COURSE 102

TECHNICIAN ROLE:
Adding and calling in a Meter on Plug and Play Scada

The
NEXT Generation
AMR

Gives you the power to configure your own AMR, via an easy to use Web interface

Once you are done with this Course, you should be able to:

• Configure a new meter on Plug and Play Scada for Automatic Reading.

• Configure commissioning and reading parameters correctly per meter.

• Kick off a Read-in attempt and verify it via a Web Browser or a J2ME cell phone application.

• Do basic troubleshooting on meters not coming in.

MODULE 1:
Adding the Meter

Step 1: Login

NOTES:

MODULE 1:
Adding the Meter

Step 1: Login

- To start adding Entities on the system, the first step is to log in:

- Go to the log in page at: set.pnpscada.com (our training server)

- If you do not already have an account, press the link at the top where it says:

  » New users: Click here to sign up for your free account.

MODULE 1:
Adding the Meter

Step 2: Add New

- The basic building blocks in Plug and Play Scada are called Entities.

- An Entity can be anything from a Modem to a Meter to an Etherpad; a SIM card, a Login account, a Role, an Organization, a Tariff, a Time Of Use calendar etc.

- To add any kind of Entity on the system, click the Add New button at the bottom of the overview screen.

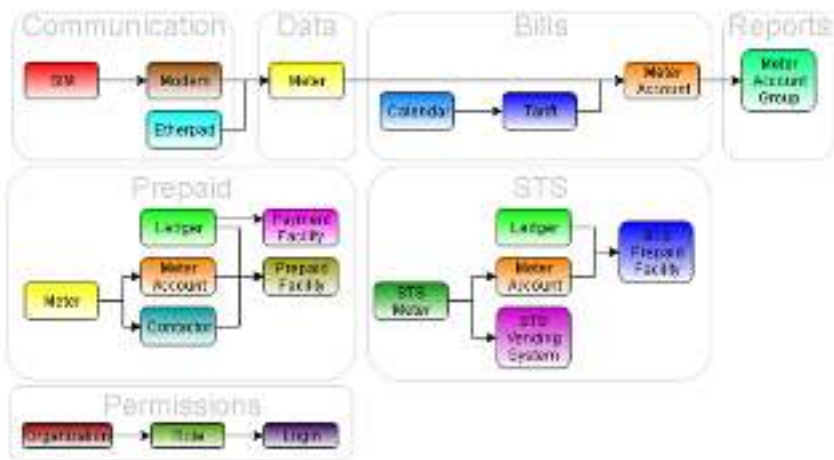- Alternatively, go to the File menu (next to Home), and click on New.

MODULE 1:
Adding the Meter

Step 3: Category

Add Entity

Please choose the category of the entity you want to add.

- Select the Category of the Entity you want to add:

- In our case it would be Meters.

- Click Next.

MODULE 1:
Adding the Meter

Step 4: Which Meter Entity

- Select the kind of Meter you want to add.

- Meters we currently support includes many meters from Elster, Landis&Gyr, Enermax meters, EDMI meters etc.

- Water Meters can be added as Pulse Meters.

- Once you have selected the relevant Meter Type, Push Next.

MODULE 1:
Adding the Meter

Step 5: Dependencies

Adding an Elster A1140

This entity needs a Communication Device to function.

Please choose a Communication Device:

| ▼ | ... | Add New |

KoCoB Elster modem S/n:123678234890234678 Training_2019
add new...

| | Back | Next |

- Depending on the Meter type you selected, you may now have to set up various Entity Dependencies.

- Most Meters rely on a Communication Device to function, for example a Modem or an Etherpad.

- Pulse Meters depends on a Pulse Counting Device. More on that in the courses:
  Installation of Wavenis Meters on Plug and Play Scada and:
  Installation and Maintenance of Pulse Meters on Plug and Play Scada

- If you have already added the Communication device before, you can select it from the list.

- Alternatively, you can push the Add New button to add a new Communication device Entity.

