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Activity 3.3.2:
Network Representations

Addressing Table:

This Lab does not include an Addressing Table.

Learning Objectives:

- Configure services and support
- Configure DNS and HTTP on a server
- Configure DNS support on a PC
- Verify Connectivity in Realtime Mode
- View how DNS and HTTP work together using Simulation Mode

Introduction:

In this activity, you will configure a Server to provide DNS services and to host a web page, configure a PC to use DNS services, and view how DNS and HTTP work together.

Task 1: Configure services and support

Step 1. Configure DNS on the Server.

Click the Server. The server configuration window opens, Click the **Config** tab. The **Global Settings** appear. Click the button on the left for **DNS**. Verify the service is **On**. Set the **Domain Name** to **www.example.com** and the **IP Address**to **192.168.1.254**. Click the **Add** button. Additional domain names can be added in this fashion.

Step 2. Configure HTTP on the Server.

Click the button to select **HTTP**. Turn the service **On**. 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.

Step 3. Configure DNS support on the PC labeled Client

Click the PC Client. The PC configuration window opens, Click the **Config** tab. The **Global Settings** appear. Set the **DNS Server** to **192.168.1.254**, the IP address on the Server. Close the PC configuration window.

At the end of this task your completion rate should be 100%.

Task 2: Verify Connectivity in Realtime Mode

Step 1. Ping the server using the URL.

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.

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

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.

Task 3: View how DNS and HTTP work Together using Simulation Mode

Step 1. From the PC, ping the Server using the URL

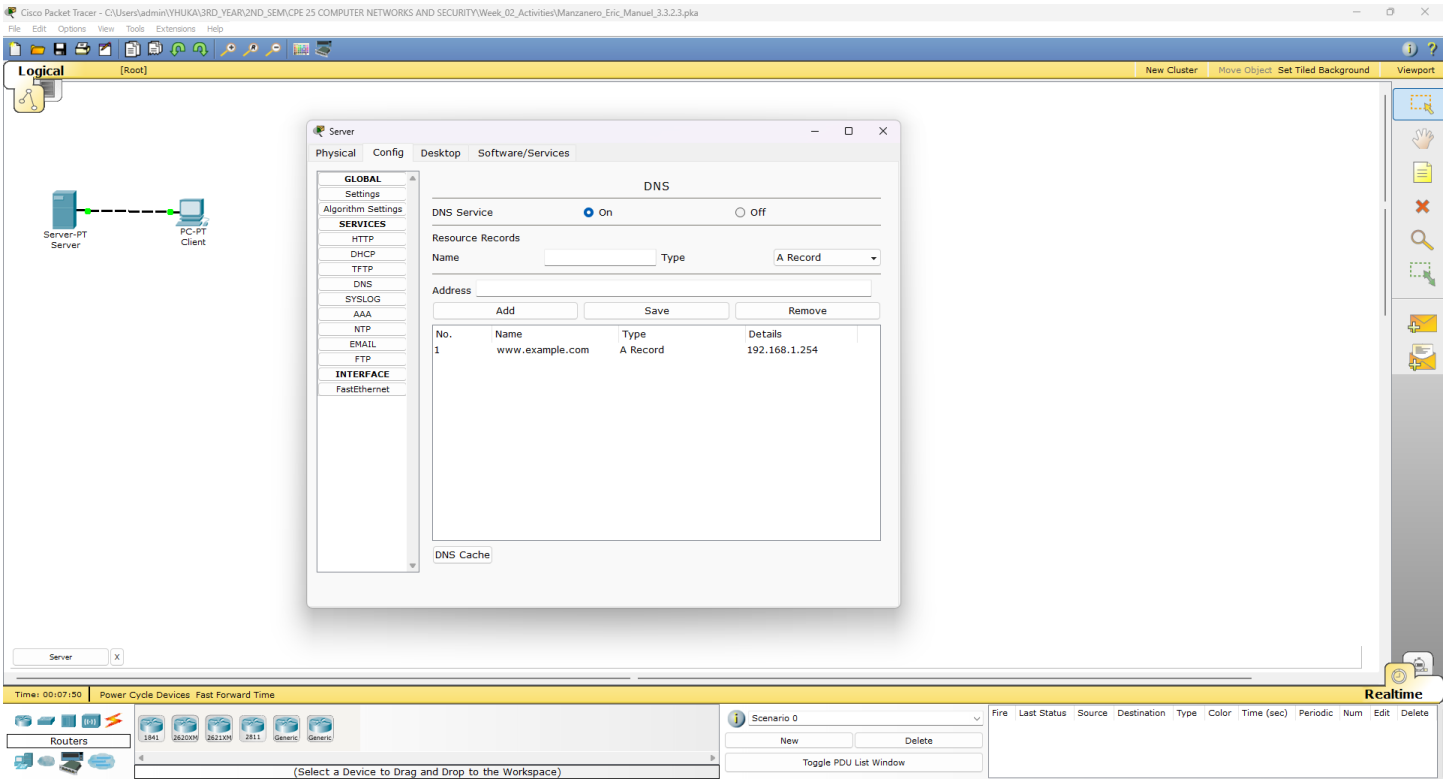
Enter Simulation mode. Click the PC Client. The PC configuration window opens. Click the **Desktop** tab. Click the **Command Prompt** button. A Command Prompt window opens. Type **ping www.example.com** (the URL of the Server) and press **Enter**. Minimize the simulated Command Prompt window. Use **Capture/Forward** to view the DNS and ICMP packets on the network. Each time you click the **Capture/Forward** button, the packet transfer process will proceed. During this process, you can click the colored square in the **Info** column to open the PDU information and view encapsulation and device processing details. Close the Command Prompt window; click the **Reset Simulation** button.

