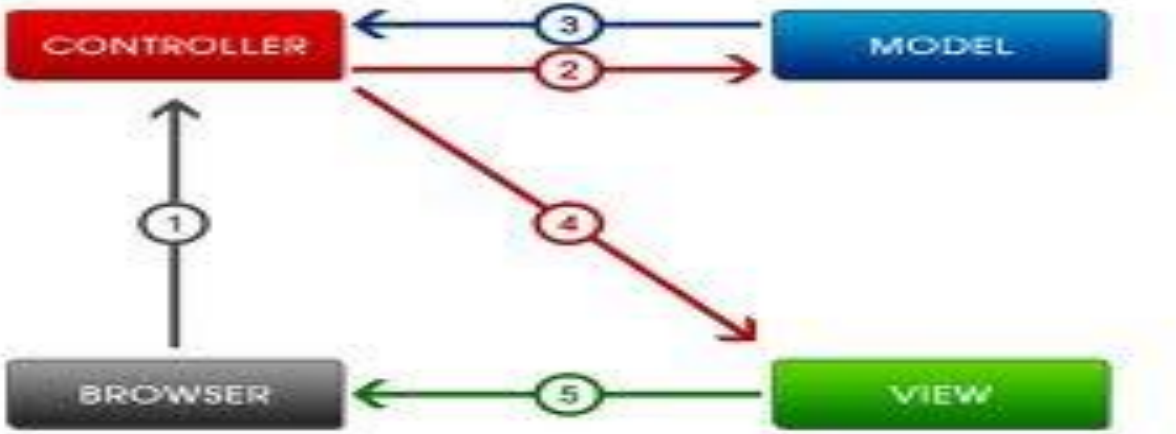
Java Servlets - Introduction

Presented by

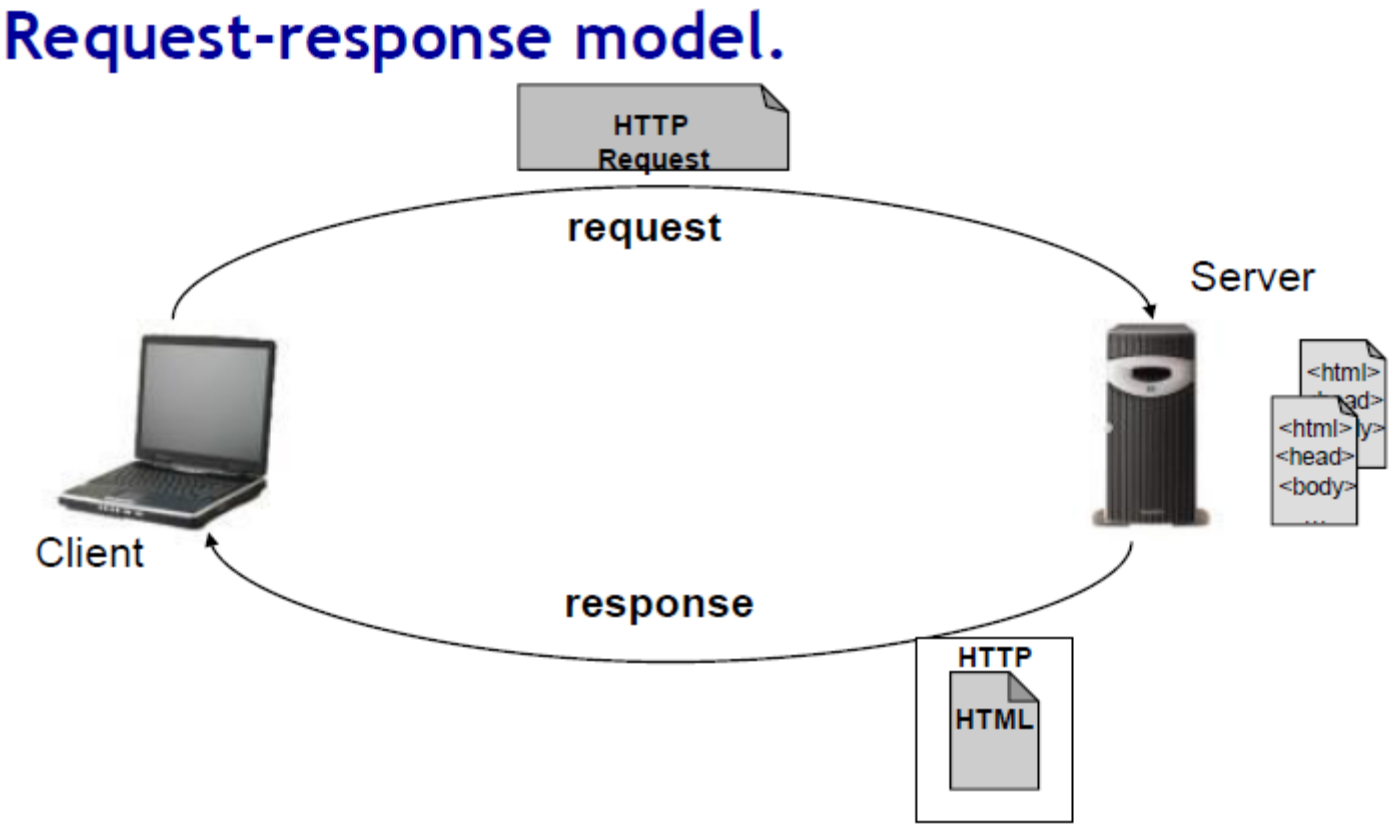
Sagar
Java Consultant

MVC Design Pattern



© javatechie.sagar@gmail.com - *All rights reserved*

Request and Response



© javatechie.sagar@gmail.com - *All rights reserved*

HTTP Request and Response

HTTP Request

