

Date: 13/08/2024

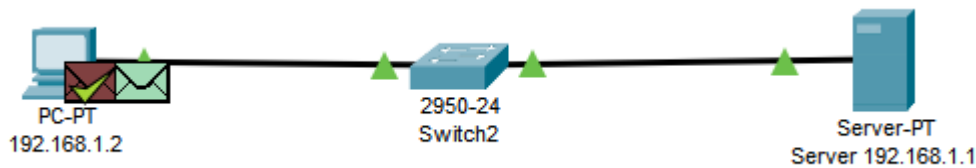
Lab Practical #06:

Study the application layer protocol DNS, DHCP, FTP.

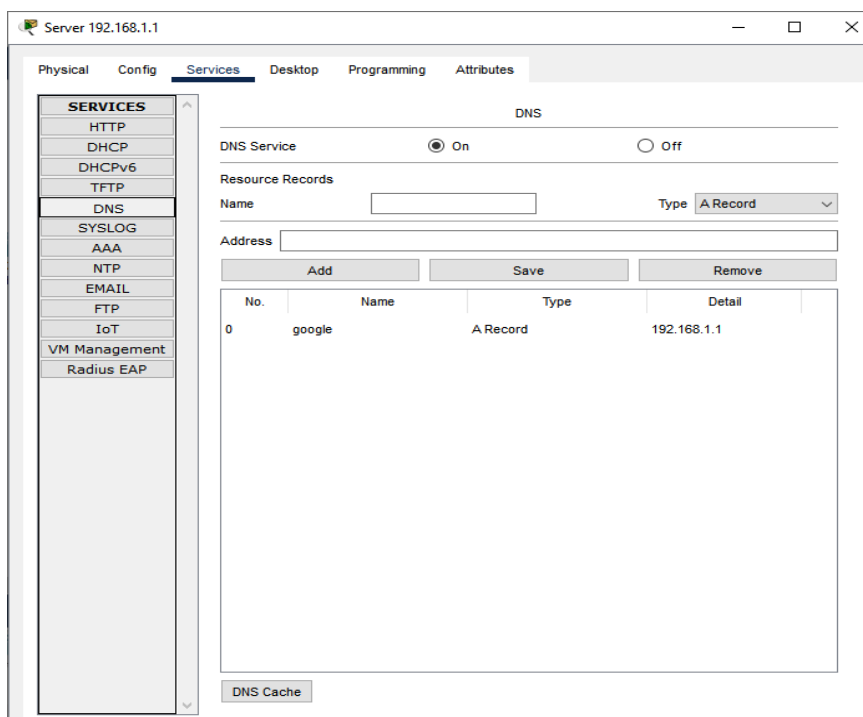
Practical Assignment #06:

1. Implement the application layer protocol DNS, DHCP, and FTP. Also check connectivity between them using ping command or PDU utility.

DNS(Domain Name System) :

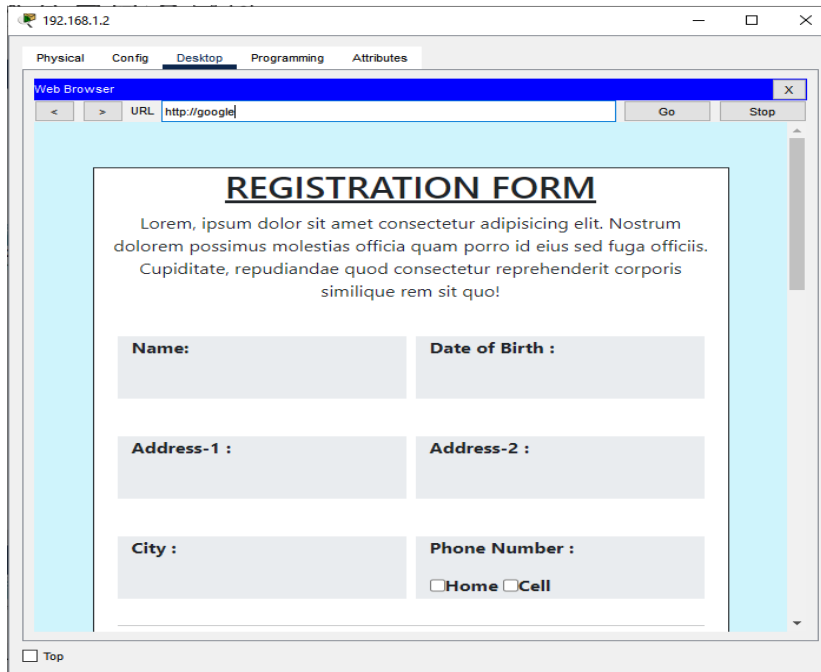


- Make a network displayed as per the above image.
- Assign **192.168.1.1** IP address to Server and assign **192.168.1.2** IP address to PC.
- Click on **Server(192.168.1.1)** and choose **Services**
- Now Choose **DNS** from the left side.
- Now click **On the** radio button as per the below image.
- Fill out **google** in Name textbox and **192.168.1.1** in Address textbox. Click on the Add button.



