

Visual Studio interface showing a C# project named AdapterPattern\_1262774. The code editor displays the implementation of the AdapterPattern interface, specifically the btnAdapterMath\_Click method.

```
19  
20  
21 1 reference  
22 private void btnAdapterMath_Click(object sender, EventArgs e)  
23 {  
24     try  
25     {  
26  
27  
28  
29  
30  
31  
32  
33  
34  
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36  
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100
```

The Form1 window is displayed, showing two buttons: btnAdapterMath and btnAdapterMath2. A small dialog box is open, displaying the result of a calculation: Result = 6.13333328564962.

The Solution Explorer on the right shows the project structure, including AdapterPattern\_1262774 and AdapterPattern\_1262774.Form1. The Error List at the bottom shows 0 Errors, 0 Warnings, and 0 Messages.

The Windows taskbar at the bottom shows the system clock at 01:39 PM on 27-11-2024, and the system tray includes icons for network, volume, and power.

Visual Studio interface showing a C# project named AdapterPattern\_1262774. The code editor displays the implementation of the AdapterPattern, including the `btnAdapterMath_Click` method.

```
19  
20 1 reference  
21 private void btnAdapterMath_Click(object sender, EventArgs e)  
22 {  
23     try  
24     {  
25  
26  
27  
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30  
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```

The `Form1` window is open, showing two buttons: `btnAdapterMath` and `btnAdapterMath2`. A small dialog box displays the result: "Result (Rounded Avg) = 6".

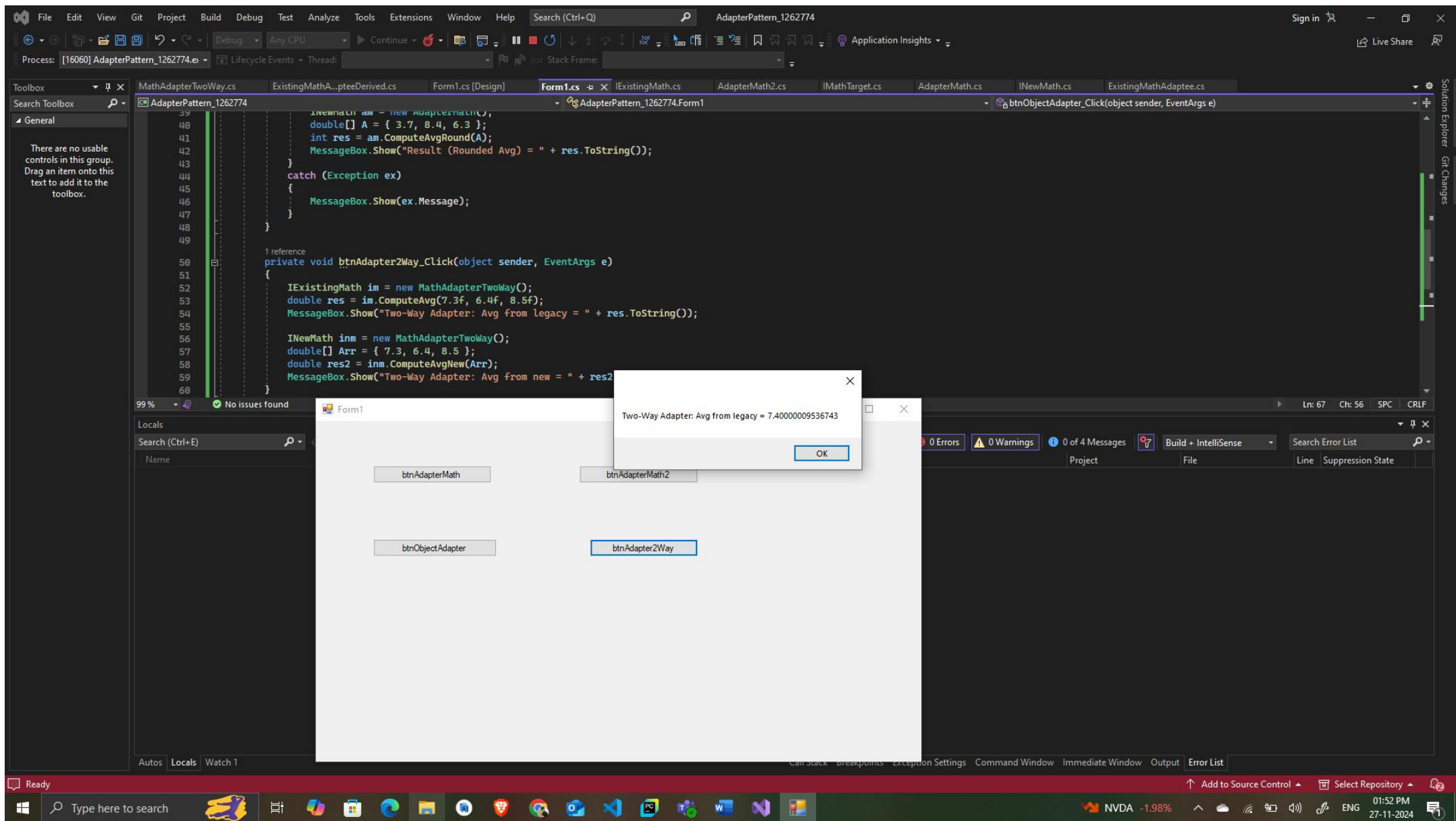
The Solution Explorer on the right shows the project structure, including `AdapterPattern_1262774` and `AdapterPattern_1262774.Form1`.

The bottom status bar indicates the system is Ready, and the taskbar shows various application icons.

Visual Studio interface showing the AdapterPattern\_1262774 project. The code editor displays the implementation of the AdapterPattern, including the `btnObjectAdapter_Click` event handler. The interface includes the Solution Explorer, Error List, and a Windows Form titled `Form1` with buttons for `btnAdapterMath`, `btnAdapterMath2`, `btnObjectAdapter`, and `btnAdapter2Way`. A message box displays the output: "Object Adapter: Avg = 7.40000009536743".

