Data Integration Techniques 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 integration has become a critical component in modern business operations, enabling organizations to combine data from multiple sources into a unified, actionable view. With the exponential growth of big data, cloud applications, and analytics platforms, mastering data integration techniques is vital for professionals aiming to optimize decision-making, improve operational efficiency, and ensure data consistency across the enterprise. Data Integration Techniques Training Course equips participants with practical, hands-on knowledge of modern data integration methods, tools, and best practices, fostering a strong foundation for managing complex data ecosystems.

In this course, participants will explore advanced integration strategies, including ETL (Extract, Transform, Load) processes, API-based integration, real-time streaming data, and cloud-based solutions. The program emphasizes practical implementation, case studies, and industry-relevant scenarios to prepare learners to solve real-world integration challenges. By combining theoretical knowledge with applied exercises, participants will develop a comprehensive understanding of data integration frameworks that drive business intelligence, analytics, and digital transformation initiatives.

Programme Curriculum

Data Integration Techniques Training Course

Introduction

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Course Objectives

1. Understand core concepts and principles of data integration.
2. Master ETL processes for efficient data extraction, transformation, and loading.
3. Implement real-time data integration using modern streaming platforms.
4. Develop API-based data integration solutions.
5. Explore cloud-based data integration tools and platforms.
6. Apply data quality and governance practices in integration workflows.
7. Utilize metadata management for consistent and reliable data integration.
8. Optimize data pipelines for performance and scalability.
9. Integrate structured and unstructured data sources.
10. Leverage automation techniques in data integration workflows.
11. Analyze and troubleshoot integration errors effectively.
12. Apply advanced analytics and visualization using integrated datasets.
13. Implement best practices for enterprise-level integration strategy.

Organizational Benefits

- Improved data accuracy and consistency across systems
- Enhanced operational efficiency and decision-making
- Streamlined data workflows reducing manual effort
- Faster time-to-insight with integrated data pipelines
- Better compliance with data governance standards
- Cost reduction through efficient data handling
- Strengthened business intelligence capabilities
- Optimized cloud and on-premise data resources
- Accelerated digital transformation initiatives
- Scalable solutions for future data integration needs

Target Audiences

1. Data engineers
2. Business intelligence analysts
3. Database administrators
4. IT managers and project leaders
5. Data architects
6. Cloud solution specialists
7. Analytics consultants
8. Software developers

Course Duration: 5 days

Course Modules

Module 1: Introduction to Data Integration

- Overview of data integration concepts and architecture
- Types of data integration: batch, real-time, and hybrid
- Key tools and technologies in data integration
- Challenges and best practices for successful integration
- Industry trends and emerging frameworks
- Case study: Implementing a unified data warehouse

Module 2: ETL Processes and Workflows

- Designing ETL pipelines for structured and unstructured data
- Data extraction techniques from multiple sources
- Transformation rules and cleansing strategies
- Efficient loading mechanisms into target systems
- Monitoring and performance tuning of ETL jobs
- Case study: Automating ETL for a retail analytics platform

Module 3: API-Based Data Integration

- Fundamentals of APIs and RESTful services
- Connecting applications through API endpoints
- Handling data formats: JSON, XML, and CSV
- Securing API integrations and authentication methods
- Real-world API integration scenarios
- Case study: Integrating CRM and ERP systems via API

Module 4: Real-Time Data Integration

- Streaming data architectures and message queues
- Tools for real-time data processing (Kafka, Spark)
- Event-driven integration strategies
- Data synchronization and latency challenges
- Monitoring real-time pipelines and alerts
- Case study: Real-time analytics in e-commerce

Module 5: Cloud-Based Data Integration

- Overview of cloud integration platforms (AWS, Azure, GCP)
- Cloud ETL vs on-premise ETL
- Hybrid cloud integration strategies
- Data migration to cloud environments
- Security and compliance in cloud integration
- Case study: Migrating legacy systems to a cloud data lake

Module 6: Data Quality and Governance

- Defining data quality dimensions and standards
- Data profiling, validation, and cleansing techniques
- Metadata management and lineage tracking

- Implementing data governance frameworks
- Ensuring regulatory compliance in integration
- Case study: Governance framework for a healthcare provider

Module 7: Advanced Integration Techniques

- Combining structured and unstructured data
- Implementing data virtualization strategies
- Automating integration workflows with scripts and tools
- Scaling integration for large datasets
- Troubleshooting and error handling in complex pipelines
- Case study: Big data integration in financial services

Module 8: Analytics and Visualization from Integrated Data

- Preparing integrated data for analytics and reporting
- Building dashboards and visual insights
- Leveraging predictive analytics on integrated datasets
- Using BI tools effectively with integrated data
- Best practices for actionable insights
- Case study: Customer behavior analysis using integrated datasets

Training Methodology

- Instructor-led live virtual and in-person sessions
- Hands-on labs and practical exercises for real-world scenarios
- Group discussions and collaborative problem-solving activities
- Case study analyses to reinforce practical knowledge
- Continuous assessment with quizzes and interactive exercises
- 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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