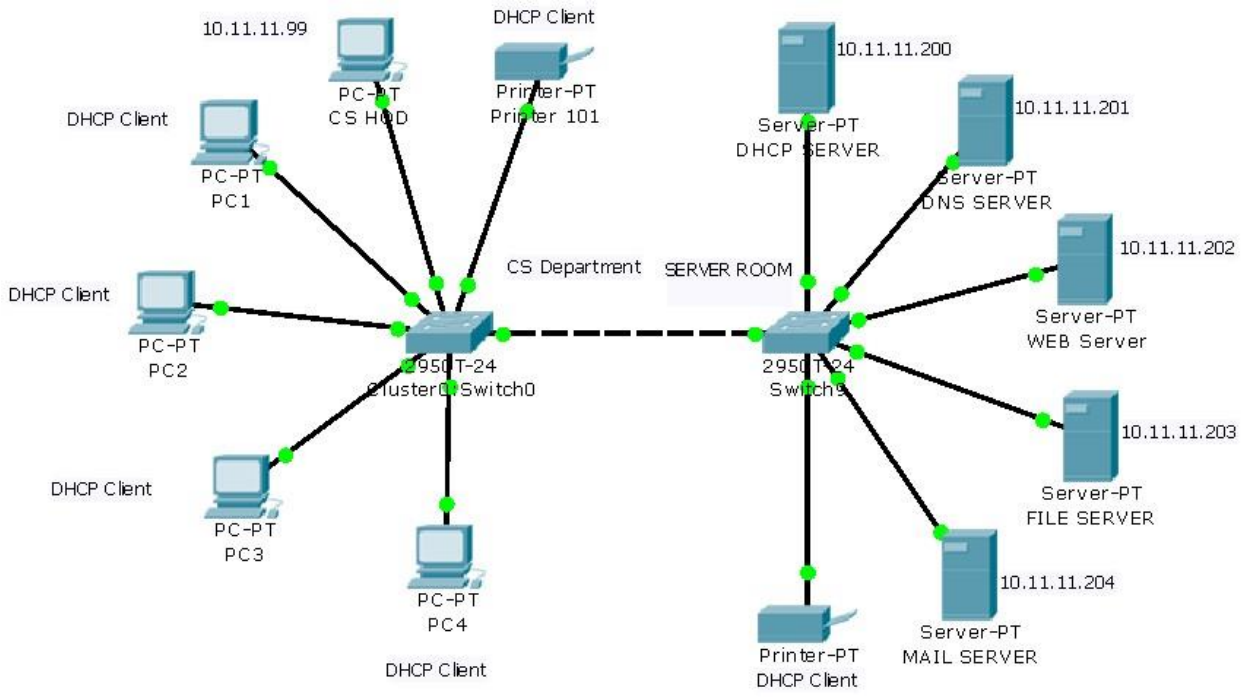
LAB 3
SERVER AND CLIENT

LEARNING OBJECTIVES

Upon completion of this activity, you will be able to

- Configure hosts and services.
- Add, configure, and connect hosts and servers.
- Verify connectivity in real time mode, Mail server and FTP Server
- Explore how DNS and HTTP work together.
- Use simulation mode to view the details of packets generated by DNS and HTTP.

Sample Topology



TASK 1: END DEVICES CONFIGURATION

STEP 1. Configure DHCP on the "DHCP SERVER" labelled Server

- Refer to Figure 1. Click the Server. The server configuration window opens, Click the **Desktop** tab
- Click the button on the Top left for **IP Configuration**.
- Verify the **Static** is Radio button selected. Set the IP Address like:

  IP Address: **10.11.11.200**

  Subnet Mask: **255.0.0.0**

  DNS Sever: **10.11.11.201**

- Then close the IP Configuration window.

Figure 1

- Refer to Figure 2. Click the Server. The server configuration window opens, Click the **Services** tab.
- Click the button on the left for **DHCP**.
- Verify the service is **on**. **Turn OFF** other the Server services like: HTTP, FTP, AAA and Email.
- Set the DNS Server to like 10.11.11.201, Set the Start IP Address to 10.11.11.100, Subnet Mask to 255.0.0.0 and Maximum Number of Users to 50
- Click the Save button. Note: Don't Click on ADD Button.

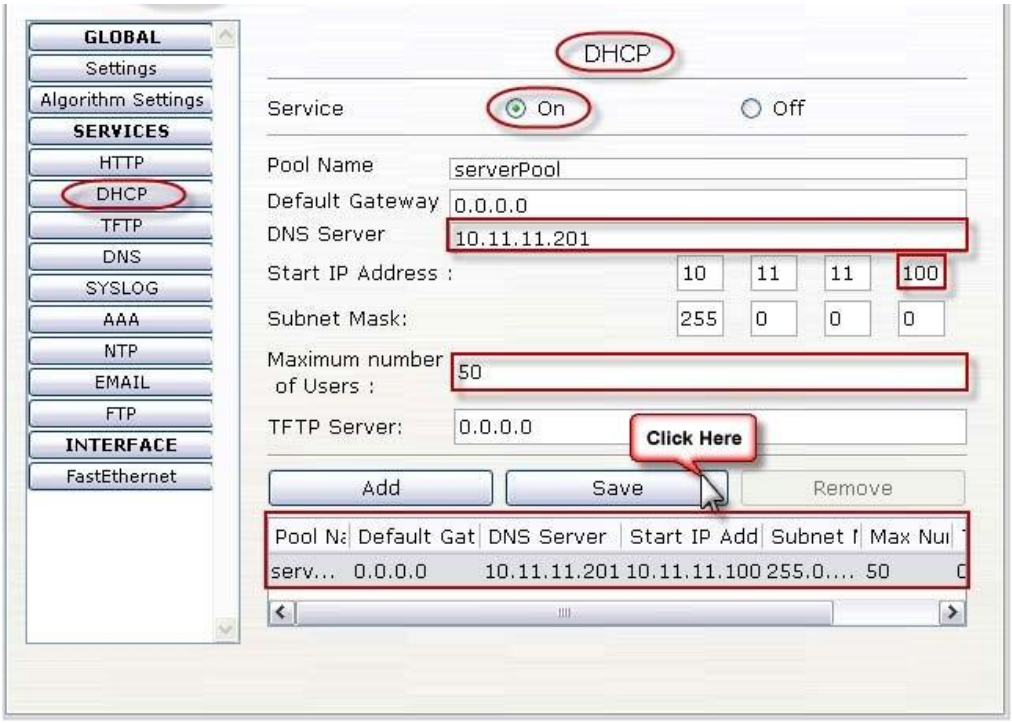


Figure 2

STEP 2. Configure DNS on the "DNS SERVER" labelled Server

- Click the Server. The server configuration window opens, Click the **Desktop** tab.
- Click the button on the Top left for **IP Configuration**.
- Verify the **Static** is Radio button selected. Set the IP Address Like:

  IP Address:**10.11.11.201**

  Subnet Mask: 2**55.0.0.0**

  DNS Sever: **10.11.11.201**
- Then close the IP configuration window.

