

DATABASE



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A database is an organized collection of data, so that it can be easily accessed and managed. Data can be organized into tables, rows, columns, and index it to make it easier to find relevant information. The main purpose of the database is to operate a large amount of information by storing, retrieving, and managing data.

FILE VS DATABASE

A database is generally used for storing related, structured data, with well-defined data formats, in an efficient manner for insert, update and/or retrieval (depending on application). On the other hand, a file system is a more unstructured data store for storing arbitrary data. The file system is more general, and databases are built on top of the general data storage services provided by file systems.

STRUCTURED QUERY LANGUAGE

SQL is a standard language for accessing and manipulating databases. SQL or Structured Query Language is used to operate on the data stored in a database. Although SQL is an ANSI/ISO standard, there are different versions of the SQL language. However, to be compliant with the ANSI standard, they all support at least the major commands (such as SELECT, UPDATE, DELETE, INSERT, WHERE) in a similar manner.

RDBMS stands for Relational Database Management System. RDBMS is the basis for SQL, and for all modern database systems. The data in RDBMS is stored in database objects called tables. A table is a collection of related data entries and it consists of columns and rows. Every table is broken up into smaller entities called fields. A field is a column in a table that is designed to maintain specific information about every record in the table. A record, also called a row, is each individual entry that exists in a table.

STRUCTURED QUERY LANGUAGE

Columns stores a specific data type

↓

Row →
Or record

Emp No	Name	Age	Department	Salary
001	Alex S	26	Store	5000
002	Golith K	32	Marketing	5600
003	Rabin R	31	Marketing	5600
004	Jons	26	Security	5100

QUERY

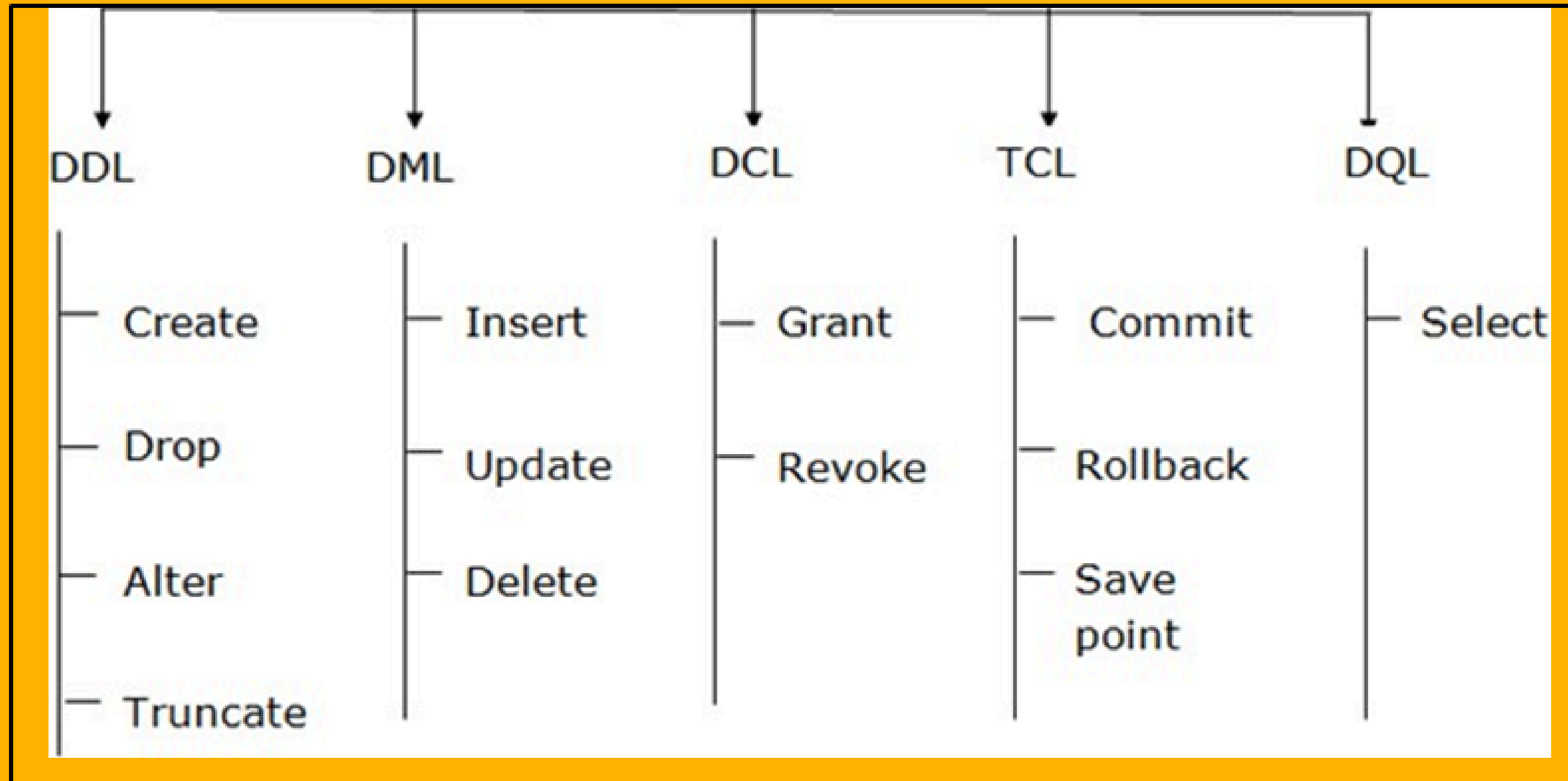
A database query is a way of requesting information from the database. A database query can be either a select query or an action query. A select query is a query for retrieving data, while an action query requests additional actions to be performed on the data, like deletion, insertion, and updating.

CATEGORIES OF SQL COMMANDS

SQL commands are mainly categorized into five categories:

- DDL – Data Definition Language
- DQL – Data Query Language
- DML – Data Manipulation Language
- DCL – Data Control Language
- TCL – Transaction Control Language

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