



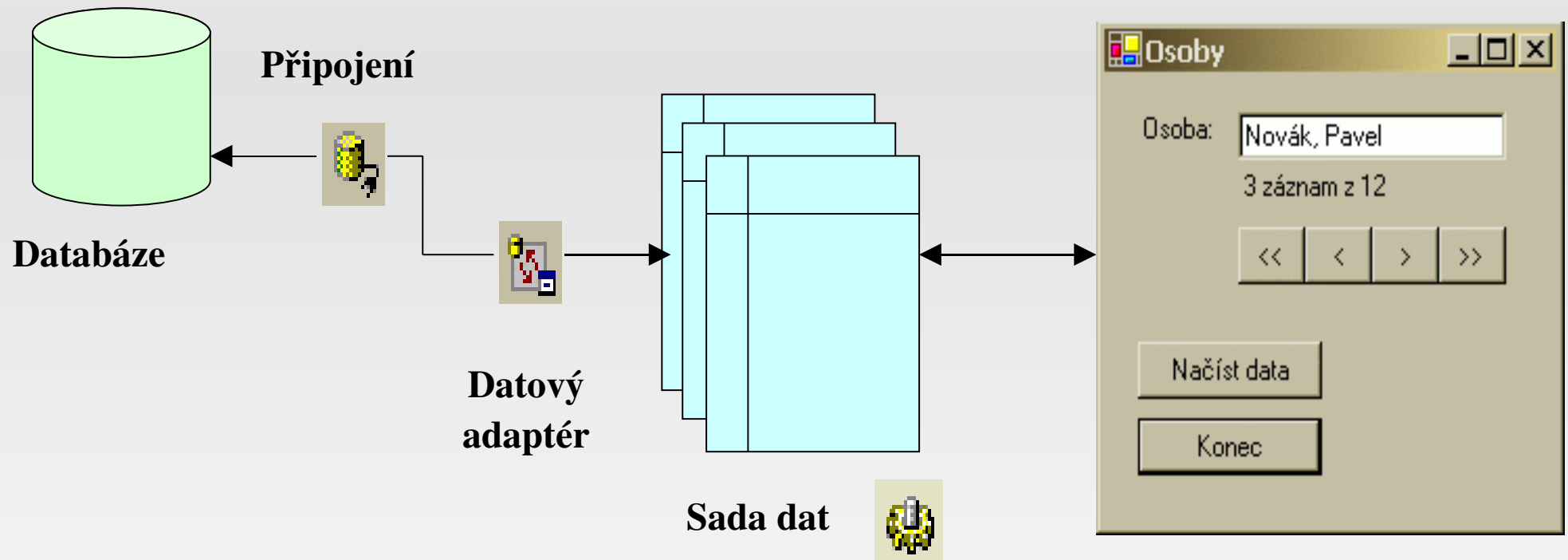
ADO .NET

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- Access Data Objects
- Connection
- DataAdapter
- DataSet
- SqlCommand
- SqlDataReader



Formulář s vázanými ovládacími prvky



- Připojení k datovému zdroji
- Různé druhy zdrojů
- SqlConnection (MS SQL Server)
- OLE DB Connection (MS Access (JET), MS Excel, DBF, ...)
- ODBC Connection
- Oracle Connection
- ...



- using System.Data;
- using System.Data.SqlClient;

- SqlConnection
- SqlConnection.ConnectionString



```
sqlConnection = new  
System.Data.SqlClient.SqlConnection();
```

```
sqlConnection.ConnectionString = "workstation  
id=GIS;packet size=4096;integrated " +  
    "security=SSPI;data source=GIS;persist security  
info=False;initial catalog=master";
```



```
connectionString =  
"Provider=Microsoft.Jet.OLEDB.4.0;" + _  
"Data Source=D:\Pokusna.mdb;"
```

```
New OleDbConnection(connectionString)
```



```
try
{
    sqlConnection.Open();
}
catch (Exception ex)
{
    Console.Write(ex.Message);
}
```




- ServerExplorer
- Průvodce vytvořením spojení
- Průvodce vytvořením adapteru
- Průvodce vytvořením datové sady

