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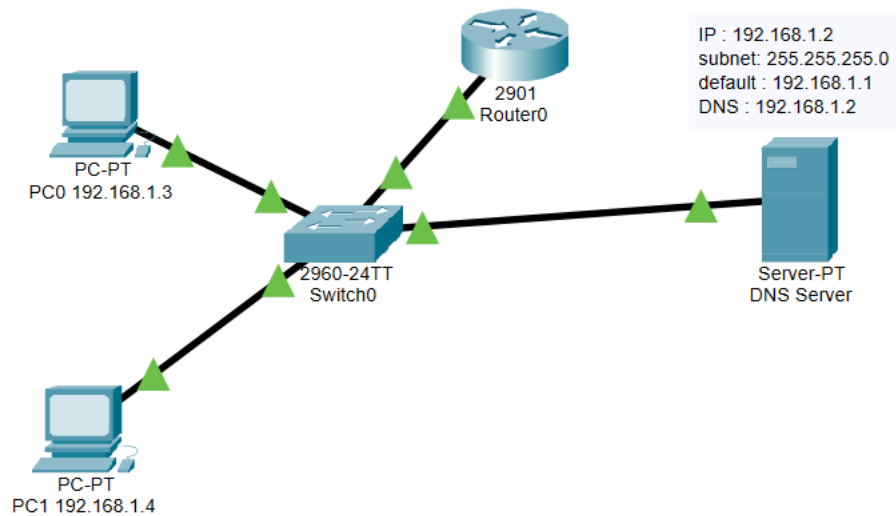
Course Name: Computer Networks LAB

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Submitted on : 9/13/2022

TASK 1: DNS Server Configuration

1) We will Build the network topology.



2) Configure static IP addresses on the PCs and the server.

Physical **Config** CLI Attributes

GLOBAL

- Settings
- Algorithm Settings
- ROUTING**
- Static
- RIP
- SWITCHING**
- VLAN Database
- INTERFACE**
- GigabitEthernet0/0
- GigabitEthernet0/1

GigabitEthernet0/0

Port Status ☒ On

Bandwidth ☐ 1000 Mbps ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0006.2A0B.0001

IP Configuration

IP Address 192.168.1.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Physical
Config
Services
Desktop
Programming
Attributes

IP Configuration

IP Configuration

☐ DHCP
☒ Static

IP Address192.168.1.2
Subnet Mask255.255.255.0
Default Gateway192.168.1.1
DNS Server192.168.1.2

IPv6 Configuration

☐ DHCP
☐ Auto Config
☒ Static

IPv6 Address /
Link Local AddressFE80::209:7CFF:FE2A:4378
IPv6 Gateway
IPv6 DNS Server

802.1X

3)Configure DNS service on the generic server. For this we will go to services and add domain name and ip of pcs.

Physical
Config
Services
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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	dns_server	A Record	192.168.1.2
1	pc0	A Record	192.168.1.3
2	pc1	A Record	192.168.1.4

```
Packet Tracer PC Command Line 1.0
C:\>ping pc1

Pinging 192.168.1.4 with 32 bytes of data:

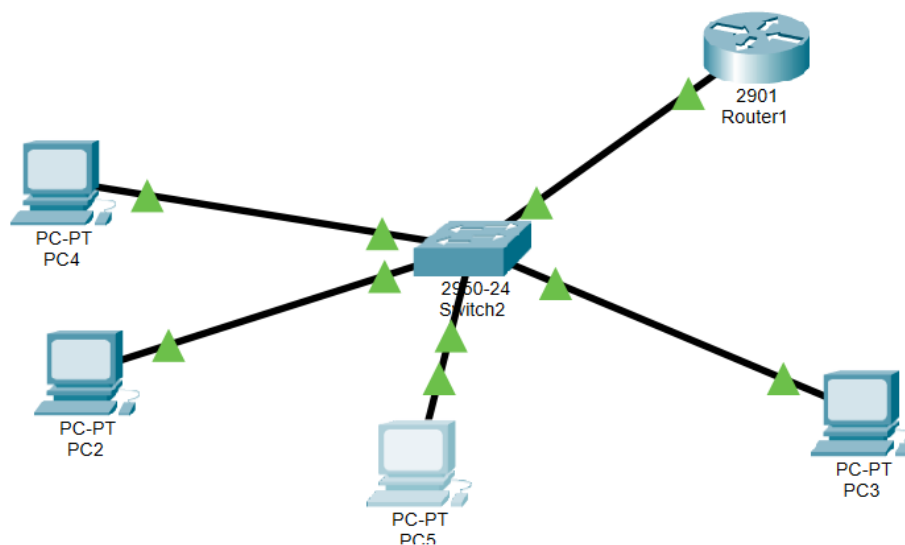
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128
Reply from 192.168.1.4: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

4) We will check the network by pinging PCs through their domain name.

TASK 2: Configuring DHCP server on a Router

1) We will build the network topology.



