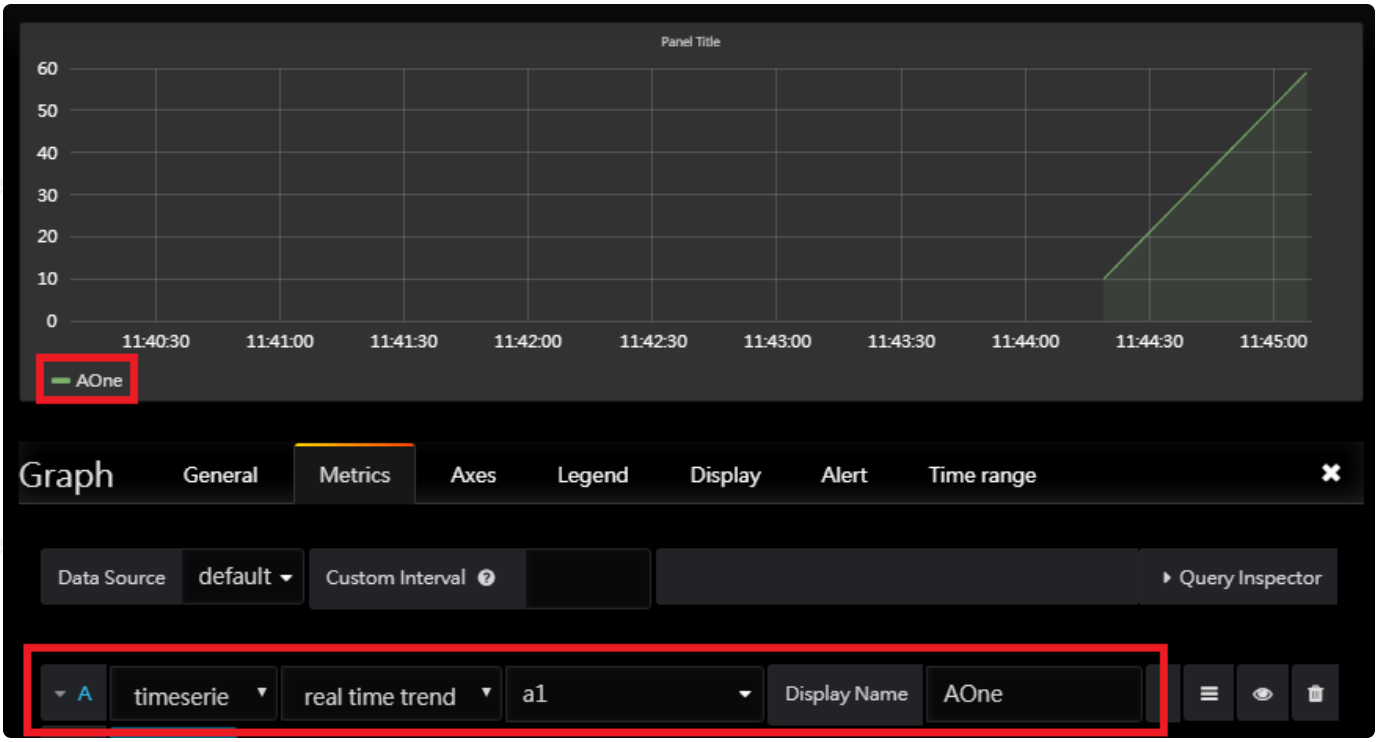
Select **default** data source in metrics tab in panel.



The data source has two data type: **timeserie** and **table**. Different data type has different data source.

