Java & JEE Training

Day 25 – Introduction to Enterprise Java; Servlets

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Introduction to JEE

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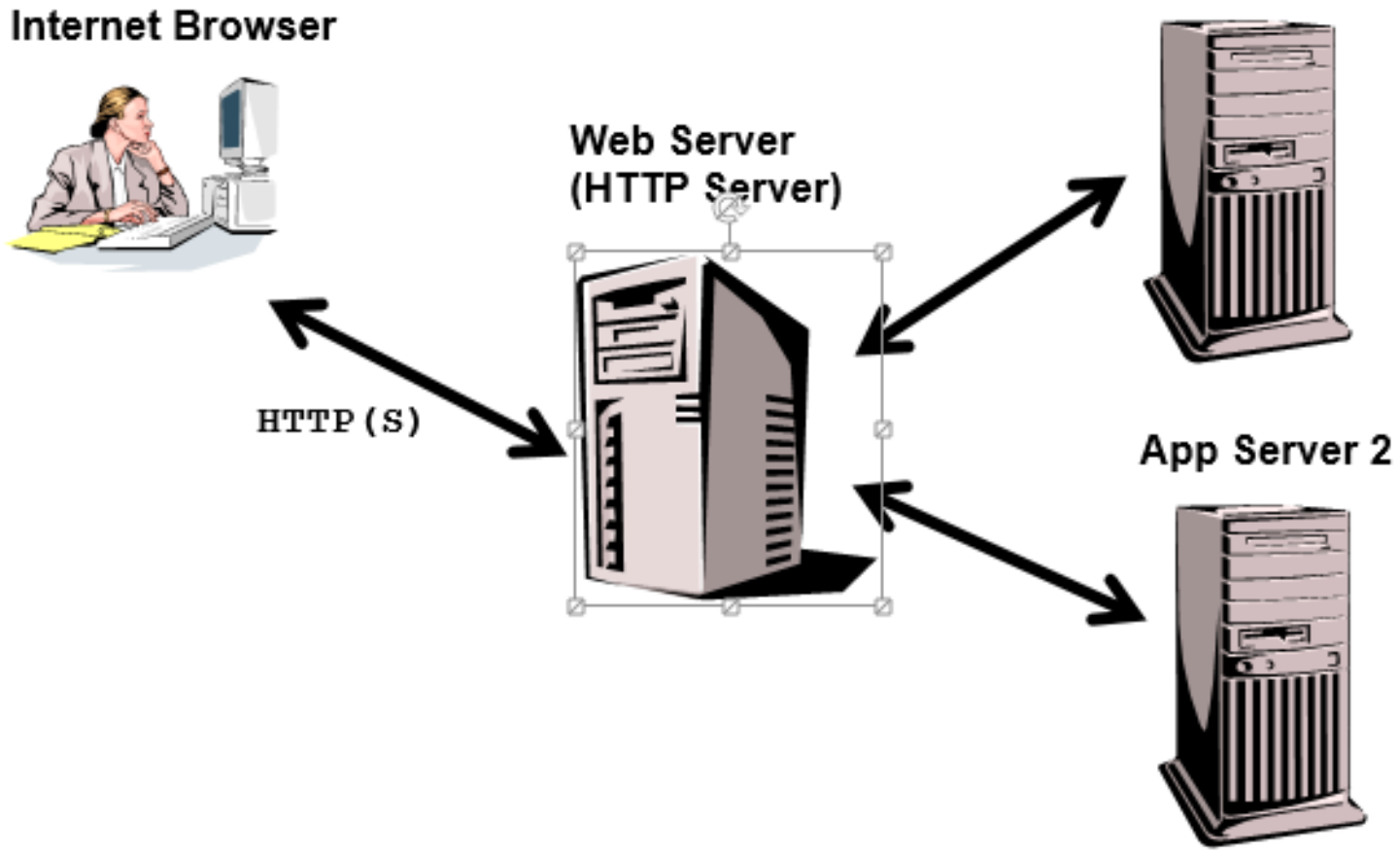
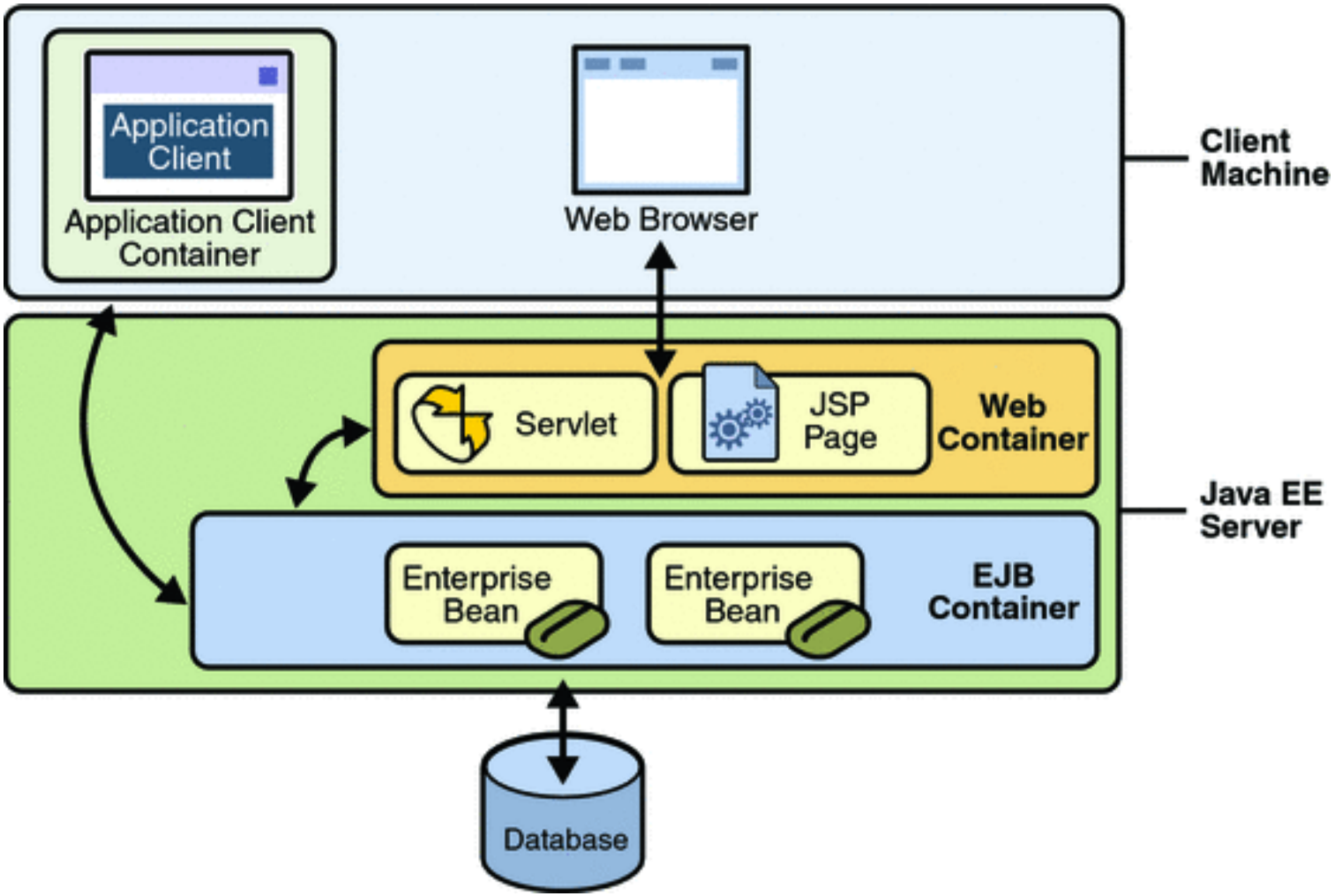
Web Server and Application Server



