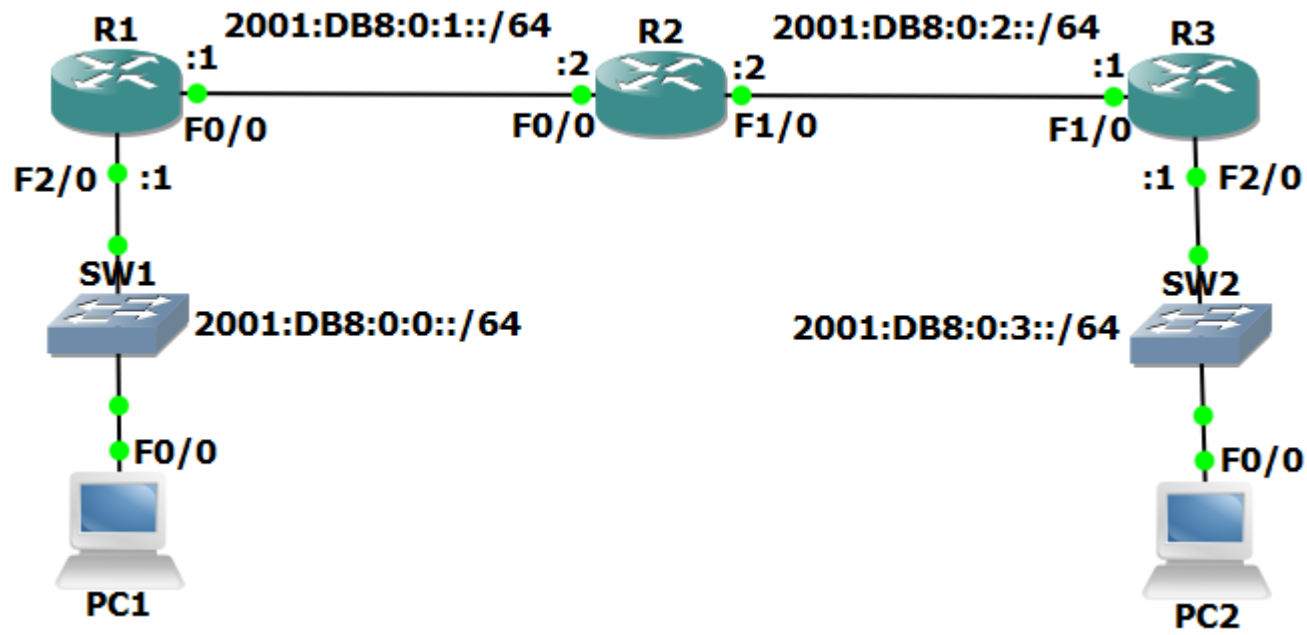


EUI-64 Addresses



- A Cisco router can generate full IPv6 addresses for itself when given the interface and /64 network to use
- The host portion of the address is derived from the interface's MAC address, which is guaranteed to be globally unique
- A MAC address is a /48 address compared to the /64 host portion of the IPv6 address
- FF:FE is injected in the middle of the /48 MAC address to bring it up to 64 bits. Also, the 7th bit is inverted

EUI-64 Addresses



EUI-64 Address Configuration



```
R1(config)#int f0/0
```

```
R1(config-if)#ipv6 address 2001:db8:0:1::/64 eui-64
```

```
R1(config)#int f2/0
```

```
R1(config-if)#ipv6 address 2001:db8:0::/64 eui-64
```

EUI-64 Address Verification



```
R1#sh int f0/0
```

```
Hardware is DEC21140, address is ca01.2f24.0000
```

```
R1#sh int f2/0
```

```
Hardware is DEC21140, address is ca01.2f24.0038
```

```
R1#sh ipv6 interface brief
```

```
FastEthernet0/0          [up/up]
```

```
2001:DB8:0:1:C801:2FFF:FE24:0
```

```
FastEthernet2/0          [up/up]
```

```
2001:DB8::C801:2FFF:FE24:38
```

```
! truncated
```

EUI-64 Addresses



- The router will borrow the MAC address from the first Ethernet port for non-Ethernet interfaces such as Serial ports
- It is not recommended to use EUI-64 on router interfaces. It is better to use a memorable address such as 2001:db8:0:1::1

Lab

