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Lab #4

Implementation of a Local DNS Server using Cisco Packet Tracer

Objectives:

- To understand the purpose of DNS Server.
- To implement the Local DNS server by selecting appropriate devices and customize them.
- To simulate data interactions traveling through a network.
- To demonstrate ping operation with IP as well as the name of the host.

Prerequisites:

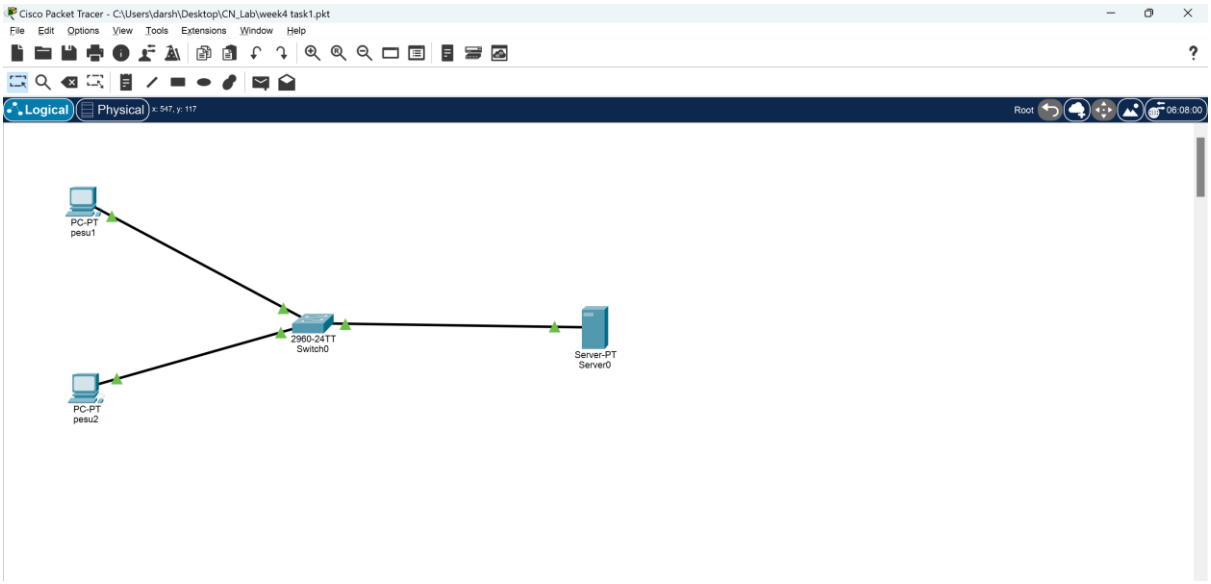
This lab assumes some understanding of the DNS protocol and its purpose.

For this experiment students should be familiar with the selection, interconnection and IP address configuration of network devices.

Task 1 (Demo) Network

Topology:

To replicate given scenario, create a topology in packet tracer, as shown in following image.



PC & Router Configuration Details:

Here along with the IP we'll assign the DNS server address to let the PC know about its Local DNS Server

PC0	**IP - 192.168.1.2** **DNS - 192.168.1.1**
PC1	**IP - 192.168.1.3** **DNS - 192.168.1.1**
Server	**IP - 192.168.1.1** **DNS - 192.168.1.1**

Click on the server- services-DNS – DNS service =on

Name = pesu1
IP= 192.168.1.1
ADD
Click on other PC1- 192.168.1.3
Command Prompt
$Ping- 192.168.1.2

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

$Ping- pesu

```
C:\>ping pesu
Ping request could not find host pesu. Please check the name and try again.
```

