

Power Systems for AIX III – Advanced Administration and Problem Determination

Skills and expertise to help you increase the business value from your Power Systems investment.



Purpose:

Learn advanced AIX system administrator skills focusing on availability and problem determination. Learn detailed knowledge of the ODM database where AIX maintains configuration information. Learn to monitor for and deal with AIX problems with emphasis on Logical Volume Manager problems, including procedures for replacing disks. Learn how to configure AIX Workload Partitions as a part of software virtualization with no disruption.

Audience:

This course is targeted for system administrators with at least three months experience in AIX and with other relevant education.

For additional details on other AIX courses, please visit: <http://www.tlcpak.com/educ.html>

Prerequisites:

Participants should be familiar with various system administration tasks.

- Can use Hardware Management Console (HMC) to activate a logical partition running AIX and to access the AIX system console
- Able to install AIX operating system from a standalone server
- Understand AIX backup and recovery procedures including mksysb, savevg, and restvg
- Manage additional software and base operating system updates including AIX Technology Levels and Service Packs
- Use management tools such as SMIT and pConsole
- Understand how to manage file systems, logical volumes, and volume groups
- Understand basic performance monitoring tools and filesystem fragmentation problems
- Understand basic Workload Partition (WPAR) concepts and commands
- Should be well familiar with using tools like vi editor, command execution, input and output redirection, and the use of utilities such as grep

Additional details on each unit is available at the following link.

<http://www.tlcpak.com/tn150.html>

SKILLS TAUGHT:

On completion, students should be able to:

- Able to perform system problem determination and reporting procedures including analyzing error logs, creating dumps of the system, and providing needed data to the AIX Support personnel
- Understand how to examine and manipulate AIX Object Data Manager databases
- Identify and resolve conflicts between the Logical Volume Manager (LVM) disk structures and the Object Data Manager (ODM)
- Identify various types of boot and disk failures and perform the matching recovery procedures
- Implement advanced methods such as alternate disk install, and features of JFS2 file system
- Install and configure Workload Partition Manager to support WPAR management

Course Code :TN150

Course Duration: 4 Days

Course Fee : Obtain upon request

Course Location : Customer onsite (Karachi, Lahore and Islamabad)

Discount : Discounts are available for a class of 5 and 8 students

Terms & Conditions :100% payment in advance

* This course is also available for customers using AIX 6.1



Power Systems for AIX III – Advanced Administration and Problem Determination

Unit 1: Advanced AIX administration overview

List the steps of a basic procedure for problem determination.

Identify methods for unfolding a problem and gathering relevant information to take best possible action to minimize planned and unplanned downtime.

Able to collect maximum information from the system and user and refer to documentation and other key resources needed for problem resolution.

Speaking IBM Support Center's language.

Understand Live Application Mobility.

IBM Fix Central.

AIX Service Strategy.



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Unit 2: The Object Data Manager

Understand the structure of the ODM.

Describe the role of ODM in device configuration database.

Working with the ODM by using command line interface.

Understand the function of the most important files within ODM.

The role of Configuration Manager.

Understand device states.

Unit 3: Error Monitoring

Analyze **error log entries**.

Identify and maintain the **error log components**.

Starting and stopping errdemon.

Changing the **ERRLOG** file size.

Initializing the Error Log.

Understanding **error notification** class objects.

Dynamic Processor Deallocation.

Create/Verify/Delete Error Notification method.

Understand the role and use of ASMI.

Unit 4: Network Installation Manager basics

Introduce the class with the basics of NIM –

Network Installation Manager.

NIM overview and concepts.

Understanding NIM terminology.

How NIM works – Push & Pull mode.

Basic NIM configuration.

New features in NIM.

NIM databases and classes.

Understand NIM objects.

Unit 5: System Initialization Part 1

Types of boot problems.

Describe the boot process to loading the boot logical volume.

Describe the contents of the boot logical volume. Interpret LED codes displayed during boot and at system halt.

Fix the boot logical volume on a system which is failing to boot.

Fix corrupted jfslog (/dev/hd8).

Unit 6: System Initialization Part 2

General overview of the boot process.

Understand the process involved in system initialization from loading of the boot image to a successful completion of boot.

Describe how devices are configured during the boot initialization process.

Study and resolve boot related problems.

Boot problem diagnostics.

Study cfgmgr with the help of **alog** command.

System critical files and Hang Detection.



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Unit 7: Disk Management Theory

Review LVM terminologies.

Illustrate and understand where AIX LVM information resides.

Study the contents of the VDA.

Describe Logical Volume Control Block.

Fixing the ODM-related LVM problems.

Setting up LTG – Logical Track Group Size.

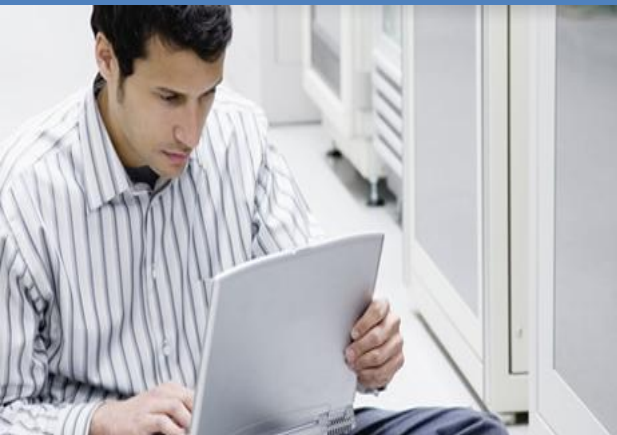
Implementing AIX Disk Mirroring.

Understand Mirror Write Consistency.

Understand Quorum Mechanism.

Activating and Deactivating AIX Volume Group.

Describe Physical Volume States.



Unit 8: Disk Management Procedures

List the steps of a basic procedure for problem determination.

Identify methods for unfolding a problem and gathering relevant information to take best possible action to minimize planned and unplanned downtime.

Able to collect maximum information from the system and user and refer to documentation and other key resources needed for problem resolution.

Speaking IBM Support Center's language.

Understand Live Application Mobility.

IBM Fix Central.

AIX Service Strategy.

Unit 9: Install and Backup Techniques

Why backup and successful recovery is important.

The role of mkszfile command.

Create, verify, and restore mksysb images.

Setup cloning using mksysb images

Shrink file systems and logical volumes.

Understand alternate disk installation techniques.

Backup and restore non-rootvg volume groups.

Unit 10: Understanding Basics of Logical Partition Configurations

Logical partition in a view.

Minimum resource requirement to create a LPAR.

LPAR resource allocation and management.

Managed systems and HMC role.

Dynamic and Affinity logical partition.

LPAR configuration process.

Precautions when installing firmware.

Allocating system wide resources.

Understanding partition and profiles.

Allocation of memory resources.

Allocation of processor resources.

Unit 11: The AIX System Dump Facility

Understand dump and the contents of dump.

Understand and explain the meaning of a system dump.

Understanding flashing 888 code.

How a system dump is invoked.

Dump Devices size in AIX 7.

Collect information that helps in analyzing Dump.

Determine and change the primary and secondary dump devices.

Create and extend a system dump size.

Dump device compression.

Execute the snap command.

Use the kdb command to check a system dump.

