Strongly Typed View

Strongly Typed View

- Views can be strongly typed, based on a model.
- @model property will be declared inside a strongly typed view
- When a model or ViewModel is passed into the view, the value gets assigned to the @model property of a strongly typed view

HTML Helper

- While creating a view for ASP.NET Core MVC, you can use the Html object and its methods to generate markup.
- Some useful methods of the Html object are below.

HTML Helper

AntiForgeryToken:	Use this inside a <form> to insert a <hidden> element containing an anti-forgery token that will be validated when the form is submitted.
ActionLink:	Use this to generate an anchor <a> element that contains a URL path to the specified controller and action.
Display and DisplayFor:	Use this to generate HTML markup for the expression relative to the current model using a display template

HTML Helper

DisplayForModel:	Use this to generate HTML markup for an entire model instead of a single expression
Editor and EditorFor:	Use this to generate HTML markup for the expression relative to the current model using an editor template
EditorForModel:.	Use this to generate HTML markup for an entire model instead of a single expression

Scaffolding the view

- HTML view content can be automatically generated from a template.

Data Management with ADO.NET

ADO.NET

- ADO.NET includes is part of .NET Framework
- ADO.Net supports a set of data providers each containing a set of classes for interacting with specific RDBMS.
- ADO.Net contains classes for connecting to a database, executing commands, and retrieving results for various RDBMS.

Data provider

- Data provider is a set of classes defined in a given namespace that understand how to communicate with a specific type of data source (database).

Data Providers included in the .NET Framework

.NET Framework Data Provider for SQL Server

.NET Framework Data Provider for Oracle

.NET Framework Data Provider for ODBC

.NET Framework Data Provider for OLE DB

Microsoft.Data.SqlClient

- Is the data provide for Microsoft SQL Server database
- It is available as a NuGet package with the name Microsoft.Data.SqlClient

Main Classes under a Provider

Class	Implementing Interface	
DbConnection	IDbConnection	Establising a connection with a data base & releasing the connection
DbCommand	IDbCommand	Used for running a query or a stored procedure on a database
DbDataReader	IDataReader, IDataRecord	Provides read-only, forward-only access to data from database
DbDataAdapter	IDataAdapter, IDbDataAdapter	Transfer data betwwen database and dataset

ADO.Net Connected Model

Connection object

- Establishes a connection to a specific data source.

- Properties
  - Connection string
- Methods
  - Open( )
  - Close( )

Connection string

- The connection string will be string that helps identify the database server, the database name, user name, password, and other parameters that are required for connecting to the data base
- the **Initial Catalog** name - the database you want to establish a session with.
- The **Data Source** - the name of the machine that maintains the database
- **Integrated Security** is set to true Or username & Password
  - If Integrated Security = True then current Windows account credentials are used for authentication

SqlConnection Class

- Properties
  - Connection String
- Methods
  - Open( ) - used to establish a connection
  - Close( ) - used to close the connection

Command object

- Used to execute a command on the database
- Properties
  - Connection
  - CommandType
  - CommandText

SqlCommand Properties

CommandType	Type of the command . Whether the command is a StoredProcedure or an SQL statement.

Text

StoredProcedure

SqlCommand Methods

ExecuteNonQuery()	used to execute statements that wont return any value. Eg: INSERT, UPDATE This method returns the number of rows affected as an integer value
ExecuteReader()	used to execute Select statements that return one or more row as output
ExecuteScalar()	used to execute Select statements that return a single value as output

The SqlDataReader Object

- When command object runs a select statement (using ExecuteReader( )) the output will be a data reader.
- Data readers represent a read-only, forward-only stream of data returned one record at a time.
- Data readers are useful when you need to iterate over large amounts of data quickly

The SqlDataReader Object

- **reader1. Read( )** Will fetch next row from the data reader.
- And will return a **boolean** value showing whether reading was successful or not.
- if no more rows are there it will return f**alse**;

Asynchronous Connection & Asynchronous Command execution

Asynchronous Connections

- Connection class has an asynchronous method OpenAsync( ) which will open connection asynchronously.
- This method can be used instead of the synchronous Open( ) method

Asynchronous command Execution •

- Command class Asynchronous methods
  - ExecuteNonQueryAsync( )
  - ExecuteScalarAsync( )
  - ExecuteReaderAsync( )

for Asynchronous execution of the command

- Asynchronous database functions are to be called with await keyword
- If await keyword comes in a function, that function needs to be declared with async keyword.
- Asynchronous functions can return void , Task or Task<T> type of output

ADO.Net Disconnected Method

ADO.Net Disconnected Method

- Connected Method
  - Connection will be active (open) through out the time we are doing any operation on the databse or using any data from the database

- **Disconnected Method**
  - No throughout open connection
  - Open connection is needed only for the time data is read/ written to database.

