

Stored Procedure-Views- Triggers

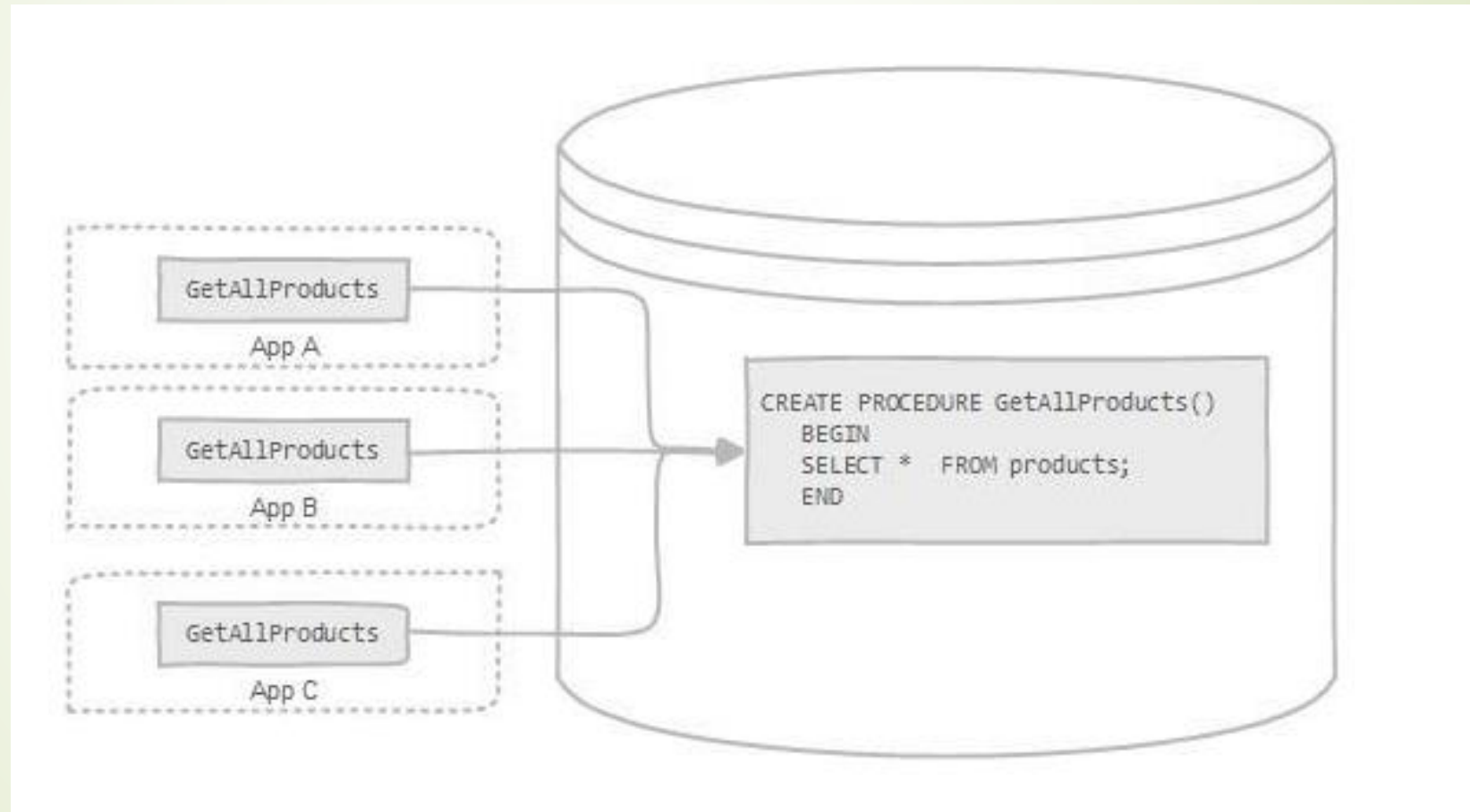
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Stored Procedure

