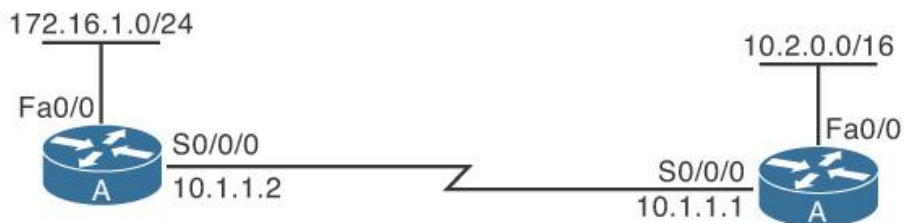


Configure & Verify Static Routing:

- o When routers learn from a Network administrator, it is called a static routing.
- o In Static Routing administrator manually inputs all the routing table information.
- o Static route tells network devices about exact location & only work in small network.
- o In static routing, we must add all network locations manually or statically in router.
- o If any change occurs in the network, admin is responsible to update it in all routers.
- o Keep in mind, that a static route will have a default administrative distance (AD) of 1.
- o To keep route all time in Routing table, **permanent** keyword to end of route statement.
- o This keyword will keep the route in the table even if the router interface goes down.

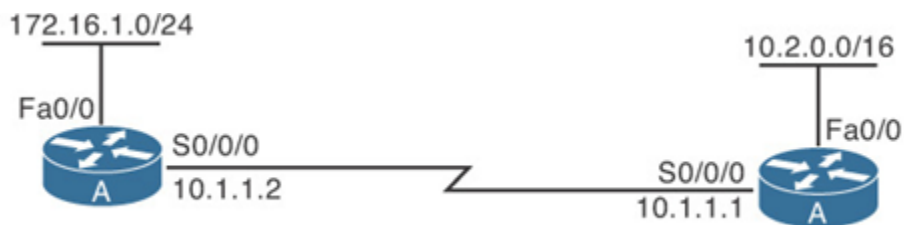


```
ip route 10.2.0.0 255.255.0.0 S0/0/0
```

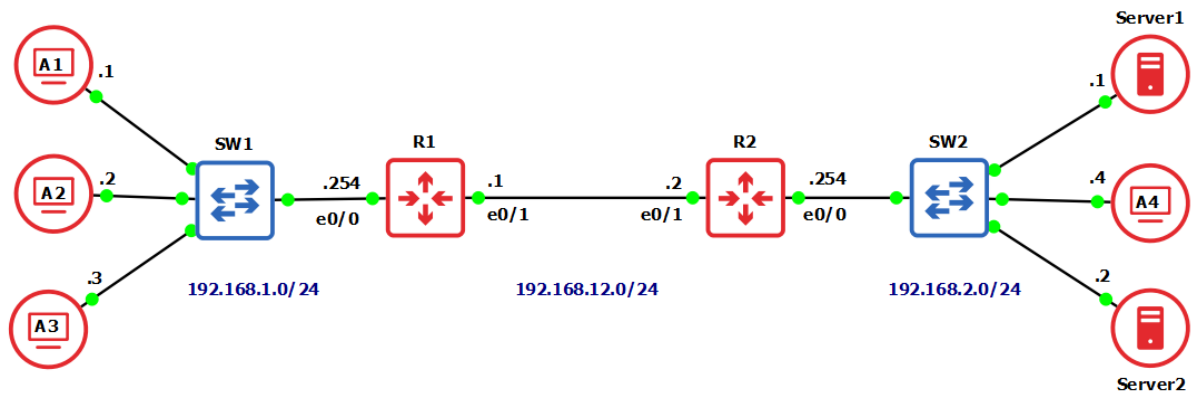
```
ip route 172.16.1.0 255.255.255.0 10.1.1.2
```

Host Route:

- o It is where destination address is a specific device IP with a subnet mask of /32 for IPv4.
- o It is where destination address is a specific device IP with a subnet mask /128 for IPv6.
- o Also, installed Automatically when an IP address is configured on the router interface.
- o Hosts attached directly connected to routers are host routes & route for certain hosts.
- o They are advertised with a mask all 1's indicating a single destination is the Host Route.
- o An engineer might use host routes to direct packets sent to one host over one path.



```
ip route 10.2.1.2 255.255.255.255 10.1.1.1
```



Configure & Verify Static Routing

```

R1(config)# ip route 0.0.0.0 0.0.0.0 192.168.12.2
R1(config)# ip route 0.0.0.0 0.0.0.0 ethernet0/1
R1(config)# ip route 192.168.2.0 255.55.255.0 192.168.12.2
R1(config)# ip route 192.168.2.0 255.55.255.0 ethernet 0/1
R1(config)# ip route 192.168.2.1 255.55.255.255 192.168.12.2
R1(config)# ip route 2.0.0.0 255.0.0.0 192.168.12.2
R1(config)# ip route 2.0.0.0 255.0.0.0 192.168.21.2 5
R1(config)# ip route 0.0.0.0 0.0.0.0 192.168.12.2
R1(config)# ip route 0.0.0.0 0.0.0.0 192.168.21.2 5
R1# show ip route
R1# show ip route connected
R1# show ip route static
R1# show ip route 2.2.2.2
R1# show ip route 192.168.2.0

```