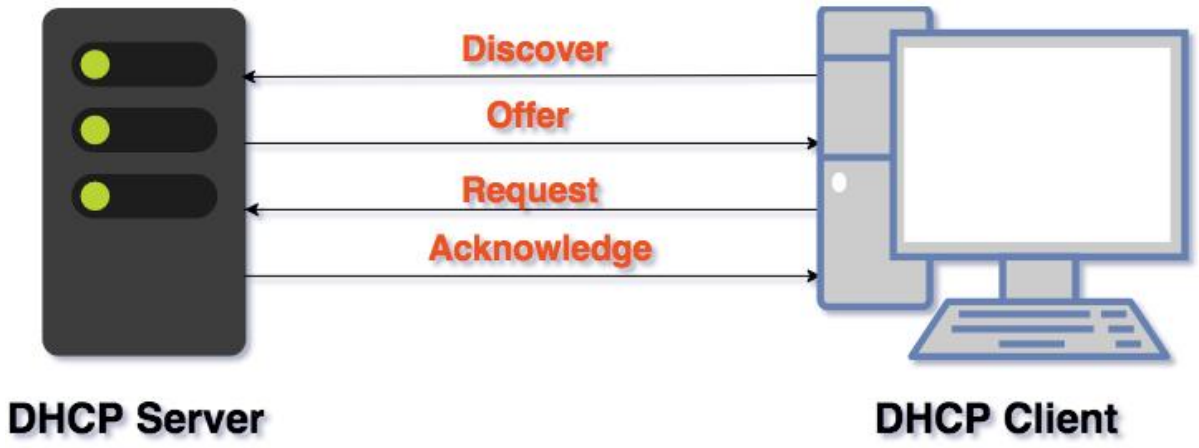
DHCP

By – Shubham Nitnaware

- DHCP stands for **Dynamic Host configuration Protocol**.
- DHCP used on UDP/IP networks where it dynamically assigns IP to the host.
- DHCP can be implemented on networks ranging in size from home networks to large campus networks and regional Internet service provider networks.
- A router or a residential gateway can be enabled to act as a DHCP server.
- Most residential network routers receive a globally unique IP address within the ISP network.
- Within a local network, a DHCP server assigns a local IP address to each device connected to the network.
- The working of DHCP based on the **DORA process**. DORA process is nothing but the exchanging the sequence of messages between client and the DHCP server.
- DORA stands for:
    - Discover
    - Offer
    - Request
    - Acknowledgement



Below, we will discuss these messages in more detail

DHCP Discover Message

This is the first message which is sent by the DHCP client to discover DHCP Server in the network. This message is broadcast at Network and Data Link Layer.

DHCP Offer Message

DHCP Offer Message is sent by the DHCP Server to DHCP client. In this message, DHCP Server offers an IP address to DHCP client. This message is unicast at Data Link Layer but broadcast at the network layer.

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DHCP Request Message

This message is sent from the DHCP client to the DHCP Server. In this message, DHCP client request to DHCP server for the offered IP address. This message is unicast at data link layer but broadcast at the network layer.

DHCP Acknowledgement Message

This is the final message of DHCP DORA Process. This message is sent by the DHCP Server to the DHCP Client. This message is unicast at data link layer but broadcast at the network layer.