Basic Configuration command of switch :

Switch > - it is user mode , normal mode

Switch # - it is privileged mode

Commands :

- enable : change to privileged mode in switch
- exit : to left the mode
- ? : press ? and you will see commands for the current switch mode , it is like manual page , navigate commands
- config terminal :

```
Switch>?
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#?
Exec commands:
  clear       Reset functions
  clock       Manage the system clock
  configure   Enter configuration mode
  connect     Open a terminal connection
  copy        Copy from one file to another
  debug       Debugging functions (see also 'undebug')
  delete      Delete a file
  dir         List files on a filesystem
  disable     Turn off privileged commands
  disconnect  Disconnect an existing network connection
  enable      Turn on privileged commands
  erase       Erase a filesystem
  exit        Exit from the EXEC
  logout      Exit from the EXEC
  more        Display the contents of a file
  no          Disable debugging informations
  ping        Send echo messages
  reload      Halt and perform a cold restart
  resume      Resume an active network connection
  setup       Run the SETUP command facility
  show        Show running system information
```

```
Switch>enable
Switch#
```

Commands :

- config terminal : change to global config mode

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

- show privilege : to see the privilege level of current mode

```
Switch>show privilege
Current privilege level is 1
Switch>
```

```
Switch#show privilege
Current privilege level is 15
Switch#exit
```

- exit – returned back to lower level mode

```
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
  monitor             SPAN information and configuration
  no                  Negate a command or set its defaults
  ntp                 Configure NTP
  port-channel        EtherChannel configuration
  privilege           Command privilege parameters
  sdm                 Switch database management
  service             Modify use of network based services
  snmp-server         Modify SNMP engine parameters
  spanning-tree       Spanning Tree Subsystem
  tacacs-server       Modify TACACS query parameters
  username            Establish User Name Authentication
  vlan                Vlan commands
  vtp                 Configure global VTP state
Switch(config)#
```

- hostname - set hostname of the switch

```
Switch(config)#hostname ?
  WORD  This system's network name
Switch(config)#hostname Switch1
Switch1(config)#
Switch1(config)#
Switch1(config)#
```

Note: using ? after command can give you hint to complete command , and also we can use command in short form too like Privi of Privilege etc,,

And see that our switch name set to Switch1 , as shown in cli .

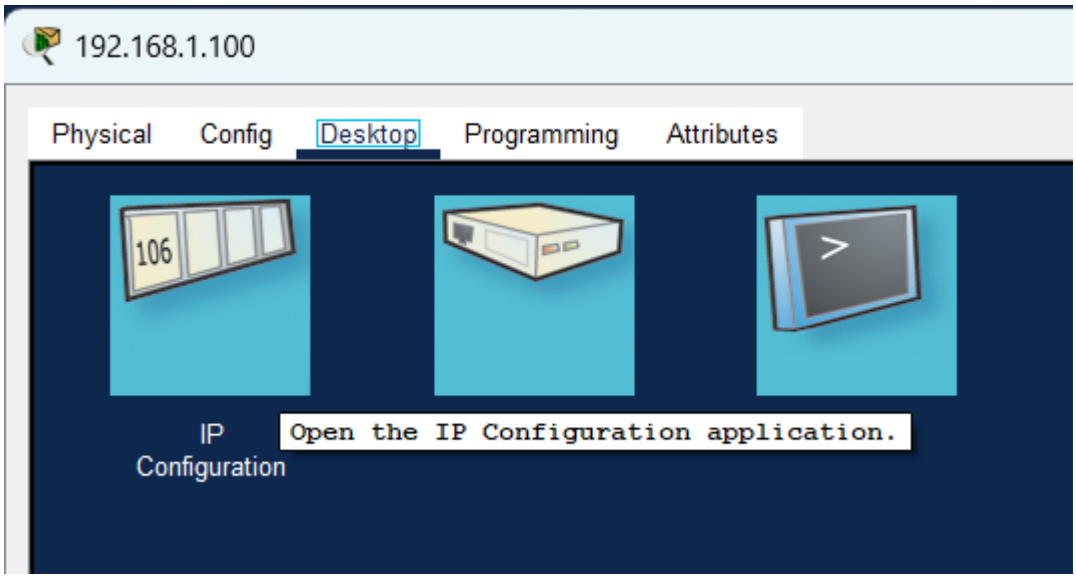
Another example :

