LAB 11

Session: 2022-2026

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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.

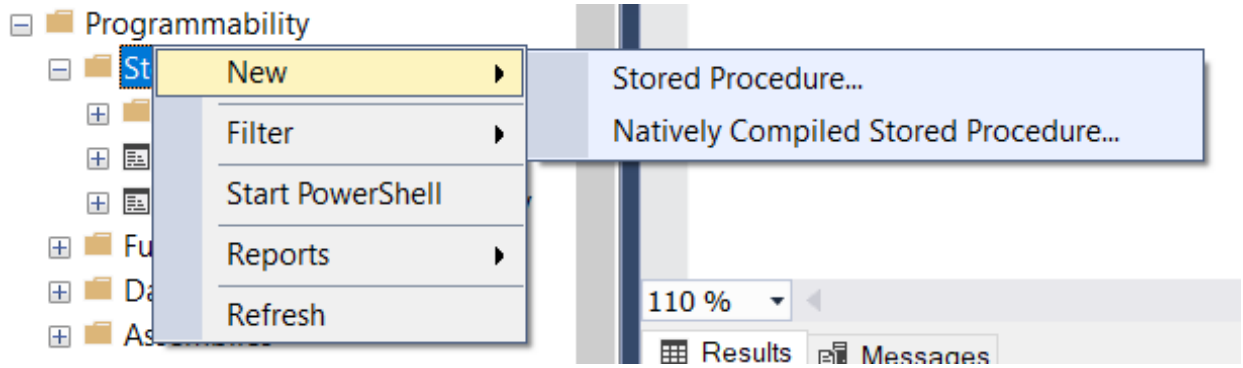


Figure 1: Create a New Procedure

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
```

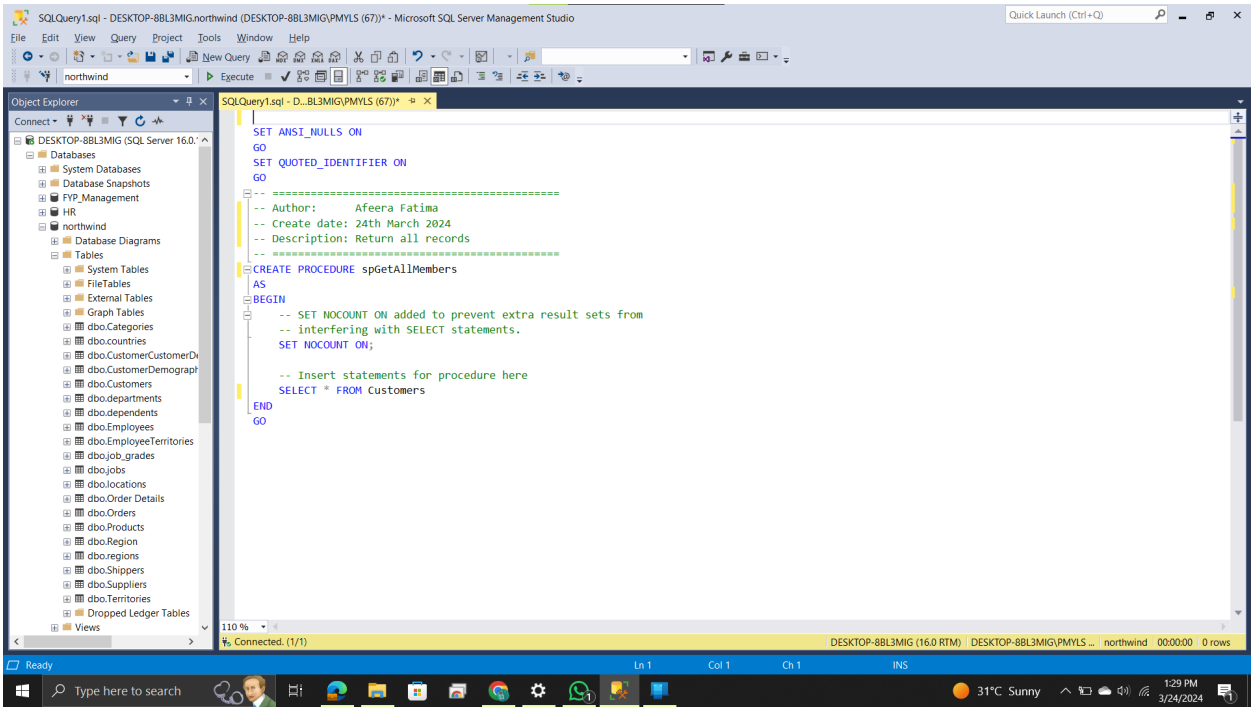


Figure 2: Query

1.2 Execute

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

