Core Modes

Mode	Syntax	Description
User	`N/A`	Default landing space
Privileged *(from User)*	`{ enable }`	Turn on privileged commands.
Global *(from Privileged)*	`{ configure terminal }`	Configure from the terminal.
Interface *(from Global)*	`{ interface <interface> <#/#> }`	Select an interface to configure.
	`{ interface range <interface> <#/#-#> }`	Select a range of interfaces to configure.
Line *(from Global)*	`{ line console <#> }`	Configure primary terminal line.
	`{ line vty <#> <#> }`	Configure virtual terminal line.

Base Configuration

Mode	Syntax	Description
Global	`*{ no ip domain-lookup }`	Configure no IP DNS hostname translation.
	`{ hostname <name> }`	Configure system's network name.
	`{ banner motd & <message> & }`	Configure a login MOTD banner.
	`{ enable secret <password> }`	Configure privileged level encrypted password.
	`{ service password-encryption }`	Encrypt system passwords.
Interface	`{ ip address <ip> <subnet> }`	Configure IP address of an interface.
	`{ no shutdown }`	Configure interface port status up.
Line - Console	`*{ logging synchronous }`	Configure synchronised message output.
	`{ password <password> }`	Configure password.
	`{ login }`	Enable password checking.
Line - VTY	`{ password <password> }`	Configure password.
	`{ login }`	Enable password checking.

* Optional or alternative command(s).

Show Commands

Device & Mode	Syntax	Description
Universal - Privileged	`{ show access-lists }`	Display access lists
	`{ show arp }`	Display ARP table.
	`{ show cdp }`	Display CDP info.
	`{ show clock }`	Display system clock.
	`{ show dhcp }`	Display DHCP status.

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Show Commands (cont)

	{ show flash }	Display flash file system info.
	{ show history }	Display session command history.
	{ show interfaces }	Display interface status and config.
	{ show ip interface brief }	Display brief summary of IP status and config.
	{ show ip dhcp <...> }	Display items in the DHCP database.
	{ show logging }	Display the contents of logging buffers.
	{ show port-security interface <interface> <#/#> }	Display port security config.
	{ show running-config }	Display running config.
	{ show sessions }	Display info about Telnet connections.
	{ show startup-config }	Display start-up config.
	{ show ssh }	Display status of SSH server connections.
	{ show users }	Display info about virtual terminal lines.
	{ show version }	Display system hardware and software status.
Router - Privileged	{ show ip route }	Display IP routing table.
	{ show ip nat }	Display IP NAT info.
	{ show ip <bgp/eigrp/ospf/rip> }	Display info on selected protocol.
	{ show protocols }	Display active network routing protocols.
Switch - Privileged	{ show dtp }	Display DTP info.
	{ show etherchannel }	Display etherchannel info.
	{ show mac }	Display MAC config.
	{ show mac-address-table }	Display MAC forwarding table.
	{ show vlan }	Display VTP VLAN status.
	{ show vtp }	Display VTP info.

To enable typing of privileged level commands in any mode, use{ do <e.g. show command> }.

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How To: Clear Device Configurations

Device & Mode	Syntax	Description
Universal - Privileged	`{ erase startup-config }`	Erase contents of config memory.
	`{ write erase }`	Erase NV memory.
Switch - Privileged	`{ delete flash:vlan dat }`	Delete the VLAN database.

How To: Configure ACLs

Mode	Syntax	Description
Global	*`{ access-list <#> <permit/deny> <ip> <wc mask> }`	Add an ACL entry.
	`{ ip access-list <type> <acl_name> }`	Configure named ACL.
	`{ <permit/deny> <ip> <wc mask> }`	Specify packets to forward/reject.
	`{ exit }`	Return to Global mode.
	*`{ interface <interface> <#/#> }`	
	*`{ interface range <interface> <#/#-#> }`	
Interface	`{ ip access-group <acl_name> <in/out> }`	Assign specified ACL to interface inbound/outbound traffic.
	`{ line <line> <#> <#> }`	
Line - VTY	`{ access-class <ACL_name> <in/out> }`	Assign specified ACL to line inbound/outbound traffic.
Global	`{ ip access-list resequence <acl_name> <start_#> <increment_#> }`	Configure ACL resequence.
	`{ <entry_#> }`	

* Optional or alternative command(s).

