National University of Computer and Emerging Sciences

Computer Networks Lab

" Assignment 1 "

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MARKS:

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REMARKS:

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Task 1

i. Straight Through Cable

Straight through cables are type of cables which are primarily used for connecting unlike devices such as for connecting computer with hub or switch.

a. Pics

Here is the picture of straight through cable:

b. Tools and things required

The tools and things required for this task is given below:
1. Twisted pair cable (UTP)
2. Cutter (Crimping Tool)
3. Rj45 connecter

c. Procedure and Arrangement of wires

✓ We striped about 1 inch of the outer jacket from the end of the cable.

- ✓ We untwisted the pairs of wires and arranged them in the following order from left to right: white/orange, orange, white/green, blue, white/blue, green, white/brown, brown.
- ✓ We cut the wires to make them even and insert them into the RJ-45 connector in the same order as step 2.
- ✓ We used the crimping tool to crimp the connector onto the cable.
- ✓ We followed the same steps for the other side of the cable.

ii.   Crossover Cable

Straight through cables are type of cables which are primarily used for connecting the devices of same type such as for connecting two computers.

a. Pic

Here are the pictures of straight through cable:

Figure 1 end-1

Figure 2 end-2

b. Tools and things required

The tools and things required for this task is given below:
1. Twisted pair cable (UTP)
2. Cutter (Crimping Tool)
3. Rj45 connecter

c. Arrangement of wires

✓ We striped about 1 inch of the outer jacket from the end of the cable.

✓ We untwisted the pairs of wires and arranged them in the following order from left to right: white/green, green, white/orange, blue, white/blue, orange, white/brown, brown.

✓ We cut the wires to make them even and insert them into the RJ-45 connector in the same order as step 2.

✓ We used the crimping tool to crimp the connector onto the cable.

✓ On the other side of the cable, we followed the order of straight through cable.

