

Cisco Configure and Test Basic Network Connectivity

Configure and Test Basic Network Connectivity

Project Overview

This project focused on building foundational networking skills through the configuration and testing of basic network connectivity. It simulated real-world network environments where devices must be properly configured to communicate across local networks using standard protocols such as TCP/IP and DHCP.

The exercise emphasized practical network setup, troubleshooting, and validation of end-to-end connectivity between devices.

Project Objectives

- Configure basic Cisco network device settings
 - Assign and manage IP addressing schemes
 - Set up and verify DHCP services for automatic IP allocation
 - Test and validate network connectivity between devices
 - Understand routing and switching fundamentals in a simulated environment
 - Develop troubleshooting skills for network issues
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Tools & Technologies

- Cisco networking simulation environment
- TCP/IP protocol suite
- Dynamic Host Configuration Protocol (DHCP)
- Virtual routers and switches
- IP addressing and subnet configuration tools
- Network testing utilities (ping, connectivity verification tools)

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Core Tasks Performed

Network Device Configuration

Configured basic settings on simulated Cisco devices, including:

- Hostname assignment
 - Interface configuration
 - IP address assignment for network interfaces
 - Enabling and verifying device connectivity
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IP Addressing & TCP/IP Setup

Implemented structured IP addressing to ensure proper communication between devices:

- Assigned static IP addresses where required
 - Configured subnet masks for network segmentation
 - Verified correct TCP/IP configuration across all devices
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DHCP Configuration

Set up DHCP services to automate IP address distribution:

- Defined DHCP pools for network clients
 - Configured gateway and DNS settings
 - Verified automatic IP assignment to connected devices
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Network Connectivity Testing

Validated end-to-end communication using standard testing methods:

- Ping tests between devices
- Verification of successful packet transmission
- Identification and troubleshooting of connectivity issues

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- Ensured full network reachability across nodes
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Key Skills Demonstrated

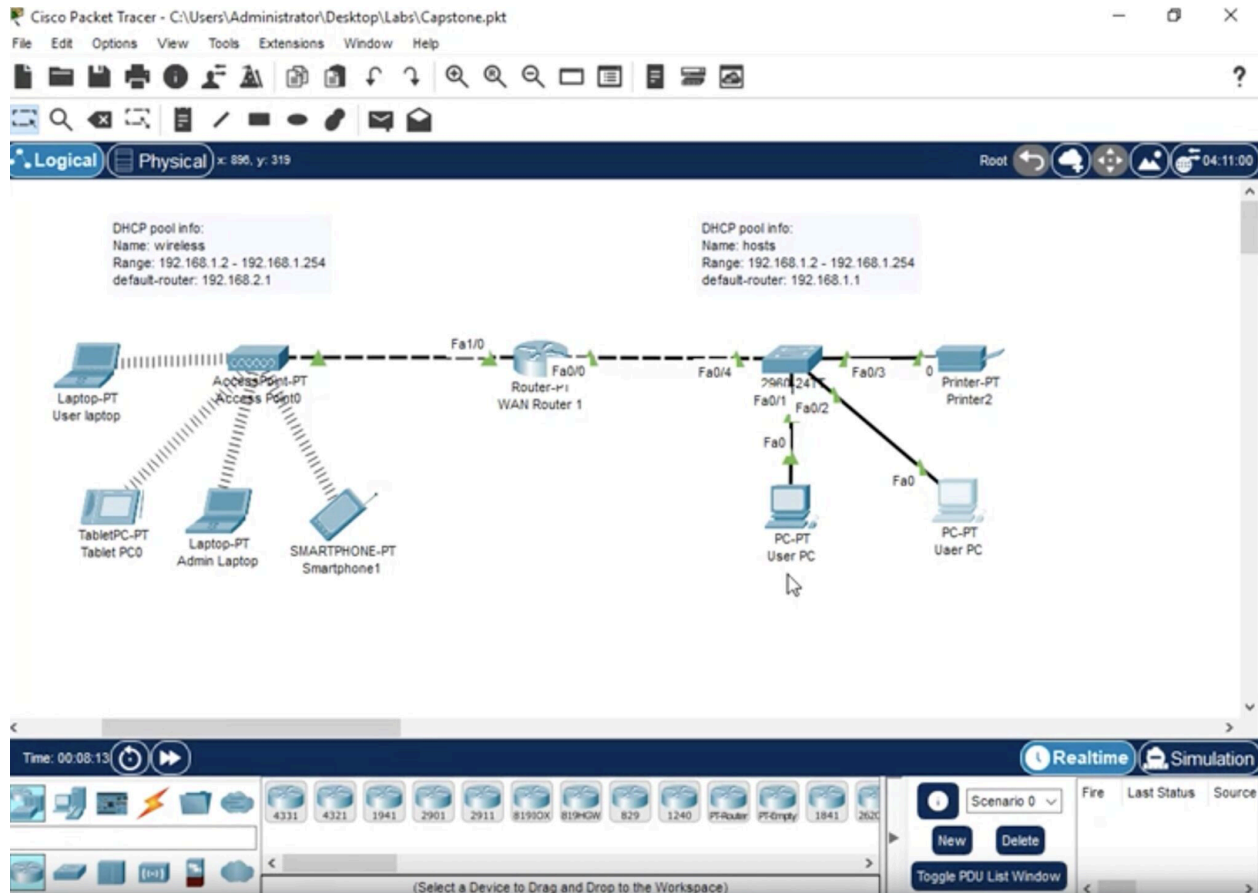
- Network Configuration & Administration
 - TCP/IP Fundamentals
 - DHCP Setup and Management
 - Cisco Device Configuration Basics
 - Network Troubleshooting & Diagnostics
 - Verification and Validation Techniques
 - Virtual Networking Simulation
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What I Learned

This project reinforced the core principles of computer networking, particularly how devices communicate using structured IP addressing and configuration protocols. I gained practical understanding of how DHCP simplifies network management and how proper configuration is essential for reliable connectivity.

It also improved my troubleshooting mindset by teaching how to isolate and resolve connectivity issues in a step-by-step technical manner.

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Completed by Kevin Hamzaj

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1 hours (approximately)

Grade Achieved: 93.33%

Kevin Hamzaj's account is verified. Coursera certifies their successful completion of [Configure and Test Basic Network Connectivity](#).

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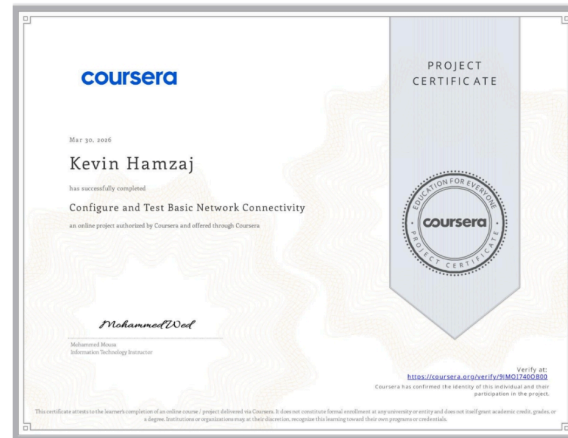
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What you will learn

- ✓ Manage Cisco devices configuration.
- ✓ Configure IP addresses, virtual interfaces, and DHCP servers.
- ✓ Verify end-to-end network connectivity.



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