

Date: 13/08/2024

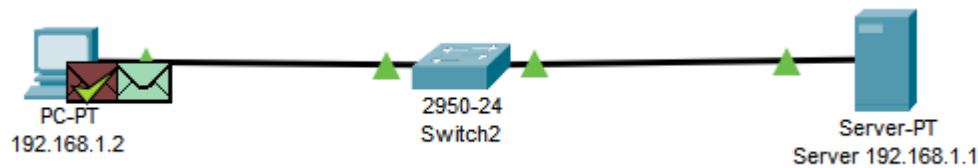
### Lab Practical #06:

Study the application layer protocol DNS, DHCP, FTP.

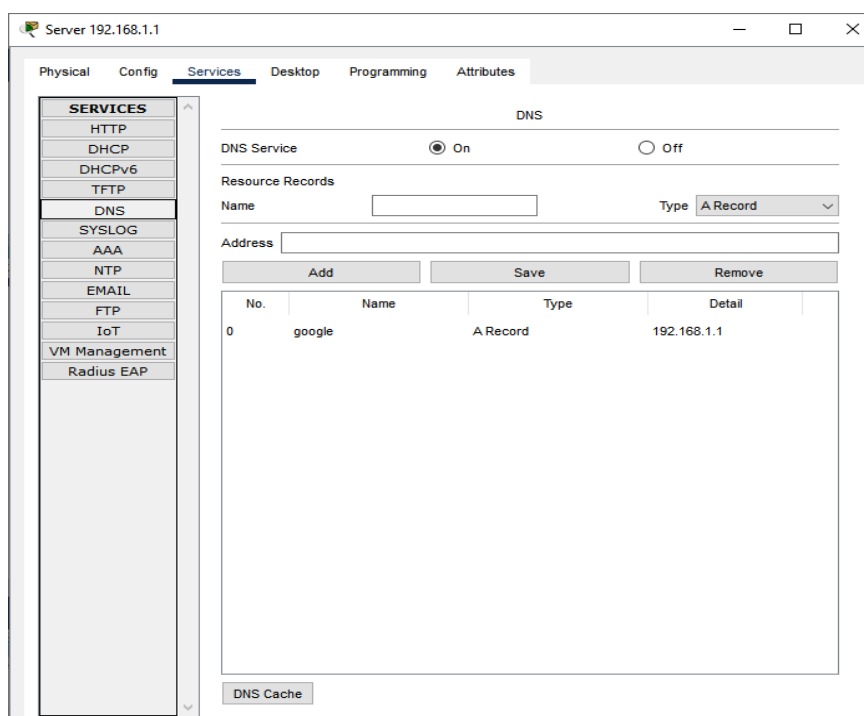
### Practical Assignment #06:

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) :

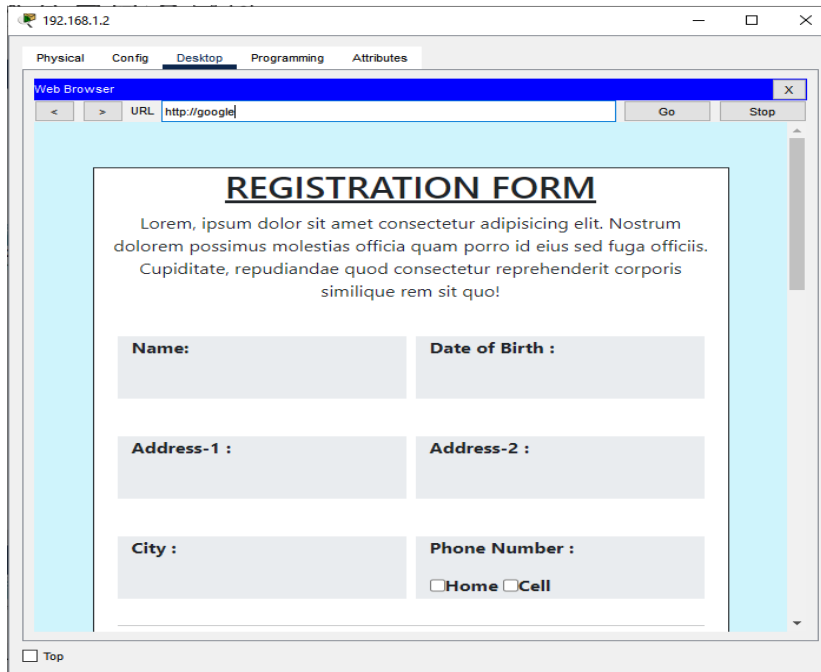


- Make a network displayed as per the above image.
- Assign **192.168.1.1** IP address to Server and assign **192.168.1.2** IP address to PC.
- Click on **Server(192.168.1.1)** and choose **Services**
- Now Choose **DNS** from the left side.
- Now click **On the** radio button as per the below image.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



