1.   Creating a simple JSP Page

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Simple JSP</title>
</head>
<body>
<%
    out.println("<h2>My first JSP page.</h2>");
%>
</body>
```

2.   JSP Implicit Object

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
<%@ page errorPage = "handle-error.jsp" %>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>JSP Implicit Objects</title>
</head>
<body>
```

```
<%
    String responseCheck = request.getParameter("office");
    if (responseCheck != null ) {
        response.setStatus(response.SC_MOVED_TEMPORARILY);
        response.setHeader("Location", "response-redirect.jsp?office=" + responseCheck);
    }


    String errorCheck = request.getParameter("error");
    if (errorCheck != null ) {
        int x = 0;
        if (x == 0)
            throw new RuntimeException("Exception has been raised");
    }
%>
<%

  int serverPort =  request.getServerPort() ;
  out.println("The Server is running on port " + String.valueOf(serverPort) + "<br>");
  out.println("Servlet Name is " + config.getServletName() + "<br>");
  out.println("Server Info:" + application.getServerInfo() + "<br>");


  String pageName = page.toString();
  out.println("The name of the page is " + pageName + "<br>");


  pageContext.setAttribute("userid", "John Doe");
  out.println("userId attribute from pageContext: " + pageContext.getAttribute("userid") + "<br>");
%>
<a href="index.jsp?office=head_office">Show usage of response object</a><br>
<a href="index.jsp?error=1">Show usage of error  object</a><br>
```

```jsp
<%
  if (response.containsHeader("Office"))
       out.println("Current location is " + response.getHeader("Office"));
 %>
```

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

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Get Header Example</title>
</head>
<body>

<%
    String office = request.getParameter("office");
    if (office != null)
        out.println("value of Office obtained :" + office + "<br>");
    else
        out.println("No value of Office found<br>");
%>
```

</body>

</html>

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"
isErrorPage = "true"%>
```

```html
<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>Error Handling page</title>

</head>

<body>
```

```jsp
<% exception.printStackTrace(response.getWriter()); %>
```

```html
<hr>

An exception was generated. Details are above:<br>

</body>

</html>
```

---

3.   JSP Directives

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
   <%@ taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
   <%@ taglib prefix="fmt" uri="http://java.sun.com/jsp/jstl/fmt"%>
```

```
<!DOCTYPE html>

<!--

Download jstl.jar from http://central.maven.org/maven2/javax/servlet/jstl/1.2/jstl-1.2.jar

-->

<html>

<head>

<meta charset="UTF-8">

<title>JSP Directives</title>

</head>

<body>


This is content from the main file.

<%@ include file="included.jsp" %>

<hr>

Example of using JSTL taglibs for formatting output<br>

<p>

    Currency = <fmt:formatNumber value = "145" type = "currency"/>

<p>

<p>

    <c:set var = "now" value = "<%= new java.util.Date()%>" />

    Current date and time is <fmt:formatDate pattern = "yyyy-MM-dd hh:mm:ss" value = "${now}"
/>

</p>


</body>

</html>
```

```
<% out.println("This is content from included file.<br><br>"); %>
```

4.   JSP Action Tags

```
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>JSP Action Tags</title>

</head>

<body>

Usage of useBean tag<br>

<jsp:useBean id="productBean" class="com.ecommerce.ProductBean" scope="session"></jsp:useBean>

    <jsp:setProperty property="productId" name="productBean" value="18791"/>

    <jsp:setProperty property="productName" name="productBean" value="Optical Wireless Mouse"/>

    <jsp:setProperty property="price" name="productBean" value="600.00"/>


<a href="showbean.jsp">Access bean properties from another page</a><br>

<a href="forward.jsp">Use Forward action to go to Google</a><br>


<hr>


<jsp:text>

    <![CDATA[This is my content.<br/>This will show within a text action tag exactly as it has been entered]]>

</jsp:text>
```

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

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
```

```jsp
<jsp:forward page="forwarded.jsp"></jsp:forward>
```

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Forward Test</title>
</head>
<body>
This page came from forward.jsp by using jsp:forward action tag

</body>
</html>
```

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
```

```html
<title>Display Bean properties</title>
</head>
<body>
<jsp:useBean id="productBean" class="com.ecommerce.ProductBean"
scope="session"></jsp:useBean>
    Product Id:   <jsp:getProperty name="productBean" property="productId" /> <br>
    Product Name:   <jsp:getProperty name="productBean" property="productName" /> <br>
    Product Price:   <jsp:getProperty name="productBean" property="price" /> <br>


</body>
</html>
```

```java
package com.ecommerce;
import java.io.Serializable;


public class ProductBean implements Serializable{
    private String productId;
    private String productName;
    private double price;

    public void setProductId(String value) {
        this.productId = value;
    }



    public void setProductName(String value) {
        this.productName = value;
    }
    public void setPrice(double value) {
        this.price = value;
```

```java
        }


        public String getProductId() {

            return this.productId;

        }

        public String getProductName() {

            return this.productName;

        }

        public double getPrice() {

            return this.price;

        }

}
```

---

5.   Session Handling

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>

<!DOCTYPE html>

<html>

<head>

<meta charset="UTF-8">

<title>JSP Sessions</title>

</head>

<body>

<%

 if (request.getParameter("error") != null)

     out.println("<b>Your session has expired or is invalid.</b><br>");
```

```
%>

<form action="login.jsp" metho="post">

  Name <input name="name" id="name" maxlength=40><br>

  Password <input type="password" name="pwd" id="pwd" maxlength="10"><br>

  <button>Submit</button>


</form>

</body>

</html>




<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>

<%


    String name = request.getParameter("name");

    String pwd = request.getParameter("pwd");


    if (name == null || name.equals("") || pwd == null || pwd.equals("")) {

        response.sendRedirect("index.jsp?error=1");

    } else {


        session.setAttribute("name", name);

        response.sendRedirect("dashboard.jsp");


    }

%>
```

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Dashboard</title>
</head>
<body>
<%
    if (session.getAttribute("name") == null) {
        response.sendRedirect("index.jsp?error=1");
    }
%>
<b>Hello <%= session.getAttribute("name") %></b><br>
<a href="logout.jsp">Click here to logout</a>
</body>
</html>
```

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Session Logout</title>
</head>
<body>
<%
    session.invalidate();
```

```
%>

<b>Your session has terminated.</b><br>

<a href="index.jsp">Login again</a>

</body>

</html>
```