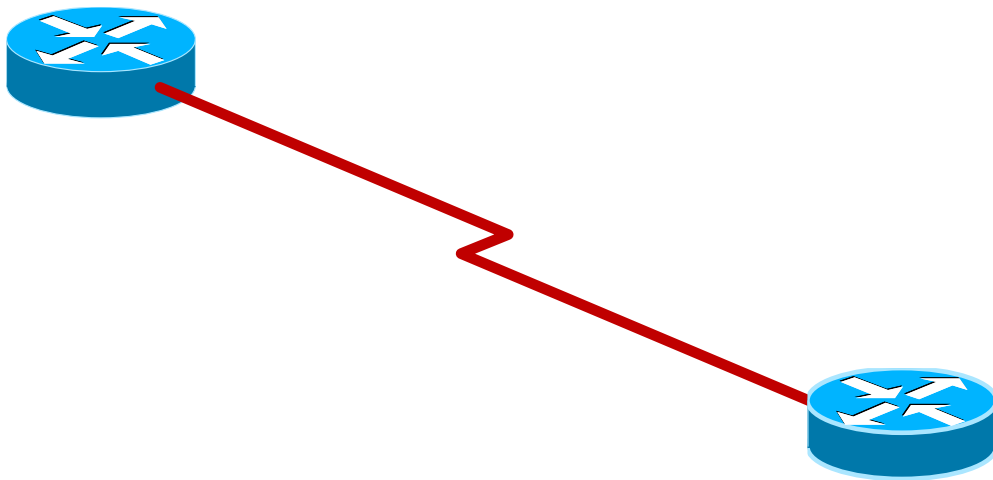




Cisco Certified Entry Networking Technician

Lab Workbook Version 1.0



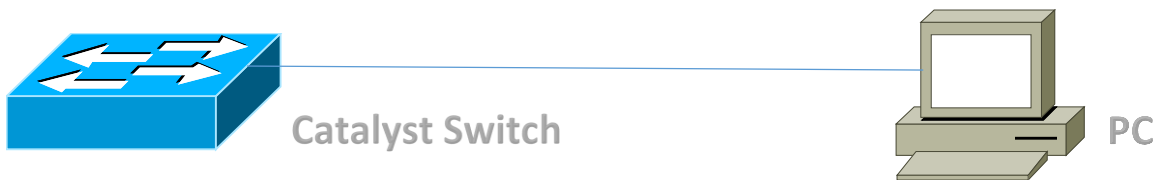
Created by
SAPKEI Solutions

Introduction

PART 1

Following topology will be used in labs of PART 1.

Intro Lab – Establishing a console session with a catalyst switch



- Install a terminal software of your choice e.g. PuTTY, Tera Term
- Connect the PC to Cisco catalyst switch using a console cable (RJ 45 to DB-9)
- Configure the terminal software with the following settings. Figure 1.1 and 1.2 illustrate the details

Select the appropriate COM port number e.g.; COM3

9600 baud

8 data bits

1 stop bit

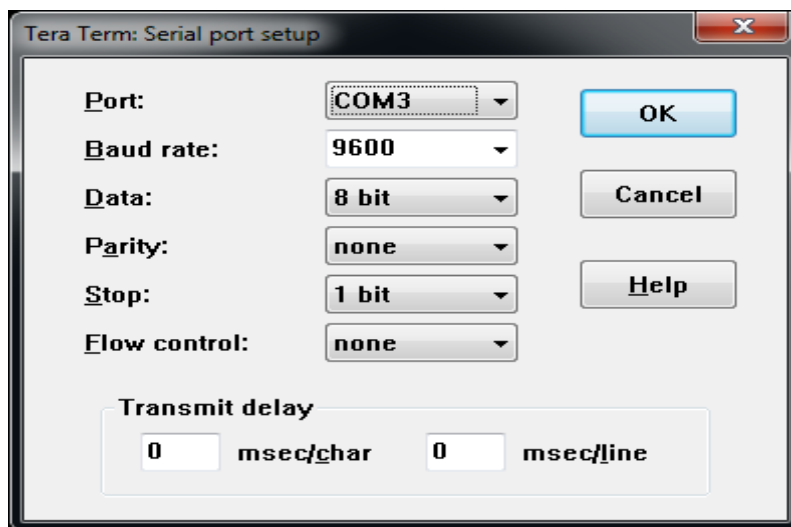
No parity

~Same configurations are applied to connecting to a Cisco Router

Figure 1.1 Serial Port Setup on Tera Term



Figure 1.2 Serial Port Setup on Tera Term continued



Once you have successfully configured the terminal software and powered up the switch you will see the switch booting up process and you will be prompted with the initial configuration dialogue, answer **NO** as we are manually configuring the switch. Once done, you will be in **User EXEC Mode**. Figure 1.3 and 1.4 illustrate the details.

