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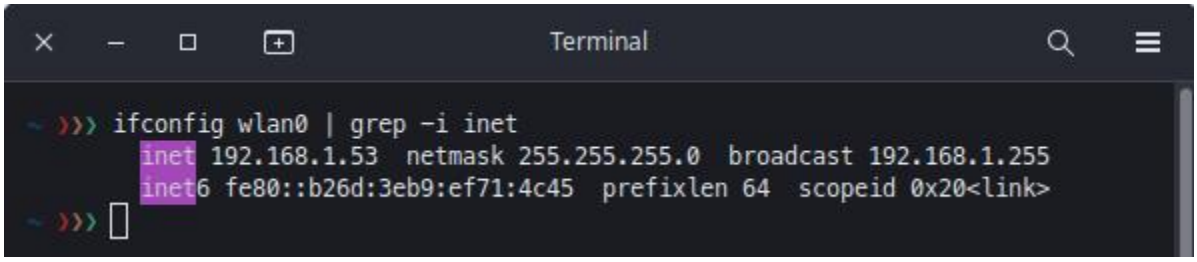
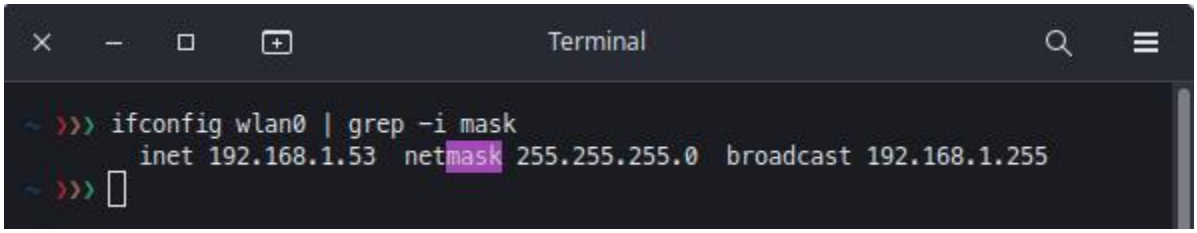
IT Lab 1

Display your systems IP Address, Subnet mask using ipconfig, and find out the network address and the maximum number of systems possible on your network and range of IP addresses available to these systems.

IP Address for wlan0 interface:



Subnet Mask for wlan0 interface:



Network Address:

Since Network Address is the numeric part of IP Address, thus the Network Address in this case is **192.168.1.53**

Maximum Number of Systems Possible on the Network:

Subnet mask = 255.255.255.0

Subnet mask (bin) = 11111111.11111111.11111111.00000000

Count zero in subnet mask = 8

Max. no. of systems possible on the network = 2^8 = 256

Range of IP Addresses:

IP Address = 192.168.1.53

IP Address (bin) = 11000000.10101000.00000001.00110101

Subnet mask = 255.255.255.0

Subnet mask (bin) = 11111111.11111111.11111111.00000000

For Starting IP:

IP Address (bin) & Subnet mask (bin)

First IP Address (bin) = 11000000.10101000.00000001.00000000

First IP Address = 192.168.1.0

For Last IP:

First IP Address (bin) | inverse of (Subnet mask (bin))

Inverse of Subnet Mask (bin) = 00000000.00000000.00000000.11111111

Last IP Address (bin) = 11000000.10101000.00000001.11111111

Last IP Address = 192.168.1.255