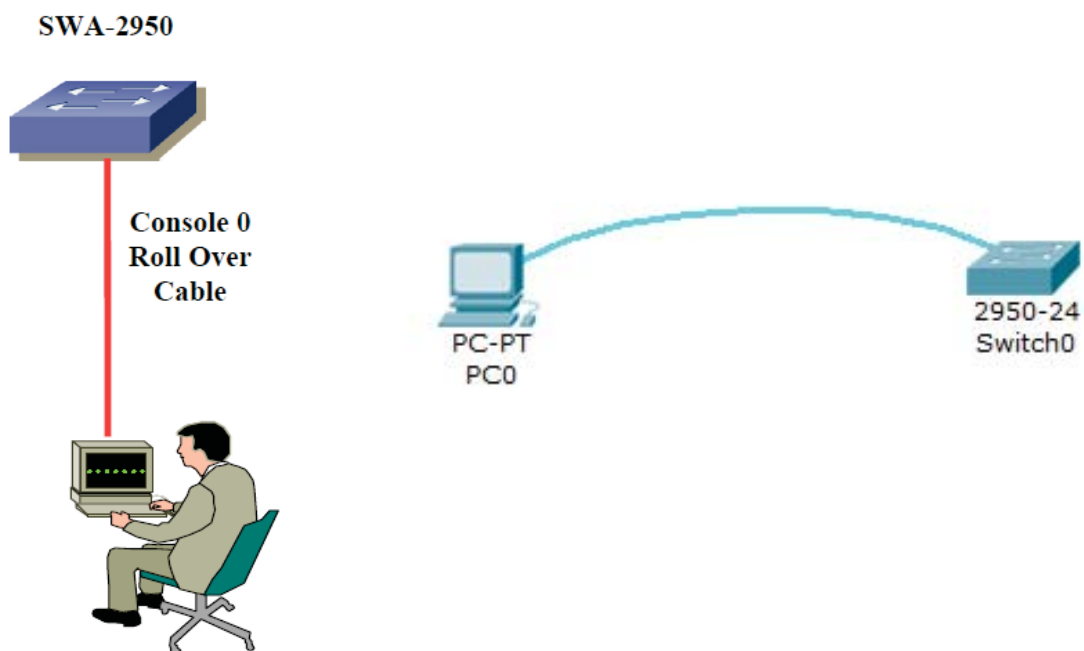


Lecture (01)

