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21 Sep 2012 | Java EE

Simple CRUD Web Application with JSF 2.1, PrimeFaces 3.5, EJB 3.1, JPA (ORM) / EclipseLink, JAAS , MySQL

In this tutorial, I will demonstrate the basics of building a simple CRUD Web Application with JSF 2.1, PrimeFaces 3.5, EJB 3.1, JPA 2 (ORM) / EclipseLink, JAAS, Maven 2, MySQL 5.



To be able to run the sample project (download the source code [here](#)) you need to install the required software:

Please try live demo (Username: Admin, Password:1234)

NetBeans 7.2 IDE
GlassFish V3 application server
MySQL server
Java EE 6 (JDK 1.6),
Maven 2

(There is a good instruction on how to install Netbeans 7.2
<http://netbeans.org/community/releases/72/install.html>)

I will briefly outline the project here but later on I will write more details about the project under each sections and post them once they are available. If you have any suggestions for improving this article I would love to hear from you.

Tutorial parts

- 1- Creating ORM entity classes with Plain Old Java Objects and SQL tables for the project
- 2- Securing your web application with Glassfish security realms in JAAS
- 3- Writing the Enterprise Java Beans, Create, Read, Update and Delete (CRUD) operations with JPA 2 EclipseLink (ORM)
- 4- Lazy Loading / Pagination with JSF 2.1 / Primefaces 3.5 DataTable and Form Validations
- 5- Downloading PrimeFaces themes / creating and installing custom themes for the project and overriding PrimeFaces style sheets and using PrimeFaces layouts.
- 6- Generic PrimeFaces LazySorter

Update:

I have updated faces-config.xml file to fix a bug caused (after a validation error) due to

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the incorrect state of the input fields. Thanks to John for finding this error and kindly letting me know about it.

To fix problem we need to add this dependency to our project's pom.xml file

```
<dependency>
  <groupId>org.omnifaces</groupId>
  <artifactId>omnifaces</artifactId>
  <version>1.4.1</version>
</dependency>
```

and then add this code line to faces-config.xml file to register ResetInputAjaxActionListener as a phase-listener

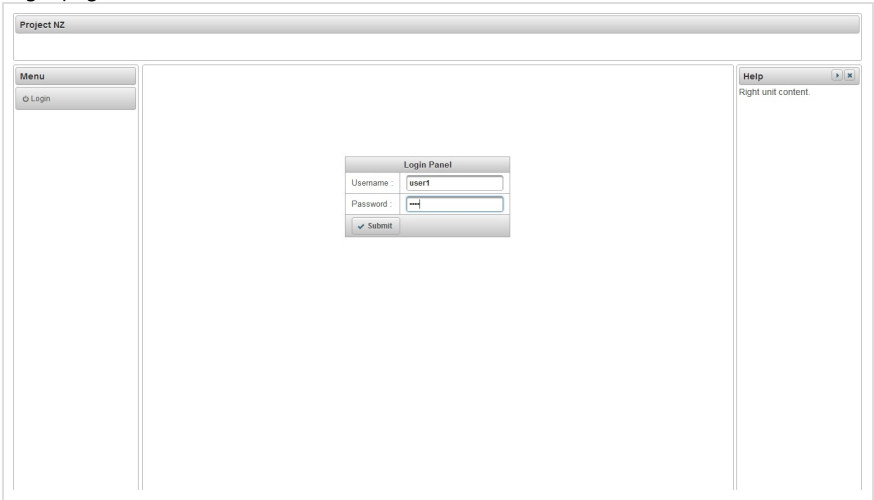
```
<lifecycle>
  <phase-listener>org.omnifaces.eventlistener.ResetInputAjaxActionListener</phase-listener>
</lifecycle>
```

(You can download this file! [Source code](#) is up to date.)

