



## 1. Basic Device Information

| Command             | Description  |
|---------------------|--|
| show version        | Displays IOS version, uptime, configuration register, and hardware details |
| show running-config | Displays the active configuration in RAM                                   |
| show startup-config | Displays configuration stored in NVRAM                                     |
| show history        | Shows previously entered commands  |
| show clock          | Displays date and time   |
| show users          | Shows who is currently logged in to the device                             |
| show reload         | Shows reload schedule details (if any)                                     |



## 2. Interface & IP Configuration

| Command                     | Description                                     |
|-----------------------------|---|
| show ip interface brief     | Summary of all interfaces with IPs and status   |
| show interfaces             | Detailed interface statistics                   |
| show interfaces description | Shows interface descriptions                    |
| show ip interface           | Displays Layer 3 details per interface          |
| show controllers            | Shows physical interface controller information |
| show arp                    | Displays ARP table (IP-to-MAC mapping)          |
| show mac address-table      | Displays switch MAC address table               |



## 3. Routing

| Command                  | Description   |
|--------------------------|---|
| show ip route            | Displays routing table                                  |
| show ip protocols        | Shows routing protocols running on the router           |
| show ip ospf neighbor    | Lists OSPF neighbors                                    |
| show ip ospf interface   | Displays OSPF interface details                         |
| show ip ospf database    | Displays OSPF LSDB (Link-State Database)                |
| show ip eigrp neighbors  | Displays EIGRP neighbors                                |
| show ip eigrp topology   | Displays EIGRP topology table                           |
| show ip eigrp interfaces | Displays interfaces participating in EIGRP              |
| show ip bgp summary      | Shows BGP neighbors and status (for CCNP/advanced CCNA) |
| show ip route static     | Displays static routes configured                       |



## 4. Switching & VLANs

| <b>Command</b>                    | <b>Description</b>                                 |
|-----------------------------------|--|
| show vlan brief                   | Displays VLANs configured and port assignments     |
| show interfaces trunk             | Displays trunk port details                        |
| show spanning-tree                | Displays STP status and root bridge info           |
| show spanning-tree vlan [vlan-id] | Displays STP info for specific VLAN                |
| show mac address-table dynamic    | Shows learned MAC addresses                        |
| show etherchannel summary         | Displays EtherChannel status                       |
| show interfaces switchport        | Displays Layer 2 mode (access/trunk) for interface |



## 5. Security & Access Control

| <b>Command</b>                     | <b>Description</b>                            |
|------------------------------------|---|
| show access-lists                  | Displays all ACLs configured                  |
| show ip access-lists               | Displays IP ACLs with details                 |
| show port-security                 | Displays port security status on switch ports |
| show port-security interface [int] | Displays port-security config per interface   |
| show login                         | Displays login attempts                       |
| show aaa servers                   | Displays AAA server details                   |
| `show running-config               | include line vty`                             |



## 6. CDP / LLDP (Discovery Protocols)

| <b>Command</b>             | <b>Description</b>                        |
|----------------------------|---|
| show cdp neighbors         | Displays directly connected Cisco devices |
| show cdp neighbors detail  | Displays IP, platform, and interface info |
| show lldp neighbors        | Displays LLDP neighbor information        |
| show lldp neighbors detail | Detailed LLDP neighbor info               |



## 7. NAT / DHCP

| <b>Command</b>           | <b>Description</b>                            |
|--------------------------|---|
| show ip nat translations | Displays active NAT translations              |
| show ip nat statistics   | Displays NAT summary statistics               |
| show ip dhcp binding     | Displays DHCP assigned IPs                    |
| show ip dhcp pool        | Displays DHCP pool information                |
| show ip dhcp conflict    | Displays IP conflicts detected by DHCP server |



## 8. IPv6

| <b>Command</b>            | <b>Description</b>                           |
|---------------------------|--|
| show ipv6 interface brief | Displays IPv6 addresses and interface status |
| show ipv6 route           | Displays IPv6 routing table                  |

|                         |                                     |
|-------------------------|-------------------------------------|
| show ipv6 neighbors     | Displays IPv6 neighbor cache        |
| show ipv6 protocols     | Displays routing protocols for IPv6 |
| show ipv6 ospf neighbor | Displays OSPFv3 neighbor details    |

## 9. WAN & Encapsulation

| Command                       | Description                             |
|-------------------------------|---|
| show ip interface serial0/0/0 | Displays serial interface details       |
| show controllers serial       | Displays hardware info for serial links |
| show frame-relay map          | Displays Frame Relay mappings (legacy)  |
| show frame-relay pvc          | Displays PVC status                     |

## 10. Troubleshooting Tools

| Command            | Description                             |
|--------------------|---|
| show ip cef        | Displays Cisco Express Forwarding table |
| show processes cpu | Displays CPU utilization                |
| show memory        | Displays memory usage                   |
| show logging       | Displays system logs                    |
| show tech-support  | Collects detailed troubleshooting info  |
| show inventory     | Displays hardware components            |
| show license       | Displays license information            |

## 11. Verification Commands Summary

| Verification Type | Command                  |
|-------------------|--------------------------|
| Interface status  | show ip interface brief  |
| VLANs             | show vlan brief          |
| Trunking          | show interfaces trunk    |
| Routing table     | show ip route            |
| OSPF neighbors    | show ip ospf neighbor    |
| EIGRP neighbors   | show ip eigrp neighbors  |
| Port security     | show port-security       |
| ACLs              | show access-lists        |
| NAT               | show ip nat translations |
| DHCP              | show ip dhcp binding     |
| STP               | show spanning-tree       |