

LAB 11



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Course:

CS-262L Database Systems

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1 SELECT stored procedure

Click on your Database and expand “Programmability” item and right click on “Stored Procedures” or press CTRL + N to get new query window.

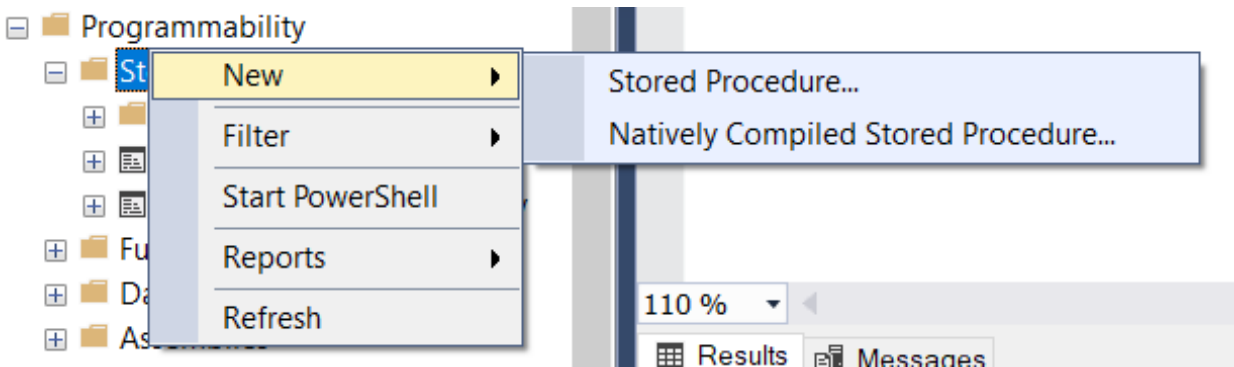


Figure 1: Create a New Procedure

1.1 Query:

In the query area between BEGIN and END, type your SELECT statement to select records from the table. See the Select statement in the below code.

SET ANSI_NULLS ON

GO

SET QUOTED_IDENTIFIER ON

GO

```
-- =====
-- Author:                Afeera Fatima
-- Create date: 24th March 2024
-- Description: Return all records
-- =====
```

Create PROCEDURE [dbo].[stpGetAllMembers]

AS

BEGIN

```
-- SET NOCOUNT ON added to prevent extra result sets from
-- interfering with SELECT statements.
```