Key elements of a "**request**" stream:

- HTTP method (action to be performed).
- The page to access (a URL).
- Form parameters.

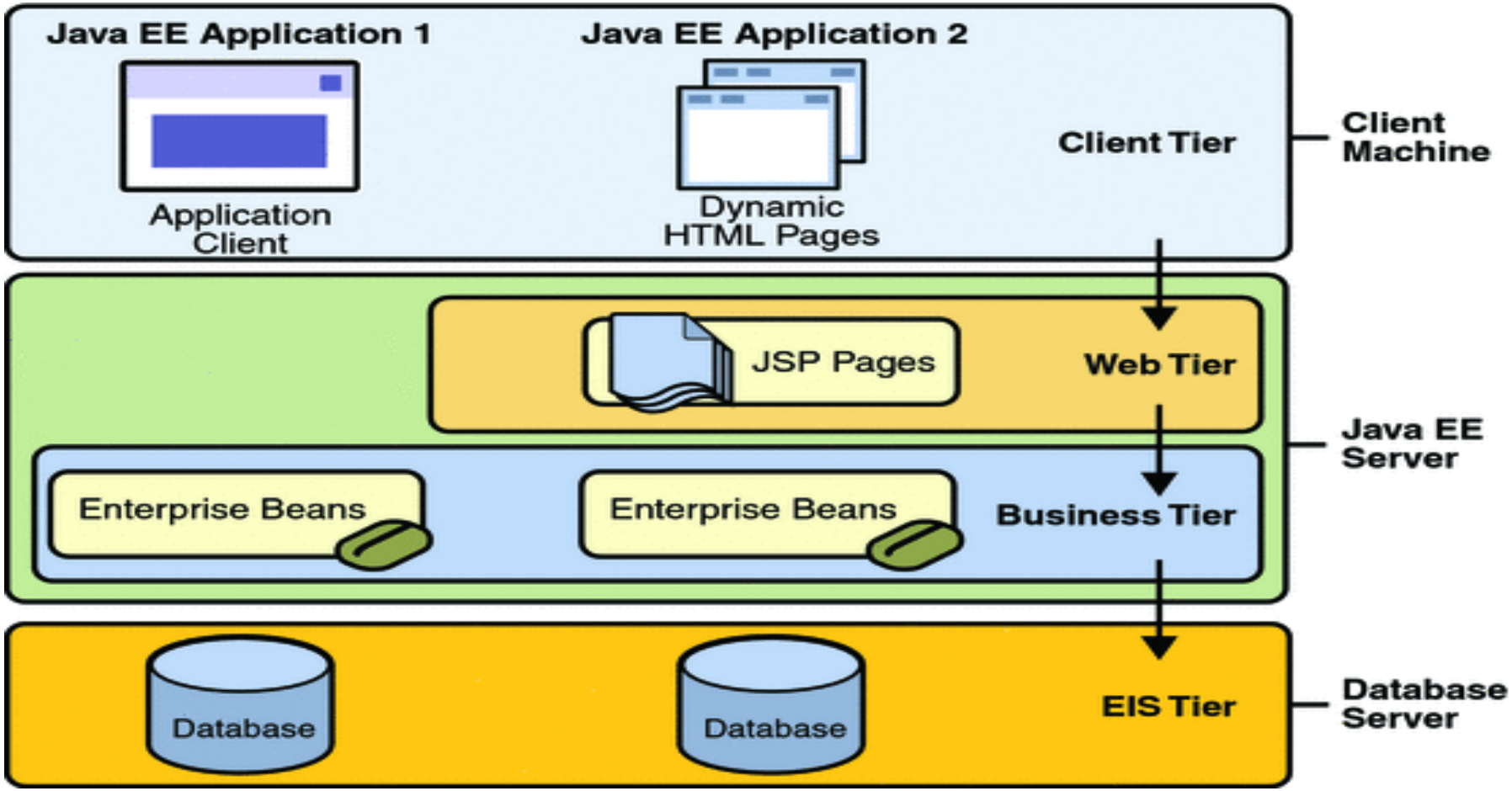
HTTP Response

Key elements of a "**response**" stream:

- A status code (for whether the request was successful).
- Content-type (text, picture, html, etc…).
- The content (the actual content).

