Data Center Operations and Monitoring

9 – 13 August 2027
London (UK)



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Introduction

This course is designed to provide IT professionals with the hands-on knowledge and competencies required to operate and monitor modern data centers effectively. It covers essential infrastructure elements, environmental controls, monitoring systems, standard operating procedures, incident handling, and core security practices. Emphasis is placed on ensuring reliability, operational efficiency, and excellence in data center management.

Course Objectives

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

- Understand the fundamental systems and infrastructure that support data center operations.
- Apply standard operating procedures and industry best practices.
- Utilize monitoring tools to assess performance, availability, and environmental metrics.
- Respond efficiently to incidents and unplanned service disruptions.
- Implement essential physical and cybersecurity protocols within the data center environment.

Course Outlines

Day 1: Data Center Infrastructure and Standards

- Overview of data center types: enterprise, colocation, hyperscale
- Key infrastructure components: power, cooling, cabling, racks
- Data center classification tiers Tier I-IV
- International standards: TIA-942, ISO 27001, ANSI/BICSI
- Physical layout planning and airflow optimization

Day 2: Operational Procedures and Maintenance

- Roles and responsibilities within data center operations.
- Development and implementation of Standard Operating Procedures SOPs
- Preventive versus corrective maintenance strategies
- Inventory control and capacity planning
- Managing external vendors and contractors



Day 3: Monitoring Systems and Environmental Control

- Monitoring platforms: DCIM, SNMP, BMS.
- Real-time monitoring of temperature, humidity, and airflow.
- Power Usage Effectiveness PUE and energy metrics.
- Alarm threshold settings and alert protocols.
- Designing dashboards and tracking operational KPIs.

Day 4: Incident Management and Troubleshooting

- Incident management lifecycle and escalation paths.
- Detecting faults and conducting root cause analysis.
- Communication workflows during incidents.
- Managing planned and unplanned outages.
- Change management and rollback processes.

Day 5: Data Center Security and Optimization

- Physical security measures: access control, surveillance, zoning.
- Cybersecurity essentials: firewalls, network segmentation.
- Backup power solutions: UPS systems, generators, redundancy models.
- Energy efficiency strategies and sustainability considerations.
- Emerging trends: automation, AI, and remote data center monitoring.

Why Attend This Course: Wins & Losses!

- Industry-relevant curriculum aligned with international standards.
- Emphasis on operational excellence and effective incident resolution.
- Comprehensive coverage of technical, operational, and security domains.
- Exposure to future-focused innovations like automation and AI integration.
- Immediate applicability of skills in real-world data center environments.

Conclusion

Data centers form the core infrastructure of today's technology-driven enterprises. They support digital operations, secure critical information, and enable essential services. This course provides participants with the advanced knowledge and practical tools necessary to manage, operate, and monitor data centers according to global best practices.

Carefully structured to address all technical, operational, and security dimensions, the course places strong emphasis on business continuity, system performance, and maintaining the highest levels of security and sustainability. By the end of the training, participants will be well-prepared to respond to daily operational demands and unforeseen incidents with confidence—minimizing risk, maintaining uptime, and ensuring optimal service delivery.

