.NET Technologies

.NET Technologies - Lecture 8

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UNIT 2: Topics in this presentation

State Management in ASP.NET:

- ViewState

- Session Variables

- Cookies

State Management

- Statelessness :

As we all know, browsers are generally stateless.

Now the question arises here, what does stateless actually mean?

Stateless means, whenever we visit a website, our browser communicates with the respective server depending on our requested functionality or the request. The browser communicates with the respective server using the HTTP or HTTPs protocol.
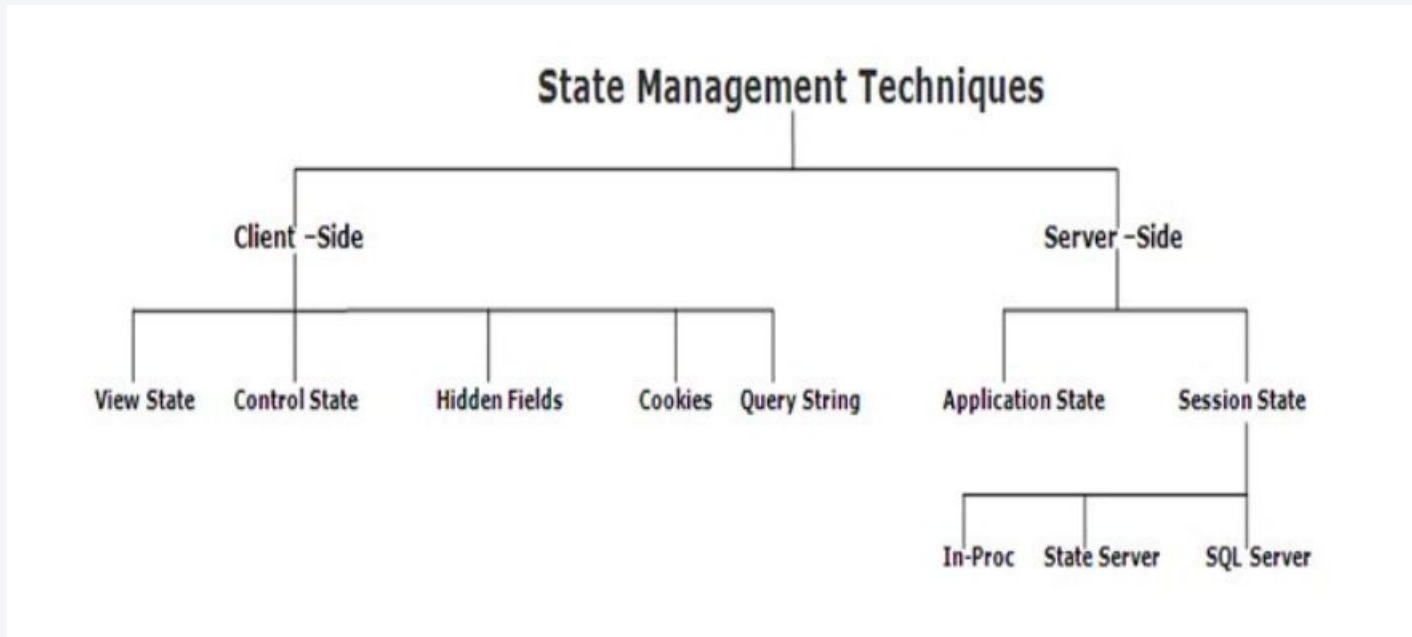
But after that response, what's next or what will happen when we visit that website again after closing our web browser?

In this case HTTP/HTTPs doesn't remember what website or URL we visited, or in other words we can say it doesn't hold the state of a previous website that we visited before closing our browser, that is called stateless.

State Management

- Hyper Text Transfer Protocol (HTTP) is a stateless protocol. When the client disconnects from the server, the ASP.NET engine discards the page objects. This way, each web application can scale up to serve numerous requests simultaneously without running out of server memory.

- However, there needs to be some technique to store the information between requests and to retrieve it when required. This information i.e., the current value of all the controls and variables for the current user in the current session is called the State.

- ASP.NET manages four types of states:

- View State

- Control State

State Management

State Management Techniques

Client –Side

View State Control State Hidden Fields Cookies Query String

Server –Side

Application State Session State

In-Proc State Server SQL Server

View State

- The view state is the state of the page and all its controls. It is automatically maintained across posts by the ASP.NET framework.

- When a page is sent back to the client, the changes in the properties of the page and its controls are determined, and stored in the value of a hidden input field named _VIEWSTATE. When the page is again posted back, the _VIEWSTATE field is sent to the server with the HTTP request.

- The view state could be enabled or disabled for:

- The entire application

- A page

- A control

Session State

- A Session can store the value on the Server.

- It can support any type of object to be stored along with our own custom objects.

- A session is one of the best techniques for State Management because it stores the data as client-based, in other words the data is stored for every user separately.

- Disadvantage: Because it is on server, it can be hacked using session hijacking tools.

Cookies

- A set of Cookies is a small text file that is stored in the user's hard drive using the client's browser. Cookies are just used for the sake of the user's identity matching as it only stores information such as sessions id's, some frequent navigation or post-back request objects.

- Whenever we get connected to the internet for accessing a specific service, the cookie file is accessed from our hard drive via our browser for identifying the user. The cookie access depends upon the life cycle or expiration of that specific cookie file.

Note: For examples please refer to the programs of practical no. 4