**Java Servlet Interview Questions**

1. What is a Java servlet, anyway?

A: A Java servlet is a server-side programming language that runs on web servers and is used to create dynamic web pages. It functions as a middle layer or mediator between an incoming HTTP request from the web browser or other client, and the database or other HTTP server applications. It is like an applet.

2. What is a cookie?

A: A cookie is a piece of information that exists between multiple client requests, featuring a name, single value, and optional attributes like version number, path and domain qualifiers, maximum age, and comments.

3. What is CGI, and how does it relate to servlets?

A: CGI is short for Common Gateway Interface, a set of server-side codes written to communicate through the web server and used to interact with a client through the webserver. CGIs create a new process for each incoming request. Both servlets and CGIs reside in the application server or the web and facilitate communication between the web server and the client-side browser to generate dynamic content.

4. What platforms and web containers are compatible with servlets?

A: Servlets run on Windows, Mac, Linux, Unix, and Solaris, to name a few. They can run on any standard container like Glassfish, Tomcat, and JBoss.

5. Why are servlets better than CGI?

A: There are several reasons why servlets are preferable to CGI:

* Unlike CGI, servlets are platform-independent
* Rather than creating a new process for each incoming, servlets create threads. Thus, the latter is faster
* Servlets take up less memory
* The server's Java security manager enforces security restrictions, making servlets a safer, more trusted choice
* Servlets enjoy access to the full functionality of Java class libraries, permitting communication with applets, databases, and software

6. We mentioned before that servlets work best with dynamic web pages. What is the difference between a static and a dynamic web page?

A: Static web pages show the same content whenever a user visits it. Dynamic web pages display different content depending on how the user interacts with it.

7. Why do we use servlets?

A: We use servlets to:

* Generate and return dynamic responses to the user, based on their request
* Process data inputted by the user
* Expedite interaction between the user and the database
* Handle multiple user requests simultaneously

8. What is a servlet container, and what does it do?

A: Servlet containers are also called web containers and are used to store other servlet components such as multiple threads. Servlet containers:

* Eases communication between browsers and servlets
* Manage servlet life cycles
* Create new threads for every servlet request, providing them with the response and request objects
* Provide support for JavaServer Pages (JSP)
* Handle numerous miscellaneous tasks such as garbage collection, providing security configurations, and memory optimization

Next, let us look into the intermediate level of servlet interview questions and answers.

Intermediate Java Servlet Interview Questions

Now that we have covered the servlet interview questions aimed for beginners, let us boost the difficulty a bit.

9. What is a servlet filter, and what is it used for?

A: Servlet filters are pluggable Java objects that intercept and process requests before or after processing. They are used for:

* Authenticating and authorizing requests for needed resources
* Formatting the request's body and header before sending it along to the servlet
* Compressing data sent to the client
* Logging request parameters to the log files
* Changing responses by adding cookies and header information as needed

10. What is a WAR file?

A: WAR stands for Web Application Resource, a file that specifies web elements. Servlet and JSP projects are converted into WAR files to boost speed and efficiency.

11. Explain the phases of a servlet's lifecycle.

A: There are four phases:

* Servlet Class Loading. When a container receives a servlet, it starts by loading the class into memory
* Servlet Class Initialization. Once the servlet class is loaded, the container initializes the servletcontext's object and invokes its init method
* Request Handling. The servlet is ready to handle the client requests once it's initialized. The servlet container spawns a new thread for every client request and invokes the service() method
* Removal from Service. When the container (or the user) stops the application, it destroys the servlet class by initiating the destroy() method

12. What is servlet mapping?

A: Servlet mapping defines an association between a servlet and a URL pattern. The procedure maps requests to servlets.

13. When is a servlet loaded?

A: The three conditions are:

* When the application's administrator manually loads it
* When the webserver that deploys the servlet starts
* When the servlet container receives the initial request from the browser or client

14. What is session tracking, and why is it important?

A: Session tracking maintains the user or client's data, helping the server to recognize a new request coming from a previous client.

15. List the various session tracking techniques.

A: There are four standard tracking techniques:

* Cookies. Small bits of information added to multiple client requests
* Hidden Form Field. Hidden text used for maintaining the user's state
* URL Rewriting. Giving an extra link for mapping the next servlet
* HTTP Session. Generating a specific ID for each user so that the server can recognize them

16. List the various kinds of HTTP requests.

A: The different HTTP requests are:

* Delete
* Get
* Head
* Options
* Post
* Put
* Trace

**Expert Java Servlet Interview Questions**

17. List the different servlet authentication methods.

A: The four servlet authentication methods are:

* HTTP basic authentication
* HTTP digest authentication
* HTTPS client authentication
* Form-based authentication

18. What is chaining in the context of servlets?

A:  Servlet chaining happens when a browser accepts a request and processes it using multiple servlets in a chain. Communication occurs between chains of servlets and servlet programs to process the client's request. Chaining may make user requests visible to various servlets.

19. How do you redirect a request from one servlet to another?

A: The most straightforward and simple way to redirect a request to another page is using sendRedirect(). Page redirection is commonly used when a document gets relocated, and the client needs to know the new location.

20. How do you invalidate a session in a servlet?

A: Use the session.invalidate() method.

21. What is a deployment descriptor, and what are its uses?

A: Deployment descriptors are configuration files for the web application. They are called web.xml, and reside in the WEB-INF directory. Servlet containers use deployment descriptors to configure web application servlets, servletconfig parameters, contextinit parameters, welcome pages, error handlers, filters, and listeners.

22. What's the difference between a context parameter and a context attribute?

A: Context parameters are values loaded during the deployment process and stored in the deployment descriptor, web.xml. Context attributes, on the other hand, are values set dynamically, and potentially used throughout the application.

23. What's a pure servlet?

A: A pure servlet creates Java objects that in turn, are implemented from the javax.servlet.Servlet interface.

24. What is an HTTPServlet, and how does it differ from a GenericServlet?

A: HTTPservlets are extended from GenericServlet and inherit Genericservlet properties. A HTTPservlet defines an HTTP protocol servlet while a GenericServlet defines a generic, protocol-independent servlet.