Essentials of Information Technology
PC-CS-305

Attributes

Topic & Structure of the lesson

- Servlet init Parameters
- Context init Parameters
- Servlet Context
- Ways of getting Servlet Context

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Servlet init Parameters

Suppose a person wants an email address on a web page , but think that email address may change and also do not want to recompile servlet code to change it.

Servlet init Parameters

One way
Put the email address in servlet class like this

PrintWriter out=response.getWriter();
out.println(blooper@wickedlysmart.com);

 But in this case servlet code need to be recompiled as the email address changes.

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Servlet init Parameters

Another way

Put the email address in Deployment Descriptor
(web.xml) so that when web app is deployed servlet
can some how read the email address from the DD.

To change the email modifies only web.xml file,
without having to touch servlet source code.

Servlet init Parameters

In the Deployment Descriptor

```
<servlet>
      <servlet-name>HelloServlet</servlet-name>
      <servlet-class>HelloServlet</servlet-class>
      <init-param>
            <param-name>adminEmail</param-name>
            <param-value>abc@abc.com</param-value>
      </init-param>
</servlet>
```

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Servlet init Parameters

In the servlet

out.println(getServletConfig().getInitParameter("adminEmail"));

Servlet init Parameters

The servlet init parameters cannot be used until the servlet is initialized.

When the container initializes a servlet,it makes a unique ServletConfig for the servlet

The container reads the servlet init parameters from the DD and gives them to ServletConfig then pass the ServletConfig to servlet's init() method.

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Servlet init Parameters

Since servlet inherits getServletConfig() so you call that from any method in your servlet to get reference to ServletConfig.

Now once you have ServletConfig reference call getInitParameter().

init parameters are read only once when the container initialize the servlet, they won't be read again until/unless you redeploy the servlet.

Servlet init Parameters

Example

http://localhost:8080/servletconfig/Tester.do
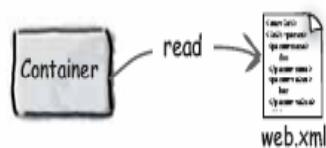
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Servlet init Parameters

- Container reads the Deployment Descriptor for this servlet, including servlet init parameters (<init-param>).

web.xml
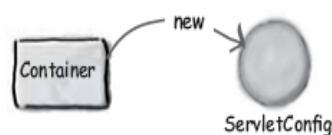
Servlet init Parameters

2.Container create a new ServletConfig instance for this servlet
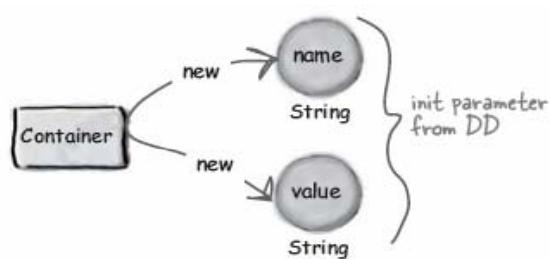
ServletConfig

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Servlet init Parameters

3. Container creates a name/value pair of Strings for each servlet init parameter. Assume we have only one
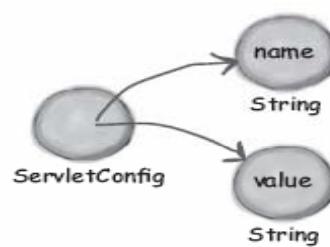
# Servlet init Parameters

4. Container gives the ServletConfig references to the name/value init parameters.
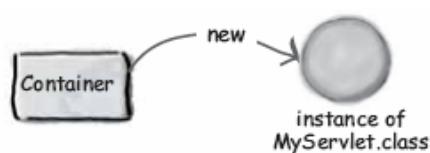
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Servlet init Parameters

5. The container creates a new instance of the servlet class.
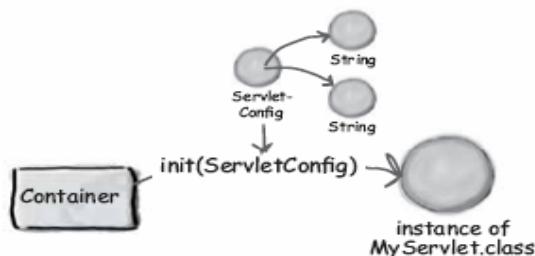
Servlet init Parameters

6.Container calls the servlet's init() method, passing in the reference to the ServletConfig

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Context init Parameters

- Context init parameters work just like servlet init parameters except context parameters are available to entire webapp not just a single servlet.

- Any servlet and JSP in the app automatically has access to context init parameters.No need to configure the DD for every servlet when value change only change it at one place.

Context init Parameters

In the Deployment Descriptor(web.xml)

```
<servlet>
    <servlet-name>BeerParamTests</servlet-name>
    <servlet-class>TestInitParams</servlet-class>
</servlet>
<context-param>
    <param-name>adminEmail</param-name>
    <param-value>abc@abc.com</param-value>
</context-param>
```

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Context init Parameters

In the Servlet code

out.println(getServletContext().getInitParameter("adminEmail"));

http://localhost:8080/context/Tester.do

Servlet init parameters vs Context init parameters

Deployment Descriptor

Context init parameter	Servlet init parameter
Within the \<web-app\> element but NOT within a specific \<servlet\> element	Within the \<servlet\> element for each specific servlet

```
<web-app>                            <servlet>
  <context-param>                      <servlet-name>
    <param-name>foo</param-name>          BeerTest
    <param-value>bar</param-value>     </servlet-name>
  </context-param>                     <servlet-class>
</web-app>                               TestInitParams
                                       </servlet-class>
                                      <init-param>
                                        <param-name>foo</param-name>
                                        <param-value>bar</param-value>
                                      </init-param>
       gauravgambhir.cse@piet.co.in   </servlet>
                                     </servlet>
```

Servlet init parameters vs Context init parameters

Servlet code

Context init parameter   **Servlet init parameter**

getServletContext().getInitParameter("foo");

getServletConfig().getInitParameter("foo");

Availability

To any servlet and JSPs that are part of   To only the servlet for which the
this web app.   <init-param> was configured.

FAQ

*What happens if the context init parameter has same name
as a servlet init parameter in the same webapp?*

There is no name space conflict , since you get the parameters
through two different objects. i.e ServletConfig or
ServletContext

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FAQ

If you modify the XML to change the value of an init parameter when does the servlet or the rest of the web app see the change?

Only when the web app is redeployed,the servlet is initialized only once at the beginning of its life and that is when its given the ServletConfig and ServletContext.
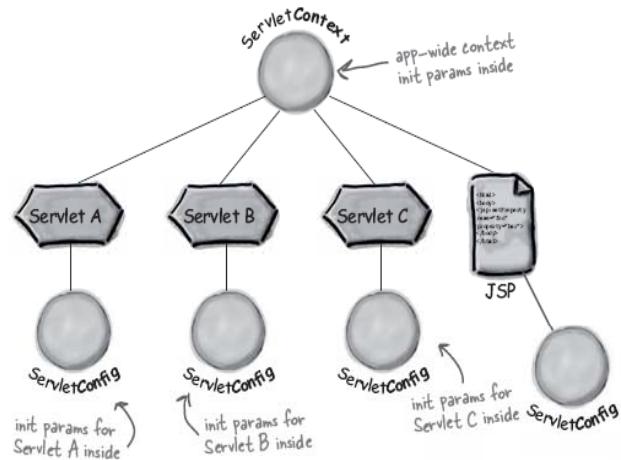
Servlet Context

- Servlet context is one per web app.

- The container makes a ServletContext when a web app is deployed, and makes the context available to each servlet and JSP in the web application.

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Servlet Context

Ways of getting Servlet Context

- *Two ways of getting the ServletContext*

  - getServletConfig().getServletContext().getInitParameter()

  - this.getServletContext().getInitParameter()

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Note

- If the application is distributed across multiple JVMs there is one servlet context per JVM.

Summary of Main Teaching Points

- Discussed Servlet Life Cycle
  - Life Cycle Moments
  - Life Cycle Summary
- Explained with examples Servlet Config
- Explained with examples Servlet Context

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Question and Answer Session

Q & A

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