

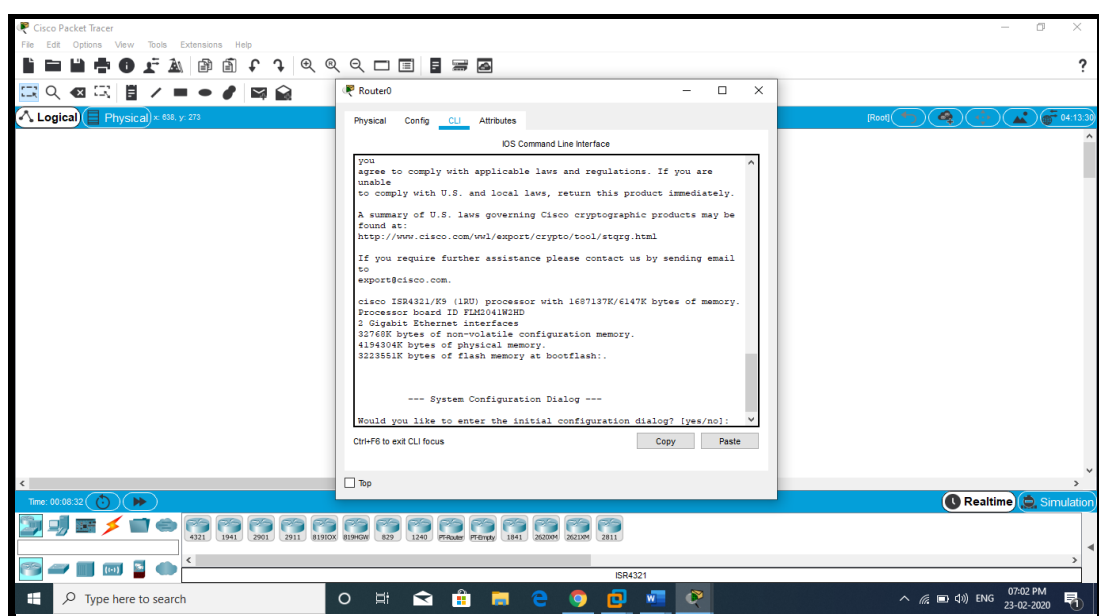
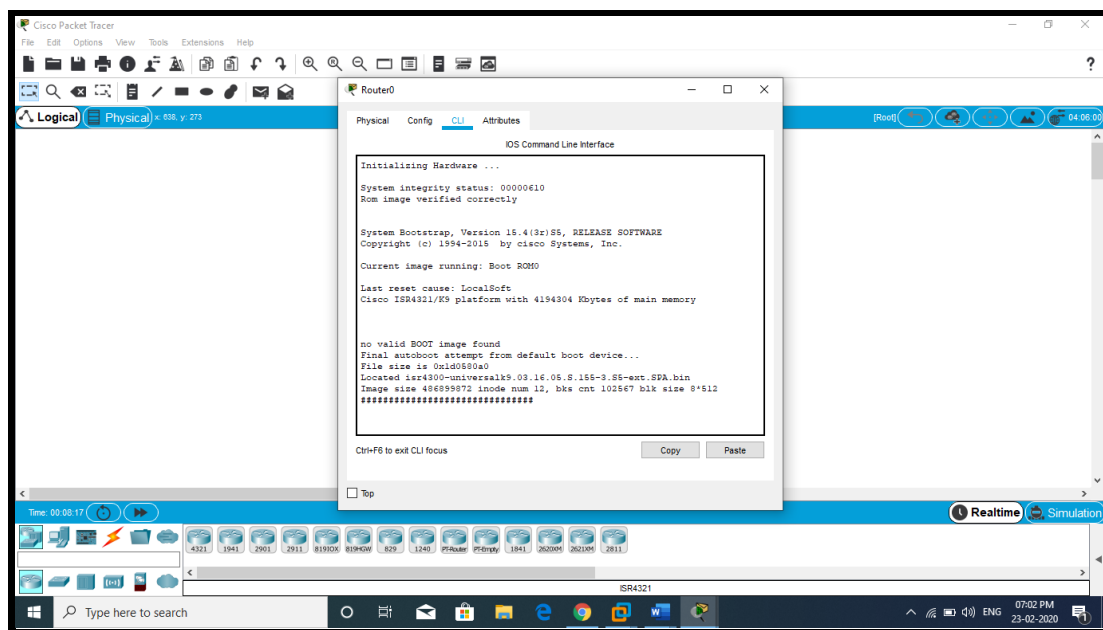
PRACTICAL 8

