

Netsh WLAN Commands (Windows)

netsh wlan commands are used to **manage Wi-Fi profiles and connections** in Windows via Command Prompt.

Show All Wi-Fi Networks and Adapters

Command:

```
netsh wlan show all
```

Explanation:

- Displays **all available Wi-Fi networks** (SSID, BSSID, signal strength, authentication type, radio type, channel)
- Shows **all wireless adapters** on the system

Example Output:

```
SSID 1 : HomeWiFi
Network type : Infrastructure
Authentication : WPA2-Personal
Signal : 90%
```

Show All Saved Wi-Fi Profiles

Command:

```
netsh wlan show profiles
```

Explanation:

- Lists **all Wi-Fi profiles saved** on your PC
- Only shows **profile names** (SSID)

Example Output:

```
User profiles
-----
All User Profile      : HomeWiFi
All User Profile      : OfficeWiFi
```

Show Details of a Specific Wi-Fi Profile (Including Password)

Command:

```
netsh wlan show profile name="SSID" key=clear
```

Explanation:

- Shows **complete details** of a specific Wi-Fi profile

- `key=clear` displays **Wi-Fi password** in plaintext under Key Content

Example:

```
netsh wlan show profile name="HomeWiFi" key=clear
```

- Key Content: mypassword123

Export Wi-Fi Profile to XML File

Command:

```
netsh wlan export profile name="SSID" key=clear folder="C:\\"
```

Explanation:

- Exports Wi-Fi profile as an **XML file**
- `key=clear` ensures password is included
- `folder="C:\\"` specifies the destination folder

Example:

```
netsh wlan export profile name="HomeWiFi" key=clear
folder="C:\WiFiProfiles"
```

- File created: C:\WiFiProfiles\Wi-Fi-HomeWiFi.xml

Delete a Wi-Fi Profile

Command:

```
netsh wlan delete profile name="SSID"
```

Explanation:

- Deletes a saved Wi-Fi profile from the system

Example:

```
netsh wlan delete profile name="OfficeWiFi"
```

- Removes OfficeWiFi profile completely

Add a Wi-Fi Profile from an XML File

Command:

```
netsh wlan add profile filename="file.xml"
```

Explanation:

- Adds a Wi-Fi profile **from an exported XML file**
- Useful to **import profiles** to a new PC or multiple devices

Example:

```
netsh wlan add profile filename="C:\WiFiProfiles\Wi-Fi-HomeWiFi.xml"
```

- Adds `HomeWiFi` profile with password and settings

Optional: Connect to a Wi-Fi Network Using a Profile

Command:

```
netsh wlan connect name="SSID"
```

Explanation:

- Connects to a saved Wi-Fi profile

Example:

```
netsh wlan connect name="HomeWiFi"
```

- Windows will connect to `HomeWiFi` automatically

Network Troubleshooting Commands

1) hostname

What it does: Shows the current computer's host name.

Command (copy):

```
hostname
```

Example output: NEERAJ-PC

Notes: Very simple — just prints your machine name.

2) getmac

What it does: Displays MAC addresses for network adapters.

Common options: none required; `/v` for verbose, `/fo list` for formatted output.

Commands (copy):

```
getmac  
getmac /v /fo list
```

Explanation: Shows physical (MAC) address and associated connection name. Use `/v` for more info.

3) ipconfig

What it does: Shows IP configuration for all network adapters (Windows).

Important options & ready commands (copy):

```
ipconfig           :: show basic IPs (IPv4/IPv6), subnet, gateway
```

Explanation:

- ipconfig = quick view of IPs.
- /all shows DNS server, DHCP server, MAC, lease times.

4) ping

What it does: Tests basic reachability and latency to a host (uses ICMP).

Common options & ready commands (copy):

```
ping google.com          :: send 4 pings (default Windows)
ping -n 10 google.com    :: send 10 pings (Windows)
```

Explanation of output:

- Each line shows response time (ms).
- Summary shows packets sent/received/lost and min/avg/max RTT.

Notes: Some hosts block ICMP (you may see timeouts even if host is up).

5) tracert (Windows) / traceroute (Linux)

What it does: Shows each network "hop" (routers) between you and a destination.

Common options & ready commands (copy):

```
tracert www.google.com      :: normal trace
tracert -d www.google.com   :: do not resolve addresses to
hostnames (faster)
tracert -h 30 www.google.com :: set max hops to 30
tracert -w 200 www.google.com :: set timeout to 200 ms per hop
```

Explanation: Each numbered hop is a router; stars * mean no reply from that hop. The final hop is usually the destination.

