.Net Interview Questions

ASP.NET - Interview Questions

1) What is .NET Framework 4.0?

The .NET Framework is an environment for building, deploying and running web services and other applications. It provides environment to developers for developing,

- **Windows applications**
- **Web applications**
- **Web services**
- **Console applications**
- **Class libraries**

.NET Framework 4 includes the following new features and improvements:

1) Improvements in CLR and BCL (Base Class Library)
2) Enhancements to ASP.NET
3) Improvements in ADO.NET
4) Improvements in WCF, WPF, WF

2) What are the differences between .NET Framework 3.0 and 3.5?

.NET 3.0 -> it is the combination of .NET Framework 2.0 with **WCF, WPF** and **JQuery** support.

.NET 3.5 -> it is the combination of .NET Framework 3.0 with new **AJAX controls, LINQ** and **Silverlight.**

3) Asp.Net Page Life Cycle?

A series of processing steps takes place during this page life cycle. They are,

-> Initialization

-> Instantiation of controls

-> Restoration & Maintenance of State

-> Running Event Handlers

-> Rendering of data to the browser

Page_Init () -> Every time page is processed. In which, page is instantiated.

Page_Load () -> Page is loaded into server memory.

Page_PreRender () -> The Brief moment before the page is displayed to the user as HTML.

Page_Unload () -> When page finishes loading.

4) What is IIS? It's Use?

IIS (Internet Information Server) is a web server. Internet Information Services is used to make your computer a web server.

(a) If we want to have a web server for developing dynamic website or want to publish website on our own server then we install the IIS.

(b) IIS takes request from user and executes the required files and sends result back to the user.

5) What are MSIL and JIT Compiler?

In .NET framework, all source code is first converted into an intermediate Language code (IL code) at compilation time. This IL is called MSIL (Microsoft Intermediate Language).

Before code can be executed, MSIL must be converted into CPU-Specific code by a JIT Compiler.

6) What is CLR (Common Language Runtime)?

It is a heart of .NET. It is a run time environment. It is responsible for managing the execution of .NET programs.

7) What is CTS (Common type system)?

It describes how data types are declared, used and managed. The.NET framework provides multiple language support using the feature known as CTS.

8) What is CLS (Common Language Specification)?

It enables interoperability on the.NET Platform. It is a subset of CTS, in which all.NET Languages are expected to support.

9) What is CAS (Code Access Security)?

It is a part of the .NET security model. CAS grants rights to program depending on the Security Configuration of the machine.

Example:

The program has rights to edit (or) create a new file. But, the security configuration of machine does not allow the program to delete a file. CAS will take care that the code runs under the environment of machines security configuration.

10) What is a namespace?

Namespace is a logical grouping of class.

11) What is State management? What are the types of State management?how we enable in web applicaton?

In all web applications, we have to maintain state of an application. All web applications works on HTTP high level protocol. The high level protocols remember current request and response only.

To remember previous request and response values then we have to implement State management.

12) Why we need State management to maintain state?

Because, Asp.Net Pages are destroyed and re-created with each round trip to the server; therefore, page information will not exist beyond the life cycle of a single page.

13) What are the types of State management?

There are 5 types of State management Techniques,

1) View State 2) Sessions 3) Cookies 4) Caching 5) Application

14) What is View State?

View State means "**Automatic Persistence of form data** (or) **content"**.

When a page is submitted to the server and was resubmitted to client then. In this process, the data in the controls will be lost because of stateless nature of webserver.

If we want to keep the data available in the controls even after resubmission of the page then we must set "**Enable View State**" property of control "**True**".

15) What is the Maximum size of the view state?

Maximum Size of the View State is 25% of the Page Size.

16) What is dis advantage of View State (or) will the increase in the size of view state will affect the performance of the page?

Yes, it will decrease the performance of the page.

17) What is Session? What are Session events?diff between viewstate and session

Using session we can maintain data across multiple pages.

If we create Session, then we can access that Session data anywhere in application. Session provides security as it is available only on webserver.

There are 2 types of session events,

(a) Session-start -> Will be raised whenever session was created.

(b) Session-End -> Will be raised when the session was closed.

18) How many types of Session States in ASP.NET?

There are 6 types of session states in asp.net,

1) **InProc**
2) **OutProc**
3) **Cookieless**
4) **State server**
5) **Sqlserver**
6) **Custom**

Inproc:

It is a default session mode, in which session will be created with in the application domain of the web application. So it is very faster to get the stored information.

Outproc

By default, session will be creating with in the application domain of the web application. Problem with this is, if the web application was restarted because of any problem like an error in the application (or) changes made to web.config file, the session will be lost.

Solution for this is, maintaining the session outside the application domain of the application domain of the webapplicaton which is called outprocess session.

Coockieless

If cookies were disable in a browser (or) browser doesn't support cookies then to maintain sessionstate we must create a cookieless session.