How To: Configure Default Route

Mode	Syntax	Description
Global	`{ ip route 0.0.0.0 0.0.0.0 <isp_default_gateway> }`	
	`{ ip default-network <isp_default_gateway> }`	

How To: Configure DHCP

Mode	Syntax	Description
Global	`{ ip dhcp excluded-address <low ip> <high ip> }`	Configure prevent DHCP from assigning certain addresses.
	`{ ip dhcp pool <pool name> }`	Configure DHCP address pools.
	`{ network <ip> <subnet> }`	Specify network to provide DHCP service for.
	`{ default-router <gateway ip> }`	Configure default router (gateway).
	`{ dns-server <dns ip> }`	Configure DNS servers.

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How To: Configure DHCP (cont)

	`{ exit }`	
	`{ interface <interface> <#/#> }`	
Interface	`{ ip helper-address <dhcp_server_ip> }`	Configure DHCP relay.

The IP address range 169.254.#.# indicates Microsoft Automatic Private Addressing, which indicates a possible DHCP problem.
To release a DHCP assigned IP address, type `{ ipconfig /release }` command in Windows CLI.
To renew a DHCP assigned IP address, type `{ ipconfig /renew }` command in Windows CLI.

How To: Configure IPv6

Mode	Syntax	Description
Global	`{ ipv6 unicast-routing }`	Enable IPv6 unicast routing.
Interface	`{ ipv6 address <global_prefix:subnet_id:interface_id/mask> }`	Configure IPv6 address.

How To: Configure L3 Switching

Mode	Syntax	Description
Global	`{ ip routing }`	Enable routing on the switch.
	`{ interface vlan <#> }`	Select catalyst VLAN.
Interface	`{ ip address <ip> <subnet>}`	Configure IP address of VLAN.
	`{ no shutdown }`	Configure interface port status up.

How To: Configure NAT

How To: Configure Port Security

Mode	Syntax	Description
Global	`{ interface <interface> <#/#> }`	
	*`{ interface range <interface> <#/#-#> }`	
Interface	`{ switchport mode access }`	Configure interface port to access mode.
	`{ switchport port-security }`	Enable interface port security.
	`{ switchport port-security mac-address <?> }`	Configure secure mac addresses.
	`{ switchport port-security maximum <?> }`	Configure maximum secure addresses.
	`{ switchport port-security violation <?> }`	Configure security violation mode.

* Optional or alternative command(s).

How To: Configure RIPv2

Mode	Syntax	Description
Global	`{ router <protocol> }`	Configure routing protocol.
	`{ version <#> }`	Configure version.
	`{ network <network ip> }`	Specify network.
	`*{ no auto-summary }`	Disable auto-summary.

*Optional or alternative command(s).

How To: Configure ROAS

Device & Mode	Syntax	Description
Router - Global	`{ interface <interface> <#/#.#> }`	
Router - Interface	`{ encapsulation dot1q <vlan #> }`	Configure IEEE 802.1Q.
	`{ ip address <ip> <subnet> }`	Configure IP address.
Switch - Global	`{ interface <interface> <#/#> }`	
Switch - Interface	`{ switchport trunk encapsulation dot1q }`	Configure trunking characteristics. *(older models)*
	`{ switchport mode trunk }`	Configure trunking mode of the interface.
	`{ switchport nonegotiate }`	Configure disable engagement in negotiation protocol.

Good practice to correlate VLAN- and sub-interface numbers.
The VLAN will have the first address on the sub-interface network.
VLAN members to use sub-interface IP address as default gateway.

How To: Configure SSH

Mode	Syntax	Description
Global	`{ ip domain-name <domain> }`	Define default domain.
	`{ crypto key generate rsa }`	Generate RSA crypto key.
	`{ username <user> secret <password> }`	Establish User Name authentication.
Line - VTY	`{ login local }`	Enable local password checking.
	`{ transport input <protocols> }`	Define transport protocols for line.

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How To: Configure Static Route

Mode	Syntax	Description
Global	`{ ip route <destination> <subnet> <gateway> <ad_#> }`	Configure static route and assign AD.

How To: Configure Switch Management Interface

Mode	Syntax	Description
Global	`{ interface <vlan> <#> }`	Select native VLAN.
	`{ ip address <ip> <subnet> }`	Configure IP address of VLAN.
	`{ no shutdown }`	Configure interface port status up.

How To: Configure VLANs

Mode	Syntax	Description
Global	`{ vlan <#> }`	Create VLAN.
	`{ name <name> }`	Configure VLAN name.
Interface	`{ description <description> }`	Configure interface description.
	`{ switchport mode access }`	Configure interface port to access only one VLAN
	`{ switchport access vlan <#> }`	Allocate interface port to VLAN.
	`{ no shutdown }`	Configure interface port status up.

Good practice to correlate VLAN- and interface numbers.