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- Click on **192.168.1.2(PC)** and choose **Desktop** then choose **web browser** from it.
- Enter <http://google> in the URL textbox and click on Go.
- After some time output will be displayed.

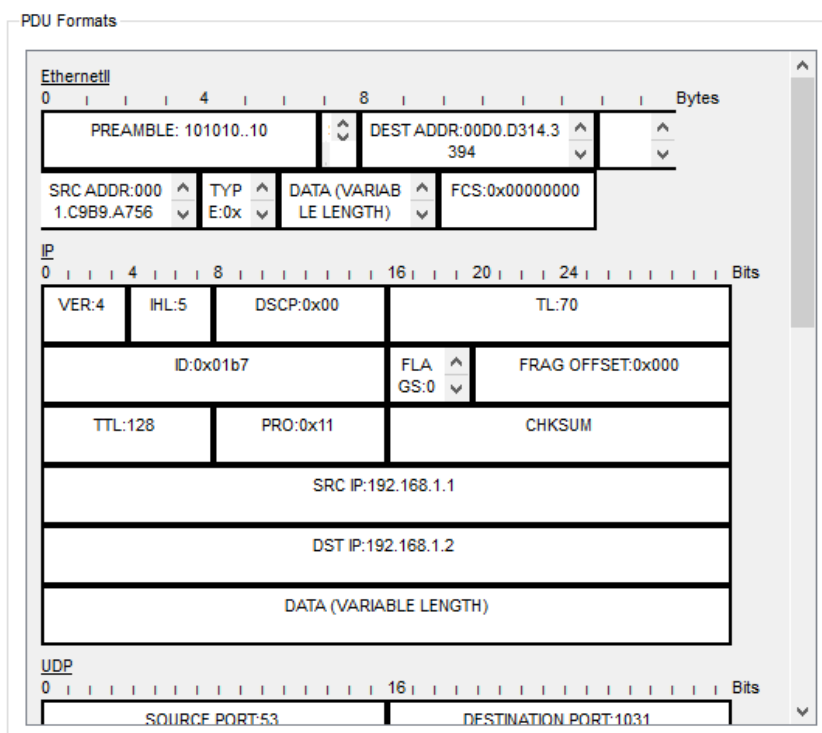


The screenshot shows a web browser window titled "192.168.1.2" with tabs for Physical, Config, Desktop, Programming, and Attributes. The "Desktop" tab is active, showing a "Web Browser" window. The browser's address bar contains "http://google". The main content area displays a "REGISTRATION FORM" with the following fields:

- Name: [Text Box]
- Date of Birth: [Text Box]
- Address-1: [Text Box]
- Address-2: [Text Box]
- City: [Text Box]
- Phone Number: [Text Box] with checkboxes for ☐ Home and ☐ Cell.

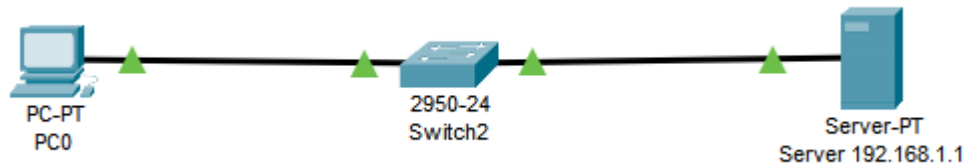
PDU Information at Device: 192.168.1.2

OSI Model [Inbound PDU Details](#)



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DHCP(Dynamic Host Configuration Protocol) :



- Make a network displayed as per the above image.
- Assign **192.168.1.1** IP Address to Server.
- Click on **Server(192.168.1.1)** and choose **Services**
- Now Choose **DHCP** from the left side.
- Now select the **On** radio button of Service as per the below image.
- Enter **Default Gateway, Start IP Address, Subnet Mask, and Maximum Number of Users** as per the below image.
- Click on the Add button.
- Your added serverPool will displayed below.

