**Integration Testing Document**

Mainframe Tour Project

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Project Name: Mainframe Project on Tour

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## **Introduction**

This Integration Test Plan focuses on testing the interactions between various components of the Mainframe Tour Project, including database tables, SPUFI components, COBOL programs, and JCL components. The plan ensures that all system components work together seamlessly to process tour details, calculate discounts, and generate appropriate outputs.

## **Test Environment**

The integration testing will follow a bottom-up approach:

1. **Tables**: TOUR\_DETAILS and SEASON\_DISCOUNT
2. **Test Data**: Sample tour records
3. **Programs**: TOUR COBOL program
4. **JCL**: CBLDDBCMP, CBLDDBBND, CBLDDBRUN
5. **SPUFI**: TABLE1, TABLE2, INSERT1, JOIN, SELECT
6. **DCLGEN**: TOURDET, SEASDIS

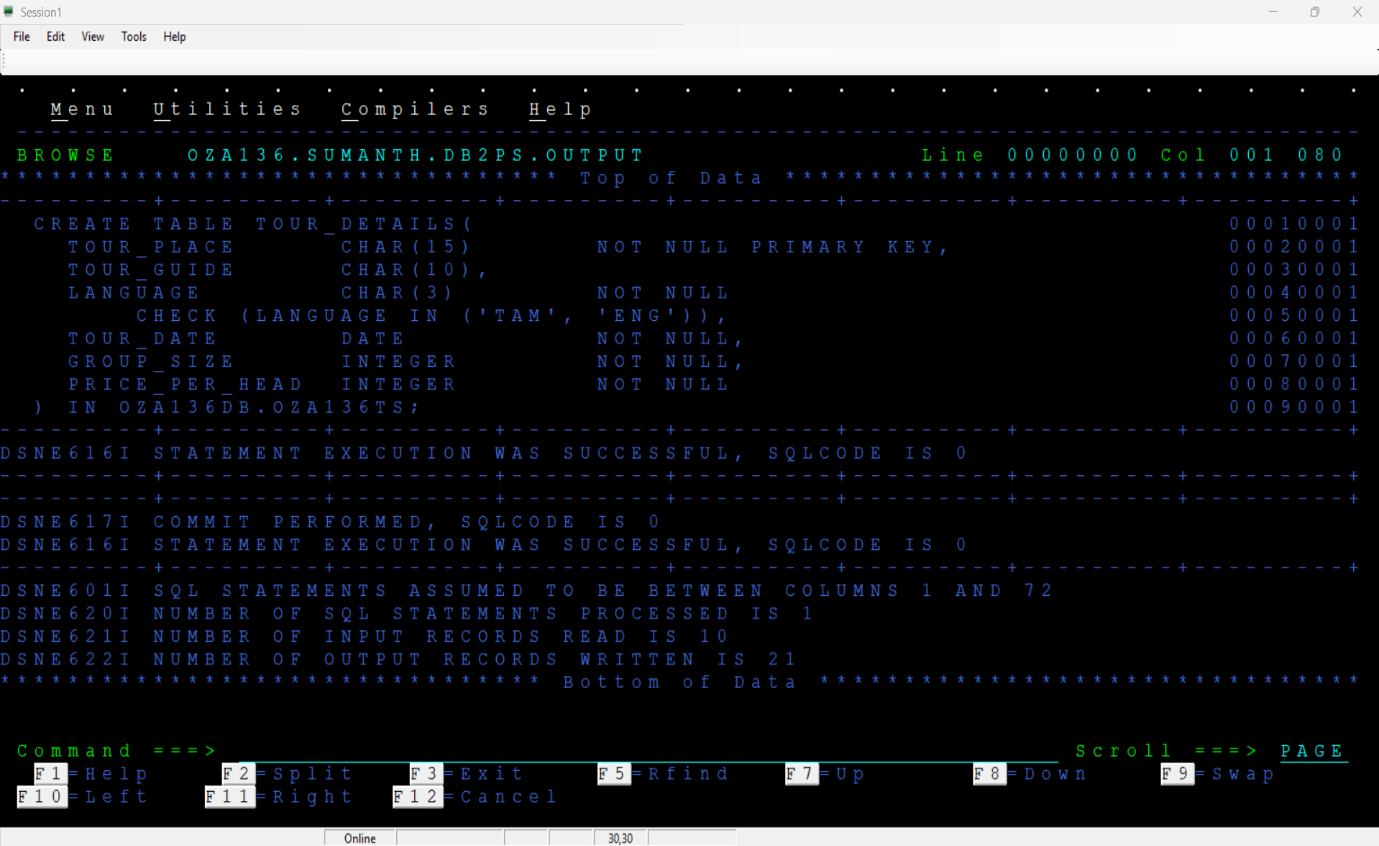
## **Integration Test for Tour Project**

