

Mastering IBM AIX: Performance Management

OEM: IBM • Code: AN51G

COURSE DESCRIPTION

Develop the skills to measure, analyze, and tune common performance issues on IBM Power servers running AIX. Learn about performance management concepts and techniques and how to use the basic AIX tools to monitor, analyze, and tune an AIX system. The course covers how virtualization technologies such as the PowerVM environment and workload partitions affect AIX performance management. Monitoring and analyzing tools discussed in this course include vmstat, iostat, sar, tprof, svmon, netstat, lvmstat, and topas. Tuning tools include schedo, vmo, ioo, no, and nfso. The course also covers how to use Performance Problem Reporting (PerfPMR) to capture a variety of performance data for later analysis. Each lecture is reinforced with extensive hands-on lab exercises which provide practical experience. The course covers AIX 7.3 enhancements, with exercises executed on a POWER8 lab environment, and includes content relevant to newer IBM Power servers up until IBM Power11.

AUDIENCE PROFILE

- This advanced course is for: AIX technical support personnel Performance benchmarking personnel AIX system administrators

PREREQUISITES

- ALL of the skills taught in this course (see course contents).
- AN10G AIX Basics
- AN11G Power Systems for AIX I: LPAR Configuration and Planning
- AN12G Mastering IBM AIX: Implementation and Administration
- AN30G IBM PowerVM: Implementing Virtualization
- AN31G IBM PowerVM II: Advanced Management and Performance
- AN15G Mastering IBM AIX: Advanced Administration and Problem Determination
- AN22G AIX Network Installation Management: Concepts and Configuration
- IBM AIX v7.3 Administrator Specialty

COURSE OBJECTIVES

By the end of this course, participants will be able to:

- Define performance terminology
- Describe the methodology for tuning a system
- Identify the set of basic AIX tools to monitor, analyze, and tune a system

- Use AIX tools to determine common bottlenecks in the central processing unit (CPU), virtual memory manager (VMM), logical volume manager (LVM), internal disk input/output (I/O), and network subsystems
- Use AIX tools to demonstrate techniques to tune the subsystems

COURSE OUTLINE

Module 1: Day 1

- Unit 1 - Performance analysis and tuning overview
- Exercise 1 - Working with tunable files Unit 2 - Data collection
- Exercise 2 - Data collection
- Unit 3 - Monitoring, analyzing, and tuning CPU usage
- Exercise 3 - Monitoring, analyzing, and tuning CPU usage (parts 1 and 2)

Module 2: Day 2

- Exercise 3 - Monitoring, analyzing, and tuning CPU usage (parts 3, 4 and 5)
- Unit 4 - Virtual memory performance monitoring and tuning
- Exercise 4 - Virtual memory performance monitoring and tuning
- Student's choice optional exercise from exercise 3 or exercise 4

Module 3: Day 3

- Unit 5 - Physical and logical volume performance
- Exercise 5 - Physical and logical volume performance
- Unit 6 - File system performance monitoring and tuning (topic 1)
- Exercise 6 - File system performance monitoring and tuning (parts 1, 2, and 3)

Module 4: Day 4

- Unit 6 - File system performance monitoring and tuning (topic 2)
- Exercise 6 - File system performance monitoring and tuning (part 4) Unit 7 - Network performance
- Exercise 7 - Network performance
- Student's choice optional exercise from exercises 3, 4, or 6

Module 5: Day 5

- Unit 8 - NFS performance
- Exercise 8 - NFS performance tuning
- Unit 9 - Performance management methodology Exercise 9 - Summary exercise
- Student's choice optional exercises from exercises 3, 4, 6, or 7