- Refer to Figure 3. Click the Server. The server configuration window opens, Click the **Services** tab.
- The **Global Settings** appear. Click the button on the left for **DNS**.
- Verify the service is **on**. Turn OFF other the Server services like: HTTP, FTP, AAA and Email.
- Set the Domain Name to like www.example.com and the IP Address to 10.11.11.202.
- Click the **Add** button. Additional domain names can be added in this fashion.

Figure 3

- Refer to Figure 4. Additional domain names can be added in this fashion.

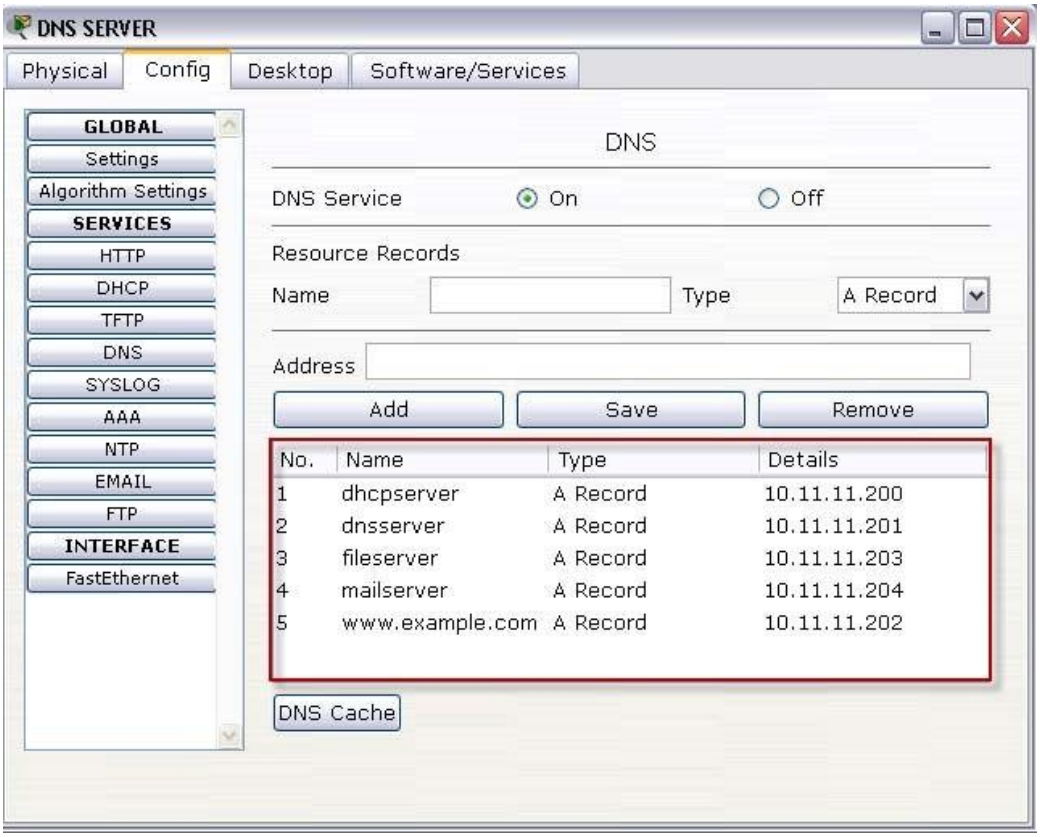


Figure 4

Step 3. Configure HTTP on the "WEB Sever" labeled Server.

- Click the Server. The server configuration window opens, Click the **Desktop** tab.
- Click the button on the Top left for **IP Configuration**.
- Verify the **Static** is Radio button selected. Set the IP Address Like:

  IP Address:10.11.11.202

  Subnet Mask: **255.0.0.0**

  DNS Sever: 10.11.11.201

- Then close the Ip configuration window.

- Refer to Figure 5. Click the **Services** tab, Click the button to select **HTTP**. Turn the service **On** and Turn OFF other the Server services like: DNS, FTP, AAA and Email.
- The **Default Page Content** window contains the page that is displayed when a web page is requested from the server. This page is in HTML format. This page can be changed if you would like to customize it. Close the server configuration window.

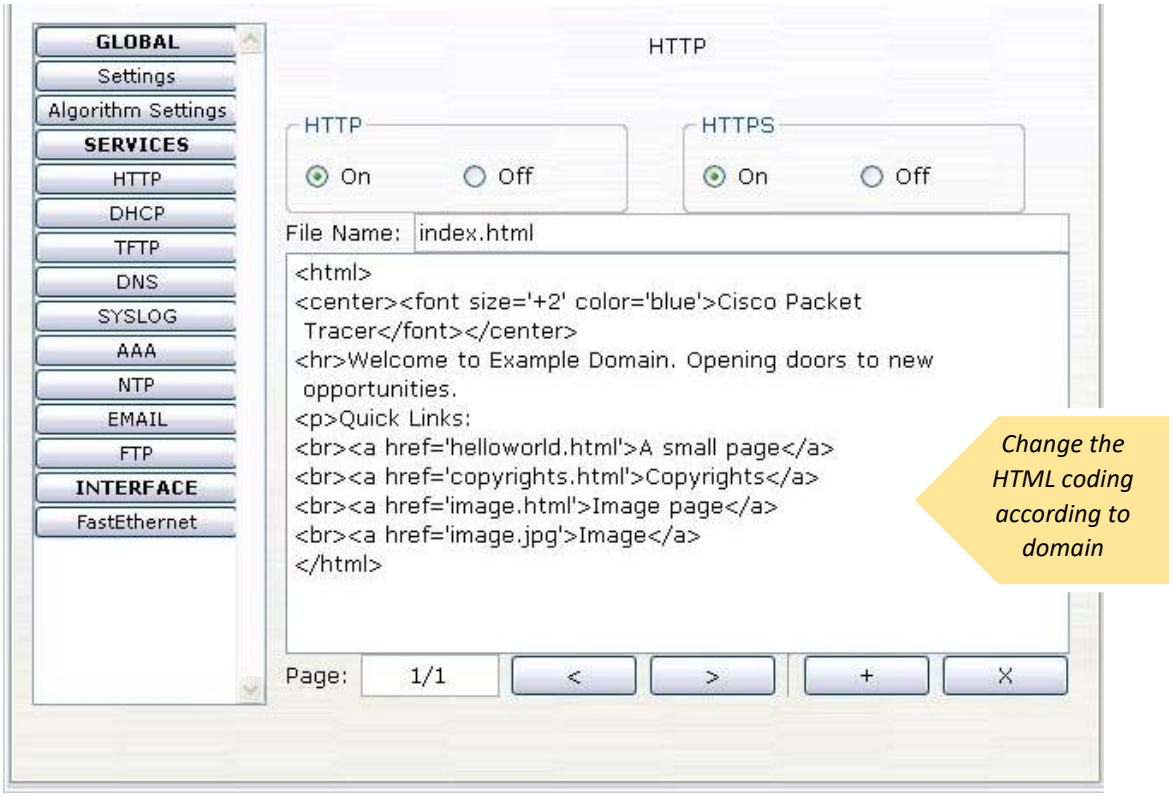


Figure 5

Step 4. Configure FTP on the Server (File SERVER)

- Click the Server. The server configuration window opens, Click the **Desktop** tab.
- Click the button on the Top left for **IP Configuration**.
- Verify the **Static** is Radio button selected. Set the IP Address Like:

  IP Address:**10.11.11.203**

  Subnet Mask: **255.0.0.0**

  DNS Sever: **10.11.11.201**

- Then close the Ip configuration window.