State Server

It can store all session information in the state server and the information is not lost when the web application restarts.

Sqlserver

It can store all session information in the sqlserver database.

Custom

We can maintain the session state in a custom location like oracle (or) MS-access database.

OFF

It indicates that session state is not enabled.

19) What is Cookie? How many types of Cookies in Asp.net?

Cookie is a small amount of memory managed by the webserver on client system itself.

Purpose of a cookie is to maintain personal information of client with in the client system.

Personal information may include **Login parameters, number of visits to the websites, date and time of last visit to the website**, etc.

Cookies are 4 types. There are,

1) **In memory cookies**
2) **Persistent cookies**
3) **Non-Persistent cookies**
4) **Dictionary Cookies**

In memory cookie:

These are temporary cookies. These cookies are stored within the process memory of the browser and will be deleted from memory immediately after the browser was closed.

Syntax:

```
Httpcookie c = new HttpCookie ("cookie name")
        c.value =10;
Response.AppendCookie(c); -> This cookie will be stored in browser process memory.
```

Persistent cookie:

These cookies are stored with in the hard disk memory with a specified life time. When we want to maintain a data of a cookie even after closing the browser then we have to use persistent cookie. This cookie has a property name "**Expires**".

Non-Persistent cookie:

These cookies don't have expiration times. So, these cookie values available in the Ram memory. So, the non-persistent cookie values we can access until closing the application.

Dictionary Cookie:

It has a collection of key and value pairs. These cookies are used when we have to create more than 20 cookies in our website.

Browser can maintain a maximum of 20 cookies with respect to a website. If you try to create 21st cookie then 1st cookie will be deleted. Browser can maintain maximum of 300 cookies with respect to various websites.

20) What are Drawbacks of Cookies?

(a) There is a no security for the cookie. Because, it is stored on client system. So, any user can access this.

(b) Can only store a limited amount of data. Cookies store a maximum of 4kb data only.

(c) It can store only plain text and it is not possible to store objects.

(d) It is not possible to store data across multiple pages.

(e) Must pass all data to the webserver each Page_Load. This takes up more bandwidth.

21) What is Caching? How many types of Caching in Asp.net?

Caching is the concept of storing frequently used data in temporary memory for faster access.

It increases the performance of webserver.

There are 2 types of caching,

1) **Page output Caching**

2) **Partial page Caching**

Page output Caching

Caching the output of entire page is called as Page Output Caching.

Partial page Caching

In some situations you may don't want to cache entire page and you want to cache only a part of the page use partial page caching.

Example

-> If the page contains **Ad Rotator** Control, then for every client we have to display a different advertisement. But, if you enable **Page output caching** for the page then same advertisement will be displayed for every client.

-> We may want to display both static text and dynamic text with in a page and you want to cache only the static content then you have to use partial page caching.

22) What is Application Stat in Asp.net?

Application state is a global storage mechanism that is accessible from all pages in the Web application. Thus, application state is useful for storing information that needs to be maintained between server round trips and between requests for pages.

- Application state is stored in an instance of the "HttpApplicationState"class.
- Application object is used to store the information and access variables from any page in application.

23) What is Profile in ASP.net?

Using Profiles we can store user-specific data. This feature is similar to session state except that the profile data is not lost when a user's session expires.

The ASP.NET profile allows you to easily manage user information without requiring you to create and maintain your own database.

24) What are the Client based and Server based State management options?

Client based -> View State, Control State, Hidden Fields, Cookies and Query Strings.

Server based -> Application State, Session State and Profiles.

25) What is Query String?

Using **Query String** we can pass values from one page to another page.

26) What is a Hidden Field?

Using Hidden Fields we can store information hiddenly.

27) What is Boxing and Un-boxing?

Boxing -> Boxing is the process of converting **value** types to **reference** types and stored in heap.
Un-Boxing -> Un-Boxing is the process of converting **reference** types to **value** types and stored in stack.

Example:

```
class Test
  {
    static void Main()
    {
      int i = 1;
      object o = i; // boxing
      int j = (int)o; // unboxing}
    }
  }
```

28) What is get / post in ASP.NET?

Get and Post are methods used to send data to the server:

Get -> The browser appends the data onto the URL.

Post -> The data is sent as "standard input." Web forms in ASP.NET use POST by default.

29) What is master page?

Master pages allow you to create a consistent layout for the pages in your application.

30) What is the difference between "Server.Transfer" and "Response.Redirect"?

Server.Transfer and **Response.Redirect** both are objects of ASP.NET. used to transfer a user from one page to another.

Response.Redirect

Transfers page processing from one page directly to the next page with making a round-trip back to the client's browser i.e., when the second page completes its task, It returns to the first page.

