

: C# ()

: (csharp1@korea.com)

: DB-LAB

: 2001 6 9

..

1. System.Data.ADO -> System.Data.OleDb

ADO.NET managed provider 가
ADO가 OleDb 가 .

2. System.Data.SQL -> System.Data.SqlClient

SqlClient managed provider

.

3. DataSetCommand -> DataAdapter

DataSet DataSetCommand Command
select, update/fill Command Collection .

4. Connection.CreateCommand() -> new Command()

Connection CreateCommand() Connection new
가 .

5. FillDataSet() -> Fill()

FillDataSet DataTable ^^;; DataSet DataTable, DataRelation
DB 가

Update()

.

6. Command.Execute(out DataReader myDR) -> DataReader myDR = Command.ExecuteReader();

out parameter "

" ^^;; 가

ExecuteNonQuery ExecuteReader()

DataReader .

7. insert/update/delete command SqlCommandBuilder 가

. Adapter 가 update insert

...

..

SqlCommandBuilder myBuilder = new SqlCommandBuilder (myAdapter);

8. Connection.StartTransaction() 가 Transaction .
 transaction connection
 .. Rollback() Commit() Connection Transaction
 . SqlTransaction DB
 rollback .

9. connection pooling transction SQL managed provider .
 Connection pooling 가
 .
 . !

1. ADO ADO.NET

ADO는 MS Access, MS SQL Server, Oracle, DAO, RDO와 같은 데이터베이스를 연결하고 데이터를 가져오는 데 사용됩니다. ADO는 .NET Framework에서 ADO.NET으로 대체되었습니다. ADO.NET은 ADO의 기능을 .NET Framework에 통합하여 더 강력하고 유연하게 만들었습니다.

2. ADO.NET

2-1. System.Data

- DataSet

2-2. System.Data.ADO

- ADO Managed Provider

2-3. System.Data.SQL

- SQL Managed Provider

2-4. System.Data.XML

- XML

3 ADO.NET

ADO.NET은 ADO.NET Managed Provider를 사용하여 데이터베이스에 연결하고 데이터를 가져오는 데 사용됩니다. DataSet은 데이터를 저장하고 관리하는 데 사용됩니다.

3-1. Managed Provider()

1)

- Connection : (ADOConnection, SqlConnection)
- Command : (ADOCommand, SqlCommand)
- DataReader : , 가
- DataSetCommand : DataSet
Selectcommand, InsertCommand, DeleteCommand

2) Managed Provider

- OLEDB Provider ADO Managed Provider : 가
- SQL Server SQL Managed Provider : SQL Server

3-2. DataSet()

- 1)
- DataTable :

- DataView : ,

가 가

- DataRow :

- DataRowView : DataRow

- DataColumn :

.....

4. Managed Provider()

4.1 Connection

```
;  
  
ADOConnection myConnection;  
myConnection = new ADOConnection();  
myConnection.ConnectionString="Provider=OLE DB ;Data  
Source= ;Persist Security  
Info=False;id=userid;Password=userpw";  
myconnection.Open();
```

4.1.1

ConnectionString	
ConnectionTimeout	
Database	
DataSource	
Password	
State	
User ID	

4.1.2

BeginTransaction	

Clone	.
Close	.
CommitTransaction	.
Open	가 .
RollbackTransaction	가 BeginTransaction .
ToString	

4.2 Command

;

<pre>ADOCommand myCmd = new ADOCommand(sql ,); myConnection.Open(); myCmd.Execute(out reader);</pre>

4.2.1

ActivConnection	ADOCommand	SQLConnection
CommandText	sql	.
CommandTimeout	wait	가
CommandType	CommandType.Text ,	CommandType.StoredProcedure .
Parameters	ADOParameters	
RecordsAffected	1	1

4.2.2

Execute	Datareader .
ExecuteNonQuery	.

4.3 DataReader

;

가

,

,

ADOConnection .Read() ADOCommand
Execute .

```
ADOConnection myConnection;
ADODataReader reader;
myConnection = new ADOConnection();
myConnection.ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data
Source=f:\\c#\\consoleSample\\sql\\board.mdb;Persist Security Info=False";
ADOCommand myCmd = new ADOCommand("select * from adotest",myConnection);
    myConnection.Open();
    myCmd.Execute(out reader);
    while(reader.Read())
    {
        txtname.Text= txtname.Text + reader["name"].ToString();
    }
```

4.3.1

FieldCount	.
HasMoreResults	sql .
HasMoreRows	가 .
IsClosed	DataReader가 .

