

Cisco Devices Management Course Details

Department: ICT and Security Management

Presented by Magna Skills Development Institute

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Course Summary

Cisco router training including Cisco router installation, configuration, and troubleshooting. You'll learn how to build a Cisco router configuration from scratch. You'll learn different ways of monitoring your router, saving and restoring configurations, and how to design and implement access-control lists. We'll explain TCP/IP addressing and subnetting concepts in a way that you can really understand.

You'll learn how to set up static NAT and Port Address Translation. We'll show you how to set up a DHCP server on your Cisco router. You'll install and configure static routes and then you'll learn how to let the routers do the work with dynamic routing protocols such as RIPv1, RIPv2, OSPF, and EIGRP. You'll even learn how to encrypt your passwords and how to use Cisco router password recovery procedures to gain entry to the router when you don't know the passwords

Course Objectives

- Describe network fundamentals and build simple LANs
- Establish Internet connectivity
- Manage network device security
- Describe IPv6 basics
- Troubleshoot VLAN issues, explain how STP works, configure EtherChannel, and understand the idea behind Layer 3 redundancy
- Troubleshoot IP connectivity
- Define the characteristics, functions, and components of a WAN
- Configure and troubleshoot EIGRP in an IPv4 environment, and configure EIGRP for IPv6
- Configure, verify, and troubleshoot multi-area OSPF
- Describe SNMP, syslog and NetFlow, and manage Cisco device configurations, IOS images, and licenses.

Course Outline

Understanding the Fundamentals of the Cisco Router

- Building an Initial Configuration on the Cisco Router
- Managing the Router: Graphical Tools
- Cisco Router and Security Device Manager (SDM)
- Cisco Network Assistant (CNA)
- Cisco Configuration Professional (CCP)
- Managing the Router: Using the Command Line Interface

- Cisco Internetwork Operating System
- Router Memory
- Banners and the Gentle Overlay
- An Overview of Some of the Different Types of Routers

Understanding the OSI Reference Model

- Understand the function of each of the layers of the OSI reference model
- Learn mnemonics to assist in remembering the layers
- See the practical application of the OSI model

Fundamentals of TCP/IP

- The TCP/IP Protocol Suite
- Protocols in the TCP/IP Suite
- Sockets and Ports
- Classful IP Addresses
- IP Addressing Design
- IPv6
- Verifying Address Configuration

Backing Up and Restoring Configurations

- TFTP
- Capturing and Sending Text
- Using the SDM (Security Device Manager) GUI Tool

Monitoring Your Router

- The "show" Family of Commands
- Using Cisco Discovery Protocol and Link Layer Discovery Protocol
- Monitoring with the SDM

Configuring and Deploying DHCP

- DHCP Basics
- Configuring a DHCP Pool and Options

Network Address Translation

- When to Use NAT
- Types of Network Address Translation
- Port Address Translation
- Free Video You Can Take with You: "Port Forwarding on a Cisco Router"

Routing Protocols and Procedures

- Understand the fundamentals of routing
- Configure static routing
- Configure dynamic routing using RIP, EIGRP, and OSPF
- Configure on-demand routing
- Understand basic routing troubleshooting

Troubleshooting

- Basics of Troubleshooting
- Use of the "show" command in troubleshooting
- Use of "debug" in troubleshooting
- Use of syslog in troubleshooting

Remote Router Control

- Using Telnet
- Using SSH (Secure Shell)
- Using SDM (Security Device Manager)

Understanding Cisco IPv4 Access-Control Lists

- Access Control Lists Defined
- Rules for Access Control Lists
- Types of IP Access Control Lists
- Masks and Wildcard Bits
- IP Standard Access Control Lists
- IP Extended Access Control Lists
- Named Access Control Lists

Virtual Private Networks

- VPN Protocols
- Configuring a Site-to-Site VPN
- Verifying VPN Connections
- Troubleshooting VPN Connections

Managing Cisco IOS Passwords

- Types of Passwords
- Password Recovery (What to Do When You Don't Know the Password)

Cisco Router Security Fundamentals

- Understand security at a basic level
- Learn tools and techniques to implement router security



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Our Mission: To provide world-class training solutions that equip professionals with the expertise needed to excel in their careers and contribute meaningfully to their organizations.

Our Vision: To be the leading provider of professional training and development across Africa, fostering excellence, innovation, and capacity-building in public and private sectors.

Core Values

- **Excellence** – Delivering high-quality training tailored to meet the evolving needs of professionals.
- **Integrity** – Upholding the highest ethical standards in all our engagements.
- **Innovation** – Embracing new technologies and methodologies to enhance learning experiences.
- **Customer-Centric Approach** – Ensuring client satisfaction by providing relevant, practical, and impactful training.
- **Collaboration** – Partnering with industry experts and institutions to provide the best learning opportunities.

Our Training Methodology

We use a blended learning approach that includes instructor-led training, case studies, workshops, and post-training support.

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