Genba Sopanrao Moze College of Engineering, Balewadi, Pune-45

Department of Electronics And Telecommunication

Academic year 2022_23

Roll No: **Subject: Control System Lab**

Date : **Staff Sign:**

Experiment no:-6

AIM: Configure servers like HTTP/FTP and understand packet sequence and data flowing between client-server using packet analysis tools

REQUIREMENT:

WINDOWS 10 with LAN Connectivity.

Software : Cisco Packet Tracer

Theory:

FILE TRANSFER PROTOCOL

- **File Transfer Protocol (FTP)** is a standard network protocol used to transfer files from one host to another host over a TCP-based network, such as the Internet.
- FTP is built on a client-server architecture and uses separate control and data connections between the client and the server.
- FTP users may authenticate themselves using a clear-text sign-in protocol, normally in the form of a username and password, but can connect anonymously if the server is configured to allow it.
- FTP may run in *active* or *passive* mode, which determines how the data connection is established.

- In active mode, the client creates a TCP control connection to the server and sends the server the client's IP address and an arbitrary client port number, and then waits until the server initiates the data connection over TCP to that client IP address and client port number.
- In situations where the client is behind a firewall and unable to accept incoming TCP connections, *passive mode* may be used.
- In this mode, the client uses the control connection to send a PASV command to the server and then receives a server IP address and server port number from the server, which the client then uses to open a data connection from an arbitrary client port to the server IP address and server port number received.
- In a typical FTP session, the user is sitting in front of one host (the local host) and wants to transfer files to or from a remote host. In order for the user to access the remote account, the user must provide a user identification and a password.
- After providing this authorization information, the user can transfer files from the local file system to the remote file system and vice versa.
- The user first provides the hostname of the remote host, which causes the FTP client process in the local host to establish a TCP connection with the FTP server process in the remote host.
- The user then provides the user identification and password, which get sent over the TCP connection as part of FTP commands. Once the server has authorized the user, the user copies one or more files stored in the local file system into the remote file system.

Procedure:

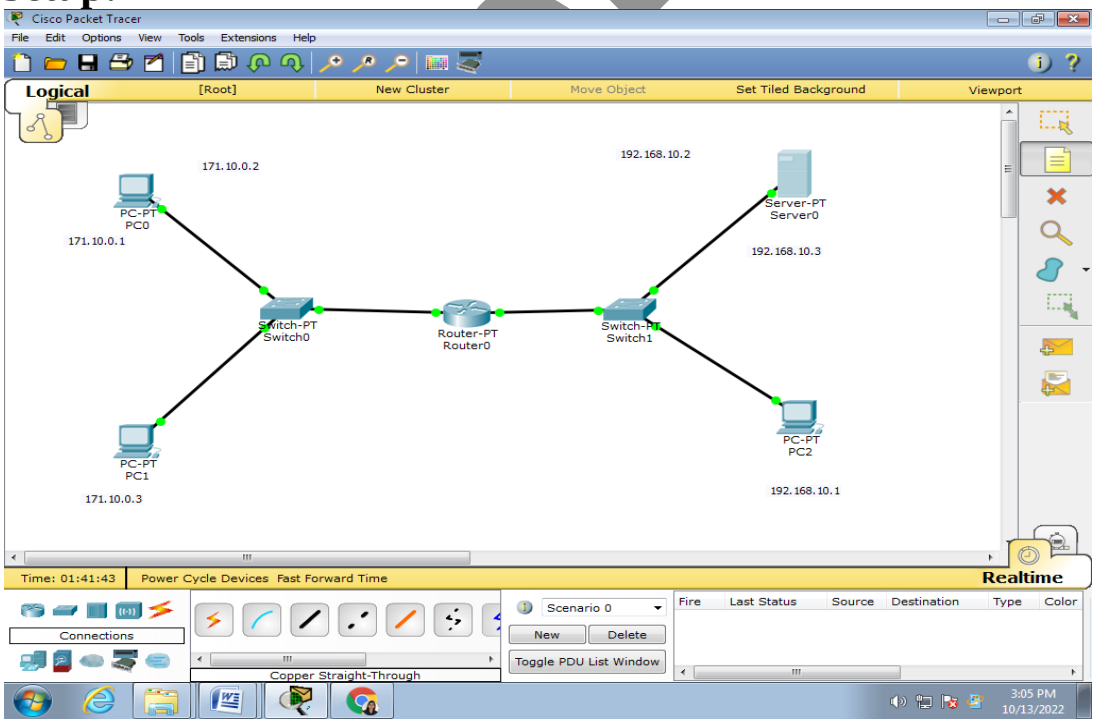
a. Design network by using router, computer, switch and server
b. Then assign IP address and gateway address to each PC
c. Assign IP address, gateway address to server
d. Click on server and select services, click on FTP then set Username and password>add
e. Click on server and then text editor type some text and save it
f. Click on server >command prompt>login in server and check dir and upload text file

