

Exercise 2-1: Simulating NI Hardware

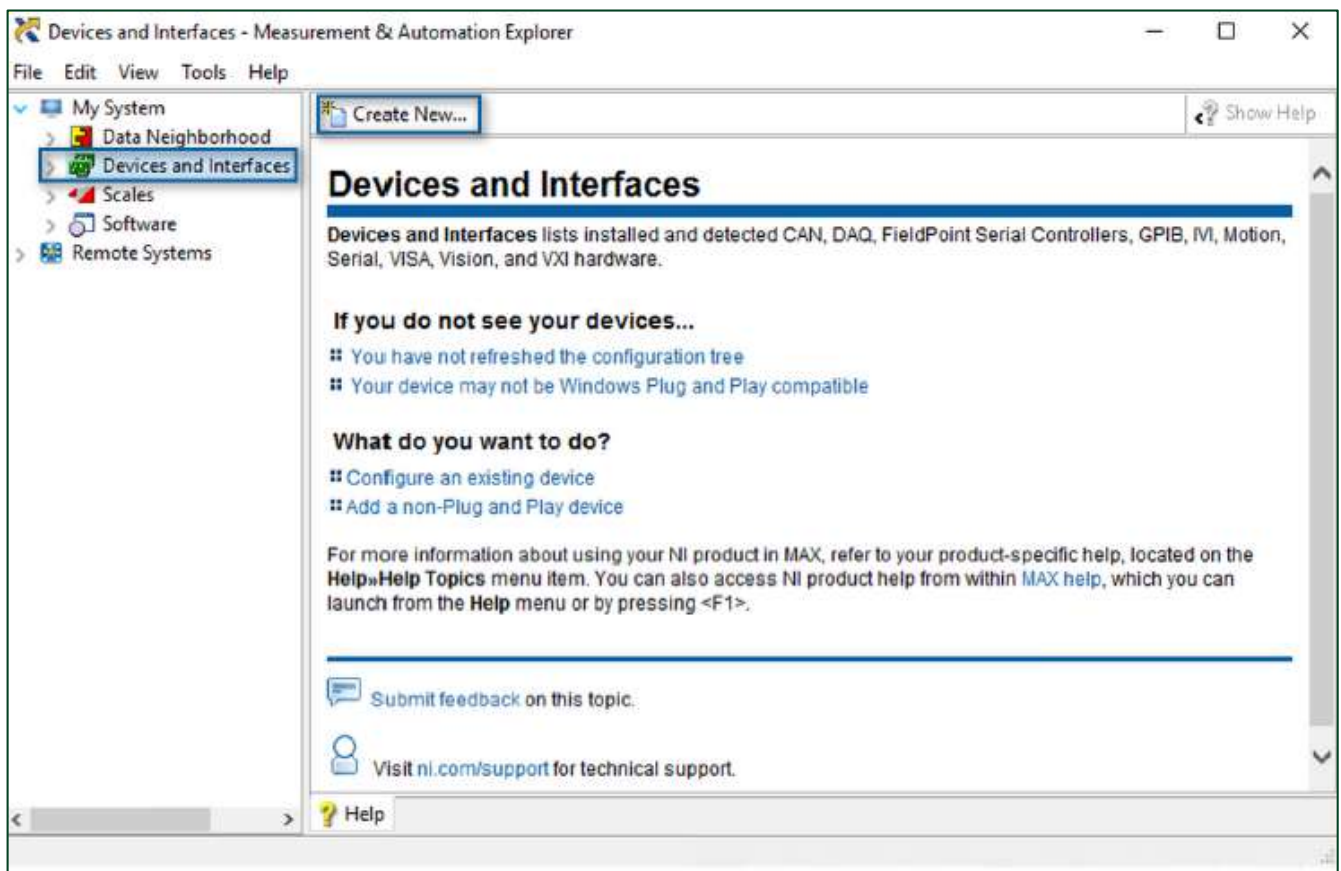
Goal

Use NI MAX to examine, configure, and simulate NI hardware.

