

Vanier College

Computer Science Department

Advanced Networks

Lab #7

Title: Cisco IOS Software

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Book Exercises:

Exercise 10-1 (p.287-288):

5.

```
Router>exit
```

6.

```
Router>
```

7.

```
Router>?  
Exec commands:  
  <1-99>      Session number to resume  
  connect      Open a terminal connection  
  disable      Turn off privileged commands  
  disconnect    Disconnect an existing network connection  
  enable       Turn on privileged commands  
  exit         Exit from the EXEC  
  logout       Exit from the EXEC  
  ping         Send echo messages  
  resume       Resume an active network connection  
  show         Show running system information  
  ssh         Open a secure shell client connection  
  telnet       Open a telnet connection  
  terminal     Set terminal line parameters  
  traceroute   Trace route to destination
```

8.

```
Router>enable  
Router#
```

9.

```
Router#show interfaces
FastEthernet0/0 is administratively down, line protocol is down (disabled)
  Hardware is Lance, address is 0001.96bd.75c3 (bia 0001.96bd.75c3)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  ARP type: ARPA, ARP Timeout 04:00:00,
  Last input 00:00:08, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts, 0 runs, 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, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier
    0 output buffer failures, 0 output buffers swapped out
FastEthernet1/0 is administratively down, line protocol is down (disabled)
```

10.

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

Current configuration : 647 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
!
!
```

11.

```
Router#show startup-config  
startup-config is not present
```

12.

```
Router>exit
```

Exercise 10-2 (p.315-317):

5.

```
Router#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.
```

6.

```
Router(config)#hostname 2600-1  
2600-1(config)#
```

7.

```
2600-1#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
2600-1(config)#line vty 0 4  
2600-1(config-line)#password cisco  
2600-1(config-line)#login  
2600-1(config-line)#exit
```

8.

```
2600-1(config)#enable secret cisco
```

9.

```
2600-1#show controller serial 2/0
Interface Serial2/0
Hardware is PowerQUICC MPC860
DCE V.35, clock rate 64000
idb at 0x81081AC4, driver data structure at 0x81084AC0
SCC Registers:
General [GSMR]=0x2:0x00000000, Protocol-specific [PSMR]=0x8
Events [SCCE]=0x0000, Mask [SCCM]=0x0000, Status [SCCS]=0x00
Transmit on Demand [TODR]=0x0, Data Sync [DSR]=0x7E7E
Interrupt Registers:
Config [CICR]=0x00367F80, Pending [CIPR]=0x0000C000
Mask [CIMR]=0x00200000, In-srv [CISR]=0x00000000
Command register [CR]=0x580
Port A [PADIR]=0x1030, [PAPAR]=0xFFFF
      [PAODR]=0x0010, [PADAT]=0xCBFF
Port B [PBDIR]=0x09C0F, [PBPAR]=0x0800E
      [PBODR]=0x00000, [PBDAT]=0x3FFFD
Port C [PCDIR]=0x00C, [PCPAR]=0x200
      [PCSO]=0xC20, [PCDAT]=0xDF2, [PCINT]=0x00F
Receive Ring
      rmd(68012830): status 9000 length 60C address 3B6DAC4
      rmd(68012838): status B000 length 60C address 3B6D444
Transmit Ring
```

10.

```
2600-1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
2600-1(config)#interface Serial2/0
2600-1(config-if)#clock rate 64000
```

11.

```
2600-1(config)#interface fastethernet0/0
2600-1(config-if)#no shutdown

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

2600-1(config-if)#exit
```

12.

```
2600-1(config)#interface Serial2/0
2600-1(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
2600-1(config-if)#exit
2600-1(config)#end
```

13.

```
2600-1#show interfaces
FastEthernet0/0 is up, line protocol is up (connected)
  Hardware is Lance, address is 00e0.f712.4975 (bia 00e0.f712.4975)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  ARP type: ARPA, ARP Timeout 04:00:00,
  Last input 00:00:08, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 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, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
```

14.

```
2600-1#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
-----
```

```
2600-1#show running-config
Building configuration...

