



**FACULTY OF INFORMATION TECHNOLOGY
DEPARTMENT OF NETWORKS AND INFORMATION SYSTEMS**

CHAPTER 2 – PRACTICE 01

Basic Switch Configuration

Main Objectives

- Understand:
 - ✓ The main modes of Switch Cisco 2960
- Use basic commands on Switch 2960:
 - ✓ To switch between these modes
 - ✓ To show information on the device
 - ✓ To configure device
- Execute some commands to configure:
 - ✓ VLAN
 - ✓ Trunking

CONTENTS

- **Part 1:** Switch's Command Modes (Cisco 2960)
- **Part 2:** Show information on the Switch (Cisco 2960)
- **Part 3:** Basic Switch Configuration (Cisco 2960)

Switch's Command Modes

C2960-24TT – Command Modes

Main modes of Switch

User EXEC Mode:

- Allows access to only a limited number of basic monitoring commands
- Identified by the CLI prompt that ends with the > symbol

```
Switch>
```

Privileged EXEC Mode:

- Allows access to all commands and features
- Identified by the CLI prompt that ends with the # symbol

```
Switch#
```

Global Configuration Mode:

- Used to access configuration options on the device

```
Switch(config) #
```

Switch's Command Modes

C2960-24TT – Common commands

Some common commands:

- “?” = help command
- “enable” command at the user EXEC mode to enter privileged EXEC mode



The screenshot shows a network switch interface with a tabbed menu at the top containing 'Physical', 'Config', 'CLI', and 'Attributes'. The 'CLI' tab is selected. Below the tabs, the text 'User EXEC mode (prompt >)' is on the left and 'IOS Command Line Interface' is on the right. The main area displays a command prompt 'Switch>'. Below it, the command 'Switch>?' is entered, followed by a red annotation: '? = help = to obtain a list of commands available for each command mode'. This is followed by a list of EXEC commands with their descriptions. The 'enable' command and its description 'Turn on privileged commands' are highlighted with a red box. At the bottom, the command 'Switch>enable' is entered, followed by the prompt 'Switch#', which is annotated with 'Privileged EXEC mode (prompt #)'.

```
Switch0
Physical Config CLI Attributes
User EXEC mode (prompt >) IOS Command Line Interface
Switch>
Switch>? ? = help = to obtain a list of commands available for each command mode
Exec commands:
  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
Switch>enable
Switch#
Switch# Privileged EXEC mode (prompt #)
```

Switch's Command Modes

C2960-24TT – Common commands

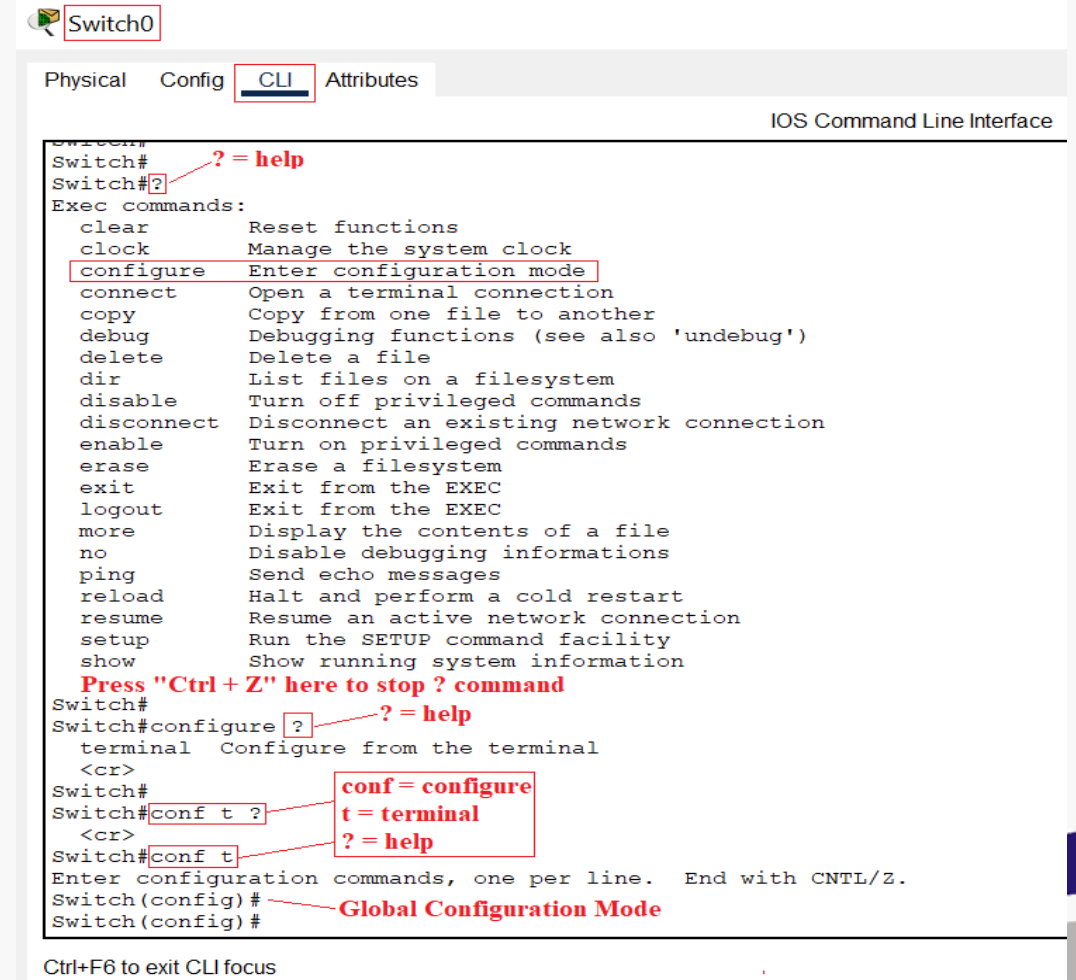
Some common commands:

- “?” = help command (any where)
- “*conf t*” or “*configure*” or “*configure terminal*” command at the privileged EXEC mode to enter Global Configuration mode

Note:

When use “?”:

- the list of commands available for each command (or command mode) will appear
- press “*SPACE*” to continue or “*Ctrl + Z*” to exit



The screenshot shows a terminal window titled "Switch0" with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the "IOS Command Line Interface". The prompt is "Switch#". A red arrow points to the "?" character, with a label "? = help". Below the prompt, a list of EXEC commands is shown, including "clear", "clock", "configure", "connect", "copy", "debug", "delete", "dir", "disable", "disconnect", "enable", "erase", "exit", "logout", "more", "no", "ping", "reload", "resume", "setup", and "show". The "configure" command is highlighted with a red box. Below the list, a red arrow points to the "?" character, with a label "? = help". The prompt changes to "Switch#configure". A red arrow points to the "t" character, with a label "conf = configure" and "t = terminal". Below the prompt, the text "terminal Configure from the terminal" is shown. A red arrow points to the "?" character, with a label "? = help". The prompt changes to "Switch#conf t". A red arrow points to the "t" character, with a label "conf = configure" and "t = terminal". Below the prompt, the text "Enter configuration commands, one per line. End with CNTL/Z." is shown. The prompt changes to "Switch(config)#". A red arrow points to the "#" character, with a label "Global Configuration Mode". At the bottom of the terminal window, the text "Ctrl+F6 to exit CLI focus" is displayed.

Switch's Command Modes

C2960-24TT – Common commands

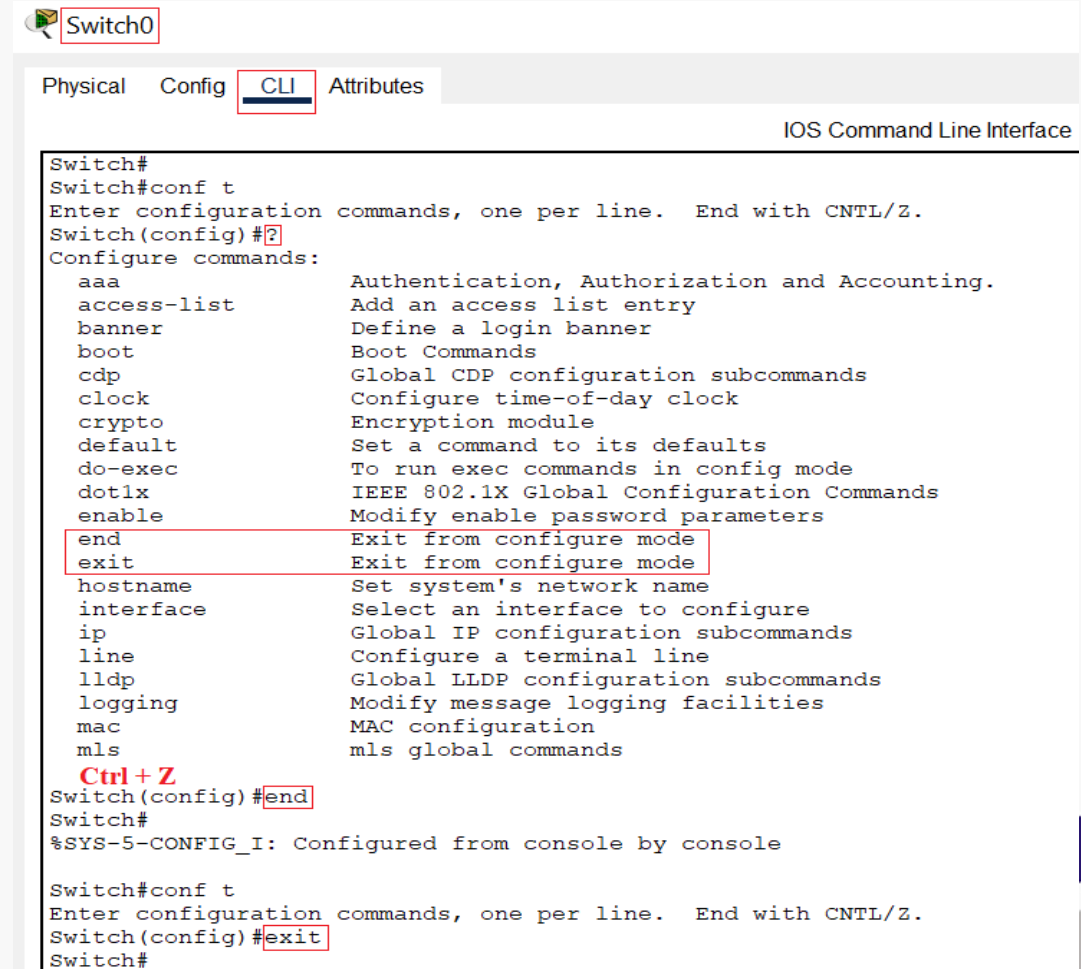
Some common commands:

Use “*exit*” or “*end*” command or press “*Ctrl + Z*” to exit

- Global Configuration mode to come back privileged EXEC mode

Use “*exit*” or “*logout*” or “*disable*” command to exit

- privileged EXEC mode to come back user EXEC mode



The screenshot shows a network switch interface with tabs for Physical, Config, CLI (selected), and Attributes. The CLI tab displays the IOS Command Line Interface. The prompt is Switch#. The user enters 'conf t' to enter configuration mode. The prompt changes to Switch(config)#. A list of configuration commands is shown, including 'aaa', 'access-list', 'banner', 'boot', 'cdp', 'clock', 'crypto', 'default', 'do-exec', 'dot1x', 'enable', 'end', 'exit', 'hostname', 'interface', 'ip', 'line', 'lldp', 'logging', 'mac', and 'mls'. The 'end' and 'exit' commands are highlighted with red boxes. The user enters 'end' and the prompt returns to Switch#. The user then enters 'exit' and the prompt returns to Switch#. The user enters 'conf t' again and the prompt returns to Switch(config)#. The user enters 'exit' and the prompt returns to Switch#.

```
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Configure commands:
aaa          Authentication, Authorization and Accounting.
access-list  Add an access list entry
banner       Define a login banner
boot         Boot Commands
cdp          Global CDP configuration subcommands
clock        Configure time-of-day clock
crypto       Encryption module
default      Set a command to its defaults
do-exec      To run exec commands in config mode
