

CHUYÊN ĐỀ JAVA

# JSP SIMPLE MASTER PAGE

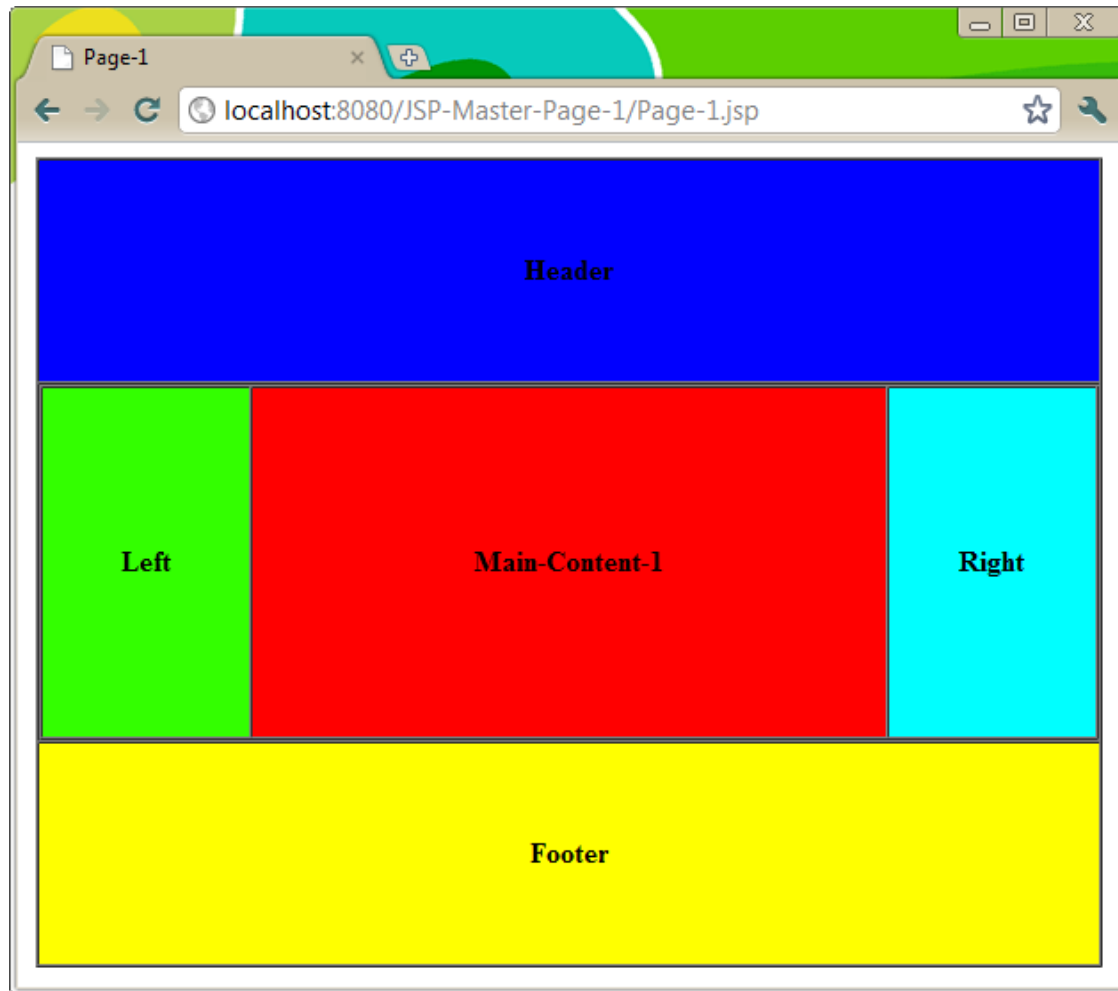
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# Nội dung trình bày

