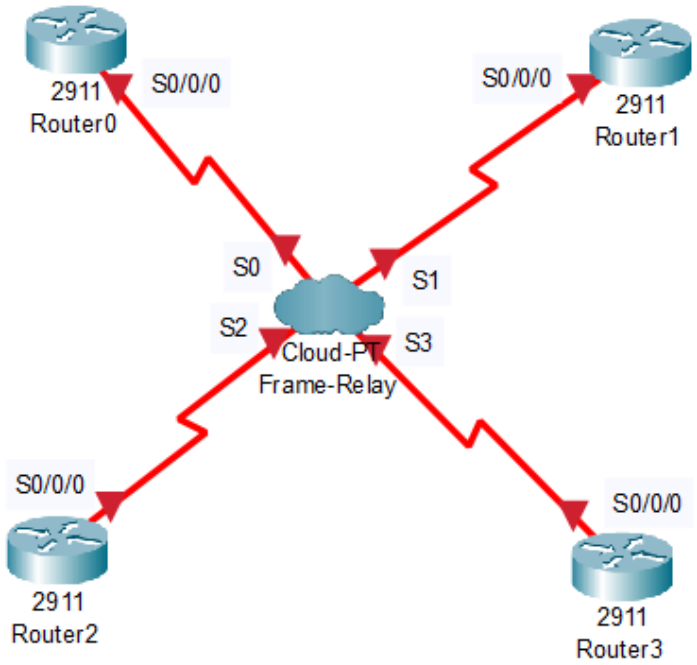
Goal. Recreate the diagram below and configure the following:

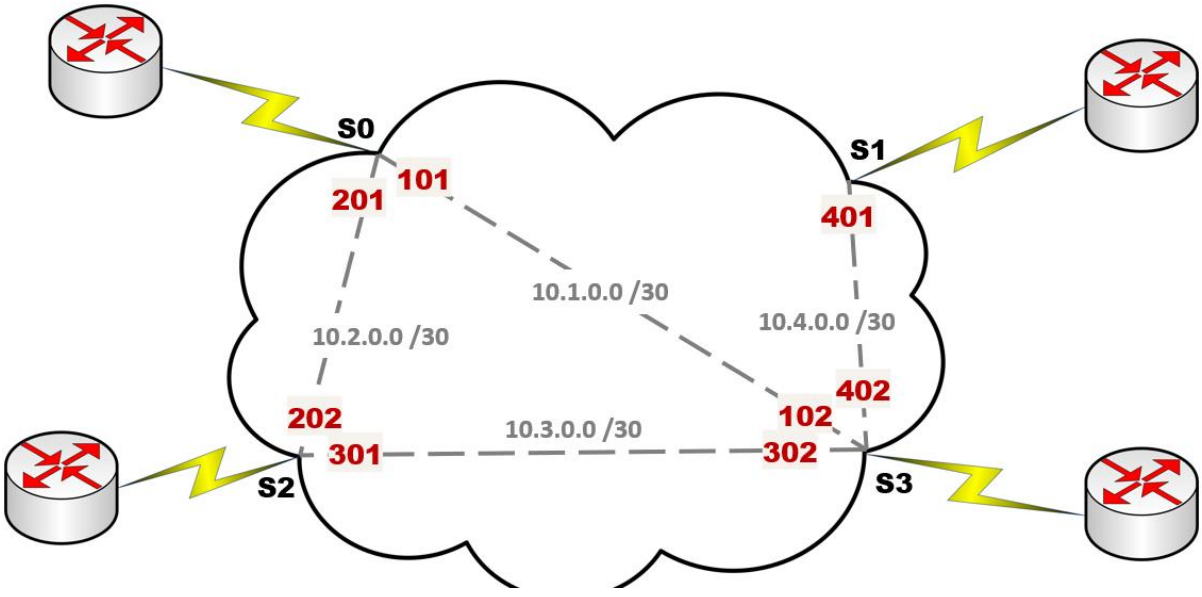
1. Frame Relay cloud according to the logical diagram below.
2. Hostnames on routers according to the diagram.
3. Frame Relay protocol according to the logical diagram.
4. Test connectivity
5. RIPv2.



To recreate the diagram in Packet Tracer:

1. You will find the Frame Relay cloud in “WAN Emulation”, and you should use the first cloud titled “Cloud-PT”
2. You should add the “HWIC-2T” module to all four routers
3. To connect the routers to the cloud, use the “Serial DCE” cable (the one with the small clock icon), and click on the cloud first, since the service provider is always the one to determine the clock rate.