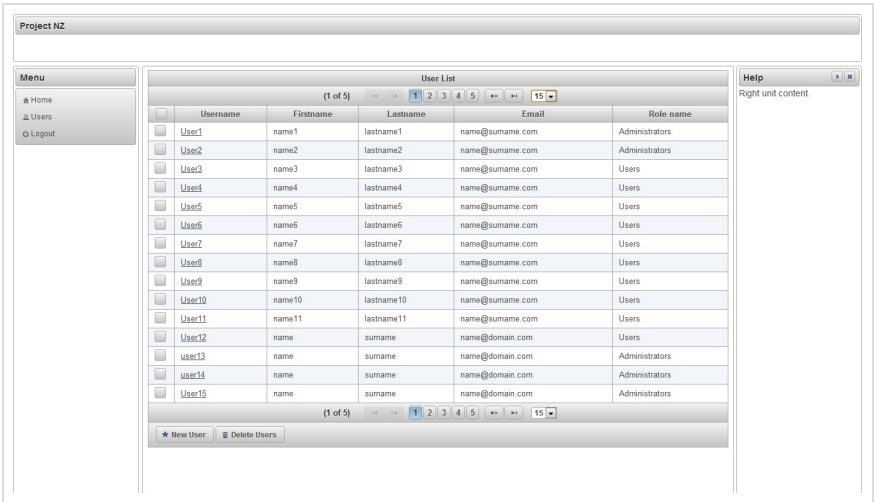
For more information please see [Omniface's website](#)

Some screenshots from Simple CRUD web application, you can also try live [demo](#) (Username: Admin, Password:1234)

Login page:



User listing page:



User creating and editing dialogue:

Java EE

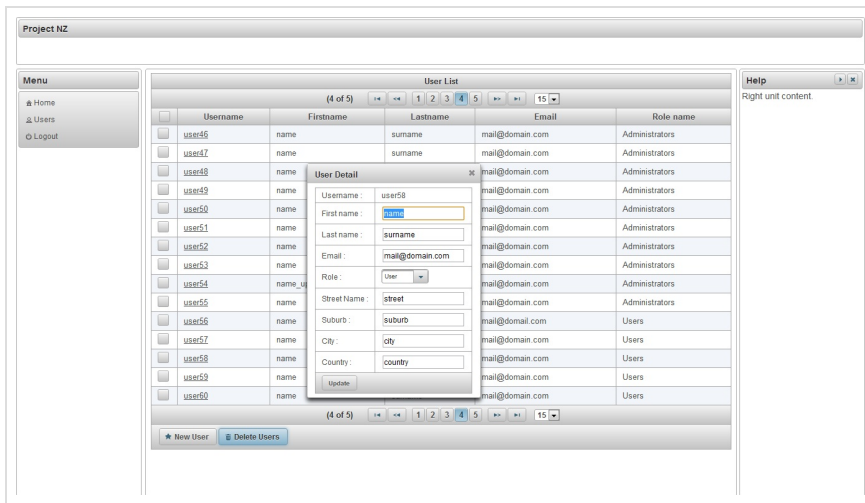
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JSF 2.1, PrimeFaces 3.5, EJB 3.1, JPA (ORM) / EclipseLink, JAAS, MySQL, CRUD

55 thoughts on “Simple CRUD Web Application with JSF 2.1, PrimeFaces 3.5, Maven and JPA”



Reply

ahmed

Dec 28, 2012 11:02 pm

Hi,I'am student and I'd like create a crud with a primefaces & jpa2 ,please send me this example 😊



Reply

simtay

Dec 29, 2012 10:17 am

<https://github.com/Simtay/SimpleCRUD/zipball/master>

Thanks



Reply

Dagie

Mar 15, 2013 7:39 pm

Do you have eclipse version on this tutorials?



Reply

simtay

Mar 15, 2013 7:44 pm

No Eclipse version at the moment. I guess you can convert it to Eclipse version easily! All you need is an embedded GlassFish server on you Eclipse! Cheers Emre



Reply

john

Mar 24, 2013 2:17 am

First of all many thanks for the nice article.
I should also notice that there is bug caused due to the inappropriate state of the partially render input fields. You can reproduce the bug following the steps described below:
1. Click on a user link form the list to show the “User Detail” dialog
2. Modify the users details with invalid values
3. Click on “Update” button
4. After the validation failure, click on a user link again (select a different user now).
Besides the input fields that failed at validation, all other fields are not

updated.

