PLCnext

PLCnext to PLCnext Data coms

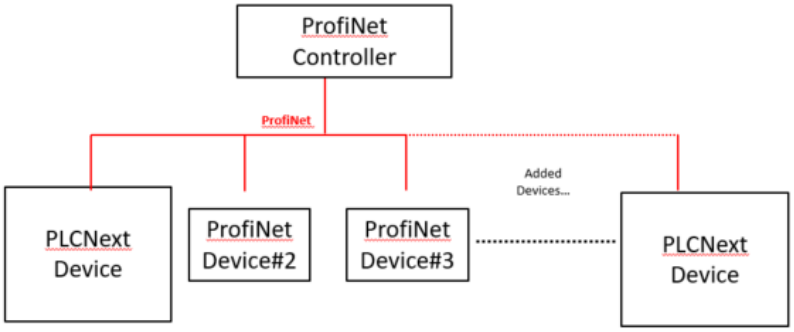
Using

ProfiNet Controller / Device

Setup and Configuration

1. Introduction

If you want to Transfer Data from PLCnext to PLCnext, then this document will assist in setting up the 'Controller' and how the Data is arranged on the Controller and Device Sides. There should be only 1 ProfiNet 'Controller', but many 'Devices'.



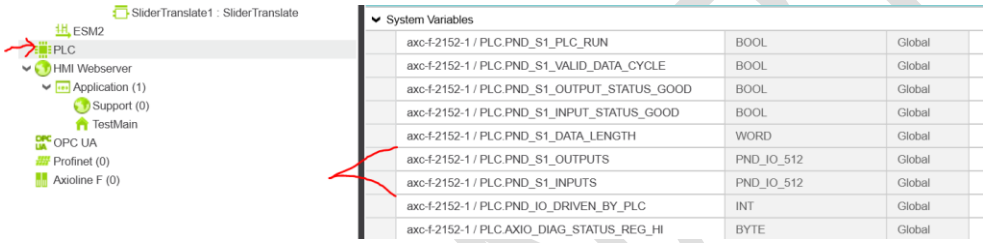
The ProfiNet Controller/Device allows 512Bytes to go from Controller to each PLCnext Device and 512Bytes to go from the PLCnext Device to the PLCnext Controller.

One thing to note… In a PLCnext to PLCnext Application, it really doesn't matter who is the Controller or Device. However, since they are configured Differently, you must designate them so that all is clear on the communications side.

2. ProfiNet ‘Device’ Setup and Configuration

The PLCnext comes out of the box with Profinet Device Activated. I know that this sounds weird, but you do not have to anything. The Data is already defined and Ready to Go. You just have to Read the Inputs and Write the Outputs. Once this ‘Device’ is set up properly to a corresponding Controller (see Section 3), the Data will appear like the following:

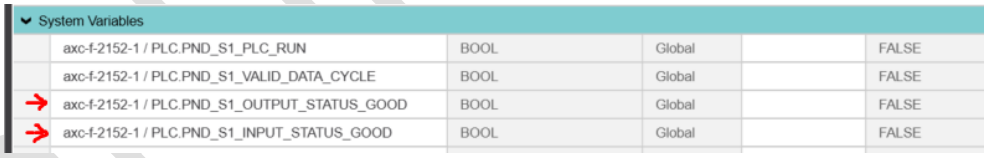
To see the Predifined – Global Bytes, see below:



The Predefined Array is PND_IO_512, so the

Input Data from the Controller is in Registers: PLC.PND_S1_INPUTS[0..511] - in Bytes
Output Data to the Controller is in Registers: PLC.PND_S1_OUTPUTS[0..511] - in Bytes

You can get the status of the Coms network, by using the following Tags:



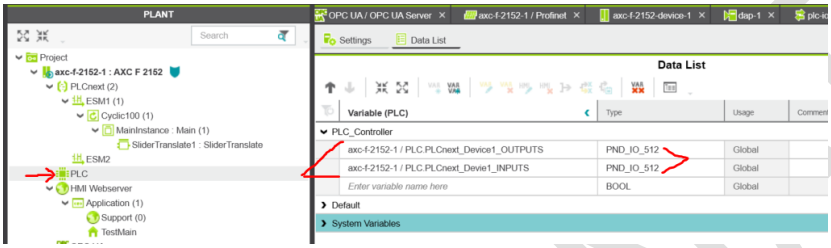
That is all there is to it…you can define the Tags PND_S1_INPUTS and PND_S1_OUTPUTS (make “External”) and then you can get direct access to all the data them in your programs.

3. ProfiNet Controller Setup and Configuration

The PLCnext comes out of the Box with ProfiNet Controller Functionality, but it needs to be configured and after a few simple items – you will be ready to go.