configuring and connecting 24 ports switch

Dr. Ahmed M. ElShafee

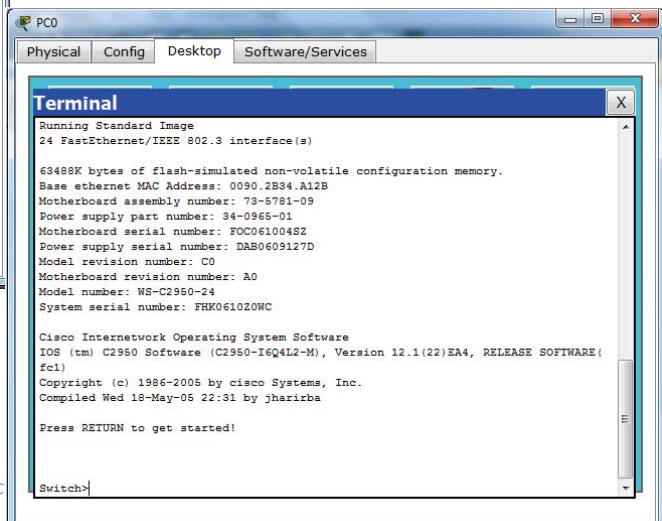
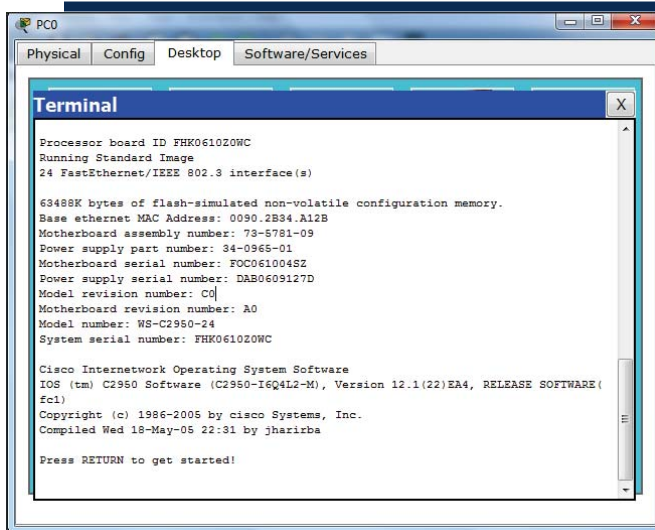
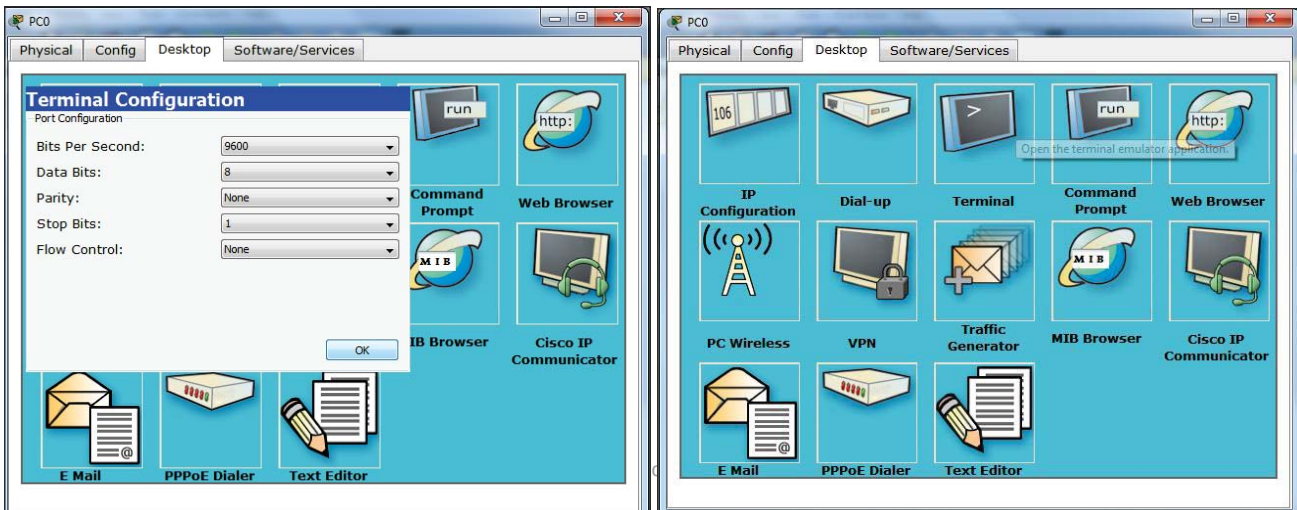
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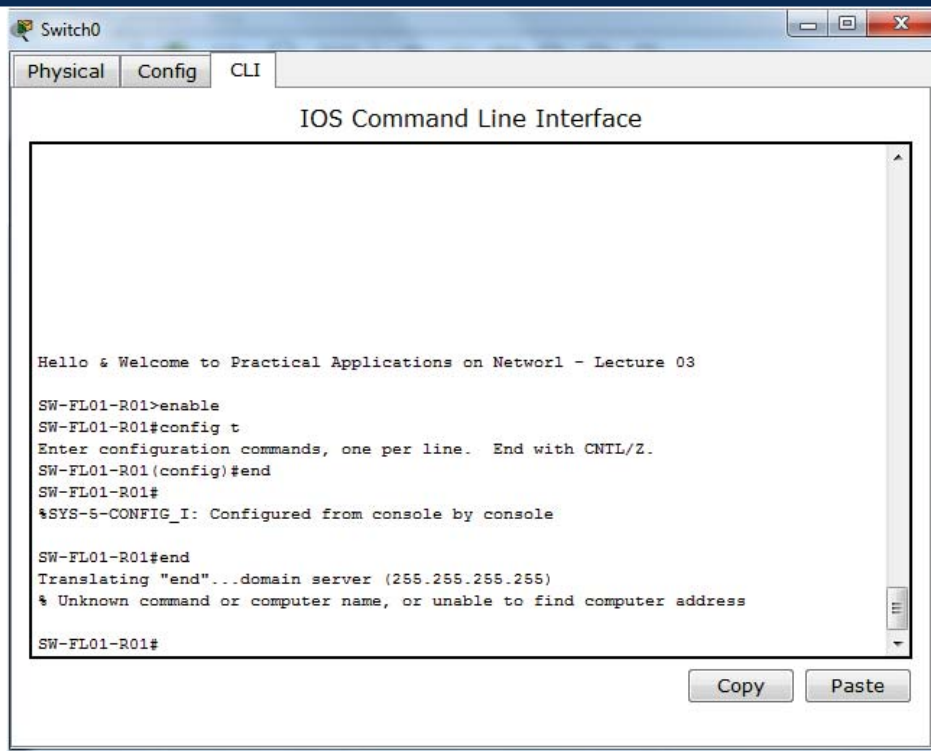
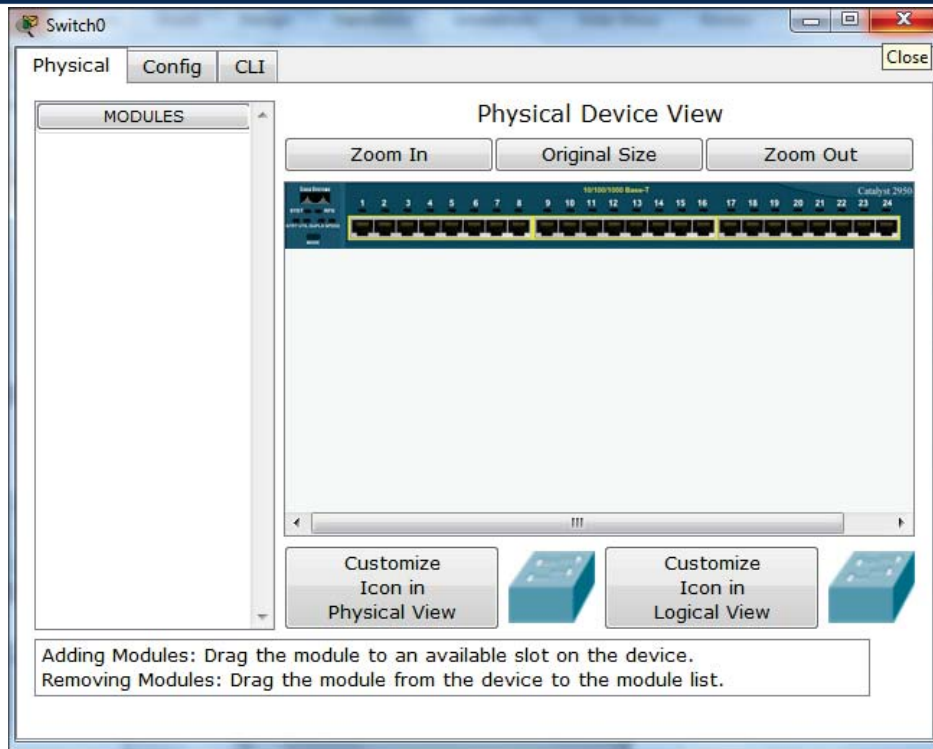
Step 1: connecting your PC to the Console Port.

