

CCNA 200-301, Volume I

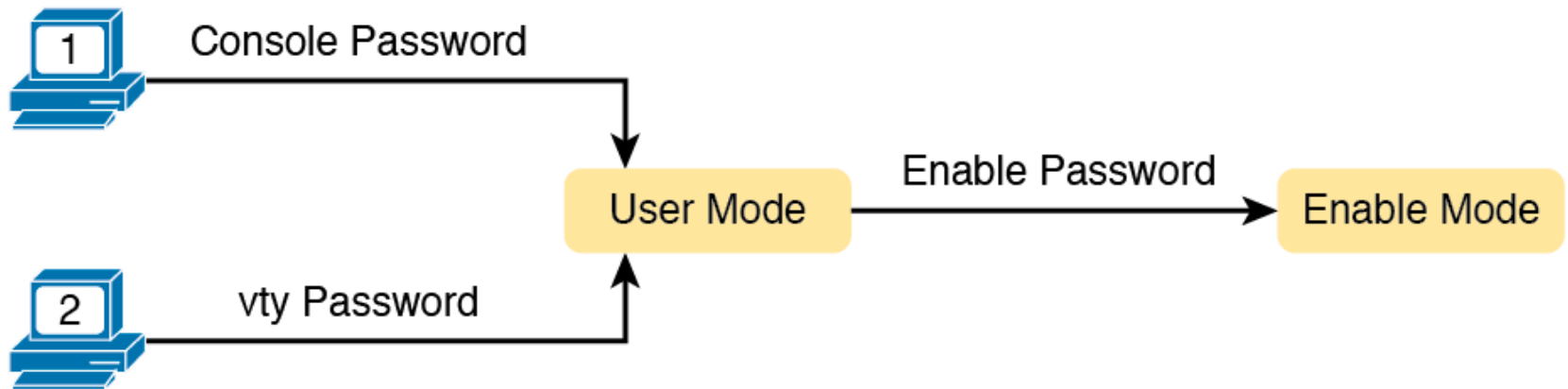
Chapter 6

Configuring Basic Switch Management

Objectives

- Securing the Switch CLI
- Enabling IP for Remote Access
- Miscellaneous Settings Useful in Lab

Simple Password Security Concepts



Console Login and Movement to Enable Mode

(User now presses enter now to start the process. This line of text does not appear.)

