



### الطلاب المشاركين:

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رقم الوظيفة: الأولى.

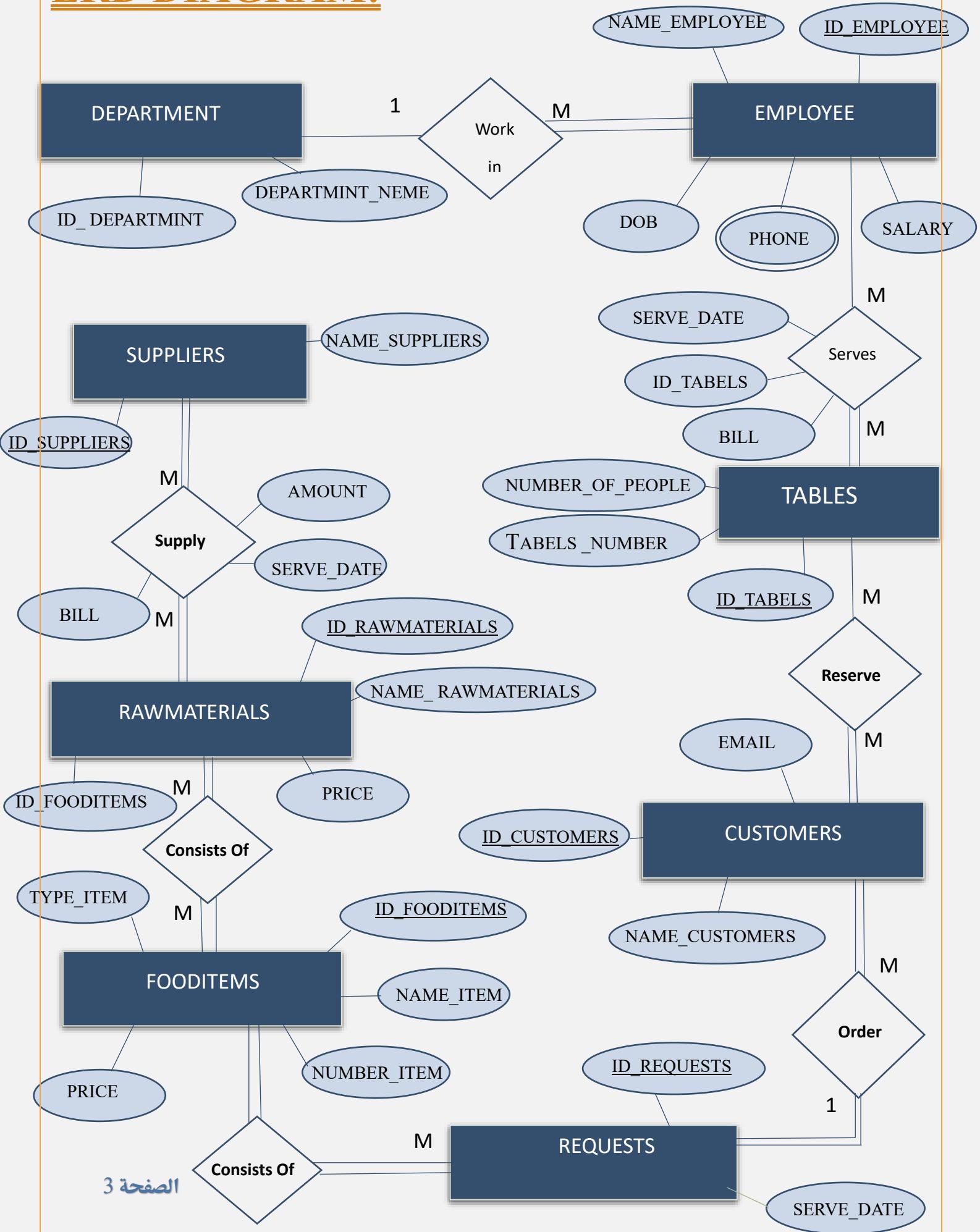
BDB501

S23

## ► سلم التصحيح:

رقم الطلب	الطلب	الرمز	العلامة
1	مخطط الكيانات العلائقية	ERD	20
2	تصميم القاعدة باستخدام Oracle + C#	DB+C#	40
3	إدخال البيانات	Insert + C#	10
4	مجموع المبالغ للطواولات التي يخدمها الموظف Nader خلال العام 2023	Select1	15
5	اسم المورد الذي ورد للمطعم بأكبر مبالغ مادية خلال العام 2023.	Select2	15
<b>المجموع</b>			<b>100</b>

# ERD DIAGRAM:



# Relationships Between Entities:

First Entity	Relationship	Second Entity	Relationship Type
EMPLOYEE1	WORK IN	DEPARTMENT	M to 1
الموظف يعمل في قسم واحد - القسم ي العمل به أكثر من موظف.			
EMPLOYEE1	SERVES	TABLES	M to M
موظف قسم خدمة الطاولات يمكن أن يخدم أكثر من طاولة - الطاولة يمكن أن يخدمها أكثر من موظف، تم إنشاء			
جدول العلاقة (Employee_Tables)			
TABLES	RESERVE	CUSTOMERS	M to M
الطاولات يحجزها أكثر من زبون - الزبائن تحجز أكثر من طاولة			
تم إنشاء جدول العلاقة (Customers_Tables)			
CUSTOMERS	ORDER	REQUESTS	M to 1
الزبون يطلب أكثر من طلب - الطلب يطلب زبون واحد.			
REQUESTS	CONSISTS OF	FOODITEMS	M to M
الطلب يمكن أن يتالف من أكثر من صنف طعام - صنف الطعام يمكن أن يكون لعدة			
طلبات، تم إنشاء جدول العلاقة (FoodItems_Orders)			
FOODITEMS	CONSISTS OF	RAWMATERIALS	M to M
صنف الطعام يتالف من أكثر من مادة أولية - المواد الأولية يمكن أن تكون لعدة أصناف			
طعام، تم إنشاء جدول العلاقة (Item_RawMaterials)			
RAWMATERIALS	SUPPLY	SUPPLIERS	M to M
المواد الأولية تورد من أكثر من مورد - المورد يستطيع إمداد أكثر من مادة أولية			
تم إنشاء جدول العلاقة (Suppliers_RawMaterials)			

# Entities and Attributes:

Entity	Attributes	Data Type	CONSTRAINTS
DEPARTMENT الأقسام	ID_DEPARTMENT / معرف	NUMBER	PRIMARY-KEY
	DEPARTMENT_NAME / اسم القسم	VARCHAR2	-

Entity	Attributes	Data Type	CONSTRAINTS
Employee1 الموظفين	ID_Employee / معرف	INT	PRIMARY-KEY
	ID_Department / رقم القسم	INT	FOREIGN-KEY
	Name_Employee / اسم الموظف	VARCHAR2	-
	DOB / تاريخ الميلاد	DATE	-
	Salary / الراتب	INT	-

Entity	Attributes	Data Type	CONSTRAINTS
PHONE رقم الهاتف	ID_PHONE / معرف	INT	PRIMARY-KEY
	ID_Employee / رقم الموظف	INT	FOREIGN-KEY
	Number_Phone / معرف الهاتف	NUMBER	-

Entity	Attributes	Data Type	CONSTRAINTS
TABLES الطاولات	ID_TABLES / معرف	INT	PRIMARY-KEY
	Tables_Number / رقم الطاولة	INT	-
	Number_of_people / عدد الأشخاص	INT	-

Entity	Attributes	Data Type	CONSTRAINTS
CUSTOMERS الزبائن	ID_CUSTOMERS / معرف	INT	PRIMARY-KEY
	Name_Customers / اسم الزبون	VARCHAR2	-
	Email / الإيميل	VARCHAR	UNIQUE
Entity	Attributes	Data Type	CONSTRAINTS
REQUESTS الطلبات	ID_Requests / معرف	INT	PRIMARY-KEY
	ID_CUSTOMERS / رقم الزبون	INT	FOREIGN-KEY
	Serve_Date / التاريخ	DATE	-

Entity	Attributes	Data Type	CONSTRAINTS
FOODITEMS أصناف الطعام	ID_FOODITEMS / معرف	INT	PRIMARY-KEY
	NUMBER_ITEM / رقم الصنف	NUMBER	-
	Name_ITEM / اسم صنف الطعام	VARCHAR2	-
	TYPE_ITEM / نوع الصنف	VARCHAR2	-
	PRICE / السعر	NUMBER	-

Entity	Attributes	Data Type	CONSTRAINTS
ROWMATERIALS المواد الأولية	ID_RAWMATERIALS / معرف	INT	PRIMARY-KEY
	NUMBER_ITEM / رقم الصنف	INT	-
	NAME_RAWMATERIALS / اسم المادة الأولية	INT	-
	PRICE / السعر	VARCHAR2	-

Entity	Attributes	Data Type	CONSTRAINTS
SUPPLIERS الموردون	ID_SUPPLIERS / معرف	INT	PRIMARY-KEY
	NAME_SUPPLIERS / اسم المورد	VARCHAR2	-

## Relationships Tables:

Entity	Attributes	Data Type	CONSTRAINTS
Employee_Tables الموظفين - طاولات	ID_Employee_Tables / معرف	INT	PRIMARY-KEY
	ID_EMPLOYEE / رقم الموظف	INT	FOREIGN-KEY
	ID_TABLES / رقم الطاولة	INT	FOREIGN-KEY
	SERVE_DATE / التاريخ	DATE	-
	BILL / الفاتورة	NUMBER	-

Entity	Attributes	Data Type	CONSTRAINTS
Customers_Tables البيان - طاولات	ID_Customers_Tables / معرف	INT	PRIMARY-KEY
	ID_Customers / رقم الزبون	INT	FOREIGN-KEY
	ID_Tables / رقم الطاولة	INT	FOREIGN-KEY

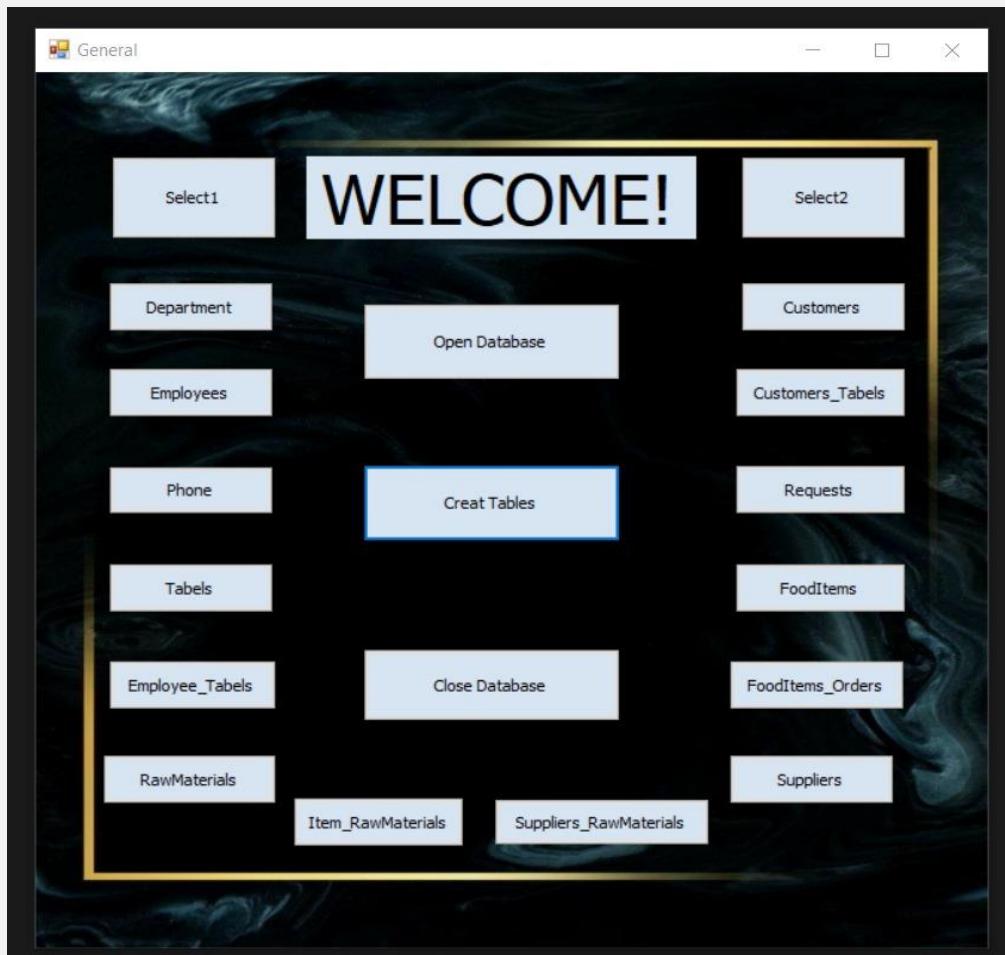
Entity	Attributes	Data Type	CONSTRAINTS
FoodItems_Orders - أصناف الطعام - الطلبات	ID_FoodItems_Orders / معرف	INT	PRIMARY-KEY
	ID_FoodItems / رقم صنف الطعام	INT	FOREIGN-KEY
	ID_Requests / رقم الطلب	INT	FOREIGN-KEY

Entity	Attributes	Data Type	CONSTRAINTS
Item_RawMaterials - أصناف الطعام - المواد الأولية	ID_Item_RawMaterials / معرف	INT	PRIMARY-KEY
	ID_FoodItems / رقم صنف الطعام	INT	FOREIGN-KEY
	ID_RawMaterials / رقم المادة الأولية	INT	FOREIGN-KEY

Entity	Attributes	Data Type	CONSTRAINTS
Suppliers_RawMaterials موردون - المواد الأولية	ID_Suppliers_RawMaterials / معرف	INT	PRIMARY-KEY
	ID_RawMaterials / رقم المادة الأولية	INT	FOREIGN-KEY
	ID_Suppliers / رقم المورد	INT	FOREIGN-KEY
	Amount / الكمية	NUMBER	-
	Server_Date / التاريخ	DATE	-
	Bill / الفاتورة	NUMBER	-

## ► الواجهة الرئيسية:

عند الضغط على زر "Open Database" تفتح قاعدة البيانات، وبعدها بإمكاننا أن نضغط على زر أي جدول وفتح واجهة هذا الجدول ونستطيع إدخال البيانات فيه.



## ► كود زر فتح قاعدة البيانات:

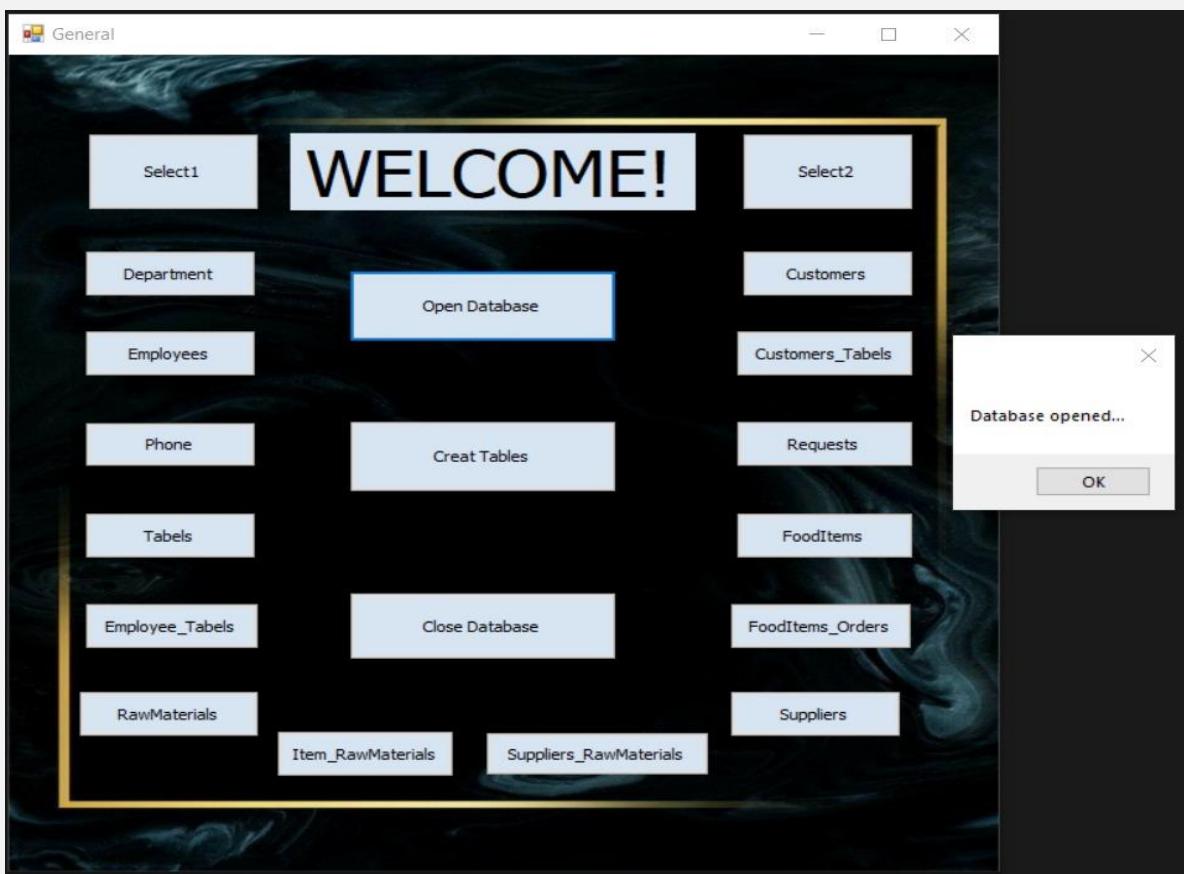
```
1 reference
private void btnopendata_Click(object sender, EventArgs e)
{
    Program.con.Open();
    MessageBox.Show("Database opened...");
```

## ◀ كود الواجهة الرئيسية:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    static class Program
    {
        public static OracleConnection con = new OracleConnection();
        /// <summary>
        /// The main entry point for the application.
        /// </summary>
        [STAThread]
        static void Main()
        {
            con.ConnectionString = " Data Source = localhost:1521 / orcl; User Id = system; Password = tiger;";
            Application.EnableVisualStyles();
            Application.SetCompatibleTextRenderingDefault(false);
            Application.Run(new Form1());
        }
    }
}
```

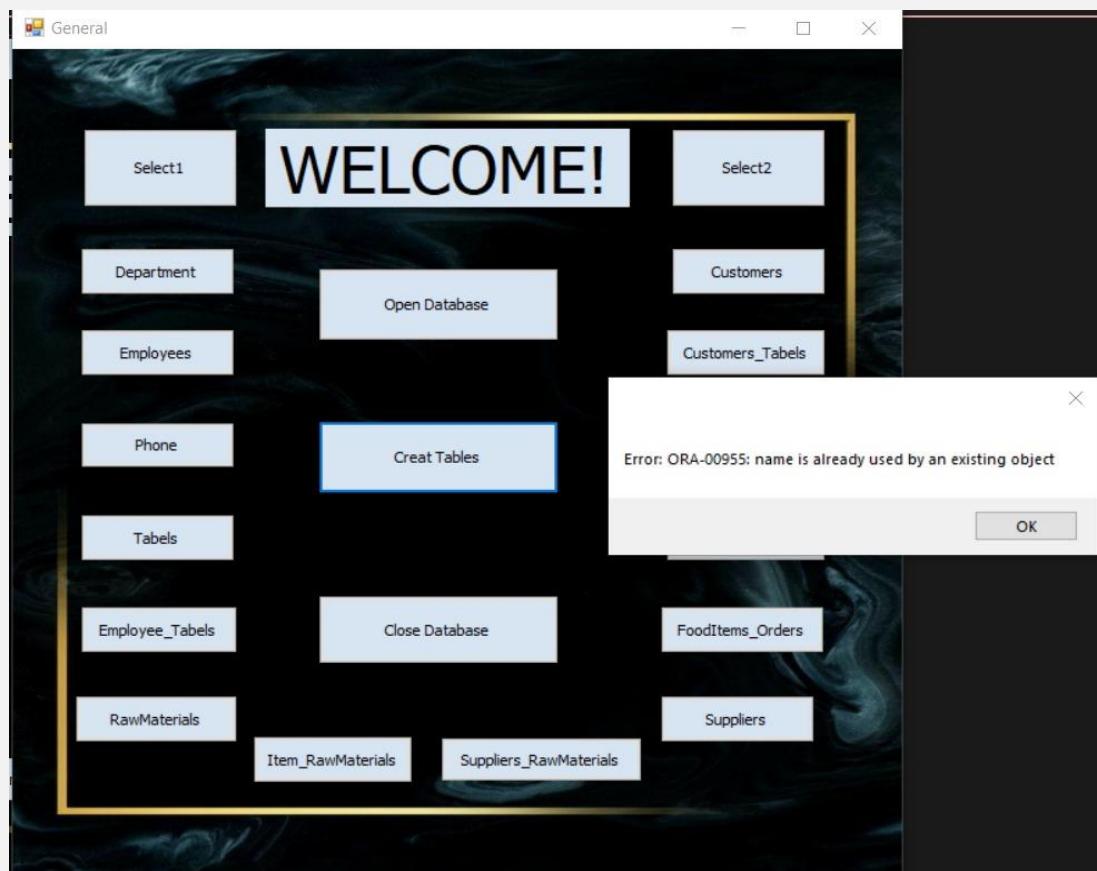
❖ بدايةً نقوم بالضغط على رز Open Database لفتح قاعدة البيانات عن طريق استدعاء المتحول الخاص بالاتصال con من أل Program الأساسي للمشروع وظهور لنا رسالة Database Opened لتأكد لنا أن الربط تم بالشكل الصحيح.



❖ عند الضغط على زر Create Tables سوف يتم إنشاء الجداول في قاعدة البيانات بعد أن

تأكدنا أن الرابط تم بشكل صحيح ولكن بما أننا قمنا بإنشاء الجداول وهي موجودة بالفعل

فإن قاعدة البيانات أظهرت لدينا الرسالة التالية..



كود زر إنشاء الجداول:

```

using System;
using System.Data.OracleClient;
using System.Windows.Forms;

private void btnCreateTable_Click(object sender, EventArgs e)
{
    try
    {
        OracleCommand cmd = new OracleCommand();
        cmd.Connection = Program.con;
        cmd.CommandText = "CREATE TABLE Department (ID_Department NUMBER NOT NULL, Department_Name VARCHAR(20), CONSTRAINT Department_PK PRIMARY KEY (ID_Department))";
        cmd.CommandText = "CREATE TABLE Employee (ID_Employee INT NOT NULL, Employee_Name VARCHAR(20), Employee_Salary NUMBER, Employee_HireDate DATE, CONSTRAINT Employee_PK PRIMARY KEY (ID_Employee),CONSTRAINT Employee_EH FOREIGN KEY (Employee_HireDate) REFERENCES Date(Serve_Date))";
        cmd.CommandText = "CREATE TABLE Phone (ID_Phone INT NOT NULL, ID_Employee INT NOT NULL, Number_Phone NUMBER); CONSTRAINT Phone_PK PRIMARY KEY (ID_Phone),CONSTRAINT Phone_FK FOREIGN KEY (ID_Employee) REFERENCES Employee (ID_Employee)";
        cmd.CommandText = "CREATE TABLE Tables (ID_Tables INT NOT NULL,Tables_Number INT NOT NULL,Number_of_people INT NOT NULL,CONSTRAINT Tables_PK PRIMARY KEY (ID_Tables))";
        cmd.CommandText = "CREATE TABLE Employee_Tables (ID_Employee_Tables INT NOT NULL, ID_Employee INT NOT NULL, ID_Tables INT NOT NULL,Server_Data_Date,Bill_Number,CONSTRAINT Employee_Tables_PK PRIMARY KEY (ID_Employee_Tables),CONSTRAINT Employee_Tables_FK FOREIGN KEY (ID_Employee) REFERENCES Employee (ID_Employee),CONSTRAINT Employee_Tables_FK FOREIGN KEY (ID_Tables) REFERENCES Tables (ID_Tables))";
        cmd.CommandText = "CREATE TABLE Customers (ID_Customers INT NOT NULL,Name_Customers VARCHAR(20),Email VARCHAR(20),CONSTRAINT Customers_PK PRIMARY KEY (ID_Customers))";
        cmd.CommandText = "CREATE TABLE Requests (ID_Requests INT NOT NULL, ID_Customers INT NOT NULL, ID_Tables INT NOT NULL,Server_Data_Date,CONSTRAINT Requests_PK PRIMARY KEY (ID_Requests),CONSTRAINT Requests_FK FOREIGN KEY (ID_Customers) REFERENCES Customers (ID_Customers))";
        cmd.CommandText = "CREATE TABLE FoodItems (ID_FoodItems INT NOT NULL,Number_Item NUMBER,Name_Item VARCHAR(20),Type_Item VARCHAR(20),Price NUMBER,CONSTRAINT FoodItems_PK PRIMARY KEY (ID_FoodItems))";
        cmd.CommandText = "CREATE TABLE FoodItems_Orders (ID_FoodItems_Orders INT NOT NULL, ID_FoodItems INT NOT NULL, ID_Requests INT NOT NULL,CONSTRAINT FoodItems_Orders_PK PRIMARY KEY (ID_FoodItems_Orders),CONSTRAINT FoodItems_Orders_FK FOREIGN KEY (ID_FoodItems) REFERENCES FoodItems (ID_FoodItems),CONSTRAINT FoodItems_Orders_FK FOREIGN KEY (ID_Requests) REFERENCES Requests (ID_Requests))";
        cmd.CommandText = "CREATE TABLE Item_RawMaterials (ID_Item_RawMaterials INT NOT NULL, ID_FoodItems INT NOT NULL, ID_RawMaterials INT NOT NULL,CONSTRAINT Item_RawMaterials_PK PRIMARY KEY (ID_Item_RawMaterials))";
        cmd.CommandText = "CREATE TABLE Suppliers (ID_Suppliers INT NOT NULL,Name_Suppliers VARCHAR(20),CONSTRAINT Suppliers_PK PRIMARY KEY (ID_Suppliers))";
        cmd.CommandText = "CREATE TABLE Suppliers_RawMaterials (ID_Suppliers_RawMaterials INT NOT NULL, ID_RawMaterials INT NOT NULL, ID_Suppliers INT NOT NULL,Amount_Number,Server_Data,Bill_Number,CONSTRAINT Suppliers_RawMaterials_PK PRIMARY KEY (ID_Suppliers_RawMaterials))";
        cmd.ExecuteNonQuery();
    }
    catch (Exception ex)
    {
        MessageBox.Show("Error: " + ex.Message);
    }
}

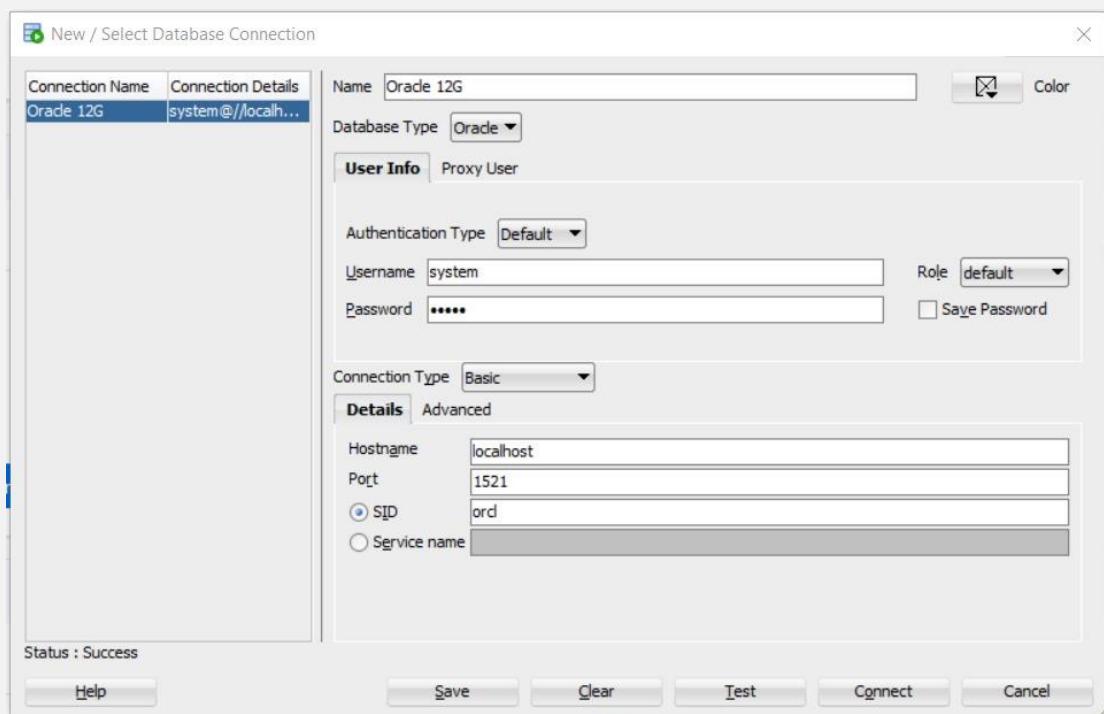
```

REIGN KEY (ID\_Department) REFERENCES Department(ID\_Department);  
 ,Employee);  
 CONSTRAINT Employee\_FK FOREIGN KEY (ID\_Employee) REFERENCES Employee(ID\_Employee),CONSTRAINT Tables\_FK FOREIGN KEY (ID\_Tables) REFERENCES Tables(ID\_Tables));  
 REIGN KEY (ID\_Customers) REFERENCES Customers(ID\_Customers),CONSTRAINT Cus\_Tables\_FK FOREIGN KEY (ID\_Tables) REFERENCES Tables(ID\_Tables);  
 MRS(ID\_Customers));  
 JRS\_PK FOREIGN KEY (ID\_FoodItems) REFERENCES FoodItems(ID\_FoodItems),CONSTRAINT Food\_Orders\_FK FOREIGN KEY (ID\_Requests) REFERENCES Requests(ID\_Requests));  
 RawMaterials\_FK FOREIGN KEY (ID\_FoodItems) REFERENCES FoodItems(ID\_FoodItems),CONSTRAINT Item\_Raw\_FK FOREIGN KEY (ID\_RawMaterials) REFERENCES RawMaterials(ID\_RawMaterials));  
 11 vis\_PK PRIMARY KEY (ID\_Suppliers\_RawMaterials),CONSTRAINT Suppliers\_RawMaterials\_FK FOREIGN KEY (ID\_RawMaterials) REFERENCES RawMaterials(ID\_RawMaterials),CONSTRAINT Supp\_Raw\_FK FOREIGN KEY (ID\_Suppliers) REFERENCES Suppliers(ID\_Suppliers));

## ملاحظة:

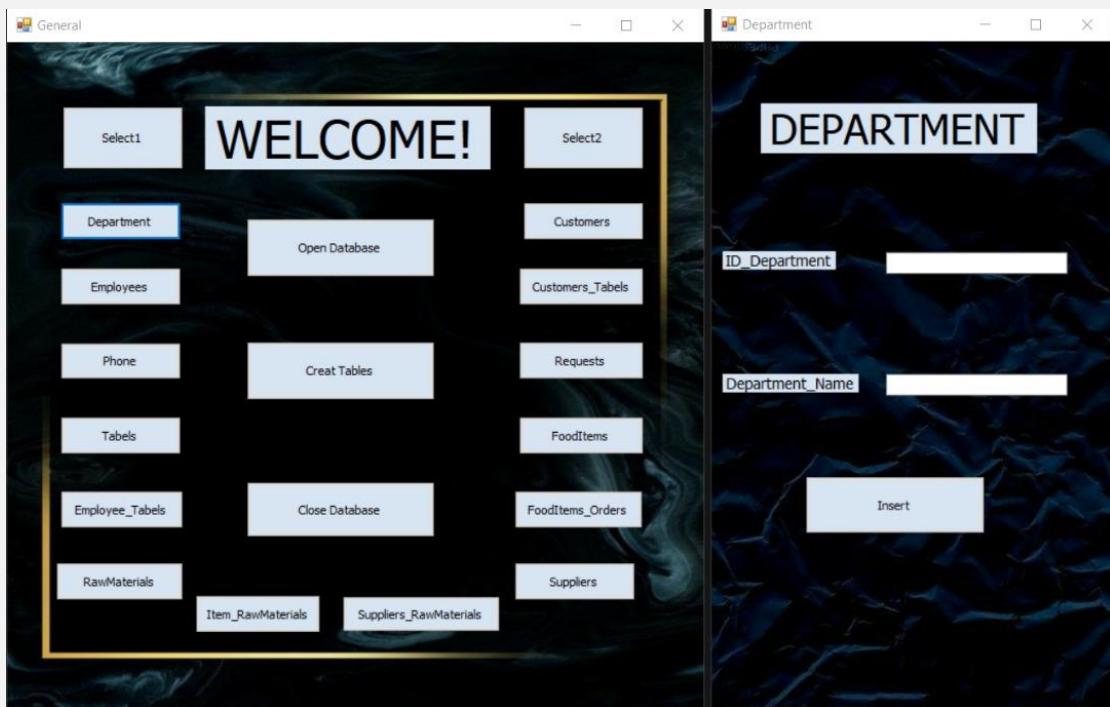
قمنا بوضع أكواد الربط الأساسية بالـ Program الأساسي للبرنامج وعند حاجتنا لاستخدامه نقوم باستدعائه بدلاً من إعادة كتابته.

عند كتابتنا لاسم المستخدم وكلمة السر الصحيحتان تفتح قاعدة البيانات ونصل إلى الجداول؛ مما يعني أن الربط لدينا صحيح.



## ► جداول الأقسام:

- واجهة الجدول:



- الجدول في قاعدة البيانات:

ID_DEPARTMENT	DEPARTMENT_NAME
1	Administration
2	Accounting
3	Kitchen
4	Table_Service

## • أكواد واجهة جدول الأقسام:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BD8_L
{
    public partial class Department : Form
    {
        public Department()
        {
            InitializeComponent();
        }

        private void textBox1_TextChanged(object sender, EventArgs e)
        {

        }

        private void textBox2_TextChanged(object sender, EventArgs e)
        {

        }

        private void btnInsert_dep_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

                // Create the SQL insert command
                string sql = "INSERT INTO Department (ID_Department, Department_Name) VALUES (:ID_Department, :Department_Name)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Department", OracleDbType.Varchar2).Value = int.Parse(ID_Department.Text);
                    command.Parameters.Add("Department_Name", OracleDbType.Varchar2).Value = Department_Name.Text;

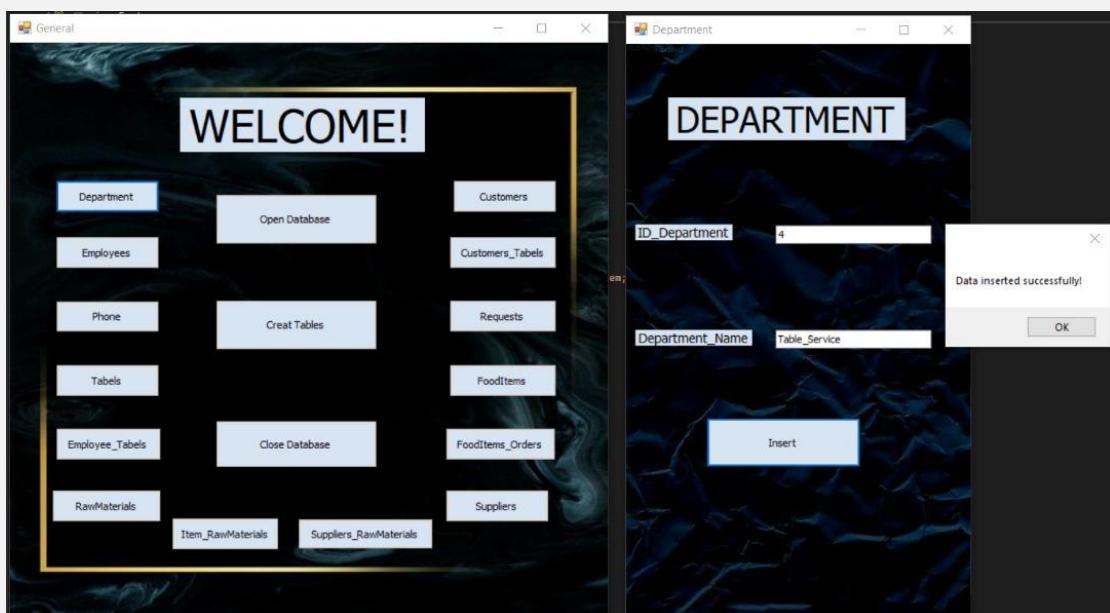
                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}
```

## شرح للكود:

بالبداية قمنا بالاتصال بقاعدة البيانات عن طريق استدعاء المتحول الخاص بالاتصال Con من الـ Program، ثم أنشأنا تعليمات الـ Insert التي تحتوي على جميع الـ Attributes الموجودة داخل الـ Entity ولأنه الأساسي، ثم قمنا بتحويل المدخلات التي تحتاجها كقيم رقمية (مثل الـ ID) عن البرنامج يرى القيم على أنها قيم نصية (Text). (قمنا بتحويل المدخلات التي تحتاجها كقيم رقمية (مثل الـ ID) عن طريق (Int.Parse)، أما المدخلات النصية بقيت Text.

ثم قمنا بعمل حلقة (Try{} Catch{}) لتفادي ونسطر على أي Exception يمكن أن يظهر أثناء عمل الكود ويعيق عمله بالشكل الصحيح، كما وضعنا ضمن حلقة Catch تعليمات MessageBox لتظهر لنا رسالة بالخطأ الذي حصل لمستطاع حله بالطريقة السليمة والصحيحة.

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة تؤكد دخولها وتخزينها بشكل صحيح:

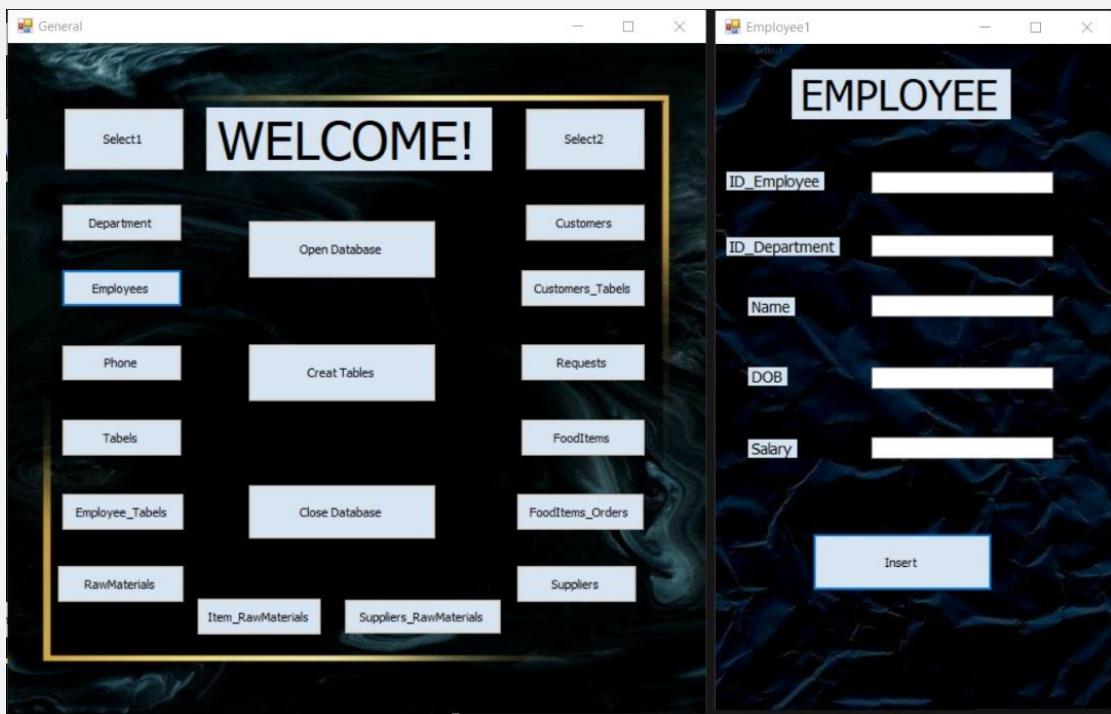


• كود تفعيل زر الـ Department بالواجهة الرئيسية:

```
1 reference
private void btnfgetoDep_Click(object sender, EventArgs e)
{
    Department department = new Department();
    department = new Department();
    department.Show();
}
```

## ► جدول الموظفين:

- واجهة الجدول:



- الجدول في قاعدة البيانات:

A screenshot of the Oracle 12G database interface. The title bar says 'Oracle 12G x EMPLOYEE1'. The main area shows a table with the following data:

ID_EMPLOYEE	ID_DEPARTMENT	NAME_EMPLOYEE	DOB	SALARY
1	1	1 Lubna_Bakdash	17-JAN-02	500000
2	2	1 Hanin_Alasfar	14-JAN-02	500000
3	3	2 Huda_Almasri	10-JAN-02	350000
4	4	2 Amina_Alnoaimi	15-JAN-02	350000
5	5	3 Laith_Alhalabi	11-JAN-99	250000
6	6	3 Luay_Alhomsi	09-JAN-95	250000
7	7	4 Saeed_Barakat	07-JAN-92	200000
8	8	4 Ghalia_abdalmaged	02-JAN-03	200000
9	9	3 Abdullah_Alsaidi	01-JAN-00	250000
10	10	4 karim_ayoubi	08-JAN-98	200000
11	11	4 Nader_AlNahas	14-JAN-99	200000

