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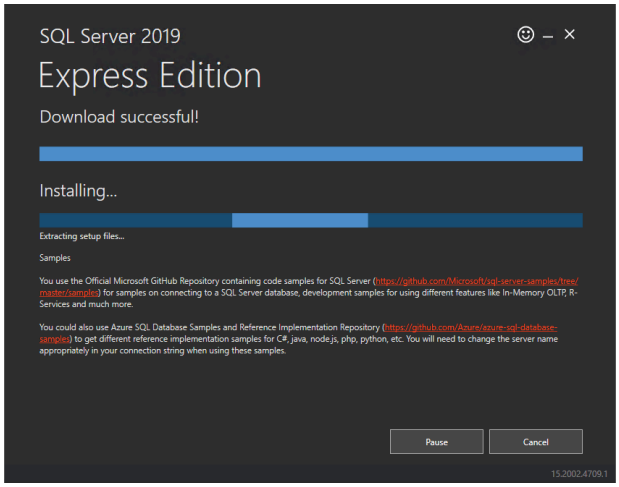
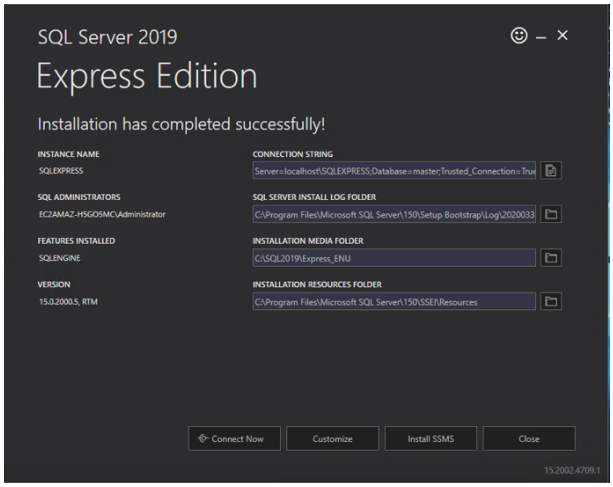
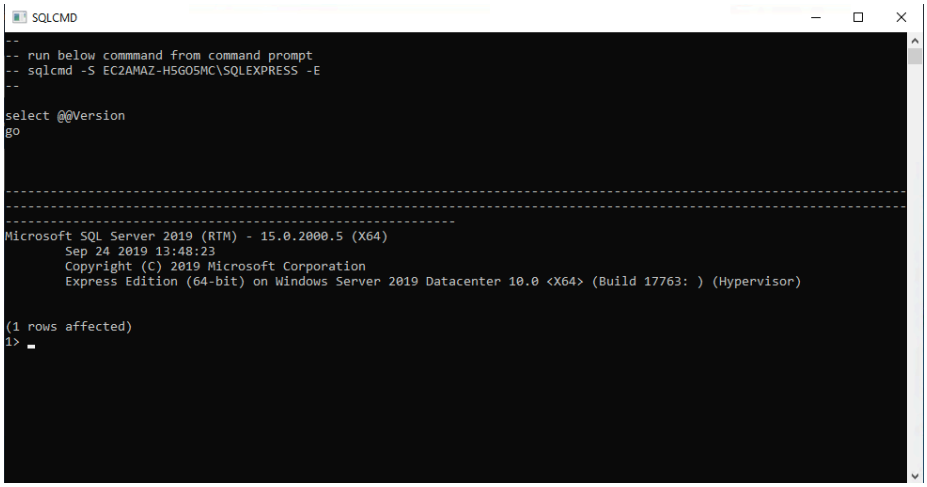
Part 1: Part 1 - Installing and using the MS SQL Server Environment
Installing SQL Server 2019







