Gravity Bookstore

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Model and Develop 'gravity_books_dwh' Data Warehouse:
Create table Meta Control Fact Sales Load
ETL by using SSIS Integration
Create SSAS cube
Create a dashboard using Tableau

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Model and Develop 'gravity_books_dwh' Data Warehouse:

Created Fact and Dimensions tables using DDL statements.

Fact Sales

Dim Book

Dim Customer

Dim Order

Dim Date

```
CREATE TABLE Dim_Book (
   Pk_Book_id_Sk INT IDENTITY(1,1) PRIMARY KEY
   Book_id_BK INT,
   title VARCHAR(40),
   isbn13 VARCHAR(13),
   language_id_bk INT,
   num_pages INT,
   publication_date DATE,
   publisher_id_bk INT,
   publisher_name VARCHAR(1000),
   author_id_bk INT,
   author_name VARCHAR(400),
   language_code VARCHAR(8),
   language_name VARCHAR(50),
   start_date DATE,
   end_date DATE,
   is_currnt BIT,);
```

```
CREATE TABLE Dim_Order (
    Pk_order_id_Sk INT IDENTITY(1,1) PRIMARY KEY,
    order_id_BK INT,
    dest_address_id_bk INT,
    shipping_method_id_bk INT,
    method_name VARCHAR(100),
    history_id_bk INT,
    status_id_bk INT,
    status_date DATETIME,
    status_value VARCHAR(20),
    address_id_bk INT,
    street_number VARCHAR(10),
    street_name VARCHAR(200),
    city VARCHAR(100),
    country_id INT,
    country_name VARCHAR(200),
    line_id_bk INT,
    start_date DATE,
    end_date DATE,
```

