MERCURY

Systems Management Setup, Monitoring, and Maintenance

7 – 11 June 2027
Rome (Italy)



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Systems Management Setup, Monitoring, and Maintenance

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Introduction

The Systems Management Setup, Monitoring, and Maintenance course provides a comprehensive theoretical foundation for efficiently managing modern IT environments. It equips professionals with structured knowledge to install, configure, upgrade, and maintain system hardware and software in enterprise settings. The course emphasizes best practices for system performance monitoring, proactive maintenance, and operational continuity. Participants will explore reliable backup strategies, system restore procedures, and preventive maintenance planning. It improves system availability, stability, and security through disciplined management processes. Learners will support resilient, well-maintained, and high-performing IT infrastructures.

Targeted Groups

This Systems Management Setup, Monitoring, and Maintenance training targets professionals seeking knowledge and skills:

- IT support specialists seeking structured system management skills.
- System administrators are responsible for enterprise environments.
- Network engineers expanding into systems operations roles.
- Technical support staff manage hardware and software platforms.
- Data center technicians oversee system uptime and reliability.
- IT graduates pursuing careers in systems administration.
- Infrastructure engineers are improving preventive maintenance practices.
- Technology professionals are involved in backup and disaster recovery.

Course Objectives

Participants will achieve the following objectives by completing the Systems Management Setup, Monitoring, and Maintenance course:

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- Understand core principles of modern systems management.
- Explain system installation and configuration workflows.
- Apply structured methods for hardware and software deployment.
- Evaluate system performance using monitoring tools.
- Implement effective backup and recovery procedures.
- Analyze system logs to identify operational risks.
- Plan preventive and routine maintenance schedules.
- Improve system availability and operational continuity.
- Strengthen configuration management practices.
- Support secure and stable system environments.
- Diagnose common system performance bottlenecks.
- Align maintenance activities with organizational IT policies.
- Enhance documentation and change control practices.
- Develop proactive approaches to system reliability.

Targeted Competencies

Participants will gain the following competencies during the Systems Management Setup, Monitoring, and Maintenance program:

- System installation and configuration proficiency.
- Structured system performance monitoring capability.
- Backup management and recovery planning skills.
- Preventive maintenance planning and execution.
- Operating system upgrade management expertise.
- Log analysis and incident identification ability.
- Configuration management discipline.
- System reliability and availability optimization.
- Routine maintenance workflow standardization.
- Technical documentation and reporting accuracy.
- Risk-aware system administration practices.
- Operational troubleshooting and root cause analysis.

Studying Scenarios

In this Systems Management Setup, Monitoring, and Maintenance training, participants develop skills through the following scenarios:

- Managing full system deployment in a growing enterprise environment.
- Diagnosing performance degradation in a production server.
- Designing a structured backup and restore strategy.
- Responding to unexpected system failure incidents.
- Planning preventive maintenance for critical infrastructure.
- Evaluating monitoring alerts and prioritizing responses.
- Supporting operating system upgrade across departments.
- Reviewing maintenance reports to improve system uptime.

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Course Content

Unit 1: Foundations of Systems Management and IT Infrastructure

- Overview of enterprise systems management concepts and lifecycle.
- Roles and responsibilities of modern system administrators.
- Key components of IT infrastructure and platform services.
- Understanding hardware, operating systems, and application layers.
- Principles of configuration management in enterprise environments.
- System management standards and operational frameworks.
- Aligning systems operations with business continuity requirements.
- Documentation practices for systems and infrastructure assets.

Unit 2: System Installation, Configuration, and Upgrade Management

- Structured approach to system hardware installation procedures.
- Operating system deployment methodologies and best practices.
- Initial system configuration for performance and security.
- Software installation management across enterprise platforms.
- Patch management and controlled system upgrade workflows.
- Version control and configuration baseline management.
- Managing dependencies during system upgrades.
- Post-installation validation and acceptance procedures.

Unit 3: System Performance Monitoring and Optimization

- Principles of proactive system performance monitoring.
- Key performance indicators for servers and operating systems.
- Monitoring tools for CPU, memory, storage, and network usage.
- Establishing performance baselines for stable environments.
- Alert configuration and threshold management strategies.
- Log management and event correlation techniques.
- Identifying bottlenecks in high-demand systems.
- Continuous improvement of system efficiency and uptime.

Unit 4: Backup Management, System Restore, and Continuity

- Fundamentals of enterprise backup strategies and policies.
- Types of backups and their operational use cases.
- Designing automated backup schedules for critical systems.
- Secure storage and retention planning for backup data.
- System restore procedures and validation techniques.
- Disaster recovery planning for system administrators.
- Testing backup integrity and recovery readiness.
- Integrating backup processes with business continuity plans.

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Unit 5: Preventive and Routine System Maintenance

- Preventive maintenance planning for IT infrastructure.
- Routine system health checks and inspection procedures.
- Managing firmware and driver updates safely.
- Capacity planning and resource utilization reviews.
- Incident response and maintenance escalation workflows.
- Security hardening during maintenance cycles.
- Maintenance reporting and performance review metrics.
- Building a continuous improvement culture in system operations.

Final Insights & Key Takeaways

Effective systems management requires disciplined installation, monitoring, and maintenance practices supported by structured operational controls. Professionals who master these capabilities can significantly improve system reliability, performance, and long-term IT stability.