Comprehensive Data Centre Management and Operations Training Course

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4100 € (Per Person)

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Course Introduction / Overview:

In today's digitally-driven world, the data center stands as the backbone of modern enterprise, housing the critical infrastructure that powers business operations, cloud services, and global communication. This course provides a comprehensive exploration of data center management and operations, from foundational principles to advanced strategic planning. It is meticulously designed to equip participants with the knowledge and skills necessary to ensure high availability, efficiency, and security within these complex environments. We delve into the core components of data center infrastructure, including power, cooling, and network systems, guided by industry best practices and international standards. Drawing on insights from experts like Douglas Alger, author of "Build the Best Data Center Facility for Your Business", this program emphasizes a holistic approach. At BIG BEN Training Center, we believe in empowering professionals to not only manage current data center challenges but also to anticipate and architect for future demands, such as hybrid cloud integration and sustainable operations. This training course is an essential journey for anyone responsible for the performance, reliability, and strategic direction of critical IT infrastructure.

Target Audience / This training course is suitable for:

- Data Center Managers and Supervisors.
- IT Operations and Infrastructure Managers.
- Systems and Network Administrators.
- Facilities Managers and Engineers.
- IT Security and Compliance Professionals.
- Project Managers overseeing data center projects.
- IT Directors and Chief Information Officers (CIOs).
- Solutions Architects and IT Consultants.

Target Sectors and Industries:

- Financial Services and Banking.
- Healthcare and Pharmaceuticals.
- Telecommunications and Internet Service Providers.
- Technology and Software Development.
- Retail and E-commerce.
- Government Agencies and Public Sector Bodies.
- Education and Research Institutions.
- Energy and Utilities.

Target Organizations Departments:

- Information Technology (IT) Operations.
- Infrastructure and Engineering.
- Facilities Management.
- Network Operations Center (NOC).
- Information Security (InfoSec).
- Risk Management and Compliance.
- Data Management and Analytics.
- Corporate Strategy and Planning.

Course Offerings:

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

- Develop a comprehensive understanding of data center design principles and tier classifications.
- Implement best practices for power and cooling management to optimize efficiency and reduce costs.
- Master data center infrastructure management (DCIM) tools and techniques for effective monitoring.
- Establish robust operational procedures for maintenance, incident response, and change management.
- Design and enforce multi-layered physical and cybersecurity protocols for the data center.
- Ensure compliance with key industry standards such as ISO 27001 and SOC 2.
- Formulate effective disaster recovery and business continuity plans for critical facilities.
- Evaluate and integrate emerging technologies like automation, AI, and hybrid cloud models.
- Conduct thorough capacity planning to forecast future resource requirements.
- Promote and implement sustainable and green data center initiatives.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can immediately apply their learning in a real-world context. This course moves beyond traditional lectures by incorporating a blended learning approach that includes expert-led presentations, in-depth case study analyses of both successful and failed data center projects, and collaborative group workshops. Participants will engage in practical exercises, such as calculating Power Usage Effectiveness (PUE) and designing a basic disaster recovery framework. Interactive sessions will facilitate peer-to-peer learning and knowledge sharing, allowing attendees to discuss challenges specific to their own operational environments. We emphasize a hands-on approach where theoretical concepts are consistently linked to practical applications. Our experienced instructors provide continuous feedback and facilitate dynamic discussions, creating a rich learning environment that fosters critical thinking and problem-solving skills essential for modern data center management.

Course Agenda (Course Units):

Unit One: Fundamentals of Modern Data Center Infrastructure

- Introduction to Data Center Concepts and Evolution.
- Understanding Data Center Tiers (I, II, III, IV) and Redundancy.
- Key Components: Racks, Servers, Storage, and Networking.
- Cabling Standards and Best Practices for Structured Cabling.
- Site Selection Criteria and Environmental Considerations.
- Introduction to Data Center Standards (TIA-942, Uptime Institute).
- The Role of Virtualization and Software-Defined Data Centers (SDDC).

Unit Two: Power and Cooling Management

- Fundamentals of Data Center Electrical Systems.
- Uninterruptible Power Supply (UPS) and Generator Systems.
- Power Distribution Units (PDUs) and Power Management.
- Principles of Data Center Cooling and Airflow Management.
- CRAC, CRAH, and In-Row Cooling Technologies.
- Hot Aisle/Cold Aisle Containment Strategies.
- Calculating and Optimizing Power Usage Effectiveness (PUE).

Unit Three: Data Center Operations and Maintenance

- Developing Standard Operating Procedures (SOPs).
- Implementing an Effective Maintenance Program.
- Data Center Infrastructure Management (DCIM) Systems.
- Monitoring Environmental and Equipment Performance.
- Incident Management and Root Cause Analysis.
- Change Management Processes for Critical Environments.
- Asset and Inventory Management within the Data Center.

Unit Four: Security, Risk, and Compliance

- Physical Security Measures: Access Control, Surveillance, and Perimeters.
- Cybersecurity for Data Center Infrastructure.
- Understanding Key Compliance Frameworks (ISO 27001, SOC 2, GDPR).
- Conducting Risk Assessments and Threat Modeling.
- Developing a Comprehensive Disaster Recovery Plan (DRP).
- Business Continuity Planning (BCP) for Data Center Operations.
- Fire Suppression Systems and Safety Protocols.

Unit Five: Future-Proofing and Strategic Management

- Capacity Planning and Forecasting for Growth.
- Strategies for Cloud Integration and Hybrid Architectures.
- Introduction to Edge Computing and its Impact on Data Centers.
- Implementing Automation and AI in Data Center Operations.
- Green Data Center Initiatives and Sustainability Metrics.
- Financial Management: Budgeting, TCO, and ROI for Data Center Projects.
- The Future of Data Center Technology and Trends.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As automation and AI increasingly manage data center operations, what is the evolving role of the human operator in ensuring resilience and ethical oversight?

What unique qualities does this course offer compared to other courses?

This training course distinguishes itself by offering a holistic, strategic perspective on data center management that transcends purely technical instruction. While other programs may focus narrowly on specific hardware or software, our curriculum integrates the technical, operational, and business aspects of running a critical facility. We emphasize the "why" behind the "how," enabling participants to make informed strategic decisions rather than just executing routine tasks. The course content is built around real-world case studies, providing practical insights into complex challenges like capacity planning, risk mitigation, and achieving sustainability goals. Furthermore, we dedicate significant focus to future trends, preparing professionals not just for the data center of today but for the evolving landscape of hybrid cloud, edge computing, and AI-driven operations. The interactive methodology encourages participants to apply concepts to their own unique environments, ensuring the learning is relevant, applicable, and delivers tangible value to their organizations. It is a course designed for future leaders in IT infrastructure.