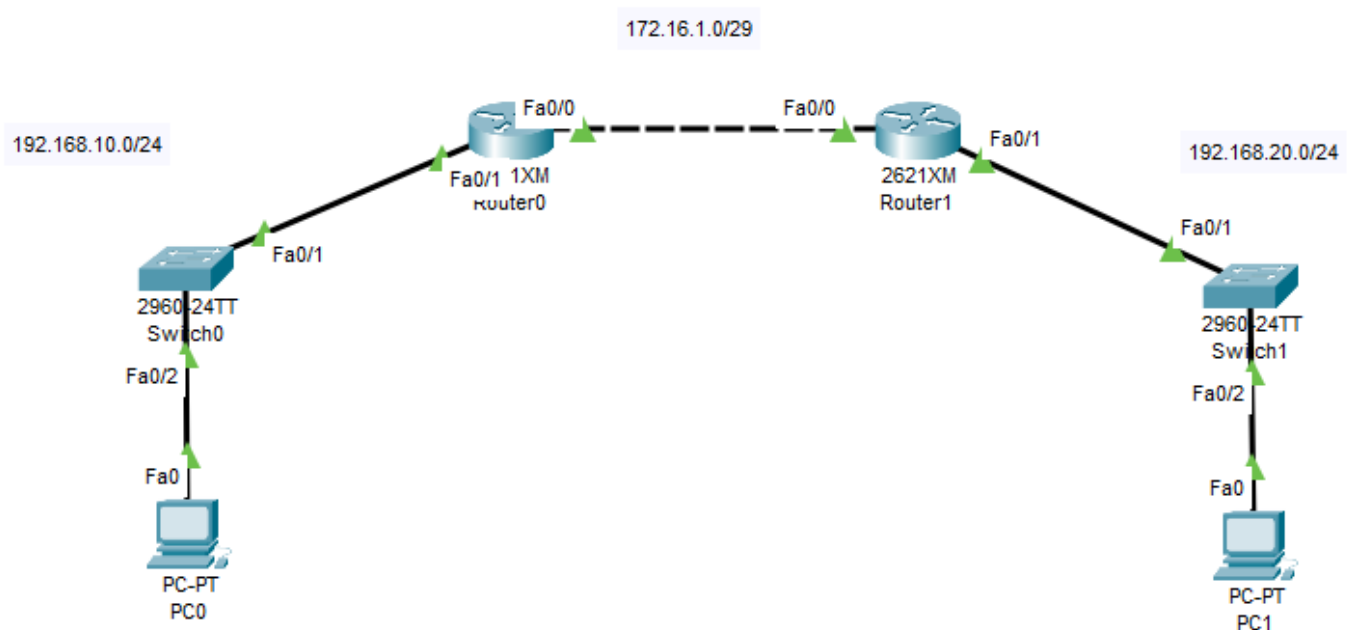


Cisco IOS Router Static Route

Network Topology



Router0 Configuration Commands

```
Router0>enable
Router0#configure terminal
Router0(config)# interface fastEthernet 0/0
Router0(config-if)#ip address 172.16.1.1 255.255.255.248
Router0(config-if)#no shutdown
Router0(config-if)#interface fastEthernet 0/1
Router0(config-if)#ip address 192.168.10.1 255.255.255.0
Router0(config-if)#no shutdown
Router0(config-if)#exit
Router0(config)#ip route 192.168.20.0 255.255.255.0 172.16.1.2
Router0(config)#exit
```

Router0#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	172.16.1.1	YES	manual	up	up
FastEthernet0/1	192.168.10.1	YES	manual	up	up

Router0#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

172.16.0.0/29 is subnetted, 1 subnets
C 172.16.1.0 is directly connected, FastEthernet0/0
C 192.168.10.0/24 is directly connected, FastEthernet0/1
S 192.168.20.0/24 [1/0] via 172.16.1.2

