**Server-Side Web Scripting**

**Java Servlets**

-Java objects that are intended to play the role of server components in client-server communications

-handles client requests by generating responses to such requests.

-part of the java EE specification(see Java servlet API for more details)

-hosted in a ‘servlet container’ that provides the environment in which the servlet runs, as well as controls the ‘servlet lifecycle’

\* servlet lifecycle:

-instantiation => constructor call

-creates an instance of the servlet to service client requests

-invoked implicitly by the servlet container when the servlet is called upon to service a client request and no instance currently exists

-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

-servlet performs whatever logic necessary in order to serve the request and generate a response

-multiple client requests are typically handled by a single, multi-threaded servlet instance; thus, care must be exercised to ensure that the code being run by the servlet is ‘thread-safe’

-destruction => destroy() method

-invoked before the servlet instance is ‘unloaded’, and is intended for any ‘housekeeping’ code that the servlet may need to run

**HttpServlet**

-Java servlet used to handle HTTP requests and generate HTTP responses

-hosted in a ‘web container’, which is a component in a ***Java ‘application server’*** (e.g. Apache Tomcat, Red Hat JBoss/WildFly, Oracle GlassFish, IBM WebSphere, etc.)

-the service() method call is routed to a doXXX() call, depending on the HTTP request method, e.g., do Get(), doPost(), doHead(), doPut(), doDelete(), etc

-the doXXX() methods are passed two arguments:

-HttpServletRequest

-object representation of the HTTP request sent by the client and received by the servlet

-used to access information from the request message (e.g., HTTP request method, request URI, query string, message headers, message payload, etc)

-HttpServletResponse

-object representation of the HTTP response generated by the servlet and sent back to the requestin 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 messages to HttpServletReqest/HttpServletResponse

//Java Web Application on Netbeans

Bla blab la

//Sir Montes’ favourite color is pink