SET NOCOUNT ON;

```
-- Insert statements for procedure here
```

SELECT * FROM Customers

END

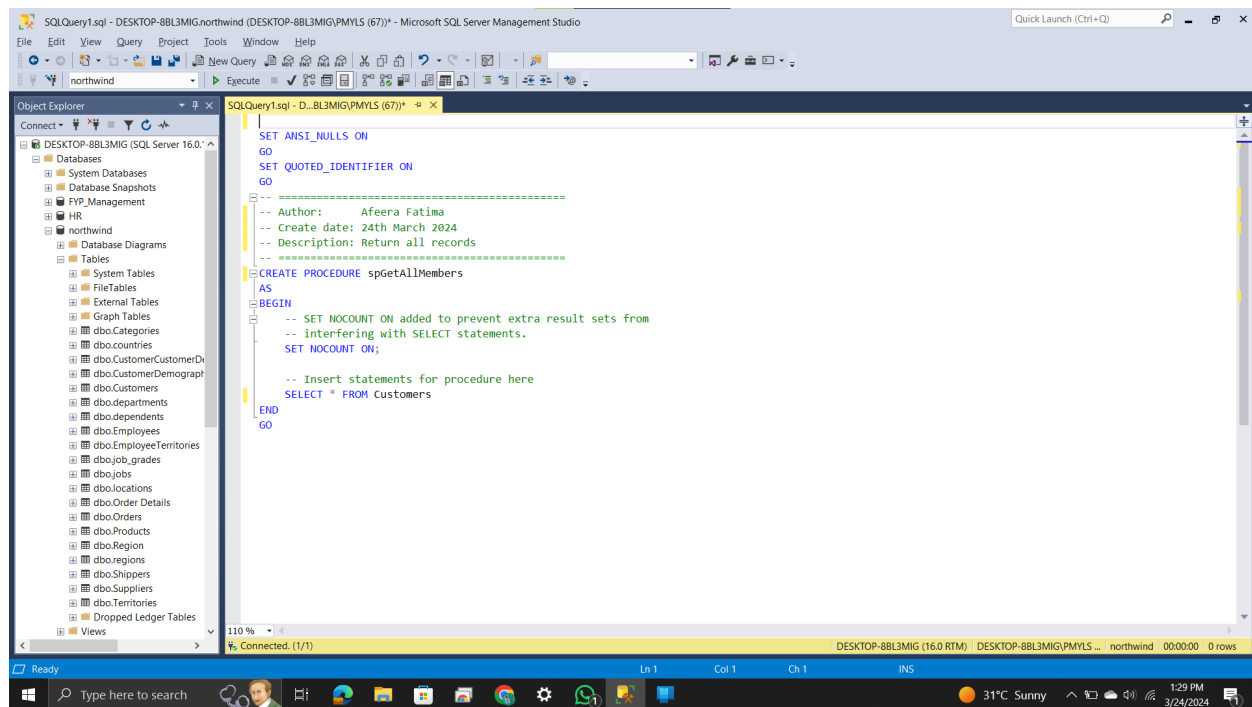


Figure 2: Query

1.2 Execute

Now, press F5 or click on Execute button to execute the SP.

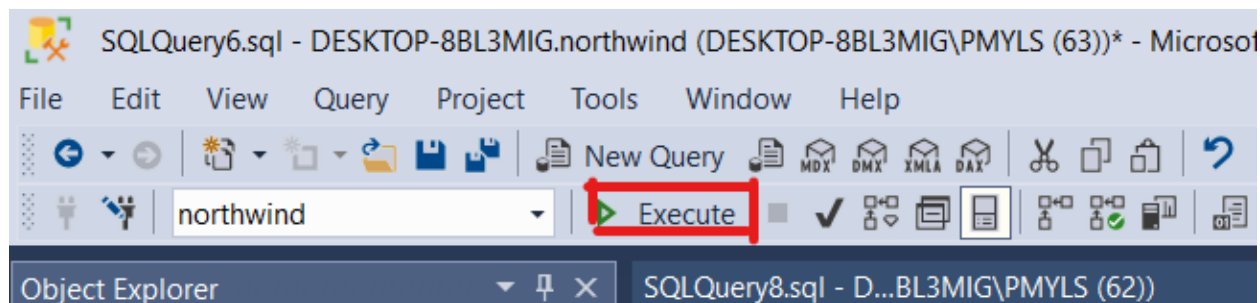


Figure 3: Execute

1.3 Execute Stored Procedure

1.3.1 Using UI

Run stored procedure called `stpGetAllMembers`.

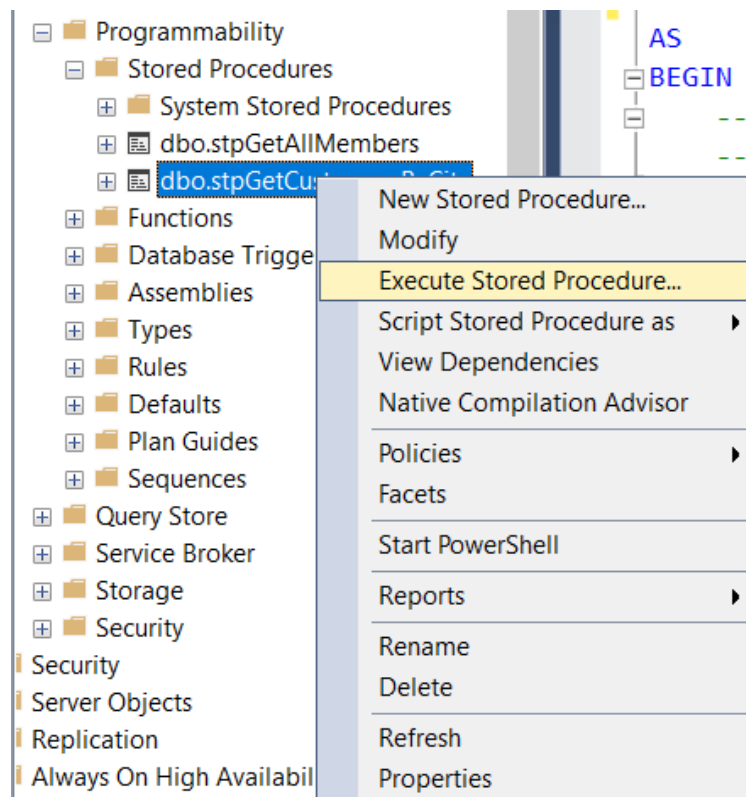


Figure 4: Execution of Stored Procedure

1.3.2 Using Query

Alternatively, you can also execute a SP from the Query window.