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

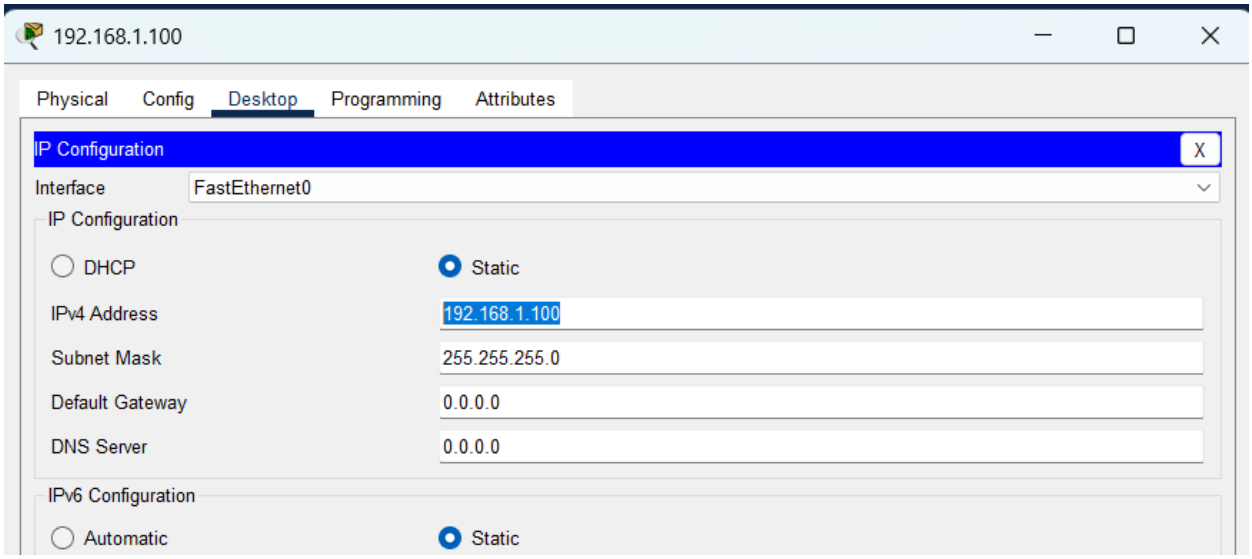
Imp note : While setting up network name each device with it's ip so that will be easy to navigate through device.

Assigning ip address to a device :