Instructions

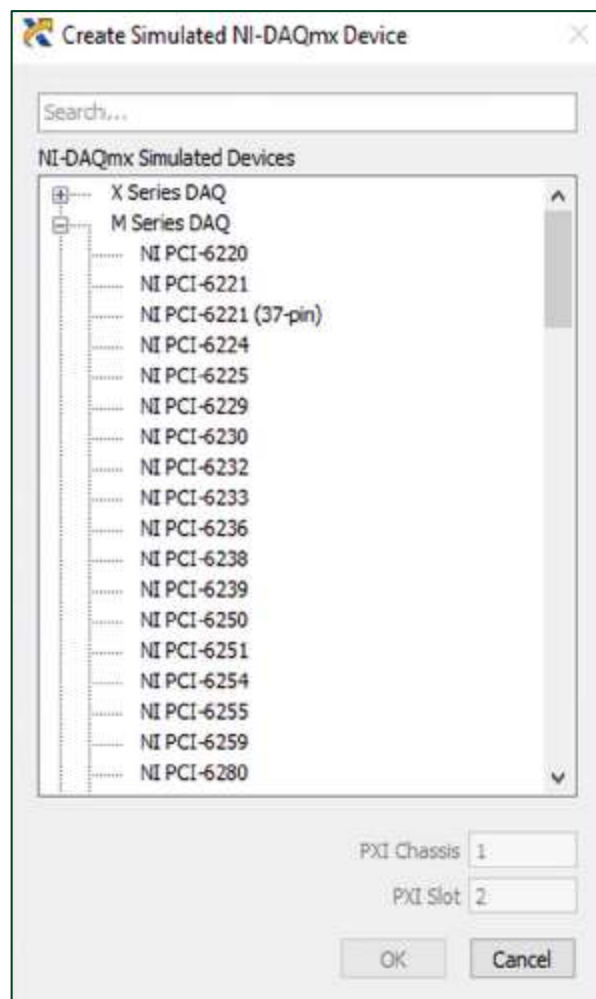
Examine the configuration of DAQ device:

1. Launch **NI MAX** from the Windows Start menu.
2. Create simulated hardware.
 - In the NI MAX, select **Devices and Interfaces**, and click the **Create New** button.



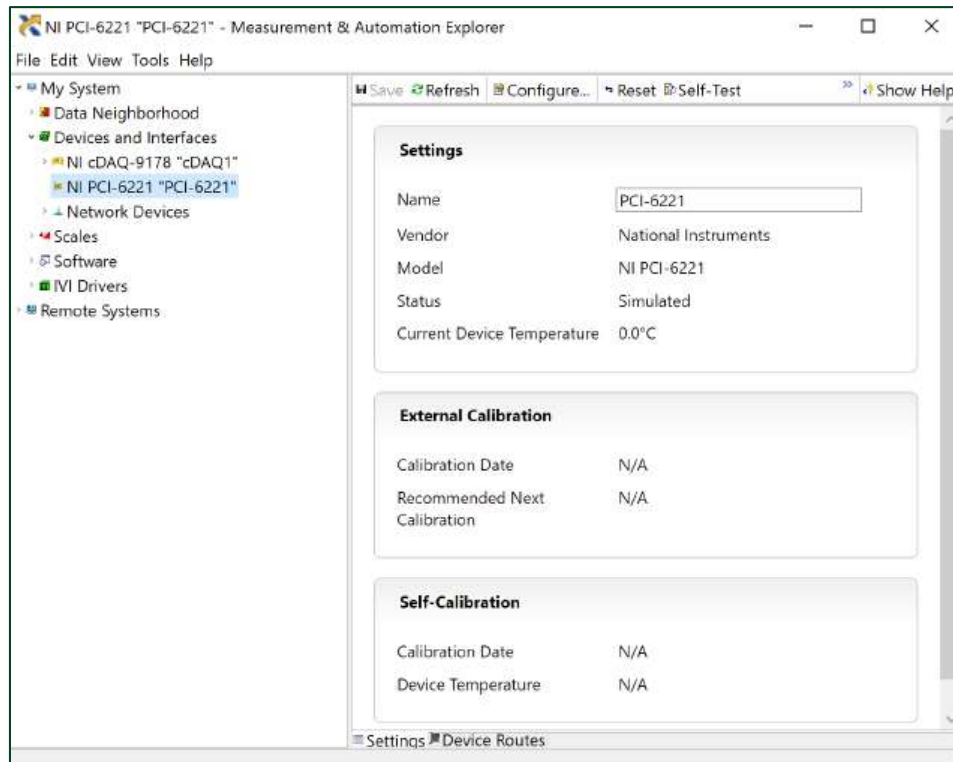
- In the Create New dialog box, select **Simulated NI-DAQmx Device** or **Modular Instrument**, and click **Finish**.