## • أكواد واجهة جدول الموظفين:

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class Employee1 : Form
    {
        public Employee1()
        {
            InitializeComponent();
        }

        private void btnInsert_emp_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

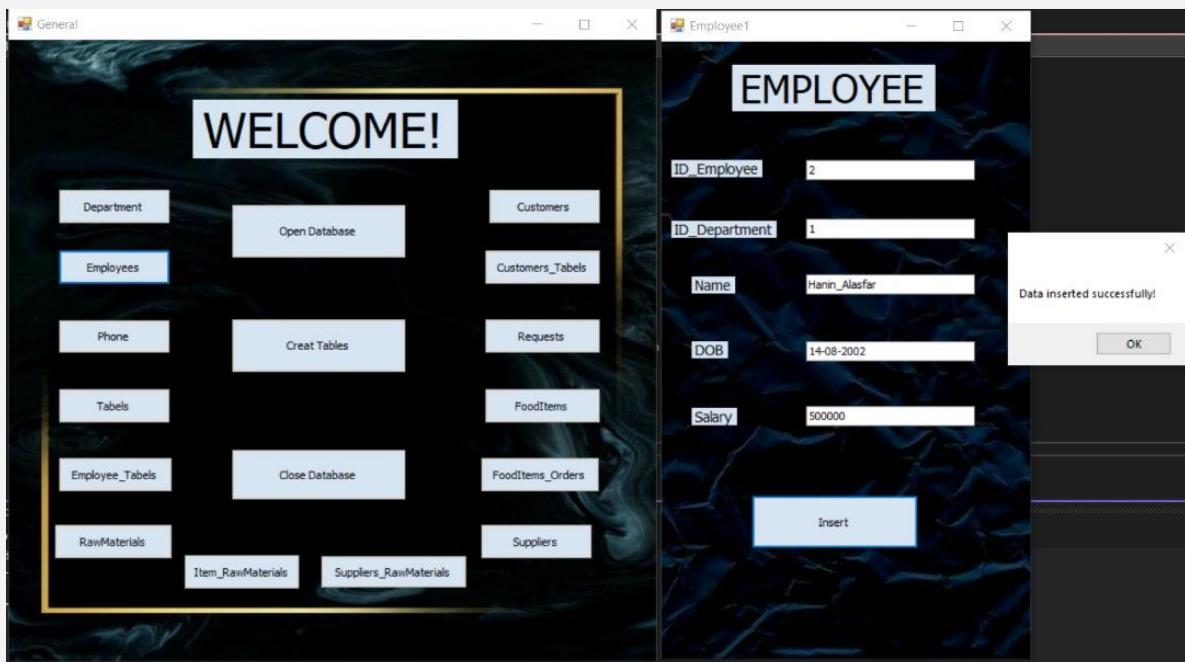
                // Create the SQL insert command
                string sql = "INSERT INTO Employee (ID_Employee, ID_Department, Name_Employee, DOB, Salary) VALUES (:ID_Employee, :ID_Department, :Name_Employee, :DOB, :Salary)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Employee", OracleDbType.Varchar2).Value = int.Parse(ID_Employee.Text);
                    command.Parameters.Add("ID_Department", OracleDbType.Varchar2).Value = int.Parse(ID_Department.Text);
                    command.Parameters.Add("Name_Employee", OracleDbType.Varchar2).Value = Name_Employee.Text;
                    command.Parameters.Add("DOB", OracleDbType.Date).Value = DateTime.ParseExact(DOB.Text, "dd-mm-yyyy", null);
                    command.Parameters.Add("Salary", OracleDbType.Varchar2).Value = int.Parse(Salary.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة توأك دخولها وتخزينها بشكل صحيح:



- كود تفعيل زر Employees بالواجهة الرئيسية:

```

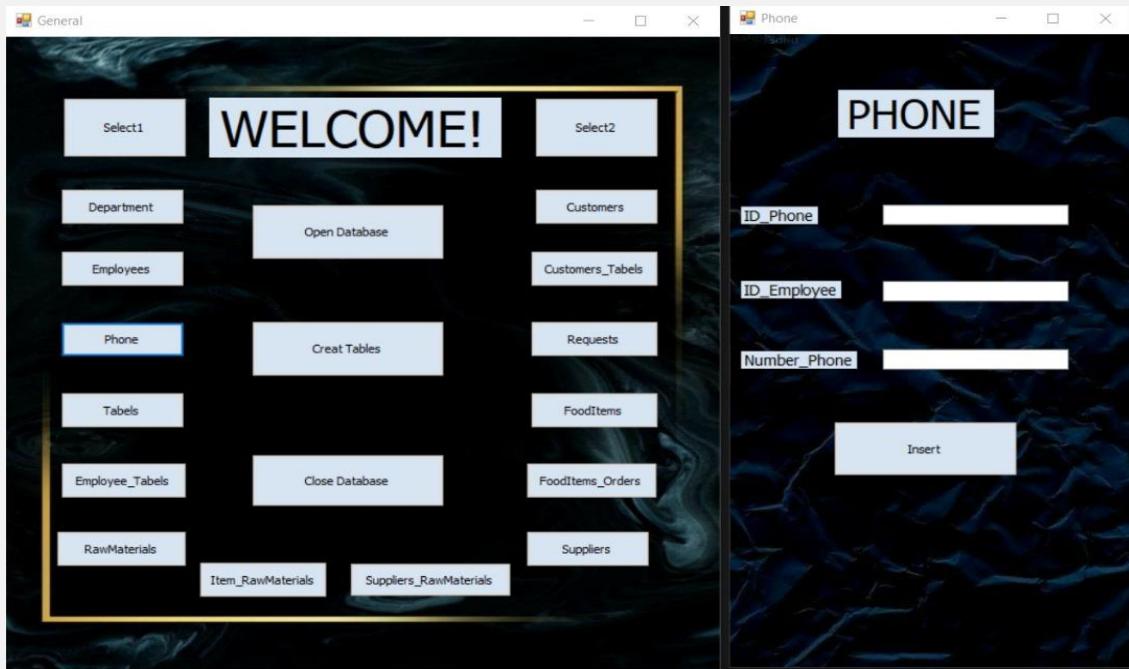
reference
private void btnNext_Click(object sender, EventArgs e)
{
    Employee1 employee1 = new Employee1();
    employee1 = new Employee1();
    employee1.Show();
}

```

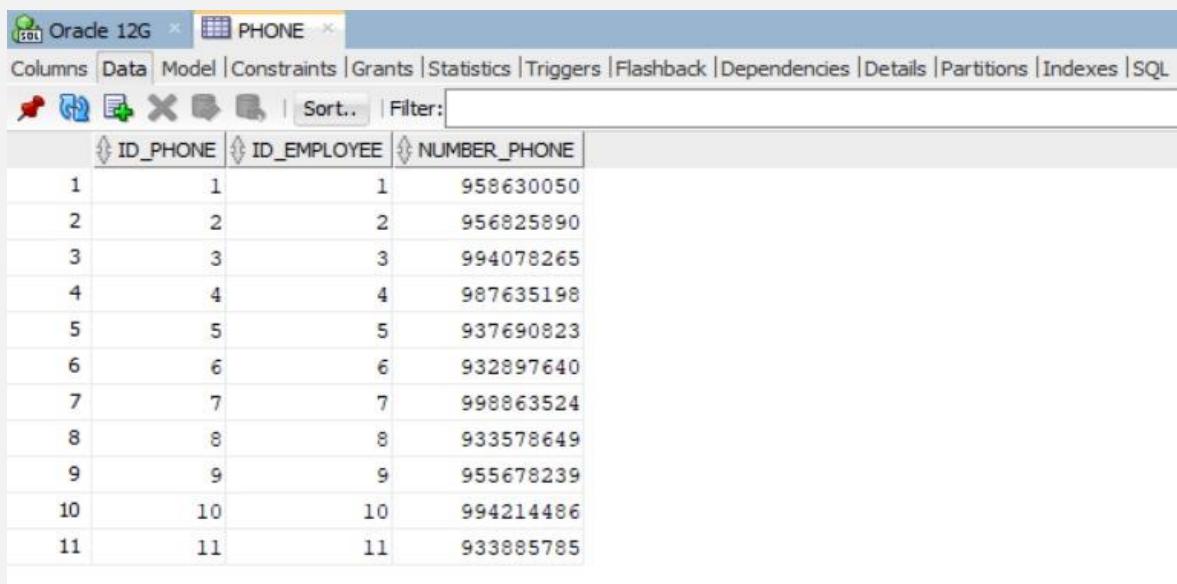
=====

## ► جدول الهاتف:

- واجهة الجدول:



## • الجدول في قاعدة البيانات:



The screenshot shows the Oracle 12G database interface with the PHONE table selected. The table has three columns: ID\_PHONE, ID\_EMPLOYEE, and NUMBER\_PHONE. The data consists of 11 rows, each containing a unique ID\_PHONE value from 1 to 11, a corresponding ID\_EMPLOYEE value, and a unique NUMBER\_PHONE value.

	ID_PHONE	ID_EMPLOYEE	NUMBER_PHONE
1	1	1	958630050
2	2	2	956825890
3	3	3	994078265
4	4	4	987635198
5	5	5	937690823
6	6	6	932897640
7	7	7	998863524
8	8	8	933578649
9	9	9	955678239
10	10	10	994214486
11	11	11	933885785

## • أكواد واجهة جدول الهاتف:

```
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class Phone : Form
    {
        public Phone()
        {
            InitializeComponent();
        }

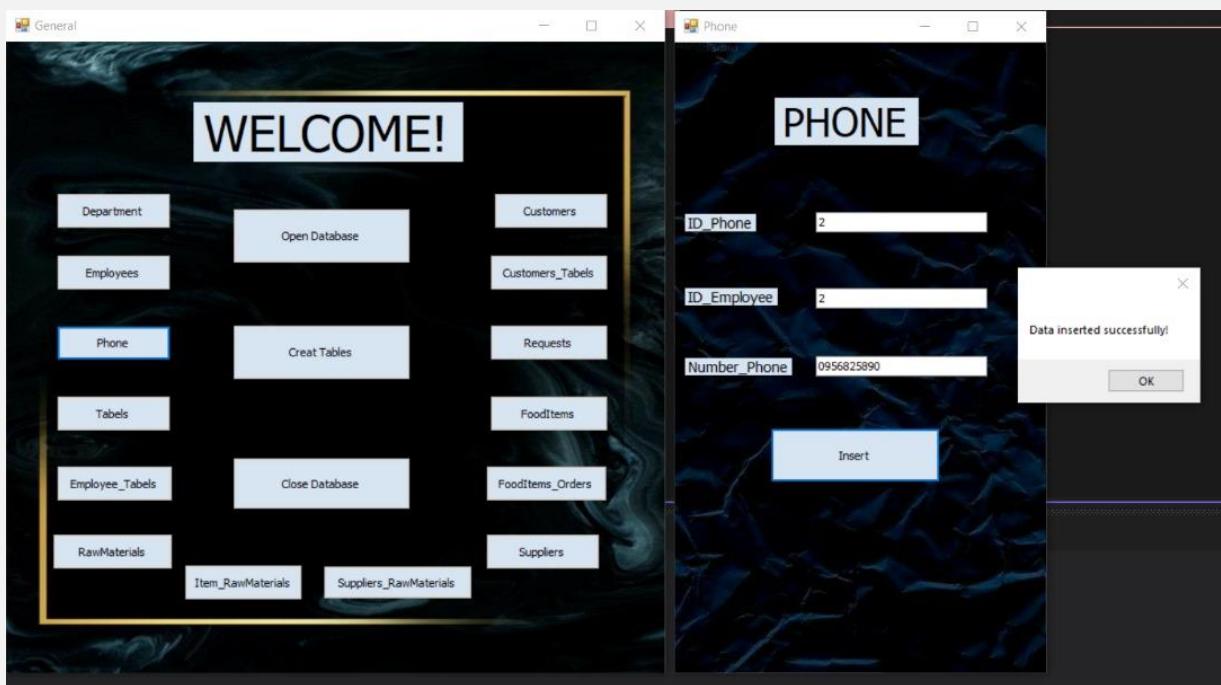
        private void btnInsert_phone_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

                // Create the SQL insert command
                string sql = "INSERT INTO Phone (ID_Phone, ID_Employee, Number_Phone) VALUES (:ID_Phone, :ID_Employee, :Number_Phone)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Phone", OracleDbType.Varchar2).Value = int.Parse(ID_Phone.Text);
                    command.Parameters.Add("ID_Employee", OracleDbType.Varchar2).Value = int.Parse(ID_Employee.Text);
                    command.Parameters.Add("Number_Phone", OracleDbType.Varchar2).Value = int.Parse(Number_Phone.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}
```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة توأّد دخولها وتخزينها بشكل صحيح:

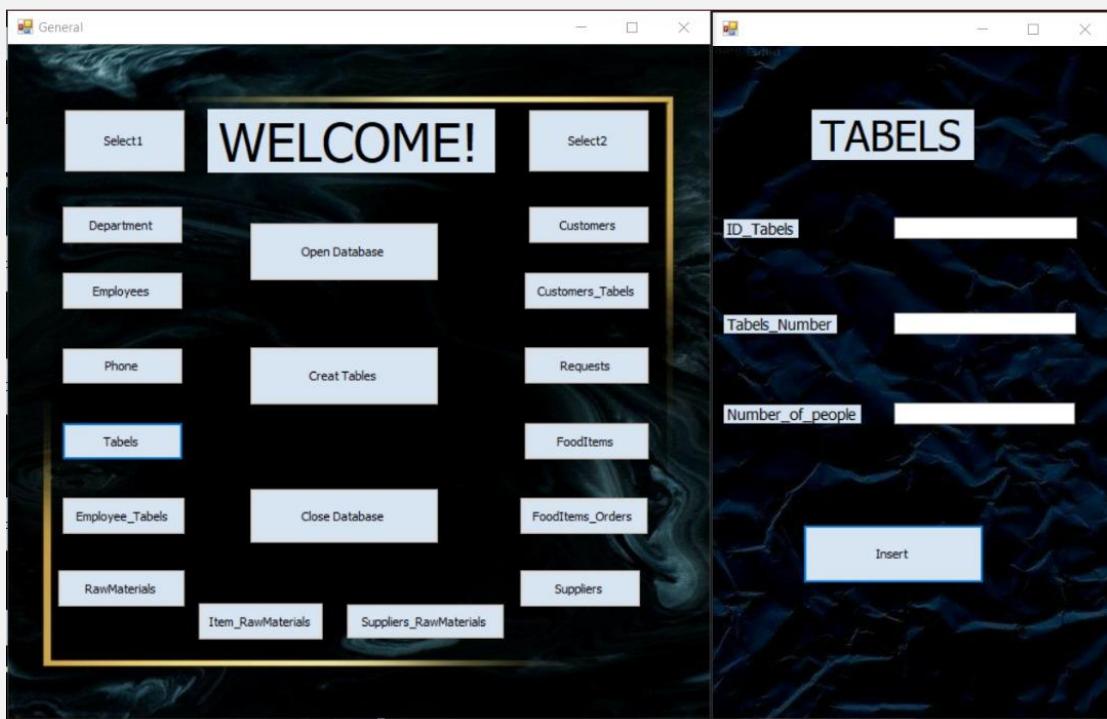


• كود تفعيل زر الـ Phone في الواجهة الرئيسية:

```
1 reference
private void button1_Click(object sender, EventArgs e)
{
    Phone phone = new Phone();
    phone = new Phone();
    phone.Show();
}
```

## ► جدول الطاولات:

- واجهة الجدول:



- الجدول في قاعدة البيانات:

A screenshot of Oracle SQL Developer showing a table named 'TABELS'. The table has three columns: 'ID\_TABLES', 'TABLES\_NUMBER', and 'NUMBER\_OF\_PEOPLE'. The data is as follows:

ID_TABLES	TABLES_NUMBER	NUMBER_OF_PEOPLE
1	1	1
2	2	6
3	3	6
4	4	4
5	5	4
6	6	4
7	7	2
8	8	2
9	9	2
10	10	9

## • أكواد واجهة جدول الطاولات:

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class Tables : Form
    {
        public Tables()
        {
            InitializeComponent();
        }

        private void btninsert_tables_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

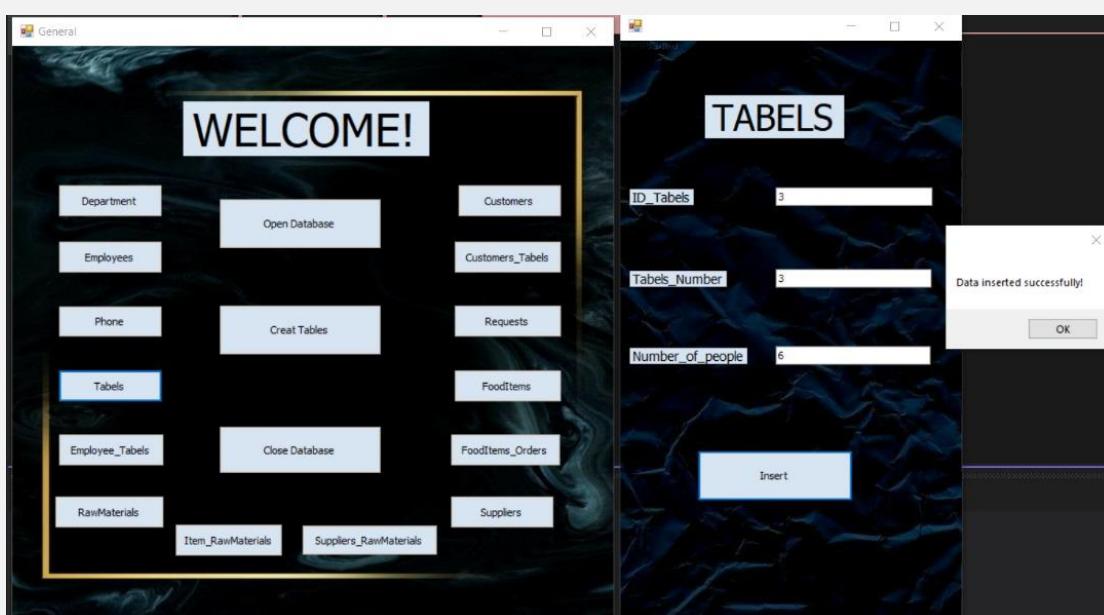
                // Create the SQL insert command
                string sql = "INSERT INTO Tables (ID_Tables, Tables_Number, Number_of_people) VALUES (:ID_Tables, :Tables_Number, :Number_of_people)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Tables", OracleDbType.Varchar2).Value = int.Parse(ID_Tables.Text);
                    command.Parameters.Add("Tables_Number", OracleDbType.Varchar2).Value = int.Parse(Tables_Number.Text);
                    command.Parameters.Add("Number_of_people", OracleDbType.Varchar2).Value = int.Parse(Number_of_people.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة تؤكد دخولها وتخزينها بشكل صحيح:

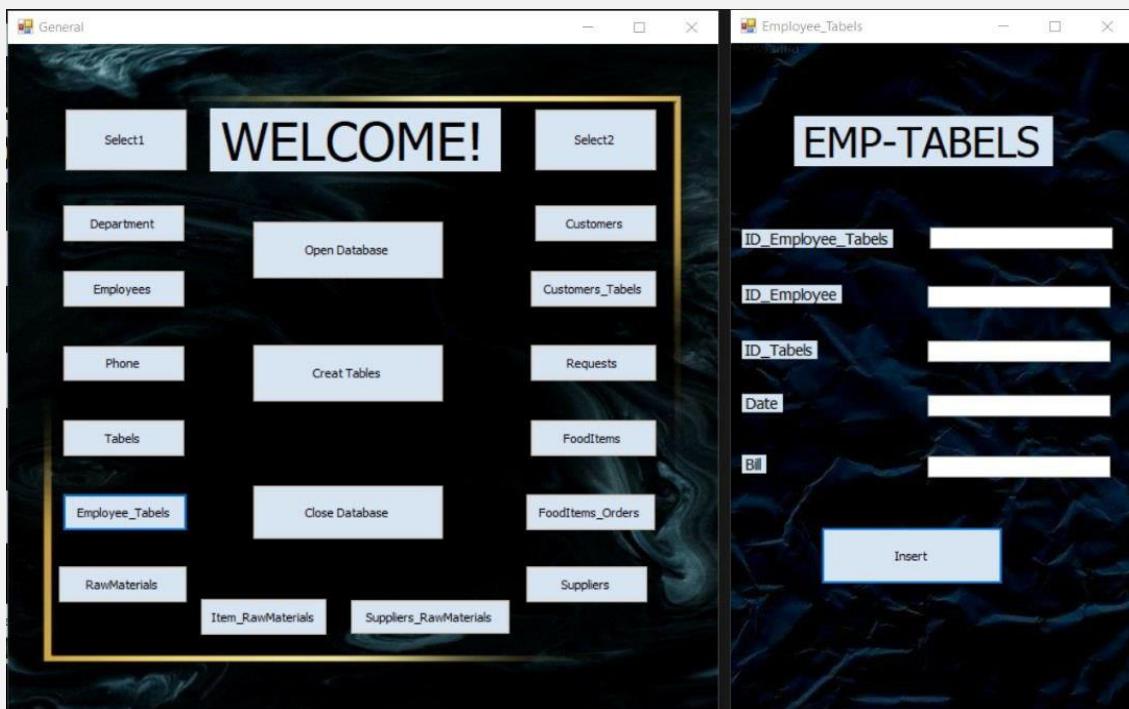


- كود تفعيل زر TABLES في الواجهة الرئيسية:

```
1 reference
private void button2_Click(object sender, EventArgs e)
{
    Tables tables = new Tables();
    tables = new Tables();
    tables.Show();
}
```

## ➤ جدول العلاقة بين الموظفين والطاولات:

➤ واجهة الجدول:



## ► الجدول في قاعدة البيانات:

ID_EMPLOYEE_TABLES	ID_EMPLOYEE	ID_TABLES	SERVE_DATE	BILL
1	3	8	2 12-DEC-22	100000
2	1	7	1 15-FEB-22	150000
3	2	7	5 14-MAR-23	50000
4	4	8	3 05-MAY-23	200000
5	5	10	4 25-APR-22	350000
6	6	10	8 07-JAN-23	50000
7	7	11	6 20-OCT-22	150000
8	8	11	7 19-MAR-23	200000
9	9	11	9 10-MAY-23	150000
10	10	11	10 19-SEP-23	100000

## • أكواد واجهة جدول العلاقة بين الموظفين والطاولات:

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class Employee_Tables : Form
    {
        public Employee_Tables()
        {
            InitializeComponent();
        }

        private void btnInsert_emp_table_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

