

Packet Tracer Lab 6

Multiple Departments Offline

Incident ID: INC-1006

Difficulty

Intermediate

Estimated Time

20–40 Minutes

Skills Covered

- VLAN Troubleshooting
- Trunk Port Verification
- Layer 2 Connectivity Analysis
- Ping Testing
- Default Gateway Verification
- Switch Uplink Troubleshooting
- Structured Troubleshooting Methodology

Scenario

Several users across the organization have reported losing access to internal business applications and shared network resources.

Initial reports indicate that the issue is affecting more than one department, while other departments continue to operate normally.

Users experiencing the issue are unable to reach systems hosted on **APP-SERVER-01** and have reported general connectivity problems when attempting to access shared resources outside of their immediate work area.

A network maintenance activity was recently completed, and operations teams are investigating whether any changes may have impacted connectivity.

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You have been assigned as the technician responsible for identifying the issue, restoring connectivity, and validating that normal operations have been restored.

Customer Report

Reported By: Help Desk

Users Affected: HR Department, Finance Department

Business Impact: Users in the HR and Finance departments are unable to access the internal application server or shared network resources. Daily business operations for these departments have been disrupted.

Issue Started: Shortly after scheduled network maintenance was completed.

Priority: Medium

Initial Observations:

- Multiple users are reporting the same issue.
- HR and Finance users appear to be affected.
- IT and Operations have not reported any issues.
- The root cause is currently unknown.
- Investigation is required to determine the affected network segment and restore connectivity.

Network Reference

- **Application Server (APP-SERVER-01):** 192.168.50.10

This server may be used when performing connectivity testing during troubleshooting.

Goal

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- Identify the root cause of the connectivity issue
- Restore access to affected departments
- Validate communication with shared resources
- Verify normal network operations
- Document your findings

Environment

- HR Department VLAN
- Finance Department VLAN
- IT Department VLAN
- Operations Department VLAN
- Server VLAN
- Multiple Access Switches
- Distribution Switches
- Core Switch
- Branch Router
- Internal Application Server

Troubleshooting Mindset

During troubleshooting, think through the following questions:

- Which departments are affected?
- Which departments remain operational?
- Can affected devices communicate with their default gateway?
- Can affected devices access shared resources?
- Do working departments experience the same issue?
- Is the problem isolated to a single workstation, a department, or a larger portion of the network?
- Where does connectivity stop?
- Have any recent network changes impacted traffic flow?

Focus on identifying common infrastructure shared by the affected departments and isolate the issue step-by-step.

Expected Outcome

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By the end of this lab, users should successfully restore connectivity for all affected departments and verify communication with the internal application server.

Users should also be able to identify the shared network infrastructure responsible for the outage and explain the structured troubleshooting process used to isolate and resolve the issue.

Optional BridgeOpsOne Workflow

This section is optional but recommended for users who want a more realistic operations-center experience.

1. Create an Initial Update

Create an initial customer-safe incident update describing the issue.

Example topics:

- Multiple departments reporting connectivity issues
- Internal applications inaccessible
- Investigation in progress

Use the Generate feature if needed to clean and professionalize your update.

2. Save Timeline Updates

During troubleshooting, provide 2–3 operational updates describing:

- What you are investigating
- What has been ruled out
- Progress toward resolution

Add these updates to your incident timeline within the Command Center.

Focus on keeping updates:

- Professional
- Concise
- Customer safe

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3. Create a Final Resolution Statement

Once connectivity has been restored, create a final resolution update summarizing:

- What caused the issue
- Actions taken
- Current environment status
- Validation and testing performed

Real-World Relevance

This issue simulates realistic troubleshooting commonly encountered in:

- NOC Environments
- Enterprise IT
- Network Operations
- MSP Support
- Data Center Operations
- Junior Network Engineer Roles

Deliverables

At the conclusion of this lab, users should be able to:

- Explain the issue
- Describe the troubleshooting process
- Identify the affected network segment
- Demonstrate the fix
- Validate restored connectivity
- Restore access to shared resources
- Communicate findings clearly

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Hints

- Identify which departments are affected and which remain operational.
- Compare connectivity results between working and non-working users.
- Use ipconfig to verify workstation network settings.
- Use ping to identify where communication is failing.
- Test connectivity to the default gateway and APP-SERVER-01.
- Review switch VLAN assignments and uplink status.
- Consider what network infrastructure may be shared by the affected departments.
- Follow a structured troubleshooting process and avoid making assumptions too early.