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TYPES OF DATABASES

Centralized database

A centralized database is one that operates entirely within a single location. Centralized databases are typically used by bigger organizations, such as a business or university. The database itself is located on a central computer or database system. Users can access the database through a computer network, but it is the central computer that runs and maintains the database.

Cloud database

A cloud database is one that runs over the Internet. The data is stored on a local hard drive or server, but the information is available online. This makes it easy to access your files from anywhere, as long as you have an Internet connection. To use a cloud database, users can either build one themselves or pay for a service to store their data for them. Encryption is an essential part of any cloud database, as all information needs to be protected as it is transmitted online.

Commercial database

A commercial database is any that is designed by a commercial business. Businesses develop feature-rich databases, which they then sell to their customers. Commercial databases can vary in terms of composition or the technology they use. The defining trait of commercial databases is having users pay to use them, unlike open source databases.

Distributed database

A distributed database is one that is spread out over multiple devices. Rather than having all information stored on a single device, like other databases on this list, distributed databases will operate across multiple machines, such as different computers within the same location or across a network. The benefits of a distributed database include increased speed, better reliability and ease of expansion.

End-user database

End-user is a term used in product development that refers to the person who uses the product. An end-user database is, therefore, a database that is primarily used by a single person. A good example of this type of database is a spreadsheet stored on your local computer.

Graph database

Graph databases are databases that focus equally on the data and the connections between them. In this database, data is not constricted to predefined models. Most other databases can find connections between data when you run a search. With a graph database, these connections are stored inside the database right alongside the original data. This makes for a more efficient and faster database when your primary goal is to manage the connections between your data.

NoSQL database

A NoSQL database has a hierarchy similar to a file folder system and the data within it is unstructured, or non-relational. This lack of structure allows them to process larger amounts of data at speed and makes it easier to expand in the future. Cloud computing regularly makes use of NoSQL databases.

Object-oriented database

Object-oriented databases are ones in which data is represented as objects and classes. An object is an item, such as a name or phone number, while a class is a group of objects. Object-oriented databases are a type of relational database. Consider using an object-oriented database when you have a large amount of complex data that you want to process quickly.

Open-source database

An open-source database is designed for the public to use for free. Unlike commercial databases, users can download or sign up for open source databases without paying a fee. The term "open source" refers to a program in which users can see how it was written and constructed and are free to make their own changes to the program. Open-source databases are typically much cheaper than commercial databases, but they can also lack some of the more advanced features found in commercial databases.

Operational database

The purpose of an operational database is to allow users to modify data in real time. Operational databases are critical in business analytics and data warehousing. They can be set up either as relational databases or NoSQL, depending on needs. Conventional databases rely on batch processing, where commands are carried out in groups. Operational databases, on the other hand, allow you to add, edit and remove data at any moment.

Personal database

A personal database is one that is designed for a single person. It is typically stored on a personal computer and has a very simple design, consisting of only a few tables. Personal databases are not typically suitable for complex operations, large amounts of data or business operations.

Relational database

Relational databases are the other major type of database, opposite of NoSQL. With a relational database, information is stored structured about other data. A good representation of a relational database would be the connection between a person shopping online and their shopping cart. Relational databases are often preferred when you are concerned about the integrity of your data, or when you're not particularly focused on scalability.