ADO .NET Usnadnění 2/5



The screenshot displays the Microsoft Visual Basic .NET IDE interface. The main window is titled "SimpleOpen - Microsoft Visual Basic .NET [design] - Form1.vb". The menu bar includes File, Edit, View, Project, Build, Debug, Tools, Window, and Help. The toolbar contains various icons for file operations and development tools. The "Data Link Properties" dialog box is the central focus, with the "Provider" tab selected. It prompts the user to "Select the data you want to connect to:" and lists several OLE DB providers. The "Microsoft Jet 4.0 OLE DB Provider" is highlighted. Below the list are "Next >>", "OK", "Cancel", and "Help" buttons. The "Server Explorer" on the left shows a tree view of "Data Connections" for "ACCESS.D:\temp\body.", including a "Tables" folder with entries like "Bob", "ID", "Pole1", etc. The "Solution Explorer" on the right shows the project "SimpleOpen" with files like "References", "Web References", "AssemblyInfo.vb", "DataList.vb", and "DataList2.vb". The "Properties" window at the bottom right shows the properties for the selected "ID" property, with a table of values:

(Name)	ID
DataType	adInteger
Length	0
Owner	
Precision	10
Type	Column

The "Output" window at the bottom shows the text "otevření spojení". The status bar at the bottom indicates "Ready".

ADO .NET Usnadnění 3/5



The screenshot shows the Visual Studio IDE with the Data Adapter Configuration Wizard open. The wizard is titled "Data Adapter Configuration Wizard" and is currently on the "Choose a Query Type" step. The "Data" toolbox on the left shows various data-related components, with "OleDbDataAdapter" selected. The wizard's main area contains the following text and options:

Choose a Query Type
The data adapter uses SQL statements or stored procedures.

How should the data adapter access the database?

- Use SQL statements**
Specify a Select statement to load data, and the wizard will generate the Insert, Update, and Delete statements to save data changes.
- Create new stored procedures**
Specify a Select statement, and the wizard will generate new stored procedures to select, insert, update, and delete records.
- Use existing stored procedures**
Choose an existing stored procedure for each operation (select, insert, update and delete).

At the bottom of the wizard, there are four buttons: "Cancel", "< Back", "Next >", and "Finish".

Below the wizard, the "OleDbDataAdapter1" component is visible in the design area.

ADO .NET Usnadnění 4/5



Query Builder

zamestnanci

- * (All Columns)
- id
- jmeno
- mesto
- prijmeni

Column	Alias	Table	Output	Sort Type	Sort Order	Criteria
jmeno		zamestnanci	✓			
id		zamestnanci	✓			
mesto		zamestnanci	✓			

```
SELECT jmeno, id, mesto
FROM zamestnanci
```

OK Cancel



Generate Dataset [X]

Generate a dataset that includes the specified tables.

Choose a dataset:

Existing []

New: [DsZamestnanci]

Choose which table(s) to add to the dataset:

<input checked="" type="checkbox"/> zamestnanci [OleDbDataAdapter1]

Add this dataset to the designer.

[OK] [Cancel] [Help]



- Prostředník mezi datovým zdrojem a datovou sadou
- Má definovány SQL dotazy
 - SELECT
 - UPDATE, INSERT, DELETE
- Metoda **Fill** – naplnění datové sady



- I více tabulek
- Vazby
- Off line
- XSD – schéma dat
- Možnost převodu do XML

Přístup k datům



- V kódu
- Přes vázané ovládací prvky

Přístup k datům v kódu



```
string s = dsZam.Zamestnanci[0].IDzam;
```

Přístup k datům přes prvky



- TextBox,
- ComboBox,
- ListBox,
- CheckBox,
- RadioButton,
- DataGrid
- PictureBox

Přístup k datům přes prvky 2



Osoby

Jmeno:

Příjmení:

3 záznam z 12

<< < > >>

Načíst data

Konec

	id	jmeno	prijmeni	ulice
	24	Petr	Novák	U lesa 8.
	25	Jiří	Venclík	Náměstí
▶	26	Otakar	Petr	7. květn.
	28	Miluše	Šrámková	Hlavní
	29	Kamila	Spurná	nám. Míř
	30	Tomáš	Šplechta	30.října
	31	Radovan	Blištan	Husova
	32	Monika	Mráčková	(null)
	33	Igor	Novotný	Dlouhá
	34	Tereza	Malá	Zelená
	35	Marie	Venclíková	Náměstí
	36	Květa	Železná	Opavská



- Vlastnost **DataBindings**

Čtení přes SqlDataReader



```
SqlCommand cmd = new  
SqlCommand("select * from Customers", conn);  
  
SqlDataReader rdr = cmd.ExecuteReader();  
  
while (rdr.Read())  
{  
    Console.WriteLine(rdr[0]);  
}
```



- <http://www.csharp-station.com/Tutorials/AdoDotNet/Lesson01.aspx>
- <http://www.cs.vsb.cz/behalek/vyuka/pcsharp>
- <http://gis.vsb.cz/ruzickova/>