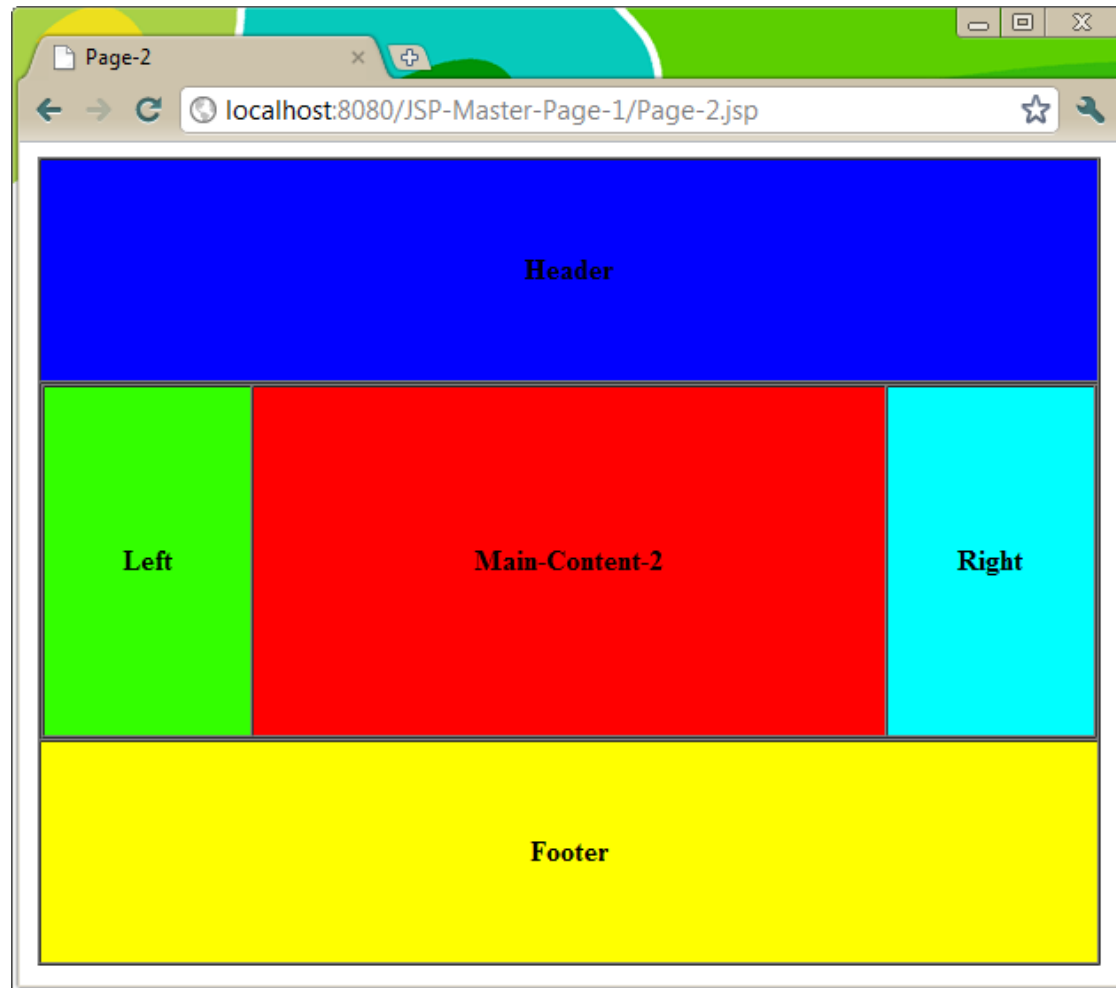
- Master Page Model 1
- Master Page Model 2
- Master Page Model 3

# MASTER PAGE

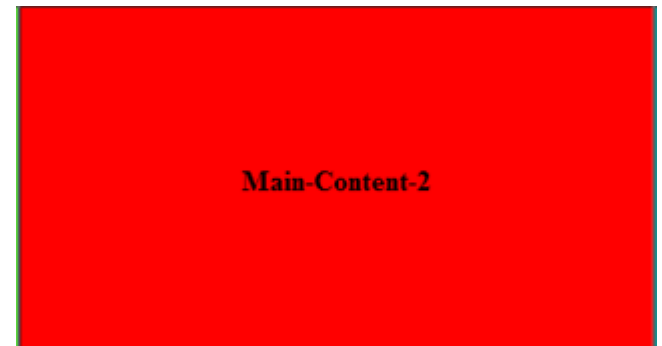
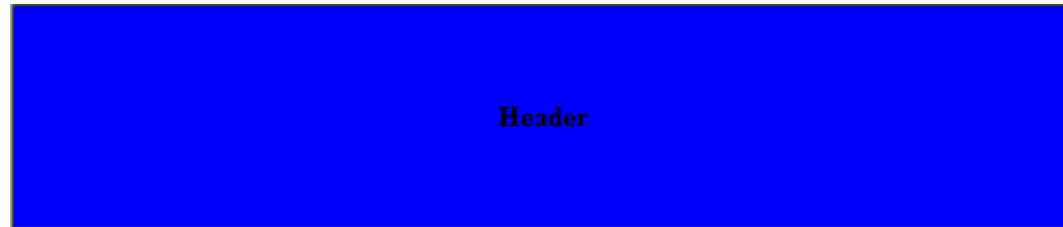
# Master Page



