ABSTRACT: This project enables us to install Microsoft SQL Server Management Service(SSMS) and connect to our database in Azure SQL Database. Now we can see step by step of how I analysed the banking dataset and gained insights.

1. **Connecting SSMS to Azure SQL DB**

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1. **CREATING TABLES IN loandb:** 
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**3.STAGING AND INSERTION OF DATA**

This step was important because the dataset contains bad data. Since we created tables with foreign constraints, we cannot insert data that don’t match. For instance, we cannot insert accounts data in accounts table that do not have a valid entry in customer table (valid customer\_id). So, we created a staging table (without any foreign key constraints) for all the tables, removed invalid entries and loaded the clean data into respective tables.

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After creating a staging table, I was unable to use Bulk insert and OPENROWSET as they cannot be used to open files from our local system. So, I used **Import and Export Wizard in SSMS.**

Step 1: Right click on loandb->Import Data-. Then the Import and Export Wizardopens up.

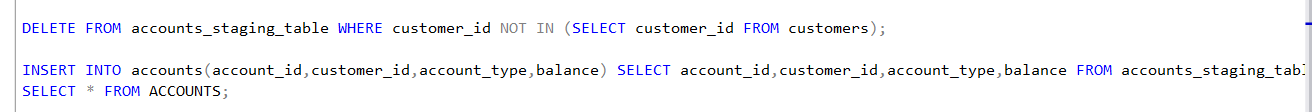
Step 2: Select **Flatfile Source** in Source and Click on Next.

Step 3: Type the file path. Select Delimited in Format and Click on Next.

Step 4: In Destination select Microsoft OLE DB Provider for SQL Server. Then select ‘Use SQL Authentication’ and type in the DB username and password.

Step 5: Select the appropriate destination table and edit the table mappings. And click on Finish to finish the process.

After this, remove the invalid entries using query below and load the data in the respective tables.



Repeat the process for all other tables.

**4.Data Exploration:**

4.1:Query to retrieve all customer informationA screenshot of a computer

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14.2: Query accounts for a specific customer

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2 Find the customer name and account balance for each accountA screenshot of a computer

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3Analyze customer loan balances:A screenshot of a computer

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4List all customers who have made a transaction in the 2024-03A screenshot of a computer

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**Aggregation and Insights**

5 Calculate the total balance across all accounts for each customer:A screenshot of a computer

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6Calculate the average loan amount for each loan term:A screenshot of a computer

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7Find the total loan amount and interest across all loans:A screenshot of a computer

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8 Find the most frequent transaction type

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9Analyze transactions by account and transaction type:A screenshot of a computer

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**. 6. Advanced Analysis**

Create a view of active loans with payments greater than $1000:

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11Create an index on `transaction\_date` in the `transactions` table for performance optimization:

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