

OPS235



# Install and Configure a DHCP Server

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# Lab 7 - Topics

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## **Install & Configure DHCP Server**

- What is DHCP? How Does it Work?
- Installing DHCP
- dhcpd.conf - options
- Global Settings / Subnet Declarations
- Testing DHCP service
- Record of leased addresses
- Continually leasing same address



# DHCP - Definition

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- Stands for “Dynamic Host Configuration Protocol” that allow computers to be automatically configured so that they can communicate over a network / Internet.
- This automatic configuration has gained popularity over the years especially as the need for detecting and configuring portable computer devices over wireless networks.
- DHCP has various options to allow flexibility in configuration:
  - *Dynamic / Automatic / Static* allocation



# DHCP – How Does it Work?

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The term **DORA** best describes how DHCP works:

- **Discovery**: Client broadcasts message (IP lease request) on sub-network to detect available DHCP servers.
- **Offer**: DHCP server receives request from client, reserves an IP ADDRESS for client and send a DHCPOFFER
- **Request**: DHCP server broadcasts message request for acceptance, but also notifies other DHCP servers
- **Acknowledgement**: Client sends message to server to accept, and in turn, client receives from server a packet of information containing lease duration and other configuration information



# DHCP Setup

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- How to Install DHCP?
- How to edit dhcpd.conf file?
- General options for dhcpd.conf file?
- How to create a sub-net declaration in the dhcpd.conf file?
- How to activate dhcpd service?
- How to test dhcpd service?
- Where does the dhcp server store a record of leased addresses?



# DHCP Setup

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- DHCP has the ability to reserve a fixed IP address (i.e. static allocation mentioned in previous slides)
- By using static allocation, then can assign names to IP address in the `/etc/hosts` file.
- How to create a host declaration for a fixed IP address?