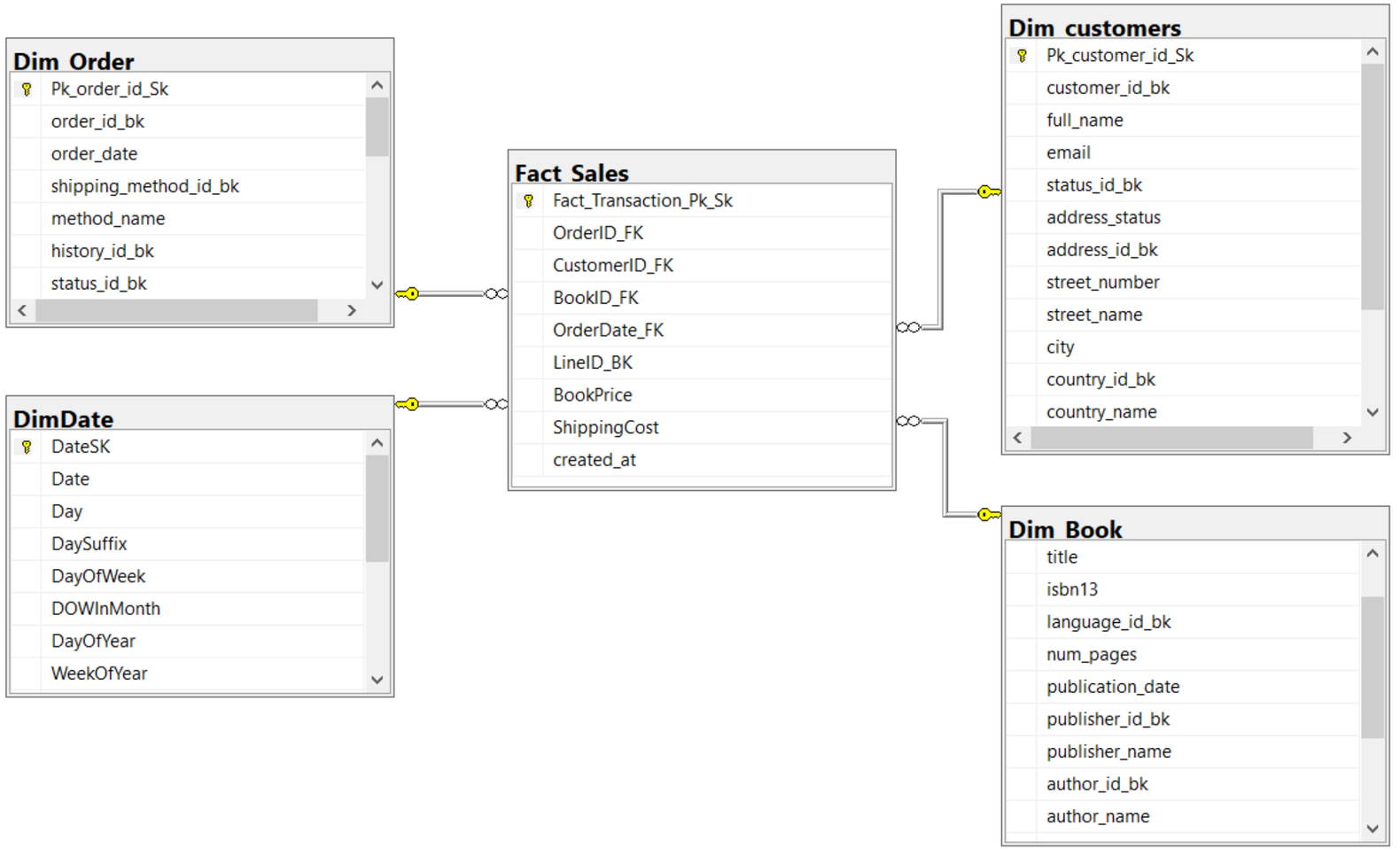
```
REATE TABLE Dim_Customers (
   Pk_customer_id_Sk INT IDENTITY(1,1) PRIMARY KEY,
   customer_id_BK INT,
   first_name VARCHAR(200),
   last_name VARCHAR(200),
   email VARCHAR(350),
   status_id_bk INT,
   address_status VARCHAR(30),
   street_number VARCHAR(10),
   city VARCHAR(100),
   country_id_bk INT,
   country_name VARCHAR(200),
   address_id_bk INT,
   street_name VARCHAR(200),
   start_date DATE,
   end_date DATE,
   is currnt BIT.):
```

```
CREATE TABLE FactSales (
    Fact_Transaction_Pk_Sk INT IDENTITY(1,1) PRIMARY KEY,
    CustomerID_FK INT NOT NULL,
    BookID_FK INT NOT NULL,
    OrderDate_FK INT NOT NULL,
    OrderID_FK INT NOT NULL,
    created_at DATETIME DEFAULT GETDATE(),
    BookPrice DECIMAL(5,2),
    ShippingCost DECIMAL(6,2),
    LineID_BK INT NOT NULL,

    CONSTRAINT FK_FactSales_DimOrder FOREIGN KEY (OrderID_FK) REFERENCES Dim_Order(Pk_order_id_Sk),
    CONSTRAINT FK_FactSales_DimBook FOREIGN KEY (BookID_FK) REFERENCES Dim_Book(Pk_Book_id_Sk),
    CONSTRAINT FK_FactSales_DimCustomers FOREIGN KEY (CustomerID_FK) REFERENCES Dim_Customers(Pk_customer_id_Sk)
```

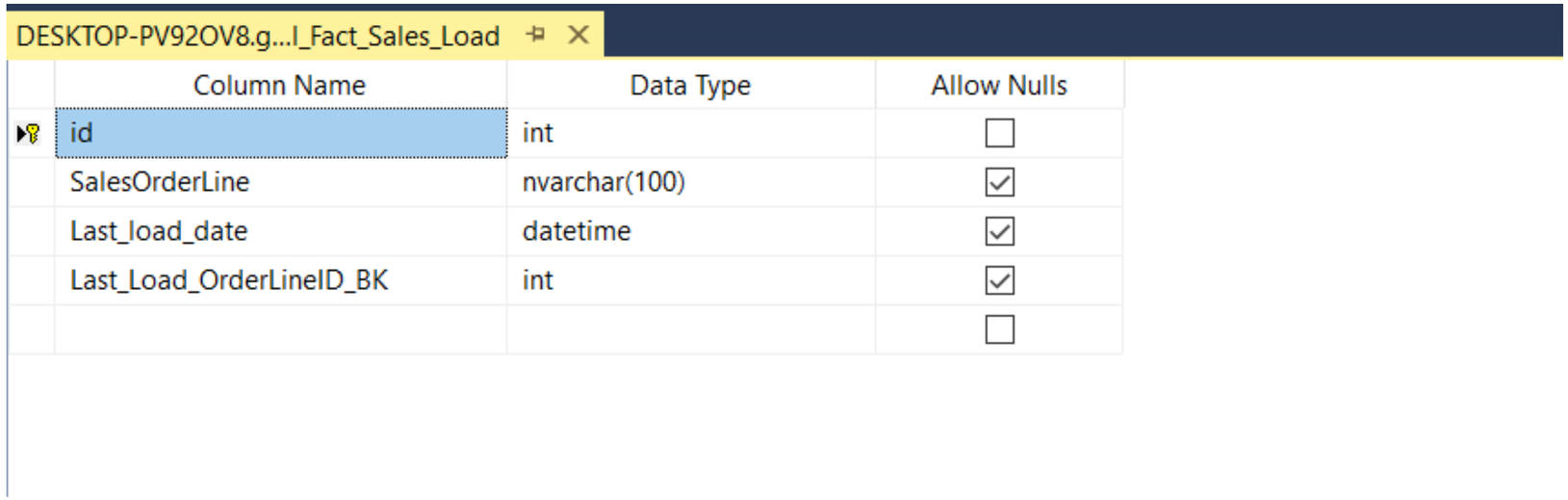
Chosen Approach:

Opted for a Star Schema design, creating efficient relationships for books, customers, orders, and dates. Simplifying analytics and boosting query performance!



Create table Meta Control Fact Sales Load

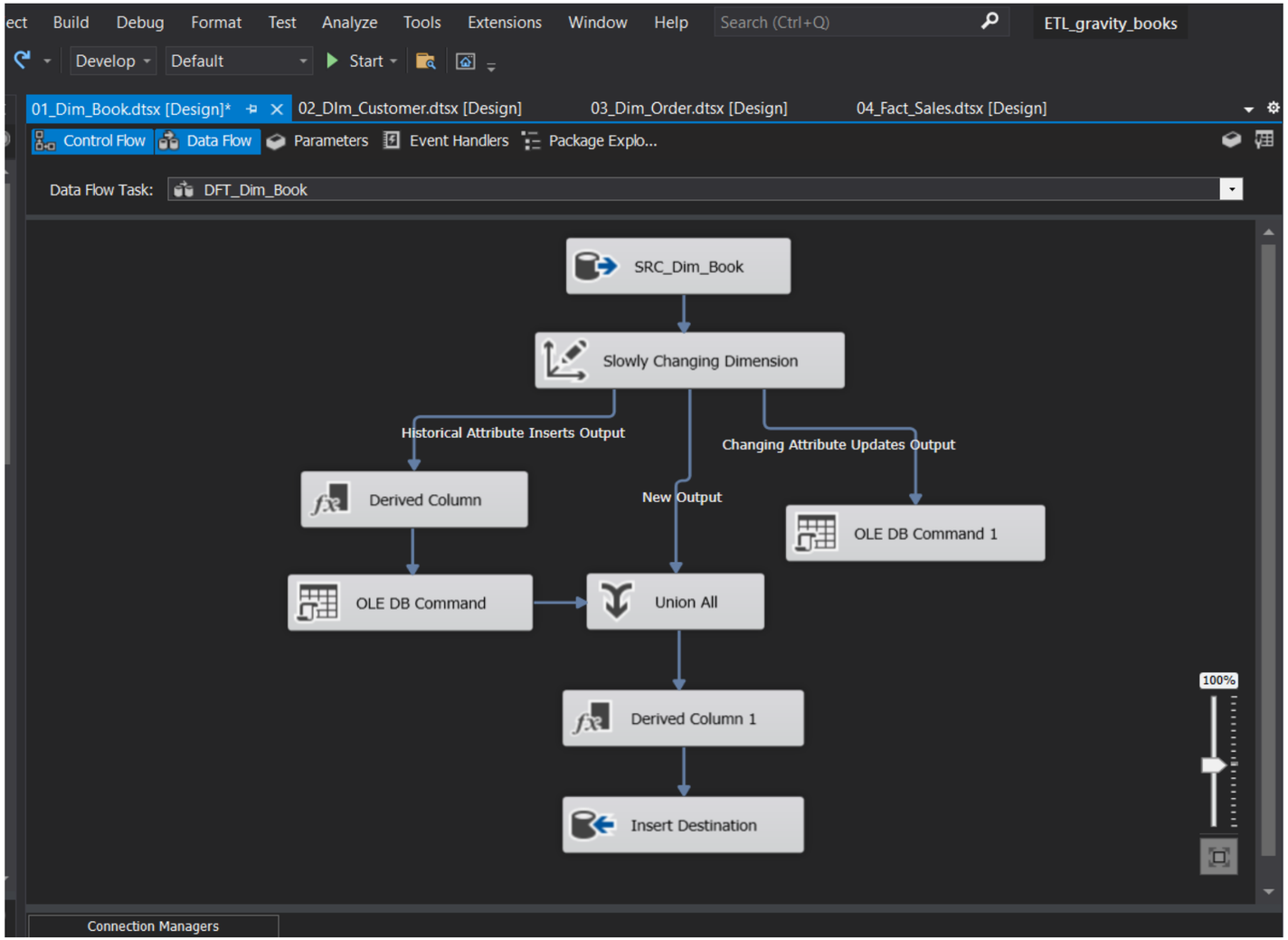
This table is to be used to verify that only new data is added to Fact Sales table



