Cisco Router Basic Configuration Reference

Basic Global Configuration

Command example	Description
enable	Enter Privileged Exec mode
configure terminal	Enter configuration mode
no <command>	Negate or remove a command
hostname rtr1	Set router name
ip domain-name <my-domain>	Assign a default DNS domain
ip name-server 8.8.8.8 8.8.4.4	Assign a list of DNS servers
no ip-domain lookup	Or Disable DNS entirely (your choice)
service password-encryption	Encrypt system passwords
enable secret <password>	Set password to enter privileged exec (enable) mode
user <username> password <password>	Create user and set its password (different from enable)
line vty 0 4	Configure first 5 virtual terminals
transport input ssh	Use SSH, disable telnet
login authentication default	Enable password checking and use the default authentication list
transport preferred none	Don't interpret bad commands as hostnames
crypto key generate rsa modulus 2048	Create a 2048-bit RSA key for SSH encryption
ip ssh time-out 120	Specify timeout interval for SSH connections in seconds
ip ssh authentication-retries 3	Limit number of authentication retries to 3
ip ssh version 2	Only support version 2 of the SSH protocol
no ip http server	Disable HTTP interface
access-list 99 permit 10.10.0.0 0.0.0.255	Only allow hosts in 10.10.0.0/24. Must be applied somewhere else
end or CTRL-Z	Leave configuration mode
ipv6 unicast-routing	
write memory	Save configuration to non-volatile RAM
show running-config	Show current operating configuration
show startup-config	Show config that is saved in non-volatile RAM

Interface Configuration

Command example	Description
interface FastEthernet0/0	Select an interface to configure
description Local Network	Provide a description for this interface
ip address 10.2.3.4 255.255.255.0	Configure IPv4 address and subnet mask
ip access-group <number> <in|out>	Apply access-list to traffic going into/out of this interface
no ip proxy-arp	Disable Proxy ARP
no ip redirects	Disable sending ICMP redirects on this interface
no ip directed-broadcast	Disable translation of directed broadcast to physical broadcast
ipv6 enable	Enable IPv6 on this interface
ipv6 address 2001:DB8::A::1/64	Configure IPv6 address
no shutdown	Activate this interface
exit	Exit interface configuration section
end	Exit configuration mode
show running interface Fast0/0	Verify interface configuration

Access Control (AAA)

Command example	Description
`aaa new-model`	Enable new access control commands and functions
`aaa authentication enable default enable`	Allow access to privileged mode by providing enable password
`aaa authentication login default local group radius`	Use local first, then RADIUS authentication
`radius-server host 10.0.0.6`	Add RADIUS server address
`radius-server key MyLongSecretKey`	Add RADIUS server key for encryption

Network Management

Command example	Description
`ntp server pool.ntp.org`	Specify server to synchronize with using Network Time Protocol
`clock timezone <my timezone>`	Select your time zone, e.g. "EST" for Eastern Standard Time
`show clock`	Verify time and date
`show ntp status`	Verify that clock is synchronized
`snmp-server community NetManage RO 99`	Set SNMP community and apply access list 99
`snmp-server contact <net@mydomain>`	Configure contact information to be retrieved via SNMP
`snmp-server locaction Building A`	Configure location of router to be retrieved via SNMP
`snmp-server trap link ietf`	Send SNMP traps regarding link up/down events
`snmp-server enable traps envmon fan shutdown supply temperature status`	Send traps for various important events
`snmp-server host 10.0.0.5 version 2c NetManage`	Send SNMP version 2c traps to server using community NetManage
`cdp run`	Enable Cisco Discovery Protocol
`show cdp neighbors`	Show neighbor devices discovered via CDP
`lldp run`	Enable Link Layer Discovery Protocol (IEEE standard)
`show lldp neighbors`	Show neighbor devices discovered via LLDP
`logging buffered 16384 debugging`	Specify buffer size and logging level
`logging facility local3`	Use local3 as the logging (Syslog) channel
`logging trap debug`	Set syslog server logging level
`logging 10.0.0.5`	IP address of the logging host
`no logging console`	Do not send logging information to console

Operation and Troubleshooting

Command example	Description
`show ip/ipv6 interface brief`	Show list of interfaces with IPv4/v6 addresses and their status
`show interface Fast0/0`	Show interface status and counters
`show version`	Show IOS version and other system details
`show processes cpu`	Show running processes and their CPU utilization
`show log`	Show contents of logging buffer
`show ip arp`	Show contents of ARP table
`show ipv6 neighbors`	Show IPv6 neighbor table (equivalent to ARP)
`show ip route [A.B.C.D]`	Show IPv4 routing table, with optional network or host address
`show ipv6 route [X:X:X:X::X/<0-128>]`	Show IPv6 routing table, with optional prefix
`show environment`	Display environmental status
`show inventory`	Show inventory of physical components (line cards, etc.)