

✓ 1. ping

This is like knocking on someone's door to see if they're home. You "ping" an IP address or domain to see if the system can talk to it and how long it takes.

Example:

```
ping 8.8.8.8
```

Purpose:

Check if the system can reach a destination IP (connectivity test).

✓ 2. ipconfig

Think of this as asking, "What's my current network setup?" It tells you your computer's IP address and where it's trying to route internet traffic.

Example:

```
ipconfig
```

Purpose:

Displays basic network info like IP address and default gateway.

✓ 3. ipconfig /all

This is the advanced version of `ipconfig`. It reveals *everything* about your network connections — useful when troubleshooting or reporting network issues.

Example:

```
ipconfig /all
```

Purpose:

Shows detailed network info:

- IP Address
- MAC Address
- Hostname
- DNS Servers
- DHCP status

✓ 4. **ipconfig /release**

It's like giving back your current IP lease to the network. You're telling the router, "I'm done with this IP, take it back."

Example:

```
ipconfig /release
```

Purpose:

Releases the current IP address obtained from the DHCP server.

✓ 5. **ipconfig /renew**

After releasing the IP, this command says, "Give me a fresh IP please." Useful when your connection feels stuck or misconfigured.

Example:

```
ipconfig /renew
```

Purpose:

Requests a new IP address from the DHCP server.

✓ 6. **ipconfig /flushdns**

It wipes out saved DNS info. If a website's IP address changes but your system keeps visiting the old one, this fixes that by forcing your PC to get updated info.

Example:

```
ipconfig /flushdns
```

Purpose:

Clears the local DNS resolver cache (fix DNS-related issues).

✓ 7. ipconfig /registerdns

It's like updating your contact info in the network directory. This helps keep your device properly listed on the DNS for name resolution.

Example:

```
ipconfig /registerdns
```

Purpose:

Refreshes and registers the DNS settings for the computer.

✓ 8. nslookup

This is a tool to check where a domain is pointing. If you want to know the IP behind a website name, or debug DNS issues — use this.

Example:

```
nslookup google.com
```

Purpose:

Resolves domain names to IP addresses and vice versa.

✓ 9. ncpa.cpl

If you prefer clicking around instead of using commands, this opens the panel where you can view or change your network adapter settings.

Example:

```
ncpa.cpl
```

Purpose:

Opens the Network Connections window to manage network interfaces.