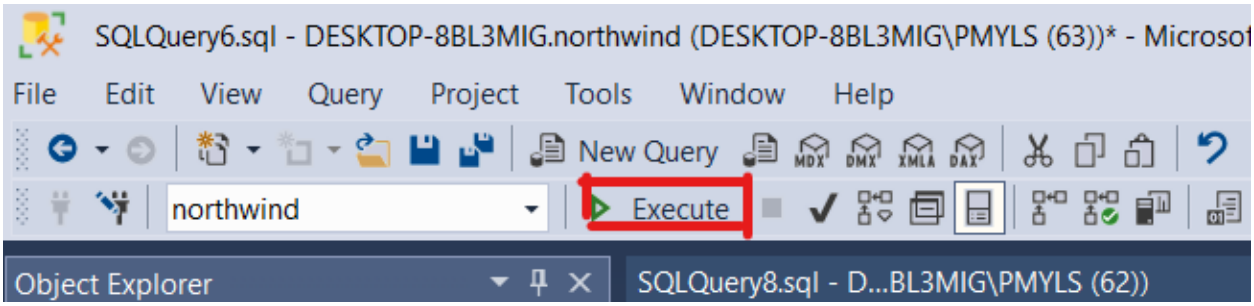


Figure 3: Execute

1.3 Execute Stored Procedure

1.3.1 Using UI

Run stored procedure called stpGetAllMembers.

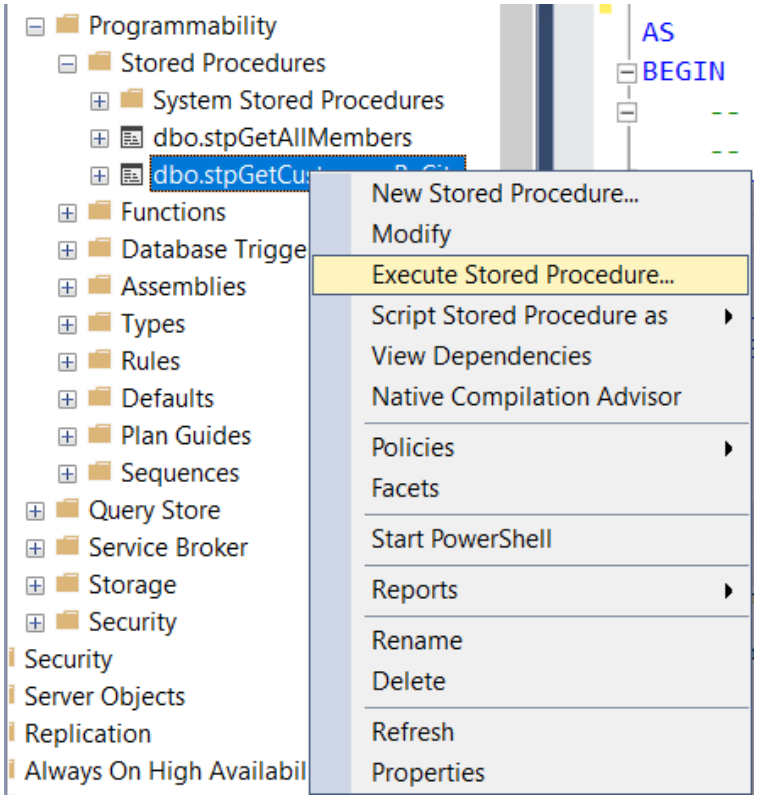


Figure 4: Execution of Stored Procedure

1.3.2 Using Query

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

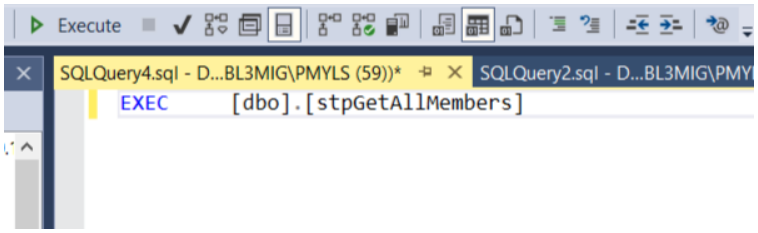


