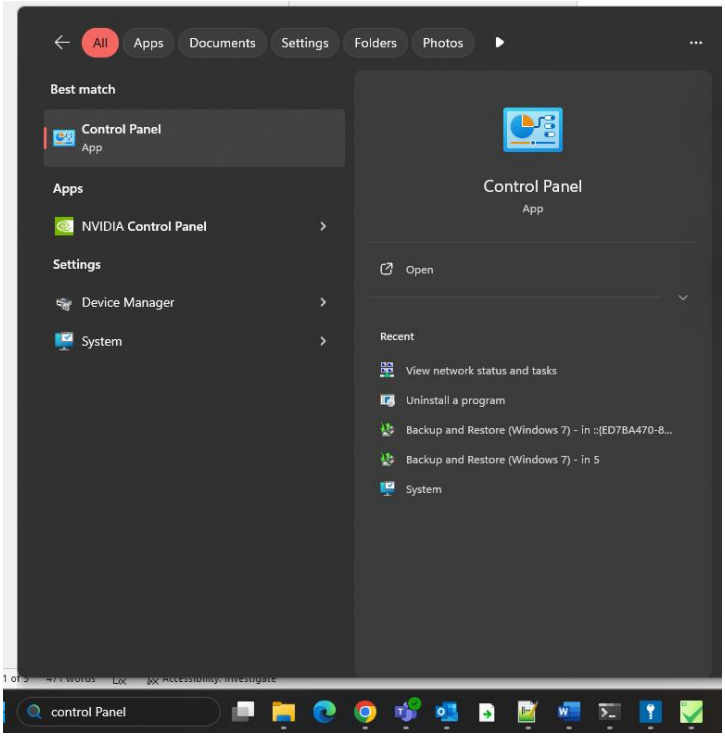
This document provides directions to set up the IP addresses of all instruments used in MTS for NGSRI.

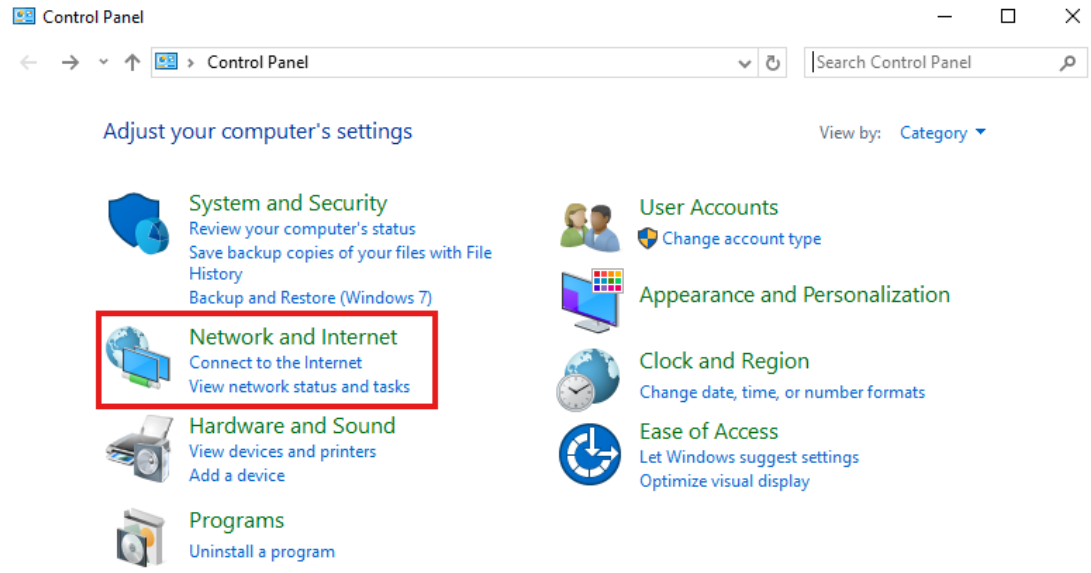
Setup for PC

Set up correct IP address for local MTS PC.

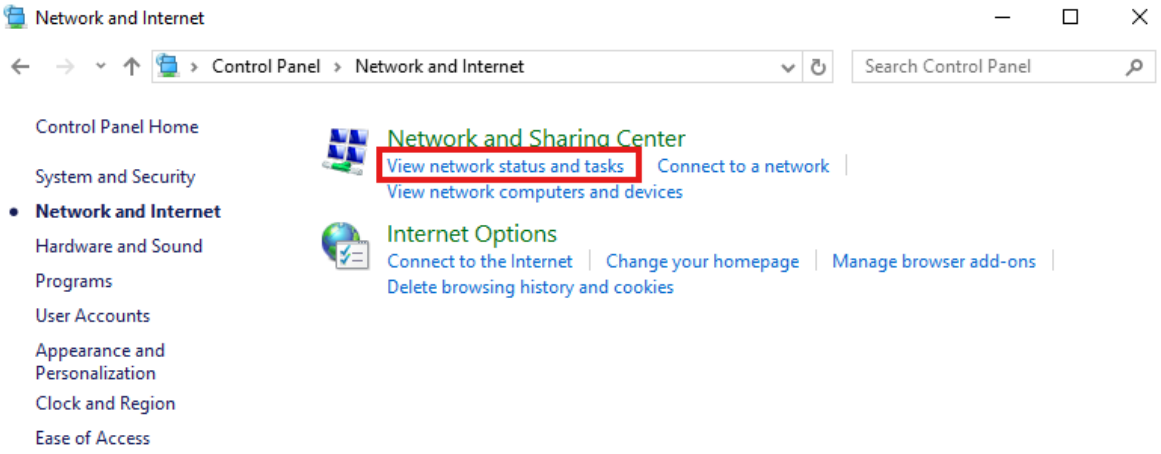
1. Go to the search bar at bottom of PC and pull up control panel.



