

Advanced PC Configuration, Troubleshooting and Data Recovery: Hands-On - 4 Days

Course 150 Overview

You Will Learn How To

- Recover lost files/directories and revive nonbootable hard discs
- Create emergency rescue discs to recover crashed Windows systems
- Detect and remove virus and spyware programs
- Remove unwanted start-up programs from the Registry
- Examine system status with Windows Computer Management tools
- Install and configure a basic TCP/IP network and firewall

Course Benefits

Organisations can lose valuable time and resources when PC systems fail or are poorly maintained. In this advanced course, you gain the tools and techniques you need to maximise the performance of PC systems, troubleshoot the problems, and recover lost data and files. You are also introduced to Windows Registry editing and hardware configuration and troubleshooting techniques.

Who Should Attend

All personnel involved in the daily operation, maintenance and support of PC hardware and software. Knowledge at the level of Course 145, "PC Configuration and Troubleshooting", is helpful.

Hands-On Training

Extensive hands-on exercises provide the skills to recover lost data, manage memory and improve PC performance. Exercises include:

- Recovering erased files and directories
- Reviving nonbootable discs
- Repartitioning and "cloning" a disc partition
- Detecting and preventing virus infections
- Troubleshooting with the Windows Recovery Console
- Building a bootable WinPE emergency repair disc
- Editing the Windows Registry
- Installing and configuring a TCP/IP network
- Implementing firewall programs

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Course 150 Outline

Basic Data Recovery Concepts

An organised troubleshooting strategy

- Interpreting disc error messages
- Creating emergency rescue discs
- Disc repair tools

How disc drives work

- Tracks, cylinders, sectors, clusters
- Master boot record
- Partition table
- File systems (FAT16/32, ExFAT, NTFS5)

Recovering Files and Directories

Useful data-recovery techniques

- Recovering erased files
- Editing disc sectors
- Rescuing data from USB flash drives
- Transferring recovered files to back up media

Surviving disc disasters

- Reviving nonbootable discs
- Repairing the master boot record
- Fixing a damaged partition table

Solving common disc problems

- Recovering from accidental reformatting
- "Invalid drive specification"
- When Windows won't start

Fighting Malware: Viruses, Spyware and Rootkits

The malware epidemic

- Preventing infection
- Diagnosing virus
- Treating spyware infections
- Detecting and removing rootkits

Macro viruses

- Protecting key system files
- Checking for macro viruses missed by scanning programs
- Protecting against script-based viruses

"Turbocharging" the Hard Drive

Optimising disc organisation

- Repartitioning discs on the fly
- Reducing wasted cluster space
- Eliminating disc fragmentation
- Managing MBR (Master Boot Record) and GPT (GUID Partition Table) Discs

Implementing Windows recovery strategies

- Creating complete disc images with GHOST
- Repairing damaged systems
- Creating a WinPE ISO image

The Windows Registry and Other OS

Configuration Files

Overview of OS boot files/configuration tools

- NTLDR
- NTDETECT.COM
- NTOSKRNL.EXE
- BOOT.INI
- BCD (Boot Configuration Database)
- BCDEdit
- DISM (Deployment Image Servicing and Management)

Troubleshooting Registry problems

- Repairing corrupted Registry files
- Removing unwanted Registry entries
- Solving .INI/Registry conflicts

Configuring and Troubleshooting Windows

Windows emergency repair tools

- Booting a "blue-screened" system with the Windows Recovery Console
- Performing emergency repairs with Microsoft Diagnostic and Recovery Tools (DaRT)
- Creating bootable Windows PE repair discs

Troubleshooting start-up problems

- Windows Plug-and-Play architecture
- Windows boot files
- Windows 7 startup sequence
- Creating Windows backups

Windows administrative tools

- Computer Management Console
- System tools, storage, services and applications
- Viewing event logs

Securing your computer

- Physical security and hardware authentication devices
- Authentication technologies: CHAP, digital certificates, Kerberos
- Controlling access with User Accounts and Group Policies
- Installing and configuring Windows firewall programs for maximum protection