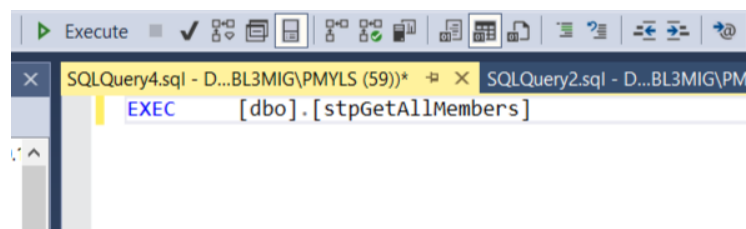


Figure 5: Execution of Stored Procedure

1.4 Output

The output looks like the following:

SQLQuery4.sql - D:\BL3MIG\PMYLS (59)* - Microsoft SQL Server Management Studio

Object Explorer: northwind

Query: EXEC [dbo].[stpGetAllMembers]

Results: 110 %

Messages:

CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ALFKI	Alfreda Futterkiste	Maria Anders	Obere Str. 57	Berlin	NULL	12209	Germany	(030) 0074321	(030) 0076545
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Maladers 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL
4	AROUT	Around the Horn	Thomas Hardy	120 Hanover Sq.	London	NULL	WA1 1DP	UK	(171) 555-7788	(171) 555-6750
5	BERGS	Berglunds snabbköp	Christina Berglund	Bergsgatan 8	Luleå	NULL	S-965 22	Sweden	(0921) 12 34 65	(0921) 12 34 67
6	BLAUS	Blaus Sea Delicatessen	Hanna Moos	Forststr. 57	Marineham	NULL	65306	Germany	(0621) 08400	(0621) 08924
7	BONAP	Bonaparte	Frédérique Citeaux	24, place Kléber	Strasbourg	NULL	67000	France	88 60 15 31	88 60 15 32
8	BOLID	Bólido Comidas preparadas	Martin Sommer	C/ Araquil, 67	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 99
9	BONAP	Bonaparte	Laurence Leblanc	12, rue des Bouchers	Marseille	NULL	13008	France	91 24 45 40	91 24 45 41
10	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	23 Tawassen Blvd.	Taipei	NULL	105	Taiwan	(886) 2-2055-2222	(886) 2-2055-2222
11	BSBEV	B's Beverages	Victoria Ashworth	Frauentor 10	London	NULL	EC2 2NT	UK	(171) 555-1212	NULL
12	CACTU	Cactus Comidas para llevar	Pedro Sánchez	Calle 59	Buenos Aires	NULL	1010	Argentina	(1) 135-5555	(1) 135-4892
13	CENTC	Centro comercial Modocuma	Francisco Chang	Sierras de Granada 9993	México D.F.	NULL	05022	Mexico	(5) 555-3392	(5) 555-7293
14	CHOPS	Chop-suey Chinese	Yang Wang	Hauptstr. 29	Bern	NULL	3012	Switzerland	(0452) 076545	NULL
15	COMM	Comércio Mineiro	Pedro Monso	Av. dos Lusíadas, 23	Sao Paulo	SP	05432-043	Brazil	(11) 555-7847	NULL
16	CONSH	Consolidated Holdings	Elizabeth Brown	Berkeley Gardens 12	London	NULL	W1X 1LT	UK	(171) 555-2222	(171) 555-9199
17	DRACD	Dachstein Delikatessen	Sven Ottilie	Walzenweg 21	Aachen	NULL	52066	Germany	(0241) 030123	(0241) 030428
18	DUMON	Du monde entier	Janine Labruno	67, rue des Cinquante Otages	Nantes	NULL	44000	France	40 67 88 88	40 67 89 89
19	EASTC	Eastern Connection	Ann Devon	35 King George	London	NULL	W3 3JF	UK	(171) 555-0297	(171) 555-3373
20	ERNSH	Ernst Handel	Roland Mendel	Kirchgasse 6	Graz	NULL	8010	Austria	7675-3425	7675-3426
21	FAMIA	Familia Arquibaldo	Aria Cruz	Rua Orós, 92	Sao Paulo	SP	05442-030	Brazil	(11) 555-9857	NULL
22	FISAS	FISAS Fabrica Inter. Salchichas S.A.	Diego Roel	O Montserrat, 65	Madrid	NULL	28034	Spain	(91) 555 94 44	(91) 555 55 93
23	FOLIO	Folies gourmandes	Martine Rance	184, chaussée de Tournai	Lille	NULL	59000	France	20 16 10 16	20 16 10 17
24	FOLKO	Folk och fä HB	Maria Larsson	Åkergratan 24	Bräcke	NULL	S-844 67	Sweden	(0695) 34 67 21	NULL