AIM: Configuration of Router

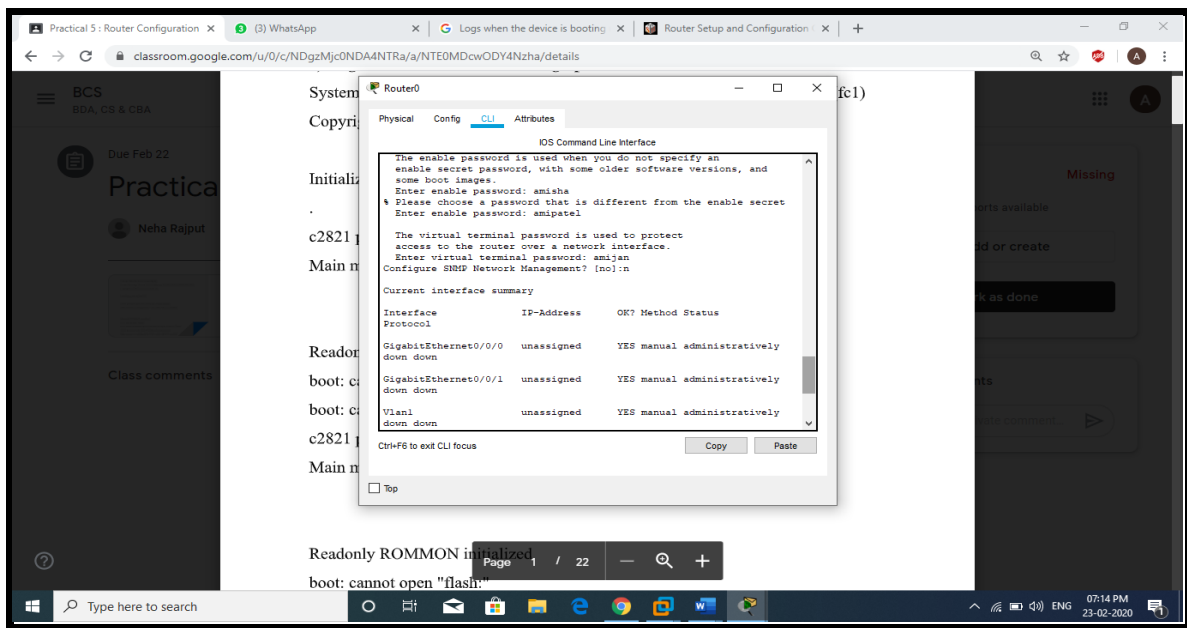
1 Booting up of the device (Note: we are using puTTY software)

- Here as mentioned in manual we can practically see the configuration in puTTY and also in cisco packet tracer

