

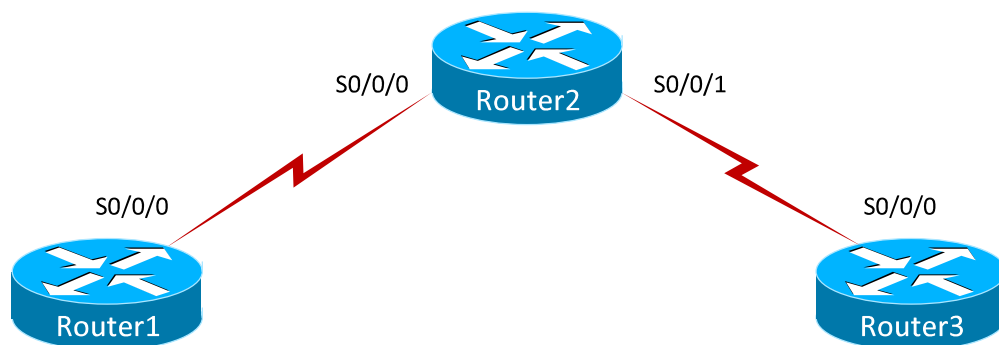
Stand-Alone Lab: Basic Show Commands

Objective

Use basic **show** commands. These commands are used to display information about the status or configuration of a Cisco device. Configure Router1 with the appropriate settings.

Lab Topology

The topology diagram below represents the NetMap in the Simulator.



Command Summary

Command	Description
clock set <i>hh:mm:ss day month year</i>	sets the system software clock
configure terminal	enters global configuration mode from privileged EXEC mode
enable	enters privileged EXEC mode
end	ends and exits configuration mode
history size <i>number-of-lines</i>	sets the number of previously issued commands that are stored in the history buffer
hostname <i>host-name</i>	sets the device name
line console 0	accesses console line configuration mode
show clock	displays the system clock
show flash	displays the boot flash or PC card information
show history	displays the commands entered in the current EXEC session
show interfaces [<i>type number</i>]	displays statistics for all interfaces configured on the router
show ip interface brief	displays a brief summary of interface status and configuration
show protocols	displays Layer 3 protocols enabled for a device
show running-config	displays the active configuration file
show terminal	displays the current terminal settings
show version	displays hardware platform and software versions

Lab Tasks

Task 1: Learn the Basic Show Commands

1. On Router1, configure a host name of **Router1**.
2. Issue the **show ?** command to use Router1's help function to view a list of the **show** commands that can be issued on Router1. At the **--MORE--** prompt, press the Spacebar key to view the next page of information.
3. Display the active configuration in memory. At the **--MORE--** prompt, press the Spacebar to view the next page of information.
4. Display the contents of flash memory.
5. Display the commands that you have issued that are still stored in router memory.
6. Display the number of commands that can be stored in the history buffer on the terminal.
7. How many commands can currently be stored in the history buffer? _____
8. Configure the history buffer to store **100** commands.
9. Verify the number of commands can be stored in the history buffer.
10. Press the Ctrl+P key combination or the Up Arrow key to retrieve one of the previous commands you typed. You can use the Up Arrow key or the Down Arrow key or you can press Ctrl+N or Ctrl+P to navigate through the list of previously typed commands stored in the history buffer. Commands stored in the history buffer are deleted each time you log off the device.

11. View the status of the current Layer 3 routed protocols running on the router. This command displays the global and interface-specific status of any Layer 3 protocols.
12. Display critical information such as router platform type, operating system (OS) revision, OS last boot time and file location, amount of memory, number of interfaces, and configuration register.
13. Configure the current date and time on Router1's clock. Practice using the question mark (?) as you proceed through the settings.
14. Verify the configuration of Router1's clock setting.
15. Display detailed information about each interface.
16. Display concise information about interface status on Router1.

Lab Solutions

Task 1: Learn the Basic Show Commands

1. On Router1, you should issue the following commands to configure a host name of **Router1**:

```
Router>enable
Router#configure terminal
Router(config)#hostname Router1
```

The **enable** command places the router into user EXEC mode. The **configure terminal** command places the router into global configuration mode. From global configuration mode, you can issue the **hostname *host-name*** command to configure a host name.