Task 2

i. Procedure for connection

Steps are explained below with the screenshots:
- ✓ Connect both devices with ethernet cable (crossover wire)
- ✓ Change the advanced network settings and set the sharing settings in "all networks" and "public networks" tabs as shown in picture.
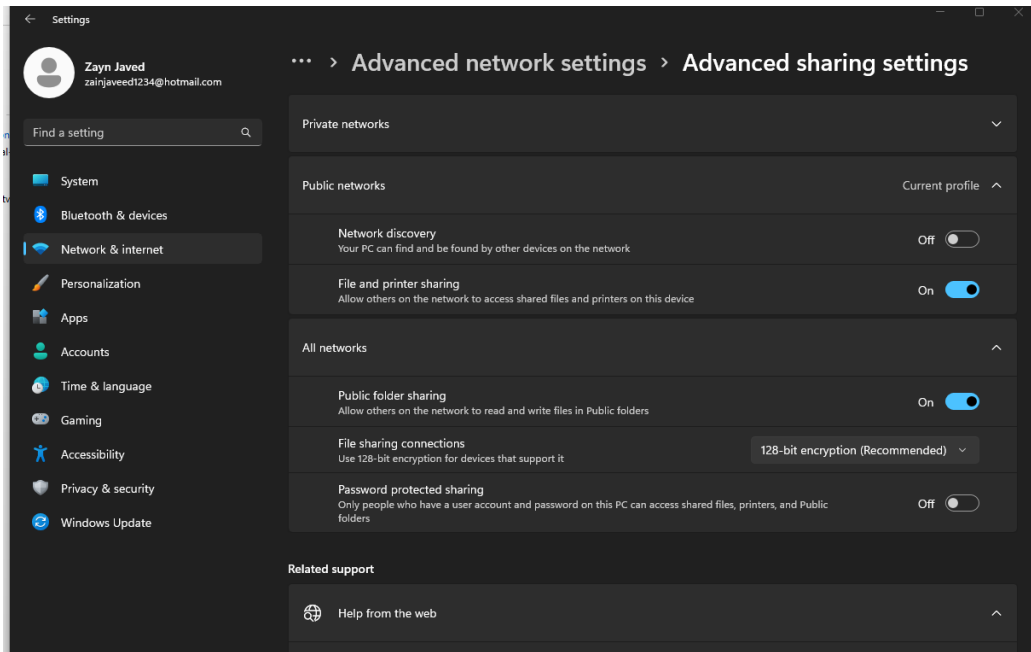
Figure 3 Device-1 setting of "all networks" tab
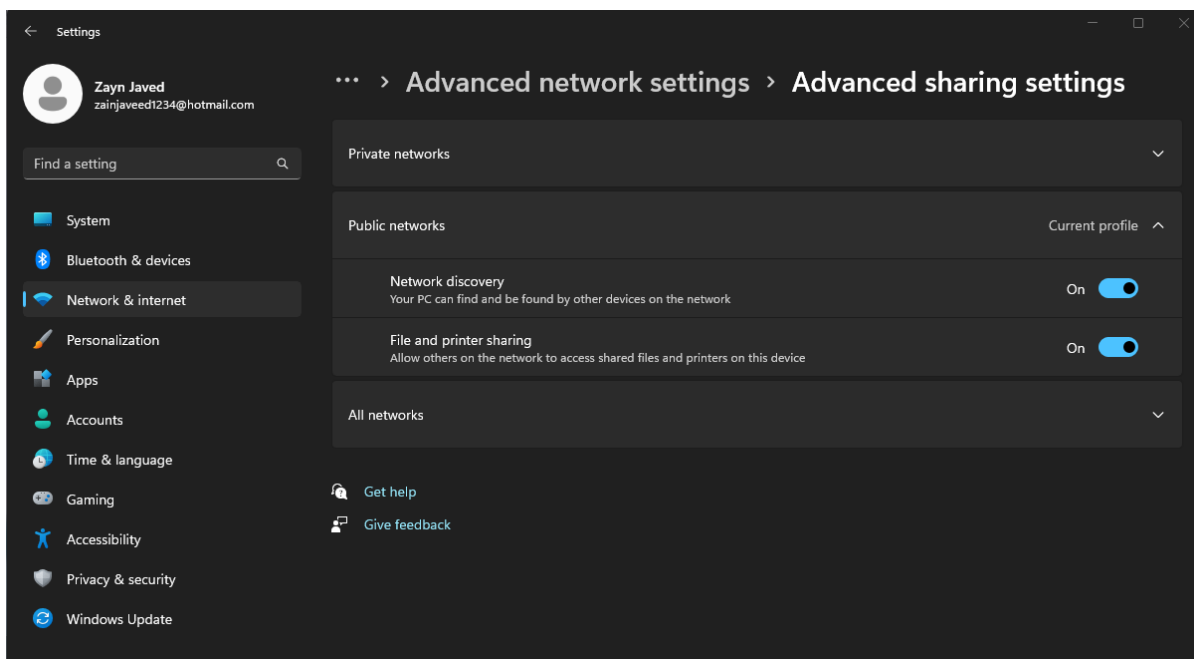
Figure 4 Device-1 setting of "Public networks" tab