Syntax;1) ftp 192.168.10.3
2) dir
3) put test1.txt

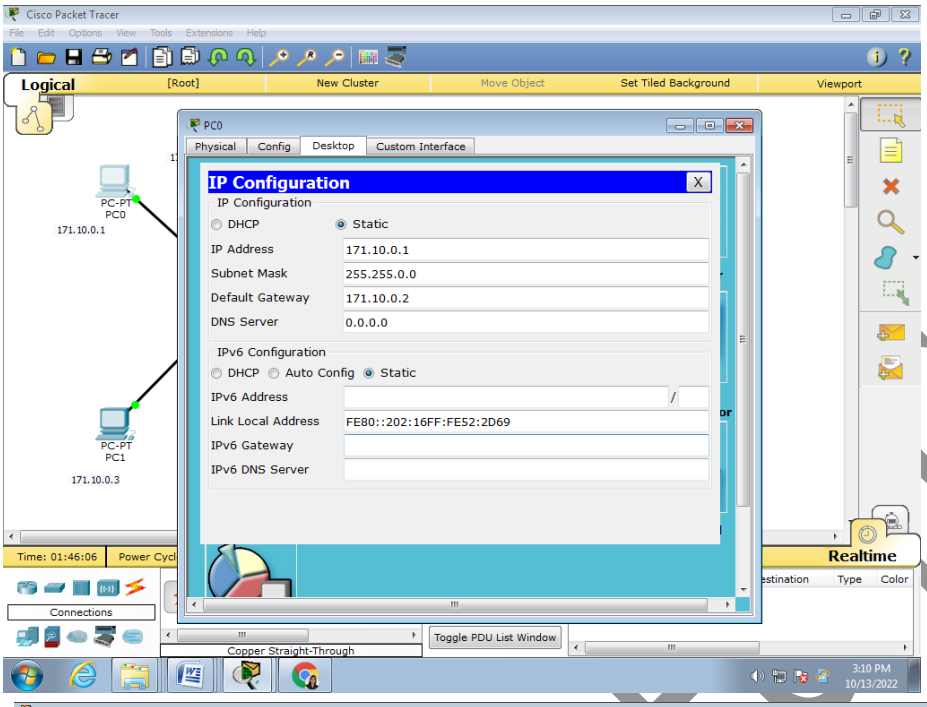
g. Click on any PC first login>dir. Check uploaded text file

CONGIURATION USING PACKET TRACER:

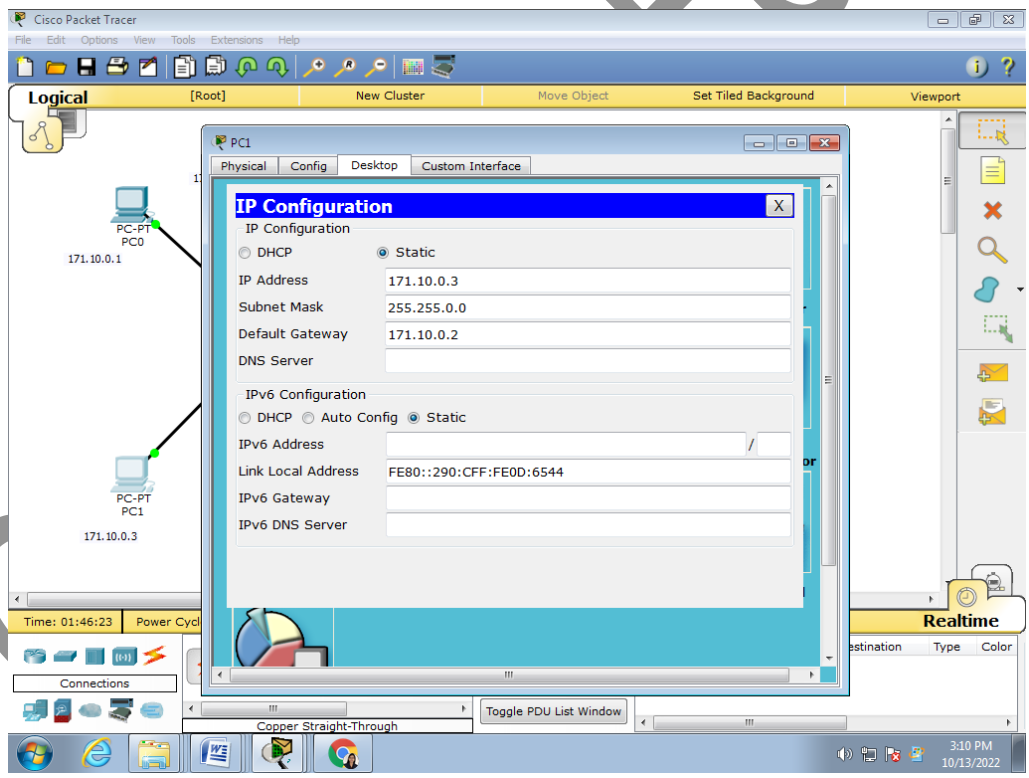
Setup:



Result Printouts:


Cisco Packet Tracer
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
PC0
Physical
Config
Desktop
Custom Interface
IP Configuration
IP Configuration
DHCP
Static
IP Address 171.10.0.1
Subnet Mask 255.255.0.0
Default Gateway 171.10.0.2
DNS Server 0.0.0.0
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address FE80::202:16FF:FE52:2D69
IPv6 Gateway
IPv6 DNS Server
PC-PT PC0
171.10.0.1
PC-PT PC1
171.10.0.3
Realtime
Connections
Copper Straight-Through
Toggle PDU List Window

