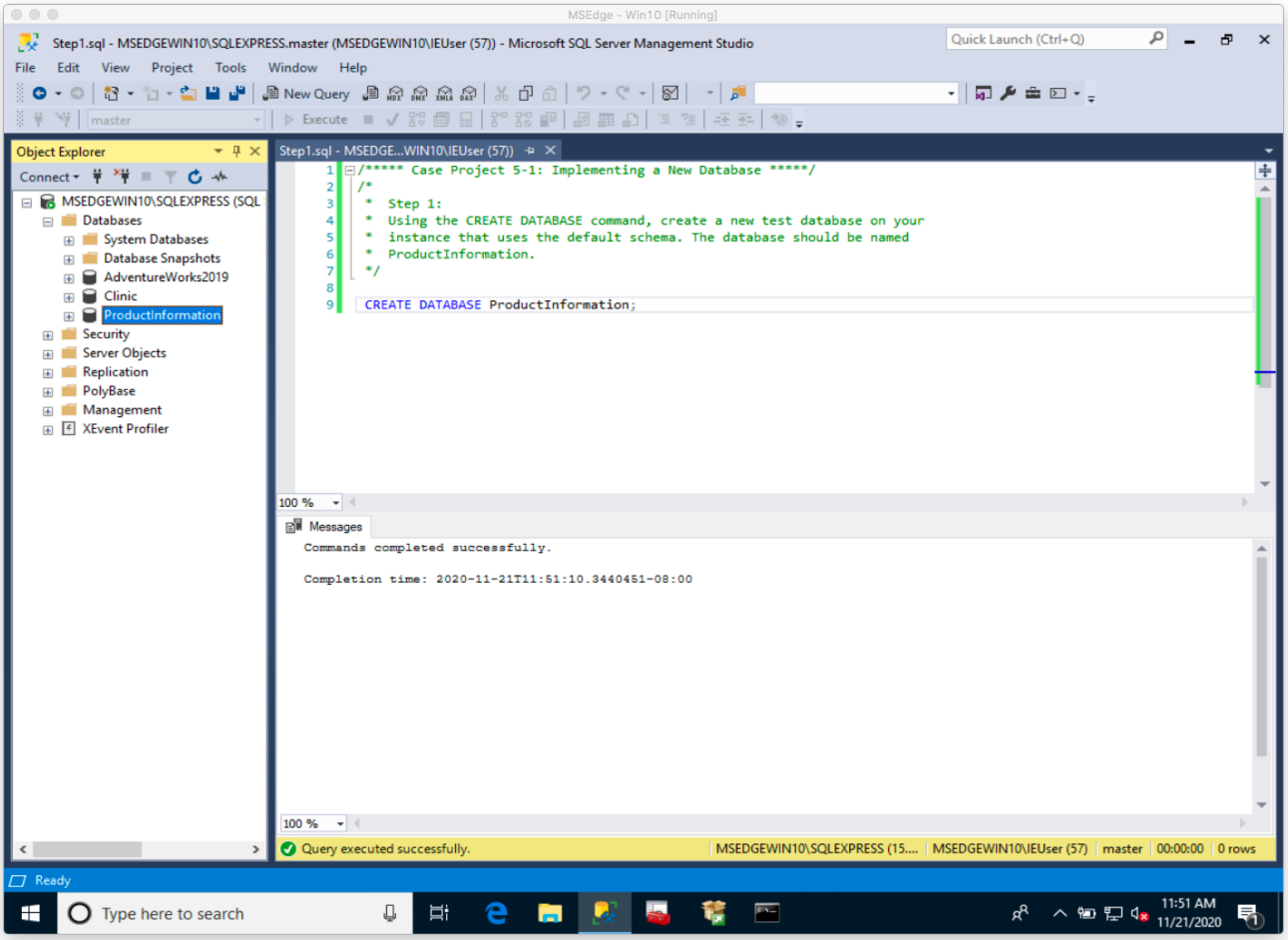
Case Project 5-1: Implementing a New Database

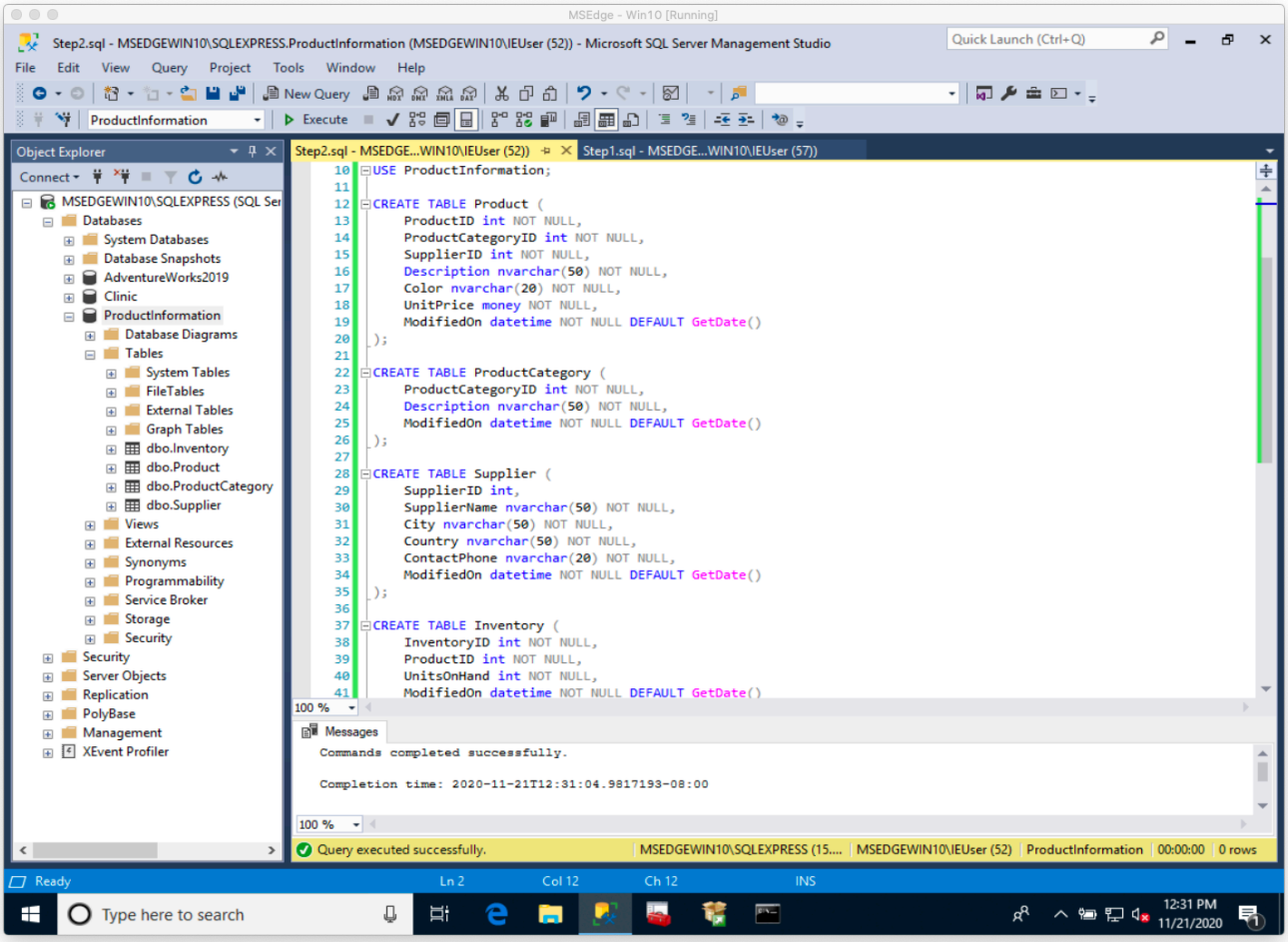
Read case project carefully and submit screen shots proving that you have successfully carried out 1 though 12 successfully.

