

That confirms a very important detail! If your router-to-router connections are using the GigabitEthernet ports (G0/0, G0/1, G0/2, etc.) instead of the Serial ports, we must make two critical changes to your plan:

- * Topology Change: You must use different interfaces for the LAN and the WAN (router-to-router links).
- * Addressing Change: You must use the GigabitEthernet interface names in the configuration commands.
- * Clock Rate Removal: You cannot use the clock rate command on GigabitEthernet interfaces, as this is exclusive to serial WAN links.

Here is the revised and corrected plan for Phase 4 and Phase 5 using the available GigabitEthernet interfaces for all connections.

Phase 4: Revised Router Configuration (Using GigE Ports)

Since the Cisco 2911 router has three built-in GigE ports (G0/0, G0/1, G0/2), we will dedicate the interfaces as follows for each router (R1 through R5):

- * GigabitEthernet0/0 (G0/0): Connects to the LAN Switch (Gateway for the PCs).
- * GigabitEthernet0/1 (G0/1): Connects to the "Next" Router in the ring (e.g., R1 connects to R2).
- * GigabitEthernet0/2 (G0/2): Connects to the "Previous" Router in the ring (e.g., R1 connects to R5).

1. Updated WAN Addressing Scheme (Using /30 Subnets)

Since we are still building a redundant ring, we must use point-to-point networks between the GigE ports. We will reuse the 192.18.100.0/30 scheme.

| Link | Interface 1 | IP Address |

Interface 2 | IP Address |

|---|---|---|---|

| R1 to R2 | R1: G0/1 | 192.18.100.1 | R2:
G0/2 | 192.18.100.2 |

| R2 to R3 | R2: G0/1 | 192.18.100.5 | R3:
G0/2 | 192.18.100.6 |

| R3 to R4 | R3: G0/1 | 192.18.100.9 | R4:
G0/2 | 192.18.100.10 |

| R4 to R5 | R4: G0/1 | 192.18.100.13 |
R5: G0/2 | 192.18.100.14 |

| R5 to R1 | R5: G0/1 | 192.18.100.17 |
R1: G0/2 | 192.18.100.18 |

2. R1 CLI Configuration (Example)

Use these commands for Router 1 (R1).

Note the change from Serial to
GigabitEthernet and the removal of the
clock rate command.

Router> enable

Router# configure terminal

```
Router(config)# hostname R1
```

```
! *** LAN Interface (Lab 1 Gateway) ***
```

```
R1(config)# interface GigabitEthernet0/0
```

```
R1(config-if)# ip address 192.18.1.1
```

```
255.255.255.0
```

```
R1(config-if)# no shutdown
```

```
R1(config-if)# exit
```

```
! *** WAN Link to R2 ***
```

```
R1(config)# interface GigabitEthernet0/1
```

```
R1(config-if)# ip address 192.18.100.1
```

```
255.255.255.252
```

```
R1(config-if)# no shutdown
```

```
R1(config-if)# exit
```

```
! *** WAN Link to R5 (The redundancy
```

```
loop) ***
```

```
R1(config)# interface GigabitEthernet0/2
```

```
R1(config-if)# ip address 192.18.100.18
```

255.255.255.252

R1(config-if)# no shutdown

R1(config-if)# exit

! *** Dynamic Routing (RIPv2 for load shedding) ***

R1(config)# router rip

R1(config-router)# version 2

R1(config-router)# no auto-summary

R1(config-router)# network 192.18.1.0

! Lab 1 LAN network

R1(config-router)# network

192.18.100.0 ! Covers both WAN links

R1(config-router)# end

R1# write memory

3. Router Configuration Summary (What to Change for R2-R5)

You must ensure that on the other routers, you use the correct local IP for

the LAN and the correct pair of point-to-point IPs for the WAN links.

| Router | LAN Interface IP (G0/0) | WAN Link 1 (G0/1) IP | WAN Link 2 (G0/2) IP | RIP Network (LAN) |

|---|---|---|---|---|

| R2 | 192.18.2.1 | 192.18.100.5 (to R3) | 192.18.100.2 (to R1) | 192.18.2.0 |

| R3 | 192.18.3.1 | 192.18.100.9 (to R4) | 192.18.100.6 (to R2) | 192.18.3.0 |

| R4 | 192.18.4.1 | 192.18.100.13 (to R5) |

| 192.18.100.10 (to R3) | 192.18.4.0 |

| R5 | 192.18.5.1 | 192.18.100.17 (to R1) |

| 192.18.100.14 (to R4) | 192.18.5.0 |

Final Checklist for Success:

- *  Cabling: Use Copper Straight-Through cables for all connections (PC to Switch, Switch to Router, Router to Router).

- *  Interface Naming: Use

GigabitEthernet0/0, GigabitEthernet0/1, and GigabitEthernet0/2 for configuration.

- *  Addressing: Ensure every interface IP and PC Gateway IP starts with 192.18.X.X.
- *  Routing: The RIPv2 configuration handles the "load shedding" requirement by automatically finding the alternate route around the ring when a link fails.