

# CCNA 200-301, Volume I

## Chapter 4

### **Using the Command-Line Interface**

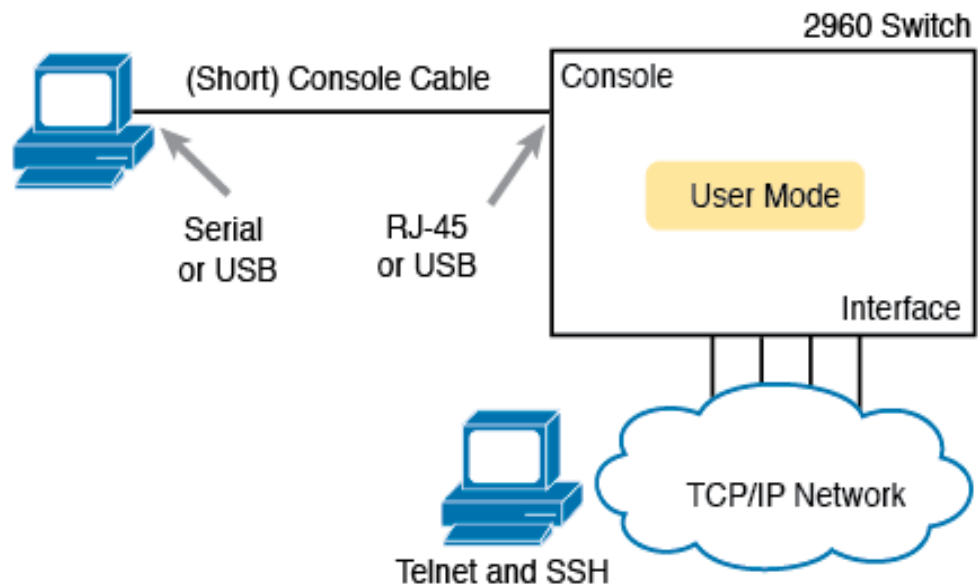
# Objectives

- Accessing a Cisco Catalyst Switch CLI
- Configuring Cisco IOS Software

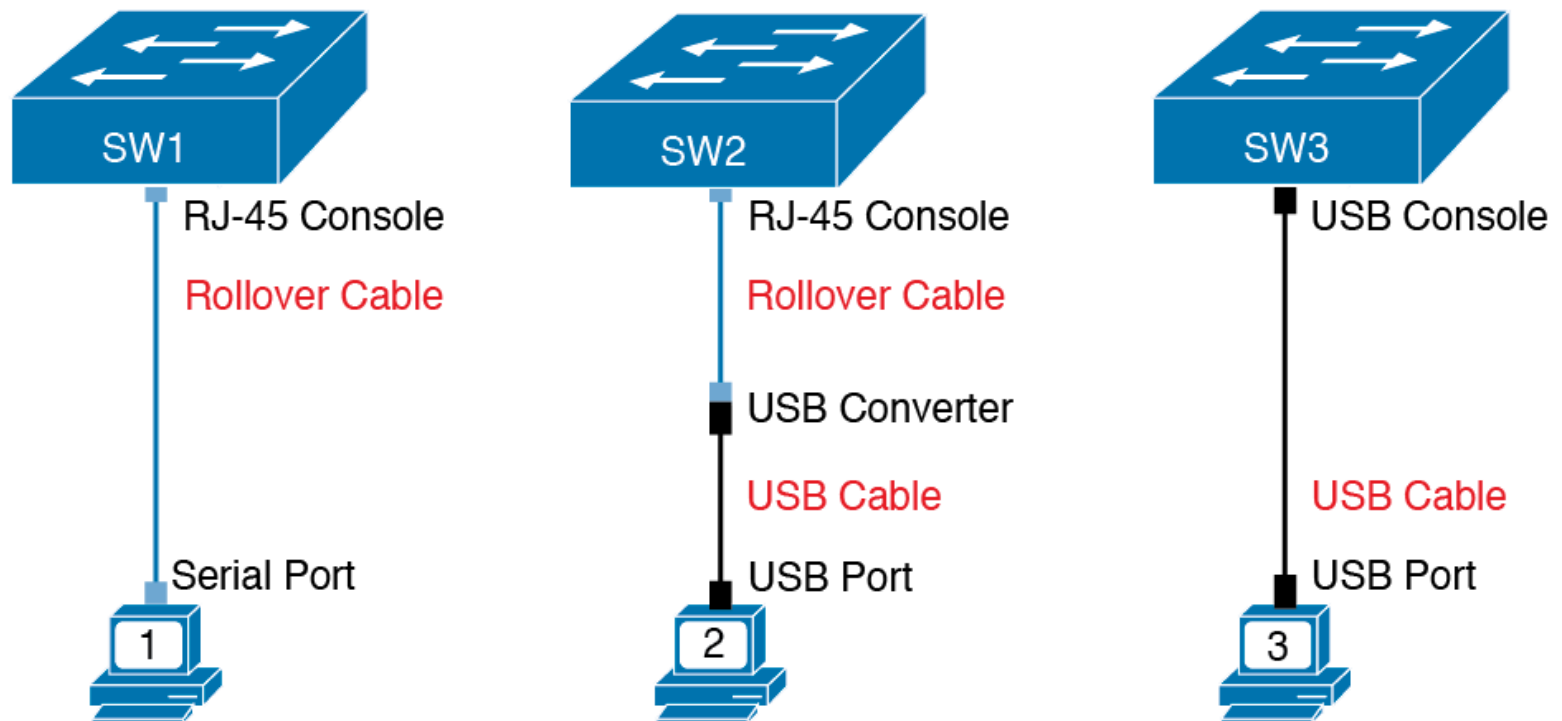
# Cisco 2960-XR Catalyst Switch Series



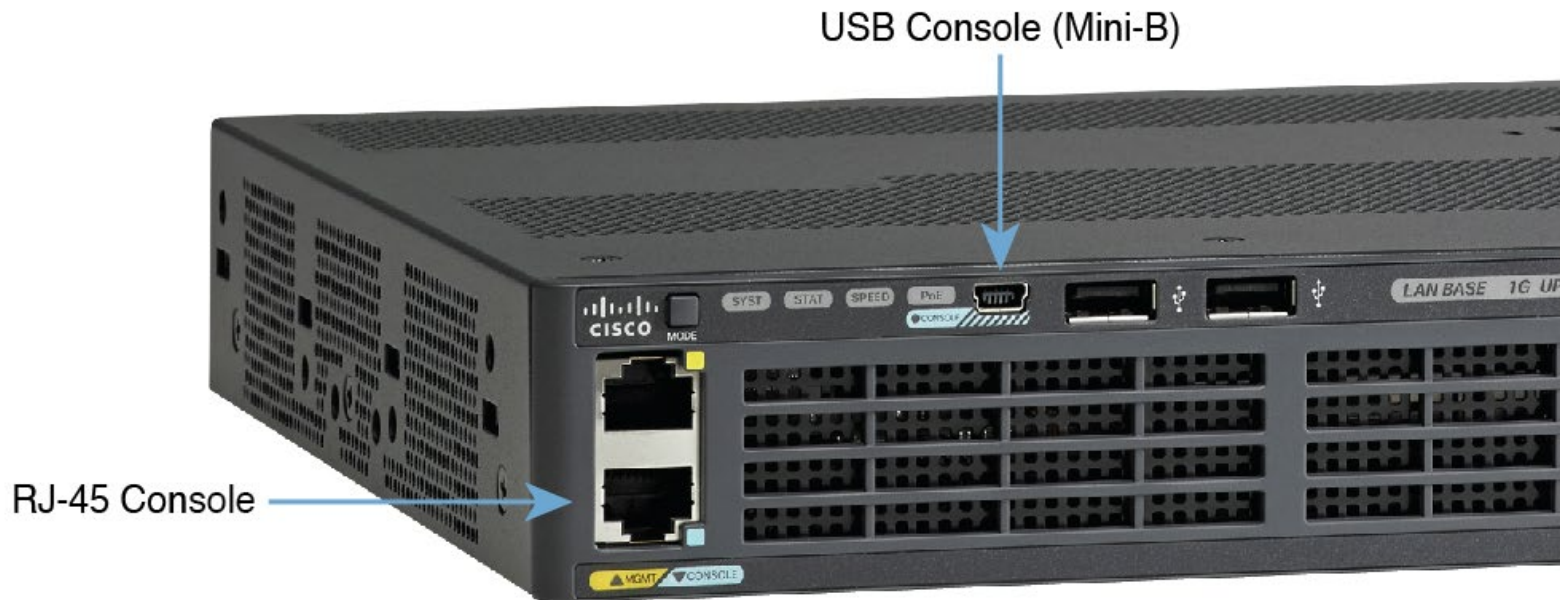
# CLI Access Options



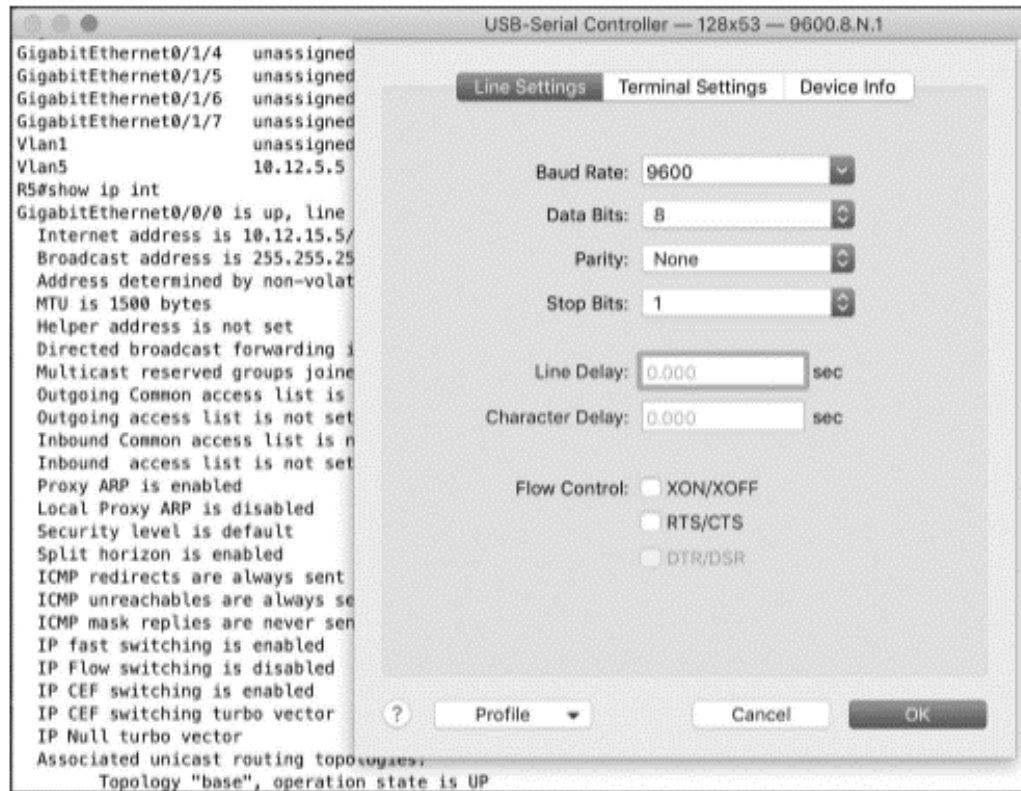
# Console Connection to a Switch



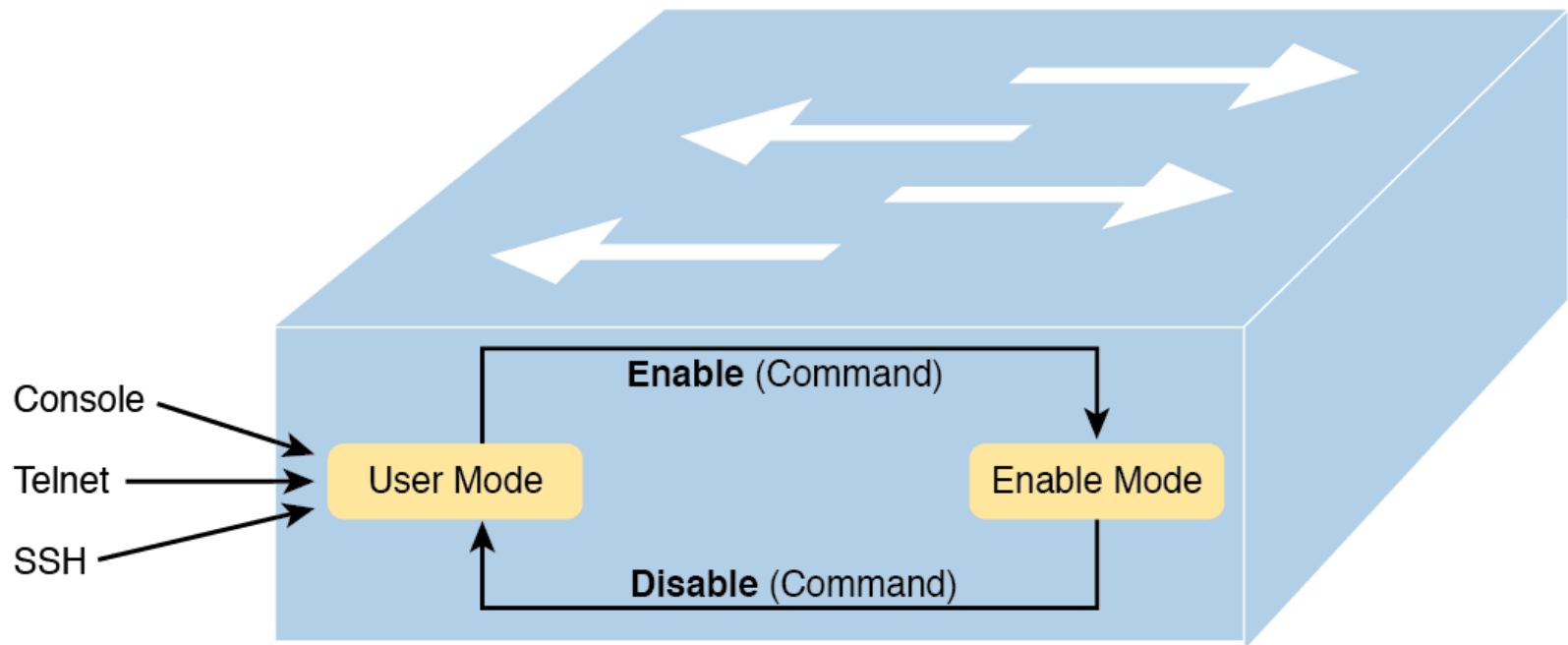
# A Part of a 2960-XR Switch with Console Ports Shown



# Terminal Settings for Console Access



# User and Enable (Privileged) Modes





# Example of Privileged Mode Commands Being Rejected in User Mode

```
Press RETURN to get started.
```

```
User Access Verification
```

```
Password:
```

```
Certskills1>
```

```
Certskills1> reload
```

