

The <jsp:useBean> Action

The **useBean** action is quite versatile. It first searches for an existing object utilizing the id and scope variables. If an object is not found, it then tries to create the specified object.

The simplest way to load a bean is as follows:

```
<jsp:useBean id="name" class="package.class" />
```

Once a bean class is loaded, you can use **jsp:setProperty** and **jsp:getProperty** actions to modify and retrieve bean properties.

Following is the list of attributes associated with useBean action:

Attribute	Description
class	Designates the full package name of the bean.
type	Specifies the type of the variable that will refer to the object.
beanName	Gives the name of the bean as specified by the instantiate () method of the java.beans.Beans class.

Let us discuss about **jsp:setProperty** and **jsp:getProperty** actions before giving a valid example related to these actions.

The <jsp:setProperty> Action

The **setProperty** action sets the properties of a Bean. The Bean must have been previously defined before this action. There are two basic ways to use the setProperty action:

You can use jsp:setProperty after, but outside of, a jsp:useBean element, as below:

```
<jsp:useBean id="myName" ... />
...
<jsp:setProperty name="myName" property="someProperty" .../>
```

In this case, the `jsp:setProperty` is executed regardless of whether a new bean was instantiated or an existing bean was found.

A second context in which `jsp:setProperty` can appear is inside the body of a `jsp:useBean` element, as below:

```
<jsp:useBean id="myName" ... >
...
  <jsp:setProperty name="myName" property="someProperty" .../>
</jsp:useBean>
```

Here, the `jsp:setProperty` is executed only if a new object was instantiated, not if an existing one was found.

Following is the list of attributes associated with `setProperty` action:

Attribute	Description
name	Designates the bean whose property will be set. The Bean must have been previously defined.
property	Indicates the property you want to set. A value of "*" means that all request parameters whose names match bean property names will be passed to the appropriate setter methods.
value	The value that is to be assigned to the given property. The the parameter's value is null, or the parameter does not exist, the <code>setProperty</code> action is ignored.
param	The <code>param</code> attribute is the name of the request parameter whose value the property is to receive. You can't use both <code>value</code> and <code>param</code> , but it is permissible to use neither.

The `<jsp:getProperty>` Action

The **getProperty** action is used to retrieve the value of a given property and converts it to a string, and finally inserts it into the output.

The `getProperty` action has only two attributes, both of which are required and simple syntax is as follows:

```
<jsp:useBean id="myName" ... />
...
<jsp:getProperty name="myName" property="someProperty" .../>
```

Following is the list of required attributes associated with setProperty action:

Attribute	Description
name	The name of the Bean that has a property to be retrieved. The Bean must have been previously defined.
property	The property attribute is the name of the Bean property to be retrieved.

Example:

Let us define a test bean which we will use in our example:

```
/* File: TestBean.java */
package action;

public class TestBean {
    private String message = "No message specified";

    public String getMessage() {
        return(message);
    }

    public void setMessage(String message) {
        this.message = message;
    }
}
```

Compile above code to generated TestBean.class

Now use the following code in main.jsp file which loads the bean and sets/gets a simple String parameter:

```
<html>
<head>
<title>Using JavaBeans in JSP</title>
</head>
<body>
<center>
<h2>Using JavaBeans in JSP</h2>

<jsp:useBean id="test" class="action.TestBean" />

<jsp:setProperty name="test"
                 property="message"
                 value="Hello JSP..." />

<p>Got message....</p>

<jsp:getProperty name="test" property="message" />

</center>
</body>
</html>
```

Now try to access main.jsp, it would display following result:

Using JavaBeans in JSP

Got message....

Hello JSP...