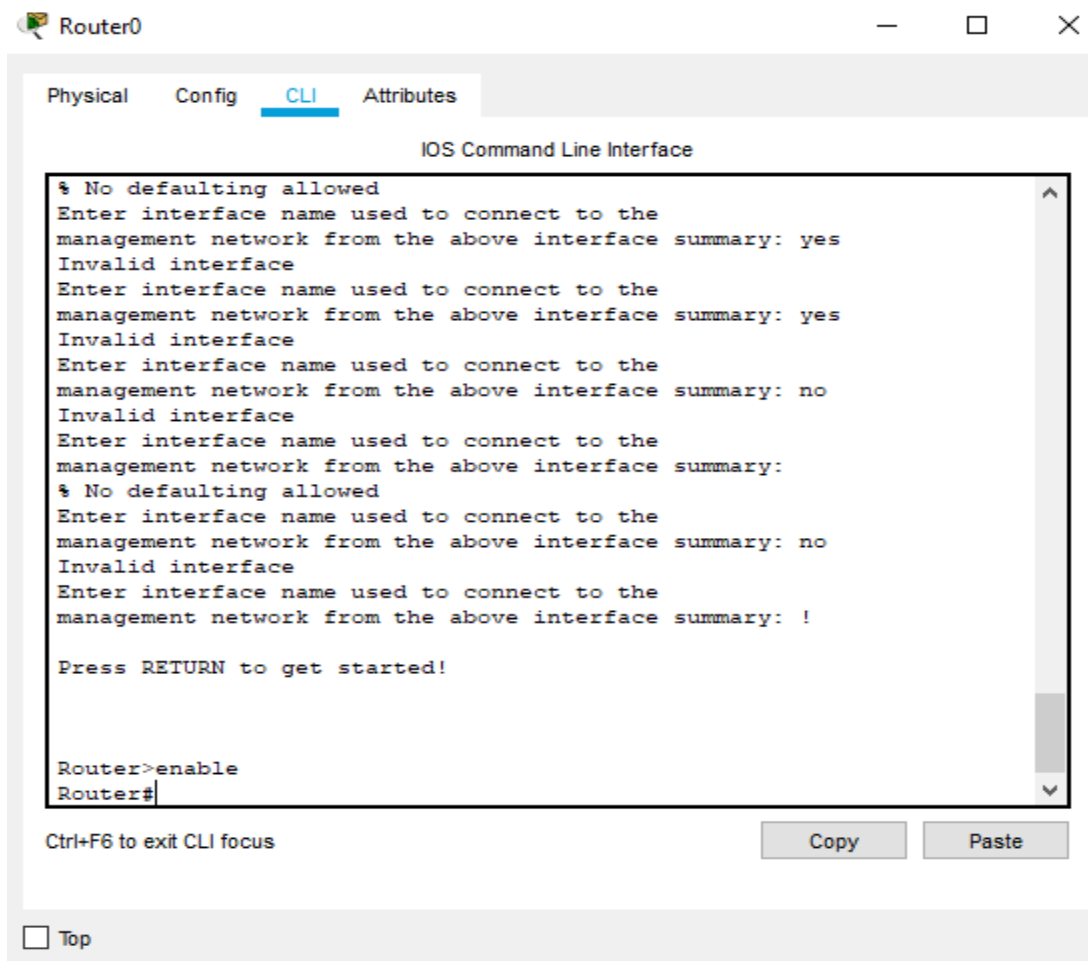
Memory has been initialized here



2 initial configuration



3 Entering the CLI



4 Configuring Hostname

```
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary: yes
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary: no
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary:
% No defaulting allowed
Enter interface name used to connect to the
management network from the above interface summary: no
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary: !

Press RETURN to get started!

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

5 Configure the privileged mode and secret passwords.

```
management network from the above interface summary: yes
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary: no
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary:
% No defaulting allowed
Enter interface name used to connect to the
management network from the above interface summary: no
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary: !

Press RETURN to get started!

Router>enable
Router# config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname amisha
amisha(config)#enable password amisha
amisha(config)#enable secret amil23
amisha(config)#
```

6 Configure the console password.

```
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary:
% No defaulting allowed
Enter interface name used to connect to the
management network from the above interface summary: no
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary: !

Press RETURN to get started!

Router>enable
Router# config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname amisha
amisha(config)#enable password amisha
amisha(config)#enable secret amil23
amisha(config)#line console 0
amisha(config-line)#password 123456789
amisha(config-line)#login
amisha(config-line)#exit
amisha(config)#
```

7 Configure the vty password to allow Telnet access to the router.

IOS Command Line Interface

```
Enter interface name used to connect to the
management network from the above interface summary: no
Invalid interface
Enter interface name used to connect to the
management network from the above interface summary: !

Press RETURN to get started!

Router>enable
Router# config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname amisha
amisha(config)#enable password amisha
amisha(config)#enable secret amil23
amisha(config)#line console 0
amisha(config-line)#password 123456789
amisha(config-line)#login
amisha(config-line)#exit
amisha(config)#line vty 0 4
amisha(config-line)#password 123456789
amisha(config-line)#login
amisha(config-line)#exit
amisha(config)#
```

8 Configure password encryption, a MOTD banner, and turn off domain server lookup.

```
Enter interface name used to connect to the
management network from the above interface summary: !

Press RETURN to get started!

Router>enable
Router# config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname amisha
amisha(config)#enable password amisha
amisha(config)#enable secret amil23
amisha(config)#line console 0
amisha(config-line)#password 123456789
amisha(config-line)#login
amisha(config-line)#exit
amisha(config)#line vty 0 4
amisha(config-line)#password 123456789
amisha(config-line)#login
amisha(config-line)#exit
amisha(config)#service password-encryption
amisha(config)#banner motd $Authorized Access Only!$
amisha(config)#exit
amisha#
```

Press RETURN to get started.

```
Authorized Access Only!

User Access Verification

Password:

amisha>emblem
Translating "emblem"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer
address

amisha>
```

```

amisha>enable
Password:
Password:
Password:
% Bad secrets

amisha>enable password password
      ^
% Invalid input detected at '^' marker.

amisha>
amisha>enable
Password:
Password:
amisha#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
amisha(config)#
amisha(config)#end
amisha#
%SYS-5-CONFIG_I: Configured from console by console
!
amisha#copy run start

```

10 Check the version of the router

Show version is used to see the detailed version of router

```

amisha#
amisha#show version
Cisco IOS XE Software, Version 03.16.05.S - Extended Support Release
Cisco IOS Software, ISR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M),
Version Version 15.5 (3)S5, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2017 by Cisco Systems, Inc.
Compiled Thu 19-Jan-17 11:24 by mcpre

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with ABSOLUTELY NO WARRANTY.  You can redistribute and/or modify such
GPL code under the terms of GPL Version 2.0.  For more details, see
the
documentation or "License Notice" file accompanying the IOS-XE
software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.

