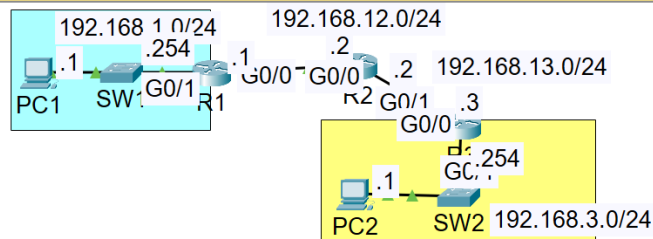


Troubleshooting the static route problem in Cisco Packet Tracer:



PC1 and PC2 are unable to ping each other.

There is one misconfiguration on each router.

Find and fix the misconfigurations.

You have successfully completed the lab when PC1 and PC2 can ping each other.

Figure 1 Network Topology

```
R1
Physical | Config | CLI | Attributes |
IOS Command Line Interface

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

R1>en
R1#show ip route
Codes: L - local, C - connected, S - static, 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

    192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, GigabitEthernet0/1
L       192.168.1.254/32 is directly connected, GigabitEthernet0/1
S       192.168.3.0/24 [1/0] via 192.168.12.3
C       192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.12.0/24 is directly connected, GigabitEthernet0/0
L       192.168.12.1/32 is directly connected, GigabitEthernet0/0

R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int g0/0
R1(config-if)#do sh run | include ip route
ip route 192.168.3.0 255.255.255.0 192.168.12.3
R1(config-if)#no ip route 192.168.3.0 255.255.255.0 192.168.12.3
R1(config)#ip route 192.168.3.0 255.255.255.0 192.168.12.2
R1(config)#do show ip route
Codes: L - local, C - connected, S - static, 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

    192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, GigabitEthernet0/1
L       192.168.1.254/32 is directly connected, GigabitEthernet0/1
S       192.168.3.0/24 [1/0] via 192.168.12.2
C       192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.12.0/24 is directly connected, GigabitEthernet0/0
L       192.168.12.1/32 is directly connected, GigabitEthernet0/0

R1(config)#
```

Figure 2 R1 CLI

R2

Physical
Config
CLI
Attributes

IOS Command Line Interface

```

R2#show ip int br
Interface          IP-Address      OK? Method Status          Protocol
GigabitEthernet0/0 192.168.12.2    YES manual up             up
GigabitEthernet0/1 192.168.13.2    YES manual up             up
GigabitEthernet0/2 unassigned      YES unset  administratively down down
Vlan1              unassigned      YES unset  administratively down down
R2#conf int g0/0
^
% Invalid input detected at '^' marker.

R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#int g0/0
R2(config-if)#do sh run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.12.1
ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/0
R2(config-if)#no ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/0
R2(config)#do sh run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.12.1
R2(config)#int g0/1
R2(config-if)#ip route 192.168.3.0 255.255.255.0 g0/1
%Default route without gateway, if not a point-to-point interface, may impact performance
R2(config)#ip route 192.168.3.0 255.255.255.0 192.168.13.3
R2(config)#do show run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.12.1
ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/1
ip route 192.168.3.0 255.255.255.0 192.168.13.3
R2(config)#do show ip route
Codes: L - local, C - connected, S - static, 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    192.168.1.0/24 [1/0] via 192.168.12.1
S    192.168.3.0/24 is directly connected, GigabitEthernet0/1
      [1/0] via 192.168.13.3
C    192.168.12.0/24 is variably subnetted, 2 subnets, 2 masks
L    192.168.12.0/24 is directly connected, GigabitEthernet0/0
L    192.168.12.2/32 is directly connected, GigabitEthernet0/0
C    192.168.13.0/24 is variably subnetted, 2 subnets, 2 masks
L    192.168.13.0/24 is directly connected, GigabitEthernet0/1
L    192.168.13.2/32 is directly connected, GigabitEthernet0/1

R2(config)#int g0/1
R2(config-if)#do show run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.12.1
ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/1
ip route 192.168.3.0 255.255.255.0 192.168.13.3
R2(config-if)#no ip route 192.168.3.0 255.255.255.0 GigabitEthernet0/1
R2(config)#do show run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.12.1
ip route 192.168.3.0 255.255.255.0 192.168.13.3
R2(config)#