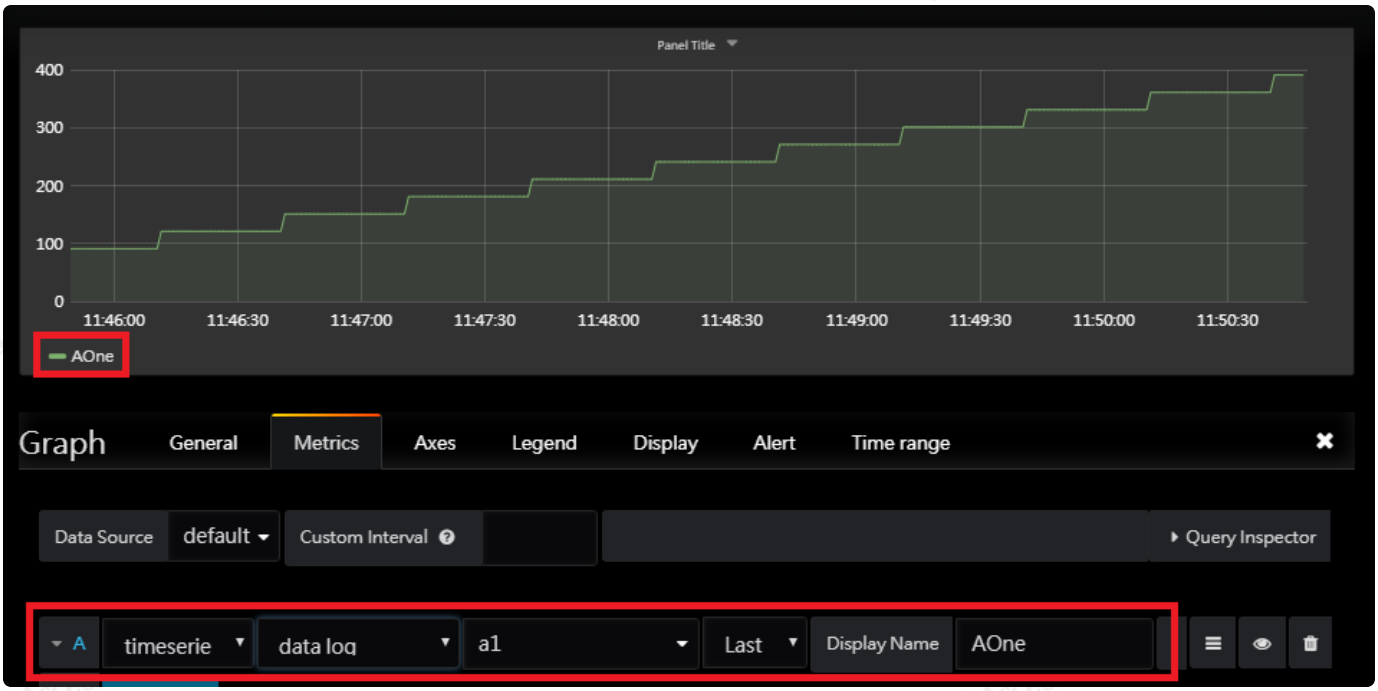
6.3.2.1 Timeserie

6.3.2.1.1 Real Time Trend



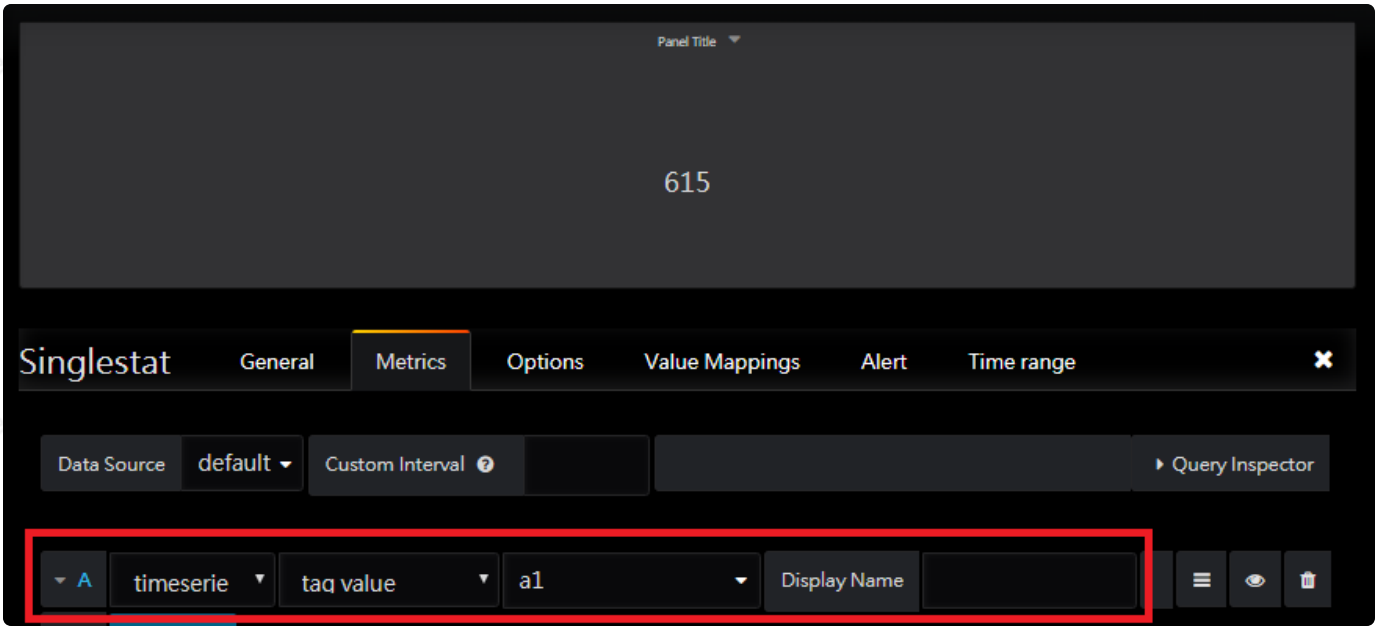
- Tag Name: Target tag.
- Display Name: Display name in panel.

6.3.2.1.2 Data Log



- Tag Name: Target tag.
- Data Type: Lasy, Min, Max, Avg
- Display Name: Display name in panel.

