BI Unit 2- Part 2
Topic: Business Intelligence Architecture

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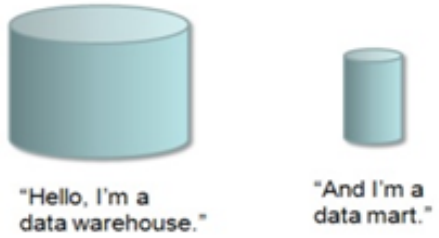
Topics :

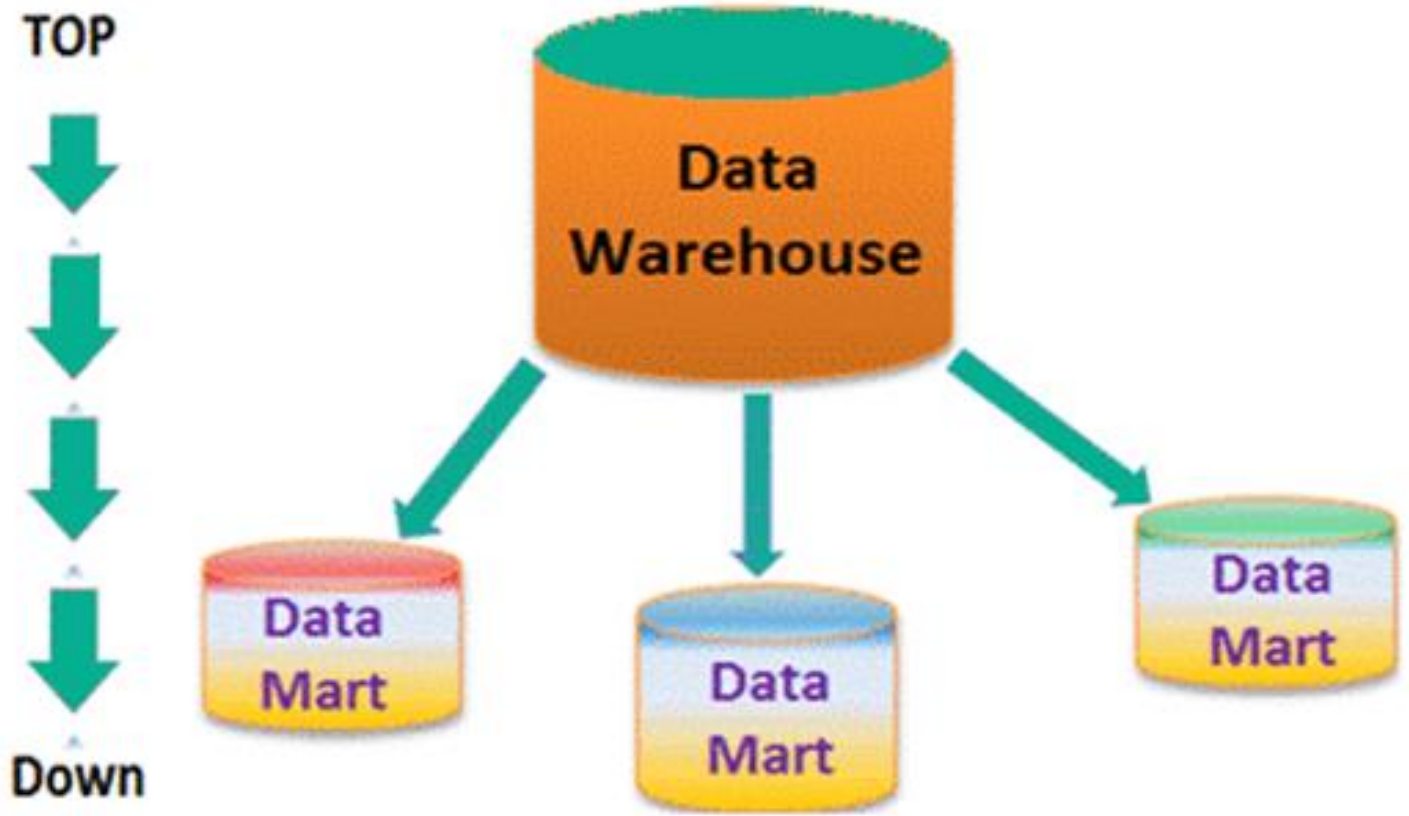
- Differentiate between DWH and Data Marts
- ELT
- Differentiate between ELT and ETL
- Advantages of ELT
- Data Lakes