- Refer to Figure 6. Click the **Services** tab, Click the button to select **FTP**. Turn the service **On** and **Turn OFF** other the Server services like: HTTP, DNS, FTP, AAA and Email.
- Set the **User Name** to **user** and **Password** to **password**. And set User Permissions like Write, Read, Rename and List.
- Click the **Add(+)** button.

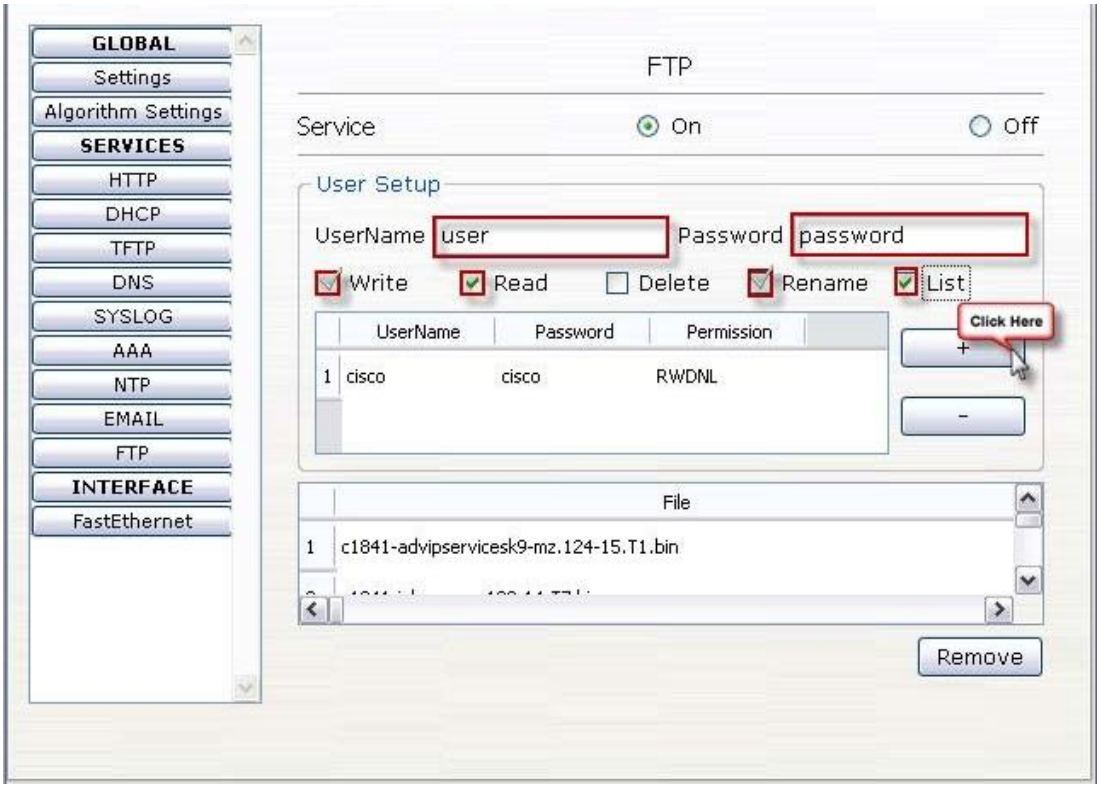


Figure 6

Step 5. Configure Mail on the Server (MAIL SERVER).

- Click the Server. The server configuration window opens, Click the **Desktop** tab.
- Click the button on the Top left for **IP Configuration**.
- Verify the **Static** is Radio button selected. Set the IP Address Like:

  IP Address: **10.11.11.204**

  Subnet Mask: **255.0.0.0**

  DNS Sever: **10.11.11.201**
- Then close the Ip configuration window.

- Refer to Figure 7. Click the Server. The server configuration window opens, Click the **Services** tab.
- Click the button on the left for **Email**.
- Verify the **SMTP and POP3** services are **on**. **Turn OFF** other the Server services like: HTTP, FTP, AAA and DNS.
- Set the **Domain Name** to like **example.com** and then click the **Set** button.
- Now create some users PC1, PC2, PC3 and PC4 with some password.
- Click the **Add(+)** button
- User Setup

User Name	Password
cshod	123
Pc1	123
Pc2	123
Pc3	123
Pc4	123

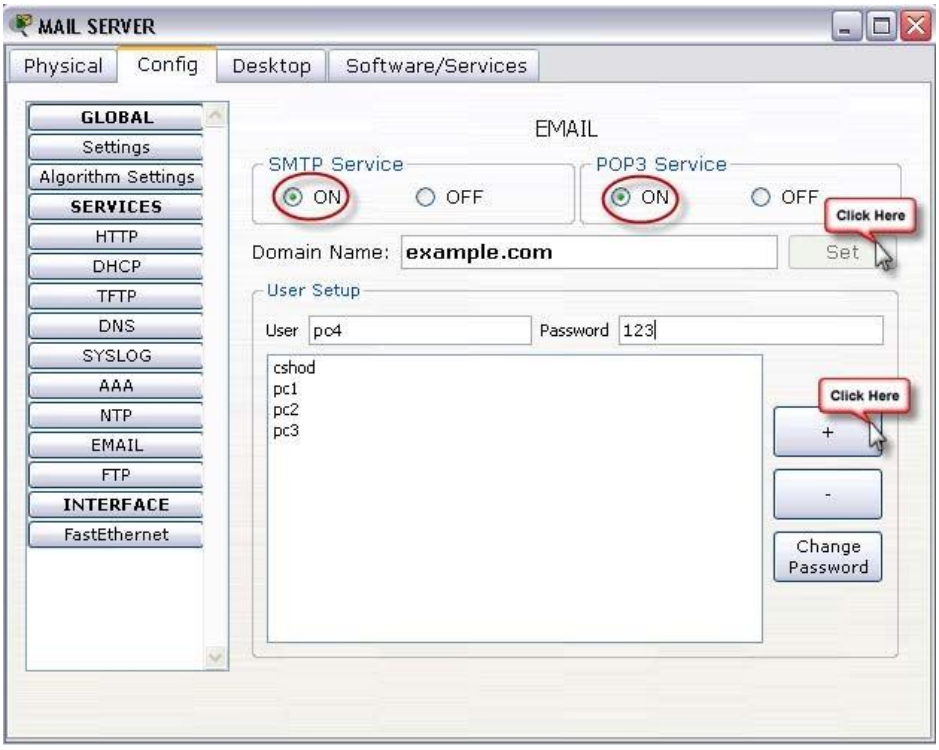


Figure 7

Step 6. Configure DNS support on the CS HOD labeled Client

- Refer to Figure 8. Click the PC Client. The PC configuration window opens, Click the **Config** tab.
- Click the button on the Top left for **IP Configuration**.
- Verify the **Static** is Radio button selected. Set the IP Address Like:

  IP Address: **10.11.11.99**

  Subnet Mask: **255.0.0.0**

  DNS Sever: **10.11.11.201**

- Then close the IP Configuration window.