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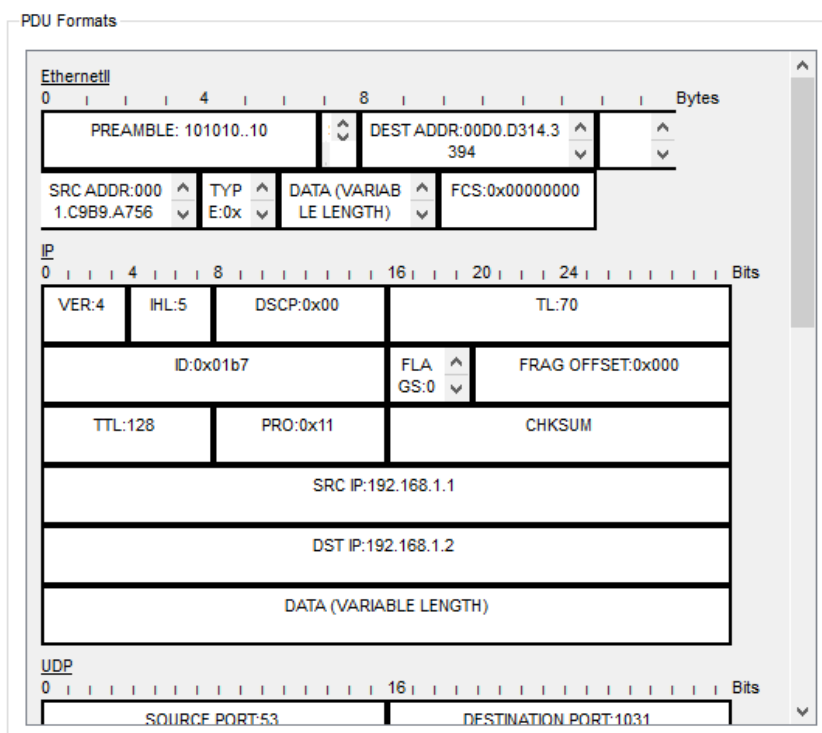
- Click on **192.168.1.2(PC)** and choose **Desktop** then choose **web browser** from it.
- Enter <http://google> in the URL textbox and click on Go.
- After some time output will be displayed.



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, displaying a "Web Browser" window. The browser's address bar shows "http://google". The main content area displays a "REGISTRATION FORM" with a placeholder text: "Lorem, ipsum dolor sit amet consectetur adipisicing elit. Nostrum dolorem possimus molestias officia quam porro id eius sed fuga officiis. Cupiditate, repudiandae quod consectetur reprehenderit corporis similique rem sit quo!". The form includes input fields for Name, Date of Birth, Address-1, Address-2, City, and Phone Number. There are also checkboxes for Home and Cell phone numbers.

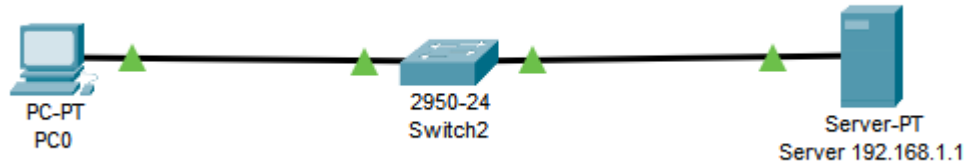
PDU Information at Device: 192.168.1.2

OSI Model [Inbound PDU Details](#)

