ADO.Net

using System;

// Step 1

using System.Data.SqlClient;

class Program

{

static void Main()

{

// Step 2

// Make object of SqlConnection

SqlConnection connection = new SqlConnection();

// Here we need to pass connectionstring

// connectionstring contain information about your database

// connectionstring : contains

// 1. server name

// 2. database name ,

// 3. credentials

connection.ConnectionString = @"data source=LAPTOP-53S2KQS8\SQLEXPRESS; initial catalog=CTS1;integrated security=true";

// Step 3:

// Declare object of SqlCommand

SqlCommand command = new SqlCommand();

command.CommandText = "Select \* from Employee";

command.Connection = connection;

// Step 4:

// Open Connection

connection.Open();

// Step 5:

// Execute the Query

SqlDataReader reader = command.ExecuteReader();

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1] + " " + reader[2]);

}

reader.Close();

connection.Close();

}

}

using System;

using System.Data.SqlClient;

class Program

{

static void Main()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand command = new SqlCommand("Select \* from student", connection);

connection.Open();

SqlDataReader reader= command.ExecuteReader();

while(reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

reader.Close();

connection.Close();

}

}

using System;

using System.Data.SqlClient;

class Program

{

static void Main()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand command = new SqlCommand("Select \* from student", connection);

connection.Open();

SqlDataReader reader = command.ExecuteReader();

if (reader.HasRows)

{

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

}

else

{

Console.WriteLine("No Records found");

}

reader.Close();

connection.Close();

}

}

using System;

using System.Data.SqlClient;

class Program

{

static void Main()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand command = new SqlCommand("Select \* from student", connection);

connection.Open();

SqlDataReader reader = command.ExecuteReader();

if (reader.HasRows)

{

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

}

else

{

Console.WriteLine("No Records found");

}

reader.Close();

connection.Close();

}

}

Garbage Collection : Unused objects are removed from memory by CLR

Garbage Collection is run on only managed code

Managed Code : Managed Code is the code which is understood by CLR

Employee emp = new Employee();

emp.Get();

emp.Display();

Every object has a life cycle

When the program is over, it is removed by CLR

Managed code is removed implicitly

But SqlConnection, SqlCommand is not managed by CLR

Their objects are not removed by CLR, we have to explicitly remove them , by using Dispose() method

using System;

using System.Data.SqlClient;

class Program

{

static void Main()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand command = new SqlCommand("Select \* from student", connection);

connection.Open();

SqlDataReader reader = command.ExecuteReader();

if (reader.HasRows)

{

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

}

else

{

Console.WriteLine("No Records found");

}

reader.Close();

connection.Close();

command.Dispose();

connection.Dispose();

}

}

CRUD operation : Create / Insert , Read , Update , Delete operation

Insert Record

using System;

using System.Data.SqlClient;

class Program

{

static void Main()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand com = new SqlCommand("Insert into employee (id, name, state, salary) values(10, 'Lalit Kumar','Delhi',90000)", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

}

Update

using System;

using System.Data.SqlClient;

class Program

{

static void Main()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand com = new SqlCommand("Update employee set salary =12000, state='Delhi'" +

"where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

}

Delete

using System;

using System.Data.SqlClient;

class Program

{

static void Main()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand com = new SqlCommand("Delete employee where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

}

using System;

using System.Data.SqlClient;

class Program

{

static void GetEmployees()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand command = new SqlCommand("Select \* from employee", connection);

connection.Open();

SqlDataReader reader = command.ExecuteReader();

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

reader.Close();

connection.Close();

}

static void InsertEmployee()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand com = new SqlCommand("Insert into employee (id, name, state, salary) values(10, 'Lalit Kumar','Delhi',90000)", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void UpdateEmployee()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand com = new SqlCommand("Update employee set salary =12000, state='Delhi'" +

"where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void DeleteEmployee()

{

SqlConnection connection = new SqlConnection(@"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true");

SqlCommand com = new SqlCommand("Delete employee where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void Main()

{

GetEmployees();

InsertEmployee();

Console.Read();

UpdateEmployee();

DeleteEmployee();

}

}

using System;

using System.Data.SqlClient;

class Program

{

static string GetConnectionString()

{

return @"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true";

}

static void GetEmployees()

{

SqlConnection connection = new SqlConnection(GetConnectionString());

SqlCommand command = new SqlCommand("Select \* from employee", connection);

connection.Open();

SqlDataReader reader = command.ExecuteReader();

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

reader.Close();

connection.Close();

}

static void InsertEmployee()

{

SqlConnection connection = new SqlConnection(GetConnectionString());

SqlCommand com = new SqlCommand("Insert into employee (id, name, state, salary) values(10, 'Lalit Kumar','Delhi',90000)", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void UpdateEmployee()

