Advanced Big Data Analytics and Business Intelligence Training Course

16 - 20 Nov 2026

Düsseldorf

5900 € (Per Person)

Ref: #DM5519_90065

Course Introduction / Overview:

In today's data-centric world, the ability to transform vast amounts of raw data into actionable insights is no longer a competitive advantage but a business necessity. This course provides a comprehensive journey into the intertwined disciplines of Big Data Analytics and Business Intelligence (BI), designed to equip professionals with the skills to drive strategic decision-making. As highlighted by the renowned academic Thomas H. Davenport in his seminal work, "Competing on Analytics: The New Science of Winning," organizations that build their capabilities around data-driven insights consistently outperform their peers. This program moves beyond theoretical concepts, offering a practical, hands-on approach to mastering the entire BI lifecycle, from data acquisition and processing to advanced predictive modeling and strategic implementation. Participants will explore the core components of the big data ecosystem, learn to build powerful data visualizations, and apply machine learning techniques to uncover hidden patterns and forecast future trends. BIG BEN Training Center has meticulously structured this curriculum to bridge the gap between technical data skills and strategic business application, ensuring that graduates can not only analyze data but also communicate its story effectively to stakeholders, thereby creating tangible value and fostering a culture of informed decision-making within their organizations.

Target Audience / This training course is suitable for:

- Data Analysts and Scientists.
- Business Intelligence (BI) Developers and Consultants.
- IT Professionals and Data Engineers.
- Business Analysts and Systems Analysts.
- Marketing, Finance, and Operations Managers.
- Project Managers and Team Leaders.
- Executives and decision-makers seeking to leverage data.
- Professionals aspiring to transition into data-focused roles.

Target Sectors and Industries:

- Banking and Financial Services.
- Healthcare and Pharmaceuticals.
- Retail and E-commerce.
- Telecommunications and Media.
- Manufacturing and Supply Chain Logistics.
- Energy and Utilities.
- Government Agencies and Public Sector Organizations.
- Consulting and Professional Services.

Target Organizations Departments:

- Information Technology (IT) and Data Management.
- Business Intelligence and Analytics.
- Finance and Accounting.
- Marketing and Sales.
- Operations and Logistics.
- Strategic Planning and Corporate Development.
- Human Resources.
- Research and Development (R&D).

Course Offerings:

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

- Master the fundamental concepts of big data, including its architecture and ecosystem components.
- Design and implement effective ETL (Extract, Transform, Load) processes for data integration.
- Develop and manage robust data warehouses and data marts for analytical purposes.
- Utilize advanced SQL for complex data querying and manipulation.
- Create compelling and interactive data visualizations and dashboards using leading BI tools.
- Apply statistical methods and machine learning algorithms for predictive analytics and forecasting.
- Formulate a comprehensive business intelligence strategy aligned with organizational goals.
- Implement data governance frameworks to ensure data quality, security, and compliance.
- Communicate analytical findings effectively to both technical and non-technical stakeholders.
- Evaluate emerging trends in AI and machine learning and their impact on the future of BI.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, practical, and highly interactive, ensuring that participants gain tangible skills they can apply immediately in their professional roles. We believe in an experiential learning approach that moves beyond passive listening. The course is structured around a blend of expert-led instruction, real-world case study analysis, and intensive hands-on lab sessions. Participants will engage in collaborative group projects that simulate business challenges, requiring them to work through the entire analytics lifecycle from data preparation to presenting strategic recommendations. Interactive discussions and Q&A sessions are integral to each module, fostering a dynamic learning environment where participants can share insights and clarify complex concepts with instructors and peers. Our approach emphasizes problem-based learning, where theoretical knowledge is immediately reinforced through practical application using industry-standard tools and datasets. Continuous feedback from our expert trainers ensures that participants are not only learning the 'how' but also understanding the 'why' behind the techniques, building both competence and confidence in their analytical abilities.

Course Agenda (Course Units):

Unit One: Foundations of Big Data and Business Intelligence

- Introduction to Business Intelligence and its role in modern organizations.
- Understanding the V's of Big Data (Volume, Velocity, Variety, Veracity).
- Overview of the Big Data ecosystem (Hadoop, Spark, NoSQL).
- The complete Business Intelligence lifecycle from data to decisions.
- Differentiating between data, information, knowledge, and wisdom.
- Key performance indicators (KPIs) and metrics for business performance management.
- Exploring the roles of a Data Analyst, BI Developer, and Data Scientist.

Unit Two: Data Warehousing and Data Preparation

- Fundamentals of data warehousing and dimensional modeling.
- Understanding Star Schema vs. Snowflake Schema.
- The ETL (Extract, Transform, Load) process in detail.
- Techniques for data cleaning, transformation, and validation.
- Introduction to SQL for data extraction and manipulation.
- Advanced SQL queries for complex data analysis.
- Best practices for ensuring data quality and integrity.

Unit Three: Core Analytics and Data Visualization

- Descriptive, Diagnostic, Prescriptive, and Predictive Analytics.
- Introduction to leading BI and visualization tools (e.g., Tableau, Power BI).
- Principles of effective data visualization and dashboard design.
- Building interactive dashboards to explore business data.
- Storytelling with data to communicate insights effectively.
- Conducting exploratory data analysis (EDA) to uncover initial patterns.
- Hands-on lab for creating a comprehensive business dashboard.

Unit Four: Advanced Analytics and Predictive Modeling

- Introduction to statistical concepts for data analysis.
- Fundamentals of machine learning for business intelligence.
- Applying regression models for forecasting and trend analysis.
- Using classification algorithms for customer segmentation and churn prediction.
- Introduction to clustering techniques for pattern discovery.
- Model evaluation and validation techniques.
- Ethical considerations in predictive modeling and data mining.

Unit Five: BI Strategy, Governance, and Future Trends

- Developing a strategic roadmap for Business Intelligence implementation.
- Establishing a data governance framework for the organization.
- Managing data security, privacy, and regulatory compliance.
- Measuring the ROI of BI and analytics initiatives.
- The role of Artificial Intelligence (AI) in the future of BI.
- Exploring cloud-based analytics platforms and services.
- Final project presentation and course wrap-up.

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 predictive analytics becomes more integrated into business operations, how should organizations balance the drive for automated decision-making with the need for human oversight and ethical judgment?

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

This training course distinguishes itself by adopting a holistic, strategy-first approach to data analytics and business intelligence. While many programs focus narrowly on proficiency with specific software tools, our curriculum is architected to cultivate strategic thinkers who can translate complex data into decisive business action. We emphasize the 'why' behind the 'what', ensuring participants understand the business context that gives data its meaning and value. The course uniquely integrates modules on BI strategy development and data governance, critical components often overlooked but essential for sustainable, enterprise-wide success. Rather than just teaching how to build a dashboard, we teach how to design a dashboard that answers pivotal business questions and drives performance. Furthermore, our focus on ethical considerations in predictive modeling and the future impact of AI prepares participants for the next wave of challenges and opportunities in the field. The learning journey is built on a foundation of real-world case studies and a capstone project, ensuring that the acquired knowledge is not merely academic but deeply practical and immediately applicable to solving tangible business problems.