## Why would you like to change the company?

1) I am looking for a more challenging career in a firm with a larger employee base such as yours.

2) Keeping in mind my career goals, the time has come for me to move onto the next rung of

the ladder and make a mark for myself. This can be achieved in a company like this.

3) It is just a career move to enhance my knowledge in my own area of interest.

After completion of this question only interview will go for further questions

## What are the Index types in SQL Server

**Clustered Index:** Only 1 allowed per table physically rearranges the data in the table to confirm to the index constraints for use on columns that are frequently searched for ranges of data for use on columns with low selectivity.

**Non-Clustered Index:** Up to 999 allowed per table creates a separate list of key values with pointers to the location of the data in the data pages for use on columns that are searched for single values 

A clustered index is a special type of index that reorders the way records in the table are physically stored. Therefore table can have only one clustered index. The leaf nodes of a clustered index contain the data pages. A non-clustered index is a special type of index in which the logical order of the index does not match the physical stored order of the rows on disk. The leaf node of a non-clustered index does not consist of the data pages. Instead, the leaf nodes contain index rows.

**Included Column Index (New in SQL Server 2005)**  
In SQL Server 2005, the functionality of non-clustered indexes is extended by adding non-key columns to the leaf level of the non-clustered index. Non-key columns can help to create cover indexes. By including non-key columns, you can create non-clustered indexes that cover more queries. The Database Engine does not consider non-key columns when calculating the number of index key columns or index key size. Non-key columns can be included in non-clustered index to avoid exceeding the current index size limitations of a maximum of 16 key columns and a maximum index key size of 900 bytes. Another advantage is that using non-key column in index we can have index data types not allowed as index key columns generally.  
  
In following example column Filename is varchar(400), which will increase the size of the index key bigger than it is allowed. If we still want to include in our cover index to gain performance we can do it by using the Keyword INCLUDE.

USE AdventureWorks  
GO  
CREATE INDEX IX\_Document\_Title  
ON Production.Document (Title, Revision)  
INCLUDE (FileName)

Non-key columns can be included only in non-clustered indexes. Columns can’t be defined in both the key column and they INCLUDE list. Column names can’t be repeated in the INCLUDE list. Non-key columns can be dropped from a table only after the non-key index is dropped first. For Included Column Index to exist there must be at least one key column defined with a maximum of 16 key columns and 1023 included columns. 

Avoid adding unnecessary columns. Adding too many index columns, key or non-key as they will affect negatively on performance. Fewer index rows will fit on a page. This could create I/O increases and reduced cache efficiency. More disk space will be required to store the index. Index maintenance may increase the time that it takes to perform modifications, inserts, updates, or deletes, to the underlying table or indexed view.

**Another example to test:** Create following Index on Database AdventureWorks in SQL SERVER 2005

USE AdventureWorks  
GO  
CREATE NONCLUSTERED INDEX IX\_Address\_PostalCode  
ON Person.Address (PostalCode)  
INCLUDE (AddressLine1, AddressLine2, City, StateProvinceID)  
GO   
  
Test the performance of following query before and after creating Index. The performance improvement is significant.

SELECT AddressLine1, AddressLine2, City, StateProvinceID, PostalCode  
FROM Person.Address  
WHERE PostalCode BETWEEN '98000'  
AND '99999';  
GO

## What are differences between Array list and Hash table?

1) Hash table store data as name, value pair. While in array only value is store.

2) To access value from hash table, you need to pass name. While in array, to access value, you need to pass index number.

3) you can store different type of data in hash table, say int, string etc. while in array you can store only similar type of data.

## What are differences between system.stringbuilder and system.string?

The main difference is system.string is immutable and system.stringbuilder is a mutable. Append keyword is used in string builder but not in system.string.

Immutable means once we created we cannot modified. Suppose if we want give new value to old value simply it will discarded the old value and it will create new instance in memory to hold the new value.

## What are the differences between Application object and session object?

The session object is used to maintain the session of each user. If one user enter in to the application then they get session id if he leaves from the application then the session id is deleted. If they again enter in to the application they get different session id.  
But for application object the id is maintained for whole application.

## How many types of memories are there in .net?

Two types of memories are there in .net stack memory and heap memory.

## Is it possible to set the session out time manually?

Yes we can set the session out time manually in web.config.

## Can you Explain Page lifecycle in .net?

## Can you Explain .NET architecture in .net?

## Is it possible to host the website from desktop?

Yes.

## Why we go for page rendering in Asp.Net Page life cycle?

Browser understands an only html control that’s why in page rendering we will convert the aspx controls into html controls.

## Can we change the index of primary key on table?

No.

## How to change the name of the table or stored procedure in sql?

sp\_rename oldtablename newtablename

For changing the column name

Sp\_rename  ‘tablename.[Oldcolumnname]’,’newcolumnname’,’Column’

Ex:sp\_rename ‘tblemp.first’,’namechange’,’Column’

## How to find out which index is defined on table?

sp\_helpindex tablename

## Can you write the program to find the length of string without using library function?

for (int i=0; str[i]!=”\n”; i++) { Count++; }

## What is the difference between scope\_identity() and current\_identity()?

Scope\_identity and current \_identity both are similar and it will return the last identity value generated in the table.

Scope\_Identity will return the identity value in table that is currently in scope

## What are difference between GET and POST Methods?

GET Method ():   
  
1) Data is appended to the URL.   
2) Data is not secret.   
3) It is a single call system   
4) Maximum data that can be sent is 256.   
5) Data transmission is faster   
6) this is the default method for many browsers   
  
POST Method ():   
  
1) Data is not appended to the URL.   
2) Data is Secret   
3) it is a two call system.   
4) There is no Limit on the amount of data. That is characters any amount of data can be sent.   
5) Data transmission is comparatively slow.   
6) No default and should be explicitly specified.

## What is the difference Grid View and between Data Grid (Windows)?

1. GridView Control Enables you to add sorting, paging and editing capabilities without writing any code.
2. GridView Control Automatically Supports paging by setting the ‘PagerSetting’ Property.The Page Setting Property supports four Modles

* Numeric(by default)
* Next Previous
* NumericFirstLast
* Next PreviousLast

1. It is Used in asp.net
2. GridView Supports RowUpdating and RowUpdated Events.
3. GidView is Capable of Pre-Operations and Post-Operations.
4. GridView Has EditTemplates for this control
5. It has AutoFormat.

**DataGrid(Windows)**

1. DataGid Control raises single Event for operations
2. DataGird Supports the SortCommand Events that occur when a column is Sorted.
3. DataGrid Supports UpdataCommand Event that occurs when the Update Button is clicked for an item in the grid.
4. DataGrid is used in Windows GUI Application.
5. It does not have EditTemplates for this control
6. It doesn’t have AutoFormat.

## If I write System.exit (0); at the end of the try block, will the finally block still execute?

No in this case the finally block will not execute because when you say system.exit(0),the control immediately goes out of the program, and thus finally never executes.

## What are the different levels of State management in ASP.NET?

State management is the process by which you maintain state and page information over multiple requests for the same or different pages.

**There are 2 types State Management:**

1. **Client – Side State Management -** This stores information on the client's computer by embedding the information into a Web page, a uniform resource locator (url), or a cookie. The techniques available to store the state information at the client end are listed down below:
   1. **View State** – Asp.Net uses View State to track the values in the Controls. You can add custom values to the view state. It is used by the Asp.net page framework to automatically save the values of the page and of each control just prior to rendering to the page. When the page is posted, one of the first tasks performed by page processing is to restore view state.
   2. **Control State** – If you create a custom control that requires view state to work properly, you should use control state to ensure other developers don’t break your control by disabling view state.
   3. **Hidden fields** – Like view state, hidden fields store data in an HTML form without displaying it in the user's browser. The data is available only when the form is processed.
   4. **Cookies** – Cookies store a value in the user's browser that the browser sends with every page request to the same server. Cookies are the best way to store state data that must be available for multiple Web pages on a web site.
   5. **Query Strings** - Query strings store values in the URL that are visible to the user. Use query strings when you want a user to be able to e-mail or instant message state data with a URL.
2. **Server – Side State Management**
   1. **Application State** - Application State information is available to all pages, regardless of which user requests a page.
   2. **Session State** – Session State information is available to all pages opened by a user during a single visit.

Both application state and session state information is lost when the application restarts. To persist user data between application restarts, you can store it using profile properties.

## What do you mean by String objects are immutable?

String objects are immutable as its state cannot be modified once created. Every time when we perform any operation like add, copy, replace, and case conversion or when we pass a string object as a parameter to a method a new object will be created.

String str = "ABC";

str.Replace("A","X");

Here Replace() method will not change data that "str" contains, instead a new string object is created to hold data "XBC" and the reference to this object is returned by Replace() method.  
So in order to point str to this object we need to write below line.

str = str.Replace("A","X");

Now the new object is assigned to the variable str. earlier object that was assigned to str will take care by garbage collector as this one is no longer in used.

## What is dll hell problem in .NET and how it will solve?

Dll hell, is kind of conflict that occurred previously, due to the lack of version supportability of dll for (within) an application

.NET Framework provides operating system with a global assembly cache. This cache is a repository for all the .net components that are shared globally on a particular machine. When a .net component installed onto the machine, the global assembly cache looks at its version, its public key and its language information and creates a strong name for the component. The component is then registered in the repository and indexed by its strong name, so there is no confusion between the different versions of same component, or DLL

## What is the cross page post backing?

Asp.Net 2.0 fixed this with built-in features that allowed us to easily send information from one page to another.  
  
Button control has property PostBackUrl that can be set to URL of any page in our ASP.Net WebSite where we want to transfer all form values to.  
Along with that Asp.Net 2.0 Page class has a property PreviousPage that allows us to get reference to the Page object that initiated the postback (in other words to get the actual reference to the Page object of the aspx page on which user clicked the Submit button on a HTML form).  
  
So for example let’s create two sample pages in our Web Application:

SourcePage.aspx

DestinationPage.aspx

In SoucePage in Html form we will put two TextBox controls (one for First Name and one for Last Name) and one Button component and set its PostBackUrl property to "~/DestinationPage.aspx".

SourcePage.aspx:

    <form id="form1" runat="server">

        <div>

            First Name:&nbsp;

<asp:TextBox ID="FirstName" runat="server"></asp:TextBox><br />

            Last Name:&nbsp;

<asp:TextBox ID="LastName" runat="server"></asp:TextBox><br /><br />

<asp:Button ID="Button1" runat="server" Text="Submit To Destination Page" PostBackUrl="~/CrossPagePostbacks/DestinationPage.aspx" />

        </div>

    </form>

When our user clicks the Submit button, all the values from the HTML Form on SourcePage.aspx will be transfered to the DestinationPage.aspx and we will also be able to get reference to the SourcePage.aspx in our DestinationPage with the PreviousPage property like this:  
So in our DestinationPage.aspx.cs code-behind we can easily access two TextBox controls on SourcePage.aspx and show them in two label controls like this:

    protected void Page\_Load(object sender, EventArgs e)

    {

        // first check if we had a cross page postback

        if ( (PreviousPage != null) && (PreviousPage.IsCrossPagePostBack) )

        {

            Page previousPage = PreviousPage;

            TextBox firstName = (TextBox)previousPage.FindControl("FirstName");

            TextBox lastName = (TextBox)previousPage.FindControl("LastName");

            //we can now use the values from TextBoxes and display them in two

//Label controls.

            labelFirstName.Text = firstName.Text;

            labelLastName.Text = lastName.Text;

         }

    }

You probably noticed that we first checked if PreviousPage property of current page (DestinationPage.aspx) is NOT NULL, this is done to avoid running our code in case that user opens our DestinationPage.aspx directly, without running a cross page postback.  
  
