**State Management Quiz**

1. Can post requests be bookmarked? What are the problems?

Yes, post requests can be bookmarked but there is no data in this bookmark. Because the bookmark can not save body of the request (post request stores data in the body).

1. What is the purpose of request dispatching?

Provide the option of dispatching the client’s request to another web resource: HTML page, another servlet, JSP, …

1. What is the difference between redirect and request dispatch?

* Forward:
  + Passes the request to another resource on the server
  + Request and response objects passed to destination servlet.
  + Browser address bar will remain unchanged and completely unaware of servlet forward.
* Redirect:
  + Server sends HTTP status code 3xx to client along with the redirect URL
  + Client then sends a new request to the URL.
  + Address bar will change to new URL.
  + Only http message sent, request and response objects cannot be sent.
  + Extra round trip

1. What is an attribute?

Attribute is an object bound into one of the three servlet API objects: HttpServletRequest, HttpSession, ServletContext. It is a name and value pair: name is String and value has type Object.

Methods: getAttribute(String); setAttribute(String, Object); removeAttribute(String); getAttributeNames();

1. What is the difference between attributes and parameters?

* Parameters:
  + Using send data from HTML page to the servlet via form/url
  + Input parameters are always text/Strings
* Attributes:
  + Store data at server: pass informations from one servlet to another.
  + Values are always Object.

1. What are dangers of using attributes?

When using the attributes at Application level and session state it is **not thread safe** (shared by every servlet and request in the application).

1. What does it mean to say that http is stateless? Give an example of a stateful protocol.

* HTTP is stateless means that the connection between the browser and the server is lost once the transaction ends.
* Stateful protocol: FTP, Telnet,… Ex: when using FTP login, the user credentials is sent to server to grant access. This info will be saved.

1. Give 5 different methods for maintaining state information (count each attribute scope as one method).

* Request scope: destroyed when servlet finishes processing request
* Session scope: destroyed when user closes browser.
* Application scope: destroyed when Container stopped.
* Cookies saved on browser: temporary (deleted when the browser closes), permanent
* Hidden fields on a form.

1. How long does a session last?

It based on:

* Session timeout in the DD (Deployment Descriptor / file web.xml)
* Set max inactive interval via method setMaxInactiveInterval(second)
* Use method invalidate(), session will end immediate.

1. What is a cookie, and how long does a cookie last?

* Cookie is a small piece of data that a server sends to the user's web browser. The browser may store it and send it back with the next request to the same server.
* Life of cookie:
  + Temporary cookie: is removed when browser closes.
  + Permanent cookie: a cookie has a max age, will clear when max age is ended.

1. What is the purpose of URL rewriting?

* URL rewriting provides you with another session tracking alternative if the browser does not support cookies. So that, It doesn't depend upon cookies and will work whether cookies are enabled or disabled

1. Why does the request attribute report ‘null’ for the maintaining state demo?

Because request attribute is destroyed when servlet finishes processing request in the doGet() method. So that in the doPost(), when we get attribute “requestState”, attribute is “null”.