HTTP is a stateless protocol. ASP.NET framework helps in storing the information regarding the state of the application, which consists of:

Page state

Session state

When a user requests an ASP.NET page, the IIS delegates the processing of the page to the ASP.NET runtime system.

The ASP.NET runtime transforms the .aspx page into an instance of a class, which inherits from the base class page of the .Net framework. Therefore, each ASP.NET page is an object and all its components

The ASP.NET life cycle could be divided into two groups:

Application Life Cycle

Page Life Cycle

ASP.NET Application Life Cycle

The application life cycle has the following stages:

* User makes a request for accessing application resource, a page. Browser sends this request to the web server.
* A unified pipeline receives the first request and the following events take place:
  + An object of the class ApplicationManager is created.
  + An object of the class HostingEnvironment is created to provide information regarding the resources.
  + Top level items in the application are compiled.
* Response objects are created. The application objects such as HttpContext, HttpRequest and HttpResponse are created and initialized.
* An instance of the HttpApplication object is created and assigned to the request.
* The request is processed by the HttpApplication class. Different events are raised by this class for processing the request.

An ASP.NET page is also a server side file saved with the .aspx extension. It is modular in nature and can be divided into the following core sections:

* Page Directives
* Code Section
* Page Layout

Some events cause the form to be posted back to the server immediately, these are called the postback events. For example, the click event such as, Button.Click.

Some events are not posted back to the server immediately, these are called non-postback events.

For example, the change events or selection events such as TextBox.TextChanged or CheckBox.CheckedChanged. The nonpostback events could be made to post back immediately by setting their AutoPostBack property to true.

Server Side

# ASP.NET - Server Side

We have studied the page life cycle and how a page contains various controls. The page itself is instantiated as a control object. All web forms are basically instances of the ASP.NET Page class. The page class has the following extremely useful properties that correspond to intrinsic objects:

* Session
* Application
* Cache
* Request
* Response
* Server
* User
* Trace

HttpContext.Current.Server.UrlEncode

HttpContext.Current.Server.HtmlEncode

## Request Object

The request object is an instance of the System.Web.HttpRequest class. It represents the values and properties of the HTTP request that makes the page loading into the browser.

## Response Object

The Response object represents the server's response to the client request. It is an instance of the System.Web.HttpResponse class.

The Response.Redirect() method allows transferring the user to another page, inside as well as outside the application. It requires a round trip.