



System Diagnostics in the Siemens Comfort Panel

Revision Date:
04/26/2020

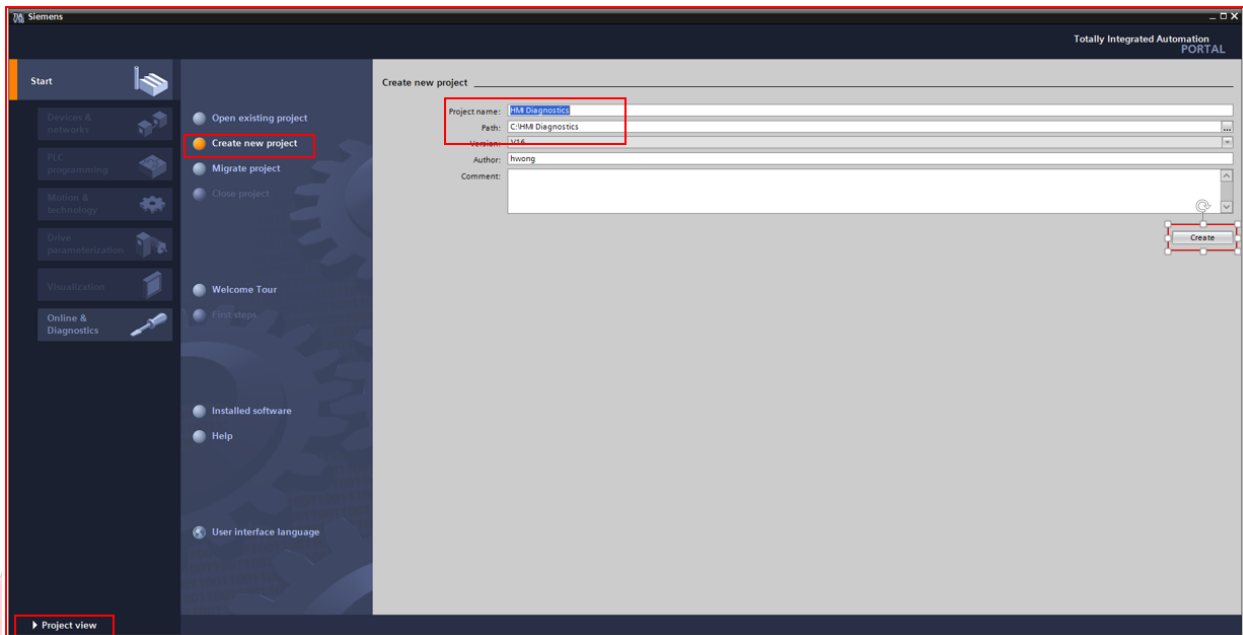
In the world of automation, detailed diagnostic information can be used to quickly diagnose errors and get your plant or machine running again. In the following example, the following hardware and software will be used to demonstrate how to set up a System Diagnostic view in the Siemens HMI.

- S7-1500 CPU
- ET200SP Remote I/O
- Comfort Panel
- TIA Portal Professional V16
- WinCC Comfort V16

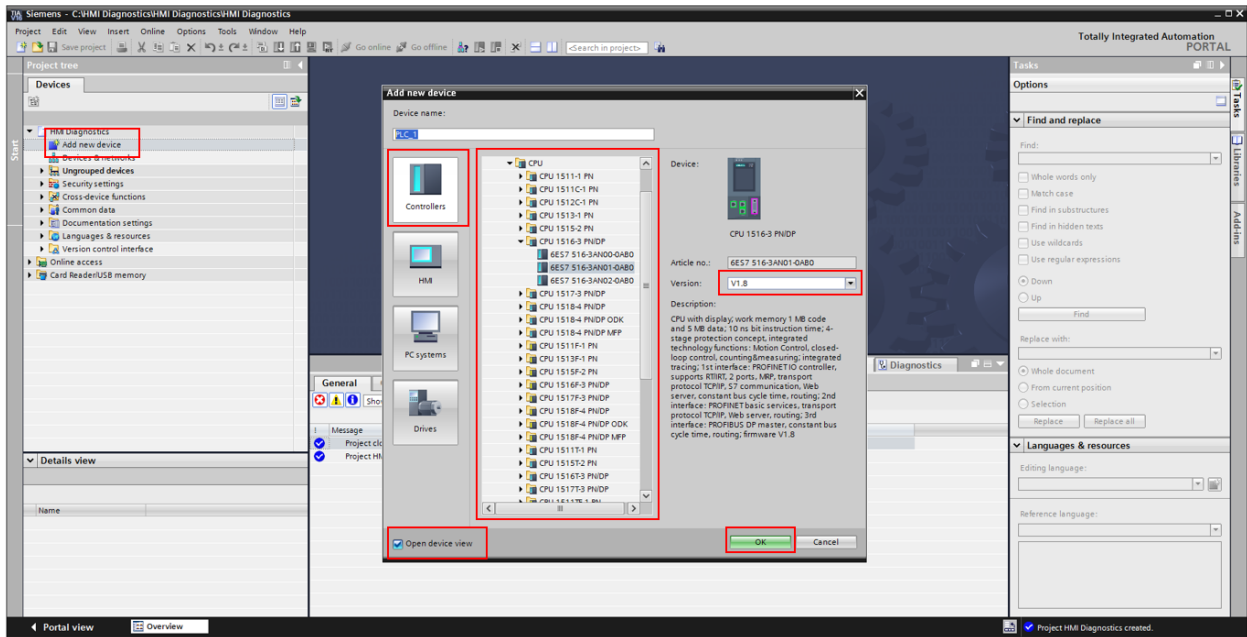
Please note that there are a number of ways to accomplish the end goal. The following is one of several methods.



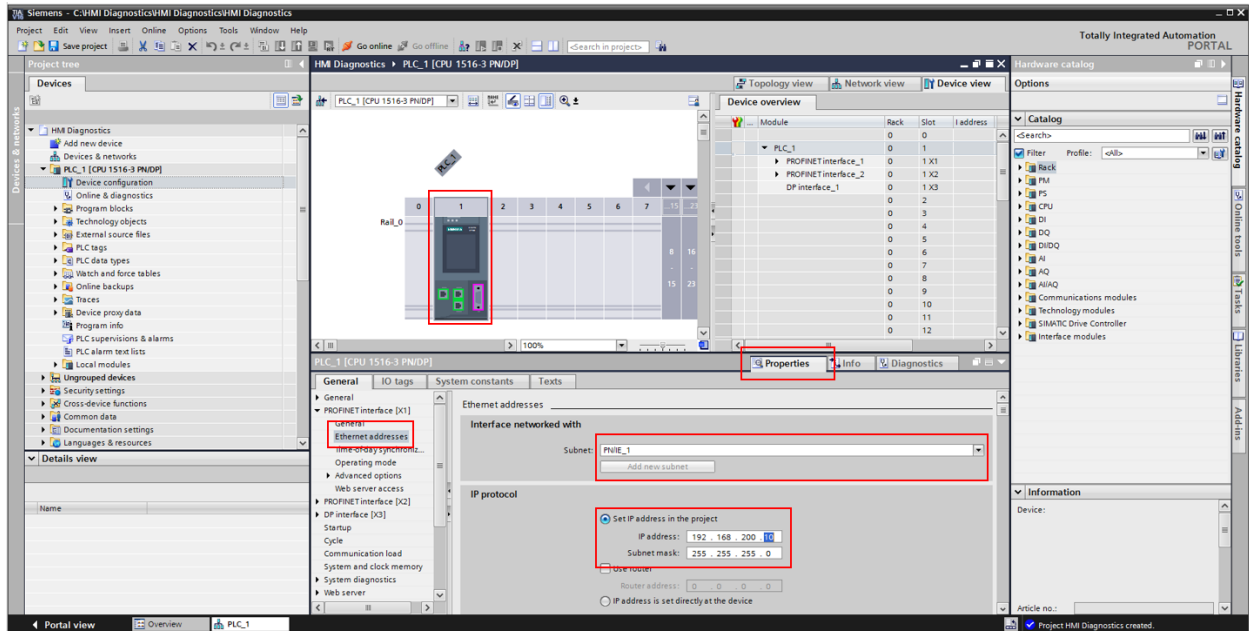
- Double-click on the TIA Portal V16 desktop icon to start Portal.



