

2019

C# & SQL

PROJECT 3
BRIAN NANNAYAKKARA

Appendix

Project.....	2
SQL.....	2
Data in the database.....	2
C#.....	2
Step by step explanation of the app.....	3
Videos and pictures	3
Time schedule	4
Conclusion.....	4
Appendix	5
Hyperlinks	5
SQL – GeoTema	5
Select statements	8
Tables in the database	9
Grid view	10
Configuring windows server 2014	11
Application	14
Sources.....	18

Project

The project is about making a windows form application on VS to print data from a database, it's all about gathering data from a server.

This windows form application I made can gather data from a server and print out data on a gridview and on a chart.

SQL

When I was making the database I made a small mistake by using the express edition because express edition was not capable of communicating with my windows form application which is on a different computer.

And also I forgot to make mix access on the database. Mix access will make it possible to gain access using a username and password or windows authentication.

But windows authentication has the full access to the database. I made a user through windows authentication and gave read and write access to that user, and used that user on my windows form application.

Data in the database

There are 5 tables in total.

[Data in the database](#) – this hyperlink will show a picture of the data in the database (the country table and ranks table is combined with an inner join there for it will represent in a one table)

Country table, Ranks table and 3 user data tables. This will explain in the IR diagram I made about the database.

The IR diagram will be in the project folder.

[QUARY - code](#)

[QUARY – Select statements](#)

C#

There were no problems when making the windows form application, I used 3 forms one for the login page and one for the [grid view](#) and one for the chart.

Step by step explanation of the app

[Step1-](#) The application start with the form1 which is the log in page. Log in username and password is simple

(Username: **Admin** and Password: **Passw0rd**)

Soon as the user enter the username and password the connect button will be enable to click.

And if there is an issue with connecting to the database the program will stop working and give an explanation why the program stopped working.

[Step2-](#) If the connection is successful the gridview will appear in another window and the login form will close by itself.

When the user is in the gridview form the user can see the data in the database but user has limited options. User can gain access though using userID and pass.

It depends what kind of access the user can gain because there are 3 kind of users. Admin user, Super user and Standard user.

[Step3-](#) Admin and super users has access to everything but the standard user has only access to the search bar.

The search bar and the chart is unavailable until the user log in.

The search bar is a live search bar it will search data while the user is searching data and it shows all the recommended results when searching fx. If user type "den" the search bar will automatically show Denmark.

[Step4](#) The chart shows all the countries on the X and birthrates on the Y. it shows data from the highest birthrates to the lowest.

[Step5-](#) If the user enters a wrong password then all the options will be unavailable and ask to check the user name and password

[All the user information are in the database.](#)

Videos and pictures

The video and the pictures and the SQL scrip are in the project folder and on the [hyperlinks](#).

C# codes will be in [hyperlinks](#) and the full application will is in the GeaTema folder. The project can be viewed by opening the .sin file but it won't work properly when the database is offline.

[Captures](#) configuring windows server 2014

Time schedule

6-02-2019: Checked out all the source videos and read about creating a database on a server

7-02-2019: Installed the windows server and set up the database.

11-02-2019: Started programing the SQL database (insert all the data)

12-02-2019: There were problems with my SQL server so it took me long time to get it up and running in a way I can use it on my other computer.

19-02-2019: The final configuration on the SQL database.

20-02-2019: Programing and designing the windows form application. (Finished it the same day I started)

21-02-2019: Doing the final touches on the Server and the application and making the report.

Conclusion

This project is about leaning to build a database and the on a server and create a windows form application so print data using the database.

So when the data has to be updated, developers only have to make changers on the database not in the application.

Same with making users and deleting users. The database developing team can always add and remove users from the database.

The applications will not respond to the user is the user data is not exist in the database.

So the main goal in this project is creating and leaning about back end development.