Server.Transfer

Transfers page processing from one page directly to the next page without making a round-trip back to the client's browser. i.e., when the second Page completes its task it doesn't come back to the first page. This provides a faster response. It will transfer user from one page to another page, but address bar URL will not update

- Use **Response.Redirect** to navigate within website.
- Use **Server.Transfer** to redirect to another website.

31) What are Optimization techniques in ASP.NET (or) How to improve application performance?

1) Avoid unnecessary use of view state which lowers the performance.
2) Avoid the round trips to server.
3) Use connection pooling.
4) Use stored procedures.

32) What is web application virtual directory?

Virtual directory is a physical location where actually application folder is situated.

32) If cookies are disabled in client browser will session work?

No. Identities of client gets destroy.

33) What are a Process, Session and Cookie?

1) Process ->Process is a running thread of application.
2) Session -> Session state is used to maintain user state in application.
3) Cookie-> Cookie is used to store user identification data on client machine

34) What serialization?

Serialization is a process of converting objects into stream of bytes so that they can transfer through the channels.

35) What are the ASP.NET objects? What are ADO.NET Objects?

ASP.NET -> Request, Response, Server, Session, application.

ADO.NET -> SqlConnection, SqlCommand, SqlDataReader, SqlDataAdaptar, Dataset.

36) What's the difference between Response.Write () and Response.Output.Write ()?

Response.Output.Write () -> allows you to write formatted output.

Response.Write () -> can only display single character line.

37) What namespace does the Web page belong in the .NET Framework class hierarchy?

System.Web.UI.Page

38) Where do you store the information about the user's locale?

System.Web.UI.Page.Culture

39) What data types do the "Range Validator" control support?

Integer, String, and Date.

40) Explain the differences between Server-side and Client-side code?

Server-side code executes on the server. Client-side code executes in the client's browser.

41) What is the use of Global.asax?

Global.asax file is used to implement application and session level events.

42) Which method do you invoke on the "Data Adapter" control to load your generated dataset with data?

Fill() method.

43) Can you edit data in the Repeater control?

No, it just reads the information from its data source.

44) Which template must you provide, in order to display data in a Repeater control?

<ItemTemplate>.

45) What property must you set, and what method must you call in your code, in order to bind the data from a data source to the Repeater control?

We must set the **DataSource** property and call the **DataBind**() method.

46) What base class do all Web Forms inherit from?

The **Page** class.

47) Which property on a Combo Box do you set with a column name, prior to setting the DataSource, to display data in the combo box?

DataTextField property.

48) Which control would you use if you needed to make sure the values in two different controls matched?

Compare Validator control.

49) How many classes can a single .NET DLL contain?

It can contain many classes.

50) Where is "View State" information stored?

View State information is Stored in The Hidden Fields.

51) what do you mean software development ?

Software development is the process to deliver the right product to market.

52) What are all the ways to find out types of objects?

We have two ways to find out the type of Object. There are,

Typeof(obj) -> It takes parameter and gives the corresponding type as return data type.

GetType() -> It gives the current Instance of the object.

53) What is the difference between "Postback" and "Ispostback" Property?

PostBack -> This event sends the form data to the server and send back to browser.

Ispostback -> This event is page property of **bool** type used to check whether the page request is a postback or not.

54) What is difference between HTML controls and SERVER controls?

HTML controls run on client side.

Server controls run on server side.

55) What is Garbage Collector?

- Garbage Collection is a technique that manages memory automatically.
- In .NET Garbage Collector maintained by CLR.
- Garbage collection is a process of releasing the memory used by the objects.

56) Explain the purpose of "CultureInfo" class. What namespace contains it?

System.Globalization namespace contains **CultureInfo** class.

This class provides information about a specific culture, i.e. datetime format, currency, language etc.

57) What is Base Class Library in .NET?

Class library includes a subset of namespaces that allows you to create ASP.NET Web sites, components, and controls.

58) Which namespace is the base class for .net Class library?

System.Object

59) What is serialization & Deserialization in .NET?

Serialization -> It is the process of converting an object into a stream of bytes.

Deserialization ->It is the process of creating an object from a stream of bytes.

60) What does Dispose method do with the connection object?

Deletes it from the memory.

61) What is DLL hell ?

Windows Registry can't support the multiple versions of same COM component. This is called as the DLL Hell.

62) What are the executing commands on a database ?

ExecuteScalar() -> Returns a single value such as counting the number of records in a table.

ExecuteNonQuery() -> Performs DML commands such as Insert, delete items from database. But, don't return a specific value.

ExecuteReader() -> Reads records sequentially from the database.

63) What is Tracing in ASP.NET?

Tracing allows us to view how the code was executed in detail.

64) What is the lifetime of "Viewstate" ?

ViewState life is limited for Single Round Trip. Each New postback create new values for "viewstate".

65) In which page life cycle event we can access the ViewState Data?

We can access ViewState information in **Page_Init** event.

66) How to turn off cookies for one page in your site?

We have to use **Cookie.Discard** Property.