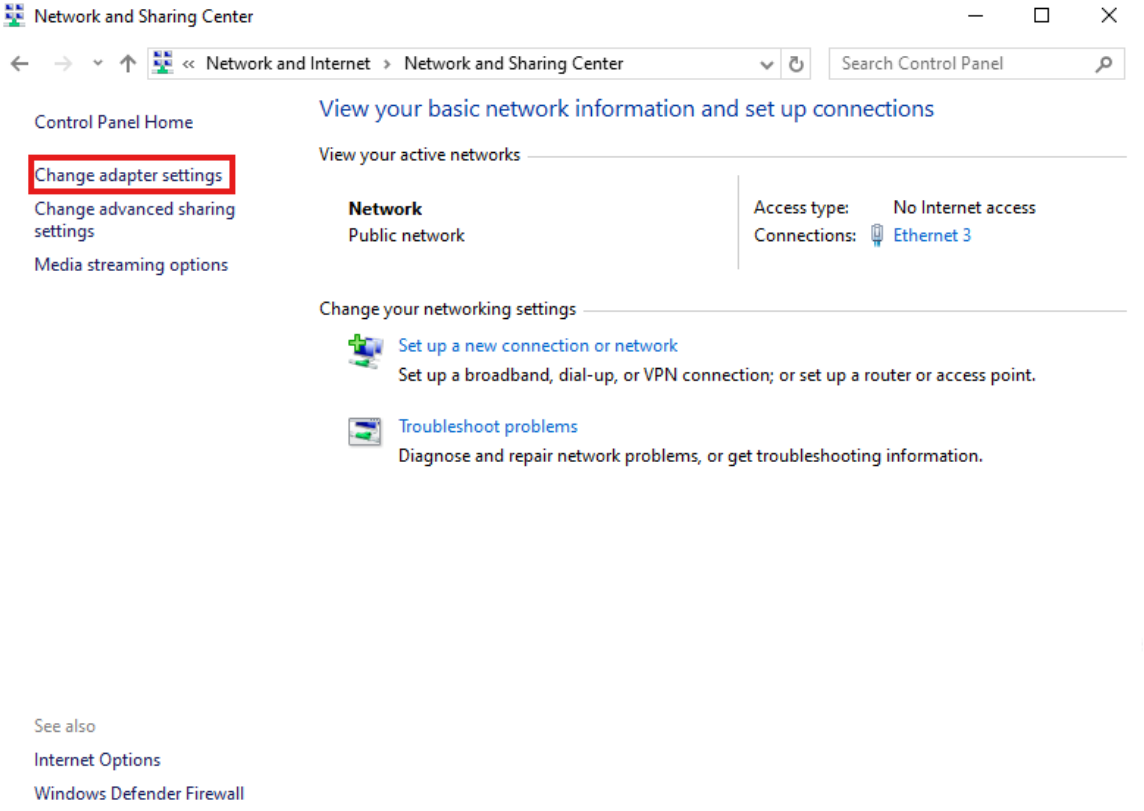
2. Click on 'Network and Internet'.



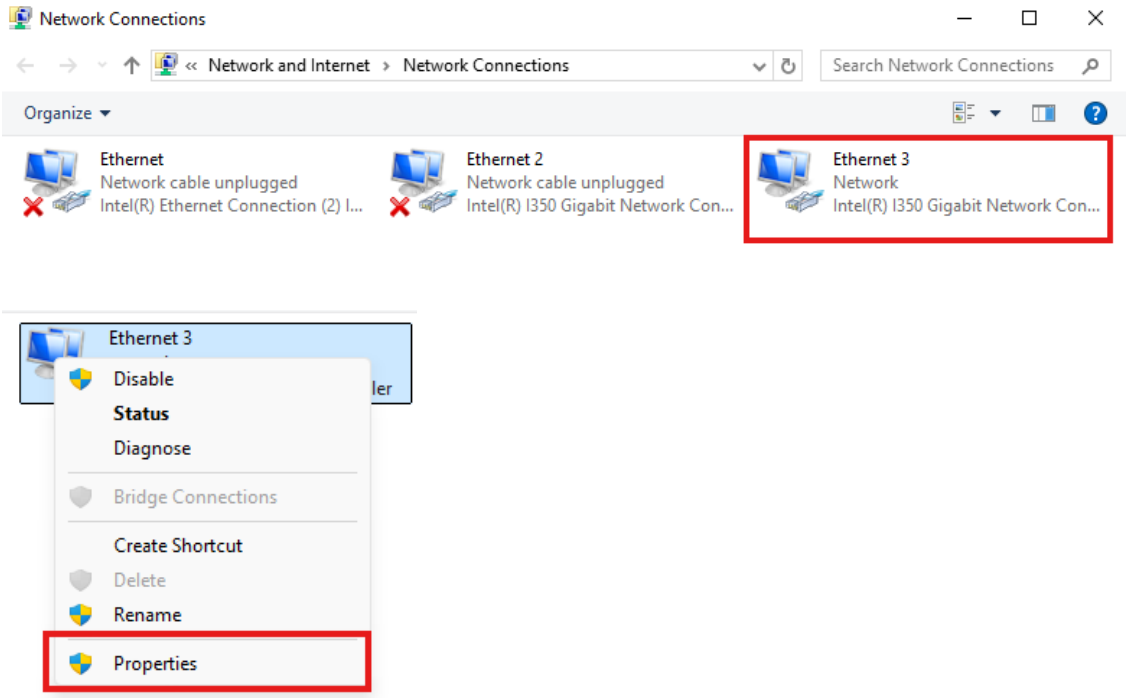
3. Click on ‘View network status and tasks’ under ‘Network and Sharing Center’.