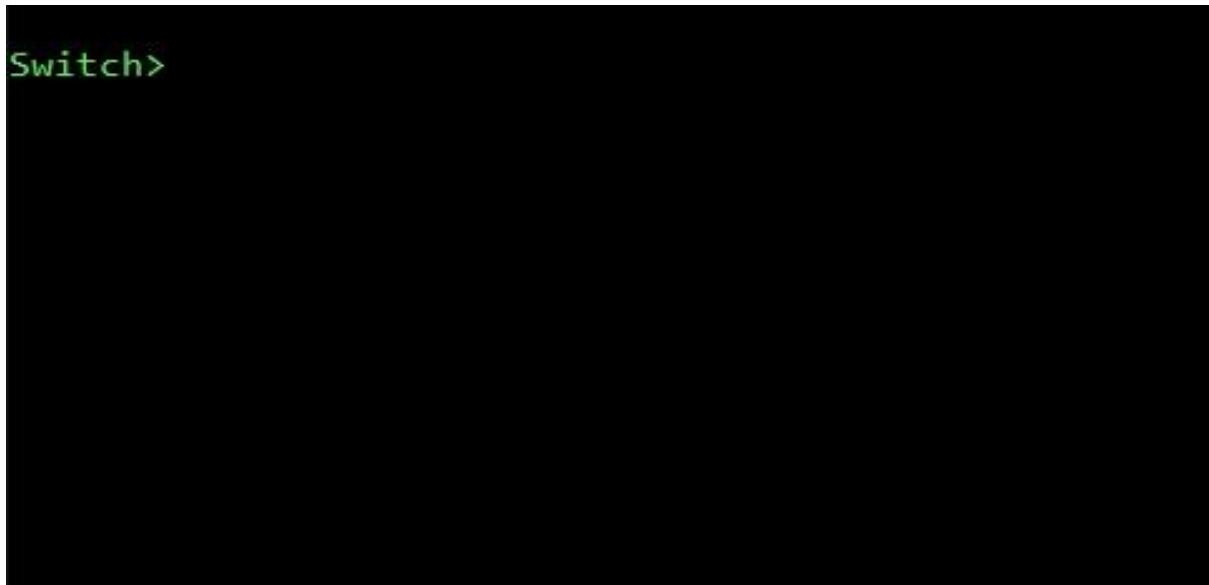
Figure 1.3 Switch booting up process

```
C2950 Boot Loader (C2950-HBOOT-M) Version 12.1(14)AZ, RELEASE SOFTWARE (fc2)
Compiled Tue 14-Oct-03 17:14 by antonino
WS-C2950SX-48-SI starting...
Base ethernet MAC Address: 00:16:46:11:d7:00
Xmodem file system is available.
Initializing Flash...
flashfs[0]: 3 files, 1 directories
flashfs[0]: 0 orphaned files, 0 orphaned directories
flashfs[0]: Total bytes: 7741440
flashfs[0]: Bytes used: 3725824
flashfs[0]: Bytes available: 4015616
flashfs[0]: flashfs fsck took 6 seconds.
...done initializing flash.
Boot Sector Filesystem (bs:) installed, fsid: 3
Parameter Block Filesystem (pb:) installed, fsid: 4
Loading "flash:c2950-i6kl2q4-mz.121-22.EA14"...#####
#####

File "flash:c2950-i6kl2q4-mz.121-22.EA14" uncompressed and installed, entry point: 0x80010000
executing...

Restricted Rights Legend
Use, duplication, or disclosure by the Government is
```

Figure 1.3 Switch User EXEC Mode



LAB 1 – General configurations on a catalyst switch

Prerequisites

Establish a console session with Switch

Objectives

Move from User EXEC to Privileged EXEC, Global configuration, Interface configuration and Line configuration Modes

Assign a host name to a switch

Assign a management ip address to a switch

Configure switch console session time out

Configure console session to avoid misalignment while typing due to console messages

Save your work from running-configuration to NVRAM

LAB Tasks

Task 1 – Assign hostname 'SW1'

Task 2 – Assign management ip address '10.1.1.10 /24' for remote access via Telnet/SSH and bring the interface to up status

Task 3 – Configure console session time out to '0'

Task 4 – Configure console session prompt to appear on a new line when new messages appear on the switch console session

Task 5 – Verify your configuration using appropriate command(s)

Task 6 – Save your work to NVRAM

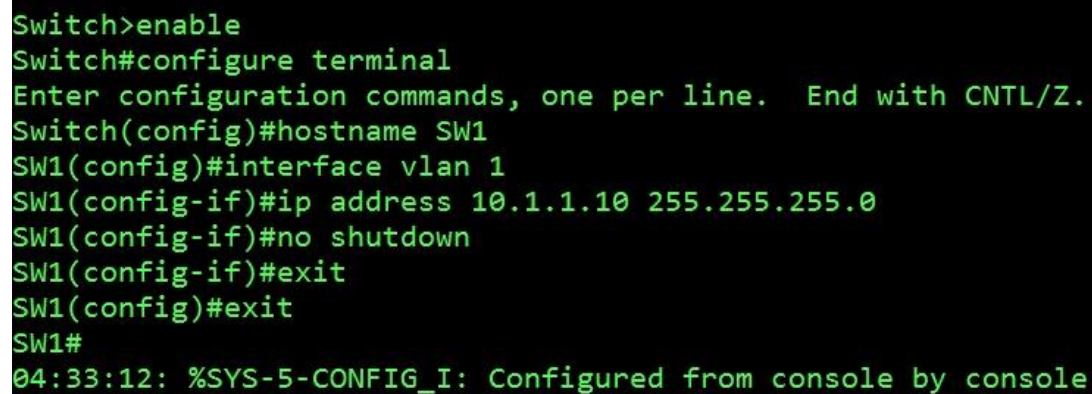
Lab Solutions

Task 1

```
Switch>enable
Switch#configure terminal
Switch(config)#hostname SW1
SW1(config)#exit
SW1#
```