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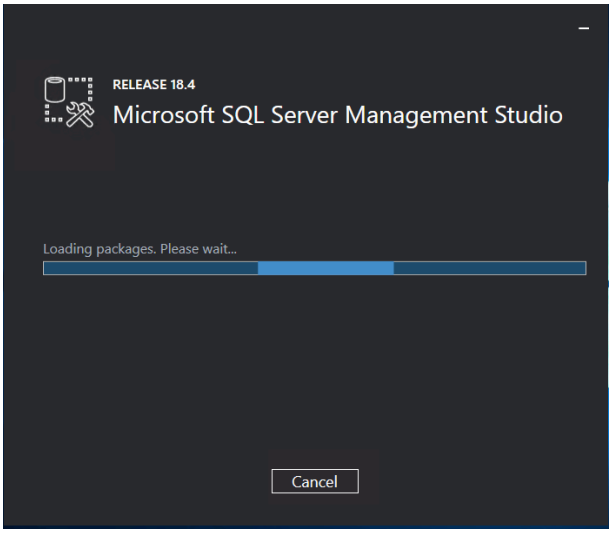
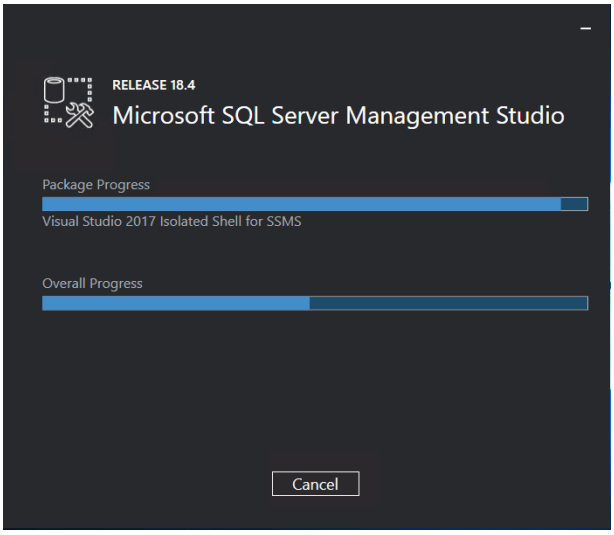
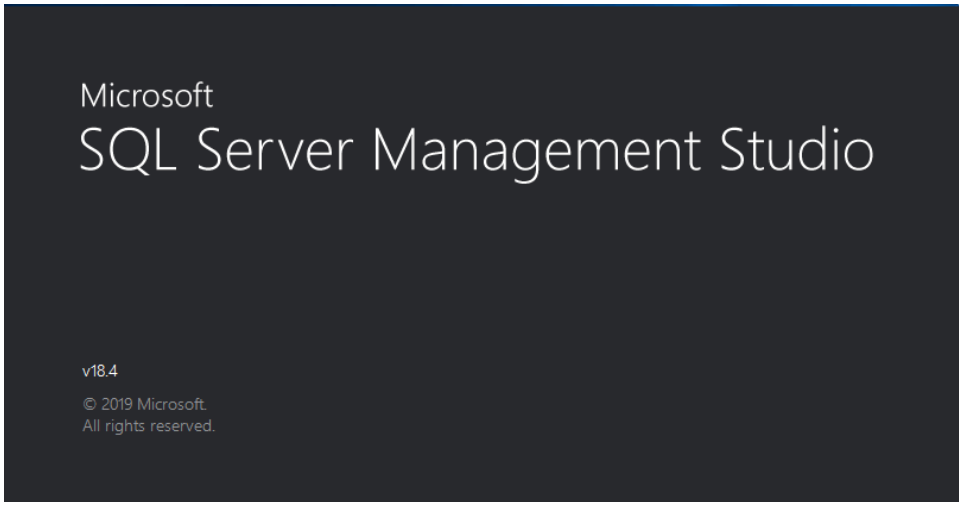
Install and Use SSMS







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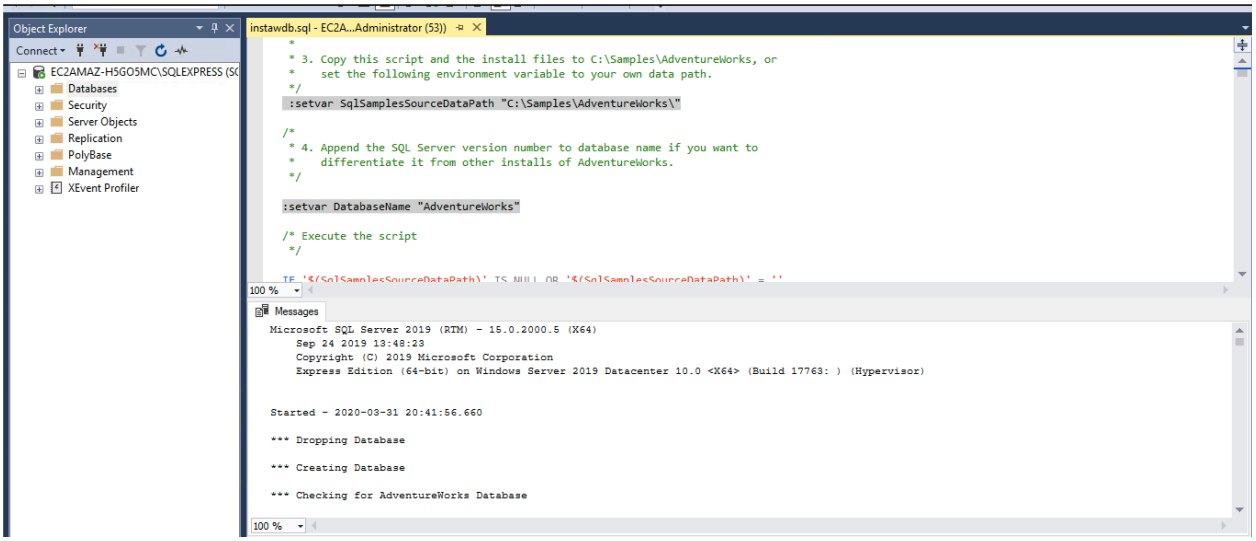
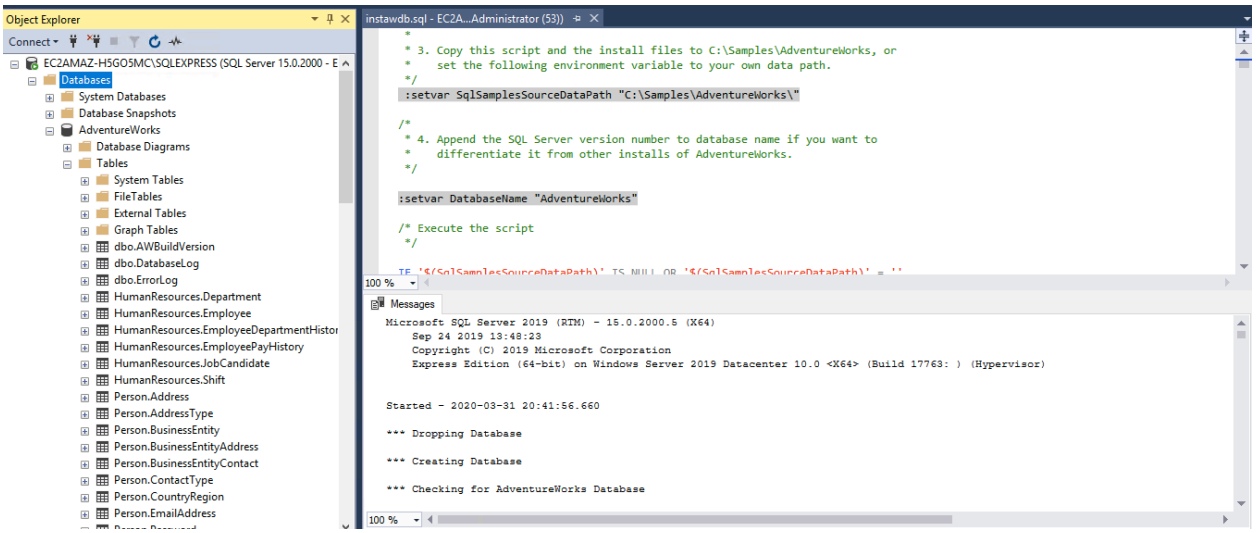
Install the Adventure Works Database





