

## Different ways of Creating a Servlet

1. Servlet(I)
2. GenericServlet(AC)
3. HttpServlet(AC)

Dynamic response will be generated by Servlet.

Mapping a resource to particular urlpattern for the webcontainer can be configured in 2 ways

- a. XML(legacy approach)
- b. Annotation(Available from Servlet3.0V)

Note:

User input will be sent in the form of **QueryString** from the browser to protocol, and container will store in request object.

ServletRequest(I)  
| extends  
HttpServletRequest(I)

## HttpRequest Structure

- a. RequestLine(request type, resourcename, protocolversion)
- b. RequestHeader(information about the client)
- c. RequestBody(actual data(QueryString))

Methods

```
public abstract Enumeration<String> getHeaderNames();  
public abstract String getHeader(String keyName);
```

refer: RequestHeaderApp

## Working with ServletResponse/HttpServletResponse

1. `public abstract PrintWriter getWriter() throws IOException;`  
To send character type of Response
2. To send binary information like videos, audio, images etc response will be through "Stream".  
`public abstract ServletOutputStream getOutputStream() throws IOException;`

refer: ResponseInfoApp

Note:

PrintWriter => only character type of data.  
ServletOutputStream => we can send both character type and binary type of data.

Q> In single application can we use both PrintWriter object and ServletOutputStream to send the response?

Ans. Not possible, it would result in "java.lang.IllegalStateException: getWriter() has already been called for this response".

MultiThreading technology used in servlet

refer: diagram....

ServletContext(I) vs ServletConfig(I)

## ServletConfig(I)

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1. Loading =====> static block  
2. Instantiation ==> Object obj = Class.forName(String  
urlPattern).newInstance();

Object will be created for the loaded class  
using Zero parameterized constructor.

3. Initialization ==> For the created Servlet object, we can initialize the  
value using init(ServletConfig config)

## ServletConfig

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public abstract void init(ServletConfig config) throws ServletException;

This object will be used to initialize the values for the loaded servlet.

## How to initialize the value of ServletConfig object?

To initialize the value of ServletConfig object, we need to configure the  
container.

Container can be configured in 2 ways

a. XML

b. Annotation

web.xml

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```
<servlet>
  <servlet-name>InitializationParamterApp</servlet-name>
  <servlet-class>in.ineuron.controller.InitializationParamterApp</servlet-
class>
  <init-param>
    <param-name>name</param-name>
    <param-value>sachin</param-value>
  </init-param>
  <init-param>
    <param-name>age</param-name>
    <param-value>49</param-value>
  </init-param>
  <init-param>
    <param-name>address</param-name>
    <param-value>MI</param-value>
  </init-param>
</servlet>
```

methods

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public Enumeration<String> getInitParameterNames();

public String getInitParameter(String key);

refer: ServletConfigApp

Note:

=> ServletConfig object is unique w.r.t every Servlet.

=> ServletConfig object stores the data in the form of Key, Value pair.

=> Assume we want the dbconfiguration details for a servlet like

url => jdbc:mysql:///octbatch

username=> root

password => root123

After adding the jar, jars will available to jdks/w configure for eclipse, not for  
tomcat server.

To make those jars available for tomcat server(catalina container) we need to put  
in deployment assembly(/WEB-INF/lib)

refer: ServletDBCommunication

Assignment

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Create a html form with fields like name,age,address for student

a. perform insertion operation(use db credentials in config object)