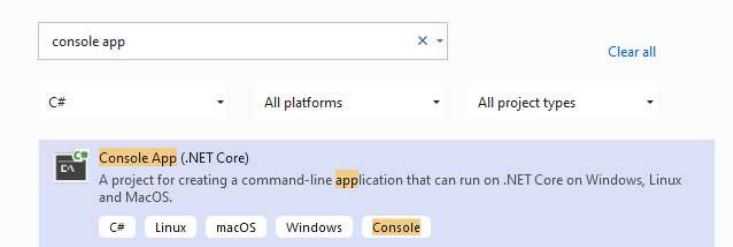
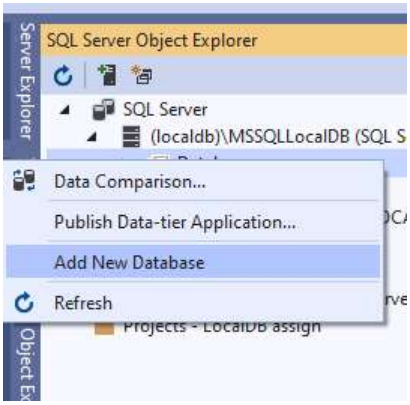
Assign 07 – Create a LocalDB connection

Due date and time: 05/03/2023 11:59 pm Total points: 5

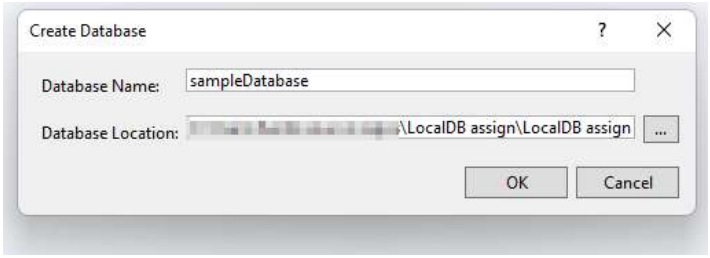
Create a console app project “LocalDB_assign”.



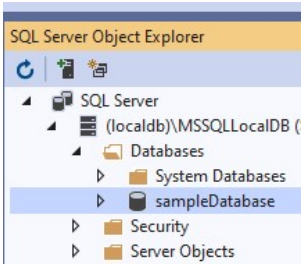
Open SQL Server object explorer and add a new database



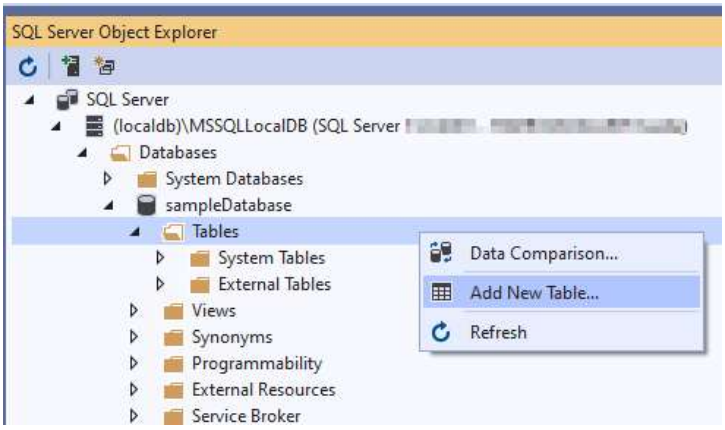
Name database and browse to the project folder where you want to store .mdf file.



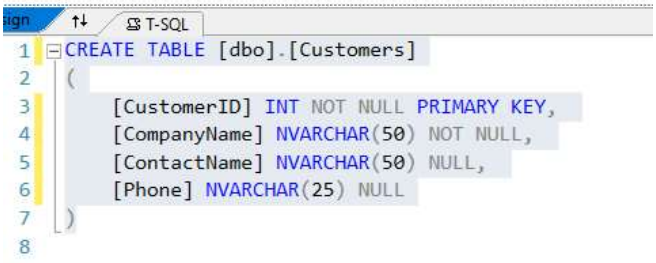
A new database has been added.



