

# Exploring of network commands

## Ifconfig

Displays information about network interfaces, including IP addresses, MAC addresses, and network statistics. Note that ifconfig is being deprecated in favor of ip commands.

### Usage

```
ifconfig
```

## Ip

A versatile tool for network configuration. ip addr show displays IP addresses and network interfaces, ip route show shows routing tables, and ip link show provides details about network interfaces.

### Usage

```
ip addr show
```

```
ip route show
```

```
ip link show
```

## Ping

Sends ICMP echo requests to a specified host and displays the responses. Useful for checking network connectivity and measuring round-trip time.

### Usage

```
ping google.com
```

```
ping 192.168.1.1
```

## Traceroute

Displays the path packets take from the local machine to a specified host, showing each hop along the way. Useful for diagnosing routing issues.

### Usage

```
traceroute google.com
```

```
traceroute 192.168.1.1
```

## **netstat**

Provides various network-related information. `netstat -a` shows all connections and listening ports, `netstat -i` displays network interface statistics, and `netstat -tuln` shows TCP and UDP ports in use.

### **Usage**

`netstat -a`

`netstat -i`

`netstat -tuln`

## **ss**

A modern alternative to `netstat` for displaying network socket information. `ss -tuln` shows listening sockets and their associated ports, while `ss -s` provides summary statistics.

### **Usage**

`ss -tuln`

`ss -s`

## **route**

Displays or modifies the IP routing table. `route -n` shows the routing table in numeric format. You can also use it to add or delete routes.

### **Usage**

`route -n`

`route add default gw 192.168.1.1`

## **arp**

Displays or manipulates the ARP (Address Resolution Protocol) cache. `arp -a` shows the ARP table, while `arp -d` can delete a specific ARP entry.

### **Usage**

`arp -a`

`arp -d 192.168.1.1`

## **nslookup**

Queries DNS servers to obtain domain name or IP address mapping. Useful for troubleshooting DNS issues.

### **Usage**

```
nslookup google.com
```

```
nslookup 8.8.8.8
```

## **dig**

Provides detailed DNS query results. dig can be used to query DNS servers directly and is useful for diagnosing DNS-related issues.

### **Usage**

```
dig google.com
```

```
dig @8.8.8.8 google.com
```