```
Translating "reload"
```

```
% Unknown command or computer name, or unable to find computer address
```

```
Certskills1> enable
```

```
Password:
```

```
Certskills1#
```

```
Certskills1# reload
```

```
Proceed with reload? [confirm] y
```

```
00:08:42: %SYS-5-RELOAD: Reload requested by console. Reload Reason: Reload Command.
```

# Nondefault Basic Configuration

```
Certskills1# show running-config
```

```
! Output has been formatted to show only the parts relevant to this discussion
```

```
hostname Certskills1
```

```
!
```

```
enable secret love
```

```
!
```

```
line console 0
```

```
login
```

```
password faith
```

```
! The rest of the output has been omitted
```

```
Certskills1#
```

# Cisco IOS Software Command Help

What You Enter	What Help You Get
<code>?</code>	Provides help for all commands available in this mode.
<code>command ?</code>	With a space between the command and the <code>?</code> , the switch lists text to describe all the first parameter options for the command.
<code>com?</code>	Lists commands that start with <code>com</code> .
<code>command parm?</code>	Lists all parameters beginning with the parameter typed so far. (Notice that there is no space between <i>parm</i> and the <code>?</code> .)
<code>command parm&lt;Tab&gt;</code>	Pressing the Tab key causes IOS to spell out the rest of the word, assuming that you have typed enough of the word so there is only one option that begins with that string of characters.
<code>command parm1 ?</code>	If a space is inserted before the question mark, the CLI lists all the next parameters and gives a brief explanation of each.

# Key Sequences for Command Edit and Recall

Keyboard Command	What Happens
Up arrow or Ctrl+P	This displays the most recently used command. If you press it again, the next most recent command appears, until the history buffer is exhausted. (The <i>P</i> stands for previous.)
Down arrow or Ctrl+N	If you have gone too far back into the history buffer, these keys take you forward to the more recently entered commands. (The <i>N</i> stands for next.)
Left arrow or Ctrl+B	This moves the cursor backward in the currently displayed command without deleting characters. (The <i>B</i> stands for back.)
Right arrow or Ctrl+F	This moves the cursor forward in the currently displayed command without deleting characters. (The <i>F</i> stands for forward.)
Backspace	This moves the cursor backward in the currently displayed command, deleting characters.

