DOCUMENTATION

Configuring a CISCO network switch using Putty

KAREEM DIAA HELAL
WE SCHOOL FOR APPLIED TECHNOLOGY
Day 1 of Telecommunications Training

Day 1: Configuring Switch S2 using Putty

Table of Contents:

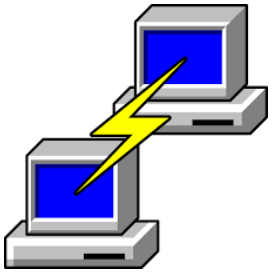
Objectives:

By the end of this documentation, you should have:

- Know how to configure a network switch using the Putty application program.
- Understood the main modes we have when configuring a network device.
- Understood the initial basic configuration of a network switch.
- Know how to protect console access, enable user mode, and privilege for security.
- Set up a message to appear when opening the device.
- Encrypt passwords of the main modes.
- Verify and troubleshoot the configuration.

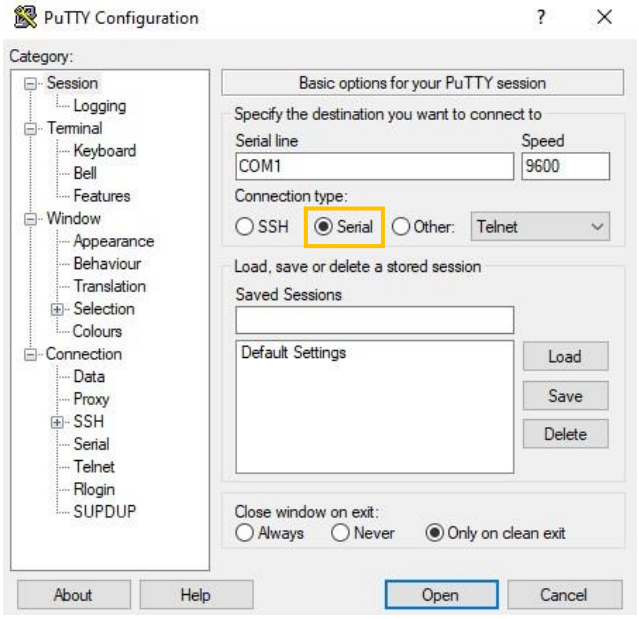
1. Introduction

This documentation provides essential steps for configuring Switch S2 to ensure secure network operation. It covers setting the device name, securing console access, configuring enable passwords, and encrypting information. Follow this guide to understand clearly Switch S2's configuration and enhance your network's security and stability.



The first step to do for a switch is to set up the initial switch configuration. To set up the initial switch configuration, you will need to open a program to configure the switch from a program, here we will use **Putty** application program.

Once you open the program from your PC or laptop, you will see the interface of the program, here we will choose the connection type "Serial" because the PC is connected to the switch by a serial cable, then click Open to start the configuration.



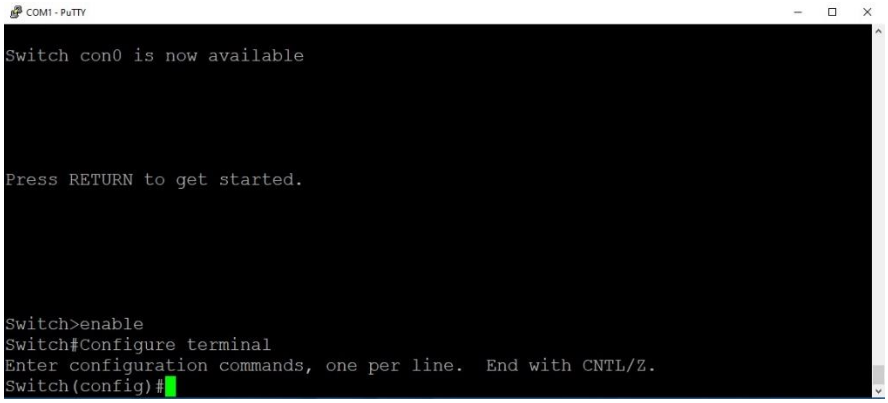
2. Setting the initial basic configuration of the network switch

Once you start the session, you will set up the initial configuration but firstly you need to understand the main modes in the configuration of the switch.

- The first mode is **"User EXEC Mode",** this mode provides basic monitoring commands and limited configuration. it is written by: *Switch>*
- The second mode is **"Privileged EXEC Mode",** it can access to all commands for monitoring the switch. It is written by: *Switch#*

- The third mode is **"Global Configuration Mode",** It allows the user to configure global commands that affect the switch. It is written by: *Switch (config)#*

The first step is to use the command "enable" in the user mode, then the command "configure terminal" in the privileged mode, so that we can complete the rest of the configuration.



3. Setting the device name to S2

To identify the switch, we will need to set a name for it, for example S2. To complete this step, we will write "hostname S2" in the global configuration mode.

```
Switch(config)#hostname S2
S2(config)#
```

4. Protecting console access by setting a password

To protect the switch from unauthorized access via the console, we will type this command in the global configuration mode: line console 0
After that, we should type the password for the console, for example "we123" as shown in the configuration. Then type "login" to confirm the password for the console port.

```
S2(config)#line console 0
S2(config-line)#password we123
S2(config-line)#login
S2(config-line)#exit
```

After configuring the console password, a syslog message will appear to confirm that the password it set up successfully.

```
*Aug 12 11:43:34.844: %SYS-5-CONFIG_I: Configured from console by consolet
```

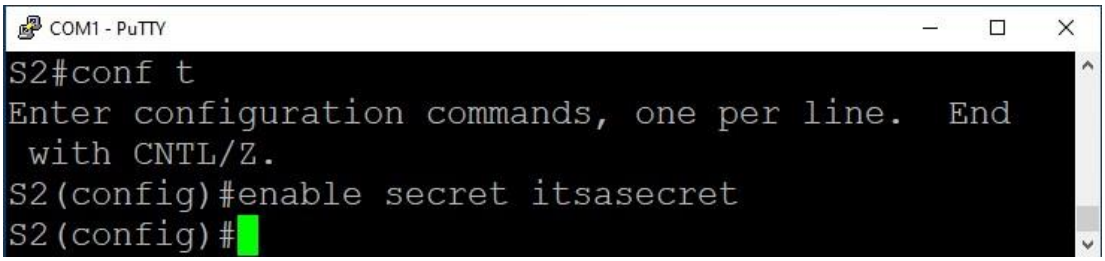
5. Setting the enable passwords and encrypting it

To control access to privileged mode, you should set the enable password by using the enable password command.