```

Figure 3 R2 CLI

R3

Physical
Config
CLI
Attributes

IOS Command Line Interface

```

R3#show ip route
Codes: L - local, C - connected, S - static, 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    192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks
L    192.168.3.0/24 is directly connected, GigabitEthernet0/1
L    192.168.3.254/32 is directly connected, GigabitEthernet0/1
C    192.168.23.0/24 is variably subnetted, 2 subnets, 2 masks
L    192.168.23.0/24 is directly connected, GigabitEthernet0/0
L    192.168.23.3/32 is directly connected, GigabitEthernet0/0

R3#show ip int br
Interface          IP-Address      OK? Method Status          Protocol
GigabitEthernet0/0 192.168.23.3    YES manual up             up
GigabitEthernet0/1 192.168.3.254   YES manual up             up
GigabitEthernet0/2 unassigned      YES unset  administratively down down
Vlan1              unassigned      YES unset  administratively down down
R3#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#int g0/0
R3(config-if)#do show run | include ip route
ip route 192.168.1.0 255.255.255.0 192.168.13.2
R3(config-if)#ip address 192.168.13.3 255.255.255.0
R3(config-if)#do show ip route
Codes: L - local, C - connected, S - static, 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    192.168.1.0/24 [1/0] via 192.168.13.2
C    192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks
L    192.168.3.0/24 is directly connected, GigabitEthernet0/1
L    192.168.3.254/32 is directly connected, GigabitEthernet0/1
C    192.168.13.0/24 is variably subnetted, 2 subnets, 2 masks
L    192.168.13.0/24 is directly connected, GigabitEthernet0/0
L    192.168.13.3/32 is directly connected, GigabitEthernet0/0

R3(config-if)#do show ip int br
Interface          IP-Address      OK? Method Status          Protocol
GigabitEthernet0/0 192.168.13.3    YES manual up             up
GigabitEthernet0/1 192.168.3.254   YES manual up             up
GigabitEthernet0/2 unassigned      YES unset  administratively down down
Vlan1              unassigned      YES unset  administratively down down