© javatechie.sagar@gmail.com - *All rights reserved*

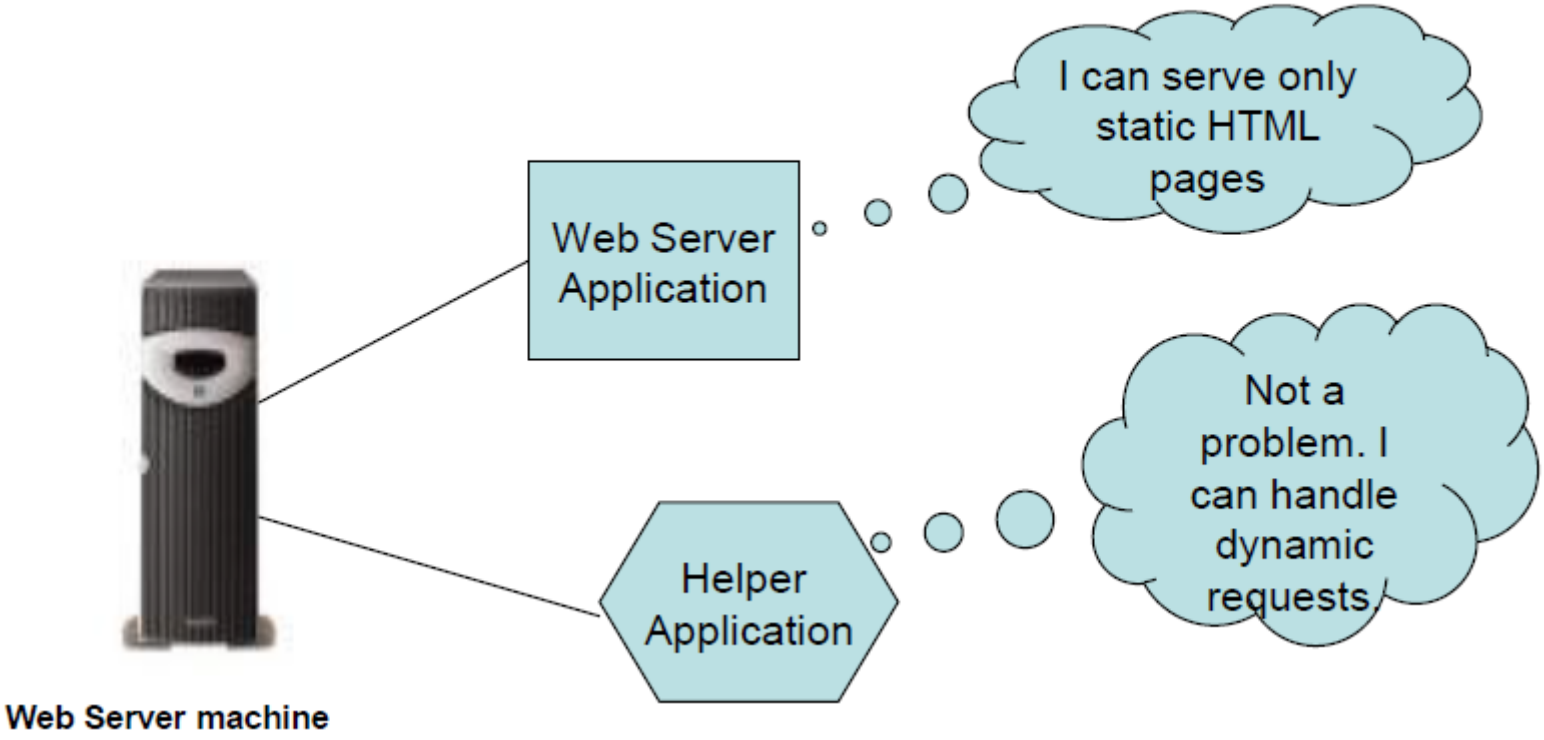
Java Enterprise Edition Architecture



© javatechie.sagar@gmail.com - *All rights reserved*

Servlet – What ?