2. From user EXEC mode, which can be accessed by issuing the **end** command, you should issue the **show ?** command to use Router1's help function to view a list of the **show** commands that can be issued on Router1. At the **--MORE--** prompt, press the Spacebar key to view the next page of information.

```
Router1(config)#end
Router1#show ?
access-lists      List access lists
arp               ARP table
auto              Show Automation Template
bgp               BGP information
cdp               CDP information
class-map          Show QoS Class-Map
clns               CLNS network information
clock             Display the system clock
compress           Show compression statistics
configuration      Contents of Non-Volatile memory
controllers        Interface controller status
crypto             Encryption module
debugging          State of each debugging option
dhcp               Dynamic Host Configuration Protocol status
dialer             Dialer parameters and statistics
etherchannel        EtherChannel information
flash:             display information about flash: file system
frame-relay         Frame-Relay information
history            Display the session command history
hosts              IP domain-name, nameservers, and host table
interfaces          Interface status and configuration
ip                 IP information
ipv6                IPv6 information
isdn                ISDN information
isis                IS-IS routing information
key                 Key information
mpls                MPLS information
ntp                 Network time protocol
<output omitted>
```

3. The **show running-config** command is used to display the active configuration in memory. The currently active configuration running on the router is referred to as the *running-config* in the router's command-line interface (CLI). At the `--MORE--` prompt, press the Spacebar to view the next page of information.

```
Router1#show running-config
Building configuration...
!
Version 12.3
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Router1
!
ip subnet-zero
!
ip cef
no ip domain-lookup
!
interface Serial0/0/0
  no ip address
  no ip directed-broadcast
  shutdown
<output omitted>
```

4. You should issue the **show flash:** command to display flash memory. Sample output is shown below:

```
Router1#show flash:
System flash directory:
File Length Name/status
  1 5880916 c2800-js-mz.121-9.T.bin
[5880980 bytes used, 2507628 available, 8388608 total]
8192K bytes of processor board System flash (Read/Write)
```

Flash memory is a special kind of memory that contains the operating system image file(s) on the router. Unlike regular router memory, flash memory continues to maintain the file image even after power is lost.

5. You should issue the **show history** command to display the commands that you have issued that are still stored in router memory.

```
Router1#show history
enable
configure terminal
show running-config
show flash
show history
```

By default, the router's CLI retains the last 10 commands entered in the history buffer.

6. You should issue the **show terminal** command to determine the number of commands that can be stored in the history buffer.

```
Router1#show terminal
```

```
<output omitted>
```

```
Modem type is unknown
Session limit is not set
Time since activation: 00:01:32
Editing is enabled
History size is enabled, history size is 10
DNS resolution in show commands is enabled
Full user help is disabled
```

```
<output omitted>
```

7. Currently, 10 commands can be stored in the history buffer.
8. You should issue the following commands to configure Router1 to store **100** commands:

```
Router1#configure terminal
Router1(config)#line console 0
Router1(config-line)#history size 100
```

The **history size number-of-lines** command should be issued from line configuration mode. The history buffer associated with the console and virtual terminal lines can be configured to store up to 256 commands.

9. You should issue the **show terminal** command to verify the number of commands can be stored in the history buffer. Sample output is shown below:

```
Router1(config-line)#end
Router1#show terminal
```

```
<output omitted>
```

```
Modem type is unknown
Session limit is not set
Time since activation: 00:01:32
Editing is enabled
History size is enabled, history size is 100
DNS resolution in show commands is enabled
Full user help is disabled
<output omitted>
```

10. Press Ctrl+P or the Up Arrow key to retrieve one of the previous commands you typed. You can use the Up Arrow key or the Down Arrow key or you can press Ctrl+N or Ctrl+P to navigate through the list of previously typed commands stored in the history buffer. Commands stored in the history buffer are deleted each time you log off the device.