Also here we checked the another PreviousPage property called IsCrossPagePostBack to see if we really had a CrossPagePostback.  
(If Server.Transfer is used to redirect to this page, IsCrossPagePostBack property will be set to FALSE.  
  
TIP: We can be completely sure that we have a  real CrossPagePostback ONLY IF:

Page.PreviousPage is NOT NULL,

PreviousPage.IsCrossPagePostback is true

This important to check to avoid errors in code.  
  
Now this is very useful and I’m sure you are eager to use this in your next project. But wait, we are not over yet!  
Finding the controls on PreviousPage with FindControl method and type-casting them from object to their real type is a little messy.  
It feels like there must be a better solution for this!  
  
And here it is: We can use the <%@ PreviousPageType %> directive in the header of our DestinationPage.aspx like this

    <%@ PreviousPageType VirtualPath="~/SourcePage.aspx" %>

to declare our previous page type, and then we can access Public properties of the PreviousPage without typecasting.  
Now all we need to do is to create some public properties on our SourcePage.aspx.cs to expose data/Controls we want to the destionation page:

    public partial class SourcePage : System.Web.UI.Page

    {

        public string FormFirstName

        {

            get { return FirstName.Text; }

        }

        public string FormLastName

        {

            get { return LastName.Text; }

        }

    }

And then we can change the Page\_Load code in our DestinationPage.aspx to much cleaner code like this:

    protected void Page\_Load(object sender, EventArgs e)

    {

        // first check if we had a cross page postback

        if ( (PreviousPage != null) && (PreviousPage.IsCrossPagePostBack) )

        {

            SourcePage prevPage = PreviousPage;

            // we can now use the values from textboxes and display them in two

// Label controls.

            labelFirstName.Text = prevPage.FormFirstName;

            labelLastName.Text = prevPage.FormLastName;

        }

    }

SourcePage type used in the code is offcourse name of the partial class defined is SourcePage.aspx.cs that inherits System.Web.UI.Page that is automatically created for us when we created new WebForm in VisualStudio.  
This code is much cleaner and easier to follow, there is no ugly typecasting, just simple property values to use to retrieve the data from previous page.

## What is the difference between application exception and system exception?

The difference between application exception and system exception is that system exceptions are thrown by CLR and application exceptions are thrown by applications.

## What is the difference between authorization and authentication?

Authorization is a process of allowing or denying resources to particular user or record

<authorization>

<allow users=”Suresh, Sanjay”/>

<deny users=”Ramana, Rakesh”>

</authorization>

Sometimes authorization allows the unauthorized persons at that time we will use

<deny users=”?”/>

Authentication is a process where we identify the credentials of user i.e. username, password and create an identity to mention user as an authenticated.

## How to get the version of the assembly?

lbltxt.text=Assembly. GetExecutingAssembly().GetName().Version.ToString();

## What is the location of Global Assembly Cache on the system?

c:\Windows\assembly

## What is synchronization?

The mechanism needed to block one thread access to the data. If the data is being accessed by another thread.

Synchronization can be accessed by using **system.monitor** class

A monitor class methods are enter, exit, pulse for this lock statement is also used

Suppose if we need to synchronize some data at that time we need to place that data in this block

**Lock { }**

Whatever the data has been placed into the lock block that data has been blocked

## What are the thread priority levels?

Thread priority levels are five types

         0 - Zero level

         1 - Below Normal

         2 - Normal

         3 - Above Normal

         4 - Highest

By Default priority level is 2

## What is the difference between .tostring(), Convert.tostring()?

The basic difference between them is “Convert” function handles NULLS while  
“.ToString()” does not it will throw a NULL reference exception error. So as a good coding  
practice using “convert” is always safe.

## How many web.config files are there in 1 project?

There might be multiple web.config files for a single project depending on the hierarchy of folders inside the root folder of the project, so for each folder we can use one web.config file.

## What is the difference between throw and throw ex?

## What is the difference between view state and hidden field?

Viewstate is secured hidden field is insecure.

Viewstate will store large amount of data but hidden filed will store small amount of data.

## What is the difference between binary serialization and xml serialization?

## What is the use of business logic layer in 3-tier architecture in .net?

Though a web site could talk to the data access layer directly, it usually goes through another layer called the business layer. The business layer is vital in that it validates the input conditions before calling a method from the data layer. This ensures the data input is correct before proceeding, and can often ensure that the outputs are correct as well. This validation of input is called business rules, meaning the rules that the business layer uses to make “judgments” about the data.

However, business rules don’t only apply to data validation; these rules apply to any calculations or any other action that takes place in the business layer. Normally, it’s best to put as much logic as possible in the business layer, which makes this logic reusable across applications.

One of the best reasons for reusing logic is that applications that start off small usually grow in functionality. For instance, a company begins to develop a web site, and as they realize their business needs, they later decide to add a smart client application and windows service to supplement the web site. The business layer helps move logic to a central layer for “maximum reusability.”

## What happens when I enter a URL in my browser and click enter?

You type in the URL and hit go. The browser needs to translate that URL www.somesite.com into an IP address so it knows what computer on the internet to connect to (That URL is just there to make it easier for us humans - kinda like speed-dial for phone numbers I guess). So your browser will see if it already has the appropriate IP address cached away from previous visits to the site. If not, it will make a DNS query to your DNS server (might be your router or your ISP's DNS server)

Once your browser knows what IP to use, it will connect to the appropriate webserver and ask for the page. The webserver then returns the requested page and your browser renders it to the screen.  
  
The firewall will control connections to & from your computer. For the most part it will just be controlling who can connect to your computer and on what ports. For web browsing your firewall generally won't be doing a whole lot.  
  
Your router essentially guides your request through the network, helping the packets get from computer to computer and potentially doing some NAT to translate IP addresses along the way (so your internet LAN request can be transitioned onto the wider internet and back).  
  
IP Addresses are unique addresses for computers that basically allow computers to find each other. Think of the IP address as a computer's well address or phone number, you've got to know someone's phone number before you can call them and you've got to know a computer's IP address before you can connect to it. Going back to the start - that's what those URLS and DNS make possible, you don't know John Doe's phone number so you look in the phone book; likewise your computer doesn't know yahoo.com's IP address so it looks in D

## What is ASP.Net?

It is a framework developed by Microsoft on which we can develop new generation web sites using web forms (aspx), MVC, HTML, JavaScript, CSS etc. Its successor of Microsoft Active Server Pages (ASP). Currently there is ASP.NET 4.0, which is used to develop web sites. There are various page extensions provided by Microsoft that are being used for web site development. Eg: aspx, asmx, ascx, ashx, cs, vb, html, XML etc.

## What’s the use of Response.Output.Write()?

We can write formatted output  using Response.Output.Write().

## In which event of page cycle is the ViewState available?    After the Init() and before the Page\_Load().

## What is the difference between Server.Transfer and Response.Redirect?

In **Server.Transfer** page processing transfers from one page to the other page without making a round-trip back to the client’s browser.  This provides a faster response with a little less overhead on the server.  The clients url history list or current url Server does not update in case of Server.Transfer.

**Response.Redirect** is used to redirect the user’s browser to another page or site.  It performs trip back to the client where the client’s browser is redirected to the new page.  The user’s browser history list is updated to reflect the new address.

## From which base class all Web Forms are inherited?

Page class.

## What are the different validators in ASP.NET?

1. Required field Validator
2. Range  Validator
3. Compare Validator
4. Custom Validator
5. Regular expression Validator
6. Summary Validator

## Which validator control you use if you need to make sure the values in two different controls matched?

Compare Validator control.

## What is ViewState?

ViewState is used to retain the state of server-side objects between page post backs.

## Where the viewstate is stored after the page postback?

ViewState is stored in a hidden field on the page at client side.  ViewState is transported to the client and back to the server, and is not stored on the server or any other external source.

## How long the items in ViewState exists?

They exist for the life of the current page.

## What are the different Session state management options available in ASP.NET?

**In-Process** stores the session in memory on the web server.

**Out-of-Process** Session state management stores data in an external server.  The external server may be either a SQL Server or a State Server.  All objects stored in session are required to be serializable for Out-of-Process state management.

## How you can add an event handler?

Using the Attributes property of server side control.

|  |  |
| --- | --- |
|  | btnSubmit.Attributes.Add("onMouseOver","JavascriptCode();") |

## What is caching?

Caching is a technique used to increase performance by keeping frequently accessed data or files in memory. The request for a cached file/data will be accessed from cache instead of actual location of that file.

**ASP.NET has 3 kinds of caching:**

* Output Caching,
* Fragment Caching,
* Data Caching.

## Which type if caching will be used if we want to cache the portion of a page instead of whole page?

**Fragment Caching**: It caches the portion of the page generated by the request. For that, we can create user controls with the below code:

|  |  |
| --- | --- |
|  | <%@ OutputCache Duration="120" VaryByParam="CategoryID;SelectedID"%> |

## List the events in page life cycle.

1. Page\_PreInit
2. Page\_Init
3. Page\_InitComplete
4. Page\_PreLoad
5. Page\_Load
6. Page\_LoadComplete
7. Page\_PreRender
8. Render

## Can we have a web application running without web.Config file?

**Yes.**

## Is it possible to create web application with both webforms and mvc?

Yes. We have to include below mvc assembly references in the web forms application to create hybrid application

|  |  |
| --- | --- |
|  | System.Web.Mvc    System.Web.Razor    System.ComponentModel.DataAnnotations |

## Can we add code files of different languages in App\_Code folder?

 No. The code files must be in same language to be kept in App\_code folder.

## What is Protected Configuration?

It is a feature used to secure connection string information.

## Write code to send e-mail from an ASP.NET application?

|  |  |
| --- | --- |
|  | MailMessage mailMess = new MailMessage ();  mailMess.From = "abc@gmail.com";  mailMess.To = "xyz@gmail.com";  mailMess.Subject = "Test email";  mailMess.Body = "Hi This is a test mail.";  SmtpMail.SmtpServer = "localhost";  SmtpMail.Send (mailMess); |

MailMessage and SmtpMail are classes defined System.Web.Mail namespace.

## How can we prevent browser from caching an ASPX page?

  We can SetNoStore on HttpCachePolicy object exposed by the Response object’s Cache property:

|  |
| --- |
| Response.Cache.SetNoStore ();  Response.Write (DateTime.Now.ToLongTimeString ()); |

## What is the good practice to implement validations in aspx page?

Client-side validation is the best way to validate data of a web page. It reduces the network traffic and saves server resources.

## What are the event handlers that we can have in Global.asax file?

**Application Events:** Application\_Start , Application\_End, Application\_AcquireRequestState, Application\_AuthenticateRequest, Application\_AuthorizeRequest, Application\_BeginRequest, Application\_Disposed,  Application\_EndRequest, Application\_Error, Application\_PostRequestHandlerExecute, Application\_PreRequestHandlerExecute,  
Application\_PreSendRequestContent, Application\_PreSendRequestHeaders, Application\_ReleaseRequestState, Application\_ResolveRequestCache, Application\_UpdateRequestCache

**Session Events:** Session\_Start,Session\_End

## Which protocol is used to call a Web service?

HTTP Protocol

## Can we have multiple web config files for an asp.net application?

Yes.

## What is the difference between web config and machine config?

Web config file is specific to a web application where as machine config is specific to a machine or server. There can be multiple web config files into an application where as we can have only one machine config file on a server.

## Explain role based security?

 Role Based Security used to implement security based on roles assigned to user groups in the organization.

