Lab work 9

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**17.5.9 Packet Tracer - Interpret show Command Output**

**Reflection Questions**

1. Which commands can you use to determine the IP address and network prefix of interfaces?

Answer: show ip route, show interfaces, show protocols

1. Which command provides the IP address and interface assignment, but not the network prefix?

Answer: show ip interface brief

1. Which commands would you use to determine if an interface is up?

Answer: show interfaces, show ip interface brief, show protocols

1. You need to determine the IOS version that is running on a router. Which command will give you this information?

Answer: show version

1. Which commands provide information about the addresses of the router interfaces?

Answer: show arp, show interfaces, show ip route, show ip interface brief, show protocols

1. You are considering an IOS upgrade and need to determine if router flash can hold the new IOS. Which commands provide information about the amount of Flash memory available?

Answer: show version, show flash

1. You need to adjust a router configuration, but you suspect that a colleague may also be working on the router from another location. Which command provides information about the lines being used for configuration or device monitoring?

Answer: show users

1. You have been asked to check the performance of a device interface. Which command provides traffic statistics for router interfaces?

Answer: show interfaces

1. Customers are complaining that they cannot reach a server that they use for file storage. You suspect that the network may have become unreachable due to a recent upgrade. Which command provides information about the paths that are available for network traffic?

Answer: show ip route

1. Which interfaces are currently active on the ISP Router?

Answer: GigabitEthernet 0/0, Serial 0/0/1

Изображение выглядит как текст

Автоматически созданное описание

**Packet Tracer - Troubleshoot Connectivity Issues**

# Addressing Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Device** | **Interface** | **IP Address** | **Subnet Mask** | **Default Gateway** |
| R1 | G0/0 | 172.16.1.1 | 255.255.255.0 | N/A |
| *R1* | G0/1 | 172.16.2.1 | 255.255.255.0 | N/A |
| *R1* | S0/0/0 | 209.165.200.226 | 255.255.255.252 | N/A |
| R2 | G0/0 | 209.165.201.1 | 255.255.255.224 | N/A |
| *R2* | S0/0/0 (DCE) | 209.165.200.225 | 255.255.255.252 | N/A |
| PC-01 | NIC | 172.16.1.3 | 255.255.255.0 | 172.16.1.1 |
| PC-02 | NIC | 172.16.1.4 | 255.255.255.0 | 172.16.1.1 |
| PC-A | NIC | 172.16.2.3 | 255.255.255.0 | 172.16.2.1 |
| PC-B | NIC | 172.16.2.4 | 255.255.255.0 | 172.16.2.1 |
| Web | NIC | 209.165.201.2 | 255.255.255.224 | 209.165.201.1 |
| DNS1 | NIC | 209.165.201.3 | 255.255.255.224 | 209.165.201.1 |
| DNS2 | NIC | 209.165.201.4 | 255.255.255.224 | 209.165.201.1 |

## Step 1: Determine connectivity issues from PC-01.

Ping to default gateway (172.16.1.1)?

**Answer: YES**

To web server (209.165.201.2)?

**Answer: YES**

Ping to PC-02?

**Answer: YES**

To PC-A?

**Answer: NO**

To PC-B?

**Answer: NO**

Can PC-01 access [www.cisco.pka](http://www.cisco.pka)?

**Answer: YES**

Using the web server IP address?

**Answer: YES**

## Step 2: Determine connectivity issues from PC-02.

Ping to default gateway (172.16.1.1)?

**Answer: YES**

To web server (209.165.201.2)?

**Answer: YES**

Ping to PC-01?

**Answer: YES**

To PC-A?

**Answer: NO**

To PC-B?

**Answer: NO**

Can PC-02 access [www.cisco.pka](http://www.cisco.pka)?

**Answer: YES**

Using the web server IP address?

**Answer: YES**

## Step 3: Determine connectivity issues from PC-A.

To web server (209.165.201.2)?

**Answer: NO**

Ping to default gateway (172.16.2.1)?

**Answer: NO**

Ping to PC-B?

**Answer: YES**

To PC-01?

**Answer: NO**

To PC-02?

**Answer: NO**

Can PC-A access [www.cisco.pka](http://www.cisco.pka)?

**Answer: NO**

Using the web server IP address?

**Answer: NO**

## Step 4: Determine connectivity issues from PC-B.

To web server (209.165.201.2)?

Answer: YES

Ping to default gateway (172.16.2.1)?

Answer: YES

Ping to PC-A?

Answer: YES

To PC-01?

Answer: YES

To PC-02?

Answer: YES

Can PC-B access [www.cisco.pka](http://www.cisco.pka)?