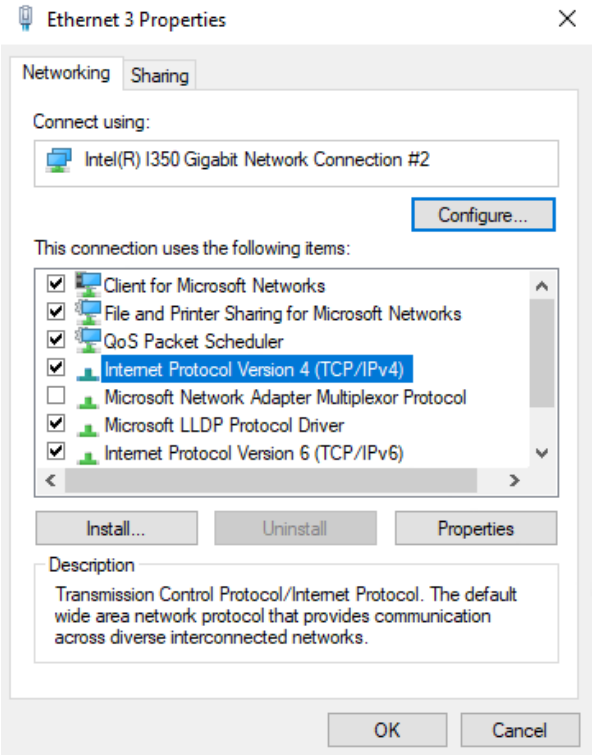
4. On left hand side click on ‘Change adapter settings’.



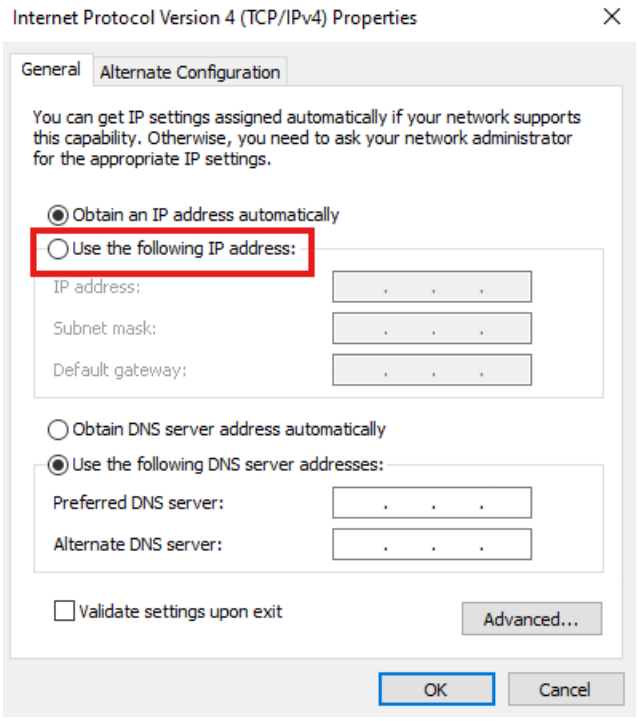
5. Right click on the Ethernet option that has cable connection and select properties.



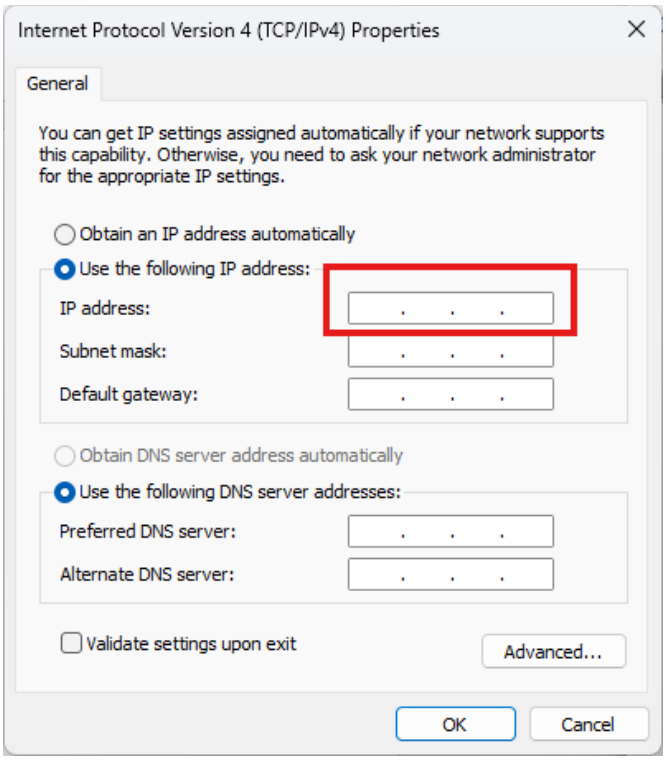
6. Navigate to IPv4 and double click on it.