```
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50  
51  
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53  
54  
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56  
57  
58  
59  
60  
1 reference  
private void btnAdapter2Way_Click(object sender, EventArgs e)  
{  
    IExistingMath im = new MathAdapterTwoWay();  
    double res = im.ComputeAvg(7.3f, 6.4f, 8.5f);  
    MessageBox.Show("Two-Way Adapter: Avg from legacy = " + res.ToString());  
  
    INewMath inm = new MathAdapterTwoWay();  
    double[] Arr = { 7.3, 6.4, 8.5 };  
    double res2 = inm.ComputeAvgNew(Arr);  
    MessageBox.Show("Two-Way Adapter: Avg from new = " + res2.ToString());  
}
```

Object Adapter: Avg = 7.40000009536743



BridgePattern\_1262774

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q)

Process: [22096] BridgePattern\_1262774.exe Lifecycle Events Thread: Stack Frame:

Toolbox Search Toolbox

General

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

Form1.cs Abstraction.cs ImplementationB.cs Form1.cs [Design] ImplementationA.cs IBridge.cs

BridgePattern\_1262774 BridgePattern\_1262774.Form1 label1\_Click(object sender, EventArgs e)

```
11 namespace BridgePattern_1262774
12 {
13     3 references
14     public partial class Form1 : Form
15     {
16         1 reference
17         public Form1()
18         {
19             InitializeComponent();
20         }
21         1 reference
22         private void label1_Click(object sender, EventArgs e)
23         {
24         }
25         1 reference
26         private void btnBridgeBasic_Click(object sender, EventArgs e)
27         {
28             Abstraction abs =
29             string res1 = abs
30             string res2 = abs
31             ...
32         }
33     }
34 }
```

99 % No Issues found

Locals Search (Ctrl+E) Search Dep

Name Value

Form1

Test Bridge Pattern

btnBridgeBasic

Warnings 0 of 2 Messages Build + IntelliSense Search Error List

Project File Line Suppression State

Call Stack Breakpoints Exception Settings Command Window Immediate Window Output Error List

Ready

Type here to search

49°F Sunny 02:01 PM 27-11-2024



File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q) BridgePattern\_1262774 Sign in Live Share

Process: [22096] BridgePattern\_1262774.exe Lifecycle Events Thread: Stack Frame:

Toolbox Search Toolbox

General

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

Form1.cs Abstraction.cs ImplementationB.cs Form1.cs [Design] ImplementationA.cs IBridge.cs

BridgePattern\_1262774 BridgePattern\_1262774.Form1 label1\_Click(object sender, EventArgs e)

```
11 namespace BridgePattern_1262774
12 {
13     3 references
14     public partial class Form1 : Form
15     {
16         1 reference
17         public Form1()
18         {
19             InitializeComponent();
20         }
21         1 reference
22         private void label1_Click(object sender, EventArgs e)
23         {
24         }
25         1 reference
26         private void btnBridgeBasic_Click(object sender, EventArgs e)
27         {
28             Abstraction abs =
29             string res1 = abs.
30             string res2 = abs.
```

99 % No Issues found

Locals Search (Ctrl+E) Search Dep

Name	Value
------	-------

Autos Locals Watch 1

Form1

Abstraction: result from ImplementationA operation  
Abstraction: Greetings Bill

OK

Test Bridge Pattern

btnBridgeBasic

Warnings 0 of 2 Messages Build + IntelliSense Search Error List

Project	File	Line	Suppression State
---------	------	------	-------------------

Call Stack Breakpoints Exception Settings Command Window Immediate Window Output Error List

Ready

Type here to search

49°F Sunny 02:01 PM 27-11-2024

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q) BridgePattern\_1262774 Sign in Live Share

Process: [22096] BridgePattern\_1262774.exe Lifecycle Events Thread: Stack Frame:

Toolbox Search Toolbox

General

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

Form1.cs Abstraction.cs ImplementationB.cs Form1.cs [Design] ImplementationA.cs IBridge.cs

BridgePattern\_1262774 BridgePattern\_1262774.Form1 label1\_Click(object sender, EventArgs e)

```
11 namespace BridgePattern_1262774
12 {
13     3 references
14     public partial class Form1 : Form
15     {
16         1 reference
17         public Form1()
18         {
19             InitializeComponent();
20         }
21         1 reference
22         private void label1_Click(object sender, EventArgs e)
23         {
24         }
25         1 reference
26         private void btnBridgeBasic_Click(object sender, EventArgs e)
27         {
28             Abstraction abs =
29             string res1 = abs.
30             string res2 = abs.
```

99 % No issues found

Locals Search (Ctrl+E) Search Dep

Name	Value
------	-------

Autos Locals Watch 1

Form1

Abstraction: result from ImplementationB operation  
Abstraction: GreetingsB and Welcome Bill

OK

Test Bridge Pattern

btnBridgeBasic

Warnings 0 of 2 Messages Build + IntelliSense Search Error List

Project	File	Line	Suppression State
---------	------	------	-------------------

Call Stack Breakpoints Exception Settings Command Window Immediate Window Output Error List

Ready Add to Source Control Select Repository

Type here to search

02:01 PM 27-11-2024

BridgePattern\_1262774

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q)

Debug Any CPU Start

RefinedAbstraction.cs Form1.cs\* ImplementationB.cs Form1.cs [Design]\* Abstraction.cs ImplementationA.cs IBridge.cs

BridgePattern\_1262774