This is happening because the "input" fields of the "User Detail" dialog do not participate at the 'execute' part of the AJAX request performed by the link at the user's list table. The local values of the "User Detail" dialog's components are still set due to the previous validation failure (when we have tried to update the user). When JSF renders input components, it tests, in this order, if the submitted value, the local value and finally the model value is not null. The first not null value is found, is the value that displays.

You could fix the problem by applying an overall solution provided by the omnifaces (<http://code.google.com/p/omnifaces/>), registering the `org.omnifaces.eventlistener.ResetInputAjaxActionListener` as phase listener. The primefaces seems to offer a less generic solution by using the `resetInput` tag (<http://www.primefaces.org/showcase/ui/resetInput.jsf>).



Reply

simtay

Mar 25, 2013 11:37 am

Hey John,

Thank you so much for pointing that out, you are awesome! I have fixed the issue by following your suggestion and updated the code on git-hub. I have reproduced the bug like you said it wasn't resetting the form fields when submission has a validation error.

I simply updated the 'faces-config.xml' file. I have registered `org.omnifaces.eventlistener.ResetInputAjaxActionListener` as a phase listener (it is explained here <http://showcase.omnifaces.org/eventlisteners/ResetInputAjaxActionListener>)

Thank you again



Reply

Ashish

Mar 24, 2013 5:58 am

Hey friend. Can u tell me how did u managed to install glassfish server in the rhcoud. Openshift.



Reply

simtay

Mar 25, 2013 11:59 am

Hey Ashish, I have created a DIY cartridge and then uploaded a latest GlassFish server binary to this cartridge. Please see this article <https://www.openshift.com/blogs/running-java-apps-in-the-cloud-with-glassfish-and-a-paas> If you have any more questions you are welcome to post them here! Cheers Emre



Reply

Nitin

Apr 6, 2013 9:13 pm

Hi, Simtay I have successfully deployed this app in netbeans but I am getting an error on browser, please help

ERROR:
HTTP Status 500 -
type Exception report

message

descriptionThe server encountered an internal error () that prevented it from fulfilling this request.

exception

`javax.servlet.ServletException: Component ID v2jebr3-retrieve-update has already been found in the view.`
root cause

`java.lang.IllegalStateException: Component ID v2jebr3-retrieve-update`

has already been found in the view.
note The full stack traces of the exception and its root causes are available in the GlassFish Server Open Source Edition 3.1.2.2 logs.



Reply

simtay

Apr 8, 2013 7:41 am

That's a strange error never had this one before. Did you clear your project completely and build it with dependency? Maybe you should ask it on Stackoverflow. Anyway, let me know if there is anything else I can do. Cheers



Reply

Nitin

Apr 8, 2013 4:59 pm

I don't know what is happening but now I am getting this error.

I need your help

COMPILATION ERROR :

Failure executing javac, but could not parse the error:

javac: -endorseddirs requires an argument

Usage: javac

use -help for a list of possible options



Reply

simtay

Apr 8, 2013 7:51 pm

What version java are you using?



Reply

Caterpillar

Apr 7, 2013 8:34 pm

Hi, I need to know if this project can be runned on Tomcat 7.0 since I am developing a JSF+JPA project for Tomcat and I found out a lot of usefull tips in your example



Reply

simtay

Apr 8, 2013 7:39 am

You should be able to, never tried it. I guess you will have to do some changes on the authorization and authentication part. Cheers...



Reply

nisma

Apr 26, 2013 7:19 am

i can use primefaces 3.2 in this application ?



Reply

admin

Apr 26, 2013 8:48 am

I guess you can!



Reply

Keith

May 2, 2013 2:08 pm

hi,

I have java7 and netbeans 7.3

I downloaded the source and get erros in the UserList.xhtml and Login.xhtml

Is this a version issue?

thanks,
Keith



Reply

admin

May 2, 2013 2:12 pm

Hey Keith,

Yes I have tried it with 7.3 just now and yes I guess it is a version issue but still working. I will try to fix that issue and update the code! Thanks for pointing it out...



