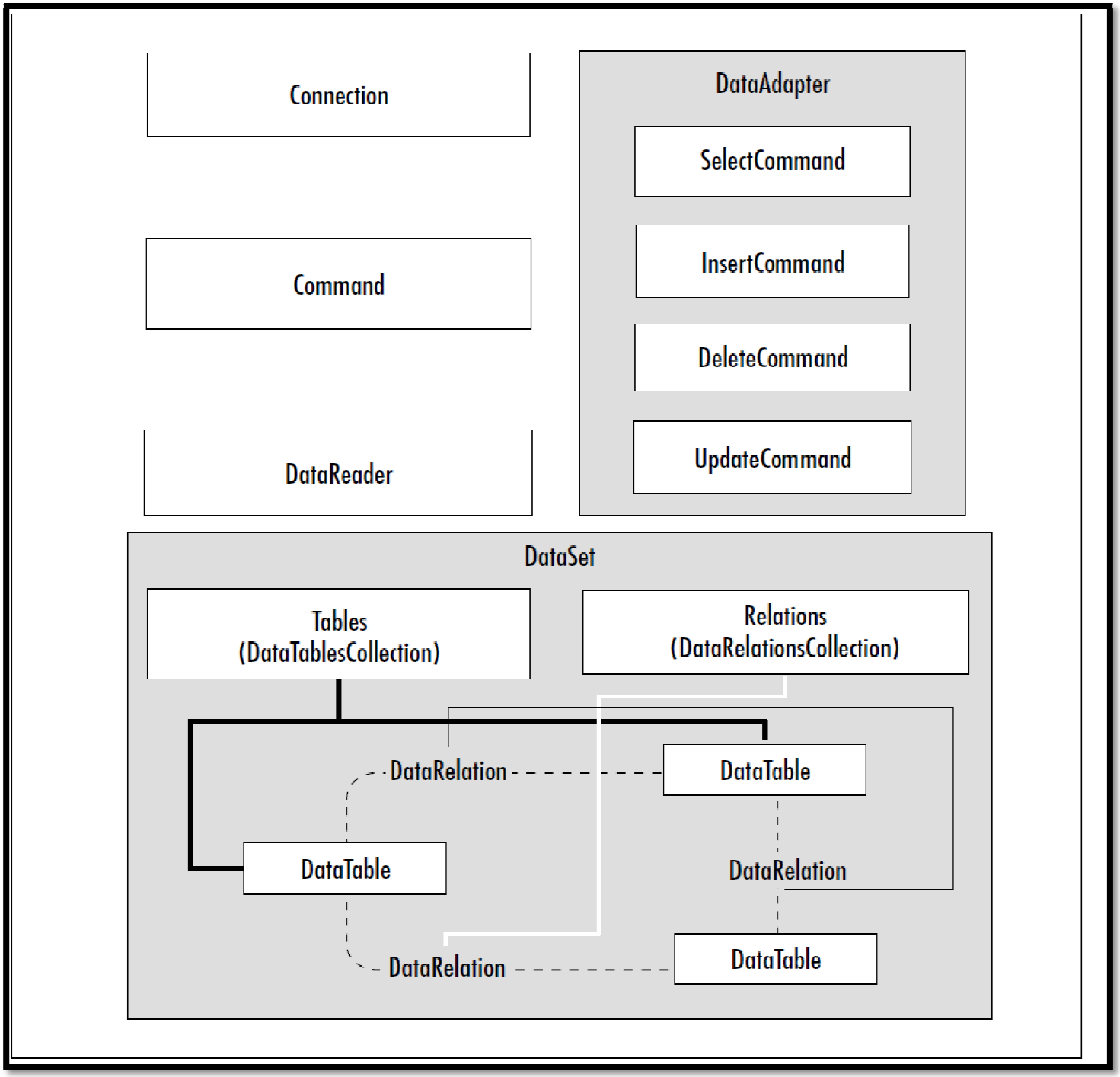
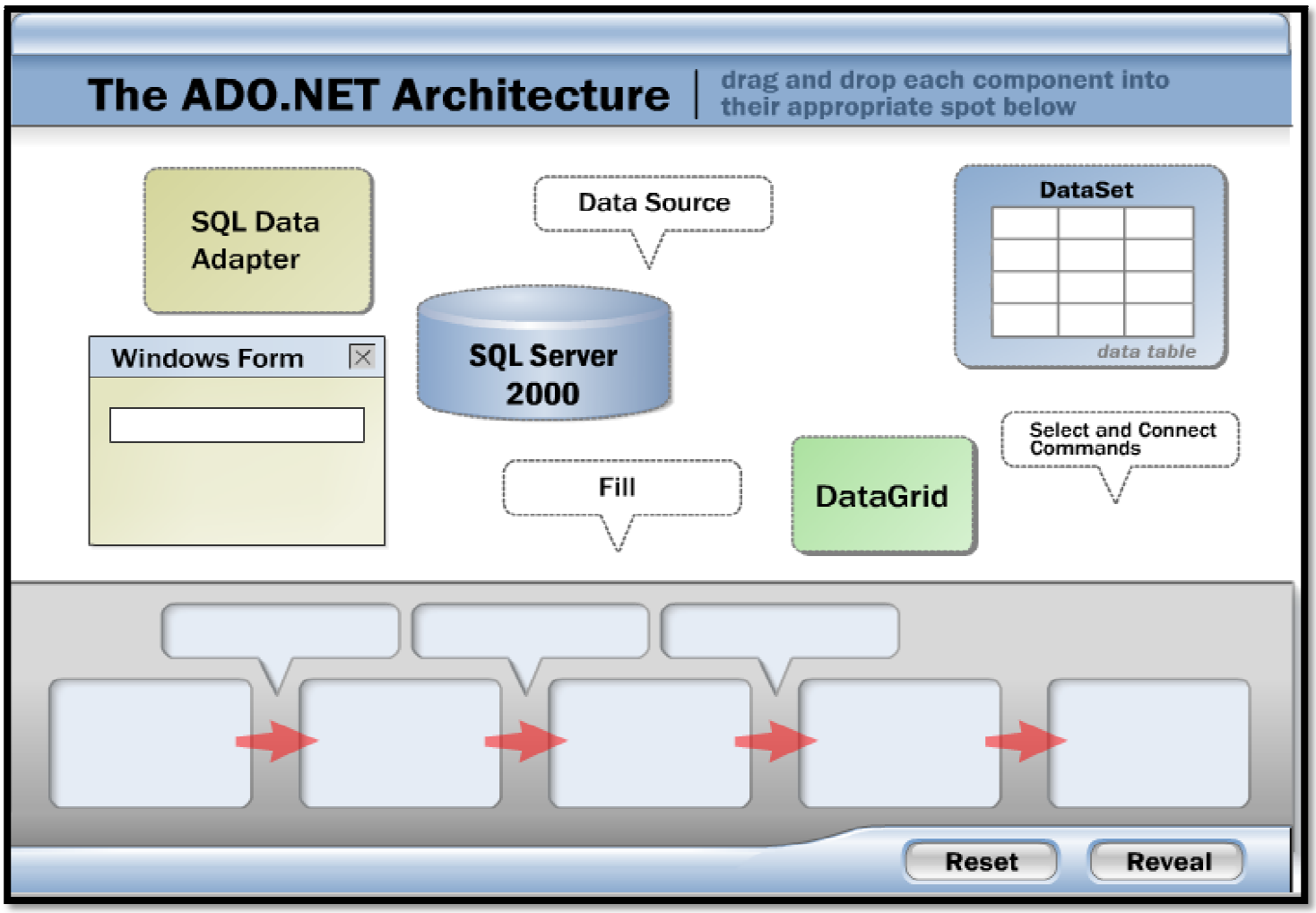
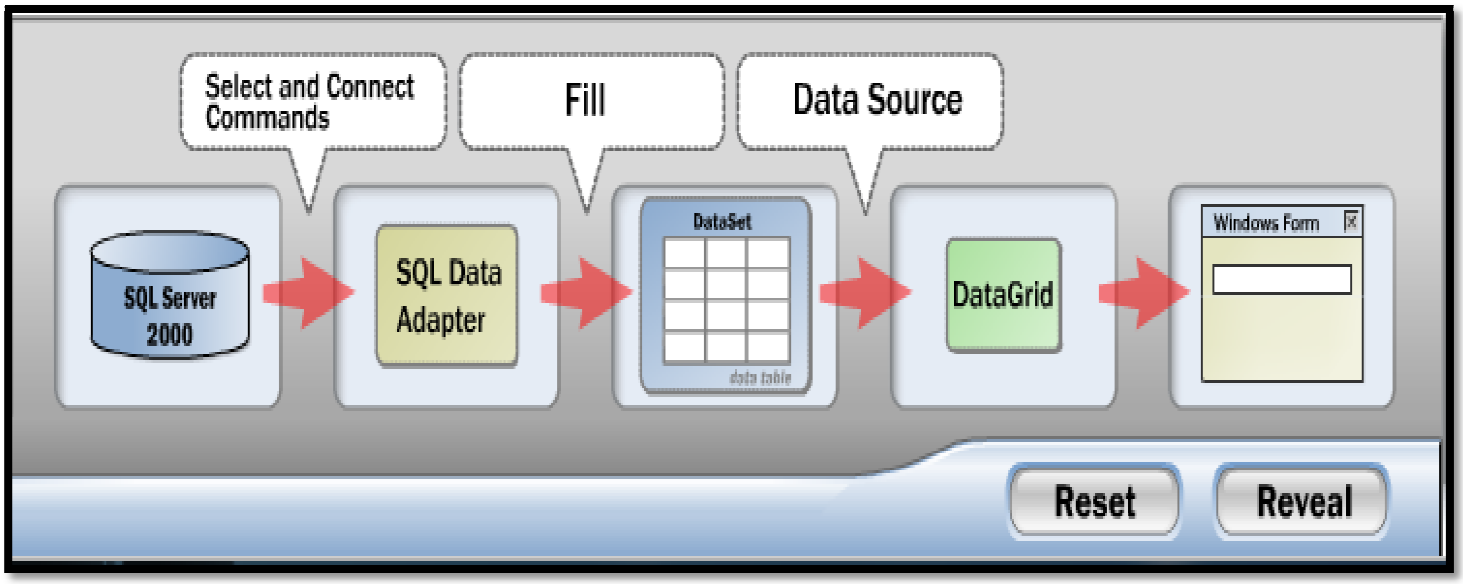
Advanced Programming Language (630501)
Fall 2011/2012 – Lecture Notes # 22

ADO.NET Objects Model




The ADO.NET Architecture
drag and drop each component into their appropriate spot below
SQL Data Adapter
Data Source
DataSet
data table
Windows Form
SQL Server 2000
Fill
DataGrid
Select and Connect Commands
Reset
Reveal