Then we can allow or deny users based on their role in the organization. Windows defines several built-in groups, including Administrators, Users, and Guests.

|  |
| --- |
| <AUTHORIZATION>< authorization >  <allow roles="Domain\_Name\Administrators"/> //Allow Administrators.  < deny users="\*"/>                       //Deny anyone else.  < /authorization > |

## What is Cross Page Posting?

When we click submit button on a web page, the page post the data to the same page. The technique in which we post the data to different pages is called Cross Page posting. This can be achieved by setting POSTBACKURL property of  the button that causes the postback. Findcontrol method of PreviousPage can be used to get the posted values on the page to which the page has been posted.

## How can we apply Themes to an asp.net application?

We can specify the theme in web.config file. Below is the code example to apply theme:

|  |
| --- |
| <configuration>  <system.web>  <pages theme="Windows7" />  </system.web>  </configuration> |

## What is RedirectPermanent in ASP.Net?

RedirectPermanent Performs a permanent redirection from the requested URL to the specified URL. Once the redirection is done, it also returns 301 Moved Permanently responses.

## Explain the working of passport authentication.

First of all it checks passport authentication cookie. If the cookie is not available then the application redirects the user to Passport Sign on page. Passport service authenticates the user details on sign on page and if valid then stores the authenticated cookie on client machine and then redirect the user to requested page

## What are the advantages of Passport authentication?

All the websites can be accessed using single login credentials. So no need to remember login credentials for each web site.

Users can maintain his/ her information in a single location.

## What are the asp.net Security Controls?

* <asp:Login>: Provides a standard login capability that allows the users to enter their credentials
* <asp:LoginName>: Allows you to display the name of the logged-in user
* <asp:LoginStatus>: Displays whether the user is authenticated or not
* <asp:LoginView>: Provides various login views depending on the selected template
* <asp:PasswordRecovery>:  email the users their lost password

## How do you register JavaScript for webcontrols ?

We can register javascript for controls using <CONTROL -name>Attribtues.Add(scriptname,scripttext) method.

## In which event are the controls fully loaded?

Page load event.

## Differentiate strong typing and weak typing

In strong typing, the data types of variable are checked at compile time. On the other hand, in case of weak typing the variable data types are checked at runtime. In case of strong typing, there is no chance of compilation error. Scripts use weak typing and hence issues arises at runtime.

## How we can force all the validation controls to run?

The *Page.Validate()* method is used to force all the validation controls to run and to perform validation.

## List all templates of the Repeater control.

* ItemTemplate
* AlternatingltemTemplate
* SeparatorTemplate
* HeaderTemplate
* FooterTemplate

## List the major built-in objects in ASP.NET?

* Application
* Request
* Response
* Server
* Session
* Context
* Trace

## What is the appSettings Section in the *web.config* file?

The appSettings block in web config file sets the user-defined values for the whole application.

For example, in the following code snippet, the specified ConnectionString section is used throughout the project for database connection:

|  |
| --- |
| <em>  <configuration>  <appSettings>  <add key="ConnectionString" value="server=local; pwd=password; database=default" />  </appSettings>  </em> |

## Which data type does the *RangeValidator* control support?

The data types supported by the RangeValidator control are Integer, Double, String, Currency, and Date.

## What is the difference between an *HtmlInputCheckBox* control and an *HtmlInputRadioButton* control?

In *HtmlInputCheckBoxcontrol,*multiple item selection is possible whereas in*HtmlInputRadioButton*controls, we can select only single item from the group of items.

## Which namespaces are necessary to create a localized application?

System.Globalization

System.Resources

## What are the different types of cookies in ASP.NET?

Session Cookie – Resides on the client machine for a single session until the user does not log out.

Persistent Cookie – Resides on a user’s machine for a period specified for its expiry, such as 10 days, one month, and never.

## What is the file extension of web service?

Web services have file extension .asmx.

## What are the components of ADO.NET?

The components of ADO.Net are Dataset, Data Reader, Data Adaptor, Command, connection.

## What is the difference between ExecuteScalar and ExecuteNonQuery?

ExecuteScalar returns output value where as ExecuteNonQuery does not return any value but the number of rows affected by the query. ExecuteScalar used for fetching a single value and ExecuteNonQuery used to execute Insert and Update statements.

## What is ASP?

Active Server Pages (ASP), also known as Classic ASP, is a Microsoft's server-side technology, which helps in creating dynamic and user-friendly Web pages. It uses different scripting languages to create dynamic Web pages, which can be run on any type of browser. The Web pages are built by using either VBScript or JavaScript and these Web pages have access to the same services as Windows application, including ADO (ActiveX Data Objects) for database access, SMTP (Simple Mail Transfer Protocol) for e-mail, and the entire COM (Component Object Model) structure used in the Windows environment. ASP is implemented through a dynamic-link library (asp.dll) that is called by the IIS server when a Web page is requested from the server.

## What is ASP.NET?

ASP.NET is a specification developed by Microsoft to create dynamic Web applications, Web sites, and Web services. It is a part of .NET Framework. You can create ASP.NET applications in most of the .NET compatible languages, such as Visual Basic, C#, and J#. The ASP.NET compiles the Web pages and provides much better performance than scripting languages, such as VBScript. The Web Forms support to create powerful forms-based Web pages. You can use ASP.NET Web server controls to create interactive Web applications. With the help of Web server controls, you can easily create a Web application.

## What is the basic difference between ASP and ASP.NET?

The basic difference between ASP and ASP.NET is that ASP is interpreted; whereas, ASP.NET is compiled. This implies that since ASP uses VBScript; therefore, when an ASP page is executed, it is interpreted. On the other hand, ASP.NET uses .NET languages, such as C# and VB.NET, which are compiled to Microsoft Intermediate Language (MSIL).

## How can we identify that the Page is Post Back?

Page object has an "IsPostBack" property, which can be checked to know that is the page posted back.

## What is the lifespan for items stored in ViewState?

The items stored in ViewState live until the lifetime of the current page expires including the postbacks to the same page.

## How information about the user's locale can be accessed?

The information regarding a user's locale can be accessed by using the System.Web.UI.Page.Cultureproperty.

## What is the difference between SQL notification and SQL invalidation?

The SQL cache notification generates notifications when the data of a database changes, on which your cache item depends. The SQL cache invalidation makes a cached item invalid when the data stored in a SQL server database changes.

## Which is the parent class of the Web server control?

The System.Web.UI.Control class is the parent class for all Web server controls.

## Can you set which type of comparison you want to perform by the CompareValidator control?

Yes, by setting the Operator property of the CompareValidator control.

## What is the behavior of a Web browser when it receives an invalid element?

The behavior of a Web browser when it receives an invalid element depends on the browser that you use to browse your application. Most of the browsers ignore the invalid element; whereas, some of them display the invalid elements on the page.

## What are the advantages of the code-behind feature?

The code-behind feature of ASP.NET offers a number of advantages:

* Makes code easy to understand and debug by separating application logic from HTML tags
* Provides the isolation of effort between graphic designers and software engineers
* Removes the problems of browser incompatibility by providing code files to exist on the Web server and supporting Web pages to be compiled on demand.

## How do you sign out from forms authentication?

The FormsAuthentication.Signout() method is used to sign out from the forms authentication.

## What is AutoPostBack?

If you want a control to postback automatically when an event is raised, you need to set the AutoPostBackproperty of the control to True.

## What is the function of the ViewState property?

The ASP.NET 4.0 introduced a new property called ViewStateMode for the Control class. Now you can enable the view state to an individual control even if the view state for an ASP.NET page is disabled.

## Why do you use the App\_Code folder in ASP.NET?

The App\_Code folder is automatically present in the project. It stores the files, such as classes, typed data set, text files, and reports. If this folder is not available in the application, you can add this folder. One of the important features of the App\_Code folder is that only one dll is created for the complete folder, irrespective of how many files it contains.

## Define a multilingual Web site.

A multilingual Web site serves content in a number of languages. It contains multiple copies for its content and other resources, such as date and time, in different languages.

## What is an ASP.NET Web Form?

ASP.NET Web forms are designed to use controls and features that are almost as powerful as the ones used with Windows forms, and so they are called as Web forms. The Web form uses a server-side object model that allows you to create functional controls, which are executed on the server and are rendered as HTML on the client. The attribute, runat="server", associated with a server control indicates that the Web form must be processed on the server.

## What is the difference between a default skin and a named skin?

The default skin is applied to all the Web server controls in a Web form, which are of similar type, and it does not provide a Skin ID attribute. The named skin provides a Skin ID attribute and users have to set the Skin ID property to apply it.

## What is IIS? Why is it used?

Internet Information Services (IIS) is created by Microsoft to provide Internet-based services to ASP.NET Web applications. It makes your computer to work as a Web server and provides the functionality to develop and deploy Web applications on the server. IIS handles the request and response cycle on the Web server. It also offers the services of SMTP and FrontPage server extensions. The SMTP is used to send emails and use FrontPage server extensions to get the dynamic features of IIS, such as form handler.

## What is Query String? What are its advantages and limitations?

The Query String helps in sending the page information to the server.  
The Query String has the following advantages:

* Every browser works with Query Strings.
* It does not require server resources and so does not exert any kind of burden on the server.

The following are the limitations of Query String:

* Information must be within the limit because URL does not support many characters.
* Information is clearly visible to the user, which leads to security threats.

## What is actually returned from server to the browser when a browser requests an .aspx file and the file is displayed?

When a browser requests an .aspx file then the server returns a response, which is rendered into a HTML string.

## How can you display all validation messages in one control?

The ValidationSummary control displays all validation messages in one control.

## Which two new properties are added in ASP.NET 4.0 Page class?

The two new properties added in the Page class are MetaKeyword and MetaDescription.

## What is tracing? Where is it used?

Tracing displays the details about how the code was executed. It refers to collecting information about the application while it is running. Tracing information can help you to troubleshoot an application. It enables you to record information in various log files about the errors that might occur at run time. You can analyze these log files to find the cause of the errors.  
  
In .NET, we have objects called Trace Listeners. A listener is an object that gets the trace output and stores it to different places, such as a window, a file on your locale drive, or a SQL Server.  
  
The System.Diagnostics namespace contains the predefined interfaces, classes, and structures that are used for tracing. It supplies two classes, Trace and Debug, which allow you to write errors and logs related to the application execution. Trace listeners are objects that collect the output of tracing processes.

## How can you register a custom server control to a Web page?

You can register a custom server control to a Web page using the @Register directive.

## Which ASP.NET objects encapsulate the state of the client and the browser?

The Session object encapsulates the state of the client and browser.

## Differentiate globalization and localization.

The globalization is a technique to identify the specific part of a Web application that is different for different languages and make separate that portion from the core of the Web application. The localization is a procedure of configuring a Web application to be supported for a specific language or locale.

## What is ViewState?

The ViewState is a feature used by ASP.NET Web page to store the value of a page and its controls just before posting the page. Once the page is posted, the first task by the page processing is to restore theViewState to get the values of the controls.

## Which method is used to force all the validation controls to run?

The Page.Validate() method is used to force all the validation controls to run and to perform validation.

## Which method has been introduced in ASP.NET 4.0 to redirect a page permanently?

The RedirectPermanent() method added in ASP.NET 4.0 to redirect a page permanently. The following code snippet is an example of the RedirectPermanent() method:  
  
RedirectPermanent("/path/Aboutus.aspx");

## How can you send an email message from an ASP.NET Web page?

You can use the System.Net.Mail.MailMessage and the System.Net.Mail.SmtpMail classes to send an email in your Web pages. In order to send an email through your mail server, you need to create an object of the SmtpClient class and set the server name, port, and credentials.

## What is the difference between the Response.Write() and Response.Output.Write() methods?

The Response.Write() method allows you to write the normal output; whereas, theResponse.Output.Write() method allows you to write the formatted output.