Reply

Rainbow

May 12, 2013 6:31 am

Hi Dear Simtay ,
I saw your template crud and it's interesting ,
would you put the your updated version of this code on your website ?
And one more thing , would you please make it somehow to create database itself with some change inside the persistance xml file ,
I want to use SQL Server instead of my sql and need to use also hibernate in it ,
I've downloaded your code but still couldn't run it .
All the best .
Rainbow Man .



Reply

admin

May 12, 2013 11:01 am

Hey, I have updated the pages. You only need to create user role view and do the initial population by hand. Please see part-2.



Reply

Peter

May 13, 2013 10:02 am

Great job, thanks for posting. I noticed that you have two different dialogs, one for creating a new user and another for editing an existing user. Both dialogs have the same input fields, with the exception of user id. Isn't it possible to have a single dialog? I'd do it myself, however my knowledge of primefaces is limited.
thanks
Peter



Reply

simtay

May 21, 2013 11:49 am

You are welcome, yes it's better if there was only one dialog. I will change it when I have the time.



Reply

anazri

Aug 6, 2013 4:07 am

Hi Simtay

I want to request your suggestion of codes changes if i develop in Eclipse with MySQL connections. I wish to add the hibernate too.
Thanks



Reply

simtay

Aug 11, 2013 7:07 pm

You don't need to change anything all you need to do is to integrate Glassfish server to your Eclipse IDE. Cheers Emre...



Reply

Caterpillar

Aug 14, 2013 2:56 am

Did you use any JTA layer in the project?



Reply

simtay

Aug 17, 2013 2:31 pm

Yes.



Reply

Caterpillar

Aug 18, 2013 7:20 am

Which one? I am trying to use JBossTS with your example. It is the first time to me to use such layer, so I am working hard to use it ^__^



Reply

simtay

Aug 18, 2013 12:25 pm

Eclipse Link + Java Transaction Api, not sure about JBossTS look for a tutorial.



Reply

Caterpillar

Aug 23, 2013 10:33 am

I am looking for a mock framework to test the correct JPA/JTA configuration of the container. Have you ever used one of them in the development of this example?



Reply

simtay

Aug 26, 2013 7:54 am

Yes, download and see



Reply

tolga

Sep 11, 2013 2:21 am

i could't catch the point that how this connect to the database? there is no database pass, name anywhere except create sql.



Reply

simtay

Sep 11, 2013 7:22 am

Hi Tolga, please see Part 2 of this tutorial. There I explained how to create a database pool and connecting to it using persistence.xml file. Cheers



Reply

dukgo

Oct 1, 2013 7:10 am

hey man this is really good. i'm looking for a tutorial and sample webapp on jsf because i want to learn more. thanks very much for this.

question, can this be converted to eclipse project? and can it run on tomcat?

thanks!



Reply

simtay

Oct 31, 2013 7:46 pm

Hi, thanks for your comment. No it won't work on tomcat. Cheers





Reply

Ferdie

Oct 11, 2013 2:55 pm

Excellent...I believe for many java's beginner they will call you Java Guru. Guru is always share their knowledge.



Reply

Kay Wrobel

Oct 29, 2013 8:38 am

Hi Simtay.

I just wanted to take the opportunity to thank you for the inspiration you gave me. I have used your ideas and some code snippets and turned them into a CRUD Generator for NetBeans. The project has received very healthy feedback and the NetBeans itself is now implementing a similar design.

I feel like this thank you was long overdue since I started the project back in Feb. 2013. So,

THANK YOU!



Reply

simtay

Oct 31, 2013 7:39 pm

Hi Kay,

Thanks so much for your kind words, I am very happy this application gave you the inspiration to create the CRUD generator for NetBeans and thanks for letting me know and giving me the motivation for my next project.

Cheers



Reply

Taysay

Oct 31, 2013 2:02 am

Thanks so very much, for this great peace. Please will it work on Jboss/tomcat ?
Many thanks , have a wonderful day



Reply

simtay

Oct 31, 2013 7:35 pm

Hey Taysay,

This application would work on a Java EE application server but you will have to re implement the security part and no it won't work on Tomcat not a Java EE server.
You have a good day too.