Each step's queries that I created can be found in my repository at https://github.com/amajor/DatabaseImplementationLab

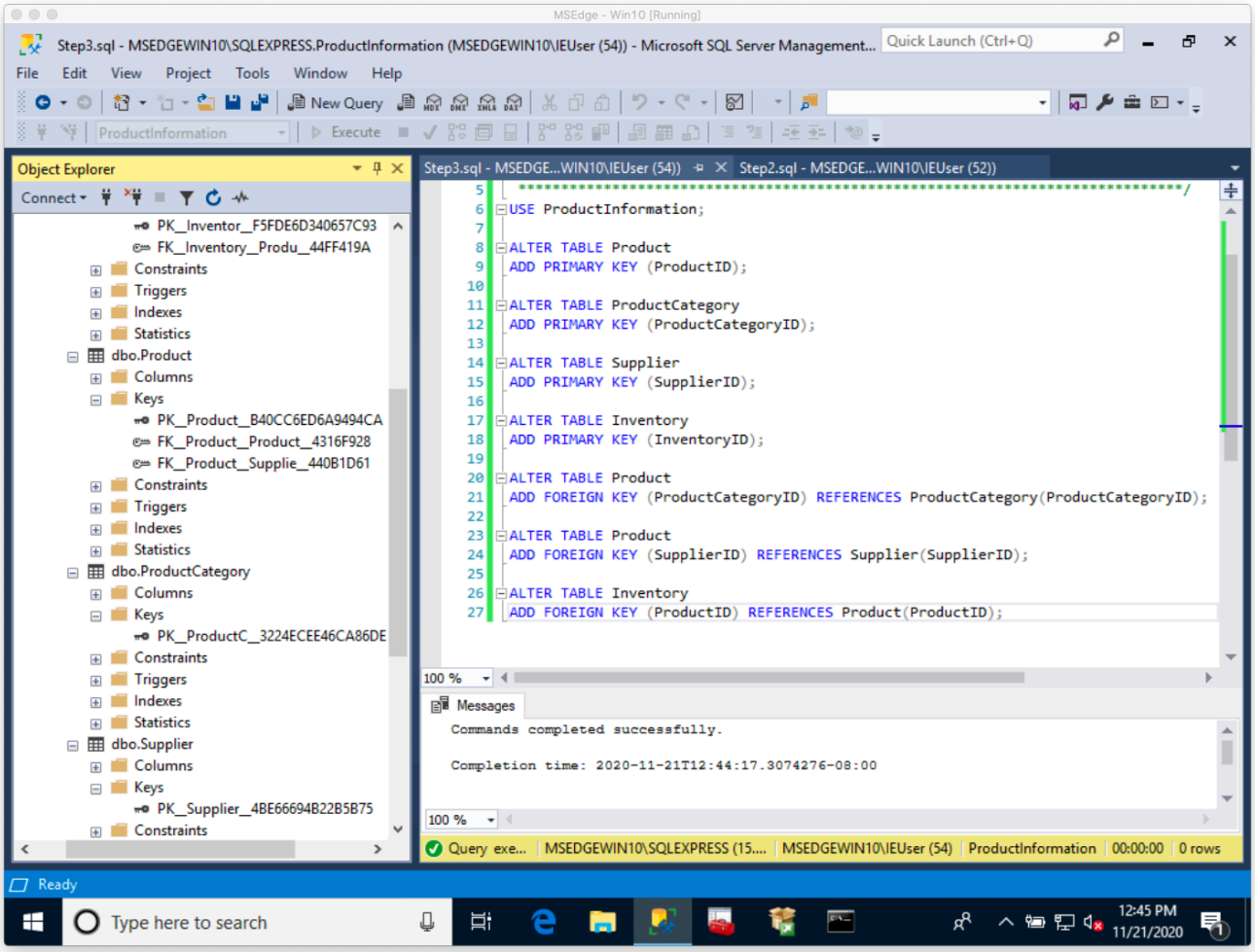
1: CREATE DATABASE



2: ADD TABLES

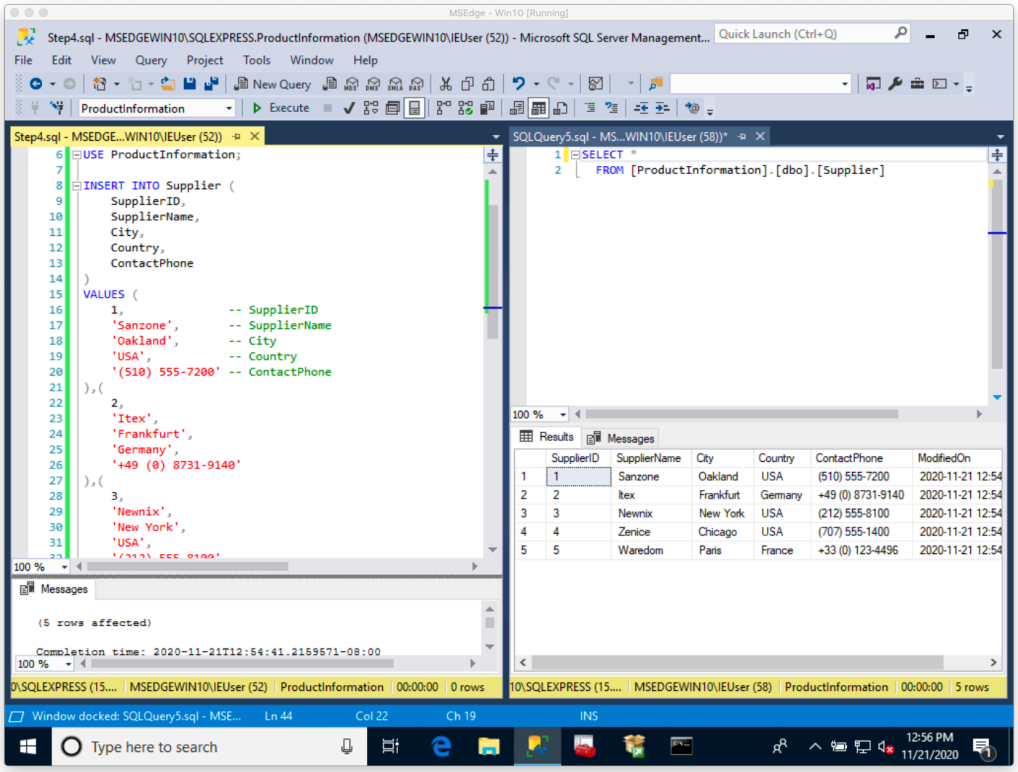

MSEdge - Win10 [Running]
Step2.sql - MSEDGEWIN10\SQLEXPRESS.ProductInformation (MSEDGEWIN10\IEUser (52)) - Microsoft SQL Server Management Studio
Quick Launch (Ctrl+Q)
File Edit View Query Project Tools Window Help
New Query
ProductInformation
Execute
Object Explorer
Connect
MSEDGEWIN10\SQLEXPRESS (SQL Ser
Databases
System Databases
Database Snapshots
AdventureWorks2019
Clinic
ProductInformation
Database Diagrams
Tables
System Tables
FileTables
External Tables
Graph Tables
dbo.Inventory
dbo.Product
dbo.ProductCategory
dbo.Supplier
Views
External Resources
Synonyms
Programmability
Service Broker
Storage
Security
Security
Server Objects
Replication
PolyBase
Management
XEvent Profiler
Step2.sql - MSEDGE...WIN10\IEUser (52))
Step1.sql - MSEDGE...WIN10\IEUser (57))
USE ProductInformation;
CREATE TABLE Product (
ProductID int NOT NULL,
ProductCategoryID int NOT NULL,
SupplierID int NOT NULL,
Description nvarchar(50) NOT NULL,
Color nvarchar(20) NOT NULL,
UnitPrice money NOT NULL,
ModifiedOn datetime NOT NULL DEFAULT GetDate()
);
CREATE TABLE ProductCategory (
ProductCategoryID int NOT NULL,
Description nvarchar(50) NOT NULL,
ModifiedOn datetime NOT NULL DEFAULT GetDate()
);
CREATE TABLE Supplier (
SupplierID int,
SupplierName nvarchar(50) NOT NULL,
City nvarchar(50) NOT NULL,
Country nvarchar(50) NOT NULL,
ContactPhone nvarchar(20) NOT NULL,
ModifiedOn datetime NOT NULL DEFAULT GetDate()
);
CREATE TABLE Inventory (
InventoryID int NOT NULL,
ProductID int NOT NULL,
UnitsOnHand int NOT NULL,
ModifiedOn datetime NOT NULL DEFAULT GetDate()
100 %
Messages
Commands completed successfully.
Completion time: 2020-11-21T12:31:04.9817193-08:00
100 %
Query executed successfully.
MSEDGEWIN10\SQLEXPRESS (15....
MSEDGEWIN10\IEUser (52)
ProductInformation
00:00:00
0 rows
Ready
Ln 2
Col 12
Ch 12
INS
Type here to search
12:31 PM
11/21/2020