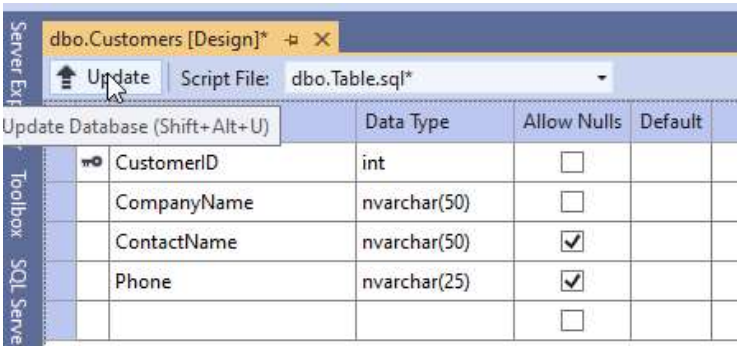
Add Customers table now.



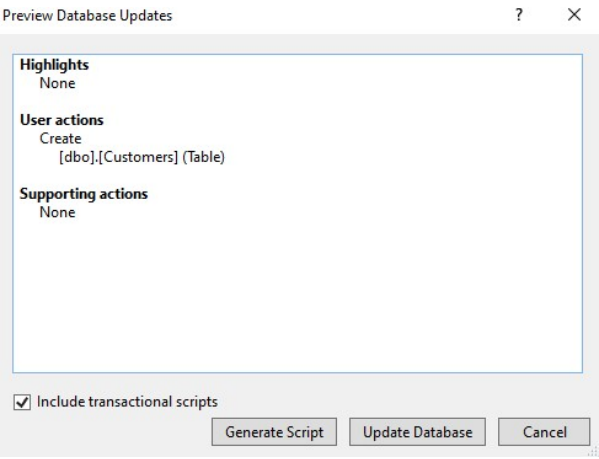
Name the Customers table by updating the first line in the script pane to match the following sample:



In the upper-left corner of Table Designer, select Update.



In the Preview Database Updates dialog box, select Update Database.



The Customers table is created in the local database file.

Add another table Orders in the same way, and then add a row for each entry in the following table:

Column name	Data type	Allow nulls
`OrderID`	`int`	False (cleared)
`CustomerID`	`nchar(5)`	False (cleared)
`OrderDate`	`datetime`	True (selected)
`OrderQuantity`	`int`	True (selected)

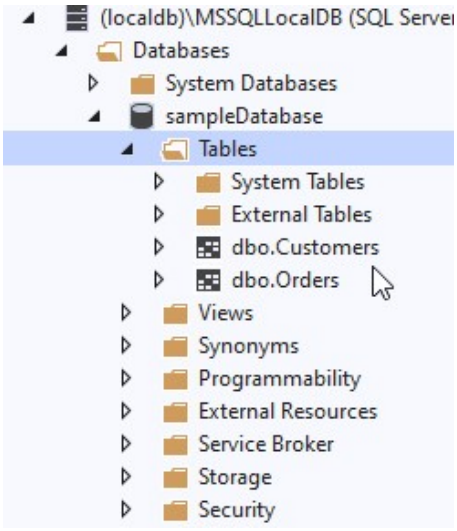
Add a foreign key

```
T-SQL
CREATE TABLE [dbo].[Orders]
(
    [OrderID] INT NOT NULL PRIMARY KEY,
    [CustomerID] INT NOT NULL,
    [OrderDate] DATETIME NULL,
    [OrderQuantity] INT NULL,
    CONSTRAINT [FK_Orders_Customers] FOREIGN KEY ([CustomerID]) REFERENCES [Customers]([CustomerID])
)
```

In the upper-left corner of the Table Designer, select Update.

In the Preview Database Updates dialog box, select Update Database.

The foreign key is created.