Reply

Caterpillar

Nov 20, 2013 6:12 am

Will removing JAAS part, require much work? I am thinking about removing it if it will take too much time to implement it into Tomcat environment



Reply

simtay

Nov 20, 2013 6:58 am

Not removing but maybe implementing a security with other libraries might! You don't want security at all?



Reply

Caterpillar

Nov 20, 2013 10:03 am

If it will take too much to configure JAAS with Tomcat/TomEE I will try to not implement it



Reply

simtay

Nov 20, 2013 7:25 pm

Not sure mate! Just google and find out :o) and have a look at this. <http://tomee.apache.org/tomee-jaas.html>

Pingback: [login.xhtml: The requested resource is not available](#) | Technology & Programming



Reply

simtay

Nov 22, 2013 7:18 pm

I saw that your question was answered on Stackoverflow I hope you resolved it. Cheers Emre



Reply

dukgo

Nov 27, 2013 9:48 am

hi simtay,

your work is really great! i'm learning a lot from it.

i just have a question though, when a new user record is added, the fields in the form are empty which is right. but after adding, then clicking the User link again to show the user list, then clicking New again, the fields are not cleared and the last record added is displayed.

i can't seem to find out how to fix it. can you help me please?

thanks very much!



Reply

simtay

Dec 2, 2013 7:12 am

Hi mate, thanks for your kind words. You need to use omniface to fix that bug. I have explained it on the very first page, please have a look at it, if you still have the same problem please contact me.



Reply

dukgo

Nov 27, 2013 2:43 pm

hi simtay,

sorry another question please. i tried to change the role's field from selectManyMenu to selectOneMenu to choose just only one value. but it won't work.

can you help again please?

thanks!



Reply

simtay

Dec 2, 2013 7:13 am

It should work but I have to try it at home. I will let you know, thanks.



Reply

Cemen

Dec 2, 2013 1:36 am

Hello,

I think it would be great to start your tutorial earlier, I mean by the project creation steps: What kind of project do you choose in Netbeans ? How are generated at start the web.xml, pom.xml files ?

Your tutorial is already a very good job, I think with some adds for

"newbies" it would become a must-visit page for JEE devs.

Thanks



Reply

simtay

Dec 2, 2013 7:17 am

Many thanks for your kind words. File-> New Project-> Choose Project-> Maven-> Web Application. It will create the pom and web.xml files automatically. You won't need to create one.

Cheers



Reply

Khanyisani

Dec 3, 2013 2:37 am

Hi Simtay,

Your example is a very good one, I'm a beginner on JSF, can you please show us step by step when you create the project and which libraries are needed for the project to run?

Thanks in advance



Reply

simtay

Dec 4, 2013 10:26 pm

Thanks, to create a project; File-> New Project-> Choose Project-> Maven-> Web Application. It will create the pom and web.xml files automatically. For libraries please look at the pom.xml file that comes with the example project.

Cheers



Reply

dukgo

Dec 6, 2013 5:08 am

hi simtay,

thanks for your response. i have added the fix on omniface jar in pom.xml and ResetInputAjaxActionListener in faces-config.xml.

i read that john's finding was on adding user and validation error occurs. but as i encounter, when a new user is added, then click on User link again (to show the user list) and try to add a new user again, the old values are still there.

can you help again please?

thanks!



Reply

simtay

Dec 6, 2013 9:17 pm

Hey mate, I created a user then clicked on it opened the user detail dialog then closed it then re-opened it it was all clear! Did this on my local computer and the demo web application on the internet the results are the same. Did you modify the code? Can you email me the code and I will try to reproduce the problem.

emre@simtay.com

Thanks

Leave a Reply

Author (required)

Email (will not be published)(required)

Website

Just to prove you are a human, please answer the following math challenge either out loud or typing into the text box

nine × = sixty three

b*i*

link

b-quote

code

close tags

[Part 1 – Creating Entity Classes With POJO + Annotation »](#)

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