67) Can the HTML controls retain state across post backs?

No

68) Can the Asp.Net web server controls retain state across post backs?

Yes. For all Asp.Net web server controls ViewState is enabled by default, to maintain the state between multiple round trips.

69) Where will View State data stored?

ViewState data is stored in **Hidden field.**

70) How do you Enable/Disable a ViewState of Asp.Net server control on a page?

Every asp.net server control has a property called **EnableViewState**. We can set it to **True/False**. By default it is set to **True** for every web server control.

71) Is ViewState data of one page available to other page?

No, ViewState of a page is available only in that page. We cannot access ViewState data of one page in other page.

72) How can you enable ViewState encryption at page level?

We have to set ViewStateEncryptionMode = "Always" in ASPX page like below,

<%@page ViewStateEncryptionMode="Always"%>

73) How can you enable ViewState encryption for an application?

To configure "View State" encryption for an application does the following:

```
<Configuration>
  <system.web>
 <pages  viewStateEncryptionMode="Always"/>
 </system.web>
</configuration>
```

74) What is Global Assembly Cache (GAC)?

GAC is a machine-wide cache of assemblies that allows .NET applications to share libraries.

75) What is Private Assembly?

Private assembly is local to the installation directory of an application and is used only by that application (or) used by only single application. A private assembly is stored in the application's directory.

76) What is Shared Assembly?

Shared assembly is stored in the global assembly cache (GAC) and can be used by one or more applications on a machine.

77) what is a Satellite assembly?

- Satellite assemblies provide an application the **multilingual** support.
- A satellite assembly contains resources specific to a given language**.**
- Satellite assemblies contain alternate sets of resources to be used in the application for different cultures.

77) What is Logging?

Logging is the process of persisting information about the status of an application.

78) What is localization?

Localization is the process of customizing applications that support a given culture and regions.

79) what is the difference between user and custom controls?

1) **User Controls** are easy to create whereas **Custom Controls** are difficult to create.
2) **User Controls** cannot be compiled into an assembly; whereas **Custom Controls** can be compiled into an assembly.
3) **User Controls** cannot be added to tool box, whereas **Custom controls** can be added to the toolbox.
4) **User Control** is Local to application whereas **Custom control** is Global to an application.
5) **User controls** are used for reusing existing user interface (UI) elements and code, but are not useful for developing reusable components for multiple web applications.

80) Where do custom controls reside?

In the **global assembly cache (GAC).**

81) What is Authentication and Authorization?

Authentication is the process of verifying user's identity.

Authorization is the process of granting privilege to authenticated user.

82) Can we run asp.net application without WEB.CONFIG file?

Yes. we can run an asp.net application without the **WEB.CONFIG** file.

It means that the default configuration will be loaded from **MACHINE.CONFIG** file.

83) Where MACHINE.CONFIG resides in system?

C:\Windows\Microsoft.NET\Framework\Framework Version [example:4.0.30319]\CONFIG\machine.config

84) what is event bubbling in .NET?

The passing of the control from the child to the parent is called as **bubbling**.

Controls like Data Grid, Data List, Repeater, etc., can have child controls like List box, etc., inside them. An event generated is passed on to the parent as an **Item Command**.

- This process of sending the child control events to parent control is said to be **Event Bubbling.**
- The concept of calling parent event from child event is called **Event Bubbling**.

85) What is the use of Command Builder?

Command Builder builds Parameter **(**or) **SQL command** objects automatically.

86) What is impersonation in ASP.NET?

Impersonation is a technique to access application resources using the identity of some other user.

By default, Impersonation is **off.** To enable impersonation,

<identity impersonate="true" username="domain name\username" password="password"/>

87) Define Strong Name. How do you apply a strong name to assembly?

The name is used to provide global name to the assembly and allows it to be shared amongst several different applications.

To sign an assembly with a strong name,

- Create Key pair using the Strong Name utility, **Sn.exe**.
- Open the **AssemblyInfo** file of your project.
- Use the **AssemblyKeyFileAttribute** to specify the path to the key file for your project.
- Build your assembly. The strong name will be generated and signed to the assembly.

88) What is Cross-Page Posting?

Whenever we send a request to the server it sends request to the same page. **Cross- page** posting means it will send request to another page. We can achieve this through **postback url** property.

89) What is ADO.NET?

ADO.NET (ActiveX Data Objects for .NET) allows you to interact with data sources like database, indexing, sqlserver etc.

90) How to load a user control dynamically in runtime?

Write following code,

```
Control Ucontrol = (Control)Page.LoadControl("~/usercontrol/MyUserControl.ascx");
Page.Form.Controls.Add(Ucontrol);
```

Instead of adding this **user control** into the form you can add into **Panel** too so that you can position it at your desired location. In that case you need to declare a **panel** in the **.aspx** page and write following code,

Example: **Panel1.Controls.Add(c);**

91) How to get the authentication mode from web.config file programmatically at runtime?