6.3.2.1.3 Tag Value

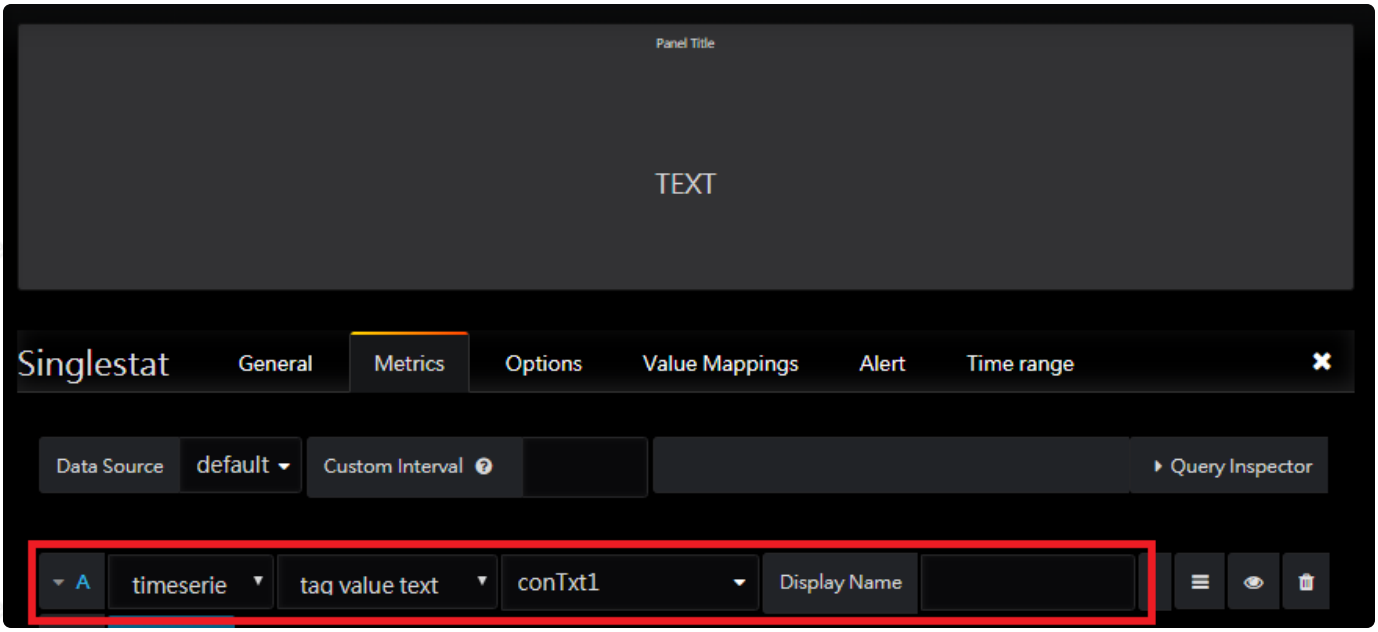


- Tag Name: Target tag.

> Note: It can be a **array** or **field** value.

- Display Name: Display name in panel.

6.3.2.1.4 Tag Value Text



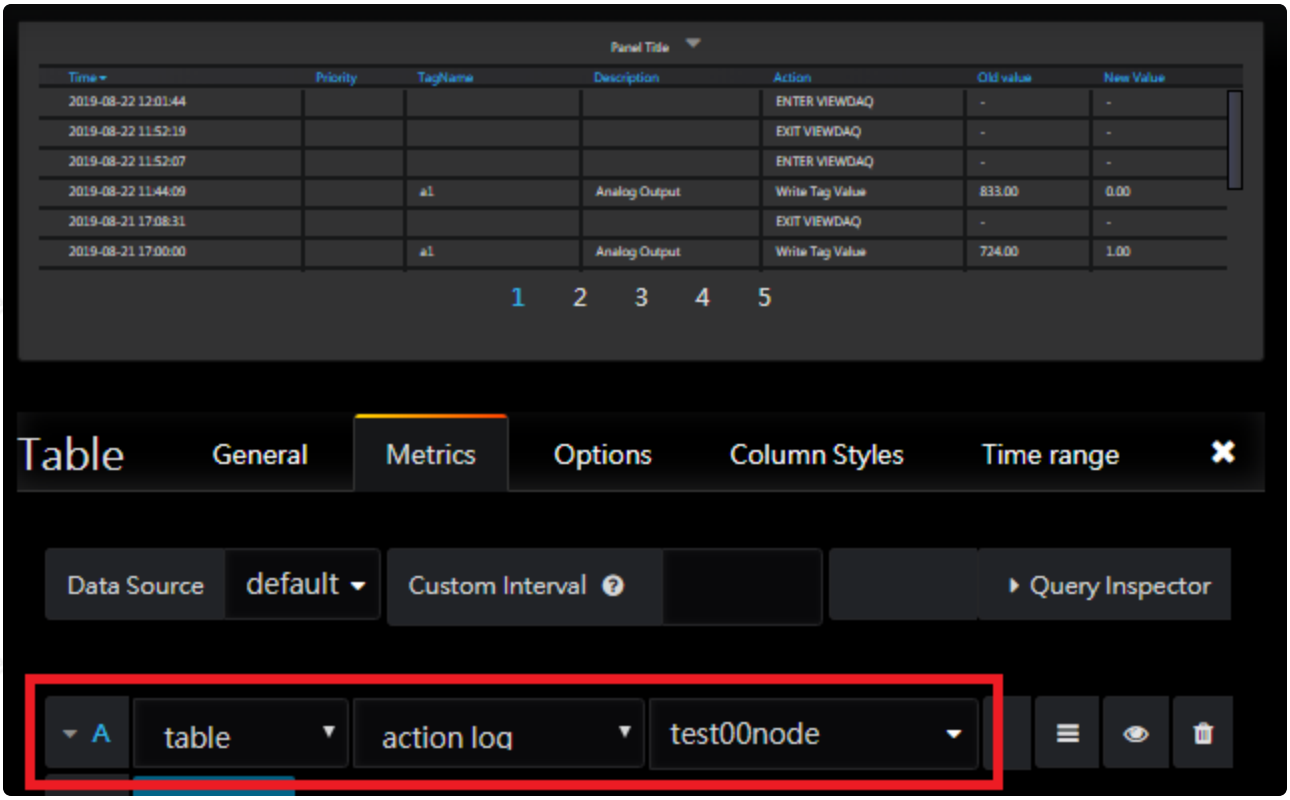
- Tag Name: Target tag.