User Access Verification

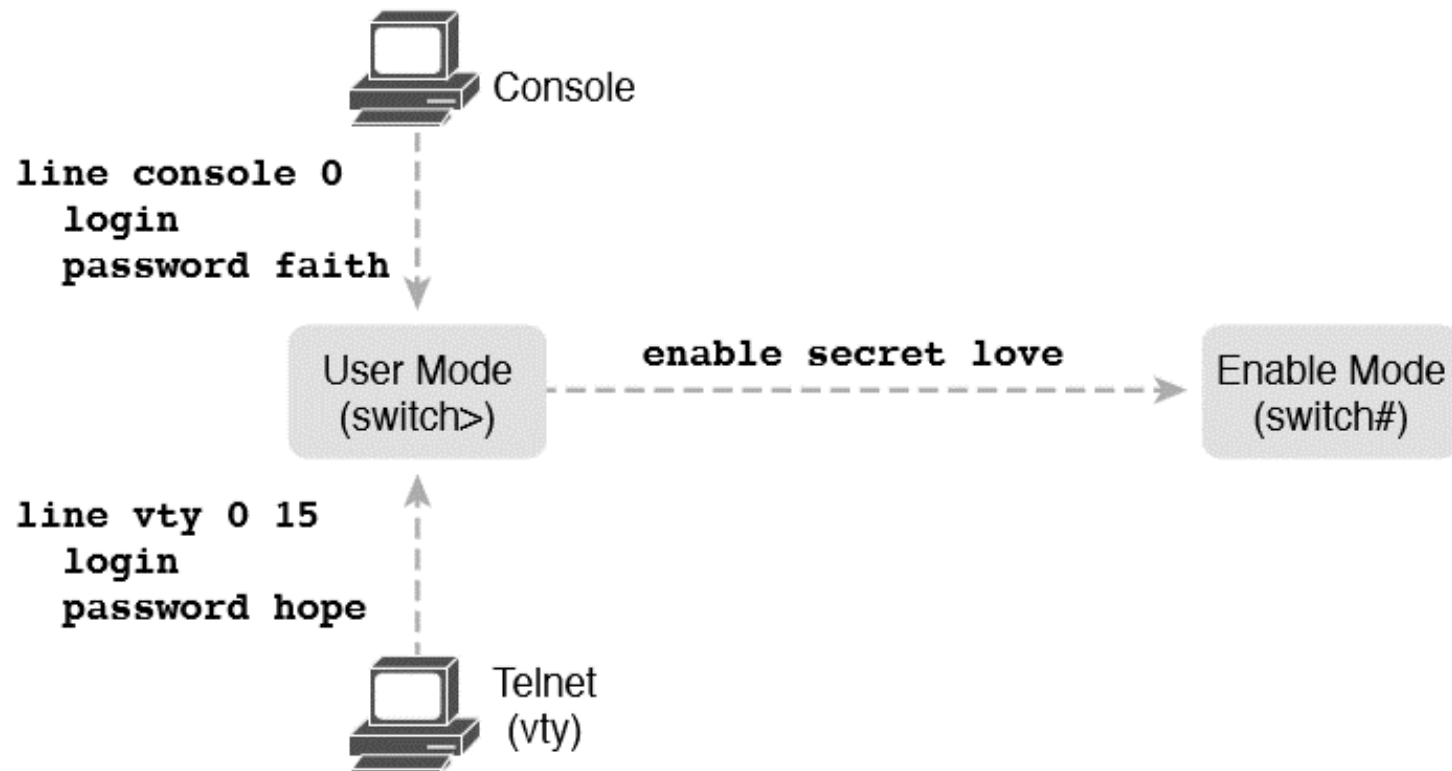
Password: **faith**

Switch> **enable**

Password: **love**

Switch#

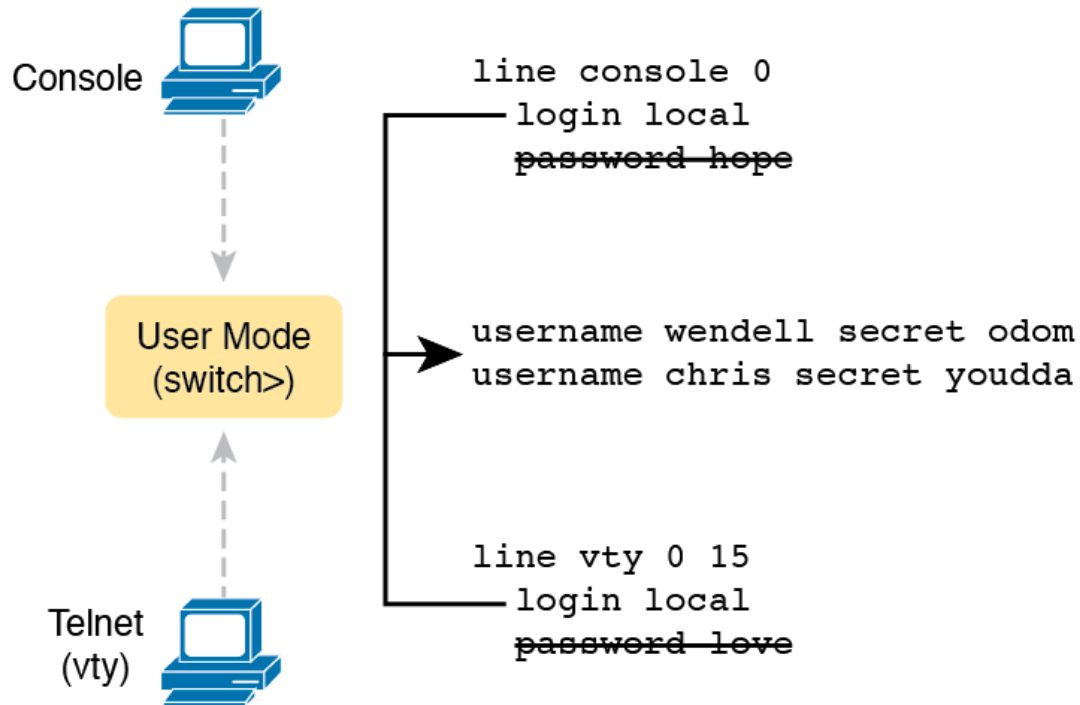
Simple Password Security Configuration



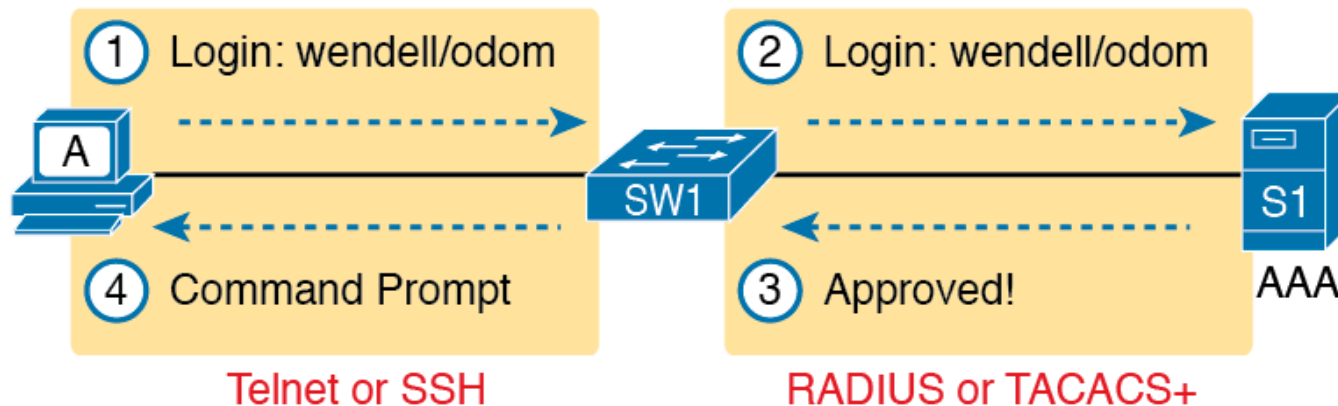
Configuring Basic Password

```
! Enter global configuration mode, set the enable password, and also
! set the hostname (just because it makes sense to do so)
!
Switch# configure terminal
Switch(config)# enable secret love
!
! At Step 2 in the checklist, enter console configuration mode, set the
! password value to "faith" and enable simple passwords for the console.
! The exit command moves the user back to global config mode.
!
Switch#(config)# line console 0
Switch#(config-line)# password faith
Switch#(config-line)# login
Switch#(config-line)# exit
!
! The next few lines do basically the same configuration, except it is
