

Cisco Router Commands Cheat Sheet

Cisco router commands cheat sheet is an essential resource for network administrators, IT professionals, and students mastering Cisco networking. Whether you're configuring a new router, troubleshooting connectivity issues, or managing network security, knowing the right commands can save you time and ensure your network runs smoothly. This comprehensive guide provides a concise yet detailed overview of the most commonly used Cisco router commands, organized to help you quickly find the information you need.

Basic Cisco Router Commands

Accessing the Cisco Router

1. **telnet [IP address]** - Connects remotely to a Cisco device via Telnet.
2. **ssh [user]@[IP address]** - Securely connects to the router using SSH.
3. **console** - Connects directly through the console port (requires physical access).

Entering Privileged EXEC Mode

1. **enable** - Switches from user EXEC mode to privileged EXEC mode where configuration commands can be executed.
2. **disable** - Exits privileged EXEC mode back to user EXEC mode.

Viewing the Router's Status

1. **show running-config** - Displays the current configuration in RAM.
2. **show startup-config** - Displays the configuration stored in NVRAM that loads at startup.
3. **show ip interface brief** - Provides a summary of all interfaces and their IP addresses.
4. **show version** - Shows detailed information about the router's hardware, software, and uptime.
5. **show processes** - Displays active processes and CPU utilization.

Configuring Interfaces

Assigning IP Addresses

1. **configure terminal** - Enters global configuration mode.
2. **interface [type and number]** - Selects the interface to configure (e.g., *GigabitEthernet0/0*).
3. **ip address [IP] [Subnet Mask]** - Assigns an IP address to the selected interface.
4. **no shutdown** - Activates the interface.

Configuring VLANs

1. **vlan [VLAN ID]** - Creates a VLAN.
2. **name [VLAN name]** - Names the VLAN.
3. **interface vlan [VLAN ID]** - Configures the VLAN interface.
4. **ip address [IP] [Subnet Mask]** - Assigns an IP address to the VLAN interface.
5. **no shutdown** - Activates the VLAN interface.

Routing and Switching Commands

Configuring Static Routes

1. **ip route [destination network] [Subnet Mask] [next-hop IP]** - Adds a static route.

Configuring Dynamic Routing Protocols

1. **router [protocol]** - Enters routing protocol configuration mode (e.g., *ospf 1*, *eigrp 100*).
2. **network [network] [wildcard mask]** - Specifies which interfaces participate in the routing protocol.

Enabling Switching and VLANs

1. **switchport mode access** - Sets interface as an access port.
2. **switchport access vlan [VLAN ID]** - Assigns a VLAN to the port.

Security and Access Control Commands

Configuring Passwords

1. **enable secret [password]** - Sets the privileged mode password.
2. **line console 0** - Accesses console line configuration.
3. **password [password]** - Sets the password for console or VTY lines.
4. **login** - Enables login with the configured password.

Access Control Lists (ACLs)

1. **access-list [number] [permit|deny] [protocol] [source] [destination]** - Creates an ACL entry.
2. **ip access-group [number] [in|out]** - Applies ACL to an interface.

Encrypting Passwords and Secrets

1. **service password-encryption** - Encrypts plaintext passwords in configuration files.

Saving and Managing Configurations

Saving Configuration

1. **copy running-config startup-config** - Saves current configuration to NVRAM so it persists after reboot.
2. **write memory** - Alternative command to save the configuration.

Resetting the Router

1. **reload** - Restarts the router.
2. **clear ip route** - Clears the routing table.

Advanced and Troubleshooting Commands

Monitoring Traffic and Debugging

1. **ping [IP]** - Tests connectivity to an IP address.
2. **traceroute [IP]** - Traces the path packets take to reach a destination.
3. **show interfaces** - Displays detailed interface statistics.
4. **debug [feature]** - Enables debugging for specific features (use cautiously).

Clearing Debugs and Errors

1. **undebug all** or **no debug all** - Stops all debug processes.
2. **clear counters** - Resets interface statistics counters.

Conclusion

A well-rounded understanding of Cisco router commands is vital for efficient network management. This Cisco router commands cheat sheet covers fundamental operations, interface configuration, routing, security, and troubleshooting commands that are essential for everyday tasks. By familiarizing yourself with these commands, you can streamline your network setup, enhance security, and quickly resolve issues. Keep this cheat sheet handy as a quick reference to boost your confidence and proficiency in managing Cisco routers effectively.

Cisco Router Commands Cheat Sheet: Your Ultimate Guide to Navigating Cisco Networking

In the world of network administration, mastering Cisco router commands is essential for configuring, managing, and troubleshooting network devices efficiently. Cisco routers are the backbone of many enterprise and service provider networks, and understanding their command-line interface (CLI) is crucial for network engineers, administrators, and IT professionals. This comprehensive Cisco router commands cheat sheet offers an organized overview of the most vital commands, structured to help both beginners and seasoned

professionals navigate Cisco routers with confidence.

Introduction to Cisco Router CLI

Cisco routers are configured via the Command-Line Interface (CLI), which provides powerful tools to set up network interfaces, routing protocols, security features, and more. The CLI operates mainly in different modes, each tailored for specific tasks:

1. User EXEC mode: Basic commands for monitoring.
2. Privileged EXEC mode: Advanced commands for configuration and troubleshooting.
3. Global Configuration mode: For setting up device-wide configurations.
4. Interface Configuration mode: For configuring specific network interfaces.
5. Routing Protocol Configuration mode: For setting up routing protocols like OSPF, EIGRP, etc.

Understanding these modes and the commands available in each is fundamental to effective Cisco network management.

