Cisco Networking Cheat Sheet

Based on Provided Topics

May 14, 2025

1 General Commands

Fundamental commands for navigating, configuring, and managing Cisco devices.

1.1 Entering and Exiting Modes

Command	Description	How it shows
`enable`	Enters privileged EXEC mode.	Prompt changes from `>` to `#`.
`configure terminal` (`conf t`)	Enters global configuration mode.	Prompt changes from `#` to `(config)#`.
`end` or `exit`	Exits the current configuration mode or privileged EXEC mode.	Returns to a higher mode prompt or privileged EXEC `#`.

1.2 Configuration Management

Command	Description	How it shows
`show running-config` (`sh run`)	Displays the currently active configuration in RAM.	Prints the entire running configuration line by line.
`copy running-config startup-config` (`copy run start`)	Saves the active configuration from RAM to NVRAM.	Prompts for destination filename, then confirms the copy.
`erase startup-config`	Deletes the startup configuration from NVRAM.	Prompts for confirmation, then confirms deletion.
`reload`	Restarts the device.	Prompts for confirmation, warns about unsaved changes, then reloads.

1.3 Verification and Troubleshooting

Command	Description	How it shows
`show ip interface brief` (`sh ip int br`)	Displays a summary of IP addresses and status for all interfaces.	Table with Interface, IP-Address, OK?, Method, Status, Protocol columns.
`show interface status` (`sh int status`)	Displays the status of switch interfaces (VLAN, duplex, speed, type).	Table with Port, Name, Status, Vlan, Duplex, Speed, Type columns.

Continued on next page

Command	Description	How it shows
`ping <destination-ip>`	Sends ICMP echo requests to test connectivity (I need to be in command prompt).	Output showing success rate (e.g., Reply from: ¡ip¿ for success, Request timeout for failure).

2 Switching Commands

Commands related to VLANs, Trunking, VTP, STP, and EtherChannel.

2.1 VLAN Configuration

Command	Description	How it shows
`vlan <vlan-id>`	Creates a VLAN and enters VLAN configuration mode.	Usage: `(config)#vlan 10`
`name <vlan-name>`	Assigns a name to the VLAN (in VLAN config mode).	Usage: `(config-vlan)#name Sales`
`interface <interface-id>`	Enters interface configuration mode.	Usage: `(config)#interface GigabitEthernet0/1`
`switchport mode access`	Configures the interface as an access port (in interface config mode).	Usage: `(config-if)#switchport mode access`
`switchport access vlan <vlan-id>`	Assigns the access port to a specific VLAN (in interface config mode).	Usage: `(config-if)#switchport access vlan 10`
`show vlan brief`	Displays a summary of VLANs and their assigned ports.	Table with VLAN, Name, Status, Ports columns.

2.2 VLAN Trunking

Command	Description	How it shows
`switchport mode trunk`	Configures the interface as a trunk port (in interface config mode). Allows multiple VLANs.	Usage: `(config-if)#switchport mode trunk`
`switchport trunk allowed vlan <vlan-list>`	Specifies which VLANs are allowed on the trunk (in interface config mode).	Usage: `(config-if)#switchport trunk allowed vlan 1,10-20`
`switchport trunk native vlan <vlan-id>`	Sets the native VLAN for the trunk (untagged traffic) (in interface config mode).	Usage: `(config-if)#switchport trunk native vlan 99`
`show interface <interface-id> switchport`	Shows detailed information about the switchport configuration, including trunking.	Detailed output about operational mode, administrative mode, trunking settings, etc.
`show interface trunk`	Displays information about current trunk links.	Table with Port, Mode, Encapsulation, Status, Native vlan, Allowed vlans, Active vlans columns.