PC 0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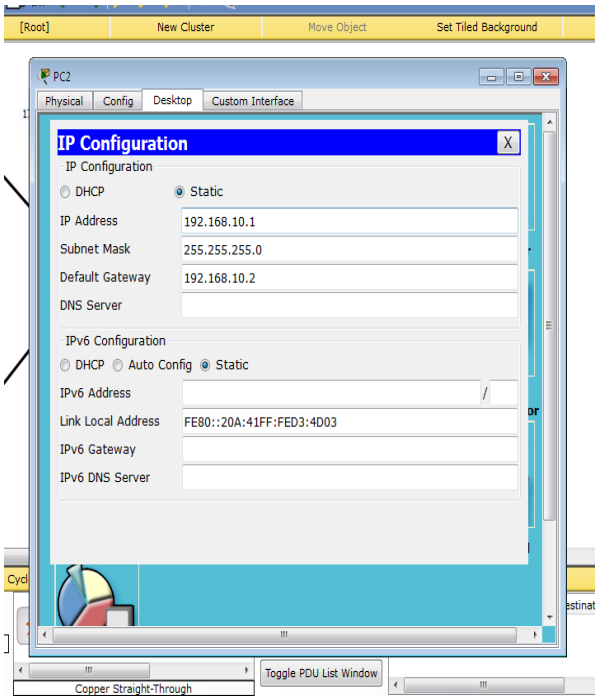
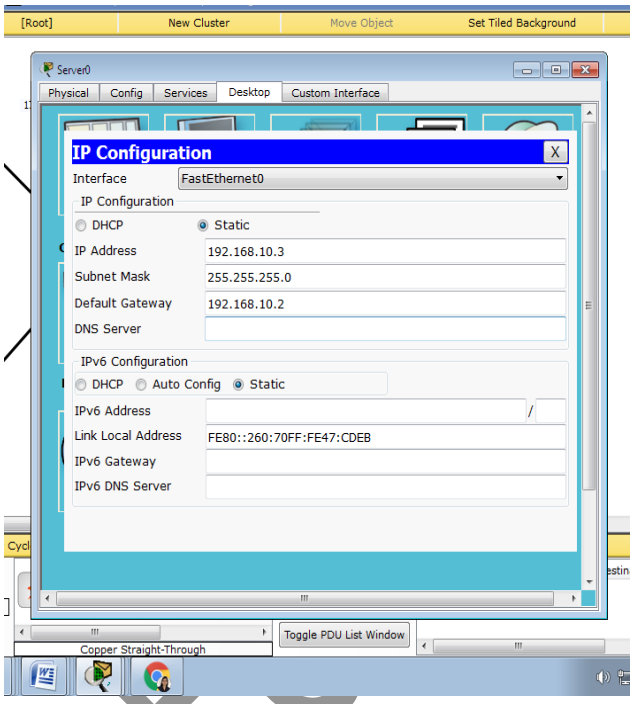
Auto Config
Static
IPv6 Address
Link Local Address FE80::290:CFF:FE0D:6544
IPv6 Gateway
IPv6 DNS Server
PC-PT PC0
171.10.0.1
PC-PT PC1
171.10.0.3
Realtime
Connections
Copper Straight-Through
Toggle PDU List Window

