

**Packet Tracer - Use ICMP to Test and Correct Network Connectivity**

# Addressing Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Device** | **Interface** | **Address** | **Mask/Prefix** | **Default Gateway** |
| RTR-1  *RTR-1*  *RTR-1*  *RTR-1*  *RTR-1*  *RTR-1* | G/0/0/0  *G/0/0/0* | 192.168.1.1 | 255.255.255.0 | N/A |
| 2001:db8:4::1 | /64 | N/A |
| S0/1/0  *S0/1/0* | 10.10.2.2 | 255.255.255.252 | N/A |
| 2001:db8:2::2 | /126 | N/A |
| S0/1/1  *S0/1/1* | 10.10.3.1 | 255.255.255.252 | N/A |
| 2001:db8:3::1 | /126 | N/A |
| RTR-2  *RTR-2*  *RTR-2*  *RTR-2* | G/0/0/0 | 10.10.1.1 | 255.255.255.0 | N/A |
| G0/0/1 | 2001:db8:1::1 | /64 | N/A |
| S0/1/0  *S0/1/0* | 10.10.2.1 | 255.255.255.252 | N/A |
| 2001:db8:2::1 | /126 | N/A |
| RTR-3  *RTR-3*  *RTR-3*  *RTR-3* | G0/0/0 | 10.10.5.1 | 255.255.255.0 | N/A |
| G0/0/1 | 2001:db8:5::1 | /64 | N/A |
| S0/1/0  *S0/1/0* | 10.10.3.2 | 255.255.255.252 | N/A |
| 2001:db8:3::2 | /126 | N/A |
| PC-1 | NIC | 10.10.1.10 | 255.255.255.0 | 10.10.1.1 |
| Laptop A | NIC | 10.10.1.20 | 255.255.255.0 | 10.10.1.1 |
| PC-2 | NIC | 2001:db8:1::10 | /64 | fe80::1 |
| PC-3 | NIC | 2001:db8:1::20 | /64 | fe80::1 |
| PC-4 | NIC | 10.10.5.10 | 255.255.255.0 | 10.10.5.1 |
| Server 1 | NIC | 10.10.5.20 | 255.255.255.0 | 10.10.5.1 |
| Laptop B | NIC | 2001:db8:5::10 | /64 | fe80::1 |
| Laptop C | NIC | 2001:db8:5::20 | /64 | fe80::1 |
| Corporate Server  *Corporate Server* | NIC  *NIC* | 203.0.113.100 | 255.255.255.0 | 203.0.113.1 |
| 2001:db8:acad::100 | /64 | fe80::1 |

# Objectives

In this lab you will use ICMP to test network connectivity and locate network problems. You will also correct simple configuration issues and restore connectivity to the network.

• Use ICMP to locate connectivity issues.

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## Packet Tracer - Use ICMP to Test and Correct Network Connectivity

• Configure network devices to correct connectivity issues.

# Background

Customers have been complaining that they can’t reach some network resources. You have been asked to test connectivity in the network. You use ICMP to find out which resources are unreachable and the locations from which they can’t be reached. Then, you use trace to locate the point at which network connectivity is broken. Finally, you fix the errors that you find to restore connectivity to the network.

# Instructions

All hosts should have connectivity to all other hosts and the Corporate Server.

* Wait until all link lights are green.
* Select a host and use ICMP ping to determine which hosts are reachable from that host.
* If a host is found to be unreachable, use ICMP trace to locate the general location of the network errors.
* Locate the specific errors and correct them.

So I found these connectivity issues:

1. Server 1 is receiving its IP address over DHCP. So, it should configured statically with the correct IP address, subnet mask and default gateway
2. Router RTR-3 interface G0/0/1 configured with the wrong IPv6 address. The correct address is 2001:DB8:5::1/64
3. The G0/0/1 interface may need to be shut down and brought back up in order for the new route to take effect. The old route may still show up in the routing table as well.
4. PC-4 has wrong default gateway address. Correct is 10.10.5.1

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