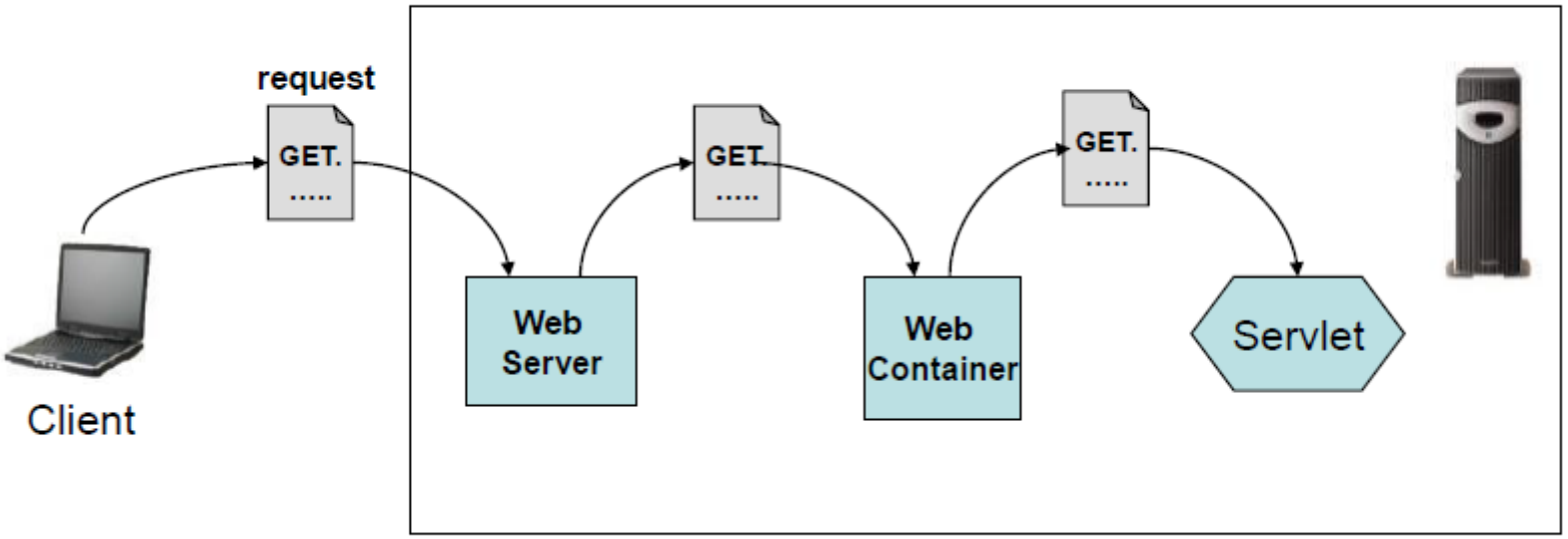
Where does Servlet come into the picture?



"The Helper Application is a **SERVLET**"

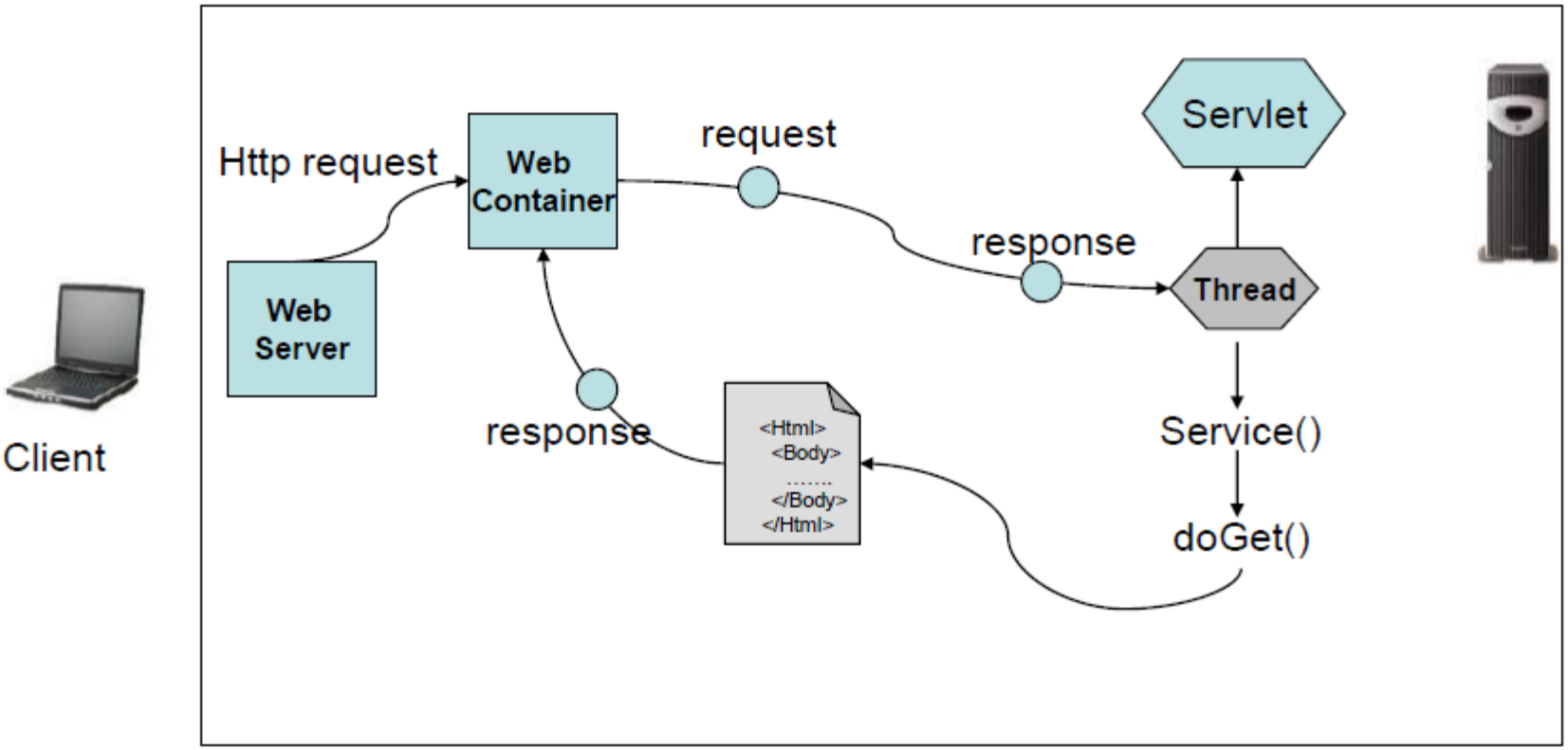
© javatechie.sagar@gmail.com - *All rights reserved*