> Note: It can be a **array** or **field** value.

- Display Name: Display name in panel.

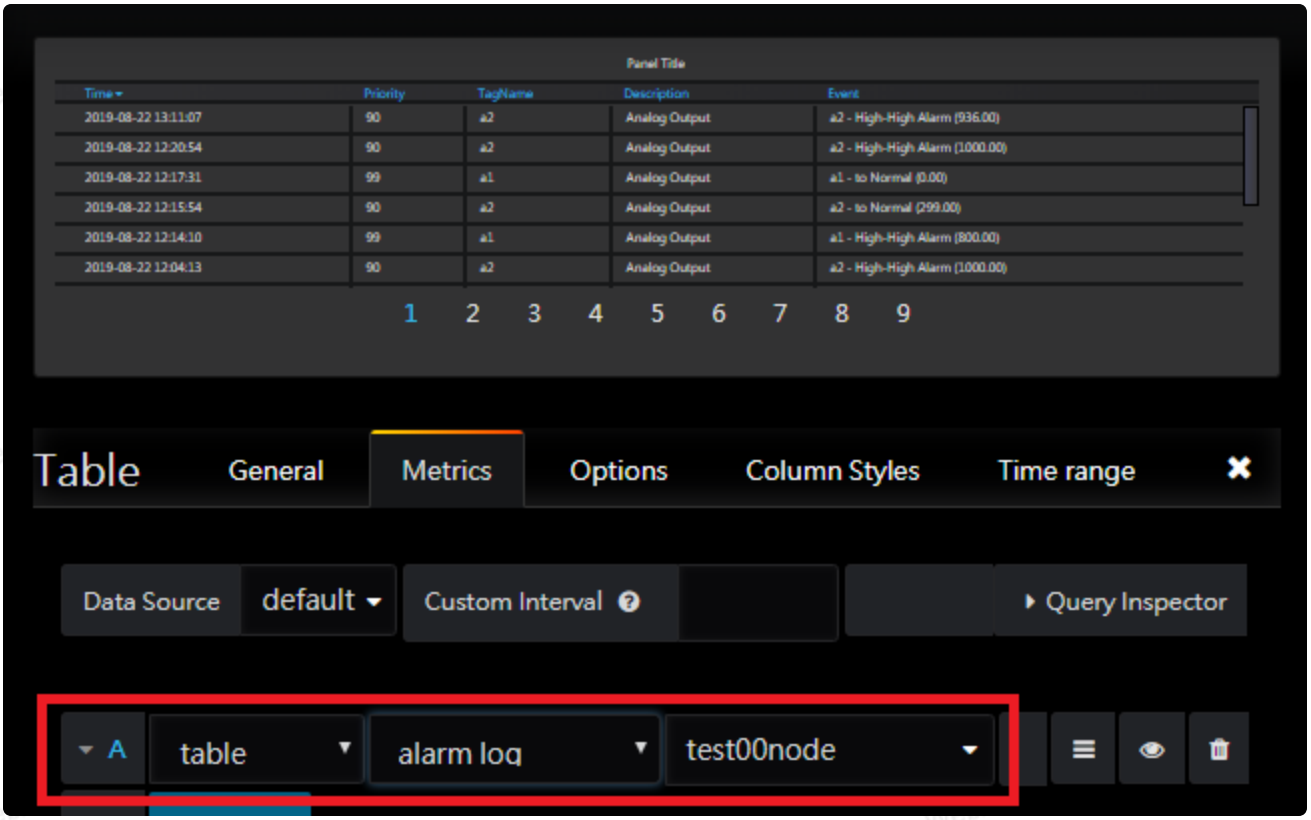
6.3.2.2 Table

6.3.2.2.1 Action Log



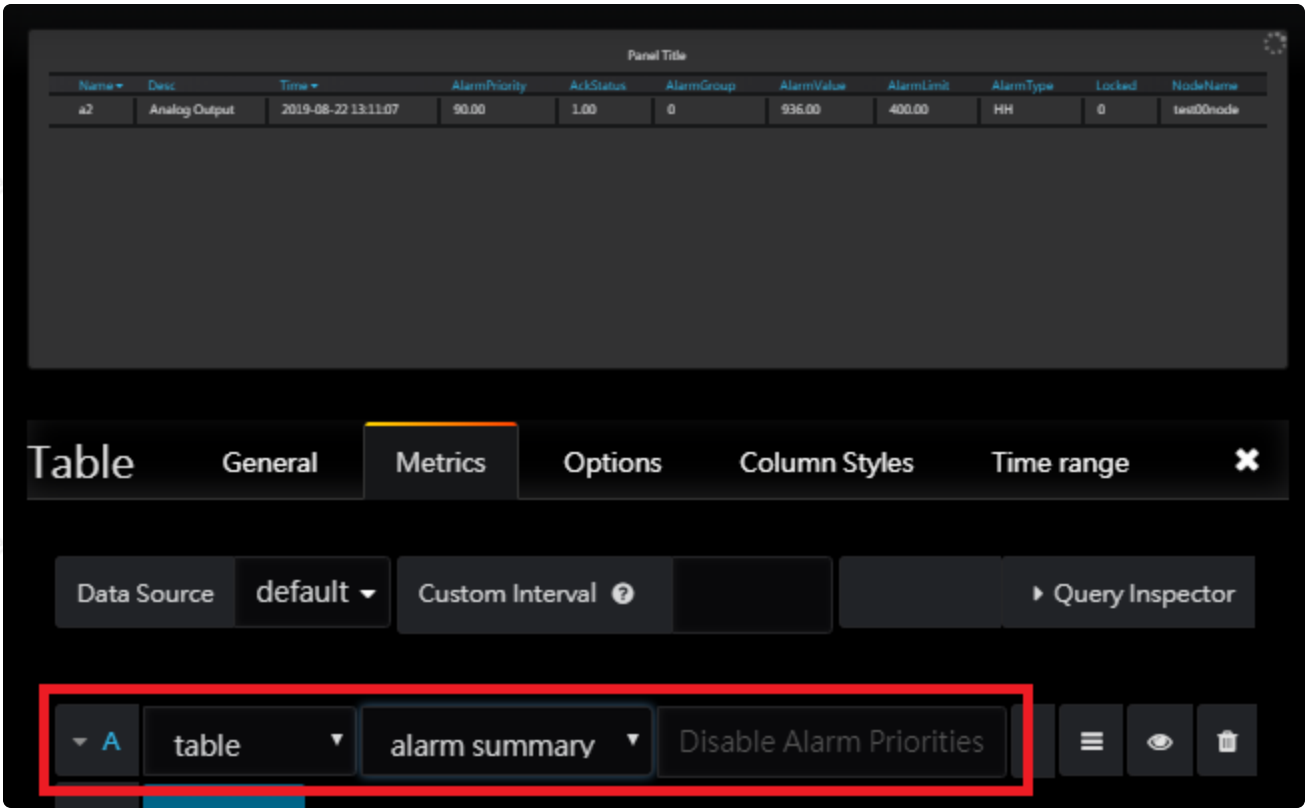
- Node Name: SCADA Node Name

6.3.2.2.2 Alarm Log

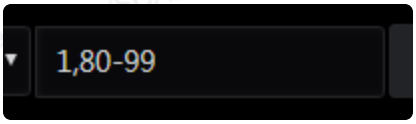


- Node Name: SCADA Node Name

6.3.2.2.3 Alarm Summary



- Disable Alarm Priorities: Filter AlarmPriority column. Use `,` and `-` select filter priorities.



6.3.2.2.4 Constraint

Because different data type returns different data structure, each data type can only compatible with specific plugin.

The compatiblity of each data type shows below.

WebAccess/SCADA

Panel	Real Time Trend	Data Log	Tag Value	Tag Value Text	Action Log	Alarm Log	Alarm Summary
Graph	✓	✓					
Table					✓	✓	✓
Singlestat			✓	✓			
Control*1			✓(Analog, Discrete)	✓(Text)			
Alarm Summary							✓

> *1: Control Panel can set value to WebAccess. It need specific data source for different tag type.

6.4 Dashboard Panel

6.4.1 Graph

Graph can use **Real Time Trend**, **Data Log** data source.

6.4.2 Table

Table can use **Action Log**, **Alarm Log** and **Alarm Summary** data source.

