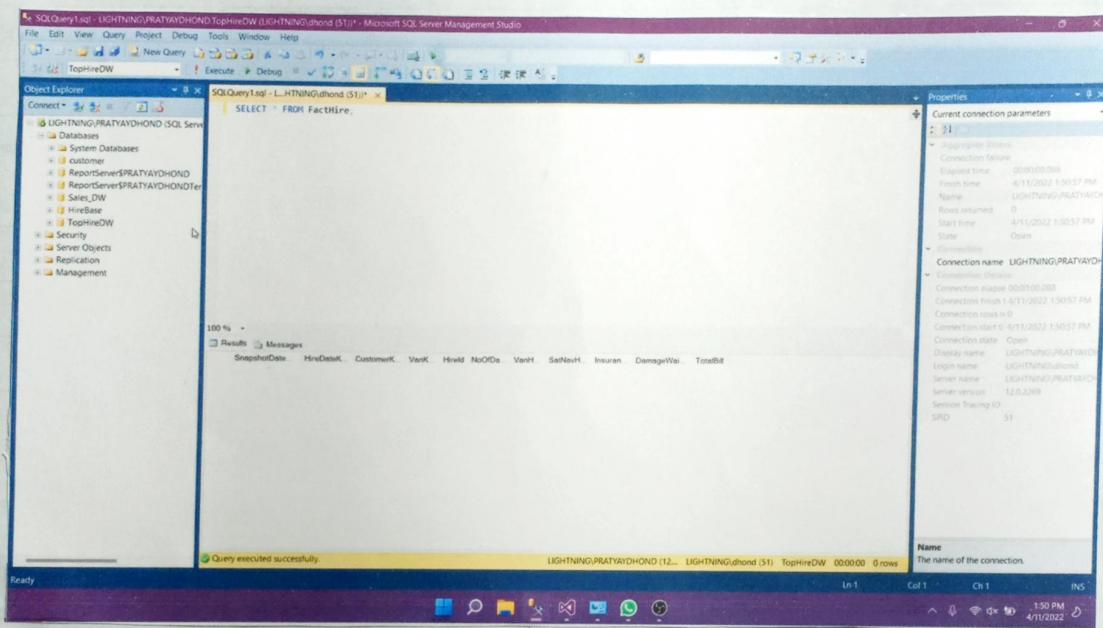


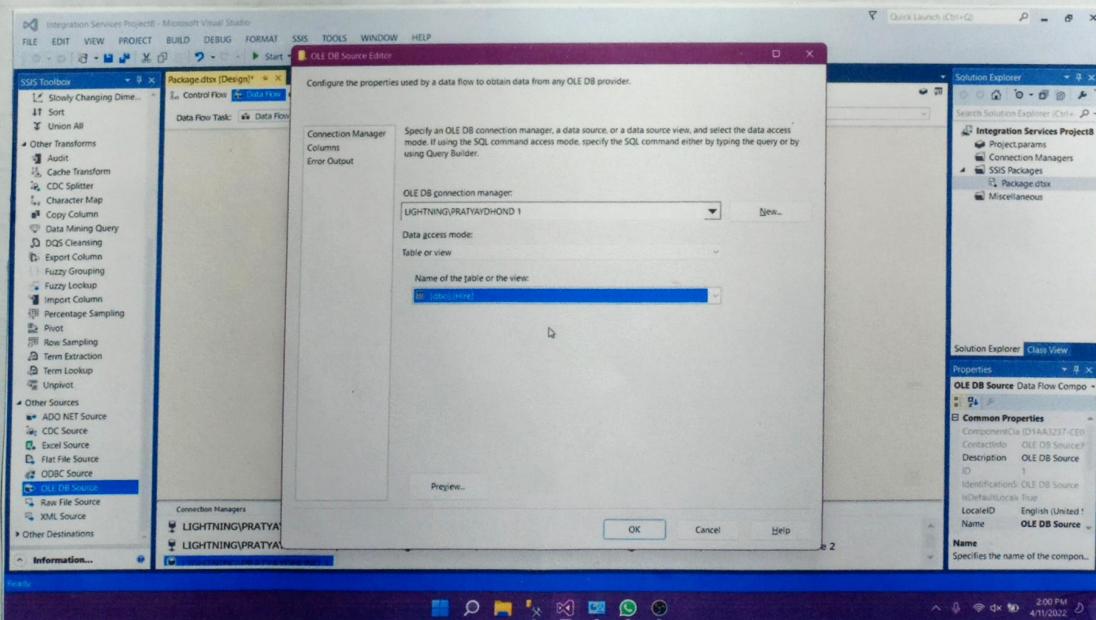
Practical No. 02

Aim:

Create a Simple data warehouse



Empty FactHire table



Select Source Database

Practical No. 02

Aim: Create a simple data warehouse.