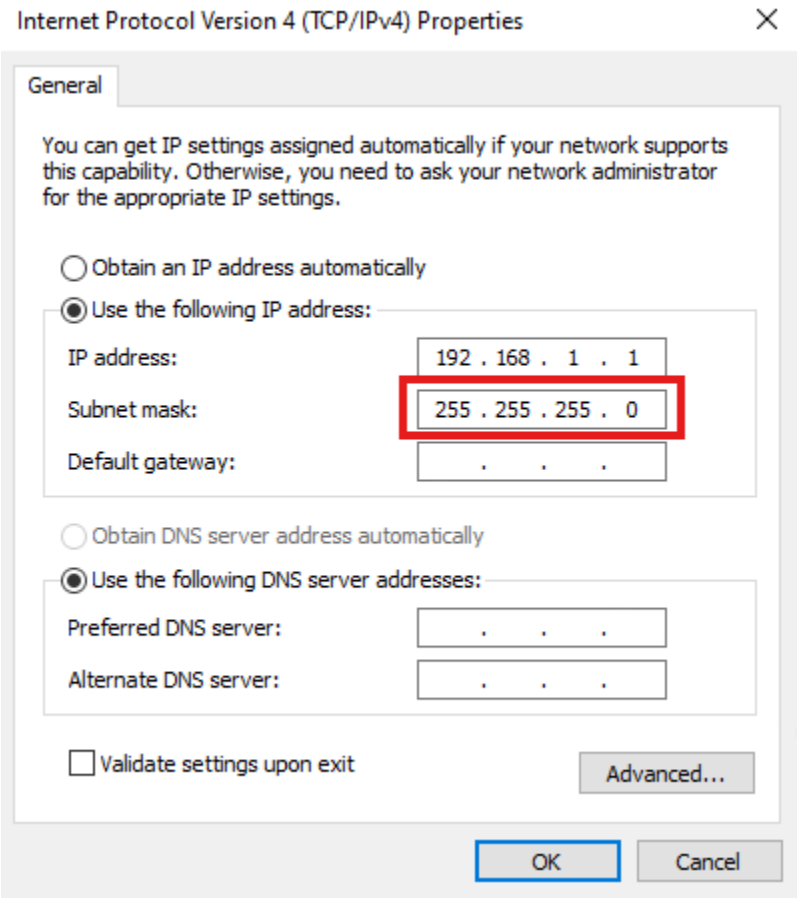
7. Change IP settings to allow for manual set up of IP address.