2.3 VLAN Trunking Protocol (VTP)

Command	Description	How it shows
`vtp mode <server | client | transparent>`	Sets the VTP mode for the switch (in global config mode).	Usage: `(config)#vtp mode server`
`vtp domain <domain-name>`	Configures the VTP domain name (in global config mode). Switches must be in the same domain to share VTP information.	Usage: `(config)#vtp domain MYNETWORK`
`show vtp status`	Displays the VTP configuration and status.	Output including VTP Version, Configuration Revision, Maximum VLANs supported, Number of existing VLANs, VTP Operating Mode, VTP Domain Name.

2.4 Spanning Tree Protocol (STP)

Command	Description	How it shows
`spanning-tree vlan <vlan-id> priority <priority>`	Sets the bridge priority for a specific VLAN. Lower priority influences root bridge election (in global config mode). Priority is in increments of 4096.	Usage: `(config)#spanning-tree vlan 10 priority 4096`
`show spanning-tree`	Displays detailed STP status per VLAN.	Detailed output showing root bridge, bridge ID, interface roles and states.

2.5 EtherChannel (Link Aggregation)

Command	Description	How it shows
`interface range <interface-range>`	Enters configuration mode for a range of interfaces.	Usage: `(config)#interface range GigabitEthernet0/1 - 3`
`channel-group <group-number> mode <mode>`	Creates an EtherChannel group and specifies the mode (in interface range config mode). Modes: `active` (LACP), `auto` (PAgP), `desirable` (PAgP), `on`.	Usage: `(config-if-range)#channel-group 1 mode on`

3 Routing Commands

Commands related to Inter-VLAN Routing, Static Routing, and Dynamic Routing (OSPF).

3.1 Interface IP Configuration

Command	Description	How it shows
`interface <interface-id>`	Enters interface configuration mode.	Usage: `(config)#int gig0/1`
`ip address <ip-address> <subnet-mask>`	Assigns an IP address(the default gateway for the VLAN) and subnet mask to an interface.	Usage: `(config-if)#ip address 10.0.0.100 255.0.0.0 (10.0.0.100/8`

Continued on next page

Command	Description	How it shows
`no shutdown`	Activates the interface.	Usage: `(config-if)#no shutdown`

3.2 Static Routing

Command	Description	How it shows
`ip route <destination-network> <subnet-mask> <next-hop-ip>`	Configures a static route to a destination network. Traffic is forwarded to the next-hop IP or exit interface.	Usage (Next-hop): `(config)#ip route 192.168.2.0 255.255.255.0 192.168.1.2`
`show ip route`	Displays the routing table. Static routes are marked with 'S'.	Lists network destinations, next hop, metric, and protocol.

3.3 Dynamic Routing (OSPF)

Command	Description	How it shows
`router ospf <process-id>`	Enables the OSPF routing protocol with a specific process ID (in global config mode).	Usage: `(config)#router ospf 100`
`network <network-address> <wildcard-mask> area <area-id>`	Configures interfaces to participate in OSPF for a specific network and area (in router config mode).	Usage: `(config-router)#network 10.0.0.100 0.0.0.0 area 0`
`show ip route (ospf)`	Displays only the OSPF routes in the routing table.	Lists OSPF learned routes (marked with 'O').

3.4 Hot Standby Router Protocol (HSRP)

Command	Description	How it shows
`interface <interface-id>`	Enters interface configuration mode.	Usage: `(config)#interface GigabitEthernet0/0`
`standby version <version>`	Configures the HSRP version (1 or 2) (in interface config mode).	Usage: `(config-if)#standby version 2`
`standby <group-number> ip <virtual-ip-address>`	Configures the HSRP group number and the virtual IP address (default gateway for end devices) (in interface config mode).	Usage: `(config-if)#standby 1 ip 192.168.1.254`
`standby <group-number> priority <priority>`	Sets the priority for the router within the HSRP group. Higher priority is preferred for the active router. Default is 100 (in interface config mode).	Usage: `(config-if)#standby 1 priority 150`
`show standby brief`	Displays a concise summary of HSRP group status.	Table with Interface, Group, State, Active, Standby, Virtual IP columns.