Just click on device and you will see interface choose to Desktop tab

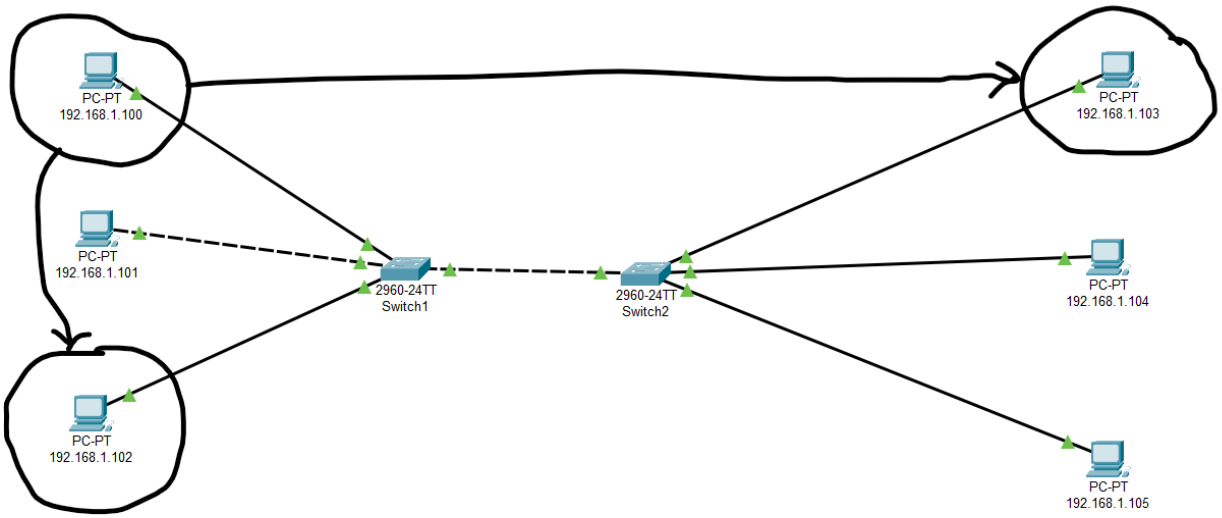


Then select IP Configuration



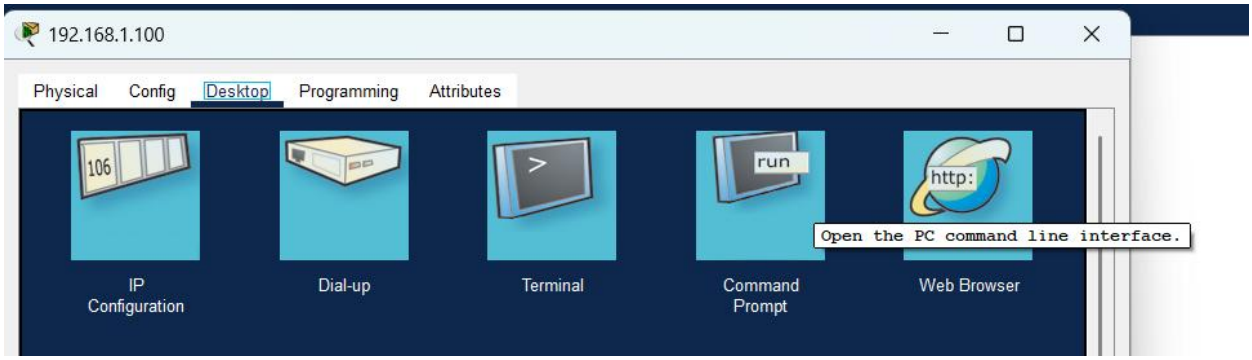
Because it is not a router , we are setting config to static and assign ip in IPv4 section highlighted , hit enter and Subnet Mask will be chosen automatically..

Ping a device on same or different network connected through switch :



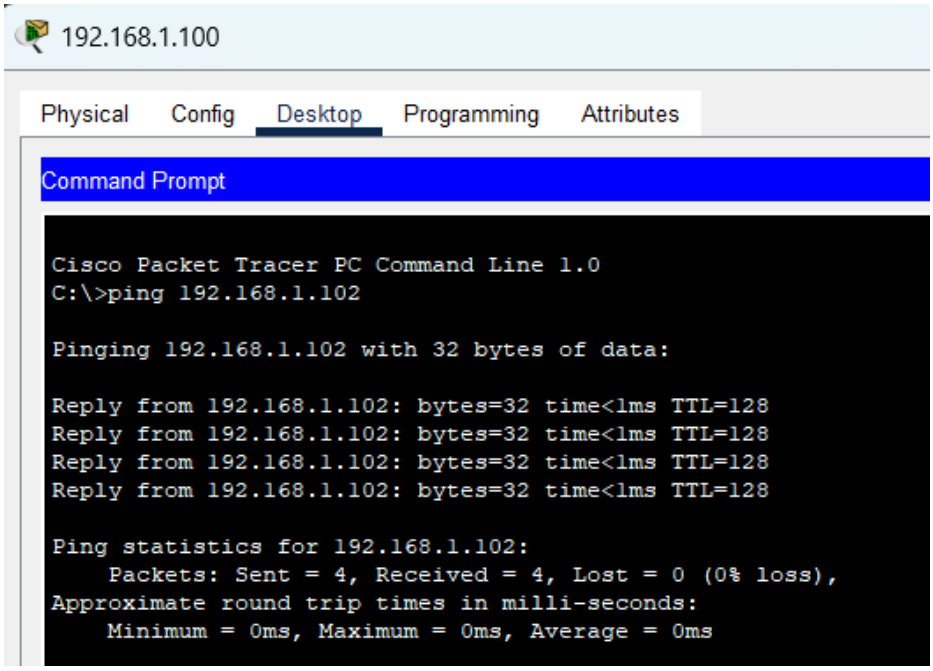
I will ping 192.168.1.102 from 192.168.1.100 which is on a same network, and to 192.168.1.103 located on different network..