ROM: IOS-XE ROMMON

```

```

-----
---
Technology      Technology-package      Type      Technology-package
              Current                      Next reboot
-----
---
appxk9          None                      None      None
uck9            None                      None      None
securityk9      securityk9                Permanent securityk9
ibase          ipbasek9                  Permanent ipbasek9
security        securityk9                Permanent securityk9
ibase          ipbasek9                  Permanent ipbasek9

cisco ISR4321/K9 (1RU) processor with 1687137K/6147K bytes of memory.
Processor board ID FLM2041W2HD
2 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
4194304K bytes of physical memory.
3223551K bytes of flash memory at bootflash:.

Configuration register is 0x2102

```

11 to check currently working configuration of router show running-config

```

amisha@:
amisha#show running-config
Building configuration...

Current configuration : 753 bytes
!
version 15.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
!
hostname amisha
!
!
!
enable secret 5 $1$mERr$dASM/JmvKMg8VE/pKC51X.
enable password 7 082041471A1104
!
!
!
!
!
!
ip cef
--More--

```

```

no ip address
shutdown
!
ip classless
!
ip flow-export version 9
!
!
!
banner motd ^CAuthorized Access Only!^C
!
!
!
!
line con 0
password 7 08701E1D5D4C53404A52
login
!
line aux 0
!
line vty 0 4
password 7 08701E1D5D4C53404A52
login
--More-- |

```

11 next step is to Configure the interface

interface GigabitEthernet0/0/0

and similarly 0/0/1 but I haven't configured ip address to second interface 1 and give(ip address 192.168.100.1 255.255.255.0) to give ip

```

!
line vty 0 4
password 7 08701E1D5D4C53404A52
login
!
!
!
end

amisha#
amisha#
amisha#
amisha#config t
Enter configuration commands, one per line.  End with CNTL/Z.
amisha(config)#interface GigabitEthernet0/0
%Invalid interface type and number
amisha(config)#interface GigabitEthernet0/0/0
amisha(config-if)#192.168.100.1 255.255.255.0
^
% Invalid input detected at '^' marker.

amisha(config-if)#ip address 192.168.100.1 255.255.255.0
amisha(config-if)#exit
amisha(config)#

```


13 check configuration with(show ip configuration brief and check that only 0/0/0 link has ip address manually and unsigned for second interface

```
amisha#config t
Enter configuration commands, one per line. End with CNTL/Z.
amisha(config)#interface GigabitEthernet0/0
%Invalid interface type and number
amisha(config)#interface GigabitEthernet0/0/0
amisha(config-if)#192.168.100.1 255.255.255.0
^
% Invalid input detected at '^' marker.

amisha(config-if)#ip address 192.168.100.1 255.255.255.0
amisha(config-if)#exit
amisha(config)#exit
amisha#
%SYS-5-CONFIG_I: Configured from console by console
!
amisha#show ip interface brief
Interface                IP-Address      OK? Method Status
Protocol
GigabitEthernet0/0/0     192.168.100.1   YES manual administratively
down down
GigabitEthernet0/0/1     unassigned      YES unset  administratively
down down
Vlan1                    unassigned      YES unset  administratively
down down
amisha#
```

14 The most important command is write memory to save configuration on real router

```
%Invalid interface type and number
amisha(config)#interface GigabitEthernet0/0/0
amisha(config-if)#192.168.100.1 255.255.255.0
^
% Invalid input detected at '^' marker.

amisha(config-if)#ip address 192.168.100.1 255.255.255.0
amisha(config-if)#exit
amisha(config)#exit
amisha#
%SYS-5-CONFIG_I: Configured from console by console
!
amisha#show ip interface brief
Interface                IP-Address      OK? Method Status
Protocol
GigabitEthernet0/0/0     192.168.100.1   YES manual administratively
down down
GigabitEthernet0/0/1     unassigned      YES unset  administratively
down down
Vlan1                    unassigned      YES unset  administratively
down down
amisha#write memory
Building configuration...
[OK]
amisha#
```

15 to check history(show history)