- Open HyperTerminal software
- Press RETURN to get started.
- Switch>

(User Mode)

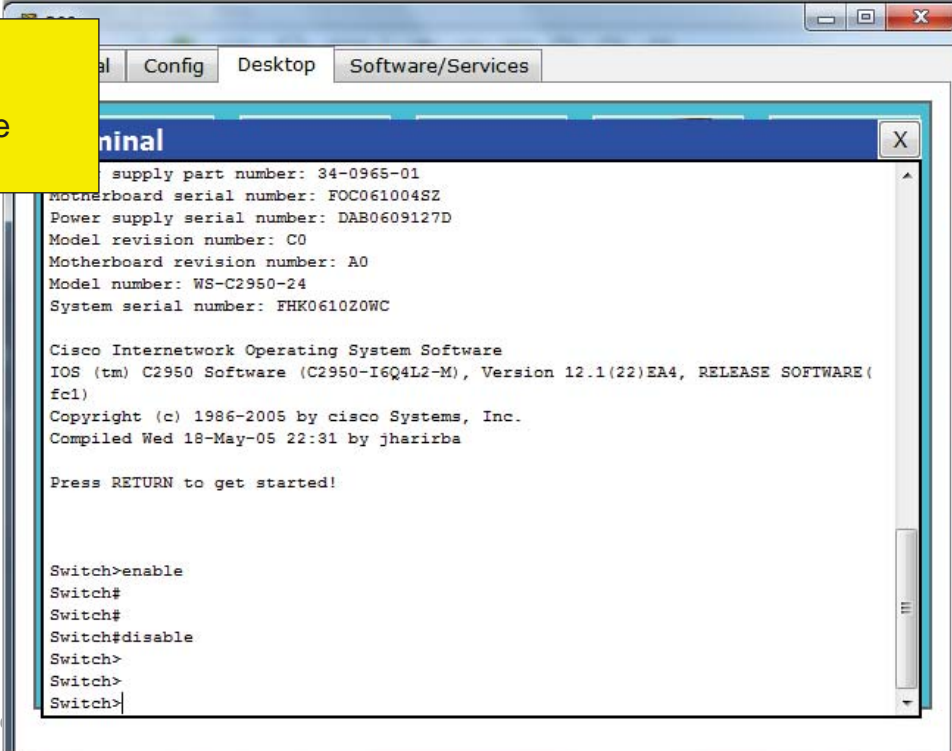


Step 1': open CLI from node



Step 2: To Enter Into Privilege mode/ Versa.

- Switch>enable
Switch#
Switch# disable
Switch>



The screenshot shows a terminal window titled "Terminal" with a blue header. The window contains the following text:

```
supply part number: 34-0965-01
Motherboard serial number: FOC061004SZ
Power supply serial number: DAB0609127D
Model revision number: C0
Motherboard revision number: A0
Model number: WS-C2950-24
System serial number: FHK061020WC

Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4, RELEASE SOFTWARE(fcl)
Copyright (c) 1986-2005 by cisco Systems, Inc.
Compiled Wed 18-May-05 22:31 by jharirba

Press RETURN to get started!

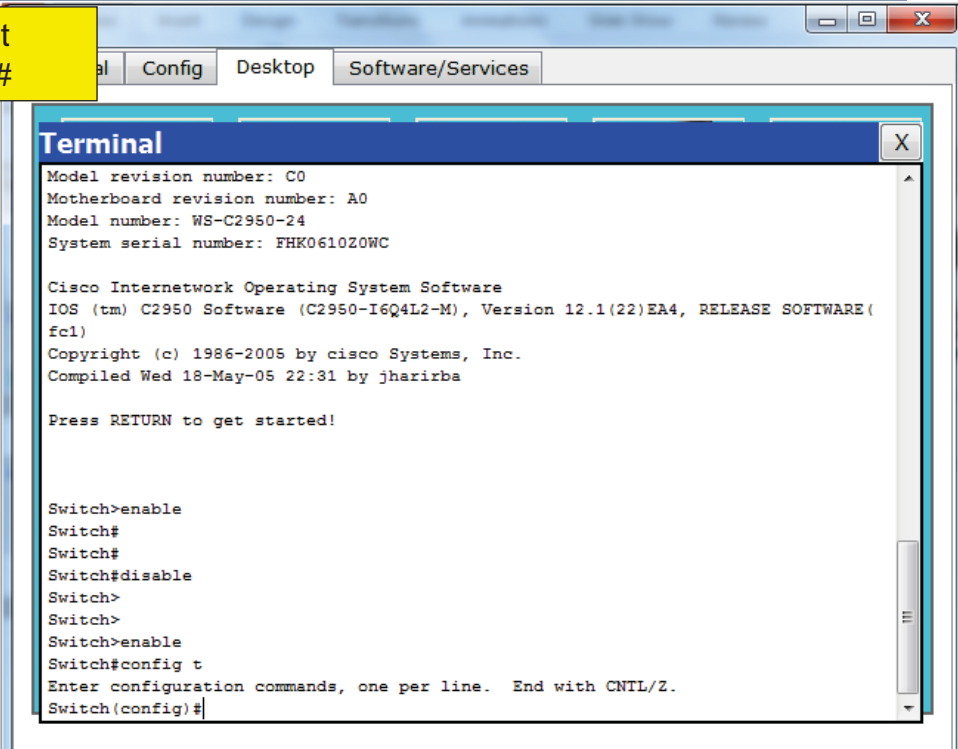
Switch>enable
Switch#
Switch#
Switch#disable
Switch>
Switch>
Switch>
Switch>
```

