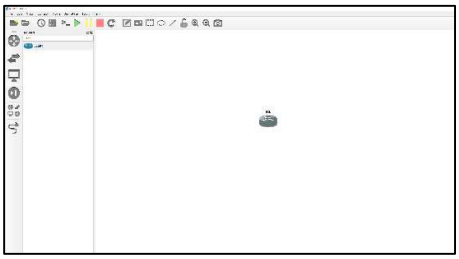
## Cisco Routers & Basic Routing

## Router Set-up



Cisco router C2691 has been imported to the topology.

PC1 and PC2 are connected to the router on interfaces FE0/0 and FE0/1 respectively.

- PC1 IP: 192.168.1.1/24
- PC2 IP: 192.168.2.1/24

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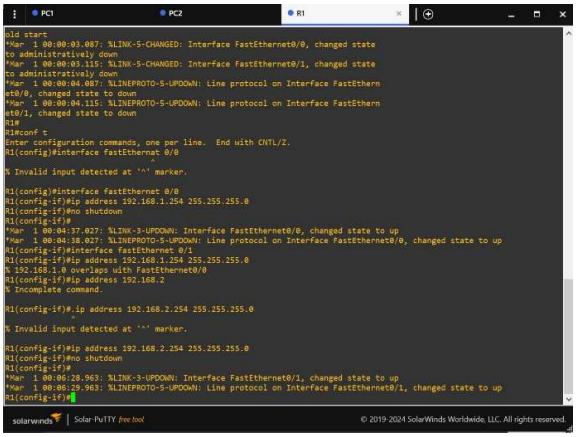
## Cisco IOS Configuration



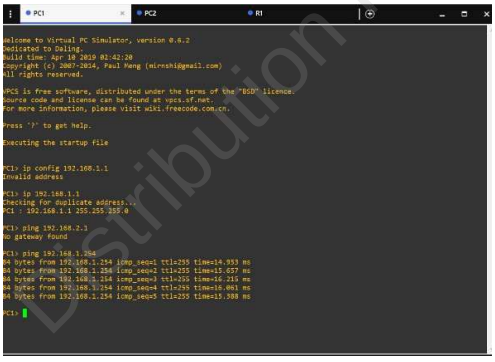

The router has been configured. Both FE 0/0 and FE0/1 has been configured to the respective Ip addresses and the “no shutdown” command has been used to activate the interface.

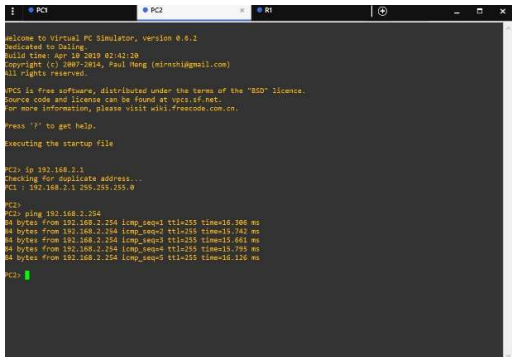
The router was configured as follows:

Router(config)# interface fastethernet0/0
Router(config-if)# ip address 192.168.1.254 255.255.255.0
Router(config-if)# no shutdown

Router(config)# interface fastethernet0/1
Router(config-if)# ip address 192.168.2.254 255.255.255.0
Router(config-if)# no shutdown

## Verification




**Verification**: Ping FE0/0 and FE0/1

**Result**: Successful

**Reason**: PC1 and FE0/0 are on the same network (192.168.1.0/24). Similarly, PC2 and FE0/1 share the 192.168.2.0/24 network. Layer-3 connectivity exists within each subnet.

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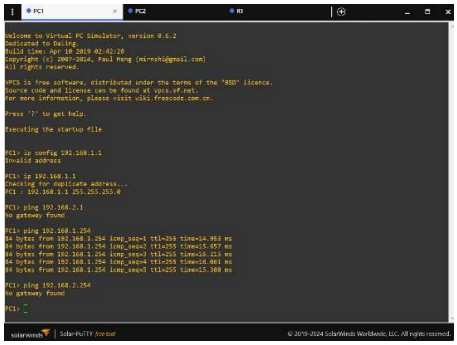
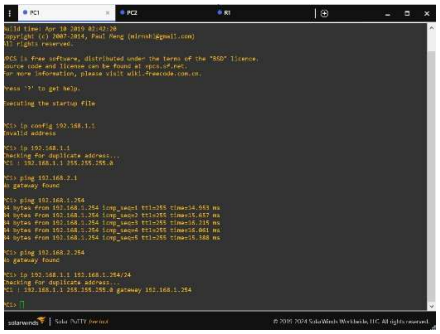
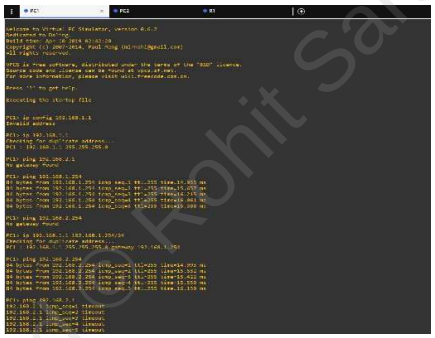


**Verification**: Ping FE0/1 from PC1

**Result**: Failed

**Reason**: Different subnets (192.168.1.0/24 ↔ 192.168.2.0/24) with no routing configured; packets are dropped due to lack of a gateway.





**Verification**: Ping PC2 from PC1

**Result**: Failed initially.

**Cause**: No Layer-3 path between subnets.

**Remediation**

Enabled routing on the router using:

Router(config)# ip routing

After enabling IP routing, PC1 → PC2 ping succeeds, confirming that the router is correctly forwarding packets between both networks.

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