Theory:

The phases of the datawarehouse project listed below are same to those of most database objects projects, starting with identifying requirements and ending with executing the T-SQL script to create data warehouse:

- Identify and collect requirements
- Design the dimensional model
- Execute T-SQL queries to create and populate your dimension and fact table.

Background:

It's a van hire company called top hire . It's purely fictional . Their business system HireBase captures the rental information , including the customer information . Hirebase is a fleet database where all vans are maintained. Hirebase contains only three tables .

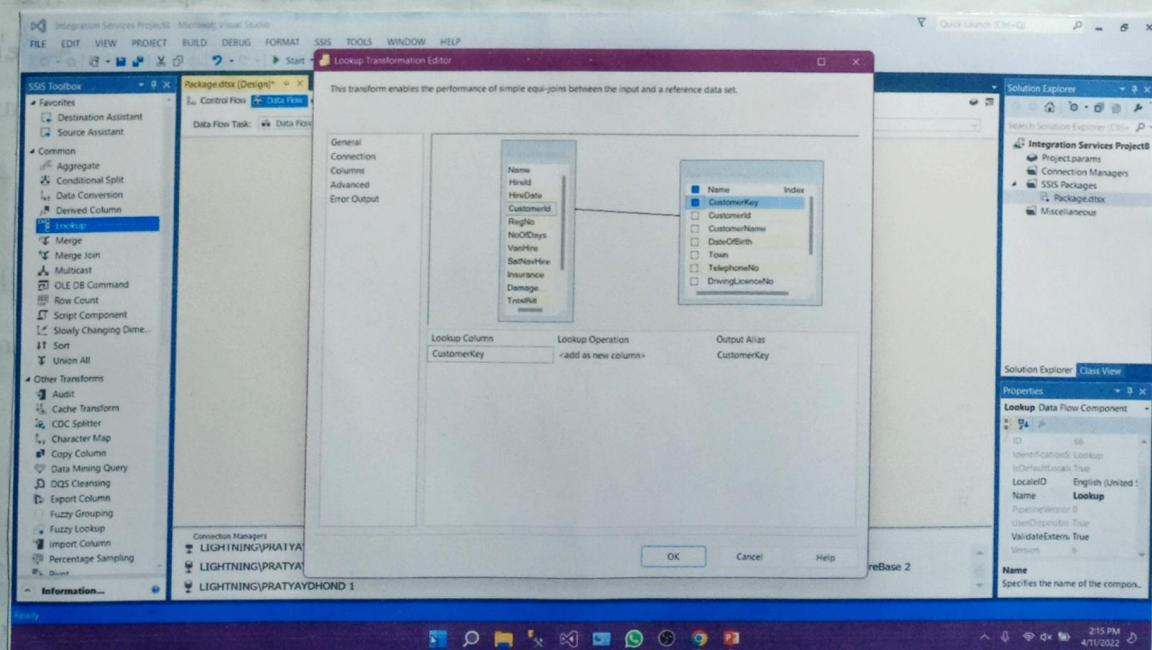
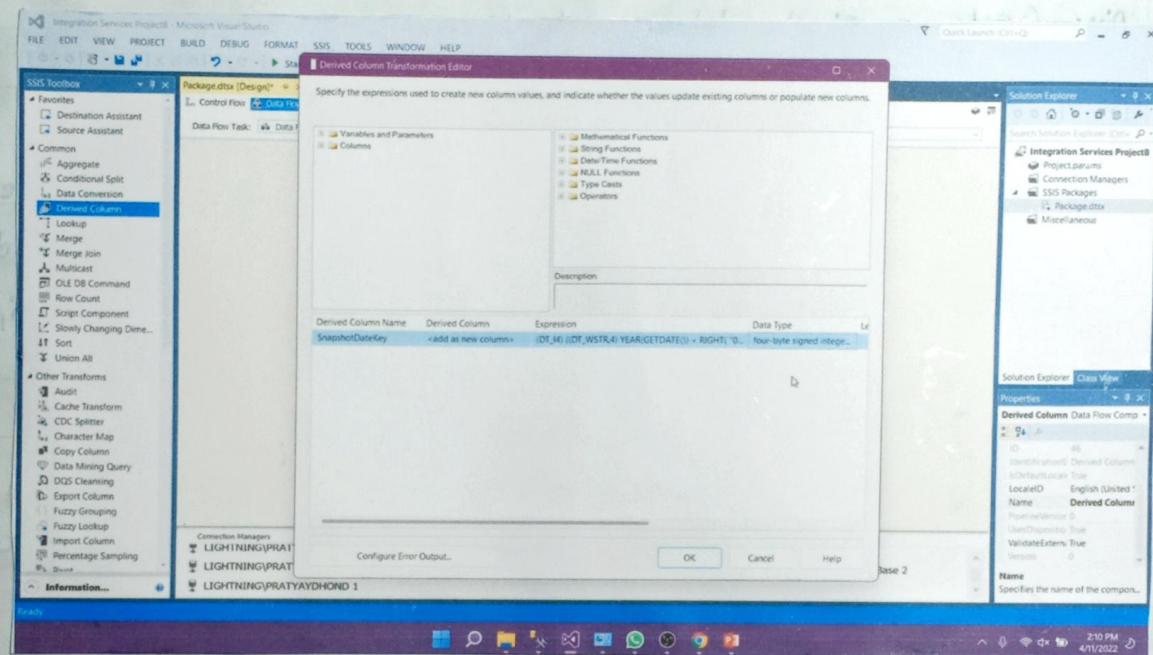
1. Customer:

contains 100 customers , e.g. name , date of birth , telephone , etc. A column called customer ID uniquely identifies a customer .

2. Hire

Van:

Contains 1000 hire transactions since 1st Jan 2011. Every hire transaction stores who the customer was , which van was rented out , the date it occurred , number of days and various hire fees/charges (the van , Sat nav , insurance ,



damage waiver and total bill). For each transaction we have hireID, which is the unique identifier in this table.

2. Van:

Contains 20 vans that Top Hire operates. It's their fleet. Contains the registration number, engine size, van size, year of manufacture. The unique identifier for each van is the registration number.

Create the data warehouse:

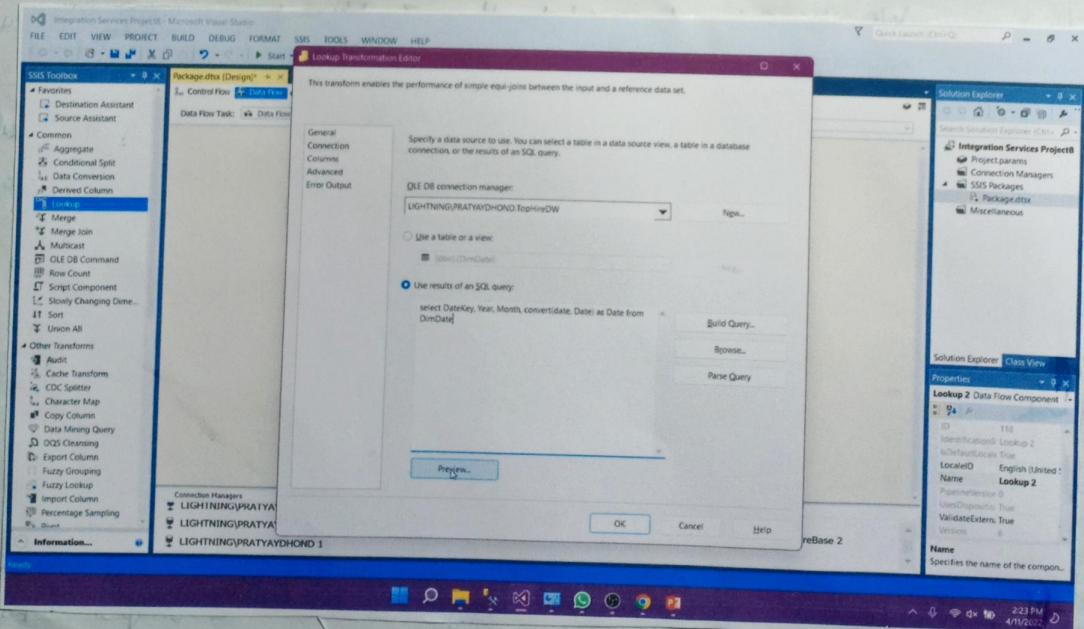
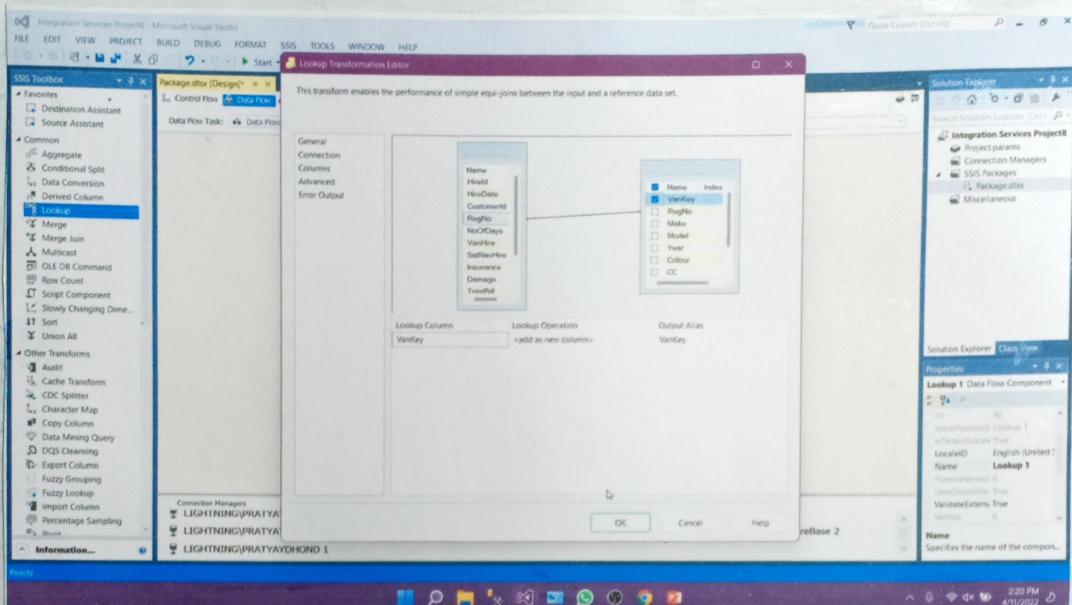
- So now we are going to take the 3 dimension tables and 1 fact table in the data warehouse: DimDate, DimCustomer, DimVan, FactHire. We are going to populate the 3 dimensions but we'll leave the fact table empty.
- Now, you can see that the 3 dimensions have been populated. And the fact table is created and empty, ready for us to populate it.

Build the SSIS package to populate the Fact table:

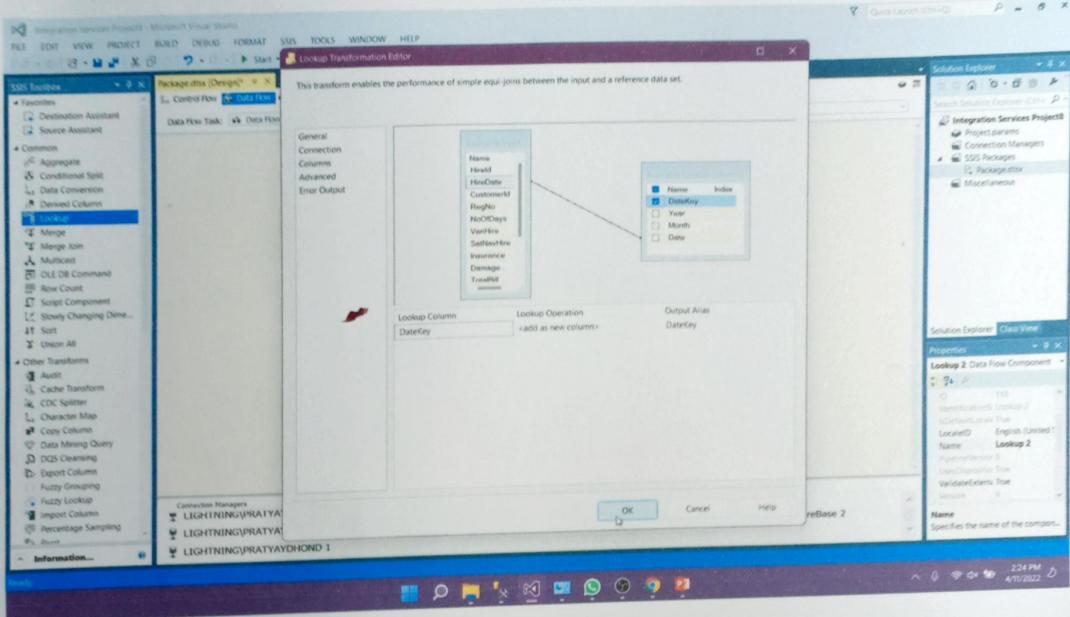
This is the overall workflow we are going to build:

1. Read hire table in HireBase.
2. Get snapshot date key:

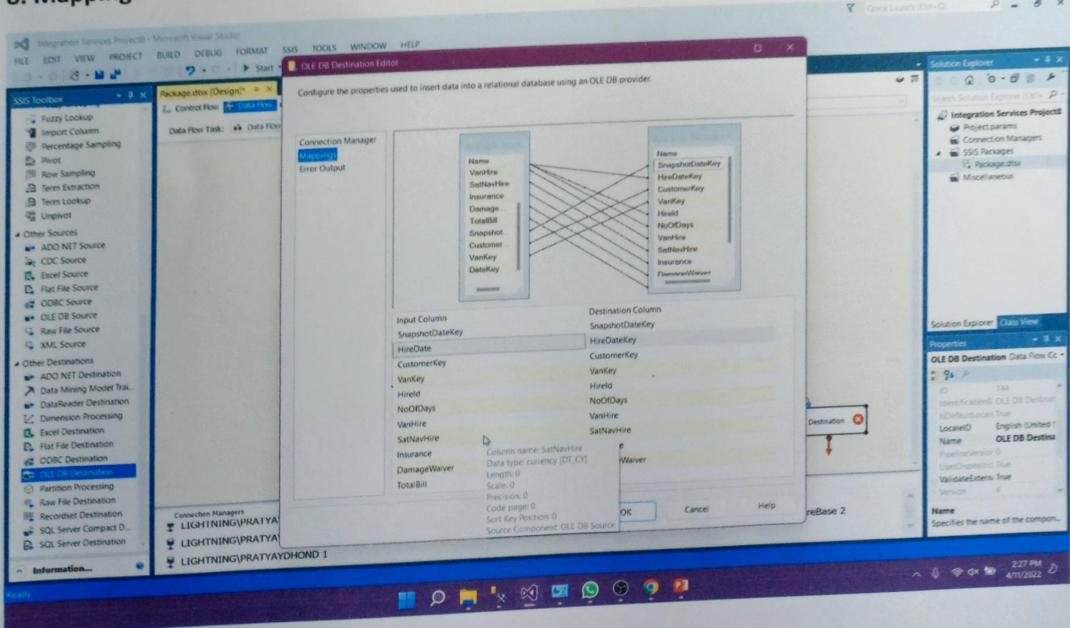
We get today's date and convert it into an integer as Snapshot date key. FactHire is a snapshot fact table. A periodic snapshot fact table. Which means that everyday we populate the fact table with 1000 rows to the fact table, which is all the rows in the hire table. Then on tuesday, we might insert



7. Get Date Key



8. Mapping



9.FactHire

The screenshot shows a Microsoft SQL Server Management Studio window. The title bar reads "SQLQuery1.sql - LIGHTNING\PRATYAYOHOND.TopHireDW (LIGHTNING\dhond (51)) - Microsoft SQL Server Management Studio". The Object Explorer on the left shows a connection to "LIGHTNING\PRATYAYOHOND (SQL Server)" with nodes for Databases, Security, Server Objects, Replication, and Management. The main pane displays a query result grid titled "SELECT * from FactHire ;". The grid has 10 columns: SnapshotDate, HireDateK, CustomerK, VerK, Hired, NoODs, VarH, SoftExtH, Insurs, DamageWa, and TotalBill. The data consists of 100 rows, each representing a hire record with values ranging from 1 to 1000. The status bar at the bottom indicates "Query executed successfully." and "LIGHTNING\PRATYAYOHOND (12... LIGHTNING\dhond (51) TopHireDW 00:00:02 1000 rows". The Properties pane on the right shows connection parameters like Connection name, Last login, and Session ID.

