

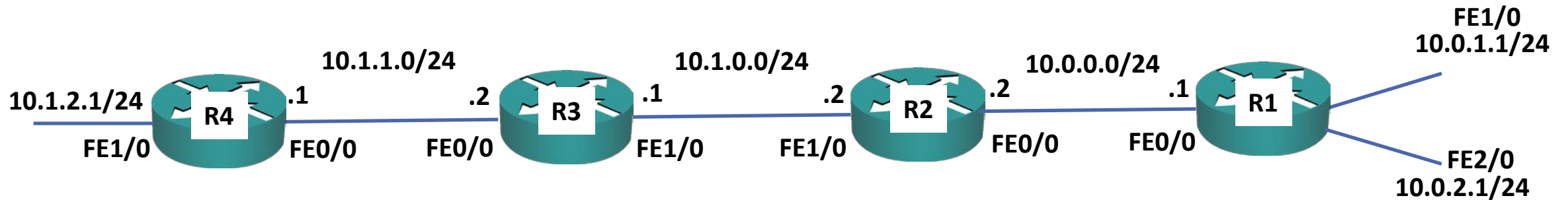
# Static Routes

- Routes on R1:

```
ip route 10.1.0.0 255.255.255.0 10.0.0.2
```

```
ip route 10.1.1.0 255.255.255.0 10.0.0.2
```

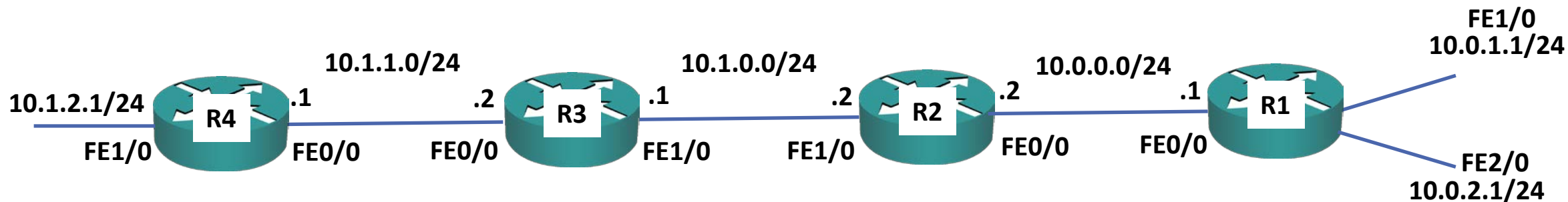
```
ip route 10.1.2.0 255.255.255.0 10.0.0.2
```



# Summary Routes

- For static routing, summary routes lessen administrative overhead and memory usage on the routers
- Routes on R1:

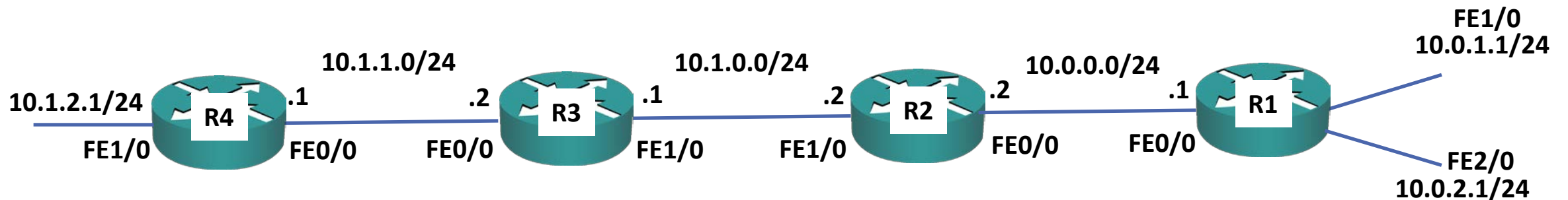
```
ip route 10.1.0.0 255.255.0.0 10.0.0.2
```



# Summary Routes

- Summarisation doesn't have to be on classful boundaries
- To summarise the range 10.1.0.0 to 10.1.3.0:

```
ip route 10.1.0.0 255.255.252.0 10.0.0.2
```



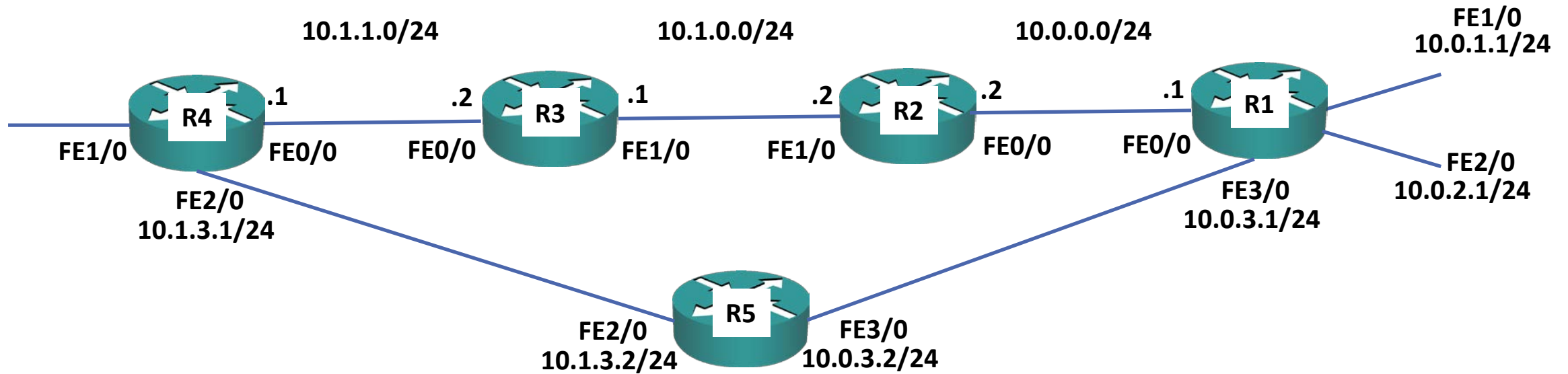
# Longest Prefix Match



- When there are overlapping routes, the longest prefix will be selected

```
ip route 10.1.0.0 255.255.0.0 10.0.0.2
```

```
ip route 10.1.3.0 255.255.255.0 10.0.3.2
```