End Part 1

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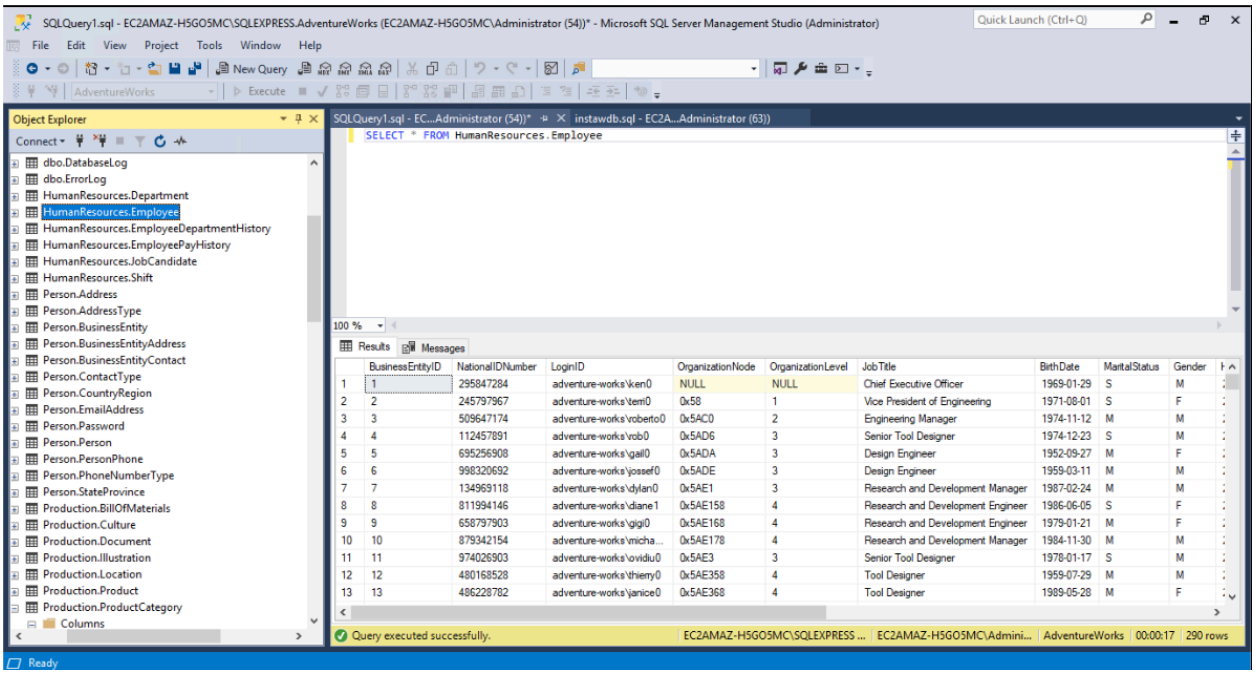
Part 2: Query MS SQL Server
Using SSMS to Query Data

```
SELECT * FROM HumanResources.Employee
```



	BusinessEntityID	NationalIDNumber	LoginID	OrganizationNode	OrganizationLevel	JobTitle	BirthDate	MaritalStatus	Gender
1	1	295847284	adventure-works\ken0	NULL	NULL	Chief Executive Officer	1969-01-29	S	M
2	2	245797967	adventure-works\terri0	0x58	1	Vice President of Engineering	1971-08-01	S	F
3	3	509647174	adventure-works\roberto0	0x5AC0	2	Engineering Manager	1974-11-12	M	M
4	4	112457891	adventure-works\rob0	0x5AD6	3	Senior Tool Designer	1974-12-23	S	M
5	5	695256908	adventure-works\gail0	0x5ADA	3	Design Engineer	1952-09-27	M	F
6	6	998320692	adventure-works\jossef0	0x5ADE	3	Design Engineer	1959-03-11	M	M
7	7	134969118	adventure-works\dylan0	0x5AE1	3	Research and Development Manager	1987-02-24	M	M
8	8	811994146	adventure-works\diane1	0x5AE158	4	Research and Development Engineer	1986-06-05	S	F
9	9	658797903	adventure-works\gigi0	0x5AE168	4	Research and Development Engineer	1979-01-21	M	F
10	10	879342154	adventure-works\micha...	0x5AE178	4	Research and Development Manager	1984-11-30	M	M
11	11	974026903	adventure-works\ovidiu0	0x5AE3	3	Senior Tool Designer	1978-01-17	S	M
12	12	480168528	adventure-works\thierry0	0x5AE358	4	Tool Designer	1959-07-29	M	M
13	13	486228782	adventure-works\janice0	0x5AE368	4	Tool Designer	1989-05-28	M	F