v

Dr. Ahmed

Step 3: To Enter Into Global Configuration Mode.

- Switch#config t
Switch(config)#



The screenshot shows a terminal window titled "Terminal" with a blue header. The window contains the following text:

```
Model revision number: C0
Motherboard revision number: A0
Model number: WS-C2950-24
System serial number: FHK061020WC

Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4, RELEASE SOFTWARE(fcl)
Copyright (c) 1986-2005 by cisco Systems, Inc.
Compiled Wed 18-May-05 22:31 by jharirba

Press RETURN to get started!

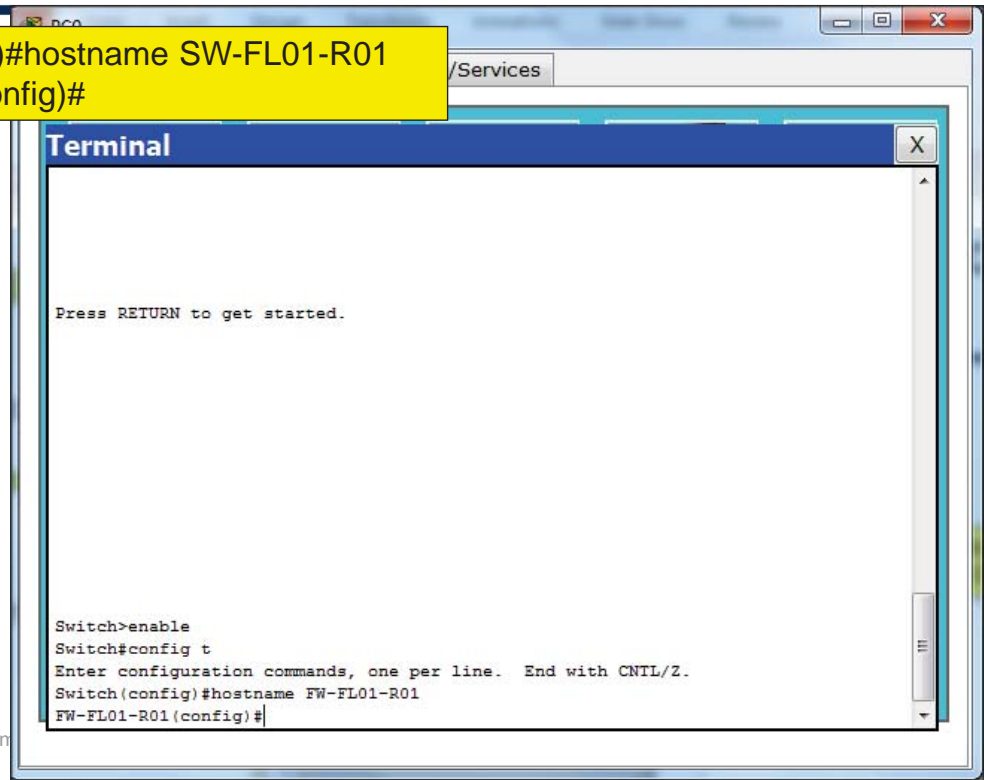
Switch>enable
Switch#
Switch#
Switch#disable
Switch>
Switch>
Switch>enable
Switch#config t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
```

^

Dr. Ahmed

Step 4: To change the Host Name of Switch.

- Switch(config)#hostname SW-FL01-R01
2950-SWA(config)#



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Dr. Ahm

Step 5: Set the Message of the Day banner

- SW-FL01-R01(config) # banner motd #Hello & Welcome to Practical Applications on Network - Lecture 03#

```
SW-FL01-R01(config)#banner motd #Hello & Welcome to Practical Applications on Network - Lecture 03#  
SW-FL01-R01(config)#
```

```
Hello & Welcome to Practical Applications on Network - Lecture 03
```

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Step 6: end configuration session

- SW-FL01-R01(config)# end
SW-FL01-R01>

```
SW-FL01-R01#config t
Enter configuration commands, one per line. End with CNTL/Z.
SW-FL01-R01(config)#end
SW-FL01-R01#
%SYS-5-CONFIG_I: Configured from console by console
```

Step 7: version information of the switch

```
SW-FL01-R01#show version
```

```
Cisco Internetwork
Operating System
Software
IOS (tm) C2950
Software (C2950-
I6Q4L2-M), Version
12.1(22)EA4,
RELEASE
SOFTWARE(fc1)
```

```
Copyright (c) 1986-
2005 by cisco
Systems, Inc.
Compiled ....
```

