CISCO

COMMAND LINE

SUBASH SUBEDI

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1. Types of Mode

User EXEC Mode (>).

Privileged EXEC Mode (#).

Global Configuration Mode (config).

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Line Configuration Mode (config-line).

V LAN Configuration Mode (config-vlan)

2. CMD to Enter User EXEC Mode.

Figure 1

>

3. CMD to Enter Privileged EXEC Mode.

>enable

Figure 2

4. CMD to Enter Global Configuration Mode.

#configure terminal

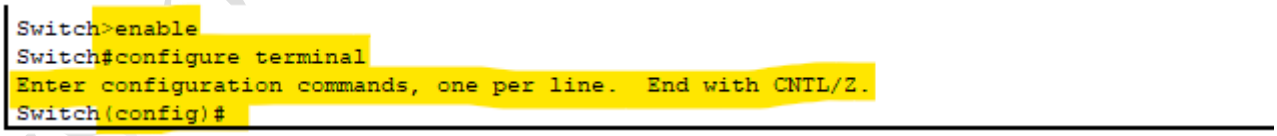

Figure 3

5. CMD to Change the device name.

hostname [Name of Router]

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

Figure 4

6. CMD to Set the Manual Time Settings.

clock set [hh:mm:ss] [month] [day] [year] ***"This cmd is used in Privileged Exec Mode"***

```
Switch#clock set ?
  hh:mm:ss  Current Time
Switch#clock set 19:32:00 ?
  <1-31>  Day of the month
  MONTH   Month of the year
Switch#clock set 19:32:00 23?
<1-31>
Switch#clock set 19:32:00 23 FEB 2025
Switch#show cl
Switch#show clock
19:32:4.859 UTC Sun Feb 23 2025
Switch#
```

Figure 5

do clock set [hh:mm:ss] [month] [day] [year] ***"This cmd is used in Global Configuration Mode"***

```
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#do clock set 19:32:00 23 FEB 2025
Switch(config)#
```

Figure 6

7. CMD to Set the Automatic Time Settings.

clock timezone NPT 5 45

8. CMD to save all configurations.

write memory ***"This cmd is used in Privileged Exec Mode"***

```
Switch#
Switch#write ?
  erase     Erase NV memory
  memory    Write to NV memory
  terminal  Write to terminal
  <cr>
Switch#write memory
Building configuration...
[OK]
Switch#
```

Figure 7

OR

wr ***"This cmd is used in Privileged Exec Mode"***

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

Figure 8

OR

copy running-config startup-config ***"This cmd is used in Privileged Exec Mode"***

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

Figure 9

OR

do write memory ***"This cmd is used in Privileged Exec Mode"***

```
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#do write memory
Building configuration...
[OK]
Switch(config)#
```

Figure 10

OR

do wr ***"This cmd is used in Global Configuration Mode"***

```
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#do wr
Building configuration...
[OK]
Switch(config)#
```

Figure 11

OR

do copy running-config startup-config ***"This cmd is used in Global Configuration Mode"***

```
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#do copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Switch(config)#
```

Figure 12

9. CMD to review or see the latest NVRAM file of the network node

show running-config

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

Current configuration : 1137 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--
```

Figure 13

OR

do show running-config ***"This cmd is used in Global Configuration Mode"***

```
Switch(config)#
Switch(config)#do show running-config
Building configuration...

Current configuration : 1137 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--
```

Figure 14

10.CMD to disable translating unfamiliar words (typos) into IP addresses. (Shift+Ctrl+6)

no ip domain-lookup

```
Switch#
Switch#1211
Translating "1211"...domain server (255.255.255.255) % Name lookup aborted
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#no ip domain-lo
Switch(config)#no ip domain-lookup
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#1211
Translating "1211"
% Unknown command or computer name, or unable to find computer address

Switch#
```

Figure 15

11.CMD to set Banner Message at Starting.

banner motd $ [Write your message to display] $

```
Switch(config)#banner motd $ TEST BANNER MOTD $
```

Figure 16

12.CMD to set Normal Enable Password (to Enter Privileged EXEC Mode).

enable password [ENTER YOUR PASSWOD]

```
Switch(config)#
Switch(config)#enable ?
  password  Assign the privileged level password
  secret    Assign the privileged level secret
Switch(config)#enable password cisco
```

Figure 17

RESULT

```
Switch>
Switch>enable
Password:
```

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

Current configuration : 1104 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch
!
enable password cisco
!
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 --More--
```

Figure 18

13.CMD to set Encrypt the plain text passwords.

service password-encryption

```
Switch(config)#
Switch(config)#service ?
  dhcp                  Enable DHCP server and relay agent
  password-encryption   Encrypt system passwords
  timestamps            Timestamp debug/log messages
Switch(config)#service password-encryption
Switch(config)#
```