Click on the server- services-DNS – DNS service =on

Name = pesu2
IP= 192.168.1.2
ADD

Click on other PC1- 192.168.1.3→ Command Prompt
$Ping- pesu2

pesu2

Physical Config Desktop Programming Attributes

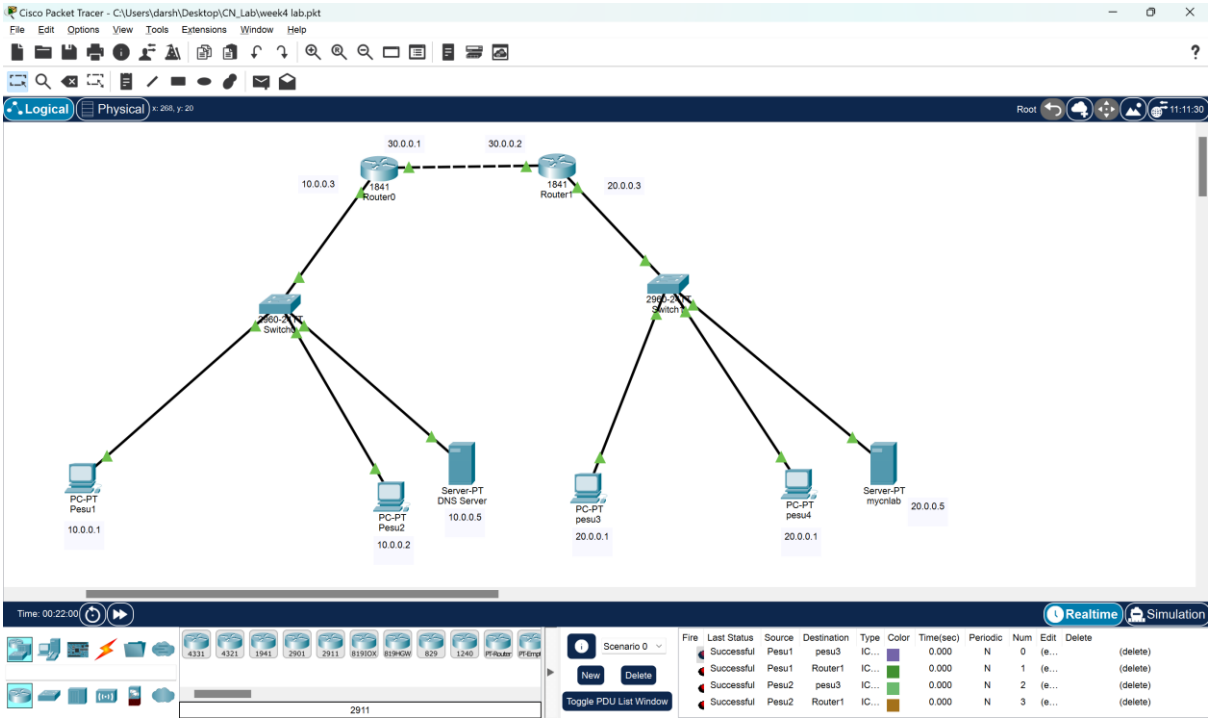
Command Prompt X

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping pesu
Ping request could not find host pesu. Please check the name and try again.
C:\>ping pesu2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

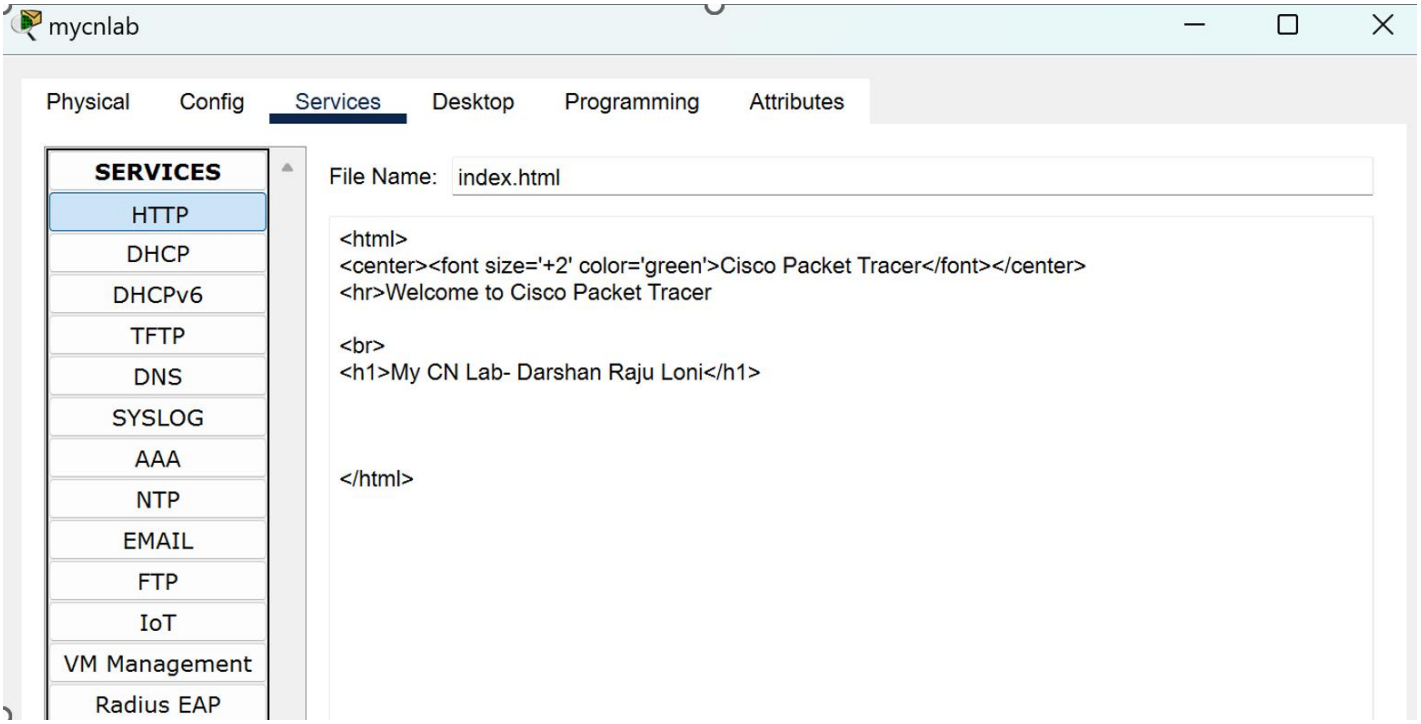
Task 2 (Mandatory)

