ViewState

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1. Server controls utilize ViewState to store the values for most of their properties. ViewState is stored as a hidden form field in a page. It is encoded, but not encrypted. Here is an example:

   <input type="hidden" name="__VIEWSTATE" id="__VIEWSTATE" value="/wEPDwUKMTkyOTE5OTk0Mg9kFgICBA9kFgICAQ8QZA8WA2YCAQICFgMQBQREYXZlBQIxMWcQB QRQYXVsBQI0NGcQBQRBbm5hBQEzZ2RkZFNvvWFRb0jru3OIfA87z9GH7h7QpLqyCxVPapTWNZNe" />

2. As you have seen, controls have a rich set of properties to program against. We you set these values, they must be remembered somewhere because when the page is finished being processed on the server, all variables are destroyed. As we discuss shortly in the Page Lifecycle, the reading and writing of ViewState is a step in the page lifecycle. After all event-handlers have been called on the server, just before the response is sent back to the client, ViewState is written. In other words, most of the properties that have been set on controls are encoded and stored in a hidden form field using a hashmap format. Then, when the page is posted-back, just before the Page_Load method is called, ViewState is read from and the appropriate values are set into their properites.

3. As we will see later, we can store custom information in ViewState to maintain state across postbacks.

4. ViewState of course makes the page larger and thus takes longer to load. A poster on StackOverflow stated that an application he was working on had about 14 million characters and was causing has application to crash!

   http://stackoverflow.com/questions/1323558/viewstate-hidden-field-so-big-it-makes-everything-crash

   This of course is atypical, but it can be "big" and grow and cause problems with load time. In large-scale applications, a deeper understanding of ViewState is required. Some resources:

   http://www.codeproject.com/Articles/31344/Beginner-s-Guide-To-View-State

   This is an incredibly detailed explanation about exactly what ViewState does and how it works:

   http://weblogs.asp.net/infinitiesloop/archive/2006/08/03/Truly-Understanding-Viewstate.aspx

   https://docs.microsoft.com/en-us/archive/msdn-magazine/2003/february/cutting-edge-the-asp-net-view-state

5. All controls (and the Page itself) have an *EnableViewState* property that by default is *true.* It can and should be set to *false* in certain circumstances

   https://msdn.microsoft.com/en-us/library/system.web.ui.control.enableviewstate%28v=vs.110%29.aspx