ETL Automation 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

ETL (Extract, Transform, Load) automation has become a cornerstone in modern data-driven enterprises, enabling organizations to streamline data integration, enhance operational efficiency, and improve data accuracy. ETL Automation Training Course is designed to equip participants with advanced skills in automating data pipelines using leading ETL tools and technologies, ensuring seamless data flow from multiple sources to target systems. Participants will gain hands-on experience, practical insights, and industry-relevant strategies that drive productivity and business intelligence outcomes.

With a focus on practical application and real-world scenarios, this course addresses the growing demand for data engineers and analytics professionals capable of managing complex ETL workflows. Participants will explore automation frameworks, error handling, data transformation techniques, and optimization strategies to deliver high-quality, timely data for decision-making. By the end of this course, learners will be proficient in designing, implementing, and maintaining automated ETL processes aligned with organizational objectives.

Programme Curriculum

ETL Automation Training Course

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Course Objectives

1. Understand the fundamentals of ETL processes and automation workflows.
2. Learn data extraction techniques from diverse structured and unstructured sources.
3. Master data transformation methods for cleaning, aggregation, and enrichment.
4. Implement efficient data loading strategies into target data warehouses.
5. Explore ETL automation tools and platforms such as Talend, Informatica, and Apache NiFi.
6. Apply advanced scheduling and orchestration techniques for automated pipelines.
7. Develop robust error handling and logging mechanisms for ETL processes.
8. Optimize ETL performance and ensure scalability in high-volume environments.
9. Integrate ETL processes with cloud platforms like AWS, Azure, and Google Cloud.
10. Conduct data validation, testing, and quality assurance for automated ETL.
11. Monitor and maintain ETL pipelines using dashboards and reporting tools.
12. Design data workflows aligned with organizational analytics objectives.
13. Implement real-world ETL automation projects with best practices.

Organizational Benefits

- Improved data processing efficiency and reduced manual errors.
- Enhanced business intelligence and timely insights for decision-making.
- Scalable ETL workflows capable of handling large data volumes.
- Cost savings through optimized automation processes.
- Better compliance with data governance standards and regulations.
- Streamlined reporting and analytics for strategic initiatives.
- Increased productivity of data engineering and analytics teams.
- Faster integration of new data sources into the enterprise ecosystem.
- Enhanced collaboration between IT and business units.
- Improved ROI on data management and analytics investments.

Target Audiences

1. Data Engineers and Data Analysts
2. Business Intelligence Professionals
3. IT Professionals working on data integration
4. Database Administrators
5. Cloud Engineers and Architects
6. Data Scientists focusing on analytics pipelines
7. Project Managers overseeing ETL initiatives
8. Students and fresh graduates aiming for ETL careers

Course Duration: 5 days

Course Modules

Module 1: Introduction to ETL Automation

- Overview of ETL concepts and importance
- Key components of ETL automation
- ETL automation trends and industry applications
- Common challenges and mitigation strategies
- Case study: Automating ETL for a retail sales dataset
- Hands-on lab: Setting up your first ETL automation project

Module 2: Data Extraction Techniques

- Extracting data from databases, files, and APIs
- Handling structured and unstructured data
- Scheduling data extraction for automation
- Error handling during extraction
- Case study: Extracting multi-source financial data
- Hands-on lab: Automating extraction with Python scripts

Module 3: Data Transformation Strategies

- Data cleaning and standardization
- Aggregation and enrichment methods
- Handling missing or inconsistent data
- Advanced transformation using ETL tools
- Case study: Transforming healthcare records for analytics
- Hands-on lab: Implementing transformations using Talend

Module 4: Data Loading Techniques

- Loading data into data warehouses and lakes
- Incremental vs full load strategies
- Batch vs real-time loading methods
- Optimizing data load performance
- Case study: ETL load for e-commerce analytics
- Hands-on lab: Automating loading with Informatica

Module 5: ETL Automation Tools and Platforms

- Overview of popular ETL automation tools
- Tool comparison: Talend, Informatica, Apache NiFi
- Selection criteria for enterprise projects
- Integration with existing IT infrastructure
- Case study: Tool selection for multi-department integration
- Hands-on lab: Building pipelines using a selected ETL tool

Module 6: Scheduling and Orchestration

- Workflow orchestration best practices
- Scheduling ETL jobs efficiently
- Automating triggers and dependencies
- Monitoring job execution
- Case study: Orchestrating end-to-end ETL for logistics
- Hands-on lab: Configuring automated schedules with Apache Airflow

Module 7: Error Handling and Logging

- Designing robust ETL error handling
- Logging techniques for traceability
- Notifications and alerts for failures
- Debugging common ETL issues
- Case study: Troubleshooting ETL errors in banking data
- Hands-on lab: Implementing logging and alerting mechanisms

Module 8: Performance Optimization

- ETL performance tuning techniques
- Scalability and parallel processing
- Reducing latency in data pipelines
- Resource management strategies
- Case study: Optimizing ETL for large social media datasets
- Hands-on lab: Benchmarking ETL jobs for efficiency

Training Methodology

- Interactive lectures with practical examples
- Hands-on labs and live ETL automation exercises
- Real-world case studies and problem-solving scenarios
- Group discussions and knowledge-sharing sessions
- Step-by-step guidance on building automated pipelines
- Continuous assessment with quizzes and exercises

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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