Query executed successfully.

DESKTOP-8BL3MIG (16.0 RTM) | DESKTOP-8BL3MIG\PMYLS | northwind | 00:00:00 | 91 rows

Figure 6: Output of Procedure

2 SELECT query SP with parameters

In the previous steps, we created a simple SP that returned all rows from a table. Now, let's create a new SP that will take a city name as an input parameter and will return all rows where city name matches the input

2.1 Query:

```
SET ANSI_NULLS ON
```

```
GO
```

```
SET QUOTED_IDENTIFIER ON
```

```
GO
```

```
-- =====
-- Author: Afeera Fatima
-- Create date: 24th March 2024
-- Description: Get Customers by City
-- =====
```

```
CREATE PROCEDURE stpGetCustomersByCity
```

```
-- Add the parameters for the stored procedure here
@City nvarchar(15)
```

```
AS
```

```
BEGIN
```

```
-- SET NOCOUNT ON added to prevent extra result sets from
-- interfering with SELECT statements.
SET NOCOUNT ON;

-- Insert statements for procedure here
SELECT * FROM Customers
WHERE City Like '%' + @City + '%'

END
GO
```

2.2 Execute

Now, press F5 or click on Execute button to execute the SP.

2.3 Execute Stored Procedure

2.3.1 Using UI

Run stored procedure called `stpGetCustomersByCity`.

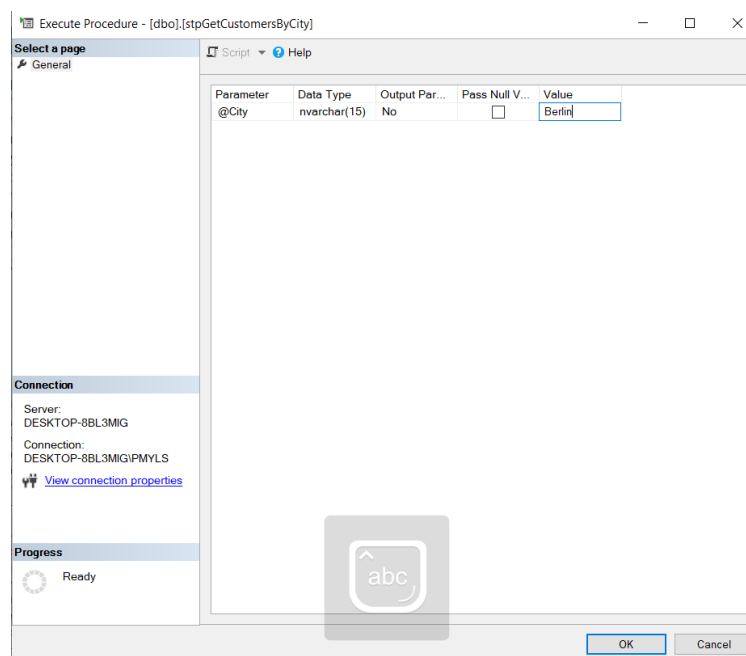


Figure 7: Execution of SELECT based Stored Procedure Using UI

2.3.2 Using Query

The Code to execute looks like the following


```

USE [northwind]
GO

DECLARE @return_value int

EXEC @return_value = [dbo].[stpGetCustomersByCity]
    @City = N'Berlin'

SELECT 'Return Value' = @return_value
GO

```

Figure 8: Execution of SELECT Based Stored Procedure Using Query

2.4 Output

The output looks like the following:

	CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545

Figure 9: Output of Procedure

3 INSERT query based SP

We can use an INSERT INTO SQL query to insert data into a table. The following SQL statement creates an INSERT SP with eleven parameters.

