

## Different ways of Creating a Servlet

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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

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

refer: RequestHeaderApp

Working with ServletResponse/HttpServletResponse

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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

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refer: diagram....

ServletContext(I) vs ServletConfig(I)

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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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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

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

=====

```
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)