Data Integration with SQL 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 is a critical component in modern enterprise environments, enabling organizations to consolidate, manage, and analyze data from multiple sources efficiently. With businesses generating vast amounts of data daily, the ability to seamlessly integrate and manipulate this data using SQL has become a vital skill for data professionals. Data Integration with SQL Training Course equips participants with practical expertise in SQL-based data integration, covering techniques for data extraction, transformation, loading (ETL), and consolidation from diverse sources into centralized databases. Participants will gain hands-on experience in optimizing queries, maintaining data quality, and implementing best practices for scalable data integration projects.

The course emphasizes real-world scenarios and practical applications, allowing participants to bridge the gap between theoretical knowledge and workplace implementation. By the end of this training, attendees will be able to design, execute, and maintain complex data integration workflows while ensuring data accuracy, consistency, and performance. Leveraging advanced SQL techniques, participants will develop the skills necessary to support business intelligence, reporting, and analytics initiatives effectively. This course is ideal for data analysts, database administrators, IT professionals, and anyone looking to enhance their SQL data integration capabilities in a professional setting.

Programme Curriculum

Data Integration with SQL Training Course

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Course Objectives

1. Understand core concepts of data integration and SQL fundamentals
2. Master SQL queries for extracting, transforming, and loading data
3. Develop ETL pipelines using relational database techniques
4. Perform data cleansing and data validation using SQL
5. Implement advanced joins, subqueries, and indexing for performance optimization
6. Integrate data from multiple heterogeneous sources efficiently
7. Automate repetitive data integration tasks using SQL scripts
8. Monitor and troubleshoot data integration workflows for errors
9. Utilize SQL best practices for scalable and maintainable solutions
10. Apply data governance and compliance standards in integration processes
11. Conduct real-time data updates and synchronization between systems
12. Analyze integrated data for business intelligence and reporting
13. Build practical case studies simulating enterprise-level data integration challenges

Organizational Benefits

- Improved data quality and accuracy across the organization
- Streamlined data consolidation processes from multiple sources
- Enhanced decision-making through timely and reliable data availability
- Reduced operational errors and improved workflow efficiency
- Empowered IT and analytics teams with advanced SQL skills
- Faster project delivery for data integration initiatives
- Scalable solutions for handling large and complex datasets
- Reduced dependency on manual data processing tasks
- Increased ROI on database and analytics infrastructure
- Standardized data integration practices across departments

Target Audiences

1. Data Analysts
2. Database Administrators
3. Business Intelligence Developers
4. IT Managers
5. Data Engineers
6. System Integrators

7. Reporting Specialists
8. SQL Developers

Course Duration: 5 days

Course Modules

Module 1: Introduction to Data Integration

- Overview of data integration concepts
- Importance of SQL in modern data management
- Types of data integration approaches
- Tools and technologies for SQL-based integration
- Key challenges and best practices
- Case Study: Integrating sales and inventory data for a retail chain

Module 2: SQL Fundamentals for Data Integration

- Writing basic and advanced SQL queries
- Understanding database schemas and relationships
- Data types, constraints, and normalization
- Using functions and operators for data transformation
- Indexing strategies for faster queries
- Case Study: Querying multiple tables for finance reporting

Module 3: Extract, Transform, Load (ETL) Concepts

- ETL process overview and workflow design
- Data extraction techniques from multiple sources
- Data transformation rules and standardization
- Loading data into target databases efficiently
- Automation and scheduling of ETL jobs
- Case Study: Building ETL pipeline for HR database

Module 4: Advanced SQL Techniques

- Subqueries, joins, and unions for complex queries
- Window functions and analytical queries
- Performance tuning and query optimization
- Handling nulls and missing data
- Advanced indexing and partitioning strategies
- Case Study: Optimizing customer analytics queries

Module 5: Data Quality and Validation

- Data profiling and integrity checks
- SQL techniques for data cleaning
- Deduplication and anomaly detection
- Implementing validation rules in ETL
- Logging and auditing data changes
- Case Study: Cleaning and validating marketing campaign data

Module 6: Integration from Multiple Sources

- Connecting to relational and non-relational databases
- Merging structured and semi-structured data
- Using SQL for cross-database integration
- Handling incremental data loads
- Resolving conflicts and data mapping issues
- Case Study: Combining ERP and CRM datasets for unified reporting

Module 7: Automation and Workflow Management

- Automating SQL scripts for recurring tasks
- Scheduling jobs with database management tools
- Monitoring integration workflows for errors
- Logging, notifications, and exception handling
- Version control and deployment of SQL scripts
- Case Study: Automated daily sales reporting pipeline

Module 8: Reporting and Analytics with Integrated Data

- Creating consolidated reports from integrated data
- Supporting dashboards and BI tools
- Real-time vs batch reporting considerations
- Query optimization for reporting performance
- Ensuring compliance and governance in reports
- Case Study: Financial dashboard for executive decision-making

Training Methodology

- Interactive lectures with real-time SQL demonstrations
- Hands-on exercises and practical labs
- Group discussions to explore real-world integration challenges
- Case study analysis to simulate enterprise scenarios
- Continuous assessments and feedback
- Access to online resources and learning material

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

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com