# Master Page



# Master Page



# Master Page

Header.jsp

Left.jsp

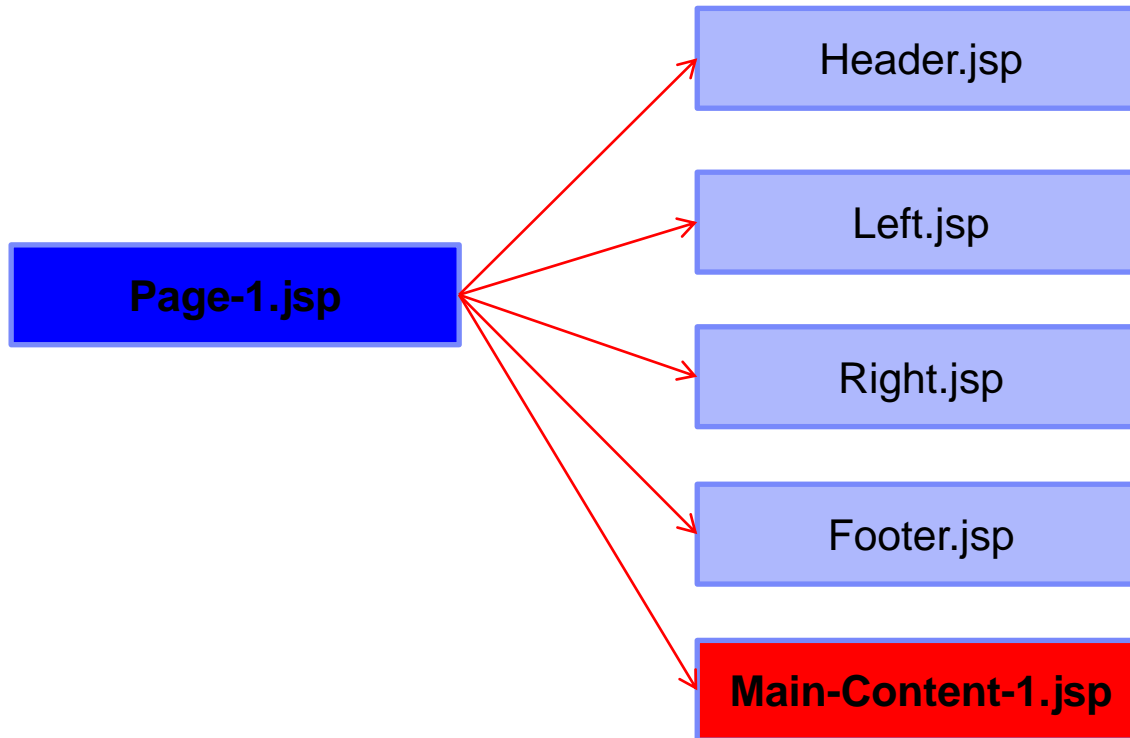
Right.jsp

Footer.jsp

**Main-Content-1.jsp**

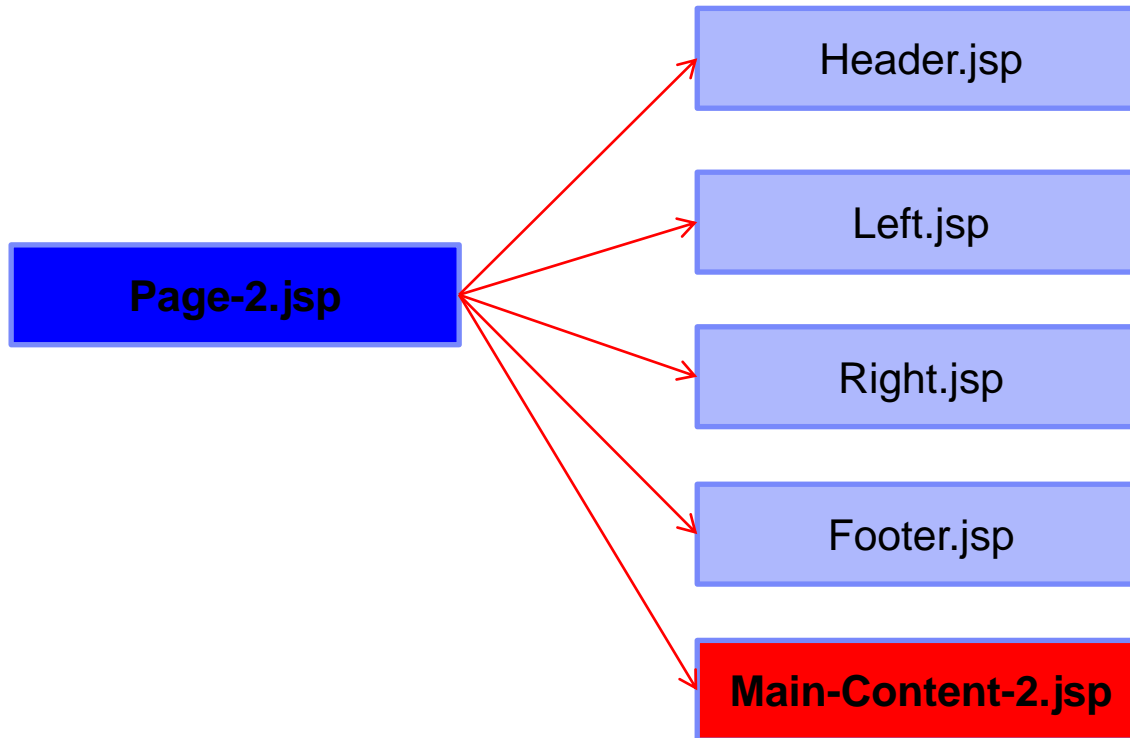
**Main-Content-2.jsp**

# Master Page





# Master Page



# Master Page – Header.jsp

```
1 <table width="100%" border="0"  
2     cellspacing="0" cellpadding="0"  
3     bgcolor="#0000FF">  
4     <tr>  
5         <td align="center">  
6             <p>&nbsp;</p>  
7             <p>  
8                 <strong>Header</strong>  
9             </p>  
10            <p>&nbsp;</p>  
11        </td>  
12    </tr>  
13 </table>
```