! for the vty lines. Telnet users will use "hope" to login.
!
Switch#(config)# line vty 0 15
Switch#(config-line)# password hope
Switch#(config-line)# login
Switch#(config-line)# end
Switch#
```

Configuring Switches to Use Local Username Login Authentication



Basic Authentication Process with an External AAA Server



Adding SSH Configuration to Local Username Configuration

SSH-Specific Configuration

```
hostname sw1
ip domain-name example.com
! Next Command Uses FQDN "sw1.example.com"
crypto key generate rsa
```

User Mode
(sw1>)



Local Username Configuration (Like Telnet)

```
username wendell secret odom
username chris secret youdda
!
line vty 0 15
  login local
```

Displaying SSH Status

```
SW1# show ip ssh
```

```
SSH Enabled - version 2.0
```

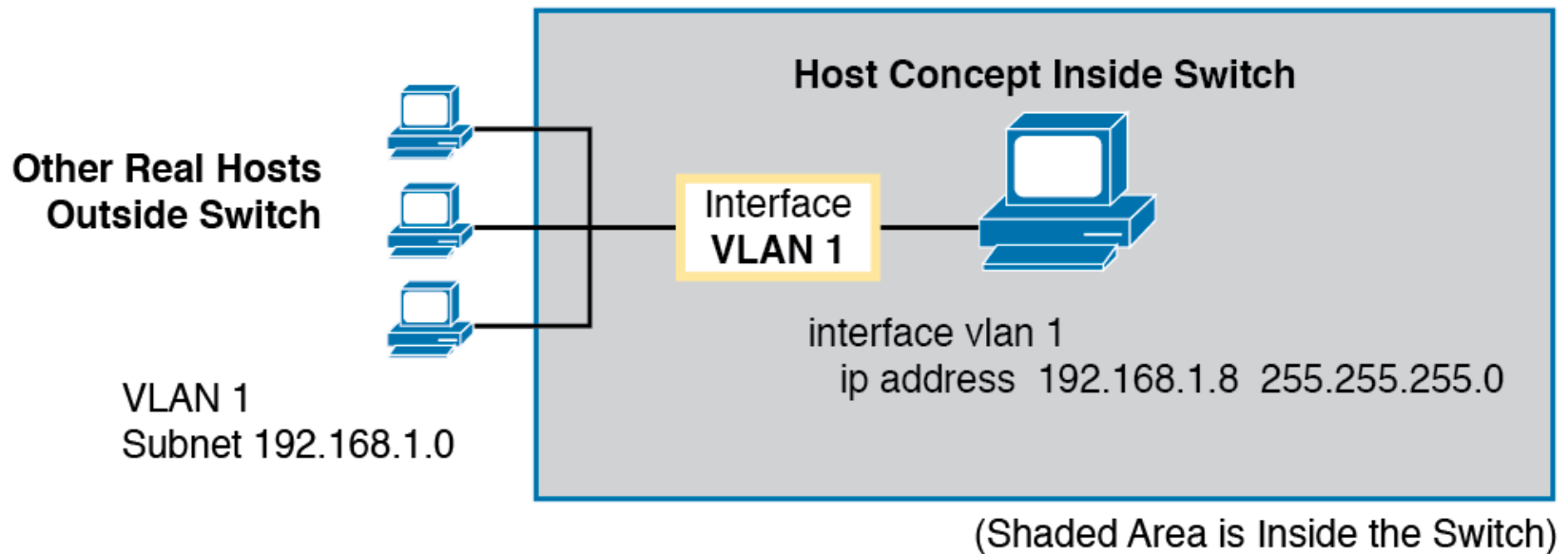
```
Authentication timeout: 120 secs; Authentication retries: 3
```

```
SW1# show ssh
```