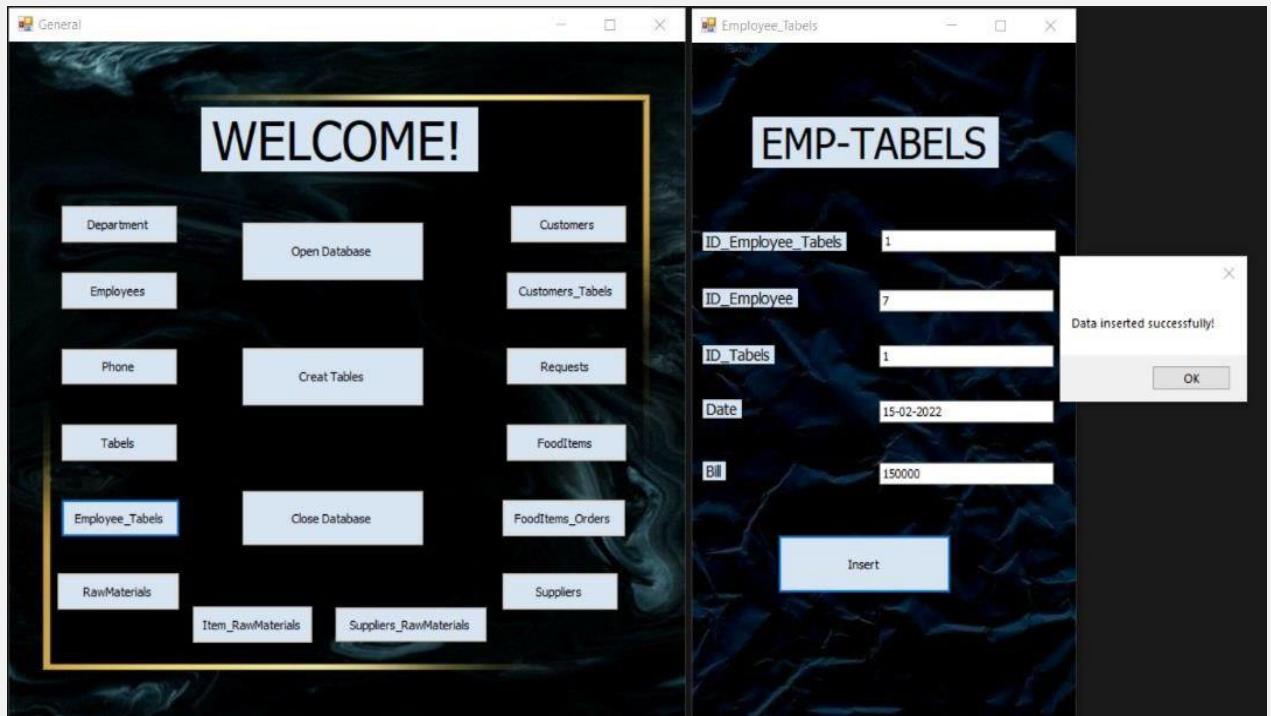
                // Create the SQL insert command
                string sql = "INSERT INTO Employee_Tables (ID_Employee_Tables, ID_Employee, ID_Tables, Serve_Date, Bill) VALUES (:ID_Employee_Tables, :ID_Employee, :ID_Tables, :Serve_Date, :Bill)";

                // Create the Oracle command
                using (OracleCommand Command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Employee_Tables", OracleDbType.Varchar2).Value = int.Parse(ID_Employee_Tables.Text);
                    command.Parameters.Add("ID_Employee", OracleDbType.Varchar2).Value = int.Parse(ID_Employee.Text);
                    command.Parameters.Add("ID_Tables", OracleDbType.Varchar2).Value = int.Parse(ID_Tables.Text);
                    command.Parameters.Add("Serve_Date", OracleDbType.Date).Value = DateTime.ParseExact(Serve_Date.Text, "dd/MM/yyyy", null);
                    command.Parameters.Add("Bill", OracleDbType.Varchar2).Value = int.Parse(Bill.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة توأّد دخولها وتخزينها بشكل صحيح:

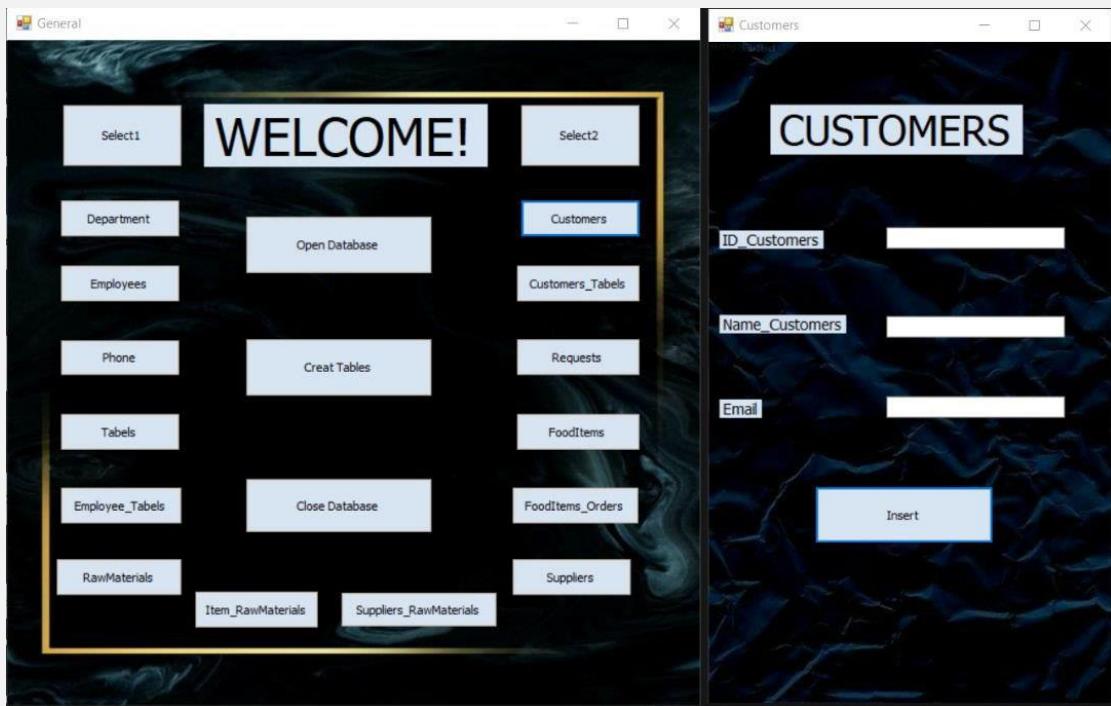


• كود تفعيل زر Employee\_Tables في الواجهة الرئيسية:

```
1 reference
private void button3_Click(object sender, EventArgs e)
{
    Employee_Tables employee_Tables = new Employee_Tables();
    employee_Tables = new Employee_Tables();
    employee_Tables.Show();
}
```

## ► جدول الزبائن:

- واجهة الجدول:



- الجدول في قاعدة البيانات:

A screenshot of the Oracle SQL Developer interface. The title bar shows 'Oracle 12G' and 'CUSTOMERS'. Below the title bar is a toolbar with icons for connection, schema, table creation, and filtering. The main area is a grid displaying data from the 'CUSTOMERS' table. The columns are labeled 'ID\_CUSTOMERS', 'NAME\_CUSTOMERS', and 'EMAIL'. The data consists of 10 rows of customer information:

ID_CUSTOMERS	NAME_CUSTOMERS	EMAIL
1	1 Hadeel_Albani	hadelbani@gmail.com
2	2 ahmad_almasri	ahmadmasri@gmail.com
3	3 abdalrahman_Alsukari	abdalrahman20@gmail.com
4	4 hiba_alkamel	hibakamel2@gmail.com
5	5 Khalida_Alayoubi	khalidaayoubi@gmail.com
6	6 toka_aldallal	tokadalall@gmail.com
7	7 Mouhammad_altahan	mouhammad29@gmail.com
8	8 hadi_alsed	hadiseid@gmail.com
9	9 abdullah_shukair	abdullahshkier@gmail.com
10	10 kamar_Alsaidi	kamarsaidi@gmail.com

## • أكواد واجهة جدول الزبائن:

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BOB_L
{
    6 references
    public partial class Customers : Form
    {
        2 references
        public Customers()
        {
            InitializeComponent();
        }

        1 reference
        private void btnInsert_cus_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

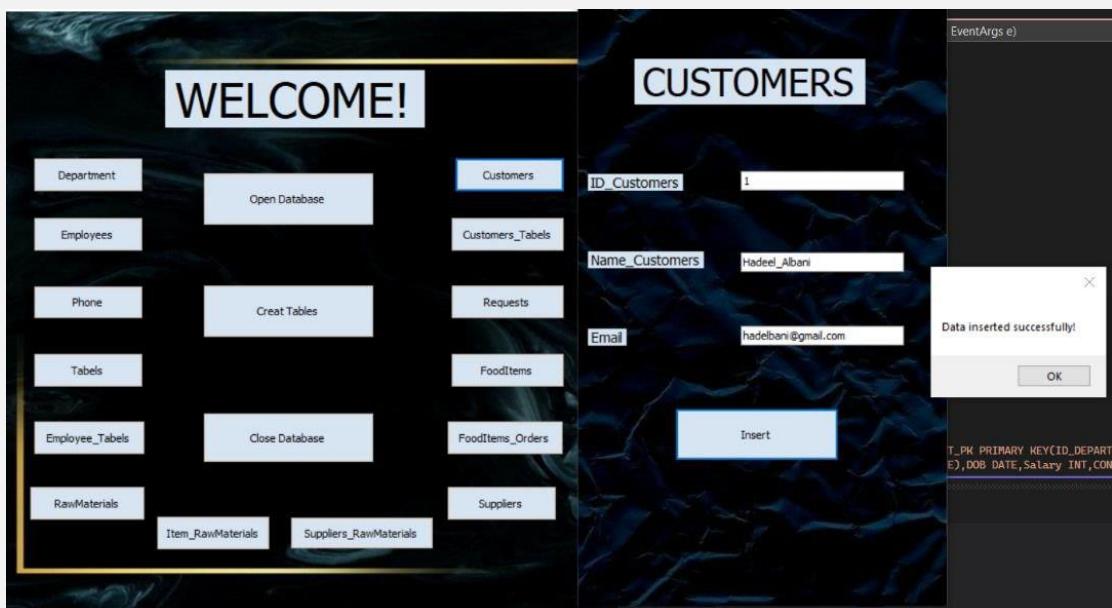
                // Create the SQL insert command
                string sql = "INSERT INTO Customers (ID_Customers, Name_Customers, Email) VALUES (:ID_Customers, :Name_Customers, :Email)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Customers", OracleDbType.Varchar2).Value = int.Parse(ID_Customers.Text);
                    command.Parameters.Add("Name_Customers", OracleDbType.Varchar2).Value = Name_Customers.Text;
                    command.Parameters.Add("Email", OracleDbType.Varchar2).Value = Email.Text;

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة تؤكد دخولها وتخزينها بشكل صحيح:

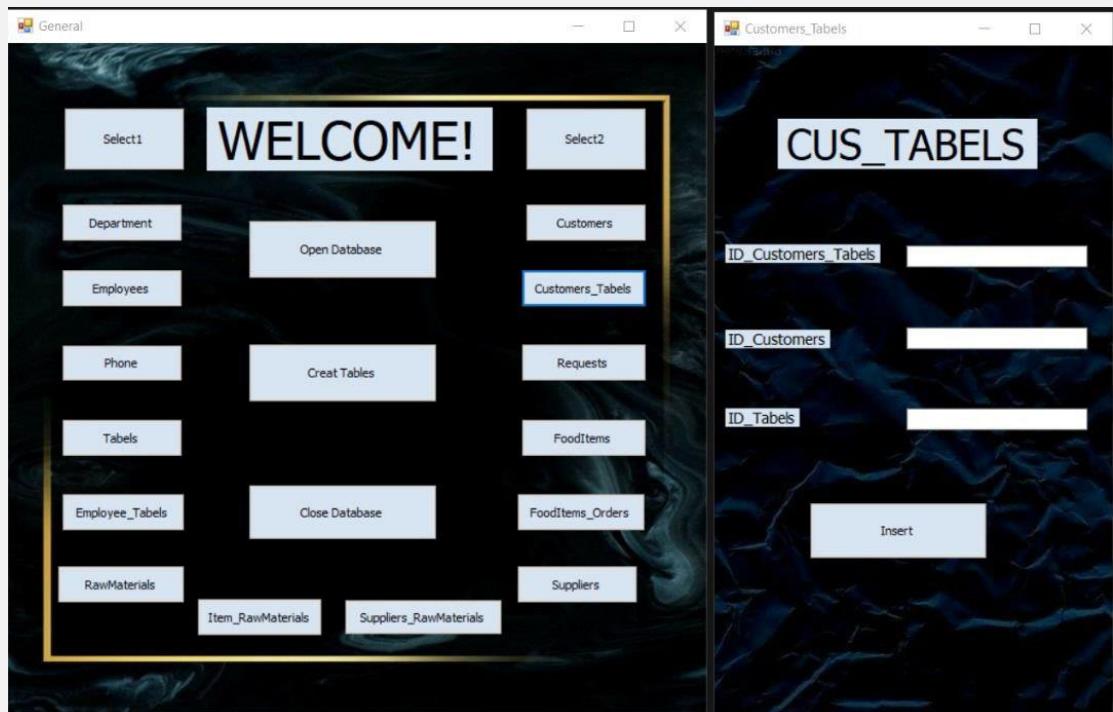


- كود تفعيل زر Customers في الواجهة الرئيسية:

```
1 reference
private void button4_Click(object sender, EventArgs e)
{
    Customers customers = new Customers();
    customers = new Customers();
    customers.Show();
}
```

## ➤ جدول العلاقة بين الزبائن والطاولات:

- واجهة الجدول:



• الجدول في قاعدة البيانات:

ID_CUSTOMERS_TABLES	ID_CUSTOMERS	ID_TABLES
1	1	2
2	2	5
3	3	1
4	4	6
5	5	3
6	6	4
7	7	7
8	8	10
9	9	9
10	10	8

• أكواد واجهة جدول العلاقة بين الزبائن والطاولات:

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class Customers_Tables : Form
    {
        public Customers_Tables()
        {
            InitializeComponent();
        }

        private void btnInsert_cus_tables_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

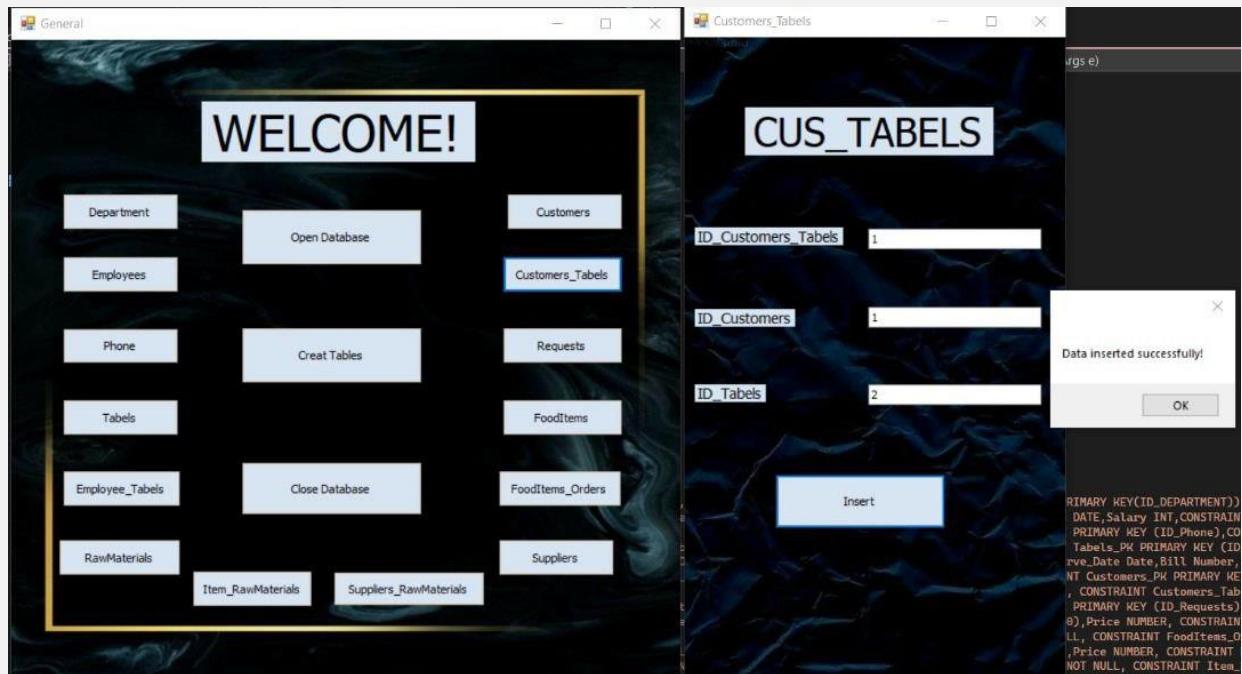
                // Create the SQL insert command
                string sql = "INSERT INTO Customers_Tables (ID_customers_Tables, ID_Customers, ID_Tables) VALUES (:ID_customers_Tables, :ID_Customers, :ID_Tables)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_customers_Tables", OracleDbType.Varchar2).Value = int.Parse(ID_customers_Tables.Text);
                    command.Parameters.Add("ID_Customers", OracleDbType.Varchar2).Value = int.Parse(ID_Customers.Text);
                    command.Parameters.Add("ID_Tables", OracleDbType.Varchar2).Value = int.Parse(ID_Tables.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة توأّد دخولها وتخزينها بشكل صحيح:

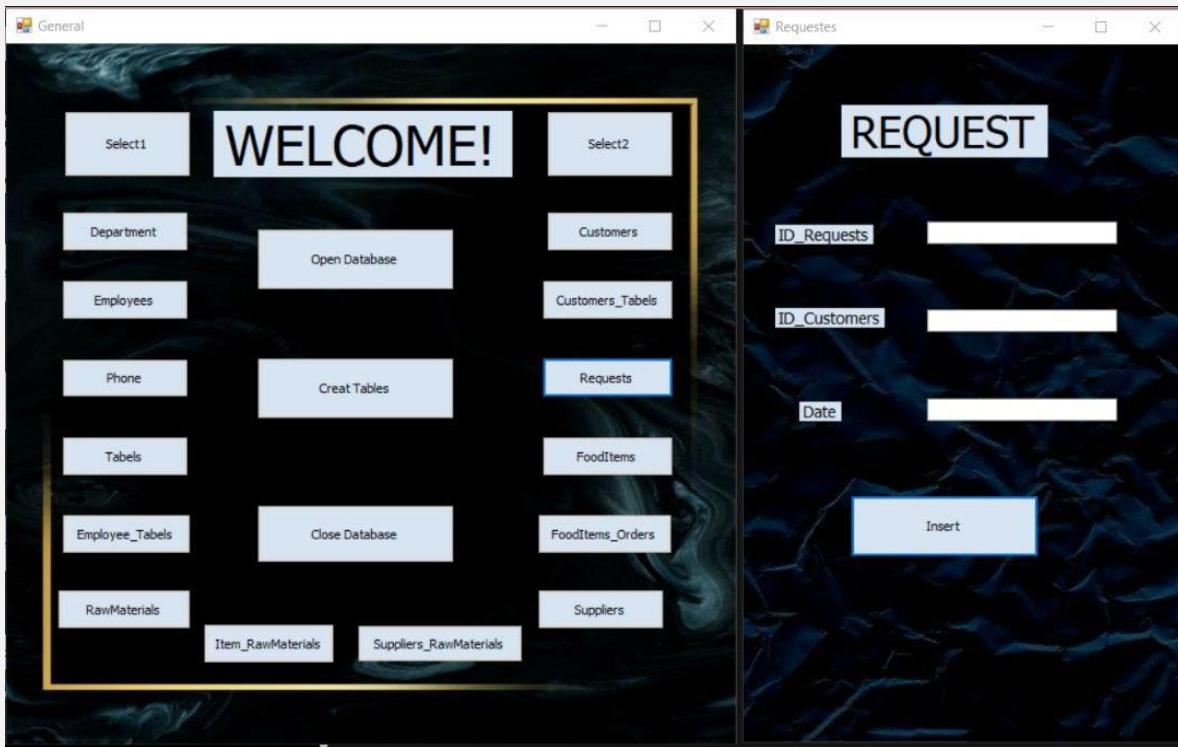


• كود تفعيل زر Customers\_Tables في الواجهة الرئيسية:

```
1 reference
private void button5_Click(object sender, EventArgs e)
{
    Customers_Tables customers_Tables = new Customers_Tables();
    customers_Tables = new Customers_Tables();
    customers_Tables.Show();
}
```

## ► جدول الطلبات:

- واجهة الجدول:



- الجدول في قاعدة البيانات:

ID_REQUESTS	ID_CUSTOMERS	SERVE_DATE
1	1	1 05-FEB-22
2	2	2 12-MAR-23
3	3	3 17-SEP-22
4	4	4 11-JUN-23
5	5	5 05-MAY-22
6	6	6 18-AUG-23
7	7	7 29-NOV-22
8	8	7 30-OCT-23
9	9	9 12-DEC-22
10	10	10 18-MAR-22
11	11	8 07-JUN-23

