

WhatsApp x ChatGPT x Google Transl... x Google Classro... x Presentation - 1 x Presentation -12 x Download file | x +

classroom.google.com/c/NjQ1NDczNjM5NzI4/m/NjQ3OTA4ODEwNzEy/details

Classroom > Rapid Application Development - 3rd Y...

Home
Calendar
Enrolled
To-do
Software Quality Assurance - ...
Web Service Technologies 3r...
Rapid Application Developme...
Archived classes
Settings

**DATABASE
PROGRAMMING
WITH ADO.NET**

Activate Windows
Go to Settings to activate Windows.

90°F Sunny 5:00 PM 3/9/2024

THE CONNECTION OBJECT

- Represents the actual connection to the database
- *SqlConnection* , *OleDbConnection*
- Contains all information required to open a database connection in *ConnectionString* property
- Provides methods that facilitate data transactions

THE CONNECTION OBJECT CONT..

```
private void button1_Click(object sender, EventArgs e)
{
    string connetionString;
    SqlConnection cnn;

    connetionString = @"Data Source=WIN-50GP30FG075;Initial Catalog=Demodb
;User ID=sa;Password=demo123";

    cnn = new SqlConnection(connetionString);

    cnn.Open();
    MessageBox.Show ("Connection Open ! ");

    cnn.Close();
}
```

Set connection string

Variable declaration

Assign connection

open connection

Close connection

WhatsApp x ChatGPT x Google Translat x Google Classroo x Presentation - 1 x Presentation -12 x Download file | x +

classroom.google.com/c/NjQ1NDczNjM5NzI4/m/NjQ3OTA4ODEwNzEy/details

Classroom > Ra

Home
Calendar
Enrolled
To-do
Software Quality Assurance - ...
Web Service Technologies 3r...
Rapid Application Developme...
Archived classes
Settings

EXAMPLE

- <https://www.guru99.com/c-sharp-access-database.html>

---How to connect C# to Database

Page 4 / 16

Activate Windows
Go to Settings to activate Windows.

90°F Sunny 5:01 PM 3/9/2024

THE COMMAND OBJECT

- Execute commands (reading/writing) to a database across a data connection
- *SqlCommand, OleDbCommand*
- Methods in Command object:
 - ExecuteNonQuery - Execute commands that have no return dataset but returns effected number of rows
 - INSERT, UPDATE, DELETE
 - ExecuteScalar - Returns a single value from database query (first column of first row)
 - ExecuteReader - Returns a result set by way of a DataReader object

WhatsApp x ChatGPT x Google Translat x Google Classroo x Presentation - 1 x Presentation -12 x Download file | x +

classroom.google.com/c/NjQ1NDczNjM5NzI4/m/NjQ3OTA4ODEwNzEy/details

Classroom > Ra

Home
Calendar
Enrolled
To-do
Software Quality Assurance ...
Web Service Technologies 3r...
Rapid Application Developme...
Archived classes
Settings

THE DATAREADER OBJECT

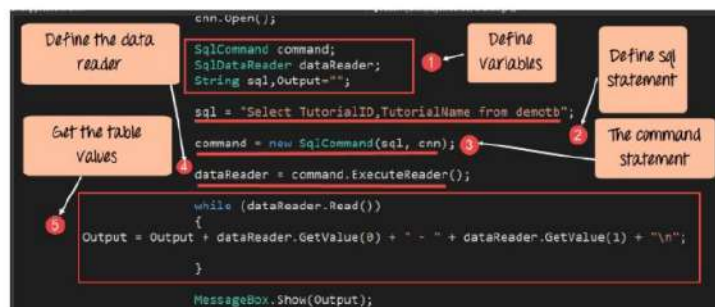
- Provides a record set from a database
- **DataReader** is returned as the result of a Command object's **ExecuteReader** method
- Requires to open Connection object for the lifetime of the **DataReader**

Page 6 / 16

Activate Windows
Go to Settings to activate Windows.

90°F Sunny 5:01 PM 3/9/2024

GET RESULTS SET - USING DATAREADER OBJECT



DISPLAY THE RESULTSET OUTPUT

```
while (dataReader.Read())
{
    Output = Output + dataReader.GetValue(0) + " - " + dataReader.GetValue(1) + "\n";
}

MessageBox.Show(Output);

dataReader.Close();
command.Dispose();
cnn.Close();
}
```

1 Display the output to the user

2 Close all objects

THE DATAADAPTER OBJECT

- ◉ Middleman facilitating all communication between database and **DataSet**
- ◉ Fills **DataSet** or **DataTable** with data from database when **Fill** method is called
- ◉ Transmit changes to the database by calling **Update** method
- ◉ Properties of DataAdapter :
 - SelectCommand- select data from database
 - InsertCommand - insert a row into a table
 - DeleteCommand - deletes a row from a table
 - UpdateCommand- updates the value of a database
- ◉ When **Update** Method is called changes in the **DataSet** are copied back to database

Classroom

Rapid Application Development - 3rd Y...