Figure 19

RESULT

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

Current configuration : 1110 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname Switch
!
enable password 7 0822455D0A16
!
!
!
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
!
interface FastEthernet0/1
 --More--
```

Figure 20

14.CMD to set time Disconnect/Logout automatically.

It will be used when we are accessing the router through console cable.

line console 0

exec-time [Minutes] [Second]

exit

```
Switch(config)#line console 0
Switch(config-line)#exec-timeout ?
  <0-35791>  Timeout in minutes
Switch(config-line)#exec-timeout 1 ?
  <0-2147483>  Timeout in seconds
  <cr>
Switch(config-line)#exec-timeout 1 07
Switch(config-line)#exit
Switch(config)#
```

Figure 21

ANOTHER

It will be used when we are accessing the router through TELENET and SSH

line vty 0 15

exec-timeout [Minutes] [Second]

exit

```
Switch(config)#line vty 0 15
Switch(config-line)#exec-timeout ?
  <0-35791>  Timeout in minutes
Switch(config-line)#exec-timeout 1 ?
  <0-2147483>  Timeout in seconds
  <cr>
Switch(config-line)#exec-timeout 1 10
Switch(config-line)#exit
Switch(config)#
```

Figure 22

15.CMD to configure the console cable access password

This cmd is used for one password by many users.

line console 0

password [Enter your password]

login local or login

exec-time [Minutes] [Second]

exit

```
Switch(config)#
Switch(config)#line console 0
Switch(config-line)#password cisco
Switch(config-line)#login
Switch(config-line)#exec-time 0 60
Switch(config-line)#exit
Switch(config)#
```

Figure 23

ANOTHER

This cmd is used as per username and password.

username [Name] secret [Enter your Password]

line console 0

login local or login

exec-time [Minutes] [Second]

exit

```
Switch(config)#username ?
  WORD  User name
Switch(config)#username subash ?
  password   Specify the password for the user
  privilege  Set user privilege level
  secret     Specify the secret for the user
  <cr>
Switch(config)#username subash secret cisco
Switch(config)#line console 0
Switch(config-line)#login local
Switch(config-line)#exec-time 0 60
Switch(config-line)#exit
Switch(config)#
```

Figure 24

16.CMD to configure password while access through TELNET and SSH

TELNET

line vty [] []

transport input telnet

login local

exec-time [Minutes] [Second]

exit

```
Switch(config)#line ?
  <0-16>   First Line number
  console  Primary terminal line
  vty      Virtual terminal
Switch(config)#line vty ?
  <0-15>  First Line number
Switch(config)#line vty 0 ?
  <1-15>  Last Line number
  <cr>
Switch(config)#line vty 0 15
Switch(config-line)#transport input telnet
Switch(config-line)#login local
Switch(config-line)#exec-time 0 60
Switch(config-line)#exit
Switch(config)#
```

Figure 25

TELNET in per username and password

username [Name] secret [Enter your Password]

line vty 0 15

transport input telnet

login local

exec-time [Minutes] [Second]

exit

```
Switch(config)#username subash secret cisco
Switch(config)#line vty 0 15
Switch(config-line)#transport input telnet
Switch(config-line)#login local
Switch(config-line)#exec-time 0 60
Switch(config-line)#exit
Switch(config)#
```

Figure 26

SSH

SSH in per username and password

username [Name] secret [Enter your Password]

ip domain-name [Nomain Name]

crypto key generate rsa

[Enter the rsa Number for encryprtion]

ip ssh version [Enable SSH version]

line vty [] []
login local
transport input ssh
exit

ip ssh time-out [Second] [Minutes]
ip ssh authentication-retries [Limit login attempts]
exit

```
rl(config)#username cisco secret cisco
rl(config)#ip domain-name test.com
rl(config)#crypto key generate rsa
The name for the keys will be: rl.test.com
Choose the size of the key modulus in the range of 360 to 4096 for your
  General Purpose Keys. Choosing a key modulus greater than 512 may take
  a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

rl(config)#ip ssh version 2
*Mar 1 0:35:35.168: %SSH-5-ENABLED: SSH 1.99 has been enabled
rl(config)#line vty 0 4
rl(config-line)#?
Virtual Line configuration commands:
  access-class   Filter connections based on an IP access list
  accounting     Accounting parameters
  databits       Set number of data bits per character
  exec-timeout   Set the EXEC timeout
  exit           Exit from line configuration mode
  flowcontrol    Set the flow control
  history        Enable and control the command history function
  ipv6           IPv6 options
  logging        Modify message logging facilities
  login          Enable password checking
  motd-banner    Enable the display of the MOTD banner
  no             Negate a command or set its defaults
  parity         Set terminal parity
  password       Set a password
  privilege      Change privilege level for line
  session-limit  Set maximum number of sessions
  speed          Set the transmit and receive speeds
  stopbits       Set async line stop bits
  transport      Define transport protocols for line
rl(config-line)#login local
rl(config-line)#transport input ssh
rl(config-line)#exit
```

Figure 27