Appendix

Hyperlinks

SQL – GeoTema

```
use master;
```

```
if db_id ('GeoTema') is not null
```

```
begin
```

```
drop database GeoTema
```

```
end
```

```
go
```

```
create database GeoTema;
```

```
go
```

```
use GeoTema
```

```
-- table 1
```

```
create table Country(
```

```
ID int identity(1,1) not null primary key,
```

```
Country_Name nvarchar (15),
```

```
Continent nvarchar (25),
```

```
);
```

```
-- table 2
```

```
create table Ranks(
```

```
ID int identity(1,1) not null foreign key references Country(ID),
```

```
Ranks int,
```

```
Birthrate float
```

```
);
```

```
insert into Country(Country_Name,Continent)
values('Denmark','Europe'),
('Canada','Northamerica'),
('Nigeria','Africa'),
('India','Asia'),
('Brazil','Southamerica'),
('New Zealand','Oceania'),
('USA','Northamerica'),
('Norway','Europe'),
('Turky','Europe and Asia'),
('Ukrain','Europe and Asien')
```

```
insert into Ranks
values(169,10.27),
(168,10.28),
(1,45.45),
(85,19.50),
(129,14.46),
(139,13.33),
(145,12.38),
(149,12.14),
(114,16.33),
(162,10.72)
```

```
-- user tables
```

```
create table AdminUser(
```

```
UserId nvarchar (10),  
Pass nvarchar (10)  
);
```

```
create table SuperUser(  
UserId nvarchar (10),  
Pass nvarchar (10)  
);
```

```
create table StandedUser(  
UserId nvarchar (10),  
Pass nvarchar (10)  
);
```

```
insert into AdminUser  
values('Admin','PasswOrd'),  
('Brian','Audi')
```

```
insert into SuperUser  
values('Brian','Audi'),  
('Dimal','Audi')
```

```
insert into StandedUser  
values('Brian','dimal'),  
('Dimal','brian')
```


Select statements

-- selecting the ID and the county and country data

```
select Country.ID, Country.Country_Name, Country.Continent, Ranks.Ranks, Ranks.Birthrate from  
Country
```

```
inner join Ranks on Country.ID = Ranks.ID
```

--Selecting user data

```
select * from AdminUser
```

```
select * from SuperUser
```

```
select * from StandedUser
```

Tables in the database

100 % < III

Results Messages

	Userld	Pass
1	Admin	Passw0rd
2	Brian	Audi

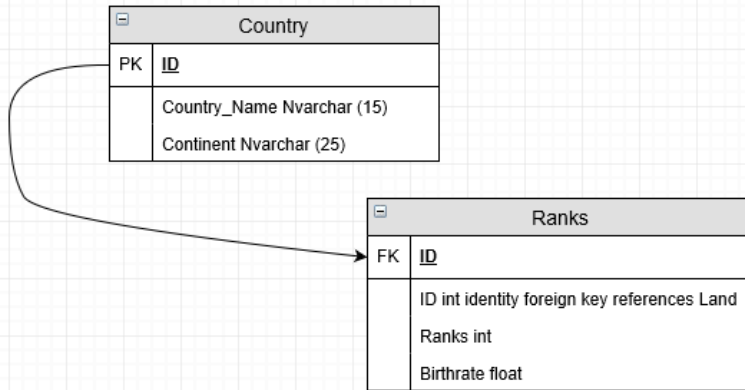
	Userld	Pass
1	Brian	Audi
2	Dimal	Audi

	Userld	Pass
1	Brian	dimal
2	Dimal	brian

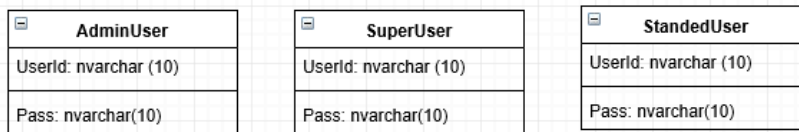
	ID	Country_Name	Continent	Ranks	Birthrate
1	1	Denmark	Europe	169	10,27
2	2	Canada	Northamerica	168	10,28
3	3	Nigeria	Africa	1	45,45
4	4	India	Asia	85	19,5
5	5	Brazil	Southameri...	129	14,46
6	6	New Zealand	Oceania	139	13,33
7	7	USA	Northamerica	145	12,38
8	8	Norway	Europe	149	12,14
9	9	Turky	Europe and...	114	16,33
10	1...	Ukrain	Europe and...	162	10,72