4.3.2

Close	Reader .
GetBoolean	
Getbyte	
GetBytes	
GetChar	
GetChars	
GetDataTypeName	
GetDateTime	
GetDecimal	

GetDouble	
GetFieldType	
GetFloat	
GetInt16	16
GetInt32	32
GetInt64	64
GetName	
GetString	
GetValue	.
GetValues	.
IsNull	.
NextResult	sql 가 ,
Read	.

4.4 ADOParameter

;

jdbc

PrepareStment 가 ' @name '

sql .

ADOCommand myCmd = new ADOCommand("select * from adotest where name=@name",myConnection);
int imsi = myCmd.Parameters.Add(new ADOParameter("@name",ADODBType.Char,8));
myCmd.Parameters["@name"].Value=" ";

4.4.1

DataType	
Direction	. Input,output,inputoutput
IsNullable	가 null .
ParameterName	.
Precision	Value .
Size	.

	Int32, Datetime, Varchar, Char
Value	Parameter

Connection, ADOCommand, DataReader

SQL Server

access SQL Server

5.

; board adotest

5.1 adotest

		id	name	email
id		1		phb418@hanmail.net
name		2		kkk@hanmail.net
email		3		stytank@hanmail.net

1)

가가 “가

namespace databaseTest

{

using System;

using System.Drawing;

using System.Collections;

using System.ComponentModel;

using System.Windows.Forms;

using System.Data;

using System.Data.ADO;

public class Form1 : System.Windows.Forms.Form

{

private System.ComponentModel.Container components;

```
        private System.Windows.Label label1;
        private System.Data.ADO.ADOConnection myConnection;
    public Form1()
    {
        InitializeComponent();

        //
        // . ADO
        // access

        //myConnection = new ADOConnection("Provider=Microsoft.Jet.OLEDB.4.0;Data
        Source=D:\\webtest\\BOARD\\taeyo.mdb;Persist Security Info=False");
        myConnection = new ADOConnection();

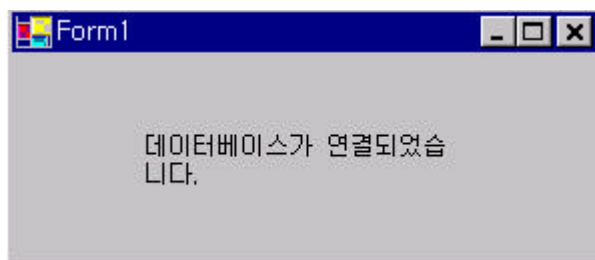
        //
        // id,pw,
        // (db
        // )
        myConnection.ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data
        Source=f:\\c#\\consoleSample\\sql\\board.mdb;Persist Security Info=False";

        try
        {
            //
            // .(
            // 가
            // .)

            myConnection.Open();
            label1.Text="
            가
            . ";
        }
        catch(Exception e)
        {
            label1.Text="
            . ";
        }
        finally
        {
            if(myConnection != null)
            {
                //
                myConnection.Close();
            }
        }
    }

    public override void Dispose()
```

```
{
    base.Dispose();
    components.Dispose();
}
private void InitializeComponent()
{
    this.components = new System.ComponentModel.Container();
    this.label1 = new System.Windows.Forms.Label();
    label1.Location = new System.Drawing.Point(64, 40);
    label1.Text = "label1";
    label1.Size = new System.Drawing.Size(160, 48);
    label1.TabIndex = 0;
    this.Text = "Form1";
    this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.None;
    this.Controls.Add(this.label1);
}
public static void Main(string[] args)
{
    Application.Run(new Form1());
}
}
```