### **3.1 Test Case 1: SPUFI Operations**

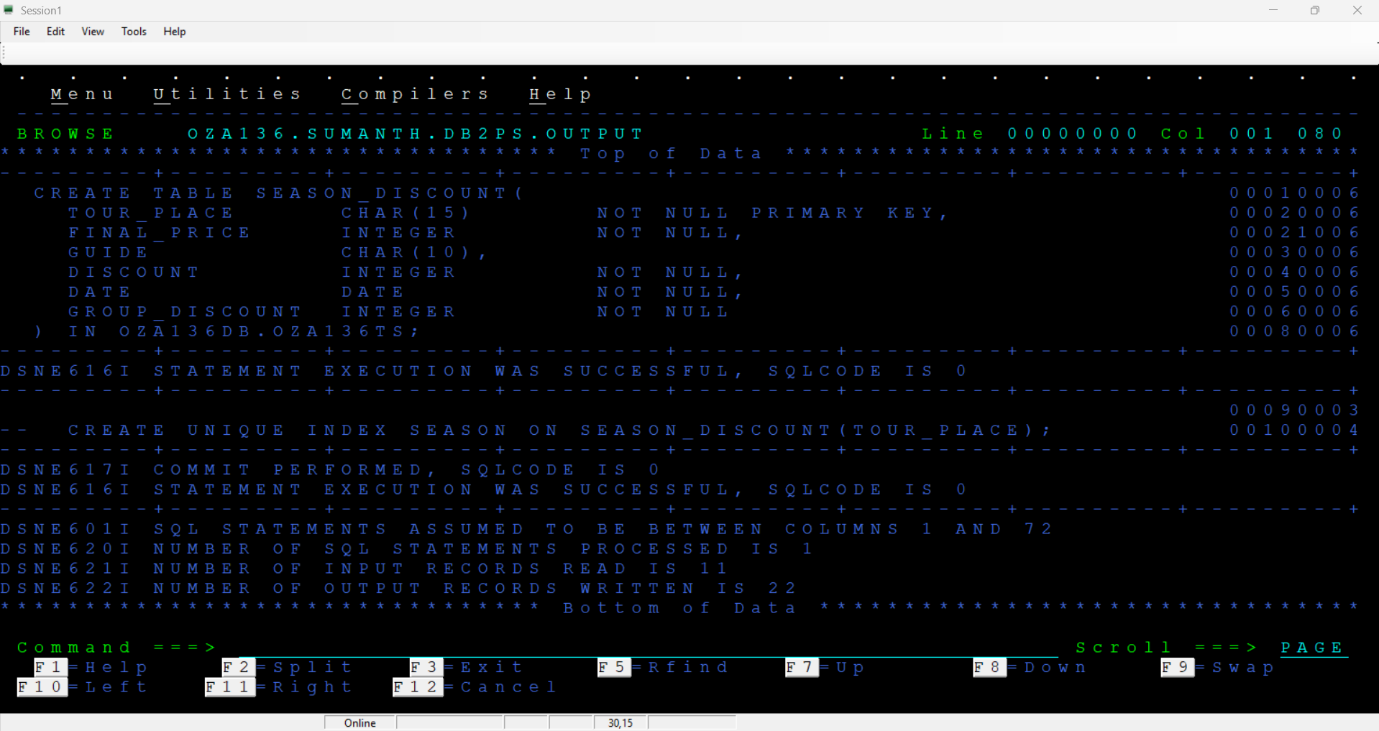
**Objective:** Verify successful execution of SQL queries using SPUFI.