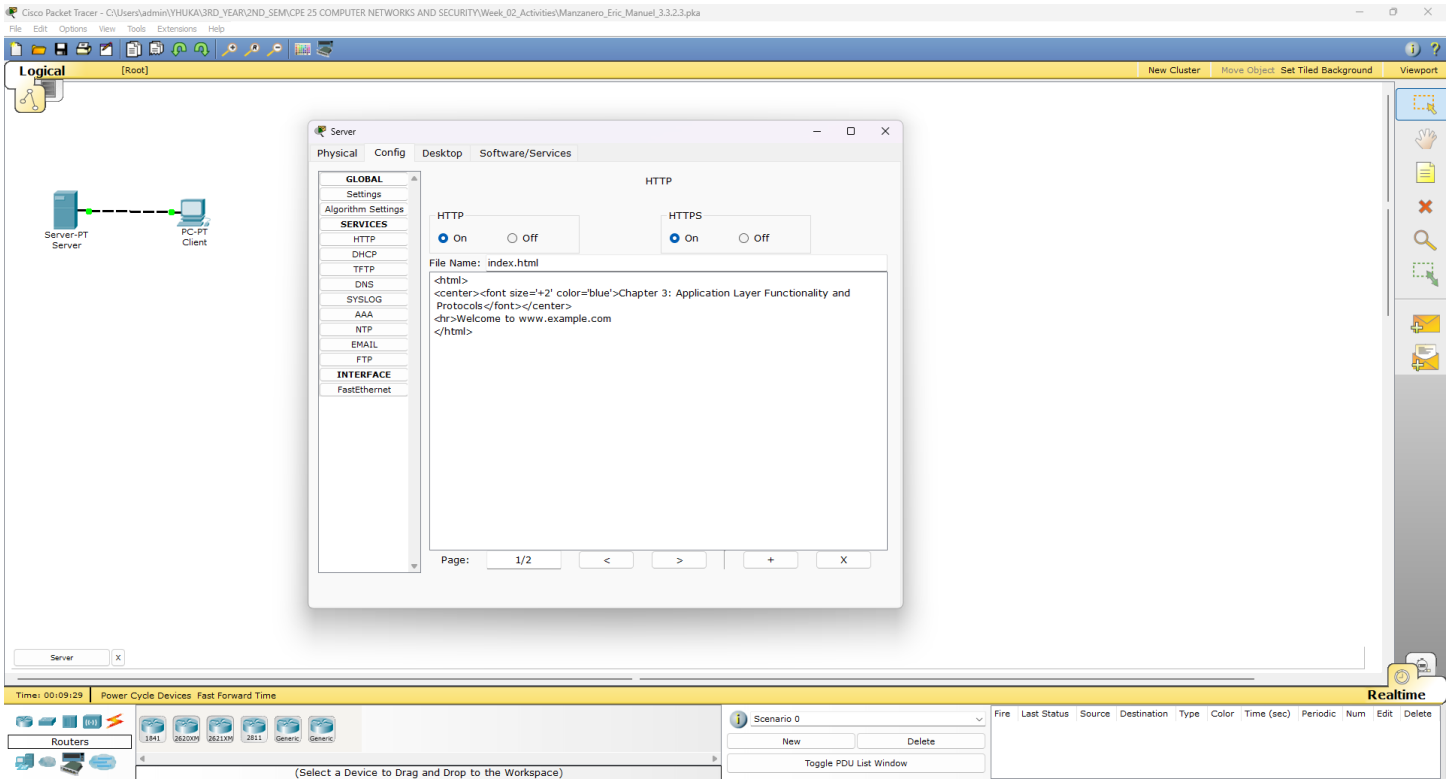
Step 2. From the PC, open a web page on the Server using the URL