Just click on 192.168.1.100 network device and interface will be shown :



Select on **Desktop** tab and now select **Command Prompt**

Command : ping <ip address>



```
C:\>ping 192.168.1.103

Pinging 192.168.1.103 with 32 bytes of data:

Reply from 192.168.1.103: bytes=32 time<1ms TTL=128
Reply from 192.168.1.103: bytes=32 time<1ms TTL=128
Reply from 192.168.1.103: bytes=32 time=1ms TTL=128
Reply from 192.168.1.103: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.103:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

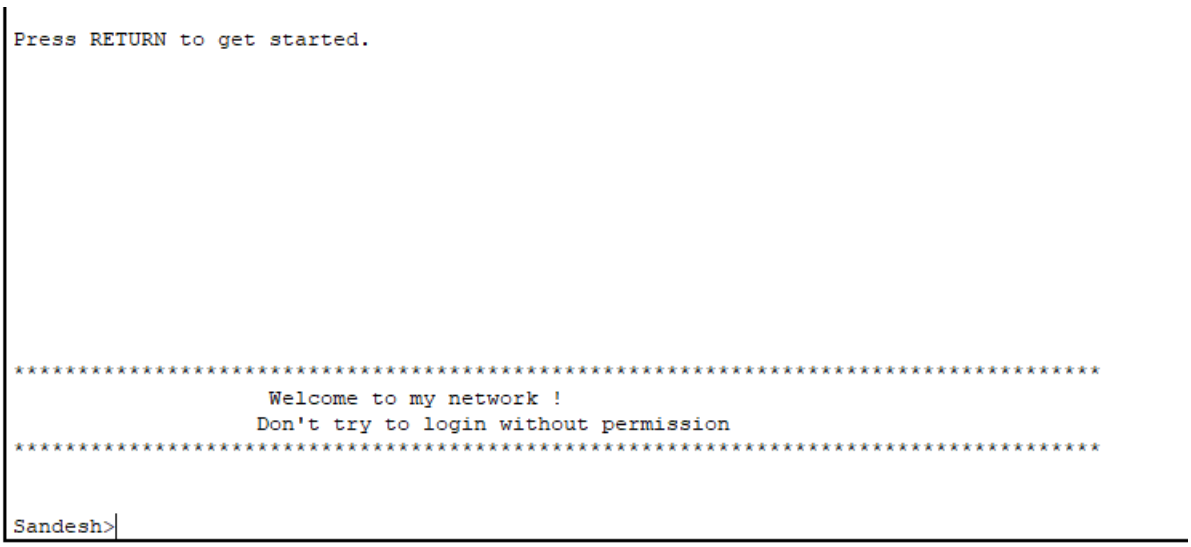
Successfully the sent packets were received without any loss , that's means connection is **reliable** and **stable**.

Command :

banner motd <any message you want to display but should be wrap inside any character that won't or shouldn't be in message otherwise message will be end>

---- to display message

Starting screen now :



In switch1 :

```
Switch1(config)#banner motd *
Enter TEXT message.  End with the character '*'.
            Hello world !
*

Switch1(config)#
```

Set login password to switch

line console 0 : switch to enter specific configuration further than global config mode

```
Sandesh(config)#line ?
  <0-16>   First Line number
  console  Primary terminal line
  vty      Virtual terminal
Sandesh(config)#line console ?
  <0-0>  First Line number
Sandesh(config)#line console 0
Sandesh(config-line)#
```

```
Sandesh(config-line)#?
Line configuration commands:
  access-class  Filter connections based on an IP access list
  accounting    Accounting parameters
  databits      Set number of data bits per character
  default       Set a command to its defaults
  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
  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
  speed         Set the transmit and receive speeds
  stopbits      Set async line stop bits
  transport     Define transport protocols for line
Sandesh(config-line)#
```

```
Sandesh(config-line)#password Hello@world123#
```

Until now with command :

password <password I want to set>

not successfully set because login command hasn't been activated

```
Sandesh(config-line)#password Hello@world123#
Sandesh(config-line)#login
Sandesh(config-line)#
```

Now it is successfully set, let's see our welcome screen!