Figure 5: Execution of Stored Procedure

1.4 Output

The output looks like the following:

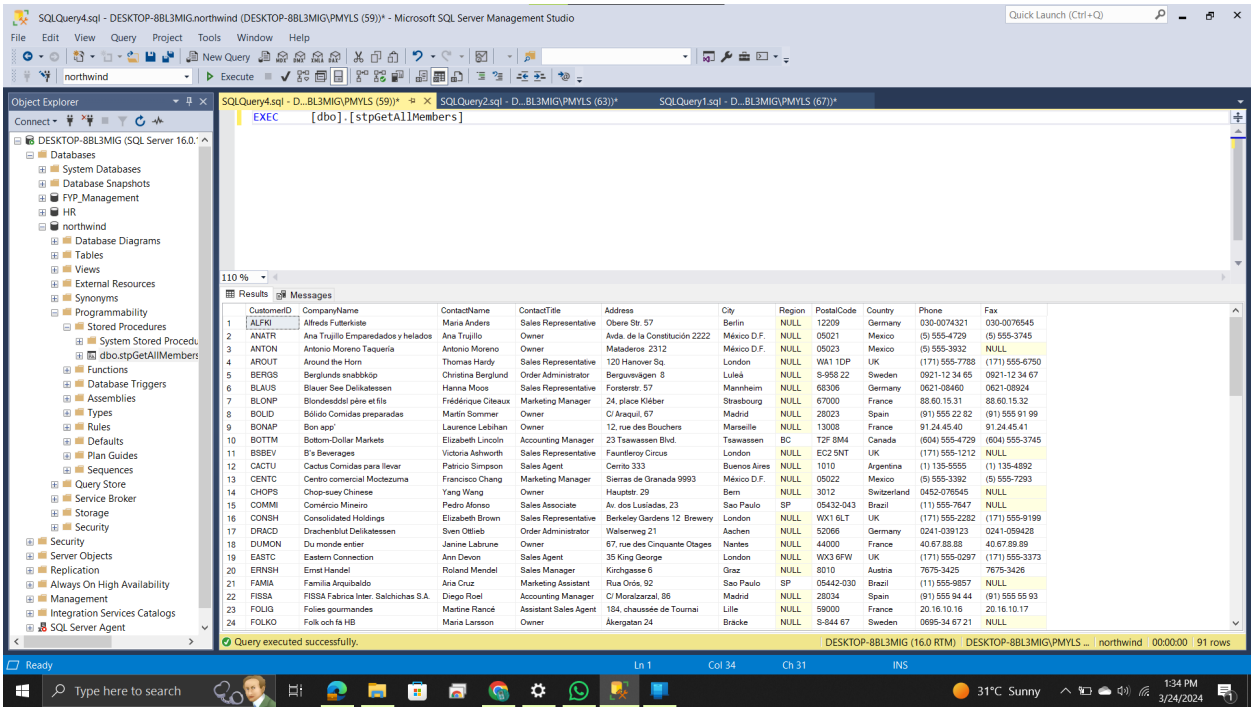


Figure 6: Output of Procedure

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 inpurt 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.

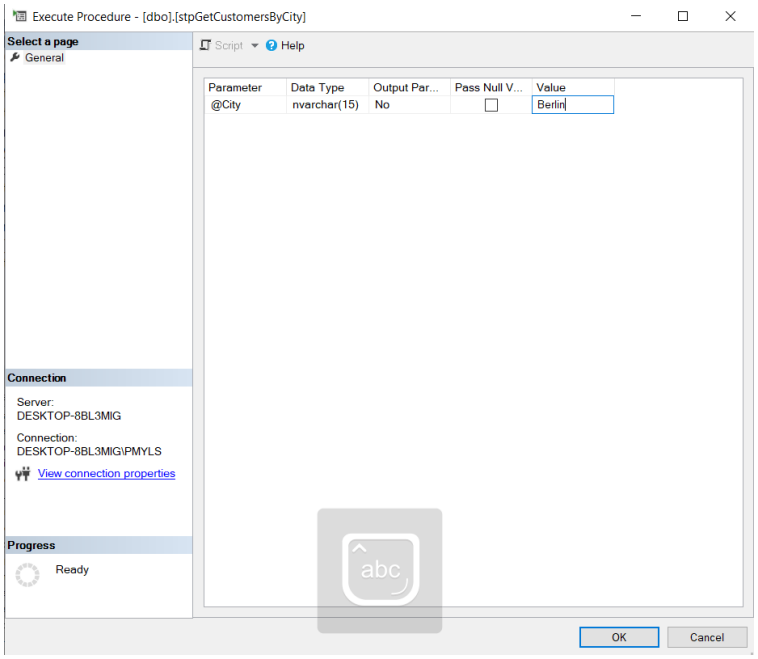


Figure 7: Execution of SELECT based Stored Procedure Using UI