For example, "enable password CiscoWE".

```
S2>enable
S2#configure terminal
Enter configuration commands, one pe
r line.  End with CNTL/Z.
S2(config)#enable password CiscoWE
```

And for more security, we use the enable secret command. For example, "enable secret itsasecret".



6. Setting up an appropriate message that will be shown to anyone logging into the switch

To display a security message to users when logging into the switch, we use the message of the day command. We write motd and then the text we want to appear for the user when logging in. For example, motd "Welcome Administrator. Authorized People Only!".

```
S2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
S2(config)#banner motd "Welcome Administrator. Authorized People Only!"
S2(config)#exit
S2#
*Aug 12 12:10:58.035: %SYS-5-CONFIG_I: Configured from console by console
```

Attention!! Don not forget the double quotations between the message you want to appear.

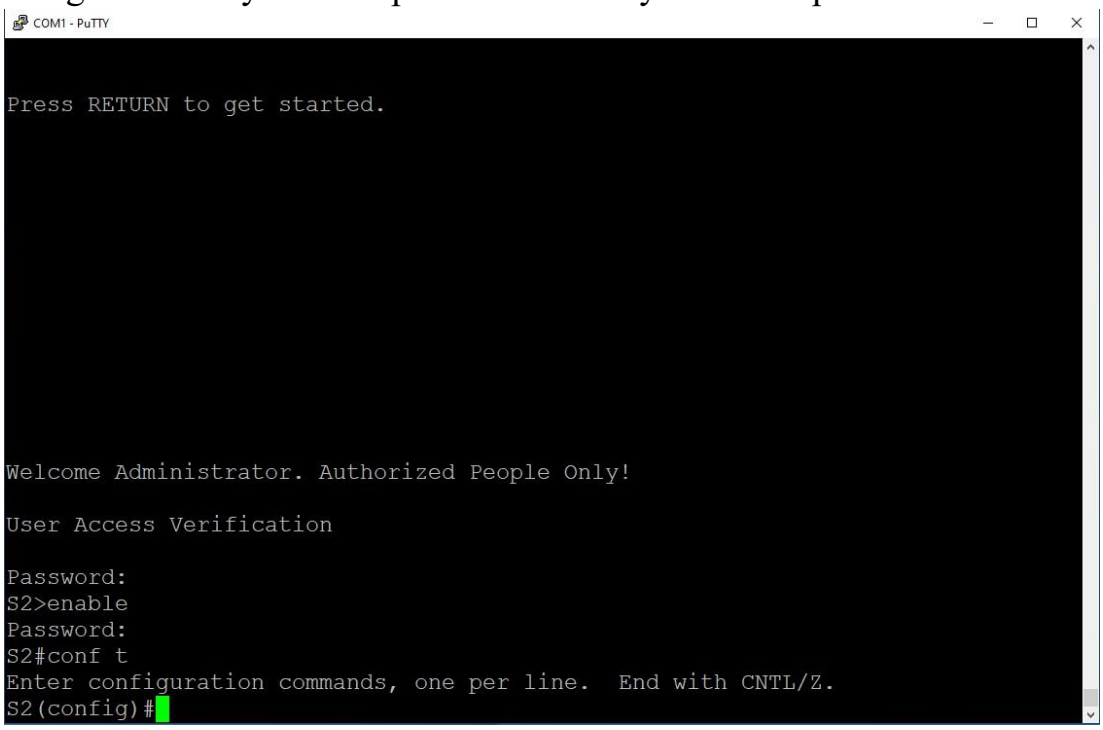
7. Making sure that all plain text passwords are encrypted

To prevent plain text passwords from being displayed in configuration files, we use the command "Service password-encryption" in the global configuration mode.

```
S2#config t
Enter configuration commands, one per line.  End with CNTL/Z.
S2(config)#service password-encryption
S2(config)#exit
S2#
*Aug 12 12:06:03.522: %SYS-5-CONFIG_I: Configured from console by console
```

8. Troubleshooting the configuration and verifying the configuration

Double-check to make sure everything is configured correctly by starting from the begging and try to write any command but it will display the message of the day we set up and it will ask you for the password.



To ensure all settings have been applied correctly, we use the command "show running-config" or for short "show run".

```
S2#show running-config
Building configuration...
```

Here as shown in the two figures, the passwords we set are encrypted successfully. But you may use an advanced tool to ensure more security.

```
!
enable secret 5 $1$8266$UmptA11MmlNFsQnV3WmKo/
enable password 7 112A1016141D3C29
!
```

```
line con 0
 password 7 095B4B584B56
 login
```

9. Saving the configuration commands in the NVRAM

To save and ensure that all the configuration is saved, we will use this command in the privileged mode: copy running-config startup-config
And it automatically will be saved in your Non-volatile random-access memory (NVRAM).

```
S2#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
Compressed configuration from 2424 bytes to 1279 bytes[OK]
```

Just a reminder to save your commands to prevent losing your settings if the switch is turned off.