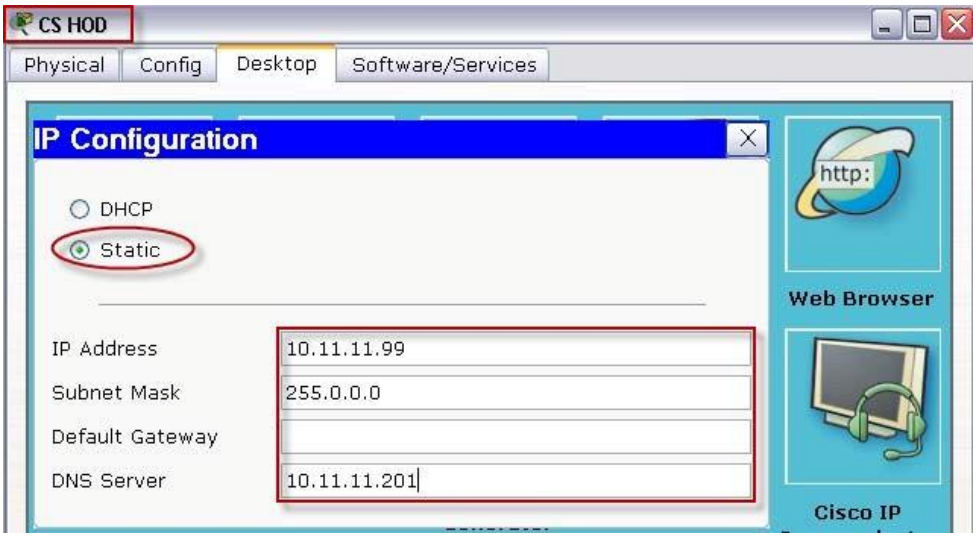


Figure 8

Step 7. Configure DNS support on the PC1, PC2, PC3 and PC4 labeled Clients

- Refer to Figure 9. Click the PC Client. The PC configuration window opens, Click the **Config** tab.
- Click the button on the Top left for **IP Configuration**.
- Verify the **DHCP** is Radio button selected

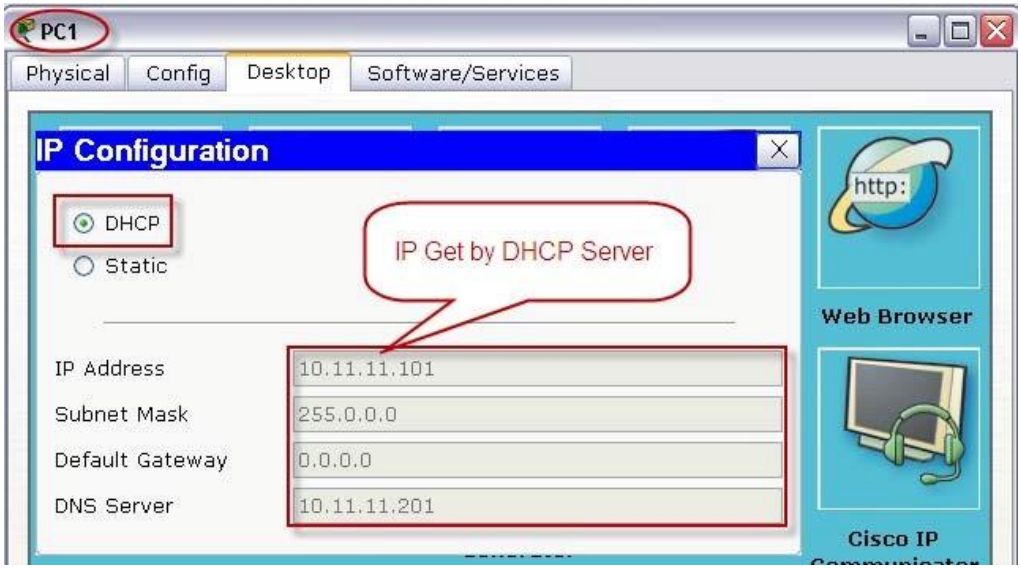


Figure 9

TASK 2: VERIFY CONNECTIVITY IN REAL TIME MODE

Step 1. Ping the server using the URL.

Refer to Figure 9. Select the PC and click the **Desktop** tab. Click the **Command Prompt** button. A Command Prompt window opens. Type **ping www.example.com** (the URL of the Server) and press **Enter**. After the ping succeeds, close the Command Prompt window.