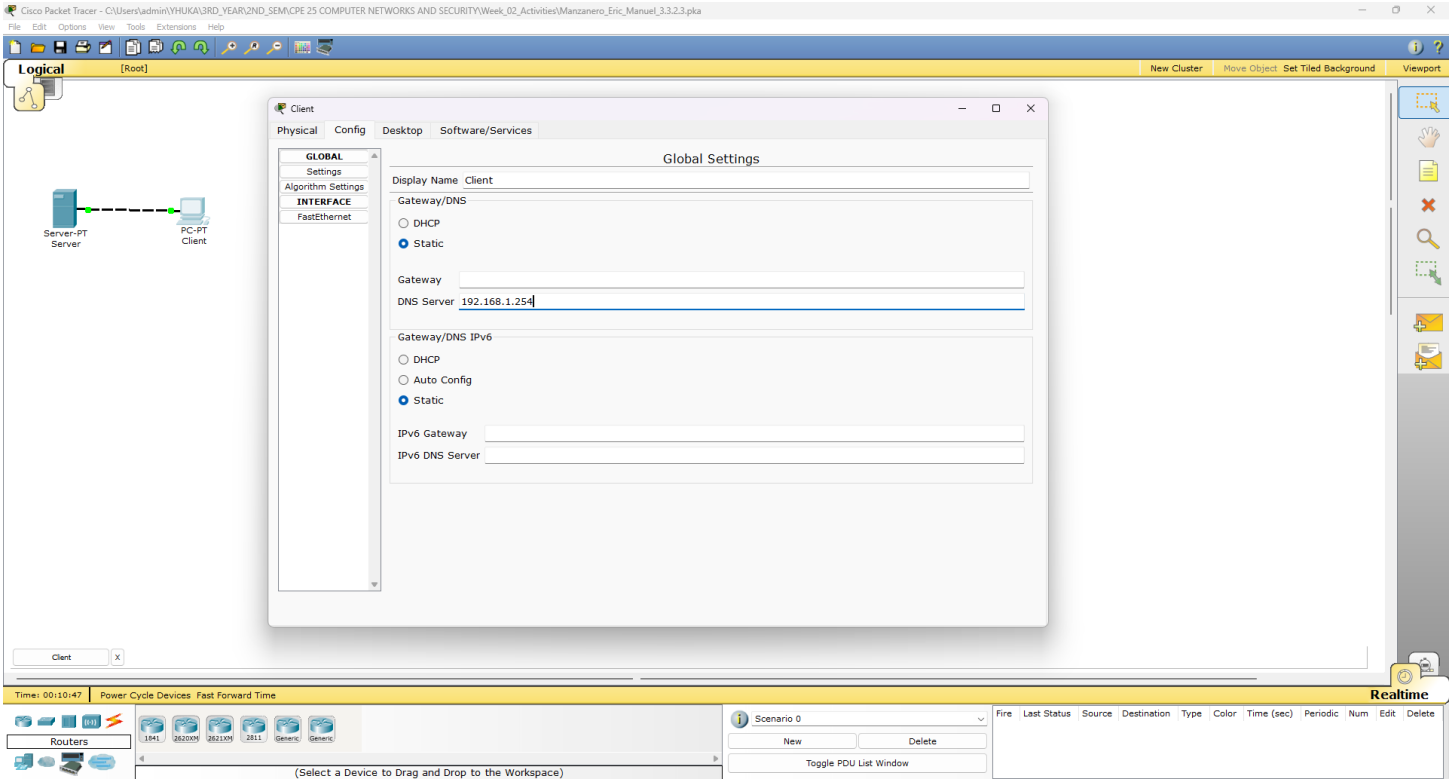
Click the **Web Browser** button. A simulated web browser opens. Type **www.example.com** (the URL of the Server) into the **URL** box and click the **Go** button. Minimize the simulated browser window. Use **Capture/Forward** to examine the DNS and HTTP packets. For each packet in the event list, click the colored square in the **Info** column to open the PDU information and view encapsulation and device processing details.