✓ In the second step, set the IP address, gateway subnet mask on both devices which are being connected. This setting of IP addresses should be in such a way that the IP address of device-1 should be the gateway of device-2. Similarly, the IP address of device-2 should be the gateway of device-1. Moreover, set the prefer DNS server on both devices.
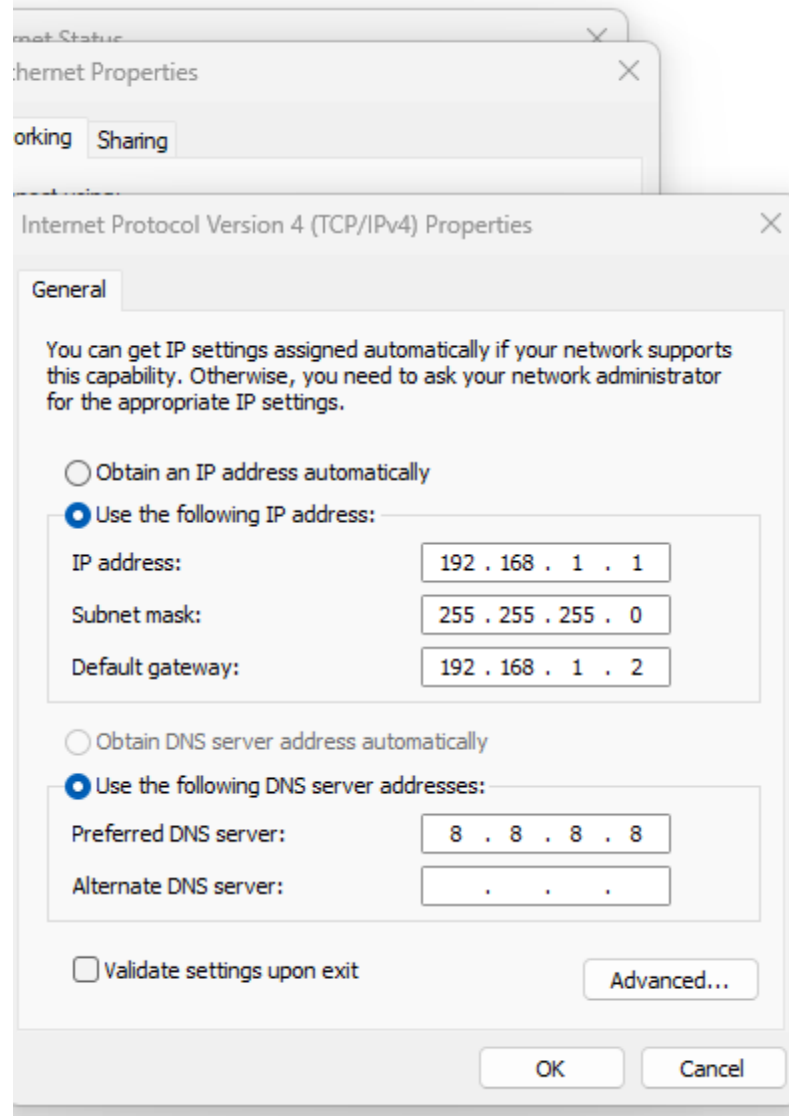
Figure 5 Device-1 IP configuration
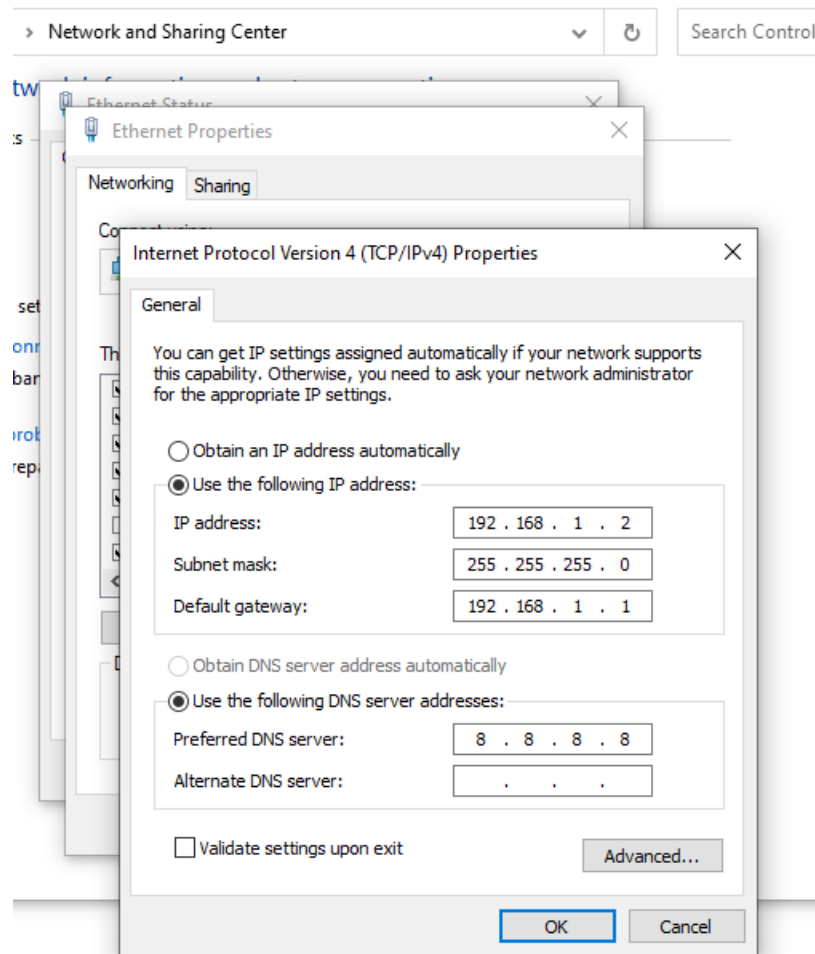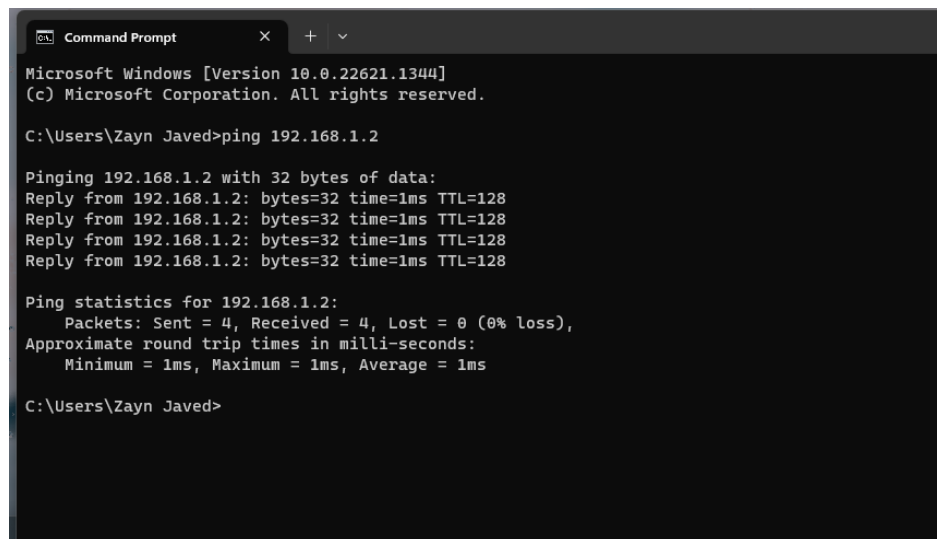
Figure 6 Device-2 IP Configuration