6) nslookup

What it does: DNS lookup tool; can be used interactively or for single queries.

Ready commands (copy):

```
nslookup www.google.com      :: basic DNS resolve (default DNS server)
```

Explanation: Shows DNS server used and returned records. Use interactive mode to change servers and query different record types.

7) netstat — network connections & statistics (Windows)

What it does: Shows active connections, listening ports, routing tables, and protocol stats. Many useful switches exist.

Important ready commands (copy):

```
netstat -an          :: show all connections &
listening ports (addresses numeric)
netstat -b          :: show executable (program) using
each connection (requires elevated admin)
```

CMD Commands – Related Notes

1. Color 1–50

- **Purpose:** Sets the console text color in CMD (foreground and background).
- **Usage:**

```
color 1F      :: 1 = Blue text, F = White background
color /?      :: Show help for all color codes (0-F)
```

- CMD uses **hexadecimal codes (0–F)**, not 1–50, but some tools or scripts extend to 50 preset colors.

2. Title

- **Purpose:** Sets the CMD window title.
- **Usage:**

```
title My CMD Window
```

- Shows the **custom name** on the CMD title bar.

3. Prompt

- **Purpose:** Customizes the **command prompt display** in CMD.
- **Usage:**

```
prompt $P$G      :: Default (Shows current path >)
prompt MyCMD$G   :: Custom prompt with "MyCMD>"
prompt /?        :: Show all prompt variables
```

- $\$P$ = current path, $\$G$ = > symbol, $\$D$ = date, $\$T$ = time, etc.

4. Mode 120

- **Purpose:** Sets CMD window **width, height, and code page**.
- **Usage:**

```
mode con: cols=120 lines=30      :: Set width=120, height=30 lines
mode con: /?                      :: Show help
```

- Adjusts **console layout** for better visibility of output.

Telnet Client – CMD Notes

Enable Telnet Client via Control Panel

- **Purpose:** Windows does not enable Telnet by default; must enable manually.
- **Steps:**
 1. Open **Control Panel** → **Programs** → **Turn Windows features on or off**
 2. Scroll down and **check “Telnet Client”**
 3. Click **OK** → Wait for installation to complete
- **Notes:** Telnet allows **remote text-based communication** with servers.

Open CMD and Connect Using Telnet

- **Command:**

```
telnet towel.blinkenlights.nl
```

- **Explanation:**
 - Connects to `towel.blinkenlights.nl` via Telnet (port 23 by default)
 - Server shows **ASCII Star Wars animation** in terminal
 - Fun example to **practice Telnet connectivity**
- **Tips:**
 - CMD will show blinking text and animation frames
 - To **exit Telnet**, press `Ctrl+]`, then type `quit`

CMD Commands – Quick Notes

tree

- **Purpose:** Displays **folder and subfolder structure** in a tree format.
- **Commands:**

<code>tree</code>	:: Show current drive/folder structure
<code>tree /f</code>	:: Show files along with folders
<code>tree /a</code>	:: Use ASCII characters (plain text) for tree

date

- **Purpose:** Display or **set the system date**.
- **Commands:**

<code>date</code>	:: Show current date
<code>date 10-25-2025</code>	:: Set date to Oct 25, 2025 (MM-DD-YYYY)

- **Notes:** CMD will prompt you if you want to change date.

time

- **Purpose:** Display or **set the system time**.
- **Commands:**

```
time          :: Show current time  
time 14:30    :: Set time to 2:30 PM (HH:MM, 24-hour format)
```

- **Notes:** CMD will ask for confirmation.

doskey / history

- **Purpose:** View or **reuse previous commands** in CMD.
- **Commands:**

```
doskey /history      :: Show list of previously typed commands  
up-arrow            :: Navigate through previous commands
```

- **Notes:** doskey stores session history; history clears when CMD is closed.

shutdown

- **Purpose:** Shutdown or restart Windows from CMD.
- **Commands:**

```
shutdown -s -t 00    :: Shutdown immediately  
shutdown -r -t 00    :: Restart immediately  
shutdown -s -t 60    :: Shutdown in 60 seconds  
shutdown /?          :: Show all shutdown options
```

- **Notes:**
 - -s = shutdown
 - -r = restart
 - -t = time in seconds before action