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.)