## • أكواد واجهة جدول الطلبات:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    6 references
    public partial class Requests : Form
    {
        2 references
        public Requests()
        {
            InitializeComponent();
        }

        1 reference
        private void btninsert_request_Click(object sender, EventArgs e)
        {

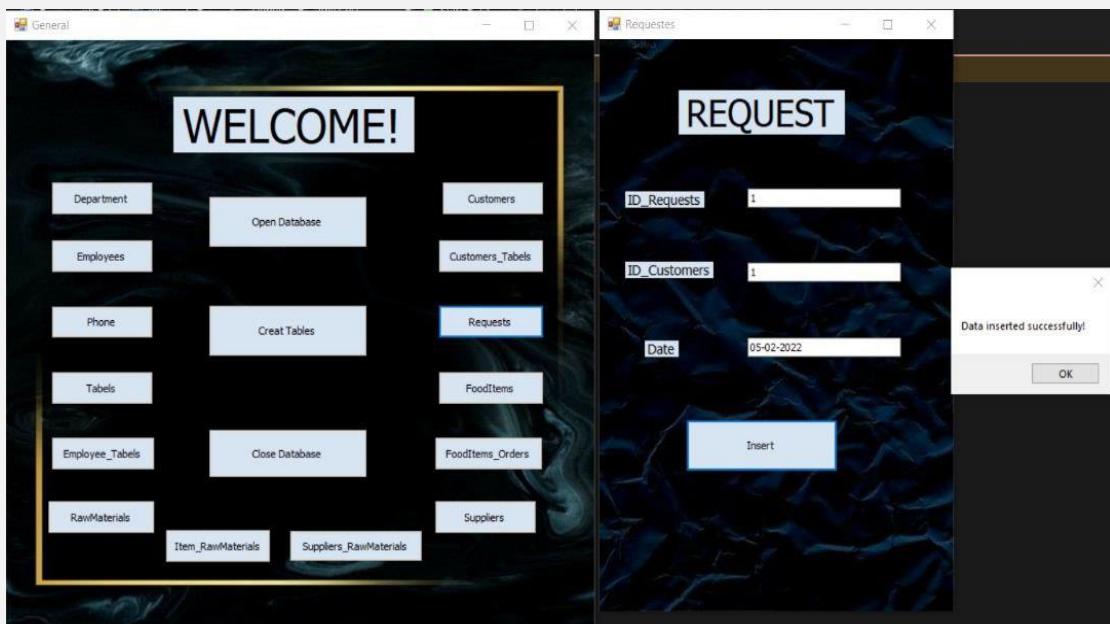
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

                // Create the SQL insert command
                string sql = "INSERT INTO Requests (ID_Requests, ID_Customers, Serve_Date) VALUES (:ID_Requests, :ID_Customers, :Serve_Date)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Requests", OracleDbType.Varchar2).Value = int.Parse(ID_Requests.Text);
                    command.Parameters.Add("ID_Customers", OracleDbType.Varchar2).Value = int.Parse(ID_Customers.Text);
                    command.Parameters.Add("Serve_Date", OracleDbType.Date).Value = DateTime.ParseExact(Serve_Date.Text, "dd-MM-yyyy", null);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}
```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة تؤكد دخولها وتخزينها بشكل صحيح:

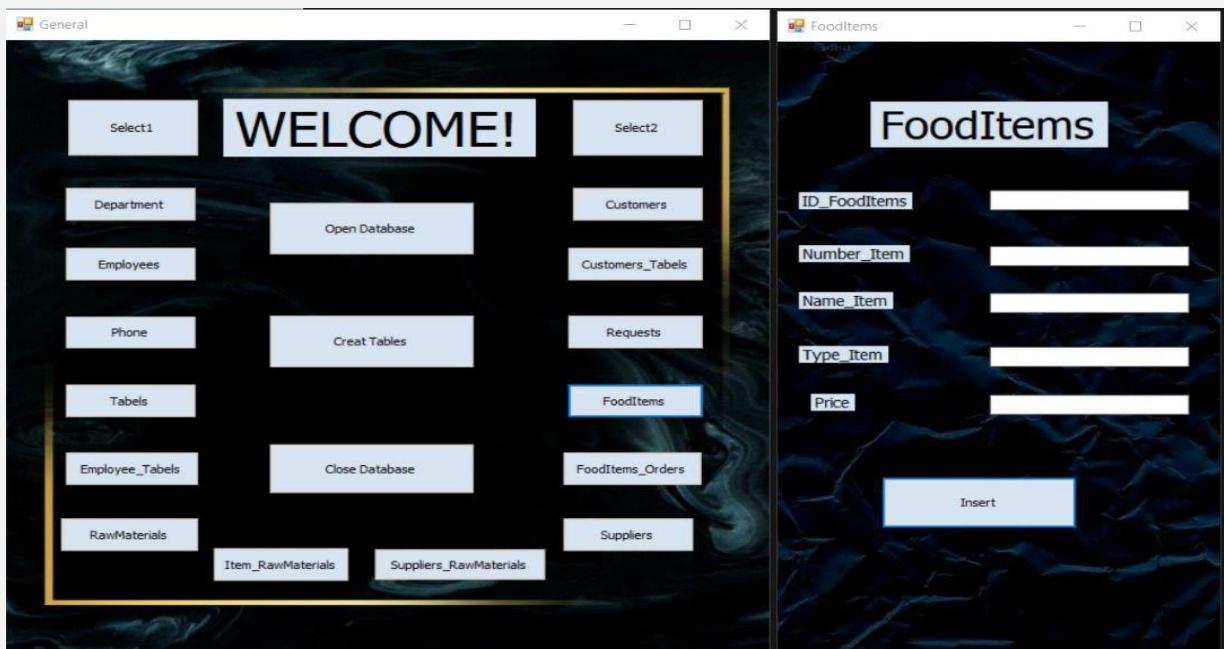


- كود تفعيل زر Requests في الواجهة الرئيسية:

```
1 reference
private void button6_Click(object sender, EventArgs e)
{
    Requests requestes = new Requests();
    requestes = new Requests();
    requestes.Show();
}
```

## ➤ جدول أصناف الطعام:

- واجهة الجدول:



## • الجدول في قاعدة البيانات:

ID_FOODITEMS	NUMBER_ITEM	NAME_ITEM	TYPE_ITEM	PRICE
1	1	1 Cordon_Blue	Chicken_Meal	65000
2	2	1 Meat_Shawarma	Meat_Meal	80000
3	3	1 Fillet_Fish	Fish_Meal	100000
4	4	2 Milk_Juice	Juice	18000
5	5	2 Chocolate_Juice	Juice	20000
6	6	2 Strawberry_Juice	Juice	22000
7	7	3 Mango	Fruits	35000
8	8	3 Pineapple	Fruits	45000
9	9	4 Brownies_Cake	Dessert	28000
10	10	4 Cinnabon	Dessert	25000
11	11	4 Dount	Dessert	18000
12	12	5 Pistachio	Nuts	50000
13	13	5 Walnut	Nuts	70000

## • أكواد واجهة جدول أصناف الطعام:

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class FoodItems : Form
    {
        private void btnInsert_fooditems_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

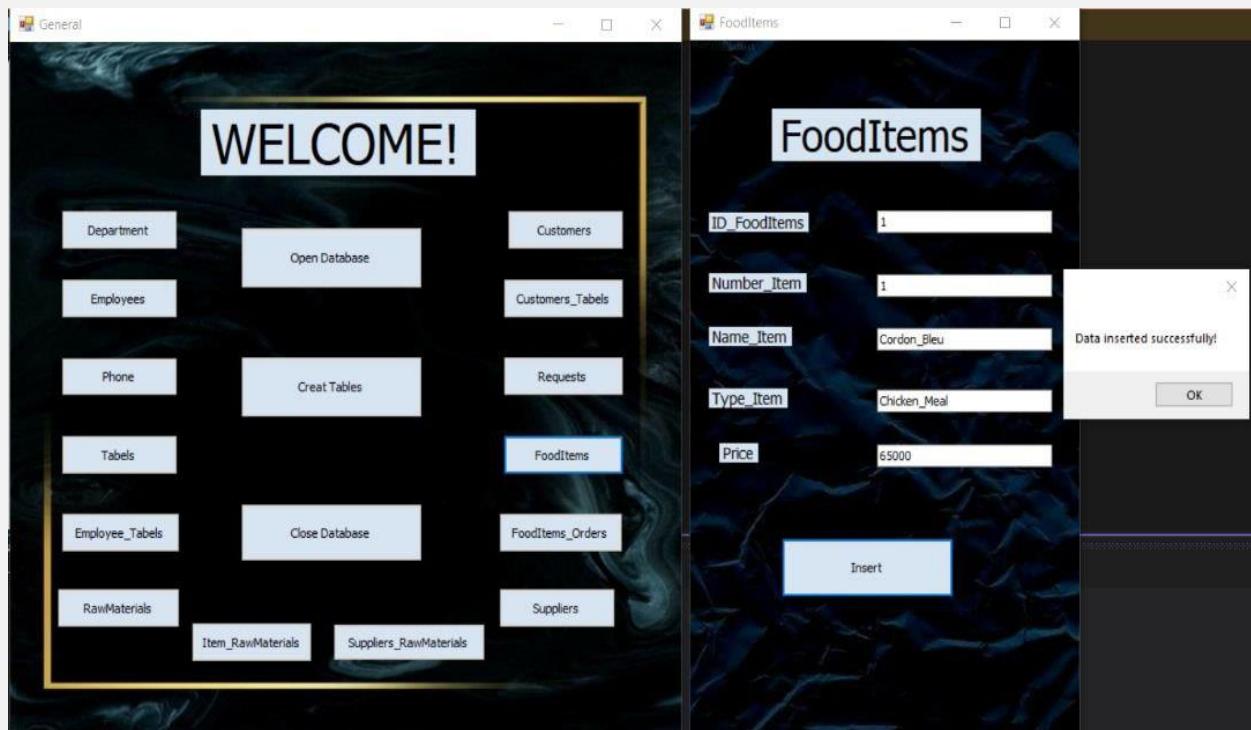
                // Create the SQL insert command
                string sql = "INSERT INTO FoodItems (ID_FoodItems, Number_Item, Name_Item, Type_Item, Price) VALUES (:ID_FoodItems, :Number_Item, :Name_Item, :Type_Item, :Price)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_FoodItems", OracleDbType.Varchar2).Value = int.Parse(ID_FoodItems.Text);
                    command.Parameters.Add("Number_Item", OracleDbType.Varchar2).Value = int.Parse(Number_Item.Text);
                    command.Parameters.Add("Name_Item", OracleDbType.Varchar2).Value = Name_Item.Text;
                    command.Parameters.Add("Type_Item", OracleDbType.Varchar2).Value = Type_Item.Text;
                    command.Parameters.Add("Price", OracleDbType.Varchar2).Value = int.Parse(Price.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة توأّد دخولها وتخزينها بشكل صحيح:

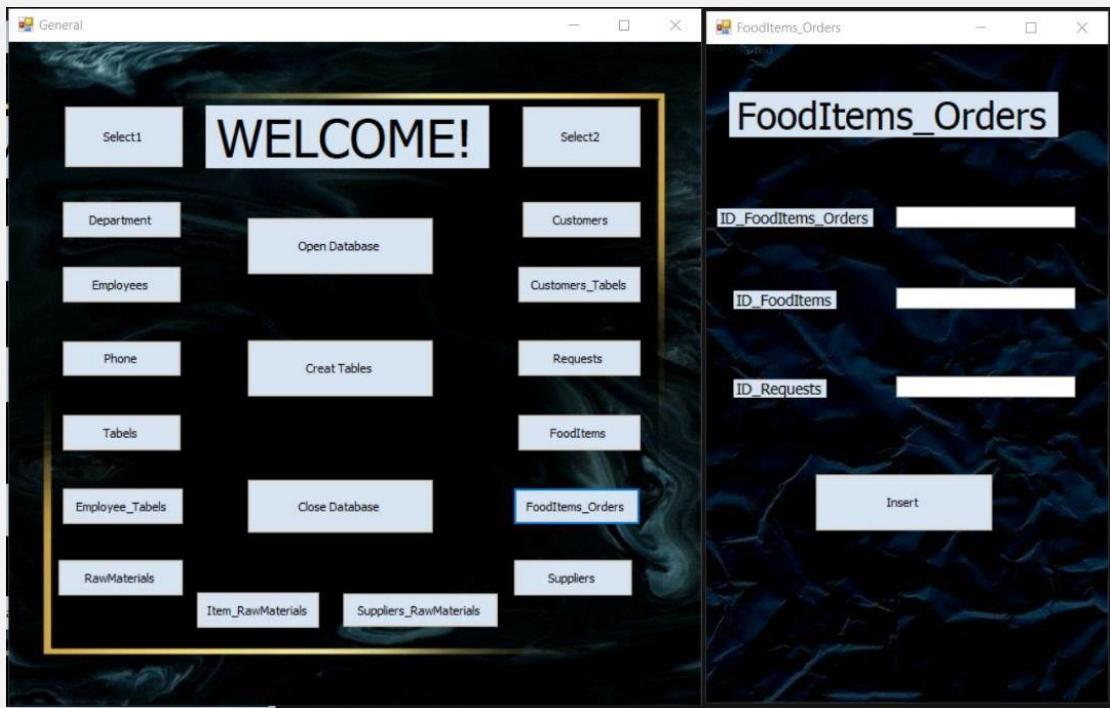


• كود تفعيل زر FoodItems في الواجهة الرئيسية:

```
1 reference
private void button7_Click(object sender, EventArgs e)
{
    FoodItems foodItems = new FoodItems();
    foodItems = new FoodItems();
    foodItems.Show();
}
```

## ► جدول العلاقة بين أصناف الطعام والطلبات:

- واجهة الجدول:



- الجدول في قاعدة البيانات:

A screenshot of the Oracle SQL Developer interface showing the 'FOODITEMS\_ORDERS' table. The table has three columns: 'ID\_FOODITEMS\_ORDERS', 'ID\_FOODITEMS', and 'ID\_REQUESTS'. The data is as follows:

ID_FOODITEMS_ORDERS	ID_FOODITEMS	ID_REQUESTS
1	1	5
2	2	1
3	3	1
4	4	7
5	5	3
6	6	8
7	7	2
8	8	6
9	9	4
10	10	10
11	11	9

## • أكواد واجهة جدول العلاقة بين أصناف الطعام والموردين:

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class FoodItems_Orders : Form
    {
        public FoodItems_Orders()
        {
            InitializeComponent();
        }

        private void textBox1_TextChanged(object sender, EventArgs e)
        {

        }

        private void btnInsert_fooditem_orders_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

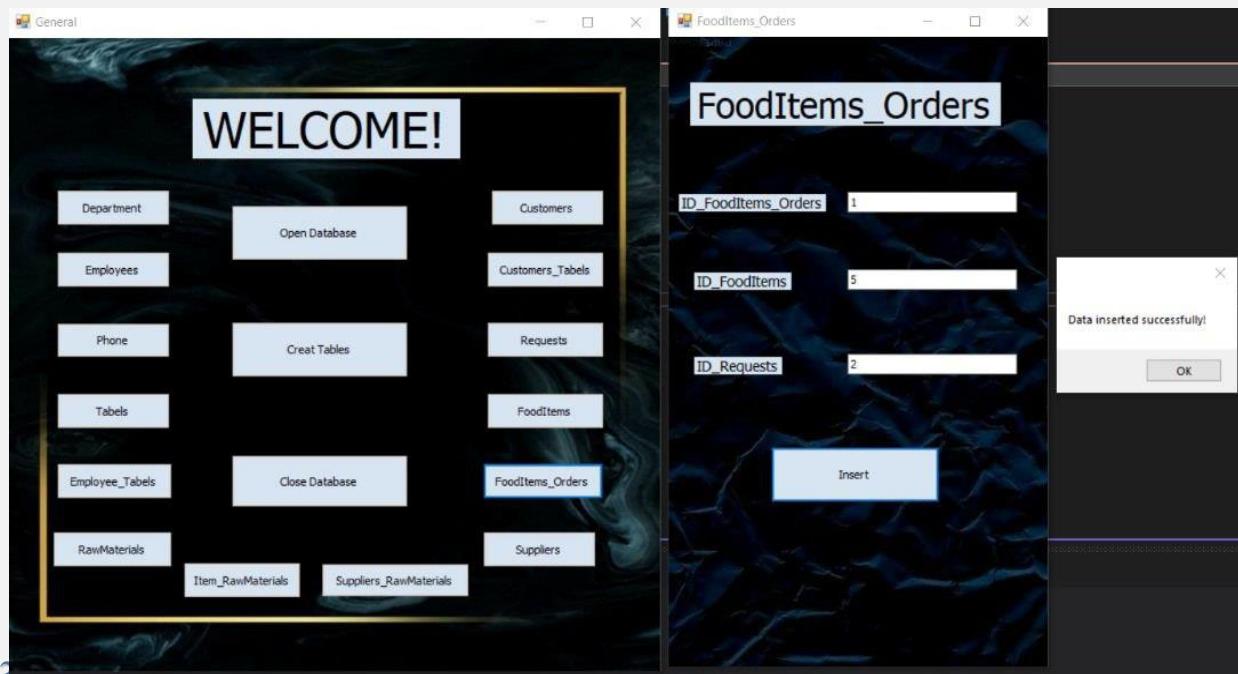
                // Create the SQL insert command
                string sql = "INSERT INTO FoodItems_Orders (ID_FoodItems_Orders, ID_FoodItems, ID_Requests) VALUES (:ID_FoodItems_Orders, :ID_FoodItems, :ID_Requests)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_FoodItems_Orders", OracleDbType.Varchar2).Value = int.Parse(ID_FoodItems_Orders.Text);
                    command.Parameters.Add("ID_FoodItems", OracleDbType.Varchar2).Value = int.Parse(ID_FoodItems.Text);
                    command.Parameters.Add("ID_Requests", OracleDbType.Varchar2).Value = int.Parse(ID_Requests.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة تؤكد دخولها وتخزينها بشكل صحيح:

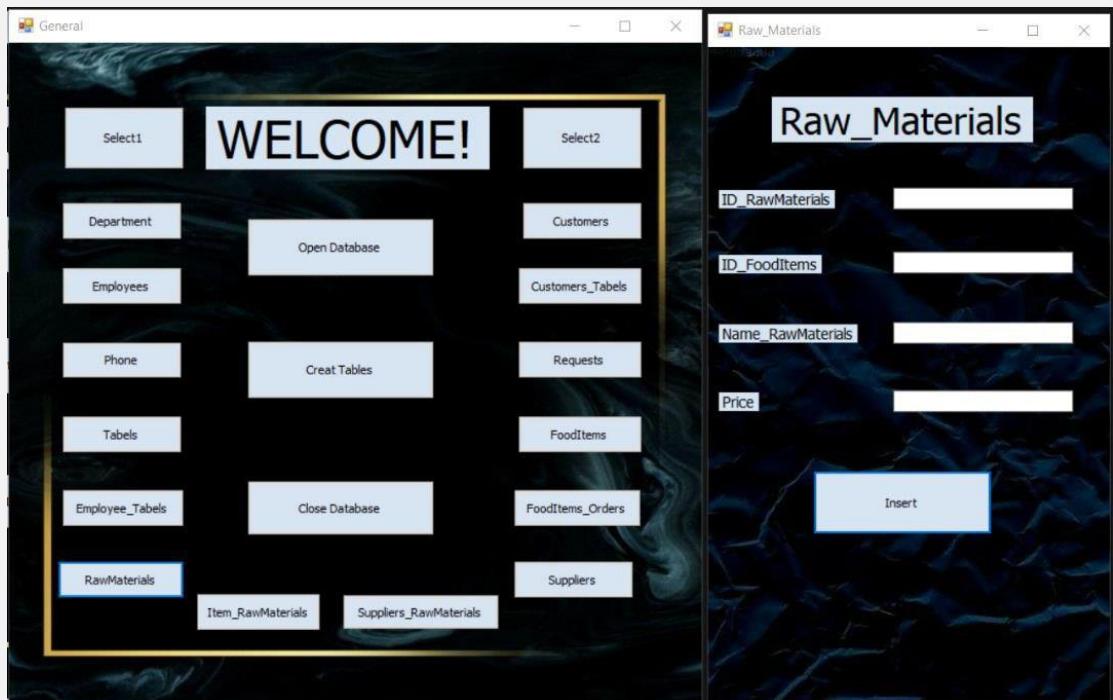


- كود تفعيل زر FoodItems\_Orders في الواجهة الرئيسية:

```
1 reference
private void button8_Click(object sender, EventArgs e)
{
    FoodItems_Orders foodItems_Orders = new FoodItems_Orders();
    foodItems_Orders = new FoodItems_Orders();
    foodItems_Orders.Show();
}
```

## ► جدول المواد الأولية:

- واجهة الجدول:



## • الجدول في قاعدة البيانات:



The screenshot shows the Oracle Database 12G interface with the RAWMATERIALS table selected. The table has four columns: ID\_RAWMATERIALS, ID\_FOODITEMS, NAME\_RAWMATERIALS, and PRICE. The data is as follows:

ID_RAWMATERIALS	ID_FOODITEMS	NAME_RAWMATERIALS	PRICE
1	1	1. Chicken	65000
2	2	2 Meat	50000
3	3	3 Fish	60000
4	4	4 Milk	10000
5	5	4 Banana	12000
6	6	5 Chocolate	8000
7	7	6 Strawberry	15000
8	8	7 Mango	20000
9	9	8 Pineapple	25000
10	10	9 Flour	20000
11	11	9 Oil	18000
12	12	10 Cinnamon	12000
13	13	11 Flour	20000
14	14	12 Pistachio	30000
15	15	13 Walnut	50000

## • أكواد واجهة جدول المواد الأولية:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

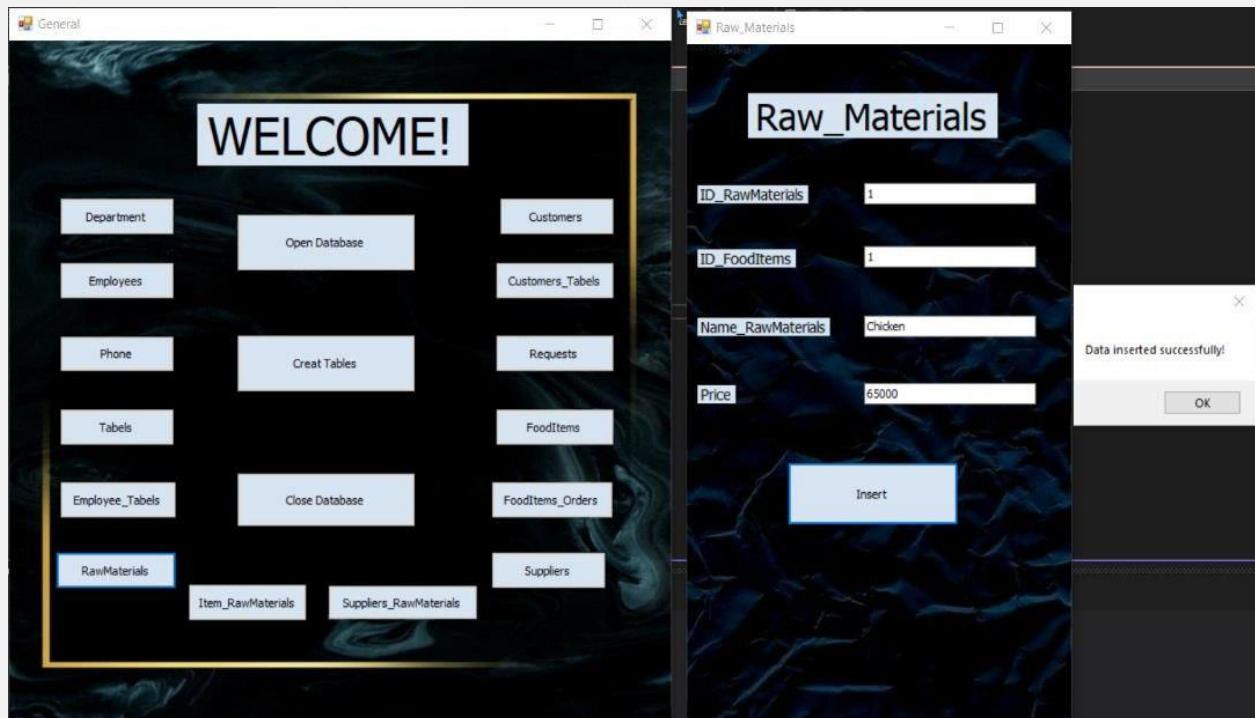
namespace BDB_L
{
    public partial class RawMaterials : Form
    {
        private void btnInsert_rammaterials_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

                // Create the SQL insert command
                string sql = "INSERT INTO RawMaterials (ID_RawMaterials, ID_FoodItems, Name_RawMaterials, Price) VALUES (:ID_RawMaterials, :ID_FoodItems, :Name_RawMaterials, :Price)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_RawMaterials", OracleDbType.Varchar2).Value = int.Parse(ID_RawMaterials.Text);
                    command.Parameters.Add("ID_FoodItems", OracleDbType.Varchar2).Value = int.Parse(ID_FoodItems.Text);
                    command.Parameters.Add("Name_RawMaterials", OracleDbType.Varchar2).Value = Name_RawMaterials.Text;
                    command.Parameters.Add("Price", OracleDbType.Varchar2).Value = int.Parse(Price.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}
```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة توأّد دخولها وتخزينها بشكل صحيح:

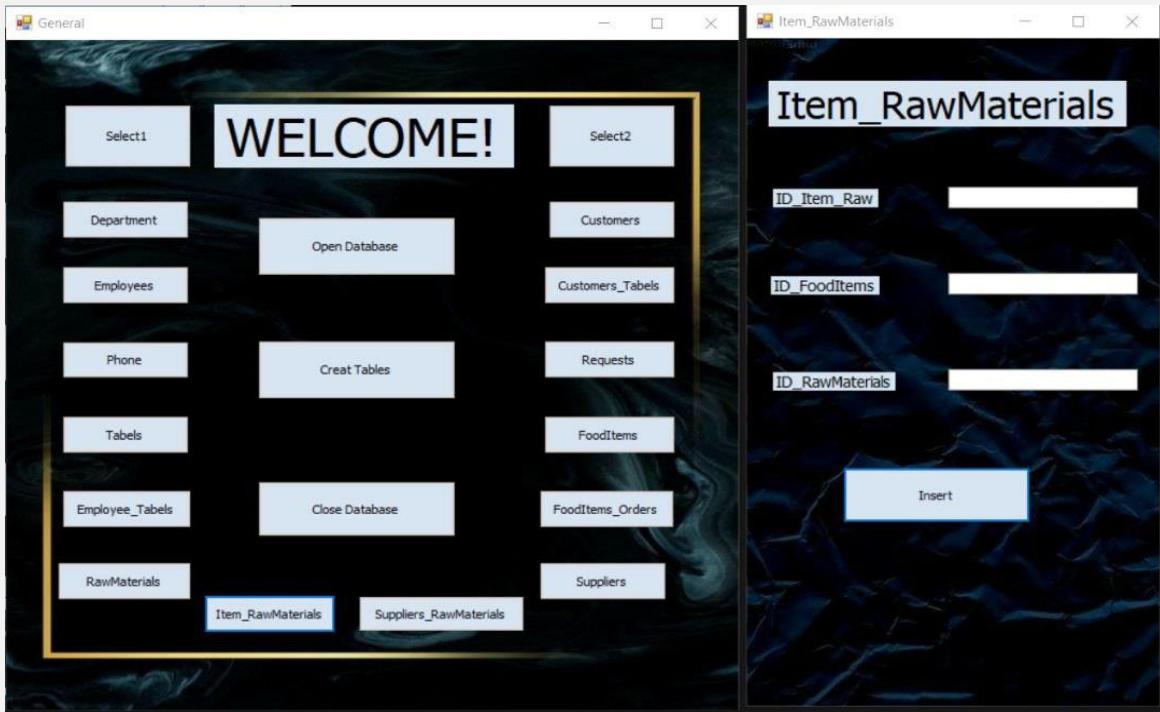


• كود تفعيل زر RawMaterials في الواجهة الرئيسية:

```
1 reference
private void button10_Click(object sender, EventArgs e)
{
    Item_RawMaterials item_RawMaterials = new Item_RawMaterials();
    item_RawMaterials = new Item_RawMaterials();
    item_RawMaterials.Show();
}
```

## ► جدول العلاقة بين أصناف الطعام والمواد الأولية:

- واجهة الجدول:



- الجدول في قاعدة البيانات:

A screenshot of the Oracle 12G SQL Developer interface. The title bar says 'Oracle 12G < ITEM\_RAWMATERIALS >'. The toolbar includes icons for Columns, Data, Model, Constraints, Grants, Statistics, Triggers, Flashback, Dependencies, Details, Partitions, Indexes, and SQL. Below the toolbar is a row of buttons: a red heart, a blue square, a green plus sign, a black X, a blue document, a blue folder, a magnifying glass, 'Sort..', and 'Filter:'. The main area is a grid table with three columns labeled 'ID\_ITEM\_RAWMATERIALS', 'ID\_FOODITEMS', and 'ID\_RAWMATERIALS'. The data is as follows:

ID_ITEM_RAWMATERIALS	ID_FOODITEMS	ID_RAWMATERIALS
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
15	15	15
16	16	15

## • أكواد واجهة جدول العلاقة بين أصناف الطعام والمواد الأولية:

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class Item_RawMaterials : Form
    {
        public Item_RawMaterials()
        {
            InitializeComponent();
        }

        private void btnInsert_item_rawmaterials_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

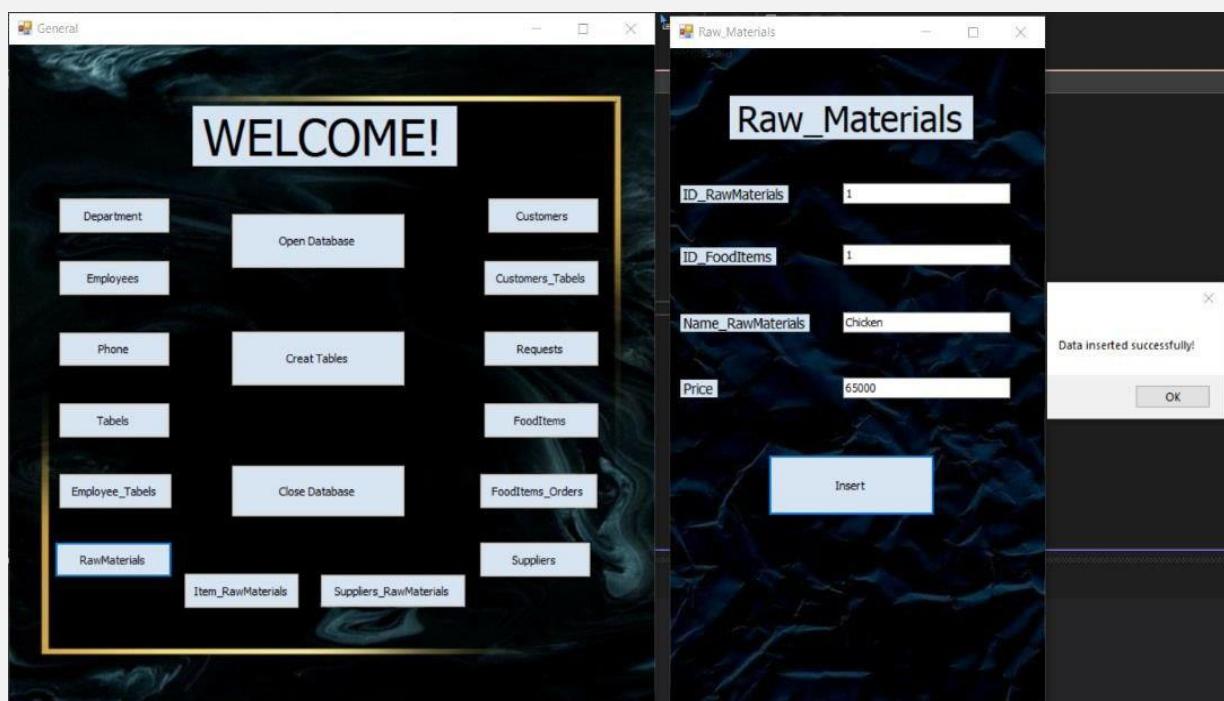
                // Create the SQL insert command
                string sql = "INSERT INTO Item_RawMaterials (ID_Item_RawMaterials, ID_FoodItems, ID_RawMaterials) VALUES (:ID_Item_RawMaterials, :ID_FoodItems, :ID_RawMaterials)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Item_RawMaterials", OracleDbType.Varchar2).Value = int.Parse(ID_Item_RawMaterials.Text);
                    command.Parameters.Add("ID_FoodItems", OracleDbType.Varchar2).Value = int.Parse(ID_FoodItems.Text);
                    command.Parameters.Add("ID_RawMaterials", OracleDbType.Varchar2).Value = int.Parse(ID_RawMaterials.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة تؤكّد دخولها وتخزينها بشكل صحيح:

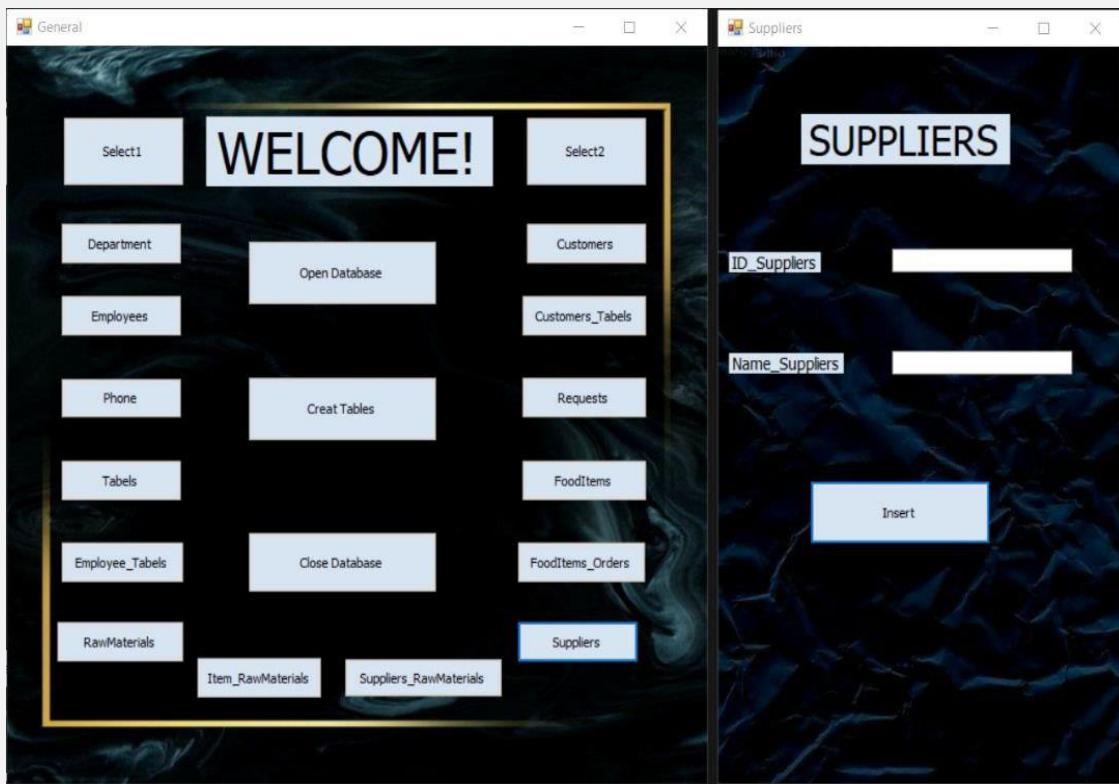


- كود تفعيل زر Item\_RawMaterials في الواجهة الرئيسية:

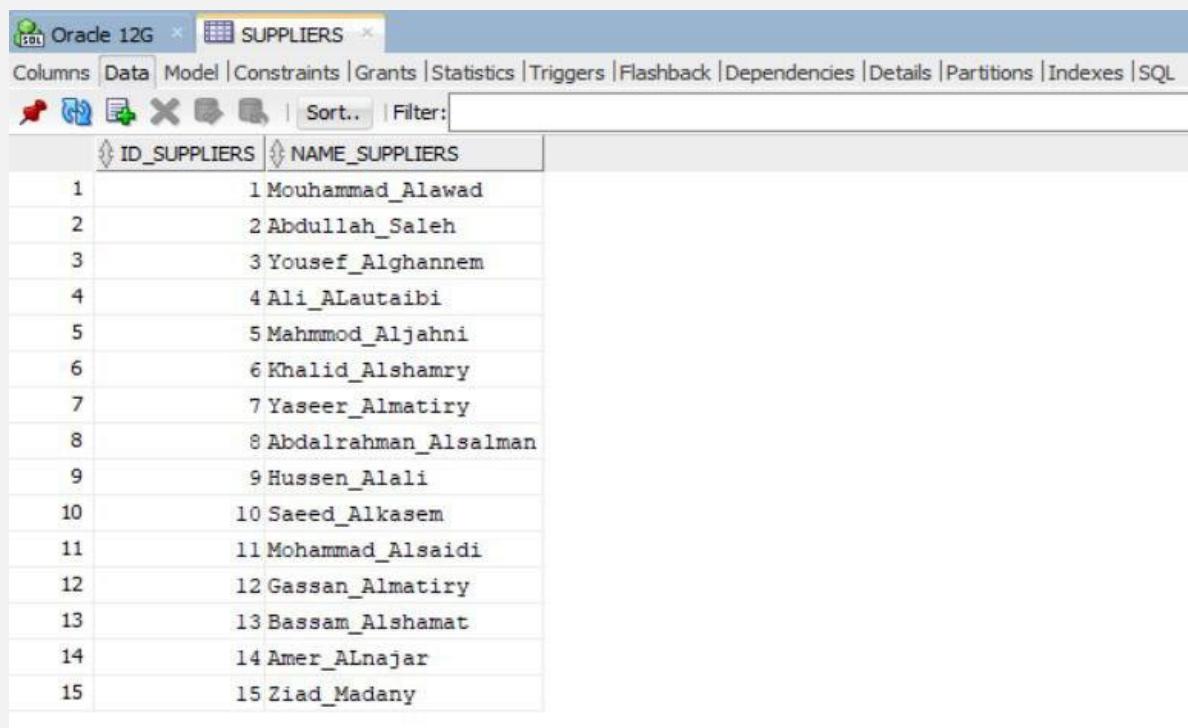
```
1 reference
private void button10_Click(object sender, EventArgs e)
{
    Item_RawMaterials item_RawMaterials = new Item_RawMaterials();
    item_RawMaterials = new Item_RawMaterials();
    item_RawMaterials.Show();
}
```

## ➤ جدول الموردين:

- واجهة الجدول:



## • الجدول في قاعدة البيانات:



The screenshot shows the Oracle 12G SQL Developer interface with the SUPPLIERS table selected. The table has two columns: ID\_SUPPLIERS and NAME\_SUPPLIERS. The data consists of 15 rows, each containing a unique ID and a supplier name.

ID_SUPPLIERS	NAME_SUPPLIERS
1	Mouhammad_Alawad
2	Abdullah_Saleh
3	Yousef_Alghannem
4	Ali_ALautaibi
5	Mahmmmod_Aljahni
6	Khalid_Alshamry
7	Yaseer_Almatiry
8	Abdalrahman_Alsalman
9	Hussen_Alali
10	Saeed_Alkasem
11	Mohammad_Alsaidi
12	Gassan_Almatiry
13	Bassam_Alshamat
14	Amer_Alnajar
15	Ziad_Madany

## • أكواد واجهة جدول الموردين:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace BDB_L
{
    public partial class Suppliers : Form
    {
        public Suppliers()
        {
            InitializeComponent();
        }

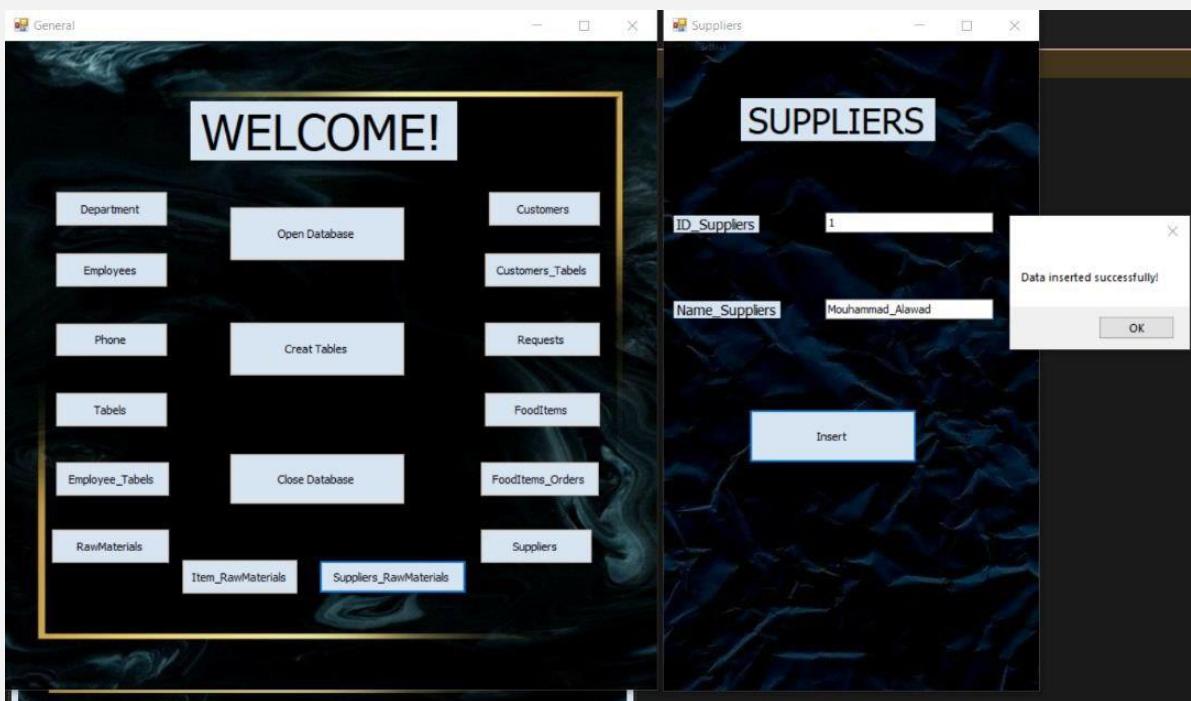
        private void btnInsert_sup_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

