

# ASSIGNMENT - 1

① List out ASP.NET file type.

## → TYPES OF FILES

- ↳ .aspx
- ↳ .ascx
- ↳ .asax
- ↳ .asmx
- ↳ .ashx
- ↳ .browser
- ↳ .config
- ↳ .cs , .vb
- ↳ .cproj , .vbproj
- ↳ .disco
- ↳ .dll
- ↳ .master
- ↳ .mdf
- ↳ .resources , .resx
- ↳ .sitemap
- ↳ .skin
- ↳ .slnproj

② What is unstructured error handling?

→ Unstructured Exception Handling is implemented with On Error GoTo statement, which is placed at the beginning of a code block to handle all possible exceptions.

↳ Any exception that occurs is fatal.

and your program will stop.

↳ Pyntax :-

On Error GoTo [line] Label [0 1 - 1]  
Resume Next [line] Y.

↳ Eg :-

(btnclick event)

Dim m1, m2 As Integer

On Error GoTo err-msg

m1 = 12

m2 = 5

txtres.Text = m1 Mod m2

Exit Sub

err-msg :

MsgBox ("Divide by zero error")

End Sub

3. What is the use of IsPostBack?



IsPostBack is a page level property

↳ It is used to get a value that indicates whether the page is rendered for the first time or is loaded in the response to a postback.

↳ IsPostBack is a boolean property of a page when is set (True) when a page is first loaded.

↳ Thus, the first time that page loads the IsPostBack flag is false and for subsequent postbacks, it's true.

↳ An important point is that each time a postBack occurs, the entire page including the Page\_Load is 'posted back' and executed.

(4.) List out validation control.

## → VALIDATION CONTROLS

- 1) RequiredFieldValidator
- 2) RangeValidator
- 3) CompareValidator
- 4) RegularExpressionValidator
- 5) ValidationSummary
- 6) CustomValidator

(5.) what is ASP.NET ?

→ ASP.NET is the web Based Server technology / engine that dynamically rendering the HTML pages.

- ↳ It is developed by Microsoft
- ↳ It is used for building modern web application and services that run on macOS, Linux, windows & Docker
- ↳ It support full fledged Object Oriented programming languages.
- ↳ Before the execution of the application it is compiled and then after whenever

the page is requested it is sourced from this compile code.

so, there is performance enhancement with ASP.NET.

6. List out ASP.NET page event ?

## PAGE EVENTS

- 1) Page - PreInit ()
- 2) Page - Init ()
- 3) Page - PreLoad ()
- 4) Page - Load ()
- 5) Page - PreRender ()
- 6) Page - Unload ()

