Cisco IOS commands cheat sheet

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Commands for Cisco IOS and IOS XE. Practise them in a lab (Packet Tracer, CML or GNS3) before using them on a live network.

Modes and moving around

Command	What it does
`enable`	User EXEC (>) to privileged EXEC (#)
`configure terminal`	Enter global configuration mode
`interface g0/1`	Configure one interface
`exit / end`	Up one level / back to # (Ctrl+Z)
`do show ip interface brief`	Run a show command from config mode
`?`	Context help; also works mid-word (sh?)

Basic device setup

Command	What it does
`hostname SW1`	Name the device
`enable secret <password>`	Protect privileged mode (hashed)
`service password-encryption`	Hide plain-text passwords in the config
`banner motd #Authorised access only#`	Login warning banner
`no ip domain-lookup`	Stop typos being treated as hostnames
`ip domain-name lab.local`	Needed before creating SSH keys
`crypto key generate rsa modulus 2048`	Create keys for SSH
`username admin secret <pw>`	Local user account

`line vty 0 15`
`login local`
`transport input ssh`
	Allow SSH only, using local users

Interfaces

Command	What it does
`description Uplink to core`	Label the port
`ip address 192.168.1.1 255.255.255.0`	Assign an IPv4 address
`no shutdown`	Enable the interface
`speed 1000 / duplex full`	Set speed and duplex (normally auto)
`interface range g0/1 - 24`	Configure many ports at once

VLANs and trunks

Command	What it does
`vlan 10` `name STAFF`	Create and name a VLAN
`switchport mode access` `switchport access vlan 10`	Put a port in VLAN 10
`switchport mode trunk`	Carry many VLANs on one link
`switchport trunk allowed vlan 10,20,99`	Limit VLANs on a trunk
`switchport trunk native vlan 99`	Change the untagged VLAN
`interface vlan 10` `ip address 10.10.10.1 255.255.255.0`	SVI for inter-VLAN routing (Layer 3 switch)
`ip routing`	Turn on routing on a Layer 3 switch

Port security and STP

Command	What it does
`switchport port-security`	Turn on port security
`switchport port-security maximum 2`	Allow up to 2 MAC addresses
`switchport port-security violation restrict`	Drop and log unknown MACs
`spanning-tree portfast`	Edge ports: forward immediately
`spanning-tree bpduguard enable`	Shut the port if a switch is plugged in
`spanning-tree vlan 10 root primary`	Make this switch the root for VLAN 10

Routing

Command	What it does
`ip route 0.0.0.0 0.0.0.0 203.0.113.1`	Default static route
`ip route 10.20.0.0 255.255.0.0 10.0.0.2`	Static route to a network
`router ospf 1` `router-id 1.1.1.1`	Start OSPF process 1
`network 10.0.0.0 0.0.0.255 area 0`	Enable OSPF on matching interfaces
`passive-interface g0/2`	No OSPF hellos on user-facing ports

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Access lists (ACLs)

Command	What it does
`ip access-list extended WEB-IN`	Create a named extended ACL
`permit tcp any host 10.0.0.10 eq 443`	Allow HTTPS to one server
`deny ip any any log`	Block and log the rest (implicit deny exists anyway)
`ip access-group WEB-IN in`	Apply the ACL to an interface (inbound)

Show and troubleshoot

Command	What it does
`show running-config`	Current configuration
`show ip interface brief`	All interfaces, IPs and up/down state
`show interfaces status`	Switch ports: VLAN, speed, duplex
`show vlan brief`	VLANs and their ports
`show interfaces trunk`	Trunk ports and allowed VLANs
`show ip route`	Routing table
`show ip ospf neighbor`	OSPF neighbours and state
`show mac address-table`	Which MAC is on which port
`show cdp neighbors detail`	Directly connected Cisco devices
`show logging`	Recent log messages
`ping / traceroute 8.8.8.8`	Test reachability and path

Save your work

Command	What it does
`copy running-config startup-config`	Save (or: write memory)
`show startup-config`	What loads after a reboot
`reload`	Restart the device (save first!)

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