AIX System Administration - Part II

Duration: 5 Days **Course Code: ASA2** **Delivery Method: Company Event**

Overview:

This IBM AIX System Administration training course is designed to give delegates practical experience in the administration of an AIX System. Reference will be made to the AIX commands required to administer the system,although practical work,where applicable,will concentrate on using the System Management Interface Tool (SMIT) to achieve the course objectives.
Although the course is based on AIX Version 7.1 it is also appropriate for prior releases of AIX.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

Target Audience:

The course is designed for AIX System Administrators and Programmers and other Technical IT staff who require a full working knowledge of how to administer an AIX system.
The course assumes knowledge of the AIX Operating System to the level covered in the AIX Basics course. Some shell programming experience may also prove advantageous; this can be gained on the AIX Shell Programming course.

Objectives:

■ On completion of the AIX System Administration - Part II course the delegate will have practical experience of the Systems Management Interface Tool (SMIT),allowing them to administer an IBM AIX System.

Prerequisites:

This AIX System Administration - Part II course assumes good knowledge of a Unix operating system in an Enterprise environment to the level covered in the AIX Basics course. Alternatively,relevant experience of UNIX or Linux servers is required,preferably within an Enterprise environment.

Knowledge of AIX Shell Programming to the level covered on the AIX Shell Programming course would also be beneficial.

Follow-on-Courses:
■ AIX Advanced Shell Programming Tools (AASP)
■ Oracle SQL (OSP)
■ Apache Web Server (APH)
■ Perl Programming (PERL)

Content:

AIX System Administration - Part II Training Course   Course Contents - DAY 1

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: INTRODUCTION TO THE P-SERIES AND AIX

- A Brief History
- RISC Technology
- P-Series Product Range For The Power6
- P-Series Product Range For The Power7
- The AIX Operating System
- Useful Commands
- Workshop Session

Session 2: AIX INSTALLATION

- Installation Media
- Installation - PCI P-Series Servers
- Console and Language Definition
- Main Installation and Maintenance Menu
- Installation Settings
- The Installation
- AIX Graphical Installer
- Configuration Assistant Menu
- Workshop Session

Session 3: STARTUP AND SHUTDOWN

- Normal Startup
- The Boot Sequence
- The INIT Process
- AIX Run Levels
- The System Resource Controller
- The ALOG Logging Utility
- System Shutdown Methods
- Workshop Session

Session 4: AIX ADMINISTRATION TOOLS

- System Management Tools
- SMIT
- SMIT Dialogue Screens
- SMIT Special Characters And Keys
- SMIT and Functions Keys
- SMIT Output Screen
- Recording SMIT Sessions
- The smit Command
- IBM Systems Management Console
- Workshop Session

Session 5: AIX ON-LINE DOCUMENTATION

- AIX Documentation
- The man Command
- AIX Information Centre Documentation Options

Session 7: DEVICES

- Devices
- Predefined Database
- Customized Database
- Device States
- AIX Location Codes (Non-SCSI Devices)
- AIX Location Codes (SCSI Devices)
- AIX Location Codes VS Physical Location Codes
- Listing Devices
- Configuring Devices
- Manually Configured Devices
- Smit Devices Menu
- The mkdev Command
- The chdev Command
- The rmdev Command
- Useful Device Names to Remember
- Logical Volume Structures
- Documenting Hardware Setup
- Workshop Session

Session 8: SERIAL DEVICES

- LAN Connected Devices
- Serial Connections
- SMIT Menu
- Defining a TTY
- Terminfo Database
- Useful Commands
- Workshop Session

Session 9: PRINTERS AND QUEUES

- Queueing Concepts
- Other Software Interfaces
- The Spooling Directories
- The qconfig File
- SMIT Menus
- Adding a Print Queue
- Managing Print Queue Attributes
- The qprt Command
- Queue Status Information
- Workshop Session   AIX System Administration - Part II Training Course Course Contents - DAY 3

Session 10: USERS AND GROUPS

- Users and Groups In AIX
- The /etc/passwd File
- Long User and Group Name Support
- Verify and Change User Name Limit
- Verify and Change User Name Limit through the Command Line
- Listing User Information
- Adding a New User
- The /etc/group File
- Registering a New User
- Adding Users
- Adding a Group
- More about Groups
- More about Users

Session 15: BACKUP AND RESTORE

- Backup and Restore
- Backup Media
- The mksysb and savevg Functions
- The backup Command
- The restore Command
- Using the cpio Command
- The cpio -o Command
- Using the find Command with cpio
- The cpio -i Command
- Using the cpio -p Command
- Using the tar Command
- Creating an Archive
- Reading/Verifying an Archive Further tar Options
- Tape Control Commands
- Workshop Session   AIX System Administration - Part II Training Course Course Contents - DAY 5

