--------LECTURE- 16--------

A **Stored Procedure** is a **set of SQL statements saved inside the database** that you can execute whenever needed.
Think of it like a **function for your database**.

In simple words
Instead of writing the same SQL queries again and again, you **store them once** in the database and **call them by name**.

Why do we use Stored Procedures?

- ✅ **Reusability** – write once, use many times
- ✅ **Better performance** – compiled once, runs faster
- ✅ **Security** – users can execute it without direct table access
- ✅ **Maintainability** – logic stays inside DB, easy to update
- ✅ **Reduced network traffic** – one call instead of many queries

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Basic Syntax (MySQL example)

```
DELIMITER $$

CREATE PROCEDURE GetAllEmployees()
BEGIN
   SELECT * FROM employees;
END $$

DELIMITER ;
```

How to call it

```
CALL GetAllEmployees();
```

Stored Procedure with Parameters

```
CREATE PROCEDURE GetEmployeeById(IN emp_id INT)
BEGIN
   SELECT * FROM employees WHERE id = emp_id;
END;
```

Call it like:

```
CALL GetEmployeeById(101);
```

Real-life example
Imagine an **ATM**:

- You press one button → many steps happen internally
  Same way,
- You call one stored procedure → many SQL operations run inside the DB

Stored Procedure vs Function (quick difference)

Stored Procedure	Function
Can return multiple values	Returns only one value
Can have OUT parameters	Must return a value
Called using CALL	Used in SELECT