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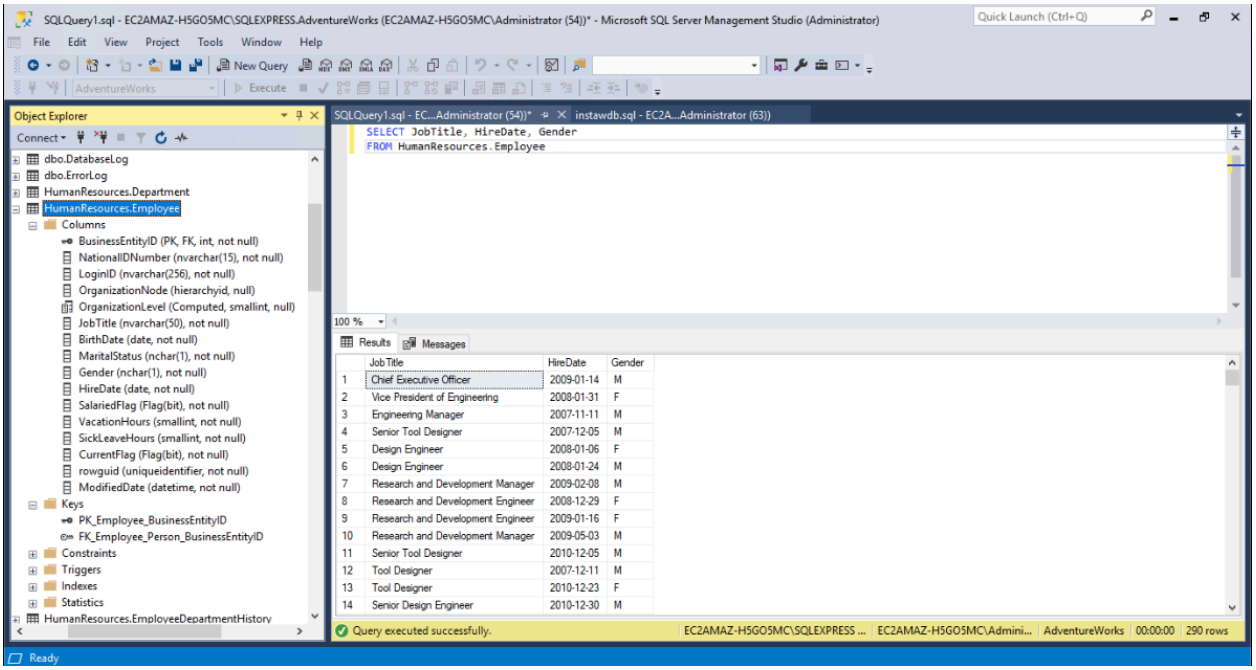
```
SELECT JobTitle, HireDate, Gender
FROM HumanResources.Employee
```



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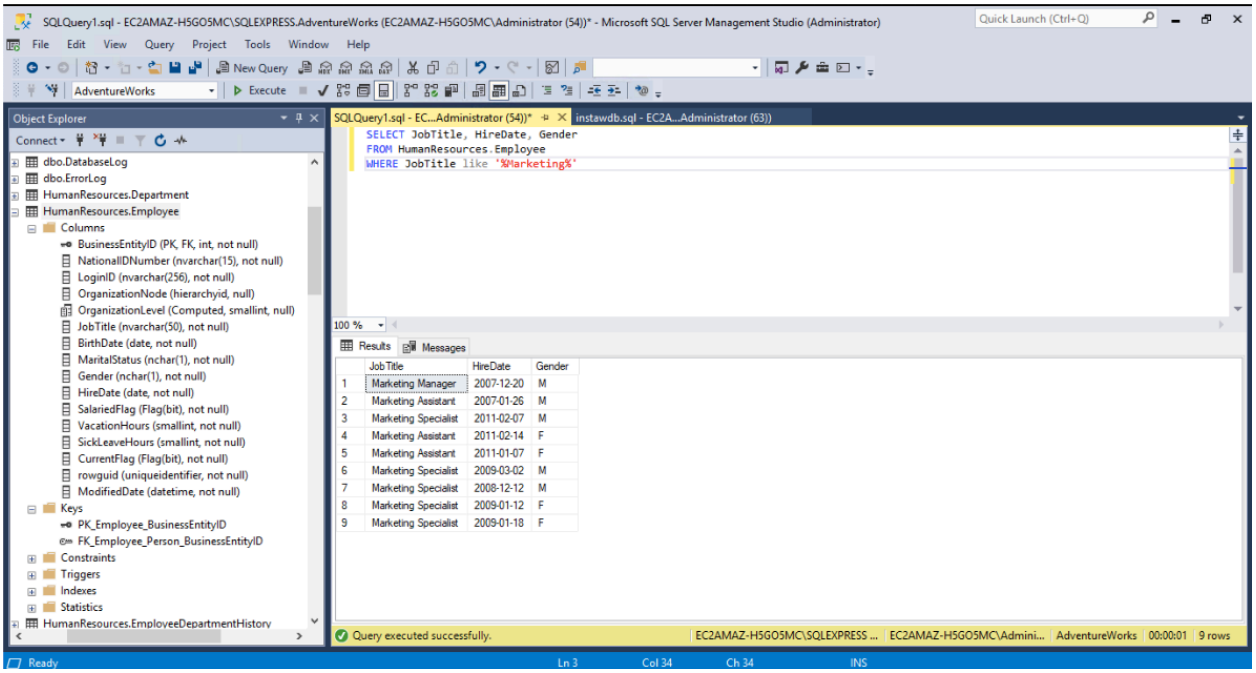
```
SELECT JobTitle, HireDate, Gender
FROM HumanResources.Employee
WHERE JobTitle like '%Marketing%'
```