2.3.2 Using Query

The Code to execute looks like the following

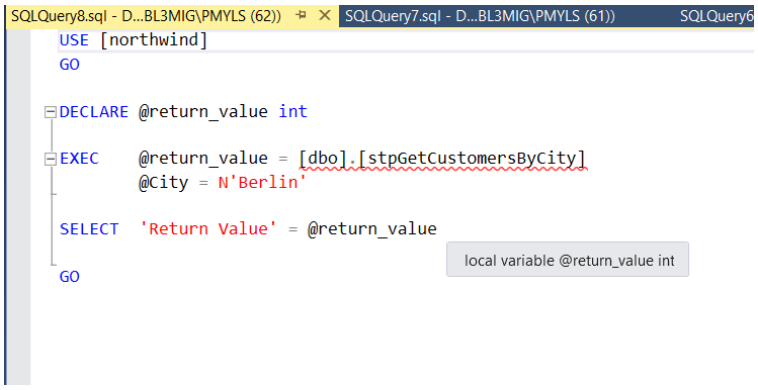
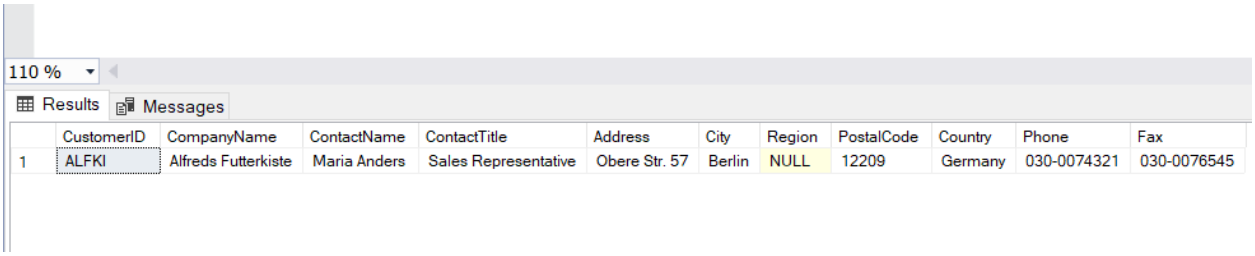


Figure 8: Execution of SELECT Based Stored Procedure Using Query

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 stpInsertCustomer.

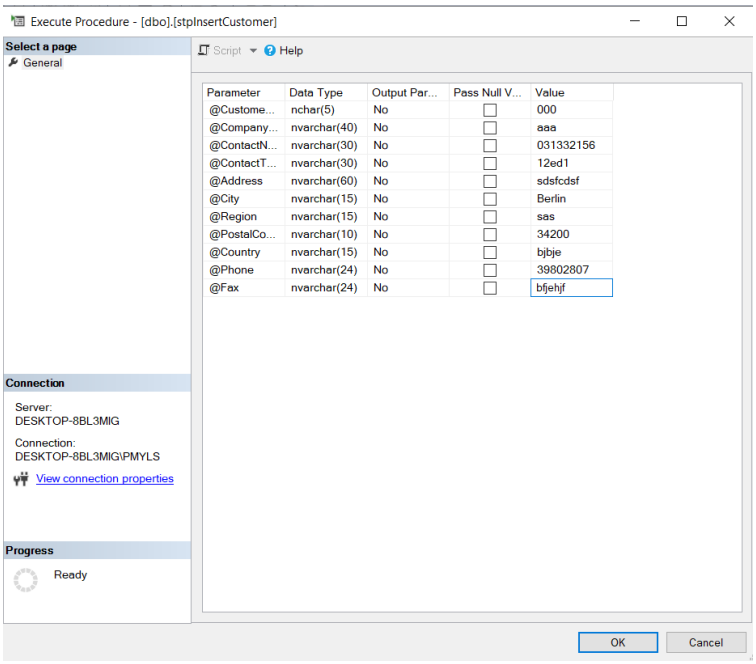


Figure 10: Execution of INSERT based Stored Procedure Using UI

