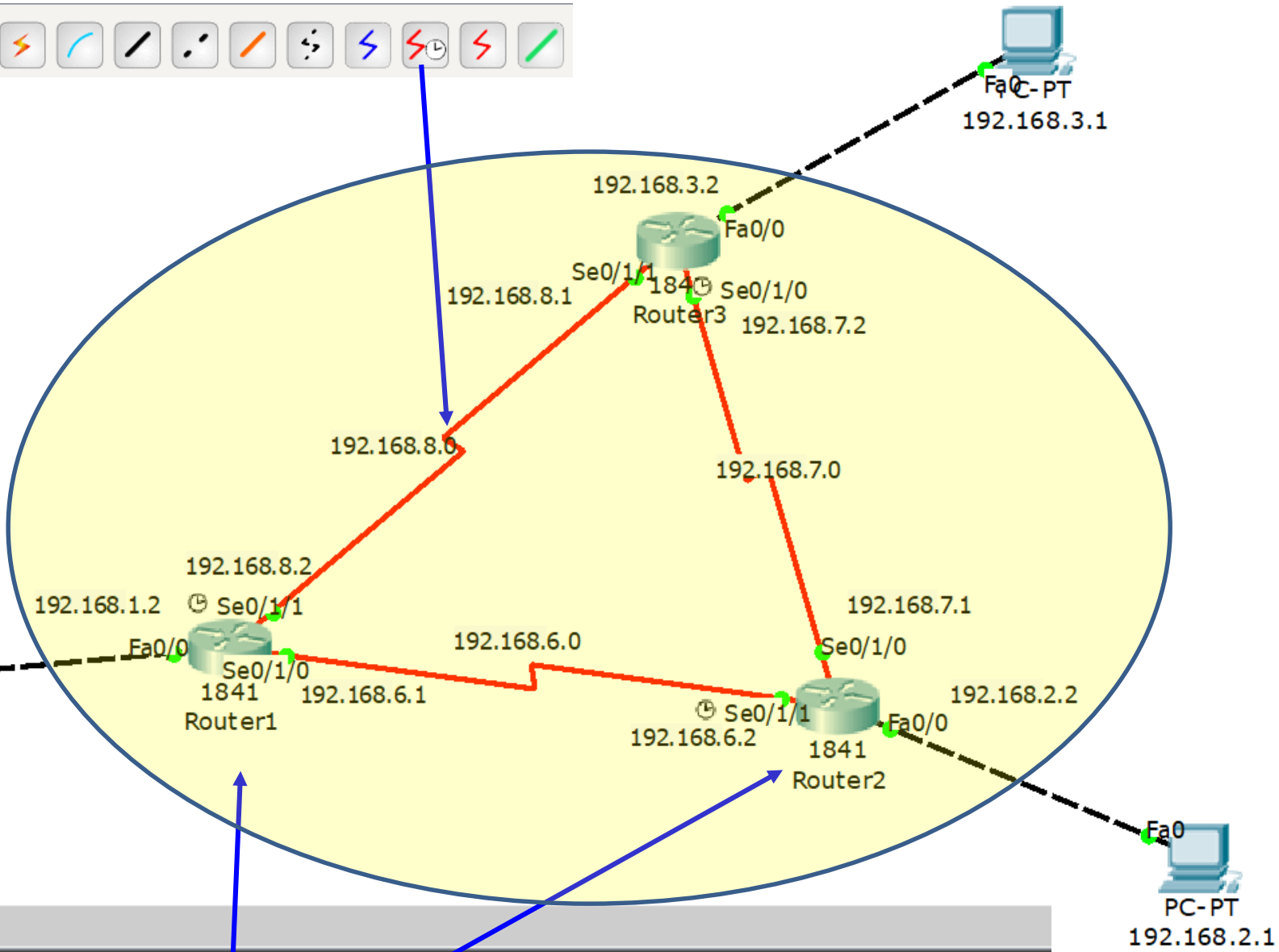


# **Implementation of OSPF (Open Shortest Path First) Algorithm**

Connections



Time: 01:00:22 | Power Cycle Devices Fast Forward Time

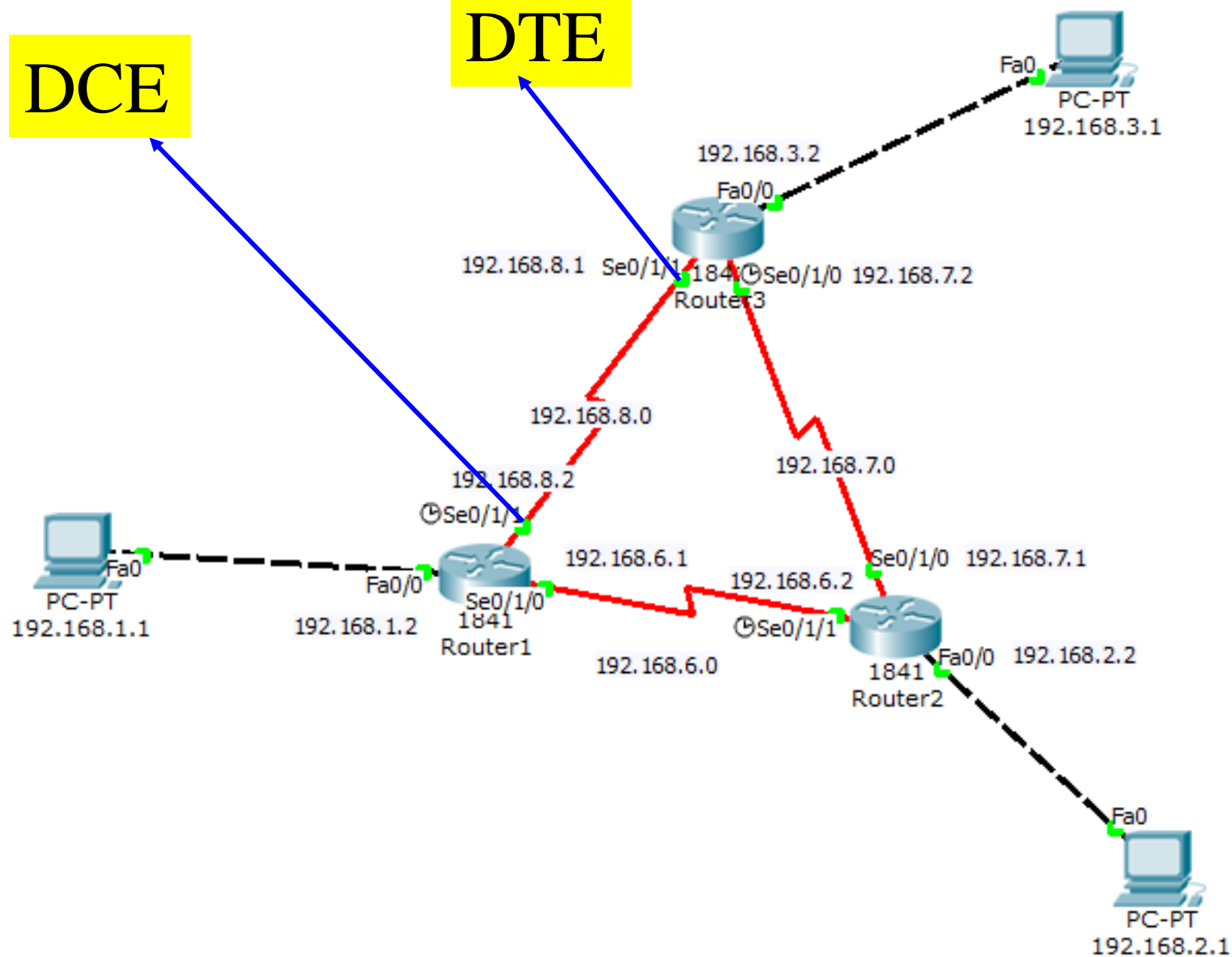