Write following code,

```
System.Web.Configuration. AuthenticationSection section = (AuthenticationSection)
                                    WebConfigurationManager.GetSection("system.web/authentication");
Label1.Text = section.Mode.ToString();
```

You will get the authentication mode set in your **web.config** file.

92) What are the ways to deploy an assembly?

MSI installer, a CAB archive, and XCOPY command.

93) What property within the Gridview control is changed to bind columns manually?

Autogenerated Columns is set to false.

94) How do you send data through QueryString to another page without displaying it in the URL?

Use **Server.Transfer** method to send user to another page.

95) What is Tracing in ASP.NET? How do we enable tracing?

Tracing allows us to view how the code was executed in detail.

Example: `<%@ Page Trace="true" %>`

96) How many tables can we store in the dataset?

There is no limit for the storing of tables in the dataset. We can use many tables in a single dataset.

97) What is the Default Expiration Period For Session and Cookies?

Session->the default Expiration Period for Session is **20 minutes.**

Cookies->the default Expiration Period for Cookie is **30 minutes.**

98) How to copy items from one Dropdown List control to another Dropdown List control?

Write following code,

```
foreach (ListItem item in DropDownList1.Items)
{
    DropDownList2.Items.Add(item);
}
```

In the above example **DropDownList1** is the **id** of first Dropdown List and **DropDownList2** is the **id** of second Dropdown List control.

99) Difference between "DropDownList.Items.Add" and "DropDownList.Items.Insert" method?

DropDownList.Items.Add ()

Allows you to add new **ListItem** into the DropDownList. This item will be added as the last item of the DropDownList.

Example: **DropDownList.Items.Add(new ListItem("Default Panel", "0"));**

DropDownList.Items.Insert()

Allows you to specify the **index** of the item within the DropDownList where you want to insert the **ListItem**.

Example: **DropDownList.Items.Insert(0, new ListItem("Default Panel", "0"));**

Here Default Value will be added as the first item in the DropDownList.

100) If there are 5 rows in the DataTable & it is bound to the Gridview then how many times Item_bound event will run?

7 times. 5 for the items, 1 for header & 1 for footer.

101) If one application contains 10 folders, then how many maximum webconfig can contain in that application?

It will contain **11** web.config files

10 webconfig files for **10** folders and **1** for main application folder.

102) Can we put web.config in sub folders & which will applicable for the application?

We can put only one web.config in each subfolder . But the application root folder **web.config** will consider as the main **web.config**.

103) How can you dynamically assign a Master Page?

We can assign a Master Page dynamically in the **Page_PreInit** event of the **Content Page** by using the Page class **MasterPageFile** property.

Below is the code snippet to assign a master page dynamically.

Example:

```
public void Page_PreInit(Object sender, EventArgs e)
{
   this.MasterPageFile = "MasterPage.master";
}
```

104) Write the code which will create a cookie containing the user name DotnetFunda and the current date to the user computer. Set the cookie as that remains on the user computer for 10 days?

```
HttpCookie cookieWebInfo = new HttpCookie("WebInfo");
CookieWebInfo["Name"] = "DotnetFunda";
// here CookieWebInfo is an object of class HttpCookie
CookieWebInfo["Time"] = DateTime.Now.ToString();
CookieWebInfo.Expires = DateTime.Now.AddDays(10);
Response.Cookies.Add(cookieWebInfo);
```

Here the HttpCookie class is under the System.Web namespace. Here 'Expires' sets the duration, when cookie expires.

105) What is Debugger and what are the types of Debugger?

Debugger is a program that is used for testing and debugging purpose for the programs. Mainly it is used to analyze and examine error conditions in the application.

With the help of Debugger**,** we can able to find where the error occurred in your application.

There are two types of Debugger,

- **CorDBG (command-line debugger) -** To use this CorDbg, you must compile the original C# file using the debug switch.
- **DbgCLR (graphic debugger) -** The Visual Studio .NET uses this DbgCLR debugger.

139) Can a DropDownList fire validation controls?

Yes. DropDownList control can fire validation control when the **CausesValidation** property of that validation control is set to **True** and the **AutoPostBack** property is set to **True**.

140) What is a validation group and how do you create a validation group?

This is a group which allows you to combine different validation controls in a single group on a page.

141) What is InitialValue property of a RequiredFieldValidator?

This property assigns the starting value for a input control. The default value is **String.Empty.** With the help of this control you can make the input control as a mandatory field.

142) Is the ViewState of one page available to another page?

No, the ViewState of a Page is available only in that page. We cannot access **ViewState** of one page to another page.

143) Can you programmatically store and retrieve data from ViewState?

Yes. We can programmatically store and retrieve data from ViewState in an ASP.NET application.