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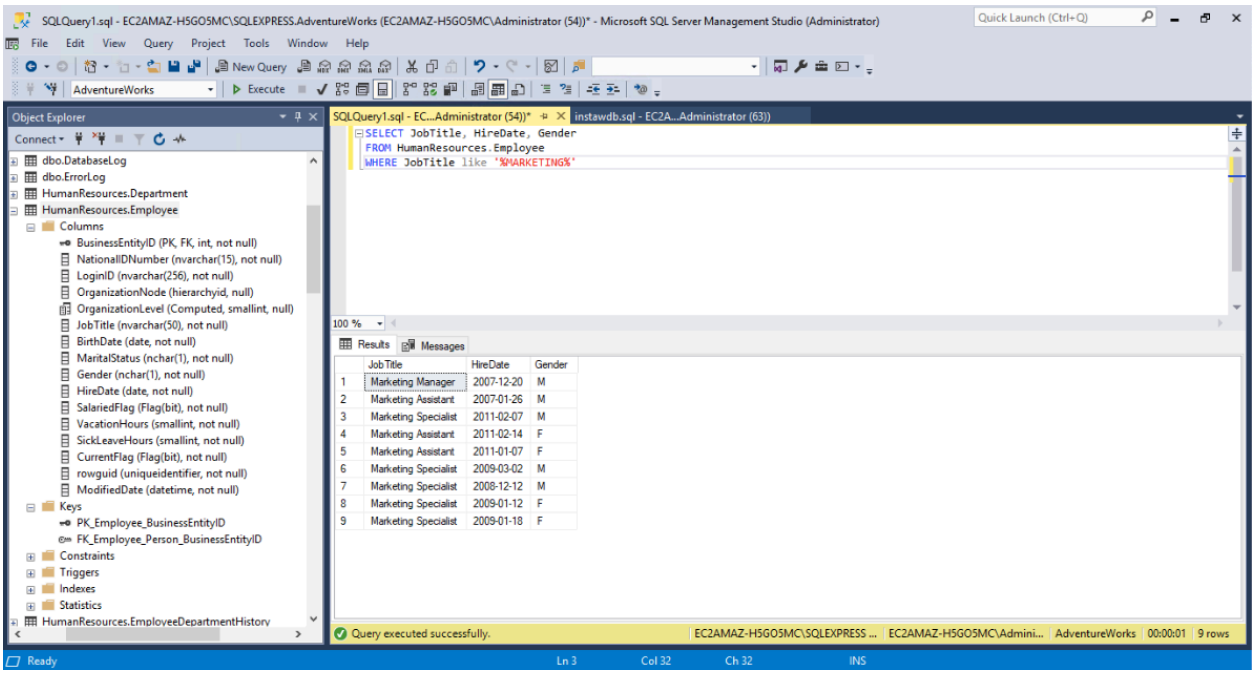
```
SELECT JobTitle, HireDate, Gender
FROM HumanResources.Employee
WHERE JobTitle like ‘%MARKETING%’
```



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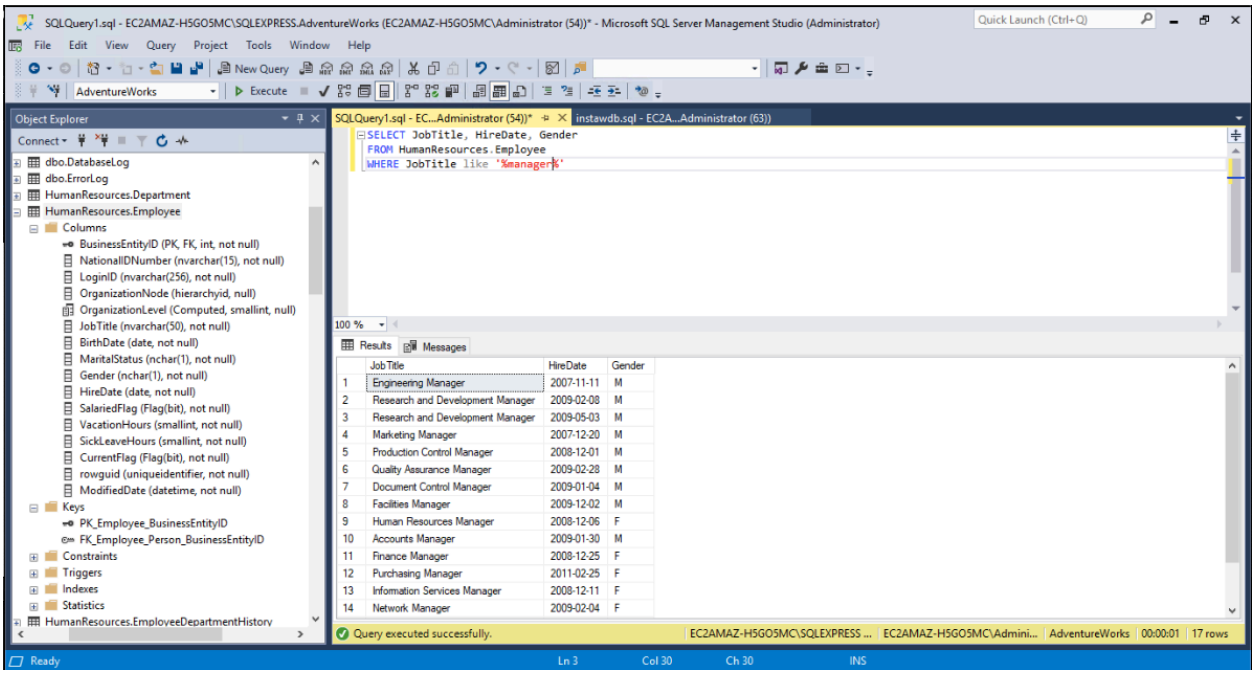
```
SELECT JobTitle, HireDate, Gender
FROM HumanResources.Employee
WHERE JobTitle like '%manager%'
```



