# 1. What is a Servlet?

**Interview answer:**
“A Servlet is a Java class that handles client requests and generates dynamic responses on the server side. It runs inside a web container like Tomcat.”

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# 2. What is a Web Container and what are its responsibilities?

**Interview answer:**
“A web container manages the servlet lifecycle, creates threads for each request, handles request–response objects, provides security, and manages sessions.”

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# 3. Explain the Servlet lifecycle.

**Interview answer:**
“The servlet lifecycle has three main methods:
`init()` is called once during initialization,
`service()` is called for every request,
and `destroy()` is called once before the servlet is removed.”

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# 4. Who controls the servlet lifecycle?

**Interview answer:**
“The servlet lifecycle is completely controlled by the web container.”

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# 5. Difference between `GenericServlet` and `HttpServlet`?

**Interview answer:**
“GenericServlet is protocol-independent, while HttpServlet is HTTP-specific and provides methods like doGet and doPost, which are commonly used in web applications.”

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# 6. Difference between `doGet()` and `doPost()`?

**Interview answer:**
“doGet sends data in the URL and is mainly used for reading data. doPost sends data in the request body and is more secure, so it is used for form submissions.”

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# 7. Difference between `forward()` and `sendRedirect()`?

**Interview answer:**
“forward is a server-side operation that keeps the same request object, while sendRedirect is a client-side operation that creates a new request.”

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## 8. What is RequestDispatcher?

**Interview answer:**
“RequestDispatcher is used to forward a request from one servlet to another resource like a JSP or another servlet.”

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## 9. What is session and why do we need it?

**Interview answer:**
“A session is used to maintain user state across multiple requests, such as login information, because HTTP is stateless.”

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## 10. How does HttpSession work internally?

**Interview answer:**
“The server creates a unique session ID and sends it to the client, usually using a cookie. For every subsequent request, the client sends this ID back to the server.”

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## 11. Session tracking techniques?

**Interview answer:**
“Cookies, URL rewriting, hidden form fields, and HttpSession.”

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## 12. Difference between Cookies and Session?

**Interview answer:**
“Cookies are stored on the client side and are less secure, while sessions are stored on the server side and are more secure.”

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## 13. Difference between `getParameter()` and `getAttribute()`?

**Interview answer:**
“getParameter is used to read client-side request data, while getAttribute is used to read server-side data stored in request, session, or application scope.”

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## 14. What is `web.xml` and why is it used?

**Interview answer:**
“web.xml is the deployment descriptor used to configure servlets, URL mappings, filters, and listeners.”

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## 15. What are servlet annotations?

**Interview answer:**
“Annotations like @WebServlet are used to configure servlets directly in code instead of using web.xml.”

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## 16. Is Servlet thread-safe?

**Interview answer:**
“No, servlets are not thread-safe by default because multiple threads can access the same servlet instance.”

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## 17. How do you handle thread safety in servlets?

**Interview answer:**
“By avoiding instance variables, using local variables, and synchronizing only critical sections when required.”

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## 18. What are Filters and why are they used?

**Interview answer:**
“Filters intercept requests and responses to perform tasks like authentication, logging, and validation.”

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## 19. What are Listeners?

**Interview answer:**
“Listeners are used to monitor lifecycle events such as session creation, destruction, and attribute changes.”

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## 20. What is load-on-startup?

**Interview answer:**
“It tells the container to load and initialize the servlet when the server starts instead of waiting for the first request.”

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# 21. What is MIME type?

**Interview answer:**
“MIME type tells the browser the type of content being sent, such as text/html or application/json.”

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# 22. Real-time use of Servlet in projects?

**Interview answer:**
“In real projects, servlets are used for request handling, form submission, authentication, session management, and as controllers in MVC architecture.”