Routers

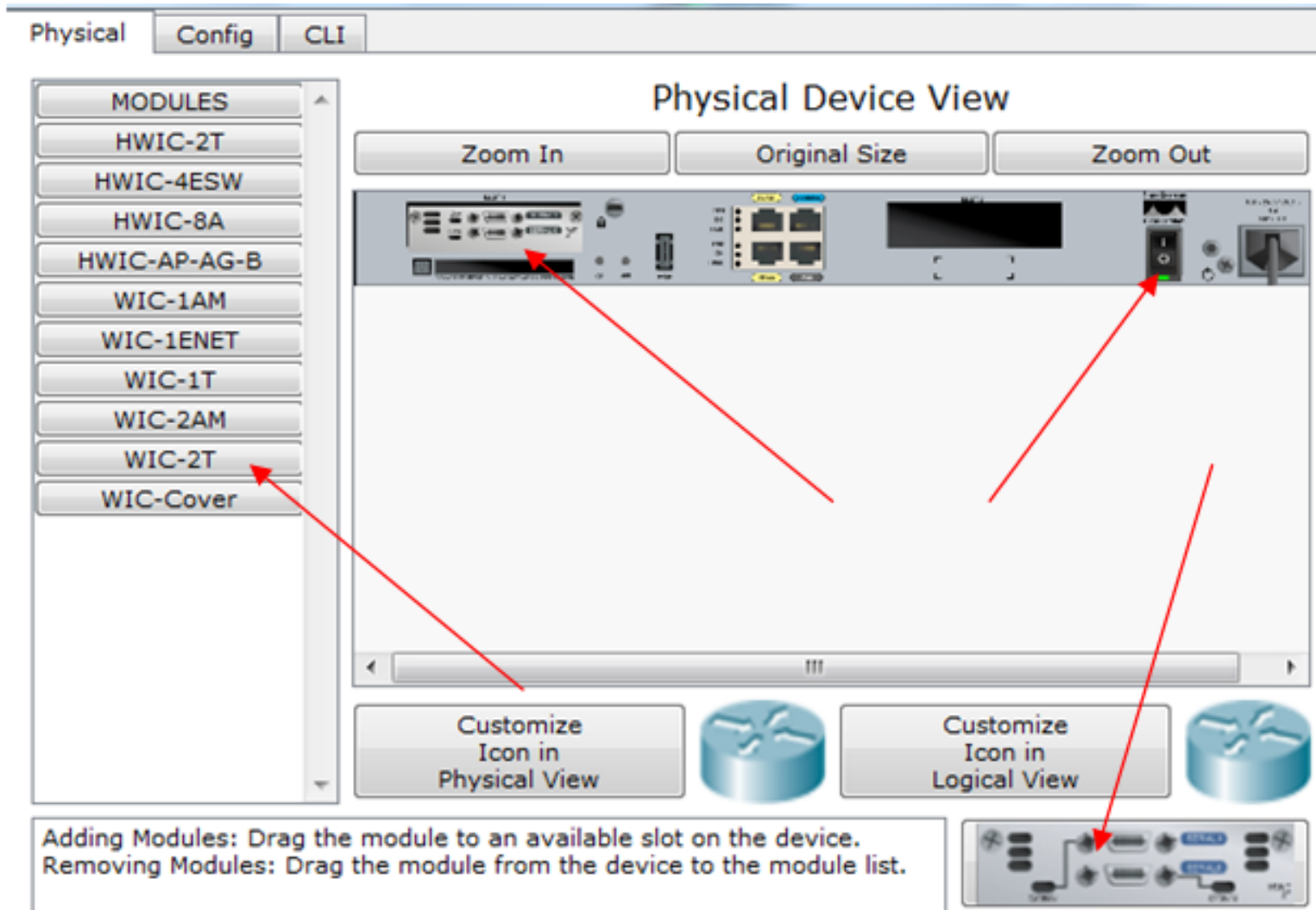
- ✓ DTE (Data Terminal EQUIPMENT) and DCE (Data Communications EQUIPMENT) both are serial ports, where DCE, makes **signal conversion, coding, and line clocking**, i.e. controls the data rate like MODEM, and the other side (DTE) only receives or sends data at the clock rate provided by DCE like PC.
- ✓ If the DCE is set at clock rate to 64000, then maximum data rate is 64 Kbps.



