COMPUTER NETWORKS TUTORIAL 7

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DHCP: Dynamic Host Configuration Protocol How DHCP works:

Client Request: When a device (such as a computer or smartphone) connects to a network, it sends out a broadcast request for an IP address. This request is typically sent as a DHCP Discover message.

DHCP Server Response: A DHCP server on the network receives the request and responds with a DHCP Offer message. This message contains an available IP address along with other configuration information.

Client Acknowledgment: The client then sends a DHCP Request message to confirm that it wants to use the offered IP address.

Finalizing Configuration: The DHCP server acknowledges the request with a DHCP Acknowledge message, and the client now has a valid IP address and other network configuration information.

Set Up of DHCP in cisco packettracer:

1. A 2911 router and 2 switches
2. create one network named as LAB209 & LAB509
3. Assign ip addresses to router from CLI or enabling GIGABITETHERNET 0/0 & 0/1
4. exclude some ip addresses to avoid potential conflicts or configuration errors in the future. It's an important aspect of network planning and administration.
5. do it for both lab networks

commands required:

1. ip address to assign ip
2. exclude – to exclude ip
3. no shutdown for interface comes back allowing to send and receive data
4. interface [type] [number]: Navigate to the interface configuration mode.
5. ip address [IP] [subnet]: Assign an IP address and subnet mask to the interface.
6. ip helper-address [DHCP-server-IP]: Specifies the IP address of the DHCP server. This is required if the DHCP server is on a different subnet.
7. ip dhcp pool [name]: Enter DHCP pool configuration mode.
8. network [address] [subnet]: Define the range of IP addresses to be leased. 9.default-router [gateway-IP]: Set the default gateway for clients.

10.dns-server [DNS-server-IP]: Specify DNS server(s) for clients.

