INSTITUTE OF COMPUTER TECHNOLOGY

B. TECH COMPUTER SCIENCE AND ENGINEERING

Subject: Computer Networks[CN]

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SEM : 5

Class : A

Batch : 52 (CS)

Practical 5

Aim: To configure and utilize Telnet (teletype network), SSH (Secure Socket Shell) and FTP (File Transfer Protocol) in a network

Scenario:

Design the network of an organization having 3 different departments.

Make sure the below mentioned requirements must be fulfilled.

1) Create 3 users which will be able to get the access of the router using Telnet.

2) Create a single password to get the access of the router using Telnet. Configure in such a way at a time 2 users can access router at a time.

3) Create 3 users which will be able to get the access of the router using SSH. Configure in such a way at a time 2 users can access router at a time.

4) Create FTP server and perform the operation to upload and download a file from one department to other department.

Procedure:

1) Create network as given below

2) Configure IP address (All Devices, Routers)

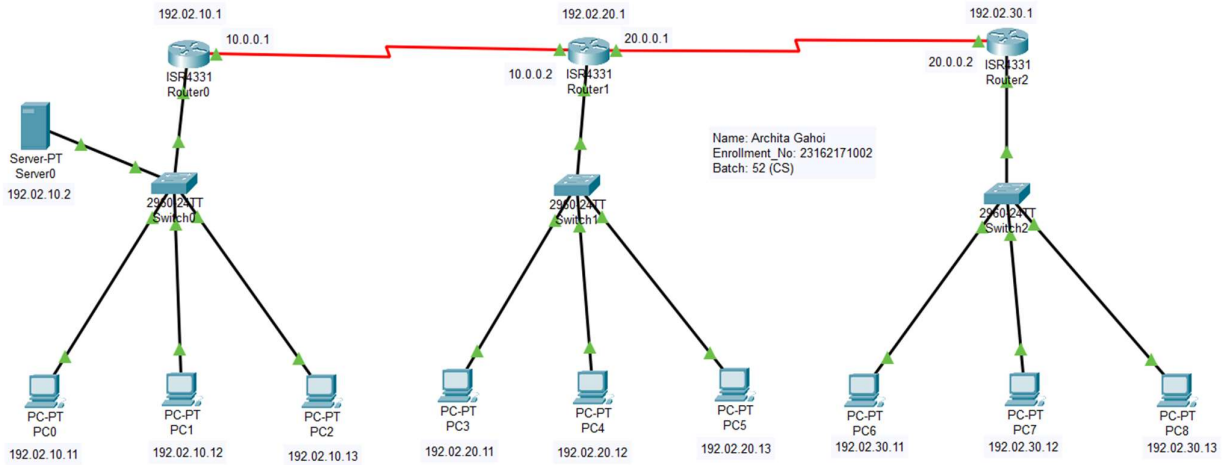
3) Configure dynamic routing table (RIP in routers)