DCE

DTE





Two port Serial WAN Interface Card (WIC-2T) provides two serial ports using the Smart Serial connector.

IP Configuration

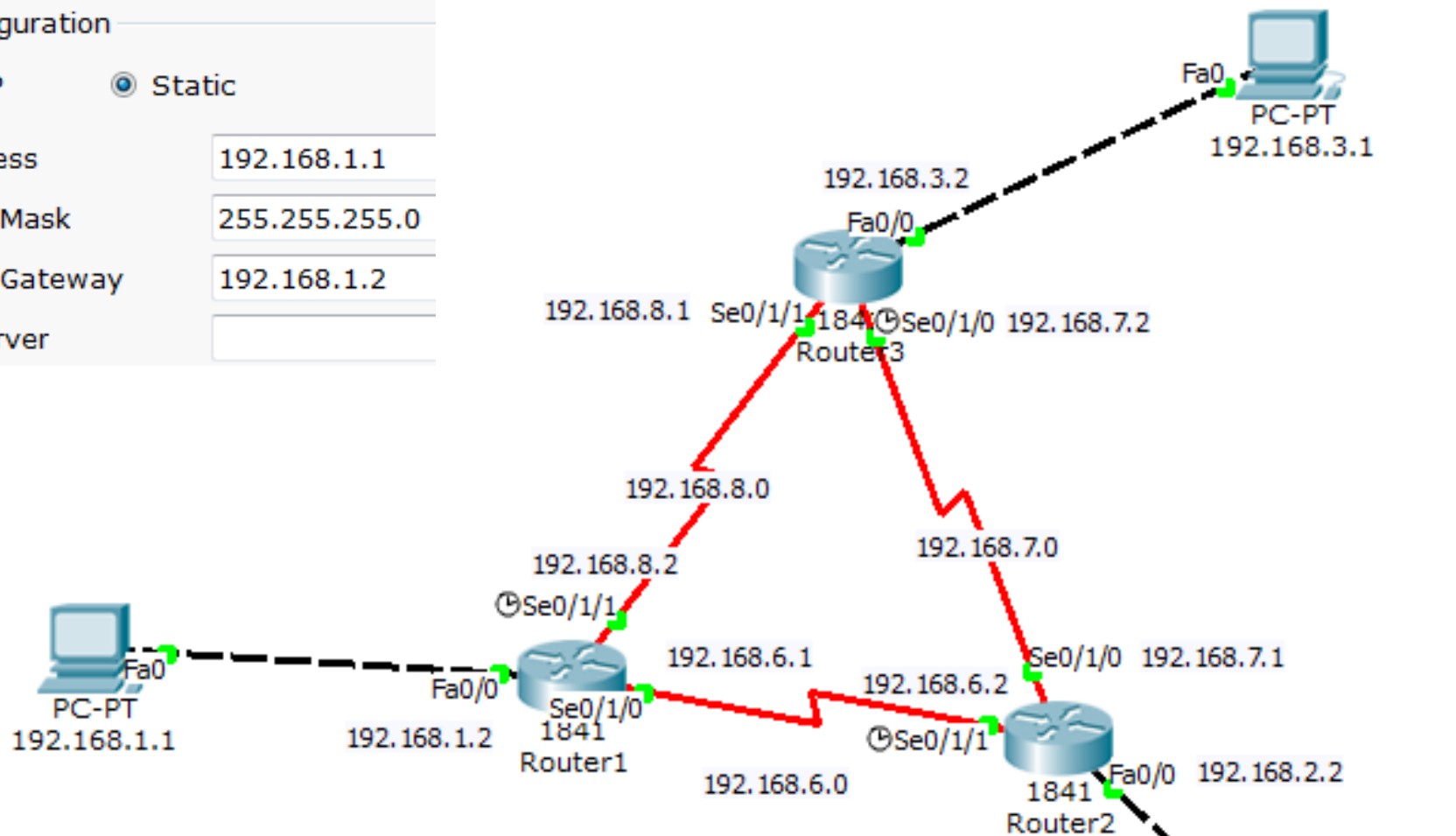
☐ DHCP ☒ Static

IP Address

Subnet Mask

Default Gateway

DNS Server



IP Configuration

☐ DHCP ☒ Static

IP Address

Subnet Mask

Default Gateway

DNS Server

IP Configuration

☐ DHCP ☒ Static

IP Address

Subnet Mask

Default Gateway

DNS Server

# Router-1

Router>en

Router#conf t

Router(config)#int fa 0/0

Router(config-if)#ip ad 192.168.1.2 255.255.255.0

Router(config-if)#no shut

Router(config-if)#exit

Router(config)# int se0/1/0

Router(config-if)#ip add 192.168.6.1 255.255.255.0

Router(config-if)#no shut

