State Management Quiz

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

Post requests cannot be bookmarked.

Get requests can be bookmarked. The data sent with the GET is appended to the URL up in the browser bar. The user can’t bookmark a form submission if using POST instead of GET.

2. What is the purpose of request dispatching?

Request dispatching makes something else on the server do the work.

* User types a servlet’s URL into the browser bar
* The request goes to the web container
* The servlet decides that the request should go to another part of the web app
* The servlet calls and the another part of the web app takes over the response
* The browser gets the response in the usual way, and renders it for the user. Since the browser location bar didn’t change, the user does not know that the another part of the web app generated the response

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

The difference between a redirect and request dispatch is that redirect makes the client do the work while request dispatch makes something else on the server do the work.

When a servlet does a redirect, the user sees the new URL in the browser. When a servlet does a request dispatch, the URL in the browser bar doesn’t change.

4. What is an attribute ?

An attribute is an object set into one of three other servlet API objects – ServletContext, ServletRequest or HttpSession. It is a name/value pair where the name is a String and the value is an Object in a map instance variable.

5. What is the difference between attributes and parameters?

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| --- | --- | --- |
|  | Attributes | Parameters |
| Types | Application/context  Request  Session (There is no servlet-specific attribute, just user an instance variable) | Application/context init paramters  Request parameters  Servlet init parameters (No such thing as session paramters) |
| Method to set | setAttribute(String name, Object value) | Cannot set Application and Servlet init paramters – they’re set in the DD |
| Return type | Object | String |
| Method to get | getAttribute(String name) | getParameter(String name) |

6. What are dangers of using attributes?

Context attributes are NOT safe because all pieces of the app can access context attributes from any request which means any thread.

The container can see the request from the second window as coming from the same session so Session attributes are not thread-safe.

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

The HTTP protocol uses stateless connections. The client browser makes a connection to the server, sends the request, gets the response and closes the connection. In other words, the connection exists for only a single request/response.

Because the connections don’t persist, the container doesn’t recognize that the client making a second request is the same client from a previous request.

HTTPS protocol is stateful. The connection is secure, the container can identify the client and associate with a session.

8. 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

9. How long does a session last?

Three ways a session can die

* It times out
* invalidate() is called on the session object
* the application goes down (crashes or is undeployed)

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

A cookie is a little piece of data (a name/value string pair) exchanged between the client and server.

A cookie lives only as long as a session; once the client’s browser quits, the cookie disappears but a cookie can be set to stay alive even after the browser shuts down.

11. What is the purpose of URL rewriting?

Passing cookies is the simplest way to exchange session IDs but if the ID can’t be put in a cookie, URL rewriting takes the session ID that’s in the cookie and sticks it right onto the end of every URL that comes in to the app.

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

A request object life span is exactly while the request is processed. Therefore, what is stored in the request in a doGet() won't be there for the doPost() method.