4) Configure TELNET on Router0

5) Configure SSH on Router1

6) Configure FTP on Server

⇨ Main Circuit

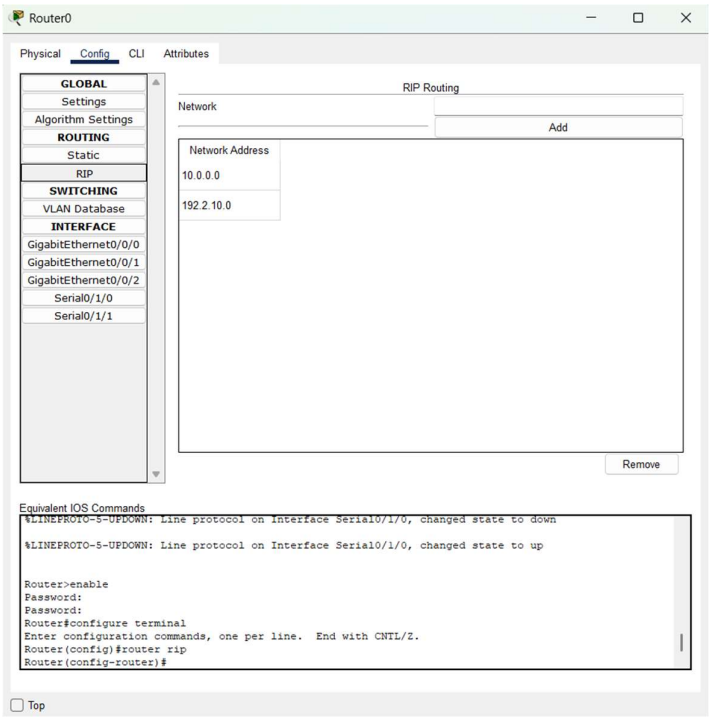


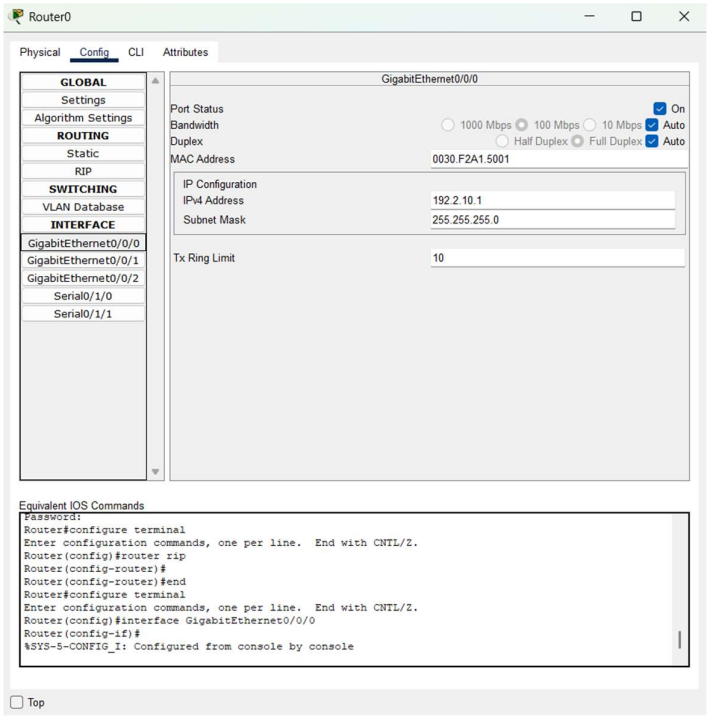
Configuration:

IP Address:

⇨ Routers

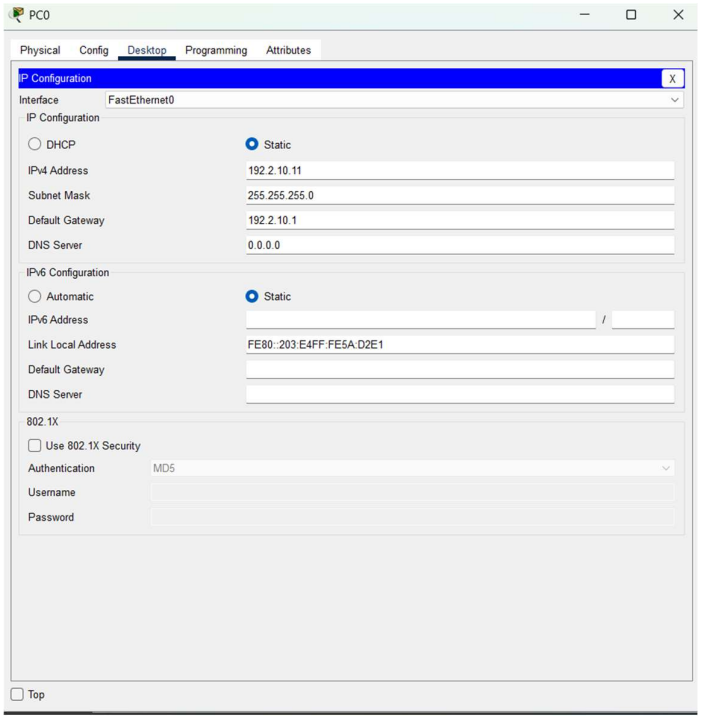
Router 0



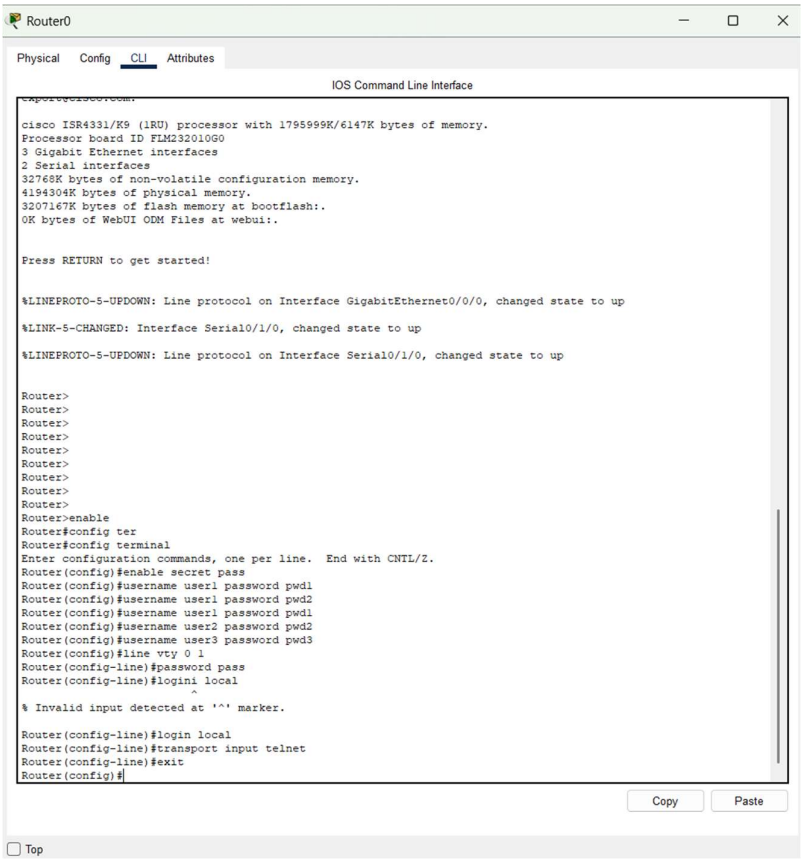


⇨ PCS

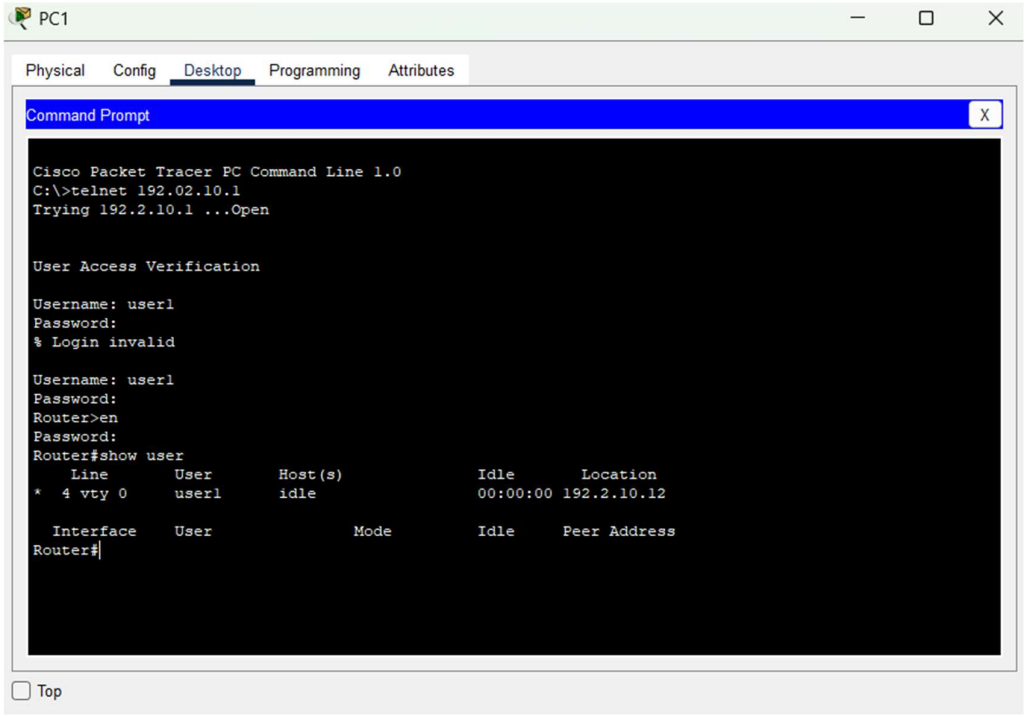
PC0

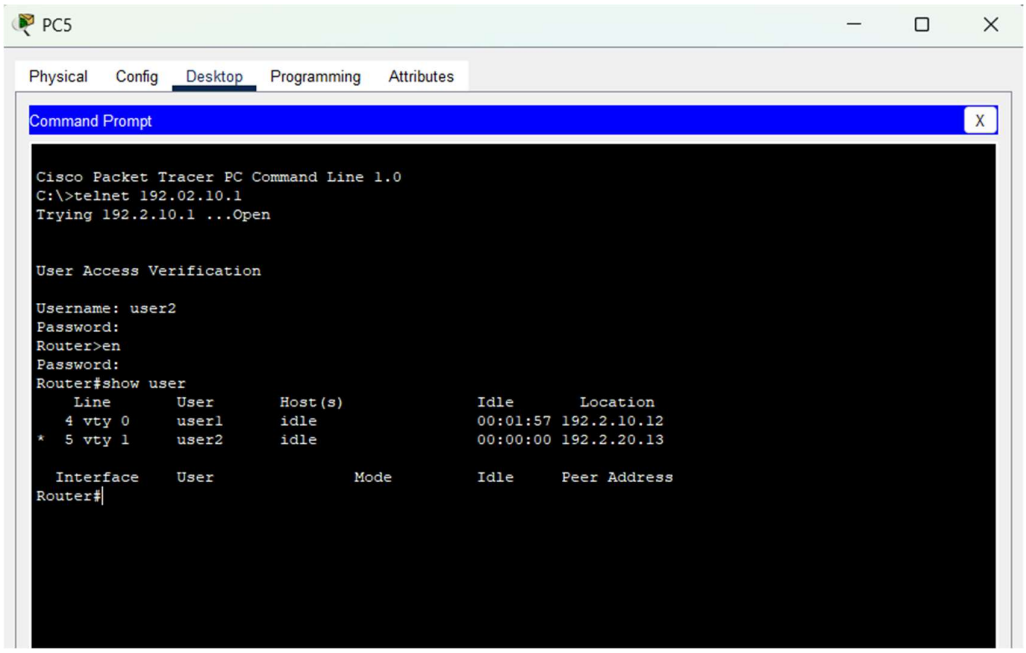


⇨ Configure TELNET on Router 0

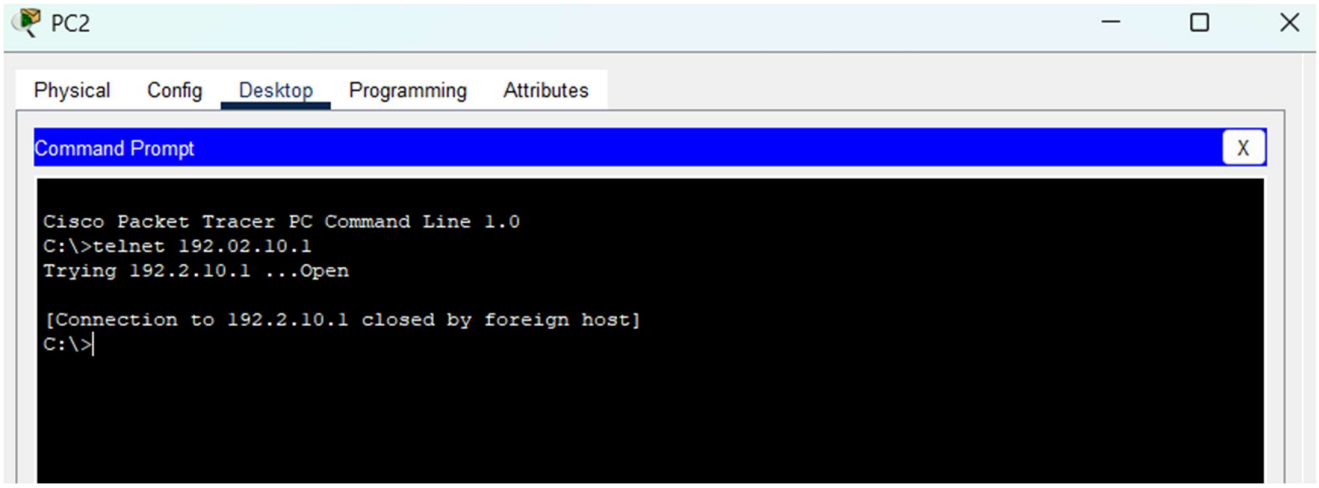


Output:

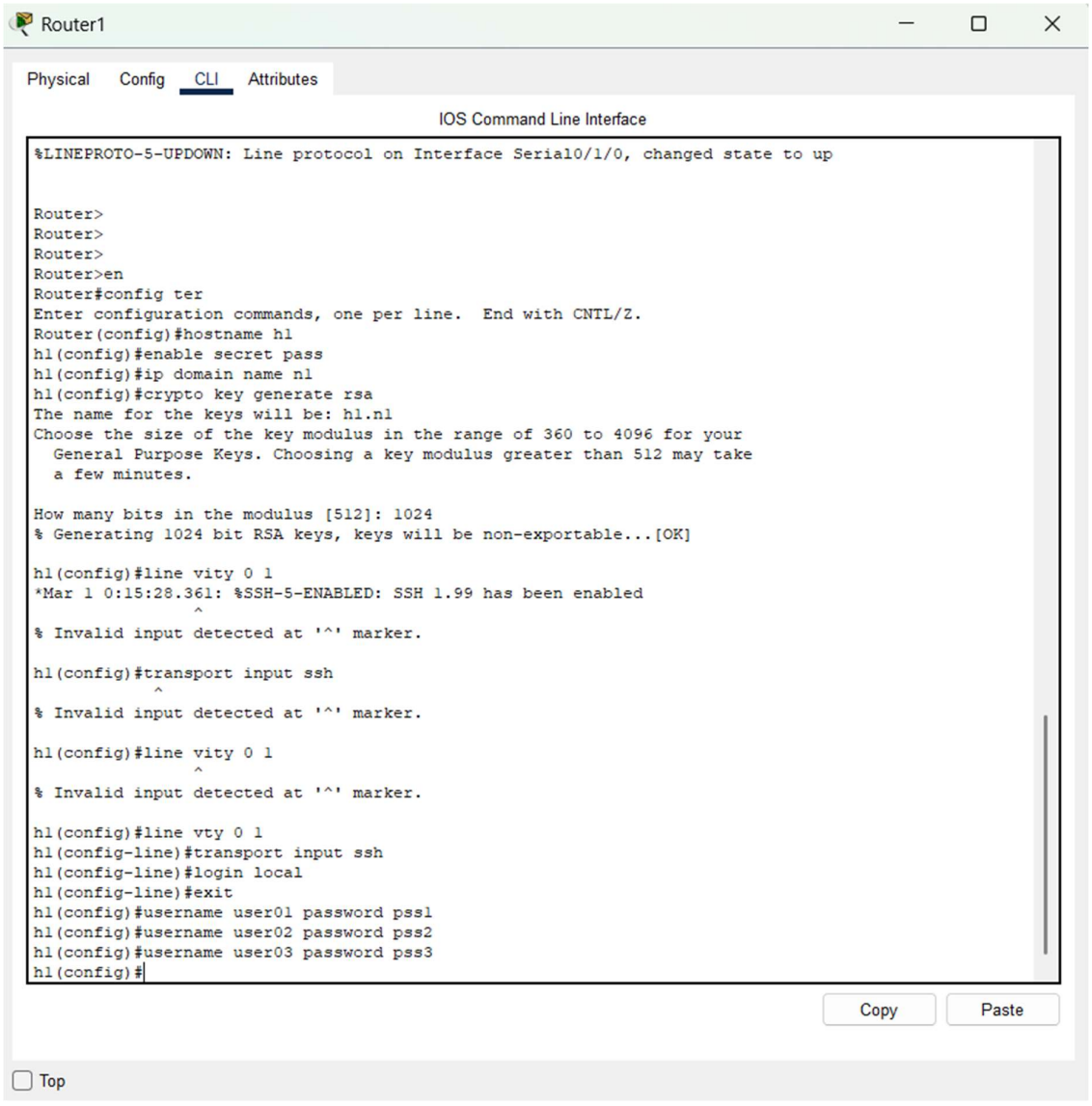

PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 192.02.10.1
Trying 192.2.10.1 ...Open
User Access Verification
Username: user1
Password:
% Login invalid
Username: user1
Password:
Router>en
Password:
Router#show user
Line User Host(s) Idle Location
* 4 vty 0 user1 idle 00:00:00 192.2.10.12
Interface User Mode Idle Peer Address
Router#
Top