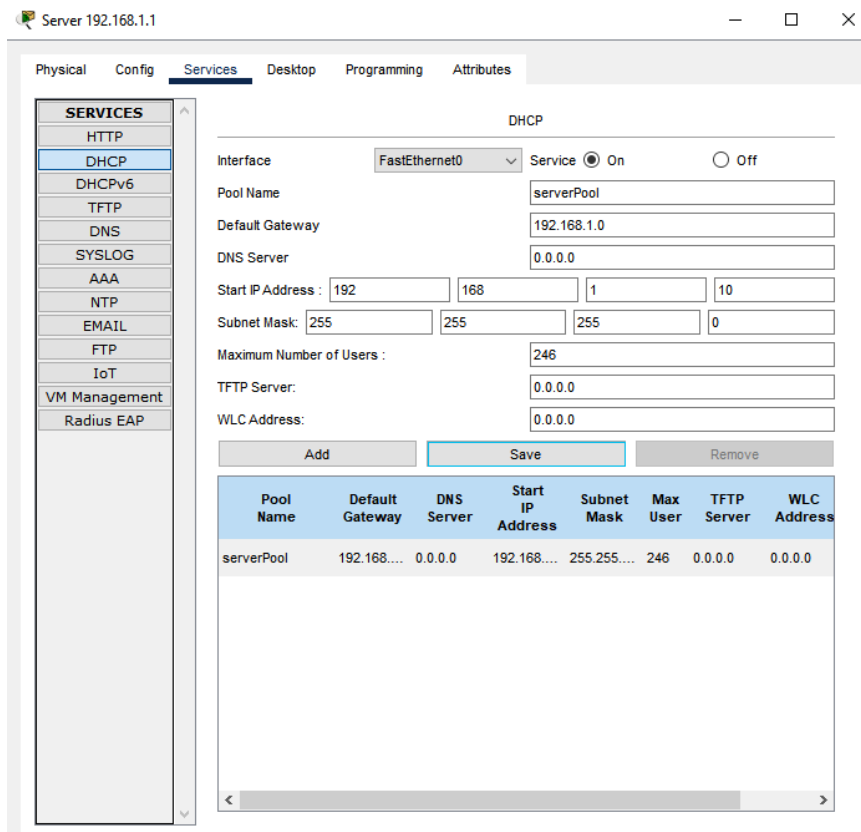


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### DHCP(Dynamic Host Configuration Protocol) :



- 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.