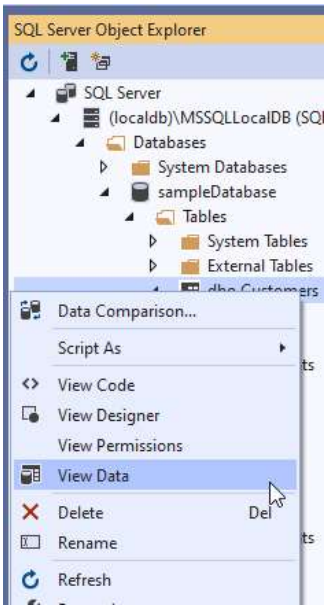


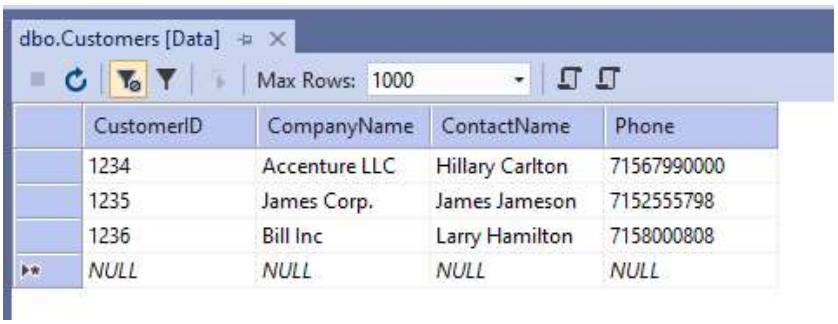
After creating the tables and add some data – below find some sample data

In SQL Server Object Explorer, expand the node for the sampleDatabase.

Open the shortcut menu for the Tables node, select Refresh, and then expand the Tables node.

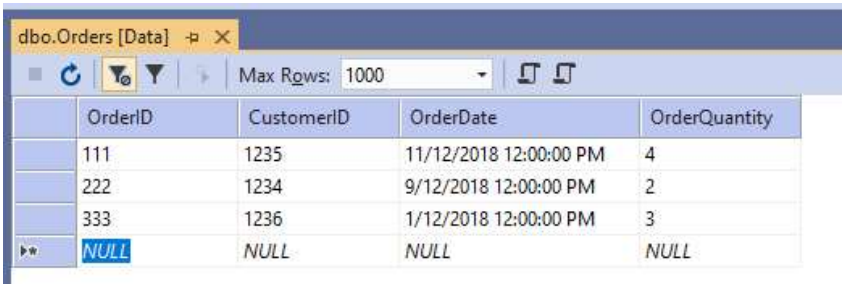
Open the shortcut menu for the Customers table, and then select View Data.





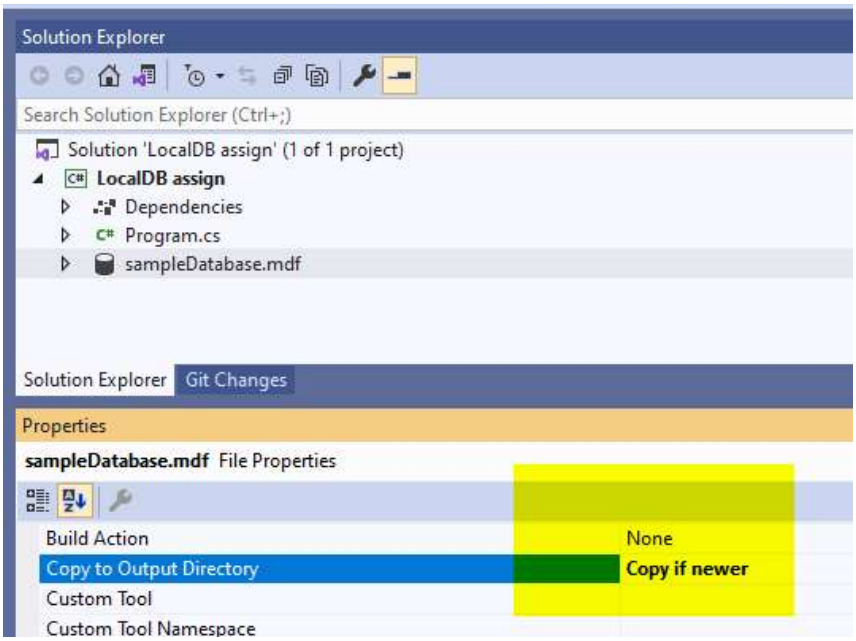
CustomerID	CompanyName	ContactName	Phone
1234	Accenture LLC	Hillary Carlton	71567990000
1235	James Corp.	James Jameson	7152555798
1236	Bill Inc	Larry Hamilton	7158000808
NULL	*NULL*	*NULL*	*NULL*