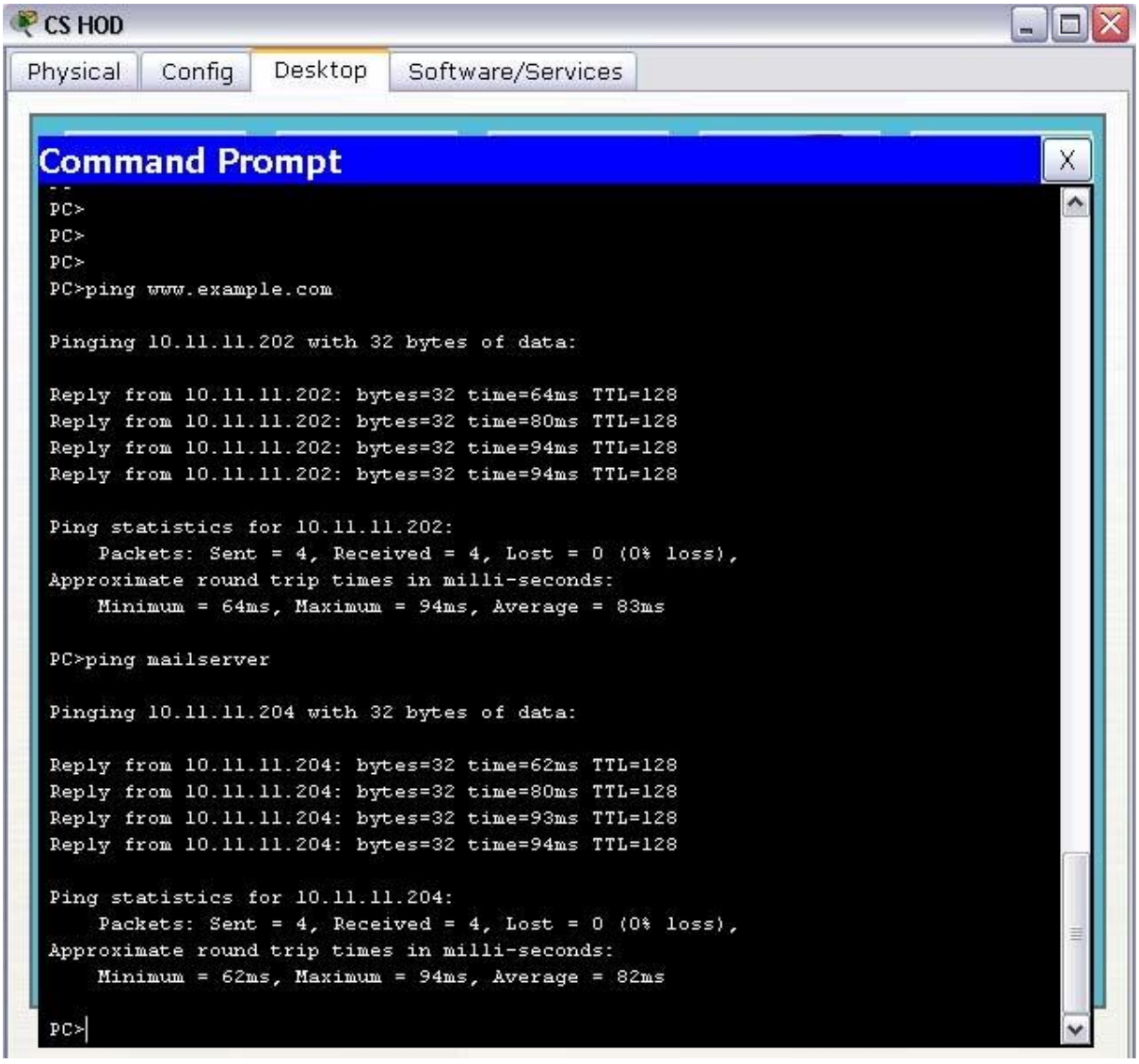


Figure 9

```
Server:  [10.11.11.201]
Address:  10.11.11.201

Non-authoritative answer:
Name:    www.example.com
Address:  10.11.11.202

PC>
```

Step 2. From the PC, Open a Web Page.

- Refer to Figure 10. From the PC desktop, click the **Web Browser** button. A simulated web browser opens.
- Type **www.example.com** (the URL of the Server) into the **URL** box and click the **Go** button. A web page should appear.
- Close the PC configuration window.

Figure 10

Step 3. Configure Email support on the CS HOD labeled Clients

- Refer to Figure 11. Click the PC Client. Click the **Desktop** tab. Click the button on **Email**.
- The **Configure Mail** window opens.

Configure Mail

User Information	
Your Name:	cshod
Email Address:	cshod@example.com
Server Information	
Income mail Server	10.11.11.204 or mailserver (As per DSN Server)
Outgoing mail Server	10.11.11.204 or mailserver (As per DSN Server)
Logon Information	
User Name:	cshod
Password:	123

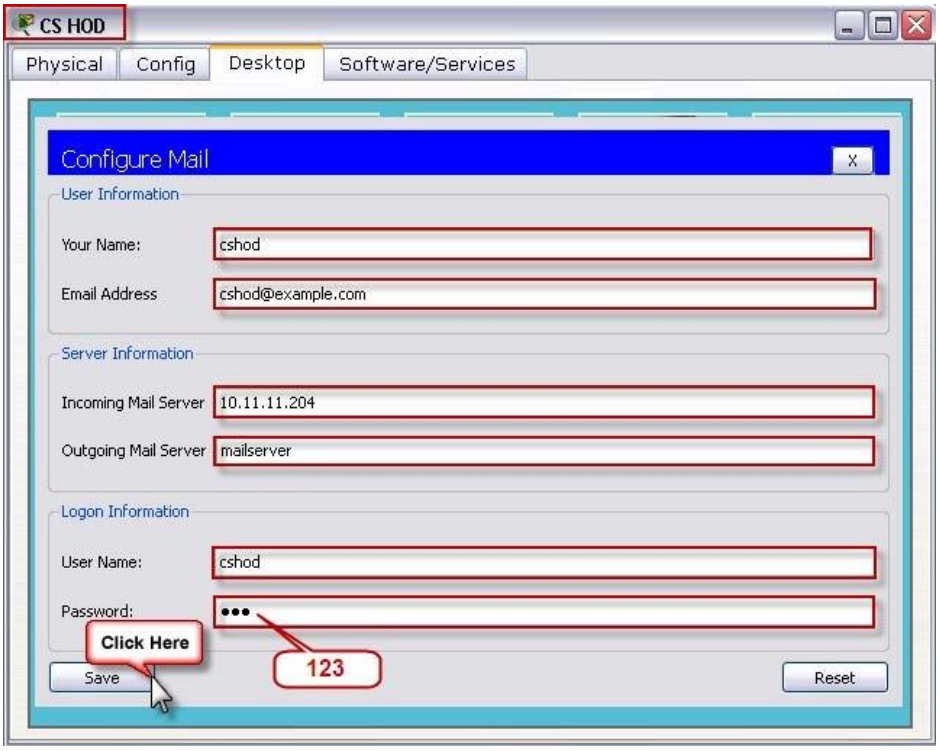


Figure 11

- Click the button on the Top **Save.**

Compose Mail

- Refer to Figure 12. The **Mail Browser** window opens. Click the **Compose** button than create test mail.

  To: **pc1@example.com**

  Subject: **test mail**

  Massage: **Hello**

- Click the button **Send**.

