Cisco IOS Topology & Live Fault Troubleshooting Lab Guide

LAB SECTIONS | Cisco Networking

Step-by-step lab topologies where learners configure enterprise routers and switches from scratch, test failure states, and restore connectivity methodically.

KEY MODULES & STUDY CHECKLIST

01. Lab 01: Branch-to-HQ VLAN switching, trunking & inter-VLAN routing setup
02. Lab 02: Multi-area OSPF deployment & HSRP gateway redundancy failover testing
03. Lab 03: Diagnosing misconfigured ACLs, subnet mismatches & asymmetric routes

PRACTICAL LAB COMMANDS & QUICK REFERENCE

```
! Structured Layer 1 to Layer 3 fault isolation
show interfaces status  |  show cdp neighbors detail
! Trace path & verify gateway reachability
ping 10.10.20.1 source 10.10.10.1  |  traceroute 10.10.20.1
! Verify HSRP active/standby failover state
show standby brief
```

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