Web Container



© javatechie.sagar@gmail.com - *All rights reserved*

Container Handling a Request

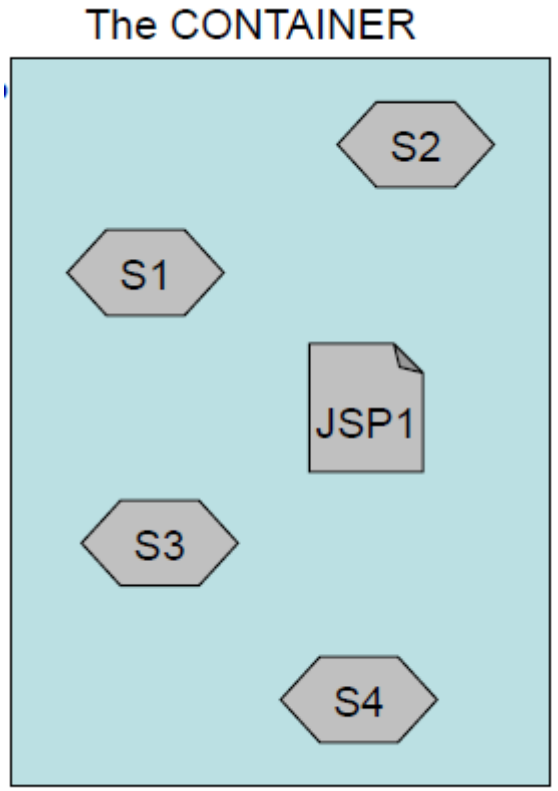


© javatechie.sagar@gmail.com - *All rights reserved*

Role of a Web Container

- Communication Support
- Lifecycle Management
- Multi-threading support
- Security
- JSP Support

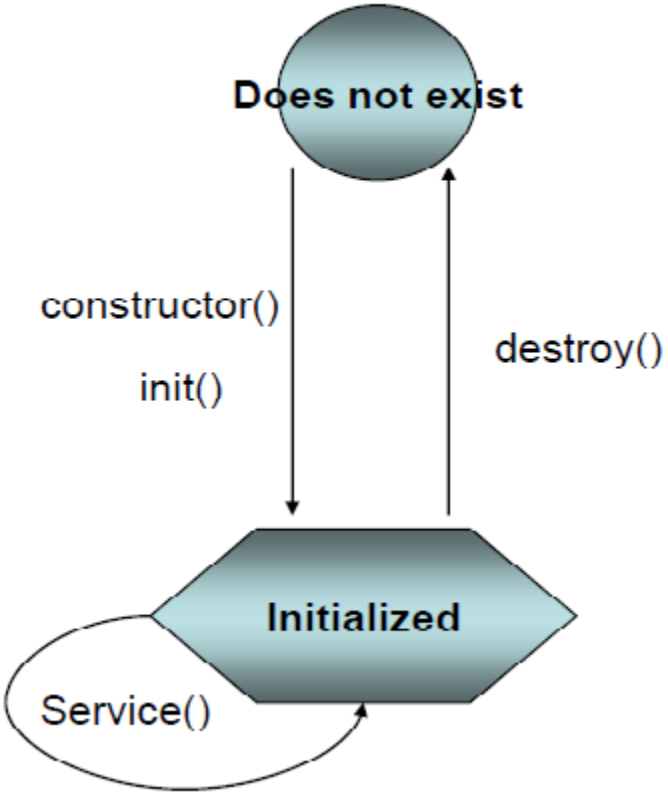
The container can contain multiple Servlets & JSPs within it



© javatechie.sagar@gmail.com - *All rights reserved*

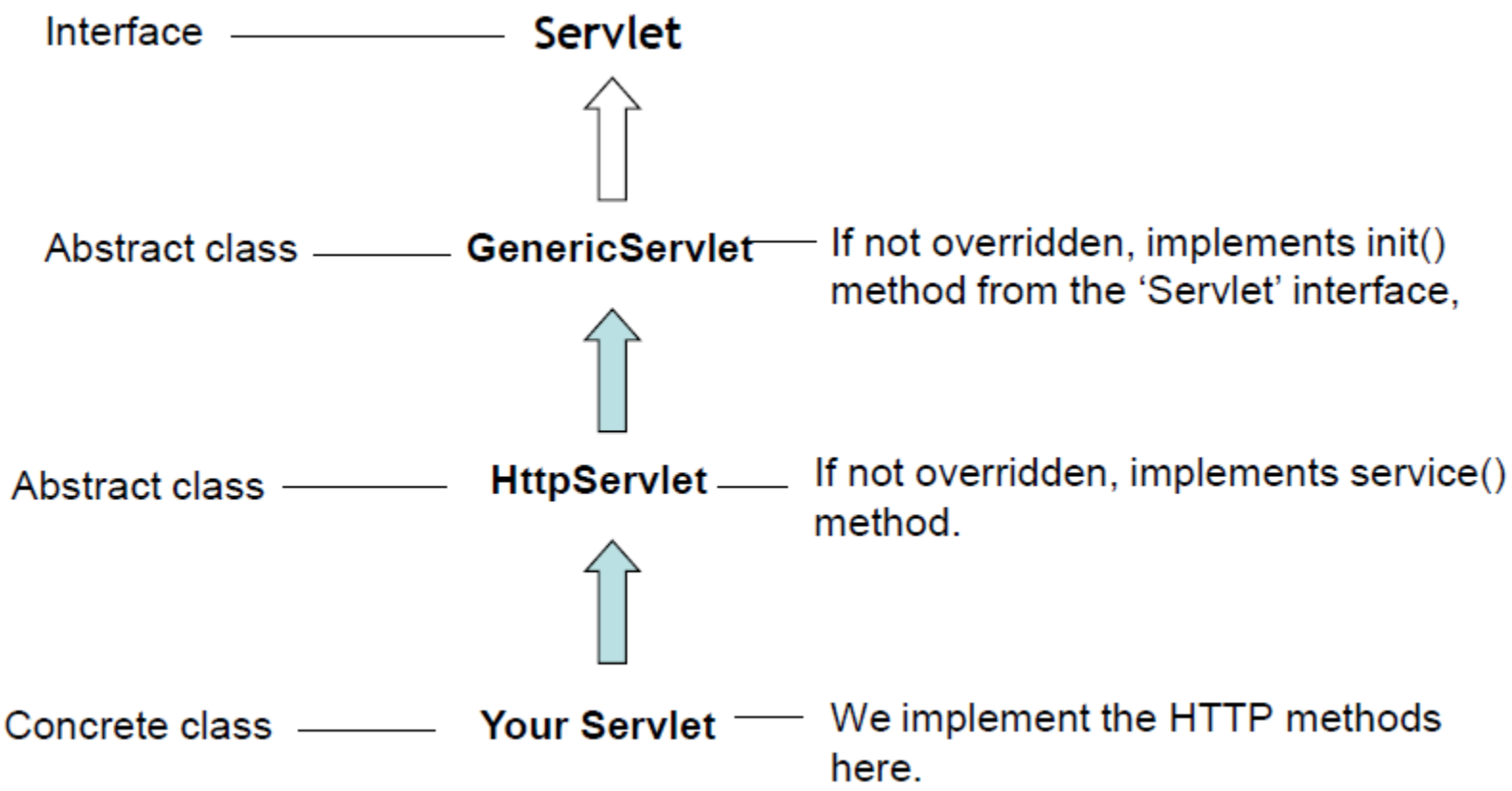
Servlet Life Cycle

The Servlet lifecycle is simple, there is only one main state - "Initialized".



© javatechie.sagar@gmail.com - *All rights reserved*

Servlet Hierarchy



© javatechie.sagar@gmail.com - *All rights reserved*

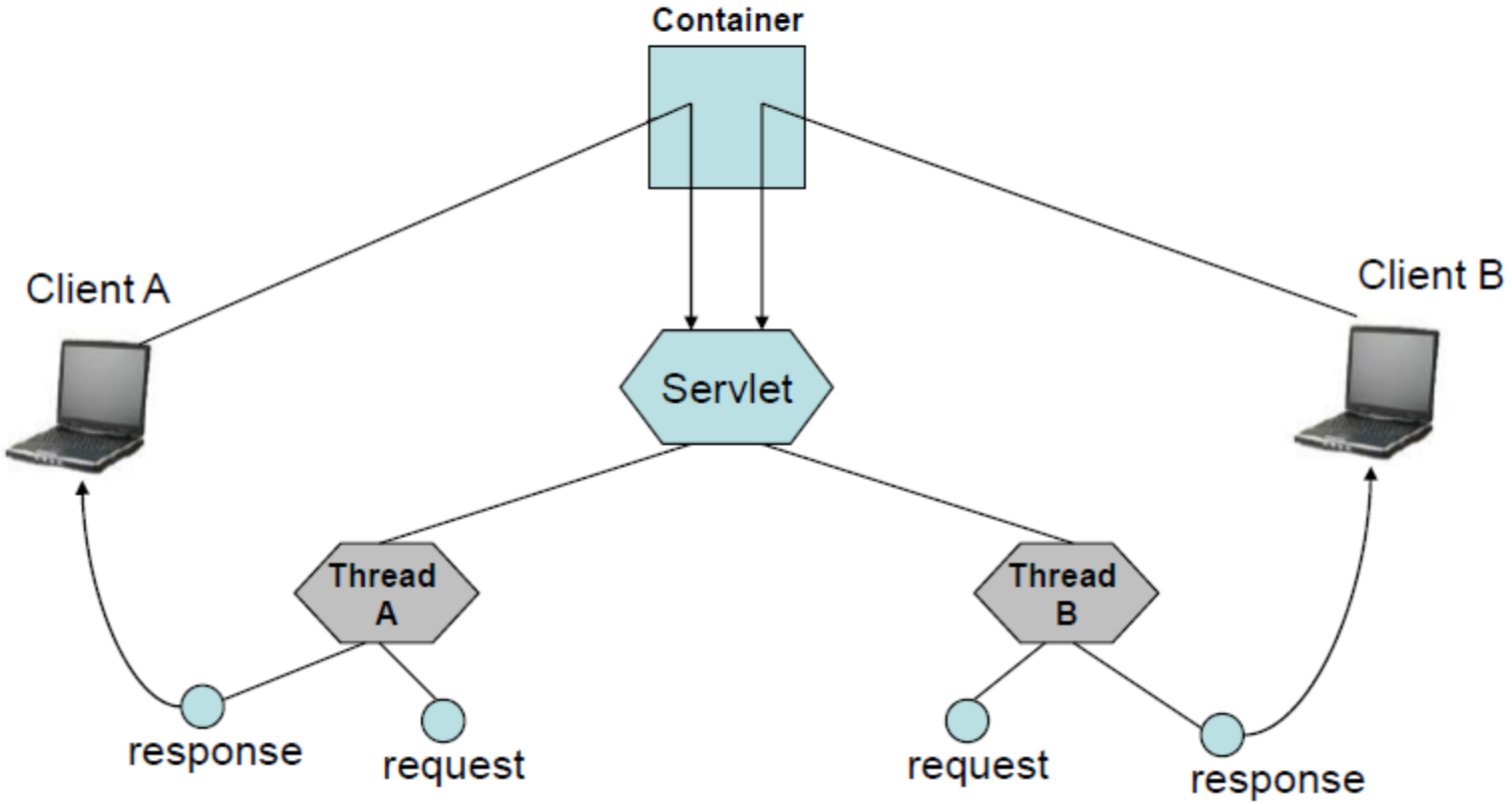
Servlet Life Cycle – 3 Big Moments

	When is it called	What it's for	Do you override it
init()	The container calls the init() before the servlet can service any client requests.	To initialize your servlet before handling any client requests.	Possibly
service()	When a new request for that servlet comes in.	To determine which HTTP method should be called.	No. Very unlikely
doGet() or doPost()	The service() method invokes it based on the HTTP method from the request.	To handle the business logic.	Always

© javatechie.sagar@gmail.com - *All rights reserved*

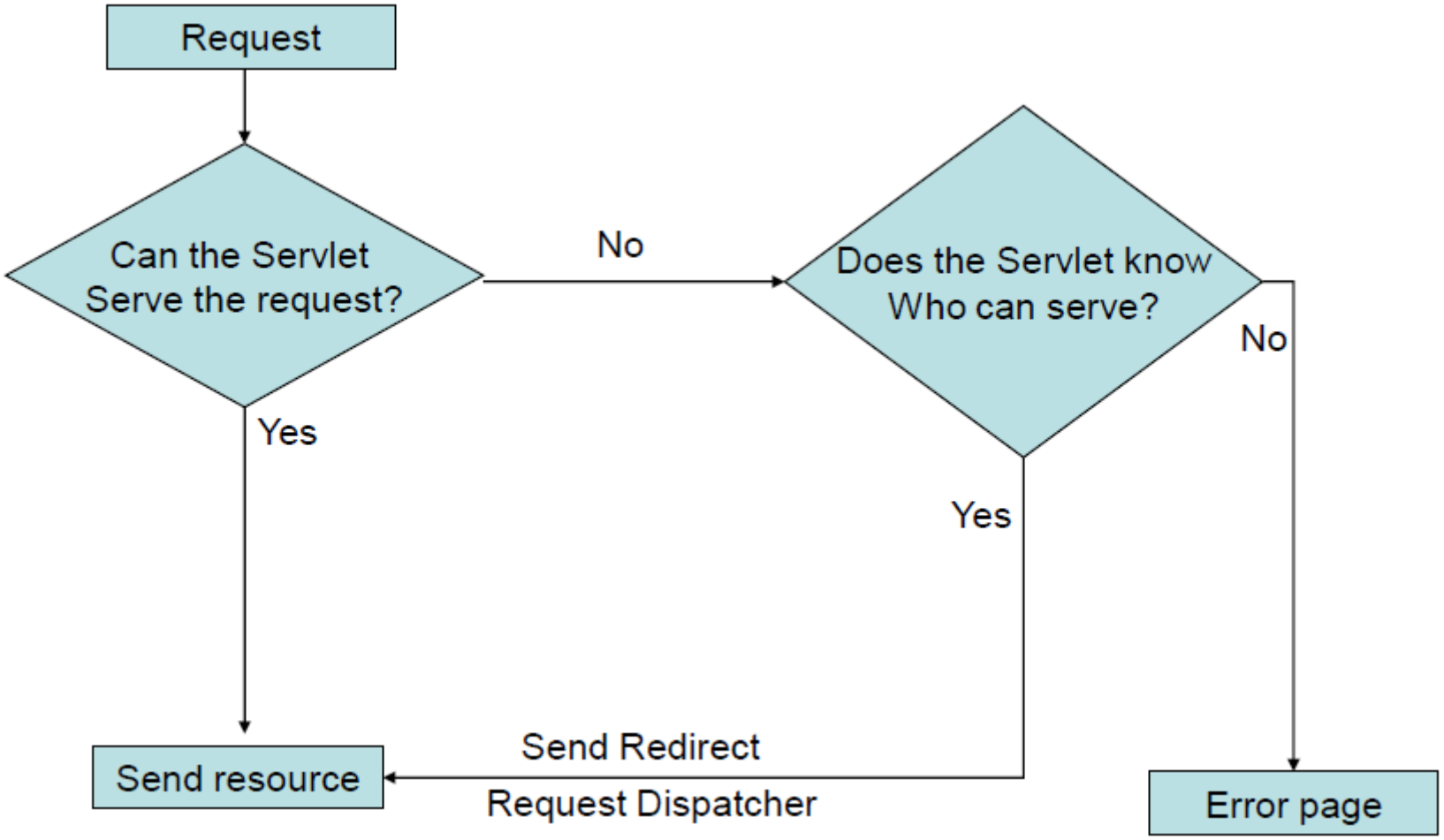
Servlet Request Thread Model

The Container runs multiple threads to process multiple requests to a single servlet.



© javatechie.sagar@gmail.com - *All rights reserved*

Servlet Request-Response Flow



© javatechie.sagar@gmail.com - *All rights reserved*

Deployment Descriptor

How does the Container know which Servlet the client has requested for?

web.xml

```
<web-app>
  .........
  <servlet>
    <servlet-name>LoginServlet</servlet-name>
     <servlet-class>LoginServlet</servlet-class>
   </servlet>

  <servlet-mapping>
    <servlet-name>LoginServlet</servlet-name>
    <url-pattern>/LoginServlet</url-pattern>
  </servlet-mapping>
  ..........
  ..........
</web-app>
```

© javatechie.sagar@gmail.com - *All rights reserved*

© javatechie.sagar@gmail.com - *All rights reserved*