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** exampl-e.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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