

AIX for UNIX/Linux Professionals

Course Outline

Course Introduction

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

Session 1: INTRODUCTION TO THE P-SERIES

- The P-SERIES Product Line
- RISC Technology
- P-Series Product Range For The Power6
- P-Series Product Range For The Power7
- Hardware Management Console
- The AIX Operating System

Session 2: SYSTEM MANAGEMENT TOOLS

- System Management Commands
- Using SMIT
- SMIT Special Characters and Keys
- Smit.log and smit.script Files
- The smit Command
- IBM Systems Director Console
- Web Based System Manager
- Exercise: Remotely connect to a host using WSM

Session 3: STARTUP AND SHUTDOWN

- The /etc/init Procedure
- Startup Modes
- The /etc/inittab File and the rc Startup Scripts
- Inittab Commands
- Using the alog Program
- System Resource Controller Commands
- The /etc/shutdown Script

- Exercise: Start and stop processes using SMC

Session 4: SOFTWARE INSTALLATION AND MAINTENANCE

- Units of Installation
- Filesets, Packages and Licensed Program Products
- Bundles
- Update and Maintenance Bundles
- Software States
- Installing Patches and Fixes
- Exercise: Install, enquire and remove software

Session 5: DEVICE

- Introduction to the Object Data Manager (ODM)
- Listing Devices
- Interpreting Location Codes
- Self-configuring Devices
- Adding, Changing and Removing Devices
- Exercise: Add and remove devices using the command line and smit

Session 6: THE LOGICAL VOLUME MANAGER

- The AIX Approach to Disk Storage
- Volume Groups, Physical Volumes and Logical Volumes
- Volume Group Descriptor Areas
- Mirroring
- Striping
- Disk Placement Policies
- Migrating Physical Volume Data
- Useful Commands
- Exercise: Creating, Extending and Mirroring a Logical Volume

Session 7: AIX FILESYSTEMS

- The AIX Native File System
- Superblocks and I-nodes
- Journaling of File System Data
- Creating a File System

- Mounting of Filesystems
- Managing Filesystems
- The /etc/filesystems File
- Removing Filesystems
- Using the fsck Command
- Exercise: Creating, Extending and Removing a Filesystem

Session 8: BACKUP AND RESTORE

- Backup Devices
- mksysb and savevg Commands
- The backup Command
- The restore Command
- Tape Control Commands
- Exercise: Use of Backup And Restore, including mksysb

Session 9: OBJECT DATA MANAGER

- ODM Components and Commands
- Object Classes
- Descriptor Information
- Objects
- Searching The ODM
- The ODM Database
- Data Base File Names
- ODM File Locations
- cfgmgr And The ODM
- The Predefined Database Files
- Predefined Devices
- Predefined Attributes
- Customised Devices
- Customised Attributes
- ODM Class Usage
- Additional Device Object Classes
- Predefined Connection

- Customised Dependency
- Customised Device Driver
- Customised Vital Product Data
- Exercise: Add a device by manipulating the ODM

Session 10: PROBLEM SOLVING TOOLS

- Error Log Facility
- Error Log Input Components
- Error Reporting from SMIT
- The errpt Command
- Sample Summary/Intermediate/Detailed Report Output
- Interpreting LVM Error Log Entries
- Error Log Maintenance
- Error Notification Facility
- Notification Methods
- The syslogd Daemon

Session 11: SYSTEM INITIALISATION

- System Startup and The Boot Process
- The Bootlist and BLV
- The Boot Logical Volume
- Repairing the BLV
- Using Bootlists
- Boot Problems
- Service Processors
- Accessing A System That Will Not Boot Normally
- Accessing A Volume Group And Starting A Shell
- Accessing A Volume Group Without Mounting Filesystems
- The LED Display
- Interpreting Flashing LED Codes
- Location Codes
- Understanding SCSI Addressing
- Maintaining Firmware Levels

- AIX Initialisation
- The Three RC Boot Phases
- More about the cfgmgr
- Boot Problem Management
- Exercise: Destroy the BLV and then re-create a new BLV

Session 12: LVM SYSTEM DATA AND RECOVERY

- LVN System Data
- LVM Identifiers
- LVM Data on Disk Control Blocks
- Other LVM Locations
- How the LVM uses the ODM
- Physical Volumes and the ODM
- Volume Groups and the ODM
- Logical Volumes and the ODM
- LVM Problems in the ODM
- Re-synchronizing the ODM
- VGDA and Quorum
- Forcing a varyonDisk Replacement Techniques
- Possible Errors After Disk Replacement
- Exporting and Importing Volume Groups
- Exercise: Mirror a whole disk and recover a corrupt Logical Volume

Session 13: ALTERNATE DISK INSTALLATION

- Alternate Disk Installation
- Installing a mksysb Image On Another Disk
- Cloning the Running rootvg to Another Disk
- Removing an Alternate Disk Installation
- Exercise: Clone the roovg and remove the Alternate Disk Installation

Session 14: BASIC NETWORKING

- Define TCP/IP Terminology
- Define Routing (Static and Dynamic)
- TCP/IP Commands and Utilities

- Configure TCP/IP for a Network Interface
- Configure a Static Route
- Test Network Connectivity
- Test Route Connectivity
- Basic TCP/IP Applications
- Exercise: Configure TCP/IP
- Exercise: Use TCP/IP Commands to:
 - Login to a Remote System
 - Transfer Files To/From a Remote System