Server 192.168.1.1

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 192.168.1.0

DNS Server: 0.0.0.0

Start IP Address: 192 168 1 10

Subnet Mask: 255 255 255 0

Maximum Number of Users: 246

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

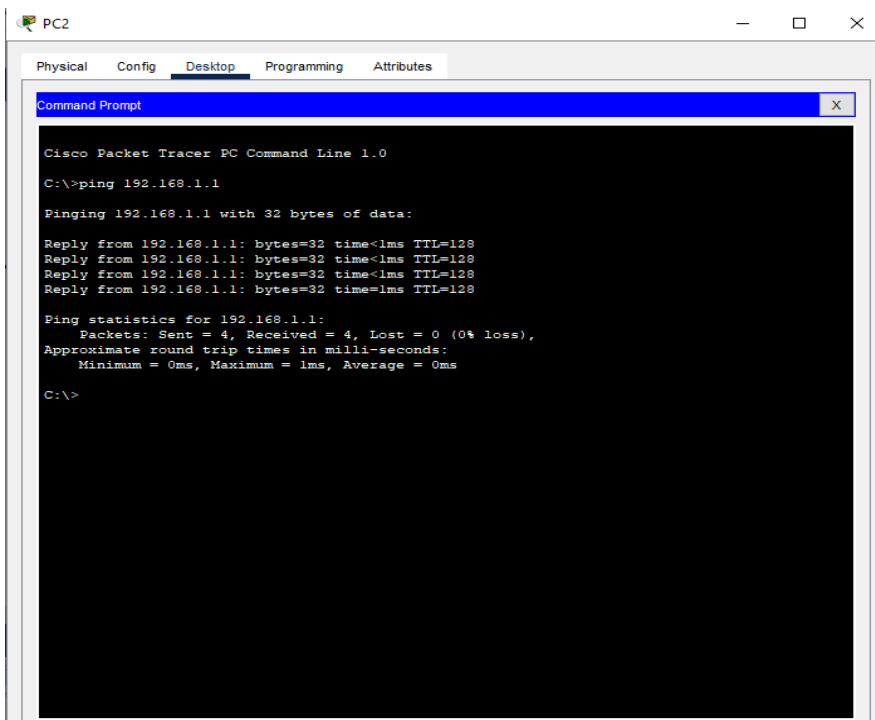
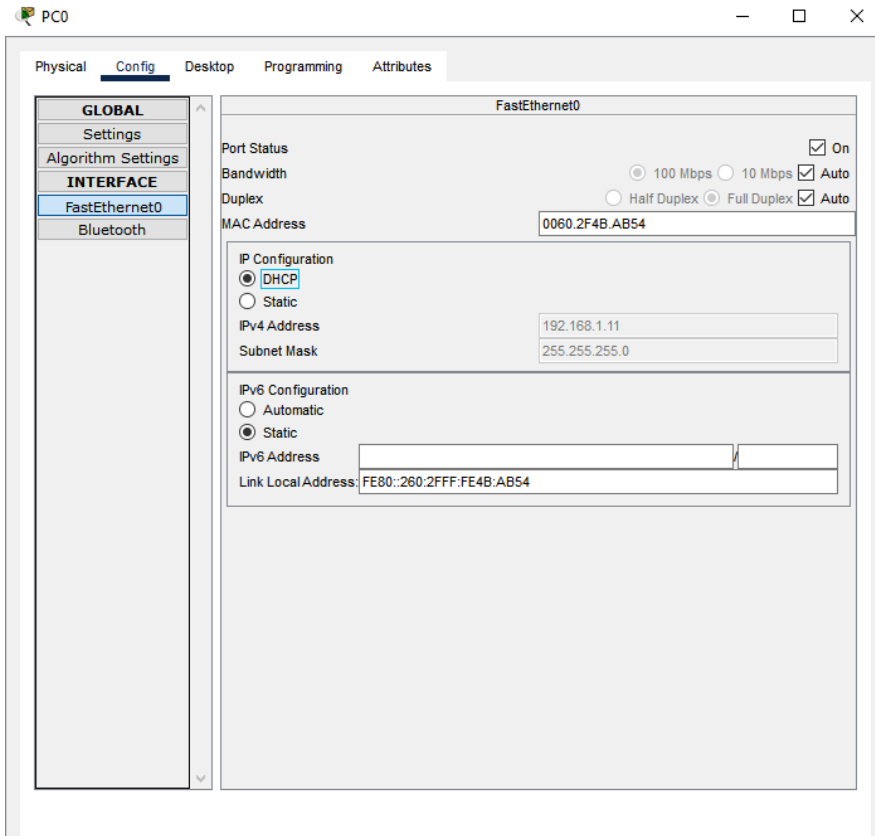
Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.168....	0.0.0.0	192.168....	255.255....	246	0.0.0.0	0.0.0.0

- Click on **PC0** and choose **Config**.
- Choose **FastEthernet0** from the left side.

