Data Cleaning 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 is the backbone of modern business decision-making. However, inaccurate, inconsistent, and incomplete data can significantly hinder an organization's ability to extract actionable insights. Data Cleaning with SQL Training Course is designed to equip professionals with the essential skills required to efficiently clean, standardize, and optimize large datasets using SQL. This course empowers participants to identify anomalies, eliminate redundancies, and ensure data integrity for accurate analysis and reporting. Participants will gain hands-on experience with SQL commands, functions, and advanced techniques tailored for practical real-world scenarios.

This course emphasizes practical application and industry-relevant examples, ensuring learners are ready to tackle data challenges in any sector. From enhancing data quality to improving operational efficiency, participants will develop critical thinking skills and a structured approach to data management. By the end of the course, attendees will confidently transform raw, unstructured data into clean, reliable, and analyzable datasets, ultimately supporting better business decisions.

Programme Curriculum

Data Cleaning with SQL Training Course

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Course Objectives

1. Master SQL queries for data cleaning and transformation
2. Identify and remove duplicate records using advanced SQL techniques
3. Handle missing, inconsistent, and malformed data efficiently
4. Apply data validation rules to ensure accuracy and consistency
5. Optimize large datasets for faster querying and reporting
6. Perform data type conversions and standardizations effectively
7. Implement data normalization techniques for structured datasets
8. Utilize SQL functions to automate repetitive cleaning tasks
9. Manage date, time, and numeric data anomalies
10. Integrate data cleaning processes into ETL workflows
11. Develop best practices for maintaining data integrity
12. Analyze real-world datasets to identify cleaning requirements
13. Create repeatable SQL scripts for continuous data quality improvement

Organizational Benefits

- Enhanced data quality and reliability for decision-making
- Improved efficiency in reporting and analytics processes
- Reduced errors and inconsistencies in critical datasets
- Streamlined data management workflows across departments
- Improved customer insights and operational performance
- Time-saving through automation of data cleaning tasks
- Increased confidence in business intelligence outputs
- Better compliance with data governance standards
- Scalable data cleaning processes for growing datasets
- Strengthened organizational data-driven culture

Target Audiences

1. Data analysts seeking to enhance data cleaning skills
2. Business intelligence professionals
3. Database administrators and developers
4. Data engineers and ETL specialists
5. Project managers working with data-driven projects
6. Marketing analysts handling large datasets
7. Financial analysts managing transactional data
8. IT professionals involved in data governance

Course Duration: 5 days

Course Modules

Module 1: Introduction to Data Cleaning with SQL

- Overview of data quality and importance of clean data
- Common data issues and anomalies
- SQL environment setup for data cleaning
- Introduction to key SQL functions for cleaning
- Understanding structured vs unstructured data
- Case Study: Cleaning a sales dataset with missing and duplicate records

Module 2: Handling Missing Data

- Techniques for detecting NULL values
- Replacing or imputing missing values
- Conditional data filling strategies
- Handling missing data in large tables efficiently
- Impact of missing data on analytics
- Case Study: Imputing missing customer records in a retail database

Module 3: Removing Duplicate Records

- Identifying duplicates using SQL queries
- Strategies for safe deletion of duplicates
- Advanced techniques with window functions
- Maintaining data integrity during deduplication
- Best practices for periodic deduplication
- Case Study: Deduplicating an employee database

Module 4: Data Standardization Techniques

- Converting data types for consistency
- Formatting text, numeric, and date values
- Standardizing categorical data
- Using SQL functions to automate standardization
- Validation checks after standardization
- Case Study: Standardizing product categories in e-commerce data

Module 5: Data Transformation and Cleaning Functions

- Using string functions for cleaning text data
- Date and time transformations
- Numeric data correction and rounding
- Combining multiple cleaning functions in queries
- Automation of repeated cleaning tasks
- Case Study: Transforming transactional records for reporting

Module 6: Advanced Data Cleaning Techniques

- Handling outliers and anomalies
- Conditional updates with CASE statements
- Joining tables for data correction
- Using subqueries for complex cleaning tasks
- Maintaining referential integrity
- Case Study: Correcting inconsistent order records across tables

Module 7: Data Validation and Quality Checks

- Writing validation queries to ensure accuracy
- Implementing data quality rules in SQL
- Using triggers and constraints for enforcement
- Monitoring data quality over time
- Logging and reporting cleaning results
- Case Study: Validating financial transactions in a banking dataset

Module 8: Integrating Cleaning Processes in ETL Workflows

- Automating cleaning tasks in ETL pipelines
- Scheduling SQL scripts for regular data cleaning
- Best practices for production-level workflows
- Performance optimization of cleaning queries
- Documentation and process standardization
- Case Study: Automating daily sales data cleaning in an ETL pipeline

Training Methodology

- Interactive instructor-led sessions with real-world examples
- Hands-on practical exercises using sample and live datasets
- Group discussions and problem-solving workshops
- Case studies to reinforce application of techniques
- Quizzes and assessments to evaluate learning progress
- Continuous feedback and doubt clearing sessions

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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Register Online Now

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