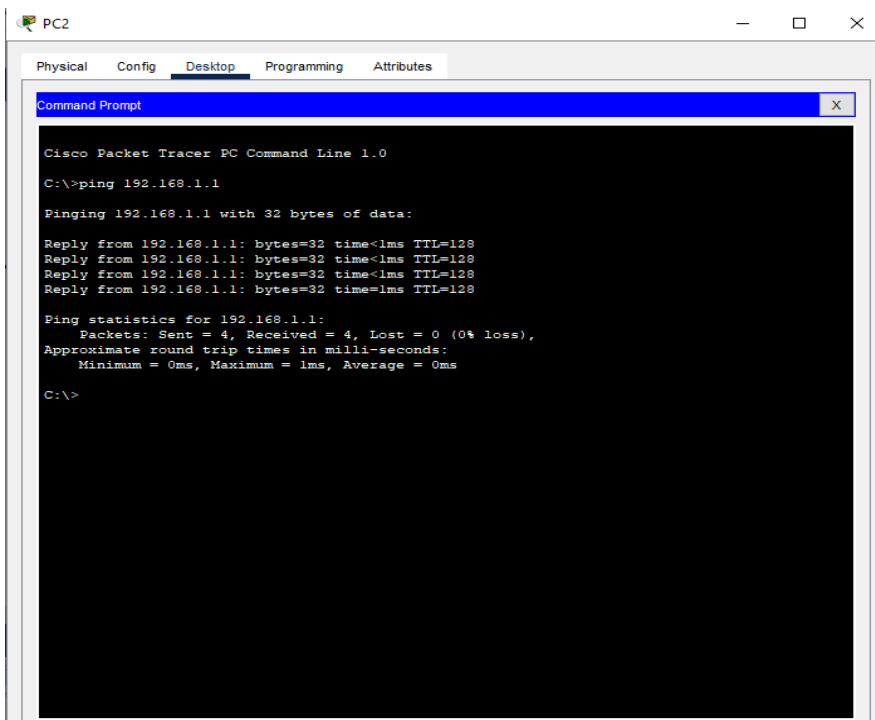
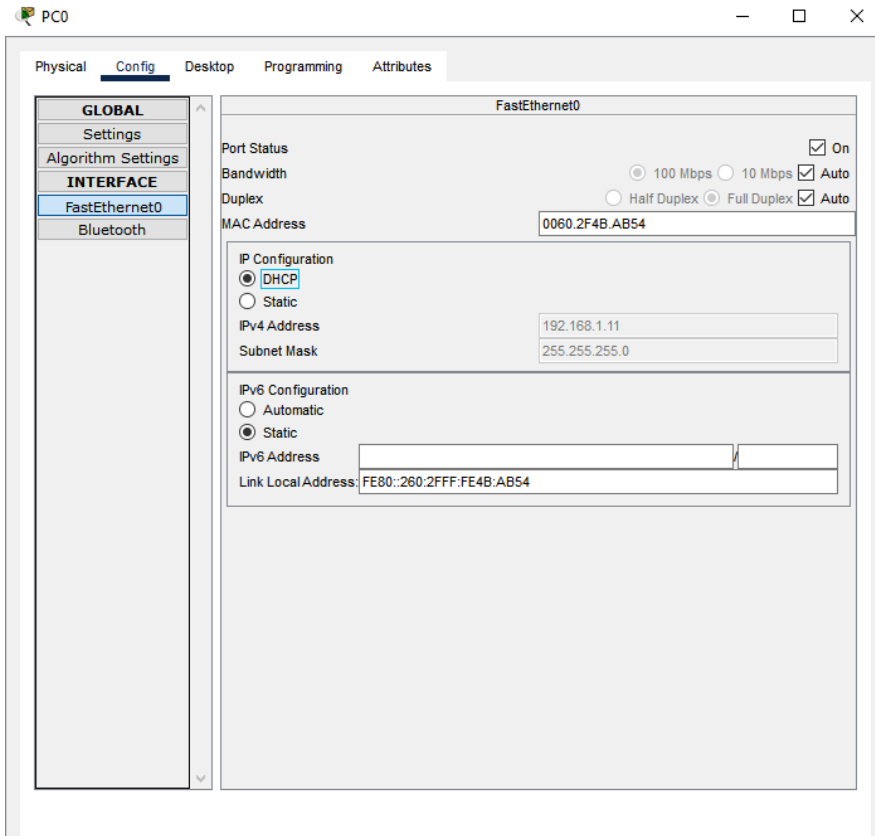


Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.168.1.0	0.0.0.0	192.168.1.1	255.255.255.0	246	0.0.0.0	0.0.0.0