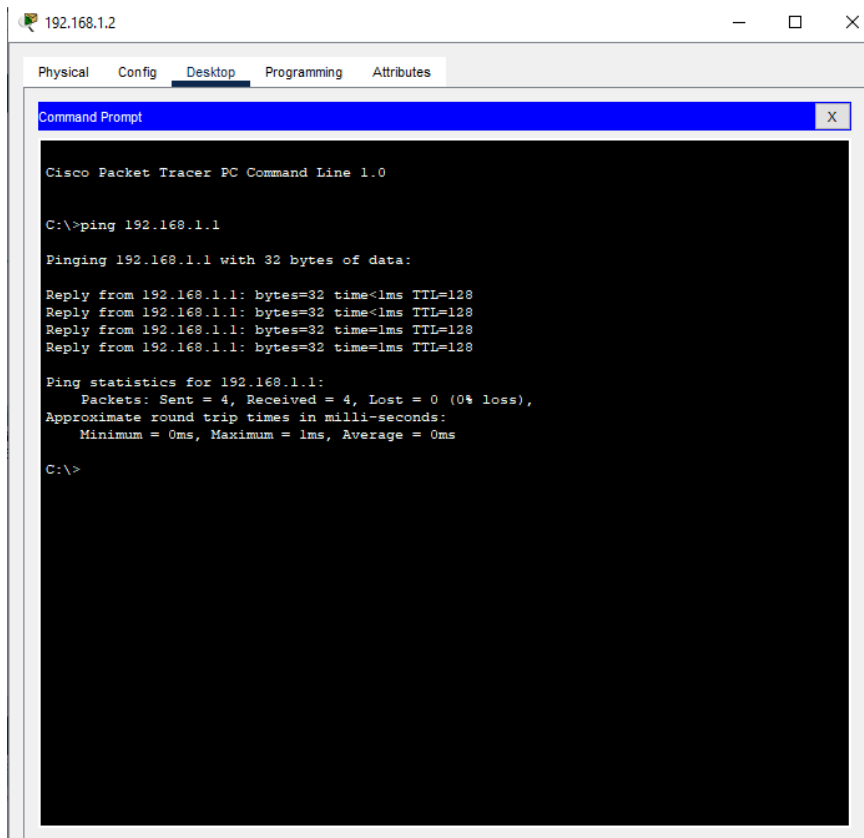
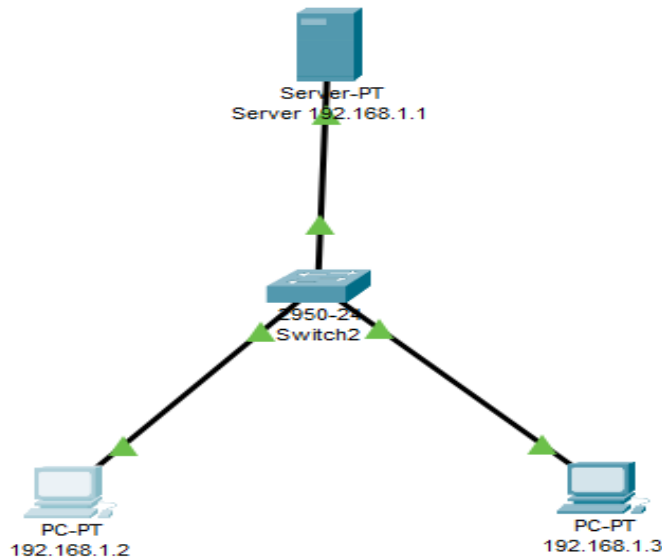
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- In the **IP Configuration** tab select **DHCP** after some time server will automatically assign the IP Address from a given range.