PC 1

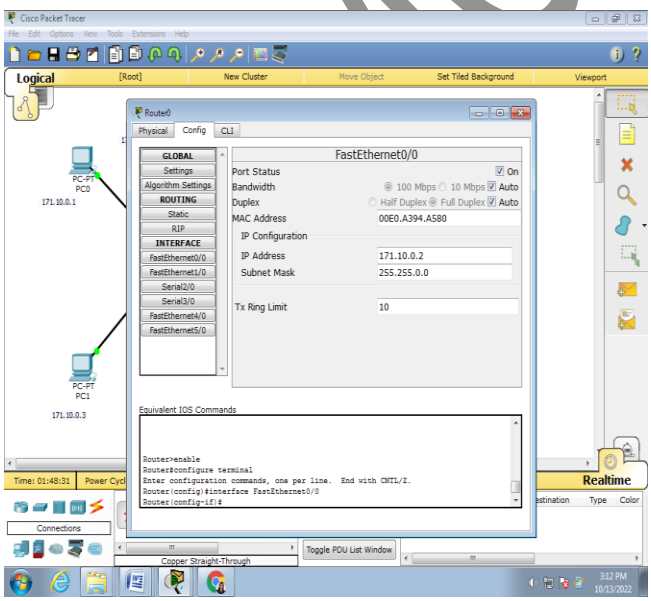


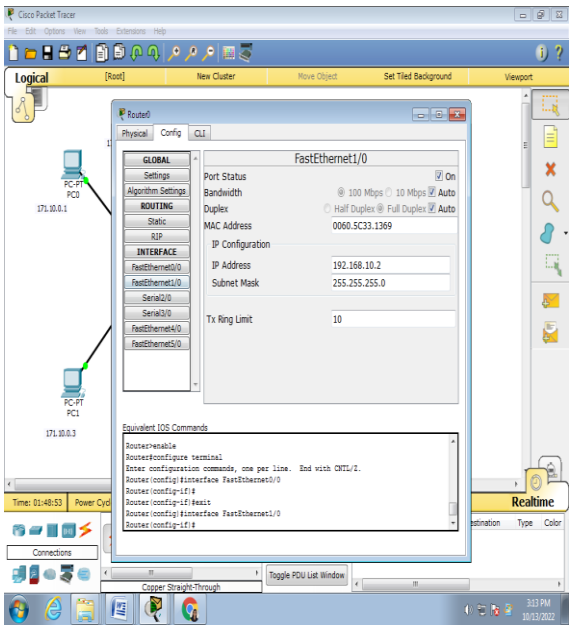
PC 2

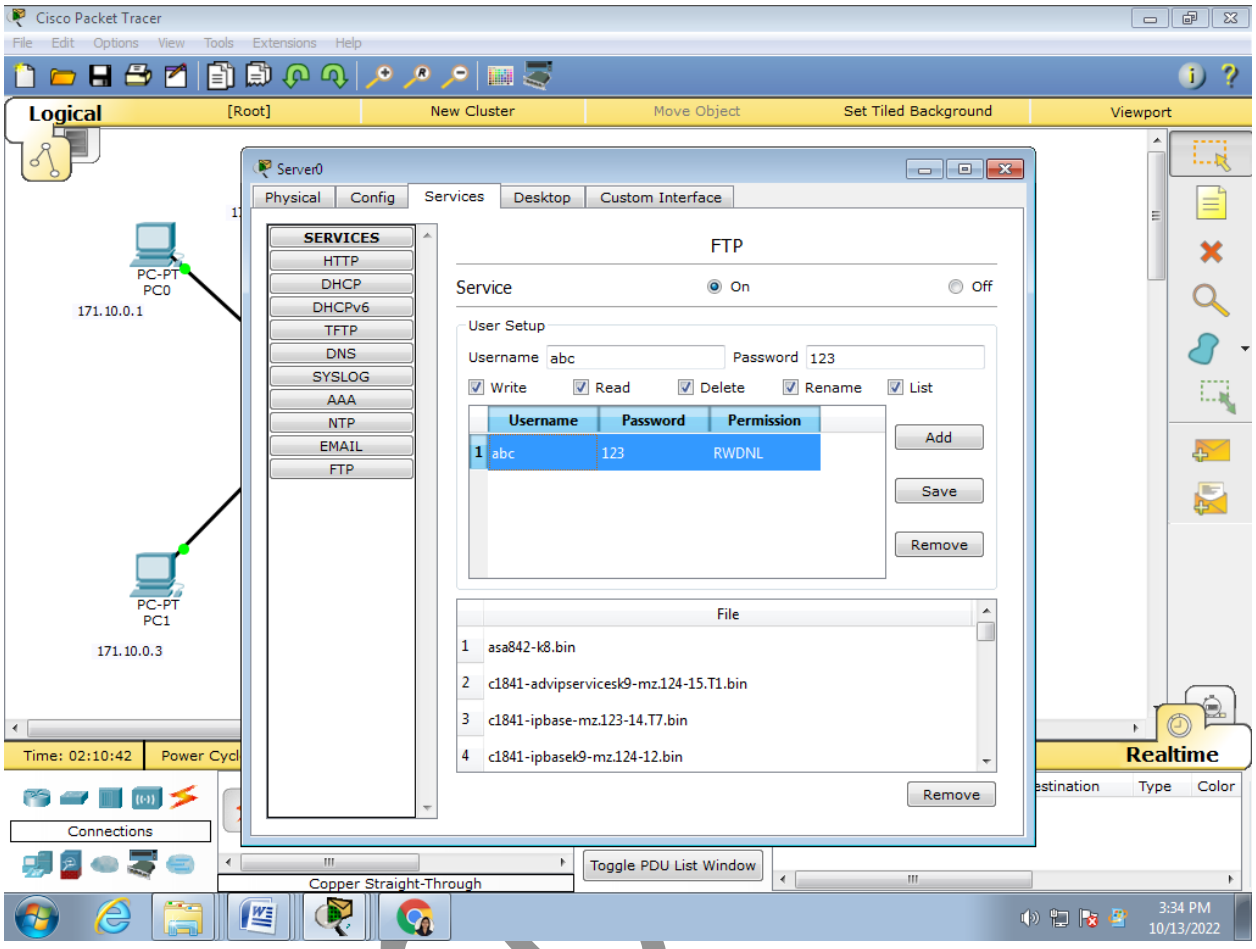


server

Router



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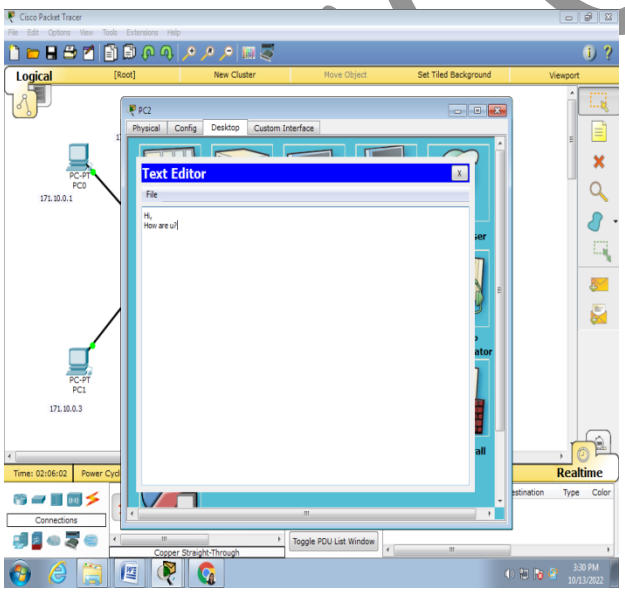
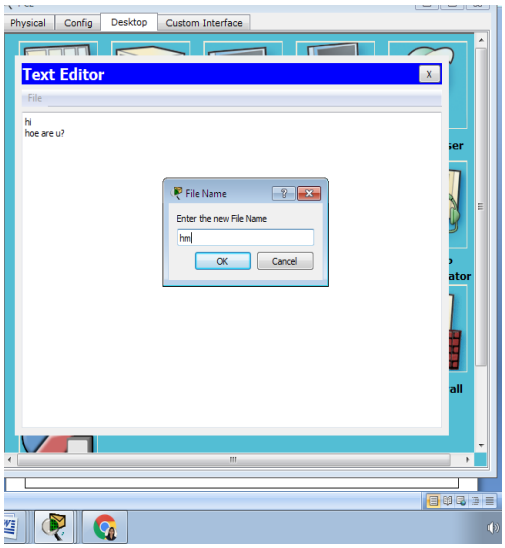