Task 2

```
SW1#configure terminal
SW1(config)#interface vlan 1
SW1(config-if)#ip address 10.1.1.1 255.255.255.0
SW1(config-if)#no shutdown
SW1(config-if)#exit
SW1(config)#exit
SW1#
```

A screenshot of a network switch terminal session. The text is displayed in green on a black background. The session starts with 'Switch>enable', followed by 'Switch#configure terminal'. A prompt appears: 'Enter configuration commands, one per line. End with CNTL/Z.' The user enters 'Switch(config)#hostname SW1', then 'SW1(config)#interface vlan 1', then 'SW1(config-if)#ip address 10.1.1.10 255.255.255.0', then 'SW1(config-if)#no shutdown', then 'SW1(config-if)#exit', then 'SW1(config)#exit', and finally 'SW1#'. The last line shows a system message: '04:33:12: %SYS-5-CONFIG_I: Configured from console by console'.

You can use control + Z to completely exit back out instead of exit command.

```
SW1(config-if)# ^Z
SW1#
```

```
SW1(config)#interface vlan 1
SW1(config-if)#^Z
SW1#
04:35:21: %SYS-5-CONFIG_I: Configured from console by console
```

Task 3

```
SW1#configure terminal
SW1(config)#line console 0
SW1(config-line)#exec-timeout 0 0
SW1(config-line)#
```

Task 4

Start where we left off at Task 3.

```
SW1(config-line)#logging synchronous
SW1(config-line)#
```

```
SW1#
SW1#conf
SW1#configure t
SW1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
SW1(config)#line con
SW1(config)#line console 0
SW1(config-line)#exec-t
SW1(config-line)#exec-timeout 0 0
SW1(config-line)#logging sync
SW1(config-line)#logging synchronous
SW1(config-line)#
```

Task 5

SW1#show ip interface brief

```
SW1#show ip interface brief
Interface                IP-Address      OK? Method Status        Protocol
Vlan1                    10.1.1.10      YES manual  up            up
FastEthernet0/1          unassigned      YES unset   up            up
FastEthernet0/2          unassigned      YES unset   up            up
FastEthernet0/3          unassigned      YES unset   up            up
FastEthernet0/4          unassigned      YES unset   down          down
FastEthernet0/5          unassigned      YES unset   down          down
FastEthernet0/6          unassigned      YES unset   down          down
FastEthernet0/7          unassigned      YES unset   down          down
FastEthernet0/8          unassigned      YES unset   down          down
FastEthernet0/9          unassigned      YES unset   down          down
FastEthernet0/10         unassigned      YES unset   up            up
--More--
```

SW1#show running-config

```
SW1# ^Z
SW1#show running-config
Building configuration...

Current configuration : 1955 bytes
!
version 12.1
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname SW1
!
```

~ Please note some line are omitted from the output for clarity.


```
!  
interface Vlan1  
  ip address 10.1.1.10 255.255.255.0  
  no ip route-cache  
!  
ip http server  
!  
line con 0  
  exec-timeout 0 0  
  logging synchronous  
line vty 0 4  
  login  
line vty 5 15  
  login  
!  
--More--
```

Task 6

SW1#copy running-config startup-config
Destination filename [startup-config]? *Press Enter*
Building configuration...
[OK]
SW1#

```
SW1#  
SW1#copy runn  
SW1#copy running-config st  
SW1#copy running-config startup-config  
Destination filename [startup-config]?  
Building configuration...  
[OK]  
SW1#
```

Did you know?

Instead of typing a full command you can always use the tab key on your keyboard to let the IOS auto complete the command you're intending to type.

In the following figure you will see that after typing just a few words I had entered the tab key to auto complete the intended command.

```
SW1>en
SW1>enable
SW1#con
SW1#conf
SW1#configure t
SW1#configure terminal
```

Did you know?

You can use '?' after an incomplete command so that you can use IOS help.

Here's an example;

```
SW1#conf
SW1#configure ?
  memory          Configure from NV memory
  network          Configure from a TFTP network host
  overwrite-network Overwrite NV memory from TFTP network host
  terminal         Configure from the terminal
  <cr>

SW1#configure te
SW1#configure terminal ?
  <cr>
```

When the session prompt shows <cr> that means there's no more to show in IOS help, that you have completed your command, so go ahead and press Enter.

LAB 2 – Configuring Security features on Cisco Catalyst Switch