MongoDB

VS

SQL

Professional Pitching presentation
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Introduction

What is MongoDB?

A NoSQL database that stores data in a flexible, document-oriented format

What is SQL?

A relational database that uses structured tables with rows and columns, often relying on a structured query language (SQL) for data manipulation.
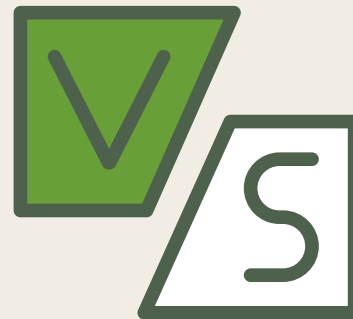
Mention the importance of understanding the differences to make an informed choice for a project.
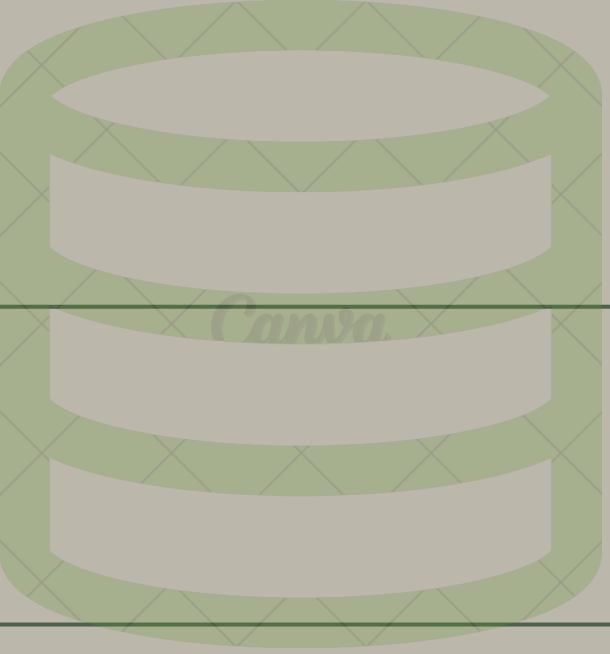
Data Models: Structured vs. Flexible

MongoDB

- Stores data in flexible, hierarchical documents (BSON/JSON).
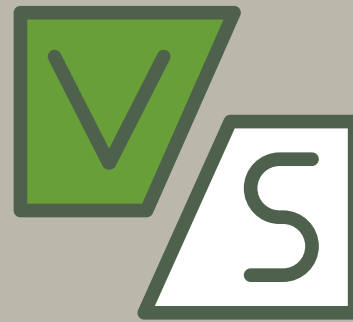- No strict schema required; fields can vary between documents.

SQL

- Structured schema with predefined tables.
- Relationships modeled using keys (primary, foreign).

SQL vs. MongoDB Query Language (MQL)

MongoDB

vs

SQL

- Queries written in JavaScript-like syntax (MQL).
- Example: { age: { $gt: 30 } }

- Uses structured query language (SQL) for complex joins and operations.
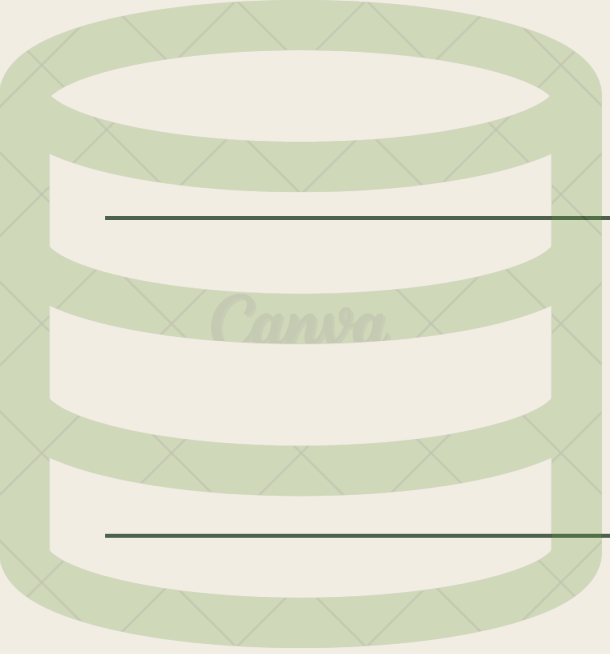- Example: SELECT * FROM users WHERE age > 30;

Performance: Scale and Speed

MongoDB

VS

SQL

- Horizontally scalable (sharding).
- Optimized for large-scale, unstructured data.
- Best for real-time applications.

- Vertical scalability (scaling hardware).
- Optimized for complex transactions and relationships.
- Best for structured, transactional data.

When to Use MongoDB vs. SQL

MongoDB

Ideal for:
- Big Data
- Real-time analytics
- Applications with rapidly evolving schemas.

SQL

Ideal for:
- Financial systems
- Inventory management
- Applications requiring ACID compliance.