Mastering IBM AIX: Performance Management

Course code: AN51G

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.

Who is the course for

This is an advanced course for AIX technical support personnel, performance benchmarking personnel, and AIX system administrators.

What we teach you

- Define performance terminology
- Describe the methodology for managing performance on 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

Required skills

The instructor should have the following skills:

- ALL of the skills taught in this course (see course contents).

The instructor should successfully complete the following prerequisite courses:

- 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

It is further recommended that the instructor has completed most of the advanced courses in the AIX system administration curriculum and additional course in the PowerVM curriculum. For example:

- AN15G Mastering IBM AIX: Advanced Administration and Problem Determination
- AN22G AIX Network Installation Management: Concepts and Configuration

The instructor should have the following certifications:

- IBM AIX v7.3 Administrator Specialty

Course outline

Day 1

- Unit 1 - Performance analysis and tuning overview
- Exercise 1
- Unit 2 - Data collection
- Exercise 2
- Unit 3 - Monitoring, analyzing, and tuning CPU usage
- Exercise 3 parts 1 and 2

Day 2

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- Exercise 3 parts 3, 4 and 5
- Unit 4 - Virtual memory performance monitoring and tuning
- Exercise 4
- Student's choice optional exercise from Ex 3 or Ex 4

Day 3

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

Day 4

- Unit 6 File system performance, topic 2
- Exercise 6, part 4
- Unit 7 - Network performance
- Exercise 7
- Student's choice optional exercise from exercises 3, 4, 5, or 6

Day 5

- Unit 8 - NFS performance
- Exercise 8
- Unit 9 - Performance management methodology
- Exercise 9
- Student's choice optional exercises from exercises 3, 4, 5, 6, or 7

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