```
28 string res1 = abs.Operation(),
29 string res2 = abs.OperationGreet("Bill");
30 MessageBox.Show(res1 + "\n" + res2);
31
32 // Switch to a different implementation
33 abs = new Abstraction(new ImplementationB());
34 res1 = abs.Operation();
35 res2 = abs.OperationGreet("Bill");
36 MessageBox.Show(res1 + "\n" + res2);
37 }
38
39 1 reference
40 private void label2_Click(object sender, EventArgs e)
41 {
42 }
43
44 1 reference
45 private void btnRefinedAbstraction_Click(object sender, EventArgs e)
46 {
47     RefinedAbstraction rabs = new RefinedAbstraction(new ImplementationA());
48     string res1 = rabs.Operation();
49     string res2 = rabs.OperationGreet("Bill");
50     string res3 = rabs.OperationGreetTime("Sally");
51     MessageBox.Show(res1 + "\n" + res2 + "\n" + res3);
52 }
53
54
55
```

Solution Explorer

Search Solution Explorer (Ctrl+Q)

Solution 'BridgePattern\_1262774'

- BridgePattern\_1262774
  - Properties
  - References
  - Abstraction.cs
  - App.config
  - Form1.cs
    - Form1.Designer.cs
    - Form1.resx
  - IBridge.cs
  - ImplementationA.cs
  - ImplementationB.cs
  - Program.cs
  - RefinedAbstraction.cs

Solution Explorer Git Changes

Properties

99 % No issues found Ln: 54 Ch: 2 SPC CRLF

Output

Show output from: Debug

'BridgePattern\_1262774.exe' (CLR v4.0.30319: BridgePattern\_1262774.exe): Loaded 'C:\Windows\Microsoft.Net\assembly\GAC\_MSIL\System.Windows.Forms\v4.0.4.0.0\_\_b77a5c561934e089\System.Windows.Forms.dll'. Skipped loading symbols. Module is optimized and the debugger symbols have been stripped.

'BridgePattern\_1262774.exe' (CLR v4.0.30319: BridgePattern\_1262774.exe): Loaded 'C:\Windows\Microsoft.Net\assembly\GAC\_MSIL\System\v4.0.4.0.0\_\_b77a5c561934e089\System.dll'. Skipped loading symbols. Module is optimized and the debugger symbols have been stripped.

'BridgePattern\_1262774.exe' (CLR v4.0.30319: BridgePattern\_1262774.exe): Loaded 'C:\Windows\Microsoft.Net\assembly\GAC\_MSIL\System.Drawing\v4.0.4.0.0\_\_b03f5f7f11d50a3a\System.Drawing.dll'. Skipped loading symbols. Module is optimized and the debugger symbols have been stripped.

'BridgePattern\_1262774.exe' (CLR v4.0.30319: BridgePattern\_1262774.exe): Loaded 'C:\Windows\Microsoft.Net\assembly\GAC\_MSIL\System.Configuration\v4.0.4.0.0\_\_b03f5f7f11d50a3a\System.Configuration.dll'. Skipped loading symbols. Module is optimized and the debugger symbols have been stripped.

'BridgePattern\_1262774.exe' (CLR v4.0.30319: BridgePattern\_1262774.exe): Loaded 'C:\Windows\Microsoft.Net\assembly\GAC\_MSIL\System.Core\v4.0.4.0.0\_\_b77a5c561934e089\System.Core.dll'. Skipped loading symbols. Module is optimized and the debugger symbols have been stripped.

'BridgePattern\_1262774.exe' (CLR v4.0.30319: BridgePattern\_1262774.exe): Loaded 'C:\Windows\Microsoft.Net\assembly\GAC\_MSIL\System.Xml\v4.0.4.0.0\_\_b77a5c561934e089\System.Xml.dll'. Skipped loading symbols. Module is optimized and the debugger symbols have been stripped.

'BridgePattern\_1262774.exe' (CLR v4.0.30319: BridgePattern\_1262774.exe): Loaded 'C:\Windows\Microsoft.Net\assembly\GAC\_MSIL\Accessibility\v4.0.4.0.0\_\_b03f5f7f11d50a3a\Accessibility.dll'. Skipped loading symbols. Module is optimized and the debugger symbols have been stripped.

The program '[22096] BridgePattern\_1262774.exe' has exited with code 0 (0x0).

Error List Output

Ready

Type here to search

Add to Source Control Select Repository

02:06 PM 27-11-2024



BridgePattern\_1262774

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q)

Process: [19196] BridgePattern\_1262774.exe Lifecycle Events Thread: Stack Frame:

Toolbox Search Toolbox

General

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

RefinedAbstraction.cs Form1.cs ImplementationB.cs Form1.cs [Design] Abstraction.cs ImplementationA.cs IBridge.cs

BridgePattern\_1262774