Grid view

Country and ranks tables

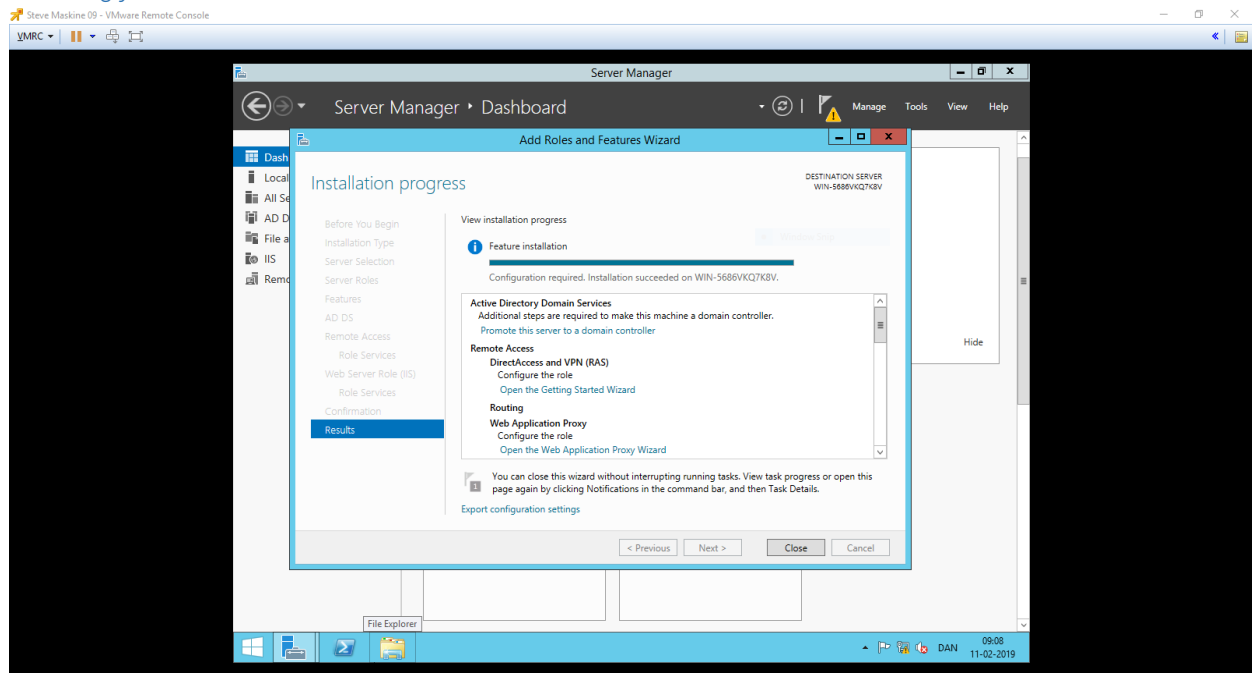


User tables

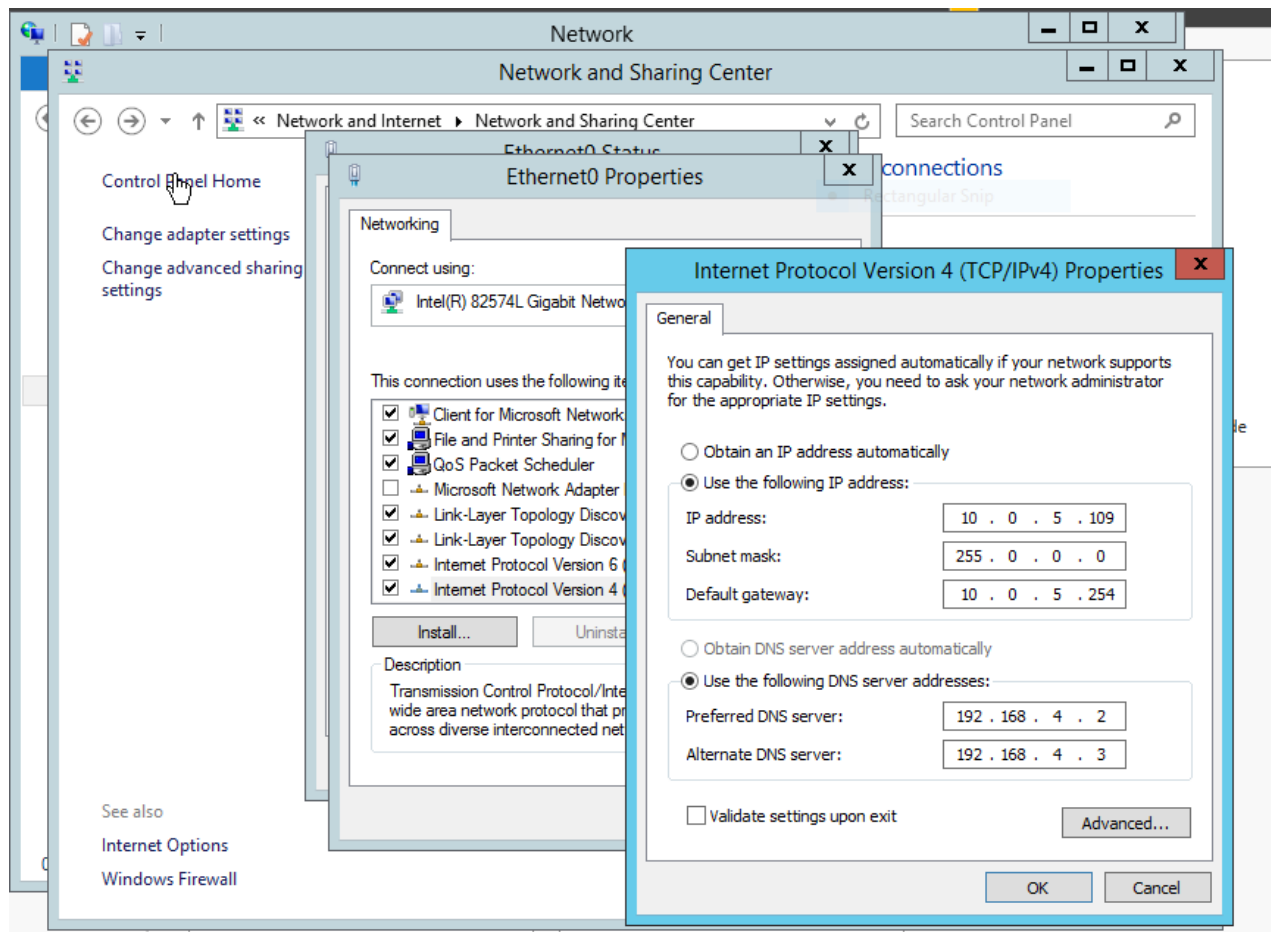


Configuring windows server 2014

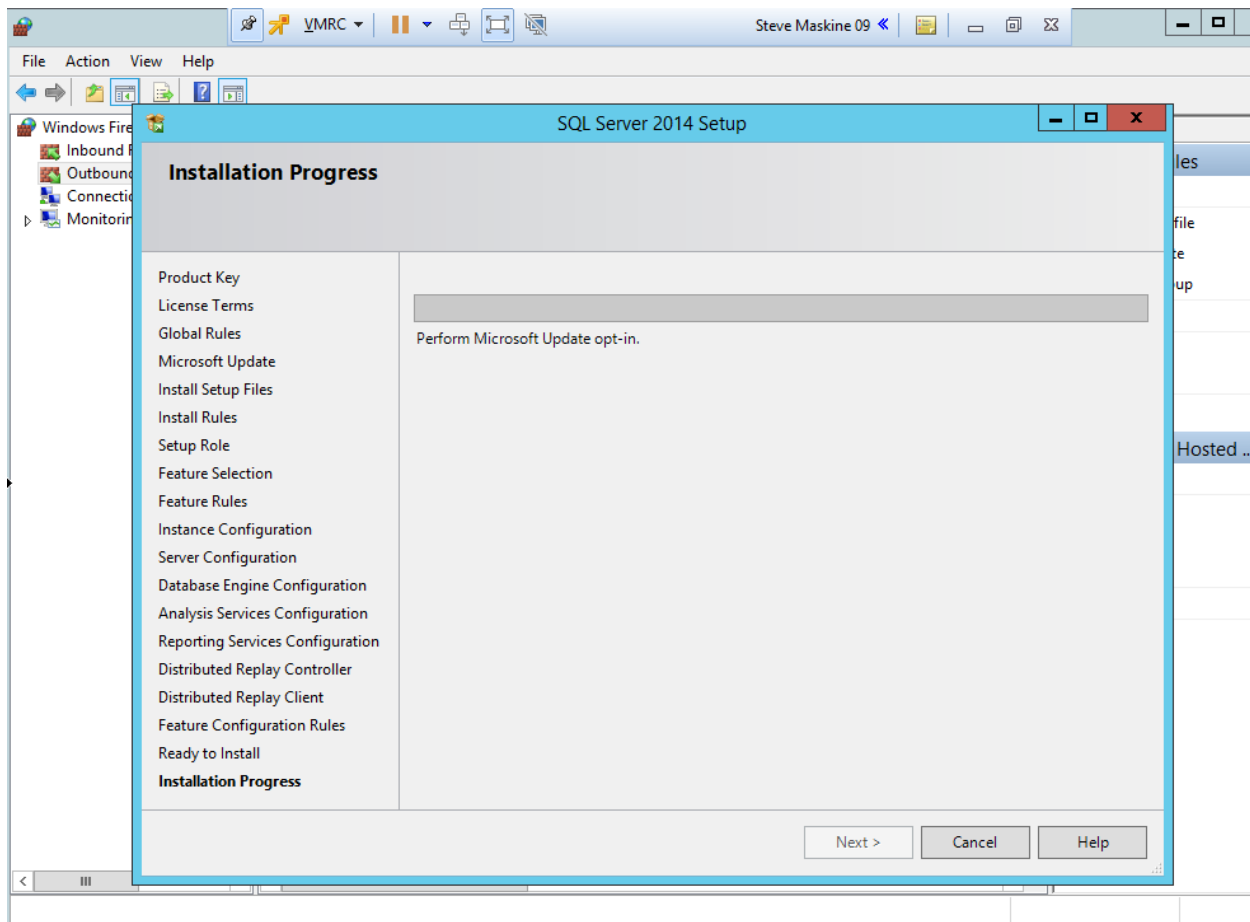
Installing features to windows server



Configuring the network-



Installing SQL



Application

Step1

Form1

Geo Tema

UserName

Password

Connect

Window Snip

Step2

FormShowDatabaseAdmin

	ID	Country_Name	Continent	Ranks	Birthrate
▶	1	Denmark	Europe	169	10,27
	2	Canada	Northamerica	168	10,28
	3	Nigeria	Africa	1	45,45
	4	India	Asia	85	19,5
	5	Brazil	Southamerica	129	14,46
	6	New Zealand	Oceania	139	13,33
	7	USA	Northamerica	145	12,38
	8	Norway	Europe	149	12,14
	9	Turky	Europe and Asia	114	16,33
	10	Ukrain	Europe and Asien	162	10,72

< >

For search data you need to gain acces

Open Diagram

UserID

Password

Admin Login

Super Login

Standed Login

Step3

FormShowDatabaseAdmin

	ID	Country_Name	Continent	Ranks	Birthrate
▶	1	Denmark	Europe	169	10,27
	2	Canada	Northamerica	168	10,28
	4	India	Asia	85	19,5
	6	New Zealand	Oceania	139	13,33