Example:

```
// To save the value in ViewState object
    ViewState("Name") = txtName.Text;

// Retrieve the value from ViewState object
  String strName = ViewState("Name").ToString();
```

144) Can the HTML controls retain State across postbacks? If no, can you make HTML controls retain State across postbacks?

No, by default the HTML controls doesn't retain any state across postbacks.

But yes, if we convert HTML controls to Server Controls then we can retain HTML control State across postbacks.

There are 2 ways to convert HTML control to Server Control.

- Right click on the HTML Control and then click **"Run as Server Control"**
- Set **runat="server"** attribute for the Control.

145) what is Application Domain?

- It is the execution boundary within which an application runs.
- Application Domain is created inside a process.
- One process can have multiple Application Domains.

146) how many languages a .NET DLL can contain?

It contains only one language. It is the **MSIL** (Microsoft Intermediate Language).

All the code is compiled into the MSIL. The MSIL provides language interoperability by using the **CLS** infrastructure.

147) Difference between Finalize () and Dispose() methods?

These are the methods used to De-allocate the memory of the objects .

FINALIZE

- Finalize belongs to the Object class.
- It is automatically called by the Garbage Collection mechanism .It is not called by the User Code.

DISPOSE

- Dispose belongs to the **IDisposable** interface.
- We have to manually write the code to implement it.

148) Difference between String.Empty and ""?

String.Empty is a Read-only field, while **""** is a constant.

Consider this code snippet.

```
Private void button1_Click(object sender, EventArgs e)
{
   string s = textBox1.Text;
   switch (s)
    {
      case String.Empty:
      MessageBox.Show("blank");
      break;
    }
 }

 // Compiler will generate an error
// A constant value is expected
// so, if we use "" in place of String.Empty, no error will be generated.
```

149) What are the different ways to deploy an assembly?

Basically there are three different ways to deploy an assembly.

They are,

- Using a MSI Installer
- Using a CAB archive
- Using a XCOPY Command

150) what is IsPostback property?

Ispostback is a property of page to check whether the page is loaded first time or in response to the client callback.

151) what you mean by Connection pool? How it works?

Opening database connection is a time consuming operation. **Connection pooling** increases the performances of the applications by reusing the active database connections instead of create new connection for every request.

Connection pooling Behavior is controlled by the connection string parameters.

By default, a **connection string** is enabled with connection pooling. By default, the maximum number of pools is **100**, minimum is **0**.

Following **4** parameters control most of the connection pooling behavior.

1) Connect Timeout
2) Max Pool Size
3) Min Pool Size
4) Pooling

How connection Pooling works:

We said that by default we have 100 pools. When the first user enters our webpage and tries to open one connection, then the first connection pool is created. Now 99 pools are remaining. At the same time, one more user tries to open a connection with the same string then our pooler checks whether any opened pools with same connection string are free or available. If the first user closes the connection, that pool will be free and this user starts using the same pool. So this second user also uses the same pool and we can get more performance and resources.

Suppose if the pool is not freed and the first user is still using it, what the pooler will do from the remaining 99 pools is that it will create one more pool and use it. Like this, when n number of users try to establish a connection if the pools are free it will reuse the same pool or if 100 pools are engaged, it will wait for a pool to be free. If the pool is getting free in a particular time, it will use it otherwise the waiting connection will expire. So for huge customer websites, 100 pools will not be enough. So we have to allow more pools. If the connection string is different, it will create a new pool.

Connection pooling options that you can add to the SQL Server connection string:

Connection Lifetime -> Destroys a connection after a certain number of seconds. The default value is 0, which indicates that connections should never be destroyed.

Connection Reset -> Indicates whether connections should be reset when they are returned to the pool. The default value is true.

Enlist -> Indicates whether a connection should be automatically enlisted in the current transaction context. The default value is true.

Max Pool Size -> The maximum number of connections allowed in a single connection pool. The default value is 100.

Min Pool Size -> The minimum number of connections allowed in a single connection pool. The default value is 0.

Pooling -> Determines whether connection pooling is enabled or disabled. The default value is true.

Example:

```
SqlConnectionStringBuilder Obj_sqnbuild = new SqlConnectionStringBuilder ();

Obj_sqnbuild.InitialCatalog = "dB_test";
Obj_sqnbuild.DataSource = "DBSERVER";
Obj_sqnbuild.UserID = "sa";
Obj_sqnbuild.Password = "db_Ser3er_2009";
Obj_sqnbuild .Add ("Max pool size",1500);
Obj_sqnbuild .Add ("Min pool size",20);
Obj_sqnbuild.Add("Pooling", true);
Obj_sqlcon.ConnectionString = Obj_sqnbuild.ConnectionString;
```

152) Differences of "String" and "StringBuilder"?

Both **String** and **StringBuilder** are classes used to handle the strings.