Select and Connect Commands
Fill
Data Source
SQL Server 2000
SQL Data Adapter
DataSet
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DataGrid
Windows Form
Reset
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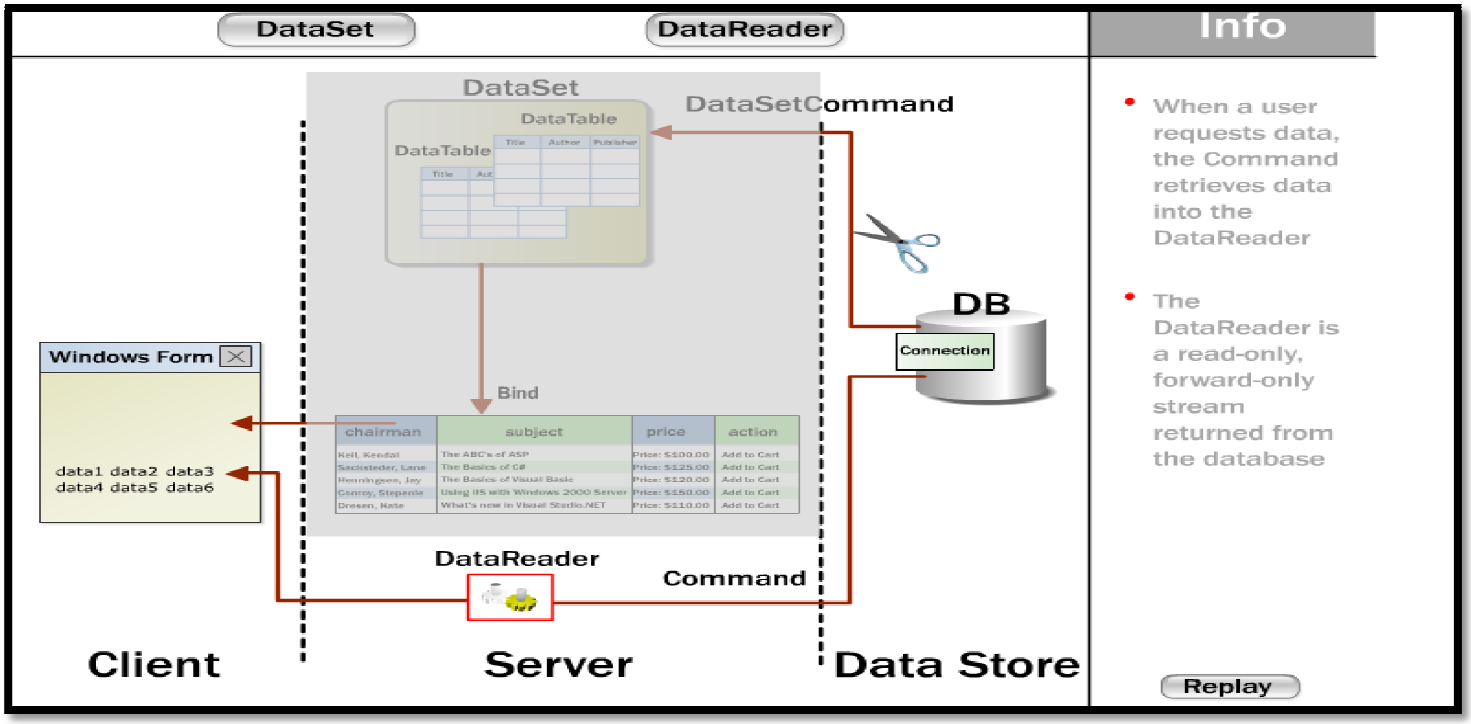
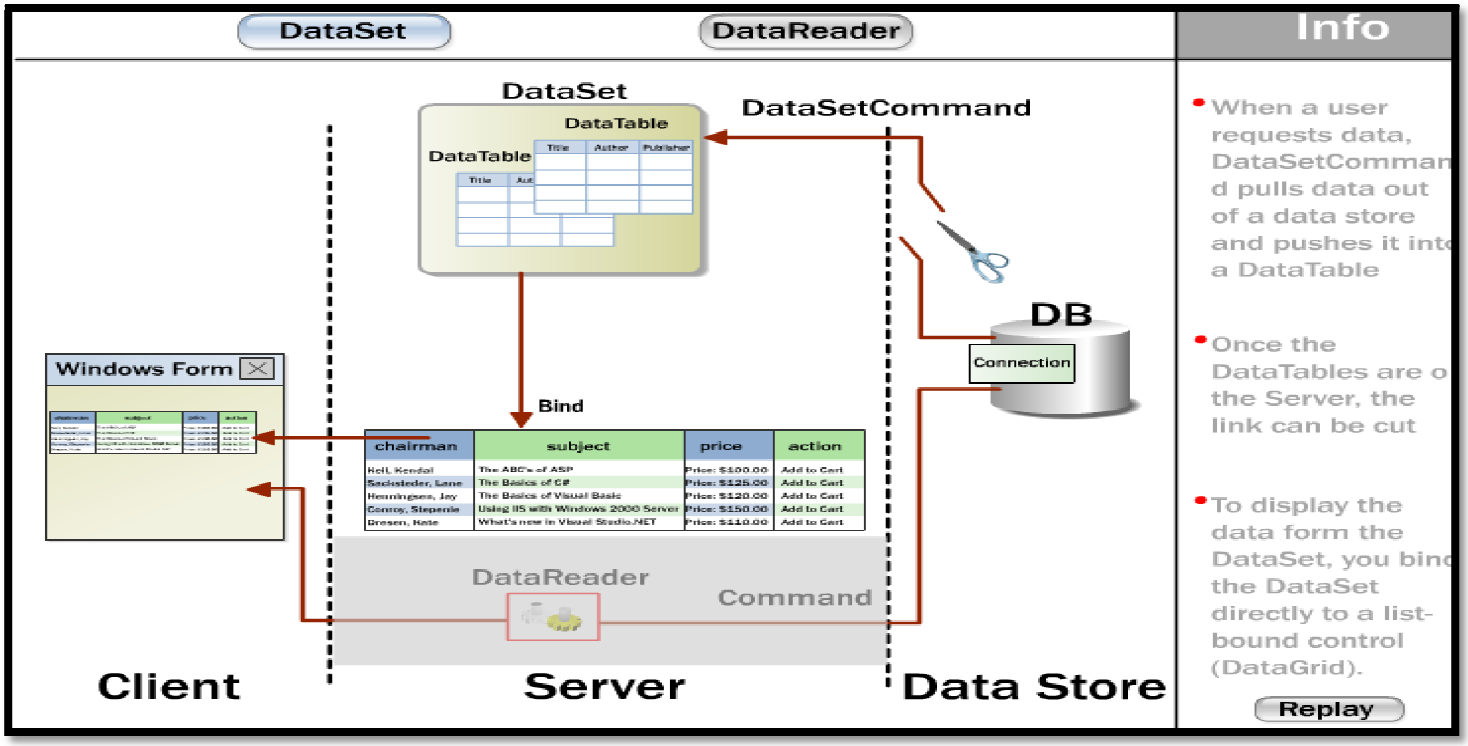
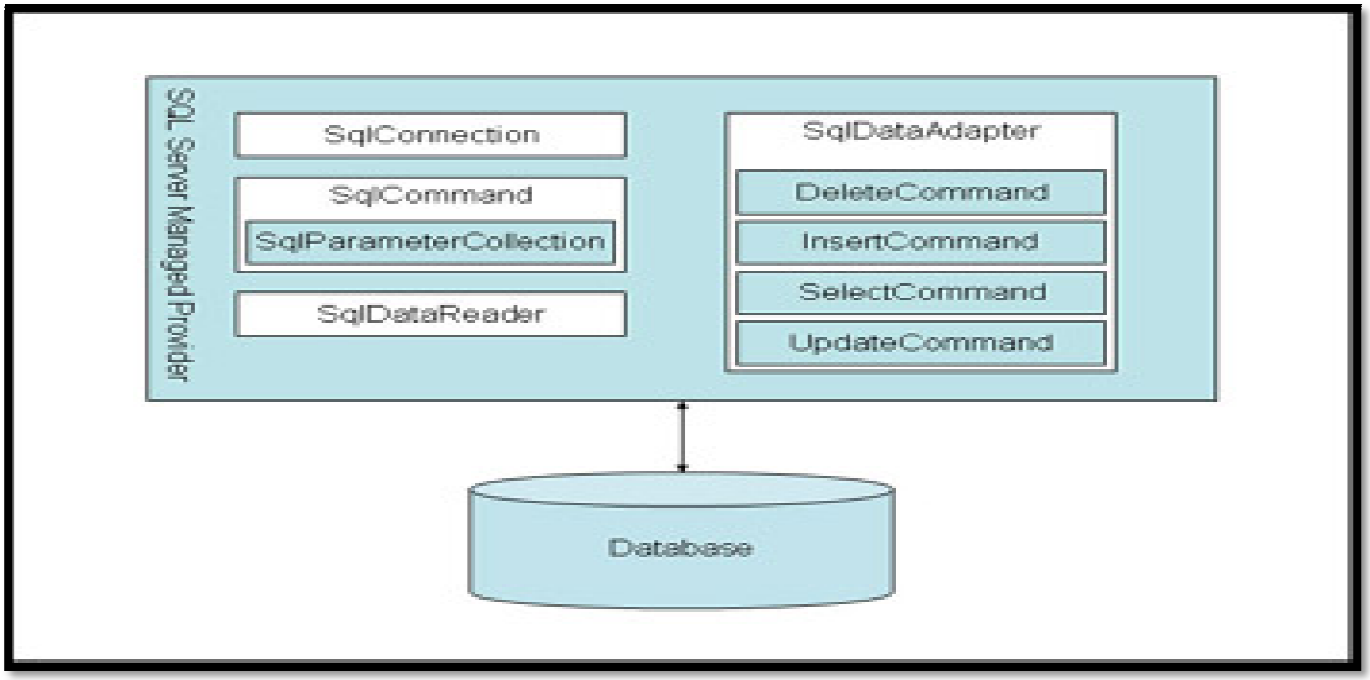
DataReader object



DataSet Object



SQL Server Data Base



- The **`SqlConnection`** class is used to establish a ***connection to a SQL Server database***. The SqlConnection class is used for ***opening*** connections, ***setting*** or ***retrieving*** properties of a connection, or handling connection-related events.
- The **`SqlCommand`** class is used to ***execute SQL statements*** or ***stored procedures*** against a SQL Server database. The SqlCommand class (and its OLE DB equivalent, the OleDbCommand class) can execute statements or stored procedures that do not return values, or that return single values, XML, or datareaders.
- The **`SqlDataReader`** class provides ***forward-only, read-only access*** to a set of rows returned from a SQL Server database. Datareaders (including both the SqlDataReader and OleDbDataReader) provide high-performance access to read-only data and are the best choice for accessing data to be displayed in ASP.NET.
- The **`SqlDataAdapter`** class is used as a ***bridge*** between the ***DataSet*** class and ***SQL Server***. You can use the SqlDataAdapter class to ***create*** a dataset from a given SQL statement or stored procedure represented by a SqlCommand instance, to ***update*** the back-end SQL Server database based on the contents of a dataset, or to ***insert*** rows into or ***delete*** rows from a SQL Server database. The ***OleDbAdapter*** class performs the same tasks for OLE DB datasources.