Differentiate between DWH and Data Marts

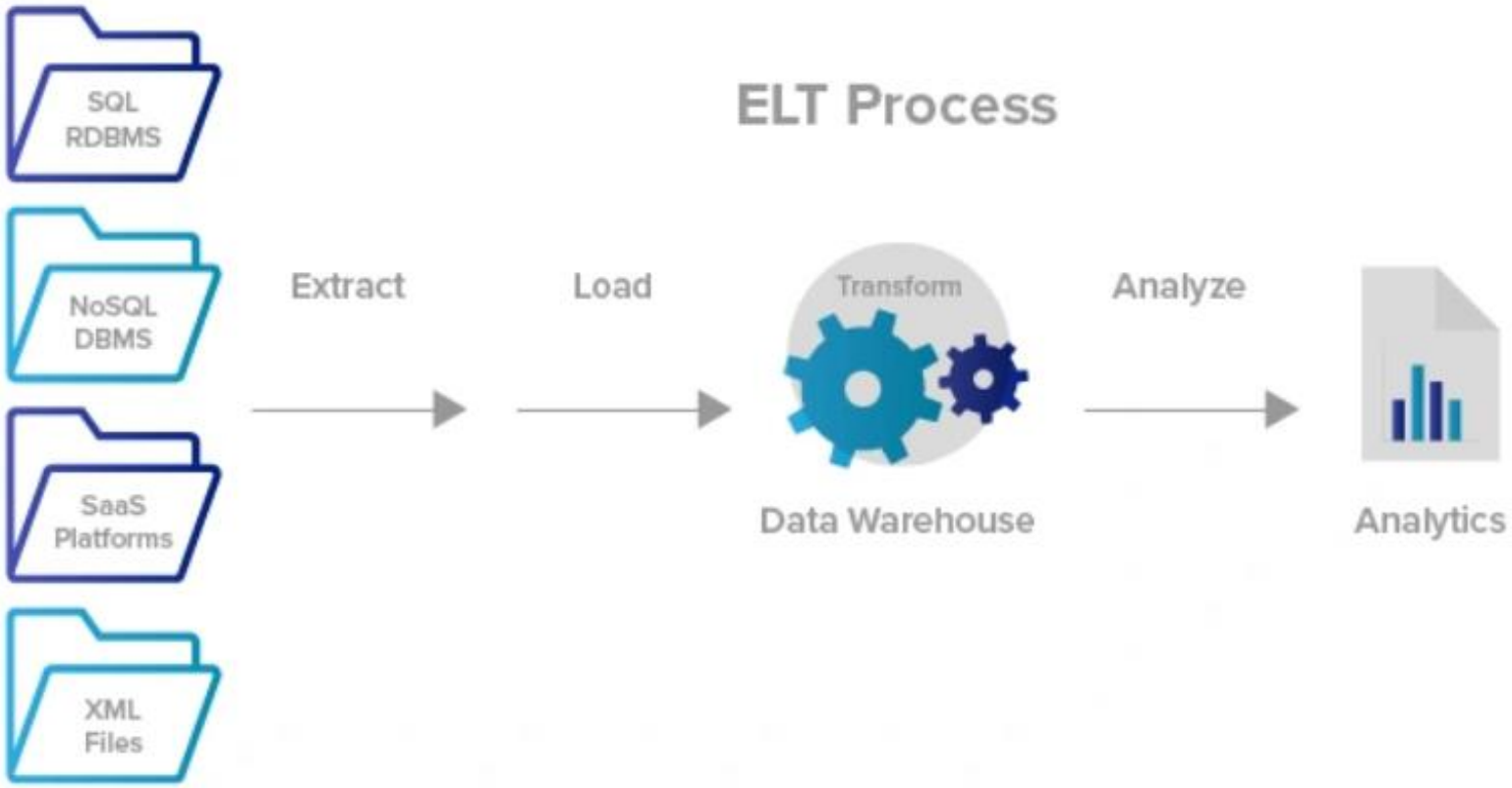


Data Mart	Data Warehouse
• Often holds only one subject area- for example, Finance, or Sales	• Holds multiple subject areas
• May hold more summarized data (although many hold full detail)	• Holds very detailed information
• Concentrates on integrating information from a given subject area or set of source systems	• Works to integrate all data sources
• Is built focused on a dimensional model using a star schema.	• Does not necessarily use a dimensional model but feeds dimensional models

Differentiate between DWH and Data Marts



ELT


ELT Process
SQL RDBMS
NoSQL DBMS
SaaS Platforms
XML Files
Extract
Load
Transform
Analyze
Data Warehouse
Analytics

ELT

- ELT stands for "Extract, Load, and Transform." In this process, data gets leveraged via a data warehouse in order to do basic transformations.
- That means there's no need for data staging.
- ELT uses cloud-based data warehousing solutions for all different types of data - including structured, unstructured, semi-structured, and even raw data types.