11. You should issue the **show protocols** command to view the status of the current Layer 3 routed protocols running on the router. This command displays the global and interface-specific status of any Layer 3 protocols. Sample output is shown below:

```
Router1#show protocols
Global values:
  Internet Protocol routing is enabled
Serial0/0/0 is administratively down, line protocol is down
Serial0/0/1 is administratively down, line protocol is down
FastEthernet0/0 is administratively down, line protocol is down
FastEthernet0/1 is administratively down, line protocol is down
```

12. You should issue the **show version** command to display critical information such as router platform type, OS revision, OS last boot time and file location, amount of memory, number of interfaces, and configuration register. Sample output is shown below:

```
Router1#show version

Boson Operating Simulation Software
BOSS (tm) C2800 Software (C2800-Enterprise), Version 12.3, RELEASE SOFTWARE
Copyright (c) 1998-2014 by Boson Software, Inc.

BOSS ROM: System Bootstrap, Version 12.3, RELEASE SOFTWARE
Router1 Uptime Is 0 days, 0 hours, 3 minutes
System restarted by power-on
System image file is ""flash:c2800-enterprise.12.3.boss"", booted via flash
Boson 2800 (BOSS) processor (revision 5.0)
2 Fast Ethernet/IEEE 802.3 interface(s)
2 Serial network interface(s)

32K bytes of simulated non-volatile configuration memory.
8192K bytes of simulated System flash (Read/Write)

Configuration register is 0X2102
```

13. You should issue the following commands to configure the current date and time on Router1's clock. Practice using the question mark (?) as you proceed through the settings. The following is sample output of the process:

```
Router1#clock set ?
hh:mm:ss          Current Time
Router1#clock set 09:12:30 ?
<1-31>            Day of the Month
Router1#clock set 09:12:30 19 ?
month             Month of the Year
Router1#clock set 09:12:30 19 August ?
<1993-2035>       Year
Router1#clock set 09:12:30 19 August 2013
```

14. You should issue the **show clock** command to verify your configuration of Router1's clock setting.

```
Router1#show clock
09:12:38.501 UTC Wed Aug 19 2013
```

15. You should issue the **show interfaces** command displays detailed information about each interface. Sample output is shown below:

```
Router1#show interfaces
Serial0/0/0 is administratively down, line protocol is down
  Hardware is HD64570
  MTU 1500 bytes, BW 1544 Kbit, DLY 2000 usec, rely 255/255, load 1/255
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation HDLC, loopback not set
  Keepalive set (10 sec)
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Queuing strategy: weighted-fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
    Conversations 7/35/128 (active/max active/max total)
    Reserved Conversations 0/0 (allocated/max allocated)
    Available Bandwidth 1158 kilobits/sec
  5 minute input rate 1000 bits/sec, 2 packets/sec
  5 minute output rate 1000 bits/sec, 2 packets/sec
    0 packets input, 00 bytes, 0 no buffer
    Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    0 input packets with dribble condition detected
    0 packets output, 00 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier
    0 output buffer failures, 0 output buffers swapped out
Serial0/0/1 is administratively down, line protocol is down

<output omitted>
```


16. You should issue the **show ip interface brief** command to view concise information about interface status on Router1. Sample output is shown below:

```
Router1#show ip interface brief
Interface      IP-Address      OK? Method Status      Protocol
Serial0/0/0    unassigned      YES unset    administratively down  down
Serial0/0/1    unassigned      YES unset    administratively down  down
FastEthernet0/0 unassigned      YES unset    administratively down  down
FastEthernet0/1 unassigned      YES unset    administratively down  down
```

Sample Configuration Script

Router1	Router1 (continued)
<pre>Router1#show running-config Building configuration... Current configuration : 705 bytes ! Version 12.3 service timestamps debug uptime service timestamps log uptime no service password-encryption ! hostname Router1 ! ip subnet-zero ! ip cef no ip domain-lookup ! interface Serial0/0/0 no ip address no ip directed-broadcast shutdown ! interface Serial0/0/1 no ip address no ip directed-broadcast shutdown !</pre>	<pre>interface FastEthernet0/0 no ip address no ip directed-broadcast shutdown ! interface FastEthernet0/1 no ip address no ip directed-broadcast shutdown ! ip classless no ip http server ! line con 0 history size 100 line aux 0 line vty 0 4 ! no scheduler allocate end</pre>