ii.   Using Ping command

Use the ping command in the command prompt to check the connectivity. The ping command is shown in given picture.

Figure 7 Device-1 ping command

Figure 8 Device-2 ping command

Task 3

Sharing of file (as sender, Device-1)

Device-1 has shared a folder of screenshot present in picture directory which can be seen in section (as receiver, device-2) for verification. Moreover, exact location can also be verified through screenshot.
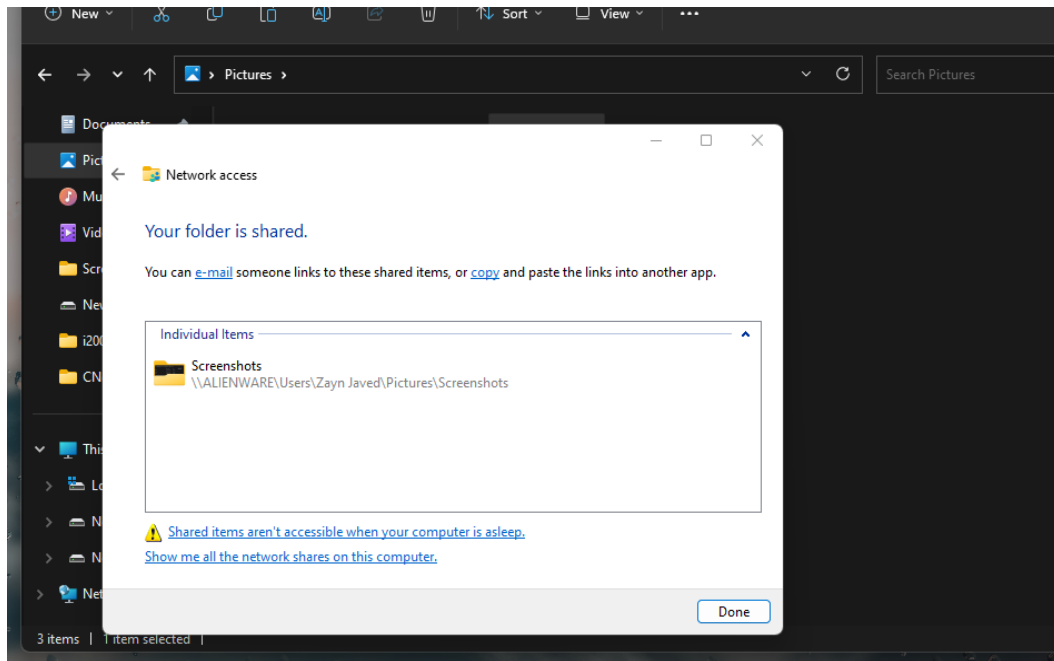
Figure 9 Device-1 as a sender

Sharing of file (as receiver, Device-1)