Enterprise Java – Multi-tier architecture



JSP

- Used for web pages with dynamic content
- Processes HTTP requests (non-blocking call-and-return)
- Accepts HTML tags, special JSP tags, and scriptlets of Java code
- Separates static content from presentation logic
- Can be created by web designer using HTML tools

Servlet

- Used for web pages with dynamic content
- Processes HTTP requests (non-blocking call-and-return)
- Written in Java; uses print statements to render HTML
- Loaded into memory once and then called many times
- Provides APIs for session management

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Servlets

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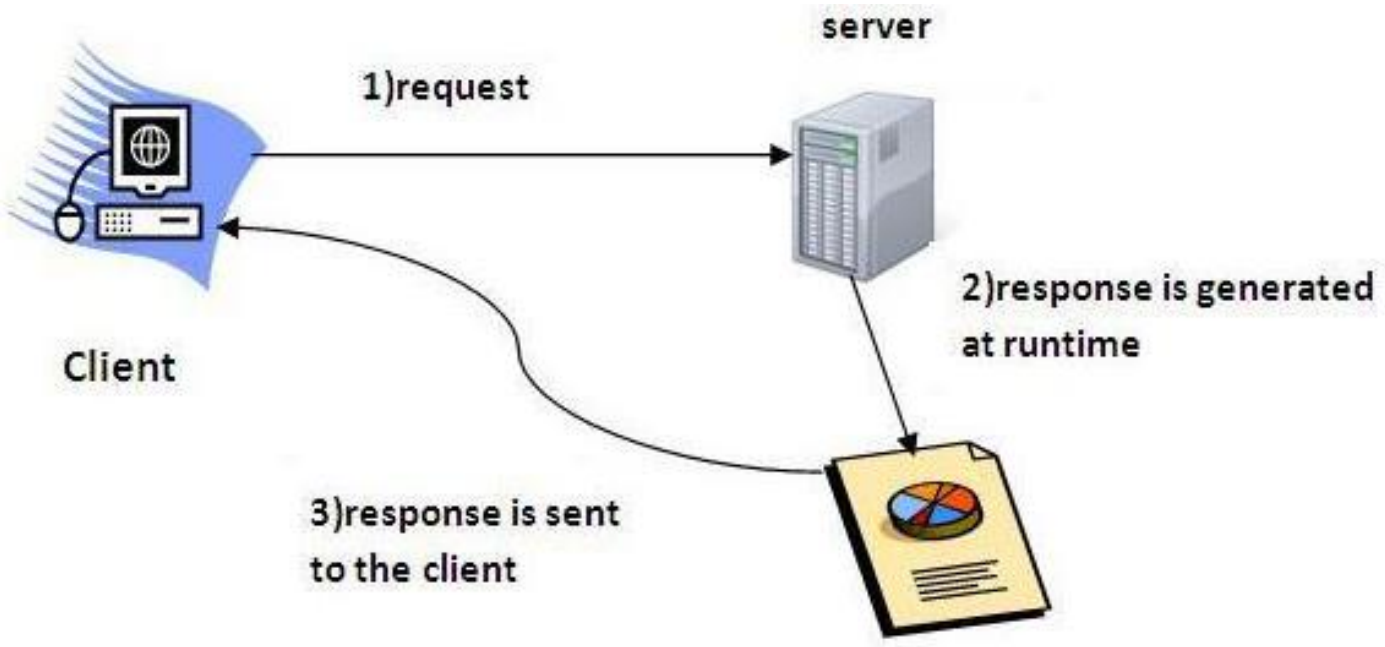
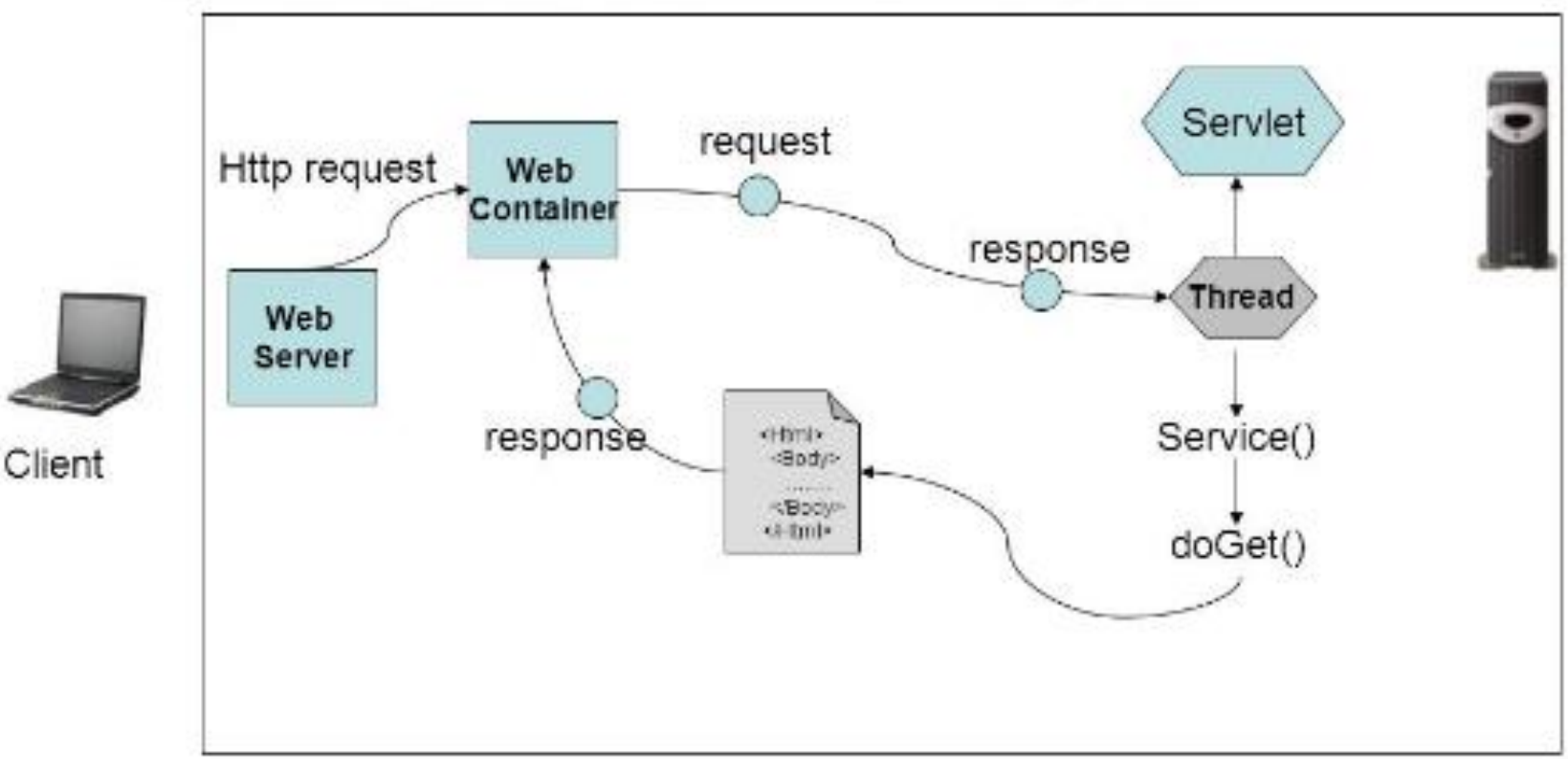
What is a Servlet?

- Servlet is a technology i.e. used to create web application.
- Servlet is an API that provides many interfaces and classes including documentations.
- Servlet is an interface that must be implemented for creating any servlet.