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:

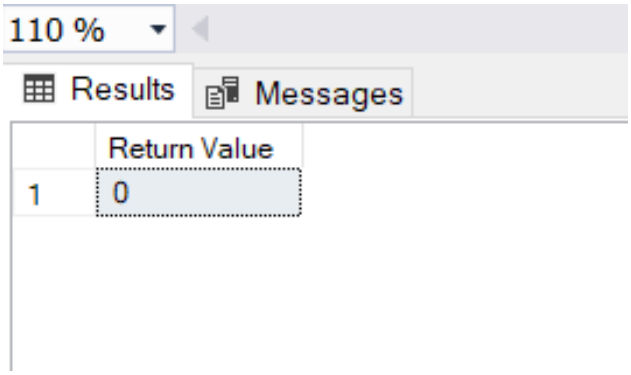


Figure 12: Output of Procedure

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

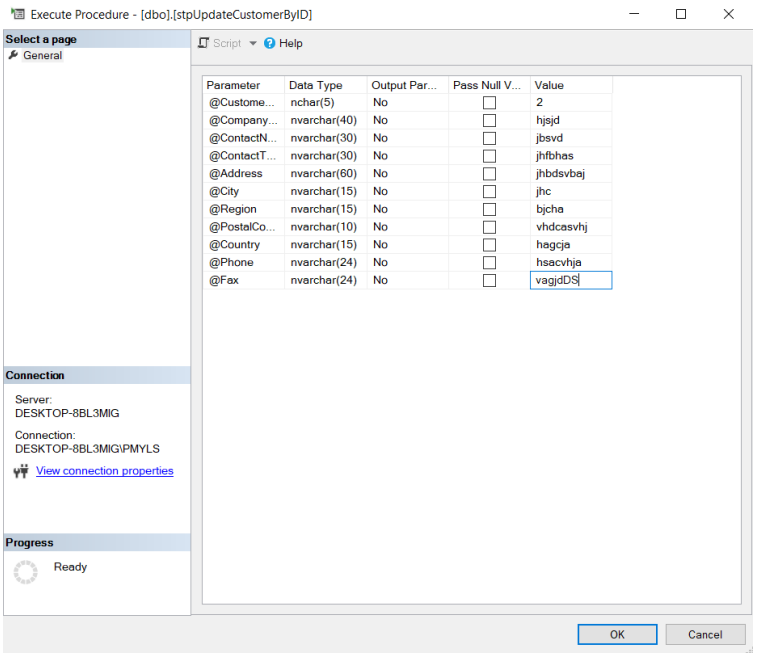


Figure 13: Execution of UPDATE Stored Procedure Using UI

4.3.2 Using Query

The Code to execute looks like the following