- Expand the **M Series DAQ** tree, and select **NI PCI-6221**.



- Click **OK**.

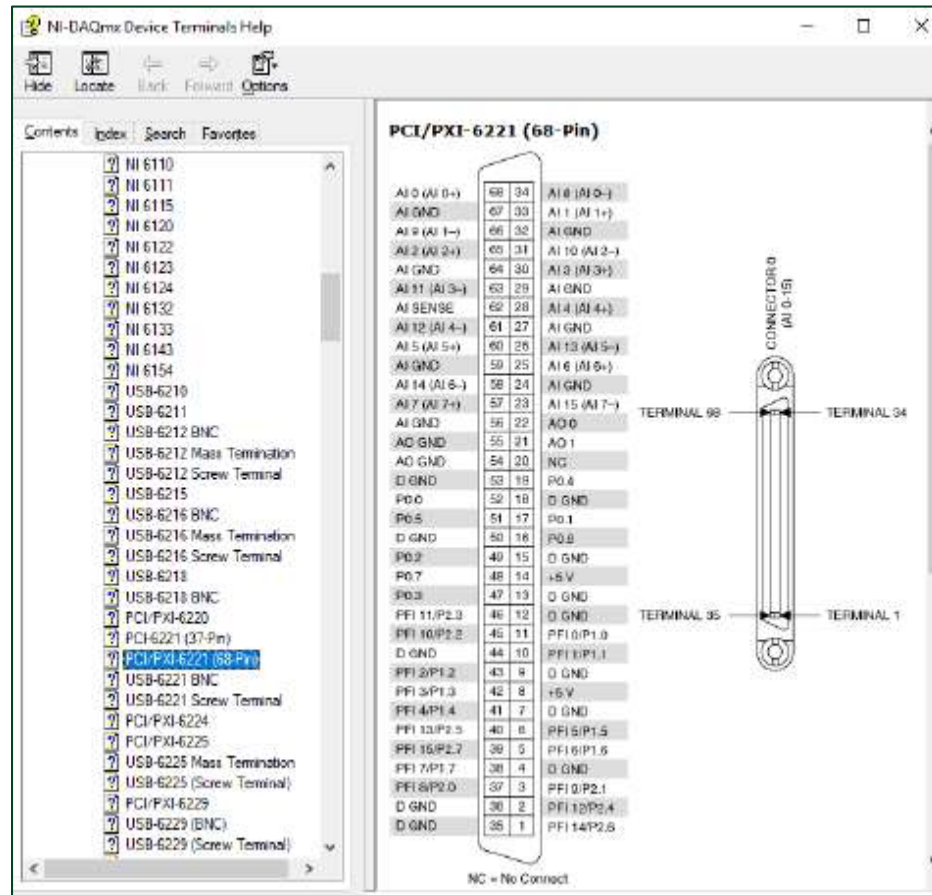
- Select the **simulated device** and name it PCI-6221 under the **Settings** section.



Examine the configuration of DAQ device:

1. Expand the **Devices and Interfaces** section.
2. Select the **device** that is connected to your machine. Green icons represent real devices and yellow icons represent simulated devices. You might have a different device installed, and some of the options shown might be different. MAX displays National Instruments hardware and software in the computer. The device alias appears in quotes following the device type. The Data Acquisition Vis use this device alias to determine which device performs DAQ operations. MAX also displays the attributes of the device such as the system resources that the device uses. Make sure the device you use is named PCI-6221. To rename a device, right-click the **device** and select **Rename** from the shortcut menu.

- Click **Device Pinouts** and explore the pinout information.



- Select the **Settings** tab to see the information about the last time the device was calibrated both internally and externally. Not all devices contain calibration information.
- If you are using a physical device, right-click the **NI-DAQ device**, e.g. NI PCI-6221 or NI USB-6212, etc., in the configuration tree and select **Self-Calibrate** to update the built-in calibration constants and calibrate the DAQ device using a precision voltage reference source. When the device has been calibrated, information in the **Self-Calibration** section updates. Skip this step if you are using a simulated device.
- Close NI MAX when finished.

End of Exercise 2-1