ELT

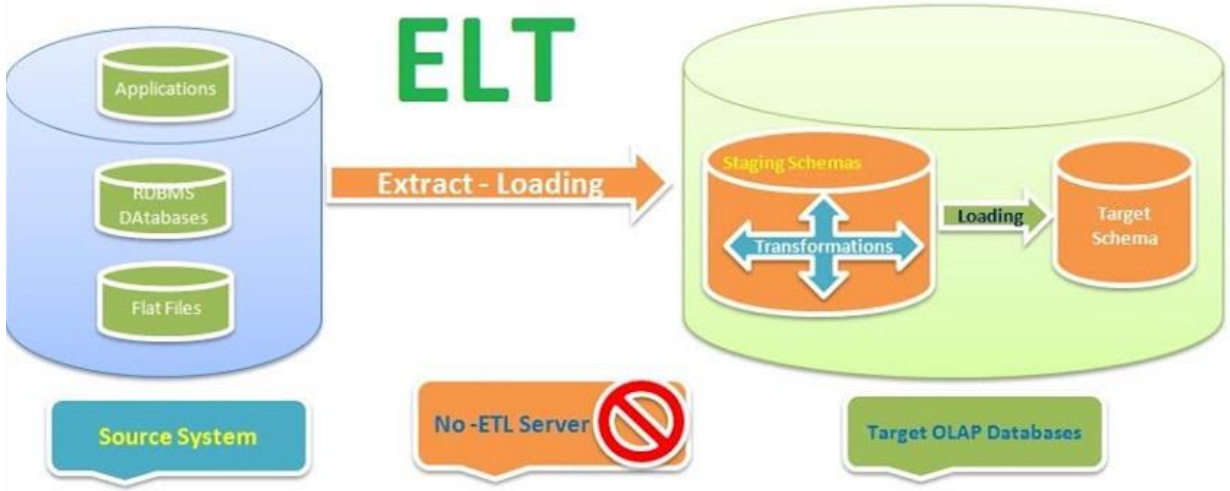
- The primary advantage of ELT over ETL relates to flexibility and ease of storing new, unstructured data.
- Other benefits:

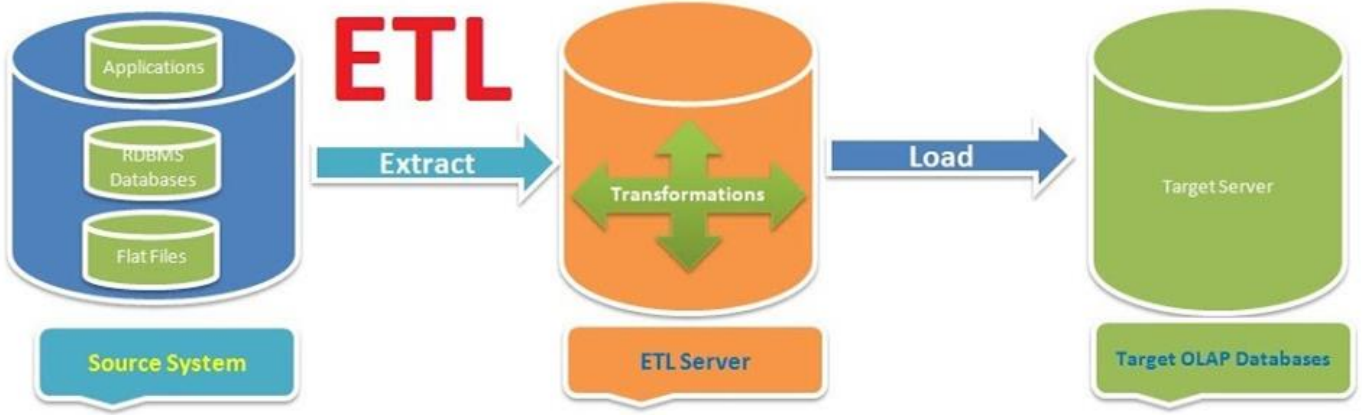
#1: High Speed

#2: Low-Maintenance

3#: Quicker Loading

ELT and ETL


ELT
Applications
RDBMS DAtabases
Flat Files
Extract - Loading
Staging Schemas
Transformations
Loading
Target Schema
Source System
No -ETL Server
Target OLAP Databases