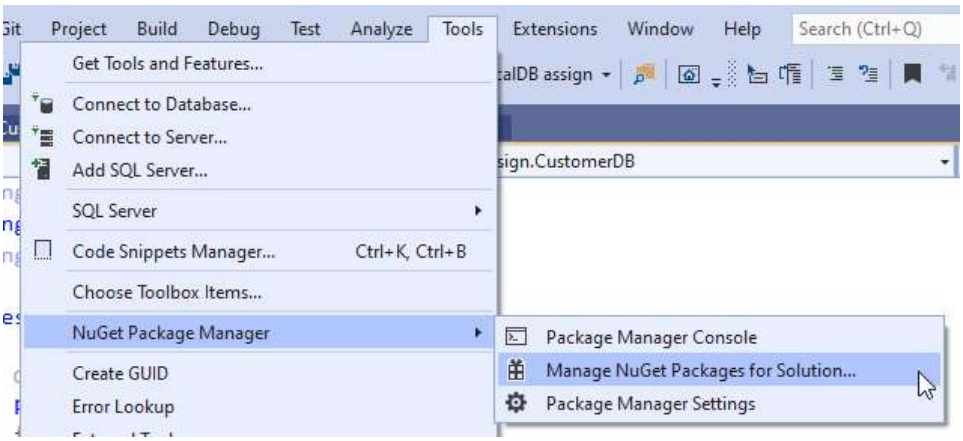
Repeat the same for Orders table and add data.

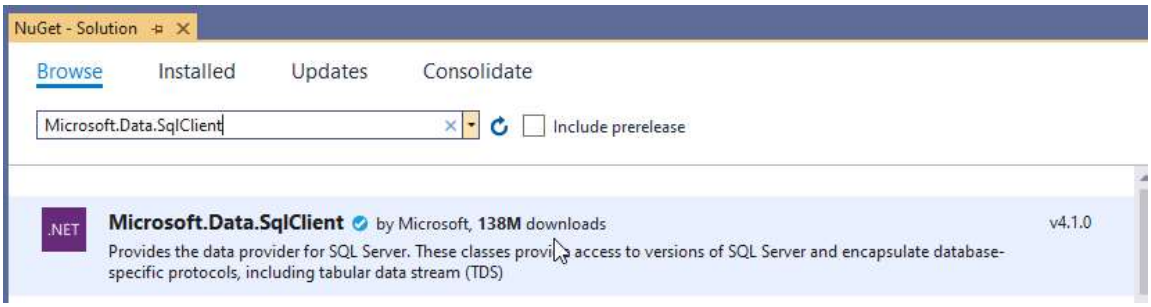


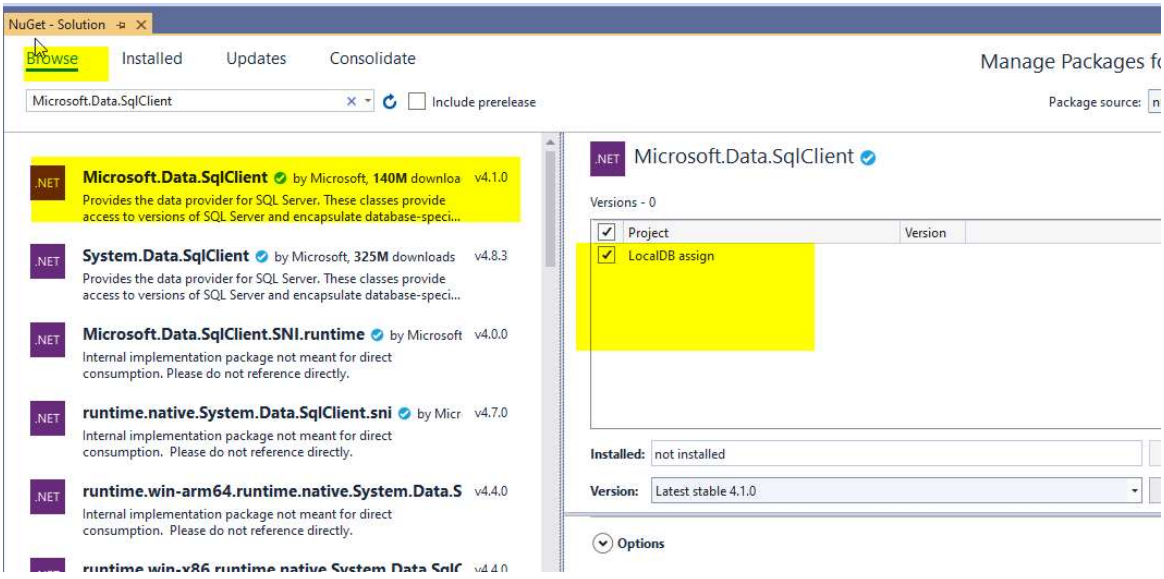
OrderID	CustomerID	OrderDate	OrderQuantity
111	1235	11/12/2018 12:00:00 PM	4
222	1234	9/12/2018 12:00:00 PM	2
333	1236	1/12/2018 12:00:00 PM	3
NULL	*NULL*	*NULL*	*NULL*