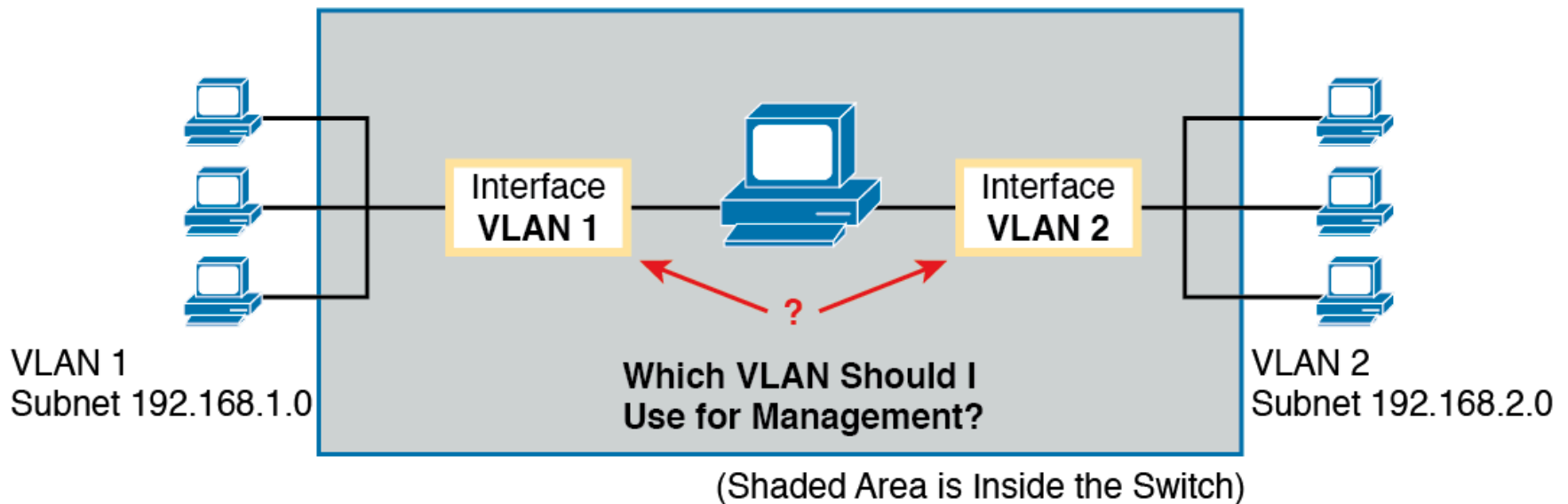
Connection	Version	Mode	Encryption	Hmac	State	Username
0	2.0	IN	aes126-cbc	hmac-sha1	Session started	wendell
0	2.0	OUT	aes126-cbc	hmac-sha1	Session started	wendell

```
%No SSHv1 server connections running.
```