2) select

```
namespace databaseTest2
{
    using System;
```

```
using System.Drawing;
using System.Collections;
using System.ComponentModel;
using System.Windows.Forms;
using System.Data;
    using System.Data.ADO;

public class Form1 : System.Windows.Forms.Form
{
    private System.ComponentModel.Container components;
        private System.Windows.Forms.Label label2;
        private System.Windows.Forms.Label label1;
        private System.Windows.Forms.Button button1;
        private System.Windows.Forms.TextBox txtemail;
        private System.Windows.Forms.TextBox txtname;
        private System.Data.ADO.ADOConnection myConnection;
        private System.Data.ADO.ADODataReader reader;
    public Form1()
    {
        InitializeComponent();

        myConnection = new ADOConnection();

        myConnection.ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data
Source=f:\\c#\\consoleSample\\sql\\board.mdb;Persist Security Info=False";

    }

    public override void Dispose()
    {
        base.Dispose();
        components.Dispose();
    }
}
```

```
private void InitializeComponent()
{
    this.components = new System.ComponentModel.Container ();
    this.button1 = new System.Windows.Forms.Button ();
    this.label1 = new System.Windows.Forms.Label ();
    this.label2 = new System.Windows.Forms.Label ();
    this.txtemail = new System.Windows.Forms.TextBox ();
    this.txtname = new System.Windows.Forms.TextBox ();
    button1.Location = new System.Drawing.Point (168, 232);
    button1.Size = new System.Drawing.Size (104, 32);
    button1.TabIndex = 2;
    button1.Text = "select";
    button1.Click += new System.EventHandler
(this.button1_Click);
    label1.Location = new System.Drawing.Point (64, 24);
    label1.Text = " ";
    label1.Size = new System.Drawing.Size (56, 16);
    label1.TabIndex = 3;
    label2.Location = new System.Drawing.Point (320, 24);
    label2.Text = " ";
    label2.Size = new System.Drawing.Size (56, 16);
    label2.TabIndex = 4;
    txtemail.Location = new System.Drawing.Point (248, 48);
    txtemail.Multiline = true;
    txtemail.TabIndex = 1;
    txtemail.Size = new System.Drawing.Size (208, 160);
    txtname.Location = new System.Drawing.Point (24, 48);
    txtname.Multiline = true;
    txtname.TabIndex = 0;
    txtname.Size = new System.Drawing.Size (160, 160);
    this.Text = "Form1";
    this.AutoScaleBaseSize = new System.Drawing.Size (6, 14);
    this.ClientSize = new System.Drawing.Size (480, 271);
    this.Controls.Add (this.label2);
    this.Controls.Add (this.label1);
    this.Controls.Add (this.button1);
```

```
        this.Controls.Add (this.txtemail);
        this.Controls.Add (this.txtname);
    }

    //
    //
    //
    protected void button1_Click (object sender, System.EventArgs e)
    {
        // SQL
        ADOCommand myCmd = new ADOCommand("select * from adotest",myConnection);
        try
        {
            //
            myConnection.Open();
            //
            // SQL reader
            myCmd.Execute(out reader);

            //
            while(reader.Read())
            {
                txtname.Text= txtname.Text + reader["name"].ToString();
                txtemail.Text=txtemail.Text + reader["email"].ToString();
            }

        }
        catch(Exception E)
        {
            //
        }
    }

    public static void Main(string[] args)
    {
        Application.Run(new Form1());
    }
}
```

```

    }
}

```

3) `select (Parameter)`

```

        ' '
        select

        .
        .

namespace databaseTest3
{
    using System;
    using System.Drawing;
    using System.Collections;
    using System.ComponentModel;
    using System.Windows.Forms;
    using System.Data;
    using System.Data.ADO;

    public class Form1 : System.Windows.Forms.Form
    {

        private System.ComponentModel.Container components;
    }
}