## What does the Orientation property do in a Menu control?

Orientation property of the Menu control sets the horizontal or vertical display of a menu on a Web page. By default, the orientation is vertical.

## Differentiate between client-side and server-side validations in Web pages.

Client-side validations take place at the client end with the help of JavaScript and VBScript before the Web page is sent to the server. On the other hand, server-side validations take place at the server end.

## How does a content page differ from a master page?

A content page does not have complete HTML source code; whereas a master page has complete HTML source code inside its source file.

## Suppose you want an ASP.NET function (client side) executed on the MouseOver event of a button. Where do you add an event handler?

The event handler is added to the Add() method of the Attributes property.

## What is the default timeout for a Cookie?

The default time duration for a Cookie is 30 minutes.

## What are HTTP handlers in ASP.NET?

HTTP handlers, as the name suggests, are used to handle user requests for Web application resources. They are the backbone of the request-response model of Web applications. There is a specific event handler to handle the request for each user request type and send back the corresponding response object.  
  
Each user requests to the IIS Web server flows through the HTTP pipeline, which refers to a series of components (HTTP modules and HTTP handlers) to process the request. HTTP modules act as filters to process the request as it passes through the HTTP pipeline. The request, after passing through the HTTP modules, is assigned to an HTTP handler that determines the response of the server to the user request. The response then passes through the HTTP modules once again and is then sent back to the user.  
  
You can define HTTP handlers in the <httpHandlers> element of a configuration file. The <add> element tag is used to add new handlers and the <remove> element tag is used to remove existing handlers. To create an HTTP handler, you need to define a class that implements the IHttpHandler interface.

## What are the events that happen when a client requests an ASP.NET page from IIS server?

The following events happen when a client requests an ASP.NET page from the IIS server:

* User requests for an application resource.
* The integrated request-processing pipeline receives the first user request.
* Response objects are created for each user request.
* An object of the HttpApplication class is created and allocated to the Request object.
* The HttpApplication class processes the user request.

## Explain file-based dependency and key-based dependency.

In file-based dependency, you have to depend on a file that is saved in a disk. In key-based dependency, you have to depend on another cached item.

## How can you implement the postback property of an ASP.NET control?

You need to set the AutoPostBack property to True to implement the PostBack property of controls.

## Explain how Cookies work. Give an example of Cookie abuse.

The server tells the browser to put some files in a cookie, and the client then sends all the cookies for the domain in each request. An example of cookie abuse is large cookies affecting the network traffic.

## Explain login controls.

Login controls are built-in controls in ASP.Net for providing a login solution to ASP.NET application. The login controls use the membership system to authenticate a user credentials for a Web site.  
There are many controls in login controls.

* ChangePassword control - Allows users to change their password.
* CreateUserWizard control - Provides an interface to the user to register for that Web site.
* Login control - Provides an interface for user authentication. It consists of a set of controls, such asTextBox, Label, Button, CheckBox, HyperLink.
* LoginView control - Displays appropriate information to different users according to the user's status.
* LoginStatus control - Shows a login link to users, who are not authenticated and logout link, who are authenticated
* LoginName control - Displays a user name, if the user logs in.
* PasswordRecovery control - Allows users to get back the password through an e-mail, if they forget.

## What is the use of PlaceHolder control? Can we see it at runtime?

The PlaceHolder control acts as a container for those controls that are dynamically generated at runtime. We cannot see it at runtime because it does not produce any visible output. It used only as a container.

## What setting must be added in the configuration file to deny a particular user from accessing the secured resources?

To deny a particular user form accessing the secured resources, the web.config file must contain the following code:

<authorization >  
<deny users="username" />  
</authorization>

## What are the event handlers that can be included in the Global.asax file?

The Global.asax file contains some of the following important event handlers:

* Application\_Error
* Application\_Start
* Application\_End
* Session\_Start
* Session\_End

## What is the difference between page-level caching and fragment caching?

In the page-level caching, an entire Web page is cached; whereas, in the fragment caching, a part of the Web page, such as a user control added to the Web page, is cached.

## Describe the complete lifecycle of a Web page.

When we execute a Web page, it passes from the following stages, which are collectively known as Web page lifecycle:

* **Page request** - During this stage, ASP.NET makes sure the page either parsed or compiled and a cached version of the page can be sent in response
* **Start** - During this stage sets the Request and Response page properties and the page check the page request is either a postback or a new request
* **Page Initialization** - During this stage, the page initialize and the control's Unique Id property are set
* **Load** - During this stage, if the request is postback, the control properties are loaded without loading the view state and control state otherwise loads the view state
* **Validation** - During this stage, the controls are validated
* **Postback event handling** - During this stage, if the request is a postback, handles the event
* **Rendering** - During this stage, the page invokes the Render method to each control for return the output
* **Unload** - During this stage, when the page is completely rendered and sent to the client, the page is unloaded.

## How can you assign page specific attributes in an ASP.NET application?

The @Page directive is responsible for this.

## Which method is used to post a Web page to another Web page?

The Respose.Redirect method is used to post a page to another page, as shown in the following code snippet: Response.Redirect("DestinationPageName.aspx");

## What is a Cookie? Where is it used in ASP.NET?

Cookie is a lightweight executable program, which the server posts to client machines. Cookies store the identity of a user at the first visit of the Web site and validate them later on the next visits for their authenticity. The values of a cookie can be transferred between the user's request and the server's response.

## What are Custom User Controls in ASP.NET?

The custom user controls are the controls that are defined by developers. These controls are a mixture of custom behavior and predefined behavior. These controls work similar to other Web server controls.

## What does the .WebPart file do?

The .WebPart file explains the settings of a Web Parts control that can be included to a specified zone on a Web page.

## How can you enable impersonation in the web.config file?

To enable impersonation in the web.confing file, you need to include the <identity> element in theweb.config file and set the impersonate attribute to true as shown in the following code snippet:  
<identity impersonate = "true" />

## How can you identify that the page is PostBack?

The Page object uses the IsPostBack property to check whether the page is posted back or not. If the page is postback, this property is set to true.

## In which database is the information, such as membership, role management, profile, and Web parts personalization, stored?

The aspnetdb database stores all information.

## What do you understand by aggregate dependency?

Aggregate dependency allows multiple dependencies to be aggregated for content that depends on more than one resource. In such type of dependency, you need to depend on the sum of all the defined dependencies to remove a data item from the cache.

## How can you ensure that no one has tampered with ViewState in a Web page?

To ensure that no one has tampered with ViewState in a Web page, set the EnableViewStateMac property to True.

## What is the difference between adding items into cache through the Add() method and through theInsert() method?

Both methods work in a similar way except that the Cache.Add() function returns an object that represents the item you added in the cache. The Cache.Insert() function can replace an existing item in the cache, which is not possible using the Cache.Add() method.

## Explain the cookie less session and its working.

ASP.NET manages the session state in the same process that processes the request and does not create a cookie. It is known as a cookie less session. If cookies are not available, a session is tracked by adding a session identifier to the URL. The cookie less session is enabled using the following code snippet:<sessionState cookieless="true" />

## What is a round trip?

The trip of a Web page from the client to the server and then back to the client is known as a round trip.

## What are the major built-in objects in ASP.NET?

The major built-in objects in ASP.NET are as follows:

* Application
* Request
* Response
* Server
* Session
* Context
* Trace

## Where should the data validations be performed-at the client side or at the server side and why?

Data validations should be done primarily at the client side and the server-side validation should be avoided because it makes server task overloaded. If the client-side validation is not available, you can use server-side validation. When a user sends a request to the server, the validation controls are invoked to check the user input one by one.

## Why do we need nested master pages in a Web site?

When we have several hierarchical levels in a Web site, then we use nested master pages in the Web site.

## How can you dynamically add user controls to a page?

User controls can be dynamically loaded by adding a Web User Control page in the application and adding the control on this page.

## What is the appSettings Section in the web.config file?

The web.config file sets the configuration for a Web project. The appSettings block in configuration file sets the user-defined values for the whole application.  
  
For example, in the following code snippet, the specified ConnectionString section is used throughout the project for database connection:

<configuration>  
<appSettings>  
<add key="ConnectionString" value="server=indiabixserver; pwd=dbpassword; database=indiabix" />  
</appSettings>  
...

## What type of code, client-side or server-side, is found in a code-behind file of a Web page?

A code-behind file contains the server-side code, which means that the code contained in a code-behind file is executed at the server.

## To which class a Web form belongs to in the .NET Framework class hierarchy?

A Web form belongs to the System.Web.UI.Page class.

## What does the "EnableViewState" property do? Why do we want it On or Off?

The EnableViewState property enables the ViewState property on the page. It is set to On to allow the page to save the users input between postback requests of a Web page; that is, between the Request and corresponding Response objects. When this property is set to Off, the page does not store the users input during postback.

## Which event determines that all the controls are completely loaded into memory?

The Page\_Load event determines that all the controls on the page are fully loaded. You can also access the controls in the Page\_Init event; however, the ViewState property does not load completely during this event.

## What is the function of the CustomValidator control?

It provides the customize validation code to perform both client-side and server-side validation.

## What is Role-based security?

In the Role-based security, you can assign a role to every user and grant the privilege according to that role. A role is a group of principal that restricts a user's privileges. Therefore, all the organization and applications use role-based security model to determine whether a user has enough privileges to perform a requested task.

## Which data type does the RangeValidator control support?

The data types supported by the RangeValidator control are Integer, Double, String, Currency, and Date.

## What are the HTML server controls in ASP.NET?

HTML server controls are similar to the standard HTML elements, which are normally used in HTML pages. They expose properties and events that can be used programmatically. To make these controls programmatically accessible, you need to specify that the HTML controls act as a server control by adding the runat="server" attribute.

## Why a SiteMapPath control is referred to as breadcrumb or eyebrow navigation control?

The SiteMapPath control displays a hierarchical path to the root Web page of the Web site. Therefore, it is known as the breadcrumb or eyebrow navigation control.

## Where is the ViewState information stored?

The ViewState information is stored in the HTML hidden fields.

## Which namespaces are necessary to create a localized application?

The System.Globalization and System.Resources namespaces are essential to develop a localized application.

## What is the difference between an HtmlInputCheckBox control and an HtmlInputRadioButtoncontrol?

You can select more than one HtmlInputCheckBox control from a group of HtmlInputCheckBox controls; whereas, you can select only a single HtmllnputRadioButton control from a group ofHtmlInputRadioButton controls.

## What is the difference between HTML and Web server controls?

HTML controls are client-side controls; therefore, all the validations for HTML controls are performed at the client side. On the other hand, Web server controls are server-side controls; therefore, all the validations for Web server controls are performed at the server side.

## Explain the AdRotator Control.

The AdRotator is an ASP.NET control that is used to provide advertisements to Web pages. TheAdRotator control associates with one or many advertisements, which randomly displays one by one at a time when the Web page is refreshed. The AdRotator control advertisements are associated with links; therefore, when you click on an advertisement, it redirects you to other pages.   
  
The AdRotator control is associated with a data source, which is normally an xml file or a database table. A data source contains all the information, such as advertisement graphics reference, link, and alternate text. Therefore, when you use the AdRotator control, you should first create a data source and then associate it with the AdRotator control.

## What do you understand by the culture?

The culture denotes a combination of a language and optionally a region or a country. The contents of a Web page of a multilingual Web site are changed according to the culture defined in the operating system of the user accessing the Web page.

## What is the difference between absolute expiration and sliding-time expiration?

The absolute expiration expires a cached item after the provided expiration time. The sliding time does not expire the cached items because it increments the specified time.