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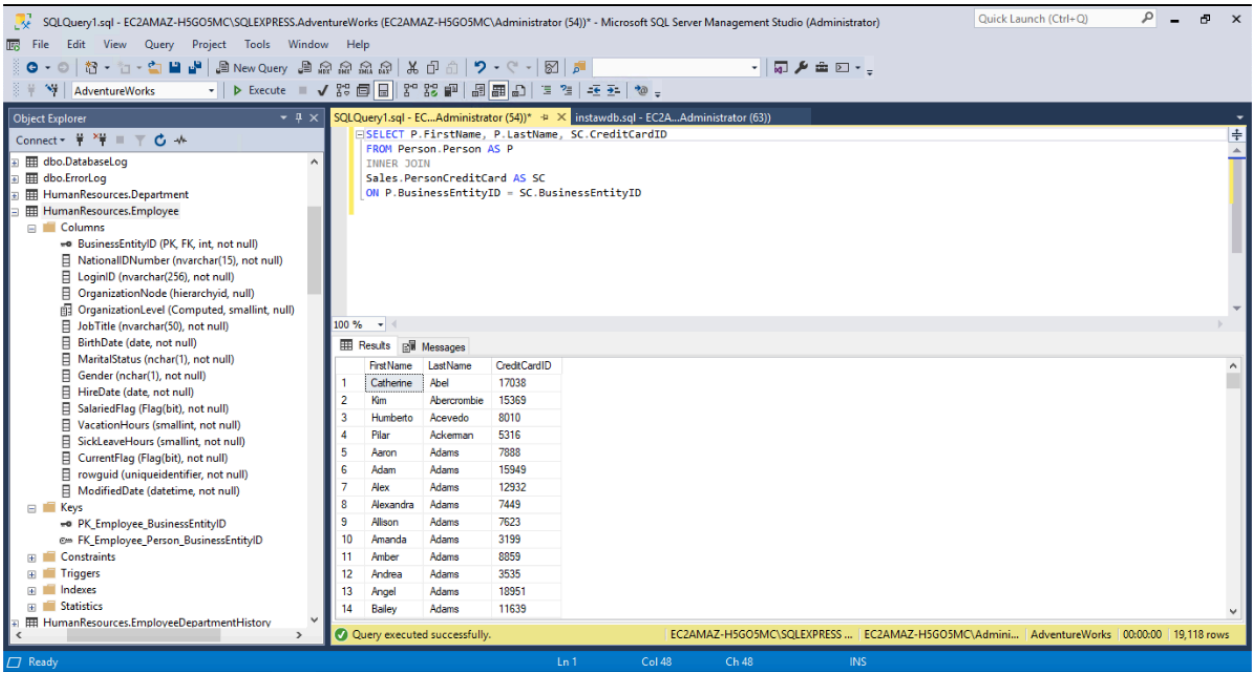
Join Tables

```
SELECT P.FirstName, P.LastName, SC.CreditCardID
FROM Person.Person AS P
INNER JOIN
Sales.PersonCreditCard AS SC
ON P.BusinessEntityID = SC.BusinessEntityID
```



