

Course Code - 15002

Networking and Systems

This 2-Day Overview on LAN / WAN Networking and Systems introduces the basic fundamentals of Networking with LANs and WANs and includes information on the key elements in a Modern Networking System. Delegates will be introduced to the function and workings of Modern Networks including an Introduction to Cloud Computing.

The Internet Protocol Suite, commonly known as TCP/IP, forms the basis for the Internet and the next generation of networking and telecommunications services. Not only is it being used for pure data services such as Electronic Mail and Web-Based services but it is now also used as the core for mobile phone networks and Next Generation Services.

It is now important for any staff involved in the transportation of data over networks to understand how the many hardware and software elements in a network interact and compliment each other in order to provide a secure environment for the storage and transportation of data.

Prerequisites:

Delegates are not required to have a formal technical background

Aim:

To understand the fundamentals of modern data networks and architecture.

Objectives

On completion of this course delegates will be able to:

- Explain the function of a Data Network.
- Differentiate between LAN and WAN services.
- Have an appreciation of Secure Wireless Network Technology.
- Understand the fundamentals of Client / Server Operation.
- Understand the terms 'Thick and Thin Clients.
- Have an appreciation of Remote Access Technologies (Risks and Mitigation).
- Explain the purpose and function of a Firewall.
- Have an appreciation Network Security Features.
- Appreciate Hacking and its prevention
- Understand the purpose of Cloud Networks.
- Understand the basic of Storage Media and RAID Systems.
- Describe Virtual Server Technology.
- Explain the Term 'Blade Technology'.
- Describe Backup Power Systems and Data Systems
- Be familiar with some common Monitoring Tools.

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Course Profile:

Introduction to TCP/IP Networks

- What is LAN?
- Ethernet
- What is a WAN?
- What is a SAN?
- What is a WLAN?
- Common WAN Technologies
- TCP/IP Protocol Architecture (Brief)
- TCP/IP Networking Components

Introduction to Wireless Technologies and Security

- How does a Wireless Network operate.
- What Wireless Standards are commonly in use?
- Wireless Security Standards
- WPA and WPA2
- TKIP and EAP

Client / Server Networking

- Client Server Model
- Comparison with Peer to Peer Networking
- Advantages of a Client Server Network
- Disadvantages of a Client Server Network

Thick and Thin Clients

- Thin Client Definition
- Thick Client Definition
- Advantages and Disadvantages

Remote Access Technologies

- Cable
- DSL
- VPNs
- SSL

Course Code - 15002

Firewalls

- What is the purpose of a Firewall?
- Packet Filters
- Application Layer Firewalls
- Nat Functionality

Network Security Features

- Firewalls
- IDS
- Strong Authentication
- Antivirus
- Physical Security

Cloud Networks

- Overview
- Deployment
- Security

Storage Media and RAID Systems

- Tape Storage
- Disk Storage
- SAN (Storage Area Network)
- Blade Servers
- Virtual Servers
- RAID

Backup Power and Data Systems

- UPS
- Emergency Power Systems
- Live Data Backup

Monitoring Tools

- SNMP (Simple Network Management Protocol)
- HP Network Node Manager (NNMi)
- Cisco Works
- IBM Tivoli