JSTL

JSP Standard Tag Library(JSTL) is a standard library of custom tags. The JSTL contain several tag that can remove scriplet code from a JSP page.

JSTL are divided into 5 catagories.

1. **JSTL Core**: JSTL Core provide several core tags such as **if**, **forEach**, **import**, **out** etc to support some basic scripting task. Url to include JSTL Core Tag inside JSP page is:
2. `<%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>`
3. **JSTL Formatting**: JSTL Formatting Tag provide tags to format text, date, number for Internationalized web sites. Url to include JSTL Formatting Tag inside JSP page is:
4. `<%@ taglib prefix="fmt" uri="http://java.sun.com/jsp/jstl/fmt" %>`
5. **JSTL sql**: JSTL SQL tag provide support for Relation Database Connection. Url to include JSTL SQL Tag inside JSP page is:
6. `<%@ taglib prefix="sql" uri="http://java.sun.com/jsp/jstl/sql" %>`
7. **JSTL XML**: JSTL XML tag provide support for XML. It provide flow control, transformation etc. Url to include JSTL XML Tag inside JSP page is:
8. `<%@ taglib prefix="x" uri="http://java.sun.com/jsp/jstl/xml" %>`
9. **JSTL functions**: JSTL functions tag provide supports for string manipulation. Url to include JSTL Function Tag inside JSP page is:
10. `<%@ taglib prefix="fn" uri="http://java.sun.com/jsp/jstl/functions" %>`

JSTL Core

The JSTL core library contains several tags that are used to eliminate the basic scripting such as for loop, if condition etc from a JSP Page. Let's study some important tag of JSTL Core library.

- **JSTL if tag**: The if tag is a conditional tag used to evaluate conditional expression. When a body is supplied with if tag , the body is evaluated only when the expression is true. Example

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Tag Example</title>
</head>
<body>
<c:if test="${param.name == 'Show' }">
   <p>Welcome to ${param.name} </p>
</c:if>
</body>
</html>
```

- **JSTL out tag**: The out tag is used to evaluate a expression and write the result to **JspWriter**.

  Example

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Tag Example</title>
</head>
<body>

   <c:out value="${param.name}" default="Show" >

</body>
</html>
```

The value attribute specifies the expression to be written to the JspWriter. The default attribute specifies the value to be written if the expression evaluate null.

- **JSTL forEach tag**: The **forEach** tag provide a mechanism to iteration within a JSP page. JSTL forEach tag works similar to **enhanced for** loop of Java Technology. You can use this tag to iterate over a existing collection of item. Example

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Tag Example</title>
</head>
<body>

   <c:forEach var="message" items="${errorMsgs}" >
    <li>${message}</li>
    </c:forEach >


</body>
</html>
```

Here the attribute **items** has its value an EL expression which is a collection of error messages. Each item in the iteration will be stored in a variable called **message** which will available in the body of the **forEach**tag.

- **JSTL choose, when, otherwise tag**: These are conditional tags used to implement conditional operations. If the test condition of the **when tag** evaluates to true , the content within **when**

tag is evaluated otherwise the content within the **otherwise tag** is evaluated. We can also implement **if-else-if construct** by using multiple **when tags**. These when tags are mutually exclusive that means the first when tag whose test evaluates to true is evaluated and then, the control exits the choose block. If none of the when condition evaluates to true , the otherwise condition is evaluated. Example

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Tag Example</title>
</head>
<body>

<c:forEach var="tutorial" items="${MyTutorialMap}" begin="0" end="5" varStatus="status" >

<c:choose>

<c:when test="${status.count %2 == 0 }">
    <p style="color:red;"> ${tutorial.key} </p><br/>
</c:when>

<c:when test="${status.count %5 == 0 }">
    <p style="color:green;"> ${tutorial.key} </p><br/>
</c:when>

<c:otherwise>
    <p> ${tutorial.key} </p><br/>
```

```
</c:otherwise>

</c:choose>

</c:forEach>

</body>
</html>
```

- **JSTL import tag**: `< c:import>` tag is used to dynamically add the contents from the provided URL to the current page, at request time. The URL resource used in the `< c:import>` url attribute can be from outside the web Container. Example

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Tag Example</title>
</head>
<body>

   < c:import url=”http://www.example.com/hello.html” >
    < c:param name="showproducts" value="true"/ >
    </c:import>


</body>
</html>
```

- **JSTL url tag**: The JSTL url tag is used to store a url in a variable and also perform url rewriting when necessary. Example

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Tag Example</title>
</head>
<body>

   <a href="<c:url value="/home.jsp"/>" > Go Home </a>

</body>
</html>
```

- **JSTL set tag**: The JSTL set tag is used to store a variable in specified scope or update the property of JavaBean instance. Example of setting the name property of a Student bean

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Tag Example</title>
</head>
<body>

   < c:set target= "student" property="name" value="${param.name}" / >
```

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

- **JSTL catch tag**: The JSTL catch tag is used to handle exception and doesn't forward the page to the error page. Example

```
<%@ taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c" %>
<html>
<head>
<title>Tag Example</title>
</head>
<body>

   < c:catch  >
      <% int a =0;
         int b =10;
         int c= b/a;
      %>
     < / c:catch  >


</body>
</html>
```