8. Input IP address for PC. 192.168.1.1



9. Input the Subnet mask as 255.255.255.0

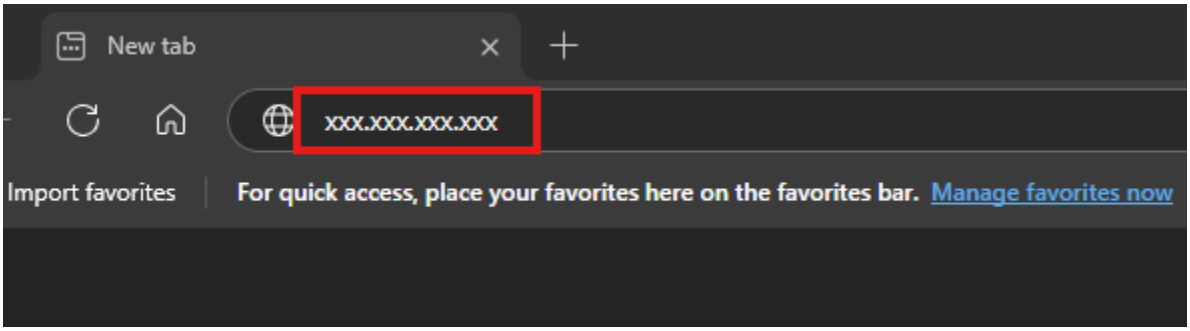


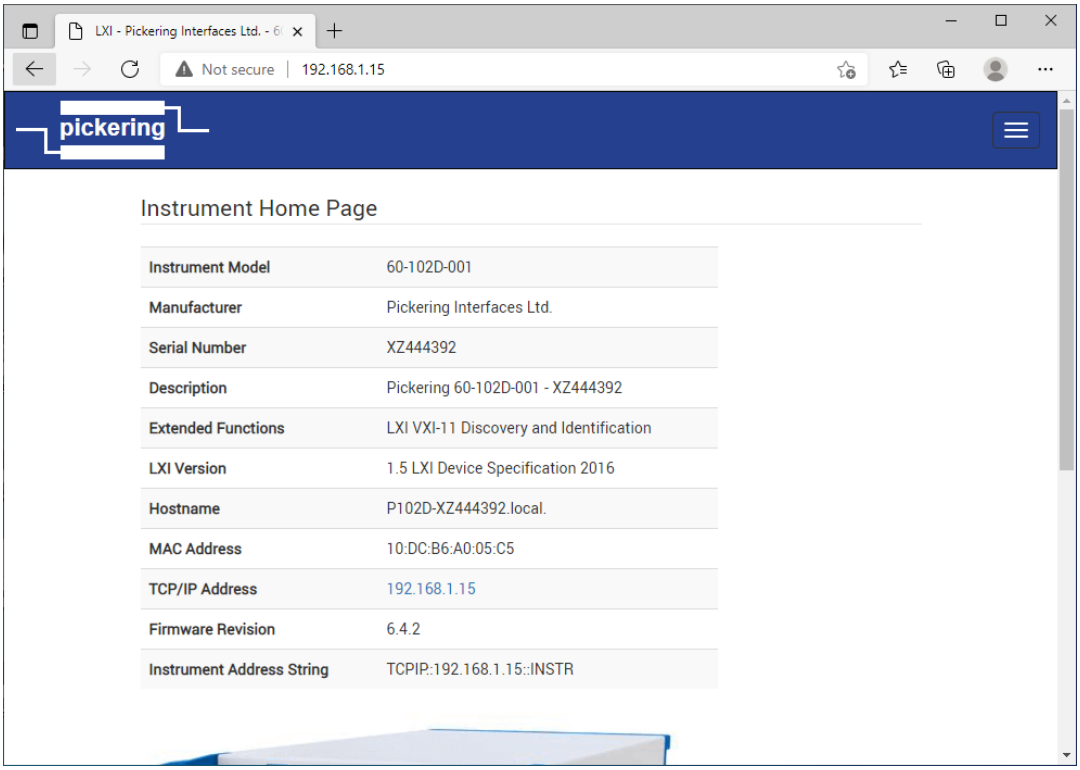
Setup for LXI

MTS uses a Pickering 60-102D-001 LXI Chassis. IP addresses must be set up to allow the PC and test software to communicate with this device. To complete these steps, the user must have admin privileges in order to update IP addresses on the PC.

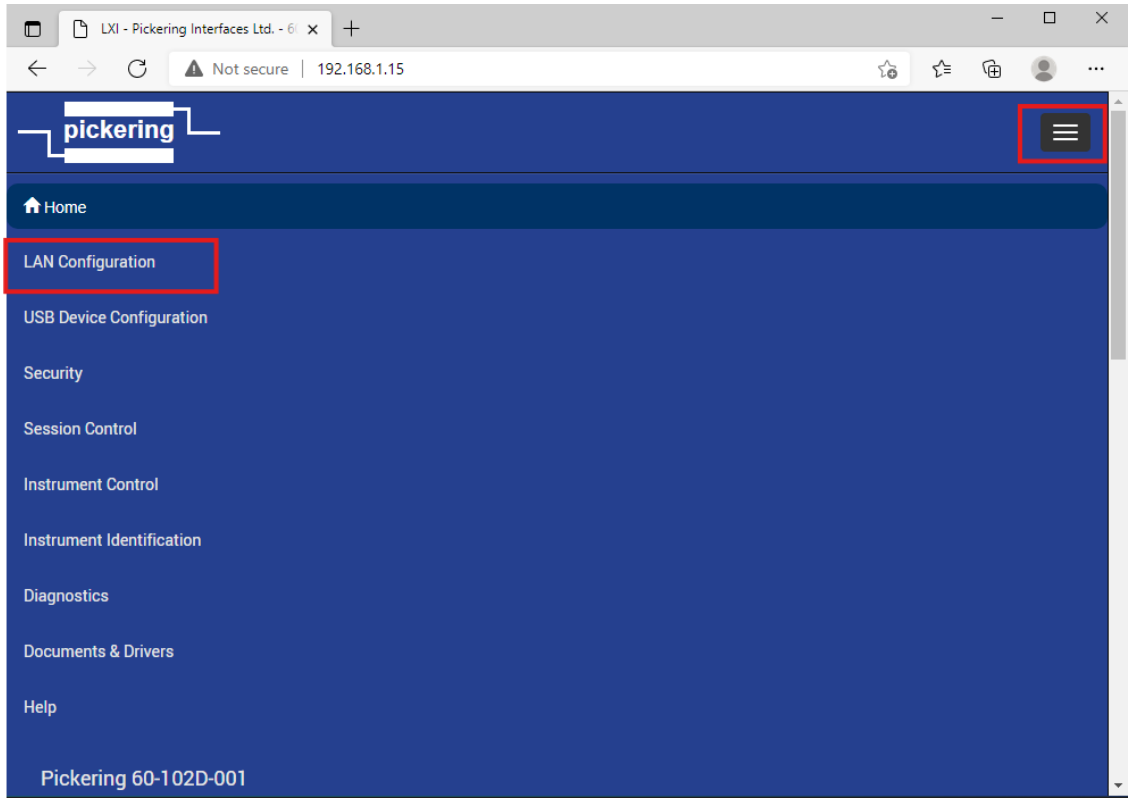
1. Ensure LXI Chassis and PC ethernet cables are connected to the switch.
2. Power on the LXI chassis and PC if needed.
3. Write down IP address that is shown on LXI Chassis front LED display.

4. Open the browser from Desktop.
5. In the web address bar at the top of the browser, type in LXI switch address and press enter. This will bring you to the LXI device's embedded homepage.