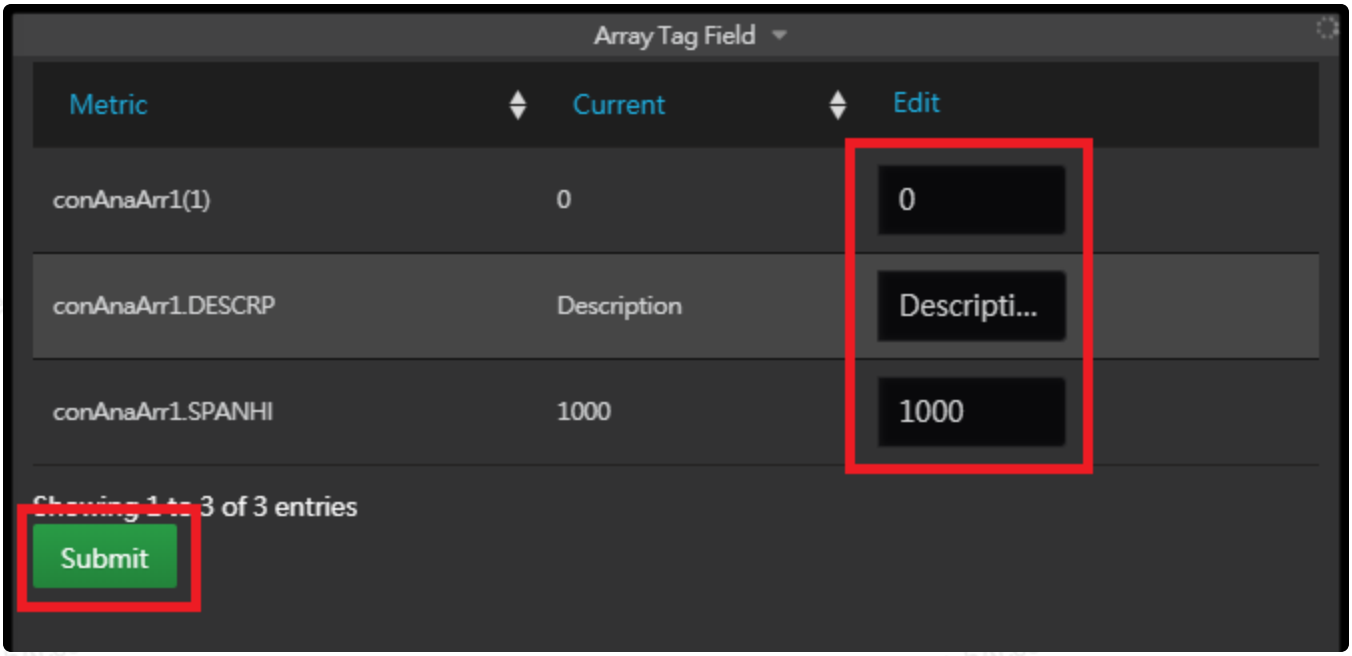
6.4.3 Singlestat

Singlestat can use **Tag Value** and **Tag Value Text** data source.

6.4.4 Control

Control Panel can use **Tag Value** and **Tag Value Text** data source.

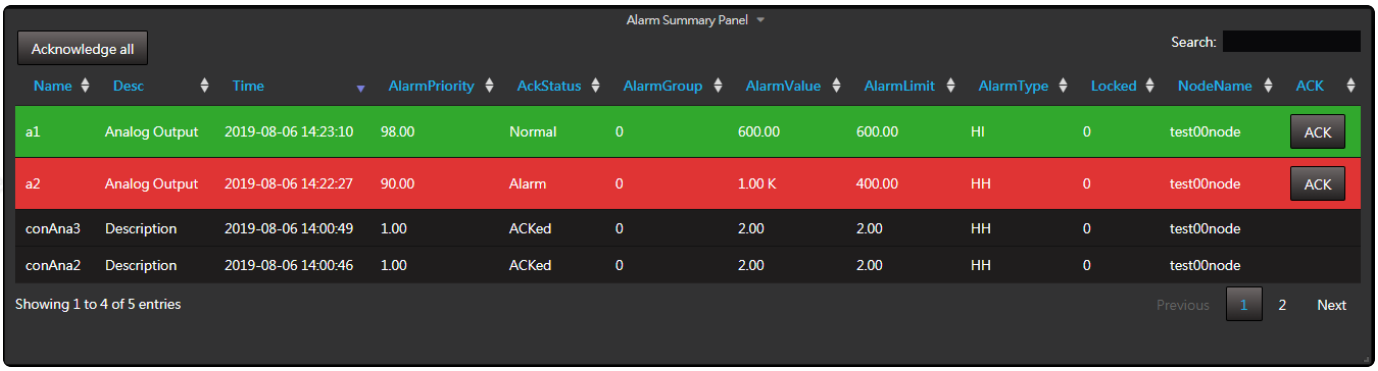
Control Panel can set value to specify tag.



Input value you want to change. Click Submit.

6.4.5 Alarm Summary

Alarm Summary Panel is only for **alarm summary** data source.



- Row column color changed by ack status.
  - Alarm: red
  - To normal: green
  - Acked: original color
- Buttons
  - Acknowledge all button: Acknowledge all tags in this project.
  - ACK button in every rows(except ACKed rows): Acknowledge the specific tag.

