Java Servlet

* Java objects that are intended to play the role of server components in client-server communications
* Handles client request by generating responses to such request.
* Part of the Java EE specification

SERVLET LIFE CYCLE

instantiation => construct call

* Creates an instance of the servlet to service client request

initialization => init() method

* Invoked only once and is intended for any startup initialization code for the servlet

request handling => service() method

* Invoked for each client request

destruction => destroy() method

* Invoked before the servlet instance is ‘uploaded’

HTTP SERVLET

* Java servlet used to handle HTTP request and generate HTTP responses
* Nested in web container which is a component in Java Application server (e.g. Apache Tomcat, Red Hat JBoss/Wildfly, Oracle Glassfish, IBM WebSphere)
* the service() method call is routed to a doXXX() call, depending on the HTTP request method, (e.g. doGet(), doPost(), doHead(), doPut(), doDelete(), etc…)
* the doXXX() methods are passed two arguments:
  + HTTP Servlet Request
    - Object representation of the HTTP request sent by the client and received by the servlet. (e.g. HTTP request method, request URL, query string, message headers, message payload, etc…)
* HTTP Servlet Response
  + Object representation of the HTTP response generated by the servlet and sent back to the requesting client
  + Used to set information in the response message (e.g. HTTP response status code, message headers, message payload, etc…)

\*The web container facilitates the conversion to and from the HTTP request/response message to HTTP Servlet Request/HTTP Servlet Response.