



مركز الوقت للتدريب
Time Training Center

CCNA ROUTING & SWITCHING COURSE



Introduction

The CCNA Routing & Switching course provides a comprehensive foundation in networking, covering core topics such as network fundamentals, routing, switching, IP services, security, and automation. Designed for aspiring network engineers, IT professionals, and support technicians, this course prepares learners to configure, manage, and troubleshoot modern enterprise networks. Earning a CCNA certification enhances career prospects and validates essential networking skills in today's competitive IT environment.

Learning Objectives

- Understand OSI and TCP/IP networking models
- Configure IPv4 and IPv6 addressing and routing
- Implement VLANs, trunking, and EtherChannel
- Set up DHCP, DNS, NAT, and network monitoring
- Apply network security measures and ACLs
- Troubleshoot connectivity and routing issues

Course Details

Mode of Training	Classroom or Online
Duration	5 Days

Who Should Attend

- Network technicians and support engineers
- Aspiring network administrators and engineers
- IT professionals seeking CCNA certification
- Individuals pursuing a career in networking

Certificate(s)

Participants who complete a minimum of 80% of the total training hours will receive a **Certificate of Completion** issued by **Time Training Center**. This certificate reflects their active participation and commitment to professional development in the relevant field.



Course Outline

Module 1: Network Fundamentals

- Understanding Networking Concepts
- The OSI and TCP/IP Models
- IPv4 and IPv6 Addressing and Subnetting
- Configuring and Verifying IP Addressing
- Introduction to Cisco IOS and CLI Basics

Module 2: Network Access

- Configuring Ethernet LANs
- VLAN Concepts, Configuration, and Trunking
- Inter-VLAN Routing Techniques
- Spanning Tree Protocol (STP) Fundamentals
- Implementing EtherChannel for Link Aggregation

Module 3: IP Connectivity

- Static and Dynamic Routing Fundamentals
- Configuring Single-Area OSPF
- Introduction to EIGRP and Basic Routing Concepts
- Understanding First Hop Redundancy Protocols (FHRP)

Module 4: IP Services

- Configuring DHCP and DNS in Enterprise Networks
- Network Address Translation (NAT) and Port Address Translation (PAT)
- Introduction to Quality of Service (QoS)
- Syslog, SNMP, and Basic Network Monitoring Tools

Module 5: Security Fundamentals

- Identifying Security Threats and Mitigation Techniques
- Implementing Device Access Control and Local Authentication
- Configuring Standard and Extended Access Control Lists (ACLs)
- Introduction to Network Device Hardening

Module 6: WAN and Remote Connectivity

- Hierarchical Network Design Principles
- WAN Technologies: PPP, Frame Relay, and VPN Basics
- Securing Site-to-Site Connectivity



- Broadband and Point-to-Point Connection Fundamentals

Module 7: Automation and Programmability

- Understanding Controller-Based Architectures
- Introduction to Cisco DNA Center and REST APIs
- Basics of Network Automation and Programmability

Module 8: Troubleshooting and Final Review

- Troubleshooting IP Addressing and Connectivity
- Troubleshooting VLANs and Inter-VLAN Routing
- Troubleshooting OSPF and Routing Issues
- Preparing for the CCNA Exam

Methodology

We employ a comprehensive and applied learning strategy, integrating theory with real-world implementation:

- ❖ **Conceptual Learning:** Expert-led sessions on catalytic theory and engineering principles
- ❖ **Interactive Workshops:** Group exercises, presentations, and technical discussion forums
- ❖ **Case-Based Learning:** Industry-specific examples and troubleshooting scenarios
- ❖ **Technology Integration:** Digital tools, simulations, and catalyst modeling applications
- ❖ **Assessment:** Pre-tests, post-tests, and Competence Validation Exams for Certified courses to ensure knowledge transfer and skills validation

Note: Instructors may adjust the training approach to fit technical requirements or participant engagement levels.

Instructors

Our instructors for the CCNA Routing & Switching course are seasoned networking professionals with over 10 years of industry experience in enterprise network design, deployment, and support. They hold active Cisco certifications and have a proven track record of successfully preparing candidates for CCNA certification. Trainers bring real-world insights into the classroom, simplifying complex networking concepts through practical examples. Detailed trainer profiles will be shared upon request.

About Time Training Center

Time Training Center is a leading professional training institute in Abu Dhabi that provides students and professionals with quality education and skill development programs. Time Training Center is accredited by the Abu Dhabi Center for Technical Vocational Education & Training (ACTVET) with a specialization in Computer and Management Training programs and certified by QA QC with ISO 9001:2015.

Operating in Abu Dhabi for over 3 decades, Time Training Center has established brand value as a high-quality Management & Technical Training Center in Abu Dhabi. We have also secured strong loyalty from corporate companies and associations with our holistic and practical teaching approach.

Contact us at
Time Training Center
Office 901
Khalaf Al Otaiba Tower,
Electra Street - Abu Dhabi - United Arab Emirates
Phone: +97126713828
Whatsapp: +971558564000
E-mail: info@timetraining.ae