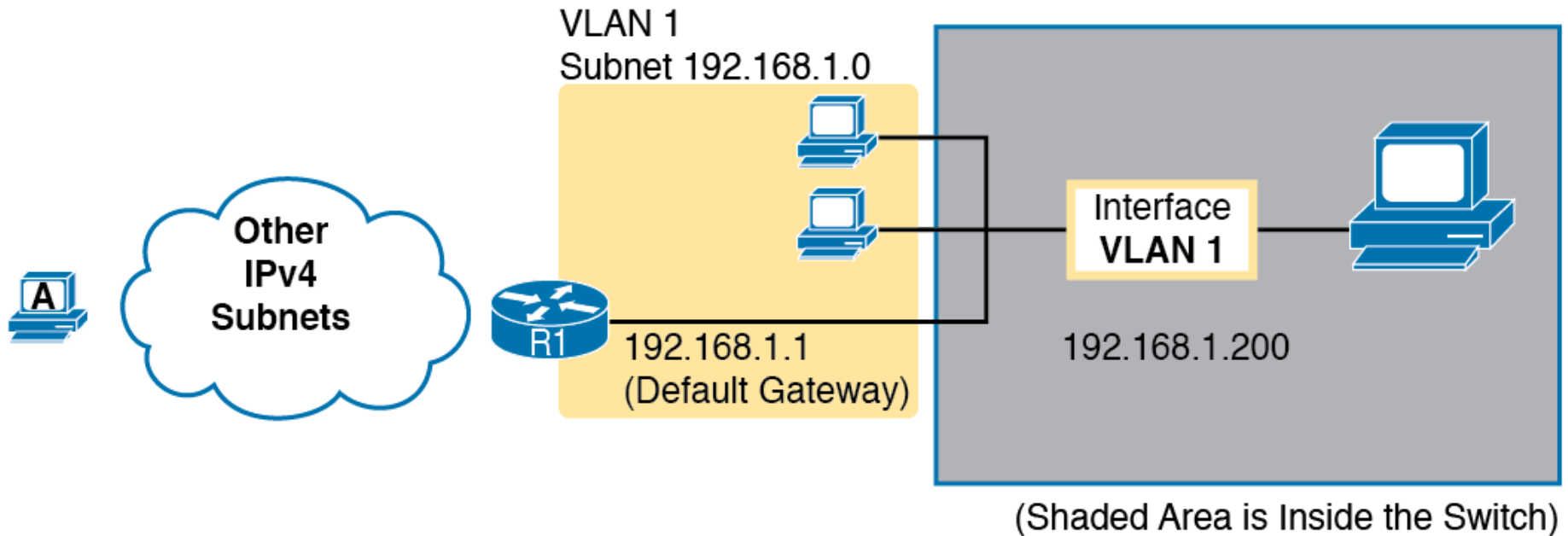
The Switch Virtual Interface (SVI) Concept Inside a Switch



Choosing One VLAN on Which to Configure a Switch IP Address



The Need for a Default Gateway



Switch Static IP Address Configuration

```
Emma# configure terminal
Emma(config)# interface vlan 1
Emma(config-if)# ip address 192.168.1.200 255.255.255.0
Emma(config-if)# no shutdown
00:25:07: %LINK-3-UPDOWN: Interface Vlan1, changed state to up
00:25:08: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed
state to up
Emma(config-if)# exit
Emma(config)# ip default-gateway 192.168.1.1
```

Switch Dynamic IP Address Configuration with DHCP

```
Emma# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Emma(config)# interface vlan 1
Emma(config-if)# ip address dhcp
Emma(config-if)# no shutdown
Emma(config-if)# ^Z
Emma#
00:38:20: %LINK-3-UPDOWN: Interface Vlan1, changed state to up
00:38:21: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up
```

Verifying DHCP-Learned Information on a Switch

```
Emma# show dhcp lease
```

```
Temp IP addr: 192.168.1.101    for peer on Interface: Vlan1
```

```
Temp sub net mask: 255.255.255.0
```

```
    DHCP Lease server: 192.168.1.1, state: 3 Bound
```

```
    DHCP transaction id: 1966
```

```
    Lease: 86400 secs, Renewal: 43200 secs, Rebind: 75600 secs
```

```
Temp default-gateway addr: 192.168.1.1
```

```
    Next timer fires after: 11:59:45
```

```
    Retry count: 0    Client-ID: cisco-0019.e86a.6fc0-Vl1
```

```
    Hostname: Emma
```

```
Emma# show interfaces vlan 1
```

```
Vlan1 is up, line protocol is up
```

```
    Hardware is EtherSVI, address is 0019.e86a.6fc0 (bia 0019.e86a.6fc0)
```

```
    Internet address is 192.168.1.101/24
```

```
    MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
```

```
        reliability 255/255, txload 1/255, rxload 1/255
```

```
! lines omitted for brevity
```

```
Emma# show ip default-gateway
```

```
192.168.1.1
```


Commands Related to the History Buffer

Command	Description
show history	An EXEC command that lists the commands currently held in the history buffer.
terminal history size x	From EXEC mode, this command allows a single user to set, just for this one login session, the size of his or her history buffer.
history size x	A configuration command that, from console or vty line configuration mode, sets the default number of commands saved in the history buffer for the users of the console or vty lines, respectively.

Commands Often Used in the Lab to Increase Productivity

```
no ip domain-lookup
!
line console 0
  exec-timeout 0 0
  logging synchronous
  history size 20
!
line vty 0 15
  exec-timeout 0 0
  logging synchronous
  history size 20
```