

Stored Procedure

A **Stored Procedure** is a pre-compiled set of SQL statements stored on the database server, enabling efficient execution of complex tasks by encapsulating logic and promoting code reuse.

What they are:

Stored procedures are essentially named blocks of SQL code that can be executed as a single unit.

Purpose:

They are designed to perform specific tasks or operations on the database, such as inserting, updating, deleting, or retrieving data.

Benefits:

- **Code Reusability:** You can call the same procedure multiple times from different parts of your application or database logic, avoiding code duplication.
- **Improved Performance:** Stored procedures are pre-compiled and stored on the database server, leading to faster execution compared to sending individual SQL statements.
- **Enhanced Security:** Stored procedures can help control access to sensitive data by encapsulating the logic and limiting direct access to the underlying tables.
- **Transaction Management:** Stored procedures can be used to manage transactions, ensuring that a series of

operations are either all completed successfully or rolled back in case of an error.

Creating Stored Procedures:

- Use the CREATE PROCEDURE statement to define a stored procedure.
- Specify the procedure name, input parameters (if any), and the SQL statements to be executed.

Calling Stored Procedures:

- Use the CALL statement to execute a stored procedure.
- Pass any required input parameters to the procedure when calling it.

Syntax:

```
CREATE OR REPLACE PROCEDURE insert_data(a integer, b integer)
```

```
LANGUAGE SQL
```

AS \$\$

INSERT INTO tbl VALUES (a);

INSERT INTO tbl VALUES (b);

\$\$;

OR

CREATE OR REPLACE PROCEDURE insert_data(a integer, b
integer)

LANGUAGE SQL

BEGIN ATOMIC

INSERT INTO tbl VALUES (a);

INSERT INTO tbl VALUES (b);

END;