```

```
private System.Windows.Button btExit;
private System.Windows.Button btFind;
private System.Windows.TextBox txtName;
private System.Windows.Label label4;
private System.Windows.Label label3;
private System.Windows.Label label2;
private System.Windows.TextBox textBox1;
private System.Windows.Label label1;
private System.Data.ADO.ADOConnection myConnection;
private System.Data.ADO.ADODataReader reader;
private System.Data.ADO.ADOCommand myCmd;

public Form1()
{
    InitializeComponent();
    myConnection = new ADOConnection();

    //myConnection.ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data
    Source=f:\\c#\\consoleSample\\sql\\board.mdb;Persist Security Info=False";

    myConnection.ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;Persist Security
    Info=False";

    myConnection.DataSource="f:\\c#\\consoleSample\\sql\\board.mdb";
}

public override void Dispose()
{
    base.Dispose();
    components.Dispose();
}

private void InitializeComponent()
{
    this.components = new System.ComponentModel.Container ();
```



```
this.label1 = new System.Windows.Label ();
this.label3 = new System.Windows.Label ();
this.label2 = new System.Windows.Label ();
this.btFind = new System.Windows.Button ();
this.txtName = new System.Windows.TextBox ();
this.textBox1 = new System.Windows.TextBox ();
this.label4 = new System.Windows.Label ();
this.btExit = new System.Windows.Button ();
//@this.TrayHeight = 0;
//@this.TrayLargeIcon = false;
//@this.TrayAutoArrange = true;
label1.Location = new System.Drawing.Point (104, 32);
label1.Size = new System.Drawing.Size (224, 24);
label1.TabIndex = 0;
label3.Location = new System.Drawing.Point (8, 128);
label3.Text = " ";
label3.Size = new System.Drawing.Size (72, 32);
label3.TabIndex = 3;
label2.Location = new System.Drawing.Point (8, 24);
label2.Text = " ";
label2.Size = new System.Drawing.Size (64, 32);
label2.TabIndex = 2;
btFind.Location = new System.Drawing.Point (240, 72);
btFind.Size = new System.Drawing.Size (80, 32);
btFind.TabIndex = 6;
btFind.Text = " ";
btFind.Click += new System.EventHandler
(this.btFind_Click);

txtName.Location = new System.Drawing.Point (96, 80);
txtName.TabIndex = 5;
txtName.Size = new System.Drawing.Size (104, 21);
textBox1.Location = new System.Drawing.Point (96, 128);
textBox1.TabIndex = 1;
textBox1.Size = new System.Drawing.Size (232, 21);
label4.Location = new System.Drawing.Point (8, 80);
label4.Text = " ";
```

```
        label4.Size = new System.Drawing.Size (64, 32);
        label4.TabIndex = 4;
        btExit.Location = new System.Drawing.Point (248, 168);
        btExit.Size = new System.Drawing.Size (80, 32);
        btExit.TabIndex = 7;
        btExit.Text = "    ";
        btExit.Click += new System.EventHandler
(this.btExit_Click);

        this.Text = "Form1";
        this.AutoScaleBaseSize = new System.Drawing.Size (6, 14);
        this.ClientSize = new System.Drawing.Size (344, 203);
        this.Controls.Add (this.btExit);
        this.Controls.Add (this.btFind);
        this.Controls.Add (this.txtName);
        this.Controls.Add (this.label4);
        this.Controls.Add (this.label3);
        this.Controls.Add (this.label2);
        this.Controls.Add (this.textBox1);
        this.Controls.Add (this.label1);

    }

    protected void btExit_Click (object sender, System.EventArgs e)
    {
        this.Close();
    }

    //
    //
    //

    protected void btFind_Click (object sender, System.EventArgs e)
    {
        try
        {
            myCmd = new ADOCommand("select * from adotest
```

```
where name=@name",myConnection);  
        myCmd.Parameters.Add(new  
ADOParameter("@name",ADODBType.Char));  
        myConnection.Open();  
        //  
        myCmd.Parameters["@name"].Value=txtName.Text;  
        //label1.Text="" + imsi;  
        myCmd.Execute(out reader);  
        label1.Text="";  
  
        while(reader.Read())  
        {  
            textBox1.Text=reader["email"].ToString();  
        }  
    }  
    catch (Exception E)  
    {  
        label1.Text="";  
    }  
}  
  
public static void Main(string[] args)  
{  
    Application.Run(new Form1());  
}  
}
```

가

6. (DataSetCommand)

;

DataSet

가

가

...

```
// connection
ADOConnection myConnection = new ADOConnection();
myConnection.ConnectionString="Provider=Microsoft.Jet.OLEDB.4.0;Data
Source=f:\c#\consoleSample\sql\board.mdb;Persist Security Info=False";
// datasetCommand
ADODatasetCommnad dsc= new ADODatasetCommand(new ADOCommand("select * from
adotest",myConnection));
// dataset
DataSet ds = new DataSet();
// dsadotest 가
dsc.FillDataSet(ds,"dsadotest");
```

```
// ADOCommand myCmd = ADOCommnad("select * from aodtest",myConnection);
// dsc = new ADODatasetCommand()
// dsc=myCmd;
```

DataSet

.. c#

2

가 100%
<http://www.ksrc.or.kr/~since98>
.. csharp1@korea.com phb418@hanmail.net
.....