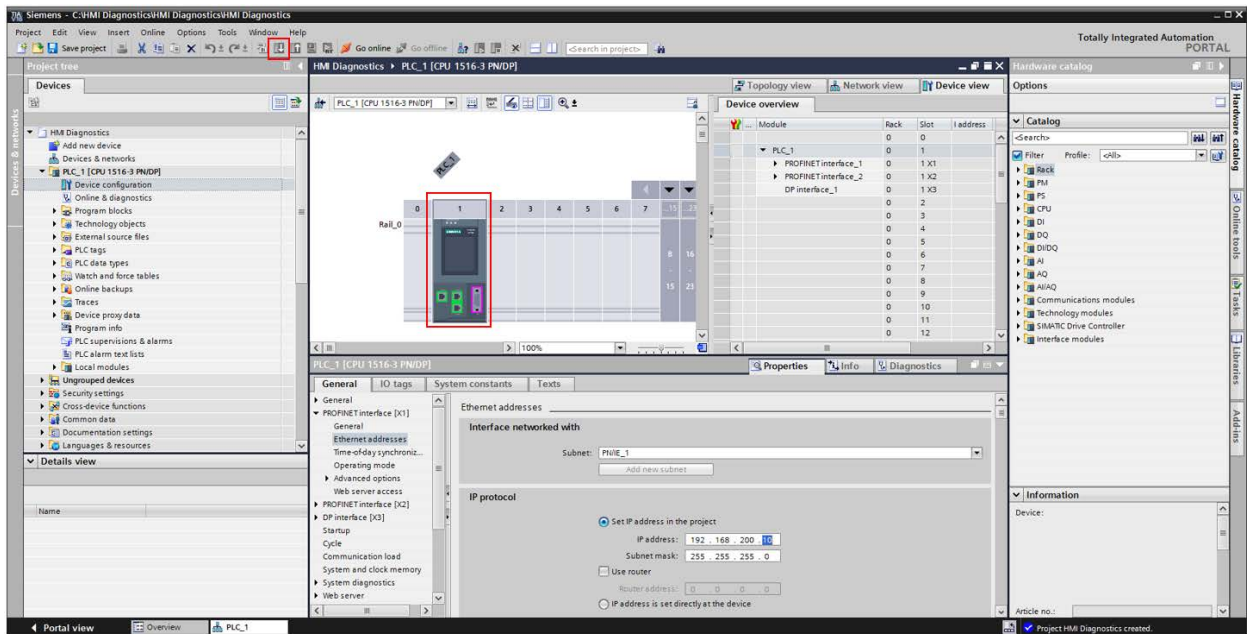
- Click on “Create new project”.
- Type a project name and select a storage path.
- Click on “Create”.
- Click on “Project View”.



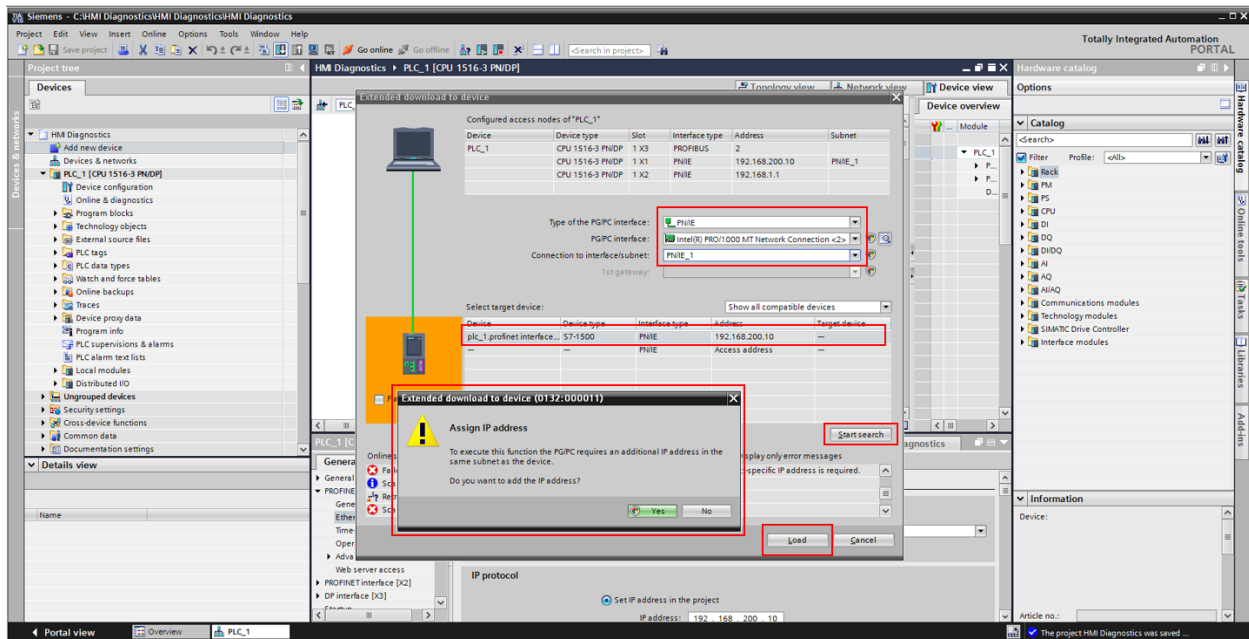
- Double click “Add new device”.
- Select “Controllers”.
- Select the CPU that matches the CPU that you are using.
- Select the firmware that matches the firmware of the CPU that you are using.
- Check the box for “Open device view”.
- Click on “OK”.



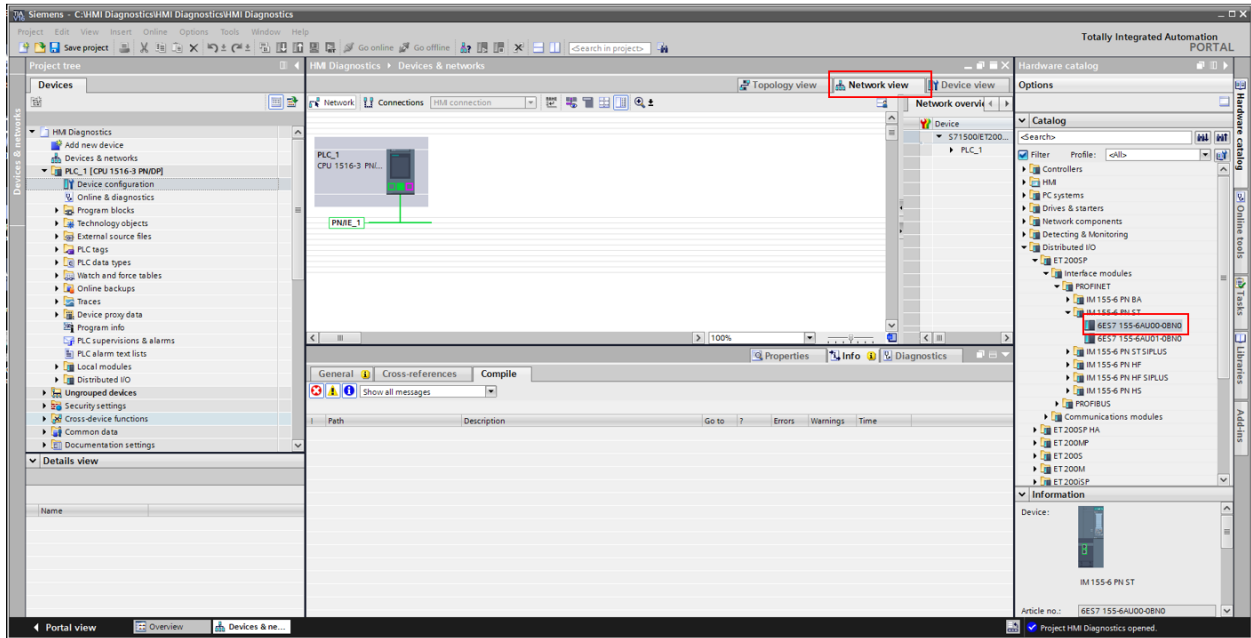
- Select the CPU.
- Select the “Properties” tab.
- Select “Ethernet addresses”.
- Click on “Add new subnet”. You can use the default name or create your own name for the network.
- Set the IP address.



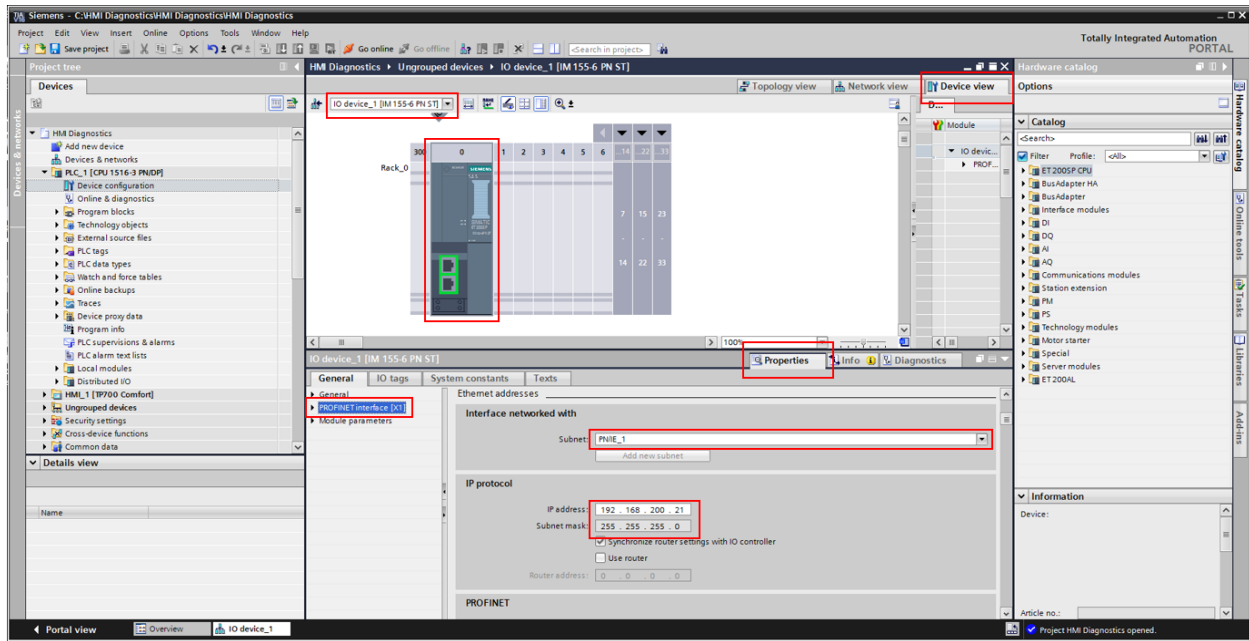
- Select the CPU if not already highlighted.
- Click on the download button in the toolbar.



