

Table of Contents

Course Introduction

Table of Contents
Getting Started
About This Course
About CompTIA Certifications

Module 1 / Server Setup

Module 1 / Unit 1 *Servers and Racks*

Server Hardware and Software
Server Form Factors
Rack Systems
Rack Installation and Safety

Module 1 / Unit 2 *Storage Devices*

Mass Storage Drives
The SCSI Interface
Serial Attached SCSI (SAS)
The Serial ATA Interface
Solid State Drives (SSD)

Module 1 / Unit 3 *RAID*

Drive Arrays (RAID)
RAID Mirroring and Parity
Nested RAID
Hardware and Software RAID
Enterprise RAID Configurations

Module 1 / Unit 4 *System Setup*

BIOS and UEFI Configuration
Upgrading Firmware
MBR and GPT Partitions
File System Choices

Module 1 / Unit 5
Server Operating Systems

Server Pre-installation Planning
Network Operating Systems
Hardware Compatibility List (HCL)
Installation and Deployment Methods
Driver Installation
Virtual Memory

Module 1 / Unit 6
Troubleshooting Procedures

Troubleshooting Procedures
Identifying the Problem
Establishing a Probable Cause
Establishing a Plan of Action

Module 1 / Summary
Server Setup

Module 2 / Server Networking

Module 2 / Unit 1
Ethernet

Twisted Pair Cabling and Connectors
Installing Network Cables
Patch Cable Types
Fiber Optic Cabling and Connectors
Ethernet Standards
Network Adapter Cards
Troubleshooting Cabling

Module 2 / Unit 2
Internet Protocol

The TCP/IP Suite
Internet Protocol and IP Addressing
Subnet Masks
Configuring IP
Classless Addressing
Planning an IPv4 Addressing Scheme
Troubleshooting IP
IP Version 6

Module 2 / Unit 3
Routers and Firewalls

IP Routing Basics

Troubleshooting Routing Issues
TCP and UDP Ports
netstat
Zones and Access Control Lists (ACL)
Basic Firewalls
Host-based Firewalls
VLAN Configuration

Module 2 / Unit 4
Network Services

Network Services Servers
Host Names and FQDNs
Domain Name System (DNS)
Configuring DNS Servers
nslookup and nbtstat
Configuring DHCP
NTP Server

Module 2 / Unit 5
Virtualization Services

Virtualization Basics
Hypervisors
Resource Requirements
Virtual Networks
Purposes of Virtual Machines
Virtualization Best Practices and Risks

Module 2 / Summary
Server Networking

Module 3 / Server Applications

Module 3 / Unit 1
Configuring Server Roles

Installing Roles and Applications
Database and Application Servers
Web Servers
File Transfer Services (FTP)
Email (SMTP / POP / IMAP)
Messaging Servers
Troubleshooting Services

Module 3 / Unit 2
Storage Services

DAS, NAS, and SAN
Fibre Channel

Tape Drives
Other Storage Media
Storage Capacity Planning

Module 3 / Unit 3

Volume Management

Disk Management Tool
Adding Arrays (Dynamic Storage)
Drive Status and Disk Tools
Managing Disks in Linux
Troubleshooting Storage
Troubleshooting RAID
Troubleshooting Disk Performance

Module 3 / Unit 4

Directory Services

Configuring Directory Services
Active Directory
Managing Users
Managing Group Accounts
Account Policy Enforcement

Module 3 / Unit 5

File and Print Services

Configuring File Shares
NTFS File and Folder Permissions
Securing a Linux File System
Print Servers

Module 3 / Unit 6

Troubleshooting Software

Server Monitoring
Measuring Performance in Windows
Measuring Performance in Linux
System Logs
Troubleshooting Software Problems

Module 3 / Summary

Server Applications

Module 4 / Server Maintenance

Module 4 / Unit 1

Server Hardware

Motherboard Components

CPU Features
CPU Packaging and Sockets
CPU Upgrades
System Memory
Dual-channel Motherboards
Other Memory Features
Expansion Cards

Module 4 / Unit 2

Environment and Maintenance

Developing a Server Management Plan
Server Chassis Features
Performing Shut Down
Server Cooling
Heating, Ventilation, Air Conditioning (HVAC)

Module 4 / Unit 3

Power Distribution

Power
Power Supply Unit
Connector Types and Voltages
Power Problems and UPS
UPS Sizing
UPS in the Data Center
PDUs and Power Circuits

Module 4 / Unit 4

Server Hardware Troubleshooting

Adding and Removing Components
Troubleshooting Power and POST Problems
Troubleshooting Processor, Memory, and I/O Failure
Performing a Memory Upgrade

Module 4 / Unit 5

Server Management

Server Management Methods
Local Hardware Administration
OS Administration Tools
Network Hardware Administration Tools

Module 4 / Unit 6

Configuration Management

Change and Configuration Management
Documentation
Procedures and Standards

Module 4 / Summary
Server Maintenance

Module 5 / Server Security

Module 5 / Unit 1
Site Security

Authentication
Designing a Secure Site
Site Security Controls
Hardware Security
Data Encryption
Data Wiping and Disposal
Fire Prevention and Suppression

Module 5 / Unit 2
Remote Access Services

Digital Security
Remote Access Server

Module 5 / Unit 3
Server Hardening

Hardening Techniques
Firmware Security
Patch Management
Windows Update
Linux Patch Management
Application Patch Management

Module 5 / Unit 4
Security Software

Anti-malware Software
Preventive Measures
Intrusion Detection Systems (IDS)
IDS Analysis Engine
Endpoint Security
Vulnerability Assessment

Module 5 / Unit 5
Disaster Recovery

Business Continuity Concepts
Disaster Recovery Planning
IT Contingency Planning
Clusters and Sites

Module 5 / Unit 6

Backup

Backup Plans and Policies
Database and System Backups
Backup Execution and Frequency
Restoring Data and Verifying Backups

Module 5 / Summary

Server Security

Taking the Exams

Glossary

Index