```
rl(config)#ip ssh time-out ?
  <1-120>  SSH time-out interval (secs)
rl(config)#ip ssh time-out 60 ?
  <cr>
rl(config)#ip ssh time-out 120
rl(config)#ip ssh authentication-retries ?
  <0-5>  Number of authentication retries
rl(config)#ip ssh authentication-retries 3
```

Figure 28

17. CMD to view LAN interface status (UP/Down)

show interfaces status

```
Switch#show interfaces status
Port      Name               Status       Vlan       Duplex  Speed Type
Fa0/1                        notconnect   1          auto    auto  10/100BaseTX
Fa0/2                        notconnect   1          auto    auto  10/100BaseTX
Fa0/3                        notconnect   1          auto    auto  10/100BaseTX
Fa0/4                        notconnect   1          auto    auto  10/100BaseTX
Fa0/5                        notconnect   1          auto    auto  10/100BaseTX
Fa0/6                        notconnect   1          auto    auto  10/100BaseTX
Fa0/7                        notconnect   1          auto    auto  10/100BaseTX
Fa0/8                        notconnect   1          auto    auto  10/100BaseTX
Fa0/9                        notconnect   1          auto    auto  10/100BaseTX
Fa0/10                       notconnect   1          auto    auto  10/100BaseTX
Fa0/11                       notconnect   1          auto    auto  10/100BaseTX
Fa0/12                       notconnect   1          auto    auto  10/100BaseTX
Fa0/13                       notconnect   1          auto    auto  10/100BaseTX
Fa0/14                       notconnect   1          auto    auto  10/100BaseTX
Fa0/15                       notconnect   1          auto    auto  10/100BaseTX
Fa0/16                       notconnect   1          auto    auto  10/100BaseTX
Fa0/17                       notconnect   1          auto    auto  10/100BaseTX
Fa0/18                       notconnect   1          auto    auto  10/100BaseTX
Fa0/19                       notconnect   1          auto    auto  10/100BaseTX
Fa0/20                       notconnect   1          auto    auto  10/100BaseTX
Fa0/21                       notconnect   1          auto    auto  10/100BaseTX
Fa0/22                       notconnect   1          auto    auto  10/100BaseTX
Fa0/23                       notconnect   1          auto    auto  10/100BaseTX
Fa0/24                       notconnect   1          auto    auto  10/100BaseTX
Gig0/1                       notconnect   1          auto    auto  10/100BaseTX
Gig0/2                       notconnect   1          auto    auto  10/100BaseTX

Switch#
```

Figure 29

18. CMD to set an IP address in interface

interface gigabitEthernet [interface number]

ip address A.B.C.D IP subnet mask

no shutdown

exit

```
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#?
  arp                 Set arp type (arpa, probe, snap) or timeout
  bandwidth           Set bandwidth informational parameter
  cdp                 CDP interface subcommands
  channel-group       Add this interface to an Etherchannel group
  crypto              Encryption/Decryption commands
  custom-queue-list   Assign a custom queue list to an interface
  delay               Specify interface throughput delay
  description         Interface specific description
  duplex              Configure duplex operation.
  exit                Exit from interface configuration mode
  fair-queue          Enable Fair Queuing on an Interface
  hold-queue          Set hold queue depth
  ip                  Interface Internet Protocol config commands
  ipv6                IPv6 interface subcommands
  lldp                LLDP interface subcommands
  mac-address         Manually set interface MAC address
  media-type          Configure media type
  mtu                 Set the interface Maximum Transmission Unit (MTU)
  no                  Negate a command or set its defaults
  pppoe               pppoe interface subcommands
  pppoe-client        pppoe client
  priority-group      Assign a priority group to an interface
  service-policy      Configure QoS Service Policy
  shutdown            Shutdown the selected interface
  speed               Configure speed operation.
  standby             HSRP interface configuration commands
  tx-ring-limit       Configure PA level transmit ring limit
  zone-member         Apply zone name
Router(config-if)#
```

19. CMD to set trunk port

configure terminal

interface GigabitEthernet0/1

switchport mode trunk

switchport trunk allowed vlan all

exit