dot1x        IEEE 802.1X Global Configuration Commands
enable       Modify enable password parameters
end          Exit from configure mode
exit         Exit from configure mode
hostname     Set system's network name
interface    Select an interface to configure
ip           Global IP configuration subcommands
line         Configure a terminal line
lldp         Global LLDP configuration subcommands
logging      Modify message logging facilities
mac          MAC configuration
mls          mls global commands

Ctrl + Z
Switch(config)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

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


Show information on the Switch

C2960-24TT – The user EXEC mode commands

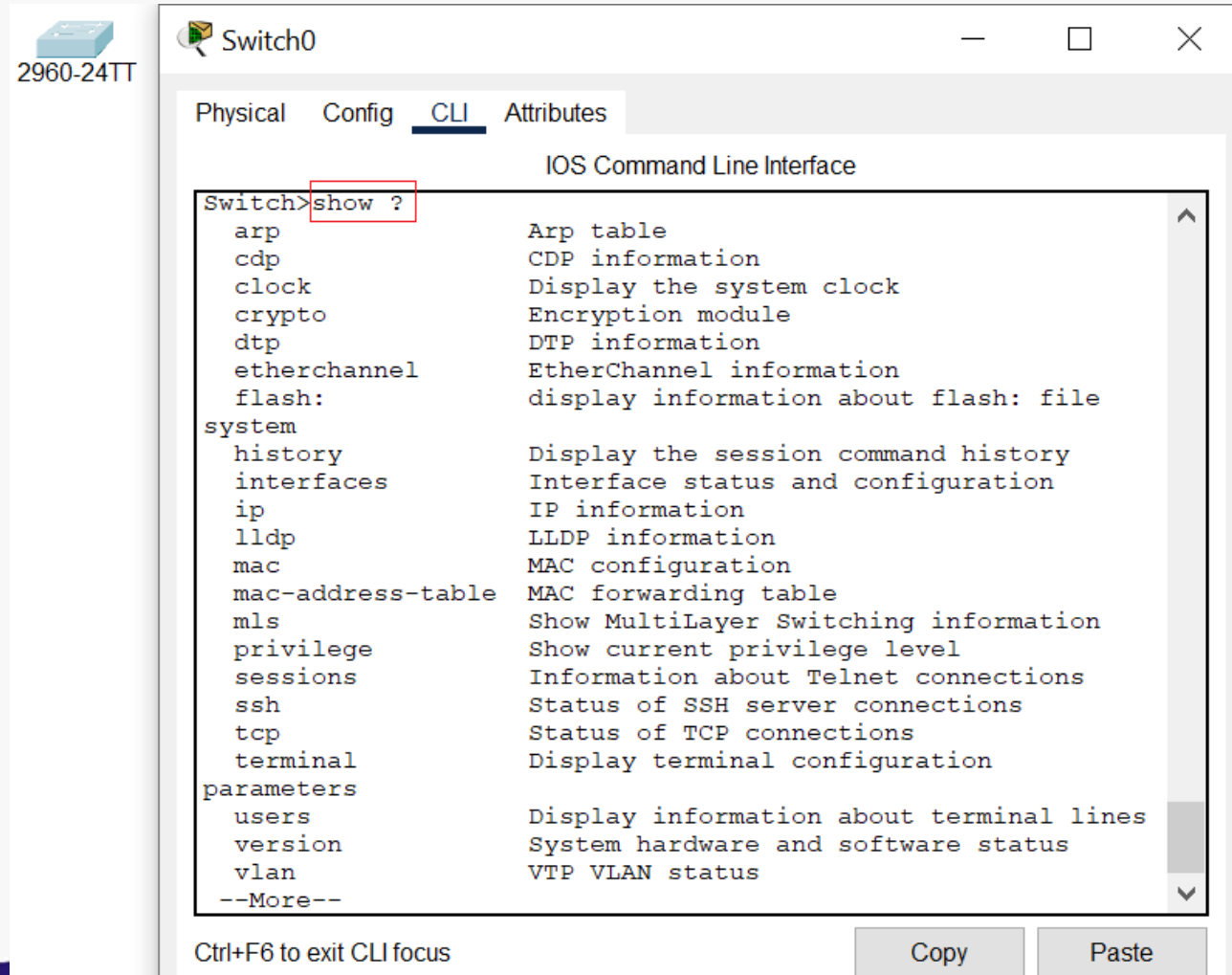
“Show” command to display running system information

In the User EXEC mode

- show arp: ARP table
- show mac: MAC configuration
- show mac-address-table: MAC forwarding table
- show interfaces: Interface status and configuration
- show vlan: VTP VLAN status
- show vlan brief: VTP all VLAN status in brief
- show vlan id a: VTP VLAN status by VLAN id (ex. a = 1)

In the Privileged EXEC Mode

- show running-config: Current operating configuration

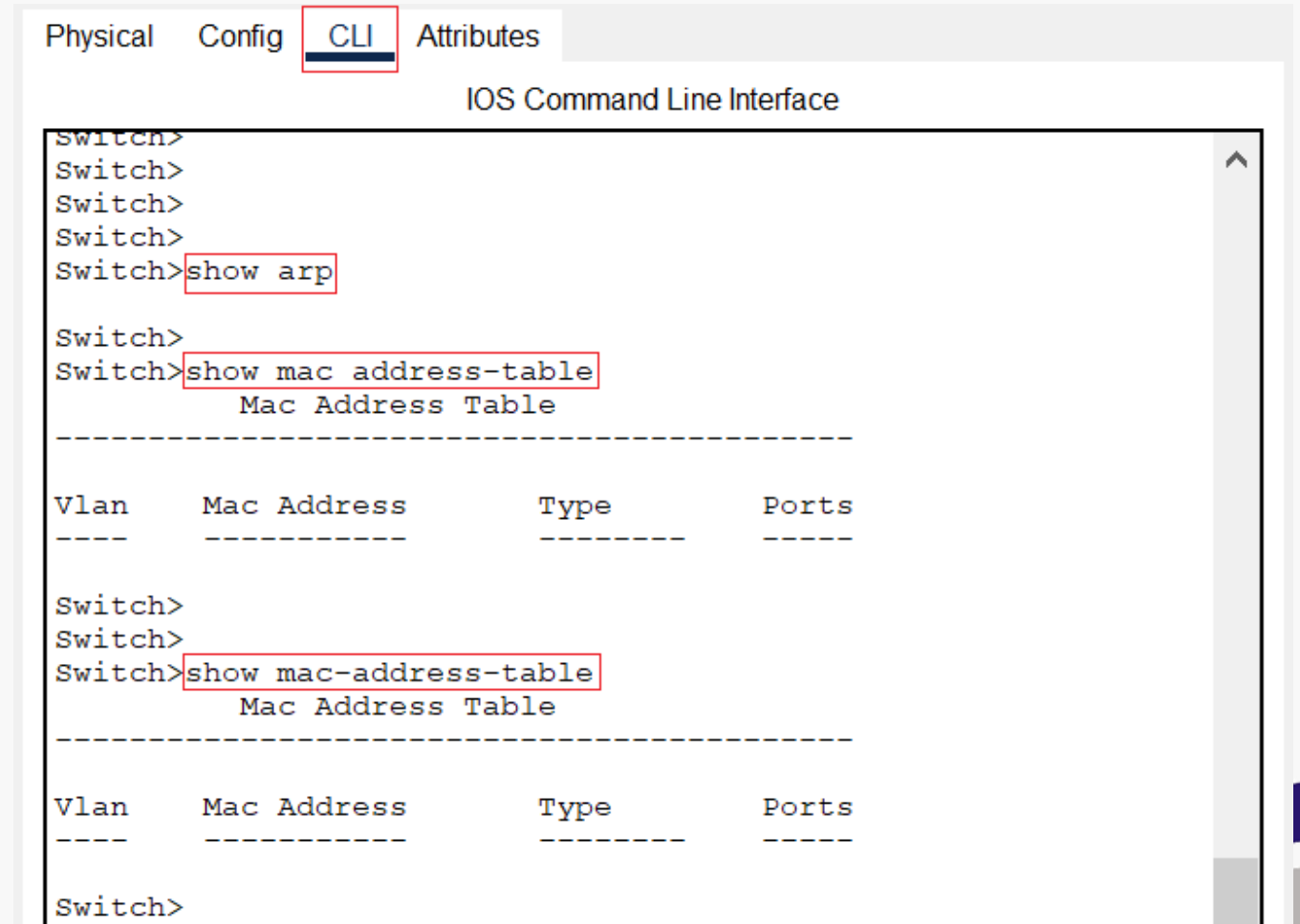


Show information on the Switch

C2960-24TT – The user EXEC mode commands

Some basic “show” commands:

- *show arp*
- *show mac address-table*
- *show mac-address-table*



The screenshot displays the IOS Command Line Interface (CLI) with the 'CLI' tab selected. The interface shows the following sequence of commands and output:

```
Switch>
Switch>
Switch>
Switch>
Switch>show arp

Switch>
Switch>show mac address-table
      Mac Address Table
-----
Vlan    Mac Address      Type      Ports
----    -
Switch>
Switch>
Switch>show mac-address-table
      Mac Address Table
-----
Vlan    Mac Address      Type      Ports
----    -
Switch>
```

Show information on the Switch

C2960-24TT – The user EXEC mode commands

Some basic “show” commands:

“show int fa0/1”

- display information about interface Fa0/1

“show int”

- display information about all interfaces

“show int fa0/3 status”

- display status, vlan, Duplex, Speed on interface Fa0/3

```
Physical  Config  CLI  Attributes
IOS Command Line Interface

Switch>show interfa
Switch>show interfaces fa0/1 = Display information about interface FastEthernet0/1
FastEthernet0/1 is down, line protocol is down (disabled)
  Hardware is Lance, address is 0001.9656.0001 (bia 0001.9656.0001)
  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

Switch>
```

```
Switch#
Switch#show inter fa0/3 status
Port      Name      Status      Vlan      Duplex  Speed  Type
Fa0/3     Fa0/3     notconnect  1         auto    auto   10/100BaseTX

Switch#
```

Show information on the Switch

C2960-24TT – The user EXEC mode commands

Some basic “*show*” commands:

“*show vlan*”

- Display ID / Name / Status / Ports (in the LAN)

```
Physical Config CLI Attributes
IOS Command Line Interface

Switch>
Switch>show vlan

VLAN Name                Status  Ports
-----
1    default                active  Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                   Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                   Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                   Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                   Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                   Fa0/21, Fa0/22, Fa0/23, Fa0/24
                                   Gig0/1, Gig0/2
1002 fddi-default          active
1003 token-ring-default    active
1004 fddinet-default        active
1005 trnet-default          active

VLAN Type  SAID      MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
-----
1    enet   100001    1500  -      -      -      -    -        0      0
1002 fddi   101002    1500  -      -      -      -    -        0      0
1003 tr    101003    1500  -      -      -      -    -        0      0
1004 fdnet 101004    1500  -      -      -      ieee -        0      0
1005 trnet 101005    1500  -      -      -      ibm  -        0      0

VLAN Type  SAID      MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
-----

Remote SPAN VLANs
-----

Primary Secondary Type      Ports
-----

Switch>
```

Show information on the Switch

C2960-24TT – The user EXEC mode commands

Some basic “show” commands:

“show vlan brief”

```
Physical  Config  CLI  Attributes
IOS Command Line Interface

Switch>
Switch>en
Switch#show vlan brief
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

```
Switch#
```

Show information on the Switch

C2960-24TT – The user EXEC mode commands

Some basic “show” commands:

“show vlan id 1”

```
Physical  Config  CLI  Attributes
IOS Command Line Interface

Switch>
Switch>en
Switch#
Switch#show vlan id 1
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0