ETL
Applications
RDBMS Databases
Flat Files
Extract
Transformations
Load
Target Server
Source System
ETL Server
Target OLAP Databases

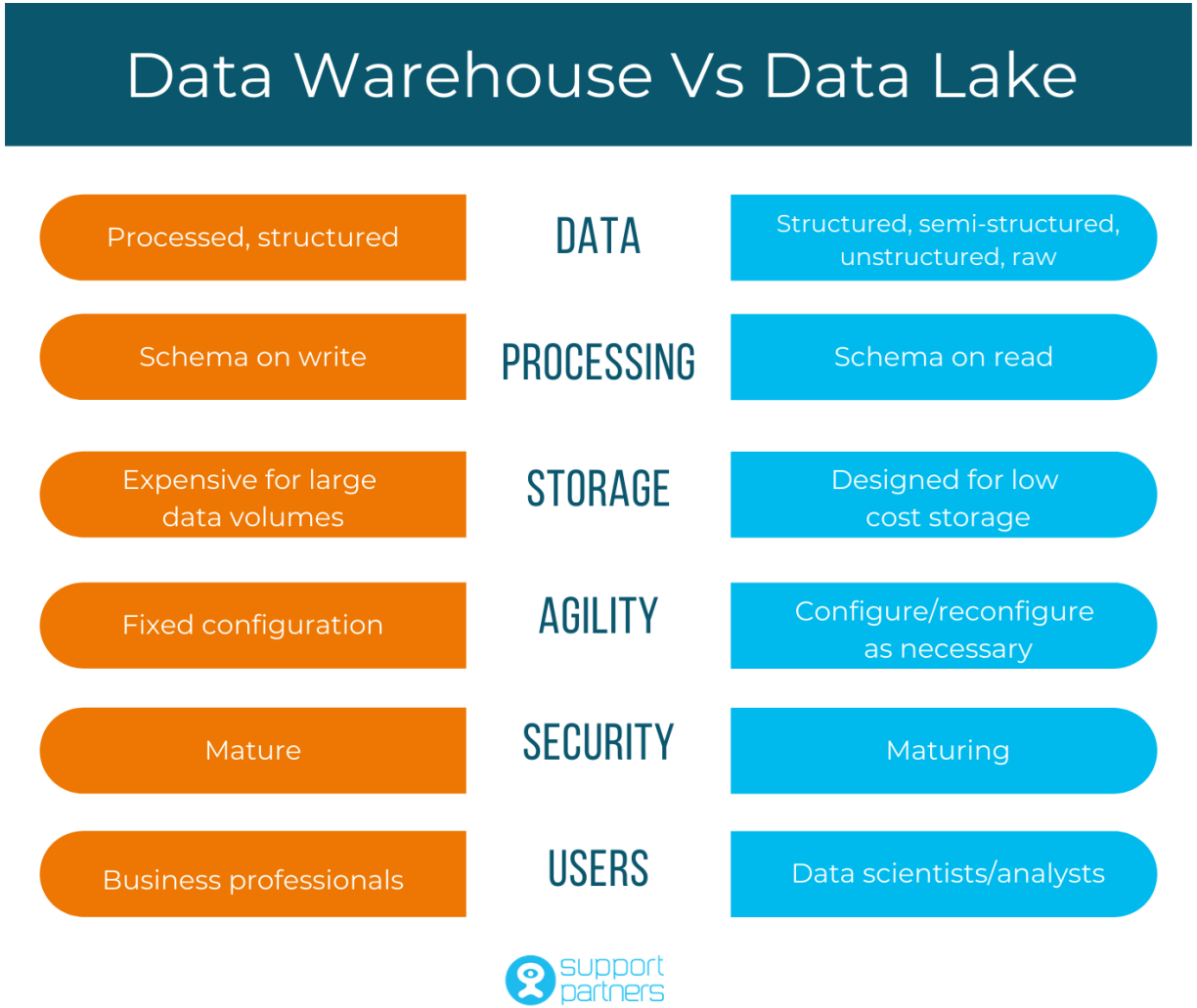
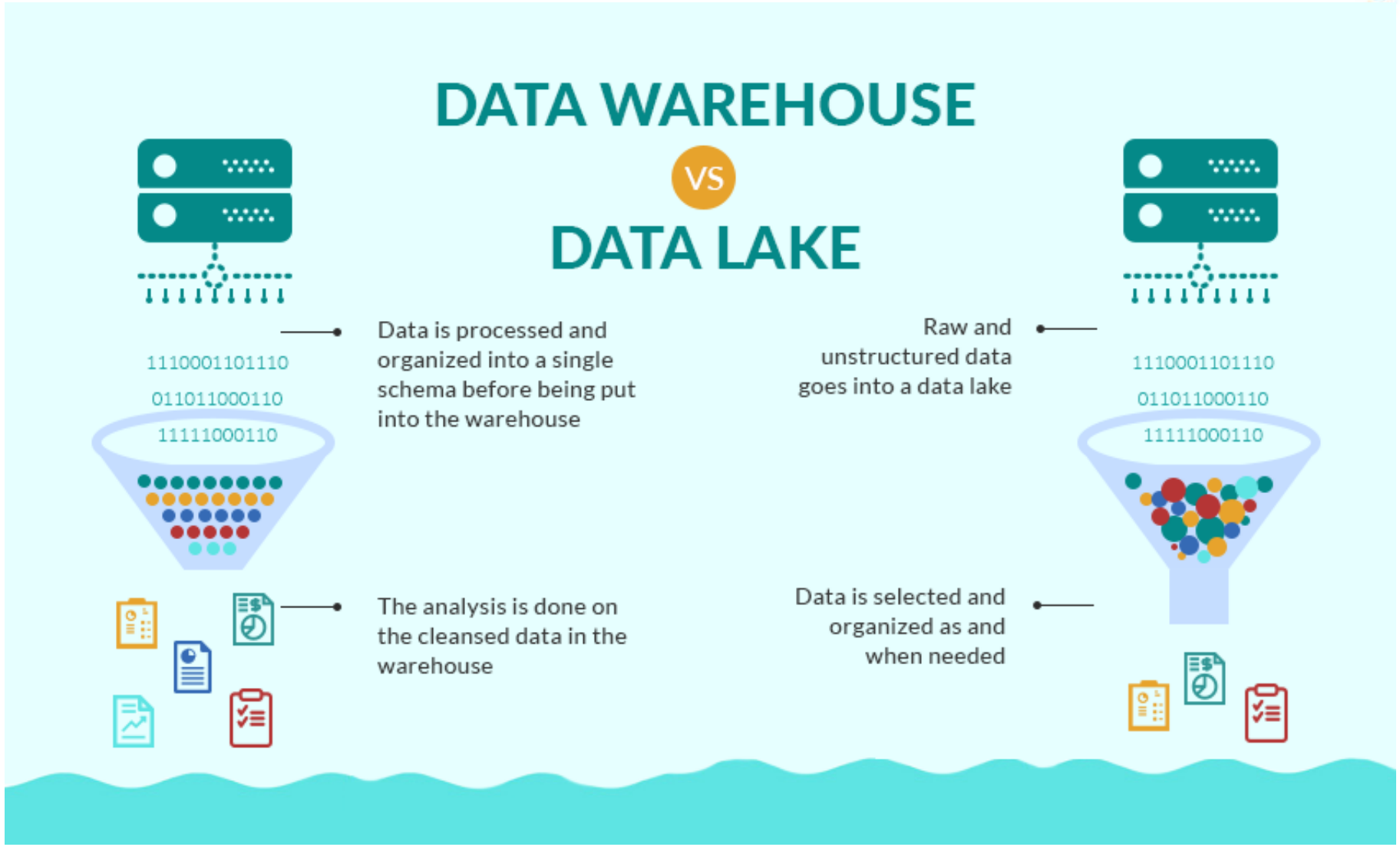
ELT and ETL

- ETL stands for Extract, Transform, and Load, while ELT stands for Extract, Load, and Transform.
- In ETL, data flow from the data source to staging to the data destination.
- ELT lets the data destination do the transformation, eliminating the need for data staging.
- ETL can help with data privacy and compliance, cleansing sensitive data before loading into the data destination, while ELT is simpler and for companies with minor data needs.

Data Lake

- A data lake is a centralized repository that allows you to store all your structured and unstructured data at any scale.
- Examples. Many companies use cloud storage services such as Google Cloud Storage.

DWH and Data Lake



DWH and Data Lake