3.1 Create your Global Tags for Each PLCnext Device:

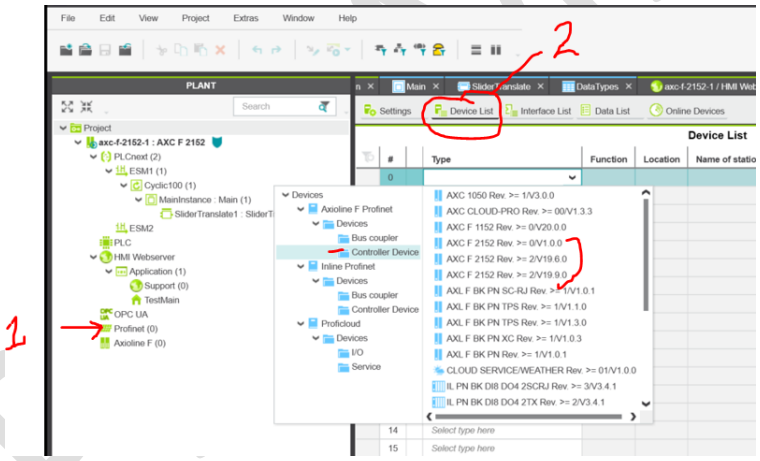
I created Tags for Input and Output with the Datatype being the same as the Device Above (PND_IO_512)



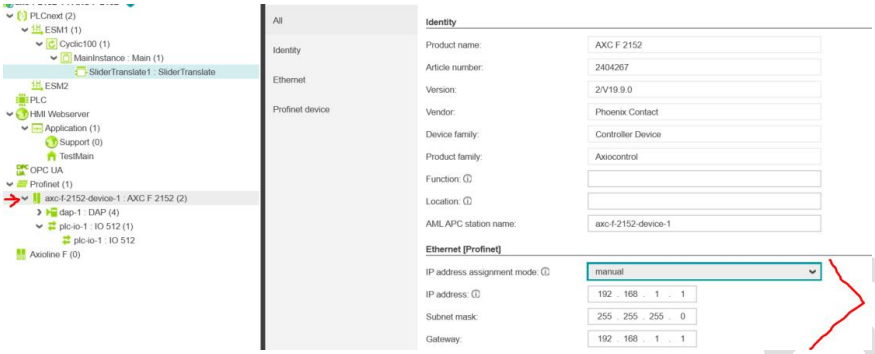
If you have multiple 'PLCnext Devices' duplicate the above for each – with unique Variable Tags.

3.2 Insert the Proper PLCnext 'Device' into the Plant side of your Controller.

NOTE: The Firmware in the 'Device' must match your Selection:



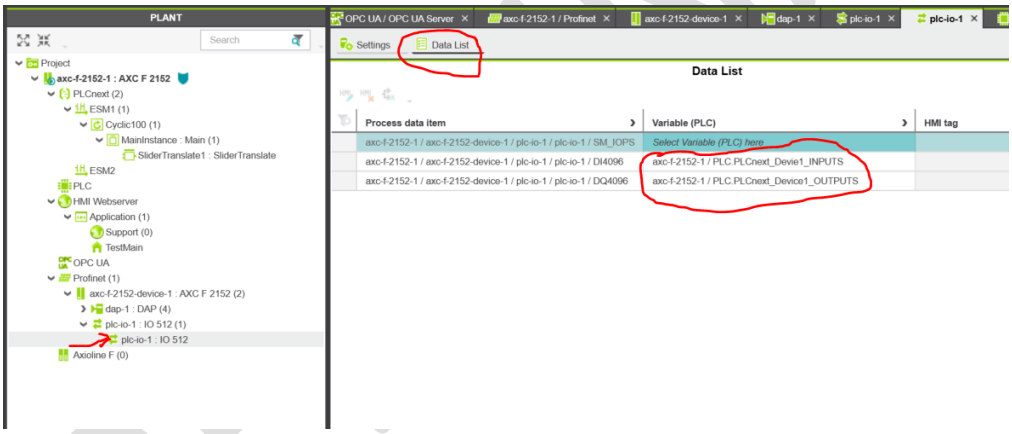
3.3 Configure the IP Addresses of your PLCNext 'Device'



3.4 Assign the PLCnext Tags to Match what you entered in Step 3.1

Now, assign the Tags Created (Step 3.1) to Send To/Receive From the Device PLC so that the information from the Device PLC will be put into the proper Register locations. Without this Step, the information received from the Device PLC will not be used.

It will be similar to the following:



If you have multiple 'PLCnext Devices' duplicate the above for each – Starting at Section 3.1.

When you have completed all of the Device Enteries for each you, you are now complete with the Communication between the 'Controller' and each 'Device'.

The Outputs from the Controller are directly correlated to the Inputs on the Device.
The Inputs to the Controller are directly correlated to the Outputs from the Device.