

Data Analytics Project

10. ETL VS ELT - Data Preparation Processes



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WHAT is ETL & ELT?

ETL and ELT represent *variations of the same data pipeline process*, with *different step sequences* for distinct use cases.

ETL (Extract, Transform, Load):

1. Collect data from diverse sources.
2. Transform data before loading into a database.

ELT (Extract, Load, Transform):

1. Load raw data directly into storage.
2. Transform data during usage as needed.



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THREE STEPS in Process (*Extract*)

Any of the processes (ETL or ELT) consists of THREE steps.

EXTRACT STEP:

1. *First Step* in both cases (ETL & ELT).
2. Data is gathered from various sources.
3. **Sources:** NoSQL, Flat Files, XML Files



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THREE STEPS in Process (*Transform*)

TRANSFORM STEP:

1. Second Step in ETL & Third Step in ELT Process.
2. Source data is converted into the required format.
3. Tasks like Data Cleaning, joining, aggregations, sorting, validations, etc. are parts of this step.



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THREE STEPS in Process (*Load*)

LOAD STEP:

1. Third Step in ETL & Second Step in ELT Process.
2. Transformed or Collected Data (Based on used technique) is loaded into the database for querying.
3. Database schema rules ensure data integrity, uniqueness, and consistency.



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THANK YOU!!! FOR YOUR SUPPORT! For Now...

Keep Learning, Keep Sharing & Keep Following
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