```
**********************************************************************************
                    Welcome to my network !
                  Don't try to login without permission
**********************************************************************************

User Access Verification

Password:
```

Set Password on Login:

```
(Config)#line con 0
(Config-line)password cisco
(Config-line)login
```

We have seen that we set password on entry level which is during the initial phase of switch , but what if we need level of authority to distribute. If we need someone to get view level permission but not of configuring things in our network. This is called level of authority distribution. We already set password for entry level which is Switch1>, where it got privilege level is 1.

Now what if we need to set password for privileged mode which is Switch1#, where privilege level is 15.

Switch entry level password I have set : Hello@world123#

Switch privileged mode level password : Cisco

```
Switch1>show privilege
Current privilege level is 1
Switch1>
```

Setting password for privileged mode :

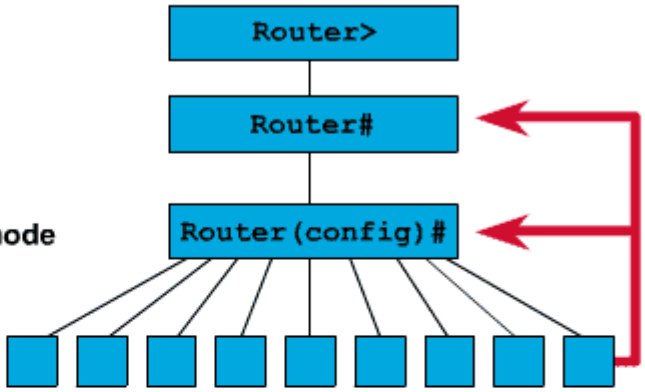
```
Switch1(config)#enable password Cisco
Switch1(config)#
```

After setting password :

```
            Hello world !


User Access Verification

Password:

Switch1>enable
Password:
```

Overview of Router Modes

- User Exec mode
- Privileged Exec mode
- Global configuration mode
- Specific Configuration modes



Configuration Mode	Prompt
Interface	`Router(config-if)#`
Subinterface	`Router(config-subif)#`
Controller	`Router(config-controller)#`
Map-list	`Router(config-map-list)#`
Map-class	`Router(config-map-class)#`
Line	`Router(config-line)#`
Router	`Router(config-router)#`
IPX-router	`Router(config-ipx-router)#`
Route-map	`Router(config-route-map)#`

Entering interface mode :

```
Switch1(config)#int?
interface
Switch1(config)#interface ?
  Ethernet          IEEE 802.3
  FastEthernet      FastEthernet IEEE 802.3
  GigabitEthernet   GigabitEthernet IEEE 802.3z
  Port-channel      Ethernet Channel of interfaces
  Vlan              Catalyst Vlans
  range             interface range command
Switch1(config)#interface vlan?
Vlan
Switch1(config)#interface Vlan ?
  <1-4094>  Vlan interface number
Switch1(config)#interface Vlan 1
Switch1(config-if)#
```

Assigning or adding ip address to Vlan :

```
Switch1(config-if)#ip address 192.168.1.1 255.255.255.0
Switch1(config-if)#no shut