```
28  
29 string res1 = abs.Operation();  
30 string res2 = abs.OperationGreet("Bill");  
31 MessageBox.Show(res1 + "\n" + res2);  
32  
33 // Switch to a different implementation  
34 abs = new Abstraction(new ImplementationB());  
35 res1 = abs.Operation();  
36 res2 = abs.OperationGreet("Bill");  
37 MessageBox.Show(res1 + "\n" + res2);  
38  
39 1 reference  
40 private void label2_Click(object sender, EventArgs e)  
41 {  
42  
43  
44 1 reference  
45 private void btnRefinedAbstraction_Click(object sender, EventArgs e)  
46 {  
47     RefinedAbstraction rabs = new RefinedAbstraction(new ImplementationA());  
48     string res1 = rabs.Operation();
```

label2\_Click(object sender, EventArgs e)

Form1

Test Bridge Pattern Test Refined Abstraction

btnBridgeBasic btnRefinedAbstraction

0 Errors 0 Warnings 0 of 4 Messages Build + IntelliSense Search Error List

Code Description Project File Line Suppression State

Call Stack Breakpoints Exception Settings Command Window Immediate Window Output Error List

Ready

Add to Source Control Select Repository

49°F Sunny 02:06 PM 27-11-2024

BridgePattern\_1262774

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q)

Process: [19196] BridgePattern\_1262774.exe Lifecycle Events Thread: Stack Frame:

Toolbox Search Toolbox

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

RefinedAbstraction.cs Form1.cs ImplementationB.cs Form1.cs [Design] Abstraction.cs ImplementationA.cs IBridge.cs

BridgePattern\_1262774

```
28  
29 string res1 = abs.Operation();  
30 string res2 = abs.OperationGreet("Bill");  
31 MessageBox.Show(res1 + "\n" + res2);  
32  
33 // Switch to a different implementation  
34 abs = new Abstraction(new ImplementationB());  
35 res1 = abs.Operation();  
36 res2 = abs.OperationGreet("Bill");  
37 MessageBox.Show(res1 + "\n" + res2);  
38  
39 1 reference  
40 private void label2_Click(object sender, EventArgs e)  
41 {  
42  
43  
44 1 reference  
45 private void btnRefinedAbstraction_Click(object sender, EventArgs e)  
46 {  
47     RefinedAbstraction rabs = new RefinedAbstraction(new  
48     string res1 = rabs.Operation();
```

Form1

Test Bridge Pattern Test Refined Abstraction

btnBridgeBasic btnRefinedAbstraction

Abstraction: result from ImplementationA operation  
Abstraction: Greetings Bill  
RefinedAbstraction: Greetings Sally: Time of call = 27-11-2024 02:06:23 PM

OK

0 Errors 0 Warnings 0 of 4 Messages Build + IntelliSense Search Error List

Project File Line Suppression State

Call Stack Breakpoints Exception Settings Command Window Immediate Window Output Error List

Ready

Add to Source Control Select Repository

49°F Sunny 02:06 PM 27-11-2024

File Edit View Git Project Build Debug XML Test Analyze Tools Extensions Window Help Search (Ctrl+Q) TestD1\_1262774 Sign in Live Share

Process: [15832] TestD1\_1262774.exe Lifecycle Events Thread: Stack Frame:

Form1.cs BridgeDataAccess.cs DataAccess.cs Form1.cs [Design] App.config DataAccessMySQL.cs IDataAccess.cs

Search Toolbox

General

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <connectionStrings>
    <add name="MYDBCONN"
      connectionString="server=DESKTOP-SBHVA7M\SQLEXPRESS;integrated security=true;database=ProductsDB; TrustServerCertificate=True"/>
    <add name="MYDBCONNMYSQL"
      connectionString="server=localhost;UserID=root;Password=duportail;Database=ProductsDB; TrustServerCertificate=True"/>
  </connectionStrings>
</configuration>
```