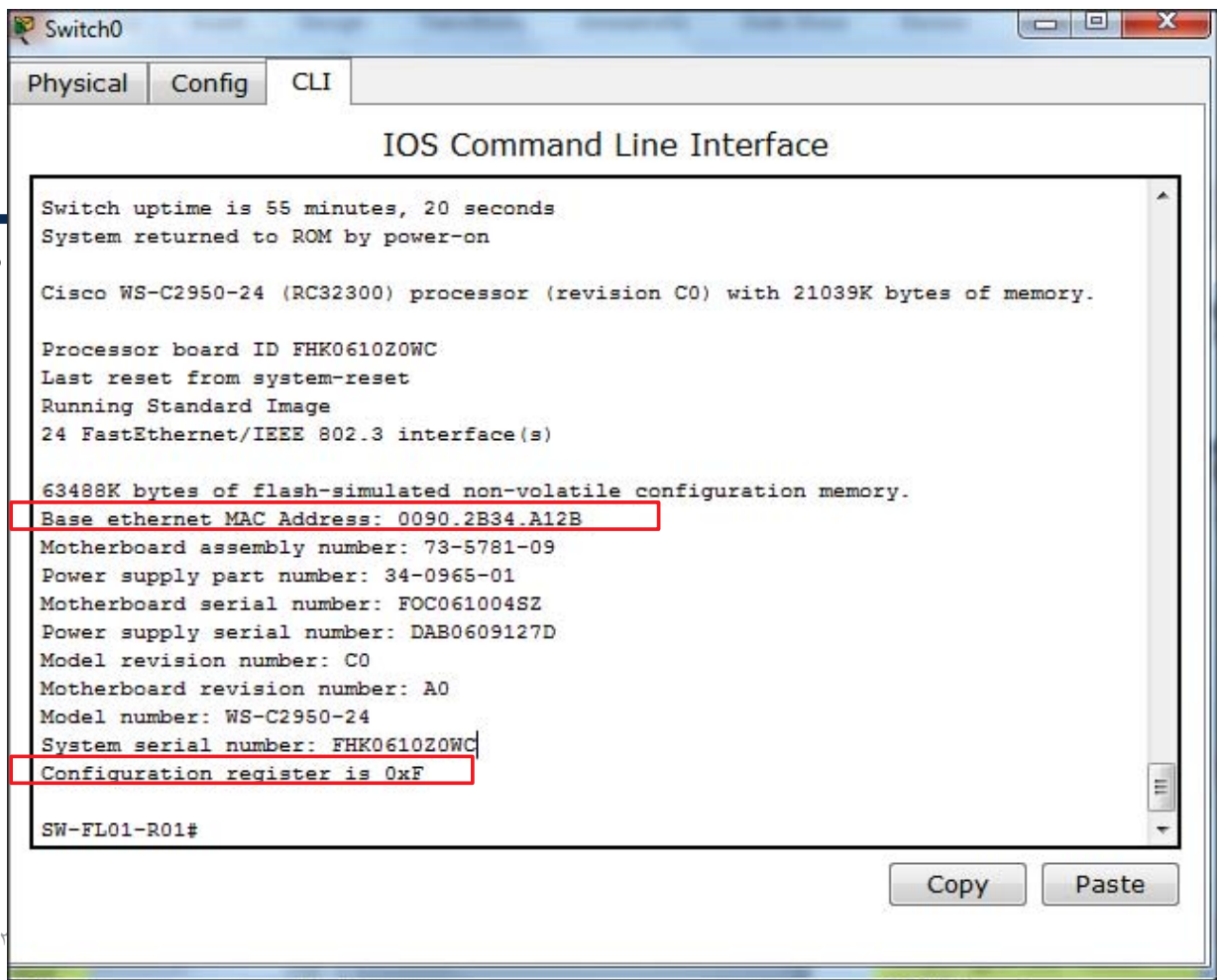
```
Switch0
Physical Config CLI
IOS Command Line Interface
SW-FL01-R01#show version
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2005 by cisco Systems, Inc.
Compiled Wed 18-May-05 22:31 by jharirba
Image text-base: 0x80010000, data-base: 0x80562000

ROM: Bootstrap program is is C2950 boot loader
Switch uptime is 55 minutes, 20 seconds
System returned to ROM by power-on

Cisco WS-C2950-24 (RC32300) processor (revision C0) with 21039K bytes of memory.

Processor board ID FHK061020WC
Last reset from system-reset
Running Standard Image
24 FastEthernet/IEEE 802.3 interface(s)

63488K bytes of Flash-simulated non-volatile configuration memory.
Base ethernet MAC Address: 0090.2B34.A12B
Motherboard assembly number: 73-5781-09
Power supply part number: 34-0965-01
```

Step 8: show the current configuration of RAM

```
SW-FL01-R01#show running-config
Building configuration...
```

```
Current configuration : 1056 bytes
```

```
SW-FL01-R01#show running-config
Building configuration...

Current configuration : 1056 bytes
!
version 12.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname SW-FL01-R01
!
!
spanning-tree mode pvst
!
interface FastEthernet0/1
```

```
Current configuration : 1056 bytes
!
version 12.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname SW-FL01-R01
!
spanning-tree mode pvst
!
interface FastEthernet0/1
!
interface FastEthernet0/2
!
interface FastEthernet0/3
!
interface FastEthernet0/4
!
--More--
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface Vlan1
no ip address
shutdown
!
banner motd ^CHello & Welcome to Practical Applications on Network - Lecture 03^
C
!
line con 0
!
line vty 0 4
login
line vty 5 15
login
!
!
end
```

