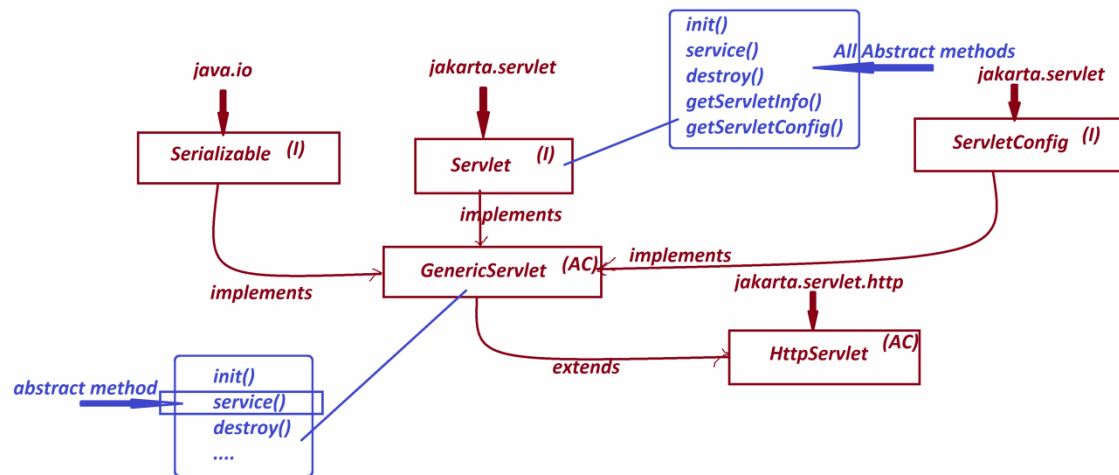


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### **Hierarchy of Servlet-API:**



**=>In the process of Constructing Servlet-Program,we can use any one of the following design model:**

**Model-1 : Using 'Servlet' interface**

**Model-2 : Using 'GenericServlet' AbstractClass**

**Model-3 : Using 'HttpServlet' AbstractClass**

#### **Model-1 : Using 'Servlet' interface**

**=>In Model-1,the Servlet-Program must be implemented from 'Servlet' interface and which must implement all abstract methods of Servlet-Interface.**

#### **Model-2 : Using 'GenericServlet' AbstractClass:**

**=>In Model-2,the Servlet-Program must be extended from 'GenericServlet' AbstractClass,and**

*in this process only service()-method is abstract method*

**Model-3 : Using 'HttpServlet' AbstractClass:**

*=>In Model-3,the Servlet-Program must be extended from 'HttpServlet' AbstractClass,and*

*in this process all methods are NonAbstract methods*

*(i)init()*

*(ii)service()/doPost()/doGet()*

*(iii)destroy()*

**Note:**

*service() - method will accept both POST and GET requests.*

*doPost() - method will accept only POST request*

*doGet() - method will accept only GET request*

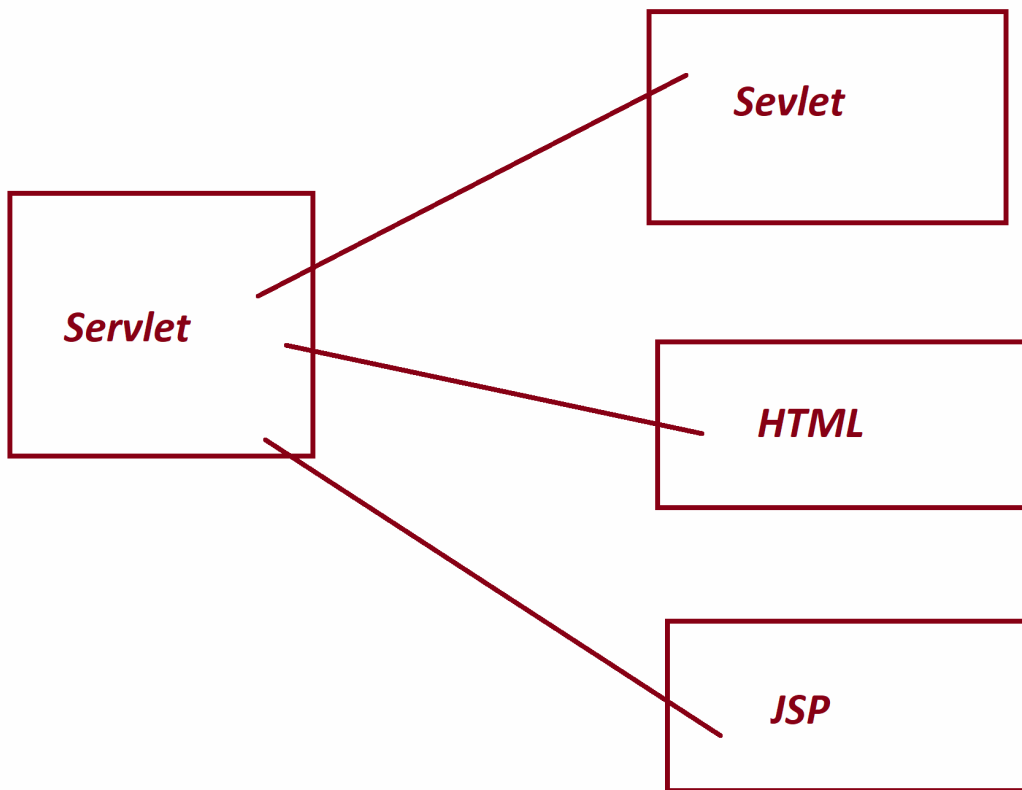
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**'RequestDispatcher' in Servlet Programming:**