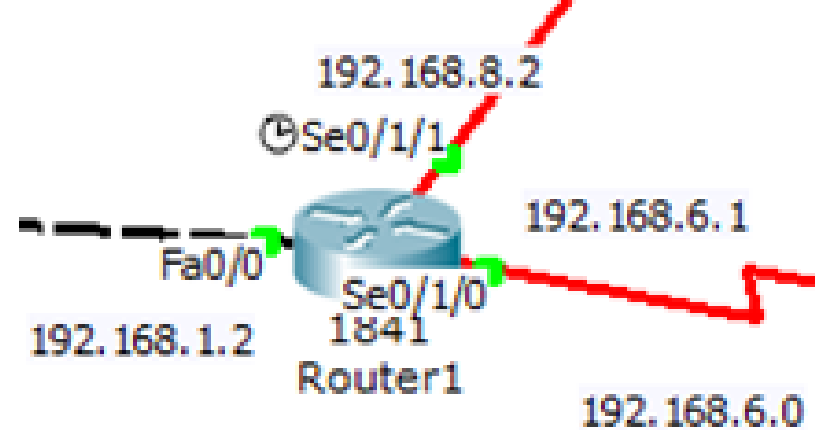
Router(config-if)#exit

Router(config)# int se0/1/1

Router(config-if)#ip add 192.168.8.2 255.255.255.0

Router(config-if)#clock rate 64000

Router(config-if)#no shut



```
Router(config-if)#exit
```

```
Router(config)#exit
```

```
Router#
```

```
Router#copy running-config startup-config
```

```
Router#
```

```
Router#conf t
```

```
Router(config)#router ospf 1
```

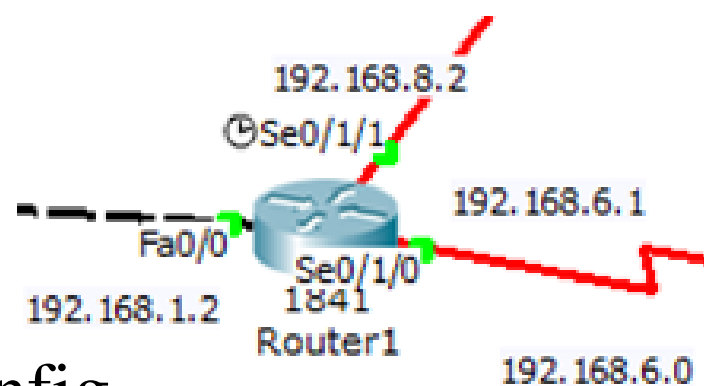
**%wildcard mask for network advertising**

```
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
```

```
Router(config-router)#network 192.168.6.0 0.0.0.255 area 0
```

```
Router(config-router)#network 192.168.8.0 0.0.0.255 area 0
```

```
Router(config-router)#
```