Home

Calendar

Enrolled

To-do

Software Quality Assurance - ...

Web Service Technologies 3r...

Rapid Application Developme...

Archived classes

Settings

DATAADAPTER OBJECT

Data Adapter introduction

Page 10 / 16

Activate Windows
Go to Settings to activate Windows.

WhatsApp x ChatGPT x Google Translat x Google Classroo x Presentation - 1 x Presentation - 12 x Download file | x +

classroom.google.com/c/NjQ1NDczNjM5NzI4/m/NjQ3OTA4ODEwNzEy/details

Classroom > Ra

Home
Calendar
Enrolled
To-do
Software Quality Assurance - ...
Web Service Technologies 3r...
Rapid Application Developme...
Archived classes
Settings

CREATING DATASET WITH DATAADAPTER

```
SqlDataAdapter adapter = new SqlDataAdapter();  
DataSet ds = new DataSet();  
  
connection.Open();  
adapter.SelectCommand = new SqlCommand("Your SQL Statement Here", connection);  
adapter.Fill(ds);  
connection.Close();  
for (i = 0; i <= ds.Tables[0].Rows.Count - 1; i++)  
{  
    MessageBox.Show(ds.Tables[0].Rows[i].ItemArray[1].ToString());  
}
```

Activate Windows
Go to Settings to activate Windows.

90°F Sunny 5:01 PM 3/9/2024

Classroom > Rapid Application Development - SQL V...

Home

Calendar

Enrolled

To-do

Software Quality Assurance - ...

Web Service Technologies 3r...

Rapid Application Developme...

Archived classes

Settings

DATA INSERTION

```
SqlCommand command;  
SqlDataAdapter adapter = new SqlDataAdapter();  
String sql="";  
  
sql = "Insert into demottb (TutorialID,TutorialName) values(3,' " + "VB.Net" + "')";  
  
command = new SqlCommand(sql, cnn);  
adapter.InsertCommand = new SqlCommand(sql, cnn);  
adapter.InsertCommand.ExecuteNonQuery();  
  
command.Dispose();  
cnn.Close();
```

Define Variables

Define the INSERT statement

Close all objects

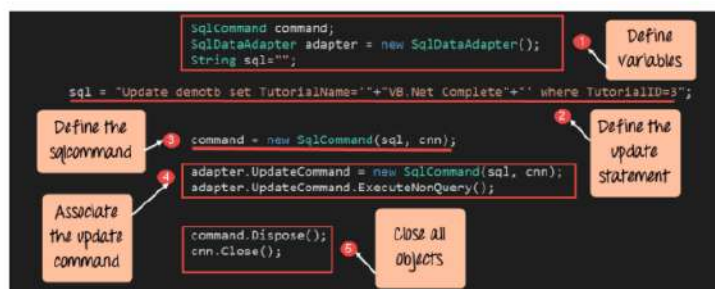
Define the SqlCommand

Associate the INSERT command

Page 12 / 16

Activate Windows
Go to Settings to activate Windows.

DATA UPDATION



DATA DELETION

```
SqlCommand command;  
SqlDataAdapter adapter = new SqlDataAdapter();  
String sql="";  
  
sql = "Delete demotb where TutorialID=3";  
  
command = new SqlCommand(sql, cnn);  
  
adapter.DeleteCommand = new SqlCommand(sql, cnn);  
adapter.DeleteCommand.ExecuteNonQuery();  
  
command.Dispose();  
cnn.Close();  
}
```

Associate the delete command

Define sql statement

WhatsApp x ChatGPT x Google Translat x Google Classroo x Presentation - 1 x Presentation -12 x Download file | x +

classroom.google.com/c/NjQ1NDczNjM5NzI4/m/NjQ3OTA4ODEwNzEy/details

Classroom > Rapid Application Development - 3rd Y...

Home
Calendar
Enrolled
To-do
Software Quality Assurance - ...
Web Service Technologies 3r...
Rapid Application Developme...
Archived classes
Settings

EXAMPLE

- <https://www.guru99.com/c-sharp-access-database.html#3>

--Access data with the SqlDataReader
--C# Insert Into Database
--C# Update Database
--Deleting Records

- <https://www.youtube.com/watch?v=WJ-CdeTGxp8>

Page 15 / 16

Activate Windows
Go to Settings to activate Windows.

90°F Sunny 5:02 PM 3/9/2024

EXERCISE

- Create a form to insert tutorial details to the table.
- Create a form to update tutorial name according to tutorial id.



- Use dataadapter object to perform insertion and update.