Students should create the given topology and get the successful ping by adding entries in the DNS Server. Also students should be able to access the web server.

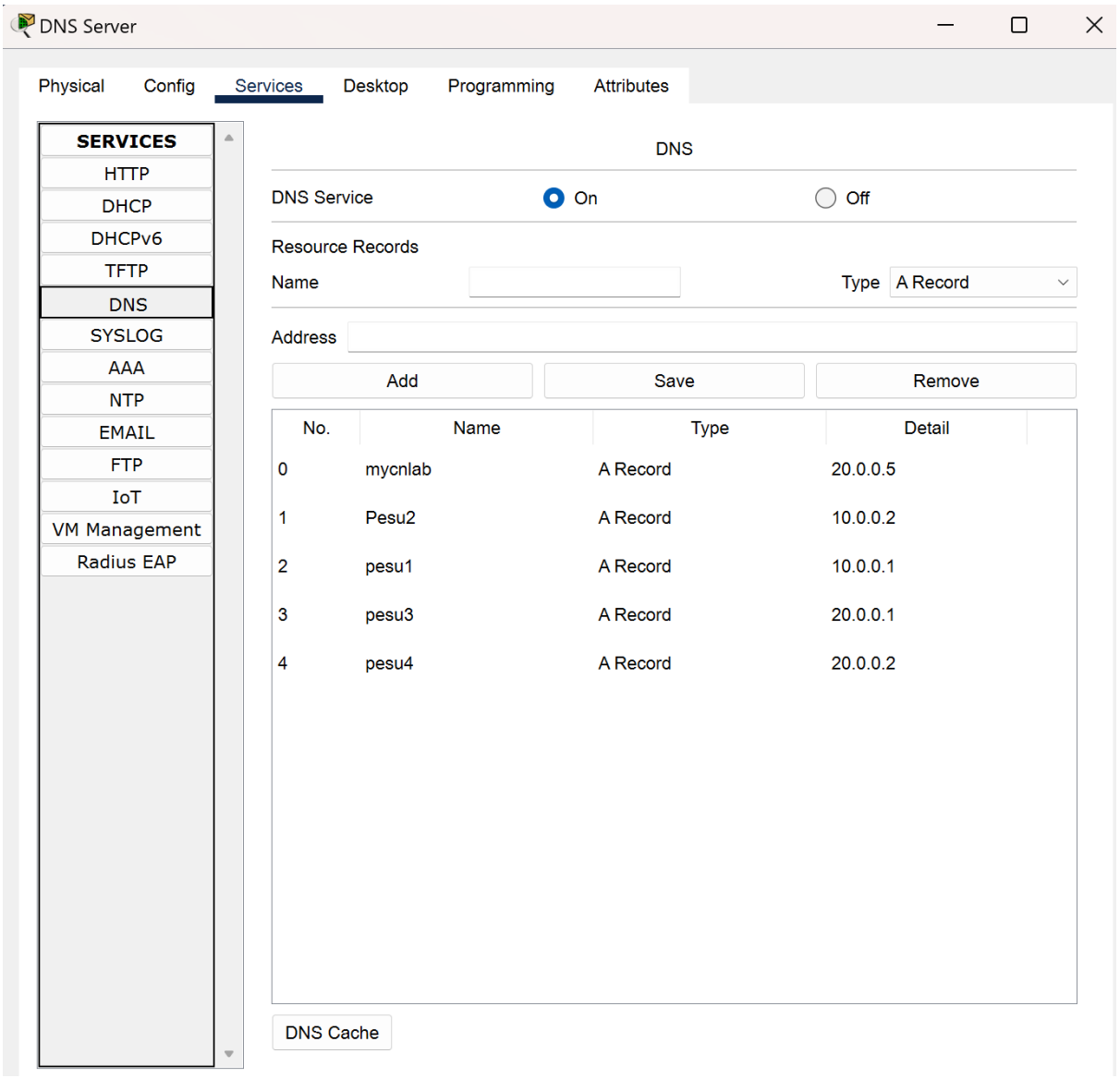
Screenshots of both the Topologies with the successful message after packet transmission.