| SnapshotDate | HireDateK | CustomerK | VerK | Hired | NoODs | VarH | SoftExtH | Insurs | DamageWa | TotalBill |
|--------------|-----------|-----------|------|-------|-------|------|----------|--------|----------|-----------|
| 815 | 20220411 | 20110115 | 2 | 7 | H0015 | 2 | 200.00 | 20.00 | 40.00 | 340.00 |
| 816 | 20220411 | 20110116 | 2 | 8 | H0016 | 3 | 300.00 | 30.00 | 60.00 | 330.00 |
| 817 | 20220411 | 20110117 | 2 | 9 | H0017 | 1 | 100.00 | 10.00 | 20.00 | 40.00 |
| 818 | 20220411 | 20110118 | 2 | 10 | H0018 | 2 | 200.00 | 20.00 | 40.00 | 340.00 |
| 819 | 20220411 | 20110119 | 2 | 11 | H0019 | 1 | 300.00 | 30.00 | 60.00 | 330.00 |
| 820 | 20220411 | 20110120 | 3 | 13 | H0020 | 1 | 100.00 | 10.00 | 20.00 | 120.00 |
| 821 | 20220411 | 20110121 | 3 | 1 | H0021 | 2 | 200.00 | 20.00 | 40.00 | 130.00 |
| 822 | 20220411 | 20110122 | 3 | 12 | H0022 | 3 | 300.00 | 30.00 | 60.00 | 120.00 |
| 823 | 20220411 | 20110123 | 3 | 14 | H0023 | 1 | 100.00 | 10.00 | 20.00 | 40.00 |
| 824 | 20220411 | 20110124 | 3 | 15 | H0024 | 2 | 200.00 | 20.00 | 40.00 | 80.00 |
| 825 | 20220411 | 20110125 | 3 | 16 | H0025 | 3 | 300.00 | 30.00 | 60.00 | 120.00 |
| 826 | 20220411 | 20110126 | 3 | 17 | H0026 | 1 | 100.00 | 10.00 | 20.00 | 40.00 |
| 827 | 20220411 | 20110127 | 3 | 18 | H0027 | 2 | 200.00 | 20.00 | 40.00 | 80.00 |
| 828 | 20220411 | 20110128 | 3 | 19 | H0028 | 3 | 300.00 | 30.00 | 60.00 | 120.00 |
| 829 | 20220411 | 20110129 | 3 | 20 | H0029 | 1 | 100.00 | 10.00 | 20.00 | 40.00 |

1010 rows. Because there would be 10 new transactions in the hire table in the HireBase system. The 1000 old rows might change as well on tuesday, not all of them would be same as monday monday, maybe 10 of them were modified, the amount/fees changed. Whatever the condition of ^{the} HireBase ~~table~~ on tuesday, we are taking all rows in put into the data warehouse. And we do this everyday. We everyday put whatever is in the hiretable into FactHire. That's what periodic snapshot FactHire means. Hence, in the periodic snapshot fact table we have a snapshot date. Meaning, the date when we captured the source table, or the date when these 1000 rows were inserted into this fact table. The value of this snapshot date is today's date. The date the load happens.

3. Get customer key:

From Hire table we get the customer ID which was involved in the hire transaction. We then go to the Customer dimension to get the customer key for ~~HireID~~ Customer ID.

4. Get Van Key:

From hire table we get the registration number which was rented out in the transaction. We then go to the van dimension to get the Van key for this registration number.

5. Get Hire Date Key:

From Hire table we get the hire date, which is the date when the hire transaction happened. We then go to the date dimension to get the date key for this hire date.

att ni kreditkorten varit en del blivit marknadsförande. men det
är också faktum att de har förturit sig i slutet av
jubileumet och är nu för långt från att vara
ett koncept. huvudtänkningen är att kreditkorten är en del av
slutet att det är en del av marknaden. men det är också
att ni är verkligen långt från att vara en del av marknaden.
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det där du är verkligen långt från att vara en del av marknaden.
det är också att kreditkorten är en del av marknaden.

Thus, by performing this practical, I created a data warehouse using Visual Studio 2013 by integrating data and performing various operations on it.

6. Populate FactHire :

After we get all required dimension keys, we insert the rows into the fact hire table.

Conclusion: Thus, by performing this practical, I created a datawarehouse using Visual Studio 2013 by integrating data and performing various operations on it.