**Steps:**

* Creating Tables:
  + TOUR\_DETAILS TABLE (TABLE1)



* + SEASON\_DISCOUNT TABLE (TABLE2)



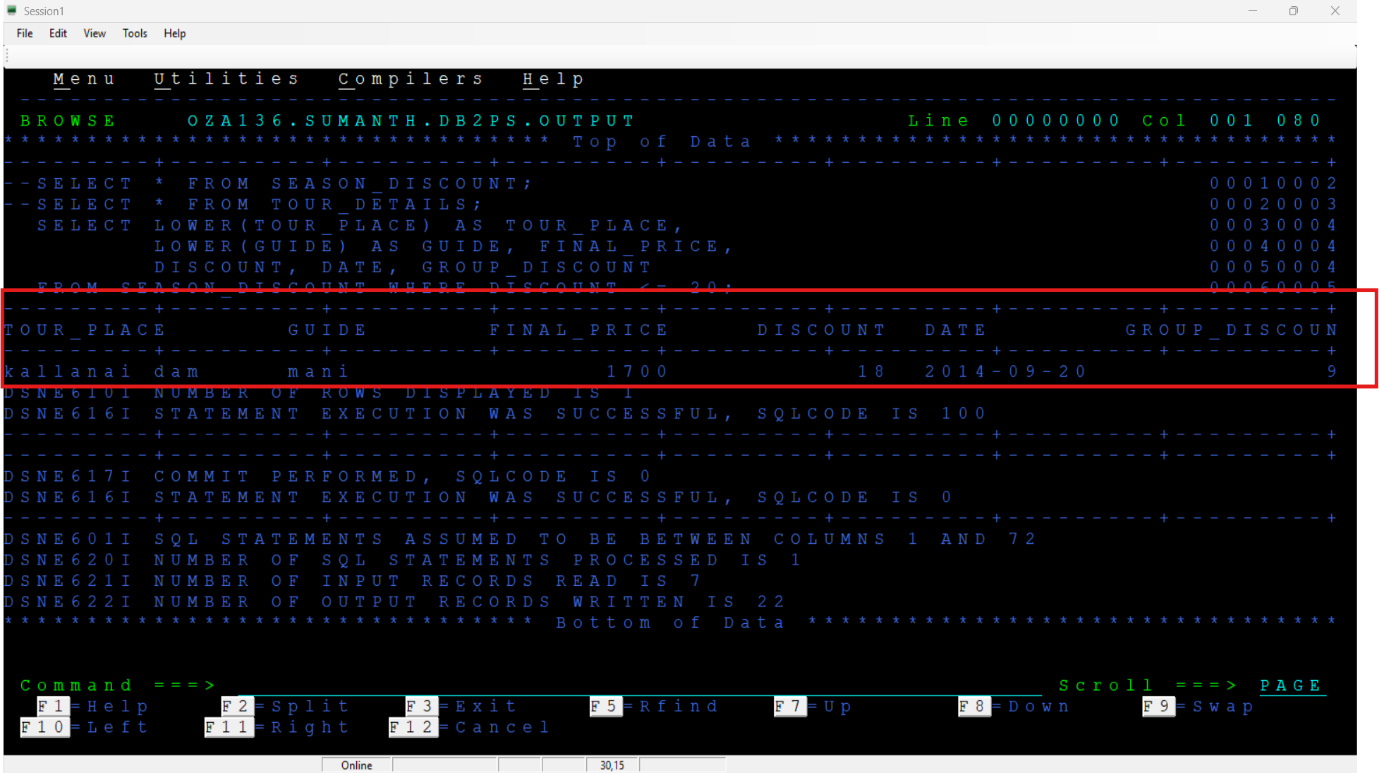
* **Inserting Sample Data:** 
  + TOUR\_DETAILS TABLE (INSERT1)