Logical diagram:

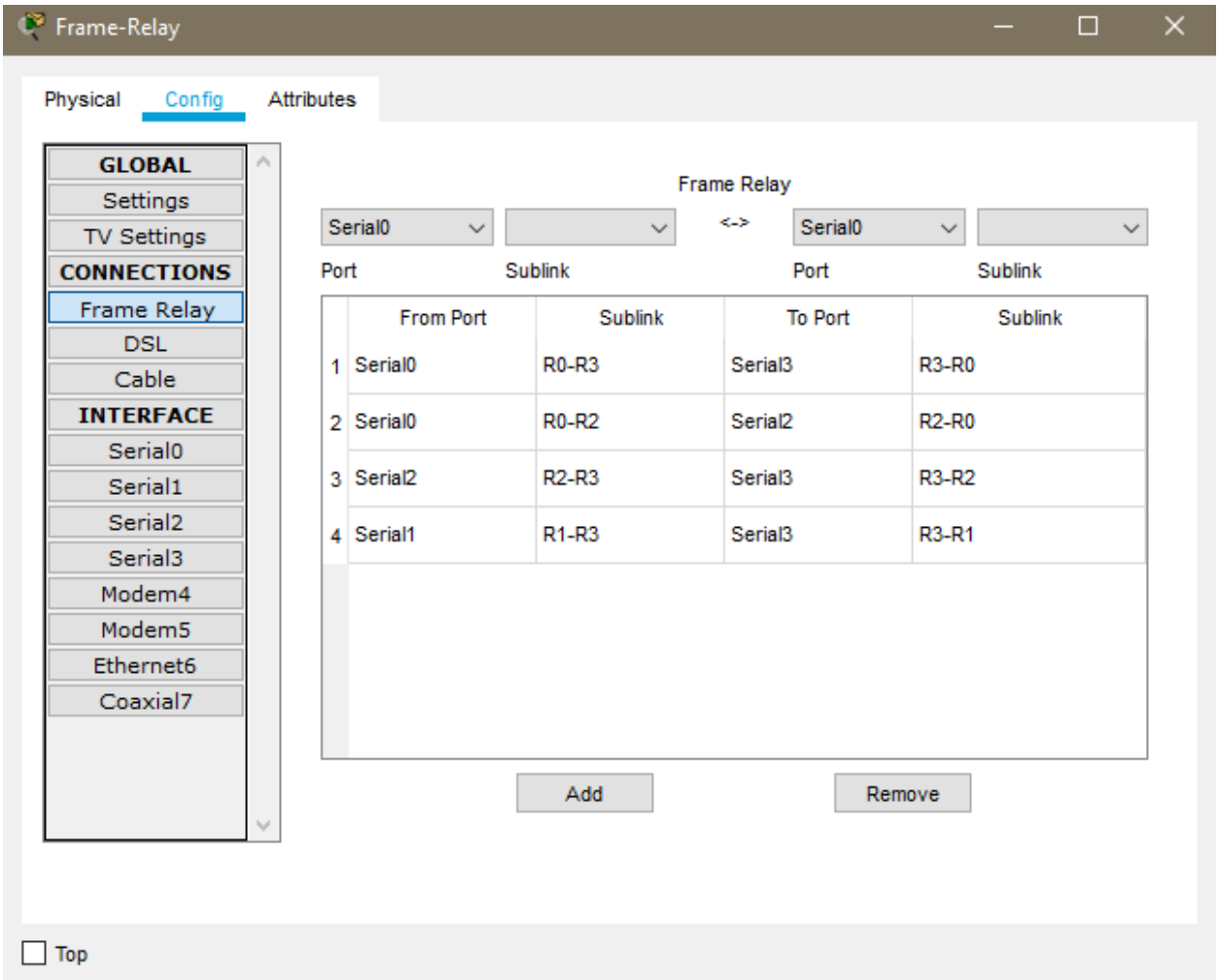


1. Frame Relay cloud configuration

1. Click on the cloud
2. Go to the “Config” tab
3. Find the “INTERFACES” section, and in each Serial interface, add the following:

- Serial0: DLCI 101, Name R0-R3
- Serial0: DLCI 201, Name R0-R2
- Serial1: DLCI 401, Name R1-R3
- Serial2: DLCI 202, Name R2-R0
- Serial2: DLCI 301, Name R2-R3
- Serial3: DLCI 102, Name R3-R2
- Serial3: DLCI 302, Name R3-R2
- Serial3: DLCI 402, Name R3-R1

4. Find the “Frame Relay” option under “CONNECTIONS” and add the following:



You should have as many connections here as there are in the Frame Relay cloud, in the logical diagram.