#

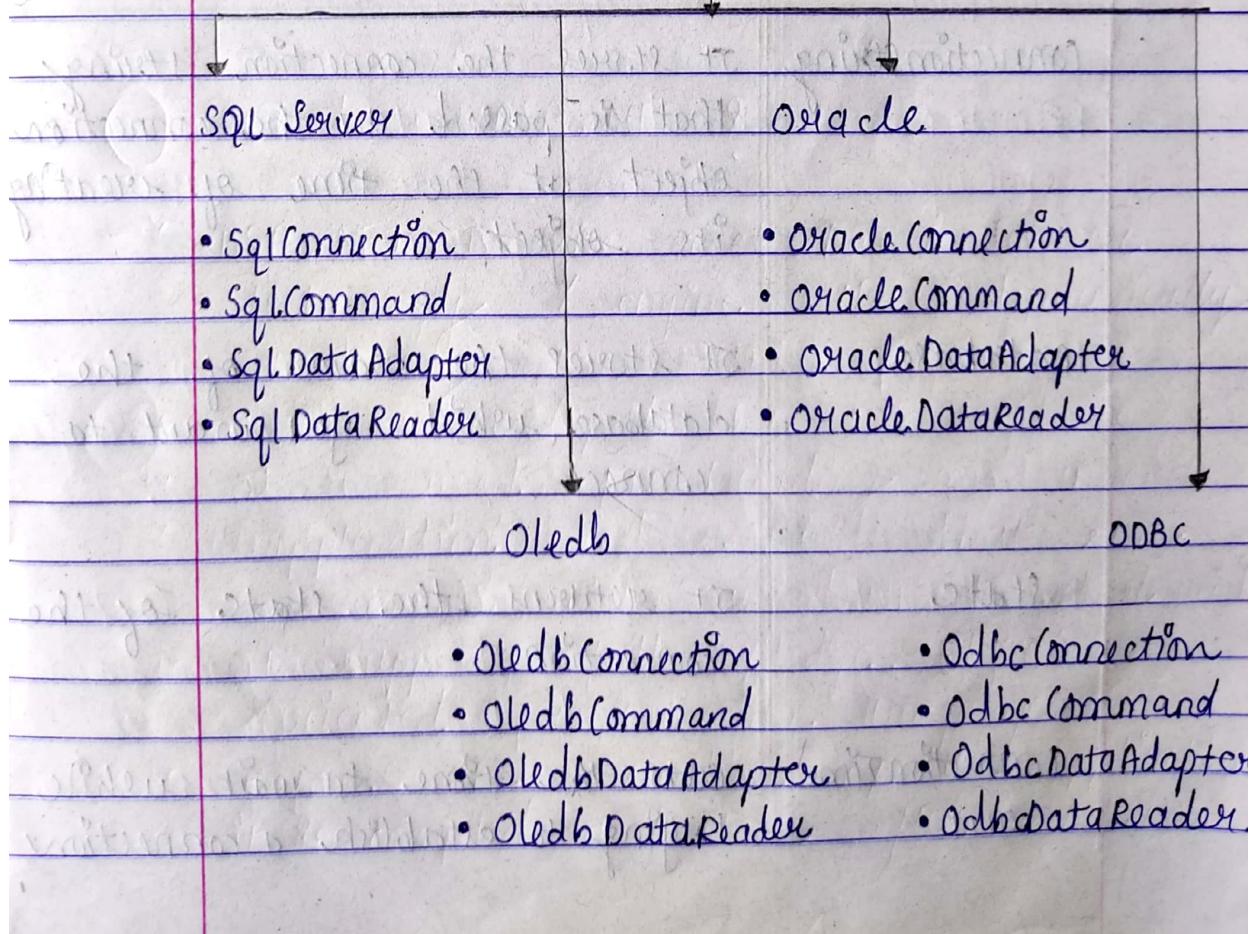
# ASSIGNMENT - 2

(1.) Explain the use of data provider.

## → DATA PROVIDER

- ↳ The data provider is used for providing and maintaining the connection to the database.
- ↳ It is a set of related components that work together to provide data in an efficient manner.
- ↳ ADO.NET provides a common way to interact with data sources, but with different sets of libraries.
- ↳ These libraries are called Data Provider.

### Data Provider



## a) CONNECTION OBJECT

- 4 This is the object that allows you to establish a connection with the database.
- 4 The connection object helps to identify the database server, the database name, username, password etc that are required for connection to the database.
- 4 Connection string contain your entire path of your database through which you can access the database.

4 Syntax:-

```
Dim cn As New SqlConnection("connection  
string")
```

4 Properties

Description

ConnectionString

It stores the connection string that is passed to the connection object at the time of creating its object.

Database

It stores the name of the database, which you want to connect.

State

It returns the state of the connection.

ConnectionTime

sets the time to wait while trying to establish a connection

out

before terminating the attempt and generating an error.

Methods	Description
Open	It opens the connection
close	It closes the connection
BeginTransaction.	It creates the transaction object

### b) COMMAND OBJECT

- ↳ It uses the connection object to execute SQL queries like insert, update & delete.
- ↳ The queries can be in the form of inline text, stored procedures or direct table access.
- ↳ If a selected query is issued, the result set it returns is usually stored in either a dataset or a DataReader object.
- ↳ Syntax :-

```
dim cmd As New SqlCommand  
("CommandText", conn.connection  
object)
```

Properties	Description
connection	to set connection object
CommandText	It specifies the SQL string or stored procedure to be executed.
commandType	It's used to determine how to interpret command text. (Text, StoredProcedure, TableDirect)
ConnectionTimeOut	sets the time to wait while trying to establish a connection before terminating the attempt.
Method	Description
ExecuteNonQuery	used to execute an SQL statement & returns the no. rows affected.
ExecuteScalar	used to execute an SQL statement and return a single value.
ExecuteReader	used to execute a select statement & return the rows returned by the select statement as a DataReader

### c) DATA READER

- It is used to read data from database. It reads data in read-forward only manner.
- It is working on connected mode.
- It is an alternative to the dataset and DataAdapter combination.
- It is faster than dataset.

Property	Description
FieldCount	It is used to get the no. of columns in the current row.
HasRows	It is used to get a value that indicates whether the SqlDataReader contain one or more rows.
IsClosed	It specifies that DataReader is closed or not.
Item	It gets the value of the specified column name.
Method	Description
Read	It read the next record for DataReader.

close

It is used to close the  
SqlDataReader object

columnName(index) It's used to get the name of the  
specified column

GetValue(index) It's used to get the value of  
the specified column

GetValues It's used to populate an  
array of objects

#### • d) DATA ADAPTER

- It acts as a bridge between the dataset and the database.
- This helps the Dataset to contain data from multiple databases or other data source.
- It has commands like select, insert, update & delete.