Switch1(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up
```

no shut command for enabling it in up condtion, where we manually up it…..

After assigning let's have a look in Switch1 :

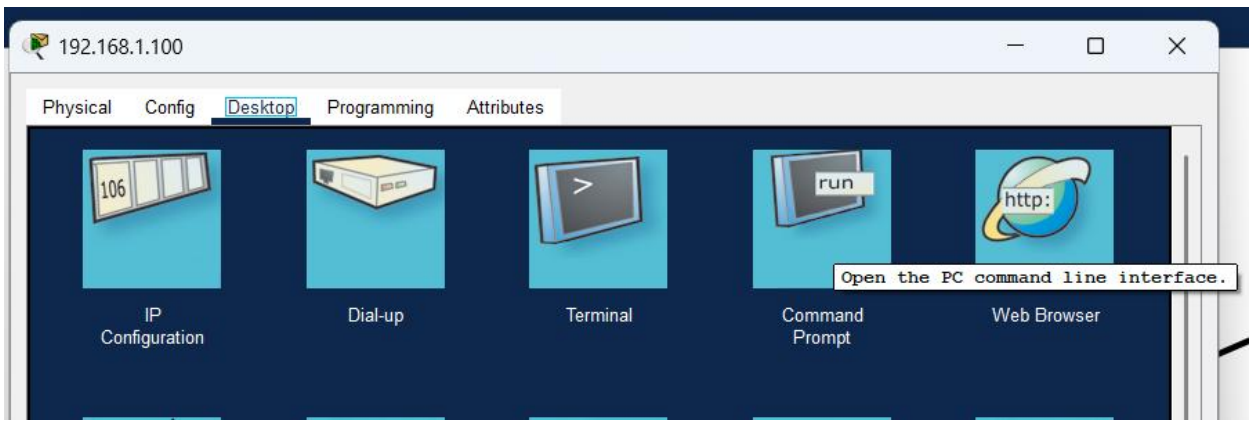
```
Device Name: Switch1
Custom Device Model: 2960 IOS15
Hostname: Switch1

Port                 Link   VLAN   IP Address          MAC Address
FastEthernet0/1      Up     1      --                  0001.9778.8501
FastEthernet0/2      Up     1      --                  0001.9778.8502
FastEthernet0/3      Up     1      --                  0001.9778.8503
FastEthernet0/4      Up     1      --                  0001.9778.8504
FastEthernet0/5      Down   1      --                  0001.9778.8505
FastEthernet0/6      Down   1      --                  0001.9778.8506
FastEthernet0/7      Down   1      --                  0001.9778.8507
FastEthernet0/8      Down   1      --                  0001.9778.8508
FastEthernet0/9      Down   1      --                  0001.9778.8509
FastEthernet0/10     Down   1      --                  0001.9778.850A
FastEthernet0/11     Down   1      --                  0001.9778.850B
FastEthernet0/12     Down   1      --                  0001.9778.850C
FastEthernet0/13     Down   1      --                  0001.9778.850D
FastEthernet0/14     Down   1      --                  0001.9778.850E
FastEthernet0/15     Down   1      --                  0001.9778.850F
FastEthernet0/16     Down   1      --                  0001.9778.8510
FastEthernet0/17     Down   1      --                  0001.9778.8511
FastEthernet0/18     Down   1      --                  0001.9778.8512
FastEthernet0/19     Down   1      --                  0001.9778.8513
FastEthernet0/20     Down   1      --                  0001.9778.8514
FastEthernet0/21     Down   1      --                  0001.9778.8515
FastEthernet0/22     Down   1      --                  0001.9778.8516
FastEthernet0/23     Down   1      --                  0001.9778.8517
FastEthernet0/24     Down   1      --                  0001.9778.8518
GigabitEthernet0/1   Down   1      --                  0001.9778.8519
GigabitEthernet0/2   Down   1      --                  0001.9778.851A
Vlan1                Up     1      192.168.1.1/24      000B.BE0B.26CA