3.1 Query:

```
SET ANSI_NULLS ON
```

```
GO
```

```
SET QUOTED_IDENTIFIER ON
```

```
GO
```

```

-- =====
-- Author:      Afeera Fatima
-- Create date: 24th March 2024
-- Description: Insert Customers
-- =====

```

```
CREATE PROCEDURE stpInsertCustomer
```

```
-- Add the parameters for the stored procedure here
@CustomerID nchar(5),
@CompanyName nvarchar(40),
@ContactName nvarchar(30),
@ContactTitle nvarchar(30),
@Address nvarchar(60),
@City nvarchar(15),
@Region nvarchar(15),
@PostalCode nvarchar(10),
@Country nvarchar(15),
@Phone nvarchar(24),
@Fax nvarchar(24)

AS
BEGIN
    -- SET NOCOUNT ON added to prevent extra result sets from
    -- interfering with SELECT statements.
    SET NOCOUNT ON;

    -- Insert statements for procedure here
    INSERT INTO Customers (
        [CustomerID],[CompanyName],[ContactName],[ContactTitle],
        [Address],[City],[Region],[PostalCode],
        [Country],[Phone],[Fax]
    )
    VALUES (
        @CustomerID,@CompanyName,@ContactName,@ContactTitle,
        @Address,@City,@Region,@PostalCode,@Country,
        @Phone,@Fax
    );
END
GO
```

3.2 Execute

Now, press F5 or click on Execute button to execute the SP.

3.3 Execute Stored Procedure

3.3.1 Using UI

Run stored procedure called stplInsertCustomer.