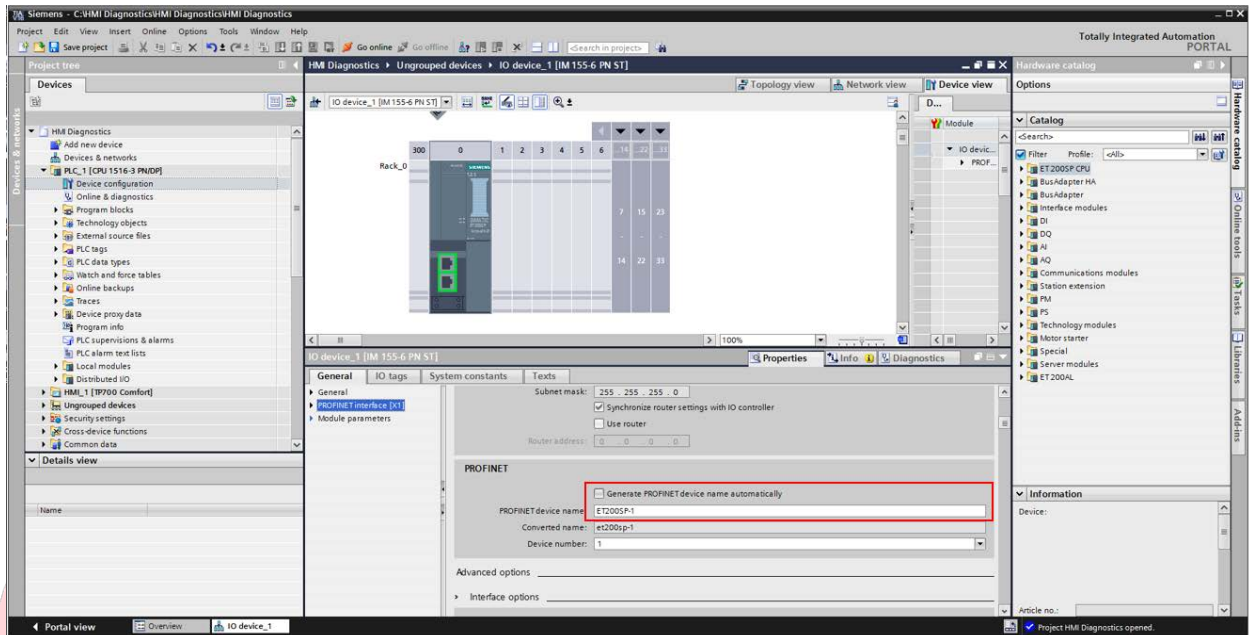
- Select PN/IE for “Type of PG/PC interface”. Select the appropriate interface for your laptop for “PG/PC interface”. Select the subnet name that was created for the CPU for “Connection to interface/subnet”.
- Click on “Start search”.
- Once the CPU has been found, select it.
- Click on “Load”.
- If your laptop is NOT on the same subnet as the CPU, the software will prompt you to create an IP address on the CPU subnet.
- Complete any additional prompts to complete the download.



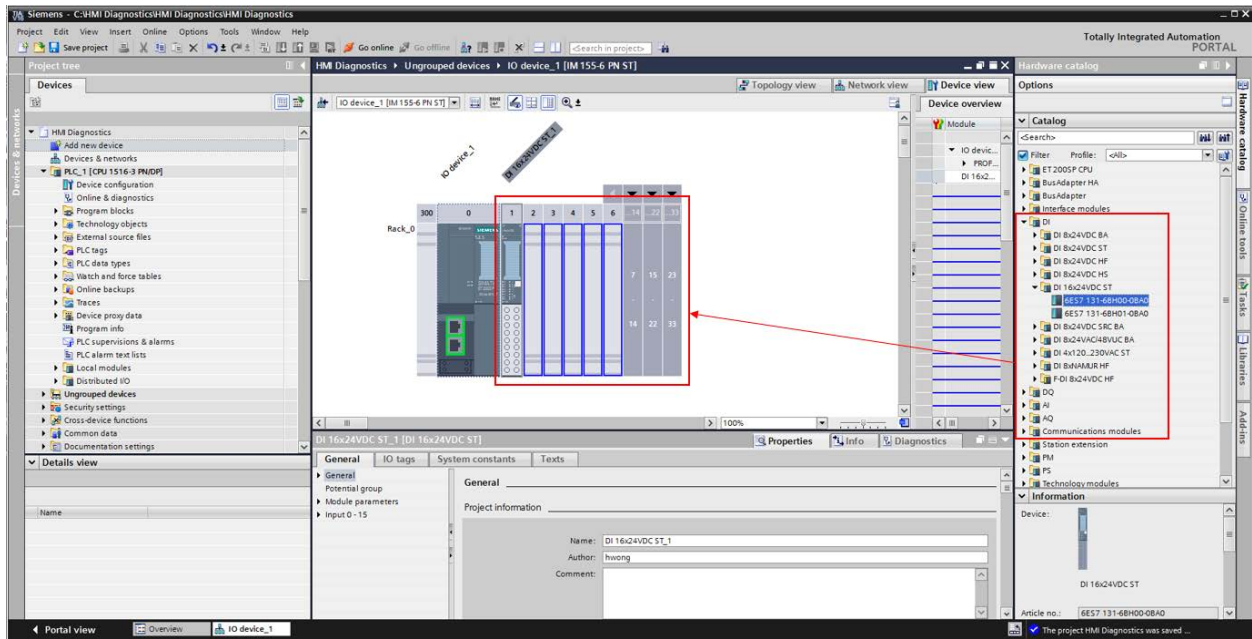
- Select the “Network view” tab.
- Double-click on the appropriate ET200SP module from the catalog.



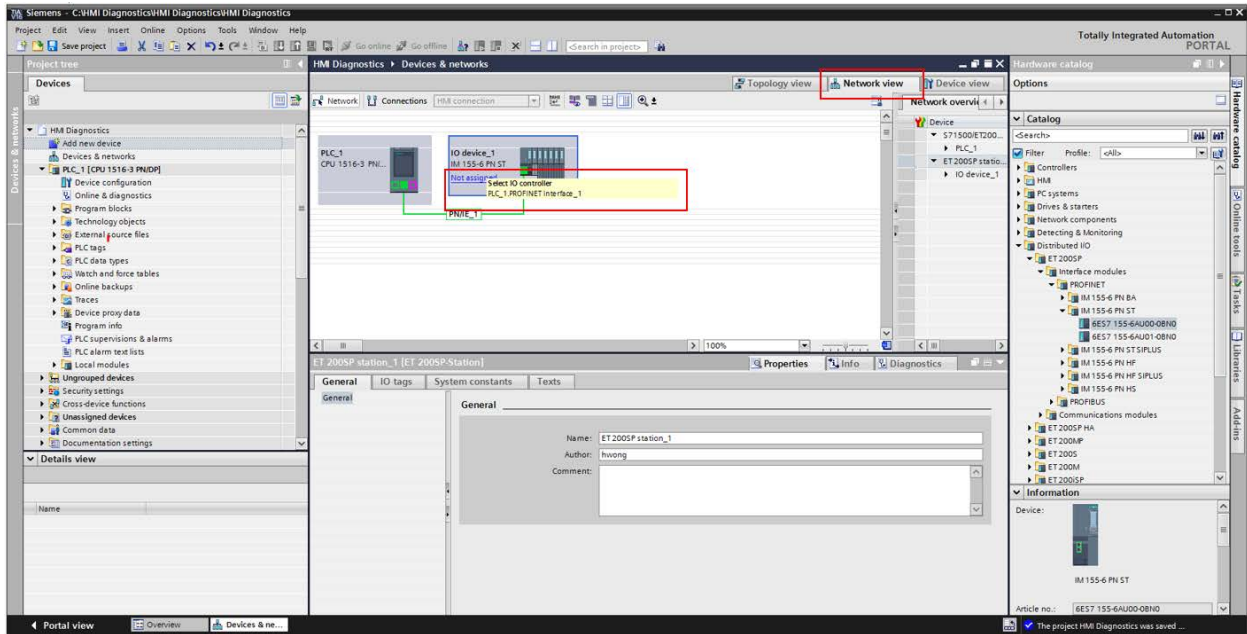
- Select the “Device view” tab.
- In the pull-down, select the IO device that was just created.
- Select the “Properties” tab.
- Select “PROFINET interface [X1]”
- Select the subnet created earlier.
- Set the IP address.