Select .mdf file in solution explorer, change the property value as shown below



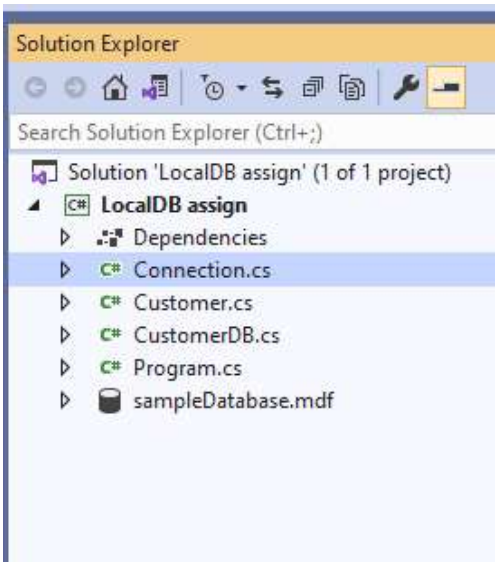






Install it.

You might need to restart the VS.



Connection.cs

LocalDB assign — LocalDB_assign.Connection

```
1   using System.Configuration;
2
3   namespace LocalDB_assign
4   {
        1 reference
5       public static class Connection
6       {
            1 reference
7           public static string ConnectionString
8               => @"Data Source=(LocalDB)\MSSQLLocalDB;
9                   AttachDbFilename='|DataDirectory|\sampleDatabase.mdf';Integrated Security=True";
10
11      }
12  }
```

Customer.cs

LocalDB assign

```
1   namespace LocalDB_assign
2   {
        3 references
3       public class Customer
        {
            1 reference
4           public int CustomerID { get; set; }
            1 reference
5           public string CompanyName { get; set; }
            2 references
6           public string ContactName { get; set; }
            1 reference
7           public string Phone { get; set; }
8       }
9   }
```

```
using System;
using System.Data;
using Microsoft.Data.SqlClient;

namespace LocalDB_assign
{
    1 reference
    public static class CustomerDB
    {
        1 reference
        public static Customer GetCustomer(int customerID)
        {
            Customer customer = null; // default return value
            string selectStatement =
                "SELECT CustomerID, CompanyName, ContactName,Phone " +
                "FROM Customers " +
                "WHERE CustomerID = @CustomerID";
            using SqlConnection connection = new SqlConnection(Connection.ConnectionString);
            using SqlCommand command = new SqlCommand(selectStatement, connection);
            command.Parameters.AddWithValue("@CustomerID", customerID);
            connection.Open();

            using SqlDataReader reader = command.ExecuteReader(
                CommandBehavior.SingleRow & CommandBehavior.CloseConnection);
            if (reader.Read())
            {
                customer = new Customer
                {
                    CustomerID = (int)reader["CustomerID"],
                    CompanyName = reader["CompanyName"].ToString(),
                    ContactName = reader["ContactName"].ToString(),
                    Phone = reader["Phone"].ToString()
                };
            }
            return customer;
        }
    }
}
```

Last thing is to print one of the customer's information on console in the main method of Program.cs file.

Submission:

1. A zip file of C# solution to Canvas submission folder.
2. In a separate Word document, include a retrospective that discusses:
    a. What went well with the assignment?
    b. What did not go well -- what did you struggle with?

Note:

1. The assignment awards 5 points according to the criteria given above. Partial or incorrect completion of the elements will reduce points awarded.
2. The retrospective will not be graded but it is required. Failure to include a retrospective will result in a 5% reduction in points.
3. Use best practices to write code as discussed during class lectures.