ADO.Net Disconnected Method

- Connected Method
- **Data will be taken directly from the database**

- **Disconnected Method**
  - **A local (in memory) copy of the database is created**
  - **Data will be accessed from the local copy of the database (DataSet)**

ADO.Net Disconnected Method

- Connected Method
  - Program must have commands to Open & Close connection

- **Disconnected Method**
  - **Connection opening & closing will be done automatically.**

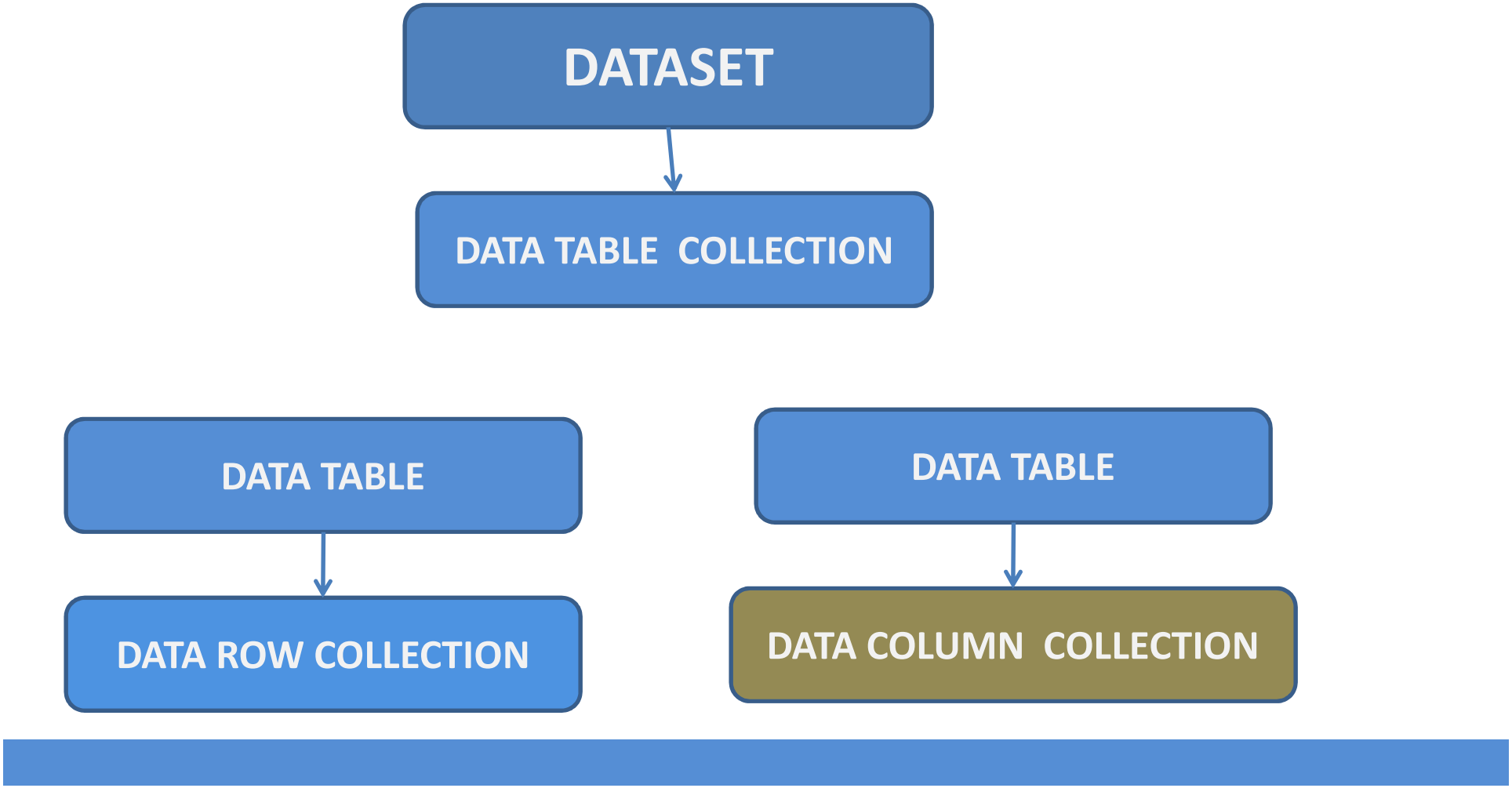
ADO.Net Disconnected Method

- Connected Method
- Uses
  - SqlConnection Class
  - SqlCommand Class
  - SqlDataReader Class

- **Disconnected Method**
- Uses
  - **SqlConnection Class**
  - SqlCommand Class
  - **SqlDataAdapter Class**
  - **DataSet Class**

The DataSet Object

- DataSet objects are in-memory representations of data.
- ie. Function of DataSet is to store data temporarily from database so that a program can consider a DataSet as a local copy of the database.
- Just like a database, a dataset could contain one or more tables


DATASET
DATA TABLE COLLECTION
DATA TABLE
DATA ROW COLLECTION
DATA TABLE
DATA COLUMN COLLECTION