PC5
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 192.02.10.1
Trying 192.2.10.1 ...Open
User Access Verification
Username: user2
Password:
Router>en
Password:
Router#show user
Line User Host(s) Idle Location
4 vty 0 user1 idle 00:01:57 192.2.10.12
* 5 vty 1 user2 idle 00:00:00 192.2.20.13
Interface User Mode Idle Peer Address
Router#

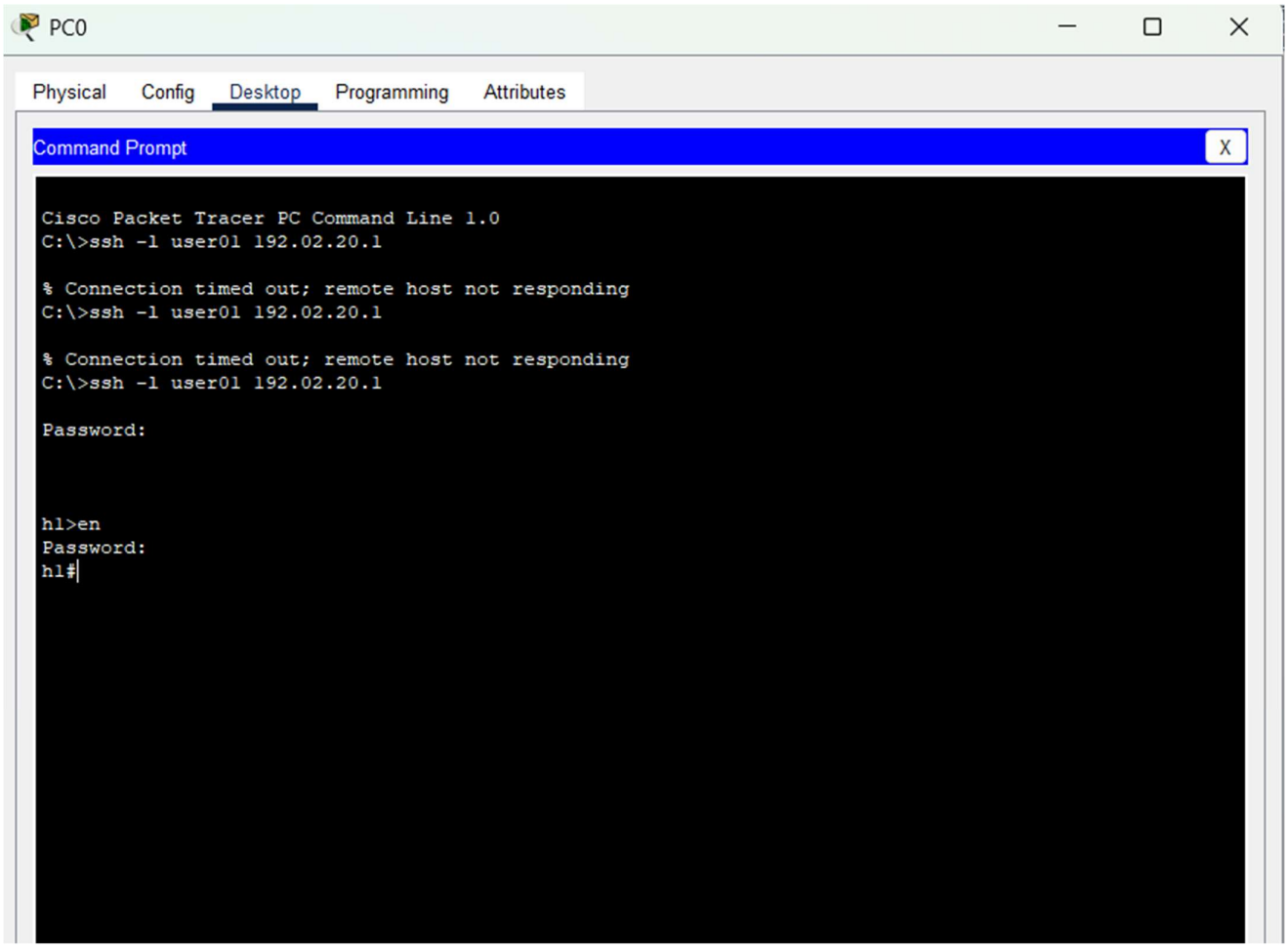
⇨ Only two users can access



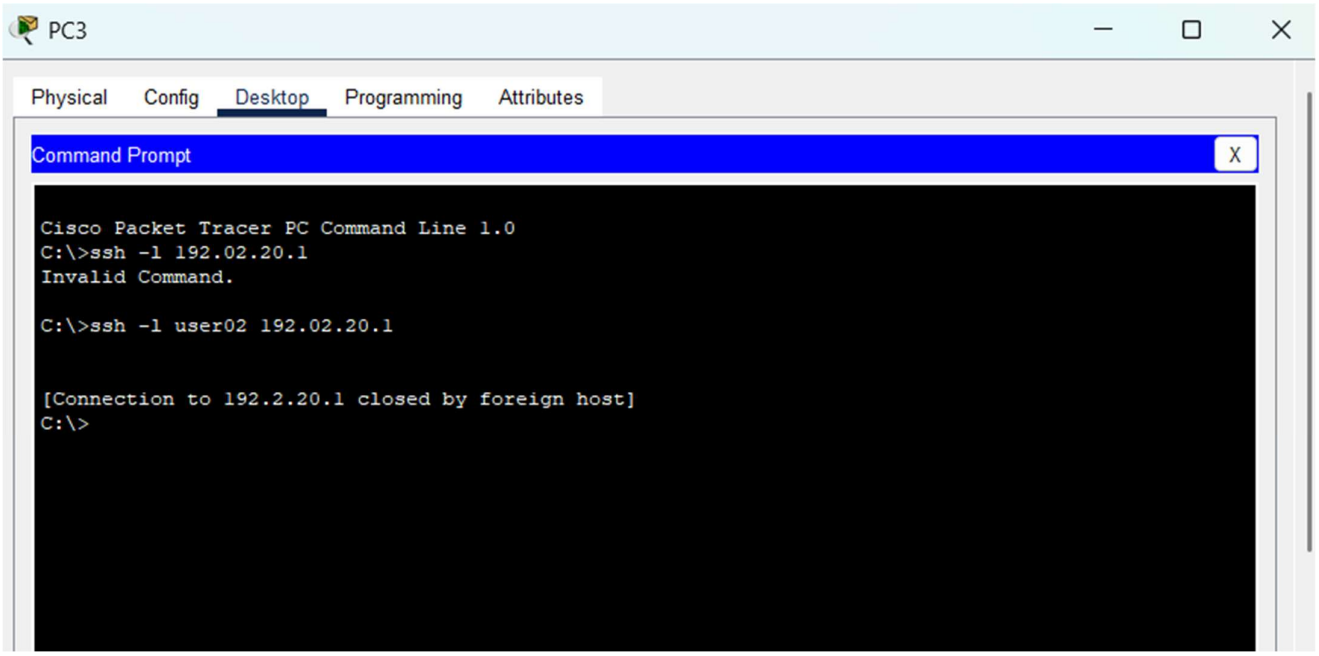
⇨ Configure SSH on Router1



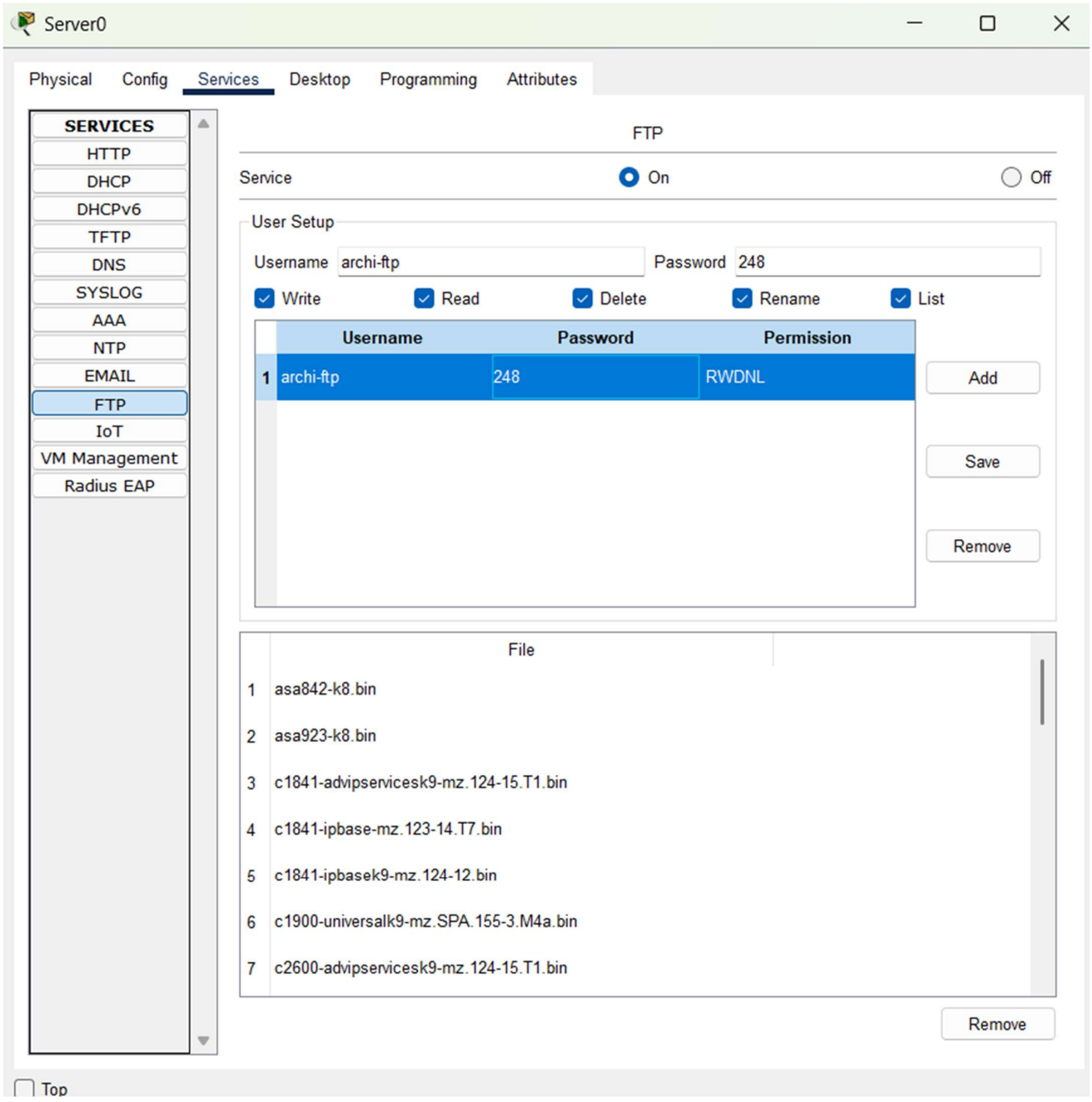
Output:



⇨ Only two users can access

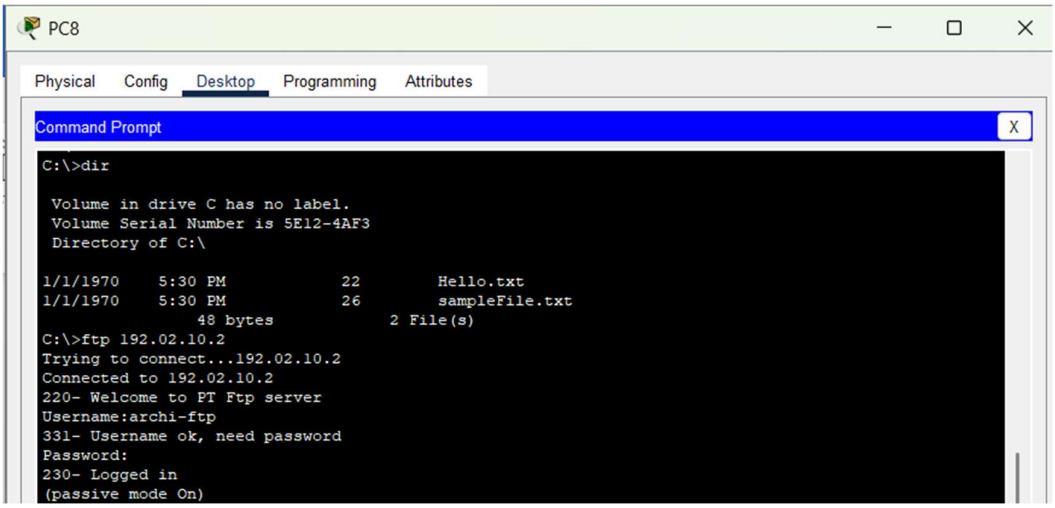


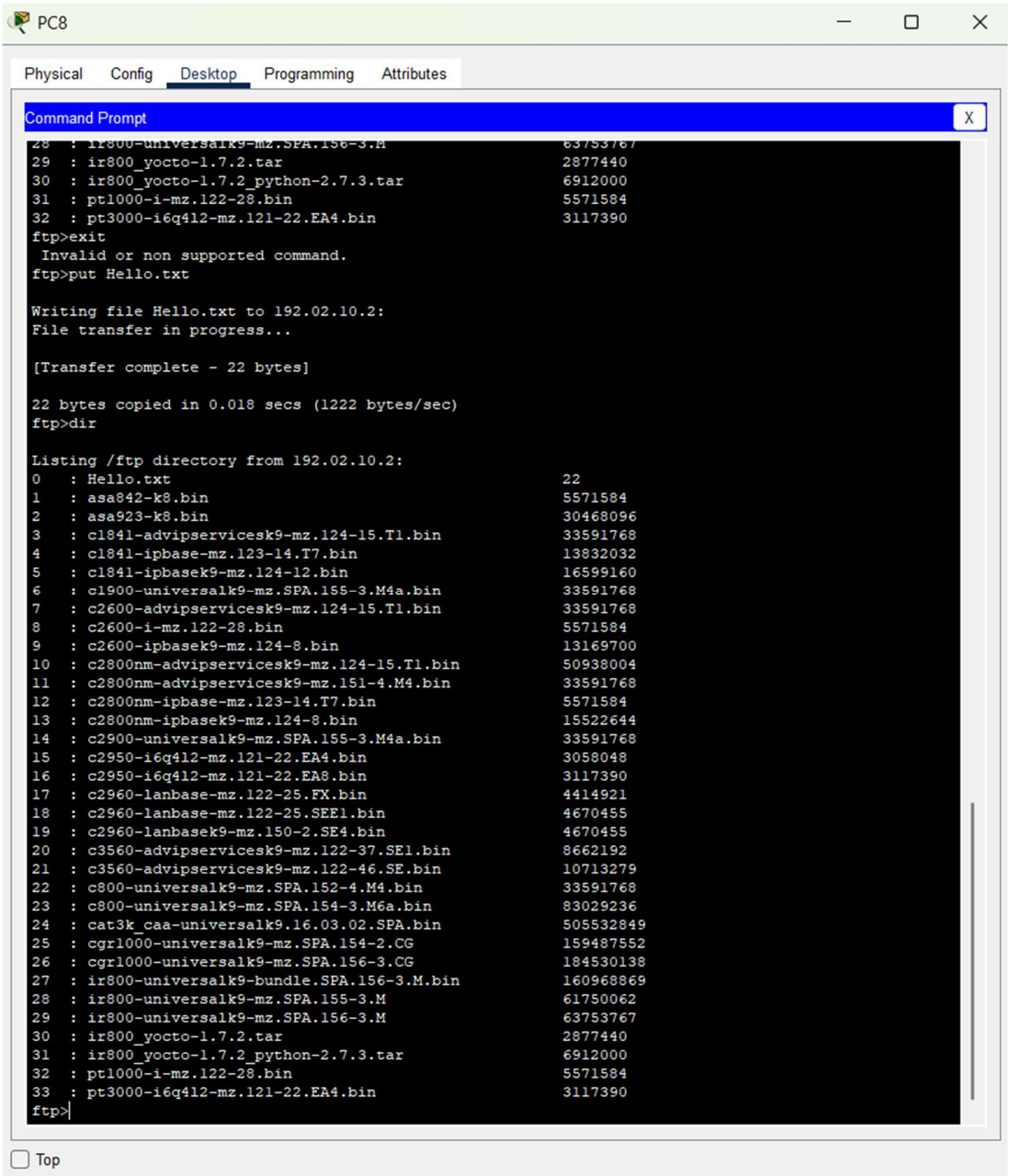
⇨ Configure FTP on Server



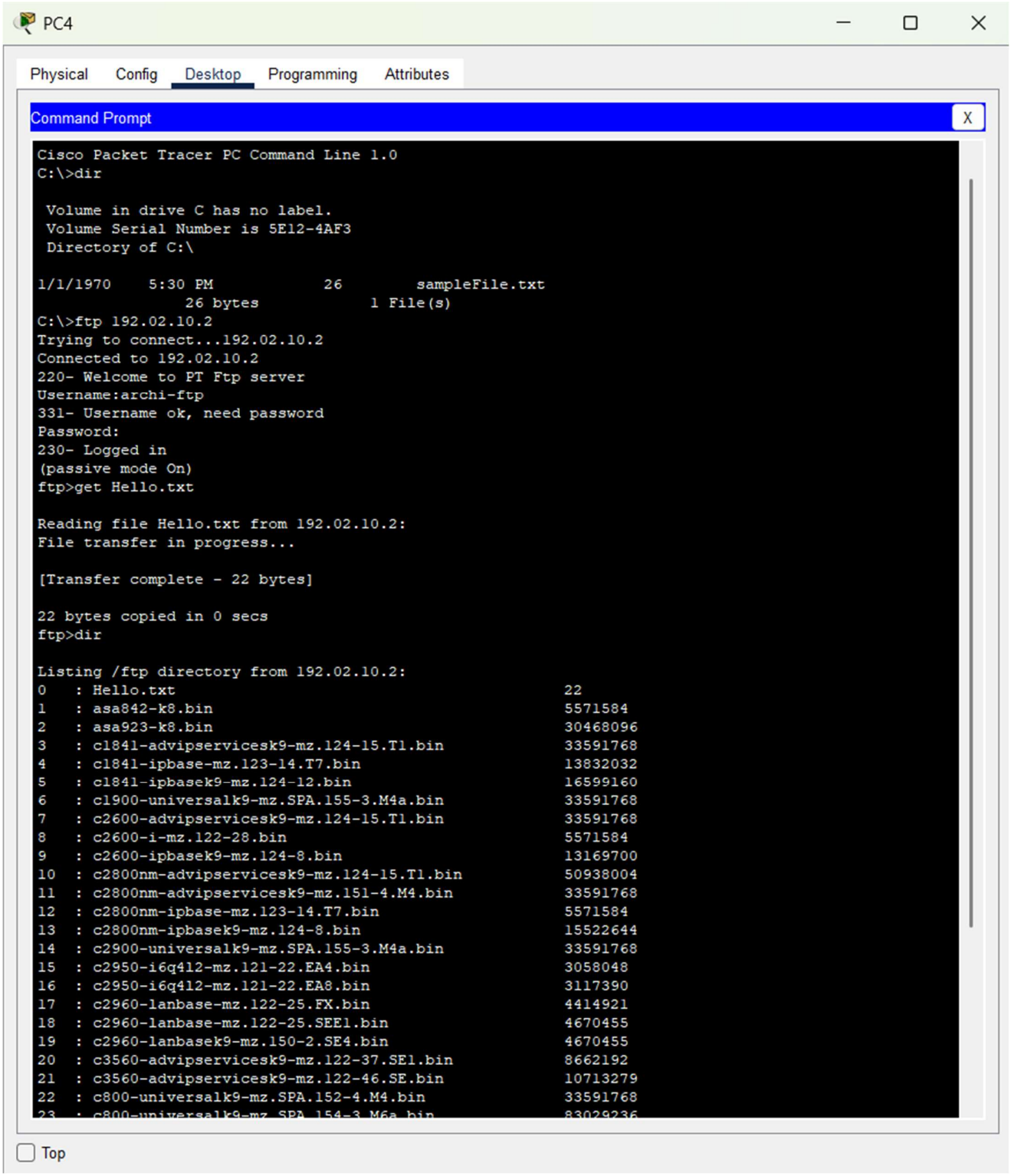
Output:

⇨ Uploading file from PC8 in network 3





⇨ Downloading file in PC4 in network 2



Conclusion:

In this practical, we successfully configured and utilized Telnet, SSH, and FTP in a network environment. Telnet was implemented to enable remote device access and management, while SSH provided a more secure alternative through encrypted communication. An FTP server was also configured to allow reliable file transfer operations between network devices. The experiment demonstrated the importance of remote access, secure communication, and data sharing in organizational networks. Overall, the objectives were achieved, highlighting how Telnet, SSH, and FTP can be effectively used to ensure connectivity, security, and efficient resource management in real-time scenarios.