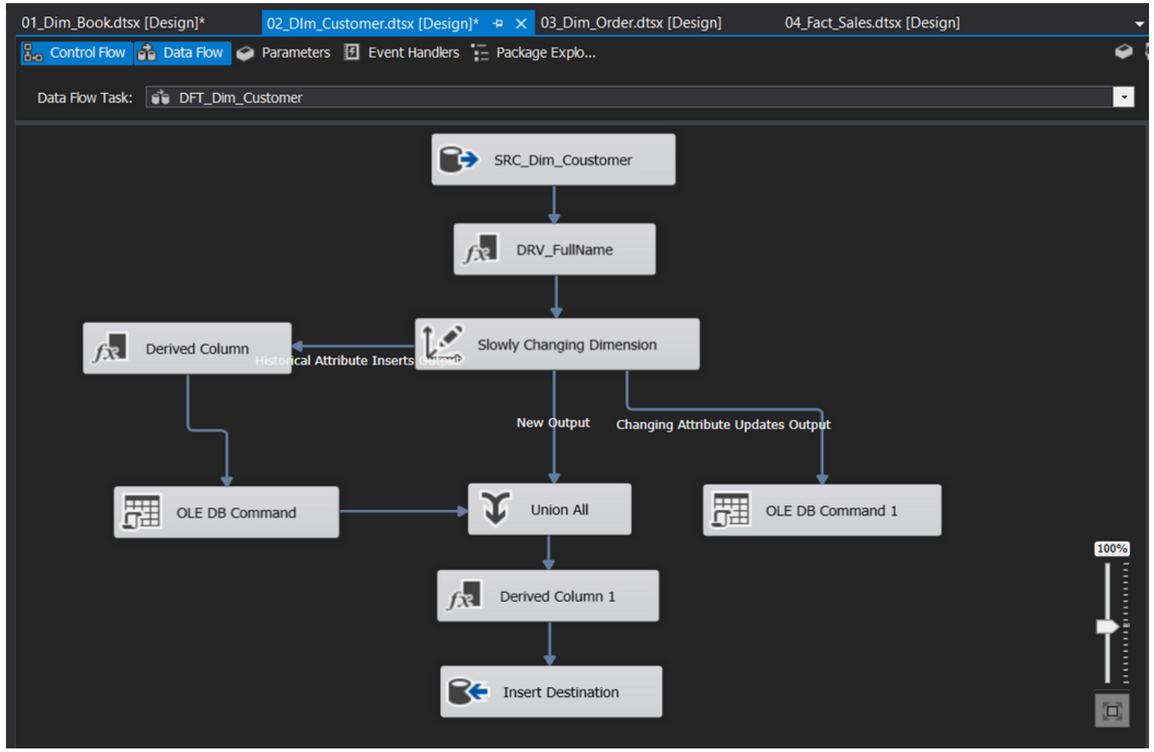
ETL by using SSIS Integration:

- Crafted a seamless SSIS project, ensuring a smooth transfer of data from 'gravity_books' to our new 'gravity_books_dwh.'