* **Displaying Data using SQL Query:** 
  + Select query to fetch the records with LANGUAGE as ENG and GROUP\_SIZE greater than 10 from the two tables TOUR\_DETAILS and SEASON\_DISCOUNT using LEFT OUTER JOIN operation. Order the resultant table by TOUR\_PLACE. Expected fields from the query are TOUR\_PLACE, TOUR\_GUIDE, LANGUAGE, TOUR\_DATE, GROUP\_SIZE, GROUP\_DISCOUNT.



* + Select query to fetch all the records from SEASON\_DISCOUNT with which record is having DISCOUNT less than or equal to 20 with converting the TOUR\_PLACE & GUIDE to lower case.



**Results:** All SPUFI operations executed successfully.

**Conclusion:** SPUFI operations were executed successfully, and the test case passed.

### **3.2 Test Case 2: Discount Calculation and SEASON\_DISCOUNT Population**

**Objective:** Verify that discount calculations are correctly performed and results are inserted into SEASON\_DISCOUNT and OUTTOUR file contains correct records.

**Program:**

* Cobol Program Name: TOUR
* Functionality:
  + Fetch data from TOUR\_DETAILS table
  + Process records with NULL TOUR\_GUIDE values
  + Calculate discounts based on GROUP\_SIZE and LANGUAGE
  + Apply appropriate FINAL\_PRICE adjustments
  + Write the processed records to output file