- **String** is Immutable, means we cannot change the contents of string at run time.
- **StringBuilder** is mutable. Usage of "StringBuilder" is more efficient in case large amounts of string manipulations have to be performed

153) What is difference between "String" and "string"?

"string" is an alias for **System.String .** So technically, there is no difference between them. It's like **int** vs. **System.Int32.**

154) What does connection string consists of ?

Connection string consists of: server name, user id, password, database name.

155) How many web.config files an application can have?

One.

156) Where does u store connection string?

Connection string can store in web.config file under configuration / connection string tab.

157) What does the parameter Initial Catalog define inside Connection String?

The “database name” to connect to database.

158) What Namespace provide the Data access methods and functions for Sqlserver ?

System.Data.SqlClient

159) Why we should use Connectionstring in webconfigfile ?

In Asp.net, Sql server database ConnectionString can also be stored in web.config file that allows you to access the ConnectionString anywhere in the Data access layer developed in the Asp.net web application.

If we use ConnectionString in Web.Config file then we can change the database connection at single place without searching it in the complex code of large webapplications.

160) How to set error page in webconfig ?

```
<customErrors mode="On"       defaultRedirect="~/errors/GeneralError.aspx">
<error statusCode="404" redirect="~/errors/PageNotFound.aspx" />
</customErrors>
```

The mode attribute can be one of the following:

On -> Error details are not shown to anybody, even local users. If you specified a custom error page it will be always used.

Off -> Everyone will see error details, both local and remote users. If you specified a custom error page it will NOT be used.

RemoteOnly -> Local users will see detailed error pages with a stack trace and compilation details. If a custom error page is available, it will be shown to the remote users only.

161) How to use ConnectionString in <ConnectionStrings> section in Web.Config file ?

```
<configuration>
<connectionStrings>
<add  name="YourConnectionString"
        ConnectionString= " Data Source=Your DataSourceName;
                            Initial Catalog=Your DatabaseName;
                            User ID=Your  Sql-Server UserName;
                            Password=Your Sql-Server Password "
        ProviderName="Your Connection Provider NameSpace"">
</add>
</connectionStrings>
</configuration>
```

162) How to use ConnectionString in <AppSetting > section in Web.Config file ?

```
<appsettings>
<add  key= "YourConnectionString"
       Value=" Server=Your ServerName;
                Database=Your DatabaseName;
                uid=Your Sql- Server UserName;
                Password=Your Sql-Server Password;
                Pooling=false "  >
 </add>
 </appsettings>
```

163) How to access a ConnectionString in Asp.net Webpage from Web.Config file ?

If you are using ConnectionString in <appsettings> section then,

```
string Connectionstring= ConfigurationSettings.AppSettings["ConnectionStringName"].ToString();
```

If you are using ConnectionString in <ConnectionString> section then,

```
string Connectionstring=ConfigurationManager.ConnectionStrings["ConnectionStringName"].ToString();
```

164) Can you explain brief about ConnectionString in Web.Config file?

We have to add a **ConnectionString** between the **<add> </add>** element tags in the **<ConnectionStrings>** section under the **<Configuration>** section.

<add> element supports 3 attributes. They are,

1) name
2) ConnectionString
3) ProviderName

Name -> This attribute is used to define the name for the database ConnectionString.

ConnetionString -> Used to declare the ConnectionString for the Database connection.

ConnectionString has 4 attributes. They are,

1) Data Source
2) Initial Catalog
3) User ID
4) Password

Data Source -> We can use IP address of the webserver configured with sqlserver (or) where we have hosted our website. Mostly in " Data Source " field " localhost " is used.

Initial Catalog -> We can use name of the Sql-Server Databse.

User ID -> We have to enter Sql-Server authenticated User name.

Password -> We have to enter Sql-Server authenticated password.

Provider Name -> It is optional parameter. It is used to pass the provider name of class of Asp.net that will provide the connectivity and data access functions and layers.

165) What are three test cases you should go through in unit testing?

- Positive test cases (correct data, correct output).
- Negative test cases (broken or missing data, proper handling).
- Exception test cases (exceptions are thrown and caught properly).

166) What is assembly manifest?

- Assembly manifest is a data structure which stores information about an assembly.
- This information is stored within the assembly file(DLL/EXE) itself.
- The information includes version information, list of constituent files etc.

167) what is assembly and is it possible to put private assembly in GAC?

- Assembly is a logical unit of code.
- Assembly physically exists as DLLs (or) EXEs.
- One assembly can contain one or more files.
- When you compile your source code by default the exe/dll generated is actually an assembly.
- Assembly contains compiled code in MSIL language.
- Assembly contains information about its version.
- Assemblies are portable units that can be transferred for deployment on servers (or) PC.
- Assembly contains meta-data that define the type-safety and other security options for an application.
- Every assembly file contains information about itself. This information is called as Assembly Manifest.
- **Assembly** is a compiled output of program, which are used for easy deployment of an application. They are executable in the form of **exe** (or) **dll**. It also is a collection of resources that were used while building the application and is responsible for all the logical functioning.
- No it is not possible to put private assembly in **GAC**. A private assembly is stored in the application's directory.