6.5 Reference Document

https://portal-technical.wise-paas.com/doc/document-portal.html#Dashboard-1

7. WISE-PaaS/SaaS Composer

7.1 Login

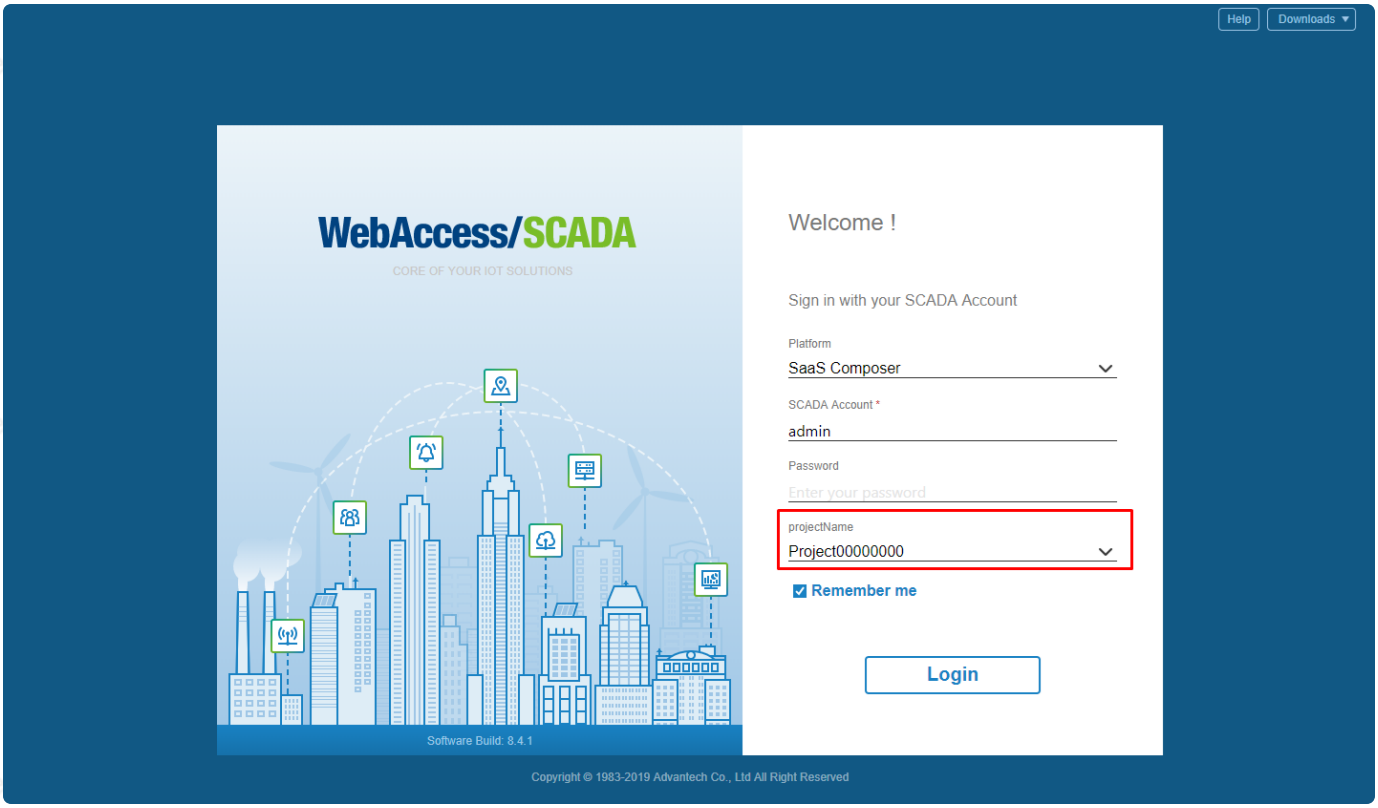
7.1.1 Login on Home Page

Select **SaaS Composer** on platform.

> *Note – This option is available when **SaaS Composer is installed.***

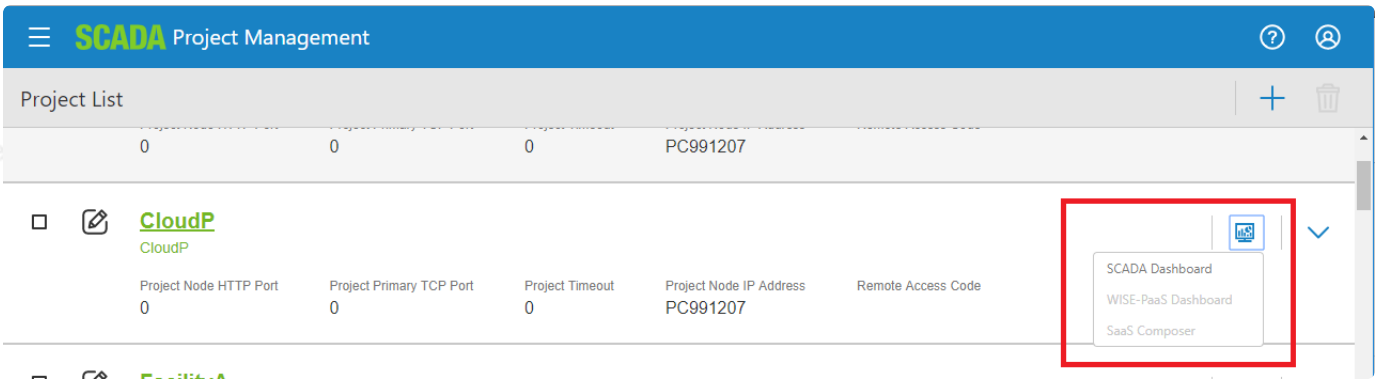
Enter your account and password, then choose **Project name**.