2. Hostnames

```
Router(config)#hostname R0
```

3. Frame Relay protocol configuration

Serial interface + Frame Relay protocol configuration:

```
R0(config)#interface Serial 0/0/0
R0(config-if)#encapsulation frame-relay
R0(config-if)#no shutdown
R0(config-if)#exit

R1(config)#interface Serial 0/0/0
R1(config-if)#encapsulation frame-relay
R1(config-if)#no shutdown
R1(config-if)#exit

R2(config)#interface Serial 0/0/0
R2(config-if)#encapsulation frame-relay
R2(config-if)#no shutdown
R2(config-if)#exit

R3(config)#interface Serial 0/0/0
R3(config-if)#encapsulation frame-relay
R3(config-if)#no shutdown
R3(config-if)#exit
```

Sub-interface configuration, link between R0 and R3:

```
R0(config)#interface Serial 0/0/0.101 point-to-point
R0(config-subif)#frame-relay interface-dlci 101
R0(config-subif)#ip address 10.1.0.1 255.255.255.252
R0(config-subif)#exit

R3(config)#interface Serial 0/0/0.102 point-to-point
R3(config-subif)#frame-relay interface-dlci 102
R3(config-subif)#ip address 10.1.0.2 255.255.255.252
R3(config-subif)#exit
```

Sub-interface configuration, link between R0 and R2:

```
R0(config)#interface Serial 0/0/0.201 point-to-point
R0(config-subif)#frame-relay interface-dlci 201
R0(config-subif)#ip address 10.2.0.1 255.255.255.252
R0(config-subif)#exit

R2(config)#interface Serial 0/0/0.202 point-to-point
R2(config-subif)#frame-relay interface-dlci 202
R2(config-subif)#ip address 10.2.0.2 255.255.255.252
R2(config-subif)#exit
```

Sub-interface configuration, link between R2 and R3:

```
R2(config)#interface Serial 0/0/0.301 point-to-point
R2(config-subif)#frame-relay interface-dlci 301
R2(config-subif)#ip address 10.3.0.1 255.255.255.252
R2(config-subif)#exit
```

```
R3(config)#interface Serial 0/0/0.302 point-to-point
R3(config-subif)#frame-relay interface-dlci 302
R3(config-subif)#ip address 10.3.0.2 255.255.255.252
R3(config-subif)#exit
```

Sub-interface configuration, link between R1 and R3:

```
R1(config)#interface Serial 0/0/0.401 point-to-point
R1(config-subif)#frame-relay interface-dlci 401
R1(config-subif)#ip address 10.4.0.1 255.255.255.252
R1(config-subif)#exit
```

```
R3(config)#interface Serial 0/0/0.402 point-to-point
R3(config-subif)#frame-relay interface-dlci 402
R3(config-subif)#ip address 10.4.0.2 255.255.255.252
R3(config-subif)#exit
```

4. Connectivity test

Try to ping between the routers which have direct, point-to-point connections. Those should work.

Try to ping between routers that don’t have a link connecting them. Those shouldn’t work.

4. RIPv2

```
R0(config)#router rip
R0(config-router)#version 2
R0(config-router)#no auto-summary
R0(config-router)#network 10.1.0.0
R0(config-router)#network 10.2.0.0
R0(config-router)#exit
```

```
R1(config)#router rip
R1(config-router)#version 2
R1(config-router)#no auto-summary
R1(config-router)#network 10.4.0.0
R1(config-router)#exit
```

```
R2(config)#router rip
R2(config-router)#version 2
R2(config-router)#no auto-summary
R2(config-router)#network 10.2.0.0
R2(config-router)#network 10.3.0.0
R2(config-router)#exit
```

```
R3(config)#router rip
R3(config-router)#version 2
R3(config-router)#no auto-summary
R3(config-router)#network 10.1.0.0
R3(config-router)#network 10.3.0.0
```

```
R3(config-router)#network 10.4.0.0
R3(config-router)#exit
```