# Nondefault Basic Configuration

```
Certskills1> show mac address-table dynamic
```

```
Mac Address Table
```

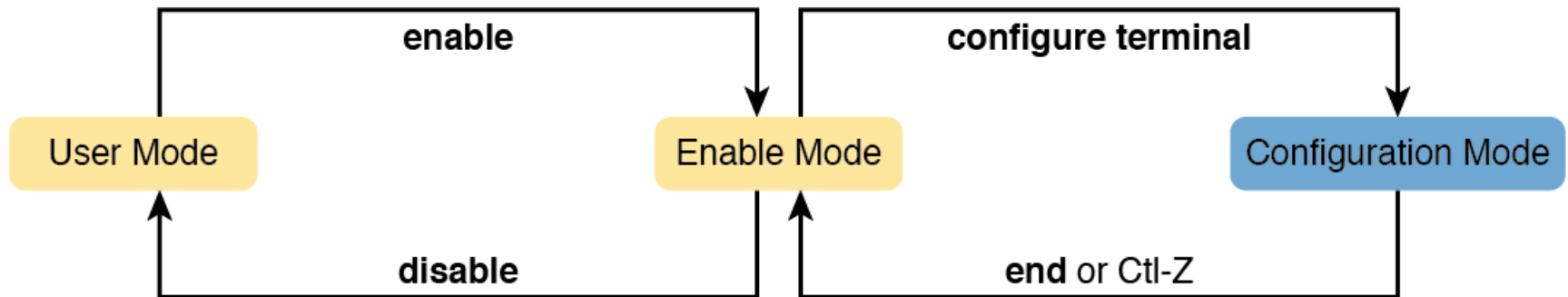
```
-----
```

Vlan	Mac Address	Type	Ports
----	-----	-----	----
31	0200.1111.1111	DYNAMIC	Gi0/1
31	0200.3333.3333	DYNAMIC	Fa0/3
31	1833.9d7b.0e9a	DYNAMIC	Gi0/1
10	1833.9d7b.0e9a	DYNAMIC	Gi0/1
10	30f7.0d29.8561	DYNAMIC	Gi0/1
1	1833.9d7b.0e9a	DYNAMIC	Gi0/1
12	1833.9d7b.0e9a	DYNAMIC	Gi0/1

```
Total Mac Addresses for this criterion: 7
```

```
Certskills1>
```

