



Data Center Management: Operations, Security & Optimization Training Course (10 Days)

17 - 28 Aug 2025
Cape town



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Ref.: 103600330_34090 **Date:** 17 - 28 Aug 2025 **Location:** Cape town **Fees:** 10000 **Euro**

Course Overview:

The Mastering Data Center Management training course provides a comprehensive, hands-on approach to managing modern data centers. Participants will learn best practices in IT infrastructure, server management, data center security, and energy efficiency while exploring emerging technologies like cloud computing, hybrid cloud, and virtualization. The course will focus on optimizing data center operations, ensuring IT compliance, risk management, redundancy planning, and cybersecurity.

With an increasing demand for high-availability systems, network security, disaster recovery, and power management, this course prepares IT professionals to effectively manage data centers while reducing costs and environmental impact.

Target Audience:

- Data Center Managers
- IT Administrators & Network Engineers
- Cloud & Virtualization Specialists
- Cybersecurity Professionals
- Enterprise IT Consultants
- Disaster Recovery & Business Continuity Managers

Targeted Organizational Departments:

- IT Infrastructure & Operations
- Cybersecurity & Risk Management
- Cloud & Virtualization Teams
- Energy & Sustainability Teams
- Disaster Recovery & Business Continuity

Targeted Industries:

- Technology & Cloud Service Providers
- Banking & Financial Services
- Healthcare & Pharmaceuticals
- Telecommunications & Networking
- Retail & E-commerce
- Manufacturing & Logistics

Course Offerings:

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

- Design and optimize data center infrastructure for performance and scalability
- Implement security best practices to safeguard critical IT assets
- Apply cloud computing and virtualization to improve resource utilization
- Ensure energy efficiency through advanced cooling and power management techniques
- Develop disaster recovery and business continuity plans for critical operations
- Comply with IT governance standards and industry best practices
- Evaluate hybrid cloud models for cost-effective data center modernization

Training Methodology:

This interactive course employs a combination of:

- Real-world case studies on cloud data centers, security breaches, and energy efficiency
- Exercises focused on data center risk assessment and optimization planning
- Interactive discussions on IT compliance, cybersecurity strategies, and hybrid cloud
- Hands-on practice labs configuring network administration and virtualization

Course Toolbox:

Participants will receive:

- Data Center Management ebook
- Network Administration & Security Templates
- Checklists for IT Asset Management & Risk Planning
- Case Study & Benchmark Reports

Course Agenda:

Day 1: Fundamentals of Data Center Management

- **Topic 1:** Introduction to Data Center Architecture and Components
- **Topic 2:** IT Infrastructure Management Best Practices
- **Topic 3:** Data Center Facilities and Site Selection
- **Topic 4:** Power Capacity, Cooling Systems, and Environmental Controls
- **Topic 5:** Physical Security and Access Control Mechanisms
- **Topic 6:** IT Governance, Compliance, and Regulatory Standards
- **Reflection & Review:** Key takeaways on data center fundamentals and security considerations



Day 2: IT Infrastructure and Data Center Design

- **Topic 1:** Server Management and Storage Solutions
- **Topic 2:** Network Administration and Structured Cabling
- **Topic 3:** High-Availability Systems and Redundancy Planning
- **Topic 4:** Infrastructure Monitoring and Performance Optimization
- **Topic 5:** Scalability Planning for Growing Data Centers
- **Topic 6:** Emerging Trends in Data Center Design
- **Reflection & Review:** Assessing IT infrastructure challenges and future-proofing strategies

Day 3: Power and Energy Efficiency in Data Centers

- **Topic 1:** Power Distribution Infrastructure and UPS Systems
- **Topic 2:** Backup Generators and Emergency Power Systems
- **Topic 3:** Energy Efficiency Strategies and Green IT Solutions
- **Topic 4:** DC vs. AC Power Systems: Efficiency Comparisons
- **Topic 5:** Cooling Techniques: Hot Aisle, Cold Aisle, and Liquid Cooling
- **Topic 6:** Renewable Energy and Sustainable Data Centers
- **Reflection & Review:** Evaluating energy efficiency measures and operational cost savings

Day 4: Network Security and Cybersecurity in Data Centers

- **Topic 1:** Threats and Risks in Data Center Security
- **Topic 2:** Firewalls, Intrusion Detection, and Prevention Systems IDS/IPS
- **Topic 3:** Encryption, Data Protection, and Secure Access Control
- **Topic 4:** Security Compliance and Industry Standards ISO 27001, NIST
- **Topic 5:** Security Best Practices for Colocation Data Centers
- **Topic 6:** Incident Response and Disaster Recovery Protocols
- **Reflection & Review:** Analyzing security risks and developing mitigation strategies

