

Computer Networks Lab

Network Simulator Project

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Problem Statement

An organization is granted a network address 192.168.14.0. They need 14 subnets. Design the subnet and implement dynamic routing between the fourth and seventh subnet using the network simulator NS3.

Subnetting

```
ip address    : 192.168.14.0
subnet mask   : 255.255.255.240
```

Subnet 4	192.168.14.48	-	192.168.14.63
Subnet 7	192.168.14.96	-	192.168.14.111
Router	192.168.14.240	-	192.168.14.255

Implementation Details

Router 1

```
fa0/0    :    192.168.14.49
se0/0    :    192.168.14.241

R1#config terminal
R1(config)#int fa0/0
R1(config-if)#ip address 192.168.14.49 255.255.255.240
R1(config-if)#exit
R1(config-if)#no shut
R1(config)#int se0/0
R1(config-if)#ip address 192.168.14.241 255.255.255.240
R1(config-if)#clock rate 64000
R1(config-if)#no shut
R1(config-if)#exit
R1(config)#router rip
R1(config-router)#network 192.168.14.48
R1(config-router)#network 192.168.14.240
```

Router 2

```
fa0/0    :    192.168.14.97
se0/0    :    192.168.14.242

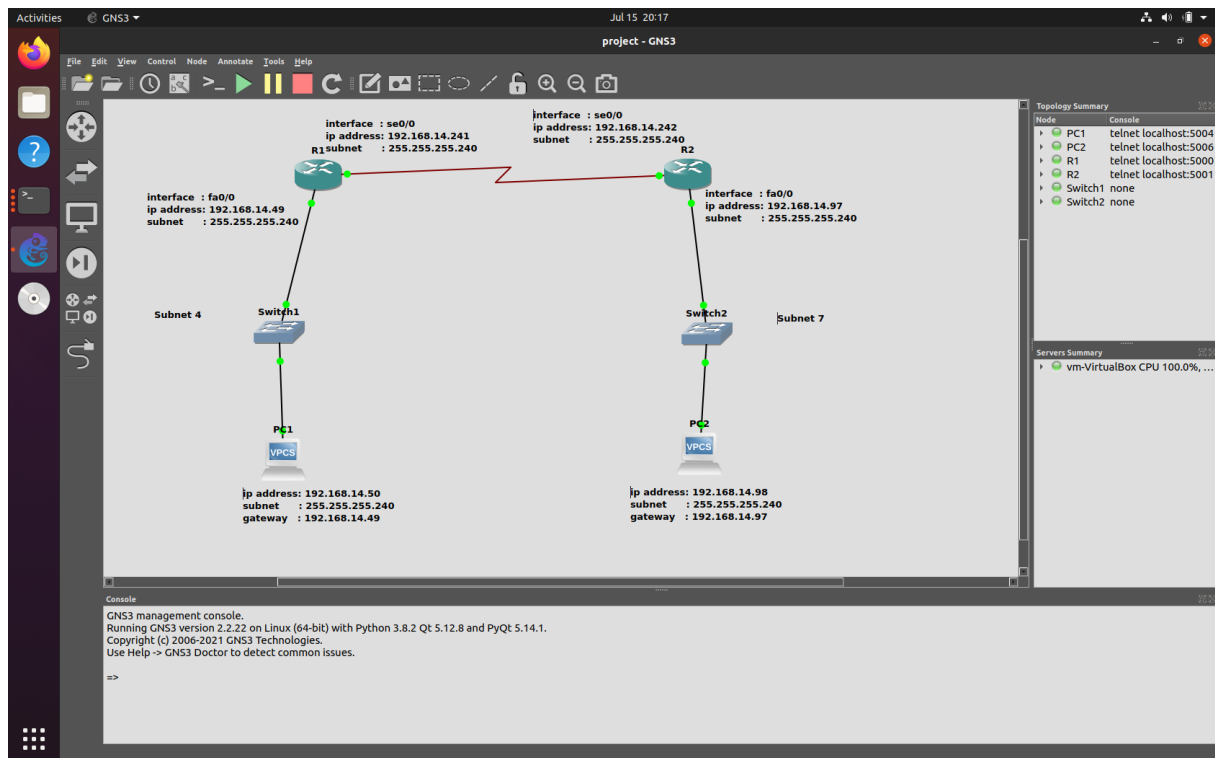
R2#config terminal
R2(config)#int fa0/0
R2(config-if)#ip address 192.168.14.97 255.255.255.240
R2(config-if)#no shut
R2(config-if)#exit
R2(config)#int se0/0
```

```

R2(config-if)#ip address 192.168.14.242 255.255.255.240
R2(config-if)#no shut
R2(config-if)#exit
R2(config)#router rip
R2(config-router)#network 192.168.14.96
R2(config-router)#network 192.168.14.240

```

Design Diagram



Output Screen