## Router-2

Router>en

Router#conf t

Router(config)#int fa 0/0

Router(config-if)#ip add 192.168.2.2 255.255.255.0

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#int se0/1/0

Router(config-if)#ip add 192.168.7.1 255.255.255.0

Router(config-if)#no shut

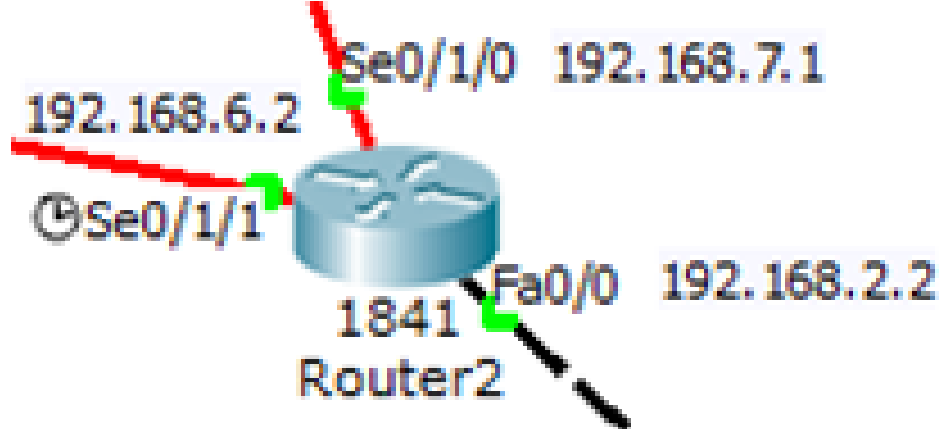
Router(config-if)#exit

Router(config)# int se0/1/1

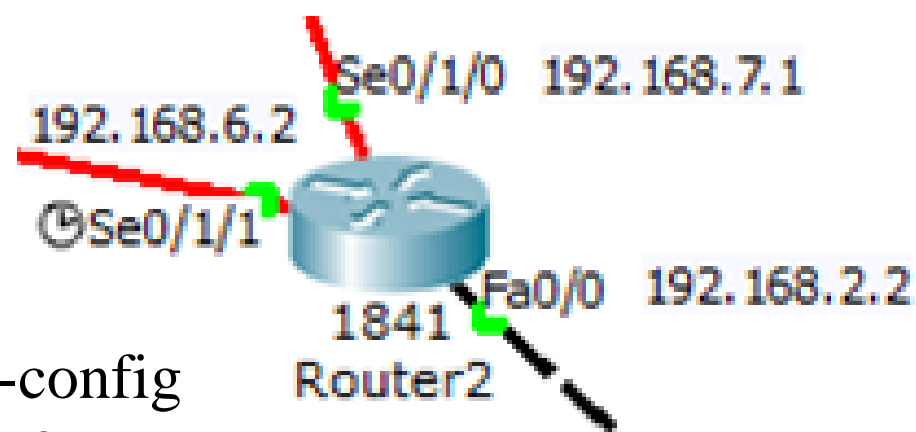
Router(config-if)#ip add 192.168.6.2 255.255.255.0

Router(config-if)#clock rate 64000

Router(config-if)#no shut



```
Router(config-if)#
Router(config-if)#exit
Router(config)#exit
Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```



```
Router#conf t
Router(config)#router ospf 1
```

**%wildcard mask for network advertising**