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Dr. Ahmed ElShafee, A

Step 9: display flash information

```
SW-FL01-R01#dir
Directory of flash:/

 1 -rw-   3058048      <no date>  c2950-i6q4l2-mz.121-22.EA4.bin

64016384 bytes total (60958336 bytes free)
```

```
SW-FL01-R01#
SW-FL01-R01#dir
Directory of flash:/

 1 -rw-   3058048      <no date>  c2950-i6q4l2-mz.121-22.EA4.bin

64016384 bytes total (60958336 bytes free)
SW-FL01-R01#
```

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Step 10: To give the IP Address of Management Domain Interface

```
SW-FL01-R01#config t
Enter configuration commands, one per line. End with CNTL/Z.
SW-FL01-R01(config)#interface vlan 1
SW-FL01-R01(config-if)#ip address 10.0.0.10 255.0.0.0
SW-FL01-R01(config-if)#no shutdown

%LINK-5-CHANGED: Interface Vlan1, changed state to up
SW-FL01-R01(config-if)#end
SW-FL01-R01#
%SYS-5-CONFIG_I: Configured from console by console

SW-FL01-R01#
```

Step 11: Display the information of All IP Interfaces on the switch.

```
SW-FL01-R01#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/1	unassigned	YES	manual	down	down
FastEthernet0/2	unassigned	YES	manual	down	down
FastEthernet0/3	unassigned	YES	manual	down	down
FastEthernet0/4	unassigned	YES	manual	down	down
....					
....					
FastEthernet0/23	unassigned	YES	manual	down	down
FastEthernet0/24	unassigned	YES	manual	down	down
Vlan1	10.0.0.10	YES	manual	up	down

Step 12: display management vlan (1) information

```
SW-FL01-R01#show interface vlan 1
```

```
Vlan1 is up, line protocol is down
Hardware is CPU Interface, address is 0090.2b34.a12b (bia 0090.2b34.a12b)
Internet address is 10.0.0.10/8
MTU 1500 bytes, BW 100000 Kbit, DLY 1000000 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 21:40:21, output never, 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
 1682 packets input, 530955 bytes, 0 no buffer
  Received 0 broadcasts (0 IP multicast)
 0 runs, 0 giants, 0 throttles
 0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
 563859 packets output, 0 bytes, 0 underruns
 0 output errors, 23 interface resets
 0 output buffer failures, 0 output buffers swapped out
```

```
SW-FL01-R01#
```

```
SW-FL01-R01#
SW-FL01-R01#show interface vlan 1
Vlan1 is up, line protocol is down
Hardware is CPU Interface, address is 0090.2b34.a12b (bia 0090.2b34.a12b)
Internet address is 10.0.0.10/8
MTU 1500 bytes, BW 100000 Kbit, DLY 1000000 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 21:40:21, output never, 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
 1682 packets input, 530955 bytes, 0 no buffer
  Received 0 broadcasts (0 IP multicast)
 0 runs, 0 giants, 0 throttles
 0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
 563859 packets output, 0 bytes, 0 underruns
 0 output errors, 23 interface resets
 0 output buffer failures, 0 output buffers swapped out
SW-FL01-R01#
```

Step 13: display Ethernet interface information

```
SW-FL01-R01#show interface FastEthernet0/1
FastEthernet0/1 is down, line protocol is down (disabled)
  Hardware is Lance, address is 00d0.ff3e.5701 (bia 00d0.ff3e.5701)
  BW 100000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
```

```
SW-FL01-R01#show interface FastEthernet0/1
FastEthernet0/1 is down, line protocol is down (disabled)
  Hardware is Lance, address is 00d0.ff3e.5701 (bia 00d0.ff3e.5701)
  BW 100000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Half-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
 0 watchdog, 0 multicast, 0 pause input
 0 input packets with dribble condition detected
2357 packets output, 263570 bytes, 0 underruns
 0 output errors, 0 collisions, 10 interface resets
 0 babbles, 0 late collision, 0 deferred
 0 lost carrier, 0 no carrier
 0 output buffer failures, 0 output buffers swapped out
SW-FL01-R01#
```

Step 14 : display information of switchport mode of operation of interfaces

```
SW-FL01-R01#show interfaces switchport
Name: Fa0/1
Switchport: Enabled
Administrative Mode: dynamic auto
Operational Mode: down
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: native
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
...
....
```

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```
SW-FL01-R01#show interfaces switchport
Name: Fa0/1
Switchport: Enabled
Administrative Mode: dynamic auto
Operational Mode: down
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: native
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: All
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
Appliance trust: none
```

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Step 15: save switch configuration into VROM