MODULE 1:
Adding the Meter

Step 6: More Dependencies
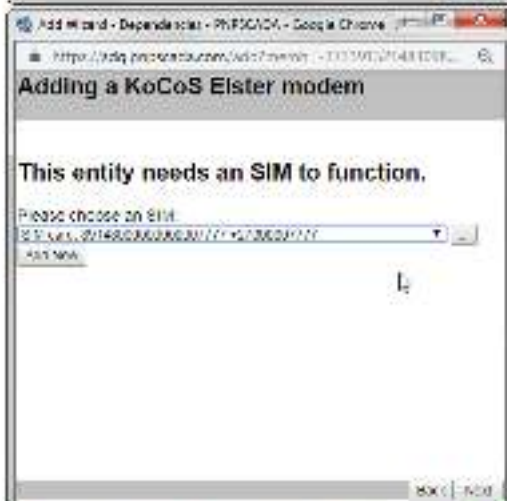
MODULE 1:
Adding the Meter

Step 6: More Dependencies

• Fill out all the dependency screens as you encounter them. As you step through them, the needed Entities will be added and filled into the previous screens.

• When adding SIM cards, you need to enter the full SIM card number (typically 19 to 21 digits long), as well as the cell phone number (international notation please).

• When adding Etherpads, you typically need the TCP port, and possibly the IP.

• Continue by clicking Next.
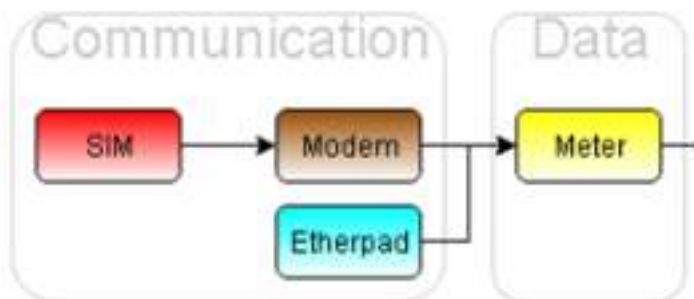
MODULE 1:
Adding the Meter

Step 7: Adding the Meter

Add an Elster A1140 meter

Meter Serial Number:
User Defined Meter Name:
Place:
Zone:
Site:
Breaker Size: 100 Amp
CT ratio: 5 / 5
VT ratio: 400 / 400
Primary Metering: ☑
3 or 4 Wire Meter Connection: 4
Installation Date (YYYY-MM-DD): 2019-05-14
Meter Password:
Multi Drop ID: 001

Please Note: To use the Digital Output on the A1140 from PnPScada, you need to program your **Tariff/Display and Relay Setup** modules as per the Schema downloaded here.

Please Note: You should set up your meter to communicate at 9600 Baud, 7E1.

Back | Finish

- The Last page will have a description like "Add a * Meter" at the top and a Finish button in the right bottom corner.

- The most important field in this screen is the Meter Serial Number which will be used by the System to uniquely identify the meter. It is typically printed on the physical meter.

- For Elster Meters, this is usually the middle 8 digits. (in all cases it is the serial number reported when you read the meter via the meter manufacturer's software)

MODULE 1:
Adding the Meter

Step 7: Adding the Meter (continued)

- Fields you can NOT change later usually include the Meter Serial number (except in the case of Pulse Meters), and the Meter Utility (Water or Electricity, where you can specify it at all).

- The Name, Place, Zone and Site fields are user defined fields that are not important to the system, but is there for your benefit so you'll be able to identify the meters again later.

- Click the Finish Button.

- Fill in all fields to the best of your ability, including the Breaker Size. You can edit most parameters again later.

NOTES:

MODULE 1:
Adding the Meter

Step 8: Overview

- Your Meter is now added, and we're ready to communicate to it. Return to the overview screen (Home)

- Select your meter on the overview screen by drilling down on the categories and selecting it.

- You will be presented with the Object Dependency view. You can select the entities to the left and right of the selected Entity to navigate the Entity Dependency Tree.

- You can press the Home link from anywhere in the site to return to the overview screen.

MODULE 1:
Adding the Meter

EXERCISE

ASSIGNMENT

o As part of this course, you have been issued a Meter and Communication Device, together with all the communication parameters you need to configure the device on Plug and Play Scada.

o Now add the Meter and the Communication Device to your login account .

o Call the Lecturer if you have any questions, or when you're done.

MODULE 2:
Testing Communication Tools – Communication Monitor

- Select the meter you want to read on the overview screen

- Navigate to Tools ➤ Communication Monitor using the menu underneath the banner image.

- Check the relevant checkbox (e.g. Phasor, Total, Profile or Events), and click the Start Read button.