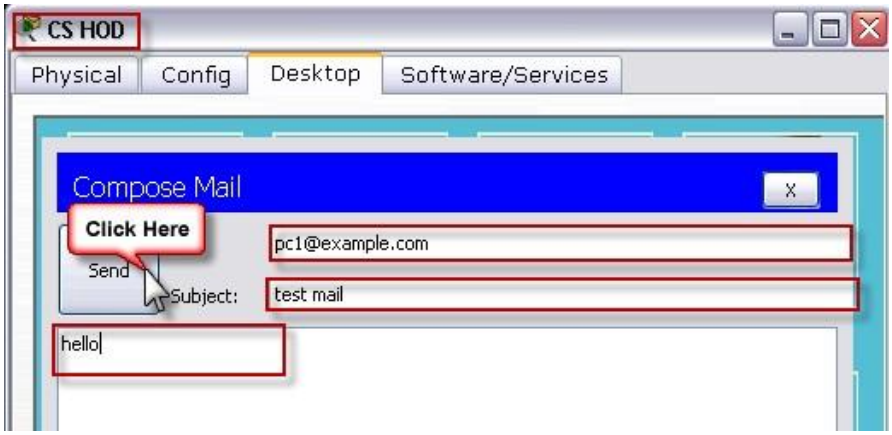


Figure 12

- Status of the sent email is appeared on Mail Browser. Refer to Figure 13

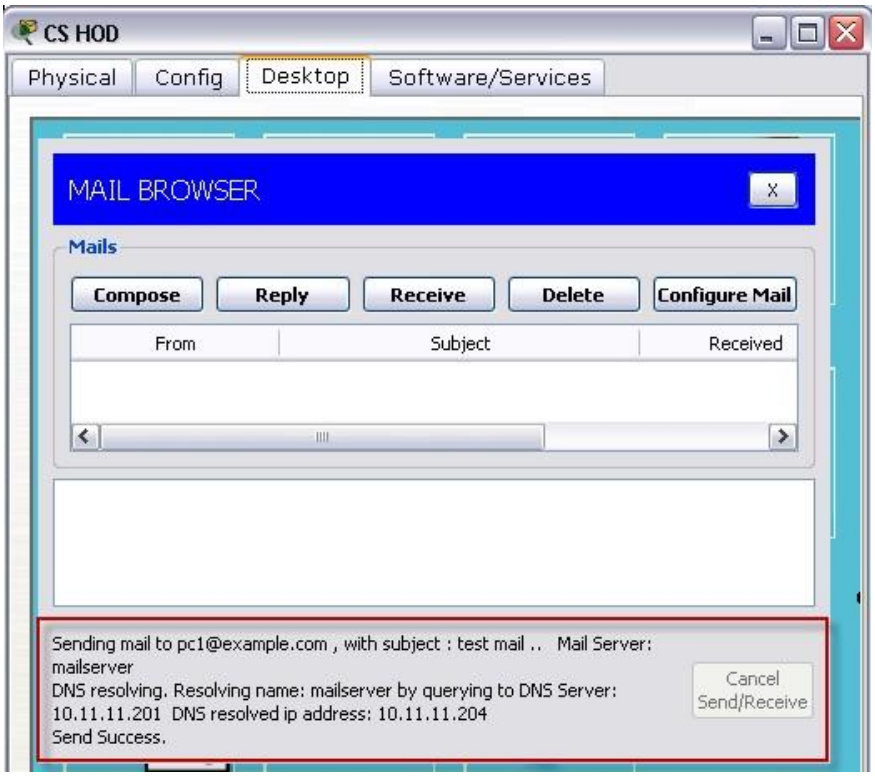


Figure 13

Step 4. Configure Email support on the PC1, PC2, PC3 and PC4 labeled Clients

- Click the PC Client. Click the **Desktop** tab. Click the button on **E mail**.
- The **Configure Mail** window opens. Refer to Figure 14

Configure Mail

User Information	
Your Name:	pc1
Email Address:	pc1@example.com
Server Information	
Income mail Server	10.11.11.204 or mailserver (As per DSN Server)
Outgoing mail Server	10.11.11.204 or mailserver (As per DSN Server)
Logon Information	
User Name:	pc1
Password:	123

- Click the button on the Top **Save.**

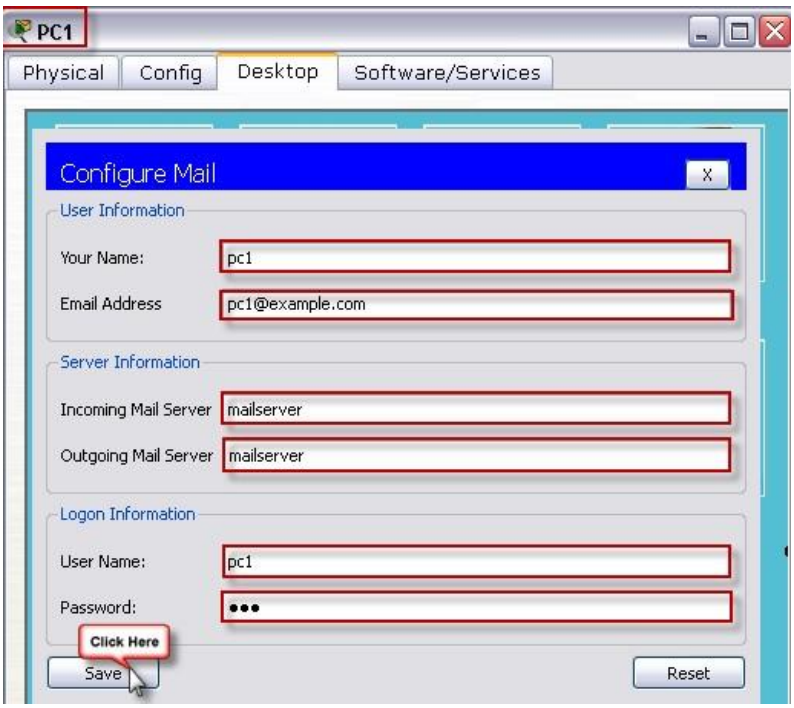


Figure 14

- Refer to Figure 15. The **Mail Browser** window opens. Click the **Receive** button than find one test mail at mailbox.
- Double click on mail, open it, and read it. Refer to Figure 16.

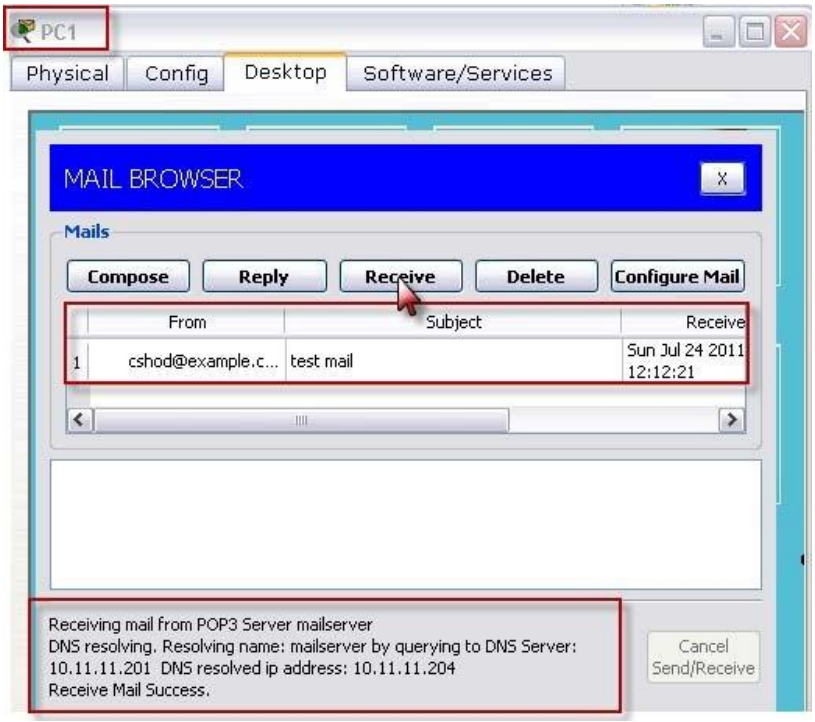


Figure 15

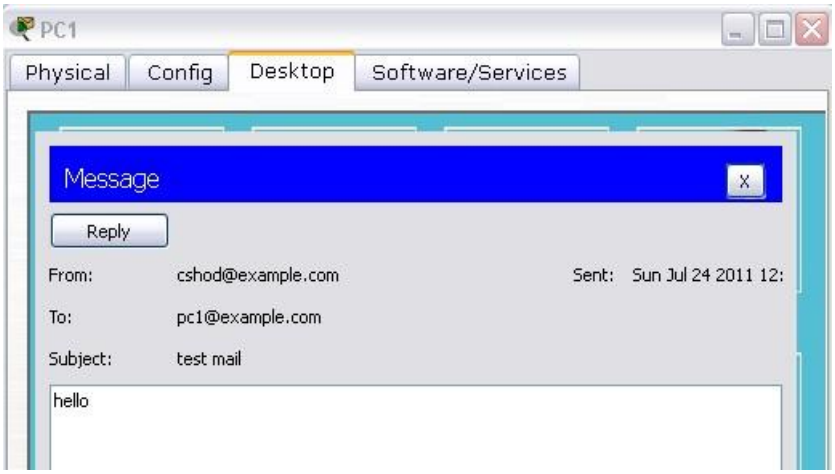


Figure 16

Step 4. Upload and Download file by FTP

Create file on CS HOD PC Client

- Click the CS HOD PC Client.
- Refer to Figure 17. Click the Desktop tab.
- Click the button on the Top Text Editor.
- Create one test file and save that file with the name test. Then click 'OK".
- Close Text Editor.