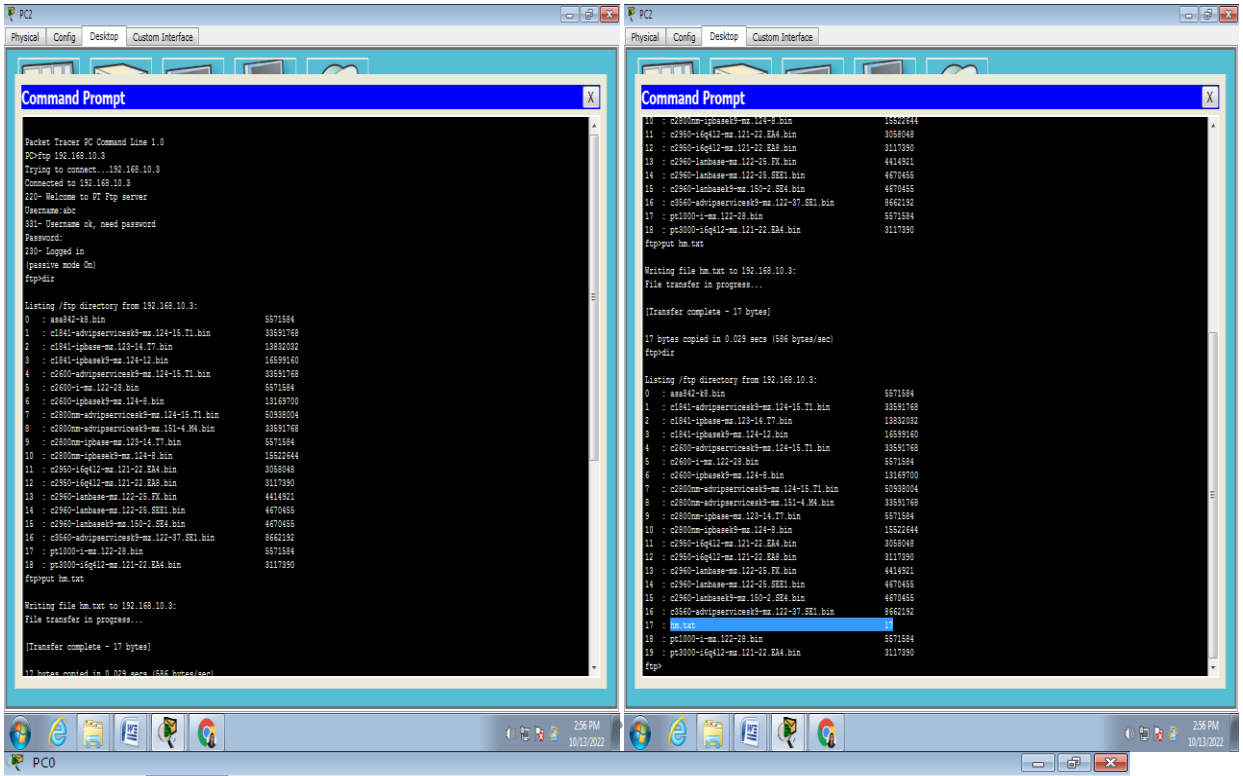
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Server0
Physical
Config
Services
Desktop
Custom Interface
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
FTP
Service
On
Off
User Setup
Username abc
Password 123
Write
Read
Delete
Rename
List
Username
Password
Permission
1 abc 123 RWDNL
Add
Save
Remove
File
1 asa842-k8.bin
2 c1841-advipservicesk9-mz.124-15.T1.bin
3 c1841-ipbase-mz.123-14.T7.bin
4 c1841-ipbasek9-mz.124-12.bin
Remove
PC-PT PC0
171.10.0.1
PC-PT PC1
171.10.0.3
Time: 02:10:42
Power Cycl
Realtime
Connections
Copper Straight-Through
Toggle PDU List Window
3:34 PM
10/13/2022


