# Implementing DHCP

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Lab Summary 2

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The administrator has successfully planned and implemented networking between the regional office and branch offices and now should enable the assignment of IP addresses to the branch offices. Each device could have manually assigned IP addresses, but there are too many devices to do it manually. To assign them automatically, implementing the DHCP server is the key to the lab. There are some requirements for these particular sites. Wired and wireless clients must be assigned IP addresses from separate IP ranges. Each location should maintain a separate IP address range from other locations, and then DHCP failover configuration should be done if the primary DHCP server is down.

Fulfilling the first requirement, the Houston office contains 400 wired devices and 150 wireless devices, which means the wired devices require having two /24 subnets, whereas the wireless devices need one /24 subnet. The Mexico City branch office has 150 wired devices and 70 wireless; they only need one /24 subnet each for both types. There are 175 wired devices and 225 wireless devices in the Portland office so that one /24 subnet for each would suffice the number of IP addresses.

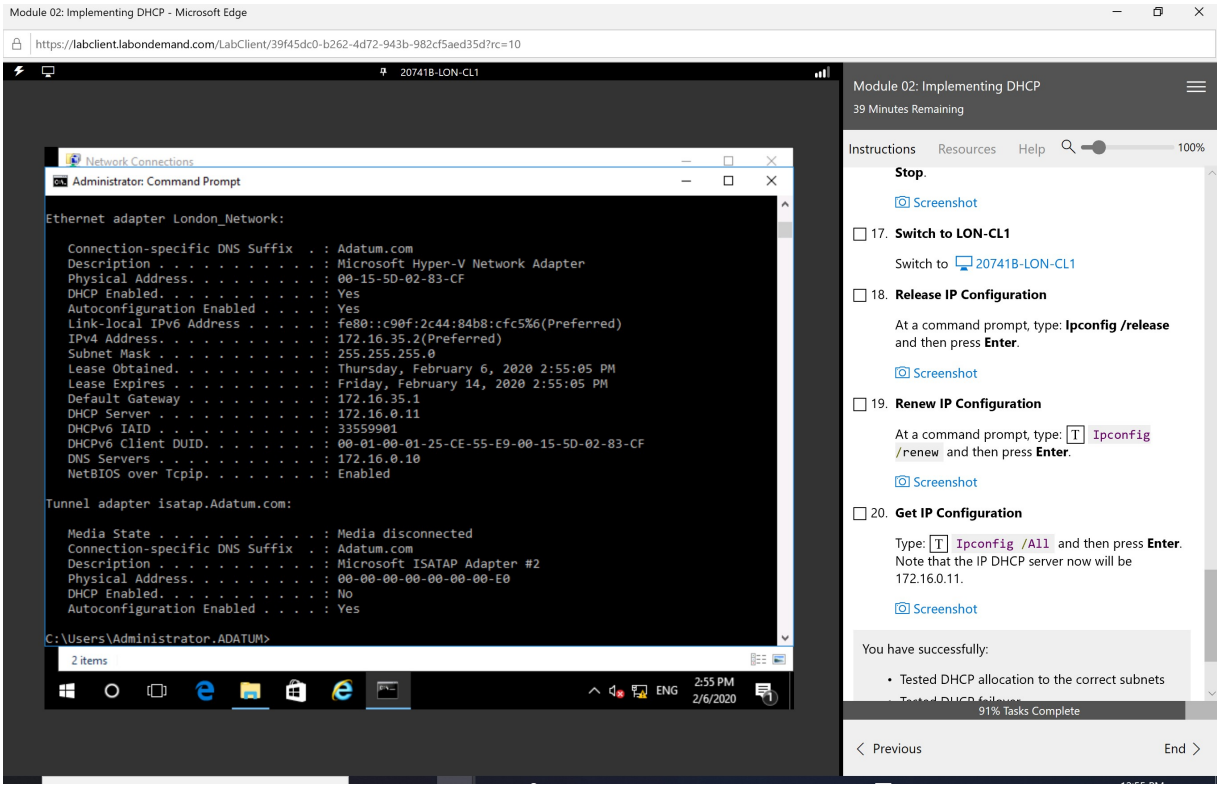
For Desktop computers, the range of IP subnet is 172.116.20.0 /24 to 172.16.52.0 /24. The computers and laptops in each branch office should be within this range. For wireless devices, the range is from 172.16.53.0 /24 to 172.16.60.0 /24, which means the laptops and tablets would have the IP addresses within the range.

To install the DHCP server into the primary DHCP server, TOR-SVR1, the Server Manager is the tool to utilize. Each branch office has assigned to the DHCP server, but one of the IP addresses from each range of groups got excluded from the range. The one IP address is for the default gateway, which means the packets from the devices should have the doorway to get

out of the world or come in from the world. Also, the wired devices in the Houston office have a superscope, which allows having one gateway to have the packets to get out and into the devices.

The third requirement for this project is to configure the DHCP failover. The Toronto regional office and the London head office are the locations of DHCP servers. After installing and configuring DHCP into the London office, the DHCP failover could be configured in the DHCP Manager. If one of the servers went down, the other could take over and continued to provide the leases.

Lastly, the DHCP Relay Agent Properties allows configuring the relay agent for the DHCP servers. The DHCP relay agent is an agent for the superstar, which means it asks the DHCP server, not the DHCP clients themselves. When testing if the DHCP servers correctly configured, the DHCP server in the regional office should have 172.16.18.20, and the one in the head office should have 172.16.0.11. The relay agent has these two IP addresses to prevent any connection problems in the future.


Module 02: Implementing DHCP - Microsoft Edge
https://labclient.labondemand.com/LabClient/39f45dc0-b262-4d72-943b-982cf5aed35d?rc=10
20741B-LON-CL1
Network Connections
Administrator: Command Prompt
Ethernet adapter London_Network:
Connection-specific DNS Suffix . : Adatum.com
Description . . . . . : Microsoft Hyper-V Network Adapter
Physical Address. . . . . : 00-15-5D-02-83-CF
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::c90f:2c44:84b8:cfc5%6(Preferred)
IPv4 Address. . . . . : 172.16.35.2(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Thursday, February 6, 2020 2:55:05 PM
Lease Expires . . . . . : Friday, February 14, 2020 2:55:05 PM
Default Gateway . . . . . : 172.16.35.1
DHCP Server . . . . . : 172.16.0.11
DHCPv6 IAID . . . . . : 33559901
DHCPv6 Client DUID. . . . . : 00-01-00-01-25-CE-55-E9-00-15-5D-02-83-CF
DNS Servers . . . . . : 172.16.0.10
NetBIOS over Tcpip. . . . . : Enabled
Tunnel adapter isatap.Adatum.com:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . : Adatum.com
Description . . . . . : Microsoft ISATAP Adapter #2
Physical Address. . . . . : 00-00-00-00-00-00-00-E0
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
C:\Users\Administrator.ADATUM>
2 items
ENG
2:55 PM
2/6/2020
Module 02: Implementing DHCP
39 Minutes Remaining
Instructions
Resources
Help
100%
Stop.
Screenshot
17. Switch to LON-CL1
Switch to 20741B-LON-CL1
18. Release IP Configuration
At a command prompt, type: Ipconfig /release and then press Enter.
Screenshot
19. Renew IP Configuration
At a command prompt, type: Ipconfig /renew and then press Enter.
Screenshot
20. Get IP Configuration
Type: Ipconfig /All and then press Enter. Note that the IP DHCP server now will be 172.16.0.11.
Screenshot
You have successfully:
• Tested DHCP allocation to the correct subnets
91% Tasks Complete
Previous
End