## What is the code-behind feature in ASP.NET?

The code-behind feature of ASP.NET enables you to divide an ASP.NET page into two files - one consisting of the presentation data, and the second, which is also called the code-behind file, consisting of all the business logic. The presentation data contains the interface elements, such as HTML controls and Web server controls, and the code-behind contains the event-handling process to handle the events that are fired by these controls. The file that contains the presentation data has the .aspx extension. The code behind file has either the .cs extension (if you are using the programming language C#) or the .vb (if you are using the programming language Visual Basic .NET) extension.

## How can you check if all the validation controls on a Web page are valid and proper?

You can determine that all the validation controls on a Web page are properly working by writing code in the source file of the Web page using a scripting language, such as VBScript or JavaScript. To do this task, you have to loop across validators collection of pages and check the IsValid property of each validation control on the Web page to check whether or not the validation test is successful.

## Explain the validation controls. How many validation controls in ASP.NET 4.0?

Validation controls are responsible to validate the data of an input control. Whenever you provide any input to an application, it performs the validation and displays an error message to user, in case the validation fails.  
  
ASP.NET 4.0 contains the following six types of validation controls:

* CompareValidator - Performs a comparison between the values contained in two controls.
* CustomValidator - Writes your own method to perform extra validation.
* RangeValidator- Checks value according to the range of value.
* RegularExpressionValidator - Ensures that input is according to the specified pattern or not.
* RequiredFieldValidator - Checks either a control is empty or not.
* ValidationSummary - Displays a summary of all validation error in a central location.

## What is difference between a Label control and a Literal control?

The Label control's final html code has an HTML tag; whereas, the Literal control's final html code contains only text, which is not surrounded by any HTML tag.

## How many types of Cookies are available in ASP.NET?

There are two types of Cookies available in ASP.NET:

* Session Cookie - Resides on the client machine for a single session until the user does not log out.
* Persistent Cookie - Resides on a user's machine for a period specified for its expiry, such as 10 days, one month, and never.

The user can set this period manually.

## What is the use of the Global.asax file?

The Global.asax file executes application-level events and sets application-level variables.

## What are the Culture and UICulture values?

The Culture value determines the functions, such as Date and Currency, which are used to format data and numbers in a Web page. The UICulture value determines the resources, such as strings or images, which are loaded for a Web page in a Web application.

## What is the difference between ASP session and ASP.NET session?

ASP does not support cookie-less sessions; whereas, ASP.NET does. In addition, the ASP.NET session can span across multiple servers.

## Which control will you use to ensure that the values in two different controls match?

You should use the CompareValidator control to ensure that the values in two different controls match.

## What is the difference between a page theme and a global theme?

A page theme is stored inside a subfolder of the App\_Themes folder of a project and applied to individual Web pages of that project. Global themes are stored inside the Themes folder on a Web server and apply to all the Web applications on the Web server.

## What do you mean by a neutral culture?

When you specify a language but do not specify the associated country through a culture, the culture is called as a neutral culture.

## What is the use of the <sessionState> tag in the web.config file?

The <sessionState> tag is used to configure the session state features. To change the default timeout, which is 20 minutes, you have to add the following code snippet to the web.config file of an application:<sessionState timeout="40"/>

## Can you post and access view state in another application?

Yes, you can post and access a view state in other applications. However, while posting a view state in another application, the PreviousPage property returns null.

## Which method do you use to kill explicitly a users session?

The Session.Abandon() method kills the user session explicitly.

## Which class is inherited when an ASP.NET server control is added to a Web form?

The System.Web.UI.WebControls class is inherited when an ASP.NET server control is added to a Web form.

## What events are fired when a page loads?

The following events fire when a page loads:

* Init() - Fires when the page is initializing.
* LoadViewState() - Fires when the view state is loading.
* LoadPostData() - Fires when the postback data is processing.
* Load() - Fires when the page is loading.
* PreRender() - Fires at the brief moment before the page is displayed to the user as HTML.
* Unload() - Fires when the page is destroying the instances of server controls.

## Write three common properties of all validation controls.

Three common properties of validation controls are as follows:

* ControlToValidate - Provides a control to validate
* ErrorMessage - Displays an error message
* IsValid - Specifies if the control's validation has succeeded or not
* Text - Displays a text for validation control before validation

## What are navigation controls? How many navigation controls are there in ASP.NET 4.0?

Navigation controls help you to navigate in a Web application easily. These controls store all the links in a hierarchical or drop-down structure; thereby facilitating easy navigation in a Web application.  
  
There are three navigation controls in ASP.Net 4.0.

* SiteMapPath
* Menu
* TreeView

## What happens if an ASP.NET server control with event-handling routines is missing from its definition?

The compilation of the application fails.

## What are server-side comments?

Server-side comments are included in an ASP.NET page for the purpose of documentations as shown in the following code snippet:

<%--This is an example of server-side comments --%>

The server-side comments begin with <%-- and end with --%>.

## How can we provide the WebParts control functionality to a server control?

We can provide the WebParts controls functionality to a server control by setting the CreateWebPartproperty of WebPartManger.

## How do you prevent a validation control from validating data at the client end?

You can prohibit a validation control to validate data at the client side by setting the EnableClientScriptproperty to False.

## What is cross-page posting in ASP.NET?

The Server.Transfer() method is used to post data from one page to another. In this case, the URL remains the same. However, in cross page posting, data is collected from different Web pages and is displayed on a single page. To do so, you need to set the PostBackUrl property of the control, which specifies the target page. In the target page, you can access the PreviousPage property. For this, you need to use the @PreviousPageType directive. You can access the controls of previous page by using theFindControl() method.

## Which ASP.NET configuration options are supported in the ASP.NET implementation on the shared Web hosting plat form?

There are many ASP.NET configuration choices, which are not able to configure at the site, application, or child directory level on the shared hosting environment. Some options can produce security, performance, and stability problem to the server and therefore cannot be changed.   
The following settings are the only ones that can be changed in the web.config file(s) of your Web site:

* browserCaps
* clientTarget
* pages
* customErrors
* globalization
* authorization
* authentication
* webControls
* webServices

## Explain the Application and Session objects in ASP.NET.

Application state is used to store data corresponding to all the variables of an ASP.NET Web application. The data in an application state is stored once and read several times. Application state uses theHttpApplicationState class to store and share the data throughout the application. You can access the information stored in an application state by using the HttpApplication class property. Data stored in the application state is accessible to all the pages of the application and is the same for all the users accessing the application. The HttpApplicationState class provides a lock method, which you can use to ensure that only one user is able to access and modify the data of an application at any instant of time.  
  
Each client accessing a Web application maintains a distinct session with the Web server, and there is also some specific information associated with each of these sessions. Session state is defined in the<sessionState> element of the web.config file. It also stores the data specific to a user session in session variables. Different session variables are created for each user session. In addition, session variables can be accessed from any page of the application. When a user accesses a page, a session ID for the user is created. The session ID is transferred between the server and the client over the HTTP protocol using cookies.

## How will you differentiate a submaster page from a top-level master page?

Similar to a content page, a submaster page also does not have complete HTML source code; whereas, a top-level master page has complete HTML source code inside its source file.

## What are Web server controls in ASP.NET?

The ASP.NET Web server controls are objects on the ASP.NET pages that run when the Web page is requested. Many Web server controls, such as button and text box, are similar to the HTML controls. In addition to the HTML controls, there are many controls, which include complex behavior, such as the controls used to connect to data sources and display data.

## What is the difference between a HyperLink control and a LinkButton control?

A HyperLink control does not have the Click and Command events; whereas, the LinkButton control has these events, which can be handled in the code-behind file of the Web page.

## What are the various ways of authentication techniques in ASP.NET?

There are various techniques in ASP.NET to authenticate a user. You can use one of the following ways of authentication to select a built-in authentication provider:

* Windows Authentication - This mode works as the default authentication technique. It can work with any form of Microsoft Internet Information Services (IIS) authentication, such as Basic, Integrated Windows authentication (NTLM/Kerberos), Digest, and certificates. The syntax of Windows authentication mode is given as follows: <authentication mode="windows" />
* Forms Authentication - You can specify this mode as a default authentication mode by using the following code snippet: <authentication mode="Forms"/>
* Passport - This mode works with Microsoft Passport authentication, as shown in the following code snippet: <authentication mode = "Passport"/>

## What are the different ways to send data across pages in ASP.NET?

The following two ways are used to send data across pages in ASP.NET:

* Session
* Public properties

## What does the WebpartListUserControlPath property of a DeclarativeCatalogPart control do?

The WebpartListUserControlPath property sets the route of the user defined control to aDeclarativeCatalogPart control.

## What do you mean by the Web Part controls in ASP.NET?

The Web Part controls are the integrated controls, which are used to create a Web site. These controls allow the users to change the content, outlook, and state of Web pages in a Web browser.

## What type of the CatalogPart control enables users to restore the Web Parts that have been removed earlier by the user?

The PageCatalogPart control.

## What is the use of web.config? What is the difference between machine.config and web.config?

ASP.NET configuration files are XML-based text files for application-level settings and are saved with the name web.config. These files are present in multiple directories on an ASP.NET Web application server. Theweb.config file sets the configuration settings to the directory it is placed in and to all the virtual sub folders under it. The settings in sub directories can optionally override or change the settings specified in the base directory.  
  
The difference between the web.config and machine.config files is given as follows:

* <WinDir>\Microsoft.NET\Framework\<version>\config\machine.config provides default configuration settings for the entire machine. ASP.NET configures IIS to prohibit the browser directly from accessing the web.config files to make sure that their values cannot be public. Attempts to access those files cause ASP.NET to return the 403: Access Forbidden error.
* ASP.NET uses these web.config configuration files at runtime to compute hierarchically a sole collection of settings for every URL target request. These settings compute only once and cached across further requests. ASP.NET automatically checks for changing file settings and do not validate the cache if any of the configuration changes made.

## Explain the concept of states in ASP.NET.

State is quite an innovative concept in Web development because it eliminates the drawback of losing state data due to reloading of a Web page. By using states in a Web application, you can preserve the state of the application either at the server or client end. The state of a Web application helps you to store the runtime changes that have been made to the Web application. For example, as already described earlier, a change in the data source of the Web application might be initiated by a user when he/she selects and saves some products in the shopping cart.   
  
If you are not using states, these changes are discarded and are not saved. You may think that the whole concept of storing states is optional. However, under certain circumstances, using states with applications is imperative. For example, it is necessary to store states for Web applications, such as an e-commerce shopping site or an Intranet site of a company, to keep track of the requests of the users for the items they have selected on the shopping site or the days requested for vacation on the Intranet site.

## Can we validate a DropDownList by RequiredFieldValidator?

Yes, we can validate a DropDownList by RequiredFieldValidator. To perform this validation, we have to set the InitialValue property of RequiredFieldValidator control.

## List the features of the Chart control.

The following are the features of the Chart control:

* Bounds a chart with any data source.
* Simple manipulation of chart data, such as copying, merging, grouping, sorting, searching, and filtering.
* Support many statistical and financial formulas for data analysis.
* Provide advanced chart outlook, such as 2-D, 3-D, lighting, and perspective.
* Support events and customizations.
* Includes interactivity with Microsoft AJAX.
* Supports AJAX Content Delivery Network (CDN).

## What is Common Language Runtime or CLR ?

CLR handles the compilation and execution of .NET programs. CLR uses JIT and compiles the IL code to machine code and then executes. Below are the list of responsibilities of Common Language Runtime -

* Garbage Collection
* Code Verification
* Code Access Security
* Intermediate language -to-native translators and optimizer’s

## What are Assemblies and Namespaces and explain the difference between them?

Namespaces are the containers for holding the classes. In Object Oriented world, it is possible that programmers will use the same class name. By using namespace along with class name this collision can be removed.

