# Title: Implement SCD Type 2

## **Step 1: Create Tables**

### **Create the Categories\_JYOTHI Table**:

This table will store the main Categories\_JYOTHI data.

---- CREATE HISTORY TABLE ---------------

CREATE TABLE Categories\_JYOTHI (

    CategoryID INT,

    CategoryName VARCHAR(50),

    StartDate DATE,

    EndDate DATE,

    CurrentFlag BIT

);

### **Create the Incoming\_data\_table\_JYOTHI**:

This table simulates the Incoming\_data\_table\_JYOTHI  (new or changed data).

CREATE TABLE Incoming\_data\_table\_JYOTHI (

    CategoryID INT ,

    CategoryName VARCHAR(50)

);

### **Step 2: Insert Initial Data into Categories\_JYOTHI**

### Let’s insert some sample sales records into the **Categories\_JYOTHI** table.

INSERT INTO Categories\_JYOTHI (CategoryID, CategoryName, StartDate, EndDate, CurrentFlag)

VALUES

(1, 'Electronics', '2024-01-01', '2030-12-31', 1),

(2, 'Appliances', '2024-01-01', '2031-12-31', 1),

(3, 'Furniture', '2024-01-01', '2032-12-31', 1),

(4, 'Accessories', '2024-01-01', '2033-12-31', 1),

(5, 'Clothing', '2024-01-01', '2034-12-31', 1),

(6, 'Books', '2024-01-01', '2035-12-31', 1),

(7, 'Food', '2024-01-01', '2036-12-31', 1),

(8, 'Toys', '2024-01-01', '2037-12-31', 1),

(9, 'Sports', '2024-01-01', '2038-12-31', 1),

(10, 'Beauty', '2024-01-01', '2039-12-31', 1);

## **Step 3: Insert Updated Data into Incoming\_data\_table\_JYOTHI ;**

INSERT INTO Incoming\_data\_table\_JYOTHI (CategoryID, CategoryName)

VALUES

(88, 'Electronics and machines'),

(2, 'Appliances and electronice'),

(3, 'Furniture WORLD'),

(4, 'Accessoriesand appliances'),

(5, 'Clothing STORE'),

(6, 'Books CITY'),

(7, 'Food STALL');

## **Step 4: Implement SCD Type 2 Logic –**

ALTER PROCEDURE dbo.usp\_SCD2\_Implementationjyothi

as

begin

-- Update existing records

UPDATE Categories\_JYOTHI

SET EndDate = GETDATE(),CurrentFlag=0

WHERE CategoryID IN (

    SELECT CategoryID FROM Incoming\_data\_table\_JYOTHI

   --EXCEPT

   --SELECT CategoryID FROM Categories\_JYOTHI WHERE CurrentFlag = 1

 )AND CurrentFlag=1;

INSERT INTO Categories\_JYOTHI (CategoryID, CategoryName, StartDate, EndDate, CurrentFlag)

SELECT CategoryID, CategoryName, GETDATE(), '9999-01-01 10:34:23', 1

FROM Incoming\_data\_table\_JYOTHI

WHERE EXISTS (

 SELECT 1 FROM Categories\_JYOTHI WHERE Categories\_JYOTHI.CategoryID = Incoming\_data\_table\_JYOTHI.CategoryID

);

end

exec dbo.usp\_SCD2\_Implementationjyothi

## **Step 5: Validate the Results**

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Description automatically generated

| **CategoryID** | | **CategoryName** | **StartDate** | | **EndDate** | | **CurrentFlag** | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Electronics | | | 2024-01-01 | | 2030-12-31 | | True |
| 2 | Appliances | | | 2024-01-01 | | 2031-12-31 | | True |
| 3 | Furniture | | | 2024-01-01 | | 2032-12-31 | | True |
| 4 | Accessories | | | 2024-01-01 | | 2033-12-31 | | True |
| 5 | Clothing | | | 2024-01-01 | | 2034-12-31 | | True |
| 6 | Books | | | 2024-01-01 | | 2035-12-31 | | True |
| 7 | Food | | | 2024-01-01 | | 2036-12-31 | | True |
| 8 | Toys | | | 2024-01-01 | | 2037-12-31 | | True |
| 9 | Sports | | | 2024-01-01 | | 2038-12-31 | | True |
| 10 | Beauty | | | 2024-01-01 | | 2039-12-31 | | True |
| 2 | Appliances and electronice | | | 2024-12-18 | | 9999-01-01 | | True |
| 3 | Furniture WORLD | | | 2024-12-18 | | 9999-01-01 | | True |
| 4 | Accessoriesand appliances | | | 2024-12-18 | | 9999-01-01 | | True |
| 5 | Clothing STORE | | | 2024-12-18 | | 9999-01-01 | | True |
| 6 | Books CITY | | | 2024-12-18 | | 9999-01-01 | | True |
| 7 | Food STALL | | | 2024-12-18 | | 9999-01-01 | | True |

# Title: Implement SCD Type 3

CREATE TABLE CATEGORY\_jyothi (

    CategoryID INT PRIMARY KEY,

    CategoryName VARCHAR(50),

    Previous\_catogry\_Name VARCHAR(50)

);

-- Insert data

INSERT INTO CATEGORY\_jyothi (CategoryID, CategoryName)

VALUES

(1, 'Electronics'),

(2, 'Appliances'),

(3, 'Furniture'),

(4, 'Accessories'),

(5, 'Clothing'),

(6, 'Books'),

(7, 'Food'),

(8, 'Toys'),

(9, 'Sports'),

(10, 'Beauty');

SELECT \* FROM CATEGORY\_jyothi

CREATE TABLE INCOMING\_CATEGORY\_jyothi (

    CategoryID INT PRIMARY KEY,

    CategoryName VARCHAR(50)

);

INSERT INTO INCOMING\_CATEGORY\_jyothi (CategoryID, CategoryName)

VALUES

(1, 'Electronics and machines'),

(2, 'Appliances and electronice'),

(3, 'Furniture WORLD'),

(4, 'Accessoriesand appliances'),

(5, 'Clothing STORE'),

(6, 'Books CITY'),

(7, 'Food STALL');

SELECT \* FROM INCOMING\_CATEGORY\_jyothi

MERGE INTO CATEGORY\_jyothi C USING INCOMING\_CATEGORY\_jyothi I

    ON c.CategoryID = I.CategoryID

WHEN MATCHED

    AND c.CategoryName <> I.CategoryName

    THEN UPDATE SET

    c.Previous\_catogry\_Name = c.CategoryName,

    c.CategoryName = I.CategoryName

WHEN NOT MATCHED

    THEN INSERT (CategoryID, CategoryName)

    VALUES (I.CategoryID,I.CategoryName);

SELECT \* FROM CATEGORY\_jyothi

A screenshot of a computer

Description automatically generated

| **CategoryID** | | **CategoryName** | **Previous\_catogry\_Name** | |
| --- | --- | --- | --- | --- |
| 1 | Electronics and machines | | | Electronics |
| 2 | Appliances and electronice | | | Appliances |
| 3 | Furniture WORLD | | | Furniture |
| 4 | Accessoriesand appliances | | | Accessories |
| 5 | Clothing STORE | | | Clothing |
| 6 | Books CITY | | | Books |
| 7 | Food STALL | | | Food |
| 8 | Toys | | |  |
| 9 | Sports | | |  |
| 10 | Beauty | | |  |