168) what is the "using" keyword in .NET?

- It creates an alias for a namespace.
- **"Using**" keyword is used to intimate the compiler to load supported namespaces for our program.

169) what is the difference between Web.config and Machine.Config in .NET?

Web.config file is used to make the settings to a web application.

Machine.config file is used to make settings to all ASP.NET applications on a server (server machine).

170) what is the difference between .NET 1.1, 2.0, 3.0, 3.5 and 4.0?

The lists of differences are huge. In interviews you normally need to short and sweet. So we will list down top 5 differences from each section.

Difference between 1.0 and 2.0.
==========

- Support for 64 bit application.
- Generics
- SQL cache dependency
- Master pages
- Membership and roles

Now the next difference .NET 2.0 and 3.0
==========

- WCF
- WPF
- WWF
- WCS (card space)

3.0 and 3.5
==========

- LINQ
- Ajax inbuilt
- ADO Entity framework
- ADO data services
- Multi targeting

Finally 3.5 and 4.0
==========

- MEF
- Parallel computing
- DLR dynamic
- Code contract
- language runtime
- Lazy initialization

171) what is 3-layer Architecture? Can you explain brief?

It is a very useful approach for coding due to easy code maintenance.

3-layer Architecture divides the project in to 3 layers. They are,

1) **Presentation (or) Application Layer (UI)**
2) **Business Layer (or) Logical Layer**
3) **Data Layer (or) Data Access Layer**

Presentation layer -> Presentation layer is responsible for displaying user interface.

Example: Controls like Textboxes, Labels, etc…..

Business Layer -> Business Layer is responsible to get data from presentation Layer and passes through the Data Access Layer and get result from Data Access Layer and sends it to Presentation Layer.

All Business rules are performed in Business Layer. Business Layer contains business logic, validations (or) calculations related with the data.

Data Access Layer -> connecting database and getting the details are done here.

Data Access Layer gets the data from Business Layer and sends it to the database (or) gets the data from database and sends it to the Business Layer.

172) Is it possible to stop the client side validation of an entire page?

Yes, set the property **Page. Validate = false;**

173) Is it possible to disable client side script in validators?

Yes. Simply **EnableClientScript = false**.

174) what are design patterns in .NET?

Design patterns are common solutions to common design problems.

175) How to kill a user session in ASP.NET?

Use the **Session. Abandon ()** method.

176) Is it possible to perform forms authentication with cookies disabled on a browser?

Yes, it is possible.

177) what is the difference between web.config and app.config?

Web.config -> Used for web based asp.net applications.
App.config -> Used for windows based applications.

178) which class is at the top of .NET class hierarchy?

System. Object.

179) Explain the three services model commonly known as a three-tier application?

Presentation Layer (UI)

Business Layer (logic and underlying code)

Data access Layer (from storage or other sources)

180) Can you change the value of a variable while debugging a C# application?

Yes. If you are bugging via Visual Studio.NET, just go to **immediate** window.

181) what for using System. Logging namespace is used?

It is used to track the information about application errors.

182) where the global assembly cache located on the system?

Global assembly cache located at **C:\windows\assembly** (or) **C:\winnt\assembly.**

183) what is the difference between object pooling and connection pooling?

In case of **object pooling**, you can control the number of connections.

In case of **connection pooling**, you can control the maximum number of connections reached.

184) what are the different Name Spaces that are used to create a localized application?

System. Globalization

System. Resources

185) What are the different Debugging tools come with .Net SDK ?

DbgcLr : This is also known as Graphic Debugger. Visual studio .Net uses this.

CorDBG : This is Command line .

186) What are differences between Cookie and Session?

Cookie	Session
Cookie store data locally in the user's browser.	**Session** store data on the webserver.
There is a no security for the **cookie**. Because, it is stored on client (or) user system. So, any user can access this.	**Session** provide security because, data stored on the web server. This makes sessions secure, because the data cannot be viewed or edited by the client.
Can only store a limited amount of data. Cookies store a maximum of **4kb** data only.	Can store very large amounts of data easily.
It can store only **plain text** and it is not possible to store **objects**.	It can store **objects** also.
Must pass all data to the webserver each **Page_Load**. This takes up more bandwidth.	Save bandwidth by passing only a reference to the session each **Page_Load**. A client-side cookie has to pass all of its data.
It is not possible to store data across multiple pages.	Once we create a **Session** then we can access this session variable (or) value anywhere in the application.

187) If you have more than one lakh rows in database table, while printing that table in frontend performance will be degraded. For that what do you do to improve the performance?

Increase the **execution time out** in **web.config**

(OR)

Increase the **connection time out** in **connection string**.