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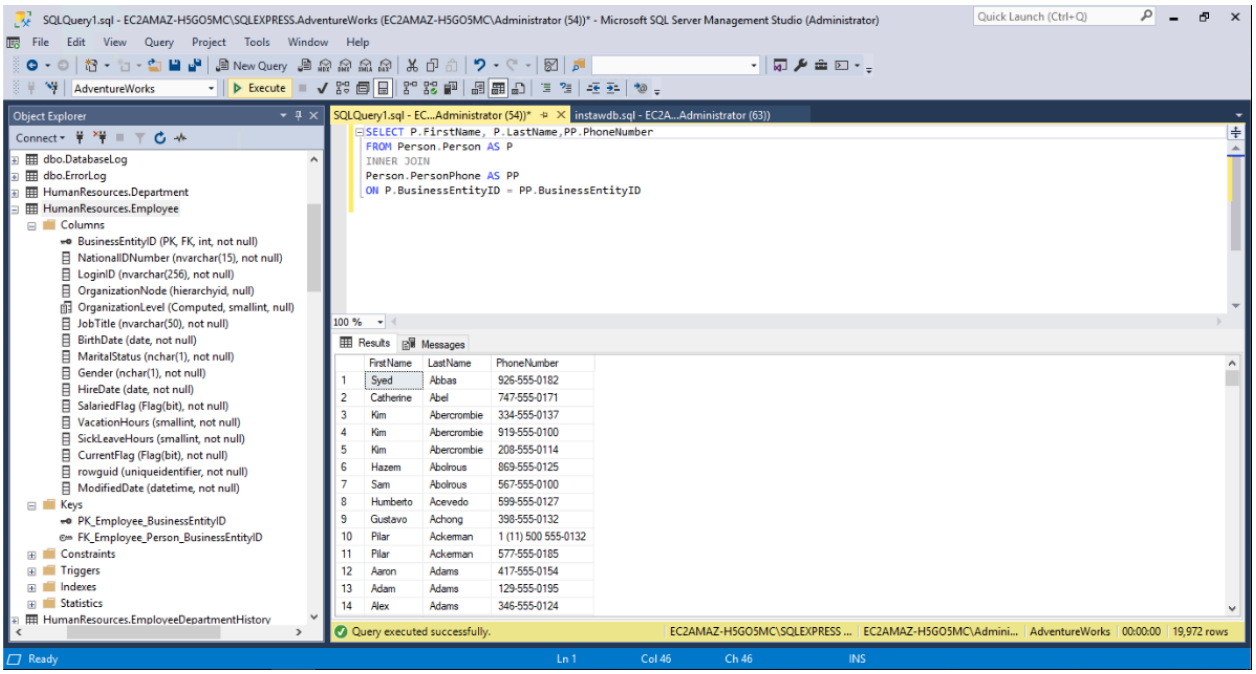
```
SELECT P.FirstName, P.LastName,PP.PhoneNumber
FROM Person.Person AS P
INNER JOIN
Person.PersonPhone AS PP
ON P.BusinessEntityID = PP.BusinessEntityID
```



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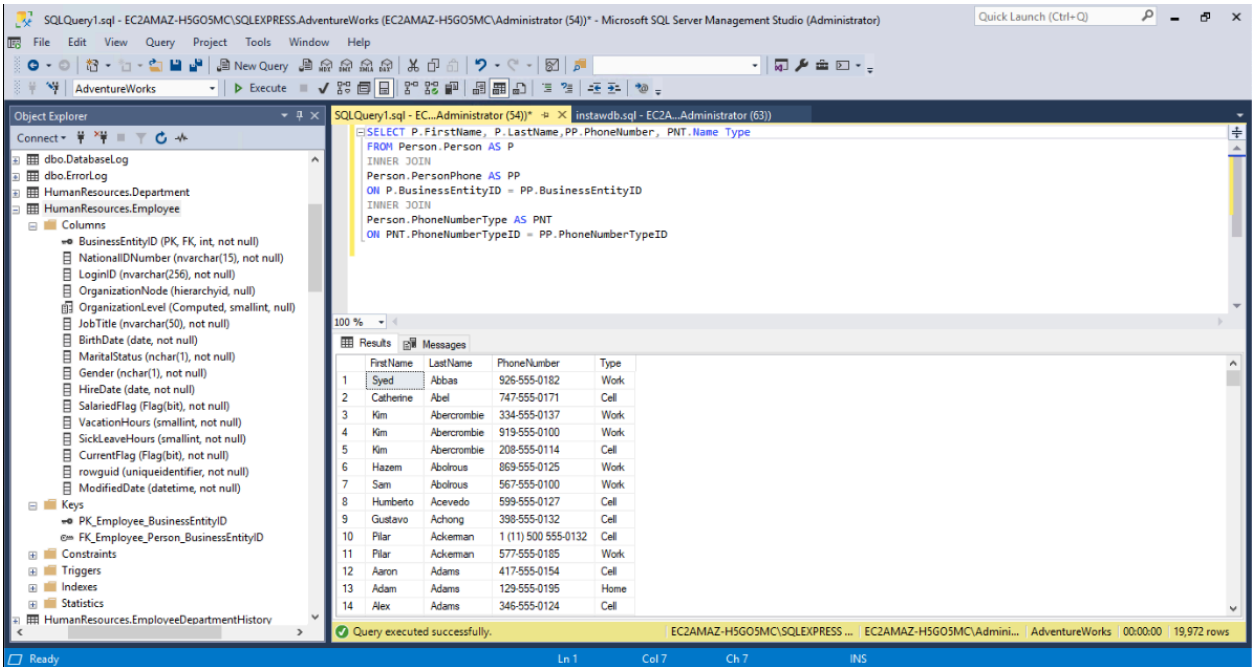
```
SELECT P.FirstName, P.LastName, PP.PhoneNumber, PNT.Name Type
FROM Person.Person AS P
INNER JOIN
Person.PersonPhone AS PP
ON P.BusinessEntityID = PP.BusinessEntityID
INNER JOIN
Person.PhoneNumberType AS PNT
ON PNT.PhoneNumberTypeID = PP.PhoneNumberTypeID
```



