

Networking Setup For FD100

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Abstract—This note describes the network setup for FD100 robotics system.

I. SETUP THE LAN NETWORK

Scan IP addresses for all the devices on the LAN which FD100 and your computer are connected on. To check your computer IP address, use "ifconfig" command. Note your computer is Linux OS based system.

\$ifconfig

To check all the devices attached to your LAN, use "arp -a" command.

\$arp -a

The above command "arp" may not able to list all the IP devices on LAN, so log into your AP router to search under "status" to verify all IP devices on the LAN.

The AP router usually with IP address ends with "1", for example, 192.168.0.1 for Palo Alto site setting, so you can go with the following steps:

Step 1. pointing your browser to "http://192.168.0.1" user id: admin (by default), then enter password;

Step 2. Once logged in, select "Basic Router > DHCP", then you should be able to see the pop up window with all the IP devices as shown in the figure below.

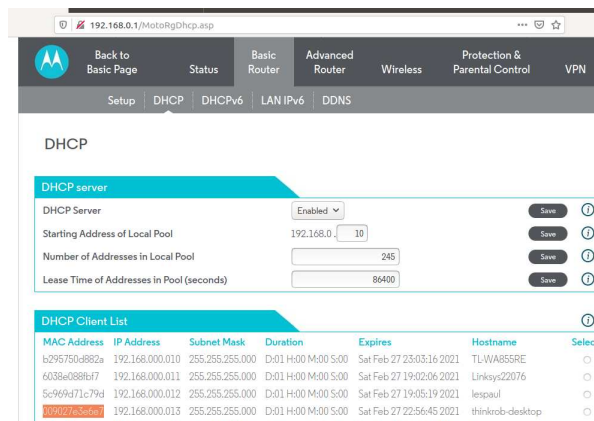


Fig. 1. Once enter the AP, select "Basic Router > DHCP".

The LAN network setup is described in the following figure.

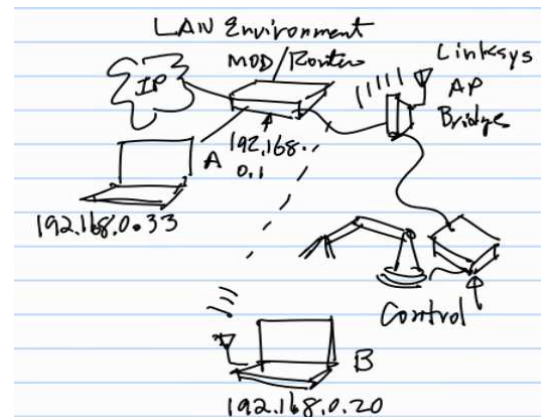


Fig. 2. LAN network architecture for FD100 at Palo Alto Site.

II. PYTHON TESTING PROGRAM TO RUN FD100



Fig. 3. Python Programming to Run FD100.

A. Network Connection Verification

To run python code to control FD100 robot, first, you will have to make sure that your computer is connected to FD100. The connection is established via ethernet cable, and the LAN architecture is given in the previous section, see Figure 2.

To confirm the robot networking part is working, use telnet to verify:

```
$telnet 192.168.0.13 8527
```

where assuming FD IP address is 192.168.0.13, and always use port 8527 [Yunxiao Jia, 2019].

When the telnet connection is successful, you should be able to see message on your console "telnet is connected". Then you can kill the telnet program and start running the python program as

```
$python3 turin_telnet.py
```

At the prompt of the program, you can enter your selection 1 or 2 to run pre-programmed trajectory 1 or 2. You can enter 3 to stop the program.

ACKNOWLEDGMENT

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REFERENCES

- [1] [Yunxiao Jia, 2019] CTI One Technical Note, Lec Turin Robot User Guide-YJ-HL-2019-03-04.ppt-2, Minh Passdown, FD100, Feb, 2021.