Day 5: Cloud Computing and Virtualization Technologies

- **Topic 1:** Private, Public, and Hybrid Cloud Models
- **Topic 2:** Virtualization Concepts and Benefits in Data Centers
- **Topic 3:** Managing Virtual Machines and Containerized Applications
- **Topic 4:** Storage Virtualization and Cloud Data Centers
- **Topic 5:** Edge Computing and its Role in Modern Data Centers
- **Topic 6:** Best Practices for Hybrid Cloud Integration
- **Reflection & Review:** Comparing cloud models and assessing virtualization impact



Day 6: Disaster Recovery and Business Continuity Planning

- **Topic 1:** Risk Assessment and Disaster Recovery Strategies
- **Topic 2:** Backup and Restore Techniques for Critical Data
- **Topic 3:** Business Continuity Planning for IT Operations
- **Topic 4:** Load Balancing and Failover Mechanisms
- **Topic 5:** Data Center Automation for Disaster Recovery
- **Topic 6:** Compliance Requirements for Business Continuity Planning
- **Reflection & Review:** Evaluating real-world disaster recovery scenarios

Day 7: Data Center Operations and Optimization

- **Topic 1:** Data Center Lifecycle and Capacity Planning
- **Topic 2:** Infrastructure as a Service IaaS and Managed Services
- **Topic 3:** IT Service Management ITSM and SLA Implementation
- **Topic 4:** Cost Optimization Strategies in Data Centers
- **Topic 5:** Workflow Automation and AI in Data Center Operations
- **Topic 6:** Benchmarking and KPI Analysis for Continuous Improvement
- **Reflection & Review:** Enhancing operational efficiency and cost-effectiveness

Day 8: Data Storage and High-Performance Computing

- **Topic 1:** Storage Area Networks SAN and Network-Attached Storage NAS
- **Topic 2:** Data Backup, Archival, and Retrieval Solutions
- **Topic 3:** High-Speed Fiber Optics and Optical Distribution Frames
- **Topic 4:** Automated Infrastructure Management AIM for Storage
- **Topic 5:** Data Retention Policies and Compliance Regulations
- **Topic 6:** Scalability and Future Trends in Data Storage
- **Reflection & Review:** Managing data growth and storage efficiency

Day 9: IT Compliance and Regulatory Frameworks

- **Topic 1:** Understanding IT Governance in Data Centers
- **Topic 2:** ISO, NIST, GDPR, and Other Compliance Standards
- **Topic 3:** Implementing Security Audits and Risk Management
- **Topic 4:** Legal and Ethical Considerations in IT Operations
- **Topic 5:** Best Practices for Ensuring IT Compliance
- **Topic 6:** Third-Party Assessments and Certification Processes
- **Reflection & Review:** Navigating compliance challenges and best practices



Day 10: Future Trends and Final Assessment

- **Topic 1:** The Future of AI and Automation in Data Centers
- **Topic 2:** Advancements in Green Data Center Technologies
- **Topic 3:** The Rise of Software-Defined Networking SDN
- **Topic 4:** Multi-Tenant and Multi-Cloud Data Center Strategies
- **Topic 5:** Conducting a Comprehensive Data Center Audit
- **Topic 6:** Final Case Study and Exercises
- **Reflection & Review:** Course wrap-up, certification, and next steps

FAQ:

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

There are no strict prerequisites, but basic IT knowledge and experience in network administration, IT infrastructure, or cloud computing are recommended.

How long is each day's session, and is there a total number of hours required for the entire course?

Each session lasts 4-5 hours with breaks and practical exercises. The full course spans 10 days, totaling 40-50 hours of training.

How does this course address energy efficiency and sustainability?

The course covers green IT solutions, cooling systems, and power management strategies to reduce environmental impact and operational costs.

How This Course is Different from Other Data Center Management Courses:

This course integrates theory, hands-on labs, and case studies, focusing on real-world applications of IT governance, security compliance, and hybrid cloud optimization. Unlike generic IT courses, it emphasizes business continuity, cybersecurity, and energy efficiency, making it ideal for professionals managing enterprise-scale data centers.

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Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

OUR MISSION

We are dedicated to developing value-adding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.



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