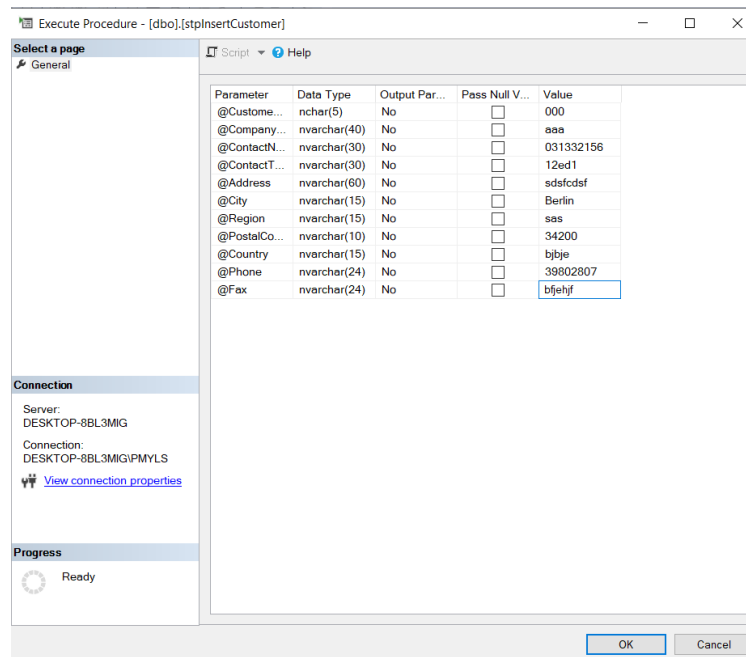


Figure 10: Execution of INSERT based Stored Procedure Using UI

3.3.2 Using Query

The Code to execute looks like the following

```
USE [northwind]
GO

DECLARE @return_value int

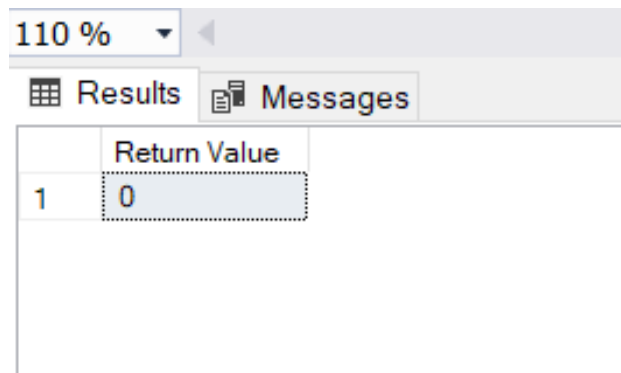
EXEC @return_value = [dbo].[stpInsertCustomer]
    @CustomerID = N'000',
    @CompanyName = N'aaa',
    @ContactName = N'031332156',
    @ContactTitle = N'12ed1',
    @Address = N'sdsfcdsf',
    @City = N'Berlin',
    @Region = N'sas',
    @PostalCode = N'34200',
    @Country = N'bjbje',
    @Phone = N'39802807',
    @Fax = N'bfjehjf'

SELECT 'Return Value' = @return_value
GO
```

Figure 11: Execution of INSERT based Stored Procedure Using Query

3.4 Output

The output looks like the following:



	Return Value
1	0

Figure 12: Output of Procedure

4 Update query based SP

Let's create a new SP that will update a table records based on the Customer ID column. The ID is passed as an input parameter. Here is the new SP that uses an UPDATE..SET..WHERE command.

4.1 Query:

```

SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
-- =====
-- Author:      Afeera Fatima
-- Create date: 24th March 2024
-- Description: Update Customer by ID
-- =====
CREATE PROCEDURE stpUpdateCustomerByID
    @CustomerID nchar(5),
    @CompanyName nvarchar(40),
    @ContactName nvarchar(30),
    @ContactTitle nvarchar(30),
    @Address nvarchar(60),
    @City nvarchar(15),
    @Region nvarchar(15),
    @PostalCode nvarchar(10),
    @Country nvarchar(15),
    @Phone nvarchar(24),
    @Fax nvarchar(24)
AS

```

BEGIN**SET** NOCOUNT **ON**;**UPDATE** Customers**SET**

CompanyName = @CompanyName ,

ContactName = @ContactName ,

ContactTitle = @ContactTitle ,

Address = @Address , City = @City , Region = @Region ,

PostalCode = @PostalCode , Country = @Country ,

Phone = @Phone , Fax = @Fax

WHERE

CustomerID = @CustomerID ;

END

GO

4.2 Execute

Now, press F5 or click on Execute button to execute the SP.

4.3 Execute Stored Procedure

4.3.1 Using UI

Run stored procedure called `stpUpdateCustomerByID`

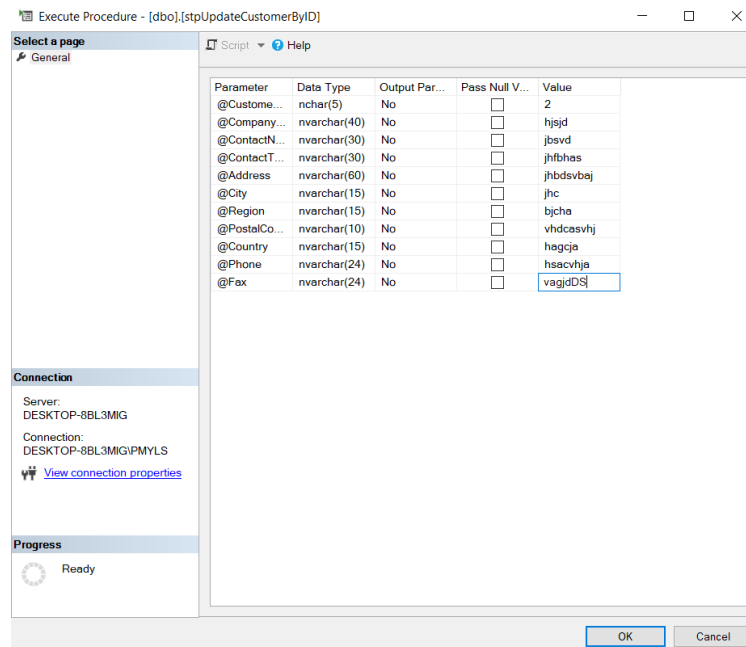


Figure 13: Execution of UPDATE Stored Procedure Using UI

4.3.2 Using Query

The Code to execute looks like the following

```
USE [northwind]
GO

DECLARE @return_value int

EXEC @return_value = [dbo].[storedProcedureUpdateCustomerByID]
    @CustomerID = N'2',
    @CompanyName = N'dfsd',
    @ContactName = N'dsf',
    @ContactTitle = N'sf',
    @Address = N's',
    @City = N'f',
    @Region = N'dsf',
    @PostalCode = N'dsf',
    @Country = N'fs',
    @Phone = N'dsf',
    @Fax = N's'

SELECT 'Return Value' = @return_value
GO
```

