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TYPE OF DATABASES

A database is a collection of data that is kept on a computer. Databases are used for anything from storing photos on your computer to shopping online and stock market analysis. Databases allow computers to store important data in an orderly, searchable format.

Database technology has progressed over time, and so have the various sorts of databases. There are currently a variety of database types, each with its own set of strengths and drawbacks dependent on how they are built. Understanding the various types of databases is very important for organizations to ensure that they have the most effective setup; however, some individuals may need to learn this as well.

Relational Database

Relational databases, on the other hand, are the opposite of NoSQL databases. A relational database stores data that is arranged around other data. The link between a person purchasing online and their shopping cart is a fantastic example of a relational database. When data integrity is an issue or scalability isn't a priority, relational databases are frequently the best choice.

Examples: Microsoft SQL Server, Oracle Database, MySQL, PostgreSQL and IBM Db2

Analytical Database

A read-only system that keeps historical data on business indicators such as sales performance and inventory levels is an analytic database, often known as an analytical database. An analytic database is used by business analysts, corporate executives, and other employees to conduct queries and reports. The data is updated on a regular basis to reflect the most recent transaction data from a company's operational systems.

Examples: HP Vertica, Pivotal Greenplum, Teradata, Paracel / Actian.

Key-value Database

Key-value databases are one of the most basic types of NoSQL databases, storing data as a group of key-value pairs, each of which contains two data items. They're also referred to as a key-value store on occasion. Session management for web applications, user sessions for enormous multi-player online games, and online shopping carts are all activities that benefit from key-value databases' scalability and ability to handle high levels of traffic.

Examples: Amazon DynamoDB, Redis

Column-Family Database

A column family is a database entity that has linked data columns in its columns. It's a tuple (pair) made up of a key-value pair, with the key mapped to a collection of columns as the value. A column family acts as a "table," with each key-value pair acting as a "row," similar to relational databases. A tuple (triplet) consists of a column name, a value, and a timestamp for each column. This data would be placed together in a table with other unrelated data in a relational database table.

Examples: Bigtable, Cassandra, HBase, Vertica, Druid, Accumulo

Graph Database

Graph databases are databases that place equal emphasis on data and connections between it. The data in this database isn't restricted to established models. When you do a search in most other databases, you can find links between data. With a graph database, these relationships are preserved alongside the original data in the database. When your primary goal is to manage the links between your data, this results in a more efficient and speedier database.

Examples: Datastax Enterprise Graph, Neo4J

Document Database

Instead of rows and columns, document databases, also known as document stores, utilize JSON-like documents to model data. Document databases, also known as document-oriented databases, are designed to store and manage document-oriented data, also known as semi-structured data. Document databases are easy to use and scale, making them ideal for mobile apps that require frequent updates.

Examples: MongoDB, Amazon DocumentDB, Apache CouchDB