99% No issues found

Locals Search (Ctrl+E) Search Depth:

Name Value

Autos Locals Watch 1

Form1

Electronics

	ProductID	ProductName	CategoryID
▶	12	Loptopo	1
*	12		

Ln: 9 Ch: 17 TABS CRLF

Build + IntelliSense Search Error List

File Line Suppression State

Call Stack Breakpoints Exception Settings Command Window Immediate Window Output Error List

Ready Add to Source Control Select Repository 51°F Sunny 02:40 PM 27-11-2024

File Edit View Git Project Build Debug XML Test Analyze Tools Extensions Window Help Search (Ctrl+Q) TestD1\_1262774 Sign in Live Share

Process: [15832] TestD1\_1262774.exe Lifecycle Events Thread: Stack Frame:

Form1.cs BridgeDataAccess.cs DataAccess.cs Form1.cs [Design] App.config DataAccessMySQL.cs IDataAccess.cs

Search Toolbox

General

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
  <connectionStrings>
    <add name="MYDBCONN"
      connectionString="server=DESKTOP-SBHVA7M\SQLEXPRESS;integrated security=true;database=ProductsDB; TrustServerCertificate=True"/>
    <add name="MYDBCONNMYSQL"
      connectionString="server=localhost;UserID=root;Password=duportail;Database=ProductsDB; TrustServerCertificate=True"/>
  </connectionStrings>
</configuration>
```

99% No issues found

Locals

Search (Ctrl+E) Search Depth:

Name Value

Autos Locals Watch 1

Form1

Clothing

	ProductID	ProductName	CategoryID
▶	2	Calculator	2
*			

Ln: 9 Ch: 17 TABS CRLF

Build + IntelliSense Search Error List

File Line Suppression State

Call Stack Breakpoints Exception Settings Command Window Immediate Window Output Error List

Ready

Type here to search

51°F Sunny 02:40 PM 27-11-2024

FileEditViewGitProjectBuildDebugFormatTestAnalyzeToolsExtensionsWindowHelpSearch (Ctrl+Q)

TestD1\_1262774Sign inLive Share

Process: [15832] TestD1\_1262774.exeLifecycle Events Thread:Stack Frame:

Form1.csBridgeDataAccess.csDataAccess.csForm1.cs [Design]App.configDataAccessMySQL.csIDataAccess.cs

General

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

Form1

Locals

Search (Ctrl+E)Search Depth:

Name	Value	Type
------	-------	------

AutosLocalsWatch 1

Call StackBreakpointsException SettingsCommand WindowImmediate WindowOutputError List

Form1

Clothing

	ProductID	ProductName	CategoryID
	2	Calculator	2
**			

Ready

Type here to search

15, 15816 x 489

51°F Sunny02:40 PM27-11-2024



File Edit View Git Project Build Debug Format Test Analyze Tools Extensions Window Help Search (Ctrl+Q) TestD1\_1262774 Sign in Live Share

Form1.cs

Form1

DESKTOP-SBHVA7M\SQLEXPRESS.ProductsDB - dbo.Products - Microsoft SQL Server Management Studio

File Edit View Project Query Designer Tools Window Help

Object Explorer

Connect

DESKTOP-SBHVA7M\SQLEXPRESS (SQL Serv

- Databases
  - System Databases
  - Database Snapshots
  - ProductsDB
    - Database Diagrams
    - Tables
      - System Tables
      - FileTables
      - External Tables
      - Graph Tables
      - dbo.Categories
      - dbo.Products
    - Views
    - External Resources
    - Synonyms
    - Programmability
    - Query Store
    - Service Broker
    - Storage
    - Security
  - StudentDB\_1262774
  - StudentDbF2024
