

CCNA Cisco Certified Network Associate

Course Description:

The CCNA is the basic building block for all networking technologies (Wired or Wireless). It aims to provide a solid knowledge of LANs, IP addressing, Routing, Switching, Security, Wireless and WAN solutions.

Who should attend?

Undergraduate of Computer Science, Computer and Communication Engineering (3rd or 4th class).
Network Administrators, Network Engineers, System Engineers and Network Managers.

Number of Hours : 100 hours

Course Objectives :

1. Ability to install and configure Cisco switches and routers in multiprotocol internetworks using LAN and WAN interfaces.
2. Provide level 1 troubleshooting service.
3. Improve network performance and security.

وصف الدورة:

تعتبر هذه الدورة هي البنية الأساسية لجميع تكنولوجيا الشبكات (السلكية و اللاسلكية). تهدف هذه الدورة بتزويد المعرفة الصلبة و القوية لمبادئ الشبكات مثل الشبكة المحلية LAN و عنوانة بروتوكول الانترنت IP و المبدلات و الموجهات Switches and Routers و حلول الشبكة الموسعة WAN و الشبكة اللاسلكية Wireless

الفئات المستهدفة:

مهندسين و فنيين شبكات . طلاب الكليات و الجامعات في تخصص هندسة الكمبيوتر و الاتصالات.

عدد الساعات : 100 ساعة

أهداف الدورة:

1. تركيب وتعريف مبدلات Switches وموجهات Cisco Routers في شبكة متعددة البروتوكولات Multi-Protocol باستخدام بيئة الشبكة المحلية LAN والشبكة المتسعة WAN .
2. القدرة على معالجة المشاكل من مستوى 1 (Level 1)
3. تحسين أداء وأمان الشبكة Security and Performance .

Course Outline:

- ❖ Introduction to internetworking.
- ❖ Connecting Devices (Hubs, Switches, Routers, Firewalls and Access Points)
- ❖ OSI Reference Model.
- ❖ Common LANs Technologies (Ethernet, CSMA/CD Vs. CSMA/CA, Collision Domain, Broadcast and
- ❖ Multicast Domains)
- ❖ TCP/IP and DoD Model.
- ❖ Introduction to IP addressing scheme.
- ❖ IP addressing, Sub-Netting, Super-Netting and VLSM.
- ❖ Introduction to Network Simulators (Packet Tracer and GNS3)
- ❖ Introduction to the CLI of Cisco IOS.
- ❖ Implementing basic IOS Configurations.
- ❖ Introduction to the Concept of Routing and Types of routing protocols.
- ❖ RIPv1 and RIPv2 Concept, Configuration and troubleshooting.
- ❖ IGRP Concept, Configuration and troubleshooting.
- ❖ EIGRP Concept, Configuration and troubleshooting.
- ❖ OSPF Concept, Configuration and troubleshooting.
- ❖ Review and Routing Lab.
- ❖ Introduction to Cisco Switching Technology.
- ❖ How the switches work.
- ❖ Spanning Tree Protocol (STP)
- ❖ VLANs Concept.
- ❖ VLANs Configuration on a switch.
- ❖ Inter-VLAN Communications (Routing)
- ❖ VLANs Configuration Lab.
- ❖ Security
- ❖ Cisco Access Control Lists (ACLs)
- ❖ Securing Network Topology Lab.
- ❖ Introduction to Wireless Technologies.
- ❖ Introduction to CUWN networks.
- ❖ MESH and Bridges.
- ❖ Introduction to WANs.
- ❖ Types of WAN technologies.
- ❖ Encapsulation over WAN links.
- ❖ Leased-Line concept, configuration and troubleshooting Lab.
- ❖ Frame-Relay concept, configuration and troubleshooting Lab.
- ❖ Introduction to VPN technology
- ❖ Introduction to IPv6
- ❖ CCNA Review Lab.
- ❖ Network topologies troubleshooting Lab.