Router1 Configuration Commands

Router1>enable

Router1#configure terminal

Router1(config)# interface fastEthernet 0/0

Router1(config-if)#ip address 172.16.1.2 255.255.255.248

Router1(config-if)#no shutdown

Router1(config-if)#interface fastEthernet 0/1

Router1(config-if)#ip address 192.168.20.1 255.255.255.0

Router1(config-if)#no shutdown

Router1(config-if)#exit

Router1(config)#ip route 192.168.10.0 255.255.255.0 172.16.1.1

Router1(config)#exit

Router1#show ip interface brief

Interface	IP-Address	OK?	Method	Status	Protocol
FastEthernet0/0	172.16.1.2	YES	manual	up	up
FastEthernet0/1	192.168.20.1	YES	manual	up	up

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

```

```

      172.16.0.0/29 is subnetted, 1 subnets
C       172.16.1.0 is directly connected, FastEthernet0/0
S       192.168.10.0/24 [1/0] via 172.16.1.1
C       192.168.20.0/24 is directly connected, FastEthernet0/1

```

Switch0 Configuration Commands

```

Switch0>enable
Switch0#configure terminal
Switch0(config)#int vlan1
Switch0(config-if)#ip address 192.168.10.2 255.255.255.0
Switch0(config-if)#ip default-gateway 192.168.10.1
Switch0(config-if)#no shutdown
Switch0(config-if)# exit
Switch0(config)#show interface vlan 1

```

```

Vlan1 is up, line protocol is up
  Hardware is CPU Interface, address is 0001.4228.66d1 (bia 0001.4228.66d1)
  Internet address is 192.168.10.2/24
  MTU 1500 bytes, BW 100000 Kbit, DLY 1000000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 21:40:21, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1682 packets input, 530955 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicast)
    0 runs, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    563859 packets output, 0 bytes, 0 underruns
    0 output errors, 23 interface resets
    0 output buffer failures, 0 output buffers swapped out

```

Switch1 Configuration Commands

```


Switch1>enable
Switch1#configure terminal
Switch1(config)#int vlan1
Switch1(config-if)#ip address 192.168.20.2 255.255.255.0
Switch1(config-if)#ip default-gateway 192.168.20.1
Switch1(config-if)#no shutdown
Switch1(config-if)# exit

```

Switch1(config)#show interface vlan 1

```
Vlan1 is up, line protocol is up
Hardware is CPU Interface, address is 0090.2bc7.2ad8 (bia 0090.2bc7.2ad8)
Internet address is 192.168.20.2/24
MTU 1500 bytes, BW 100000 Kbit, DLY 1000000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
ARP type: ARPA, ARP Timeout 04:00:00
Last input 21:40:21, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
 1682 packets input, 530955 bytes, 0 no buffer
Received 0 broadcasts (0 IP multicast)
 0 runs, 0 giants, 0 throttles
 0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
563859 packets output, 0 bytes, 0 underruns
 0 output errors, 23 interface resets
 0 output buffer failures, 0 output buffers swapped out
```

PC0 Configuration

 PC0

Physical

Config

Desktop

Programming

Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

Global Settings

Display Name

Interfaces

Gateway/DNS IPv4

☐ DHCP

☒ Static

Default Gateway

DNS Server

Gateway/DNS IPv6

☐ Automatic

☒ Static

Default Gateway

DNS Server

Physical **Config** Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 00D0.976E.AAC7

IP Configuration

☐ DHCP

☒ Static

IPv4 Address 192.168.10.10

Subnet Mask 255.255.255.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local Address: FE80::2D0:97FF:FE6E:AAC7

PC1 Configuration

Physical **Config** Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

Global Settings

Display Name PC1

Interfaces FastEthernet0

Gateway/DNS IPv4

☐ DHCP☒ Static

Default Gateway 192.168.20.1

DNS Server

Gateway/DNS IPv6

☐ Automatic☒ Static

Default Gateway

DNS Server

Physical **Config** Desktop Programming Attributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

☒ On

Bandwidth

☒ 100 Mbps☐ 10 Mbps☒ Auto

Duplex

☐ Half Duplex☒ Full Duplex☒ Auto

MAC Address

0050.0F05.C7C2

IP Configuration

☐ DHCP☒ Static

IPv4 Address

192.168.20.10

Subnet Mask

255.255.255.0

IPv6 Configuration

☐ Automatic☒ Static

IPv6 Address

Link Local Address: FE80::250:FFF:FE05:C7C2

Test Connectivity via Static Route

PC0



Physical Config **Desktop** Programming Attributes

Command Prompt

X