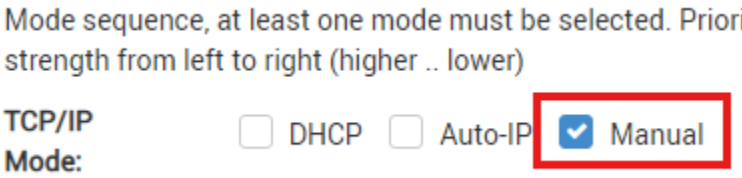




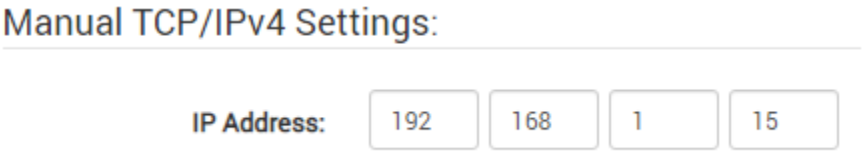
6. From the homepage, click on the menu button and select ‘LAN Configuration’.



7. Scroll down and select ‘Manual’ for the TCP/IP Mode

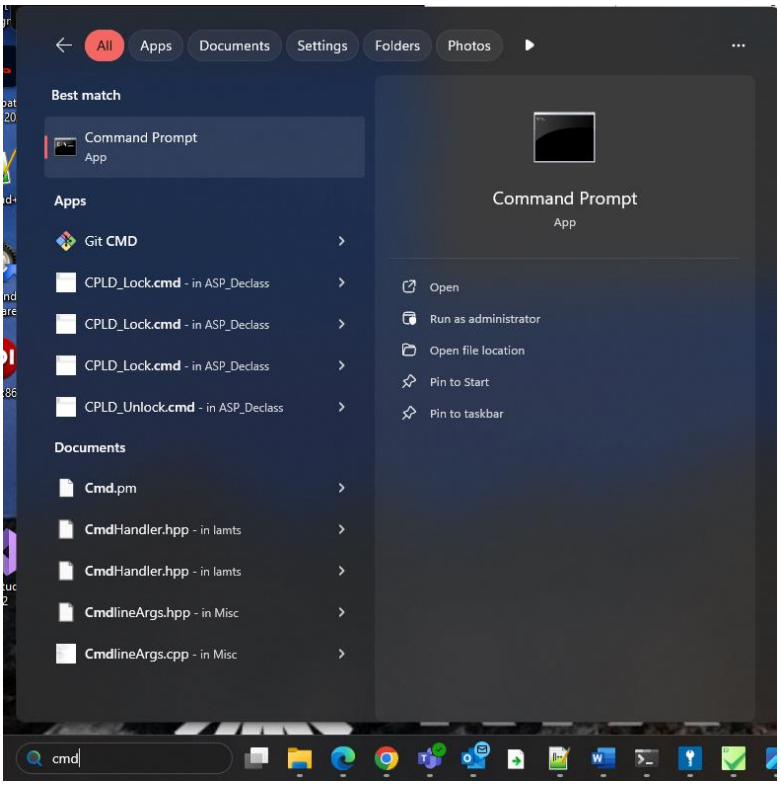


8. Update the IP Address to be 192.168.1.15



9. Update the subnet mask to be 255.255.255.0

10. Go to search bar on bottom left corner on PC and type in ‘cmd’ followed by enter key.



11. In the cmd window, type in ‘ping 192.168.1.15’ and press enter on keyboard.

```
C:\Users\Admin>ping 192.168.0.1
```

12. Verify connection based off reply. Successful response looks like image reference below.

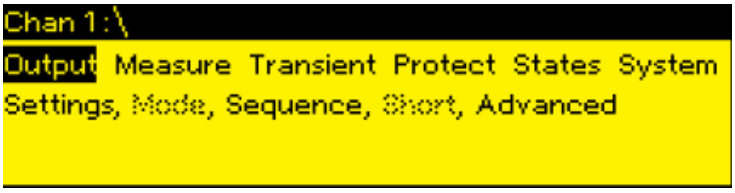
```
Pinging 192.168.0.1 with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=2ms TTL=64
Reply from 192.168.0.1: bytes=32 time=47ms TTL=64
Reply from 192.168.0.1: bytes=32 time=1ms TTL=64
Reply from 192.168.0.1: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 47ms, Average = 12ms
```

Setup for Keysight Power Supply

MTS uses two sets of Keysight N6700 C power supply mainframes in the station bay. Both racks of power supplies have IP addresses that need to be set to allow PC to communicate with the instruments.