```
USE [northwind]
GO

DECLARE @return_value int

EXEC    @return_value = [dbo].[stpUpdateCustomerByID]
        @CustomerID = N'2',
        @CompanyName = N'dfsd',
        @ContactName = N'dsf',
        @ContactTitle = N's',
        @Address = N's',
        @City = N'f',
        @Region = N'dsf',
        @PostalCode = N'ds',
        @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:

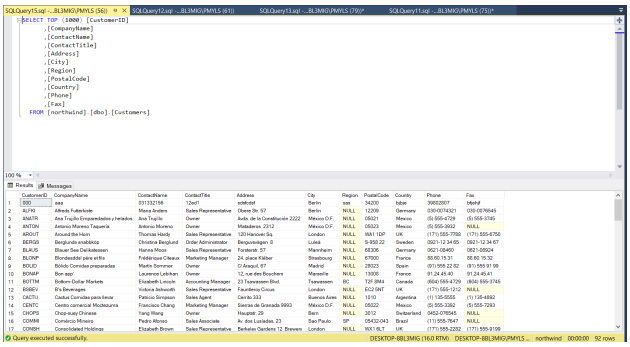


Figure 15: Check the Procedure execution

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.

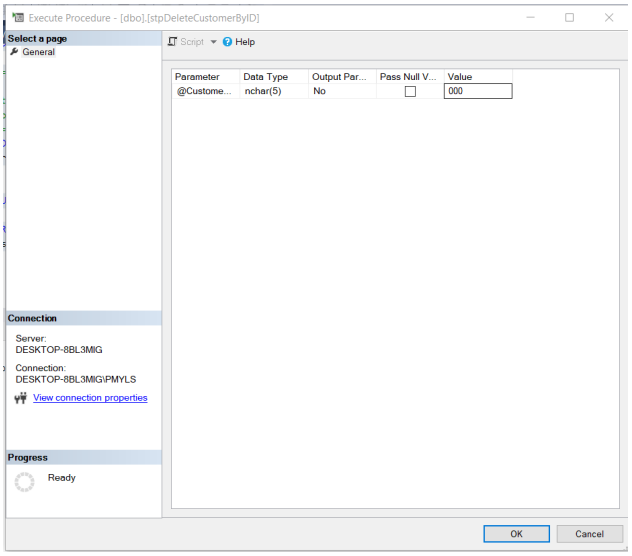


Figure 16: Execution of UPDATE Stored Procedure Using UI

5.3.2 Using Query

The Code to execute looks like the following:

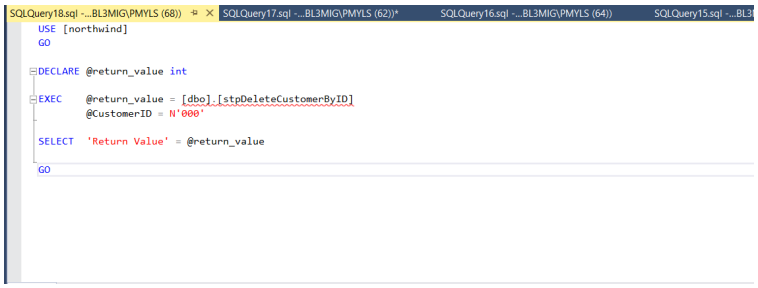


Figure 17: Execution of UPDATE Stored Procedure Using Query

5.4 Output

We can check as follow:

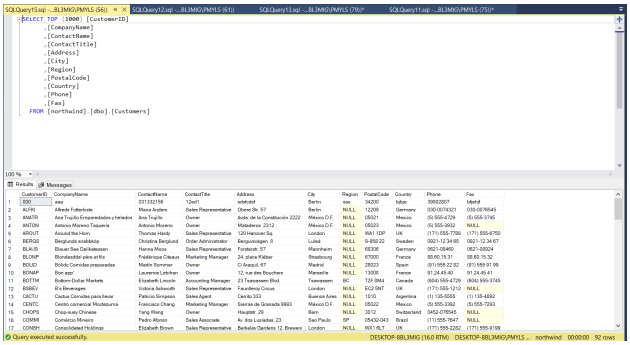


Figure 18: Check the Procedure execution