```
Cisco Packet Tracer PC Command Line 1.0
C:\>Ping 192.168.20.10

Pinging 192.168.20.10 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.20.10: bytes=32 time<1ms TTL=126
Reply from 192.168.20.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.20.10:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

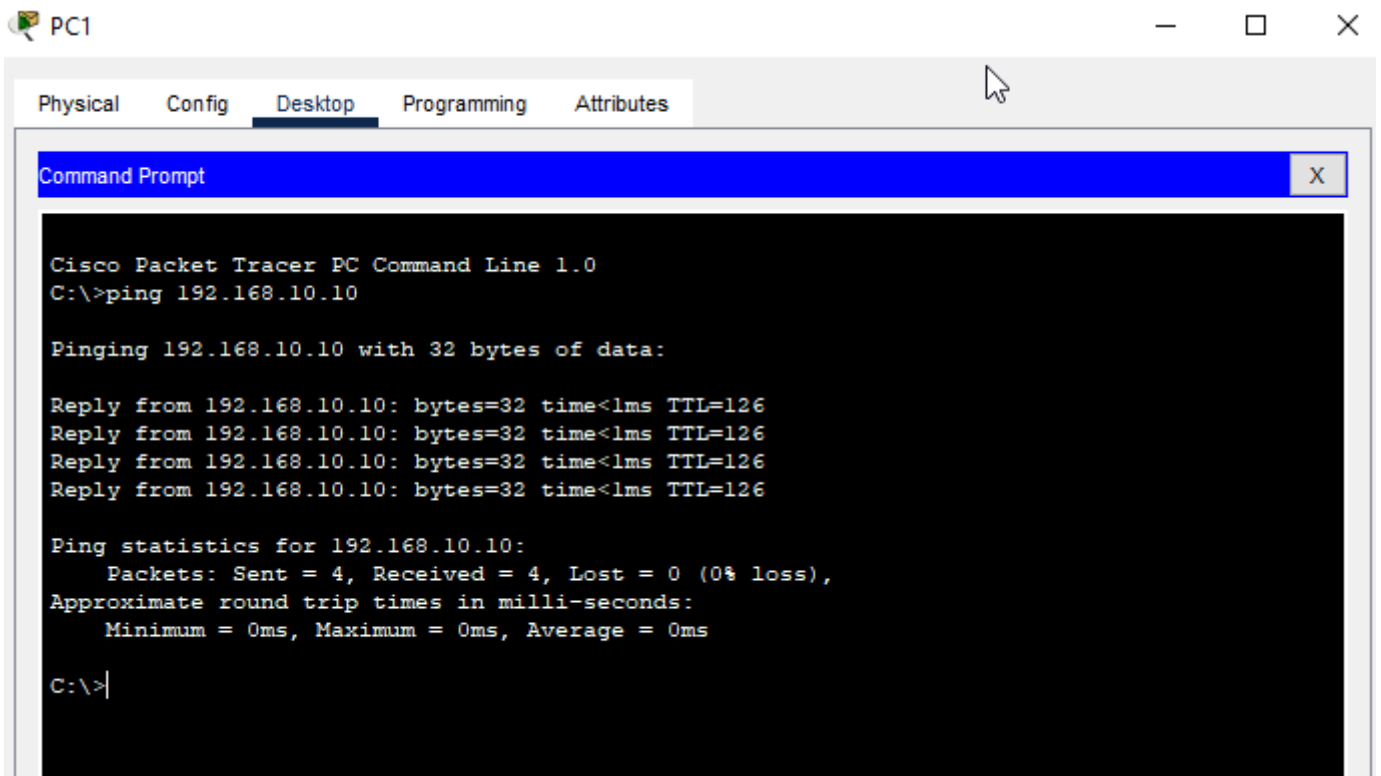
C:\>ping 192.168.20.10

Pinging 192.168.20.10 with 32 bytes of data:

Reply from 192.168.20.10: bytes=32 time<1ms TTL=126
Reply from 192.168.20.10: bytes=32 time<1ms TTL=126
Reply from 192.168.20.10: bytes=32 time<1ms TTL=126
Reply from 192.168.20.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.20.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```



Cisco Packet Tracer File

[net9 static routing.pkt](#)

Revision #3

Created 24 December 2022 20:34:31 by Glen Taylor

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