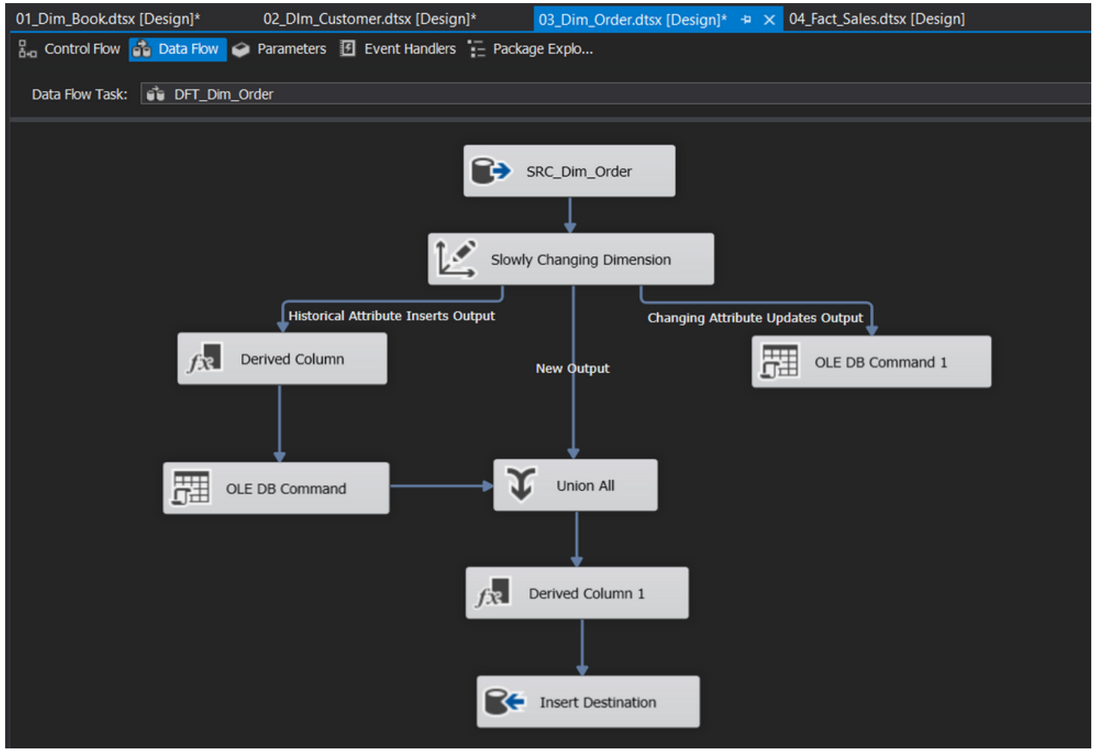
Dim Book



Dim Customer

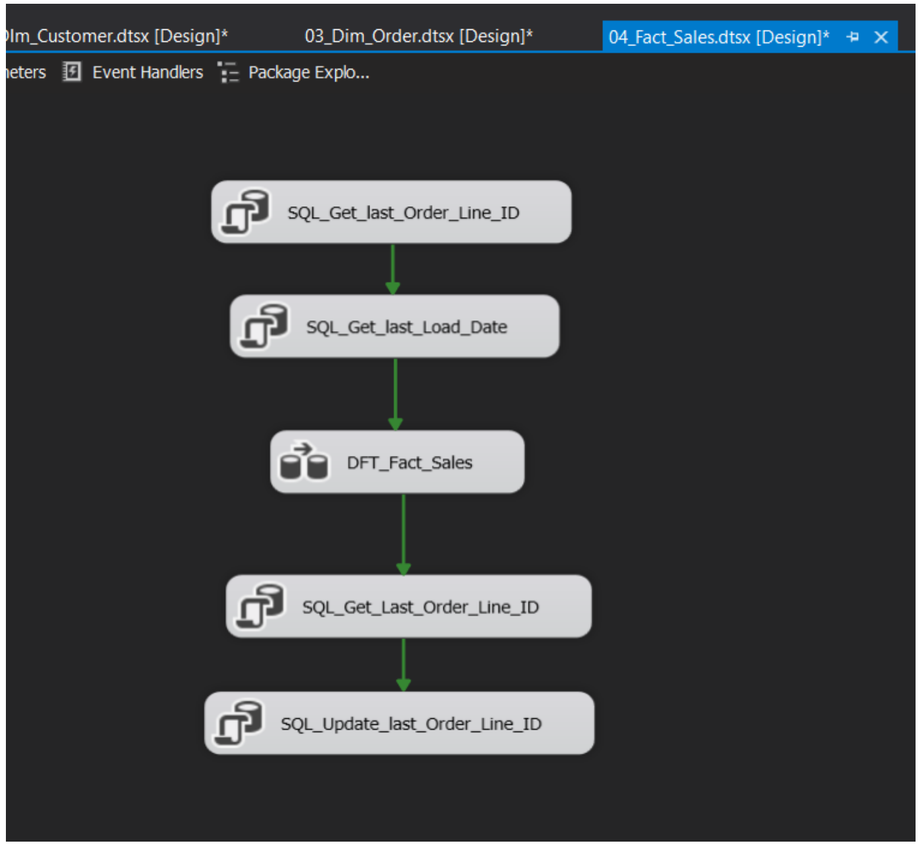


Dim Order

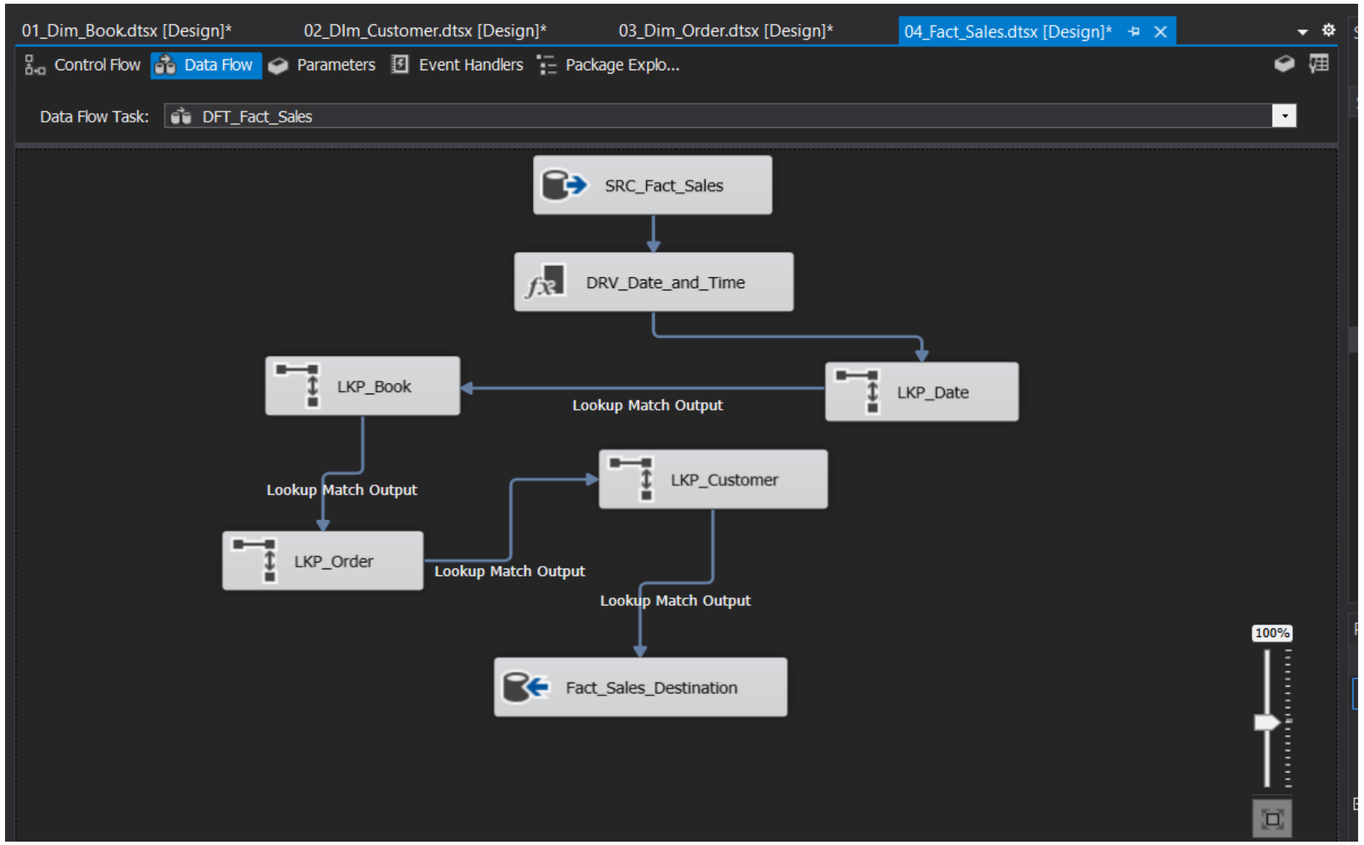


Fact Sales

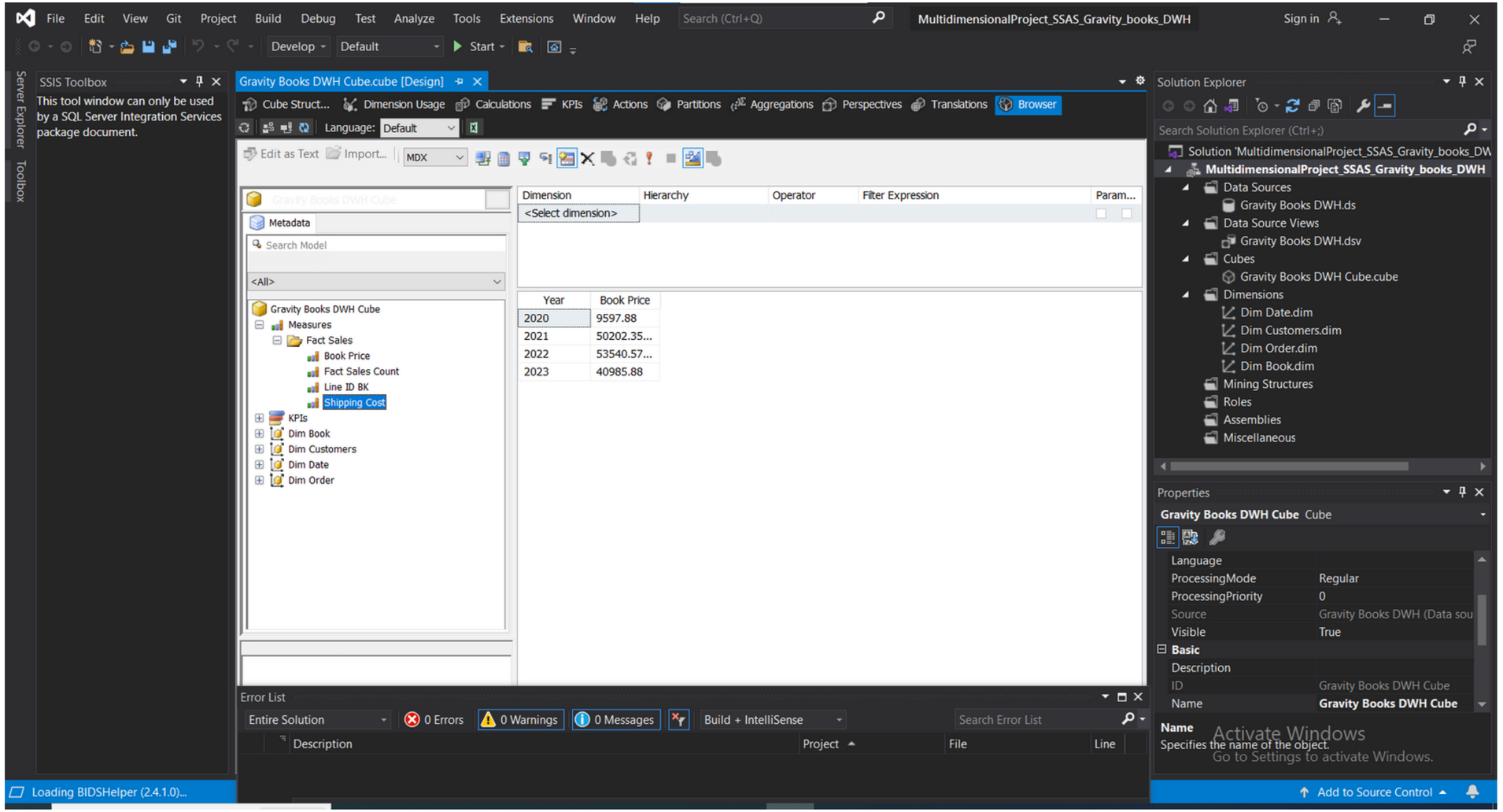