- Security
  - Server Objects
  - Replication
  - Management
  - XEvent Profiler

DESKTOP-SBHVA7M\S...B - dbo.Products

ProductID	ProductName	CategoryID
12	Calculator	2
12	Loptopo	1
NULL	NULL	NULL

DESKTOP-SBHVA7M\S... - dbo.Categories

Output

Show output fr

'TestD1\_126

'TestD1\_126

'TestD1\_126

The thread

The thread

The thread

The thread

The program

Error List

Ready

Ready

Add to Source Control

Select Repository

Type here to search

51°F Sunny

02:41 PM

27-11-2024

Microsoft SQL Server Management Studio (SSMS) interface showing a query result for the `dbo.Categories` table in the `ProductsDB` database.

The main window displays the query result for `dbo.Categories` with the following data:

CategoryID	CategoryName
1	Electronics
2	Clothing
NULL	NULL

The Object Explorer on the left shows the database structure, including the `ProductsDB` database and its tables (`dbo.Categories` and `dbo.Products`).

The bottom status bar indicates the application is **Ready**.

Windows Taskbar at the bottom shows the system clock as 02:41 PM on 27-11-2024, with a temperature of 51°F and weather condition Sunny.

FileEditViewGitProjectBuildDebugTestAnalyzeToolsExtensionsWindowHelpSearch (Ctrl+Q)TestD1\_1262774Sign inLive Share

Process: [3208] TestD1\_1262774.exeLifecycle EventsThread:Stack Frame:

Form1.csBridgeDataAccess.csDataAccess.csForm1.cs [Design]App.configDataAccessMySQLcsIDataAccess.cs

TestD1\_1262774TestD1\_1262774.DataLayer.DataAccessMySQLconnStr

General

There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

```
1 using System;
2 using System.Collections.Generic;
3 using MySql.Data.MySqlClient;
4 using System.Data;
5 using System.Linq;
6 using System.Text;
7 using System.Threading.Tasks;
8 using System.Configuration;
9 using System.Data.SqlClient;
10
11 namespace TestD1_1262774.DataLayer
12 {
13     0 references
14     internal class DataAccessMySQL : IDataAccess
15     {
16         string connStr =
17             ConfigurationManager.ConnectionStrings["MYDBCNNM"]
18         4 references
19         public DataTable GetManyRowsCols(string sql)
20         {
21             MySqlConnection conn = new MySqlConnection(connStr);
22             DataTable dt = new DataTable();
23             try
24             {
25                 conn.Open();
26                 using (MySqlCommand cmd = new MySqlCommand(sql, conn))
27                 {
28                     dt = cmd.ExecuteReader().ToDataTable();
29                 }
30             }
31             catch { }
32             return dt;
33         }
34     }
35 }
```

99%

Locals

Search (Ctrl+E)Search Depth:NameValue

Form1

Clothing

	ProductID	ProductName	CategoryID
▶	2	Calculator	2
*			

Ln: 8Ch: 1SPCCRLF

Build + IntelliSenseSearch Error List

File	Line	Suppression State
DataAccessMySQL.cs	34	Active
Form1.cs	24	Active

Call StackBreakpointsException SettingsCommand WindowImmediate WindowOutputError List

ReadyAdd to Source ControlSelect RepositoryUSD/GBP -0.85%03:32 PM27-11-2024

Visual Studio interface showing a C# project named TestD1\_1262774. The code editor displays the following code in `DataAccessMySQL.cs`:

```
1 using System;
2 using System.Collections.Generic;
3 using MySql.Data.MySqlClient;
4 using System.Data;
5 using System.Linq;
```

The `connStr` variable is defined as:

```
connStr
```

A MySQL 8.0 Command Line Client window is open, showing the output of the following commands:

```
mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| productsdb |
| sys |
+-----+
5 rows in set (0.01 sec)

mysql> USE productsdb;
Database changed
mysql> SHOW TABLES;
+-----+
| Tables_in_productsdb |
+-----+
| categories |
| products |
+-----+
2 rows in set (0.00 sec)

mysql>
```

The `Form1` window displays a dropdown menu with the value "Clothing" selected. Below the dropdown is a table with the following data:

	ProductID	ProductName	CategoryID
▶	2	Calculator	2
*			

The Windows taskbar at the bottom shows the system clock as 03:33 PM on 27-11-2024.

Visual Studio interface showing a C# project named TestD1\_1262774. The main editor displays the code for `DataAccessMySQL.cs` within the `TestD1_1262774.DataLayer` namespace. The code includes using statements for `System`, `System.Collections.Generic`, `MySQL.Data.MySqlClient`, `System.Data`, `System.Linq`, `System.Text`, `System.Threading.Tasks`, `System.Configuration`, and `System.Data.SqlClient`. It defines an internal class `DataAccessMySQL` that implements `IDataAccess`. The class contains a `connStr` property and a `GetManyRowsCols` method that uses `MySQLConnection` to execute a query and return a `DataTable`.

The `connStr` is defined as:

```
string connStr = ConfigurationManager.ConnectionStrings["MYDBCONNMYSQL"].ConnectionString;
```

The `GetManyRowsCols` method is defined as:

```
public DataTable GetManyRowsCols(string sql)
{
    MySqlConnection conn = new MySqlConnection(connStr);
    DataTable dt = new DataTable();
    try
    {
        // ...
    }
}
```

The `MySQL 8.0 Command Line Client` window is open, showing the output of the `SHOW DATABASES;` and `USE productsdb;` commands. The output shows the following databases:

```
mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| productsdb |
| sys |
+-----+
5 rows in set (0.01 sec)
```

The output of the `SHOW TABLES;` command shows the following tables:

```
mysql> SHOW TABLES;
Database changed
mysql> SHOW TABLES;
+-----+
| Tables_in_productsdb |
+-----+
| categories |
| products |
+-----+
2 rows in set (0.00 sec)
```

The `Locals` window is empty. The `Output` window shows the command line client output.



Visual Studio interface showing a C# project named TestD1\_1262774. The main editor displays the code for `DataAccessMySQL.cs` within the `TestD1_1262774.DataLayer` namespace. The code includes using statements for `System`, `System.Collections.Generic`, `MySQL.Data.MySqlClient`, `System.Data`, `System.Linq`, `System.Text`, `System.Threading.Tasks`, `System.Configuration`, and `System.Data.SqlClient`. It defines an internal class `DataAccessMySQL` implementing `IDataAccess`, with a `connStr` property and a `GetManyRowsCols` method.

The `MySQL 8.0 Command Line Client` window shows the following output:

```
mysql> USE productsdb;
Database changed
mysql> SHOW TABLES;
+-----+
| Tables_in_productsdb |
+-----+
| categories            |
| products              |
+-----+
2 rows in set (0.00 sec)

mysql> SHOW DATABASES;
+-----+
| Database              |
+-----+
| information_schema    |
| mysql                 |
| performance_schema    |
| productsdb            |
| sys                   |
+-----+
5 rows in set (0.00 sec)

mysql>
```

The bottom status bar indicates the application is Ready, and the system clock shows 03:34 PM on 27-11-2024.