

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

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.

Description, speed and duplex (cont)

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

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.

Verify Basic Configuration (cont)

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**



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