3: ALTER TABLES

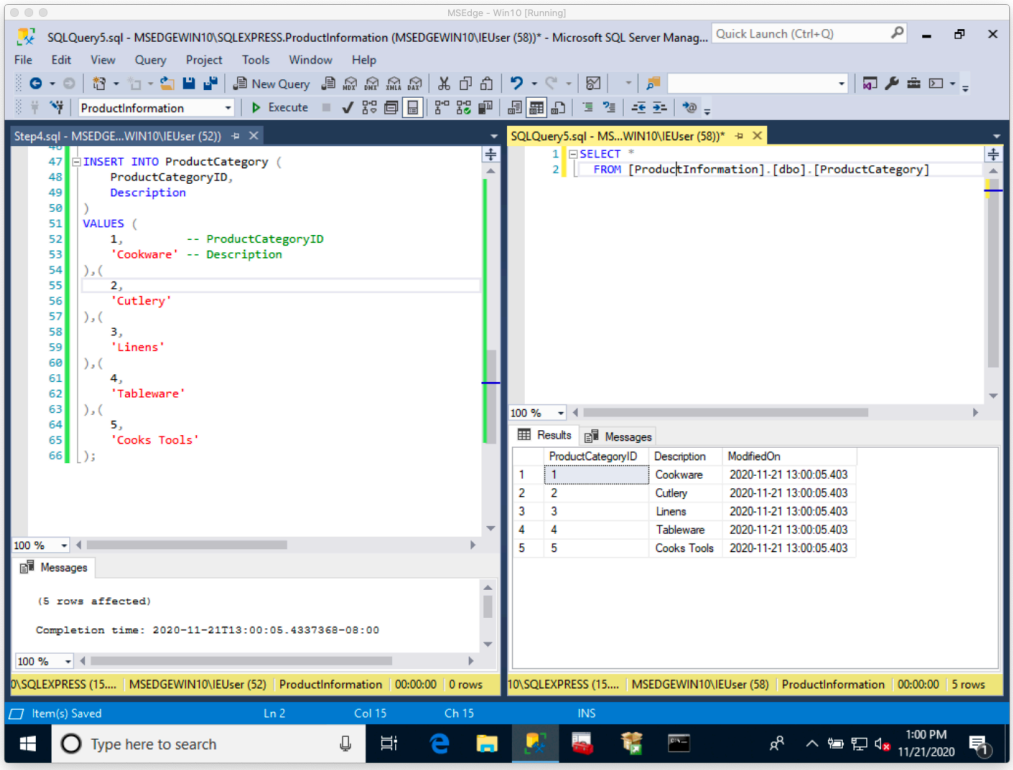


4: INSERT sample data

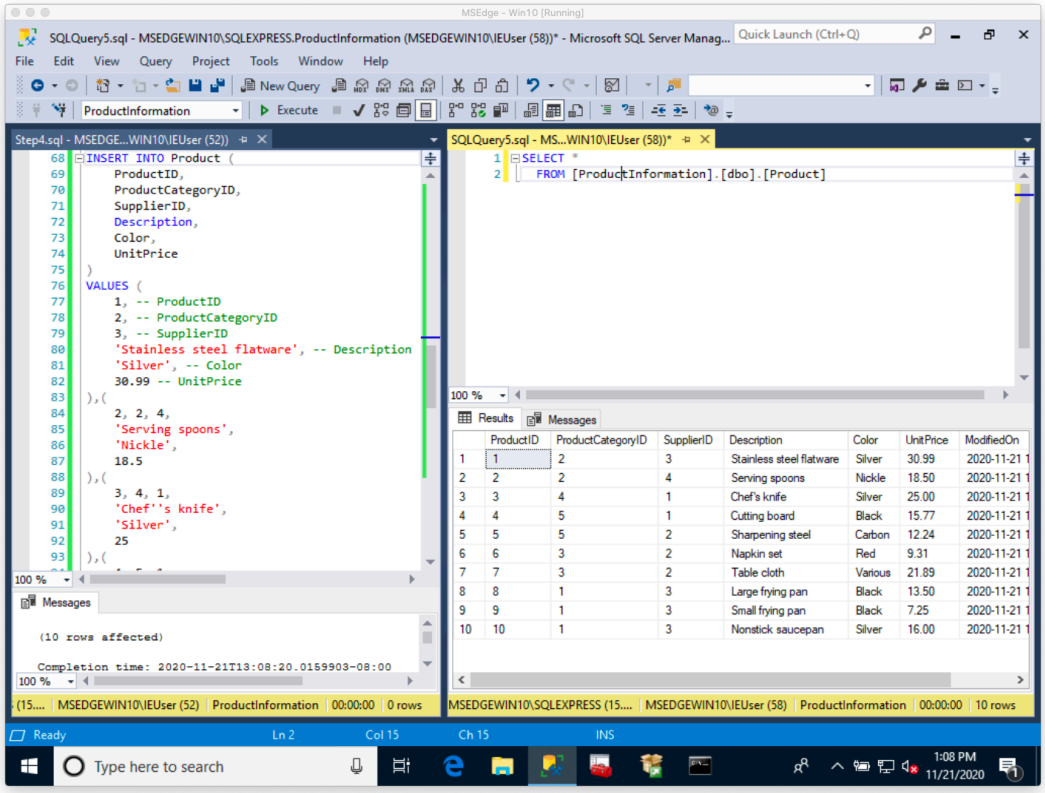
Supplier Table