{

SqlConnection connection = new SqlConnection(GetConnectionString());

SqlCommand com = new SqlCommand("Update employee set salary =12000, state='Delhi'" +

"where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void DeleteEmployee()

{

SqlConnection connection = new SqlConnection(GetConnectionString());

SqlCommand com = new SqlCommand("Delete employee where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void Main()

{

GetEmployees();

InsertEmployee();

Console.Read();

UpdateEmployee();

DeleteEmployee();

}

}

using System;

using System.Data.SqlClient;

class Program

{

static SqlConnection connection;

static SqlCommand com;

static string GetConnectionString()

{

return @"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true";

}

static SqlConnection GetConnection()

{

return new SqlConnection(GetConnectionString());

}

static void GetEmployees()

{

connection = GetConnection();

com = new SqlCommand("Select \* from employee", connection);

connection.Open();

SqlDataReader reader = com.ExecuteReader();

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

reader.Close();

connection.Close();

}

static void InsertEmployee()

{

connection = GetConnection();

com = new SqlCommand("Insert into employee (id, name, state, salary) values(10, 'Lalit Kumar','Delhi',90000)", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void UpdateEmployee()

{

connection = GetConnection();

com = new SqlCommand("Update employee set salary =12000, state='Delhi'" +

"where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void DeleteEmployee()

{

connection = GetConnection();

com = new SqlCommand("Delete employee where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void Main()

{

GetEmployees();

InsertEmployee();

Console.Read();

UpdateEmployee();

DeleteEmployee();

}

}

using System;

using System.Data.SqlClient;

class Program

{

static SqlConnection connection;

static SqlCommand com;

static string GetConnectionString()

{

return @"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true";

}

static SqlConnection GetConnection()

{

return new SqlConnection(GetConnectionString());

}

static void GetEmployees()

{

connection = GetConnection();

com = new SqlCommand("Select \* from employee", connection);

connection.Open();

SqlDataReader reader = com.ExecuteReader();

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

reader.Close();

connection.Close();

}

static void InsertEmployee()

{

connection = GetConnection();

com = new SqlCommand("Insert into employee (id, name, state, salary) values(10, 'Lalit Kumar','Delhi',90000)", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void UpdateEmployee()

{

connection = GetConnection();

com = new SqlCommand("Update employee set salary =12000, state='Delhi'" +

"where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void DeleteEmployee()

{

connection = GetConnection();

com = new SqlCommand("Delete employee where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void Main()

{

GetEmployees();

InsertEmployee();

Console.WriteLine("Record is Inserted");

UpdateEmployee();

Console.WriteLine("Record is Edited");

DeleteEmployee();

Console.WriteLine("Record is Deleted");

}

}

using System;

using System.Data.SqlClient;

class Program

{

static SqlConnection connection;

static SqlCommand com;

static string GetConnectionString()

{

return @"data source=LAPTOP-53S2KQS8\SQLEXPRESS;" +

"initial catalog=cts1;integrated security=true";

}

static SqlConnection GetConnection()

{

return new SqlConnection(GetConnectionString());

}

static void GetEmployees()

{

connection = GetConnection();

com = new SqlCommand("Select \* from employee", connection);

connection.Open();

SqlDataReader reader = com.ExecuteReader();

while (reader.Read())

{

Console.WriteLine(reader[0] + " " + reader[1]);

}

reader.Close();

connection.Close();

}

static void InsertEmployee()

{

connection = GetConnection();

com = new SqlCommand("Insert into employee (id, name, state, salary) values(10, 'Lalit Kumar','Delhi',90000)", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void UpdateEmployee()

{

connection = GetConnection();

com = new SqlCommand("Update employee set salary =12000, state='Delhi'" +

"where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void DeleteEmployee()

{

connection = GetConnection();

com = new SqlCommand("Delete employee where id > 6", connection);

connection.Open();

com.ExecuteNonQuery();

// ExecuteNonQuery() is used for Insert , Update & Delete Statements

connection.Close();

com.Dispose();

connection.Dispose();

}

static void ShowMenu()

{

Console.WriteLine("1. Insert Record");

Console.WriteLine("2. Update Record");

Console.WriteLine("3. Delete Record");

Console.WriteLine("4. Get All Records");

}

static void Main()

{

ShowMenu();

int choice = Convert.ToByte(Console.ReadLine());

switch (choice)

{

case 1:

InsertEmployee();

Console.WriteLine("Record is Inserted");

break;

case 2:

UpdateEmployee();

Console.WriteLine("Record is Edited");

break;

case 3:

DeleteEmployee();

Console.WriteLine("Record is Deleted");

break;

case 4:

GetEmployees();

break;

default:

Console.WriteLine("Invalid choice");

break;

}

}

}