```
Switch#
```

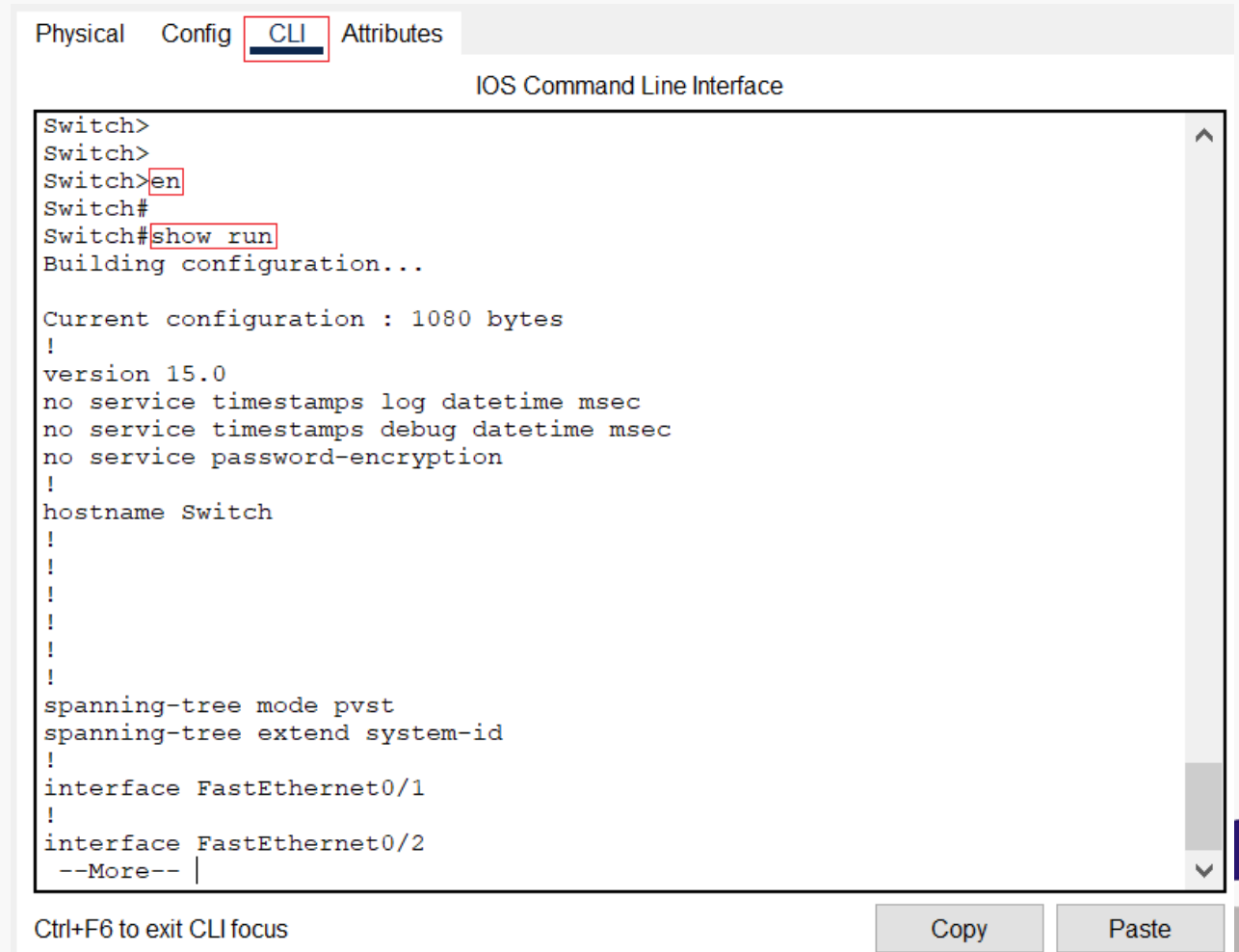
Show information on the Switch

C2960-24TT – The user EXEC mode commands

Some basic “show” commands:

“show running-config”

- Display current operating configuration



```
Physical  Config  CLI  Attributes
IOS Command Line Interface

Switch>
Switch>
Switch>en
Switch#
Switch#show run
Building configuration...

Current configuration : 1080 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
--More-- |
```

Ctrl+F6 to exit CLI focus

Copy Paste

Basic Switch Configuration

C2960-24TT – Device Names

Switch's name:

- A Cisco IOS switch has a default name "Switch"
- A device should be to give it a unique hostname
- To set new name for switch, use the "*hostname*" global config command
- To return the switch to the default name, use the "*no hostname*" command

Note: Use "*write memory*" to save the configuration to NVRAM if you want

```
Switch>en
Switch#
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#
Switch(config)#hostname SW-Acc-01
SW-Acc-01(config)#
SW-Acc-01(config)#no hostname
Switch(config)#
Switch(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

Basic Switch Configuration

C2960-24TT – Set password to access privileged EXEC mode

Configure Passwords to access privileged EXEC mode

- First enter global configuration mode.
- Next, use the “*enable secret password*” command.
- Note: Save configuration file if you want to change running-config file

```
Physical  Config  CLI  Attributes
IOS Command Line Interface

Switch>en
Switch#show run
Building configuration...

Current configuration : 1080 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
!
interface FastEthernet0/2
--More--
```

Ctrl+F6 to exit CLI focus Copy Paste

```
Physical  Config  CLI  Attributes
IOS Command Line Interface

Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#enable secret Utc@123
Switch(config)#
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#wri mem
Building configuration...
[OK]
Switch#
```

```
Physical  Config  CLI  Attributes
IOS Command Line Interface

Switch>en
Password: Utc@123
Switch#
Switch#show run
Building configuration...

Current configuration : 1129 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
enable secret 5 $1$mERr$cZ6vNoRZIAiZVVsf8r0TT1
!
```

Basic Switch Configuration

C2960-24TT – Create, Modify, Delete an VLAN

VLAN example

- create VLAN 2, name it VLAN-Test
- and add it to the VLAN database

The commands is used:

- Switch#
- Switch#conf t
- Switch(config)#vlan 2
- Switch(config-vlan)#name VLAN-Test
- Switch(config-vlan)#end
- Switch#

```
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#vlan 2
Switch(config-vlan)#
Switch(config-vlan)#name VLAN-Test
Switch(config-vlan)#
Switch(config-vlan)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
Switch#
```

ID of VLAN = 2

Name of VLAN = VLAN-Test

Basic Switch Configuration

C2960-24TT – Create, Modify, Delete an VLAN

VLAN example (continue)

The result in the VLAN database:

- Switch#show vlan

```
Switch#
Switch#show vlan
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
2	VLAN-Test	active	
1002	fddi-default	active	
1003	token-ring-default	active	

Modify name of VLAN 2 to VLAN-Test-02:

- Switch#
- Switch#conf t
- Switch(config)#vlan 2
- Switch(config-vlan)#name VLAN-Test-02
- Switch(config-vlan)#end
- Switch#

```
Switch#show vlan
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
2	VLAN-Test-02	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

Save the configuration file:

- Switch#wri mem

```
Switch#wri mem
Building configuration...
[OK]
Switch#
```

VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	-	0	0

Basic Switch Configuration

C2960-24TT – Create, Modify, Delete an VLAN

VLAN example (continue)

Delete VLAN, ex:

- Remove VLAN 2 (name VLAN-Test-02)
- Check results by “*show vlan*” command

Do it:

- Switch#conf t
- Switch(config)#no vlan 2
- Switch(config)#end
- Switch#show vlan
- Switch#wr

Physical Config CLI Attributes

IOS Command Line Interface

```

Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Switch(config)#no vlan 2
Switch(config)#
Switch(config)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show vlan

```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/20 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

```

Switch#wr
Building configuration...
[OK]
Switch#

```

Ctrl+F6 to exit CLI focus

Copy Paste

Basic Switch Configuration

C2960-24TT – Assigning Access Ports to a VLAN

The steps assigning ports to a VLAN

- Access the interface configuration mode
- Define access mode for the port
- Assign the port to a VLAN
- Return to privileged EXEC mode
- Verify configuration on the interface

Example 01: Assign a port to a VLAN

Assign port Fa0/20 to VLAN 20, name XYZ-20

The commands to do it:

- Switch#conf t
- Switch(config)#interface fa0/20
- Switch(config-if)#switchport mode access
- Switch(config-if)#switchport acc vlan 20
- Switch(config-if)#end
- Switch#show vlan
- Switch#show running-config

```
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface fa0/20
Switch(config-if)#switchport mode access
Switch(config-if)#switchport acc vlan 20
Switch(config-if)#end
Switch#
```

IOS Command Line Interface

```
Switch#
Switch#show vlan
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/15, Fa0/16 Fa0/17, Fa0/18, Fa0/19, Fa0/21 Fa0/22, Fa0/23, Fa0/24, Gig0/1 Gig0/2
20	XYZ-20	active	Fa0/20
1002	fddi-default	active	
1003	token-ring-default	active	

```
interface FastEthernet0/19
!
interface FastEthernet0/20
switchport access vlan 20
switchport mode access
!
interface FastEthernet0/21
```

Basic Switch Configuration

C2960-24TT – Assigning Access Ports to a VLAN

Example 02: Assign ports to a VLAN

Assign port Fa0/11, Fa0/13, Fa0/15 to VLAN 20

The commands to do it:

- Switch#conf t
- Switch(config)#interface range fa0/11,fa0/13,fa0/15
- Switch(config-if)#switchport mode access
- Switch(config-if)#switchport acc vlan 20
- Switch(config-if)#end
- Switch#show vlan

Check the configuration file

- Switch#show running-config

```
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface range fa0/11,fa0/13,fa0/15
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport acc vlan 20
Switch(config-if-range)#end
Switch#show vlan
%SYS-5-CONFIG_I: Configured from console by console
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/6, Fa0/7, Fa0/8 Fa0/9, Fa0/10, Fa0/12, Fa0/14 Fa0/16, Fa0/17, Fa0/18, Fa0/19 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
20	XYZ-20	active	Fa0/11, Fa0/13, Fa0/15, Fa0/20
1002	fddi-default	active	

```
interface FastEthernet0/11
switchport access vlan 20
switchport mode access
!
interface FastEthernet0/12
```

```
interface FastEthernet0/13
switchport access vlan 20
switchport mode access
!
interface FastEthernet0/14
```

```
interface FastEthernet0/15
switchport access vlan 20
switchport mode access
!
interface FastEthernet0/16
```


Basic Switch Configuration

C2960-24TT – Assigning Access Ports to a VLAN

Example 03: Assign ports to a VLAN

Assign port from Fa0/6 to Fa0/9 to VLAN 20

The commands to do it:

- Switch#conf t
- Switch(config)#interface range fa0/6-9
- Switch(config-if)#switchport mode access
- Switch(config-if)#switchport acc vlan 20
- Switch(config-if)#end
- Switch#show vlan

```
Switch#
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface range fa0/6-9
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport acc vlan 20
Switch(config-if-range)#end
Switch#show vlan
%SYS-5-CONFIG_I: Configured from console by console
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/10, Fa0/12, Fa0/14 Fa0/16, Fa0/17, Fa0/18, Fa0/19 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
20	XYZ-20	active	Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/11, Fa0/13, Fa0/15, Fa0/20
1002	fddi-default	active	

Basic Switch Configuration

C2960-24TT – Assigning Access Ports to a VLAN

Example 04: Move port from a VLAN to another

Create a VLAN (ID = 5, name = ABC)

Switch port Fa0/20 from VLAN 20 to VLAN 5

The commands to do it:

- Switch#
- Switch#conf t
- Switch(config)#vlan 5
- Switch(config-vlan)#name ABC
- Switch(config-vlan)#exit
- Switch(config)#interface fa0/20
- Switch(config-if)#switchport acc vlan 5
- Switch(config-if)#end
- Switch#show vlan

