Data Pipelines for Business Intelligence Training Course

Professional Development Training Course Outline

Category	Business Intelligence	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Data-driven decision-making has become a cornerstone for modern organizations, and robust data pipelines are essential to achieve accurate, timely, and actionable insights. Data Pipelines for Business Intelligence Training Course equips participants with the knowledge and practical skills required to design, build, and manage efficient data pipelines for Business Intelligence environments. Participants will gain expertise in data extraction, transformation, and loading (ETL), data integration, data quality management, and analytics-ready data architecture.

The course combines theoretical concepts with hands-on exercises and real-world case studies, ensuring learners develop both technical proficiency and strategic understanding. By leveraging industry best practices, participants will be able to optimize data flows, reduce operational bottlenecks, and enhance reporting capabilities. This training empowers professionals to contribute directly to organizational efficiency and strategic decision-making.

Programme Curriculum

Data Pipelines for Business Intelligence Training Course

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Course Objectives

1. Understand the fundamentals of data pipelines and their role in BI architecture.
2. Gain proficiency in ETL processes using modern BI tools.
3. Learn to design scalable and efficient data integration solutions.
4. Master data transformation techniques for analytics-ready datasets.
5. Implement data quality, validation, and governance standards.
6. Explore real-time and batch data processing methods.
7. Optimize data storage solutions for performance and cost-efficiency.
8. Apply best practices for data security and compliance.
9. Develop monitoring and troubleshooting skills for data pipelines.
10. Understand cloud-based and on-premise pipeline architectures.
11. Enhance reporting and visualization through reliable data flows.
12. Analyze case studies to implement BI solutions effectively.
13. Foster collaboration between data engineers, analysts, and stakeholders.

Organizational Benefits

- Enhanced decision-making through reliable and timely BI data.
- Reduced operational bottlenecks in data processing workflows.
- Improved data quality, accuracy, and consistency across systems.
- Optimized storage and processing costs through efficient pipelines.
- Better compliance with data security and governance standards.
- Increased efficiency in data engineering and analytics teams.
- Standardization of ETL and data integration best practices.
- Faster deployment of BI solutions across departments.
- Enhanced collaboration between technical and business teams.
- Strengthened analytics capabilities for competitive advantage.

Target Audiences

1. Data Engineers
2. BI Analysts
3. ETL Developers
4. Data Architects
5. BI Managers
6. Analytics Consultants
7. IT Professionals involved in data management
8. Cloud Solution Architects

Course Duration: 5 days

Course Modules

Module 1: Introduction to Data Pipelines

- Fundamentals of data pipelines in BI
- Role of pipelines in modern data architecture
- Overview of ETL vs ELT
- Understanding batch and real-time data processing
- Key tools and technologies for pipeline management
- Case Study: Designing a simple ETL pipeline for sales reporting

Module 2: Data Extraction Techniques

- Extracting data from relational and non-relational sources
- API-based data extraction methods
- Handling structured, semi-structured, and unstructured data
- Scheduling automated data extraction jobs
- Data versioning and lineage tracking
- Case Study: Extracting data from multiple financial systems

Module 3: Data Transformation and Cleansing

- Data cleaning, normalization, and enrichment techniques
- Applying business rules during transformation
- Handling missing, duplicate, and inconsistent data
- Transforming data for analytics and visualization readiness
- Automation of data transformation tasks
- Case Study: Preparing customer data for predictive analytics

Module 4: Data Loading and Integration

- Loading data into BI platforms and data warehouses
- Incremental vs full data loads
- Integrating multiple data sources for unified reporting
- Error handling and retry mechanisms
- Monitoring data load performance
- Case Study: Integration of marketing and sales data pipelines

Module 5: Data Quality and Governance

- Implementing data validation rules
- Establishing data governance frameworks
- Auditing and reporting data quality metrics
- Regulatory compliance and data privacy considerations
- Role of metadata in data quality management
- Case Study: Data quality improvement in a retail organization

Module 6: Cloud-Based Data Pipelines

- Cloud data architecture and pipelines
- Comparing on-premise vs cloud pipelines
- Leveraging cloud-native ETL and data integration tools
- Cost optimization strategies in cloud environments
- Security best practices for cloud pipelines
- Case Study: Migrating legacy pipelines to a cloud platform

Module 7: Monitoring, Optimization, and Troubleshooting

- Implementing pipeline monitoring dashboards
- Identifying and resolving performance bottlenecks
- Logging and error notification strategies
- Optimization techniques for large-scale pipelines
- Predictive maintenance for pipeline health
- Case Study: Optimizing pipeline performance for an e-commerce company

Module 8: Advanced BI Use Cases

- Real-time analytics and streaming data pipelines
- Data pipelines for predictive analytics and machine learning
- Collaboration between data engineers and business users
- Scalability and future-proofing pipelines
- KPI monitoring and visualization integration
- Case Study: End-to-end BI pipeline for a retail chain

Training Methodology

- Instructor-led lectures with interactive discussions
- Hands-on lab exercises and real-world scenarios
- Case study analysis for practical understanding
- Group activities for collaborative learning
- Quizzes and assessments for knowledge reinforcement
- Access to online resources and reference materials

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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