- You should now see the actual conversation between the server and meter in your web page:

- The Cyan is what the Server is saying to the meter, and the Green is what the meter is replying back.

- Any other actions as part of the Reading Attempt, including an success or error report messages are displayed in White.

- It is generally more efficient for the installer to leave site only after the communication link has been verified.

MODULE 2:
Testing Communication Tools – Communication Monitor

EXERCISE

ASSIGNMENT

○ Using the Communication Monitor, read the Phasor of the meter, if applicable.

○ Report to the lecturer the Red Voltage you've read with the timestamp (View->Phasor Graphs). If you cannot read the meter, troubleshoot the error report at the end until the reading succeeds.

○ Call the Lecturer if you have any questions, or and when you're done.

MODULE 3:
Commissioning Edit – Meter Details

- To change any of the basic parameters on the meter in Plug and Play Scada go to this screen.

- CT and VT ratios kept in Plug and Play Scada are not read from the meter or written to the meter, and only used for validating data, and display purposes.

- The only multiplier applied by Plug and Play Scada is usually the Pulse Multiplier: it will take the quantity coming from the meter, and multiply it by the fraction specified in this screen.

- If you want to limit your fault reporting to 'commissioned' meters only, check the commissioned flag for every meter that has been verified as correct, and it will start appearing on the problem meter list.

MODULE 3:
Commissioning Edit –
Meter Details

- The System will not call in any profile data for a meter before the 'Last Read Up to Date & Time'. If you want to re-read any profile data from the meter, set this date back.

- The System will not call in any data from before the 'Installation Date & Time'. If your meter has a history of a couple of months that you want to read in, set the installation date back to whenever you need the data from. Remember to set the 'Last Read Up to Date & Time' back to the same date.

- If you change the Pulse Ratio it will not immediately change the profile already in the system. To apply your new multiplier, the easiest is to call it in again: set the 'Installation Date & Time' back and read it in. Alternatively, use Tools ➤ Modify Readings, or Tools ➤ Import Readings.

- If you want to stop manual and automatic reading of the meter, check 'Disabled'.

- If you are replacing the meter, click on 'replace meter': all the metering point data like the CT and VT ratios will be kept for the new meter.

- If you are replacing a communications device, use Tools ➤ Replace Communications Device.

- If you are replacing a SIM card, Use the replace checkbox on Edit ➤ SIM.

MODULE 3:
Commissioning Edit – Meter Details

- This will not cause a clash, and the old and new instance of the meter will coexist peacefully.

- If you want to remove a meter, it is generally not a good idea to remove it completely, since your old data would then also be lost (and it would still be historical applicable to a meter account). Rather choose 'uninstall meter' on this screen, which will keep the meter but disable it. If a meter has been uninstalled like this, it can be re-installed elsewhere by adding the meter to the system again.

NOTES:

MODULE 3:
Edit – Advanced Meter Setting

- On this page you can set the read interval for your meter. You can also set a different time for different sets read from the meter if you wish by clicking on more

- For more details on the format of the custom Automatic Read Interval setting, press Help on this page.

MODULE 3:
Edit – Advanced Meter Setting

- Generally, most Electricity meters use 30 minute profile intervals. However, if you have set a different profile interval for your meter, you must set that up next to 'Profile Sample Period Length'. It is very important that the setting in the actual meter must be the same as this setting in Plug and Play Scada.

- Sometimes you may not wish to read all sets presented by the Meter, for whatever reason. You can disable the sets you don't need on this screen under 'Sets to Read'.

- Sometimes it is preferable to stop trying to read in a problem meter repeatedly, especially where batteries can get flat (as in the case of some water meters), or where excessive communication incurs cost (as with some Cell phone communication). For those cases, it is possible to set the Error Threshold on a meter. This is the amount of retries to give a meter before giving up on the Automatic Process. Whenever a meter is read successfully again, the error stream is reset to zero, and the Automatic Process resumes.

MODULE 3:
Edit – Advanced Meter Setting

EXERCISE

ASSIGNMENT

○ By setting back your meter's Installation and Last-Read-Up-to dates and calling in the Meter Totals manually on the Tools->Communication Monitor, find out what is the oldest totals it has available in memory, if any.

○ You can view the totals read from a meter at Edit->Meter Totals.
The totals read from the meter will have '3' as the least significant decimal digit in the Status.

○ Call the Lecturer if you have any questions, and when you're done.