Data Engineer FellowShip with Bytewise Limited.

Meer Danish 15/March/2023

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Task # 3

# Can a database be used as DWH?

Yes, a database can be used as a data warehouse (DWH) with the right design and optimization to support data integration, cleaning, transformation, query optimization, and data modeling.

# Major differences between structured and Unstructured data.?

Structured data is highly organized and follows a specific format, with clearly defined fields and values, whereas unstructured data has no specific format and is not organized in a predefined manner. Structured data can be easily stored, processed, and analyzed using traditional relational databases, while unstructured data requires specialized tools and techniques, such as natural language processing and machine learning, to extract insights and value. Structured data includes information such as numbers, dates, and addresses, while unstructured data includes text, images, video, and audio.

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# What are the duties of a data engineer?

A data engineer is responsible for the design, implementation, and maintenance of an organization's data infrastructure. Some of the key duties of a data engineer include:

* Designing and building data pipelines: Data engineers design and build the data pipelines that extract data from various sources, transform it, and load it into data storage systems.
* Creating and maintaining databases: Data engineers design and implement databases to store structured and unstructured data, ensuring that the data is organized and can be accessed quickly.
* Ensuring data quality: Data engineers monitor and maintain data quality by implementing data validation rules and conducting regular data quality checks.
* Collaborating with data scientists and analysts: Data engineers work closely with data scientists and analysts to ensure that data is available and accessible for analysis and reporting.
* Developing data solutions: Data engineers develop data solutions to address specific business needs, such as data integration, data warehousing, and data migration.
* Ensuring data security: Data engineers ensure that data is protected by implementing appropriate security measures, such as encryption and access controls.
* Staying up-to-date with emerging technologies: Data engineers keep up with the latest developments in data engineering and related technologies to ensure that their organization's data infrastructure is efficient, scalable, and secure.