

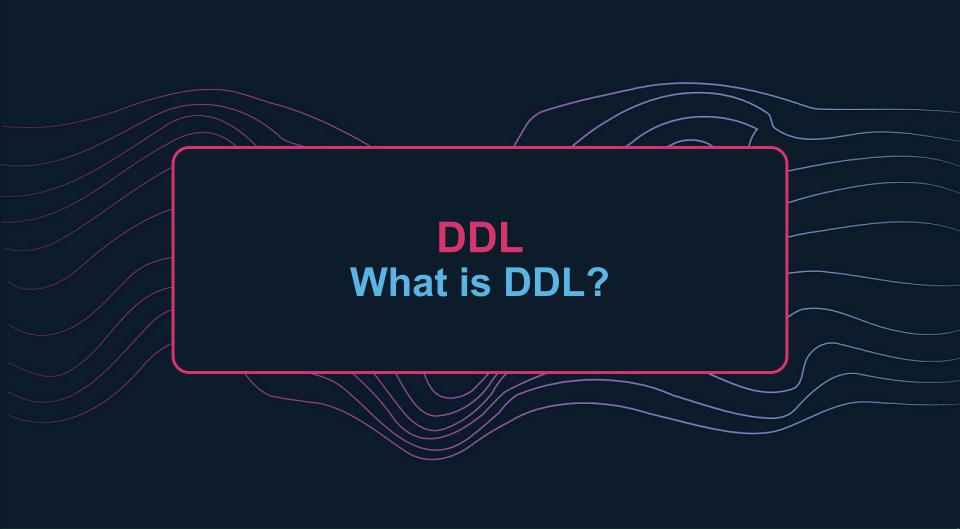
SQL DDL & CTE Statements

Prepared by WeCloudData

DDL Statements

CTE Statements

Agenda.



What is DDL?

Data Definition Language

The DDL commands in SQL are used to **create database schema** and to **define the type** and structure of the data that will be stored in a database.

SQL DDL commands are further divided into the following major categories:

- CREATE
- ALTER
- DROP
- TRUNCATE



Create

The CREATE query is used to create a database or objects such as tables, views, stored procedures, etc.

Creating a database:

```
CREATE DATABASE superstore;
```

Creating a table:

```
CREATE TABLE customers (
  CustomerID INT,
  CustomerName VARCHAR(100),
  Province VARCHAR(50),
  Region VARCHAR(30),
  CustomerSegment VARCHAR(20)
);
```

Alter

The ALTER command in SQL DDL is used to modify the structure of an already existing table.

Adding a new column

```
ALTER TABLE customers
ADD CustomerAddress varchar(200);
```

Dropping the existing column

```
ALTER TABLE customers
DROP COLUMN CustomerAddress;
```

 Modifying the existing column (Increase/Decrease size of the column & change the data type of the column)

```
ALTER TABLE customers
MODIFY COLUMN Province varchar(30);
```

Renaming a column

```
ALTER TABLE customers
RENAME COLUMN Province to Province_verified;
```



Orop

The DROP command is a type of SQL DDL command, that is used to delete an existing database or an object within a database.

Deleting a database

DROP DATABASE IF EXISTS superstore;

Deleting a table

DROP TABLE IF EXISTS customers;



Truncate

The TRUNCATE command in SQL DDL is used to remove all the records from a table, but keep the table structure. Let's insert a few records in the Customers table:

```
INSERT INTO customers

VALUES ('40732966','Tamara

Dahlen,','Ontario','Corporate'),
  ('68464052','Bill Donatelli','Ontario','Ontario','Corporate')
```

below:

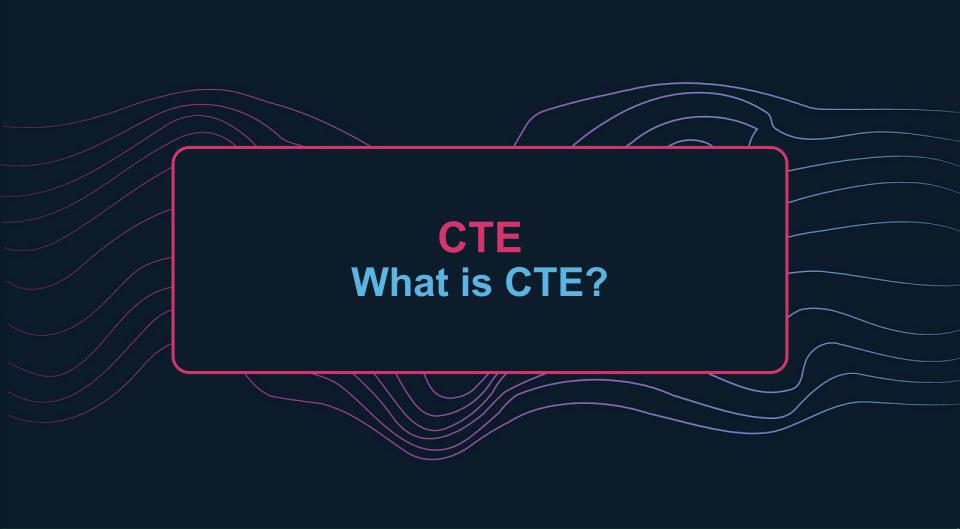
TRUNCATE TABLE customers

If you again select all the records from the Customers table, you will see that the table is empty.

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What is CTE?

Common Table Expression

It is a temporary named result set that you can reference within a SELECT, INSERT, UPDATE, or DELETE statement. You can also use a CTE in a CREATE view, as part of the view's SELECT query. In addition, as of SQL Server 2008, you can add a CTE to the new MERGE statement.

Why we need it?

- CTE is a powerful SQL construct that helps simplify queries.
- CTEs act as virtual tables (with records and columns) that are created during query execution, used by the query, and deleted after the query executes.

Using CTE

It starts with a *WITH* clause contains one or more common table expressions (CTEs) with temporary tables

```
WITH my_cte AS (
SELECT a,b,c
FROM T1
)
SELECT a,c
FROM my_cte
WHERE ....
```



Discussion

Exercises



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