# Step 1: The Routing Process (Simplified)


- PC 1 creates a packet destined for PC 2
  - **Source IP**: 192.168.1.2/24
  - **Destination IP**: 192.168.0.2/24
- Because it is destined for another network, it is sent to PC 1's default gateway, which is the Ethernet interface of Router 1 (192.168.1.1/24).
- If PC 1 doesn't know Router 1's MAC Address, PC 1 will send out an ARP request.

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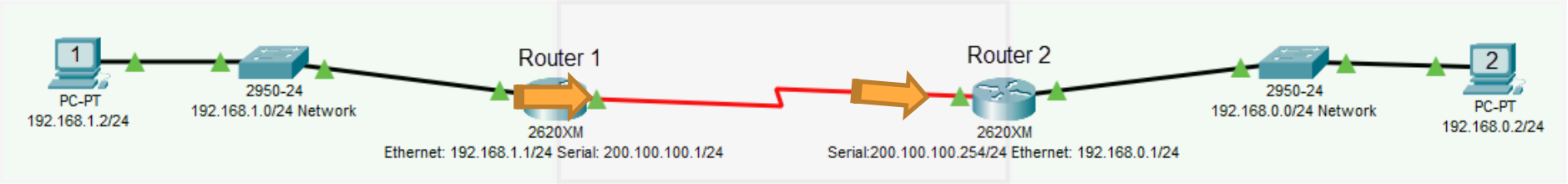
# Step 2: The Routing Process (Simplified)




- Once Router 1 receives the packet, it'll inspect its destination IP address and then make a routing decision based on its routing table to identify which route to send it to.
- In this case, it's Router 1's serial interface with an IP address of 200.100.100.1/24.

```
Router1#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

S    192.168.0.0/24 [1/0] via 200.100.100.254
C    192.168.1.0/24 is directly connected, FastEthernet0/0
C    200.100.100.0/24 is directly connected, Serial0/0
```

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# Step 3: The Routing Process (Simplified)


- Once Router 2 receives the packet, it'll inspect its destination IP address and then make a routing decision based on its routing table to identify which route to send it to.
- In this case, it's its directly connected Ethernet interface with an IP address of 192.168.0.1/24.

```
Router2#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.0.0/24 is directly connected, FastEthernet0/0
S    192.168.1.0/24 [1/0] via 200.100.100.1
C    200.100.100.0/24 is directly connected, Serial0/0
```