* An assembly exists as a .DLL or .EXE that contains MSIL code that is executed by CLR.
* An assembly contains interface and classes and it can also contain other resources like files, bitmaps etc.

## Describe the Events in the Life Cycle of a Web Application ?

A web application starts, when a browser requests a page of the application for the first time. The request will be received by the IIS which then starts ASP.NET worker process. The worker process then allocates a process space to the assembly and loads it. An Application\_Start() event will fire on start of the application and it’s followed by Session\_Start(). ASP.NET engine then processes the request and sends back response in the form of HTML to the user and user receives the response in the form of page.

## Explain the application event handlers in ASP.NET ?

Below are the event handlers in sequence of their execution -

* Application\_Start - Fired when the first user visits a page of the application or first resource is requested from the server.
* Application\_End - Fired when there are no more users of the application.
* Application\_BeginRequest - Fired at the beginning of each request to the server.
* Application\_EndRequest - Fired at the end of each request to the server.
* Session\_Start - Fired when any new user visits.
* Session\_End - Fired when the users stop requesting pages and their session times out.

## What is Global Assembly Cache ?

GAC (Global Assembly Cache) is used to share .NET assemblies. GAC will be used in the below scenarios –

If the multiple application wanted to use the same assembly.

If the assembly has security requirements. For example, if only administrators have the permission to remove the assembly.

## Explain the steps to generate the strong name ?

* Go to Visual Studio Command Prompt
* Type – “sn.exe –k “D:\TestingStrongName.snk” in command prompt.
* Once SNK file is generated, sign the project with this SNK file. Go to project properties and browse the SNK file generated and build the project.

## Explain the garbage collection in .NET ?

* Garbage collection is a CLR feature which automatically manages memory. CLR automatically releases objects when they are no longer used and referenced. Following methods are used for garbage collection –
* GC.Collect()
* Dispose()
* Finalize()

## What is Reflection in .NET?

Reflection is a mechanism through which types defined in the metadata of each module can be accessed. The System. Reflection namespace will have the classes required for reflection.

## Define Resource Files?

Resource files contains non-executable data like strings, images etc. that can be used by an application and deployed along with it. You can change these data without recompiling the whole application.

## What are different types of caching using cache object of ASP.NET?

We can use two types of output caching to cache information that is to be transmitted to and displayed in a Web browser –

* Page Output Caching
* Page Fragment Caching

## How can you cache different version of same page using cache in ASP.NET?

Output cache functionality is achieved by using “*OutputCache*” attribute on ASP.NET page header. It uses following parameters –

* VaryByParam - Caches different version depending on input parameters send through HTTP POST/GET.
* VaryByHeader - Caches different version depending on the contents of the page header.

## Explain the concept of Globalization and Localization?

Globalization is used to create a multilingual application by defining culture specific features like text, date etc. Localization is used to accommodate the cultural differences in an application.

## What is Satellite Assemblies?

* Satellite Assemblies are the special kinds of assemblies that exist as DLL and contain culture specific resources in a binary format. They stores compiled localized application resources. This can be created using the AL utility and can be deployed even after deployment of the application.
* Satellite Assemblies encapsulates the resources into binary format and thus makes resources lighter and consume lesser space on the disk.

## What are the settings that can be done in Web.config file in .NET?

Below are the settings we can have in web.config -

* Connection String of the database.
* Error Page setting.
* Culture specific setting.
* Session States.
* WCF Binding and endpoint details.
* Error Handling

## What is Post Back?

There will be a roundtrip of the page between client and a server in request-response model, so this mechanism is called Post Back.

## What is AppSetting Section in “Web.Config” file?

Web.config file defines configuration for a web project. Using “*AppSetting*” section we can define user defined values. Rather than hard coding the values in an application, developers prefer to keep the key,value pair in appsettings. Below is the sample for adding key value pair–

<appSettings>  
<add key = “yourkey” value=”yourvalue”/>  
</appSettings>

## Explain form authentication using login control?

Login controls encapsulate all the features offered by Forms authentication. Login controls internally use Forms Authentication class to implement security, by prompting for user credentials validating them.

## Explain Web and Machine configs?

“Web.config” files apply settings to each web application, while “Machine.config” file apply settings to all ASP.NET applications. Basically “Machine.Config” at the machine level and “Web.Config” is at the application level.

## How to turn off cookies for a page?

Cookie.Discard Property when set true will instruct the client application not to save the Cookie on the user’s hard disk when a session ends.

## What are the various ways of authentication techniques in ASP.NET?

There are basically three types of authentication modes in ASP.NET –

* Windows Authentication – windows authentication uses our system credentials for the authentication purpose.
* Forms Authentication – This is a form based authentication. Login Control in ASP.NET supports this kind of authentication.
* Passport Authentication - Passport authentication lets you to use Microsoft’s passport service to authenticate users of your application.

## Explain how to retrieve property settings from .config file ?

By creating an instance of AppSettingsReader class, GetValue method is used by passing the name of the property and the type expected and assign the result to the appropriate variable.

## What is side-by-side execution?

This means multiple version of same assembly can run on the same computer. This feature will enable to deploy multiple versions of the component.

## What is application domain?

It is the process space within which the application will be running. Every application has its own process space which isolates it from other application. If one of the application domain throws error, it does not affect the other application domains.

## What is impersonation in ASP.NET?

ASP.NET executes in the security context of a restricted user account on the local machine. Sometimes, we need to access network resources such as a file on a shared drive, which will require additional permissions. One way to restrict this, is to use impersonation. ASP.NET with impersonation can execute the request using the identity of the client or ASP.NET can impersonate a specific account by the values in web.config.

## How many types of validation controls are provided by ASP.NET ?

There are FIVE types of validators in ASP.NET and they are –

* RequiredFieldValidator - It checks whether the control have any value or not. It is used, when you want the control not to be empty.
* RangeValidator - It checks, if the value in validated control is in that specific range. Eg: Range of Date Birth.
* CompareValidator - It checks that the value in controls should match the value in other control. Eg : Password and Retype Passwords.
* RegularExpressionValidator - When we want the control value that matches a specific regular expression. Eg : Checking for valid Email ID.
* CustomValidator - It is used to define User Defined validation.

## What does AspCompat="true" mean and when should you use it?

The AspCompat attribute forces the page to execute in STA mode. ASP.NET runtime throws an exception, if the compatibility tag is omitted and an STA component is referenced in the page. If you convert the STA component to an assembly using Tlbimp.exe, runtime does not detect that the component uses the STA model and does not throw an exception, but the application can suffer from poor performance.

<%@Page AspCompat=true Language = C# %>

## What are HttpHandlers?

ASP.NET programming supports the creation of custom HttpHandler components, which provide an efficient way to process requests that don't return standard HTML-based pages.

E.g. : HttpHandler components are good for situations in which you want to return XML, simple text or binary data to the user.

The easiest way to create a custom HttpHandler component is to create a source file with an .ashx extension. You must then add a @WebHandler directive to the top of the .ashx file with a class definition that implements the IHttpHandler interface.

## Explain the differences between Server-side and Clientside code?

* Server side code is executed at the server side on IIS in ASP.NET framework, these code will be written either in C#, VB.NET or VC++.
* Client side code is executed on the browser. JavaScript is the typical example for this.

## What is Custom Control in ASP.NET?

Custom controls are compiled code, which makes them easier to use but difficult to create one. Once you have created the control, we can add it to the Toolbox and display it in a visual designer. We can deploy custom control in GAC and can be shared between the applications. This is either extended from Control/WebControl class.

## What is User Control in ASP.NET?

User controls are easy to build, but they are less convenient to use in complicated scenarios. User controls are developed in the same way as we develop Web Forms pages in the visual designer. User controls can handle execution events.

## What’s a bubbled event?

When you have a complex control, like GridView, writing an event processing routine for each object like cell, button, row, etc. is tedious. The controls can bubble up their event handlers, allowing the mainGridView event handler to take care of its constituents.

## What is ASP.NET Compilation Tool?

The ASP.NET Compilation tool enables you to compile an ASP.NET application either In-place or for deployment to a target location. In-place compilation always helps application performance, because end users do not encounter a delay on the first request to the application while the application is compiled. Compilation for deployment can be done in one of two ways: one that removes all source files, such as code behind files and markup files, or one that always retains the markup files.

## What is the basic difference between ASP and ASP.NET?

The basic difference between ASP and ASP.NET is that, ASP.NET is compiled whereas ASP is interpreted whereas. This implies that since ASP mainly uses VBScript, when an ASP page is executed, it is interpreted. On the other hand, ASP.NET uses .NET languages, such as C# and VB.NET, which are compiled to Microsoft Intermediate Language (MSIL).

## In which event, controls will be fully loaded?

Page load event guarantees that all controls are fully loaded. Controls are accessed in Page\_Init event, but you will see that view state is not fully loaded during this event.

## What is the difference between a default skin and a named skin?

The default skin is applied to all the Web server controls in a Web form and it does not provide a Skin ID attribute. The named skin provides an attribute Skin ID and users have to set the Skin ID property to apply it.

## What you mean by Query String? What are its advantages and limitations?

The Query String helps to send the page information to the server. Advantages of Query String are -

All browsers works with Query Strings.

Query String would not not require any server resources so it does not exert any sort of burden on the server.

Limitations of Query String are -

* Browser URL does not support many characters and it has limit.
* Information will be visible to the user, which leads to security issues.

## What is smart navigation?

Using the Page.SmartNavigation property, we can enable smart navigation. When we set the property -Page.SmartNavigation to true, the following features are enabled for smart navigation. Scroll position of a Web page will be maintained after postback.

* Element which focus on a Web page is maintained during navigation.
* Most recent Web page state is only retained in the Web browser history folder.
* Flicker effect which could occur on a Web page during navigation will be minimized.

## How can you send an email message in ASP.NET?

We can use classes - MailMessage and SmtpMail, which are under namespace System.Net.Mail to send the email from our Web pages. To send an email through our mail server, we need to create an object of the SmtpClient class and set the credentials, name of server and port.

## What is the timeout of Cookie?

The default time for a Cookie to expire is 30 minutes.

## What are modes of Session state in ASP.NET?

* **In-Process** – It stores the session in local system.
* **State Server** – It stores the session in a process called “ASP.NET state service”.
* **SQLServer** – It stores the session in SQL Server database.
* **Custom** – It allows the custom storage provider.

## Which namespace is used to implement debug and trace methods?

Namespace used for both these methods – “System.Diagnostic”.

## What are the difference between Web server and Web Service?

* Web Server is the one which gives the response to all the requests of the clients. Client can use either HTTP, SOAP protocols for request. Web Server is a computer and it turns to be a server once server software is installed. Every Web Server will have its domain possibly.
* Web Services are one of the components of Web Server which is callable from client side. Client will call the Web Service by making HTTP or SOAP requests. ASP.NET allows to create a custom Web Services which is in turn called from client side.

## How would you enable automatic paging in DataGrid ?

Below are the list of points which are to be followed in order to enable paging in Datagrid –

* Set the “AllowPaging” to true.
* Set the current page index to clicked in PageIndexChanged event.

## What is difference between Data list, Grid view and Repeater?

All these controls have many things in common like Data Source Property, Data Bind MethodItemDataBound and ItemCreated.

When Data Source Property of a Grid view is assigned to a Dataset then each Data Row present in the Data Row Collection of Data Table is assigned to a corresponding DataGridItem and this is same for the rest of the two controls also. But The HTML code generated for a Grid view has an HTML TABLE <ROW> element created for the particular Data Row and it’s a Table form representation with Columns and Rows.

