

Cisco CCNA (200-301)

Configuring and Verifying DHCP and DNS

Learning Objective: Configure and Verify DHCP and DNS

Description: DHCP and DNS are important services that make it networking easier. You will learn how DNS and DHCP serve the network as well how to configure and verify a DHCP server.

Q: Can you remind us about DNS?

Q: Can be configured on Cisco routers?

- DNS-Domain Name System
 - resolve FQDN (fully qualified domain name) to an IP address
 - Optional Configuration of DNS on NYEDGE1

```
NYEDGE1#configure terminal
Enter configuration commands, one per line. End with
CNTL/Z.
NYEDGE1 (config)#ip dns server
NYEDGE1 (config)#ip dns primary practice-labs.com soa ns1.practice-labs.com mbl.practice-
labs.com
NYEDGE1 (config)#ip host ciscoserver 192.168.16.10 [A record]
NYEDGE1 (config)#ip host ns1.practice-labs.com 192.168.16.1 [A record]
NYEDGE1 (config)#
```

Q: What about DHCP, remind us about that service?

DHCP-Dynamic Host Configuration Protocol

- centrally distribute IP information to clients once configured on server

Q: What do Cisco routers have to do with DHCP?

Q: Can you show us how to do this?

- Configure DHCP Server on Router (NYEDGE2)

```
NYEDGE2 (config)#int g0/0
NYEDGE2 (config-if)#shutdown
NYEDGE2 (config-if)#exit
NYEDGE2 (config)#ip dhcp excluded-address 192.168.16.1 192.168.16.50
NYEDGE2 (config)#ip dhcp pool INTERNAL
NYEDGE2 (dhcp-config)#network 192.168.16.0 255.255.255.0
NYEDGE2 (dhcp-config)#domain-name itpro.tv
NYEDGE2 (dhcp-config)#dns server 192.168.16.10
NYEDGE2 (dhcp-config)#default router 192.168.16.1
```

- Configure DHCP Relay (NYEDGE1)

```
NYEDGE1 (config)#int g0/0
NYEDGE1 (config-if)#ip helper address 172.14.0.2
```

- Configure NYCORE1 as Remote Client

```
NYCORE1#config terminal
NYCORE1 (config)#int g0/0
NYCORE1 (config-if)#no ip address
NYCORE1 (config-if)#ip address dhcp
NYCORE1 (config-if)#no shutdown
```

- Configure NYCORE2 as Remote Client

```
NYCORE2#config terminal
NYCORE2 (config)#int g0/0
NYCORE2 (config-if)#no ip address
NYCORE2 (config-if)#ip address dhcp
NYCORE2 (config-if)#no shutdown
```

- Configure NYWAN1 as Remote Client

- ```
NYWAN1#config terminal
NYWAN1(config)#int g0/0
NYWAN1(config-if)#no ip address
NYWAN1(config-if)#ip address dhcp
NYWAN1(config-if)#no shutdown
```

- Verify IP addresses assigned to NYWAN1

- ```
NYWAN1(config-if)#end
NYWAN1#show ip interface brief
```

Endnotes, External and Etc.

- 4.3 Explain the role of DHCP and DNS within the network
- 4.6 Configure and verify DHCP client and relay