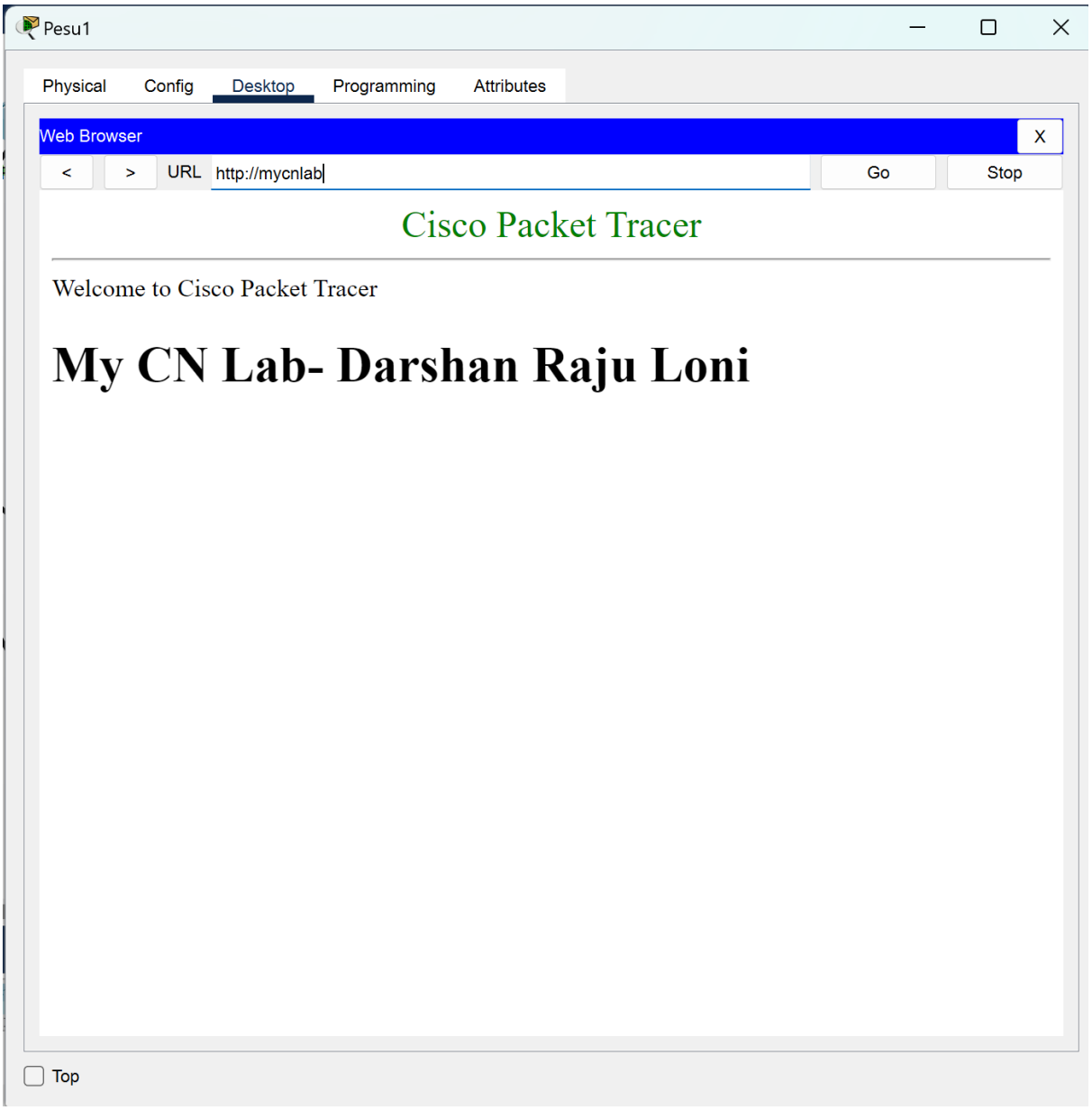


Click on Web Server-Services- HTTP --> Index.html→edit.



Save. (Overwrite= yes)
Click on PESU1→ web→ type Mycnlab in browser and you should be able to access the HTML contents.
Also any PC should be able to ping any other PC in the network by IP and Name Both.


DNS Server
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
DNS
DNS Service
On
Off
Resource Records
Name
Type
A Record
Address
Add
Save
Remove
No.
Name
Type
Detail
0
mycnlab
A Record
20.0.0.5
1
Pesu2
A Record
10.0.0.2
2
pesu1
A Record
10.0.0.1
3
pesu3
A Record
20.0.0.1
4
pesu4
A Record
20.0.0.2
DNS Cache



Submission:

Students are expected to take the screenshot of both the Topologies with the successful message after packet transmission.

Screenshots of the entries in DNS server for Topology -2.

Submissions will be through google forms/ google classroom