

Packet Tracer Lab 5 Solution Guide

New Workstation Deployment Issue

Incident ID: INC-1005

Objective

This lab focuses on identifying and resolving a network connectivity issue affecting a newly deployed workstation within a small office environment.

A user recently received a new workstation and reported being unable to access internal resources or business applications. Other users within the environment continue to operate normally.

The objective is to troubleshoot the issue using a structured methodology, identify the root cause, restore connectivity, and validate functionality.

Root Cause

The switch port connected to **OPS-PC1 (FastEthernet0/3)** was administratively disabled.

Because the switch interface was configured with:

shutdown

the workstation was unable to communicate with the DHCP server and therefore did not receive a valid IPv4 address. Without an IP configuration, the workstation could not communicate with the default gateway or internal network resources.

Symptoms Observed

- Newly deployed workstation unable to access internal resources
- Workstation fails to receive an IPv4 address
- Gateway connectivity failing
- Internal resource connectivity failing
- Other users operating normally
- Network outage isolated to a single workstation

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Troubleshooting Process

1. Run ipconfig (OPS-PC1) and observe that the workstation has not received a valid IPv4 address.
2. Compare the affected workstation against a known-good workstation.
3. Verify the known-good workstation can successfully ping 192.168.10.1.
4. Attempt to ping 192.168.10.1 from OPS-PC1 (should fail).
5. Attempt to ping 8.8.8.10 from OPS-PC1 (should fail).
6. Review switch interface status using show interfaces status.
7. Identify FastEthernet0/3 in a disabled state.

Commands Used

```
ipconfig
ping
show interfaces status
configure terminal
interface fa0/3
no shutdown
write memory
ipconfig /renew
```

Resolution

Access **SW-ACCESS-01** and restore the affected switch interface.

```
conf t
interface fa0/3
no shutdown
end
write memory
```

Return to **OPS-PC1** and request a new DHCP lease.

```
Ipconfig /renew
```

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Run:

ipconfig

Verify the workstation has received:

- A valid IPv4 address
- Subnet Mask
- Default Gateway (192.168.10.1)

Validation

- Ping 192.168.10.1 succeeds.
- Ping 8.8.8.10 succeeds.
- OPS-PC1 receives a valid DHCP address.
- FastEthernet0/3 shows connected.
- User regains access to required network resources.

Key Takeaways

- Follow a structured troubleshooting methodology.
- Determine whether an issue is isolated before making configuration changes.
- Compare affected devices against known-good systems.
- Failure to receive an IP address often indicates a Layer 1 or Layer 2 connectivity issue.
- Administratively disabled switch ports can prevent DHCP communication.
- Always validate connectivity after implementing a fix.