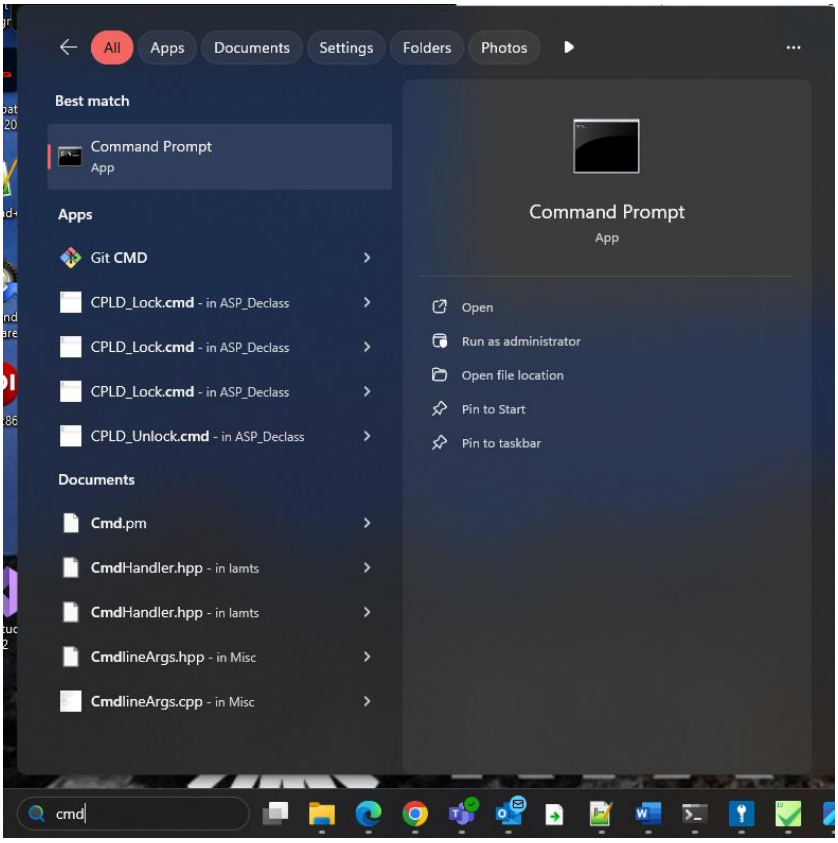
1. Ensure both Keysight Power Supplies and PC ethernet cables are connected to the switch.
2. Power on both power supply mainframes.
3. On the power supply front panel, press the ‘Menu’ button.

4. On the LED screen, a series of words will be displayed for menu options. Use the right navigation key ▶ on the power supply panel to navigate to ‘System’ and press the ‘Select’ button located in the middle of the arrows. The Menu screen will update with more options available under System level.



5. Press ‘Select’ button to enter ‘IO’ menu options.

6. Press ‘Select’ button to enter ‘LAN’ meu options.
7. Use the arrow buttons to navigate to ‘Modify’ and press the ‘Select’ button.
8. Press the ‘Select’ button for ‘IP’ options.
9. Use the arrows to navigate to the ‘Manual’ radio button option and press select
10. Navigate to IP address bar and update addresses
    a. Top Power Supply Mainframe: 192.168.1.18
    b. Bottom Power Supply Mainframe: 192.168.1.19
11. Press the ‘Enter’ button on the power supply panel.
12. Update subnet mask to be 255.255.255.0 for both power supply mainframes.
13. Press the ‘Enter’ button on the power supply panel.
14. Press the ‘Back’ button on the control panel twice. A message will pop up regarding LAN settings changed. After changing LAN settings, you must Save the changes.
15. Navigate with arrows to ‘Apply’ and press the ‘Select’ button.
16. Press the ‘Select’ button to apply the changes. A message will display network will restart. Message will notify user when complete.
17. After completion of network restart, press the ‘Meter’ button twice to return to the meter screen.
18. Go to search bar on bottom left corner on PC and type in ‘cmd’ followed by enter key.



19. In the cmd window, type in ‘ping 192.168.1.18’ and press enter on keyboard.

```
C:\Users\Admin>ping 192.168.0.1
```

20. Verify connection based off reply from power supply. Successful response looks like image reference below.

```
Pinging 192.168.0.1 with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=2ms TTL=64
Reply from 192.168.0.1: bytes=32 time=47ms TTL=64
Reply from 192.168.0.1: bytes=32 time=1ms TTL=64
Reply from 192.168.0.1: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 47ms, Average = 12ms
```

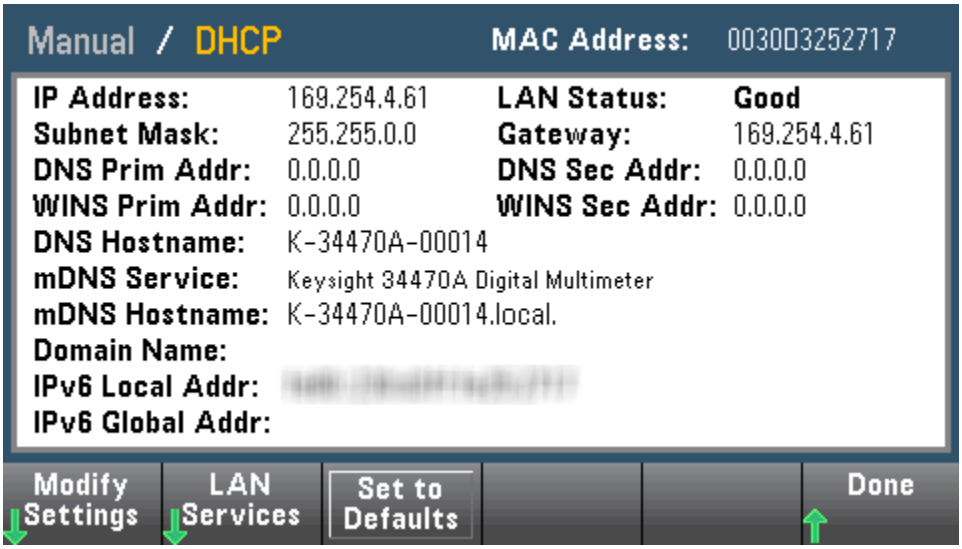
21. In the cmd window, type in ‘ping 192.168.1.19’ and press enter on keyboard.
22. Verify successful response from power supply. Text should display similar to step 20 from Setup for Keysight Power Supply section.