For a Data list it’s an Array of Rows and based on the Template Selected and the RepeatColumnProperty value we can specify how many Data Source records should appear per HTML <table> row. In short in Grid view we have one record per row, where as in data list we can have five or six rows per row. In Repeater Control the data records which are to be displayed depends upon the Templates specified and the only HTML generated is the due to the Templates.

## What are the difference between adding the items into cache through the Add () method and through the Insert () method?

* Cache.Add() will return an object that represents the item added in the cache.
* Cache.Insert() is going to replace the existing item in the cache which will not happen in Cache.Add().

## What is the use of "EnableViewState" property?

This property is used to enable the ViewState property on the page. It is set to ON, to allow it to save the input values of the user between postback requests. When is set to OFF, it won't allow to save the user input in postbacks.

## List all different typesS of directives in .NET?

The different types of directive in .Net –

* @Import
* @Page
* @Control
* @Register
* @Reference
* @Assembly
* @OutputCache
* @Implements

## How to decide on the design consideration to take a GridView, Datalist or Repeater?

* GridView provides ability to allow the end-user to edit the page data or sort the page records. But it comes at a cost of speed. Secondly, the display format is very simple i.e. is in row and columns.
* With its templates, DataList provides more control over the look and feel of the displayed data than the GridView. And it offers better performance than GridView.
* With Repeater, the only HTML emitted are the values of the databinding statements in the templates along with the HTML markup specified in the templates—no "extra" HTML is emitted, as with theGrdiview and DataList.

## Which Javascript file is responsible for validation at the client side?

WebUIValidation.js javascript file is mainly used for validation by the validators at client side. This file will be installed at "aspnet\_client" at IIS directory.

## What is .Net Remoting?

.Net Remoting is considered as the replacement for DCOM. Using .Net remoting remote object calls can be done which lies in different Application domains. As the remote objects runs under different process, client which calls remote object cannot call directly.

## In ASP.NET how many navigation controls are there?

Navigation controls will be used to navigate in a Web application. These controls will store the links either in hierarchical structure or drop-down structure. Navigation controls available in ASP.NET are –

* Tree View
* Menu
* Sitemap Path

## What is Delay signing?

During development process, you will need strong name keys to be exposed to developer which is not a good practice from security point of view. In these situations you can assign the key later on and during development, you can use delay signing.

## What are server-side comments?

Server side comments are used in ASP.NET page. This is used to describe the purpose of code snippet.

<%--This is how server-side comments can be done -- %>

Server side comments always begins with

“<%--“ and ends with “-- %>”.

## What are the common properties of all validation controls?

* ControlToValidate – control name to be validated.
* ErrorMessage – error message to be displayed on validation fail.
* IsValid – Boolean value for checking control’s validation has succeeded or not.
* Text – displaying the text before validation for validation control.

## What is cross-page posting?

Server.Transfer() method is used for posting the data from one page to another.

In cross page posting, data collected from different pages and will be displayed in single page. So, for doing this we need to set “PostBackUrl” property of the control, in which target page is specified and in target page we can use “PreviousPage” property. For doing this we need to set the directive -@PreviousPageType. Previous page control can be accessed from the method – “FindControl()”.

## How to differentiate a sub master page from a top-level master page?

As content page, sub master page will not be having complete HTML source code. But at top level master page unlike sub master page it will have complete HTML source code in source file.

## What’s the difference between Linkbutton control and Hyperlink control?

* Link buttons will have events which can be handled in code behind file.
* Hyperlink control will not be having events like click and command events.

## Where is ViewState information stored ?

Viewstate information is always stored in HTML hidden fields.

## What is the significance of Finalize method in .NET?

.NET Garbage collector does almost all clean up activity for your objects. But unmanaged resources (ex: - Windows API Database connection objects, File, created objects, COM objects etc) is outside the scope of .NET framework we have to explicitly clean our resources. For these types of objects, .NET framework will provide Object.Finalize method which will be overridden and clean up code for unmanaged resources can be put in this section.

## What are the best ways to send data across pages in ASP.NET?

Below are the two ways used to send data across pages in ASP.NET –

* Public properties
* Session

## What are Web Part controls in ASP.NET?

Web part controls are integrated controls which are used to create a website. This allows the user to change the outlook, content and state of the pages in browser.

## What is the use of Global.asax ? and explain the events in Global.asax ?

It allows to executing ASP.NET application level events and setting application-level variables.

* Application\_Init
* Application\_Disposed
* Application\_Error
* Application\_Start
* Application\_End
* Application\_BeginRequest
* Application\_EndRequest
* Application\_PreRequestHandlerExecute
* Application\_PostRequestHandlerExecute
* Applcation\_PreSendRequestHeaders
* Application\_PreSendContent
* Application\_AuthenticateRequest
* Application\_AuthorizeRequest
* Session\_Start
* Session\_End

## What’s the difference between Literal control and Label control?

Label control mark up is given below –

<asp:Label ID = "Label1" Text="Label Test" runat="server" />

* Label control is rendered as <span> when rendered as HTML. Label control styles like font size, font color etc can be changed with very less effort. Javascript or JQuery also can access the label control very easily.
* Literal control rendered as it is. Literal control cannot be styled easily like label control because it does not render in enclosed HTML tags. Javascript or Jquery will not be able to access literal control because while rendering it would not have ID in spite of giving the ID in mark up.

## Explain the components of web form in ASP.NET?

Server controls - The server controls are Hypertext Markup Language (HTML) elements that include arunat=server attribute. These controls provide automatic state management and server-side events and respond to the user events by executing event handler on the server.

* HTML controls - These controls also respond to the user events but the events processing happen on the client machine.
* Data controls - Data controls allows us to connect to the database, execute command and retrieve data from database.

## Which are the different IIS isolation levels in ASP.NET?

IIS has three level of isolation –

* LOW (IIS process) - In this, ASP.NET application and main IIS process run in same process. So, if any application crashes it will adversely affect the others too.
* Medium (Pooled) - In Medium pooled scenario the IIS and web application run in different process. So in this case there will be two processes process1 and process2. Process1 runs the IIS process and Process2 runs the Web application.
* High (Isolated) - Here every process runs under it’s own process. This consumes heavy memory but has highest reliability.

## What is Virtual folder?

It is the physical folder that contains web applications. This folder is used by IIS for web application deployment.

## Why to use “CustomErrors” section in config?

CustomError tag gives the details of custom error messages. CustomError tag can be defined at any level in application file hierarchy.

<configuration>  
 <system.web>  
 <customErrors mode="RemoteOnly" defaultRedirect="A4academicsError.html"/>  
 </system.web>  
</configuration>

As you can see above customError section has attribute - "*defaultRedirect*", which specifies the default redirection.

## How to open a page in a new window?

To open a page in a new window, we have to use client script using onclick="window.open()" attribute of mainly HTML control.

## What exactly happens when ASPX page is requested from Browser?

Following are the steps which will occur when we request an ASPX page from web server –

* The browser sends the request to the webserver. Let’s assume the webserver at the other end is IIS.
* Once IIS receives the request, it looks for engine where it can serve this request. When engine means it’s the DLL which can parse this page or compile and send a response back to browser. The request which is to be mapped is decided by file extension of the page requested.

Some File extension mapping given below -

* .aspx, for ASP.NET Web pages,
* .asmx, for ASP.NET Web services,
* .config, for ASP.NET configuration files,
* .ashx, for custom ASP.NET HTTP handlers,
* .rem, for remoting resources

## What is the sequence of methods called during page load?

* Init() – This method will be used to Initialize the page.
* Load() – This method loads the page in server memory.
* PreRender() – This method is before page loaded to the user.
* Unload() – This method runs once loading of the page finished.

## What is the use of "HttpHandlers" in web.config ?

HttpHandler will be called once the request comes from client machine. Example: one .aspx or .asmx file is requested.

<configuration>  
 <system.web>  
 <compilation debug="true"/>  
 <httpHandlers>  
 <add verb="\*" path="\*.xsl" type="Handler" />  
 </httpHandlers>  
 </system.web>  
</configuration>

Mapping will be done for the requests to appropriate handlers based on URL and HTTP request verb.

## From web.config how to read connectionstring?

string constr = ConfigurationManager.ConnectionStrings["TestMyconnectionstring"].ToString();

## What is role based security?

Role Based Security is basically used to implement security based on roles. We have an option to allow or deny some roles for our application. Below is the sample code snippet used in web.config –

<authorization>  
 <allow roles=”roles to be allowed” <!—Allowing the roles. -->  
 <deny users =”\*”/>   
</authorization>

## How to apply themes for asp.net application?

<configuration>  
 <system.web>  
 <pages theme=”windows 8”>  
 </system.web>  
</configuration>

## Which are the namespaces used to create a localized application?

Namesspaces used for localization are –

* System.Resources and
* System.Globalization

## Can we use different programming languages in the same web application?

Yes of course we can do it. We can create some web pages with C# language and some pages in VB.NET but the same is false when we mix up multiple programming languages in the same project because each project will be built to a single dll.

## How can we change a Master Page at runtime?

Using page events we can change the master page during runtime. In Page\_PreInit() event we can change the master page by setting the “MasterPageFile” property to the path of the master page what we have to set.

## What are Application Pools?

Once the web application is deployed into IIS, we can set the Application Pool to the website directory where web application hosted/deployed. Application Pool is assigned to the website to make it secure and confidential. Multiple websites can be assigned under a single application pool which in turn will be under a single worker process. (Multiple worker process can also be assigned for a single application pool in the settings).

## Why “AutoEventWireup” is used?

AutoEventWireup is used for wiring up the events in page so that it can be given at the page level. Value of this attribute is Boolean (*true or false*). By default it is set to “true” for C# web form where as, it is “false” for VB.NET web forms.

## Performance wise which is better, Session or ViewState?

* For large amount of data, Session will be an efficient way to go. When session is not used, set it to null for memory overhead but this cannot be done in all the cases. Once the session timeout happened it automatically set to null. Default timeout is 20 minutes.
* In Viewstate, all data will be stored in HTML hidden fields. For large amount of data, it would give performance issues. Ideal size of viewstate should not be more than 20-30% of page size. So for less data viewstate will be an ideal solution.

## How to display all validation messages in validation controls?

By adding ValidationSummary control to web page we can display all the validation messages related to different validation controls.

## Why to use "Orientation" property of Menu control?

Orientation property is used to set the display of menu vertically or horizontally. By default the value of this property is vertical.

## How to kill a user session?

When a user logs into the website, it’s a good practice to create a new session to track the user activities. So, meantime we need to handle log out scenario as well. So, we will kill a user session once user logs out of the application. Below is the code snippet that can be written to kill the user session –

* Session.Abandon();

## How to use a checkbox in a gridview?

Following are the steps to be used. Add Itemtemplate tag in gridview like below -

<ItemTemplate>   
 <asp:CheckBox id="TestMyCheckBox" runat="server" AutoPostBack="True" OnCheckedChanged="Check\_Clicked"></asp:CheckBox>  
</ItemTemplate>

If you look at the Itemtemplate we have “OnCheckChanged” event. This “OnCheckChanged” event has “Check\_Clicked” subroutine which actually resides in behind code and this method should either be “protected” or “public”. Sample code snippet shown below –

Protected Sub Check\_Clicked(ByVal senderobj As Object, ByVal e As EventArgs)   
 // do something   
End Sub

## How can we format data inside Gridview?

We can format data using – “DataFormatString” property.

## How do you upload a file in ASP.NET?

ASP.NET provides two controls that lets user to upload files to server. Once web server receives the file, it can take any actions on that file. Controls used for uploading file are –

* FileUpload – This is an ASP.NET control.
* HtmlInputFile – This is HTML Server control.

