MERCURY

Extract, Transform, Load (ETL) and Extract, Load, Transform (ELT)

13 – 17 June 2027
Istanbul (Turkey)



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Ref: 15817_329171 **Date:** 13 – 17 June 2027 **Location:** Istanbul (Turkey) **Fees:** 5500 Euro

Introduction:

In data management and integration, Extract, Transform, Load ETL and Extract, Load, Transform ELT are pivotal methodologies that facilitate the movement and processing of data from various sources into a unified data repository. ETL involves a sequential process where data is extracted from diverse source systems, then transformed into a suitable format for analysis, and finally loaded into a target data warehouse or database. This traditional approach emphasizes the importance of data cleansing and transformation before loading, ensuring that high-quality, relevant data is stored for business intelligence and analytics.

ELT has emerged as a modern alternative that shifts the transformation process to occur after the data is loaded into the target system. This method takes advantage of data platforms' processing power, allowing raw data to be stored first and transformed later for analytics. ELT provides greater flexibility and scalability, accommodating the growing volumes of data generated in today's digital landscape. ETL and ELT enable organizations to harness their data, make informed decisions, and drive business success. Understanding each approach's strengths and appropriate applications is essential for modern data integration strategies.

This Extract, Transform, Load ETL and Extract, Load, Transform ELT course provides participants with an understanding of extract, transform, load ETL and extract load, transform ELT processes, their definitions, and practical applications. It explores the meaning of ETL, answers questions such as "What is extract transform load?" and dives into the ETL process, including ETL tools, ETL best practices, and its integration with SQL server for seamless data handling. They will learn how ETL extract transform load forms the backbone of data warehouse operations, enabling the movement and transformation of data.

Understanding the Differences Between ETL vs. ELT:

This Extract, Transform, Load ETL and Extract, Load, Transform ELT training covers the differences between ETL vs. ELT. It illustrates how ELT extract load transform adapts to modern cloud architectures for faster and more scalable data processing. Attendees will master the extract transform load process, understand data warehouse ETL workflows, and gain insights into ELT training and its best practices. It is perfect for those seeking expertise in data engineering and analytics using industry-standard methodologies.

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Targeted Groups:

- Data engineers are responsible for data integration processes.
- Business analysts are seeking to extract insights from data.
- Database administrators are managing data warehouses and data lakes.
- IT professionals involved in data architecture and infrastructure.
- Data scientists are looking to prepare data for machine learning models.
- Organizations transitioning to cloud-based data solutions.
- Companies deal with large volumes of data from multiple sources.
- Project managers are overseeing data-driven projects.
- Executives need to make informed decisions based on data.
- Analytics teams focused on business intelligence reporting.
- Marketing teams analyze customer data for targeted campaigns.
- Compliance officers ensure data integrity and governance.
- Researchers conducting data analysis for academic or commercial purposes.
- Consultants advising businesses on data strategy and implementation.
- Technical trainers are educating teams on ETL and ELT best practices.

Course Objectives:

At the end of this Extract, Transform, Load ETL and Extract, Load, Transform ELT course, the participants will be able to:

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- Understand the fundamental concepts of ETL and ELT processes.
- Learn to design effective data extraction strategies.
- Acquire skills in transforming data for analysis and reporting.
- Gain expertise in loading data into various storage systems.
- Explore the differences and applications of ETL and ELT.
- Develop the ability to create and manage data pipelines.
- Familiarize with industry-standard tools and technologies used in ETL and ELT.
- Learn best practices for data quality assurance and profiling.
- Understand data governance principles related to ETL and ELT.
- Explore the integration of cloud technologies in data management.
- Apply knowledge to real-world data management scenarios.
- Enhance problem-solving skills for data integration challenges.
- Develop collaborative skills for working with data teams.
- Evaluate performance metrics for ETL and ELT processes.
- Prepare for future trends in data management and analytics.

Targeted Competencies:

By the end of this Extract, Transform, Load ETL and Extract, Load, Transform ELT training, the participant's competencies will:

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- Proficiency in data extraction techniques.
- Skills in data transformation methods and tools.
- Understanding of data loading processes and strategies.
- Familiarity with ETL and ELT frameworks.
- Ability to design and implement data pipelines.
- Knowledge of data warehousing concepts.
- Experience with cloud-based data platforms.
- Competence in SQL and database management.
- Analytical skills for data profiling and quality assessment.
- Familiarity with data integration tools and software.
- Understanding of data governance and compliance requirements.
- Problem-solving skills for data-related challenges.
- Collaboration skills for working with cross-functional teams.
- Awareness of best practices in data management.
- Ability to adapt to evolving data technologies and trends.

Course Content:

Unit 1: Introduction to ETL and ELT:

- Define ETL and ELT and their significance in data management.
- Explore the historical context and evolution of ETL and ELT.
- Discuss the key differences between ETL and ELT methodologies.
- Identify scenarios where ETL is more suitable than ELT.
- Examine cases where ELT offers advantages over ETL.
- Highlight the role of SQL in both ETL and ELT processes.
- Introduce common use cases for data extraction, transformation, and loading.

Unit 2: Data Extraction Techniques and Tools:

- Discuss various data sources such as databases, APIs, and flat files.
- Explore methods for extracting data efficiently.
- Understand incremental extraction and full extraction approaches.
- Learn how to handle different data formats, including structured and unstructured data.
- Introduce SQL queries for data extraction from relational databases.
- Examine tools and technologies for data extraction.
- Address challenges associated with data extraction, including performance and security.

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Unit 3: Data Transformation Processes:

- Define data transformation and its importance in data quality.
- Discuss different types of transformations, including filtering, aggregation, and mapping.
- Learn how to perform data cleansing to improve data integrity.
- Explore advanced transformation techniques such as joining and pivoting data.
- Understand how to use SQL for complex transformations.
- Examine tools that facilitate data transformation in ETL and ELT.
- Discuss the impact of transformation on overall data usability.

Unit 4: Data Loading Strategies:

- Identify various data storage options, including data warehouses and data lakes.
- Discuss the loading process in both ETL and ELT contexts.
- Learn how to choose the right loading strategy for different data types.
- Explore batch loading versus real-time loading techniques.
- Understand the importance of monitoring and logging during the loading process.
- Examine the use of SQL for loading data into target systems.
- Discuss potential issues in the loading phase and how to mitigate them.

Unit 5: Best Practices and Future Trends in ETL and ELT:

- Explore best practices for designing ETL and ELT processes.
- Discuss the importance of documentation and metadata management.
- Learn how to optimize ETL and ELT performance.
- Examine the role of automation and orchestration tools.
- Discuss the integration of cloud technologies in ETL and ELT processes.
- Explore emerging trends such as data virtualization and real-time analytics.
- Prepare for future developments in data management technologies and methodologies.