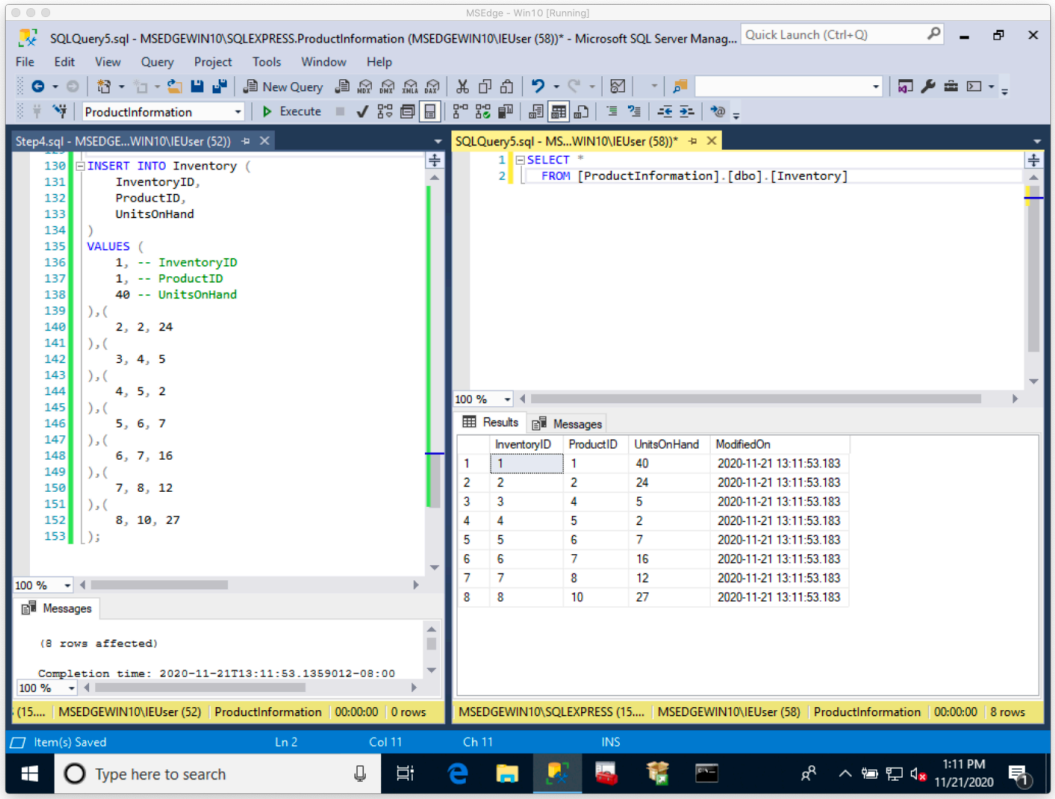
ProductCategory Table



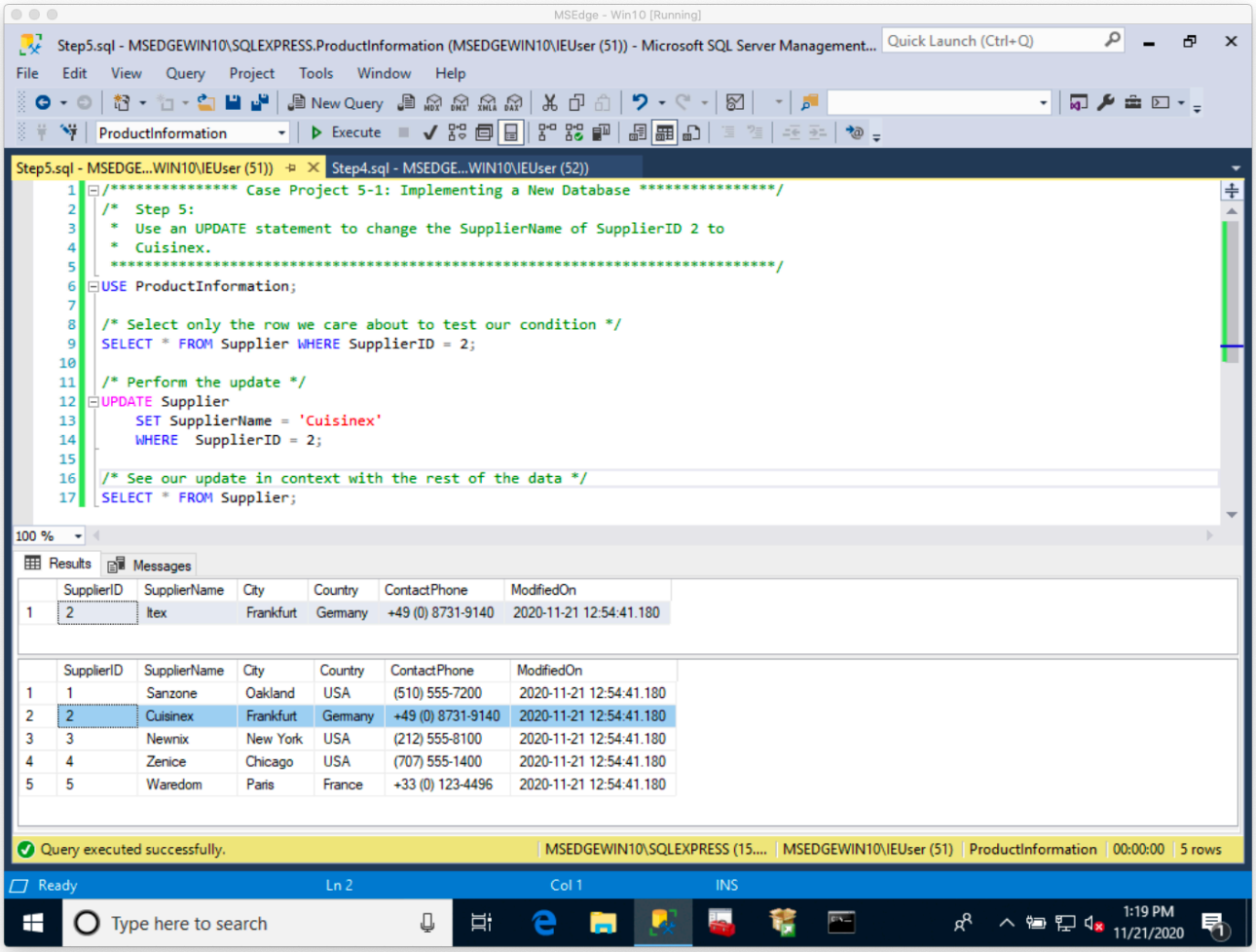
Product Table



Inventory Table

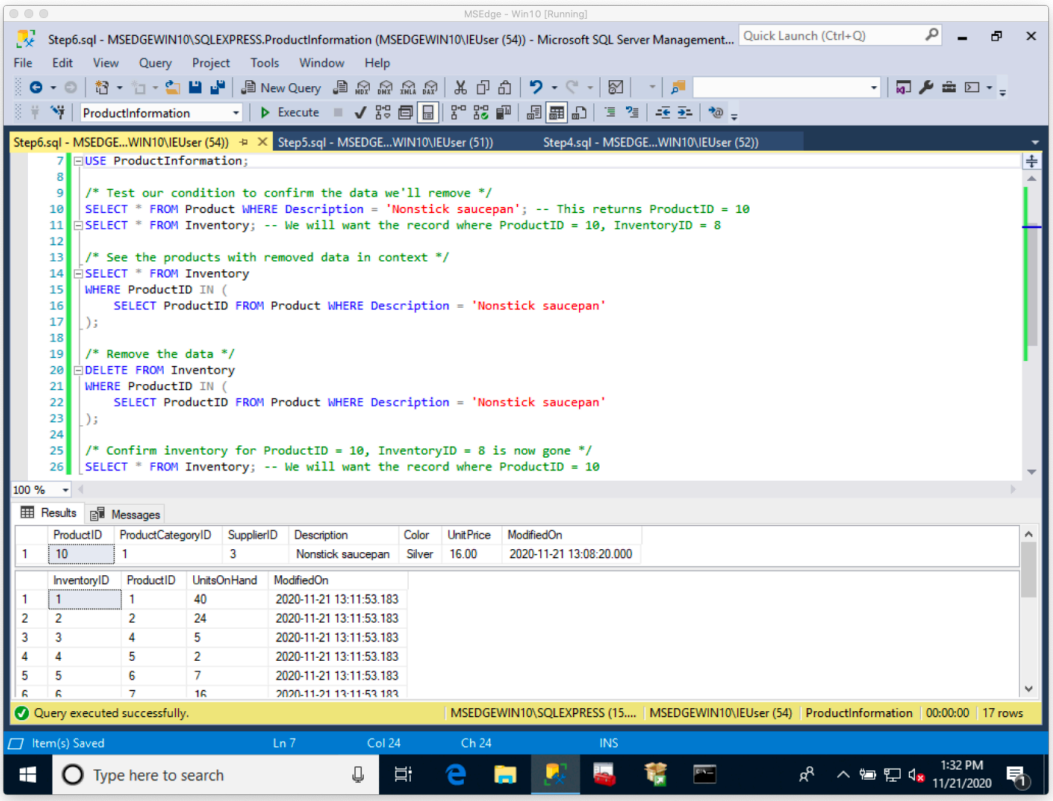


