

28 Lecture - CS506

Important Subjective

Certainly, here are 10 short-answer questions related to the Servlets Lifecycle along with their answers:

****Question 1:**** What is the purpose of the `init()` method in the Servlets Lifecycle?

****Answer:**** The `init()` method is used to initialize a servlet. It's called when the servlet is first loaded into memory.

****Question 2:**** What is the primary role of the `service()` method in the Servlets Lifecycle?

****Answer:**** The `service()` method handles client requests and generates responses. It is responsible for processing different types of HTTP requests like GET, POST, etc.

****Question 3:**** How does the `service()` method determine which HTTP method is being used in a request?

****Answer:**** The `service()` method examines the HTTP method specified in the request and delegates the request processing to the appropriate method like `doGet()`, `doPost()`, etc.

****Question 4:**** What is the sequence of method calls when a client sends a request to a servlet?

****Answer:**** The sequence is `init()` (if not initialized), `service()`, and `destroy()` (when the servlet is removed from service).

****Question 5:**** When is the `destroy()` method of a servlet called?

****Answer:**** The `destroy()` method is called when the servlet is being removed from service, typically during server shutdown or when the servlet container decides to unload the servlet due to inactivity.

****Question 6:**** How is the `destroy()` method useful in servlets?

****Answer:**** The `destroy()` method is useful for releasing resources like database connections, closing files, and performing cleanup operations before the servlet instance is removed from memory.

****Question 7:**** Can the `service()` method be overridden directly, or should the specific HTTP method methods like `doGet()` and `doPost()` be overridden?

****Answer:**** While the `service()` method can be overridden, it's generally recommended to override the specific HTTP method methods like `doGet()`, `doPost()`, etc., for better control over request handling.

****Question 8:**** What happens if a servlet is initialized but the `service()` method is not overridden?

****Answer:**** If the `service()` method is not overridden, the default implementation from the `HttpServlet` class will be used. This default implementation returns an "HTTP method not supported" error for all requests.

****Question 9:**** What is the purpose of using the `init()` and `destroy()` methods over the constructor and `finalize()` method?

****Answer:**** The `init()` and `destroy()` methods are specifically designed for servlet lifecycle management, allowing proper initialization and cleanup, unlike the constructor and `finalize()` methods which may not align with the servlet lifecycle.

****Question 10:**** How does the Servlets Lifecycle contribute to efficient memory management?

****Answer:**** The Servlets Lifecycle, with the `init()` and `destroy()` methods, helps in effective memory management by allowing resources to be allocated during initialization and released during destruction, preventing memory leaks and ensuring efficient utilization.