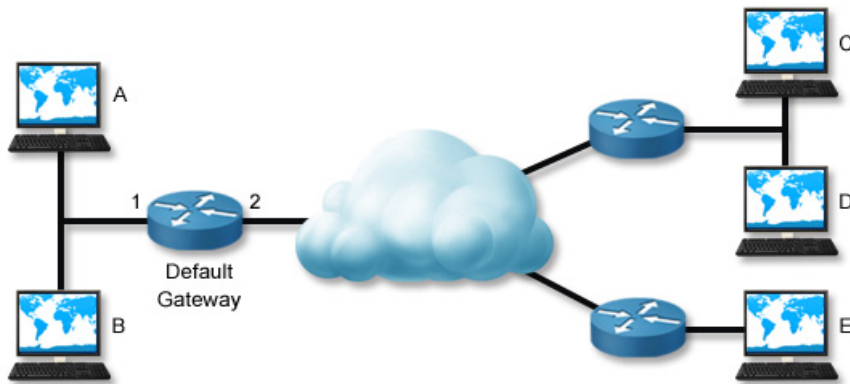


5.9.3 Network Communication Troubleshooting Facts

As part of the troubleshooting process, you need to identify the scope of the problem so you can take the proper actions to correct the problem.

In this scenario, Workstation A can't communicate with Workstation C.



Troubleshooting Process

The following table lists several tasks you can perform to troubleshoot the reported connectivity problem. These steps trace the problem backward from the remote host to the local host. Depending on the situation, you might be able to troubleshoot the problem more efficiently by skipping some tests or changing the order in which you perform them (you might even complete them in reverse order).

| Task | Description |
|---|--|
| Ping Host C | <p>Often, the best way to start troubleshooting a problem is to ping the host you are trying to contact. This verifies the reported problem. If the ping is successful, the problem is not related to network connectivity. Check other problems, such as name resolution or service access.</p> <p>If you have access to another computer, try pinging the destination host from that computer. If the ping is successful, skip the remaining tasks and troubleshoot the local host configuration or physical connection.</p> |
| Ping Host D | If you cannot contact a specific remote host, try pinging another host in the same remote network. If the ping is successful, then the problem is with the remote host (for example, a misconfiguration, broken link, or unavailable host). |
| Ping Host E | If you cannot contact any host in the remote network, try pinging hosts on other remote networks (you might try several other networks). If the pings are successful or if you can contact some remote networks and not others, then the problem is with the routing path between your network and the specific remote network. Use the tracert / tracert commands to check the path to the problem network. |
| Ping the Default Gateway | If you cannot contact any remote network, ping the default gateway router. If the ping is successful but you still cannot contact any remote host, have the router administrator verify the router configuration. Check for broken links to the remote network, interfaces that have been shut down, and access control lists or other controls that might be blocking traffic. |
| Ping Host B | If you cannot contact the default gateway router, ping other hosts on the local network. If the pings are successful, check the default gateway router. |
| Troubleshoot the Local Host Connection or Configuration | <p>If you cannot communicate with any host on the local network, then the problem is likely with the local host or its connection to the network. Troubleshoot by doing the following:</p> <ul style="list-style-type: none"> Check physical connectivity Validate the TCP/IP configuration on the local host Validate IP configuration settings |

You can use the `route` command on the router to view directly connected routes that have been set up. You can also use it on the default gateway of the local subnet and verify that the router has a route to the remote subnet. Another use of the `route` command is to view the routing table; this helps you see what networks the router knows about. In addition, the `route` command can be used to display additional networking information (not provided by `ifconfig`).

One special ping test you can perform is pinging the local host. By doing this, you are verifying that TCP/IP is correctly installed and configured on the local host. In essence, you are finding out if the workstation can communicate with itself. To ping the local host, use the following command:

ping 127.0.0.1

If this test fails, check to make sure TCP/IP is correctly configured on the system.

This test does not check physical connectivity. The ping can succeed even if the host is disconnected from the network.