```
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 5
Switch(config-vlan)#name ABC
Switch(config-vlan)#exit
Switch(config)#interface fa0/20
Switch(config-if)#switchport acc vlan 5
Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show vlan
```

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/10, Fa0/12, Fa0/14 Fa0/16, Fa0/17, Fa0/18, Fa0/19 Fa0/21, Fa0/22, Fa0/23, Fa0/24 Gig0/1, Gig0/2
5	ABC	active	Fa0/20
20	XYZ-20	active	Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/11, Fa0/13, Fa0/15
1002	fddi-default	active	

Basic Switch Configuration

C2960-24TT – Set the interface to VLAN default

Set the interface to VLAN default (VLAN 1)

- In the global configuration command, use command:
default interface interface-id
- Or in the interface configuration mode, use command:
no switchport acc vlan

Example: Set interface Fa0/11, Fa0/13 to VLAN default

- Switch#
- Switch#conf t
- Switch(config)#default interface fa0/11
- Switch(config)#interface fa0/13
- Switch(config-if)#no switchport acc vlan
- Switch(config-if)#end
- Switch#

```
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#default interface fa0/11
Building configuration...
Command rejected: An interface must be configured to the Access or Trunk
modes to be configured to NoNegotiate.

Interface FastEthernet0/11 set to default configuration
Switch(config)#interface fa0/13
Switch(config-if)#no switchport acc vlan
Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

Switch#show vlan

VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4 Fa0/5, Fa0/10, Fa0/11, Fa0/12 Fa0/13, Fa0/14, Fa0/16, Fa0/17 Fa0/18, Fa0/19, Fa0/21, Fa0/22 Fa0/23, Fa0/24, Gig0/1, Gig0/2
5	ABC	active	Fa0/20
20	XYZ-20	active	Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/15
1002	fddi-default	active	

```
interface FastEthernet0/10
!
interface FastEthernet0/11
switchport mode access
!
```

Basic Switch Configuration

C2960-24TT – Configure the port as a trunk port

The steps assigning port to trunk mode

- Access the interface configuration mode
- Define trunk mode for the port

Optional:

- Determine the VLAN id that is allowed to pass through the trunk link (by default, all VLANs are passed)
- If you want to add some port-related reminders, use "*description*" command
- Change Native VLAN

Example 1: Set interface Gi0/2 as a trunk port

- Switch#conf t
- Switch(config)#interface Gi0/2
- Switch(config-if)#switchport mode trunk
- Switch(config-if)#end
- Switch#

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch>
Switch>
Switch>en
Switch#
Switch#
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface Gi0/2
Switch(config-if)#switchport mode trunk
Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
Switch#show inter Gi0/2 status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
Gig0/2		notconnect	trunk	auto	auto	10/100BaseTX

```
Switch#
```

Basic Switch Configuration

C2960-24TT – Configure the port as a trunk port

Example 2: Set interface Gi0/1 as a trunk port and allow vlan 1,3,5

- Switch#conf t
- Switch(config)#interface Gi0/1
- Switch(config-if)#description To-SW1-Gi0/1
- Switch(config-if)#switchport mode trunk
- Switch(config-if)#switchport trunk allowed vlan 1,3,5
- Switch(config-if)#end
- Switch#

Two optional commands:

- “*description To-SW1-Gi0/1*” add some information for this port
- “*switchport trunk allowed vlan 1,3,5*”: allow VLAN 1,3,5 to pass through the trunk link

Note:

- encapsulation dot1q: default on trunk port of Cisco 2960

```
Switch#
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface Gi0/1
Switch(config-if)#description To-SW1-Gi0/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk allowed vlan 1,3,5
Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
Switch#
Switch#
```

Interface specific description

Let vlan 1,3,5 pass through the trunk link

If all VLANs want to go through the link, do not use this command

```
Switch#show inter Gi0/1 status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
Gig0/1	To-SW1-Gi0/1	notconnect	trunk	auto	auto	10/100BaseTX

Basic Switch Configuration

C2960-24TT – Configure the port as a trunk port

Example 3:

- Set interface Fa0/24 as a trunk port
- and set Native VLAN to VLAN 5 (name DMZ)

The Native VLAN on a trunk port/link:

- allow to remain untagged.
- By default, Native VLAN is VLAN 1

Configuration commands:

- Switch#
- Switch#conf t
- Switch(config)#interface Fa0/24
- Switch(config-if)#switchport mode trunk
- Switch(config-if)#switchport trunk native vlan 5
- Switch(config-if)#end
- Switch#

```
Physical  Config  CLI  Attributes
IOS Command Line Interface

Switch#
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface Fa0/24
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk native vlan 5
Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
Switch#
Switch#show inter fa0/24 switchport
Name: Fa0/24
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: down
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 5 (DMZ)
Voice VLAN: none
Administrative private-vlan host-association: none
```

Questions and Answers