

Lab 3: Assigning Static IP Address in windows.

Objective(s):

- To assign static IP address and practice the commands used to assign static IP address

Apparatus: Command Prompt

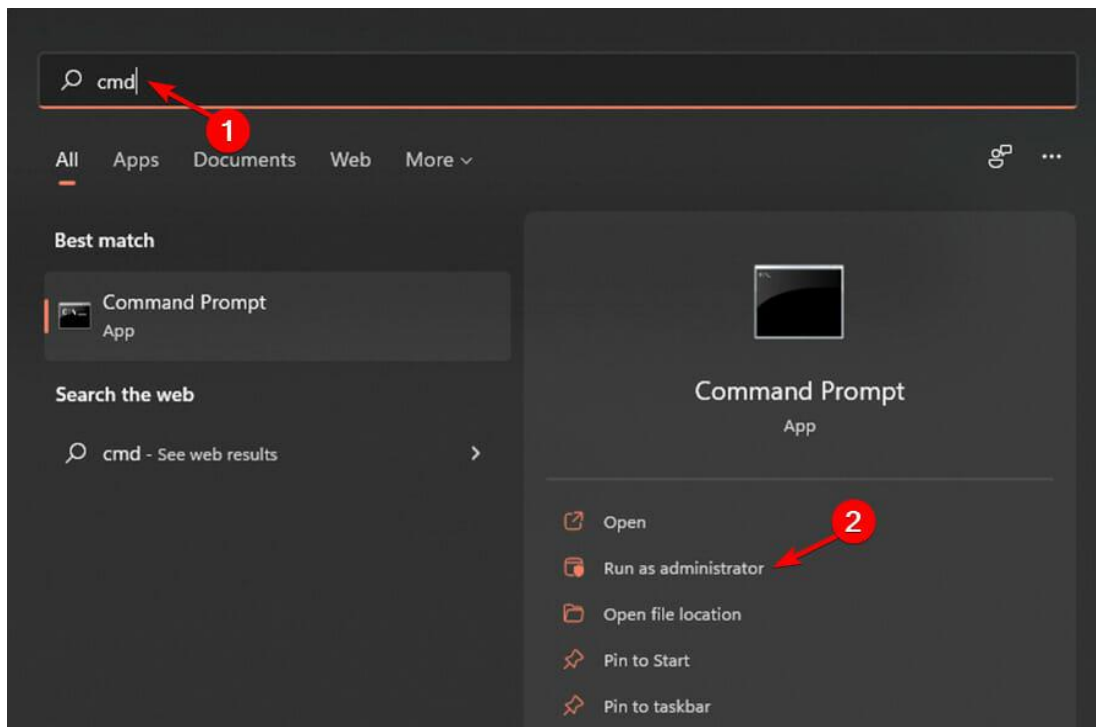
Background:

A static IP address is an unchanging number assigned to a computer by an Internet service provider (ISP) and is used to identify with a specific address instead of one that is assigned temporarily. Dynamic Host Configuration Protocol (DHCP) is a handy way for devices to connect to user network more easily, because user don't have to configure IP addressing for each new device themselves. The downside to automatic addressing is that it's possible for a device's IP address to change from time to time, which is why people choose static IPs for certain types of devices.

Procedure: To do these practical following steps should be done:

Step 1: Press the windows key and type cmd in search bar.

Step 2: Select Command Prompt and click run as administrator.



Step 3: Run command “ipconfig /all”

```
C:\Users\user>ipconfig /all

Windows IP Configuration

Host Name . . . . . : Kafle
Primary Dns Suffix . . . . . :
Node Type . . . . . : Mixed
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

Ethernet adapter Ethernet:

Connection-specific DNS Suffix . :
Description . . . . . : Killer E2600 Gigabit Ethernet Controller
Physical Address. . . . . : 08-8F-C3-4F-FF-5E
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
IPv6 Address. . . . . : 2001:df6:2380:3c0b:732f:e77a:c972(Preferred)
Temporary IPv6 Address. . . . . : 2001:df6:2380:3c0b:c1b0:f483:f5ed:25fd(Preferred)
Link-local IPv6 Address . . . . . : fe80::122d:1a0e:71a0:8ced%20(Preferred)
IPv4 Address. . . . . : 192.168.1.77(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : Saturday, April 15, 2023 12:40:27 PM
Lease Expires . . . . . : Sunday, April 16, 2023 3:53:25 PM
Default Gateway . . . . . : fe80::1%20
                          192.168.1.254
DHCP Server . . . . . : 192.168.1.254
DHCPv6 IAID . . . . . : 235442115
DHCPv6 Client DUID. . . . . : 00-01-00-01-2A-F6-99-4B-08-8F-C3-4F-FF-5E
DNS Servers . . . . . : fe80::1%20
                          192.168.1.254
NetBIOS over Tcpip. . . . . : Enabled

Wireless LAN adapter Local Area Connection* 9:
```

Step 4: Run command “netsh interface ip set address name="Ethernet"

```
C:\Windows\System32>netsh interface ipv4 show config name="Ethernet"

Configuration for interface "Ethernet"
    DHCP enabled:                Yes
    IP Address:                  192.168.1.77
    Subnet Prefix:               192.168.1.0/24 (mask 255.255.255.0)
    Default Gateway:             192.168.1.254
    Gateway Metric:              0
    InterfaceMetric:             25
    DNS servers configured through DHCP: 192.168.1.254
    Register with which suffix:   Primary only
    WINS servers configured through DHCP: None
```

Step 5: Run command “netsh interface ip set address name="Ethernet0" static 10.1.2.220 255.255.255.0 10.1.2.1”

```
C:\Windows\System32>netsh interface ip set address name="Ethernet" static 10.1.2.220 255.255.255.0 10.1.2.1

C:\Windows\System32>netsh interface ipv4 show config name="Ethernet"

Configuration for interface "Ethernet"
    DHCP enabled:                No
    IP Address:                  10.1.2.220
    Subnet Prefix:               10.1.2.0/24 (mask 255.255.255.0)
    Default Gateway:             10.1.2.1
    Gateway Metric:              1
    InterfaceMetric:             25
    Statically Configured DNS Servers: None
    Register with which suffix:   Primary only
    Statically Configured WINS Servers: None
```

Step 6: Finally, run command “netsh interface ip add dns name="Ethernet0" 8.8.8.8 index=2” to assign an alternate DNS address.

```
C:\Windows\System32>netsh interface ip add dns name="Ethernet" 1.0.0.1 index=2
```

Conclusion: After assigning Static IP it's not possible for a device's IP address to change from time to time until it is manually changed by the user.