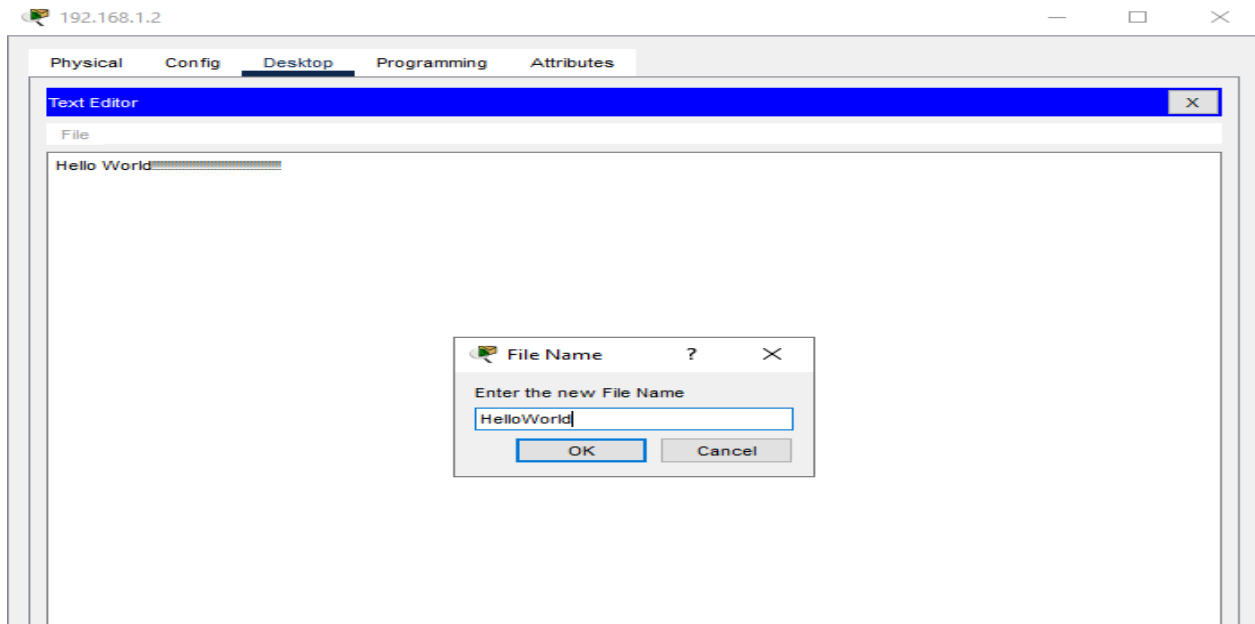
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FTP(File Transfer Protocol) :



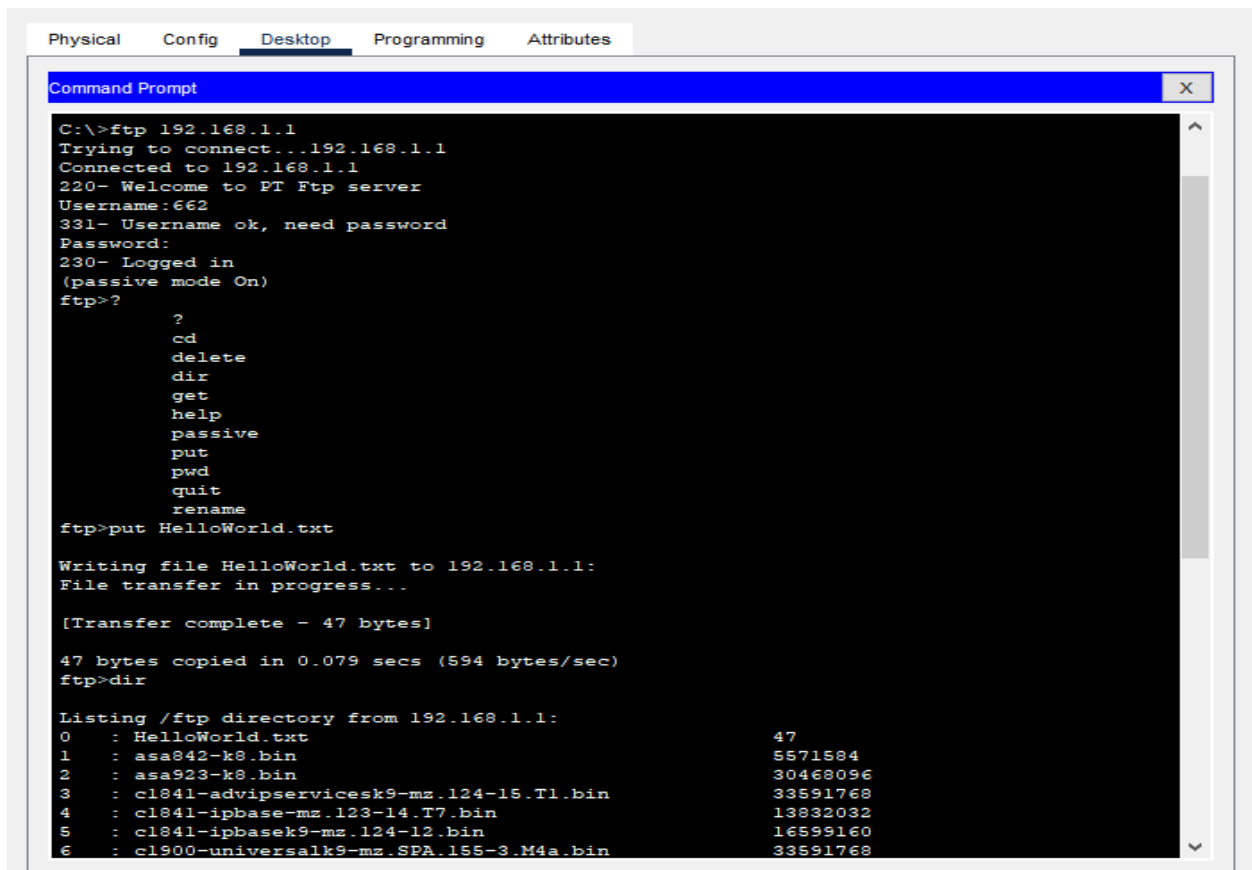
- Click on **192.168.1.2** choose desktop and select Text Editor
- Make new text file named "HelloWorld.txt"