Commonly Used Cisco Router Commands

1. Viewing Device Information

1. ``show version``

Displays the router's hardware, software version, configuration register, uptime, and more.

1. ``show running-config``

Shows the current active configuration.

1. ``show startup-config``

Displays the saved configuration stored in NVRAM.

1. ``show ip interface brief``

Provides a summarized view of all interfaces, their IP addresses, and status.

1. ``show interfaces``

Offers detailed information about each interface, including traffic statistics and errors.

1. Managing Interfaces

1. ``configure terminal``

Enters global configuration mode.

1. ``interface [interface-id]``

Enters interface configuration mode (e.g., ``interface GigabitEthernet0/1``).

1. ``ip address [IP] [Subnet Mask]``

Assigns IP address to an interface.

1. ``no shutdown``

Activates the interface.

1. ``shutdown``

Deactivates the interface.

1. ``show ip route``

Displays the device's routing table.

1. Basic Configuration Commands

1. ``hostname [name]``

Sets the device hostname.

1. ``enable secret [password]``

Sets the enable mode password.

1. ``enable password [password]``

Sets the password for privileged EXEC mode (less secure).

1. ``line console 0``

Enters console line configuration.

1. ``password [password]``

Sets password for console or VTY lines.

1. ``login``

Enables password login on lines.

1. ``exit``

Exits the current configuration mode.

1. Routing Protocols

1. ``router ospf [process-id]``

Starts OSPF routing configuration.

1. ``network [network-address] [wildcard-mask] area [area-id]``

Defines networks for routing protocol.

1. ``router eigrp [autonomous-system-number]``

Initiates EIGRP routing configuration.

1. ``network [network-address]``

Specifies networks to include in EIGRP.

1. VLAN and Switch Management (Applicable in Layer 2 Switches and Routers with Layer 2)

1. ``vlan [vlan-id]``

Creates or modifies VLANs.

1. ``name [vlan-name]``

Names the VLAN.

1. ``show vlan brief``

Lists VLANs configured on the device.

1. ``interface vlan [vlan-id]``

Configures the VLAN interface (SVI).

1. Security and Access Control

1. ``access-list [number] permit|deny [protocol] [source] [destination]``

Creates access control lists (ACLs).

1. ``show access-lists``

Displays ACL configurations.

1. ``line vty 0 4``

Enters VTY (telnet/SSH) line configuration.

1. ``transport input ssh``

Restricts remote access to SSH only.

1. ``enable secret [password]``

Sets encrypted enable password.

1. Saving and Resetting Configurations

1. ``write memory`` or ``copy running-config startup-config``

Saves the current configuration to startup-config.

1. ``reload``

Restarts the device.

1. ``erase startup-config``

Erases the saved configuration.

Advanced Commands and Troubleshooting

1. Troubleshooting Network Connectivity

1. ``ping [destination IP]``

Tests connectivity to a device.

1. ``traceroute [destination IP]``

Traces the route packets take to reach a destination.

1. ``show cdp neighbors``

Displays CDP (Cisco Discovery Protocol) neighbors.

1. ``show arp``

Shows the ARP table.

1. Debugging and Monitoring

1. ``debug [feature]``

Enables debugging for specific features (use cautiously).

1. ``show processes cpu``

Displays CPU utilization.

1. ``show logging``

Shows system logs.

1. ``clear counters``

Resets interface counters.

1. Managing Routing and NAT

1. ``ip nat inside` / `ip nat outside``

Defines NAT interfaces.

1. ``ip route [destination network] [mask] [next hop IP]``

Adds static routes.

1. ``no ip route [destination network]``

Deletes static routes.

Best Practices for Using Cisco Commands

1. Always verify configurations with ``show`` commands after applying changes.
2. Use ``configure terminal`` to access global configuration; avoid making changes in privileged EXEC mode directly.
3. Save configurations regularly with ``write memory`` or ``copy running-config startup-config``.
4. When troubleshooting, start with ``show ip interface brief`` to assess interface status.
5. Use debugging commands cautiously, especially in production environments.

Conclusion

Mastering Cisco router commands is a vital skill for network professionals aiming to ensure optimal network performance, security, and reliability. This cheat sheet serves as a quick reference to streamline your workflow, whether you're configuring new devices, troubleshooting issues, or managing complex routing protocols. Regular practice and familiarity with these commands will enhance your confidence and efficiency in Cisco network environments. Remember, the key to effective network management lies in understanding the purpose and proper application of each command, complemented by a solid grasp of networking fundamentals.

Questions & Answers About cisco router commands cheat sheet

No	Question	Answer
1	What is the command to access privileged EXEC mode on a Cisco router?	The command is 'enable'. It allows you to enter privileged EXEC mode for advanced configuration and troubleshooting.
2	How do you view the current routing table on a Cisco router?	Use the command 'show ip route' to display the current routing table and routing information.
3	What command is used to save the configuration changes to startup-config?	The command is 'write memory' or 'copy running-config startup-config'.
4	How can you display all active interfaces and their statuses?	Use 'show ip interface brief' to get a summary of all interfaces and their current statuses.
5	Which command is used to configure a static IP address on an interface?	Enter interface configuration mode with 'interface [interface_id]' and then assign the IP with 'ip address [IP_address] [subnet_mask]'.
6	How do you troubleshoot connectivity issues on a Cisco router?	Use commands like 'ping', 'traceroute', and 'show interfaces' to diagnose network connectivity problems.

7	What command shows the current VLAN configuration on a Cisco switch/router?	Use 'show vlan brief' to display VLAN information and configurations.
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