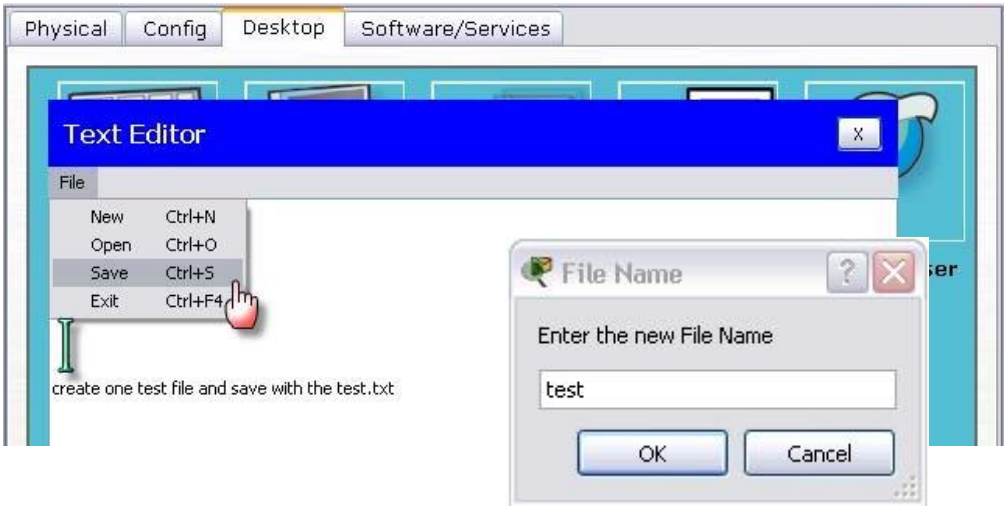


Figure 17

- Refer to Figure 18. Click the Command Prompt button. A Command Prompt window opens. Type dir and verify file "*test.txt*" exist or not.
- Than Type ping fileserver or ping 10.11.11.203 (the URL of the file Server) and press Enter. (to verify the connectivity)
- After the ping succeeds, close the Command Prompt window.

Upload file to FileServer

- Click the **Command Prompt** button. Than Type **ftp fileserver** or **ftp 10.11.11.203** (the URL of the file Server) and press **Enter**.
- When prompted for a user ID, type **user**. When prompted for a password, type **password**. Then press **Enter**.
- Upload the file "test.txt" to fileserver by Type command **put test.txt**
- Then verify the file uploaded is exist or not. Type **dir.**
- When finished, terminate the FTP sessions in each command-line window with the FTP **quit** command

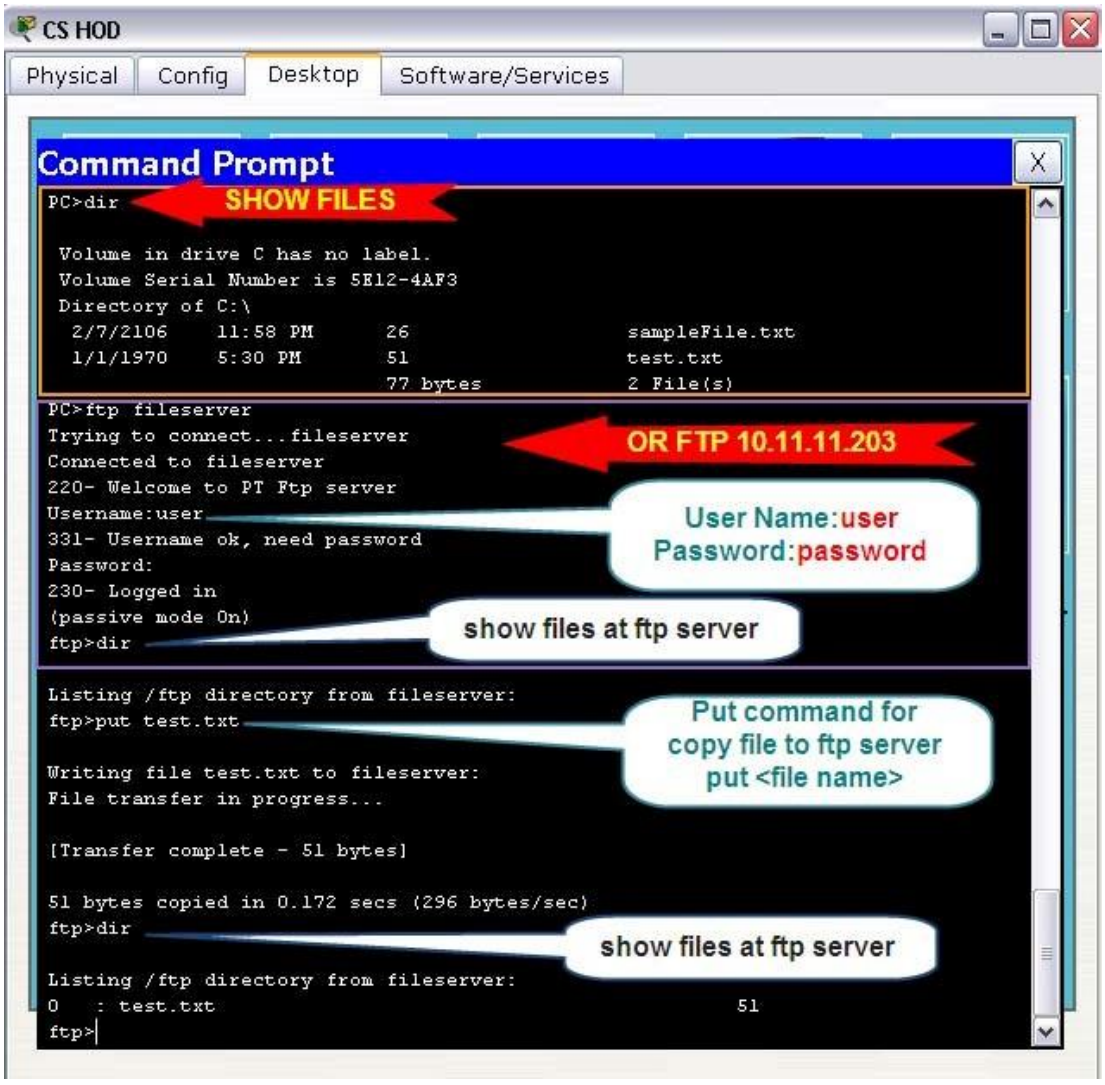


Figure 18

Download file from FileServer

- Refer to Figure 19. Click the **PC1** Client. Click the **Desktop** tab.
- Click the **Command Prompt** button. Than Type **ftp fileserver** or **ftp 10.11.11.203** (the URL of the file Server) and press **Enter**.
- When prompted for a user ID, type **user**. When prompted for a password, type **password**. Then press **Enter**.
- Download the file "test.txt" to fileserver by Type command **get test.txt**
- When finished, terminate the FTP sessions with the FTP **quit** command
- Then verify the file uploaded is exist or not. Type **dir.**