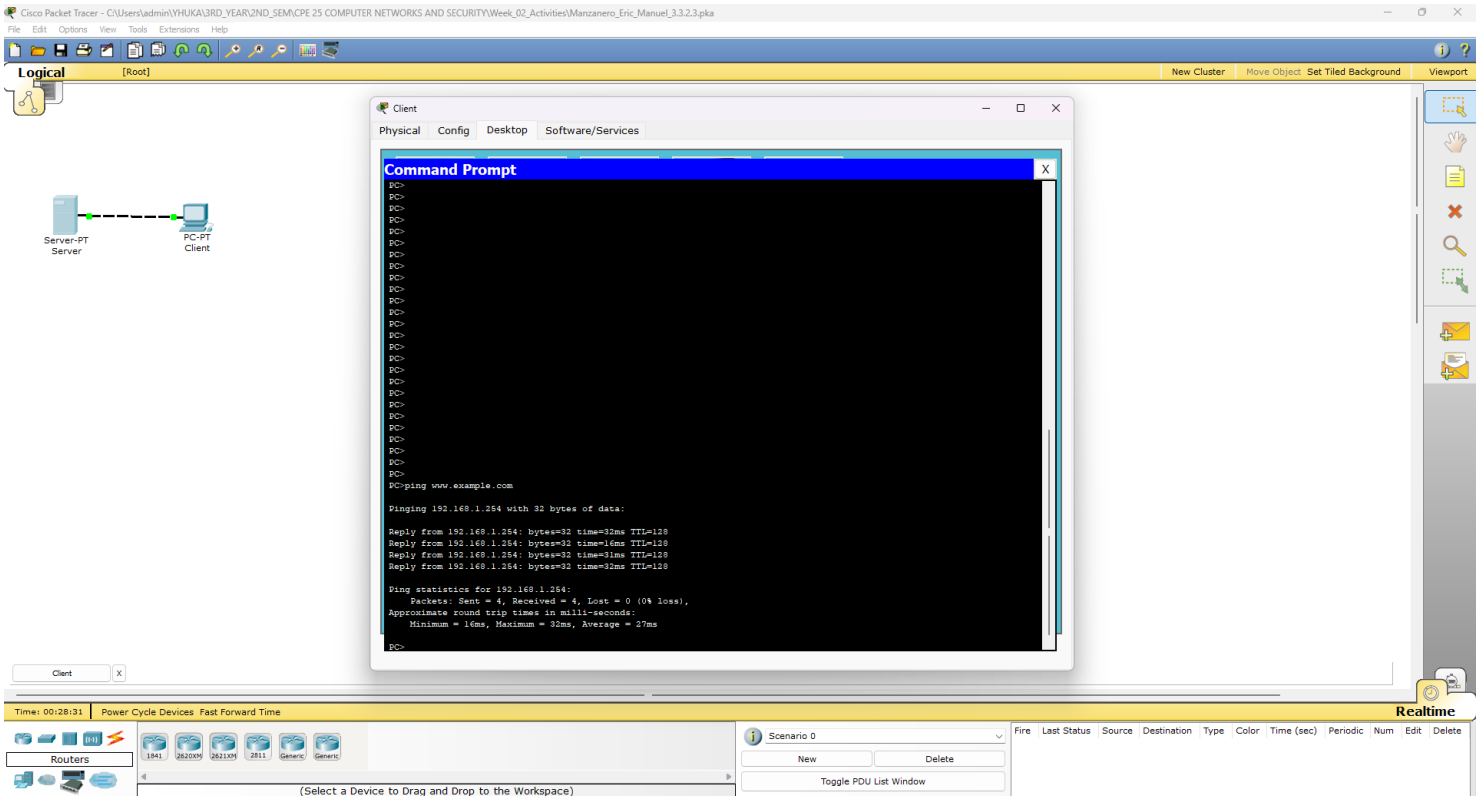
Result:

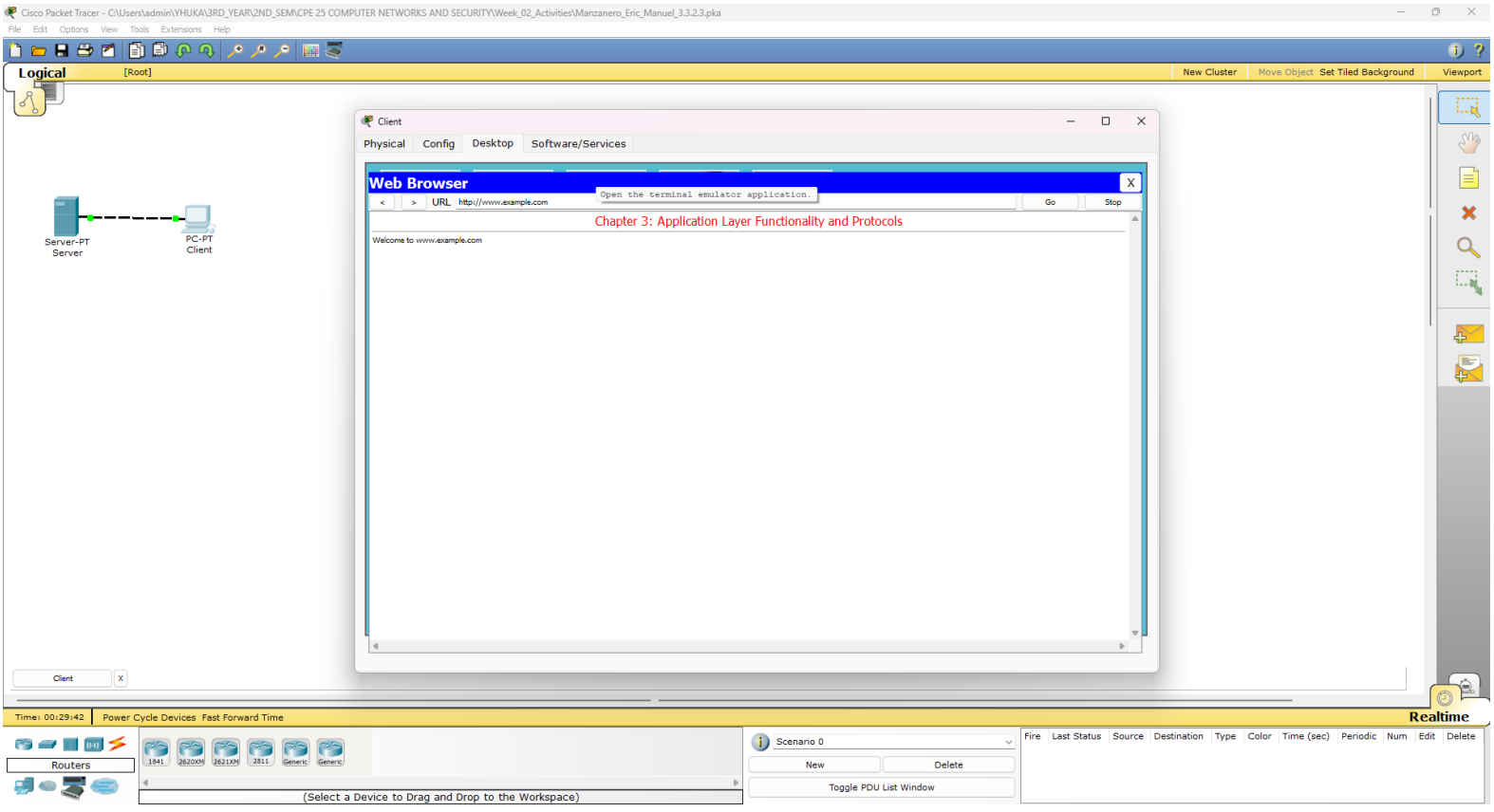

Cisco Packet Tracer - C:\Users\admin\YHUKA\3RD_YEAR\2ND_SEM\CPE 25 COMPUTER NETWORKS AND SECURITY\Week_02_Activities\Manzanero_Eric_Manuel_3.3.2.3.pka
File Edit Options View Tools Extensions Help
Activity Results
Time Elapsed: 00:31:50
Congratulations Guest! You completed the activity.
Overall Feedback
Assessment Items
Connectivity Tests
Assessment Items Status Points Component(s) Feedback
Network
Client 0 Other
DNS Server IP Correct 0 Ip
Server
DNS Server
DNS Enable Correct 0 Ip
Resource Records 0 Ip
www.exampl... 1 Ip
A Records 0 Ip
A... Correct 1 Ip
HTTP Server 0 Ip
HTTP Enable Correct 0 Ip
Total Points : 1
Completed Items : 4
Required Items : 4
Component Correct/Total Points
Ip 4/4 1
Close