```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
%Invalid interface type and number
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#
```

Ctrl+F6 to exit CLI focus

Copy

Paste

2) We will configure router through CLI

```
Router(config-if)#ex
Router(config)#ip dhcp pool p1
Router(dhcp-config)#network 192.168.1.1 255.255.255.0
Router(dhcp-config)#default-router 192.168.1.1
Router(dhcp-config)#dns-server 192.168.1.10
^
% Invalid input detected at '^' marker.

Router(dhcp-config)#dns-server 192.168.1.10
Router(dhcp-config)#ex
Router(config)#
```

3) We will go to every PC enable DHCP. Every PC should be able to obtain an IP address, default gateway and DNS server.

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IP Address: 192.168.1.4

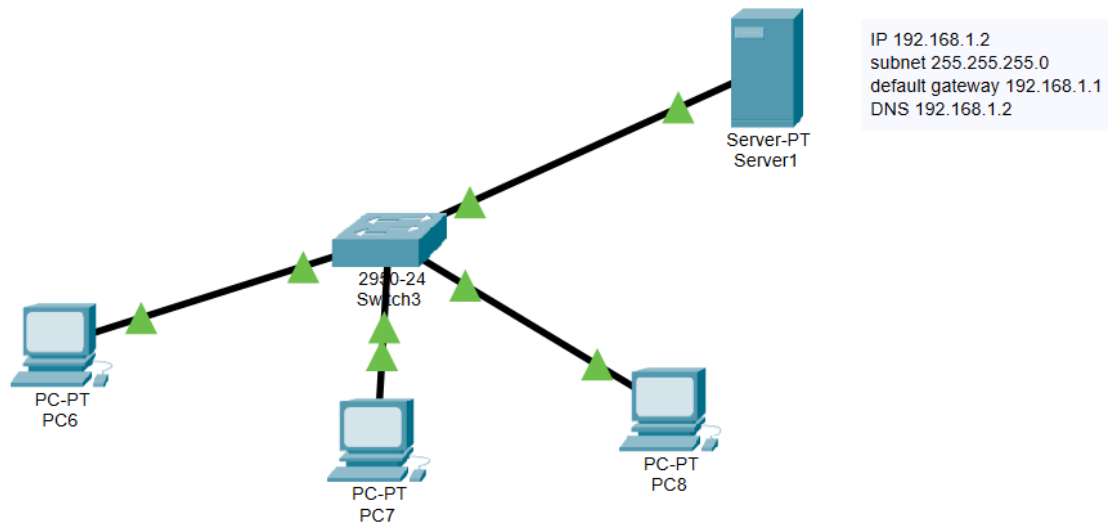
Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 192.168.1.10

TASK 3: Configuring DHCP service on a generic server

1) We will Build the network topology.



2) Then Configure static IP address on the server.

Physical Config Services **Desktop** Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address	192.168.1.2
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
DNS Server	192.168.1.2

3) Now we will configure DHCP service on the generic server.

The screenshot shows the 'Services' tab in a network management interface. On the left, a sidebar lists various services: HTTP, DHCP, DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, FTP, IoT, VM Management, and Radius EAP. The 'DHCP' service is selected. The main area is titled 'DHCP' and contains the following configuration fields:

- Interface: FastEthernet0
- Service: ☒ On, ☐ Off
- Pool Name: serverPool
- Default Gateway: 192.168.1.1
- DNS Server: 192.168.1.2
- Start IP Address: 192, 168, 1, 11
- Subnet Mask: 255, 255, 255, 0
- Maximum Number of Users: 240
- TFTP Server: 0.0.0.0
- WLC Address: 0.0.0.0

Below the configuration fields are three buttons: 'Add', 'Save', and 'Remove'. At the bottom, a table lists the configured DHCP pools:

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	0.0.0.0	0.0.0.0	192.168...	255.255...	255	0.0.0.0	0.0.0.0
serverPool1	192.168...	192.168...	192.168...	255.255...	240	0.0.0.0	0.0.0.0

4) We will go to every PC enable DHCP. Every PC should be able to obtain an IP address, default gateway and DNS server.

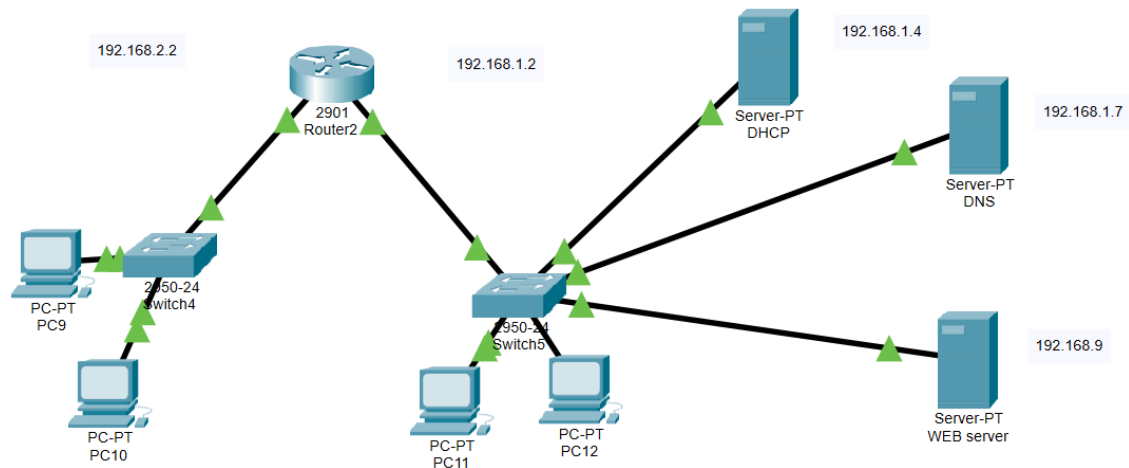
The screenshot shows the 'IP Configuration' dialog box. The 'Interface' is set to 'FastEthernet0'. Under the 'IP Configuration' section, the 'DHCP' radio button is selected, and the 'Static' radio button is unselected. A message 'DHCP request successful.' is displayed. The following fields are filled:

- IP Address: 192.168.1.11
- Subnet Mask: 255.255.255.0
- Default Gateway: 192.168.1.1
- DNS Server: 192.168.1.2

Below these fields is the 'IPv6 Configuration' section, which is currently empty.

TASK 4: Configuring DHCP, DNS and Web Server configuration in cisco packet tracer.

1)We will Build the network topology.



2)We will configure router through CLI

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0
Router(config-if)#ip dhcp pool P1
Router(dhcp-config)#default-router 192.168.2.1
Router(dhcp-config)#dns-server 192.168.1.10
Router(dhcp-config)#dns-server 192.168.1.7
Router(dhcp-config)#
```

