



---

## AIX System Administration - Part II

**Duration: 5 Days**    **Course Code: ASA2**

---

### Overview:

This five-day, instructor-led IBM AIX System Administration training course is for System Administrators and Support Staff, who wish to perform advanced administration tasks, perform basic troubleshooting and improve security. Course Objectives are to be achieved by a mixture of command line syntax and use of the System Management Interface Tool (SMIT).

Although the course is based on AIX Version 6.1, it is also appropriate for prior releases of AIX.

---

### Target Audience:

The AIX System Administration - Part II course is designed for AIX System Administrators and Programmers and other Technical IT staff who require a greater understanding of the AIX system to enable them to perform basic troubleshooting, make use of advanced security features and highlight current/potential performance issues. On completion of the course the delegate will have practical experience of how to troubleshoot system startup problems, perform more advanced LVM tasks, implement system security and understand the ODM files in device configuration.

---

### Objectives:

- P-SERIES and AIX Overview
  - The Object Data Manager
  - Resolving Boot Problems
  - System Initialisation
  - Boot Problems
  - Interpreting LED Codes
  - Disk Management Theory
  - Disk Management Procedures
  - Alternative Mirroring and Striping with RAID
  - Disk Replacement Techniques
  - Backing up the System Using mksysb
  - Backup from a Split Mirror
  - Error Log and Diagnostics
  - Performance and Workload Management
  - Understanding the Workload and Bottlenecks
  - Advanced Security Features
  - Auditing
  - Access Control Lists
  - The Trusted Computer Database
- 

### Prerequisites:

- AIX Basics (AB)
  - AIX Shell Programming (ASPR)
  - AIX System Administration - Part I (ASA1)
- 

### Follow-on-Courses:

- AIX Advanced Shell Programming Tools (AASP)
  - SQL (OSP)
  - Apache Web Server (APH)
  - ORACLE Overview (ORO)
  - Perl Programming (PERL)
-

## Content:

### **Session 1: INTRODUCTION TO THE RS6000 (P SERIES)**

- Brief History
- Family History
- MCA and PCI Bus system Types
- Symmetrical Multiprocessors
- Scalable Power Parallel Systems

### **Session 2: 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
- cfmgr 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

### **Session 3: 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 cfmgr
- Boot Problem Management

### **Session 4: DISK MANAGEMENT**

- Local Volume Manager Review
- AIX Disk Storage
- Physical Volume and LVM
- Volume Group Descriptor Areas
- Physical and Logical Storage
- Use Of Logical Volumes
- Mirroring
- Stripping
- Volume Group Limits
- Alternative Mirroring and Stripping with RAID
- LVN Configuration Log
- LVM Data
- LVM Identifiers
- VGDA, VGSA and LVCB Control Blocks
- LVM and the ODM
- Physical Volumes and the ODM
- Volume Groups and the ODM
- Logical Volumes and the ODM
- LVM Problems in the ODM
- The rvgrecovery Script
- VGDA and Quorum
- Forcing a varyon
- Mirroring
- Disk Replacement Techniques
- Possible Errors After Disk Replacement
- Exporting and Importing Volume Groups

### **Session 5: BACKING UP YOUR SYSTEM**

- Using mksysb
- Creating a System Backup
- mksysb Image Structure
- Verifying a mksysb Tape
- Preparing bosinst.data for Unattended Install
- Cloning
- Reducing a File System
- Alternate Disk Installation
- Installing a mksysb Image On Another Disk
- Cloning the Running rootvg to Another Disk
- Removing an Alternate Disk Installation
- Backing up Non-Root Volume Groups
- Using savevg
- Backup from a Split Mirror

### **Session 6: 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
- Diagnostics

### **Session 7: PERFORMANCE AND WORKLOAD MANAGEMENT**

- Addressing the Problem
- Understanding The Workload And Bottlenecks
- Identifying CPU Intensive Tasks
- Identifying High Priority Processes
- Monitoring CPU Usage with sar
- Monitoring Memory Usage with vmstat
- Monitoring Disk I/O Using iostat
- The topas Command
- The tprof Command
- The svmon Command
- The filemon Command
- Workload Management
- The Performance Diagnostic Tool (PDT)
- PDT Configuration Menu
- PDT File Overview
- The PDT.thresholds File
- Monitoring Files, Directories and Host Availability

### **Session 8: ADVANCED SECURITY FEATURES**

- The Auditing Subsystem
- The Configuration Files
- The Object File
- The Event File
- The Config File
- Using Bin Mode
- Using Stream Mode
- The Audit Command
- Authentication and Access Controls
- Physical Security
- Path Problems
- Encrypted Filesystems in AIX 6.1
- Enhancing Login Security - Login Prompt
- Enhancing Login Security - Restricted Shell
- Customised Authentication Methods
- Two Key Authentication
- Access Control Lists
- ACL Keywords and Format
- The Trusted Computer Base
- The TCB Components
- Checking the TCB
- The sysch.cfg File
- The tcbck Command - Check Mode
- Marking Files As Trusted
- Trusted Communication Path
- Configuring Trusted Path Communications

- The diag Command
  - Working with diag
  - AIX System Dumps
- 

### Further Information:

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

[info@globalknowledge.co.uk](mailto:info@globalknowledge.co.uk)

[www.globalknowledge.co.uk](http://www.globalknowledge.co.uk)

Global Knowledge, Mulberry Business Park, Fishponds Road, Wokingham Berkshire RG41 2GY UK