Fact Sales ControlFlow



Fact Sales DataFlow



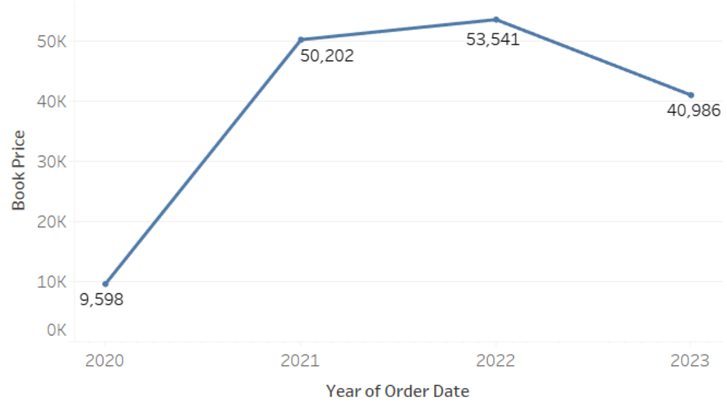
Create SSAS cube



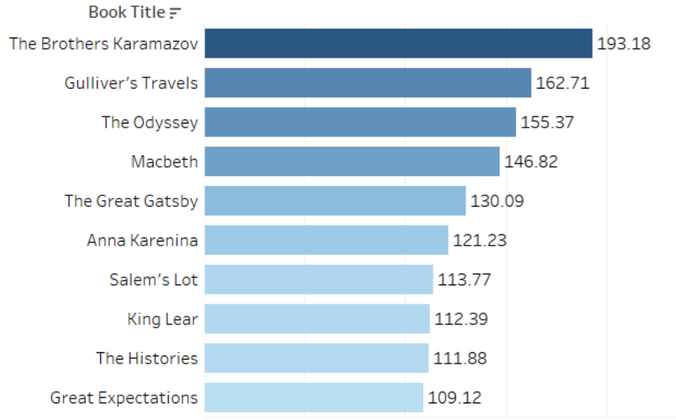
Create a dashboard using Tableau