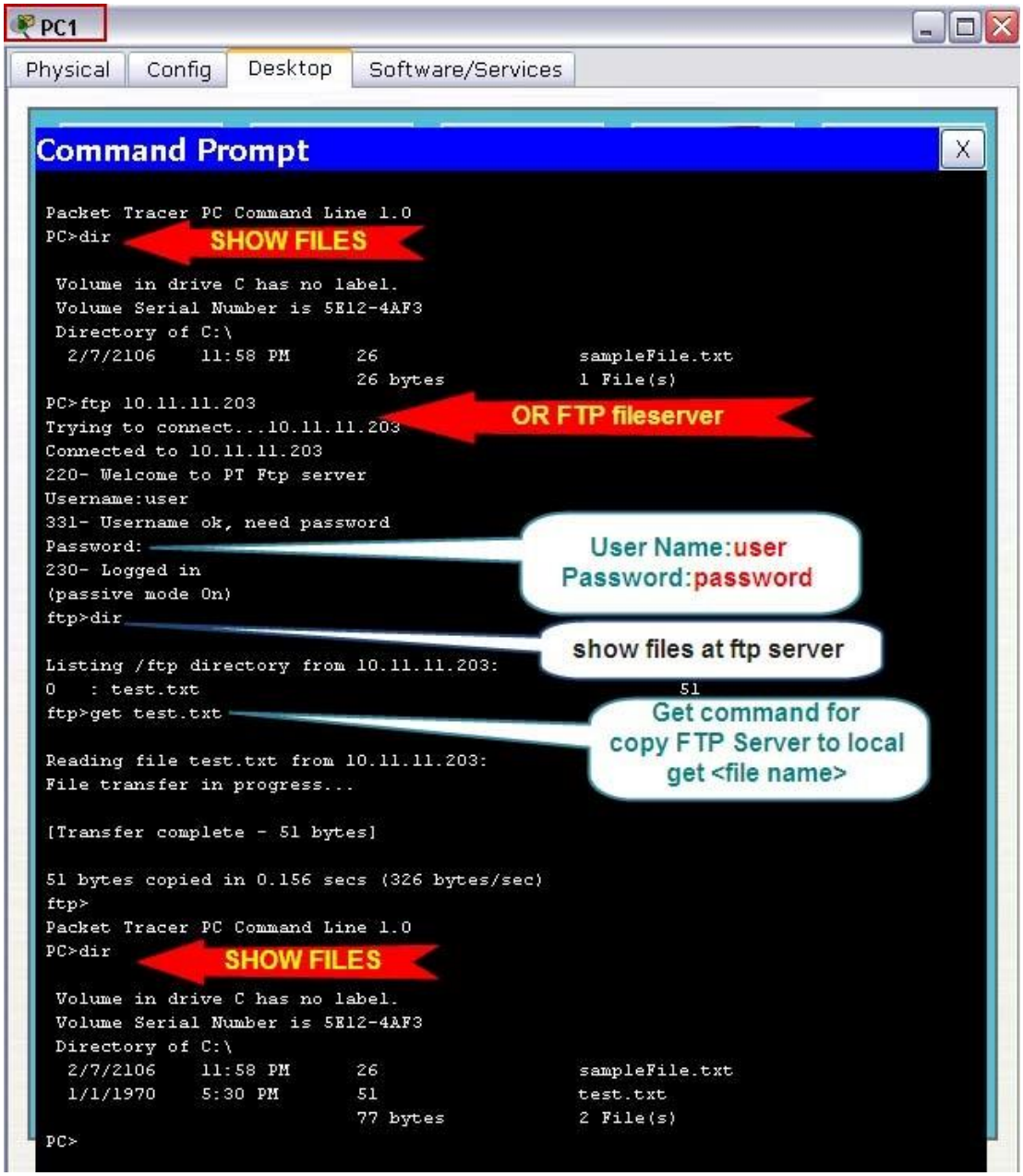
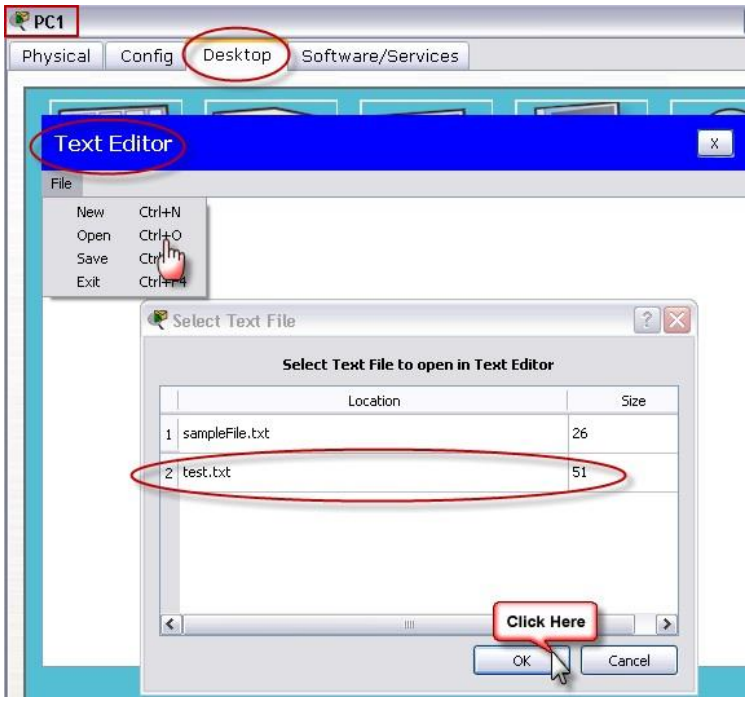
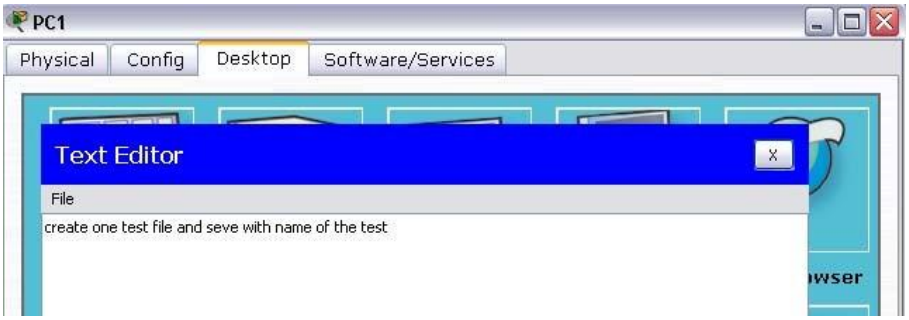


Figure 19

- To read the file, Click the **Desktop** tab.
- Click the button on the Top **Text Editor**. Then open the file.





TASK 3: EXPLORE HOW DNS AND HTTP WORK TOGETHER

- Switch from Realtime mode to Simulation mode. Open a web browser from the desktop of PC A.
- Enter **http://www.example.com**, press Enter, and then use the **Capture / Forward** button in the Event List to capture the interaction of DNS and HTTP.
- Play this animation. Examine the Packet contents (PDU Information Window, Inbound PDU Details, and Outbound PDU Details) for each event in the event list, especially when the packets are at PC A or Web Server. If you receive a "Buffer Full" message, click the **View Previous Events** button. Even though the processing of the packets by the switch may not make sense to you yet, you should be able to see how DNS and HTTP work together.
- Observe and understand the process, then write a short report about it.