5: UPDATE data

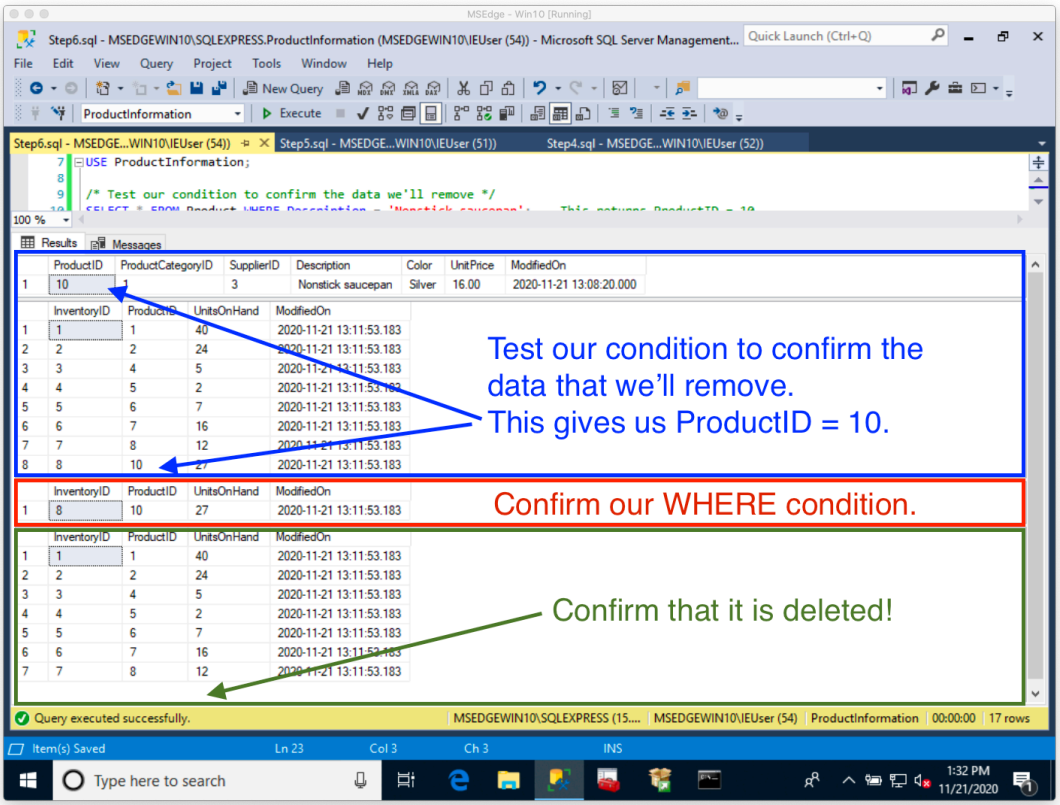


6: DELETE data

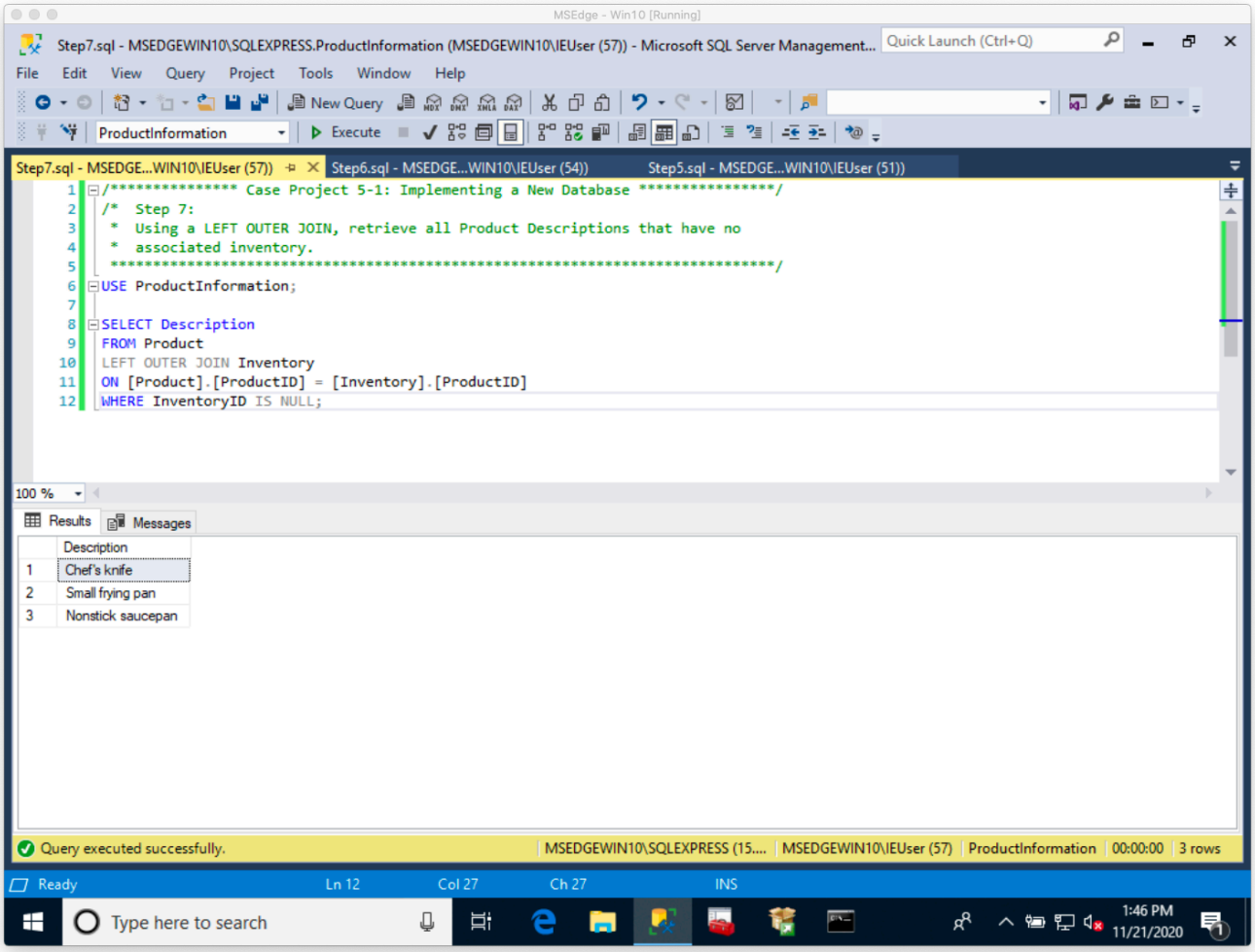
Here are our queries:



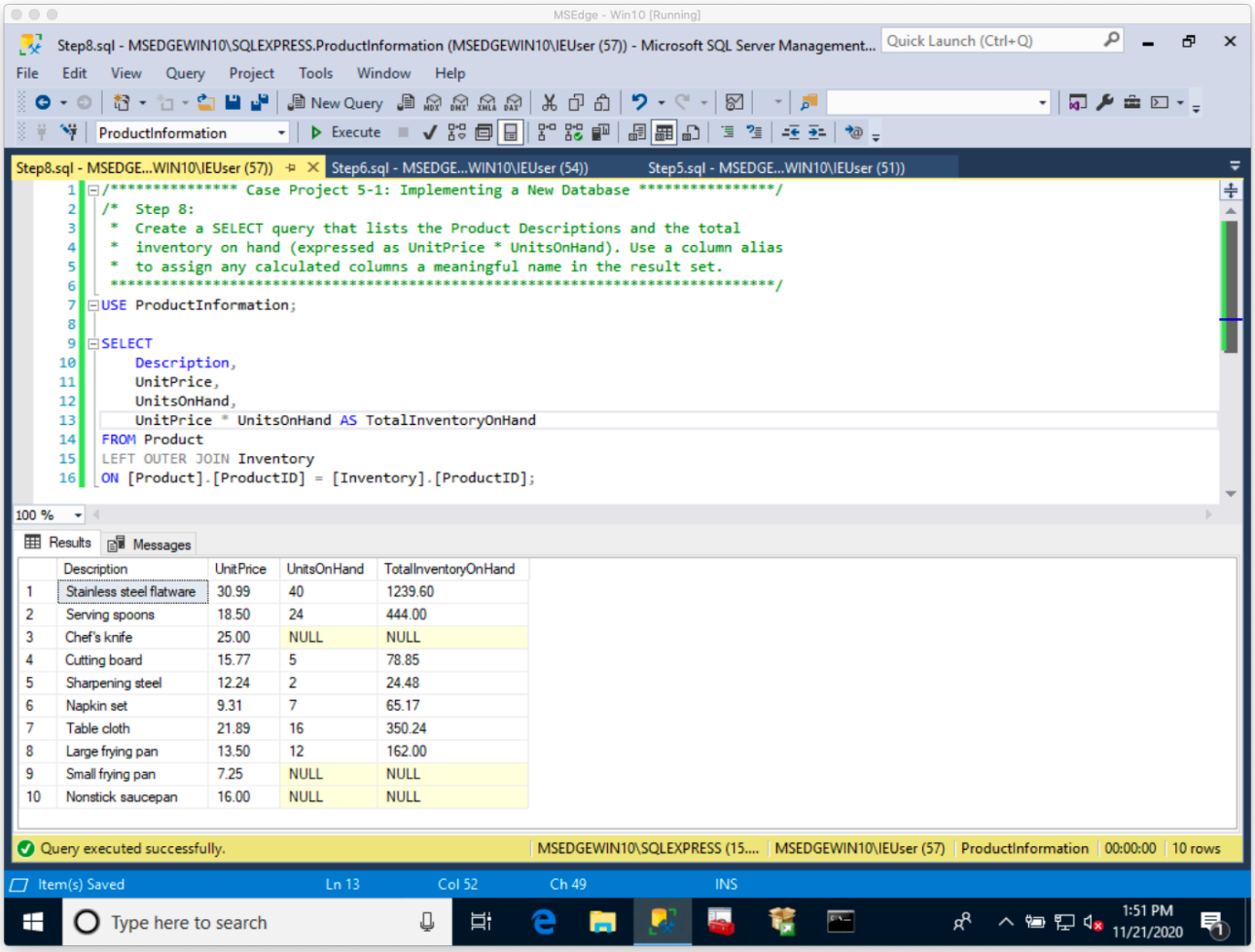
And the output:



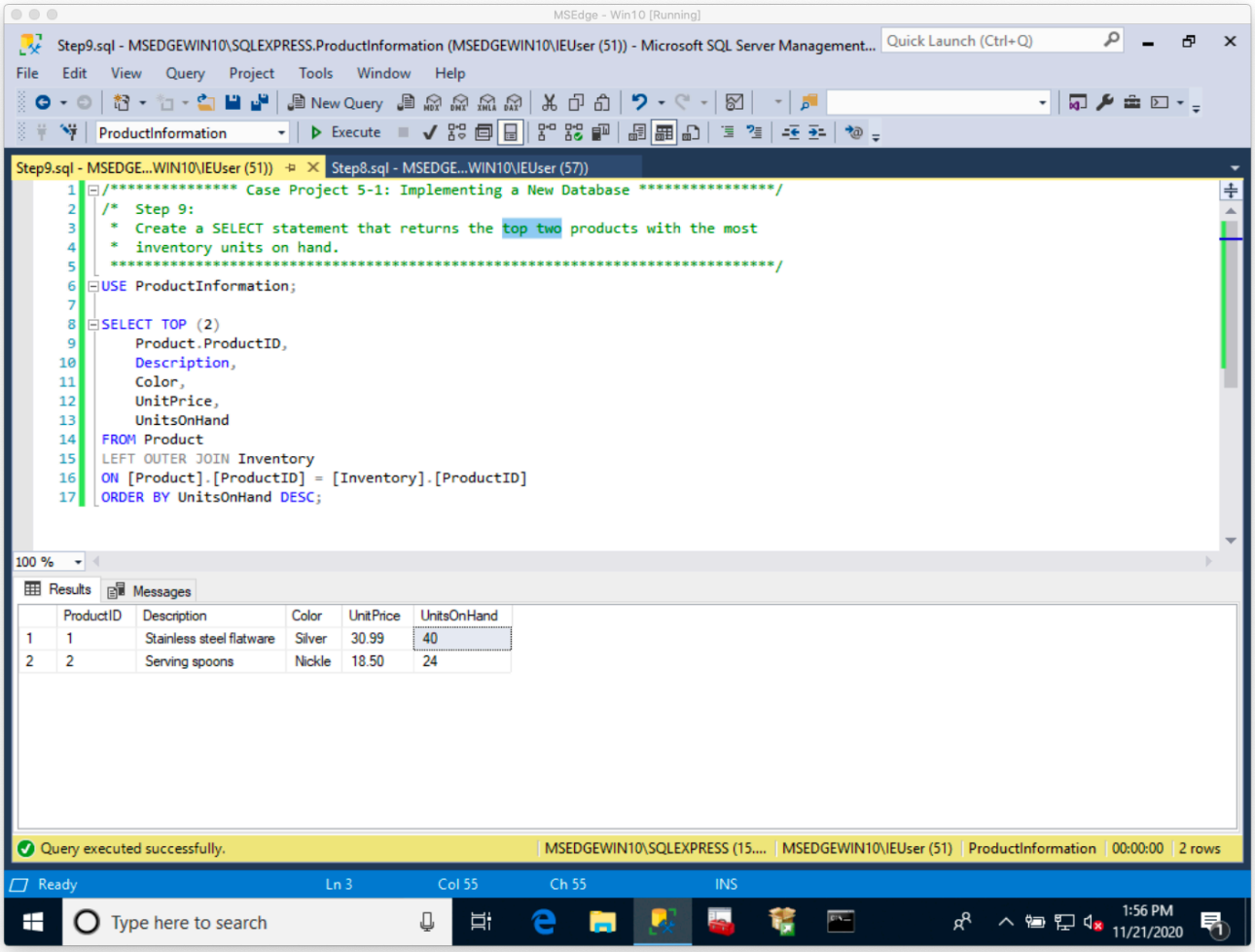
7: LEFT OUTER JOIN



8: SELECT total inventory on hand



9: SELECT top two products with most inventory

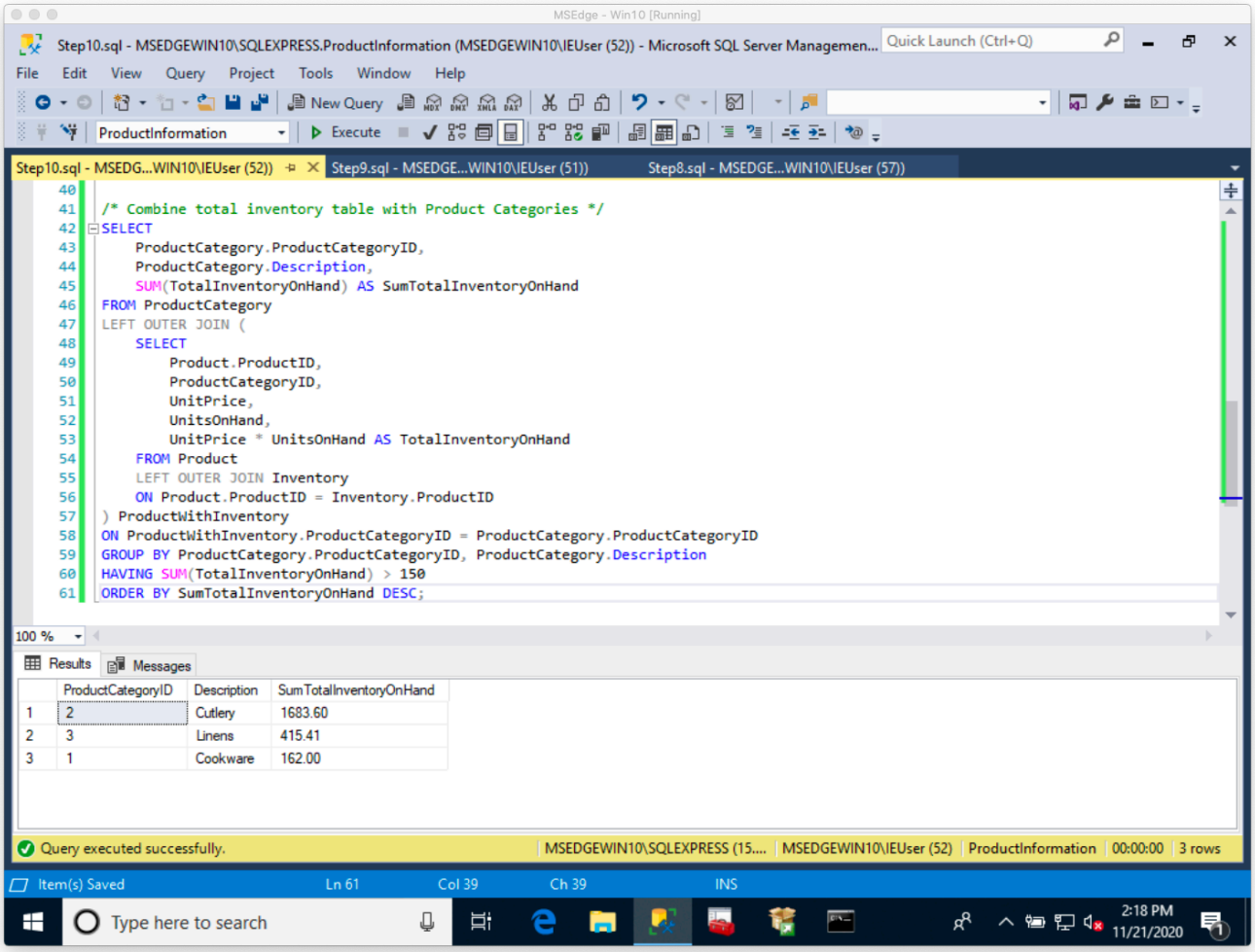


10: SELECT total inventory on hand by category greater than $150

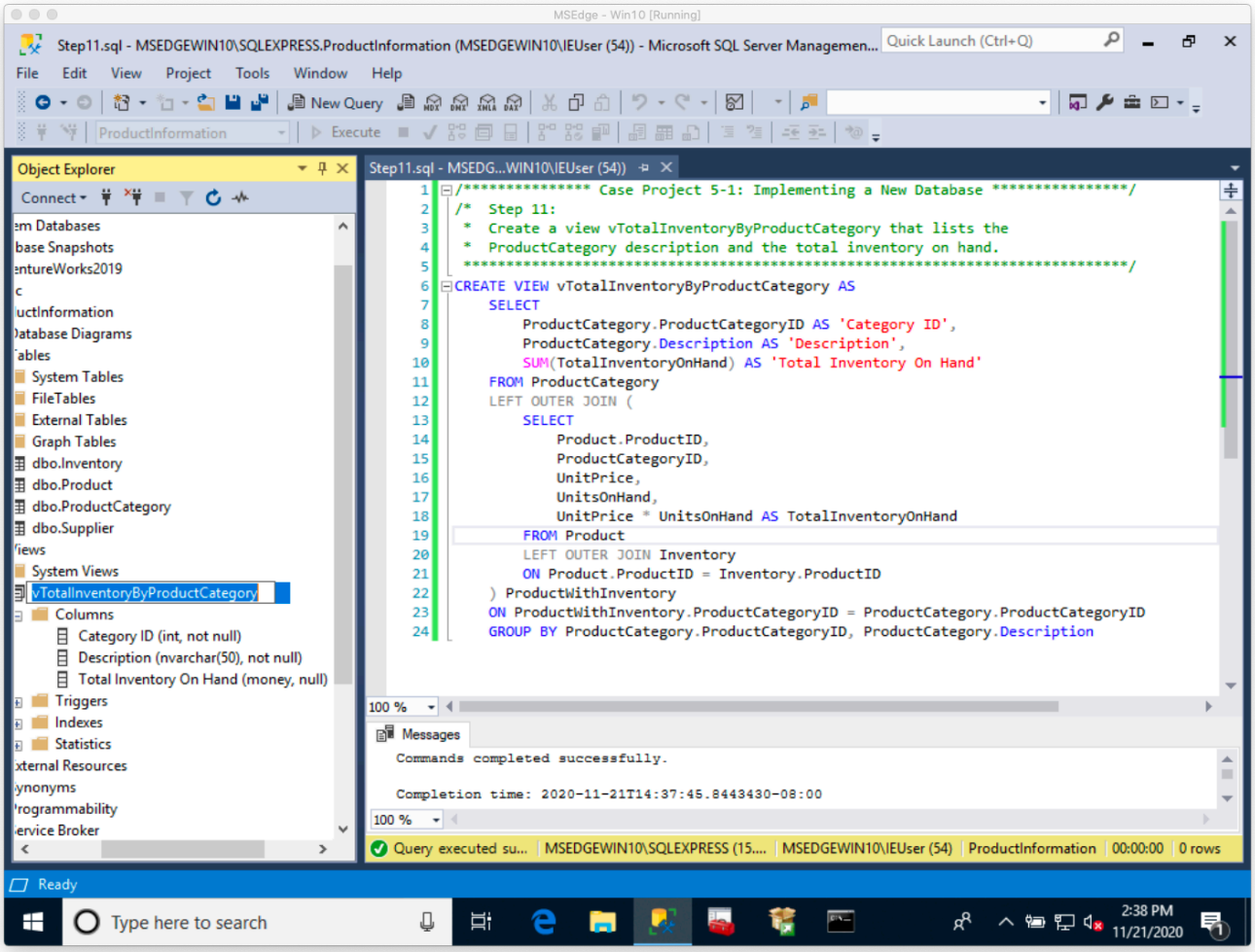
We can calculate our total inventory on hand using a join between Product and Inventory tables.