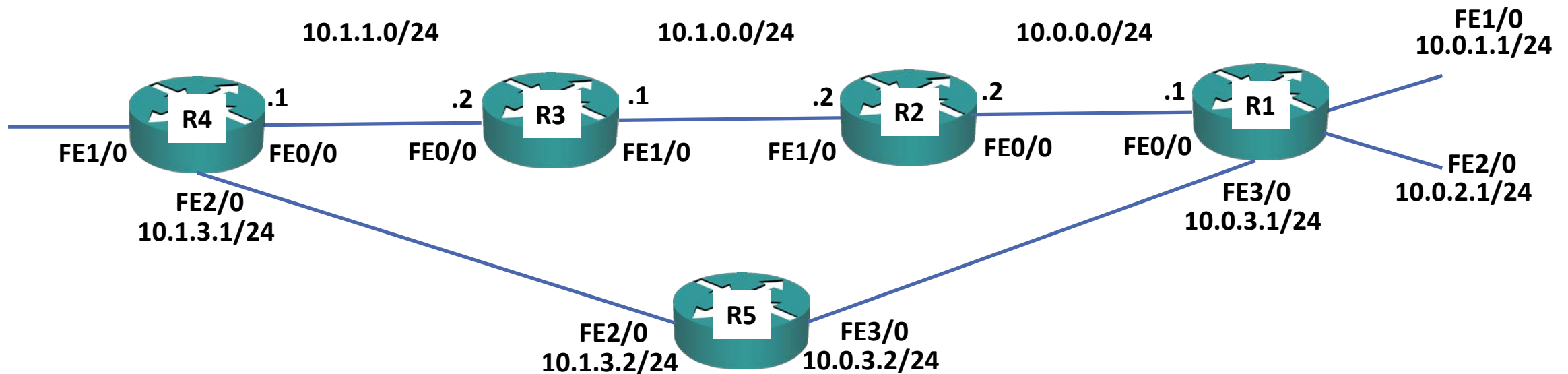


# Load Balancing

- When multiple equal length routes are added for the same destination, the router will add them all to the routing table and load balance between them

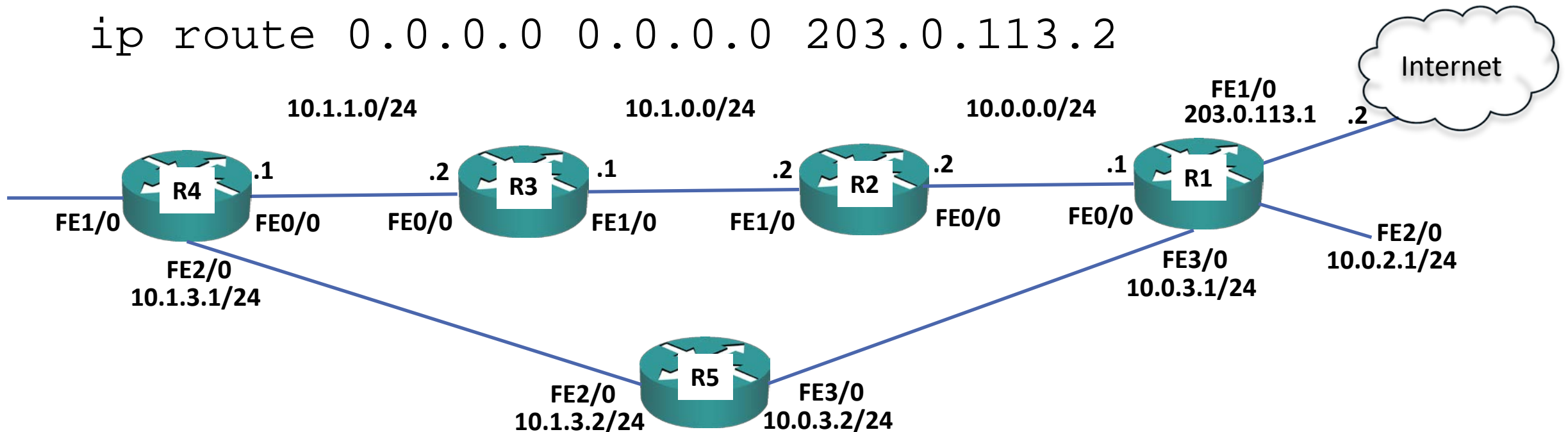
```
R1(config)# ip route 10.1.0.0 255.255.0.0 10.0.0.2
```

```
R1(config)# ip route 10.1.0.0 255.255.0.0 10.0.3.2
```



# Default Route (Gateway of Last Resort)

```
ip route 10.1.0.0 255.255.0.0 10.0.0.2
ip route 10.1.3.0 255.255.255.0 10.0.3.2
ip route 0.0.0.0 0.0.0.0 203.0.113.2
```



# Lab