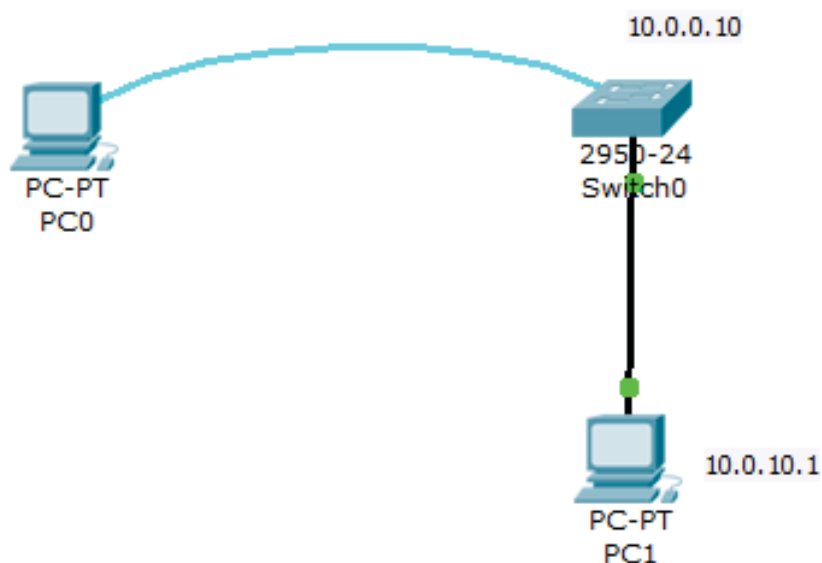
```
SW-FL01-R01>enable
SW-FL01-R01#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

Step 16: reboot your switch

```
SW-FL01-R01#reload
Proceed with reload? [confirm]
%SYS-5-RELOAD: Reload requested by console. Reload Reason: Reload
Command.

C2950 Boot Loader (C2950-HBOOT-M) Version 12.1(11r)EA1, RELEASE
SOFTWARE (fc1)
Compiled Mon 22-Jul-02 18:57 by miwang
Cisco WS-C2950-24 (RC32300) processor (revision C0) with 21039K bytes of
memory.
2950-24 starting...
....
....
....
```

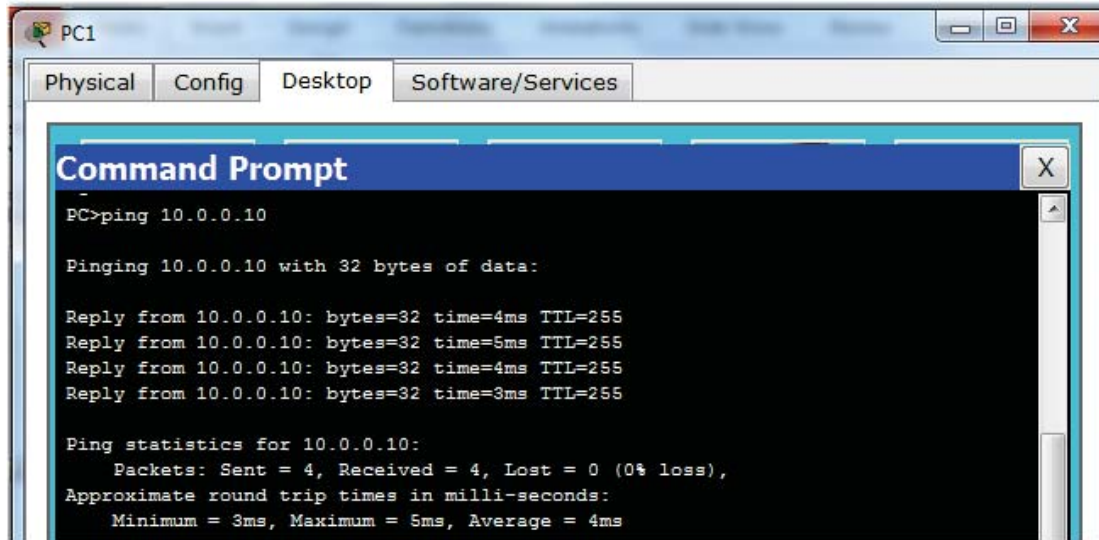
Step 17 : connect your first PC



Step 18: Configuring your PC

	item	Configuration
PC0	Gateway	-
	DNS	-
	Port status	On
	Band width	Auto
	Duplex	Auto
	IP	10.0.10.1
	Mask	255.255.0.0

Step 19 : check connectivity to switch



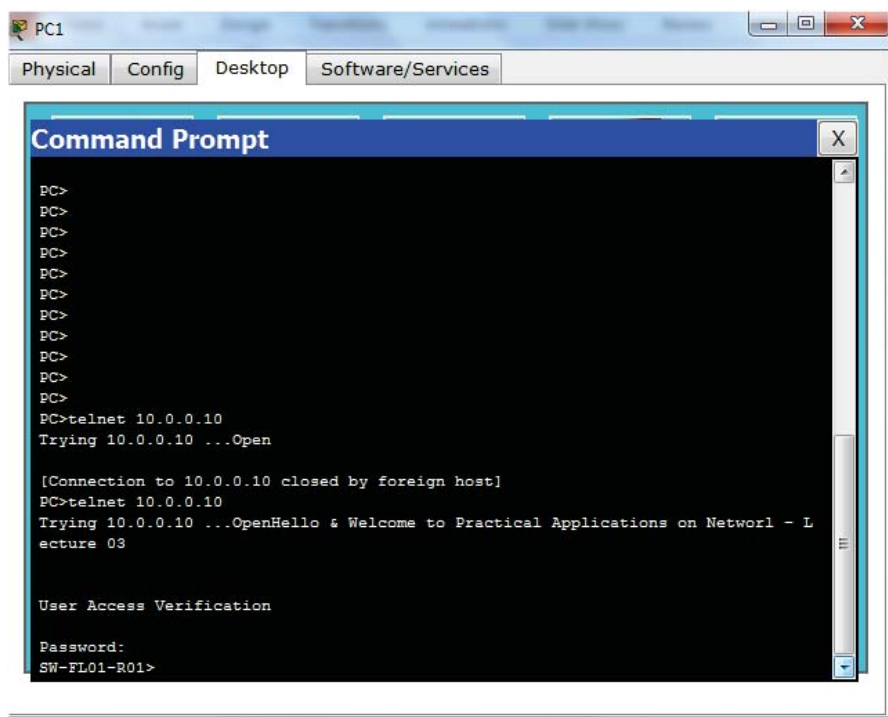
Step 20: enable