# CLI Configuration Mode Versus Exec Modes



# Navigating Between Different Configuration Modes

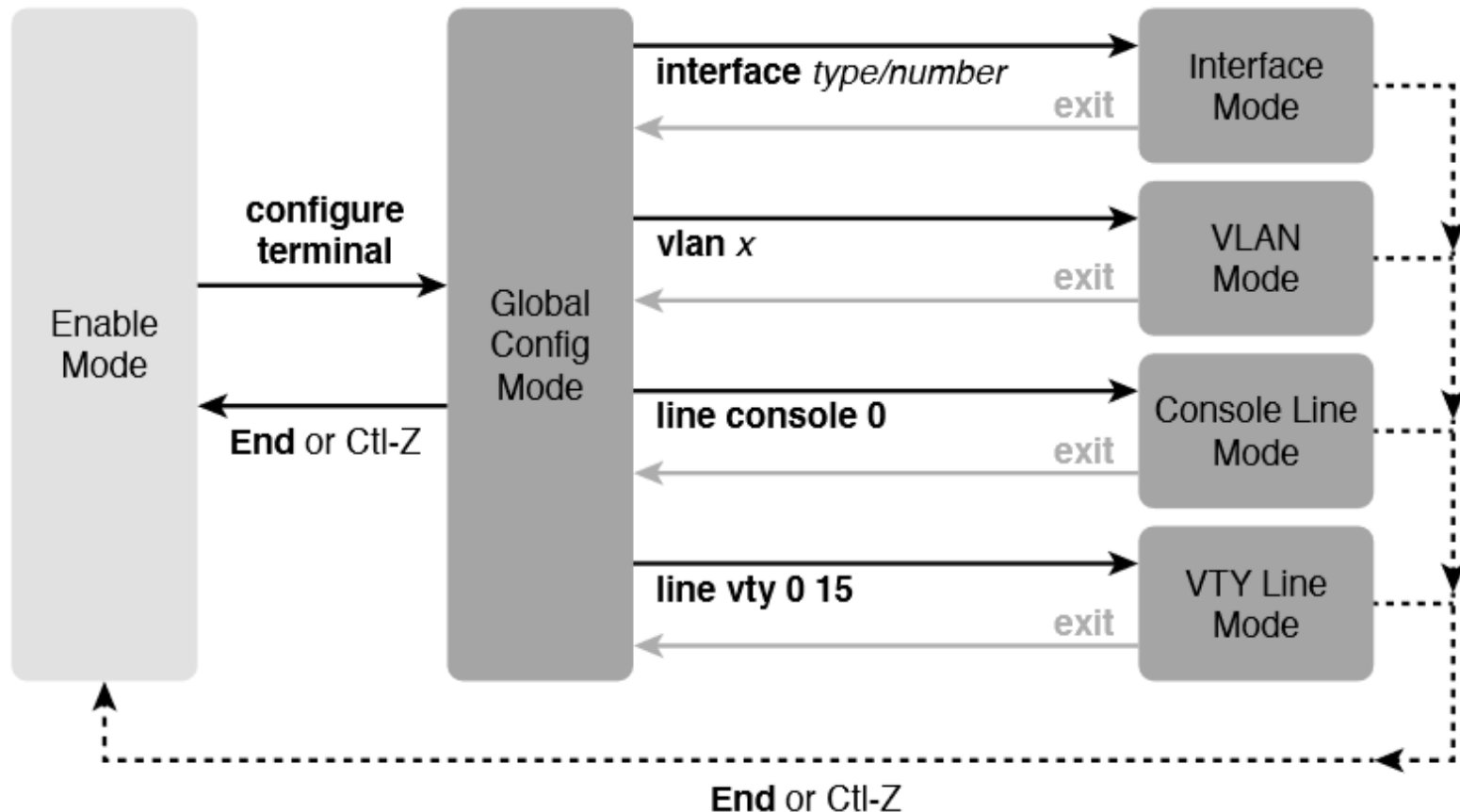
```
Switch# configure terminal
Switch(config)# hostname Fred
Fred(config)# line console 0
Fred(config-line)# password hope
Fred(config-line)# interface FastEthernet 0/1
Fred(config-if)# speed 100
Fred(config-if)# exit
Fred(config)#
```

# Common Switch Configuration Modes

Prompt	Name of Mode	Context-Setting Command(s) to Reach This Mode
hostname(config)#	Global	None—first mode after configure terminal
hostname(config-line)#	Line	line console 0 line vty 0 15
hostname(config-if)#	Interface	interface <i>type number</i>
hostname(vlan)#	VLAN	vlan <i>number</i>



# Navigation In and Out of Switch Configuration Modes



# Cisco Switch Memory Types

## **RAM**

(Working  
Memory and  
Running  
Configuration)

## **Flash**

(Cisco IOS  
Software)

## **ROM**

(Bootstrap  
Program)

## **NVRAM**

(Startup  
Configuration)

# Two Main Cisco IOS Configuration Files

Configuration Filename	Purpose	Where It Is Stored
startup-config	Stores the initial configuration used anytime the switch reloads Cisco IOS.	NVRAM
running-config	Stores the currently used configuration commands. This file changes dynamically when someone enters commands in configuration mode.	RAM

# How Configuration Mode Commands Change the Running-Config File, Not the Startup-Config File

```
! Step 1 next (two commands)
!
hannah# show running-config
! (lines omitted)
hostname hannah
! (rest of lines omitted)

hannah# show startup-config
! (lines omitted)
hostname hannah
! (rest of lines omitted)
! Step 2 next. Notice that the command prompt changes immediately after
! the hostname command.

hannah# configure terminal
hannah(config)# hostname harold
harold(config)# exit
! Step 3 next (two commands)
!
harold# show running-config
! (lines omitted) - just showing the part with the hostname command
hostname harold
!
harold# show startup-config
! (lines omitted) - just showing the part with the hostname command
hostname hannah
```