

# 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:**

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

### date

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

```
date                :: Show current date
date 10-25-2025     :: 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