

Course Code - NET15006

Routing and Switching Fundamentals

This 4-Day Course introduces Cisco Routers and Switches and the Fundamentals of Routing and Switching. Delegates will be introduced to Cisco IOS (Internetwork Operating System), and completed practical exercises to provide them with a fundamental understanding of Routing and Switching operation using Cisco hardware.

During the course delegates will configure Cisco Routers and Switches, utilising Management, Routing, Access Control List and Security commands on the Router, as well as Management, MAC Address Management and Port Security commands on the Switch.

During the course the delegates will use Hubs, Switches, Routers and Workstations to build an Internetwork, and troubleshooting utilities to test the effectiveness of the Internetwork.

Prerequisites:

It would be helpful if delegates do have a basic knowledge of data networking, but this is not essential.

Aim:

To give delegates the basic skills and confidence to configure, monitor and maintain small to medium sized networks with Cisco routers and switches.

Objectives

On completion of this course delegates will be able to:

- Determine the appropriate use for Cisco Routers and Switches
- Manipulate Cisco IOS through the Command Line Interface to configure and verify global parameters, interfaces, protocols and connections.
- Interconnect and configure Cisco IOS-Based routers and switches to set up LAN and WAN Services.
- Use Cisco IOS to back up configuration files to disk and a network server.
- Use Cisco IOS to monitor and maintain routers and switches.

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Course Outline

- Make a physical connection to the Catalyst Switch and Router Console port.
- Provide the switch and router with the appropriate Password Protection.
- Understand Catalyst Switch startup procedures.
- Understand the makeup of MAC Address Tables.
- Configure basic Port Security on a 2950 Catalyst Switch.
- Configure FastEtherchannel Trunks.
- Configure Speed and Duplex settings.
- Understand the principles of a Virtual Local Area Network (VLAN).
- Configure a Cisco 2950 / 2960 Catalyst switch for static VLAN operation.
- Configure IEEE 802.1q VLAN Trunks.
- Configure a Cisco Router for LAN and WAN services
- Configure Leased Lines with HDLC and PPP with CHAP
- Managing configuration files and IOS images.
- Configure and managing RIPv1
- Configure and managing RIPv2
- Configure single area OSPF.
- Configure multiple area OSPF.
- Configure EIGRP.