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Switch1
```

Setting password for telnet 0-15

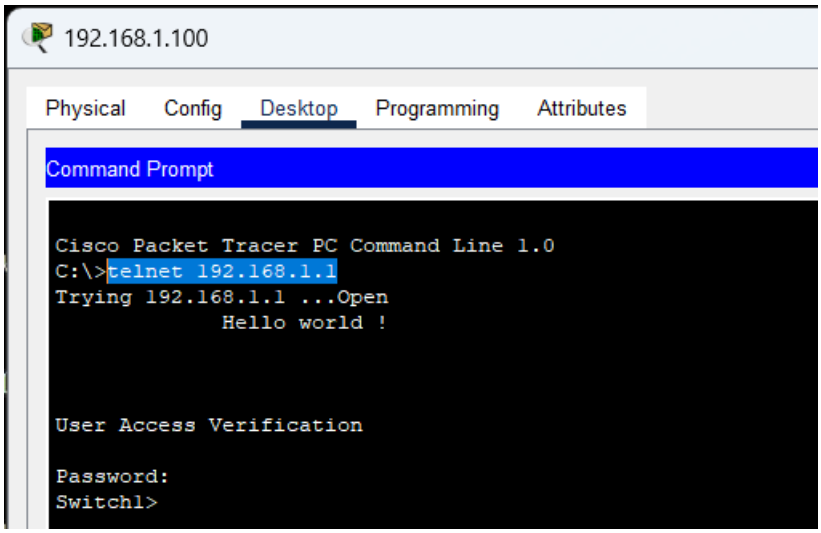
```
Switch1(config-if)#exit
Switch1(config)#int vlan 1
Switch1(config-if)#exit
Switch1(config)#line?
line
Switch1(config)#line ?
  <0-16>   First Line number
  console  Primary terminal line
  vty      Virtual terminal
Switch1(config)#line vty ?
  <0-15>  First Line number
Switch1(config)#line vty 0 15
Switch1(config-line)#password telnet
Switch1(config-line)#login
Switch1(config-line)#
```

Now accessing telnet from another network device in network ,

in our case let's do this from device with ip : 192.168.1.100 click on network device and choose Desktop tab :



Open Command prompt interface :



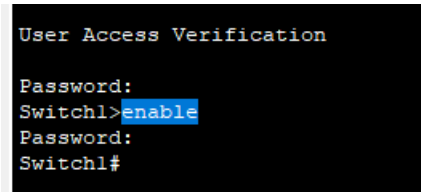
Command : telnet <vlan_ip>

And then enter password your set password for telnet which is : telnet

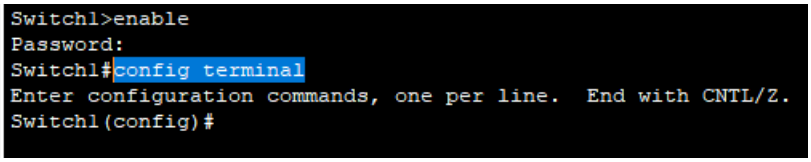
Now entering privilege mode where we have set password , and then entering global config mode :

Password will use for telnet are :

- telnet password as entry level , when login to telnet
- privilege mode , enable



Entering global config mode :



Overall configuration we have practiced :

Basic Configuration:

>Show Privi

>enable

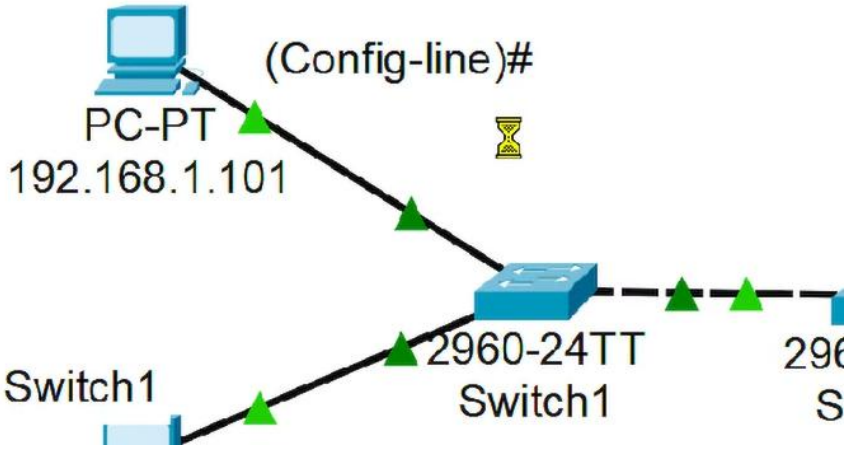
#config t

#exit

(Config)#hostname Switch1

(Config)#banner motd &

(Config-line)#



Set Password on Login:

```
(Config)#line con 0
(Config-line)password cisco
(Config-line)login
```

Set Enable Mode Password:

```
(Config)#enable password hacker
```

Telnet Configuration:

```
(Config)#int vlan 1
(Config-if)#ip add 192.168.1.1 255.255.255.0
(Config-if)#no shut
```