Property

Description

SelectCommand use to retrieve data from the data source

InsertCommand

Insert data into data source

UpdateCommand

update data to the data source

Method	Description
Fill	It is used to populate a dataset object with the data that the dataAdapter object retrieves from the data.
update	It's used to update the database according to the changes that are made in the dataset.

(2) Explain range validator and required field validator control.

## ⇒ RANGE VALIDATOR

- ↳ The range validator control is used to test whether the value of an input control is within a specified range or not.
- ↳ We have to specify upper & lower boundary.
- ↳ This range can be numbers, alphabet & dates.
- ↳ If the input control is empty, then no validation will be performed.

Property	Description
controlToValidate	It takes ID of control to validate

### Error Message

It is used to display error message when validation failed.

### Maximum Value

It is used to set upper boundary of the range.

### Minimum Value

It is used to set lower boundary of the range.

Eq:-

<table>

<tr>

<td> Enter age : </td>

<td>

<asp: TextBox ID = "txtage" runat = "server" > </asp: TextBox >

<asp: RangeValidator ID = "Range"

ValidatorType = "range" ControlToValidate = "txtage"

ErrorMessage = "Enter age between 18 to 60"

MinimumValue = "18" MaximumValue = "60" >

</asp: RangeValidator >

</td>

</tr>

</table>

## Output

Enter age :

Enter age between 18 to 60

## REQUIRED FIELD VALIDATOR

- ↳ This validator is used to make an input control required.
- ↳ It checks whether the control is empty or not when the form is submitted.
- ↳ Multiple validators can also be associated with the same input control.
- ↳ It removes extra spaces from the beginning & end of the input value before validation is performed.

Property	Description
Error message	It is used to set error msg when validation failed
controlTo Validate	It takes ID of control to validate.

↳ Eg :-

```
<table>
```

```
<tr>
```

```
<td> Name : </td>
```

```
<td>
```

```
<asp:TextBox ID = "txtname" >
```

```
runat = "server" > </asp:TextBox>
<asp: RequiredFieldValidator ID =
"RequiredFieldValidator1" runat = "Server"
ControlToValidate = "txfname"
ErrorMessage = "Please Enter Name." >
</asp: RequiredFieldValidator>
</td>
</tr>
</table>
```

4) Output

Enter name :-  Please Enter Name.

3. Explain page level as well as application level error handling in ASP.NET.

→ Error in ASP.NET can be handled at two levels :

- 1) Page Level
- 2) Application Level

## PAGE LEVEL

4) To handle the errors at page level you need to use the `errorPage` attribute in the `webform`.

4) You can set the `error page` in the `@ Page Directive` or the `ErrorPage Property` of the page.

#### ↳ 1) Using 'Page\_Error' Event :-

- This event is raised whenever an unhandled exception occurs on that particular page.
- You can access the exception details through the 'Server.GetLastError()' method and then decide how to handle or log the error.

↳ If you define the error page in the `errorpage` attribute, then it maps to the `Page.ErrorPage` property & hence it may be set programmatically.

↳ If no parameters are added then it would automatically add one with name `aspxerrorpath`.

↳ If a value is specified in this attribute and an unhandled exception occurs in the page, the page class would automatically perform a redirect to the specified page.

↳ If a value is not specified, the exception is assumed to be unhandled, so new `HttpException` object is created & then thrown.

## APPLICATION LEVEL

↳ global.asax file will catch all handled ASP.NET errors while processing request.

## By Example.

```
Sub Application_Error (ByVal sender As Object,  
                      ByVal e As EventArgs)  
    Dim exc As Exception = Server.GetLastError  
    If exc.Message.Contains ("match.") Then  
        Return  
    End If  
    Server.Transfer ("Error.aspx")  
End Sub
```

## Customizing - error page

- To customize the default error page, you will have to change the default configuration setting of the app in web.config file.
- The mode attribute of <customErrors> tag in web.config file specifies whether to show user-defined error or ASP.NET error pages.
- There are 3 modes

1<sup>st</sup> mode

```
<configuration>  
  <system.web>  
    <customErrors mode="off" />  
  </system.web>  
</configuration>
```

→ (Here the <customErrors> mode is set to off in web.config)

2<sup>nd</sup> mode

```
<customErrors mode="remote" defaultRedirect= "error.html"/>
```

- (Here the <customErrors> mode, is set to Remote.)