	ProductID	ProductCategoryID	UnitPrice	UnitsOnHand	TotalInventoryOnHand	
1	8	1	13.50	12	162.00	
2	9	1	7.25	NULL	NULL	Category Total: $162.00
3	10	1	16.00	NULL	NULL	
4	1	2	30.99	40	1239.60	Category Total: $1683.60
5	2	2	18.50	24	444.00	
6	6	3	9.31	7	65.17	Category Total: $415.41
7	7	3	21.89	16	350.24	
8	3	4	25.00	NULL	NULL	
9	4	5	15.77	5	78.85	Category Total: $103.33
10	5	5	12.24	2	24.48	

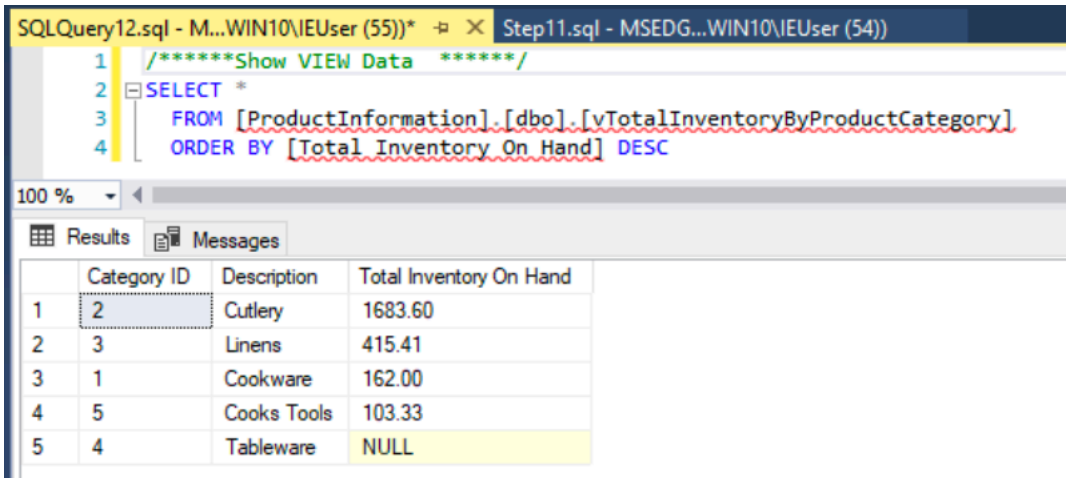
We can use this information to double check our final result where we use GROUP BY to add together total inventory and return only the sum total inventories for categories that are over $150:



11: Create View

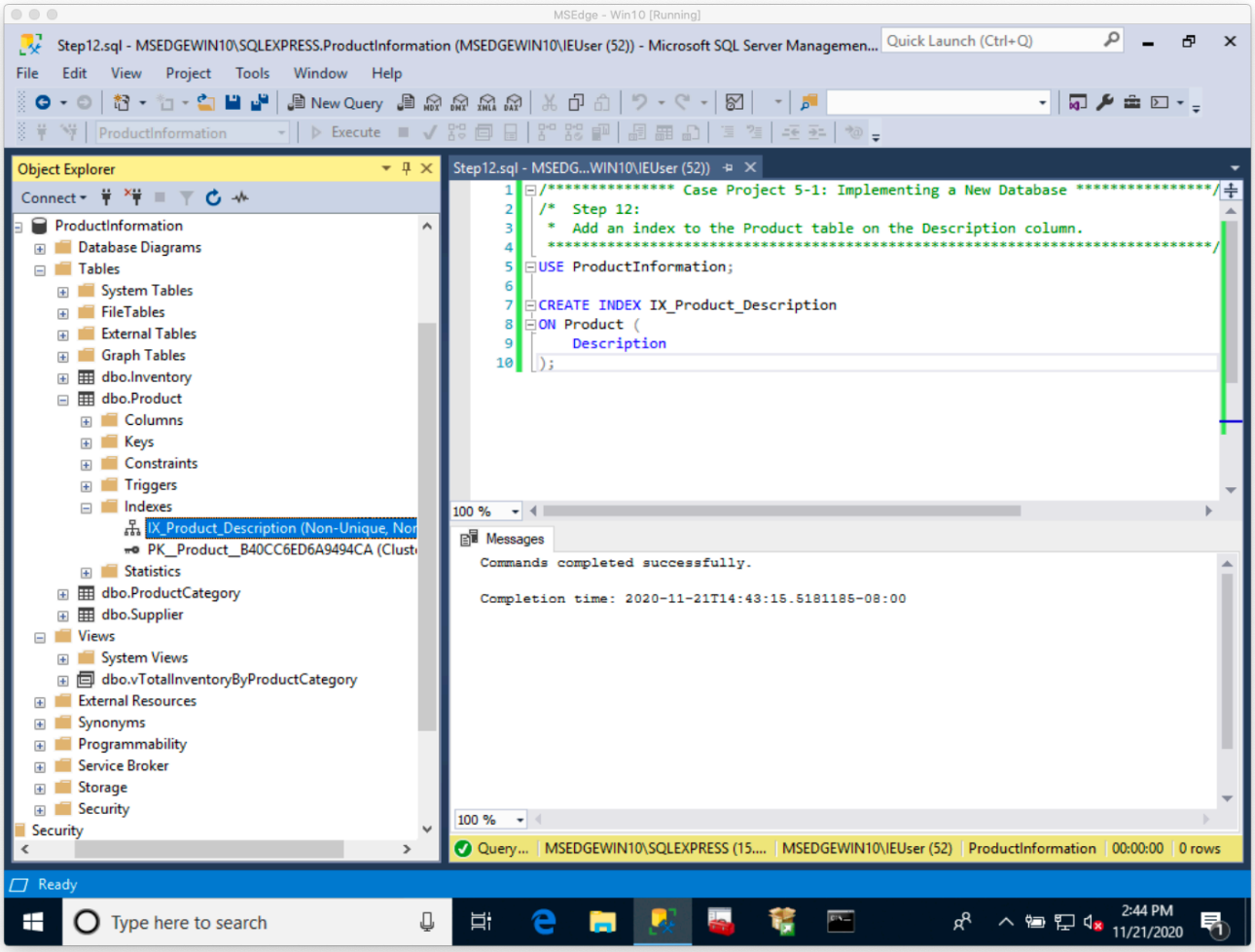


Show the data found in the new view:



	Category ID	Description	Total Inventory On Hand
1	2	Cutlery	1683.60
2	3	Linens	415.41
3	1	Cookware	162.00
4	5	Cooks Tools	103.33
5	4	Tableware	NULL

12: Add Index


MSEdge - Win10 [Running]
Step12.sql - MSEDGEWIN10\SQLEXPRESS.ProductInformation (MSEDGEWIN10\IEUser (52)) - Microsoft SQL Server Managemen...
Quick Launch (Ctrl+Q)
File Edit View Project Tools Window Help
New Query
ProductInformation
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Object Explorer
Connect
ProductInformation
Database Diagrams
Tables
System Tables
FileTables
External Tables
Graph Tables
dbo.Inventory
dbo.Product
Columns
Keys
Constraints
Triggers
Indexes
IX_Product_Description (Non-Unique, Nor
PK__Product__B40CC6ED6A9494CA (Clust
Statistics
dbo.ProductCategory
dbo.Supplier
Views
System Views
dbo.vTotalInventoryByProductCategory
External Resources
Synonyms
Programmability
Service Broker
Storage
Security
Security
Step12.sql - MSEDG...WIN10\IEUser (52))
/********** Case Project 5-1: Implementing a New Database **********/
/* Step 12:
* Add an index to the Product table on the Description column.
**********/
USE ProductInformation;
CREATE INDEX IX_Product_Description
ON Product (
Description
);
100 %
Messages
Commands completed successfully.
Completion time: 2020-11-21T14:43:15.5181185-08:00
100 %
Query... MSEDGEWIN10\SQLEXPRESS (15.... MSEDGEWIN10\IEUser (52) ProductInformation 00:00:00 0 rows
Ready
Type here to search
2:44 PM
11/21/2020