Strategic Enterprise Data Architecture and Modernization Training Course

14 - 18 Dec 2026

Boston

7500 € (Per Person)

Ref: #DM1440_90870

Course Introduction / Overview:

In today's data-driven economy, a robust and agile enterprise data architecture is no longer a luxury but a strategic necessity. This course provides a comprehensive exploration of designing, implementing, and modernizing enterprise data architectures to support business innovation and digital transformation. We will move beyond traditional, monolithic systems to explore modern paradigms like data mesh, data fabric, and cloud-native data platforms. The curriculum is designed to bridge the gap between foundational principles, as articulated by pioneers like William H. Inmon in his seminal work "Building the Data Warehouse," and the cutting-edge practices required for today's complex data ecosystems. Participants will learn to develop a forward-thinking data strategy, manage data as a critical asset, and create scalable, secure, and resilient data infrastructures. At BIG BEN Training Center, we empower professionals to lead their organizations through complex data modernization initiatives, ensuring that their data architecture is not just a support function but a key enabler of competitive advantage and sustainable growth in the digital age. This training course is your roadmap to mastering the art and science of modern enterprise data architecture.

Target Audience / This training course is suitable for:

- Data Architects and Senior Data Engineers.
- IT Managers and Directors.
- Enterprise Architects and Solution Architects.
- Business Intelligence (BI) and Analytics Managers.
- Data Governance and Data Quality Professionals.
- Technology and Innovation Leaders.
- Software Developers and System Analysts involved in data-intensive applications.
- Project Managers overseeing data modernization projects.

Target Sectors and Industries:

- Financial Services and Banking.
- Healthcare and Life Sciences.
- Retail and E-commerce.
- Telecommunications and Media.
- Manufacturing and Supply Chain.
- Technology and Software Development.
- Government Agencies and Public Sector Organizations.
- Energy and Utilities.

Target Organizations Departments:

- Information Technology (IT).
- Data Management and Analytics.
- Business Intelligence (BI).
- Enterprise Architecture.
- Digital Transformation and Innovation Offices.
- Operations and Business Units.
- Research and Development (R&D).
- Data Governance and Compliance.

Course Offerings:

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

- Develop a comprehensive data strategy aligned with business objectives.
- Design and evaluate modern data architecture patterns like data mesh and data fabric.
- Master data modeling techniques for both transactional and analytical systems.
- Plan and execute legacy system modernization and cloud migration projects.
- Implement robust data governance, security, and quality frameworks.
- Compare and select appropriate cloud data services from major providers.
- Architect scalable data pipelines for batch and real-time processing.
- Integrate big data technologies and AI/ML capabilities into the enterprise architecture.
- Create a strategic roadmap for continuous data architecture improvement.
- Lead data modernization initiatives with confidence and strategic insight.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and engaging, ensuring participants can translate theoretical knowledge into real-world capabilities. We employ a blended learning approach that combines expert-led presentations with hands-on exercises, collaborative workshops, and in-depth case study analysis. Each module is structured to build upon the last, creating a logical and comprehensive learning journey. Participants will work in teams to solve complex architectural challenges, design modernization roadmaps for fictional companies, and present their solutions for peer and instructor feedback. This collaborative environment fosters critical thinking and problem-solving skills. We utilize interactive whiteboarding, group discussions, and Q&A sessions to encourage active participation and knowledge sharing. The focus is on practical application, providing attendees with the frameworks, models, and strategic thinking skills needed to design and implement effective enterprise data architectures within their own organizations immediately upon completion of the course.

Course Agenda (Course Units):

Unit One Foundations of Enterprise Data Architecture

- Introduction to Enterprise Data Architecture (EDA).
- The strategic role of data as a corporate asset.
- Evolution from traditional to modern data architecture.
- Core principles of data management and governance.
- Key frameworks for enterprise architecture (e.g., TOGAF, Zachman).
- Assessing architectural maturity and identifying pain points.
- Aligning data strategy with business goals and digital transformation.

Unit Two Core Architectural Components and Data Modeling

- Conceptual, logical, and physical data modeling techniques.
- In-depth look at data warehousing and dimensional modeling.
- Understanding data lakes, data lakehouses, and their use cases.
- Master Data Management (MDM) strategies and implementation.
- Data integration patterns and technologies (ETL, ELT, CDC).
- Metadata management and the role of a data catalog.
- Fundamentals of data quality and data stewardship.

Unit Three Modern Data Architecture Patterns

- Architecting for the cloud (IaaS, PaaS, SaaS).
- Microservices architecture and its impact on data management.
- Introduction to the Data Mesh paradigm and its principles.
- Exploring the concept of a Data Fabric for seamless data access.
- Lambda and Kappa architectures for real-time and batch processing.
- Designing for scalability, resilience, and high availability.
- Serverless data architectures and their benefits.

Unit Four Data Modernization and Implementation Strategy

- Developing a data modernization roadmap.
- Strategies for migrating legacy data systems to the cloud.
- Managing data security, privacy, and compliance in modern architectures.
- Implementing a robust data governance framework.
- Change management for data-centric initiatives.
- Cost optimization and TCO analysis for cloud data platforms.
- Vendor and technology selection criteria.

Unit Five Advanced Topics and Future Trends

- Big data architecture and distributed computing (e.g., Hadoop, Spark).
- Integrating AI and Machine Learning into the data ecosystem.
- The emergence of DataOps and MLOps for agile data delivery.
- Data virtualization and its role in modern architecture.
- Graph databases and their applications.
- The future of data architecture and emerging technologies.
- Capstone project: Designing a modern data architecture for a case study.

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 data gravity shifts towards the cloud, how should an enterprise architect balance the benefits of centralized governance with the agility of decentralized data ownership in a data mesh model?

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

This course distinguishes itself by focusing on the strategic and conceptual underpinnings of modern data architecture rather than concentrating on a single technology or vendor platform. While many courses teach how to use a specific tool, we teach how to think like a world-class data architect. We provide a holistic view that connects foundational principles with cutting-edge paradigms like data mesh and data fabric, enabling participants to make informed, long-term architectural decisions. The curriculum is uniquely structured to guide participants through the entire modernization lifecycle, from initial assessment and strategy development to implementation and future-proofing. Another key differentiator is our emphasis on the business context; every technical concept is linked back to its impact on business agility, innovation, and value creation. The course content is continuously updated to reflect the latest industry trends, ensuring that the skills and knowledge gained are not only relevant today but will remain valuable as the data landscape continues to evolve. It is an investment in strategic thinking and architectural wisdom.