< >

d

For search data you need to gain acces

Open Diagram

UserID

Brian

Password

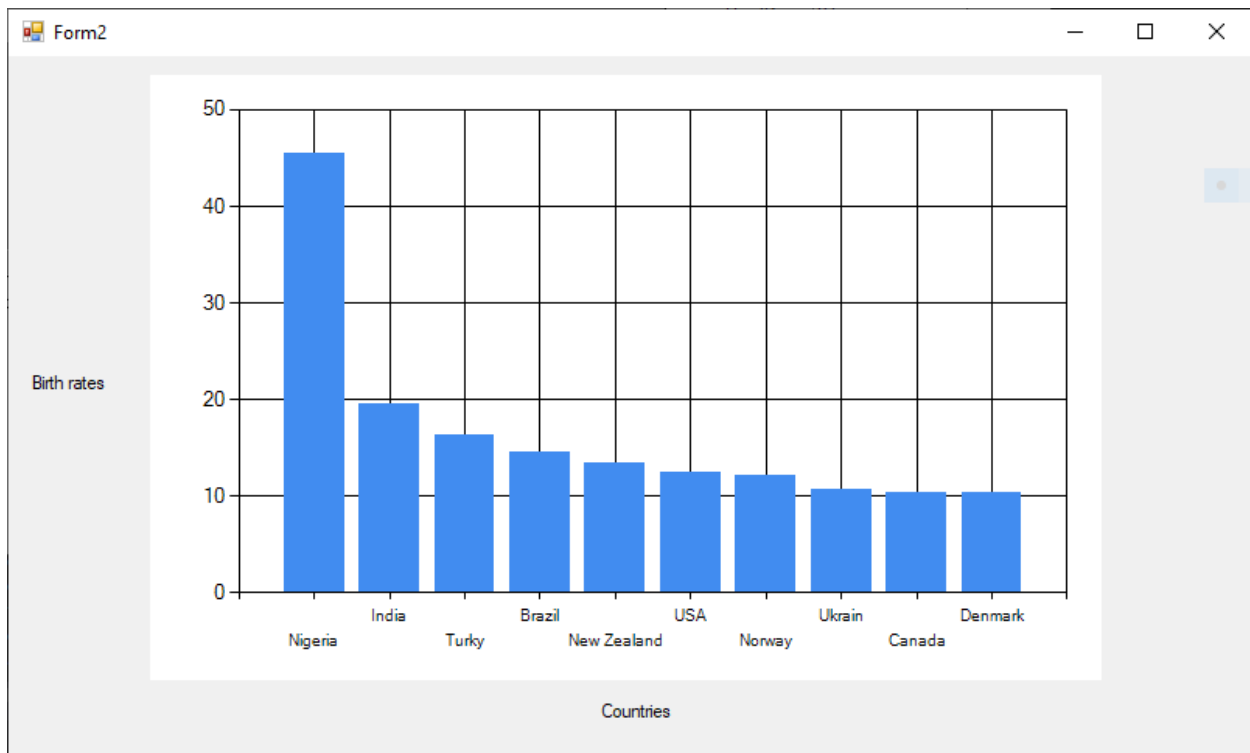
••••

Admin Login

Super Login

Standed Login

Step4- Chart



Step5-If user enter wrong user name or password

FormShowDatabaseAdmin

ID	Country_Name	Continent	Ranks	Birthrate
1	Denmark	Europe	169	10,27
2	Canada	Northamerica	168	10,28
4	India	Asia	85	19,5
6	New Zealand	Oceania	139	13,33

UserID: wrongusername
Password:

Admin Login
Super Login
Standart Login

For search data you need to gain acces

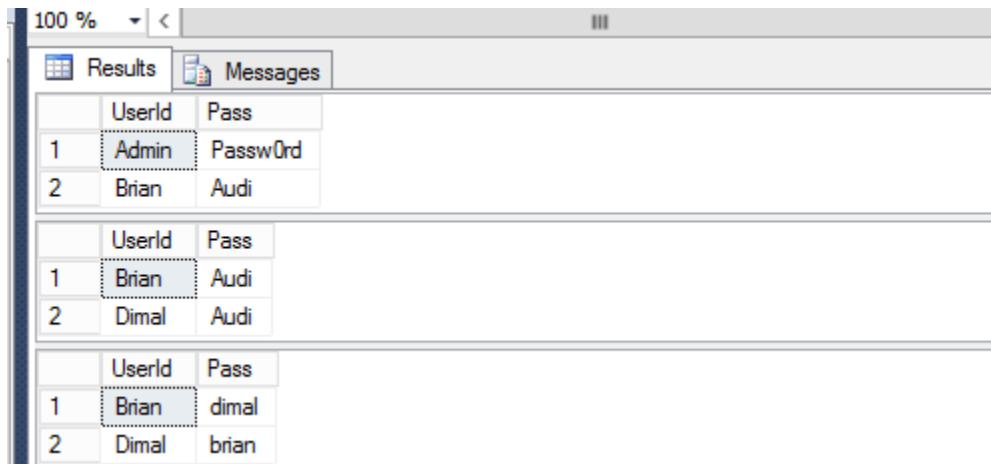
Open Diagram

Check user name or password

OK

```
SqlCommand scmd = new SqlCommand();  
SqlDataAdapter sda = new SqlDataAdapter();  
String sql, conectionSrting;
```

User information (user ID and password)



The screenshot shows a database results window with a 'Results' tab. It displays three separate tables, each with two columns: 'UserId' and 'Pass'. The first table has two rows: (1, Admin, PasswOrd) and (2, Brian, Audi). The second table has two rows: (1, Brian, Audi) and (2, Dimal, Audi). The third table has two rows: (1, Brian, dimal) and (2, Dimal, brian). The 'Results' tab is active, and the 'Messages' tab is also visible.

	UserId	Pass
1	Admin	PasswOrd
2	Brian	Audi

	UserId	Pass
1	Brian	Audi
2	Dimal	Audi

	UserId	Pass
1	Brian	dimal
2	Dimal	brian

Sources

Learn SQL in 1 Hour - SQL Basics for Beginners: <https://www.youtube.com/watch?v=9Pzj7Aj25lw>

SQL database connection: <https://www.guru99.com/c-sharp-access-database.html#1>

Help for programing C# and SQL: <https://w3schools.com>

Programing guide C#: <https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/>

Create IR diagram: <https://www.draw.io/>