                // Create the SQL insert command
                string sql = "INSERT INTO Suppliers (ID_Suppliers, Name_Suppliers) VALUES (:ID_Suppliers, :Name_Suppliers)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Suppliers", OracleDbType.Varchar2).Value = int.Parse(ID_Suppliers.Text);
                    command.Parameters.Add("Name_Suppliers", OracleDbType.Varchar2).Value = Name_Suppliers.Text;

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}
```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة تؤكد دخولها وتخزينها بشكل صحيح:

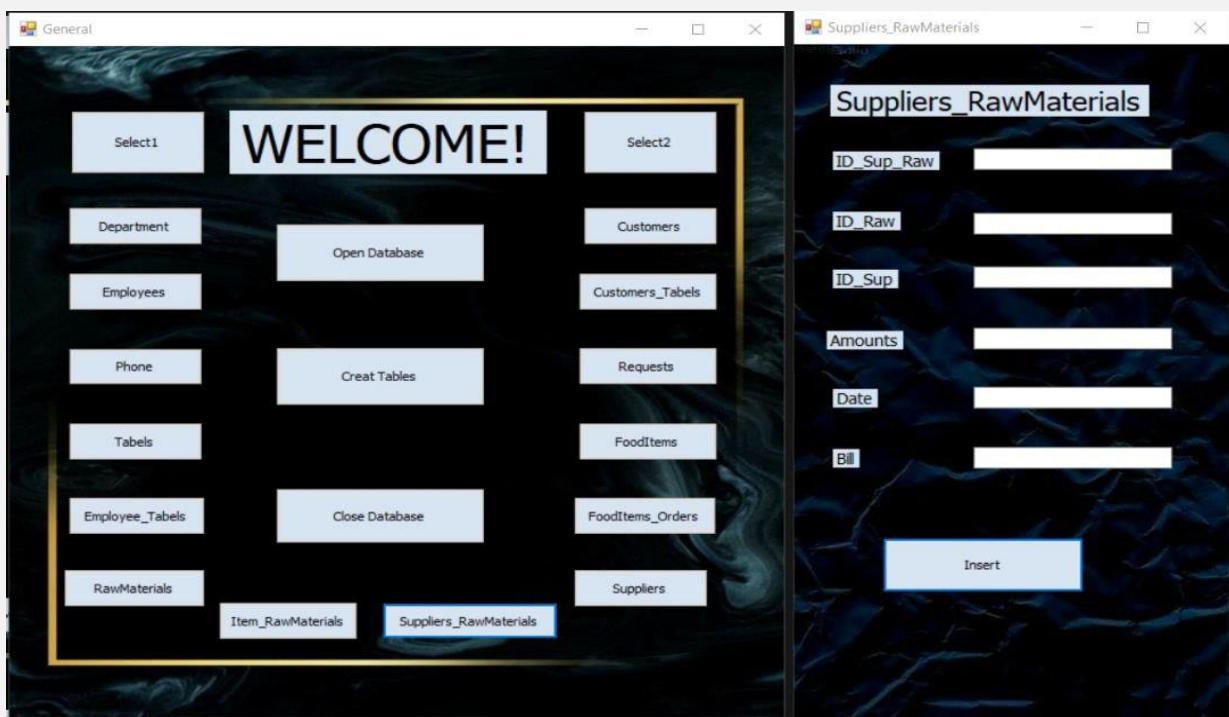


• كود تفعيل زر Suppliers في الواجهة الرئيسية:

```
1 reference
private void button11_Click(object sender, EventArgs e)
{
    Suppliers suppliers = new Suppliers();
    suppliers = new Suppliers();
    suppliers.Show();
}
```

## ► جدول العلاقة بين الموردين والمواد الأولية:

- واجهة الجدول:



- الجدول في قاعدة البيانات:

Oracle 12G □ SUPPLIERS\_RAWMATERIALS □

Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL

Sort.. Filter:

ID_SUPPLIERS_RAWMATERIALS	ID_RAWMATERIALS	ID_SUPPLIERS	AMOUNT	SERVER_DATE	BILL
1	1	1	3	5 08-DEC-23	500000
2	2	2	8	3 18-MAR-23	100000
3	3	3	12	2 14-MAY-22	200000
4	4	4	7	6 26-APR-23	150000
5	5	5	13	8 13-SEP-22	175000
6	6	6	5	2 01-JAN-23	65000
7	7	7	9	4 15-JUN-22	120000
8	8	8	4	4 02-MAR-23	350000
9	9	9	15	3 29-JUL-23	225000
10	10	10	1	7 30-JUN-23	75000
11	11	11	2	3 31-JUL-23	450000
12	12	12	6	4 22-SEP-23	50000
13	13	13	11	6 21-AUG-23	160000
14	14	14	10	8 20-JUL-23	550000
15	15	15	14	4 15-MAR-23	425000

## • أكواد واجهة جدول العلاقة بين الموردين والمواد الأولية::

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;

namespace DBB_L
{
    public partial class Suppliers_RawMaterials : Form
    {
        public Suppliers_RawMaterials()
        {
            InitializeComponent();
        }

        private void btnInsert_sup_rawmaterials_Click(object sender, EventArgs e)
        {
            try
            {
                OracleCommand cmd = new OracleCommand();
                cmd.Connection = Program.con;

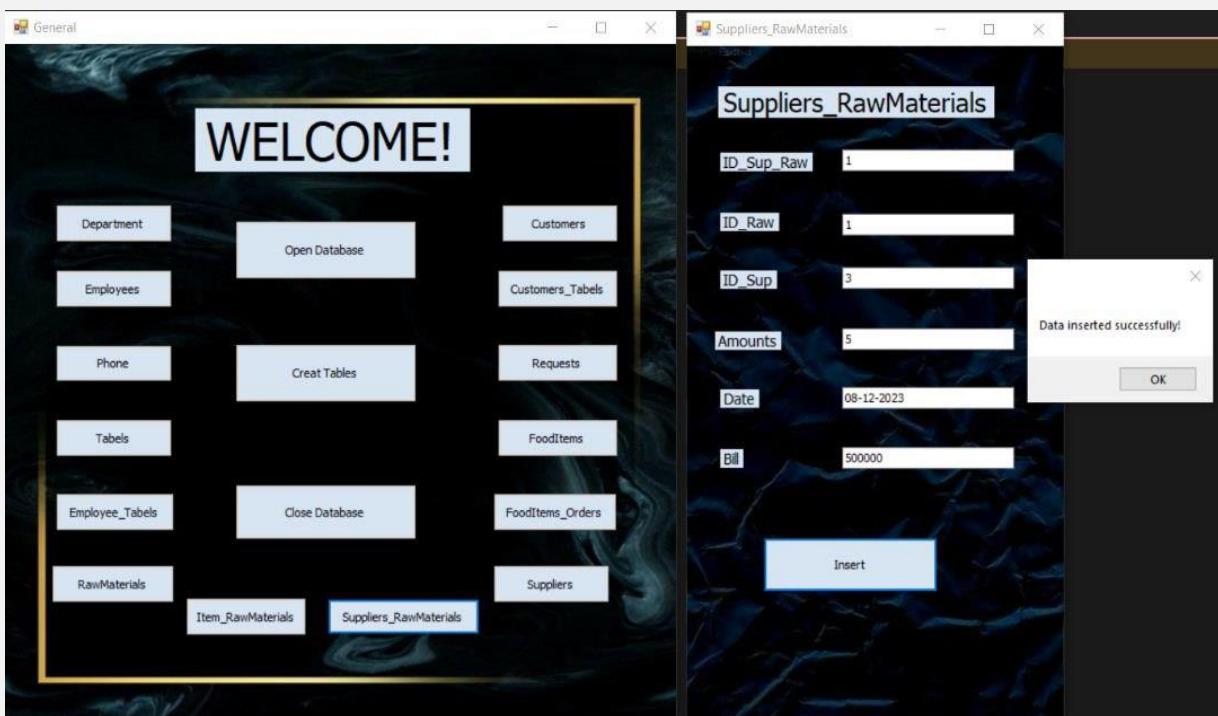
                // Create the SQL insert command
                string sql = "INSERT INTO Suppliers_RawMaterials (ID_Suppliers_RawMaterials, ID_RawMaterials, ID_Suppliers, Amount, Server_Date, Bill) VALUES (:ID_Suppliers_RawMaterials, :ID_RawMaterials, :ID_Suppliers, :Amount, :Server_Date, :Bill)";

                // Create the Oracle command
                using (OracleCommand command = new OracleCommand(sql, Program.con))
                {
                    // Add parameters to the command
                    command.Parameters.Add("ID_Suppliers_RawMaterials", OracleDbType.Varchar2).Value = int.Parse(ID_Suppliers_RawMaterials.Text);
                    command.Parameters.Add("ID_RawMaterials", OracleDbType.Varchar2).Value = int.Parse(ID_RawMaterials.Text);
                    command.Parameters.Add("ID_Suppliers", OracleDbType.Varchar2).Value = int.Parse(ID_Suppliers.Text);
                    command.Parameters.Add("Amount", OracleDbType.Varchar2).Value = int.Parse(Amount.Text);
                    command.Parameters.Add("Server_Date", OracleDbType.Date).Value = DateTime.ParseExact(Server_Date.Text, "dd-MM-yyyy", null);
                    command.Parameters.Add("Bill", OracleDbType.Varchar2).Value = int.Parse(Bill.Text);

                    // Execute the insert command
                    command.ExecuteNonQuery();
                    MessageBox.Show("Data inserted successfully!");
                }
            }
            catch (Exception ex)
            {
                MessageBox.Show("Error: " + ex.Message);
            }
        }
    }
}

```

❖ بعد إدخال البيانات وضغط زر Insert تظهر لنا نافذة توأك دخولها وتخزينها بشكل صحيح:



• كود تفعيل زر Suppliers\_RawMaterials في الواجهة الرئيسية:

```
1 reference
private void button12_Click(object sender, EventArgs e)
{
    Suppliers_RawMaterials suppliers_RawMaterials = new Suppliers_RawMaterials();
    suppliers_RawMaterials = new Suppliers_RawMaterials();
    suppliers_RawMaterials.Show();
}
```

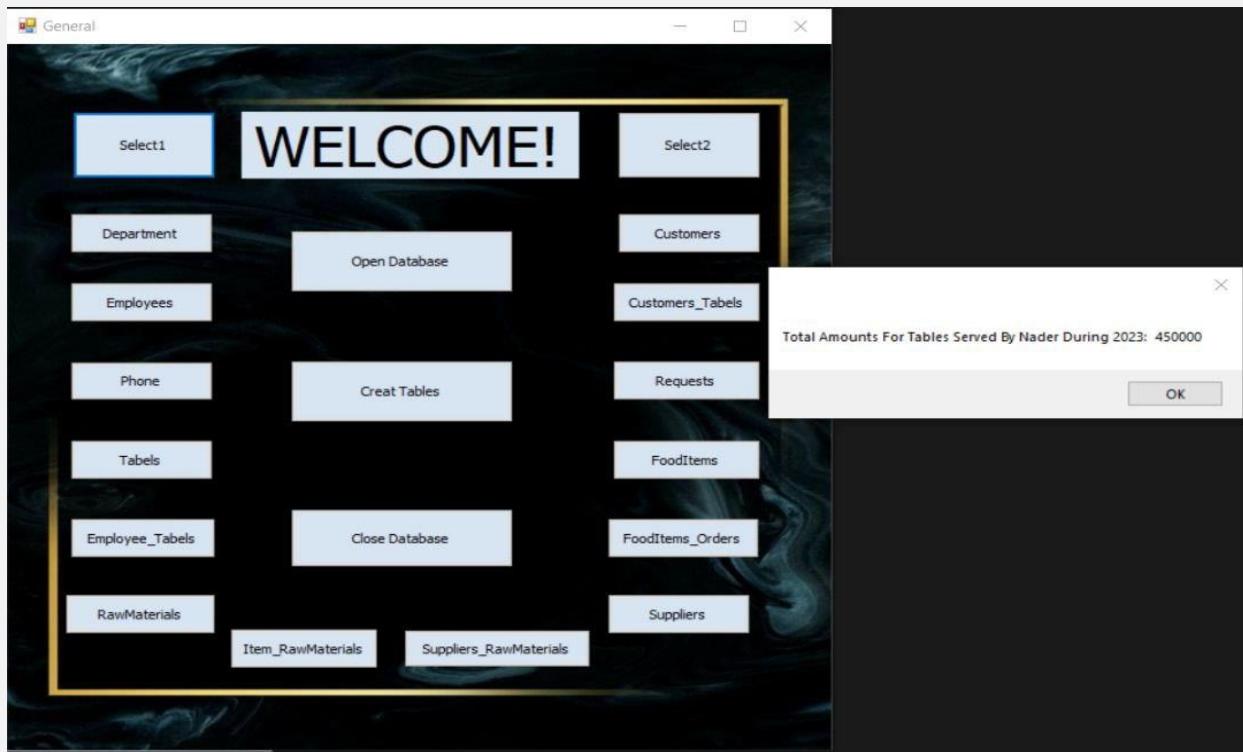
► جملة الـ Select الأولى:

```
1 reference
private void button13_Click(object sender, EventArgs e)
{
    try
    {

        string Select = "SELECT SUM (Bill) " +
            " FROM Employee_Tables" +
            " WHERE ID_Employee IN (SELECT ID_Employee FROM Employee1 WHERE Name_Employee = 'Nader_AlNahas') " +
            " AND Serve_Date BETWEEN TO_DATE ('01-01-2023', 'dd-mm-yyyy') AND TO_DATE ('31-12-2023', 'dd-mm-yyyy')";
        using (OracleCommand command = new OracleCommand(Select, Program.con))
        {
            object result = command.ExecuteScalar();
            decimal Total_Amounts = Convert.ToDecimal(result);
            MessageBox.Show("Total Amounts For Tables Served By Nader During 2023: " + " " + Total_Amounts);
        }
    }
    catch (Exception ex)
    {
        MessageBox.Show("Error: " + ex.Message);
    }
}
```

• نتائج التنفيذ:





• نتائج التنفيذ في قاعدة البيانات:

```

SELECT SUM (Bill)
FROM Employee_Tables
WHERE ID_Employee IN (SELECT ID_Employee FROM Employee1 WHERE Name_Employee = 'Nader_AlNahas')
AND Serve_Date BETWEEN TO_DATE ('01-01-2023', 'dd-mm-yyyy') AND TO_DATE ('31-12-2023', 'dd-mm-yyyy');

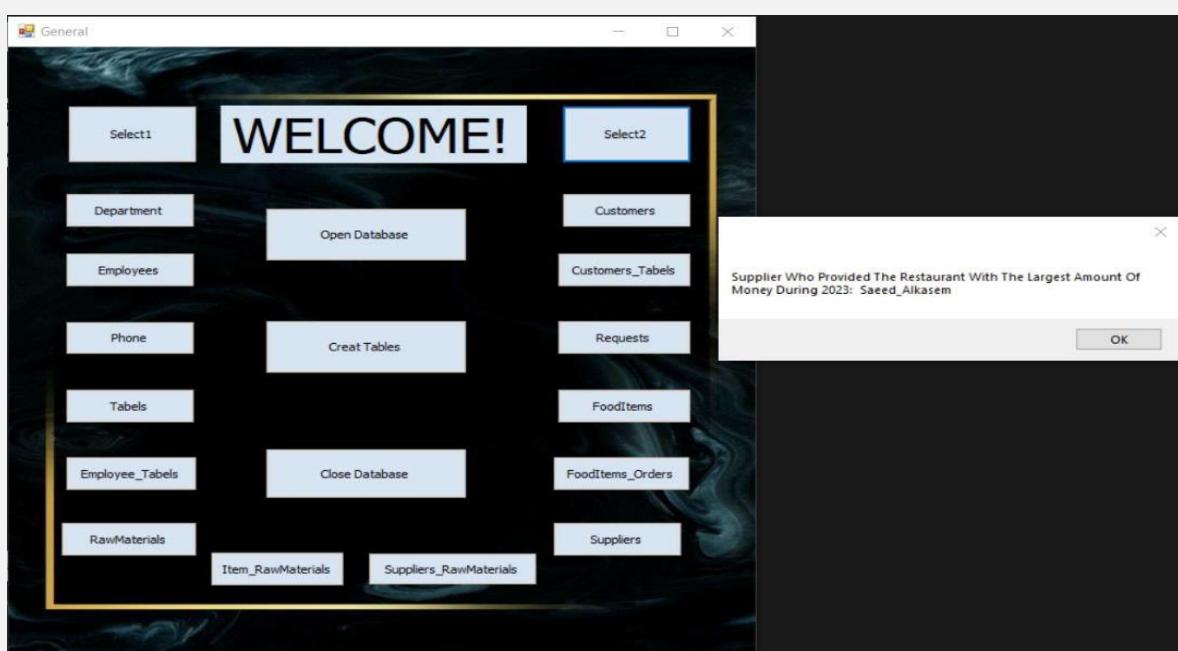
```

	SUM(BILL)
1	450000

## ► جملة الـ Select الثانية:

```
1 reference
private void button14_Click(object sender, EventArgs e)
{
    try
    {
        string Select = "SELECT Name_Suppliers" +
            " FROM Suppliers" +
            " WHERE ID_Suppliers IN( SELECT ID_Suppliers FROM Suppliers_RawMaterials WHERE Server_Date BETWEEN TO_DATE('01-01-2023', 'dd-mm-yyyy') AND TO_DATE('31-12-2023', 'dd-mm-yyyy'))" +
            " GROUP BY ID_Suppliers ORDER BY SUM(Bill) DESC FETCH FIRST 1 ROW ONLY";
        using (OracleCommand command = new OracleCommand(Select, Program.con))
        {
            object result = command.ExecuteScalar();
            MessageBox.Show("Supplier Who Provided The Restaurant With The Largest Amount Of Money During 2023: " + " " + result);
        }
    }
    catch (Exception ex)
    {
        MessageBox.Show("Error: " + ex.Message);
    }
}
```

نتيجة التنفيذ: ●



• نتائج التنفيذ في قاعدة البيانات:



The screenshot shows the Oracle SQL Developer interface. In the top window (Worksheet), a SQL query is displayed:

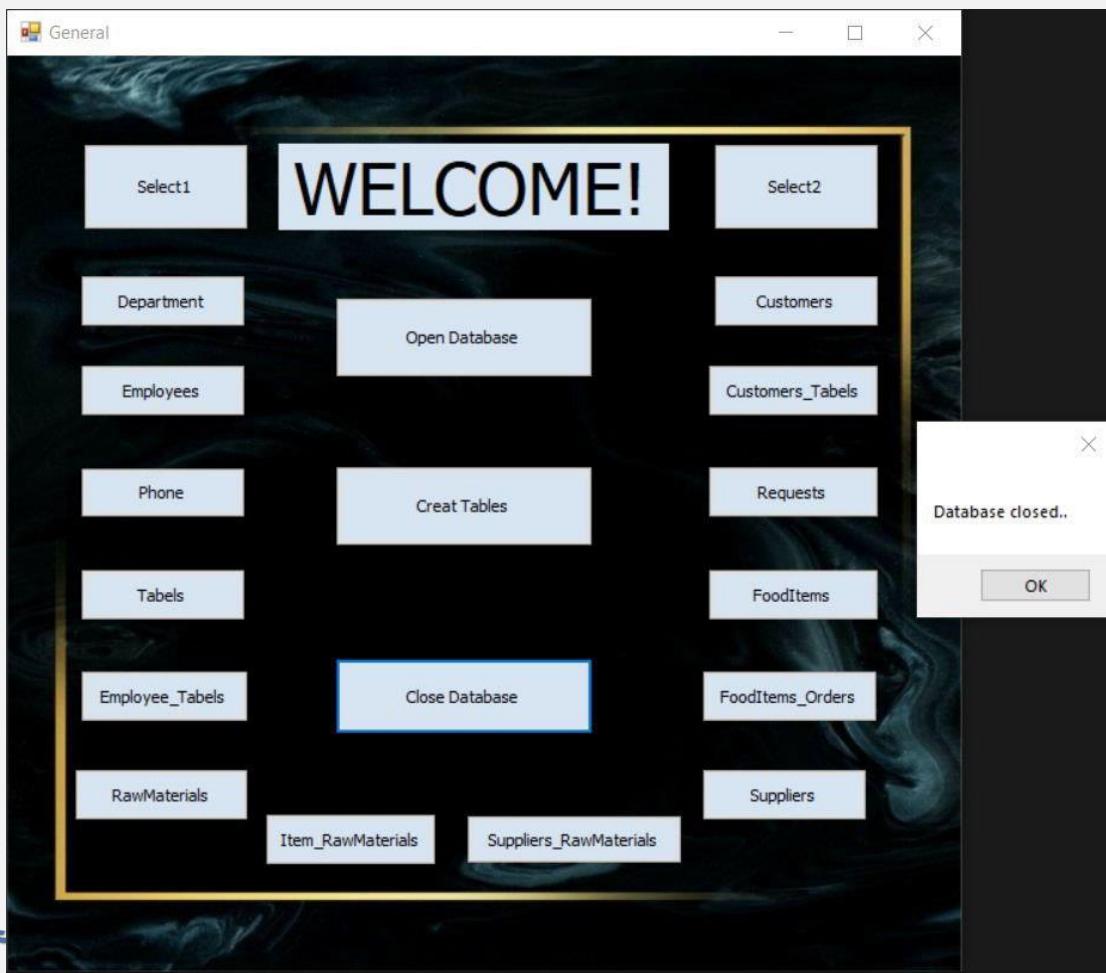
```
SELECT Name_Suppliers
FROM Suppliers
WHERE ID_Suppliers IN( SELECT ID_Suppliers FROM Suppliers_RawMaterials WHERE Server_Date BETWEEN TO_DATE('01-01-2023', 'dd-mm-yyyy') AND TO_DATE('31-12-2023', 'dd-mm-yyyy')
GROUP BY ID_Suppliers ORDER BY SUM(Bill) DESC FETCH FIRST 1 ROW ONLY);
```

