

QUESTION

What is your IP-address?

What is your Subnet mask?

What is your Network address?

What is your Broadcast address?

```
Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix . : worldlink.com.np
IPv6 Address. . . . . : 2400:1a00:b1e0:313e::2
IPv6 Address. . . . . : 2400:1a00:b1e0:313e:f89c:cdbf:f82c:ff6d
Temporary IPv6 Address. . . . . : 2400:1a00:b1e0:313e:4539:8bfe:d8e5:a19
Link-local IPv6 Address . . . . . : fe80::e1b5:6762:db47:972d%10
IPv4 Address. . . . . : 192.168.1.74
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : fe80::1%10
                          192.168.1.254
```

My IP address: 192.168.1.74

My Subnet Mask: 255.255.255.0 meaning 24 bits are masked so only 8 bits are accessible.

Network Address:

- ➔ In order to identify the Network Address we perform bitwise **AND** operation between IP address and Subnet mask.

IP address:	192	. 168	. 1	. 74
	11000000.10101000.00000001.01001010			
Subnet mask:	255	. 255	. 255	. 0
	11111111.11111111.11111111.00000000			

Bitwise AND operation:

Network Address:	11000000.10101000.00000001.00000000			
	192	. 168	. 1	. 0

Broadcast Address:

- ➔ No. of host = $2^{32-24} - 2$
= 254

- ➔ So the range of IP address allotted to the host are = (192.168.1.0) to (192.168.1.255)

- ➔ In IPv4, the broadcast address is typically the highest address in a subnet.

Therefore Broadcast Address is : 192.168.1.255