

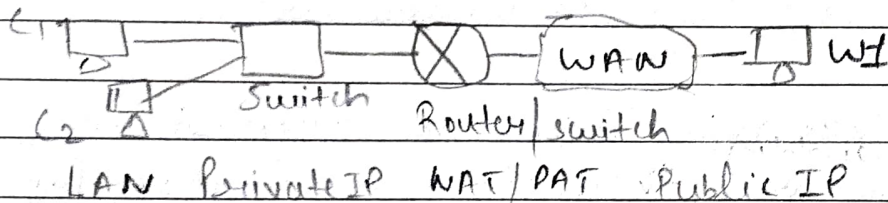
Assignment No. 6

Q - What is DHCP server how we use this server and its benefits?

Ans -

DHCP Server: (Dynamic Host Configuration Protocol)
It is a network server that automatically provides and assigns IP addresses, default gateways and other network parameters to client devices. It relies on the standard protocol known as DHCP to respond to broadcast queries by clients.

• How to use a Router/Switch as DHCP Server?



DHCP has a ~~key~~ role in communication between private LAN to Public WAN. Whenever system wants to communicate any system in WAN, its request will be routed through DHCP server.

It is very easy to configure system manually if LAN is small also DHCP is used.

• Benefits:

• Reliable IP address configuration. DHCP minimizes configuration errors caused by manual IP address configuration, such as

typographical errors, or address conflicts caused by the assignment of an IP address to more than one computer at the same time.

• Reduced network administration.

Q - Define a) PING b) IPCONFIG
c) NETSTAT d) TRACEROUTE.

a) PING: Most commonly used tool. This tool is used to test connectivity between requesting host and destination host.

e.g: ping 192.168.1.38 -t, if it msg -

1. Reply from 192.168.1.38: byte=32 time=7ms 1% = 255 then it means connection is proper.

2. If messages shown is "Request time out", then it means there is some break / issue in cable.

b) IPCONFIG:

This is used to determine IPCONFIG of host. It gives TCP/IP configuration details like IP Address, subnet masks and default gateway of the computer.

IP Config Command is used for windows
IP CONFIG Command is used in Linux.

e.g: IPCONFIG: Detail.

c) NETSTAT :

This is used to determine current state of active network connections on a host. When verifying the status of a listening port on a host or to check and see what remote hosts are connected to a local host on a specific port.

e.g- netstat :

d) Trace route :

It can be used to determine more specific information about the path to the destination host including the route the packet takes and the response time of these intermediate hosts.

It is useful for trouble-shooting large networks.

e.g : tracert www.google.com ↵

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1.  4ms  12ms  5ms  10.131.81.1
2.  *    120ms 194ms 192.24.164.190
3.  -    -    -    -
  
```

Here tracert command is used in LINUX.