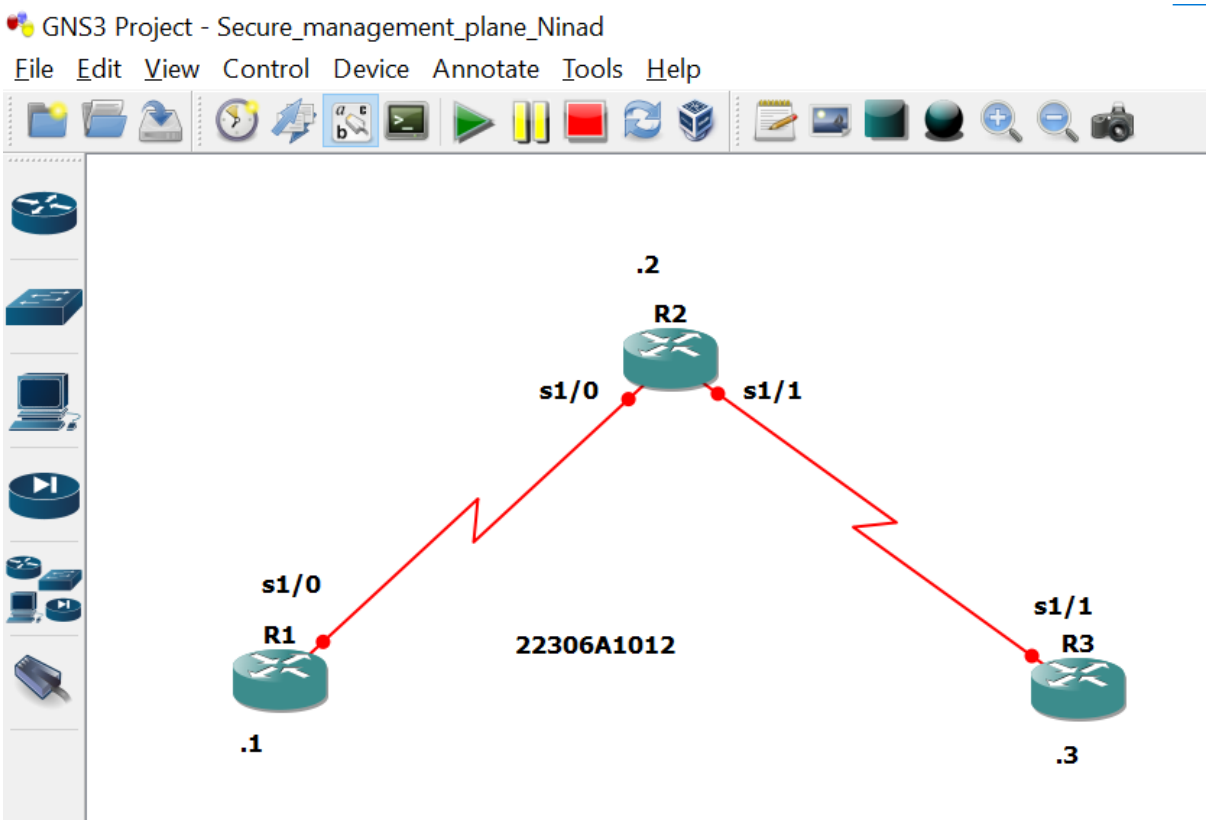
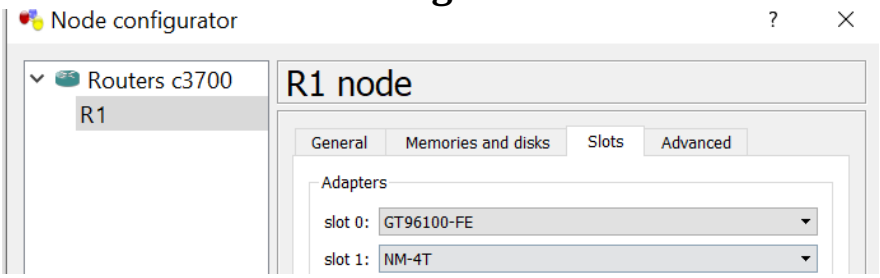
Practical No: 4 Ninad Karlekar 22306A1012 Date: 14/03/2023

Aim: Secure management plane.