Cisco Packet Tracer - C:\Users\admin\YHUKA\3RD_YEAR\2ND_SEM\CPE 25 COMPUTER NETWORKS AND SECURITY\Week_02_Activities\Manzanero_Eric_Manuel_3.3.2.3.pka
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Server-PT Server
PC-PT Client
Server
Physical
Config
Desktop
Software/Services
GLOBAL
Settings
Algorithm Settings
SERVICES
HTTP
DHCP
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
INTERFACE
FastEthernet
DNS
DNS Service
On
Off
Resource Records
Name
Type
A Record
Address
Add
Save
Remove
No. Name Type Details
1 www.example.com A Record 192.168.1.254
DNS Cache
Time: 00:07:50
Power Cycle Devices
Fast Forward Time
Realtime
Routers
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time (sec) Periodic Num Edit Delete


Server
Physical
Config
Desktop
Software/Services
GLOBAL
Settings
Algorithm Settings
SERVICES
HTTP
DHCP
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
INTERFACE
FastEthernet
HTTP
HTTP
On
Off
HTTPS
On
Off
File Name: index.html
<html>
Chapter 3: Application Layer Functionality and Protocols
<hr>Welcome to www.example.com
</html>
Page: 1/2
Server-PT Server
PC-PT Client
Logical
[Root]
Time: 00:09:29
Power Cycle Devices
Fast Forward Time
Realtime
Routers
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window


Client
Physical
Config
Desktop
Software/Services
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet
Global Settings
Display Name Client
Gateway/DNS
DHCP
Static
Gateway
DNS Server 192.168.1.254
Gateway/DNS IPv6
DHCP
Auto Config
Static
IPv6 Gateway
IPv6 DNS Server
Server-PT Server
PC-PT Client
Logical
[Root]
Time: 00:10:47
Power Cycle Devices
Fast Forward Time
Realtime
Routers
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window


Cisco Packet Tracer - C:\Users\admin\YHUKA\3RD_YEAR\2ND_SEM\CPE 25 COMPUTER NETWORKS AND SECURITY\Week_02_Activities\Manzanero_Eric_Manuel_3.3.2.3.pka
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Client
Physical
Config
Desktop
Software/Services
Command Prompt
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>ping www.example.com
Pinging 192.168.1.254 with 32 bytes of data:
Reply from 192.168.1.254: bytes=32 time=32ms TTL=128
Reply from 192.168.1.254: bytes=32 time=16ms TTL=128
Reply from 192.168.1.254: bytes=32 time=31ms TTL=128
Reply from 192.168.1.254: bytes=32 time=32ms TTL=128
Ping statistics for 192.168.1.254:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 16ms, Maximum = 32ms, Average = 27ms
PC>
Server-PT
Server
PC-PT
Client
Time: 00:28:31
Power Cycle Devices
Fast Forward Time
Realtime
Routers
1841
2620XM
2621XM
2811
Generic
Generic
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time (sec)
Periodic
Num
Edit
Delete


Cisco Packet Tracer - C:\Users\admin\YHUKA\3RD_YEAR\2ND_SEM\CPE 25 COMPUTER NETWORKS AND SECURITY\Week_02_Activities\Manzanero_Eric_Manuel_3.3.2.3.pka
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Client
Physical
Config
Desktop
Software/Services
Web Browser
Open the terminal emulator application.
URL
http://www.example.com
Go
Stop
Chapter 3: Application Layer Functionality and Protocols
Welcome to www.example.com
Server-PT
Server
PC-PT
Client
Time: 00:29:42
Power Cycle Devices
Fast Forward Time
Realtime
Routers
1841
2620XM
2621XM
2811
Generic
Generic
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time (sec)
Periodic
Num
Edit
Delete