Lab 32 - Packet Tracer - Troubleshooting Challenge - Use Documentation to Solve Issues

1. **Addressing Table**

| **Device** | **Interface** | **Device Type  (router, switch, host)** | **IP Address** | **Subnet Mask** | **Default Gateway** |
| --- | --- | --- | --- | --- | --- |
| PC1 | NIC | host | 192.168.1.153 | 255.255.255.0 | 192.168.1.1 |
| PC2 | NIC | host | 192.168.3.50 | 255.255.255.0 | 192.168.3.1 |
| PC3 | NIC | host | 192.168.4.115 | 255.255.255.0 | 192.168.4.1 |
| PC4 | NIC | host | 192.168.5.83 | 255.255.255.128 | 192.168.5.1 |
| PC5 | NIC | host | 192.168.5.227 | 255.255.255.128 | 192.168.5.129 |
| PC6 | NIC | host | 192.168.2.48 | 255.255.255.224 | 192.168.2.33 |
| PC7 | NIC | host | 192.168.2.67 | 255.255.255.224 | 192.168.2.65 |
| Hub | G0/0/0 | router | 192.0.2.1 | 255.255.255.252 | N/A |
| Hub | S0/1/0 | router | 192.168.0.1 | 255.255.255.252 | N/A |
| Hub | S0/1/1 | router | 192.168.0.5 | 255.255.255.252 | N/A |
| Hub | S0/2/0 | router | 192.168.0.9 | 255.255.255.252 | N/A |
| Hub | S0/2/1 | router | 192.168.0.13 | 255.255.255.252 | N/A |
| Branch-1 | G0/0/0 | router | 192.168.1.1 | 255.255.255.0 | N/A |
| Branch-1 | S0/1/0 | router | 192.168.0.2 | 255.255.255.252 | N/A |
| Branch-2 | G0/0/0 | router | 192.168.2.33 | 255.255.255.224 | N/A |
| Branch-2 | S0/1/0 | router | 192.168.0.6 | 255.255.255.252 | N/A |
| Factory | G0/0/0 | router | 192.168.3.1 | 255.255.255.0 | N/A |
| Factory | G0/0/1 | router | 192.168.4.1 | 255.255.255.0 | N/A |
| Factory | S0/1/0 | router | 192.168.0.14 | 255.255.255.252 | N/A |
| HQ | G0/0/0.1 | router | 192.168.6.1 | 255.255.255.0 | N/A |
| HQ | G0/0/0.5 | router | 192.168.5.1 | 255.255.255.128 | N/A |
| HQ | G0/0/0.10 | router | 192.168.5.129 | 255.255.255.128 | N/A |
| HQ | S0/1/0 | router | 192.168.0.10 | 255.255.255.252 | N/A |
| SW-B1 | VLAN 1 | switch | 192.168.1.252 | 255.255.255.0 | 192.168.1.1 |
| SW-B2 | VLAN 1 | switch | 192.168.2.62 | 255.255.255.0 | 192.168.2.1 |
| SW-F1 | VLAN 1 | switch | 192.168.3.252 | 255.255.255.0 | 192.168.3.1 |
| SW-F2 | VLAN 1 | switch | 192.168.4.252 | 255.255.255.0 | 192.168.4.1 |
| SW-HQ1 | VLAN 1 | switch | 192.168.6.252 | 255.255.255.0 | 192.168.6.1 |
| SW-HQ2 | VLAN 1 | switch | 192.168.6.253 | 255.255.255.0 | 192.168.6.1 |
| SW-HQ3 | VLAN 1 | switch | 192.168.6.254 | 255.255.255.0 | 192.168.6.1 |

# Objectives

In this lab, you use network documentation to identify and fix network communications problems.

* Use various techniques and tools to identify connectivity issues.
* Use documentation to guide troubleshooting efforts.
* Identify specific network problems.
* Implement solutions to network communication problems.
* Verify network operation.

# Background / Scenario

In this activity, you will use the documentation that you created in the **Packet Tracer - Troubleshooting Challenge - Document the Network** activity to guide network troubleshooting efforts.

It has been discovered that the network that you worked with in the previous PT activity has developed communication problems. Some hosts are unable to ping other hosts and the internet server. It is your job to determine what the issues are and to locate and repair them.

Network issues could exist in any device. Be sure to check for comprehensive errors:

* Addressing configuration
* Interface activation
* Routing
* NAT

# Instructions

Passwords for all devices are VTY: **cisco**, Enable secret: **class**

## Assess Connectivity

All hosts should be able to ping each other and the internet server. Determine if this requirement is met. If not, identify which hosts and networks should be further investigated.

## Access Network Devices

From the hosts which have communication problems, use ICMP tools to determine where in the network these problems may be located. From the host PCs, access devices in the network and display configurations and operational status.

## Repair the Network

After locating the issues, reconfigure the devices to repair the connectivity problem. Use your documentation from the previous activity to help you.

## Document the Issues

Record your issues in the table below.

|  |  |  |
| --- | --- | --- |
| Device | Issue | Action |
| PC1 | Can’t ping internet server, its most likely to do with the path its taking to reach internet and packets only reach Hub router | What I did was telnet to the closest interface (192.168.1.1) and then I managed to find out that ip nat inside is missing from the configuration, so I added it through connecting to Hub via Branch-1 |
| PC3 | Also cant ping internet server and also it can’t ping any other devices on the network | I managed to find out that PC3 addresses were actually ok but the problem was that g0/0/1 interface off Factory router is down so I went in through PC2 as it was working well and enabled the g0/0/1 interface with no shutdown. |
| PC3 | No other device can seme to ping PC3 and PC3 cant ping other devices. | I had to enable ospf 10 for the PC3 on Factory network. I did this with router ospf 10 command and then network 192.168.4.0 0.0.0.255 area 0 |
| PC5 | PC5 cant ping anything at all. I found out that PC5 had no gateway address. | I managed to find out the PC5 gateway on the network documentation with show ip int brief command from HQ. |
| PC6 & 7 | Both PC6 and 7 appeared to no be able to ping internet server at all. | S0/1/0 interfaced appeared to have a wrong IP address and I changed it to 192.168.0.6/30 which fixed the issue. I did it via the command int s0/1/0 on Branch-2 and then ip address 192.168.0.6 255.255.255.252 |

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