

UNIT-IV

Java Beans : Application Builder tools, The Bean Developer Kit (BDK), JAR files, Introspection, developing a simple bean, using Bound properties, The Java Beans API, Session Beans, Entity Beans, ~~Bean~~

Introduction to Java Servlet : Servlet Basics, Servlet API basic, lifecycle of a Servlet, Running Servlet.

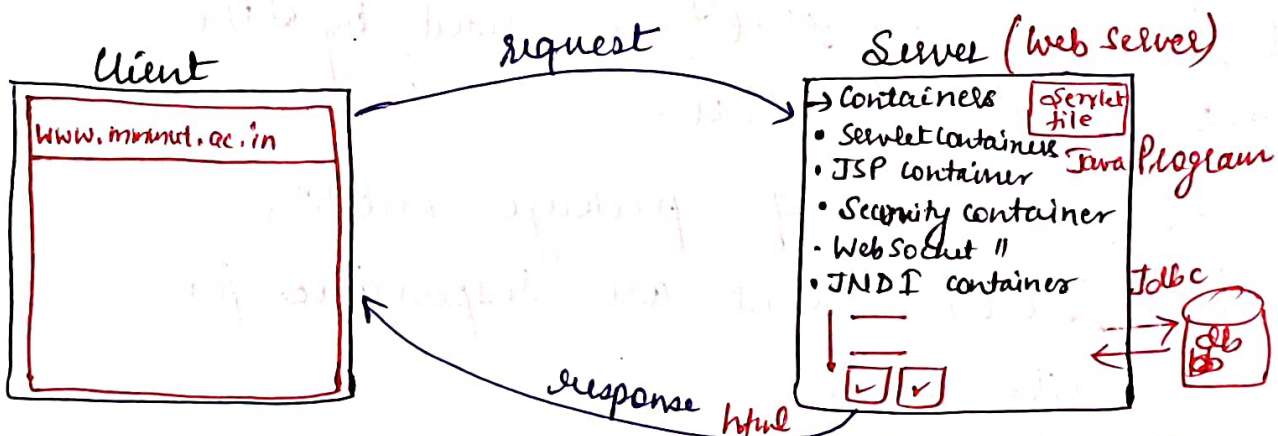
JAVA Servlet

(Server side Java Programs)

Servlet :- Server-side technology which is used to

- handle the client request
- process the request
- generate dynamic response.

Client → browser (chrome, Mozilla Firefox, Opera, Internet Explorer)



- ① Web Server
- Apache Tomcat
 - Glassfish
 - Jetty

- ② Application server
- JBoss
 - Weblogic
 - IBM Websphere

- Server side technologies
- JSP
 - Spring, spring boot
 - Struts, JSF
 - php
 - python

Q) Difference b/w CGI (Common Gateway Interface) and Hypertext Preprocessor (PHP)

Q) Difference b/w Servlet & CGI

Servlet API (www.javatpoint.com/servlet-api)

In Java, to create web applications we use Servlets. To create Java Servlets, we need to use Servlet API which contains all the necessary interfaces and classes.

Servlet API has 2 packages namely,

① javax.servlet

② javax.servlet.http → geeksforgeeks.org
(study from this website)

→ The javax.servlet package contains many interfaces & classes that are used by the Servlet or web container.

→ The javax.servlet.http package contains interfaces & classes that are responsible for http requests only.

Life cycle of a Servlet

- ① Servlet class is loaded.
- ② Servlet instance is created.
- ③ init method is invoked.
- ④ Service method is invoked.
- ⑤ destroy method is invoked.
↳ `public void destroy()`

→ init

`public void init(ServletConfig config) throws ServletException`

→ Service method

`public void service(ServletRequest request, ServletResponse response)`
throws `ServletException`, `IOException`

Java Beans

- Java Beans are developed with the motto of "Write Once and Run anywhere".

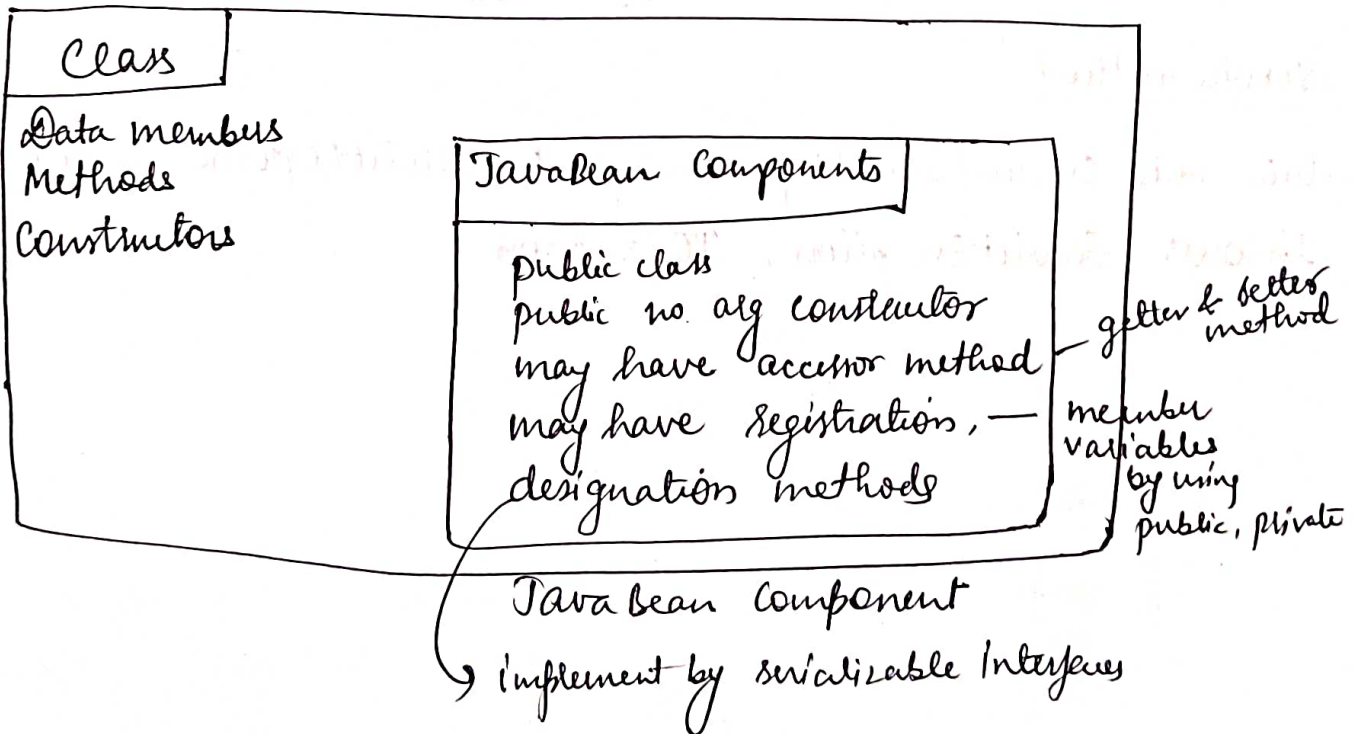
→ The Java Bean is a reusable and Platform Independent component.

→ Java beans are classes

What is a Bean?

→ Many no. of objects that can be encapsulated in a single objects.

→ Bean components can be manipulated visually in a Builder tool. Ex. Swing, AWT.



Setter
↓
Mutators

Getter
↓
Accessor

Q) Difference b/w Java Beans & EJB

Q) Difference b/w Setter & getter in java.

TUTE-4

- Q1) What is SWING? Define features of swing class over the AWT.
 - Q2) Explain MVC Architecture with diagram and write advantage of MVC.
 - Q3) Define Containers and components with examples?
 - Q4) Write the steps of JDBC connectivity model with example.
 - Q5) What is RMI? How we connect to Remote Database?
 - Q6) What is JDBC/ODBC Bridge?
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TUTE-5

- Q1) What is Servlet? Explain the lifecycle of a Servlet.
- Q2) What do you mean by server-side include (SSI) functionality in Servlets?
- Q3) Write a steps to create a servlet with example?
- Q4) What is Java Beans? What are the steps to create it and view it in the BeanBox.
- Q5) What is InfoBus? What are the properties of Java beans?
- Q6) Explain —
 - a) JAR files
 - b) Introspection
 - c) The Java Beans API