How does a Servlet work?

- The web container creates threads for handling the multiple requests to the servlet. Threads have a lot of benefits over the Processes such as they share a common memory area, lightweight, cost of communication between the threads are low



HTTP Response Codes

- 200 Series – OK
- 300 Series – Redirecting to another page
- 400 series – User error. E.g. 404 means page not found
- 500 series – Server error. E.g. database is down

W3C standards.

GET vs POST

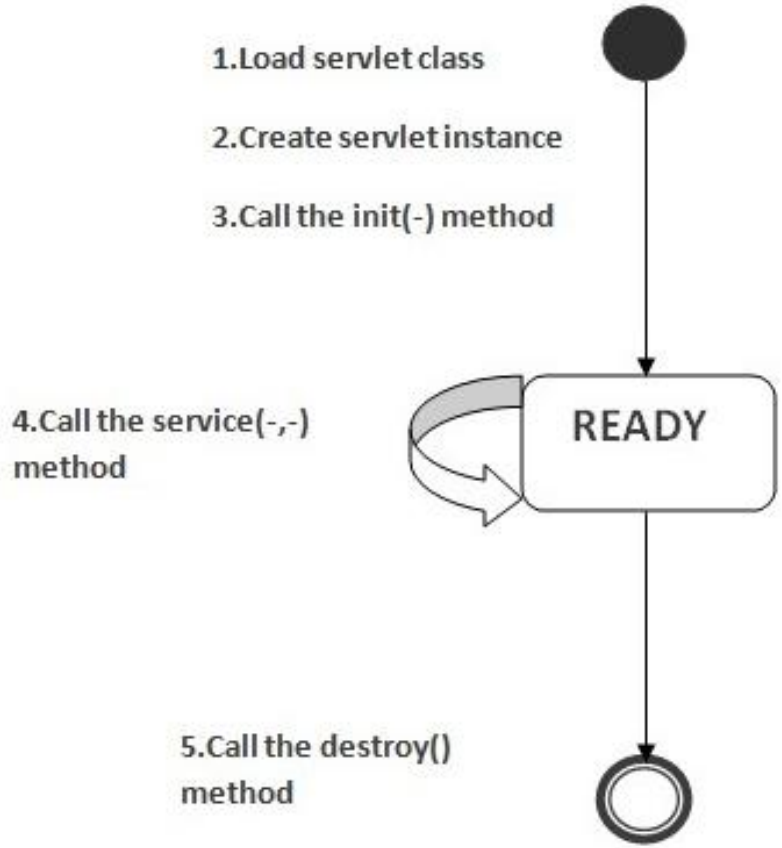
GET	POST
1) In case of Get request, only **limited amount of data** can be sent because data is sent in header.	In case of post request, **large amount of data** can be sent because data is sent in body.
2) Get request is **not secured** because data is exposed in URL bar.	Post request is **secured** because data is not exposed in URL bar.
3) Get request **can be bookmarked.**	Post request **cannot be bookmarked.**
4) Get request is **idempotent** . It means second request will be ignored until response of first request is delivered	Post request is **non-idempotent.**
5) Get request is **more efficient** and used more than Post.	Post request is **less efficient** and used less than get.

Servlet API

- The **javax.servlet** package contains many interfaces and classes that are used by the servlet or web container. These are not specific to any protocol.
- The **javax.servlet.http** package contains interfaces and classes that are responsible for http requests only.

Life Cycle of a Servlet

- As displayed in the above diagram, there are three states of a servlet: new, ready and end. The servlet is in new state if servlet instance is created. After invoking the init() method, Servlet comes in the ready state. In the ready state, servlet performs all the tasks. When the web container invokes the destroy() method, it shifts to the end state.



Basic Tomcat Setup

http://crunchify.com/step-by-step-guide-to-setup-and-install-apache-tomcat-server-in-eclipse-development-environment-ide/

- Follow the steps in the link above