Text Editor
Hi,
How are u?


Text Editor
hi
hoe are u?
File Name
Enter the new File Name
hm
OK
Cancel


PC2
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ftp 192.168.10.3
Trying to connect...192.168.10.3
Connected to 192.168.10.3
220- Welcome to PT Ftp server
Username:abc
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>dir
Listing /ftp directory from 192.168.10.3:
0 : asa842-k8.bin 5571584
1 : c1841-advipservicesk9-mz.124-15.T1.bin 33591768
2 : c1841-ipbase-mz.123-14.T7.bin 13832032
3 : c1841-ipbasek9-mz.124-12.bin 16599160
4 : c2600-advipservicesk9-mz.124-15.T1.bin 33591768
5 : c2600-i-mz.122-28.bin 5571584
6 : c2600-ipbasek9-mz.124-8.bin 13169700
7 : c2800nm-advipservicesk9-mz.124-15.T1.bin 50938004
8 : c2800nm-advipservicesk9-mz.151-4.M4.bin 33591768
9 : c2800nm-ipbase-mz.123-14.T7.bin 5571584
10 : c2800nm-ipbasek9-mz.124-8.bin 15522644
11 : c2950-i6q412-mz.121-22.EA4.bin 3058048
12 : c2950-i6q412-mz.121-22.EA8.bin 3117390
13 : c2960-lanbase-mz.122-25.FX.bin 4414921
14 : c2960-lanbase-mz.122-25.SEE1.bin 4670455
15 : c2960-lanbasek9-mz.150-2.SE4.bin 4670455
16 : c3560-advipservicesk9-mz.122-37.SE1.bin 8662192
17 : pt1000-i-mz.122-28.bin 5571584
18 : pt3000-i6q412-mz.121-22.EA4.bin 3117390
ftp>put hm.txt
Writing file hm.txt to 192.168.10.3:
File transfer in progress...
[Transfer complete - 17 bytes]
17 bytes copied in 0.029 secs (586 bytes/sec)
ftp>dir
Listing /ftp directory from 192.168.10.3:
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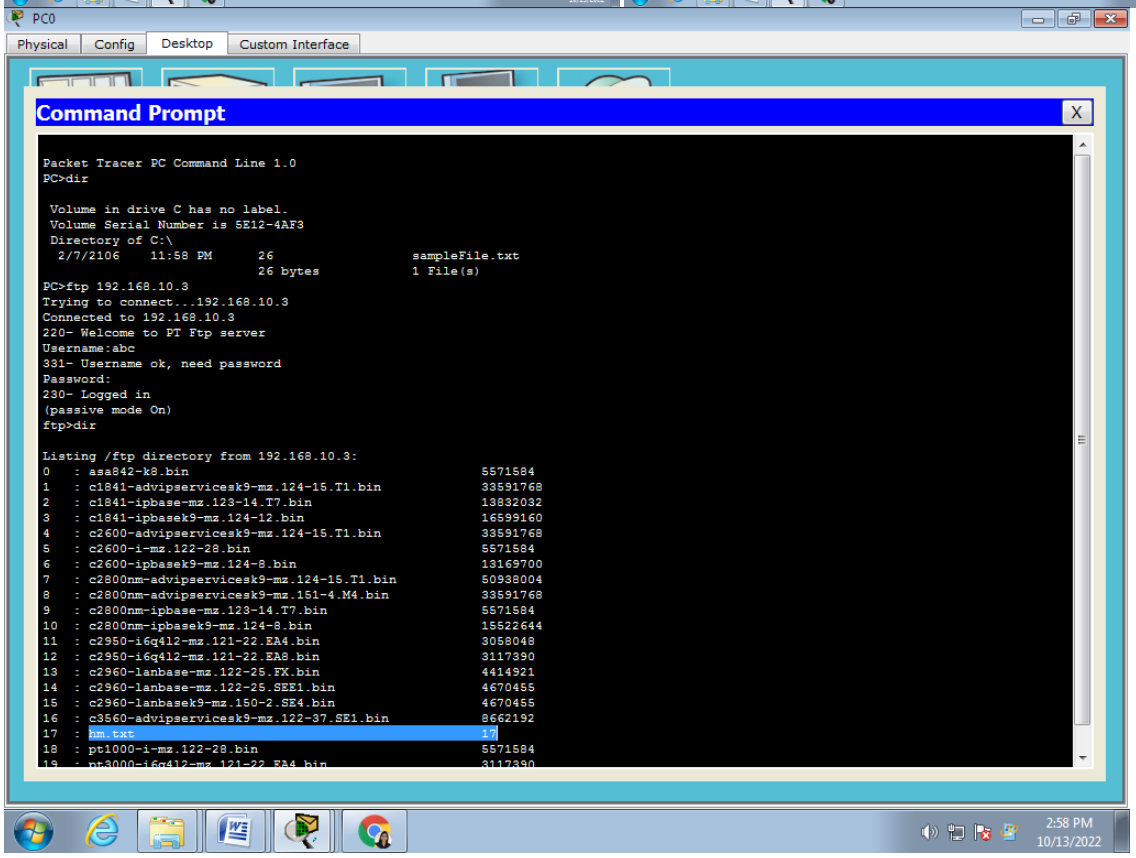
ftp>
2:56 PM
10/13/2022


PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>dir
Volume in drive C has no label.
Volume Serial Number is 5E12-4AF3
Directory of C:\
2/7/2106 11:58 PM 26 sampleFile.txt
26 bytes 1 File(s)
PC>ftp 192.168.10.3
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CONCLUSION: