Application design with MVC

MVC in JSP

- 1. MVC in JSP
- 2. Example of following MVC in JSP

MVC stands for Model View and Controller. It is a **design pattern** that separates the business logic, presentation logic and data.

Controller acts as an interface between View and Model. Controller intercepts all the incoming requests.

Model represents the state of the application i.e. data. It can also have business logic.

View represents the presentaion i.e. UI(User Interface).

Advantage of MVC (Model 2) Architecture

- 1. Navigation Control is centralized
- 2. Easy to maintain the large application



Application Development :Creating Dynamic Content

You create dynamic content by accessing Java programming language objects from within scripting elements.

Using Objects within JSP Pages

You can access a variety of objects, including enterprise beans and JavaBeans components, within a JSP page. JSP technology automatically makes some objects available, and you can also create and access application-specific objects.

Creating and Running a JSP

Introduction

In this article we discuss how to create a JSP web page in the Netbeans IDE 7.4 using the Tomcat Server 7.0.40.

To create a JSP web page in the Netbeans IDE we must do the following three main steps:

- 1. Start by creating a "Java web" -> "web application project".
- 2. Create a JSP web file.
- 3. Last and finally, start the Tomcat Server and deploy the project.

Step 1: Start creating web application project

Step 1(a)

Open the Netbeans IDE to start your project.



Step 1(b)

Now click on file menu and select New Project then select Java Web and then Web Application as follows.

From the file menu select "New Project" -> "Java Web" -> "Web Application" as in the following figure:

. Choose Project						
	٩					
	Categories: Projects: Java Image: Categories in the second secon					
	Description: Creates an empty Web application in a standard IDE project. A standard project uses an IDE-generated build script to build, run, and					

Step 1(c)

Now click on "Next". A new window is generated with a default project name. Now change the name (I used "JspWebApplication") according to your project and click on "Next". As in the following figure:

		Name and Location					
Project Name:	JspWebApplication						
Project Location:	\\MCNSERVER2\UserProfiles\ssharma\\My Doc	Browse					
Project Folder:	Project Eolder: 4CNSERVER2\UserProfiles\ssharma\My Docum						
Libraries Folder:	. Vib	Browse					
Use Dedicate	d Folder for Storing Libraries	Browse					
	same compilation libraries (see Help for						
	Project Location: Project Eolder: Use Dedicate Libraries Folder:	Project Location: \\MCNSERVER2\UserProfiles\ssharma\My Doc Project Location: \deltaCNSERVER2\UserProfiles\ssharma\My Docum Image: Project Location: \deltaCNSERVER2\UserProfiles\ssharma\UserProfiles\ssharma\My Docum Image: Project Location: \deltaUback Image: Project Location: \deltaUback					

Step 1(d)

Now a new window is generated for the server and setting the wizard. First go to the server and click on "Add server". Since I already set up the Tomcat Server, it is shown there but when you do it the first time it shows blank, see the image below.

Steps Ser	ver and Sett	ings
. Choose Project Add . Name and Location	to Enterprise A	Application: <pre></pre>
Server and Settings Frameworks Serv	er: /	Apache Tomcat 🗸 🖌 Add
java	EE Version:	Java EE 6 Web 😺
	[Enable Contexts and Dependency Injection
	N	lote: Source Level 6 will be set for Java EE 6 projects.
Cont	N text Path: /	lote: Source Level 6 will be set for Java EE 6 projects. /JspWebApplication

Step 1(e): Server and Setting wizard

First you need to configure Apache Tomcat Server 7.0.40

For configuration of the Tomcat Server follow my previous article from the following link: http://www.c-sharpcorner.com/UploadFile/fd0172/how-to-configure-and-install-apache-tomcat-server-in-windows/

After clicking on Add, a list of servers opens. In this article I used Tomcat Server 7.0.40. Choose your server and configure it. For Tomcat Server choose it (Apache Tomcat on screen) and click on "Next". Now a window opens asking for the server location. Now, click on the Browse button and find the server location where you have stored the Apache Tomcat Server (in my system it is in "E:\myserver\tomcat7.0.40\bin"). Note that you need to provide the path up to the bin directory of Tomcat Server. As in the following:

teps	Installation and Login Details	
 Choose Server Installation and Login Details 	Specify the Server Location (Catalina Home) and lo	gin details
	Server Location: E:\myserver\tomcat7.0.40\bin	Browse
	Use Private Configuration Folder (Catalina Base	e)
	Catalina Base:	Browse
	Username:	
	Create user if it does not exist	lready registered.

Step 1(f)

After providing the server path you will see two more options for username and password. It's your choice whether you want your username and password or you want the default created by the Netbeans IDE. Now click on "Finish".

Now a window is generated containing the default index.jsp file in Web Pages under JspWebApplication. As in the following:



Step 2: Create a JSP Page.

Now change some coding in the default JSP page as given below.

index.jsp

Change the title: JSP Web Page

Change the heading: "Welcome To The JSP Web World!" as in the following:



Step 3: Run The Project using Tomcat Server. Step 3(a)

First recheck the Tomcat configuration if you have changed the default port number of Apache Tomcat then you need to do the same in the Netbeans IDE.

For changing the port number of the Tomcat Server use the following.

Go to the services menu and then click on "Servers" and then right-click on "Apache Tomcat" and choose "Properties" as in the following:

		Ne	tBeans IDE 7.4 Be	ta	10-		×
File Edit View	Navigat	Source Refacto Run Debug	Profile Tearr Tool	Windov	Help <mark>Q+</mark> Searc	h (Ctrl+I)	
Projects	Files	Services ×	—ag	e 🗊 ind	ex.jsp ×	•	• • •
Web Services Servers Servers Servers Meb A GlassFish S Maven Reposit Cloud Hudson Builder	Start Start in Debug Mode Start in Profile Mode Restart Ston	2 3 4 5 6 7		Document Created o Author &>	: index n : Aug 13 : ssharm ntTune="te		
E Issue	st Driver	Refresh	Varia	bles ×	Breakpoints	Output	-
		Remove		Name	Туре	Value	
	Edit server.xml View Server Log View Server Output	*	<e No</e 	inter ne variabl			
		Properties				12	28 INS

Step 3(b)

Now select the server port number that you chose in configuring the Apache Tomcat Server. Since I chose port 9999 in Apache Tomcat so it needs to be changed in Netbeans also. As in the following:

Servers Servers	Server Name:	Apache Tomcat						
Apache Tomcat GlassFish Server 4.0	Server Type:	Apache Tomcat						
	Connection	Start	tup Platform	Deployment	Classes	Sources	Javado	
	Catalina Hor	me: E:\myserver\tomcat7.0.40\bin						
	Catalina Bas	se: [e: E:\myserver\tomcat7.0.40\bin					
	Username:	-	sandeep			-		
	Password:		•••••			Show		
		Server Port: 9999						
	Server Port	: [9999 ≑					
	Server Port: Shutdown P	: [vort: [9999 🜩 8005 🜩					
	Server Port Shutdown P	: [vort: [ITTP N	9999 文 8005 🜩 Monitor					

Step 3(c) Now click on close and run the project. For running your project right-click on the project and select "Run" as follows.

0	JspWebApplicatio	n - NetBean	s IDE 7.4	Beta	<u> </u>	×
File Edit View Navi	gat Source Refacto Run Debus Prof	ile Tearr Too V	l: Windov	Help 🔍 Searc	th (Ctrl+I) ▼	× ×
Projects × File:	s Services	a	ge 🗊 ind	ex.jsp ×) -
HelloWeb1		Sou	rce Hist	ory 🛛 🚱	- 🔊 - 🔍 9	⅔ ×
SpwebAr Source Source Source Source Source Source	New Build Clean and Build Clean Generate Javadoc	• 2 3 4 5 6 7		Document Created o Author	: index on : Aug 1: : ssharr	3, na -
	Run	>				×
	Deploy	Varia	ables ×	Breakpoints	Output	-
	Profile Test RESTful Web Services Test Alt+F6	lt+F6	Name <ei No</ei 	Type nter ne variabl	Value	
	Open Required Projects Close		۲	>	12	28 IN:

Output The following output is generated through the specified JSP file.