## What are the common properties Button controls used in ASP.NET?

Following are the list of properties used –

* **Text** – This property is used to display the text of button.
* **CausesValidation** – This property is used to determine whether validation occurs in page once button is clicked.
* **ImageUrl** – This property is used for displaying the image on button control.
* **CommandName** - This property is used to get or set the command name associated to button control.
* **CommandArgument** – This property is used for passing the string value to command event once user clicks on button.

## What is a component?

Component is a group of classes and methods which are logically related. Component should implement IComponent interface or at least uses class that implemented IComponent interface.

## How to force all the validation control to run?

Page.Validate method is used to force all the validation controls to run.

## If client side validation is enabled in your Web page, will that mean server side code does not run?

When client side validation is enabled, server emits JavaScript code for the custom validators. But, it does not mean that server side checks on custom validators do not execute. It does this check two times as some of the validators do not support client side scripting.

## How can I show the entire validation error message in a message box on the client side?

This can be done by setting “ShowMessageBox” to true of validation summary.

## How to validate textbox for zero value?

Below is a code snippet for custom validator, which is checking whether a textbox have a zero value –

<asp:CustomValidator id="MyTestCustomValidator" runat="server"   
ErrorMessage="Divided by Zero Error" ControlToValidate=" txtTestMyNumber"   
OnServerValidate="ServerValidate" ClientValidationFunction="CheckZero" />  
<asp:TextBox id="txtTestMyNumber" runat="server" />

<script language="javascript">   
function CheckZero(source, args)   
{   
 int val = parseInt(args.Value, 8);   
 if (val ==0) { args.IsValid = false; }  
}  
</script>

As shown above “txtNumber” is the text box name where in value will be entered and client script “CheckZero” checking for zero value.

## If cookies are not enabled at browser end does Form Authentication work?

No. it will not work. Form authentication wants cookies to be enabled.

Reason – First time user will send its credentials to server and user will then be authenticated and server gives a response and this will be stored in client machine mainly as cookie. But if cookies are disabled, this would not be stored. For the second time, the same user will not be authenticated.

## How do I sign out in forms authentication?

FormsAuthentication.Signout() method is used to sign out.

## What are design patterns?

It is recurring solution to recurring problems in software architecture.

## Can you list down all design patterns?

Below are the list of design patterns along with their classifications -

**Creational Design Pattern**

* Abstract Factory
* Builder
* Factory Method
* Singleton
* Prototype

**Structural Design Patterns**

* Composite
* Adapter
* Flyweight
* Proxy
* Decorator
* Bridge
* Façade

**Behavioral Design Patterns**

* Interpreter
* Iterator
* Command
* Observer
* Mediator
* Template Method
* Strategy
* Chain of Responsibility
* State
* Memento
* Visitor

## How to customize columns in GridView?

Gridview have the ability to generate required columns automatically using BoundField. But, we can manually create column which are to be customized instead of auto generating. For customizing columns “TemplateField” will be used.

## Can we use COM components in .Net? If so, how can we use?

“Runtime Callable Wrapper” (*RCW*) can be used for making communication between COM components and .NET components.

This can used in following ways –

* Create a wrapper class and put it in BIN directory.
* Use type library importer tool - Tlbimp.exe
* Use namespace System.Runtime.Interopservices , which gives converter (*TypeLib*) which has all methods which are required to convert COM classes to assembly metadata.

## How can I show the entire validation error message in a message box on the client side?

This can be done by adding validation summary control. In Validation Summary control, there is a property “ShowMessageBox” just set it to true.

## List down the differences between Debug and Trace in ASP.NET?

Both these methods are under namespace - System.Diagnoastics.

* **Debug** – This works only when the mode is Debug.
* **Trace** – This works in both Debug and Release modes.

## What is the difference between Process and Thread?

Process is collection of system resources, data, code and memory space.

Thread is a code which is executed in process. One process can have multiple threads along with primary thread. Thread will be executed until it’s killed or higher priority thread comes for an execution. Each thread will share resources of a process in which it is running.

## What is the difference between cache object and session object?

Cache – This improves the performance by minimizing the database hits to fetch the data. It instead stores the data in cache. So cache will be checked first for data and if it is not found then go to database to get the data.

Session – Session will be created to store the details of the user for capturing the user’s specific actions. Session will be killed or it will be expired in 20 minutes.

## Which method is used to remove the cache object?

To remove the cache object we can use - cache.remove() method.

## List down at least five Gridview events?

GridView Events are as below –

* PageIndexChanging - This event will be fired when pager button is clicked and before Gridview control handles this operation.
* PageIndexChanged - This event will be fired when pager button is clicked and after Gridview control handles this operation.
* RowCommand - This event will be fired when any button is clicked in Gridview.
* RowDataBound - This event will be fired when data is bounded to GridView.
* RowCreated - This event will be fired when row is created in GridView.
* RowDeleted - This event will be fired when row is deleted in GridView.

## How many object are there in ASP.NET?

There are six objects are there in ASP.NET and they are following –

* Session
* Request
* Response
* Object Request
* Server
* Application

## Why PDB files are useful?

PDB files are useful for debugging. PDB files contain the debug information and project information. When project is built under Debug mode PDB files are generated and it would not generate in Release mode. These files should not be included in production deployment.

## What is ASP.NET membership?

ASP.NET membership allows you to store and validate the user credentials. Forms Authentication can be used for storing the user credentials in ASP.NET membership using login controls of ASP.NET. Membership supports storing user credentials in SQL Server , Active Directory etc.

## How to disable Session at the Page Level?

<%@ Page language="c#" Codebehind="TestMyPage1.aspx.cs"   
AutoEventWireup="false" Inherits="WebApplication1.TestMyPage1 "   
EnableSessionState="false" %>

Using “EnableSessionState” property we can disable the session at page level as shown above.

## How we can handle SQL Exceptions in ASP.NET?

We can use try, catch and finally block for error handling. Use SqlException class to handle exceptions specific to SQL Server.

try  
{

//some code  
}  
catch(SQLException ex)  
{

//Handle SQL Exception  
}

## How to set maximum length of Textbox in ASP.NET?

Textbox maximum length can be controlled from “MaxLength” property. By default length of the textbox will be 65535.

## How many validations can be applied on customer’s “Age” field?

Two validations can be applied for this field and they are –

* Required – For checking mandatory value.
* Range – For checking the age range, age should be between the ranges.

## What is the difference between Web Services and Remoting?

Both these applications support distributed applications.

* Remoting is used to talk in binary format and is not cross platform. It expects consumer to be .NET application. It uses SMTP, HTTP and TCP protocols for communication.
* Web Services can be either WCF or XML Web Services. Web Services are hosted in internet and it is cross platform. Client will be created for using web service and client can consume the methods of web service.

## 134) Why to use web.sitemap in ASP.NET?

For using navigation controls like menu, treeview etc we have to define xmlsitemap, which is called web.sitemap.

<?xml version="1.0" encoding="utf-8"?>  
<sitemap xmlns=" ">

<siteMapNode url="~/Home.aspx" title="Home" description="">

<siteMapNode url="~/ About.aspx" title="About" description=""/>

<siteMapNode url="~/ Details.aspx" title="Details" description=""/>

<siteMapNode url="~/ Contact.aspx" title="Contact" description="" >

<siteMapNode url="~/ Comment.aspx" title="Comment" description=""/>

</SiteMapNode>  
</SiteMapNode>

</SiteMap>

## Is it possible to use multiple web.config files of ConnectionString in one page?

Yes. We can have multiple web.config in an application. But these web.config files should be under different folders, it should not be in same place in an application.

## Why to use UpdatePanel control in AJAX ASP.NET?

AJAX is a client side technology and it supports asynchronous communication between client and server. If the part of page need to be refreshed, then we can use this Update panel control, which uses AJAX request and does not harm the other part of the page.

## How can I disable the Session at page level and at the application level?

Disabling Session at page level –

<%@ Page language="c#" Codebehind="MyPageTesting1.aspx.cs"   
AutoEventWireup="false" Inherits="WebApplication1. MyPageTesting1"   
EnableSessionState="false" %>

Disabling Session at application level – This can be done in Web.Config of our application in following way.

<sessionstate mode="off"> under <system.web>

## Why to set the property – EnableViewState to true?

Purpose of view state is to persist the state across postback. “EnableViewState” property is available at control and page level. Once we set it to TRUE, viewstate for a Control/Page will be enabled.

## Why to use “runat=server” for HTML element?

HTML elements are treated as text by default. Once we add “runat=server” attribute to HTML element, it will be treated as a server control. If we add “runat=server” attribute we have to make sure this element is in <form> tag because it indicates that form is processed by server.

## Can we store the dataset into viewstate? If yes, how?

Yes we can store the dataset into viewstate. We have to serialize the dataset and store it into viewstate.

## How can we convert sql2000 numeric to integer in ASP.NET?

sqlParameter objTest=new sqlParameter();  
objpara=objDataadapter.UpdataCommand.Parameter.Add("@Quantity",SqlDbType.Int);  
objpara.SourceColumn="Quantity";  
objTest.SourceVersion=DataRowVersion.Current;

## What you mean by DocType in ASP.NET?

XHTML Web pages should contain DOCTYPE, which identifies the page as XHTML. ASP.NET would not create DOCTYPE declaration when it’s rendered.

## What is meant by runtime hosts?

Runhosts are special type where CLR is managed and executed.

## What you mean by HTTPContext?

This is in System.Web namespace,this is the best way for reading server response at runtime.

HttpContext.Current.Items.Add("ERRORMESSAGE ", exception.Message);

## Why to use Hidden Fields in ASP.NET?

Hidden fields are best way for exchanging the data between client (browser) and server. These controls are not visible in web page but can be accessed from javascript or Jquery.

## What is the difference between Hidden Field and Textbox with Visible=false?

Hidden Field can be accessed from javascript or Jquery, whereas Textbox with Visible = false is not accessible from javascript or Jquery.

## How do you decide on when to go for caching?

In case in our application, we need to store large amount of data and if it is the master data (which does not change most often) then we can use caching for storing this data.

## What is the role of CSS in web pages in ASP.NET?

Cascading Style Sheet (CSS) is used to style the pages or controls which is visible to the user. CSS can be created in .css files and can be included this in our web pages.

## What does mean Stateless?

Stateless mean, if the entity does not remember its previous state. HTTP is stateless protocol because it does not remember its old state (request) done. For this stateless feature ASP.NET provides state management options like Session, Cookies, Viewstate etc.

## What does partial mean in ASP.NET?

We have the option of splitting the single class file into multiple parts. Using partial keyword, we can split the logic of single class into multiple class files with the same class name. Advantage of this would be – We will end up creating only one object for the class.

## What could be best way to handle the data more than 10k in Datagrid?

Using dataset would be a feasible solution. Dataset will again have datatables in it. It’s easy to useLINQ to Dataset to filter the data from dataset and binding it to Datagrid.

## Explain Page.IsValid?

This property will let you know whether all validation in a page succeeded or not.

## Is it possible to use javascript from codebehind files in ASP.NET?

Yes we can register the javascripts from codebehind files like below –

Use method - Page.RegisterStartupScript() or use Page.RegisterClientScriptBlock().

## How to use MessageBox without javascript in ASP.NET?

Add the reference of System.Windows.Forms library then use the method –

MessageBox(“Hi Testing”);

## How can we change the timeout of session in ASP.NET?

Basically timeout of session is 20 minutes and if we want to change this timeout we can do in following way –

* Change the Session time out in web.config. (In sessionstate tag change the timeout)
* Change the Session time out in code using timeout property of session class.