```
Switch(config)#interface gigabitEthernet 0/1
Switch(config-if)#switchport mode ?
  access   Set trunking mode to ACCESS unconditionally
  dynamic  Set trunking mode to dynamically negotiate access or trunk mode
  trunk    Set trunking mode to TRUNK unconditionally
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk ?
  allowed  Set allowed VLAN characteristics when interface is in trunking mode
  native   Set trunking native characteristics when interface is in trunking
           mode
Switch(config-if)#switchport trunk allowed ?
  vlan  Set allowed VLANs when interface is in trunking mode
Switch(config-if)#switchport trunk allowed vlan ?
  WORD    VLAN IDs of the allowed VLANs when this port is in trunking mode
  add     add VLANs to the current list
  all     all VLANs
  except  all VLANs except the following
  none    no VLANs
  remove  remove VLANs from the current list
Switch(config-if)#switchport trunk allowed vlan all
Switch(config-if)#exit
Switch(config)#
```

Figure 30

20.CMD to view VLAN

show vlan brief

```
Switch#show vlan ?
  brief  VTP all VLAN status in brief
  id     VTP VLAN status by VLAN id
  name   VTP VLAN status by VLAN name
  <cr>
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#
```

Figure 31

21.CMD to create VLAN in SWITCH AND ROUTER

CREATE VLAN IN SWITCH AND ROUTER

vlan [Enter your vlan numebr]

name [Enter vlan name]

vlan 20

name TECHNICAL

```
Switch(config)#vlan ?
  <1-4094>  ISL VLAN IDs 1-1005
Switch(config)#vlan 10
Switch(config-vlan)#name ACCOUNT
Switch(config-vlan)#vlan 500
Switch(config-vlan)#name TECHNICAL
Switch(config-vlan)#exit
```

Figure 32

RESULT

```
Switch(config)#do show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Gig1/0/1, Gig1/0/2, Gig1/0/3, Gig1/0/4
                                                Gig1/0/5, Gig1/0/6, Gig1/0/7, Gig1/0/8
                                                Gig1/0/9, Gig1/0/10, Gig1/0/11,
Gig1/0/12
                                                Gig1/0/13, Gig1/0/14, Gig1/0/15,
Gig1/0/16
                                                Gig1/0/17, Gig1/0/18, Gig1/0/19,
Gig1/0/20
                                                Gig1/0/21, Gig1/0/22, Gig1/0/23,
Gig1/0/24
                                                Gig1/1/1, Gig1/1/2, Gig1/1/3, Gig1/1/4
10   ACCOUNT                          active
500  TECHNICAL                        active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Switch(config)#
```

Figure 33

22.CMD to add vlan on interface from range like 1-12 vlan-10 and 13-24 vlan 25

interface range gigabitEthernet [From]-[To]

description [describe the port]

switchport mode access

switchport access vlan [NUMBER]

exit

EXAMPLE

interface range gigabitEthernet 1/0/13-24

description TECHNICAL SECTION

switchport mode access

switchport access vlan 500

exit

```
Switch(config)#interface range fastEthernet 0/1-12
Switch(config-if-range)#description ACCOUNT
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 10
Switch(config-if-range)#exit
Switch(config)#
Switch(config)#interface range fastEthernet 0/13-24
Switch(config-if-range)#description TECHNICAL
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 500
Switch(config-if-range)#exit
```

Figure 34

RESULT

```
Switch#show interfaces status
Port      Name               Status       Vlan       Duplex  Speed Type
Fa0/1     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/2     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/3     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/4     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/5     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/6     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/7     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/8     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/9     ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/10    ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/11    ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/12    ACCOUNT            notconnect   10         auto    auto  10/100BaseTX
Fa0/13    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/14    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/15    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/16    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/17    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/18    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/19    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/20    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/21    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/22    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/23    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Fa0/24    TECHNICAL          notconnect   500        auto    auto  10/100BaseTX
Gig0/1                       notconnect   1          auto    auto  10/100BaseTX
Gig0/2                       notconnect   1          auto    auto  10/100BaseTX
```

Figure 35

23.CMD to assign IP address in interface vlan

interface vlan [Vlan Number]

ip address	A.B.C.D IP subnet mask
arp	Set arp type (arpa, probe, snap) or timeout
description	Interface specific description
exit	Exit from interface configuration mode
ip	Interface Internet Protocol config commands
no	Negate a command or set its defaults
shutdown	Shutdown the selected interface

standby HSRP interface configuration commands

exit

EXAMPLE

Interface vlan 10

ip address 192.168.1.1 255.255.255.0

description $This Example of ip assign in vlan$

no shutdown

exit

```
Switch(config)#interface vlan 10
Switch(config-if)#?
Interface configuration commands:
  arp           Set arp type (arpa, probe, snap) or timeout
  description   Interface specific description
  exit          Exit from interface configuration mode
  ip            Interface Internet Protocol config commands
  no            Negate a command or set its defaults
  shutdown      Shutdown the selected interface
  standby       HSRP interface configuration commands
Switch(config-if)#ip address ?
  A.B.C.D  IP address
  dhcp     IP Address negotiated via DHCP
Switch(config-if)#ip address 192.168.1.0 ?
  A.B.C.D  IP subnet mask
Switch(config-if)#ip address 192.168.1.1 255.255.255.0
```