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

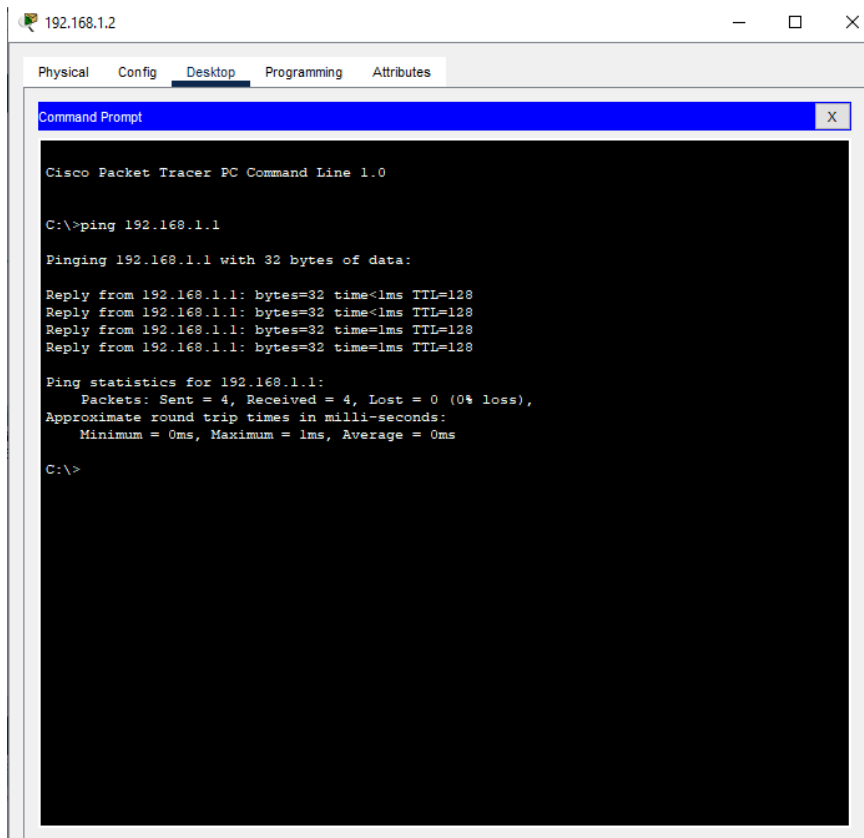
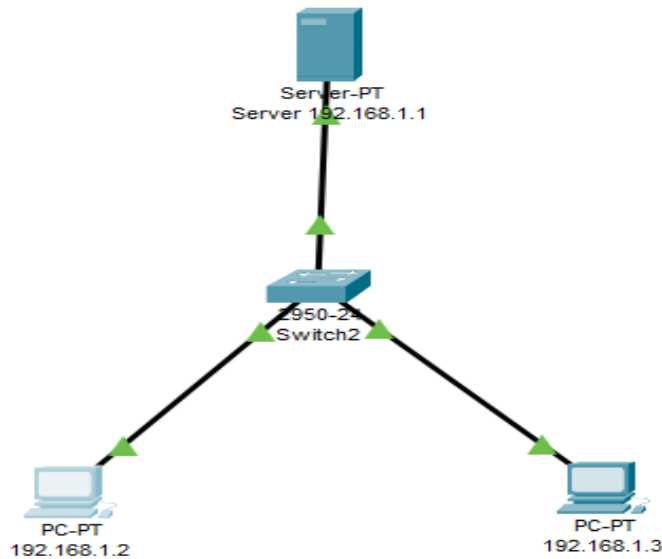
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- In the **IP Configuration** tab select **DHCP** after some time server will automatically assign the IP Address from a given range.



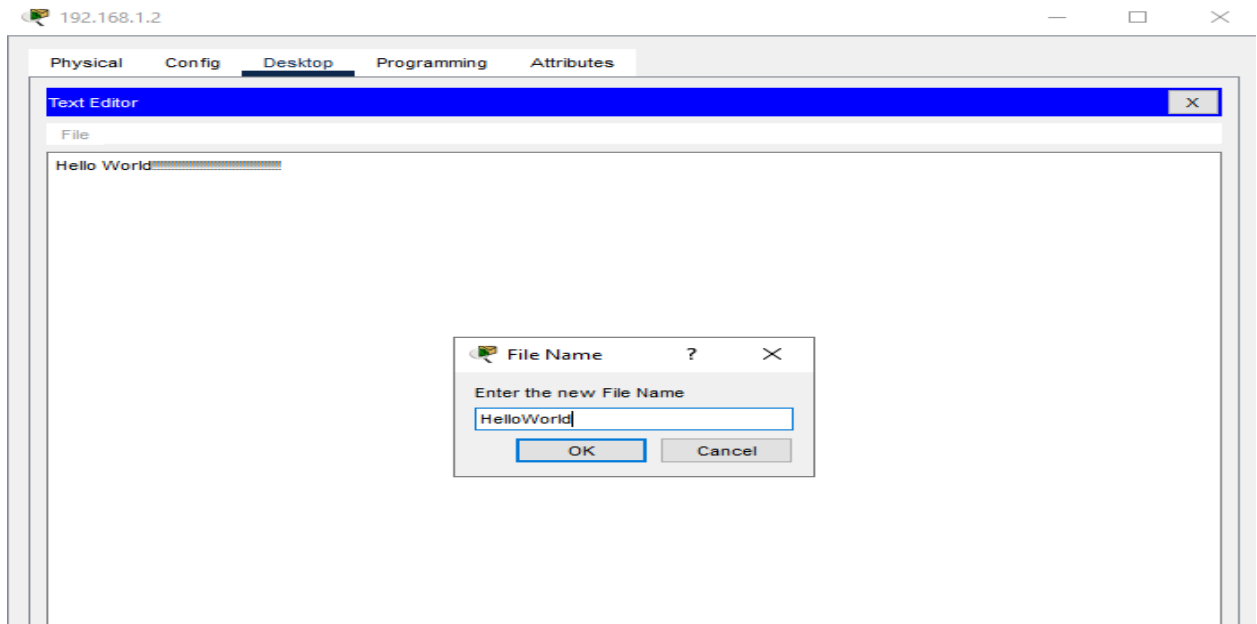
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### FTP(File Transfer Protocol) :