If you want to remember your account on your browser, please tick the **Remember me** option.



7.1.2 Login on Project List Page

Click **Monitor icon** which in project block you want to login on Project List page.



Select **SaaS Composer** in the drop down list.

> Note: This options is available when **SaaS Composer is installed**.

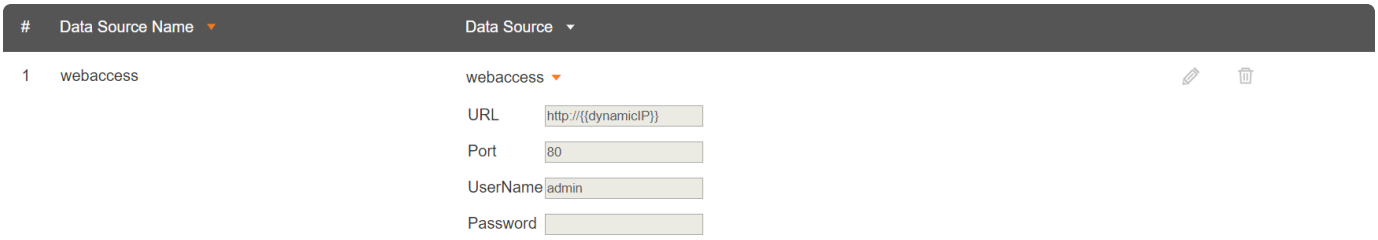
It will use the current account and the project to login **SaaS Composer.**

7.2 User Management

- WebAccess Administrator and Power User can add / modify / view sketchboards.
- WebAccess General and Restricted User can only view sketchboards.

7.3 Data Source

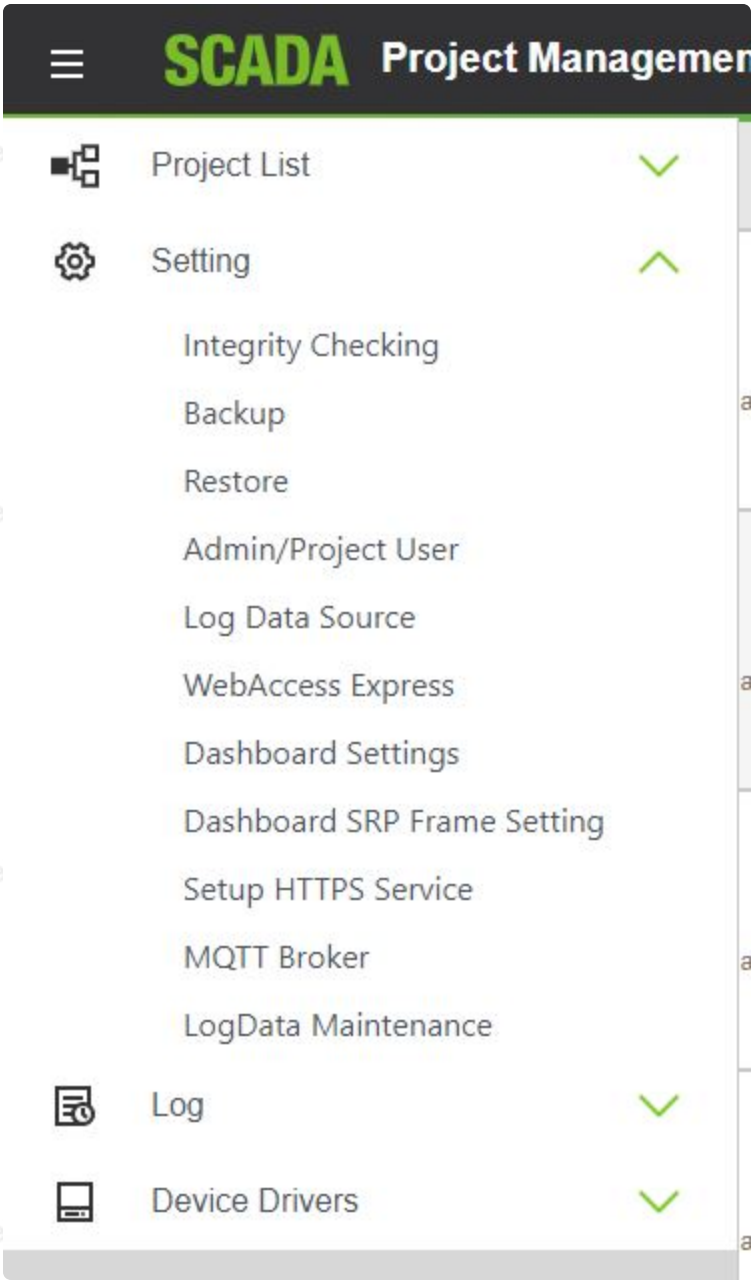
The WebAccess Data Source plugin will be **auto set** and can not be modified.



7.4 Reference Document

https://portal-technical.wise-paas.com/doc/document-portal.html#SaaSComposer-1

WebAccess/SCADA



WebAccess/SCADA