Session 16: SCHEDULING JOBS

- Starting Background Jobs
- The nohup Command
- Using cron Processes
- Creating cron Processes
- Creating crontab Entries
- Using the crontab Command
- The at Command
- Authorisation for the at Command
- Creating a crontab Entry
- Using the at Command
- Workshop Session

Session 17: TCP/IP CONFIGURATION

- Overview
- Network Hardware
- Ethernet
- Network Software
- Network Addressing
- Routing
- Displaying Routing Tables
- Network Information Files
- Network Commands
- User Equivalence
- Displaying Network Details
- Remote Login
- Copying File
- Executing Remote Commands
- Testing Network Connectivity
- Client - Server Environment:
- NFS - Network File System
- DHCP - Dynamic Host Configuration Protocol
- Naming Services:
- NIS - Network Information Service
- DNS - Domain Name Service

Session 18: NFS

- Define NFS Terminology

- Infocenter
- Anatomy of the Infocenter
- Workshop Session   AIX System Administration - Part II Training Course Course Contents - DAY 2

Session 6: SOFTWARE INSTALLATION AND MAINTENANCE

- Software Installation
- Software - Units of Installation
- Bundles
- Naming Conventions
- Installation Directories
- Update and Maintenance Bundles
- The Fix Level Recommendation Tool (FLRT)
- Software States
- SMIT Installation Menus
- Install and Update Software
- Installing Bundles
- Installing Patches and Fixes
- Finding Out About Installed Software
- Maintaining Software
- Workshop Session

- Removing Users from the System
- Other Useful Commands
- Workshop Session

Session 11: AIX SECURITY FEATURES

- The security Directory
- The /etc/security/passwd File
- The /etc/security/user File
- The /etc/security/login.cfg File
- The /etc/security/group File
- Security Audit File
- Losing the Root User's Password
- Role Based Access Control
- Privileged Escalation with Set User
- Identification (SUID)
- Adding a Role to a User
- Creating a User Defined Role
- The Root User and Enhanced RBAC
- Disabling the Root User
- Enabling the Root User
- Disabling root user in WPARs
- Workshop Session

Session 12: THE LOGICAL VOLUME MANAGER

- The Logical Volume Manager
- AIX Disk Storage
- Physical Volumes and LVM
- Volume Group Descriptor Areas
- SMIT and Volume Groups
- Physical and Logical Storage
- Scalable Volume Groups
- Uses of Logical Volumes
- Mirroring
- LVM Hot Spare Disk in a Volume Group
- Enabling Hot Spare Disk Support in an Existing Volume Group
- Striping
- Disk Placement Policies
- Creating and Managing Logical Volumes
- Migrating Contents of Physical Volumes
- Other Useful Commands
- Workshop Session   AIX System Administration - Part II Training Course Course Contents - DAY 4

Session 13: PAGING SPACE

- What is Paging Space?
- Paging Space Calculations
- Paging Space Placement on Disk
- Listing Paging Space
- Adding Paging Space:
- mkps Command
- smit mkps
- Changing Paging Space:
- chps Command
- smit chps
- Removing Paging Space:
- rmps
- smit rmps

Session 14: AIX FILE SYSTEMS

- Client Side NFS
- Server Side NFS
- The /etc/exports File
- The /etc/filesystems File
- Exercise: Export a Resourse
- Exercise: Use a Remote Filesystem

Session 19: INTRODUCTION TO WORKLOAD PARTITIONS (wpars)

- What are Workload Partitions?
- System WPARs
- System WPARs Observations
- System WPAR Examples
- WPAR File Systems
- Starting a WPA
- Logging in to a WPAR
- Stopping a WPAR
- Rebooting a WPAR
- Changing a WPAR
- Removing a WPAR
- Application WPARs
- Application WPARs Observations
- Application WPAR Examples
- Application / System WPAR Comparisons
- Workshop Session   AIX System Administration - Part II Training Course Addendum: Reference Materials (Sections below are provided within the course handbook for additional reading)

Session 20: Appendix A

- AIX TECHNOLOGY LEVELS AND SERVICE PACKS

Session 21: Appendix B

- LOGICAL VOLUME SPREADING

- AIX Filesystems
- AIX Supported Filesystems
- JFS Structure
- The Enhanced Journaled File System
- Dynamic Disk Inode Allocation
- On-Line File System Free Space Defragmentation
- JFS2 Enhancements
- JFS2 File System Shrink
- Shrink A File System Using Smit
- Disabling JFS2 logging
- JFS2 Snapshot Image
- Overview of JFS2 Snapshot
- Creation of a JFS2 Snapshot
- JFS Internal Snapshot
- Listing File System Information
- AIX 7.1 /admin/tmp System Directory
- Mount Points
- SMIT and Journaled File Systems
- Building A JFS on a Logical Volume
- Managing Existing Filesystems
- Checking and Repairing File Systems
- Removing a File System
- Workshop Session

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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