

Router Modes

Router>: User mode = Limited to basic monitoring commands

Router#: Privileged mode (exec-level mode) = Provides access to all other router commands

Router(config)#: global configuration mode = Commands that affect the entire system

Router(config-subif)#: subinterface mode = Commands that affect subinterfaces

Router(config-line)#: line mode = Commands that affect in lines modes (console, vty, aux...)

Router(config-router)#: router configuration mode

Changing switch hostname

Switch(config)# hostname SW1

Configuring passwords

SW1(config)# enable secret nutty !MD5 hash
SW1(config)# enable password 1234

Encrypting passwords

SW1(config)# service password-encryption

Working environment

SW1(config)# no ip domain-lookup
SW1(config)# line vty 0 4
SW1(config-line)# history size 15
SW1(config-line)# exec-timeout 10 30
SW1(config-line)# logging synchronous

Saving configuration

SW1# copy running-config nutty
! Destination filename [nutty]
SW1# wr

Description, speed and duplex

Securing console port

SW1(config)# line con 0
SW1(config-line)# password cisco
SW1(config-line)# login

Aliases

! Used to create shortcuts for long commands.

SW1(config)# alias exec c configure terminal

Securing terminal lines

SW1(config)# line vty 0 4
SW1(config-line)# password cisco
SW1(config-line)# login

Configuring banners

SW1(config)# banner motd \$

Giving the switch an IP address

SW1(config)# interface vlan 1
SW1(config-if)# ip address 172.16.1.11
255.255.255.0 ! or DHCP
SW1(config-if)# no shutdown

Configuring switch to use SSH

- ▶ **Configure DNS domain name :**
SW1(config)# ip domain-name example.com
- ▶ **Configure a username and password :**
SW1(config)# username admin password cisco
- ▶ **Generate encryption keys :**
! The size of the key modulus in the range of 360 to 2048
SW1(config)# crypto key generate rsa
How many bits in the modulus [512]: 1024
- ▶ **Define SSH version to use :**
SW1(config)# ip ssh version 2
- ▶ **Enable vty lines to use SSH :**
SW1(config)# line vty 0 4
SW1(config-line)# login local
! You can set vty lines to use only telnet or only ssh or both as in the example.
SW1(config-line)# transport input telnet ssh

Verify Basic Configuration

► Shows information about the switch and its interfaces, RAM, NVRAM, flash, IOS, etc
SW1# show version

► Shows the current configuration file stored in DRAM.

SW1# show running-config

► Shows the configuration file stored in NVRAM which is used at first boot process.

SW1# show startup-config

► Lists the commands currently held in the history buffer.

SW1# show history

► Shows an overview of all interfaces, their physical status, protocol status and ip address if assigned.

SW1# show ip interface brief

► Shows detailed information about the specified interface, its status, protocol, duplex, speed, encapsulation, last 5 min traffic.

SW1# show interface vlan 1

► Shows the description of all interfaces

SW1# show interfaces description

► Shows the status of all interfaces like connected or not, speed, duplex, trunk or access vlan.

SW1# show interfaces status

► Shows the public encryption key used for SSH.

SW1# show crypto key mypubkey rsa

► Shows information about the leased IP address (when an interface is configured to get IP address via a dhcp server)

SW1# show dhcp lease

```
SW1(config)# interface fastEthernet 0/1
SW1(config-if)# description LINK TO
INTERNET ROUTER
SW1(config-if)# speed 100 ! Options: 10,
100, auto
! The range keyword used to set a group of
interfaces at once.
SW1(config)# interface range fastEthernet
0/5 – 10
SW1(config-if-range)# duplex full (options:
half, full, auto)
```

Setting the default gateway

```
SW1(config)# ip default-gateway 172.16.1.1
```



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Published 7th June, 2016.
Last updated 7th June, 2016.
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