Answer: NO

**17.8.2Packet Tracer – Skills Integration Challenge**

# Addressing Table

| Device | Interface | IP Address / Prefix | Default Gateway |
| --- | --- | --- | --- |
| R1 | G0/0 | *192.168.0.1/25* | N/A |
| *R1* | *G0/0* | 2001:db8:acad::1/64 | *N/A* |
| *R1* | *G0/0* | fe80::1 | *N/A* |
| *R1* | G0/1 | *192.168.0.129/26* | N/A |
| *R1* | *G0/1* | 2001:db8:acad:1::1/64 | *N/A* |
| *R1* | *G0/1* | fe80::1 | *N/A* |
| *R1* | G0/2 | *192.168.0.193/27* | N/A |
| *R1* | *G0/2* | 2001:db8:acad:2::1/64 | *N/A* |
| *R1* | *G0/2* | fe80::1 | *N/A* |
| *R1* | S0/0/1 | 172.16.1.2 /30 | N/A |
| *R1* | *S0/0/1* | 2001:db8:2::1/64 | *N/A* |
| *R1* | *S0/0/1* | fe80::1 | *N/A* |
| Central | S0/0/0 | 209.165.200.226 /30 | N/A |
| *Central* | *S0/0/0* | 2001:db8:1::1/64 | *N/A* |
| *Central* | *S0/0/0* | fe80::2 | *N/A* |
| *Central* | S0/0/1 | 172.16.1.1 /30 | N/A |
| *Central* | *S0/0/1* | 2001:db8:2::2/64 | *N/A* |
| *Central* | *S0/0/1* | fe80::2 | *N/A* |
| S1 | VLAN 1 | *192.168.0.2/25* | *192.168.0.1* |
| S2 | VLAN 1 | *192.168.0.130/26* | *192.168.0.129* |
| S3 | VLAN 1 | *192.168.0.194/27* | *192.168.0.193* |
| Staff | NIC | *192.168.0.3/25* | *192.168.0.1* |
| *Staff* | *NIC* | 2001:db8:acad::2/64 | fe80::1 |
| *Staff* | *NIC* | fe80::2 | *fe80::1* |
| Sales | NIC | *192.168.0.131/26* | *192.168.0.129* |
| *Sales* | *NIC* | 2001:db8:acad:1::2/64 | fe80::1 |
| *Sales* | *NIC* | fe80::2 | *fe80::1* |
| IT | NIC | *192.168.0.195/27* | *192.168.0.193* |
| *IT* | *NIC* | 2001:db8:acad:2::2/64 | fe80::1 |
| *IT* | *NIC* | fe80::2 | *fe80::1* |
| Web | NIC | 64.100.0.3 /29 | 64.100.0.1 |
| *Web* | *NIC* | 2001:db8:cafe::3/64 | fe80::1 |
| *Web* | *NIC* | fe80::2 | *Fe80::1* |

**17.8.3 Packet Tracer – Troubleshooting Challenge**

# Addressing Table

| **Device** | **Interface** | **IP Address / Prefix** | **Default Gateway** |
| --- | --- | --- | --- |
| R1 | G0/0 | 172.16.1.62 /26 | N/A |
| *R1* | *G0/0* | 2001:db8:cafe::1/64 | *N/A* |
| *R1* | *G0/0* | fe80::1 | *N/A* |
| *R1* | G0/1 | 172.16.1.126 /26 | N/A |
| *R1* | *G0/1* | 2001:db8:cafe:1::1/64 | *N/A* |
| *R1* | *G0/1* | fe80::1 | *N/A* |
| *R1* | G0/2 | 172.16.1.254 /25 | N/A |
| *R1* | *G0/2* | 2001:db8:cafe:2::1/64 | *N/A* |
| *R1* | *G0/2* | fe80::1 | *N/A* |
| *R1* | S0/0/1 | 10.0.0.2 /30 | N/A |
| *R1* | *S0/0/1* | 2001:db8:2::1/64 | *N/A* |
| *R1* | *S0/0/1* | fe80::1 | *N/A* |
| Main | S0/0/0 | 209.165.200.226 /30 | N/A |
| *Main* | *S0/0/0* | 2001:db8:1::1/64 | *N/A* |
| *Main* | *S0/0/0* | fe80::2 | *N/A* |
| *Main* | S0/0/1 | 10.0.0.1 /30 | N/A |
| *Main* | *S0/0/1* | 2001:db8:2::2/64 | *N/A* |
| *Main* | *S0/0/1* | fe80::2 | *N/A* |
| S1 | VLAN 1 | 172.16.1.61 /26 | 172.16.1.62 |
| S2 | VLAN 1 | 172.16.1.125 /26 | 172.16.1.126 |
| S3 | VLAN 1 | 172.16.1.253 /25 | 172.16.1.254 |
| IT | NIC | 172.16.1.1 /26 | 172.16.1.62 |
| *IT* | *NIC* | 2001:db8:cafe::2/64 | fe80::1 |
| *IT* | *NIC* | fe80::2 | *fe80::1* |
| Marketing | NIC | 172.16.1.65 /26 | 172.16.1.126 |
| *Marketing* | *NIC* | 2001:db8:cafe:1::2/64 | fe80::1 |
| *Marketing* | *NIC* | fe80::2 | *fe80::1* |
| R&D | NIC | 172.16.1.129 /25 | 172.16.1.254 |
| *R&D* | *NIC* | 2001:db8:cafe:2::2/64 | fe80::1 |
| *R&D* | *NIC* | fe80::2 | *fe80::1* |
| Web | NIC | 64.100.0.3 /29 | 64.100.0.1 |
| *Web* | *NIC* | 2001:db8:acad::3/64 | fe80::1 |
| *Web* | *NIC* | fe80::2 |  |

**R1 Configuration:**

**interface GigabitEthernet0/1**

**ip address 172.16.1.126 255.255.255.192**

**username Admin1 secret Admin1pa55**

**line vty 0 4 transport input ssh**

**S1 Configuration: No Change**

**S2 Configuration:**

**interface Vlan1**

**ip address 172.16.1.125 255.255.255.192**

**S3 Configuration: No Change**

**IT PC Configuration:**

**Incorrect IPv4 address , Incorrect default gateway**

**Marketing PC Configuration: No Change**

**R&D PC Configuration: Incorrect IPv6 address**