Current configuration : 693 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname 2600-1
!
!
!
enable secret 5 $1$mERr$hX5rVt7rPNoS4wqbXKK7m0
!
!
!
!
!
```


16.

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname 2600-2

2600-2(config)#line vty 0 4
2600-2(config-line)#password cisco
2600-2(config-line)#login
2600-2(config-line)#exit
```

17.

```
Router(config)#enable secret cisco
```

18.

```
Router(config)#interface fastethernet 0/0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#end

Router#show controllers serial 3/0
Interface Serial3/0
Hardware is PowerQUICC MPC860
DTE V.35 TX and RX clocks detected
idb at 0x81081AC4, driver data structure at 0x81084AC0
SCC Registers:
General [GSMR]=0x2:0x00000000, Protocol-specific [PSMR]=0x8
Events [SCCE]=0x0000, Mask [SCCM]=0x0000, Status [SCCS]=0x00
Transmit on Demand [TODR]=0x0, Data Sync [DSR]=0x7E7E
Interrupt Registers:
Config [CICR]=0x00367F80, Pending [CIPR]=0x0000C000
Mask [CIMR]=0x00200000, In-srv [CISR]=0x00000000
Command register [CR]=0x580
Port A [PADIR]=0x1030, [PAPAR]=0xFFFF
      [PAODR]=0x0010, [PADAT]=0xCBFF
Port B [PBDIR]=0x09C0F, [PBPAR]=0x0800E
      [PBODR]=0x00000, [PBDAT]=0x3FFFD
Port C [PCDIR]=0x00C, [PCPAR]=0x200
      [PCSO]=0xC20, [PCDAT]=0xDF2, [PCINT]=0x00F
Receive Ring
      rmd(68012830): status 9000 length 60C address 3B6DAC4
      rmd(68012838): status B000 length 60C address 3B6D444
Transmit Ring
```

Since this interface is a DCE, you don't need to set the clock rate to 64,000 bps.

19.

```
Router#show interfaces
FastEthernet0/0 is up, line protocol is up (connected)

Serial3/0 is up, line protocol is up (connected)
```

20.

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

22.

```
2950-1>enable
2950-1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
2950-1(config)#line vty 0 4
2950-1(config-line)#password cisco
2950-1(config-line)#login
2950-1(config-line)#enable secret cisco
2950-1(config)#end
```

23.

```
2600-2#show interfaces
FastEthernet0/0 is up, line protocol is up (connected)
  Hardware is Lance, address is 0001.9711.8alc (bia 0001.9711.8alc)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  ARP type: ARPA, ARP Timeout 04:00:00,
  Last input 00:00:08, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 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, 0 bytes, 0 underruns
```

24.

```
2950-1#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```


25.

Switch 2950-2:

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname 2950-2
2950-2(config)#line vty 0 4
2950-2(config-line)#password cisco
2950-2(config-line)#login
2950-2(config-line)#enable secret cisco
2950-2(config)#end

2950-2>show interfaces
FastEthernet0/1 is up, line protocol is up (connected)
  Hardware is Lance, address is 00e0.8f93.9001 (bia 00e0.8f93.9001)
  BW 100000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s
  input flow-control is off, output flow-control is off
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:08, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    956 packets input, 193351 bytes, 0 no buffer
    Received 956 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort

2950-2#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

Switch 2950-3:

```
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname 2950-3
2950-3(config)#line vty 0 4
2950-3(config-line)#password cisco
2950-3(config-line)#login
2950-3(config-line)#enable secret cisco
2950-3(config)#end
```

```

2950-3>show interfaces
FastEthernet0/1 is up, line protocol is up (connected)
  Hardware is Lance, address is 00d0.bc4d.5c01 (bia 00d0.bc4d.5c01)
  BW 100000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s
  input flow-control is off, output flow-control is off
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:08, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    956 packets input, 193351 bytes, 0 no buffer
    Received 956 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort

```

```

2950-3#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]

```

Review Questions:

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1. **rollover**
2. **User EXEC → enable**
Privileged EXEC → show running-config
Configuration → line vty 0 4
ROMMON → password recovery
3. **A) help and C) ?**
4. **B) CTRL-A**
5. **hostname Perimeter**
6. **shutdown → disables an interface**
show controller → shows whether an interface is DTE/DCE
login local → specifies the use of an IOS database for authentication
clock rate → specifies the speed of a serial interface

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7. B) Router(config-line)#
8. service password-encryption
9. C) banner exec
10. B) A data link layer problem.
11. D) copy running-config startup-config