KOENIG SOLUTIONS · COURSE OUTLINE

AIX for UNIX/Linux Professionals

Learn to install, configure and manage AIX systems, covering storage, filesystems, backup, boot processes and basic networking.

14	128	14
MODULES	TOPICS	HANDS-ON EXERCISES

COURSE OVERVIEW

This course covers the P-Series product line and the AIX operating system, followed by system management tools such as SMIT and the Web Based System Manager. It then addresses startup and shutdown procedures, software installation and maintenance, device management, the Logical Volume Manager and AIX filesystems. Further sessions cover backup and restore, the Object Data Manager, problem solving tools, system initialisation and LVM recovery, alternate disk installation, and basic TCP/IP networking.

WHO THIS COURSE IS FOR

- **System Administrators**
- **UNIX Administrators**
- **Linux Administrators**
- **Infrastructure Engineers**
- **Technical Support Engineers**

LEARNING OBJECTIVES

- Describe the P-Series product line and the AIX operating system
- Apply SMIT and Web Based System Manager for system administration
- Explain startup, shutdown and system resource controller procedures
- Install and maintain software filesets, packages and bundles
- Configure devices using the Object Data Manager
- Implement logical volumes, mirroring and striping with the LVM
- Create and manage AIX filesystems
- Perform backup and restore operations using mksysb and savevg

COURSE SYLLABUS

14 Modules, 128 Topics

01

Session 1: Introduction to the P-Series

TOPICS

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

02

Exercise

Session 2: System Management Tools

TOPICS

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

03

Exercise

Session 3: Startup and Shutdown

TOPICS

- 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

04

Exercise

Session 4: Software Installation and Maintenance

TOPICS

- Units of Installation
- Filesets, Packages and Licensed Program Products
- Bundles
- Update and Maintenance Bundles
- Software States
- Installing Patches and Fixes

05

Exercise

Session 5: Device

TOPICS

Introduction to the Object Data Manager (ODM) · Listing Devices · Interpreting Location Codes · Self-configuring Devices · Adding, Changing and Removing Devices

06

Exercise

Session 6: The Logical Volume Manager

TOPICS

- 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

07

Exercise

Session 7: AIX Filesystems

TOPICS

- 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

08

Exercise

Session 8: Backup and Restore

TOPICS

Backup Devices · mksysb and savevg Commands · The backup Command · The restore Command · Tape Control Commands

09

Exercise

Session 9: Object Data Manager

TOPICS

- 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

Session 9: Object Data Manager (continued)

TOPICS (CONTINUED)

- Predefined Connection
- Customised Dependency
- Customised Device Driver
- Customised Vital Product Data

10

Session 10: Problem Solving Tools

TOPICS

- 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

11

Exercise

Session 11: System Initialisation

TOPICS

- 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

12

Exercise

Session 12: LVM System Data and Recovery

TOPICS

- 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

13

Exercise

Session 13: Alternate Disk Installation

TOPICS

Alternate Disk Installation · Installing a mksysb Image On Another Disk · Cloning the Running rootvg to Another Disk · Removing an Alternate Disk Installation

14

Exercise 2 Exercises

Session 14: Basic Networking

TOPICS

- 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

HANDS-ON EXERCISES

Practise What You Learn

#	MODULE	ACTIVITY
02	**Session 2: System Management Tools**	Remotely connect to a host using WSM
03	**Session 3: Startup and Shutdown**	Start and stop processes using SMC
04	**Session 4: Software Installation and Maintenance**	Install, enquire and remove software

#	MODULE	ACTIVITY
05	**Session 5: Device**	Add and remove devices using the command line and smit
06	**Session 6: The Logical Volume Manager**	Creating, Extending and Mirroring a Logical Volume
07	**Session 7: AIX Filesystems**	Creating, Extending and Removing a Filesystem
08	**Session 8: Backup and Restore**	Use of Backup And Restore, including mksysb
09	**Session 9: Object Data Manager**	Add a device by manipulating the ODM
11	**Session 11: System Initialisation**	Destroy the BLV and then re-create a new BLV
12	**Session 12: LVM System Data and Recovery**	Mirror a whole disk and recover a corrupt Logical Volume
13	**Session 13: Alternate Disk Installation**	Clone the rootvg and remove the Alternate Disk Installation
14	**Session 14: Basic Networking**	■ Configure TCP/IP ■ **Use TCP/IP Commands to:** Login to a Remote System ■ **Use TCP/IP Commands to:** Transfer Files To/From a Remote System

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com | info@koenig-solutions.com