MERCURY

Data Architecture Training Course

14 – 18 March 2027
Cairo (Egypt)



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Istanbul - Türkiye: +90 539 599 1206
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Data Architecture Training Course

Ref: 15816_329118 **Date:** 14 – 18 March 2027 **Location:** Cairo (Egypt) **Fees:** 4000 Euro

Introduction:

The Data Architecture training course provides participants with an understanding of the principles, strategies, and tools for designing robust data architectures that support organizational goals and business intelligence needs. It covers essential aspects of data modeling, database design, data integration, and data governance frameworks, which are critical for structuring and managing vast amounts of data in today's digital landscape. They will gain insights into aligning data architectures with organizational strategies, ensuring scalability, security, and compliance.

The Data Architecture training course explores data architecture, covering its definition, meaning, and importance in modern organizations. Participants will learn what data architecture is, its principles, and how to build an effective framework tailored to business needs. It delves into cloud data architecture, data architecture strategy, and the latest data architecture tools to support digital transformation.

By focusing on data architecture best practices, attendees will develop essential data architecture skills, enabling them to implement robust systems that maximize the benefits of data architecture. With hands-on sessions on data architecture development, the training prepares learners for roles such as data architecture manager while emphasizing scalable solutions aligned with industry standards.

Targeted Groups:

- Data Architects.
- Data Engineers.
- Database Administrators.
- IT Managers and Directors.
- Business Intelligence Professionals.
- Enterprise Architects.
- Data Governance Specialists.
- IT Project Managers.
- Systems Analysts.
- Data Integration Specialists.

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Course Objectives:

At the end of this Data Architecture course, the participants will be able to:

- Understand core principles of data architecture and its role in organizational success.
- Develop skills to design scalable and efficient data models.
- Learn techniques for integrating data from multiple sources.
- Master best practices in data governance and compliance standards.
- Gain proficiency in optimizing database performance.
- Explore modern cloud data architecture frameworks.
- Apply strategies for ensuring data quality and integrity.
- Align data architecture with business intelligence needs.
- Enhance knowledge of data security and privacy measures.
- Build frameworks for effective enterprise data management.

Targeted Competencies:

By the end of this Data Architecture training, the participant's competencies will:

- Data Modeling Techniques.
- Database Design and Optimization.
- Data Integration Strategies.
- Data Governance and Compliance.
- Enterprise Data Management.
- Scalability and Performance Tuning.
- Cloud Data Architecture.
- Data Security and Privacy Best Practices.
- Business Intelligence Alignment.
- Data Quality Management.

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Course Content:

Unit 1: Introduction to Data Architecture:

- Define data architecture and its significance in organizations.
- Discuss the components of data architecture: models, databases, and flows.
- Explore the role of data architects and their responsibilities.
- Review common data architecture frameworks and methodologies.
- Understand the impact of data architecture on business intelligence and decision-making.

Unit 2: Data Modeling and Design:

- Introduce various data modeling techniques: conceptual, logical, and physical models.
- Explain the process of creating entity-relationship diagrams.
- Discuss normalization and denormalization concepts.
- Explore the importance of metadata in data modeling.
- Learn how to apply design principles for effective database structures.

Unit 3: Data Integration and ETL Processes:

- Define data integration and its importance in a data architecture.
- Introduce ETL Extract, Transform, Load processes and tools.
- Discuss data warehousing concepts and architecture.
- Explore real-time vs. batch data integration strategies.
- Understand the role of APIs in data integration.

Unit 4: Data Governance and Compliance:

- Define data governance and its critical role in data architecture.
- Explore policies and procedures for data management.
- Discuss compliance regulations such as GDPR and CCPA.
- Learn about data stewardship and its responsibilities.
- Review best practices for ensuring data quality and integrity.

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Unit 5: Advanced Data Architecture Concepts:

- Explore cloud data architecture and its advantages.
- Discuss big data technologies and their implications for data architecture.
- Introduce data lakes and their role in modern data strategy.
- Review the integration of machine learning and AI in data architecture.
- Understand emerging trends in data architecture, including decentralized data systems.