	FirstName	LastName	PhoneNumber	Type
1	Syed	Abbas	926-555-0182	Work
2	Catherine	Abel	747-555-0171	Cell
3	Kim	Abercrombie	334-555-0137	Work
4	Kim	Abercrombie	919-555-0100	Work
5	Kim	Abercrombie	208-555-0114	Cell
6	Hazem	Abolrous	869-555-0125	Work
7	Sam	Abolrous	567-555-0100	Work
8	Humberto	Acevedo	599-555-0127	Cell
9	Gustavo	Achong	398-555-0132	Cell
10	Pilar	Ackerman	1 (11) 500 555-0132	Cell
11	Pilar	Ackerman	577-555-0185	Work
12	Aaron	Adams	417-555-0154	Cell
13	Adam	Adams	129-555-0195	Home
14	Alex	Adams	346-555-0124	Cell

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PROBLEM

At this point, you will create your own query that will join 5 tables together. The `Production.Product` has four foreign keys as shown below. Write a query that joins the Product table with the four other tables using `INNER JOINS`. Select the columns from other tables that will validate that the joins to all four tables are working correctly; make the query results make sense. Include the `Product name`, `Product Number`, and `ListPrice` as part of the result set (plus at least one other column from the four other tables).

Solution

For this problem, I decided to join six tables namely `Production.Product`, `Production.ProductCostHistory`, `Production.ProductModel`, `Production.ProductSubcategory`, `Production.ProductCategory` and `Production.ProductReview`. This new table has six columns with helpful information about the product we are seeing. The query is from below:

```
SELECT P1.Name, P1.ProductNumber, P1.Color, P1.Size, P1.ListPrice, P3.Name Model, P5.Name
Category, P4.Name "Sub Category", P6.Rating "Star Review"
FROM Production.Product AS P1
INNER JOIN
Production.ProductCostHistory AS P2
ON P1.ProductID = P2.ProductID
INNER JOIN
Production.ProductModel AS P3
ON P1.ProductModelID = P3.ProductModelID
INNER JOIN
Production.ProductSubcategory AS P4
ON P1.ProductSubcategoryID = P4.ProductSubcategoryID
INNER JOIN
Production.ProductCategory AS P5
ON P4.ProductCategoryID = P5.ProductCategoryID
INNER JOIN
Production.ProductReview AS P6
ON P1.ProductID = P6.ProductID
```

The outcome is from below with 5 observations

Mountain Bike Socks, M	SO-B909-M	White	M	9.50	Mountain Bike Socks	Clothing	Socks	5
HL Mountain Pedal	PD-M562	Silver/Black	NULL	80.99	HL Mountain Pedal	Components	Pedals	4
HL Mountain Pedal	PD-M562	Silver/Black	NULL	80.99	HL Mountain Pedal	Components	Pedals	2
Road-550-W Yellow, 40	BK-R64Y-40	Yellow	40	1120.49	Road-550-W Bikes	Road Bikes		5
Road-550-W Yellow, 40	BK-R64Y-40	Yellow	40	1120.49	Road-550-W Bikes	Road Bikes		5

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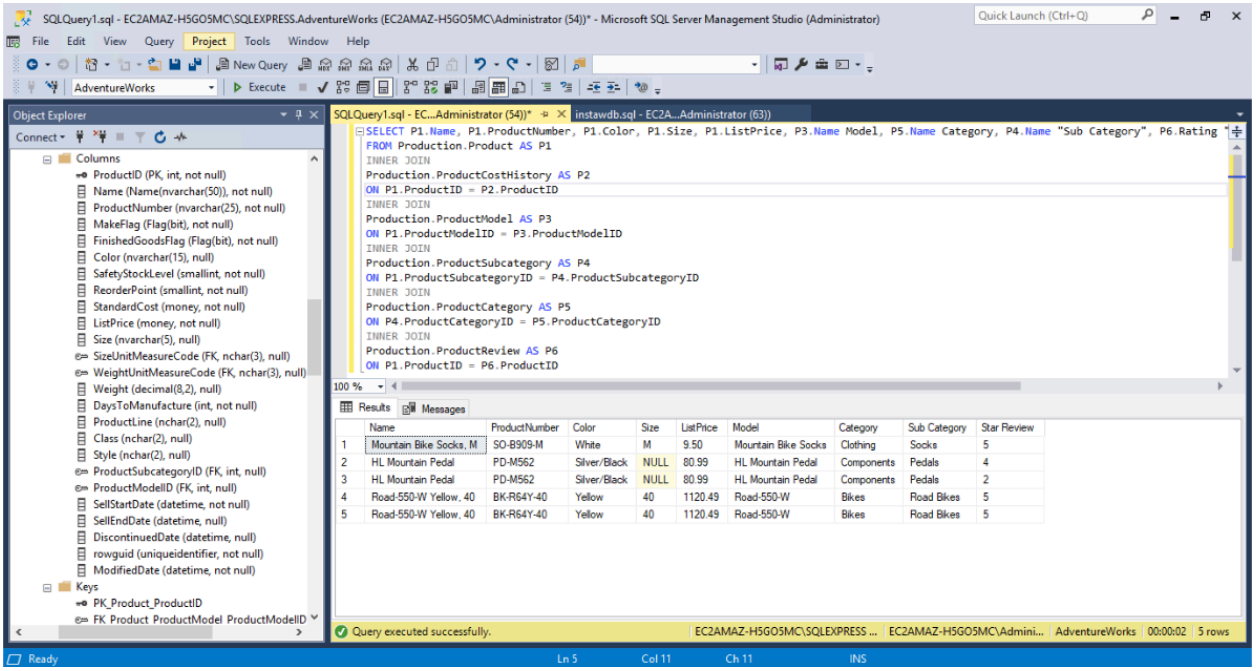
The screenshot of the final outcome looks like this.



End of Part 2