Set up for DMM

MTS uses a Keysight 34465A 6½ Digital Multimeter. This instrument’s IP address needs to be set up to allow the station to interact with it.

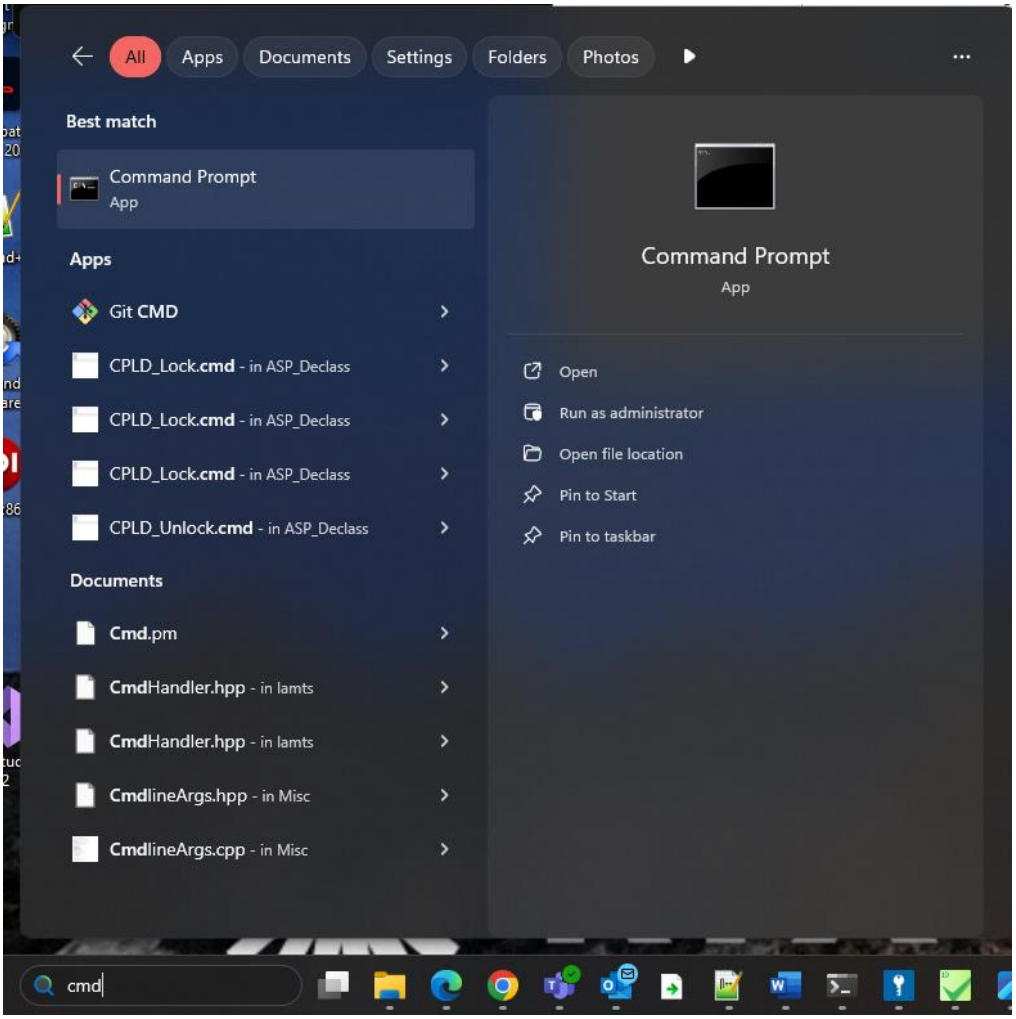
1. Ensure DMM and PC ethernet cables are connected to the switch.
2. Power on the DMM and PC if needed.
3. On front panel of DMM press ‘Shift’ button followed by the ‘Display’ button

4. Using the bottom row of buttons under the LED screen. Select ‘I/O Config’ (third from left)
5. Press button under ‘LAN Settings’. The screen should now look like the one below.



6. Press button under ‘Modify Settings’
7. Use the arrow keys to input IP address to 192.168.1.27 on the IP address bar. Use the left/right arrows on the front panel to change which number is highlighted. Use up/down arrows to increment/decrement the highlighted number.
8. Switch to subnet mask using bottom buttons for menu.
9. Update the subnet mask to 255.255.255.0 using same method as IP address.
10. Press ‘Done’
11. Press ‘Apply Changes’
12. Message will display saying LAN will restart. When message disappears, press ‘Done’ until return to home menu.

13. Go to the search bar on bottom left corner on PC and type in ‘cmd’ followed by enter key.



14. In the cmd window, type in ‘ping 192.168.1.27’ and press enter on keyboard.

```
C:\Users\Admin>ping 192.168.0.1
```

15. Verify connection based off reply. Successful response looks like image reference below.

```
Pinging 192.168.0.1 with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=2ms TTL=64
Reply from 192.168.0.1: bytes=32 time=47ms TTL=64
Reply from 192.168.0.1: bytes=32 time=1ms TTL=64
Reply from 192.168.0.1: bytes=32 time=1ms TTL=64

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 47ms, Average = 12ms
```