Device-1 has received a shared folder of lab 7 present of desktop of device-2 which can be seen in section (as receiver, device-2) for verification. Exact location (path) of folder shown in picture can also been seen in the picture.
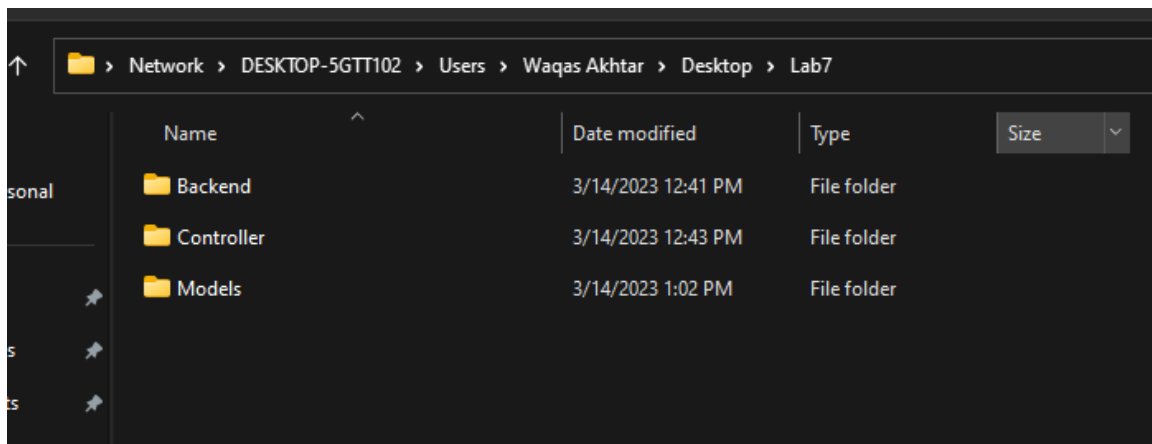
Figure 10 Device-1 as a receiver

Sharing of file (as sender, Device-2)