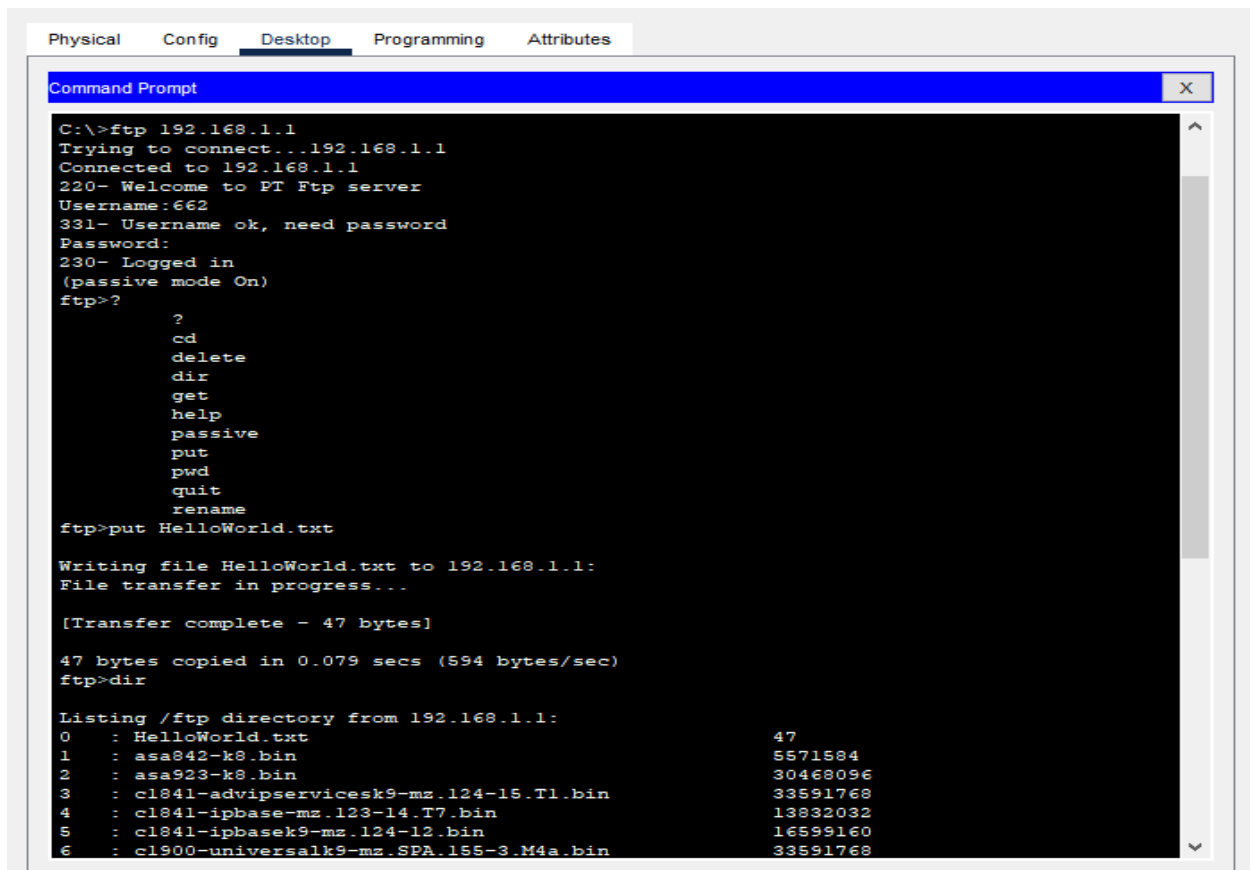
- Click on **192.168.1.2** choose desktop and select Text Editor
- Make new text file named "HelloWorld.txt"

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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 tabs for Physical, Config, Desktop, Programming, and Attributes. The 'Desktop' tab is active, displaying a Command Prompt window. The Command Prompt shows 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...