# of Books	Avg of Book Price	Avg of Shipping Cost	Total sales	# Orders
11,127	$10.02	$11.19	$154,326.69	15,400

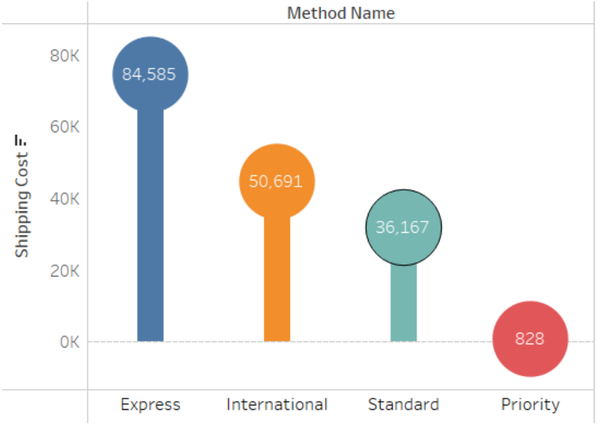
Total book sales for each year



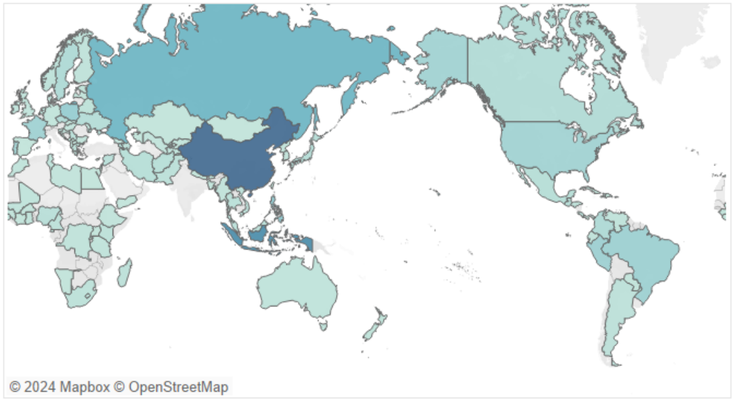
Best selling books



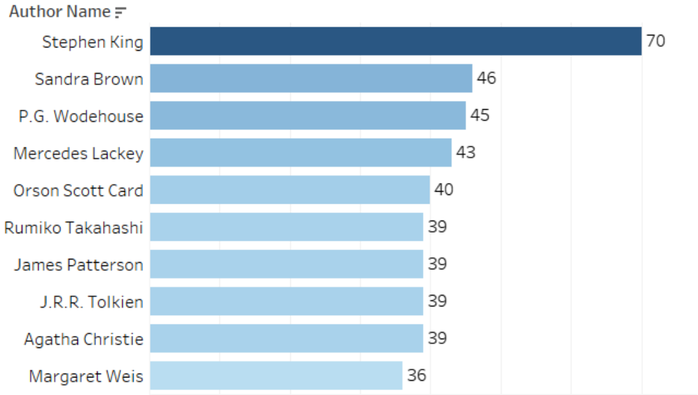
Shipping cost per Method type



Total book sales per country



Top 10 Authors



Order States