**Pre-Requisites:**

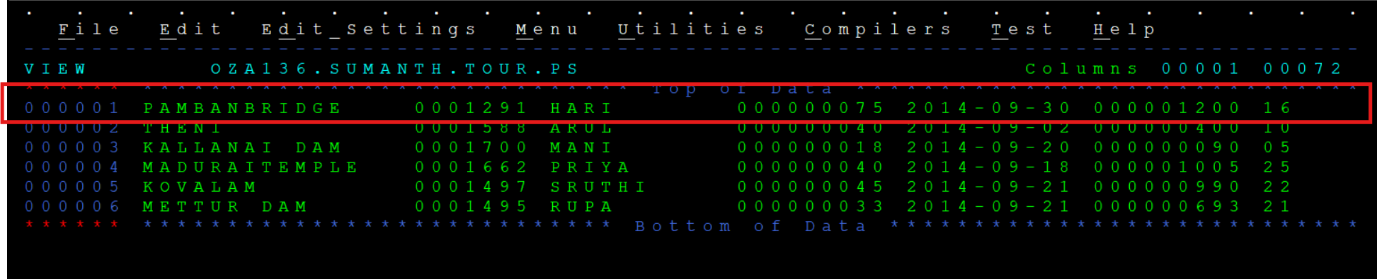
* Input Table:
  + TOUR\_DETAILS



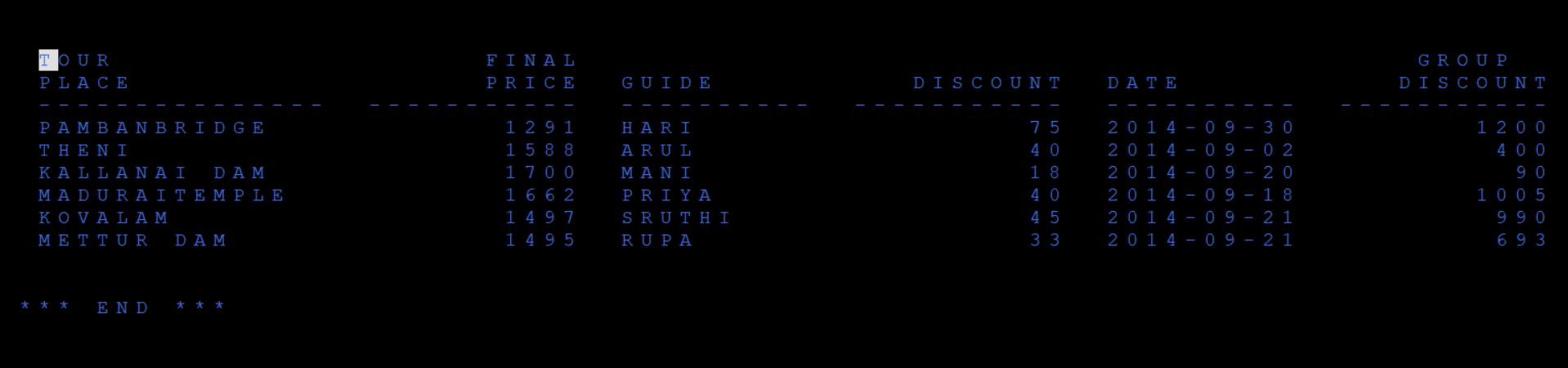
**Result:**

* Output File:

OZA136.SUMANTH.TOUR.PS (OUTTOUR)



SEASON\_DISCOUNT Table:



**Test Data Processing:**

* Discount calculations were correctly applied based on GROUP\_SIZE and LANGUAGE
* FINAL\_PRICE adjustments were correctly applied based on DISCOUNT ranges

**Results:** Discounts correctly calculated based on GROUP\_SIZE rules. FINAL\_PRICE calculated correctly based on DISCOUNT ranges. GROUP\_DISCOUNT properly calculated. Records successfully inserted into SEASON\_DISCOUNT. OUTTOUR file contains correct records.

**Conclusion:** The discount calculations are correctly performed and results are inserted into SEASON\_DISCOUNT And OUTTOUR file contains correct records. Test case is passed.

### **3.3 Test Case 3: NULL Value Processing**

**Objective:** Verify that the system properly handles NULL TOUR\_GUIDE values across components.

**Program:**

* Cobol Program Name: TOUR
* Functionality:
  + Fetch data from TOUR\_DETAILS table
  + Process records with NULL TOUR\_GUIDE values
  + Write the processed records to output file

