

Lab 4 - [Network commands]

Objective

- To study about and use the following network commands
 1. ping
 2. netstat
 3. ipconfig
 4. hostname

Theory

- **hostname command:** This command is used in networking to find out about the host of the network, in our cases the computer/laptop we are using.
- **netstat command:** This command is used in networking to find out every active TCP connection made by the host (our computer).
 - It consists of different options:
 - -a: Displays all connections and listening ports.
 - -e: Displays Ethernet statistics.
 - -i: Displays the time spent by a TCP connection in its current state.
 - -s: Displays per-protocol statistics. By default, statistics are shown for IP, IPv6, ICMP, ICMPv6, TCP, TCPv6, UDP, and UDPv6;
- **ipconfig command:** This command is used in networking to find out about the IP address, Gateway address, subnet mask, etc about our computer in the current network
- **ping command:** This is the primary TCP/IP command used to troubleshoot connectivity, reachability, and name resolution.

Output

- hostname and ipconfig command

```

Alson@Alson-Laptop MINGW64 /d/projects/college-related-projects/Labs-6th-semester (main)
$ hostname
Alson-Laptop

Alson@Alson-Laptop MINGW64 /d/projects/college-related-projects/Labs-6th-semester (main)
$ ipconfig

Windows IP Configuration

Wireless LAN adapter Local Area Connection* 3:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 12:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

    Connection-specific DNS Suffix  . : 
    IPv6 Address. . . . . : 
    IPv6 Address. . . . . : 
    Temporary IPv6 Address. . . . . : 
    Link-local IPv6 Address . . . . . : 
    IPv4 Address. . . . . : 
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : fe80::1%13

```

- netstat and ping command

Active Connections

Proto	Local Address	Foreign Address	State
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	TIME WAIT
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	TIME WAIT
TCP	[REDACTED]	[REDACTED]	ESTABLISHED
TCP	[REDACTED]	[REDACTED]	ESTABLISHED

```
Alson@Alson-Laptop MINGW64 /d/projects/college-related-projects/Labs-6th-semester (main)
```

```
$ ping 192.168.1.3
```

Pinging 192.168.1.100 with 32 bytes of data:

Reply from 192.168.1.100: bytes=32 time<1ms TTL=128

Reply from 192.168.1.1: bytes=32 time<1ms TTL=128

Reply from 192.168.1.100: bytes=32 time<1ms TTL=128

Reply from 192.168.1.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.100:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

your address