```

Figure 4 R3 CLI

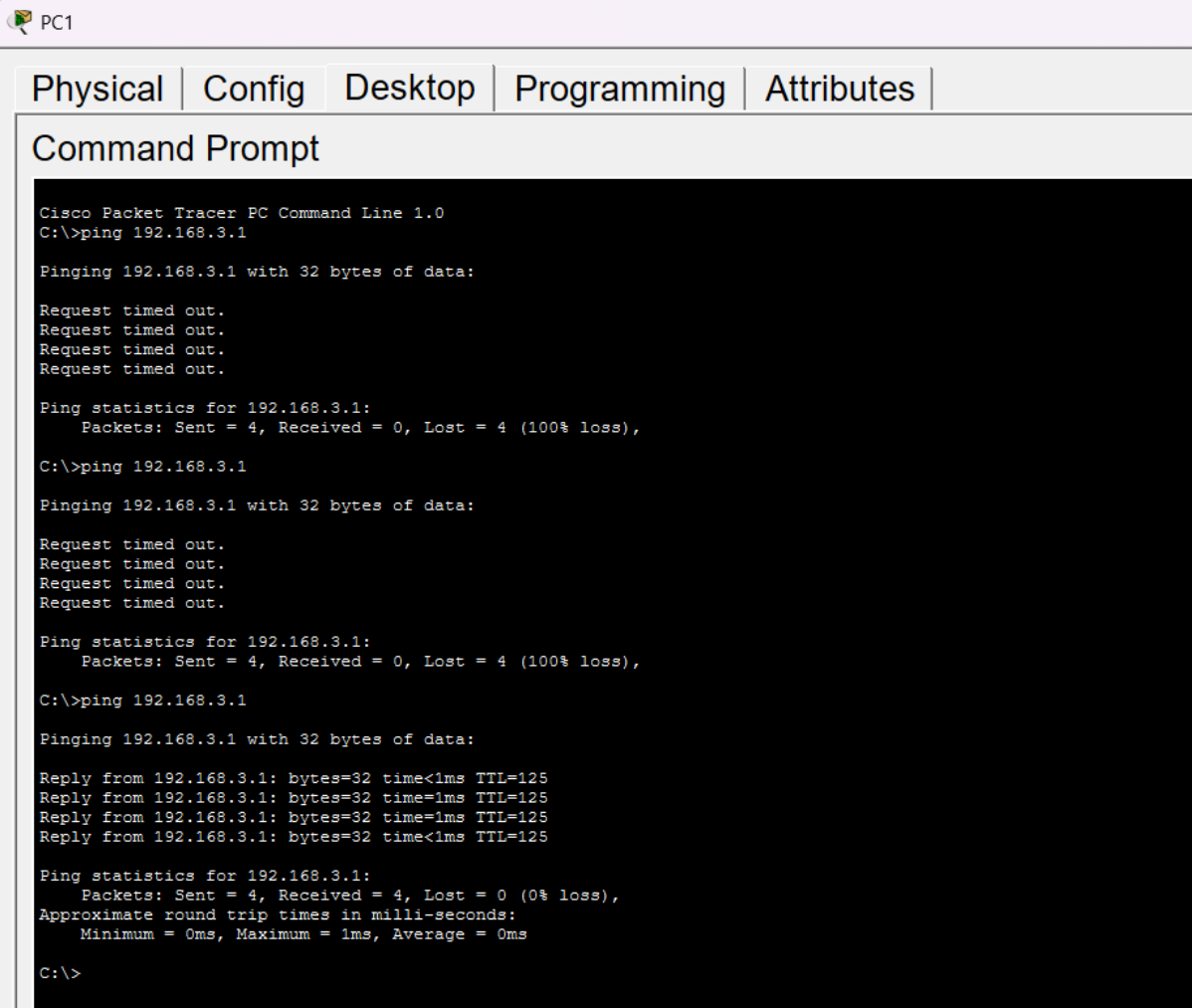


Figure 5 PC1 command prompt

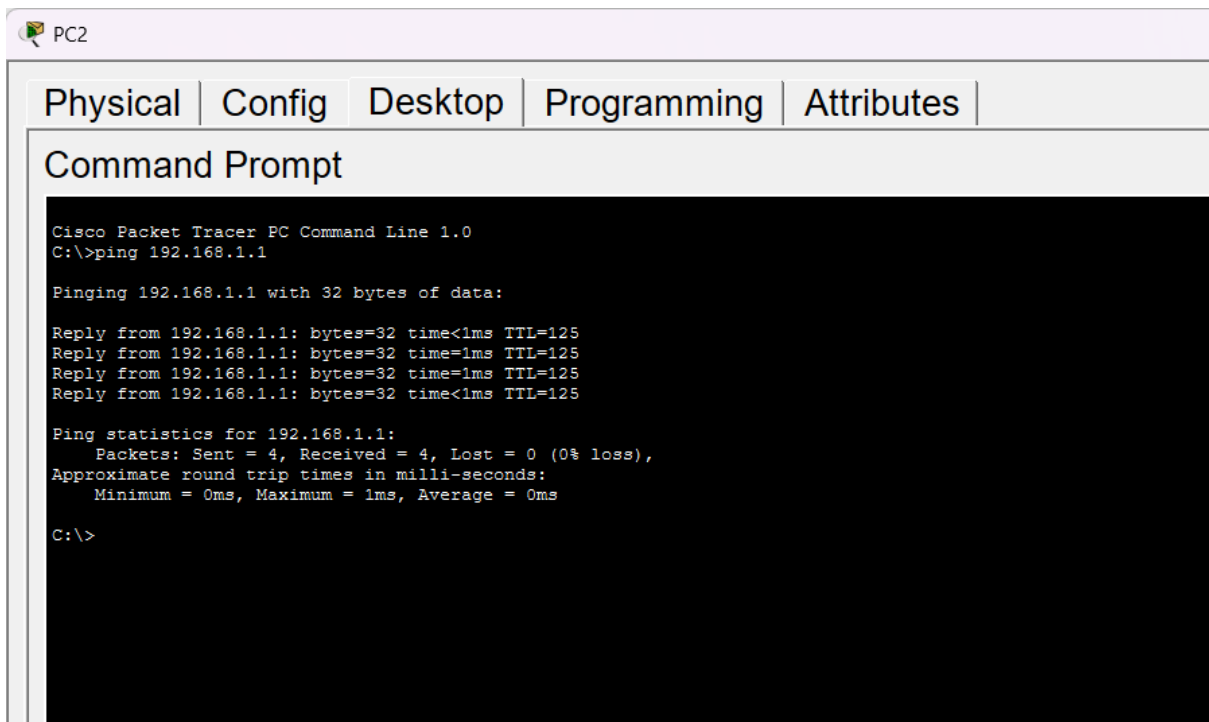


Figure 6 PC2 command prompt