```
SW-FL01-R01#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
SW-FL01-R01(config)#line vty 0 4
SW-FL01-R01(config-line)#password cisco
SW-FL01-R01(config-line)#login
SW-FL01-R01(config-line)#end
SW-FL01-R01#
%SYS-5-CONFIG_I: Configured from console by console
```

Step 21 : save configuration

```
SW-FL01-R01>enable
SW-FL01-R01#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

Step 22 : test telnet connection



The screenshot shows a Windows PC window titled 'PC1' with tabs for 'Physical', 'Config', 'Desktop', and 'Software/Services'. A 'Command Prompt' window is open, displaying the following text:

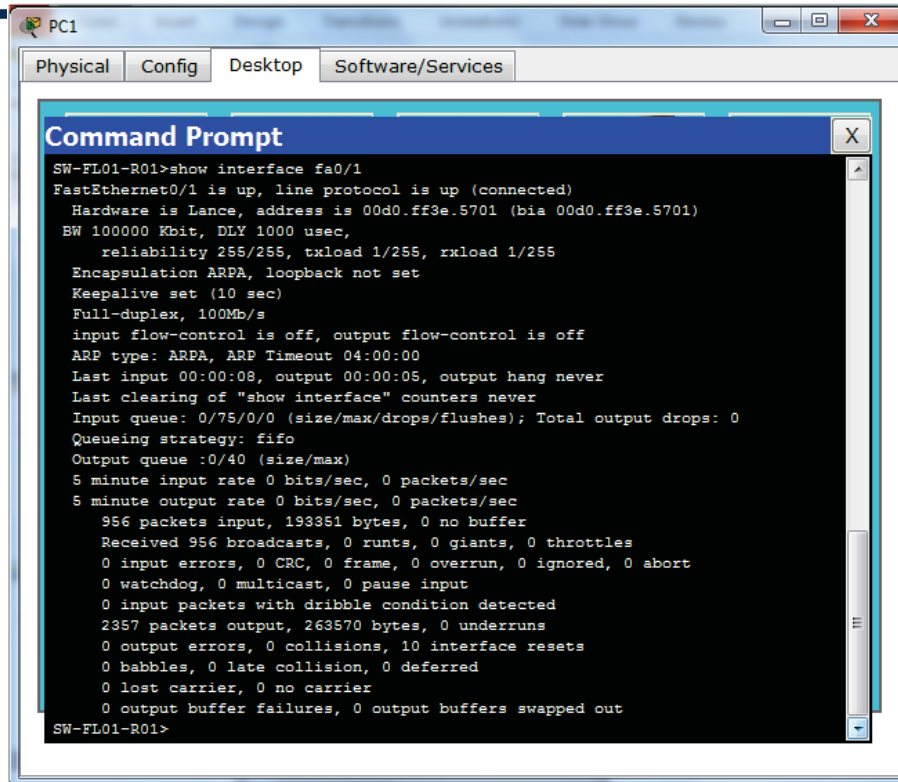
```
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>
PC>telnet 10.0.0.10
Trying 10.0.0.10 ...Open

[Connection to 10.0.0.10 closed by foreign host]
PC>telnet 10.0.0.10
Trying 10.0.0.10 ...OpenHello & Welcome to Practical Applications on Network1 - L
ecture 03

User Access Verification

Password:
SW-FL01-R01>
```

Step 23 : show fa0/1 details



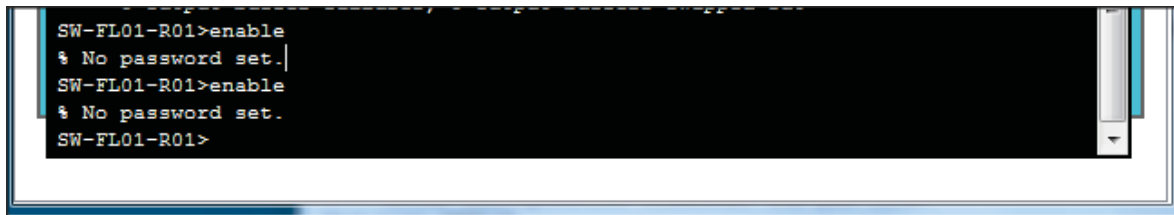
PC1

Physical Config Desktop Software/Services

Command Prompt

```
SW-FL01-R01>show interface fa0/1
FastEthernet0/1 is up, line protocol is up (connected)
Hardware is Lance, address is 00d0.ff3e.5701 (bia 00d0.ff3e.5701)
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
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
2357 packets output, 263570 bytes, 0 underruns
  0 output errors, 0 collisions, 10 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier
  0 output buffer failures, 0 output buffers swapped out
SW-FL01-R01>
```

Step 24 : start configuring switch remotely



```
SW-FL01-R01>enable
% No password set.
SW-FL01-R01>enable
% No password set.
SW-FL01-R01>
```



Thanks,..
See you next week (ISA),...