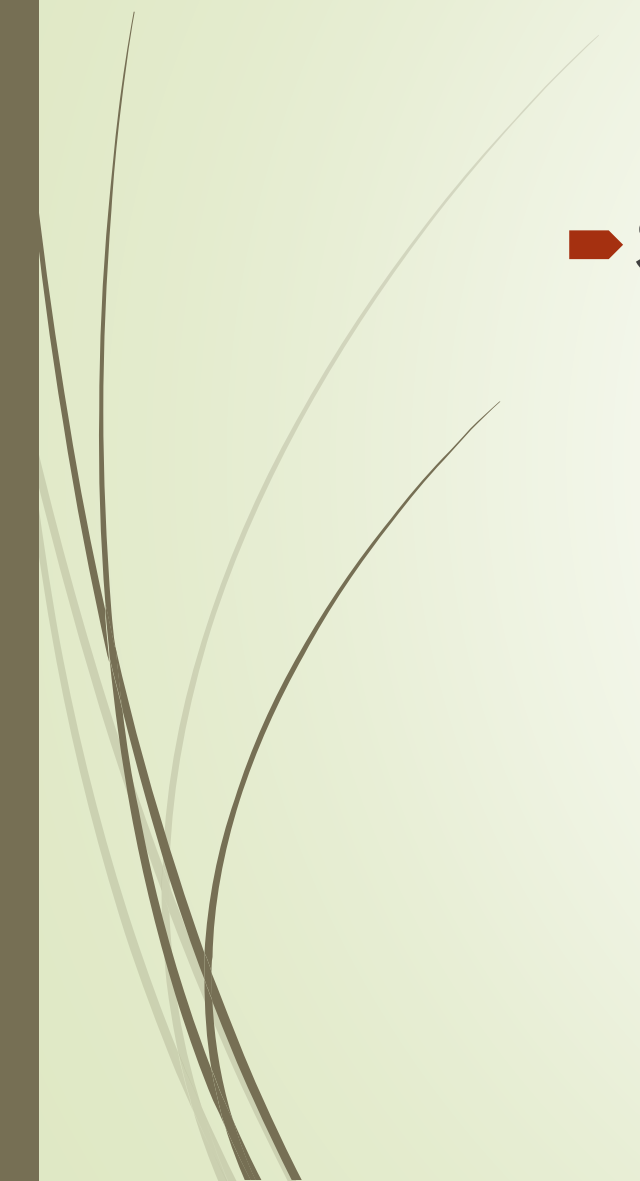
- A stored procedure is a **segment of declarative SQL statements stored inside the database** catalog.
- A stored procedure can be invoked by....
 - CALL <Procedure Name>
 - Triggers
 - Other stored procedures
 - Applications such as Java, Python, php

Stored Procedure





Stored Procedure's Advantage

- Stored procedures are secured because.....
 - The database administrator can grant appropriate permissions to applications that access stored procedures in the database without giving any permissions on the underlying database tables.
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Views



Views

- They are **subset** of base tables
- They are also called as **Virtual Table**
- Created mainly for information security and information encapsulation purpose
- Still it serve the working purpose
- If you update the data in view, data in base table gets updated (Though **NOT IN ALL** cases)
- Also if you update base table, data in view is getting updated (in **ALL** cases)



Types of Views

- Two Types...

- Updatable (Simple) view

- View created with simple SELECT command

- Non Updatable (Complex) view

- Views created using following commands...

- Limit
 - Aggregate functions such as MIN, MAX, SUM, AVG, and COUNT.
 - DISTINCT
 - GROUP BY clause.
 - HAVING clause.
 - UNION or UNION ALL clause.
 - Left join or outer join.
 - Subquery in the SELECT clause or in the WHERE clause that refers to the table appeared in the FROM clause



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Triggers

Codd's 12 rules for a Relational Database (cont..)

➤ Rule 10: Integrity Independence

- The database should be able to enforce its own integrity rather than using other programs.
- Key and Check constraints, **trigger** etc., should be stored in Data Dictionary. This also make **RDBMS** independent of front-end



Triggers

- ▶ They are special Stored Procedure.
- ▶ Main purpose of triggers is **DATA VALIDATION** before entering in table.
- ▶ Special because it **CAN NOT BE DIRECTLY CALLED** like a normal stored procedure using **CALL command**
- ▶ It is **CALLED AUTOMATICALLY** when a data modification event is made against a table, like...
 - ▶ Insert (Before , After)
 - ▶ Update (Before , After)
 - ▶ Delete (Before , After)