3<sup>rd</sup> mode

```
<customErrors mode="on" defaultRedirect= "/webTest/ErrorPages/AppError.html">  
<error statusCode="404" redirect = "/webTest/ErrorPages/404.html"/>  
</customErrors>
```

- (Here the <customErrors> mode is set on & default error page is "AppError.html")

4.

Explain various methods of data Adapter.

- ⇒ Data adapter is used to retrieve data from a data source and fill it into a dataset.
- ⇒ They also provide the capability to update the data source with changes made in the dataset.
- ⇒ It is a bridge between dataset & database.
- ⇒ There are 2 main methods are :-
  - 1) fill
  - 2) update

## FILL

- Fill method is used to populate a dataset object with the data that the DataAdapter object retrieve from the data store using its select command.
- But before that we must initialize a Dataset object.

## Example

```
Dim cn As New SqlConnection ("connection  
string")  
Dim cmd As New SqlCommand ("select *  
from tblstud", cn)  
Dim da As New SqlDataAdapter (cmd)  
Dim ds As New DataSet  
da.Fill (ds)  
DataGridView1.DataSource = ds.Tables (0)
```

## UPDATE

- In ADO.NET, the 'update' method of a data adapter is used to update the data source with changes made in a 'Dataset' or 'DataTable'.
- 'update' method plays a critical role in synchronizing the in-memory data with the underlying database.

↳ Syntax:

dataAdapter.Update(dataset, "TableName")

↳ DataAdapter object can be of any type.  
SQL, OLEDB, Oracle etc.

### Example

```
Dim cn As New SqlConnection("connection  
string")  
Dim cmd As New SqlCommand("Select *  
from Users", cn)  
Dim da As New SqlDataAdapter(cmd)  
Dim commandBuilder As New SqlCommand  
Builder(da)  
Dim ds As New DataSet()  
da.Fill(ds, "Users")  
  
Dim userRow As DataRow = ds.Tables  
("Users").Rows(0)  
userRow("Username") = "UpdatedUserName"  
  
da.Update(ds, "Users")
```

5.

Write a note on web.config file

- It is a configuration file for the ASP.NET web application.
- An ASP.NET application has one web.config file which keeps the configuration required for the corresponding application.
- But, if the website contains multiple folders then each folder can have separate web.config file.
- It acts as a central location for setting / storing the information to be accessed by web pages.
- This information could be a connection string stored at a centralized location so that it can be accessed in a data-driven page.
- If the connection string changes then it is to be changed at one place.
- It can also store other information such as session, states, error handling, security issues and global information for the pages etc.

Example

```
<?xml version="1.0" ?>
<configuration>
  <appSettings/>
  <connectionStrings>
    <add name="con1" providerName =
      "System.Data.SqlClient"
```

```
connectionString="server=localhost;  
uid=abc;pwd=;" />  
</connectionStrings>  
</configuration>
```

- In classic ASP such global information was typically stored as an application variable.
- We can have multiple web.config file, but it must be in separate folder.

### Elements

#### <appSettings>

- It allows you to add the custom settings for the application on the web.config file.
- Example :-

```
<?xml version="1.0"?>  
<configuration>  
<appSettings>  
<add name="SiteName" value =  
"ASPNETwithVB" />  
</appSettings>  
</configuration>
```

- It is very easy to access the information stored in <appSettings> element.
- There is Configuration Manager class in

`System.Configuration` namespace which provides the properties to access this information.

- Example :-

```
Dim settings As String = ConfigurationManager.  
AppSettings("sitename")
```

    <system.web>

- It contains the entire configuration specific to the ASP.NET.
- It contains different types of elements such as authentication, authorization, compilation, customErrors, identity, pages, sessionState, trace, and so on.
- These elements centralize the configuration of the ASP.NET application.

6.

Explain difference between `InnerHTML` and `InnerText` property of HTML server control.



`InnerHTML`

`InnerText`

- |  |  |
|--|--|
| It gets or sets the HTML text inside the opening and closing tags. | It gets / sets the text inside the opening and closing tags. |
|--|--|

↳ when you use this property, all characters within these tags are as it is.

when you use this property, any characters that would be interpreted as special HTML syntax such as < or > (the angle brackets) are automatically replaced with the HTML tag.

↳ retrieves & sets the content in HTML format

retrieves and sets the content in plain text.

↳ we can insert the, HTML tags

we can't insert the HTML tags.

↳ It considers the spaces

It ignores the spaces

↳ It returns a tag with an inner element tag

It returns text without an inner element tag.