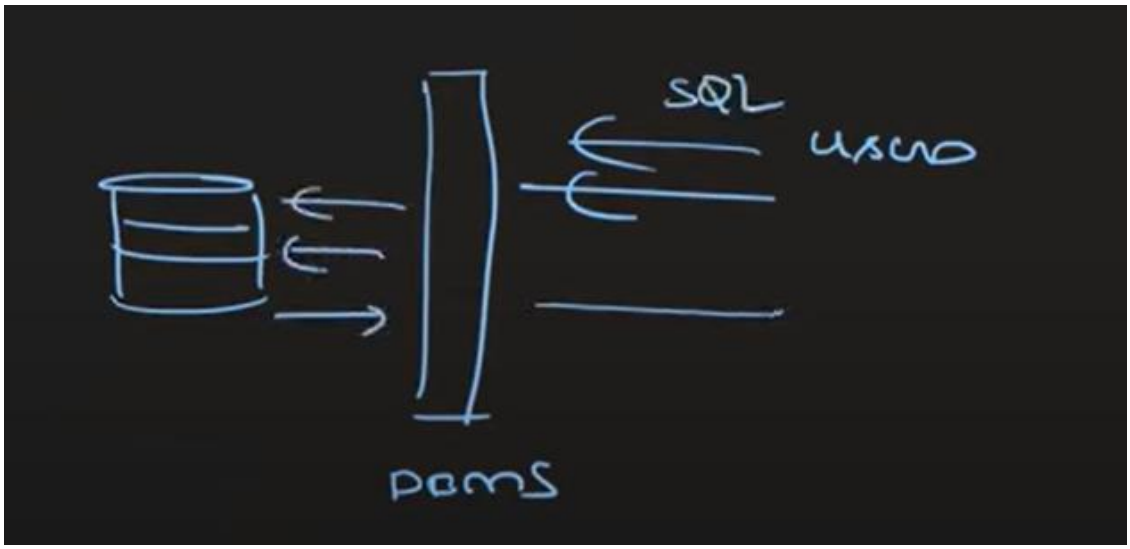
SQL Introduction

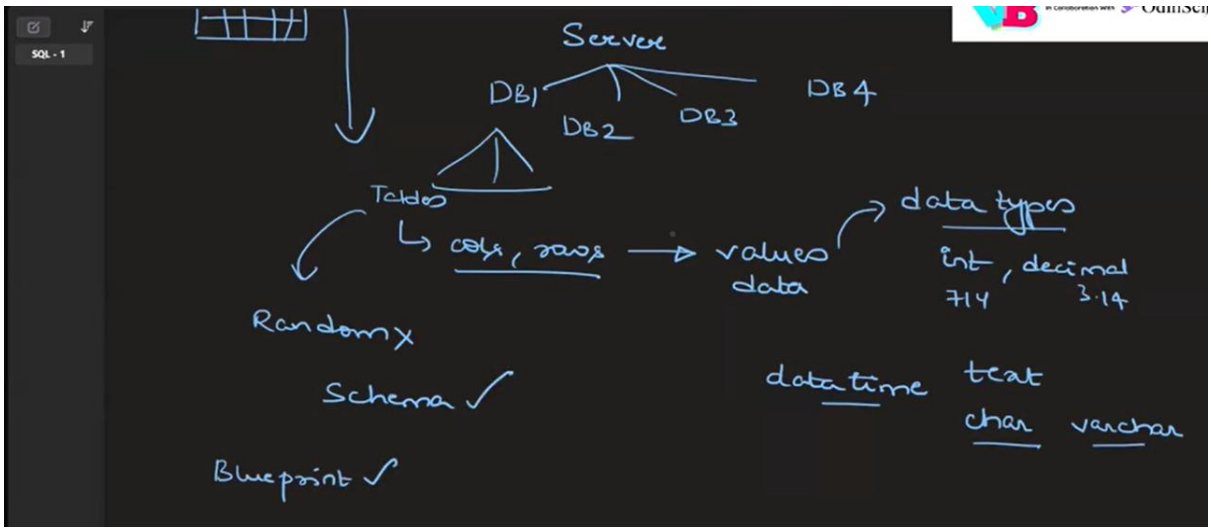
Database: A data base is container that store data. This database can be accessed by multiple personas such as Humana(manual query using SQL), Applications (via the code), Tools like power bi.

SQL: SQL stands for Structured Query Language. SQL is a standard programming language used to manage and manipulate relational databases. It allows users to interact with databases to perform various operations.

A Database Management System (DBMS) is software that allows users to define, create, maintain, and control access to a database



DBMS: Software layer which check before giving it to database



Schema - it is blueprint before creating a table we cannot create it randomly.

Create database SQL_learning; -- Syntax for creating database

Commands

- **Data definition language (DDL)**- it deals with the database functionalities. [commands: CREATE, DROP, ALTER, TRUNCATE, RENAME]
- **Data manipulation language (DML)**- it works on table to modify. [commands: INSERT, DELETE, UPDATE]
- **Data query language (DQL)**- to print or retrieve data. [commands: SELECT]
- **Transaction control language (TCL)**- to control DML commands.[commands: COMMIT, ROLLBACK, SAVEPOINT]
- **Data Control Language (DCL)**- Access control. [commands: GRANT, REVOKE]

DDL commands and Syntax

1. Create - to create database/ database objects

```
use SQL_learning;
create table student_info
(
 student_name varchar(20),
 student_id int
);
```

2. drop - to drop tables/ database

```
DROP table student_info;
DROP database SQL_learning;
```

3. Alter - to modify the structure of table

```
Alter table student_info
Add column address
varchar(30);
```

4. Rename - it is used to change the names of DB objects

```
Rename table student_info to student_details
```

5. Truncate - it is used to remove the values in the table, the table remains same but the values in the table will be removed.

```
TRUNCATE TABLE table_name;
```