# Master Page – Left.jsp

```
1 <table width="100%" border="0" cellspacing="0"
2     cellpadding="0" bgcolor="#33FF00">
3     <tr>
4         <td align="center">
5             <p>&nbsp;</p>
6             <p>&nbsp;</p>
7             <p>
8                 <strong>Left</strong>
9             </p>
10            <p>&nbsp;</p>
11            <p>&nbsp;</p>
12        </td>
13    </tr>
14 </table>
```

# Master Page – Right.jsp

```
1 <table width="100%" border="0" cellspacing="0"
2     cellpadding="0" bgcolor="#00FFFF">
3     <tr>
4         <td align="center">
5             <p>&nbsp;</p>
6             <p>&nbsp;</p>
7             <p>
8                 <strong>Right</strong>
9             </p>
10            <p>&nbsp;</p>
11            <p>&nbsp;</p>
12        </td>
13    </tr>
14 </table>
```

# Master Page – Footer.jsp

```
1 <table width="100%" border="0" align="center"  
2 cellpadding="0" cellspacing="0" bgcolor="#FFFF00">  
3   <tr>  
4     <td align="center">  
5       <p>&nbsp;</p>  
6       <p>  
7         <strong>Footer</strong>  
8       </p>  
9       <p>&nbsp;</p>  
10    </td>  
11  </tr>  
12 </table>
```

# Master Page – Main-Content-1.jsp

```
1 <table width="100%" border="0" cellspacing="0"  
2     cellpadding="0" bgcolor="#FF0000">  
3     <tr>  
4         <td align="center">  
5             <p>&nbsp;</p>  
6             <p>&nbsp;</p>  
7             <p>  
8                 <strong>Main-Content-1</strong>  
9             </p>  
10            <p>&nbsp;</p>  
11            <p>&nbsp;</p>  
12        </td>  
13    </tr>  
14 </table>
```

# Master Page – Main-Content-2.jsp

```
1 <table width="100%" border="0" cellspacing="0"  
2     cellpadding="0" bgcolor="#FF0000">  
3     <tr>  
4         <td align="center">  
5             <p>&nbsp;</p>  
6             <p>&nbsp;</p>  
7             <p>  
8                 <strong>Main-Content-1</strong>  
9             </p>  
10            <p>&nbsp;</p>  
11            <p>&nbsp;</p>  
12        </td>  
13    </tr>  
14 </table>
```

# Master Page

**Page-1.jsp**

**Page-2.jsp**





# MASTER PAGE MODEL 1

# Master Page – Page-1.jsp

```
1 <html>
2   <head>
3     <meta http-equiv="Content-Type" content="text/html;
4 charset=UTF-8">
5     <title>Page-1</title>
6   </head>
7   <body>
8     <table width="600" border="1" align="center"
9       cellpadding="0" cellspacing="0">
10      <!--Header.jsp-->
11      <!--Left.jsp & Main-Content-1.jsp & Right.jsp-->
12      <!--Footer.jsp-->
13    </table>
14  </body>
15</html>
```

# Master Page Model 1 – Page-1.jsp

```
1 <!--Header.jsp-->
2 <tr>
3     <td align="center">
4         <jsp:include page="subs/Header.jsp"/>
5     </td>
6 </tr>
```

# Master Page Model 1 – Page-1.jsp

```
1  <!--Left.jsp & Main-Content-1.jsp & Right.jsp-->
2  <tr>
3      <td>
4          <table width="100%" border="1">
5              <tr>
6                  <td width="20%" align="center" valign="top">
7                      <jsp:include page="subs/Left.jsp"/>
8                  </td>
9                  <td align="center" valign="top">
10                     <jsp:include page="subs/Main-Content-1.jsp"/>
11                 </td>
12                 <td width="20%" align="center" valign="top">
13                     <jsp:include page="subs/Right.jsp"/>
14                 </td>
15             </tr>
16         </table>
17     </td>
18 </tr>
```

# Master Page – Page-1.jsp

```
1 <!--Footer.jsp-->
2 <tr>
3     <td align="center">
4         <jsp:include page="subs/Footer.jsp"/>
5     </td>
6 </tr>
```

# Master Page – Page-2.jsp

```
1 <html>
2   <head>
3     <meta http-equiv="Content-Type" content="text/html;
4 charset=UTF-8">
5     <title>Page-2</title>
6   </head>
7   <body>
8     <table width="600" border="1" align="center"
9       cellpadding="0" cellspacing="0">
10      <!--Header.jsp-->
11      <!--Left.jsp & Main-Content-1.jsp & Right.jsp-->
12      <!--Footer.jsp-->
13    </table>
14  </body>
15</html>
```

# Master Page Model 1 – Page-2.jsp

```
1 <!--Header.jsp-->
2 <tr>
3     <td align="center">
4         <jsp:include page="subs/Header.jsp"/>
5     </td>
6 </tr>
```

# Master Page Model 1 – Page-2.jsp

```
1  <!--Left.jsp & Main-Content-1.jsp & Right.jsp-->
2  <tr>
3      <td>
4          <table width="100%" border="1">
5              <tr>
6                  <td width="20%" align="center" valign="top">
7                      <jsp:include page="subs/Left.jsp"/>
8                  </td>
9                  <td align="center" valign="top">
10                     <jsp:include page="subs/Main-Content-2.jsp"/>
11                 </td>
12                 <td width="20%" align="center" valign="top">
13                     <jsp:include page="subs/Right.jsp"/>
14                 </td>
15             </tr>
16         </table>
17     </td>
18 </tr>
```



# Master Page – Page-2.jsp

```
1 <!--Footer.jsp-->
2 <tr>
3     <td align="center">
4         <jsp:include page="subs/Footer.jsp"/>
5     </td>
6 </tr>
```

# Master Page Model 1

```
1  <!--Left.jsp & Main-Content-1.jsp & Right.jsp-->
2  <tr><td>
3      <table width="100%" border="1">
4          <tr>
5              <td width="20%" align="center" valign="top">
6                  <jsp:include page="subs/Left.jsp"/>
7              </td>
8              <td align="center" valign="top">
9                  <jsp:include page="
10                     <%=request.getParameter("MainContent") %>
11                     "/>
12              </td>
13              <td width="20%" align="center" valign="top">
14                  <jsp:include page="subs/Right.jsp"/>
15              </td>
16          </tr>
17      </table>
18 </td></tr>
```

# Master Page Model 1

- Page 1
  - <http://localhost/BookOnline/index.jsp?MainContent=Main-Content-Page-1.jsp>
- Page 2
  - <http://localhost/BookOnline/index.jsp?MainContent=Main-Content-Page-2.jsp>
- Page n:
  - <http://localhost/BookOnline/index.jsp?MainContent=Main-Content-Page-n.jsp>

# Master Page Model 1



# MASTER PAGE MODEL 2

# Master Page Model 2 - TemplateTag Handler

```
1  package tags.customs;
2
3  import java.io.IOException;
4  import java.util.logging.Level;
5  import java.util.logging.Logger;
6  import javax.servlet.ServletException;
7  import javax.servlet.jsp.JspWriter;
8  import javax.servlet.jsp.tagext.TagSupport;
9
10
11 public class TemplateTag extends TagSupport {
12
13     private String title;
14     private String header;
15     private String left;
16     private String mainContent;
17     private String right;
18     private String footer;
19
20 }
```

# Master Page Model 2 - TemplateTag Handler

```
1  public void setFooter(String footer) {
2      this.footer = footer;
3  }
4  public void setHeader(String header) {
5      this.header = header;
6  }
7  public void setLeft(String left) {
8      this.left = left;
9  }
10 }
11 public void setMainContent(String mainContent) {
12     this.mainContent = mainContent;
13 }
14 public void setRight(String right) {
15     this.right = right;
16 }
17 public void setTitle(String title) {
18     this.title = title;
19 }
20 }
```

# Master Page Model 2 - TemplateTag

```
1  @Override
2  public int doStartTag() {
3      JspWriter out = this.pageContext.getOut();
4      out.println("<html>");
5      out.println("    <head>");
6      out.println("        <title>"+title+"</title>");
7      out.println("    </head>");
8      out.println("    <body>");
9      out.println("        <table width='600' border='1'
10         align='center' cellpadding='0' cellspacing='0'>");
11         //Header.jsp
12         //Left.jsp & Main-Content.jsp & Right.jsp
13         //Footer.jsp
14         out.println("        </table>");
15         out.println("    </body>");
16         out.println("</html>");
17         return SKIP_BODY;
18     }
19
20 }
```



# Master Page Model 2 - TemplateTag Handler

```
1  //Header.jsp
2  out.println("                <tr>");
3  out.println("                <td align='center'>");
4  this.pageContext.include(header);
5  out.println("                </td>");
6  out.println("                </tr>");
7
8
9
10
11
12
13
14
15
16
17
18
19
20
```

# Master Page Model 2 - TemplateTag Handler

```
1  //Left.jsp & Main-Content-1.jsp & Right.jsp
2  out.println("                <tr>");
3  out.println("                <td>");
4  out.println("                <table width='100%' border='1'
5  cellspacing='0' cellpadding='0'>");
6  out.println("                <tr>");
7  out.println("                <td width='20%'");
8  this.pageContext.include(left);
9  out.println("                </td>");
10 out.println("                <td align='center'");
11 this.pageContext.include(mainContent);
12 out.println("                </td>");
13 out.println("                <td width='20%'");
14 this.pageContext.include(right);
15 out.println("                </td>");
16 out.println("                </tr>");
17 out.println("                </table>");
18 out.println("                </td>");
19 out.println("                </tr>");
```

## Master Page Model 2 - TemplateTag Handler

```
1  //Footer.jsp
2  out.println("                <tr>");
3  out.println("                <td align='center'>");
4  this.pageContext.include(footer);
5  out.println("                </td>");
6  out.println("                </tr>");
7
8
9
10
11
12
13
14
15
16
17
18
19
20
```

# Master Page Model 2 - TLD

```
1 <taglib version="2.1"
2 xmlns="http://java.sun.com/xml/ns/javaee"
3 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
4 xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
5 http://java.sun.com/xml/ns/javaee/web-
6 jsptaglibrary_2_1.xsd">
7
8     <tlib-version>1.0</tlib-version>
9     <short-name>templatelibrary</short-name>
10    <uri>/WEB-INF/tlds/TemplateLibrary</uri>
11    <tag>
12        <name>template</name>
13        <tag-class>tags.customs.TemplateTag</tag-class>
14        <body-content>empty</body-content>
15        <!--Attributes-->
16    </tag>
17
18 </taglib>
```

# Master Page Model 2 - TLD

```
1      <attribute>
2          <name>title</name>
3          <required>true</required>
4          <rtexprvalue>true</rtexprvalue>
5      </attribute>
6      <attribute>
7          <name>header</name>
8          <required>true</required>
9          <rtexprvalue>true</rtexprvalue>
10     </attribute>
11     <attribute>
12         <name>left</name>
13         <required>true</required>
14         <rtexprvalue>true</rtexprvalue>
15     </attribute>
```

# Master Page Model 2 - TLD

```
1      <attribute>
2          <name>main</name>
3          <required>true</required>
4          <rtexprvalue>true</rtexprvalue>
5      </attribute>
6      <attribute>
7          <name>right</name>
8          <required>true</required>
9          <rtexprvalue>true</rtexprvalue>
10     </attribute>
11     <attribute>
12         <name>footer</name>
13         <required>true</required>
14         <rtexprvalue>true</rtexprvalue>
15     </attribute>
```

# Master Page Model 2 – Page1.jsp

```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@taglib prefix="nhanh" uri="/WEB-INF/tlds/TemplateLibrary" %>
3
4 <nhanh:template
5     title="Page-1"
6     header="subs/Header.jsp"
7     left="subs/Left.jsp"
8     mainContent="subs/Main-Content-1.jsp"
9     right="subs/Right.jsp"
10    footer="subs/Footer.jsp"/>
```

# Master Page Model 2 – Page2.jsp

```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@taglib prefix="nhanh" uri="/WEB-INF/tlds/TemplateLibrary" %>
3
4 <nhanh:template
5     title="Page-1"
6     header="subs/Header.jsp"
7     left="subs/Left.jsp"
8     mainContent="subs/Main-Content-2.jsp"
9     right="subs/Right.jsp"
10    footer="subs/Footer.jsp"/>
```



# Master Page Model 1



# MASTER PAGE MODEL 3

# Master Page Model 3 – Template.jsp

```
1 <%@taglib prefix="template"
2     uri="/WEB-INF/tlds/TemplateLibrary" %>
3
4 <html>
5     <head>
6         <title>
7             <template:get name="title"/>
8         </title>
9     </head>
10
11     <body>
12         <table width="600" border="1" align="center"
13             cellpadding="0" cellspacing="0">
14             <!--Header>
15             <!--Left & Main-Content& Right-->
16             <!--Footer-->
17         </table>
18     </body>
19 </html>
```

# Master Page Model 3 – Template.jsp

```
1 <!--Header-->
2 <tr>
3     <td align="center">
4         <template:get name="header"/>
5     </td>
6 </tr>
```

# Master Page Model 3 – Template.jsp

```
1 <!--Left & Main-Content & Right-->
2 <tr><td>
3     <table width="100%" border="1">
4         <tr>
5             <td width="20%" align="center" valign="top">
6                 <template:get name="left"/>
7             </td>
8             <td align="center" valign="top">
9                 <template:get name="main"/>
10            </td>
11            <td width="20%" align="center" valign="top">
12                <template:get name="right"/>
13            </td>
14        </tr>
15    </table>
16 </td></tr>
```

# Master Page Model 3 – Template.jsp

```
1 <!--Footer-->
2 <tr>
3     <td align="center">
4         <template:get name="footer"/>
5     </td>
6 </tr>
```

# Master Page Model 3 – Page1.jsp

```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@taglib prefix="template"
3     uri="/WEB-INF/tlds/TemplateLibrary" %>
4 <template:insert template="templates/Template1.jsp">
5     <template:put name="title" content="Page-1"
6         direct="true"/>
7     <template:put name="header" content="subs/Header.jsp"
8         direct="false"/>
9     <template:put name="left" content="subs/Left.jsp"
10        direct="false"/>
11     <template:put name="main-content"
12        content="subs/Main-Content-1.jsp" direct="false"/>
13     <template:put name="right" content="subs/Right.jsp"
14        direct="false"/>
15     <template:put name="footer" content="subs/Footer.jsp"
16        direct="false"/>
17 </template:insert>
```

# Master Page Model 3 – Page2.jsp

```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@taglib prefix="template"
3     uri="/WEB-INF/tlds/TemplateLibrary" %>
4 <template:insert template="templates/Template1.jsp">
5     <template:put name="title" content="Page-1"
6         direct="true"/>
7     <template:put name="header" content="subs/Header.jsp"
8         direct="false"/>
9     <template:put name="left" content="subs/Left.jsp"
10        direct="false"/>
11    <template:put name="main-content"
12        content="subs/Main-Content-2.jsp" direct="false"/>
13    <template:put name="right" content="subs/Right.jsp"
14        direct="false"/>
15    <template:put name="footer" content="subs/Footer.jsp"
16        direct="false"/>
17 </template:insert>
```



# Master Page Model 3

## Page1.jsp

```
<template:insert template="Template.jsp">
```

```
<t:put name="title" content="Page-1" direct="true" />
```

```
<t:put name="header" content="Header.jsp" direct="false" />
```

```
<t:put name="left" content="Left.jsp" direct="false" />
```

```
<t:put name="main" content="Main- 1.jsp" direct="false" />
```

```
<t:put name="right" content="Right.jsp" direct="false" />
```

```
<t:put name="footer" content="Footer.jsp" direct="false" />
```

## Template.jsp

```
<t:get name="title"/>
```

```
<t:get name="header"/>
```

```
<t:get name="left"/>
```

```
<t:get name="main"/>
```

```
<t:get name="right"/>
```

```
<t:get name="footer"/>
```

# Master Page Model 3



# Master Page Model 3

- InsertTag
- PutTag
- GetTag

# Master Page Model 3 – PageParameter

```
1 package tags.beans;
2 public class PageParameter {
3     private String content;
4     private boolean direct;
5     public String getContent() {
6         return content;
7     }
8     public void setContent(String content) {
9         this.content = content;
10    }
11    public boolean getDirect() {
12        return direct;
13    }
14    public void setDirect(boolean direct) {
15        this.direct = direct;
16    }
17 }
```

# Master Page Model 3 – PageParameter

```
1  public PageParameter() {  
2      this.content = "";  
3      this.direct = true;  
4  }  
5  
6  
7  public PageParameter(String content, boolean direct) {  
8      this.content = content;  
9      this.direct = direct;  
10 }  
11  
12  
13  
14 public PageParameter(PageParameter pp) {  
15     this.content = pp.content;  
16     this.direct = pp.direct;  
17 }  
18  
19
```

# Master Page Model 3 – AttributeUtil

```
1 public final class AttributeUtil {  
2     public static final String templateStack=  
3         "Template-Stack";  
4  
5 }  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19
```

# Master Page Model 3 – InsertTag

```
1 public class InsertTag extends TagSupport {
2     private String template;
3     public void setTemplate(String template) {
4         this.template = template;
5     }
6     public Stack getStack() {
7         stack = (Stack) this.pageContext.getAttribute(
8             AttributeUtil.templateStack,
9             PageContext.REQUEST_SCOPE);
10        if (stack == null) {
11            stack = new Stack();
12            this.pageContext.setAttribute(
13                AttributeUtil.templateStack, stack,
14                PageContext.REQUEST_SCOPE);
15        }
16        return stack;
17    }
18 }
```

# Master Page Model 3 – InsertTag

```
1  public int doStartTag() {
2      Stack stack=this.getStack();
3      Hashtable params = new Hashtable();
4      stack.add(params);
5      return EVAL_BODY_INCLUDE;
6  }
7
8  public int doEndTag() throws JspException {
9      try {
10         this.pageContext.include(template);
11         this.getStack().pop();
12     } catch (IOException ex) {
13         throw new JspException(ex.getMessage());
14     } catch (ServletException ex) {
15         throw new JspException(ex.getMessage());
16     }
17     return EVAL_PAGE;
18 }
19
```



# Master Page Model 3 – PutTag

```
1 public class PutTag extends TagSupport {
2
3
4     private String name;
5     private String content;
6     private boolean direct;
7
8
9     public void setContent(String content) {
10         this.content = content;
11     }
12
13     public void setDirect(boolean direct) {
14         this.direct = direct;
15     }
16
17
18     public void setName(String name) {
19         this.name = name;
20     }
21 }
```

# Master Page Model 3 – PutTag

```
1  @Override
2
3      public int doStartTag() throws JspException {
4          InsertTag parent=(InsertTag) this.getParent();
5          Stack stack=parent.getStack();
6          if (stack == null) {
7              throw new JspException("GetTag.doStartTag():
8                                  NO STACK");
9          }
10         Hashtable params =(Hashtable) stack.peek();
11         if (params == null) {
12             throw new JspException("GetTag.doStartTag():
13                                 NO HASHTABLE");
14         }
15         params.put(name, new PageParameter(content,direct));
16
17         return SKIP_BODY;
18     }
19 }
```

# Master Page Model 3 – PutTag

```
1  @Override
2      public int doEndTag() {
3
4          return EVAL_PAGE;
5      }
6
7
8
9  @Override
10     public void release() {
11         this.name = null;
12         this.content = null;
13         this.direct = true;
14     }
15 }
16
17
18
19
```

# Master Page Model 3 – GetTag

```
1 public class GetTag extends TagSupport {  
2  
3  
4     private String name;  
5  
6     public void setName(String name) {  
7         this.name = name;  
8     }  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19
```

# Master Page Model 3 – GetTag

```
1      @Override
2      public int doStartTag() throws JspException {
3          Stack stack =(Stack) this.pageContext.getAttribute(
4              AttributeUtil.templateStack,
5              PageContext.REQUEST_SCOPE);
6          if (stack == null) {
7              throw new JspException("GetTag.doStartTag():
8                  NO STACK");
9          }
10         Hashtable params =(Hashtable) stack.peek();
11         if (params == null) {
12             throw new JspException("GetTag.doStartTag():
13                 NO HASHTABLE");
14         }
```

# Master Page Model 3 – GetTag

```
1      PageParameter param = (PageParameter)params.get(name);
2      if (param != null) {
3          JspWriter out = this.pageContext.getOut();
4          try {
5              if (param.getDirect() == true) {
6                  out.print(param.getContent());
7              } else {
8                  out.flush();
9                  this.pageContext.include(param.getContent());
10             }
11         } catch (IOException ex) {
12             throw new JspException(ex.getMessage());
13         } catch (ServletException ex) {
14             throw new JspException(ex.getMessage());
15         }
16     }
17     return SKIP_BODY;
18 }
19 }
```

# Master Page Model 3 – TLD

```
1 <tag>
2     <name>get</name>
3     <tag-class>tags.customs.GetTag</tag-class>
4     <body-content>empty</body-content>
5     <attribute>
6         <name>name</name>
7         <required>true</required>
8         <rtexprvalue>true</rtexprvalue>
9     </attribute>
10 </tag>
```

# Master Page Model 3 – TLD

```
1 <tag>
2     <name>insert</name>
3     <tag-class>tags.customs.InsertTag</tag-class>
4     <body-content>JSP</body-content>
5     <attribute>
6         <name>template</name>
7         <required>true</required>
8         <rtexprvalue>true</rtexprvalue>
9     </attribute>
10
11 </tag>
```



# Master Page Model 3 – TLD

```
1 <tag> <name>put</name>
2   <tag-class>tags.customs.PutTag</tag-class>
3   <body-content>empty</body-content>
4   <attribute>
5     <name>name</name>
6     <required>true</required>
7     <rtexprvalue>true</rtexprvalue>
8   </attribute> <attribute>
9     <name>content</name>
10    <required>true</required>
11    <rtexprvalue>true</rtexprvalue>
12  </attribute><attribute>
13    <name>direct</name>
14    <required>true</required>
15    <rtexprvalue>true</rtexprvalue>
16  </attribute>
17 </tag>
```

# Master Page Model 3 – Page1.jsp

```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@taglib prefix="template"
3     uri="/WEB-INF/tlds/TemplateLibrary" %>
4 <template:insert template="templates/Template1.jsp">
5     <template:put name="title" content="Page-1"
6         direct="true"/>
7     <template:put name="header" content="subs/Header.jsp"
8         direct="false"/>
9     <template:put name="left" content="subs/Left.jsp"
10        direct="false"/>
11    <template:put name="main-content"
12        content="subs/Main-Content-1.jsp" direct="false"/>
13    <template:put name="right" content="subs/Right.jsp"
14        direct="false"/>
15    <template:put name="footer" content="subs/Footer.jsp"
16        direct="false"/>
17 </template:insert>
```

# Master Page Model 3 – Page2.jsp

```
1 <%@page contentType="text/html" pageEncoding="UTF-8"%>
2 <%@taglib prefix="template"
3     uri="/WEB-INF/tlds/TemplateLibrary" %>
4 <template:insert template="templates/Template1.jsp">
5     <template:put name="title" content="Page-1"
6         direct="true"/>
7     <template:put name="header" content="subs/Header.jsp"
8         direct="false"/>
9     <template:put name="left" content="subs/Left.jsp"
10        direct="false"/>
11    <template:put name="main-content"
12        content="subs/Main-Content-2.jsp" direct="false"/>
13    <template:put name="right" content="subs/Right.jsp"
14        direct="false"/>
15    <template:put name="footer" content="subs/Footer.jsp"
16        direct="false"/>
17 </template:insert>
```

## Master Page Model 3 – Page2.jsp



# TÀI LIỆU THAM KHẢO

## Tham khảo

- David Geary, JavaWorld.com, 09/15/2000 : **Use JSP templates to encapsulate Webpage layout and encourage modular design**



# HỎI VÀ ĐÁP