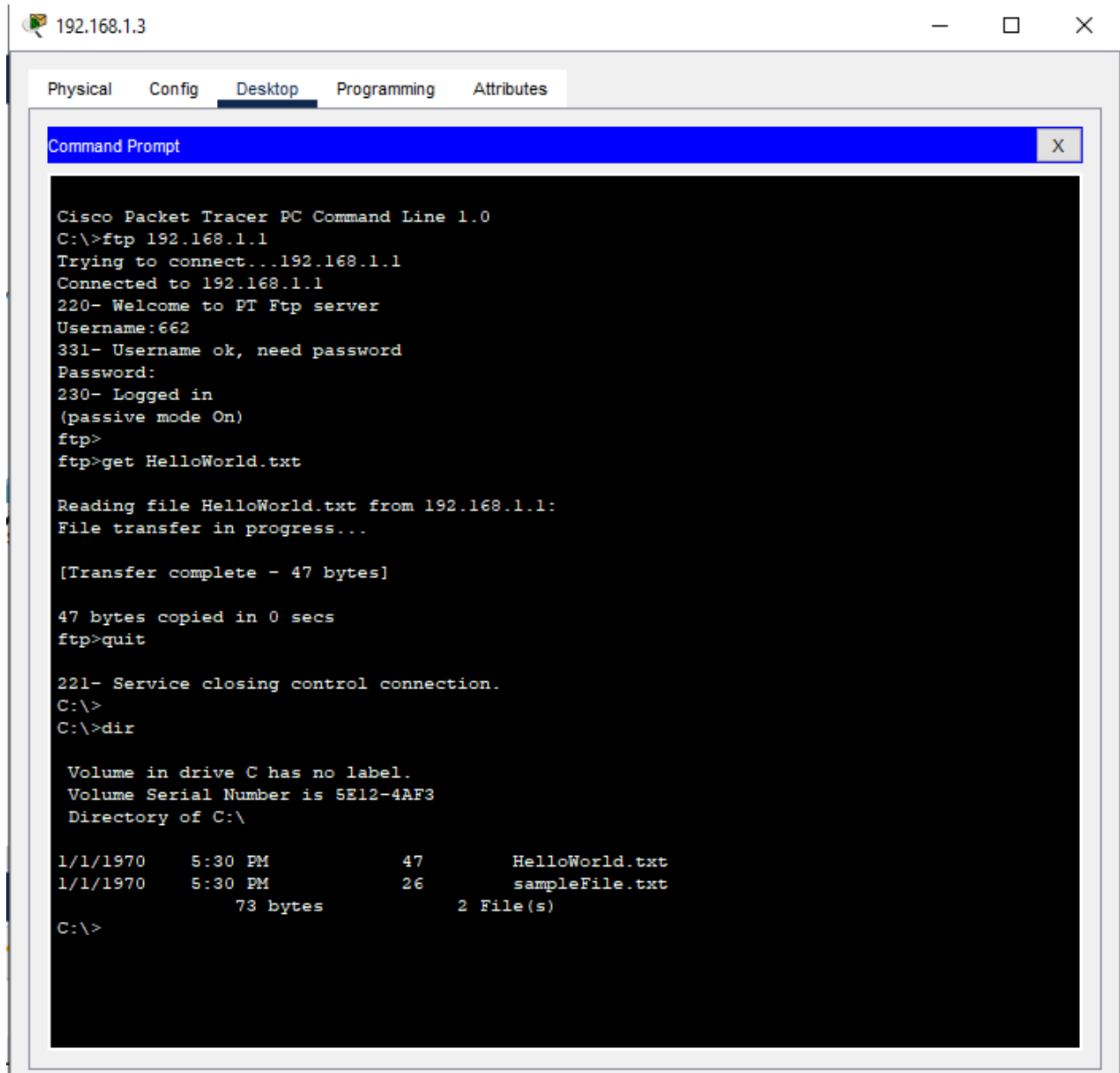
[Transfer complete - 47 bytes]

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:\>
```