Ctrl+F6 to exit CLI focus

Copy

Paste

3) Now we will configure DHCP service on the generic server.

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: 192.168.1.1

DNS Server: 192.168.1.7

Start IP Address: 192 168 1 11

Subnet Mask: 255 255 255 0

Maximum Number of Users: 240

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....	192.168....	192.168....	255.255....	240	0.0.0.0	0.0.0.0

4) Configure DNS service on the generic server. For this we will go to services and add domain name and ip of pcs.

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: Address: Type: A Record

Add Save Remove

No.	Name	Type	Detail
0	www.dhcp.com	A Record	192.168.1.4
1	www.webserver.com	A Record	192.168.1.9

5) Now we will Edit the Index .html and update it.

Physical Config **Services** Desktop Programming Attributes

SERVICES

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

HTTP

☒ On ☐ Off

HTTPS

☒ On ☐ Off

File Manager

	File Name	Edit	Delete
1	copyrights.html	(edit)	(delete)
2	cscoptlogo177x111.jpg		(delete)
3	helloworld.html	(edit)	(delete)
4	image.html	(edit)	(delete)
5	index.html	(edit)	(delete)

6) We will go to every PC enable DHCP. Every PC should be able to obtain an IP address, default gateway and DNS server.

IP Configuration [X]

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IP Address: 192.168.2.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.2.1

DNS Server: 192.168.1.7

THE END