```
[OK]
amisha#show history
copy run start
clear
history clear
write erase
show version
show running-config
config t
show ip interface brief
write memory
show history
amisha#
```

16 to erase the configuration it is used first when u want to configure router to reset

```
GigabitEthernet0/0/1  unassigned  YES unset  administratively
down down
Vlan1                  unassigned  YES unset  administratively
down down
amisha#write memory
Building configuration...
[OK]
amisha#show history
copy run start
clear
history clear
write erase
show version
show running-config
config t
show ip interface brief
write memory
show history
amisha#write erase
Erasing the nvram filesystem will remove all configuration files!
Continue? [confirm]
[OK]
Erase of nvram: complete
%SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram
amisha#
```

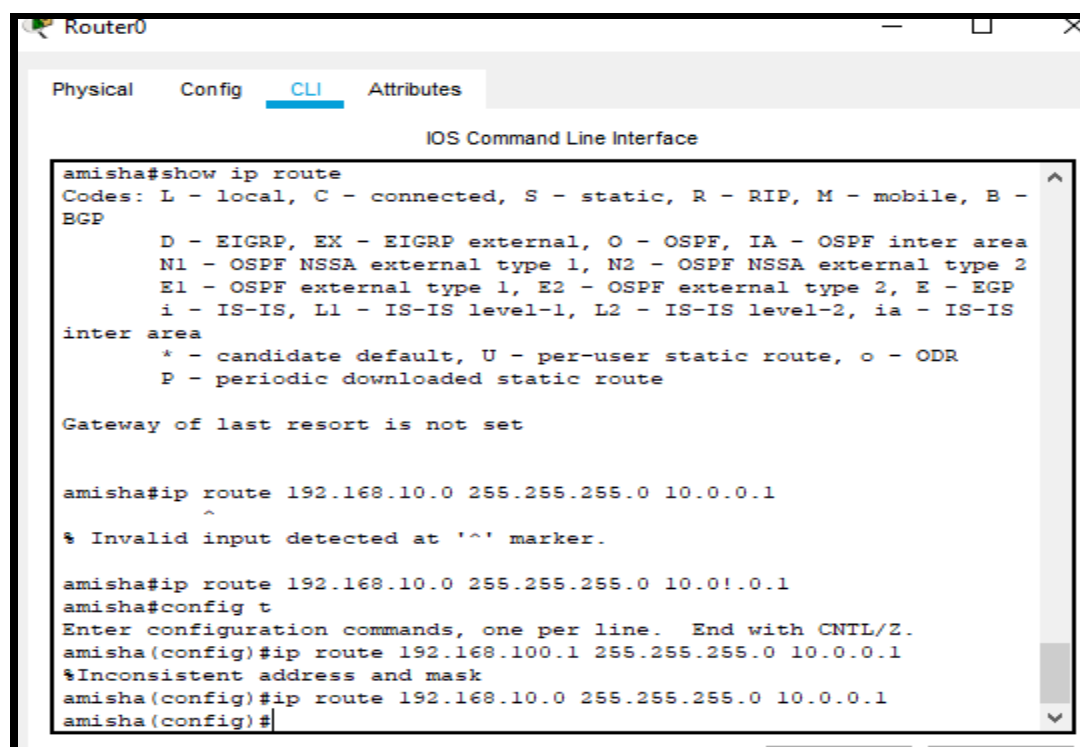
17 Bringing up an interface

```
amisha#show history
copy run start
clear
history clear
write erase
show version
show running-config
config t
show ip interface brief
write memory
show history
amisha#write erase
Erasing the nvram filesystem will remove all configuration files!
Continue? [confirm]
[OK]
Erase of nvram: complete
%SYS-7-NV_BLOCK_INIT: Initialized the geometry of nvram
amisha# config t
Enter configuration commands, one per line. End with CNTL/Z.
amisha(config)#interface GigabitEthernet0/0/0
amisha(config-if)#no shutdown

amisha(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up
```

18 to check routing show ip route

And to add static routing (ip route network ip subnet mask next hop)



```
Router0
Physical  Config  CLI  Attributes
IOS Command Line Interface

amisha#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS
       inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

amisha#ip route 192.168.10.0 255.255.255.0 10.0.0.1
^
% Invalid input detected at '^' marker.

amisha#ip route 192.168.10.0 255.255.255.0 10.0!.0.1
amisha#config t
Enter configuration commands, one per line. End with CNTL/Z.
amisha(config)#ip route 192.168.100.1 255.255.255.0 10.0.0.1
%Inconsistent address and mask
amisha(config)#ip route 192.168.10.0 255.255.255.0 10.0.0.1
amisha(config)#
```