Take 3 routers -> Configure -> slots -> NM-4T



R1 Console

R1 #
R1 # conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config) # int s1/0
R1(config-if) # ip add 10.1.1.1 255.255.255.0
R1(config-if) # no sh

R1(config-if) # int lo0
R1(config-if) # ip add 192.168.1.1 255.255.255.0

```
R1#
R1#conf t
Enter configuration commands, one per line.  End with CNTI
R1(config)#int s1/0
R1(config-if)#ip add 10.1.1.1 255.255.255.0
R1(config-if)#no sh
R1(config-if)#
R1(config-if)#
*Mar  1 00:02:09.687: %LINK-3-UPDOWN: Interface Serial1/0,
R1(config-if)#
*Mar  1 00:02:10.691: %LINEPROTO-5-UPDOWN: Line protocol c
up
R1(config-if)#int lo0
R1(config-if)#
*Mar  1 00:02:24.167: %LINEPROTO-5-UPDOWN: Line protocol c
up
R1(config-if)#ip add 192.168.1.1 255.255.255.0
*Mar  1 00:02:33.059: %LINEPROTO-5-UPDOWN: Line protocol c
down
R1(config-if)#ip add 192.168.1.1 255.255.255.0
R1(config-if)#
```

R2 Console

R2 # conf t
R2(config) # int s1/0
R2(config-if) # ip add 10.1.1.2 255.255.255.0
R2(config-if) # no sh

R2(config-if) # int s1/1
R2(config-if) # ip add 10.2.2.2 255.255.255.0
R2(config-if) # no sh
R2(config-if) #

```
R2#
R2#conf t
Enter configuration commands, one per line.  End w
R2(config)#int s1/0
R2(config-if)#ip add 10.1.1.2 255.255.255.0
R2(config-if)#no sh
R2(config-if)#
R2(config-if)#
*Mar  1 00:03:41.095: %LINK-3-UPDOWN: Interface Se
R2(config-if)#int
*Mar  1 00:03:42.099: %LINEPROTO-5-UPDOWN: Line pr
up
R2(config-if)#int s1/1
R2(config-if)#ip add 10.2.2.2 255.255.255.0
R2(config-if)#no sh
R2(config-if)#
```

R3 Console

R3 # conf t
R3(config) # int s1/1
R3(config-if) # ip add 10.2.2.3 255.255.255.0

R3(config-if) # no sh
R3(config-if) #
R3(config-if) # int lo0
R3(config-if) # ip add 192.168.3.3 255.255.255.0

```
R3#conf t
Enter configuration commands, one per line.  End wit
R3(config)#int s1/1
R3(config-if)#ip add 10.2.2.3 255.255.255.0
R3(config-if)#no sh
R3(config-if)#
R3(config-if)#
*Mar  1 00:10:15.255: %LINK-3-UPDOWN: Interface Seri
R3(config-if)#
*Mar  1 00:10:16.259: %LINEPROTO-5-UPDOWN: Line prot
up
R3(config-if)#int lo0
R3(config-if)#
*Mar  1 00:10:23.203: %LINEPROTO-5-UPDOWN: Line prot
up
R3(config-if)#ip add 192.168.3.3 255.255.255.0
```

Part 2 : Routing

R1 Console

R1(config-if) # exit
R1(config) #
R1(config) # ip route 0.0.0.0 0.0.0.0 10.1.1.2

```
up
R1(config-if)#exit
R1(config)#
R1(config)#ip route 0.0.0.0 0.0.0.0 10.1.1.2
R1(config)#
```

R2 Console

R2(config-if) # exit
R2(config) #
R2(config) # ip route 192.168.1.0 255.255.255.0 10.1.1.1
R2(config) # ip route 192.168.3.0 255.255.255.0 10.2.2.3
R2(config) #

```
R2(config)#
R2(config)#ip route 192.168.1.0 255.255.255.0 10.1.1.1
R2(config)#ip route 192.168.3.0 255.255.255.0 10.2.2.3
R2(config)#
```