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- Now again click on **192.168.1.2** and choose **desktop** and select **Command Prompt**.
- Write [ftp 192.168.1.1](ftp://192.168.1.1) in Command Prompt.
- Enter **Username** and **Password**.
- Write **"?"** to display all ftp related options.
- Now write **"put HelloWorld.txt"** to upload file on server.
- Now write **"dir"** to check file uploaded to server or not.

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The screenshot shows a Windows Desktop with a taskbar at the bottom. The 'Desktop' tab is selected in the top navigation bar. A 'Command Prompt' window is open, displaying the following text:

```
C:\>ftp 192.168.1.1
Trying to connect...192.168.1.1
Connected to 192.168.1.1
220- Welcome to PT Ftp server
Username:662
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>?
?
cd
delete
dir
get
help
passive
put
pwd
quit
rename
ftp>put HelloWorld.txt

Writing file HelloWorld.txt to 192.168.1.1:
File transfer in progress...

[Transfer complete - 47 bytes]

47 bytes copied in 0.079 secs (594 bytes/sec)
ftp>dir

Listing /ftp directory from 192.168.1.1:
0 : HelloWorld.txt                47
1 : asa842-k8.bin                 5571584
2 : asa923-k8.bin                 30468096
3 : cl841-advipservicesk9-mz.124-15.T1.bin  33591768
4 : cl841-ipbase-mz.123-14.T7.bin  13832032
5 : cl841-ipbasek9-mz.124-12.bin   16599160
6 : cl900-universalk9-mz.SPA.155-3.M4a.bin  33591768
```

- Write “quit” to close ftp service.
- Now click on **192.168.1.3** and choose **desktop** and select **Command Prompt**.
- Write **ftp 192.168.1.1** in Command Prompt.
- Enter **Username** and **Password**.
- Write “**get HelloWorld.txt**” to download file from server.
- Write “**quit**” to close ftp service.
- Write “**dir**” to check required file downloaded or not.



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192.168.1.3

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ftp 192.168.1.1
Trying to connect...192.168.1.1
Connected to 192.168.1.1
220- Welcome to PT Ftp server
Username:662
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>
ftp>get HelloWorld.txt

Reading file HelloWorld.txt from 192.168.1.1:
File transfer in progress...

[Transfer complete - 47 bytes]

47 bytes copied in 0 secs
ftp>quit

221- Service closing control connection.
C:\>
C:\>dir

Volume in drive C has no label.
Volume Serial Number is 5E12-4AF3
Directory of C:\

1/1/1970    5:30 PM           47      HelloWorld.txt
1/1/1970    5:30 PM           26      sampleFile.txt
              73 bytes          2 File(s)

C:\>
```