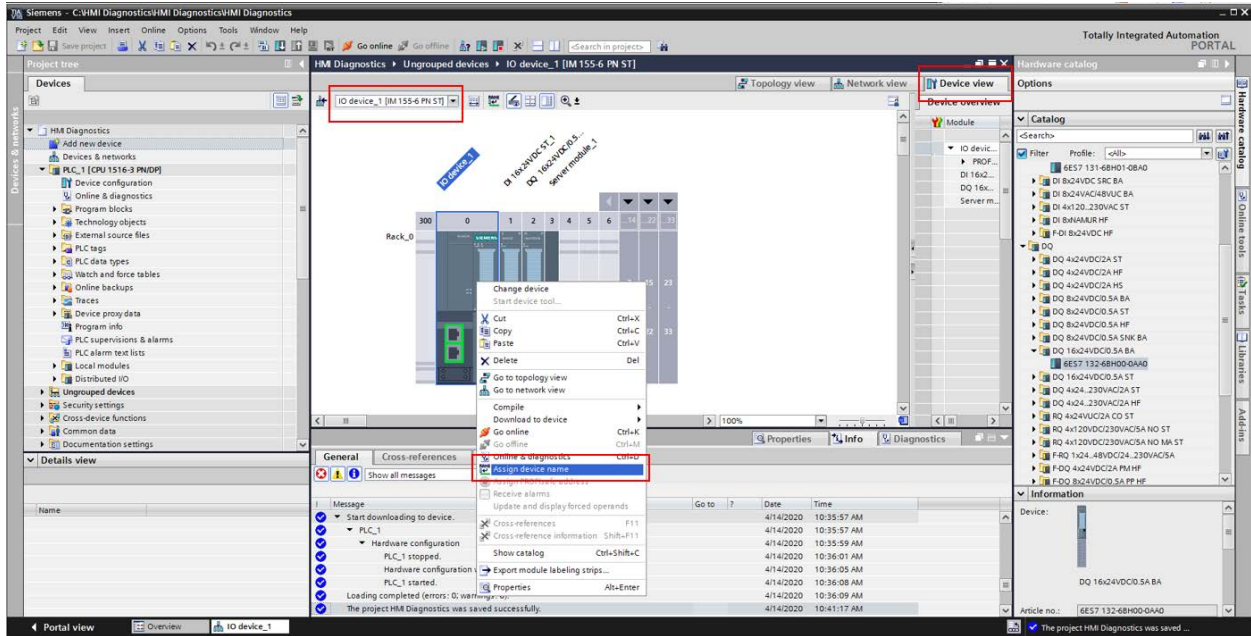
- Scroll down to the “PROFINET” section and un-check “Generate PROFINET device name automatically”. Type new “PROFINET device name”. Please note that a Profinet device name is not case-sensitive, can contain letters, numbers, or dashes. The name cannot contain spaces, special characters, or underscores.



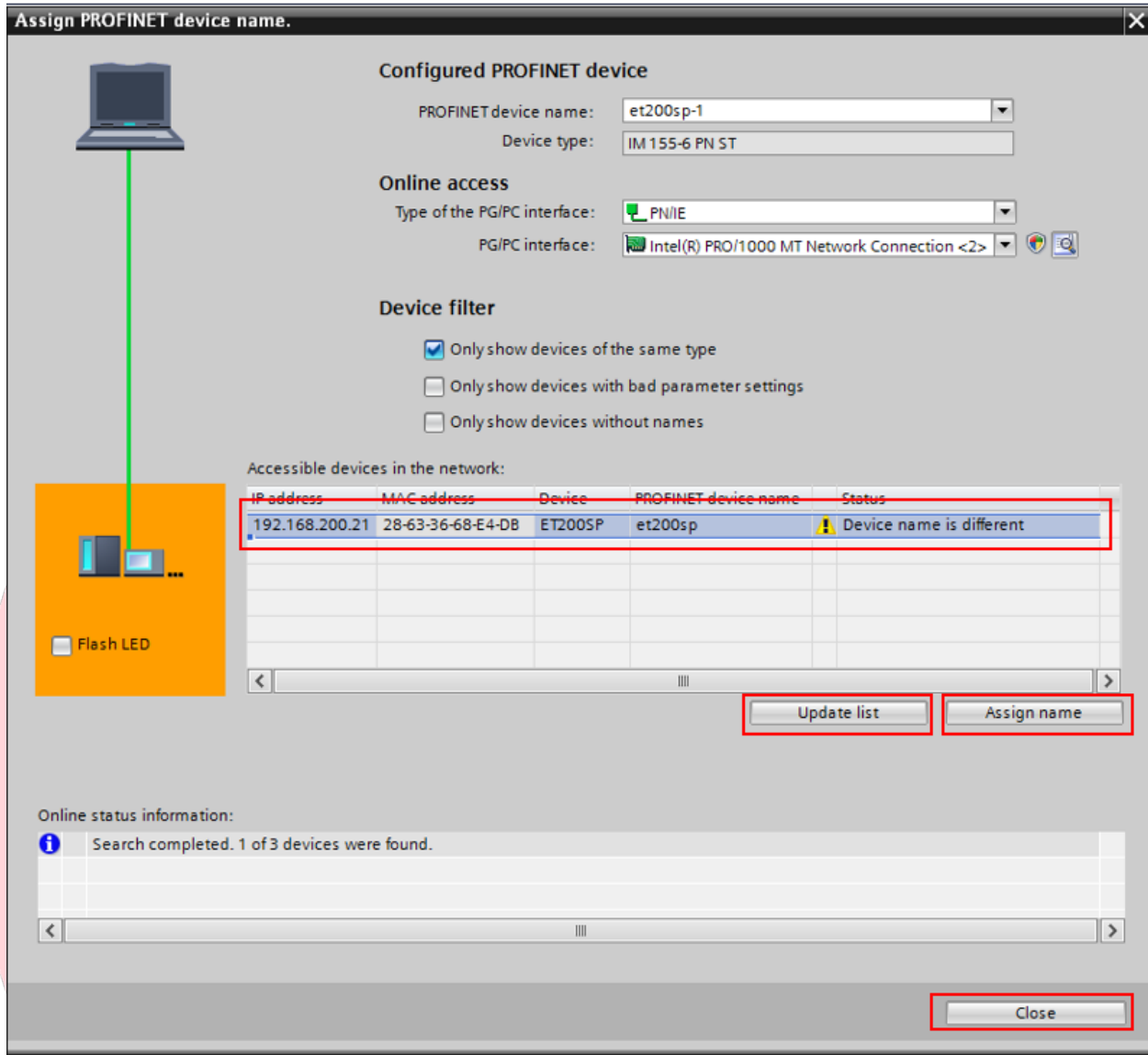
- Either double-click or click-and-drag the appropriate I/O modules to populate the rack.



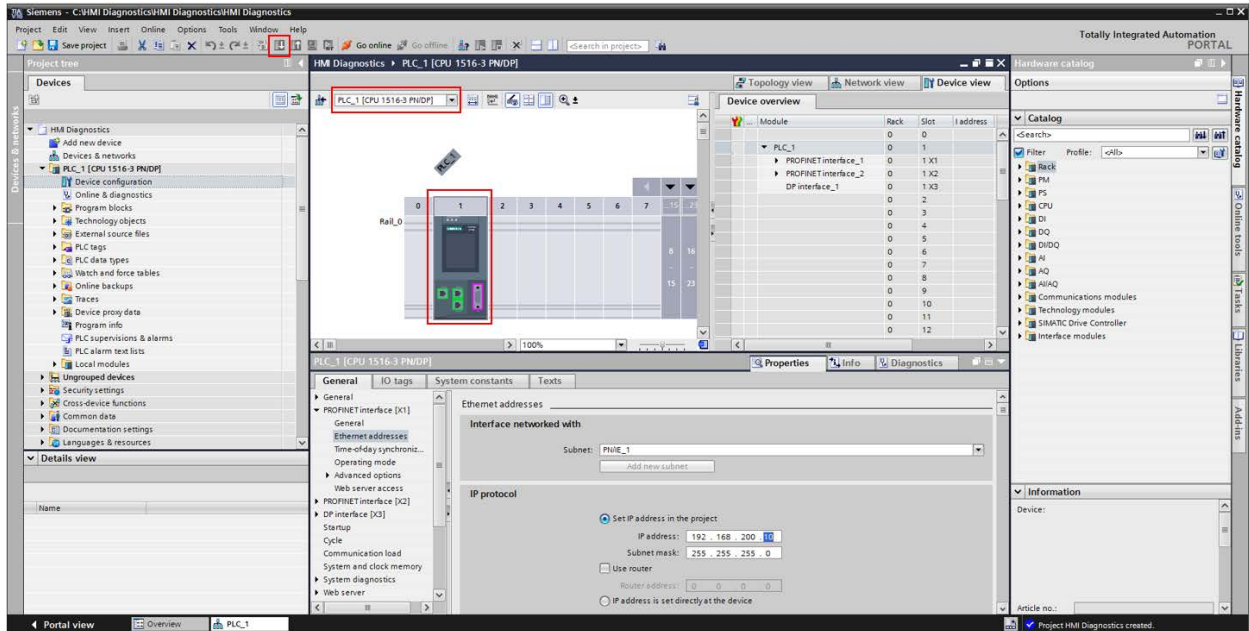
- Select the “Network view” tab.
- Click on the “Not assigned” hyperlink and select the PLC IO Controller.



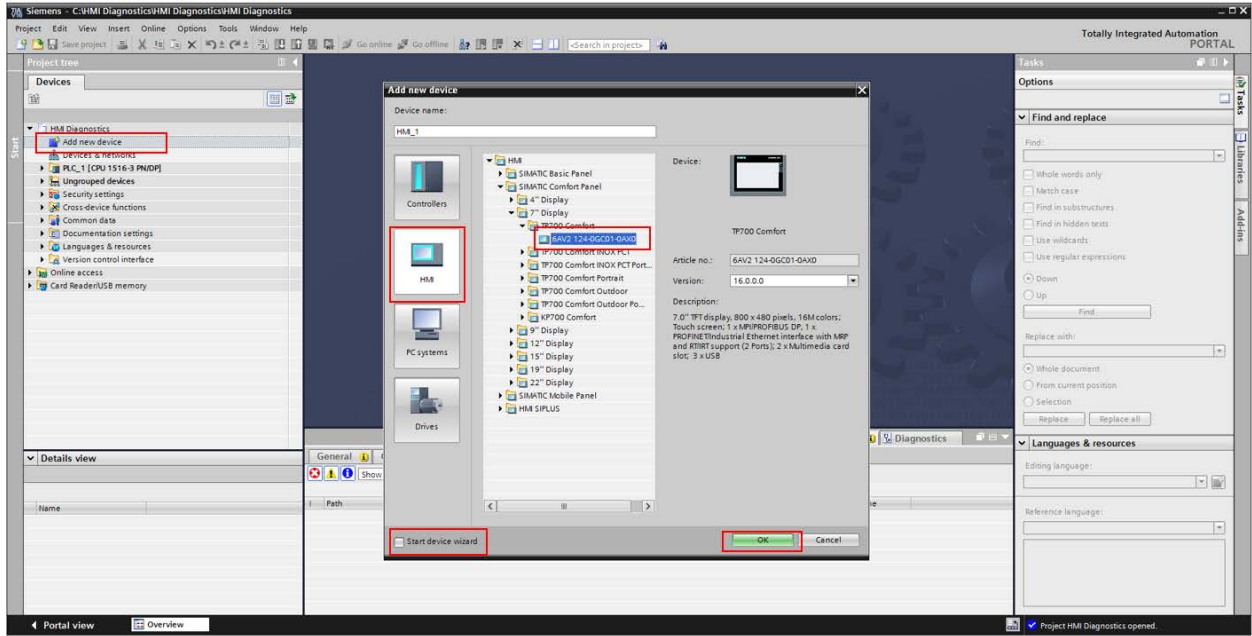
- Select the “Device view” tab.
- Select the IO device from the pull-down menu.
- Right-click on the bus module and click on “Assign device name”.



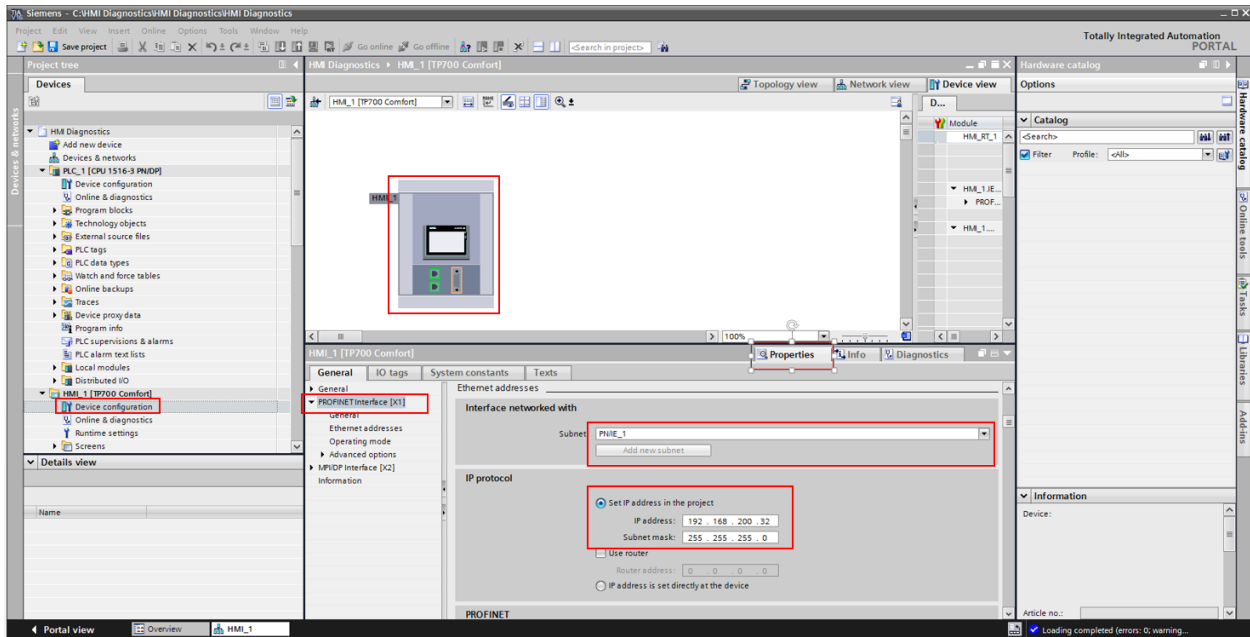
- Click on “Update list”.
- Select the found device.
- Click on “Assign name”.
- Click on “Close”.



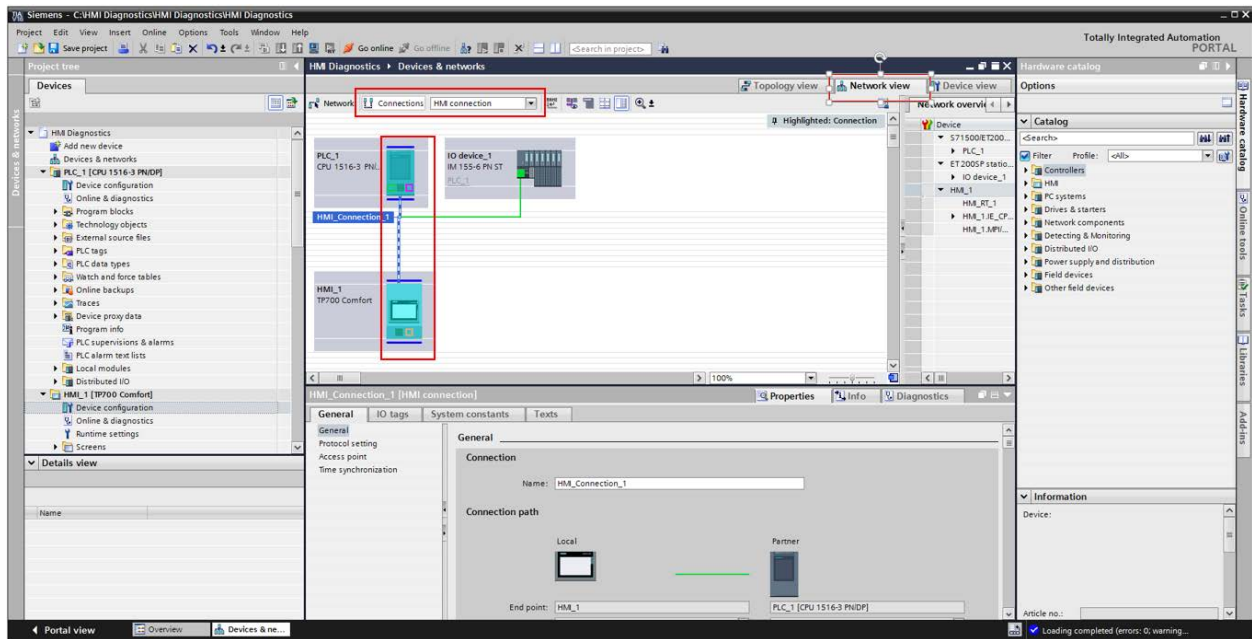
- Select the PLC in the pull-down menu.
- Select the CPU.
- Click on download button in the tool bar.



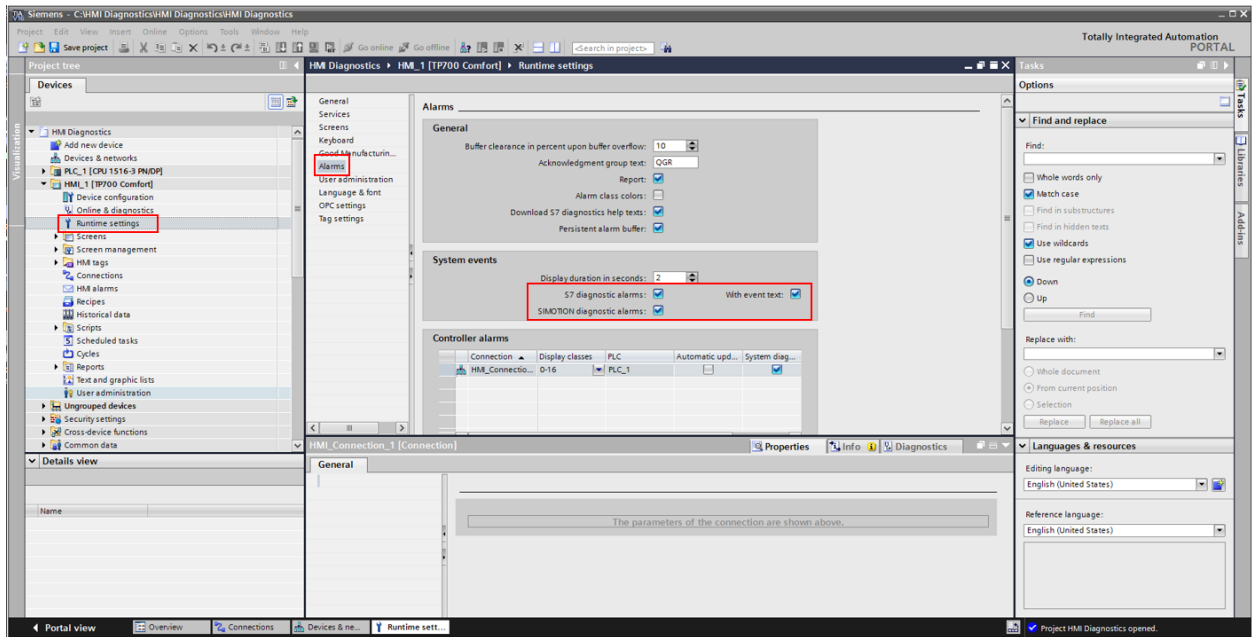
- Double-click on “Add new device”.
- Select “HMI”.
- Select the appropriate HMI.
- Uncheck the box for “Start device wizard”.
- Click on “OK”.



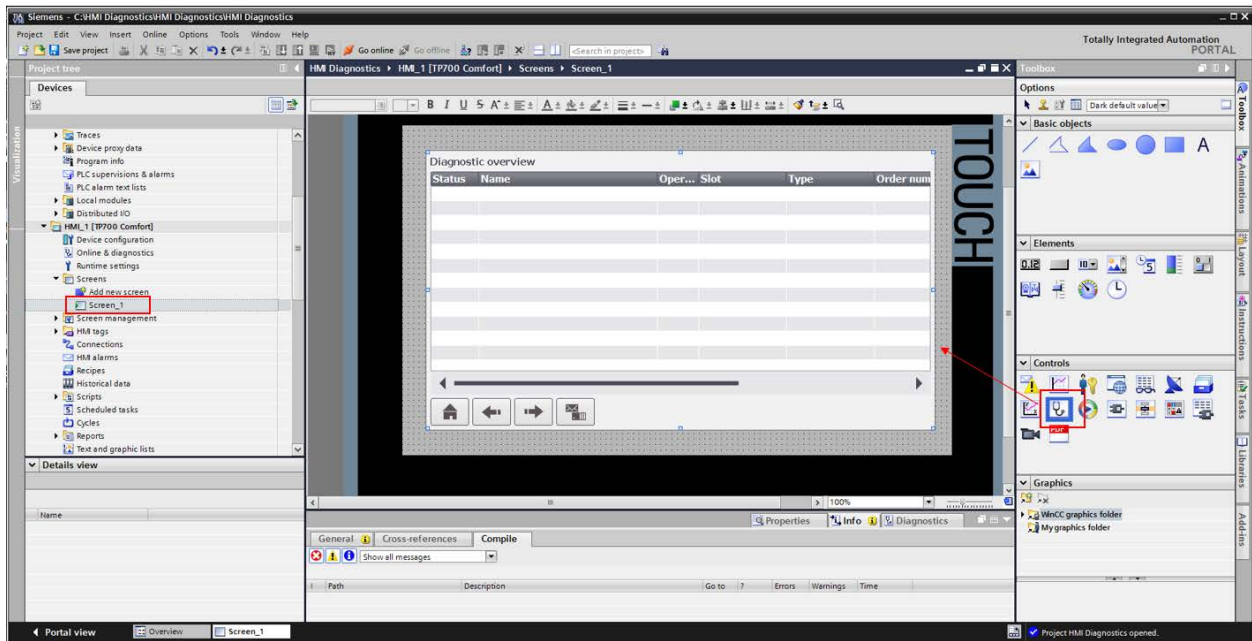
- Double click on “Device configuration” under the HMI.
- Select the HMI in the Device view.
- Select the “Properties” tab.
- Select “PROFINET interface [X1].
- Select the subnet that was created in the CPU.
- Set the IP address.



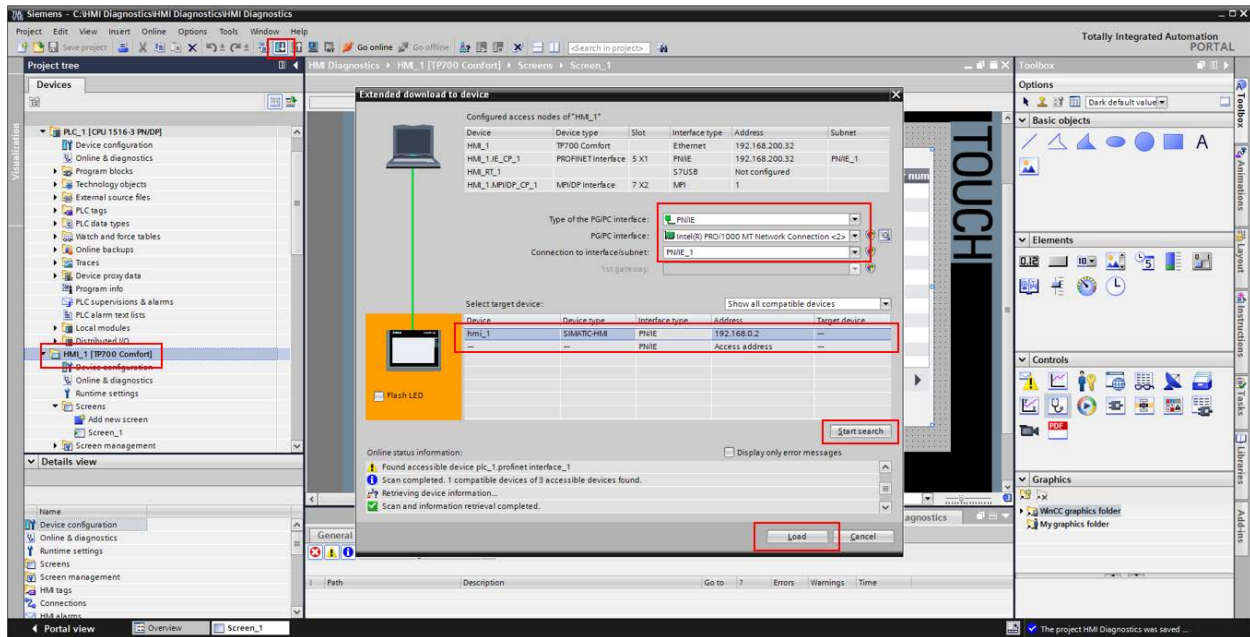
- Select the “Network view” tab.
- Click on “Connections”. Select “HMI connection” from the pull-down.
- Click-and-hold the Ethernet port of the CPU and drag-then-release on the Ethernet port of the HMI.



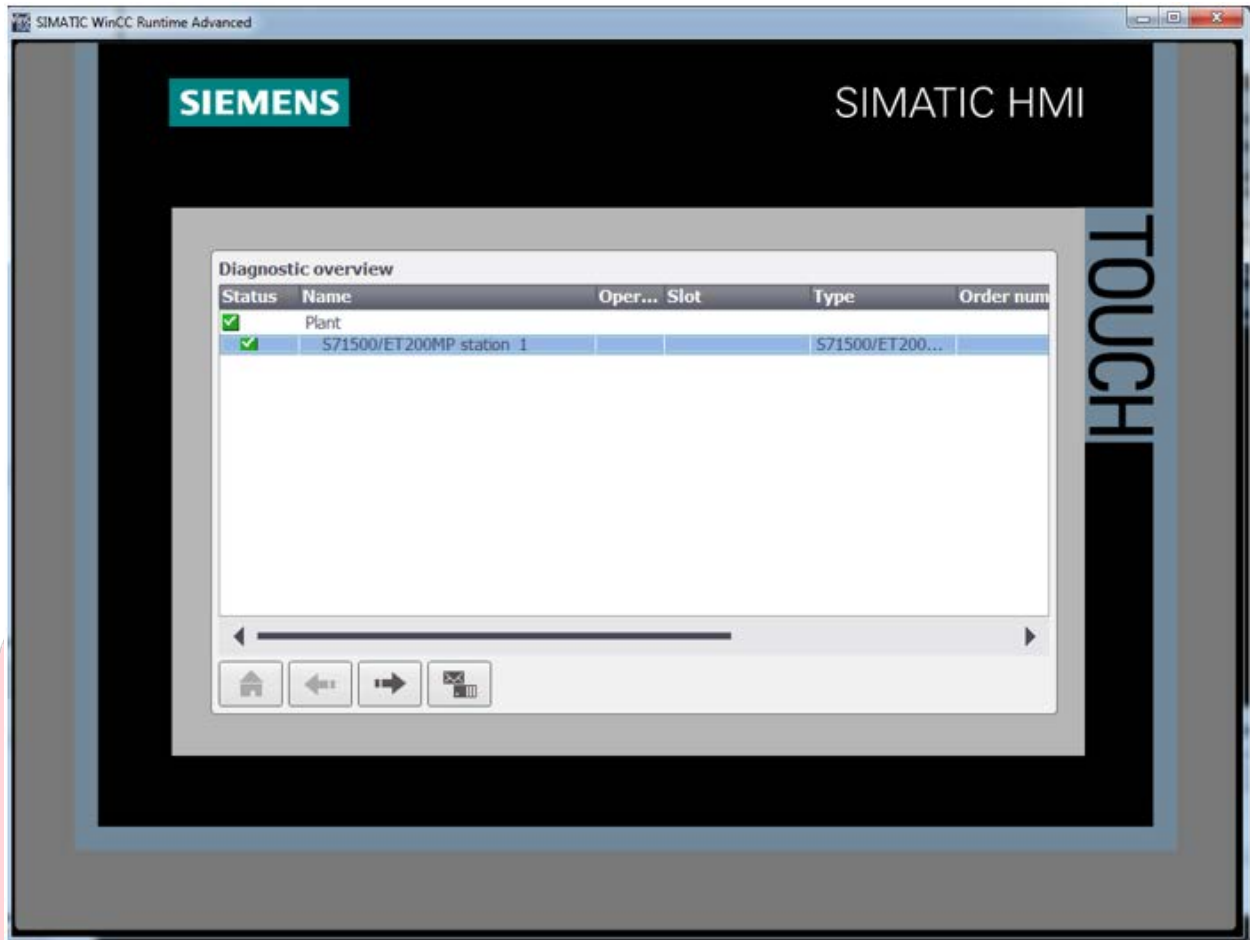
- Double-click on “Runtime settings”.
- Select “Alarms”.
- Check the boxes for “S7 diagnostic alarms”, “SIMOTION diagnostic alarms”, and “With event text”.



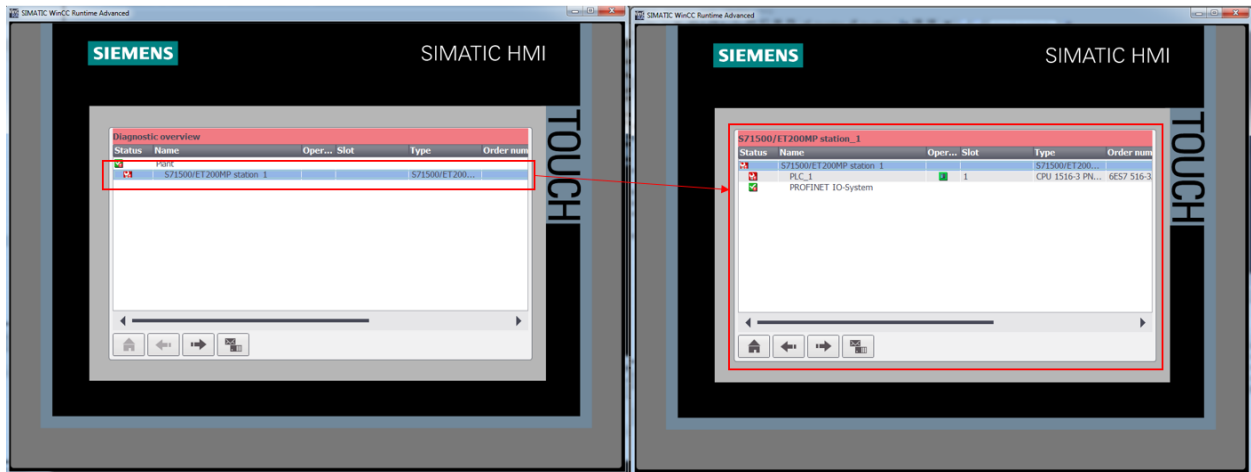
- Double-click on “Screen_1”.
- Click and drag “Systems diagnostics view” onto the screen. Resize as needed.



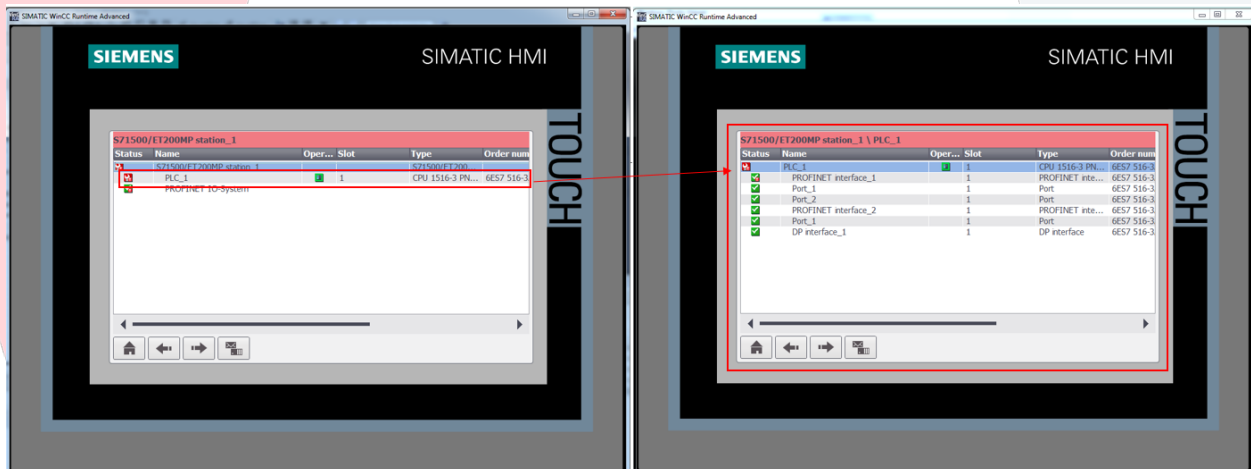
- Select the HMI in the project tree.
- Click on the download button in the tool bar.
- Select PN/IE for “Type of PG/PC interface”. Select the appropriate interface for your laptop for “PG/PC interface”. Select the subnet name that was created for the CPU for “Connection to interface/subnet”.
- Click on “Start search”.
- Once the HMI has been found, select it.
- Click on “Load”. This completes the needed configuration.



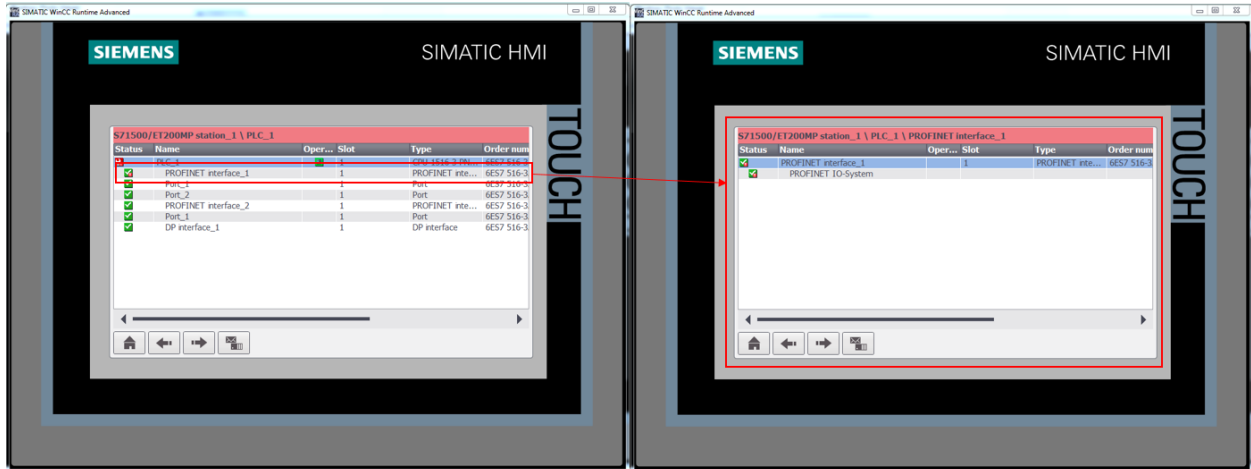
- The diagnostic overview should show that everything is OK.



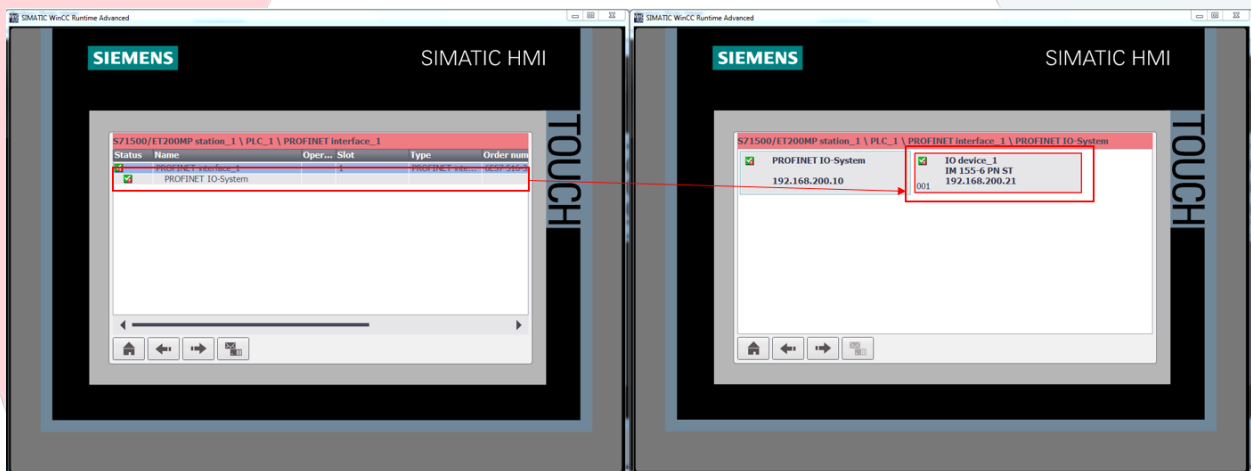
- After removing a module from the ET200SP rack, an error will appear.
- Double-click on “Station 1” to view more details of the station.



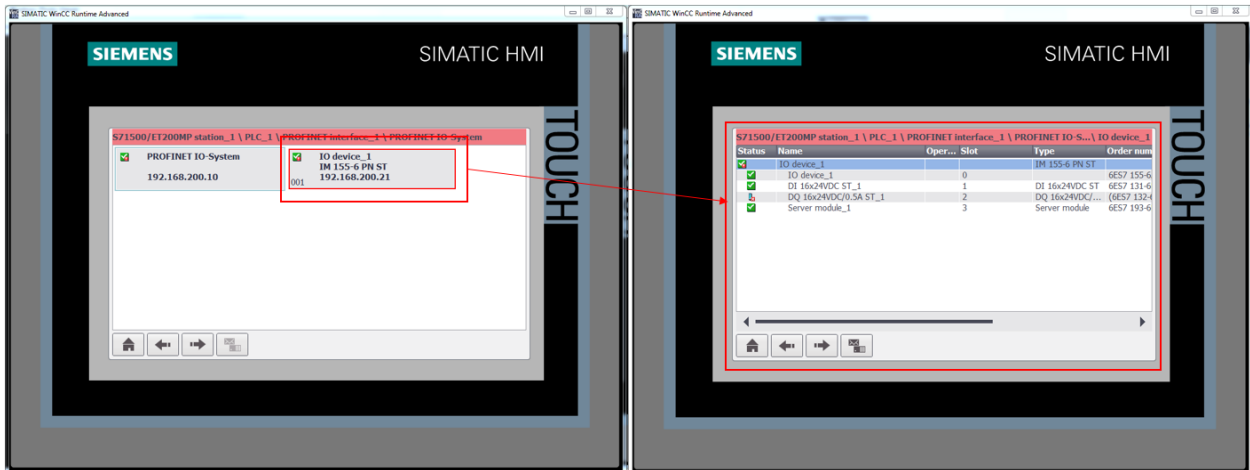
- Double-click on “PLC_1” to view details of the rack.



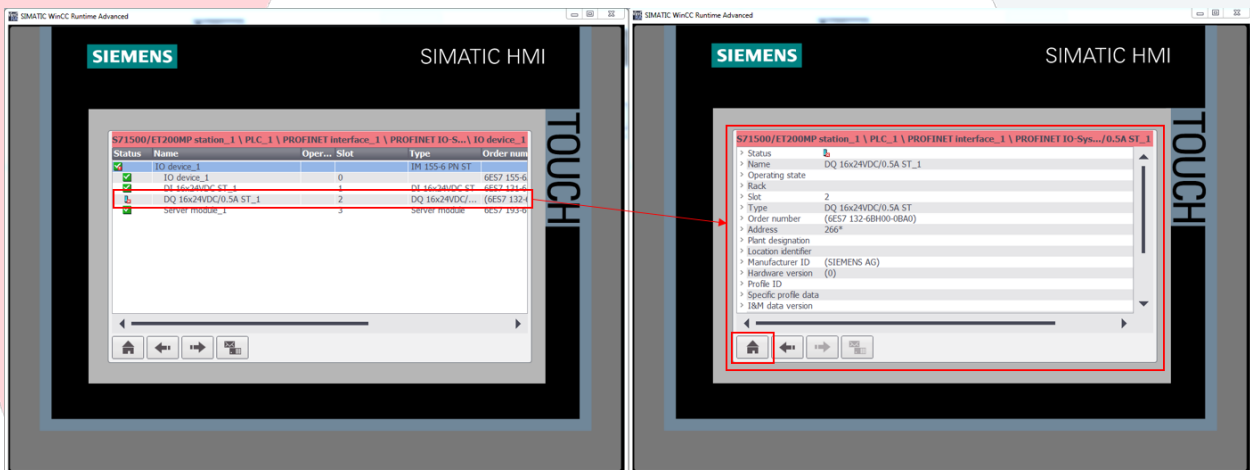
- Double-click on “PROFINET interface_1” to view details of the Profinet interface.



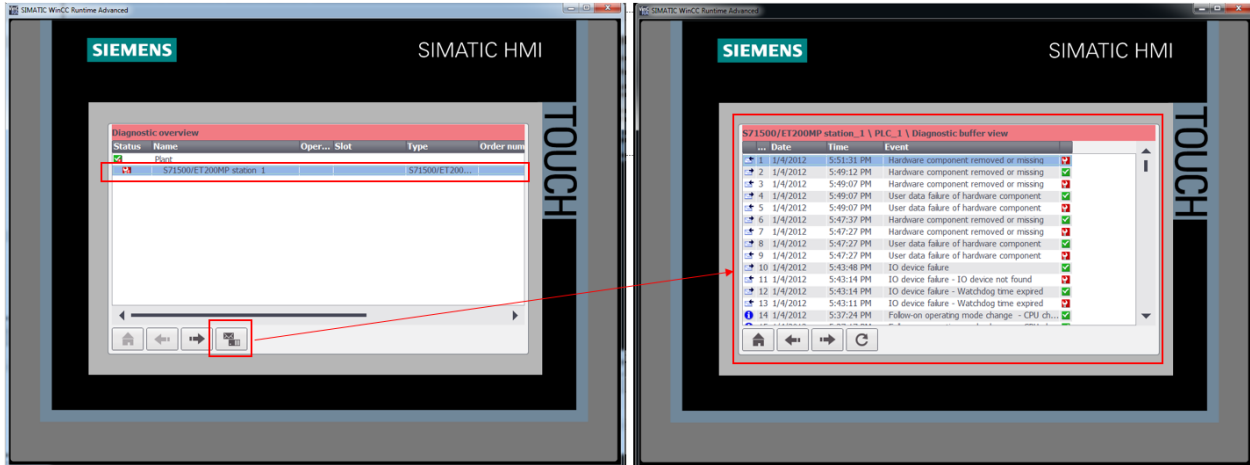
- Double-click on “PROFINET IO-System” to view details of the Profinet network.



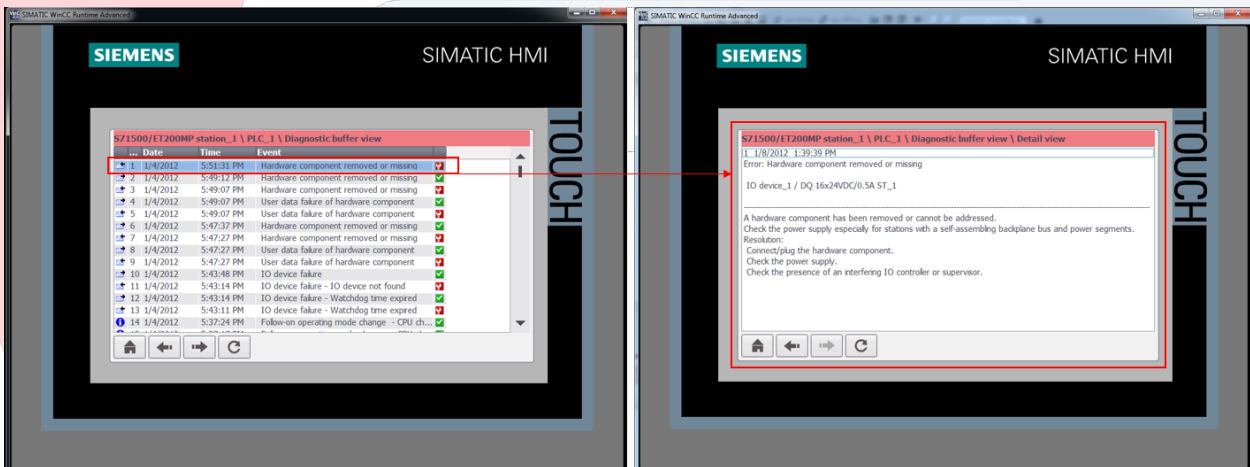
- Double-click on “IO device_1” to view details of the remote rack.



- Double-click on the faulted I/O card to view details on the error.
- Click on the “Home” button to return to the start of the diagnostic overview.



- You can also view error details in the Diagnostic Buffer. Click on the “Envelope/CPU” button to view the Diagnostic Buffer of the CPU.



- Double-click on any message to view the message detail