Figure 14: Execution of UPDATE Stored Procedure Using Query

4.4 Output

We can check as follow:

CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
2	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
3	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
4	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
5	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
6	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
7	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
8	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
9	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
10	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
11	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
12	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
13	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
14	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001
15	Bear	Erin	Sales Representative	111111111	Seattle	WA	98105	USA	(206) 555-0000	(206) 555-0001

Figure 15: Check the Procedure execution

5 DELETE query based SP

Let's create a SP that will delete records. The new SP uses a DELETE command and delete all records that matches provided Customer ID.

5.1 Query:

```
SET ANSI_NULLS ON
GO
```

SET QUOTED_IDENTIFIER ON

GO

```
-- =====
-- Author:      Afeera Fatima
-- Create date: 24th March 2024
-- Description: DELETE Customer by ID
-- =====
```

CREATE PROCEDURE stpDeleteCustomerByID
 @CustomerID **nchar**(5)

AS

BEGIN

SET NOCOUNT ON;

DELETE FROM Customers

WHERE CustomerID = @CustomerID ;

END

GO

5.2 Execute

Now, press F5 or click on Execute button to execute the SP.

5.3 Execute Stored Procedure

5.3.1 Using UI

Run stored procedure called stpDeleteCustomerByID.

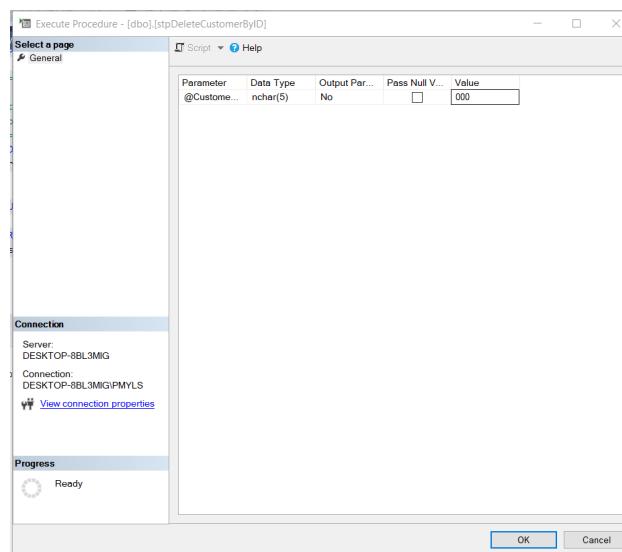


Figure 16: Execution of UPDATE Stored Procedure Using UI

5.3.2 Using Query

The Code to execute looks like the following:

```
SQLQuery18.sql --BL3MIG(PMYS) (68)  SQLQuery17.sql --BL3MIG(PMYS) (62)  SQLQuery16.sql --BL3MIG(PMYS) (64)  SQLQuery15.sql --BL3
USE [northwind]
GO

--DECLARE @return_value int

--EXEC @return_value = [dbo].[stpDeleteCustomerByID]
--    @CustomerID = N'000'

--SELECT 'Return Value' = @return_value

GO
```

Figure 17: Execution of UPDATE Stored Procedure Using Query

5.4 Output

We can check as follow:

```
SELECT TOP (1000) [CustomerID]
, [CompanyName]
, [ContactName]
, [ContactTitle]
, [Address]
, [City]
, [Region]
, [PostalCode]
, [Country]
, [Phone]
, [Fax]
FROM [northwind].[dbo].[Customers]
```

CustomerID	CompanyName	ContactName	ContactTitle	Address	City	Region	PostalCode	Country	Phone	Fax
1	BORG	...	...	...	...	...	...	...	...	...
2	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
3	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
4	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
5	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
6	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
7	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
8	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
9	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
10	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
11	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
12	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
13	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
14	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
15	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
16	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
17	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
18	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
19	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...
20	ALFA	Alfa Fabrikas	Chief	...	...	...	...	...	...	...

Figure 18: Check the Procedure execution