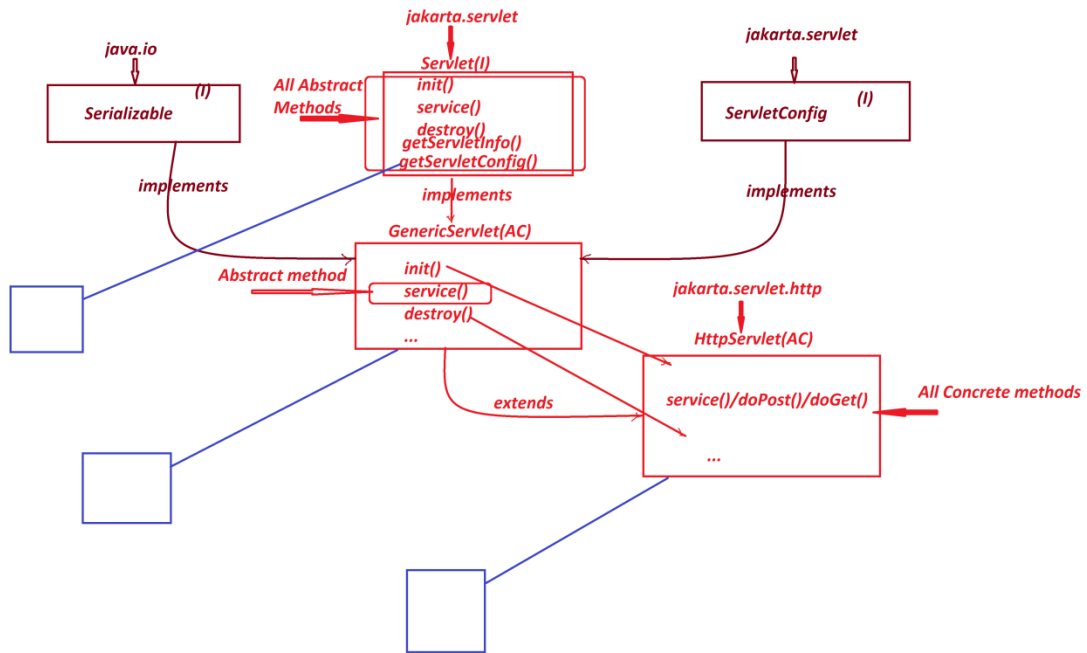


Dt : 22/10/2024(Day-23)

***imp**

Hierarchy of Servlet-API:



Note::

=>In the process of constructing Servlet-program,we can use any one of the following design model:

- 1.Using 'Servlet' interface
- 2.Using 'GenericServlet' AbstractClass
- 3.Using 'HttpServlet' AbstractClass

1.Using 'Servlet' interface:

=>In the process of construcing Servlet-program,the program must be implemented

from Servlet-Interface.

=>In this design model,we must implement all abstract methods of Servlet-Interface.

2.Using 'GenericServlet' AbstractClass:

=>In the process of Constructing Servlet-Program,the program must be extended from 'GenericServlet' AbstractClass.

=>In this design model,we must implement service()-method and remaing two Life-cycle methods are optional methods.

3.Using 'HttpServlet' AbstractClass:

=>In the process of Constructing Servlet-Program,the program must be extended from 'HttpServlet' AbstractClass.

=>In this design model,all methods are optional methods.

=>Life-Cycle methods:

init()

service()/doPost()/doGet()

destroy()

Note::

service() : will accept both requests(GET and POST)

doPost() : will accept only POST request

doGet() : will accept only GET request

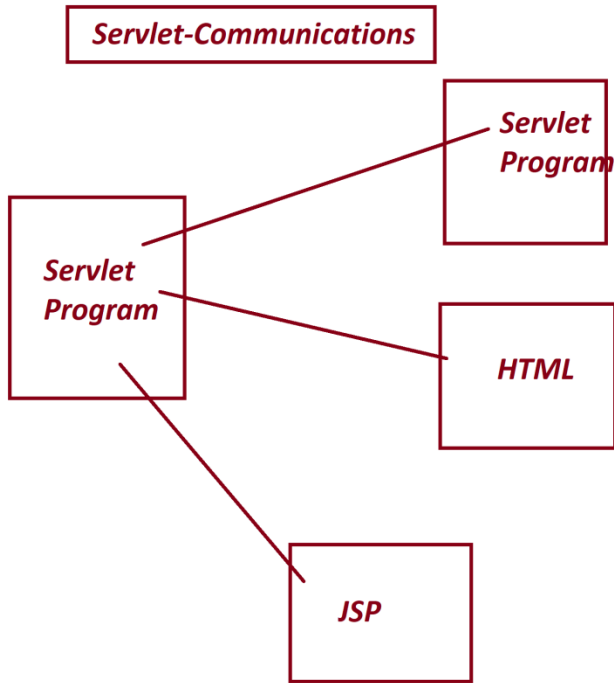
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***imp**

'RequestDispatcher' in Servlet Programming:

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

*used to perform Servlet-Communications like Servlet to Servlet Communication,
Servlet to HTML Communication and Servlet to JSP Communication.*



=>Servlet-Communications are categorized into two types:

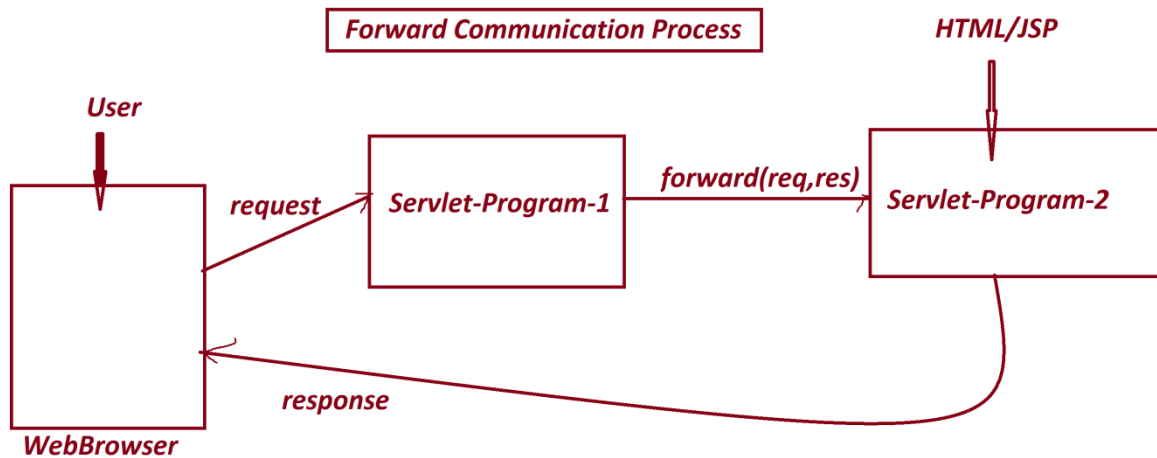
- 1.Forward Communication process*
- 2.Include Communication process*

1.Forward Communication process:

=>In Forward Communication process,Servlet-program-1 will take the request and forwards the request to Servlet-program-2,in this process Servlet-program-2 will provide the response.

=>This Servlet-Program-2 can be replaced with HTML/JSP

Diagram:



=>we use `forward()`-method from 'RequestDispatcher' to perform

'Forward Communication process'

=>Method Signature of `forward()`:

```

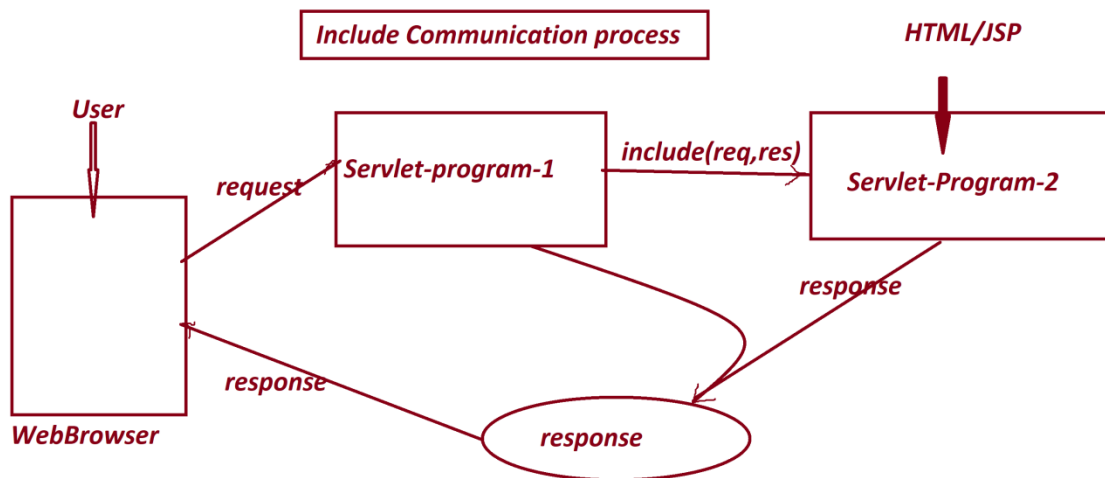
public abstract void forward(jakarta.servlet.HttpServletRequest,
    jakarta.servlet.HttpServletResponse) throws jakarta.servlet.ServletException,
    java.io.IOException;
  
```

2.Include Communication process:

=>In Include Communication Process,Servlet-Program-1 will take the request and generate the response,but the response is included with the response of Servlet-Program-2.

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

Diagram:



=>we use `include()`-method from 'RequestDispatcher' to perform 'Include Communication process'.

=>Method Signature of `include()`:

```

public abstract void include(jakarta.servlet.ServletRequest,
    jakarta.servlet.ServletResponse) throws jakarta.servlet.ServletException,
    java.io.IOException;

```

Note::

=>we use `getRequestDispatcher()`-method from 'ServletRequest' to create implementation object for 'RequestDispatcher'-Interface.

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);

(or)

rd.include(req,res);

=====

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