*=>'RequestDispatcher' is an interface from jakarta.servlet package and which is used to*

*perform Servlet-Communications like Servlet-Servlet Communication,Servlet-HTML*

*Communication and Servlet-JSP Communication.*



**=>These Servlet Communications are categorized into two types:**

**(a)forward Communication process**

**(b)include Communication process**

**(a)forward Communication process:**

**=>In forward Communication Process,Servlet-1 will take the request and forwards the request to Servlet-2,in this process Servlet-2 will give the response.**

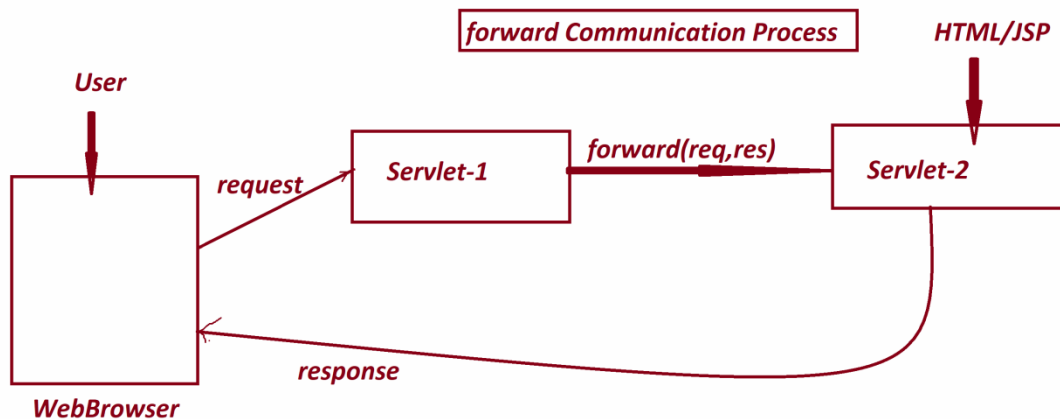
**=>Servlet-2 can be replaced with HTML file/JSP file.**

**=>we use forward()-method from 'RequestDispatcher' to perform forward Communication process.**

**Method Signature of forward():**

```
public abstract void forward(jakarta.servlet.HttpServletRequest,  
jakarta.servlet.HttpServletResponse) throws jakarta.servlet.ServletException,  
java.io.IOException;
```

**Diagram:**



**(b)include Communication process:**

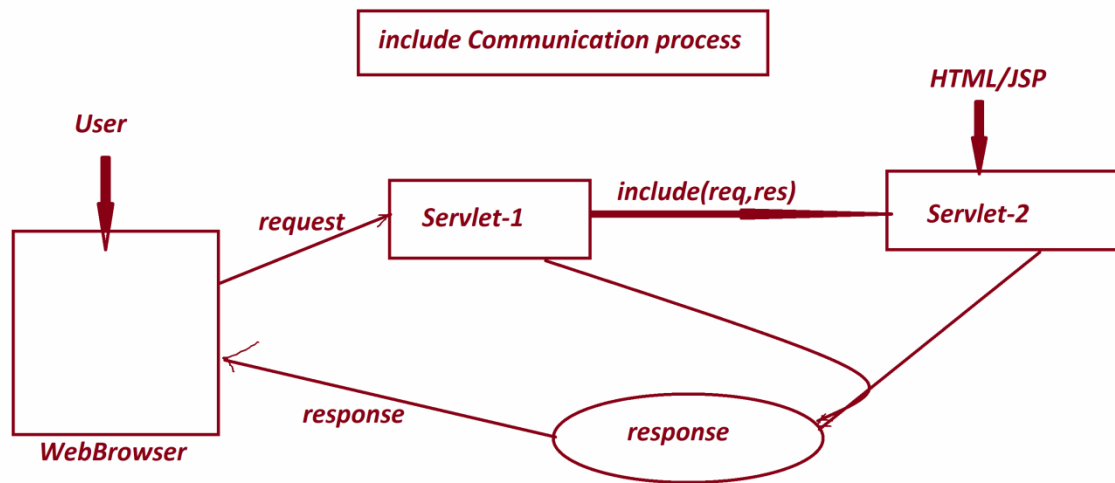
=>In include Communication process the Servlet-1 will take the request and generate the response,in this process the response is included with the response on Servlet-2.

=>Servlet-2 can be replaced with HTML file/JSP file.

**Method Signature of include():**

```
public abstract void include(jakarta.servlet.HttpServletRequest,  
jakarta.servlet.HttpServletResponse) throws jakarta.servlet.ServletException,  
java.io.IOException;
```

**Diagram:**



**Note:**

=>we use `getRequestDispatcher()`-method to create implementation Object for 'RequestDispatcher' interface.

=>This `requestDispatcher()`-method is available from 'ServletRequest'

**Method Signature of `getRequestDispatcher()`:**

```
public abstract jakarta.servlet.RequestDispatcher getRequestDispatcher(java.lang.String);
```

**syntax:**

```
RequestDispatcher rd = req.getRequestDispatcher("Servlet-URL-pattern/HTML/JSP");
```

```
rd.forward(req, res);
```

```
rd.include(req, res);
```

=====

Venkatesh Maipathii