

## SQL Server Trigger & Stored Procedure Error Exploration – Log

This document summarizes test cases conducted in the BIKESTORE database to explore real-world errors related to triggers and stored procedures in SQL Server. Each section includes a test scenario, the exact error message encountered, and lessons learned.

### 1. Procedure with Syntax Error

Test:

A procedure was created with a syntax error:

```
CREATE PROCEDURE BrokenProc
AS
BEGIN
    SELECT * FROMM Employees;
END;
```

Error:

Msg 156, Level 15, State 1, Line 4

Incorrect syntax near the keyword 'FROMM'.

Lesson:

SQL Server validates syntax at creation time. Any typo (e.g., 'FROMM' instead of 'FROM') causes immediate compilation failure.

### 2. Recursive Trigger Behavior

Test:

Two triggers were created on two tables that recursively called each other through update operations.

Error:

Msg 217, Level 16, State 1

Maximum stored procedure, function, trigger, or view nesting level exceeded (limit 32).

Lesson:

Recursive trigger calls must be controlled. Avoid unintended loops or enable recursion using advanced settings with caution.

### 3. Calling One Procedure from Another

Test:

An outer procedure was created to call an inner procedure using EXEC.

Result:

Executed successfully.

Lesson:

Procedures in SQL Server support nested calls. It is recommended to modularize logic for clarity and reusability.

### 4. Altering a Trigger with Missing BEGIN/END

Test:

Tried to alter an existing trigger but omitted BEGIN/END blocks.

Error:

Msg 156, Level 15, State 1

Incorrect syntax near the keyword 'SELECT'.

Lesson:

Always structure your trigger logic with BEGIN and END for reliability and readability.

### 5. Trigger Condition Not Met

Test:

A trigger was written to raise an error only when a specific condition was met (e.g., salary < 0). Data inserted did not meet the condition.

Result:

No error or action triggered.

Lesson:

Triggers only act when their condition is met. Ensure proper logging to confirm if execution occurred or was bypassed.

### 6. Dropping a Table with an Attached Trigger

Test:

Dropped a table that had an active trigger.

Result:

The table and its trigger were dropped successfully. No error or warning displayed.

Lesson:

Triggers are tightly coupled with their parent tables. Dropping the table deletes the trigger as well.

## 7. Invalid Input Values (e.g., NULL into NOT NULL)

Test:

Tried inserting NULL into a NOT NULL column, and passed varchar into an integer parameter.

Errors:

Msg 515, Level 16, State 2

Cannot insert the value NULL into column...

Msg 245, Level 16, State 1

Conversion failed when converting the varchar value to data type int.

Lesson:

SQL Server enforces strong type and constraint checks. Always validate input types and constraints before executing DML operations.