```
Router(config-router)#network 192.168.2.0 0.0.0.255 area 0
Router(config-router)#network 192.168.7.0 0.0.0.255 area 0
Router(config-router)#network 192.168.6.0 0.0.0.255 area 0
Router(config-router)#
```

## Router-3

Router>en

Router#conf t

Router(config)#int fa 0/0

Router(config-if)#ip add 192.168.3.2 255.255.255.0

Router(config-if)#no shut

Router(config-if)#exit

Router(config)# int se0/1/0

Router(config-if)#ip add 192.168.7.2 255.255.255.0

Router(config-if)#clock rate 64000

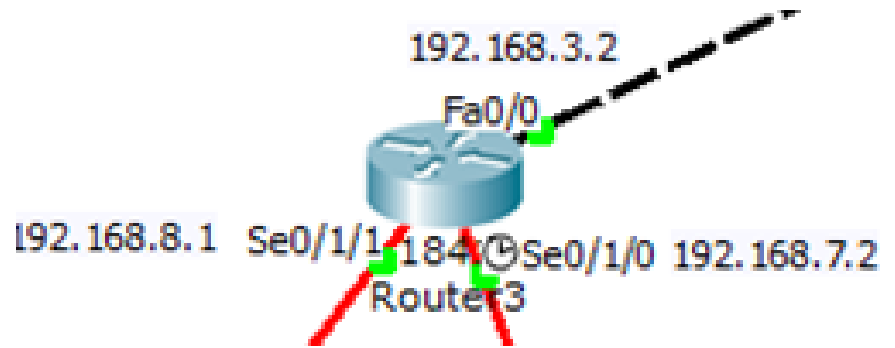
Router(config-if)#no shut

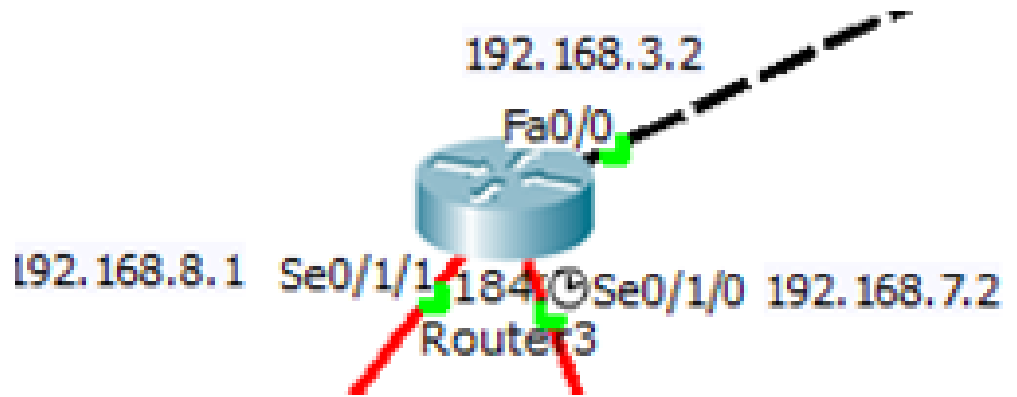
Router(config-if)#exit

Router(config)# int se0/1/1

Router(config-if)#ip add 192.168.8.1 255.255.255.0

Router(config-if)#no shut





```
Router(config-if)#exit
```

```
Router(config)#exit
```

```
Router#copy running-config startup-config
```

```
Router#
```

```
Router#conf t
```

```
Router(config)#router ospf 1
```

**%wildcard mask for network advertising**

```
Router(config-router)#network 192.168.3.0 0.0.0.255 area 0
```

```
Router(config-router)#network 192.168.8.0 0.0.0.255 area 0
```

```
Router(config-router)#network 192.168.7.0 0.0.0.255 area 0
```

```
Router(config-router)#
```

Verify the network in simulation mode or using ping.