Device-2 has shared a folder of lab7 to device-1 present on desktop which can be seen in section (as receiver, device-1) for verification.
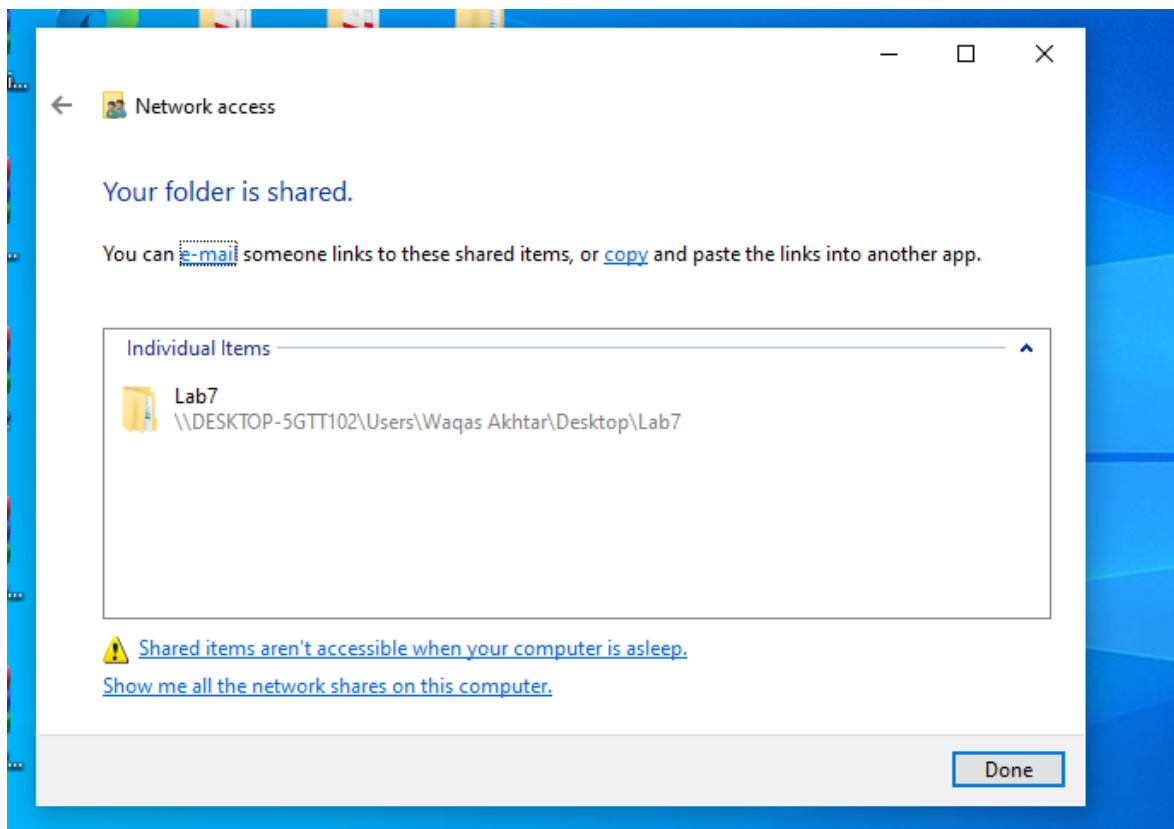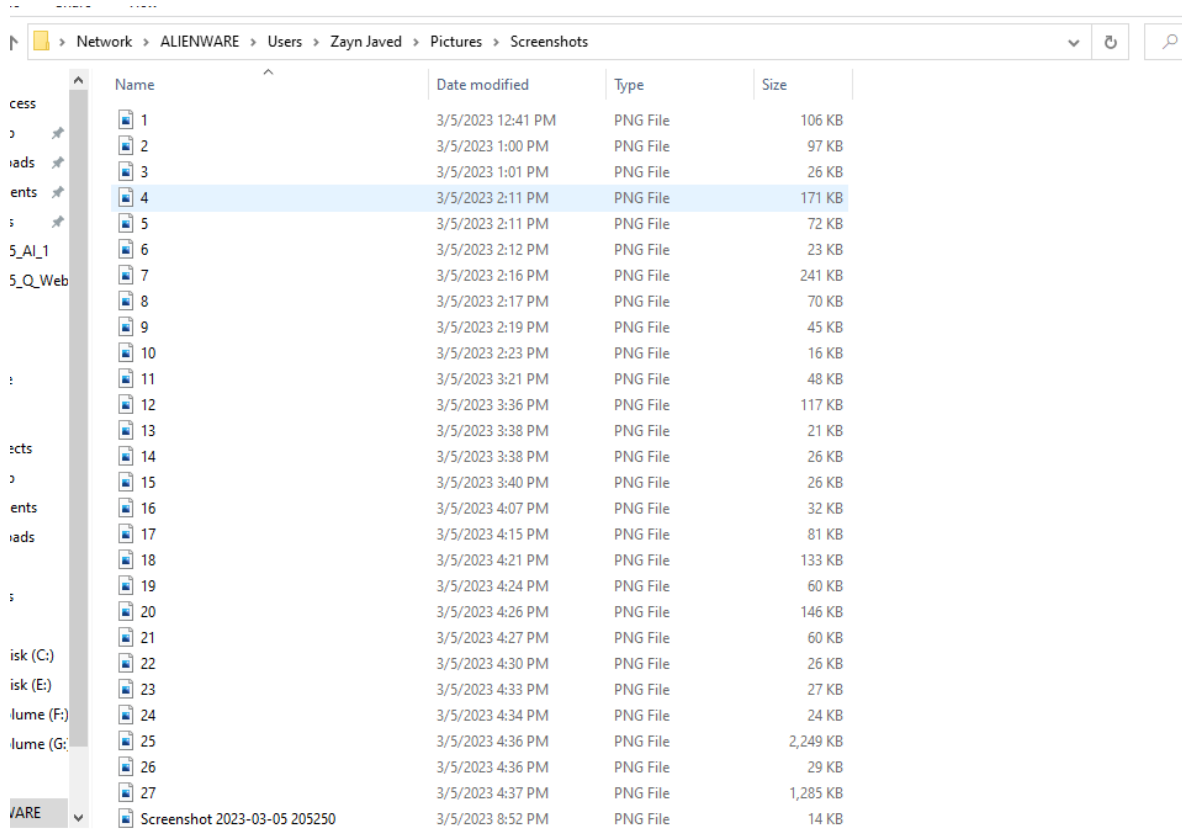

Figure 11Device-2 as a sender

Sharing of file (as receiver, Device-2)

Device-2 has received a folder of screenshots present in device-1 which can be seen in section (as receiver, device-2) for verification. Exact location (path) of folder shown in picture can also been seen in the picture (in address bar).

Figure 12 Device-2 as a receiver