In the bottom window (Query Result), the output is shown:

NAME_SUPPLIERS
Saeed_Alkasem

All Rows Fetched: 1 in 0.007 seconds

➤ إغلاق قاعدة البيانات:



## • كود إغلاق قاعدة البيانات:

```
    i reference
private void btnclosedata_Click(object sender, EventArgs e)
{
    Program.con.Close();
    MessageBox.Show("Database closed..");
}
```

## ► أكواد الواجهة الرئيسية بشكل كامل:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using Oracle.ManagedDataAccess.Client;
using System.Data.SqlClient;

namespace BDS_L
{
    public partial class Form1 : Form
    {
        InitializeComponent();
    }

    private void btaCreateTempTable_Click(object sender, EventArgs e)
    {
        try
        {
            OracleCommand cmd = new OracleCommand();
            cmd.Connection = Program.con;
            cmd.CommandText = "CREATE TABLE DEPARTMENT(ID_DEPARTMENT NUMBER NOT NULL, DEPARTMENT_NAME VARCHAR(20), CONSTRAINT DEPARTMENT_PK PRIMARY KEY (ID_DEPARTMENT))";
            cmd.CommandText = "CREATE TABLE Employee (ID_Employee INT NOT NULL, ID_Department INT NOT NULL, New_Employee VARCHAR(25 BYTES), DOB DATE, Salary INT, CONSTRAINT Employee_PK PRIMARY KEY (ID_Employee), CONSTRAINT Employee_FW FOREIGN KEY (ID_Department) REFERENCES Department(ID_Departments)";
            cmd.CommandText = "CREATE TABLE Phone (ID_Phone INT NOT NULL, ID_Employee INT NOT NULL, Number_Phone Number(35), CONSTRAINT Phone_PK PRIMARY KEY (ID_Phone), CONSTRAINT Phone_FW FOREIGN KEY (ID_Employee) REFERENCES Employee (ID_Employee))";
            cmd.CommandText = "CREATE TABLE Table1(ID_Table1 INT NOT NULL, Table1_Number ANY NOT NULL, Number_of_people INT NOT NULL, CONSTRAINT Table1_PK PRIMARY KEY (ID_Table1))";
            cmd.CommandText = "CREATE TABLE Employee_Tables (ID_Employee_Tables INT NOT NULL, ID_Employee INT NOT NULL, ID_Table1 INT NOT NULL, CONSTRAINT Employee_Tables_PK PRIMARY KEY (ID_Employee_Tables), CONSTRAINT Employee_FW FOREIGN KEY (ID_Employee) REFERENCES Employee(ID_Employee), CONSTRAINT Table1_FW FOREIGN KEY (ID_Table1) REFERENCES Table1(ID_Table1))";
            cmd.CommandText = "CREATE TABLE Customers (ID_Customers INT NOT NULL, Name_Customer VARCHAR(20), Email_Customer VARCHAR(25 BYTES), CONSTRAINT Customers_PK PRIMARY KEY (ID_Customers))";
            cmd.CommandText = "CREATE TABLE Customer_Table1 (ID_Customer_Table1 INT NOT NULL, TO_Table INT NOT NULL, CONSTRAINT Customer_Table1_PK PRIMARY KEY (ID_Customer_Table1), CONSTRAINT Customer_FW FOREIGN KEY (ID_Customers) REFERENCES Customers(ID_Customers))";
            cmd.CommandText = "CREATE TABLE Requests (ID_Requests INT NOT NULL, ID_Customers INT NOT NULL, Serve_Date Date, CONSTRAINT Requests_PK PRIMARY KEY (ID_Requests), CONSTRAINT Requests_FW FOREIGN KEY (ID_Customers) REFERENCES Customers(ID_Customers))";
            cmd.CommandText = "CREATE TABLE FoodItems (ID_FoodItems INT NOT NULL, Number_Items NUMBER, Name_Item VARCHAR(20), Type_Item VARCHAR(20), Price NUMBER, CONSTRAINT FoodItems_PK PRIMARY KEY (ID_FoodItems))";
            cmd.CommandText = "CREATE TABLE FoodItems_Orders (ID_FoodItems_Orders INT NOT NULL, ID_FoodItems INT NOT NULL, ID_Requests INT NOT NULL, CONSTRAINT FoodItems_Orders_PK PRIMARY KEY (ID_FoodItems_Orders), CONSTRAINT FoodItems_Orders_FW FOREIGN KEY (ID_FoodItems) REFERENCES FoodItems(ID_FoodItems))";
            cmd.CommandText = "CREATE TABLE RawMaterials (ID_RawMaterials INT NOT NULL, ID_FoodItems INT NOT NULL, Name_RawMaterials VARCHAR(20), Price NUMBER, CONSTRAINT RawMaterials_PK PRIMARY KEY (ID_RawMaterials))";
            cmd.CommandText = "CREATE TABLE Item_RawMaterials (ID_Item_RawMaterials INT NOT NULL, ID_FoodItems INT NOT NULL, ID_RawMaterials INT NOT NULL, CONSTRAINT Item_RawMaterials_FW FOREIGN KEY (ID_FoodItems) REFERENCES FoodItems(ID_FoodItems), CONSTRAINT Item_RawMaterials_PK PRIMARY KEY (ID_Item_RawMaterials))";
            cmd.CommandText = "CREATE TABLE Suppliers_RawMaterials (ID_Suppliers_RawMaterials INT NOT NULL, ID_RawMaterials INT NOT NULL, ID_Suppliers INT NOT NULL, Mount_Number, Server_Date Date, Bill_Number, CONSTRAINT Suppliers_RawMaterials_PK PRIMARY KEY (ID_Suppliers_RawMaterials), CONSTRAINT Suppliers_RawMaterials_FW FOREIGN KEY (ID_RawMaterials) REFERENCES RawMaterials(ID_RawMaterials))";
            cmd.ExecuteNonQuery();
        }
        catch (Exception ex)
        {
            MessageBox.Show("Error: " + ex.Message);
        }
    }
}
```

(1)

(2)

```
1 reference
private void Form1_Load(object sender, EventArgs e)
{
}

1 reference
private void btnopendata_Click(object sender, EventArgs e)
{
    Program.con.Open();
    MessageBox.Show("Database opened...");

}

1 reference
private void btnclosedata_Click(object sender, EventArgs e)
{
    Program.con.Close();
    MessageBox.Show("Database closed..");
}

1 reference
private void btnfgetoDep_Click(object sender, EventArgs e)
{
    Department department = new Department();
    department = new Department();
    department.Show();
}

1 reference
private void btnNext_Click(object sender, EventArgs e)
{
    Employee1 employee1 = new Employee1();
    employee1 = new Employee1();
    employee1.Show();
}

1 reference
private void button1_Click(object sender, EventArgs e)
{
    Phone phone = new Phone();
    phone = new Phone();
    phone.Show();
}

1 reference
private void button2_Click(object sender, EventArgs e)
{
    Tables tables = new Tables();
    tables = new Tables();
    tables.Show();
}
```

(3)

```
1 reference
private void button3_Click(object sender, EventArgs e)
{
    Employee_Tables employee_Tables = new Employee_Tables();
    employee_Tables = new Employee_Tables();
    employee_Tables.Show();
}

1 reference
private void button4_Click(object sender, EventArgs e)
{
    Customers customers = new Customers();
    customers = new Customers();
    customers.Show();
}

1 reference
private void button5_Click(object sender, EventArgs e)
{
    Customers_Tables customers_Tables = new Customers_Tables();
    customers_Tables = new Customers_Tables();
    customers_Tables.Show();
}

1 reference
private void button6_Click(object sender, EventArgs e)
{
    Requests requestes = new Requests();
    requestes = new Requests();
    requestes.Show();
}

1 reference
private void button7_Click(object sender, EventArgs e)
{
    FoodItems foodItems = new FoodItems();
    foodItems = new FoodItems();
    FoodItems.Show();
}

1 reference
private void button8_Click(object sender, EventArgs e)
{
    FoodItems_Orders foodItems_Orders = new FoodItems_Orders();
    foodItems_Orders = new FoodItems_Orders();
    foodItems_Orders.Show();
}

1 reference
private void button9_Click(object sender, EventArgs e)
{
    RawMaterials raw_Materials = new RawMaterials();
    raw_Materials = new RawMaterials();
    raw_Materials.Show();
}
```

(4)

```
1 reference
private void button10_Click(object sender, EventArgs e)
{
    Item_RawMaterials item_RawMaterials = new Item_RawMaterials();
    item_RawMaterials = new Item_RawMaterials();
    item_RawMaterials.Show();
}

1 reference
private void button11_Click(object sender, EventArgs e)
{
    Suppliers suppliers = new Suppliers();
    suppliers = new Suppliers();
    suppliers.Show();
}

1 reference
private void button12_Click(object sender, EventArgs e)
{
    Suppliers_RawMaterials suppliers_RawMaterials = new Suppliers_RawMaterials();
    suppliers_RawMaterials = new Suppliers_RawMaterials();
    suppliers_RawMaterials.Show();
}

1 reference
private void button13_Click(object sender, EventArgs e)
{
    try
    {
        string Select = "SELECT SUM(Bill)" +
            " FROM Employee_Tables" +
            " WHERE ID_Employee IN (SELECT ID_Employee FROM Employee WHERE Name_Employee = 'Nader_AlNahas')" +
            " AND Serve_Date BETWEEN TO_DATE ('01-01-2023', 'dd-mm-yyyy') AND TO_DATE ('31-12-2023', 'dd-mm-yyyy')";
        using (OracleCommand command = new OracleCommand(Select, Program.con))
        {
            object result = command.ExecuteScalar();
            decimal Total_Amounts = Convert.ToDecimal(result);
            MessageBox.Show("Total Amounts For Tables Served By Nader During 2023: " + " " + Total_Amounts);
        }
    }
    catch (Exception ex)
    {
        MessageBox.Show("Error: " + ex.Message);
    }
}

1 reference
private void button14_Click(object sender, EventArgs e)
{
    try
    {
        string Select = "SELECT Name_Suppliers" +
            " FROM Suppliers" +
            " WHERE ID_Suppliers IN( SELECT ID_Suppliers FROM Suppliers_RawMaterials WHERE Server_Date BETWEEN TO_DATE('01-01-2023', 'dd-mm-yyyy') AND TO_DATE('31-12-2023', 'dd-mm-yyyy'))" +
            " GROUP BY ID_Suppliers ORDER BY SUM(Bill) DESC FETCH FIRST 1 ROW ONLY";
        using (OracleCommand command = new OracleCommand(Select, Program.con))
        {
            object result = command.ExecuteScalar();
            MessageBox.Show("Supplier Who Provided The Restaurant With The Largest Amount Of Money During 2023: " + " " + result);
        }
    }
    catch (Exception ex)
    {
        MessageBox.Show("Error: " + ex.Message);
    }
}
```

► كود إنشاء جدول الأقسام:

```
cmd.CommandText = "CREATE TABLE  
DEPARTMENT(ID_DEPARTMENT NUMBER NOT NULL,  
DEPARTMENT_NAME VARCHAR2(20), CONSTRAINT  
DEPARTMENT_PK PRIMARY KEY(ID_DEPARTMENT));"
```

► كود إنشاء جدول الموظفين:

```
cmd.CommandText = "CREATE TABLE Employee1  
(ID_Employee INT NOT NULL, ID_Department INT NOT  
NULL, Name_Employee VARCHAR2(25 BYTE), DOB  
DATE, Salary INT, CONSTRAINT Employee1_PK  
PRIMARY KEY (ID_Employee), CONSTRAINT  
Employee1_FK FOREIGN KEY (ID_Department)  
REFERENCES Department(ID_Department))";
```

► كود إنشاء جدول رقم الهاتف:

```
cmd.CommandText = "CREATE TABLE Phone  
(ID_Phone INT NOT NULL, ID_Employee INT NOT  
NULL, Number_Phone Number(35), CONSTRAINT  
Phone_PK PRIMARY KEY (ID_Phone), CONSTRAINT  
Phone_FK FOREIGN KEY (ID_Employee) REFERENCES  
Employee1 (ID_Employee))";
```

► كود إنشاء جدول الطاولات:

```
cmd.CommandText = "CREATE TABLE Tabels(ID_Tabels INT  
NOT NULL, Tabels_Number INT NOT  
NULL, Number_of_people INT NOT NULL, CONSTRAINT  
Tabels_PK PRIMARY KEY (ID_Tabels))";
```

► كود إنشاء جدول العلاقة بين الموظفين والطاولات:

```
cmd.CommandText = "CREATE TABLE  
Employee_Tables(ID_Employee_Tables INT NOT  
NULL,ID_Employee INT NOT NULL, ID_Tables INT NOT  
NULL,Serve_Date Date,Bill Number, CONSTRAINT  
Employee_Tables_PK PRIMARY KEY  
(ID_Employee_Tables),CONSTRAINT Employee_FK FOREIGN  
KEY (ID_Employee) REFERENCES  
Employee1(ID_Employee),CONSTRAINT Tables_FK FOREIGN  
KEY (ID_Tables) REFERENCES Tables(ID_Tables))";
```

► كود إنشاء جدول الزبائن:

```
cmd.CommandText = "CREATE TABLE  
Customers(ID_Customers INT NOT NULL,Name_Customers  
VARCHAR2(20),Email VARCHAR(50) UNIQUE, CONSTRAINT  
Customers_PK PRIMARY KEY (ID_Customers))";
```

► كود إنشاء جدول العلاقة بين الزبائن والطاولات:

```
cmd.CommandText = "CREATE TABLE  
Customers_Tables(ID_Customers_Tables INT NOT  
NULL,ID_Customers INT NOT NULL, ID_Tables INT NOT NULL,  
CONSTRAINT Customers_Tables_PK PRIMARY KEY  
(ID_Customers_Tables),CONSTRAINT Customers_FK FOREIGN  
KEY (ID_Customers) REFERENCES  
Customers(ID_Customers),CONSTRAINT Cus_Tables_FK  
FOREIGN KEY (ID_Tables) REFERENCES Tables(ID_Tables));"
```

## ▷ كود إنشاء جدول الطلبات:

```
cmd.CommandText = "CREATE TABLE Requests(ID_Requests  
INT NOT NULL,ID_Customers INT NOT NULL,Serve_Date  
Date,CONSTRAINT Requests_PK PRIMARY KEY  
(ID_Requests),CONSTRAINT Requests_FK FOREIGN KEY  
(ID_Customers) REFERENCES Customers(ID_Customers))";
```

## ▷ كود إنشاء جدول أصناف الطعام:

```
cmd.CommandText = "CREATE TABLE  
FoodItems(ID_FoodItems INT NOT NULL,Number_Item  
NUMBER,Name_Item VARCHAR2(50),Type_Item  
VARCHAR2(50),Price NUMBER, CONSTRAINT FoodItems_PK  
PRIMARY KEY (ID_FoodItems))";
```

## ▷ كود إنشاء جدول العلاقة بين أصناف الطعام والطلبات:

```
cmd.CommandText = "CREATE TABLE  
FoodItems_Orders(ID_FoodItems_Orders INT NOT  
NULL,ID_FoodItems INT NOT NULL,ID_Requests INT NOT  
NULL, CONSTRAINT FoodItems_Orders_PK PRIMARY KEY  
(ID_FoodItems_Orders),CONSTRAINT FoodItems_Orders_FK  
FOREIGN KEY (ID_FoodItems) REFERENCES  
FoodItems(ID_FoodItems),CONSTRAINT Food_Orders_FK  
FOREIGN KEY (ID_Requests) REFERENCES  
Requests(ID_Requests));"
```

## ▷ كود إنشاء جدول المواد الأولية:

```
cmd.CommandText = "CREATE TABLE RawMaterials(ID_RawMaterials  
INT NOT NULL,ID_FoodItems INT NOT NULL,Name_RawMaterials  
VARCHAR2(50),Price NUMBER, CONSTRAINT RawMaterials_PK  
PRIMARY KEY (ID_RawMaterials))";
```

» كود إنشاء جدول العلاقة بين أصناف الطعام والمواد الأولية:

```
cmd.CommandText = "CREATE TABLE  
Item_RawMaterials(ID_Item_RawMaterials INT NOT  
NULL,ID_FoodItems INT NOT NULL,ID_RawMaterials INT NOT NULL,  
CONSTRAINT Item_RawMaterials_PK PRIMARY KEY  
(ID_Item_RawMaterials),CONSTRAINT Item_RawMaterials_FK  
FOREIGN KEY (ID_FoodItems) REFERENCES  
FoodItems(ID_FoodItems),CONSTRAINT Item_Raw_FK FOREIGN KEY  
(ID_RawMaterials) REFERENCES RawMaterials(ID_RawMaterials))";
```

» كود إنشاء جدول الموردون:

```
cmd.CommandText = "CREATE TABLE Suppliers(ID_Suppliers INT NOT  
NULL,Name_Suppliers VARCHAR2(30), CONSTRAINT Suppliers_PK  
PRIMARY KEY (ID_Suppliers));"
```

» كود إنشاء جدول العلاقة بين الموردين والمواد الأولية:

```
cmd.CommandText = "CREATE TABLE  
Suppliers_RawMaterials(ID_Suppliers_RawMaterials INT NOT  
NULL,ID_RawMaterials INT NOT NULL,ID_Suppliers INT NOT  
NULL,Amount Number,Server_Date Date,Bill Number, CONSTRAINT  
Suppliers_RawMaterials_PK PRIMARY KEY  
(ID_Suppliers_RawMaterials),CONSTRAINT  
Suppliers_RawMaterials_FK FOREIGN KEY (ID_RawMaterials)  
REFERENCES RawMaterials(ID_RawMaterials),CONSTRAINT  
Supp_Raw_FK FOREIGN KEY (ID_Suppliers) REFERENCES  
Suppliers(ID_Suppliers));"
```

## ▶ كود جملة SELECT التي تعيد مجموع المبالغ للطاولات التي يخدمها الموظف

:2023 خلال عام Nader

```
string Select = "SELECT SUM (Bill)" +  
    " FROM Employee_Tabels" +  
    " WHERE ID_Employee IN (SELECT ID_Employee FROM Employee1  
        WHERE Name_Employee = 'Nader_AlNahas')"+  
    " AND Serve_Date BETWEEN TO_DATE ('01-01-2023', 'dd-mm-yyyy')  
        AND TO_DATE ('31-12-2023', 'dd-mm-yyyy'))";
```

- شرح طريقة عمل الجملة:

استخدمنا دالة الجمع SUM لتجمع القيم من خلال جدول Employee\_Tabels وتعيد مبلغ جميع الطاولات التي خدمها الموظف نادر خلال سنة 2023

=====

## ▶ كود جملة SELECT التي تعيد اسم المورد الذي ورد للمطعم بأكبر مبالغ مالية خلال

عام 2023

```
string Select = "SELECT Name_Suppliers" +  
    " FROM Suppliers" +  
    " WHERE ID_Suppliers IN( SELECT ID_Suppliers FROM  
        Suppliers_RawMaterials WHERE Server_Date BETWEEN  
        TO_DATE('01-01-2023', 'dd-mm-yyyy') AND TO_DATE('31-12-2023',  
            'dd-mm-yyyy')) "+  
    " GROUP BY ID_Suppliers ORDER BY SUM(Bill) DESC FETCH FIRST 1  
        ROW ONLY);
```

- شرح طريقة عمل الجملة:

في هذا الطلب لدينا الشرط التالي:

كتابة جملة تعيد اسم المورد الذي ورد للمطعم بأكبر مبالغ مالية خلال العام 2023  
قمنا بالاستعلام عن ارقام الموردون من جدول الموردون والموارد لترتيبهم تنازلياً واعادة  
سجل وحيد يحمل اسم المورد الذي ورد بأكبر مبلغ خلال السنة 2023 من خلال التعليمية 1

Row only

## ► كود جملة insert لإدخال البيانات في جدول الأقسام وإظهار النتيجة:

```
try
{
    Oracle Command cmd = new OracleCommand();  

    cmd.Connection = Program.con;  

    //Create the SQL insert command  

    string sql = "INSERT INTO Department (ID_Department,  

    Department_Name) VALUES (:ID_Department, :Department_Name);"  

    //Create the Oracle command  

    using (OracleCommand command = new  

    OracleCommand(sql, Program.con))  

    {  

        //Add parameters to the command  

        command.Parameters.Add("ID_Department",  

        OracleDbType.Varchar2).Value = int.Parse(ID_Department.Text);  

        command.Parameters.Add("Department_Name",  

        OracleDbType.Varchar2).Value = Department_Name.Text;  

        //Execute the insert command  

        command.ExecuteNonQuery();  

        MessageBox.Show("Data inserted successfully!");
    }
}
```

## الخاتمة

وفي الختام نود أن نتوجه بـكامل الشكر والتقدير والاحترام للدكتور **محمد حجوز** على جهوده المبذولة ودوره الرئيسي في مسيرتنا التعليمية ونؤكّد أن جهودك ستثمر معنا وسنحصد ثمارها ونحن نذرك بكل خير.

شكراً على جهودكم مع تمنياتنا لكم بالصحة والعافية الدائمة.