

State Management Quiz

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

Post requests cannot be bookmarked. The parameters are not stored in browser history or in web server logs.

2. What is the purpose of request dispatching?

The purpose of request dispatching is to pass the request to another resource on the server (either servlet or jsp).

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

Redirect	Request dispatch
Request is transferred to another resource to different domain or different server for further processing.	Request is transferred to other resource within the same server for further processing.
Web container transfers the request to client or browser so URL given inside the sendRedirect method is visible as a new request to the client.	web container handle all process internally and client or browser is not involved
In case of sendRedirect call, old request and response objects are lost because it's treated as new request by the browser.	When forward is called on requestdispatcher object with request and response arguments, old request object is present on new resource which is going to process as a new request.
Redirect is slower because a completely new request is created and old request object is lost.	forward () method is faster than redirect.
Client can see the new redirected address	Client cannot see the forwarded address
If we want to reuse the data from previous request in new resource, we have to store the data in session or pass along with the URL.	If we want to reuse the data from previous request in new resource, we can use request.setAttribute().

4. What is an attribute ?

An attribute is an object that can be set, get or removed from three servlets API objects (HttpServletRequest, HttpSession, ServletContext). It is a name/value pair where name is String type and value is Object type.

5. What is the difference between attributes and parameters?

Attributes are name/value pair object that can be placed in the request, session, or context objects. We can set attributes using `setAttribute(String name, Object value)` and we can retrieve value using `getAttribute(String name)`.

Parameters are the values that are passed from the client side to the server. The parameters can be retrieved by using `getParameter(String value)` method.

6. What are dangers of using attributes?

Context and session scope attributes are shared by every servlet and every request in the application. That's why they are not thread safe.

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

HTTP is a stateless protocol, which means once a web server responds to a request, no records will remain in the server. TCP protocol is a stateful protocol.

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

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

9. How long does a session last?

A session last till a browser closes. There are three ways for container to remove sessions

- session timeout (in minutes) in the Deployment Descriptor (web.xml file)
- `session.setMaxInactiveInterval(Time in seconds)`
- `session.invalidate()`

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

Container has to get the session ID to the client as part of the response, and the client has to send back the session ID as part of the request. The simplest and most common way to exchange the info is through "cookies". A cookie is a small piece of information that is persisted between the multiple client requests. A cookie has a name, a single value, and optional attributes such as a comment, path and domain qualifiers, a maximum age, and a version number.

The temporary cookie deletes when the browser is closed and that for the permanent is depends of the time set.

11. What is the purpose of URL rewriting?

If the client won't take cookies, URL rewriting works as a back-up. Cookie is used to exchange session id info between client and container. But if we can't put id in a cookie or cookie don't work, 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 application.

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

The request attribute reports null for the maintaining state demo because the request attribute is reset when any request is made.