R3 Console

R3(config-if) # exit
R3(config) #
R3(config) # ip route 0.0.0.0 0.0.0.0 10.2.2.2

```
R3(config-if)#exit
R3(config)#
R3(config)#ip route 0.0.0.0 0.0.0.0 10.2.2.2
R3(config)#
```

Ping

R1 Console

R1(config) # do ping 192.168.3.3

```
R1(config)#
R1(config)#do ping 192.168.3.3

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.3.3, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 40/56/64 ms
R1(config)#
```

R3 Console

R3(config) # do ping 192.168.1.1

```
R3(config)#
R3(config)#do ping 192.168.1.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 20/50/80 ms
R3(config)#
```

Part 3: Security Management Access

R1 Console

r1(config) # hostname r1
r1(config) # security password min-length 10
r1(config) # enable secret class12345
r1(config) #
r1(config) # line console 0
r1(config-line) # password ciscoconpass
r1(config-line) # exec-timeout 5 0
r1(config-line) # login
r1(config-line) # logging synchronous
r1(config-line) # exit
r1(config) #

r1(config) # line vty 0 4
r1(config-line) # password ciscovtypass
r1(config-line) # exec-timeout 5 0
r1(config-line) # login
r1(config-line) # exit
r1(config) #
r1(config) # line aux 0
r1(config-line) # no exec
r1(config-line) # end

r1 # conf t
Enter configuration commands, one per line. End with CNTL/Z.
r1(config) # service password-encryption
r1(config) # banner motd $Unauthorized access not allowed$
r1(config) # exit

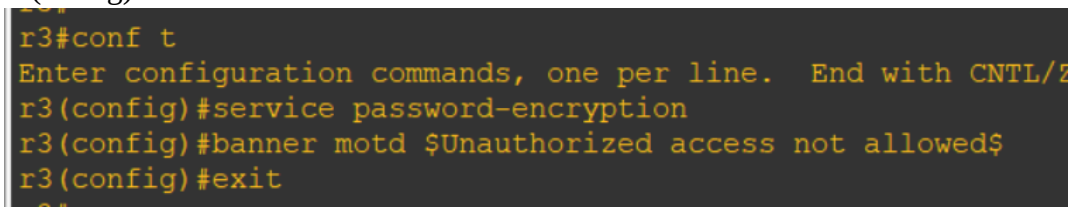
```
R1(config)#
R1(config)#hostname r1
r1(config)#security password min-length 10
r1(config)#enable secret class12345
r1(config)#
r1(config)#line console 0
r1(config-line)#password ciscoconpass
r1(config-line)#exec-timeout 5 0
r1(config-line)#login
r1(config-line)#logging synchronous
r1(config-line)#exit
r1(config)#
r1(config)#line vty 0 4
r1(config-line)#password ciscovtypass
r1(config-line)#exec-timeout 5 0
r1(config-line)#login
r1(config-line)#exit
r1(config)#
r1(config)#line aux 0
r1(config-line)#no exec
r1(config-line)#end
r1#
```

```
r1#
r1#conf t
Enter configuration commands, one per line.  End with CNTL/Z
r1(config)#service password-encryption
r1(config)#banner motd $Unauthorized access not allowed$
r1(config)#exit
r1#
```

R3 Console (Same as R1)

R3(config) # hostname r3

r3(config) # security password min-length 10
r3(config) # enable secret class12345
r3(config) # line console 0
r3(config-line) # password ciscoconpass
r3(config-line) # exec-timeout 5 0
r3(config-line) # login
r3(config-line) # logging synchronous
r3(config-line) # exit
r3(config) # line vty 0 4
r3(config-line) # password ciscovtypass
r3(config-line) #
r3(config-line) #
r3(config-line) #
r3(config-line) # exec-timeout 5 0
r3(config-line) # login
r3(config-line) # exit
r3(config) #
r3(config) # line aux 0
r3(config-line) # no exec
r3(config-line) # end
r3 #
r3 # conf t
r3(config) # service password-encryption
r3(config) # banner motd $Unauthorized access not allowed$
r3(config) # exit



R3 Console

r3 # telnet 10.1.1.1

(password-> ciscovtypass)