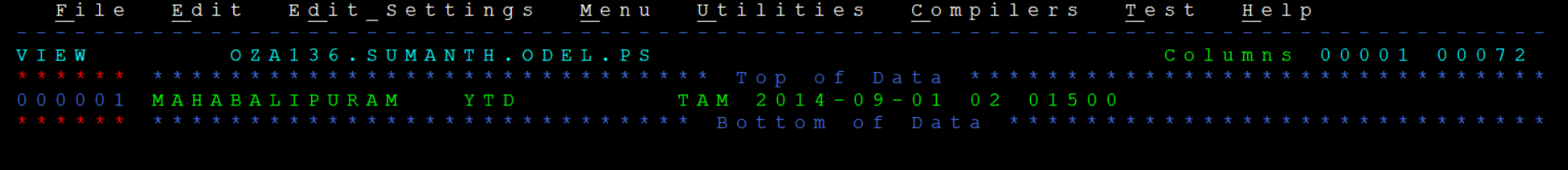
**Pre-Requisites:**

* Input Table:
  + TOUR\_DETAILS

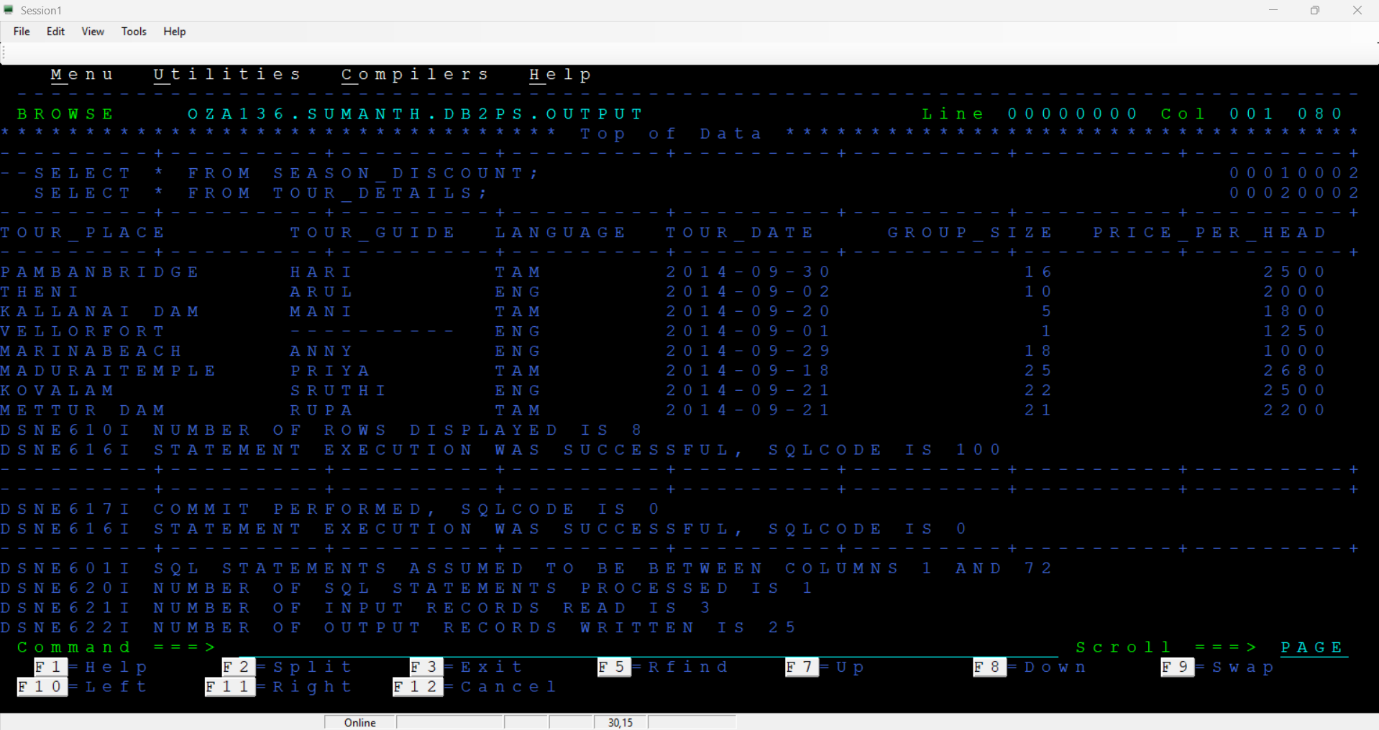


**Result:**

* Output File:
  + OZA136.SUMANTH.ODEL.PS (OUTODEL)



* TOUR\_DETAILS:



**Test Data Processing:**

* Check OUTODEL file for records with NULL TOUR\_GUIDE
* Verify these records are deleted from TOUR\_DETAILS
* Confirm 'YTD' replacement functionality

**Results:** Records with NULL TOUR\_GUIDE and meeting criteria (GROUP\_SIZE > 1) deleted from TOUR\_DETAILS. OUTODEL file contains correct records.

**Conclusion:** NULL value processing handled successfully, and the test case passed.

## **4. Conclusion**

* Output files (OUTTOUR and OUTODEL) generated as per the requirements of the Tour Discount Processing System.
* Integration tests confirm that the COBOL-DB2 batch process accurately calculates discounts and interacts with the DB2 database.
* System correctly identifies and processes records with NULL TOUR\_GUIDE values.
* Discount calculations work correctly for all specified ranges.

## **5. Version History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Changes Made** |
| 1.0 | 20-March-2025 | Sumanth Kumar Reddy | Initial Draft Created |
| 1.1 | 20-March-2025 | Sumanth Kumar Reddy | Added Screenshots |
| 1.2 | 21-March-2025 | Pranchan Biswas | Sign-off and Final review |