



Arun Gupta is a technology enthusiast, a passionate runner, and a community guy who works for Sun Microsystems. And this is his blog!

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January 19, 2009

[EJBs in a WAR – Simplified packaging defined by EJB 3.1, Available in GlassFish v3](#)

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The [EJB 3.1 specification](#) says:

An enterprise bean class with a component-defining annotation defines an enterprise bean component when packaged within the WEB-INF/classes directory or in a .jar file within WEB-INF/lib.

In simple English it means, an EJB can be a POJO annotated with EJB annotations (such as `@javax.ejb.Stateless`) and bundled within WEB-INF/classes inside a WAR.

This feature is available in GlassFish v3 for [some time now](#).

Imagine the ramifications, you now have Container Managed Persistence, Transactions, Security, and all other standard benefits of EJB – only this time in a WAR file.

The default configuration of GlassFish v3 Prelude does not include an EJB container. Lets first install it!

The EJB container in GlassFish v3 Prelude can be installed in couple of ways:

- Using Update Center as described [here](#).
- Or using the “pkg” command which is described below

The “pkg” command shipped with GlassFish is platform-independent and runs on all the supported platforms. You can use the standard “pkg-get” command with OpenSolaris but that requires more options to be specified. For simplicity, we’ll use the “pkg” command bundled with GlassFish as shown below:

```
arun@opensolaris:~/glassfishv3-prelude/bin$ ./pkg
```

The software needed for this command (pkg) is not installed.

When this tool interacts with package repositories, some system information such as your system’s IP address and operating system type and version is sent to the repository server. For more information please see:

<http://wiki.updatecenter.java.net/Wiki.jsp?page=UsageMetricsUC2>

Once installation is complete you may re-run this command.

Would you like to install this software now (y/n): y

```

Install image: /export/home/arun/glassfishv3-prelude/bin/.
Installing pkg packages.
Installing: [pkg:/pkg@1.0.7.0-15.1269:20081008T211255Z,
pkg:/python2.4-minimal@2.4.4.0-15.1269:20081008T211307Z]
Initialization complete.

```

Software successfully installed. You may now re-run this command (pkg).

Install the EJB container as:

```

arun@opensolaris:~/glassfishv3-prelude/bin$ ./pkg install glassfish-ejb

```

```

DOWNLOAD                PKGS      FILES      XFER (MB)Completed                1/1      11/11      0.45/0.45
PHASE                    ACTIONSInstall Phase                24/24

```

And verify as ...

```

arun@opensolaris:~/glassfishv3-prelude/bin$ ./pkg list

```

```

NAME (AUTHORITY)          VERSION      STATE      UFIxfelix      1.2.10-1      installed u---glassfish-jta      1.2.2-0      installed ----glassfish-amx      3.0-28.3      installed ---
3.0-28.3      installed ----glassfish-jsf

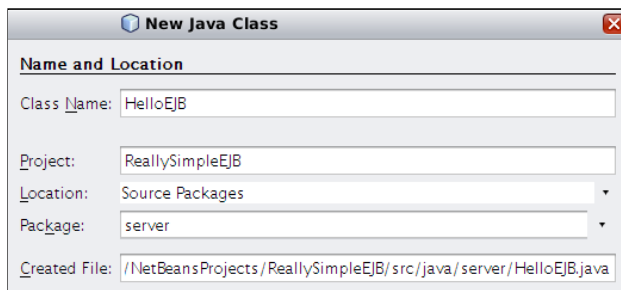
```

As shown above, “glassfish-ejb” module with version “3.0.28.3” is now installed.

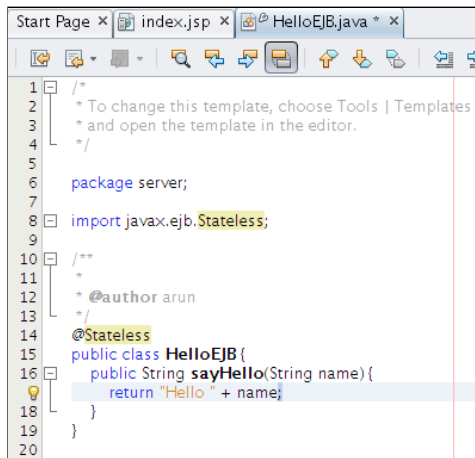
Now your GlassFish v3 Prelude is ready to serve EJBs!

Next, lets create a simple web application and package EJB there. Using the NetBeans IDE, create a template Web application. Lets say the project is named “ReallySimpleEJB”.

1. Create a POJO, choose the class name as “HelloEJB” and package as “server” as shown

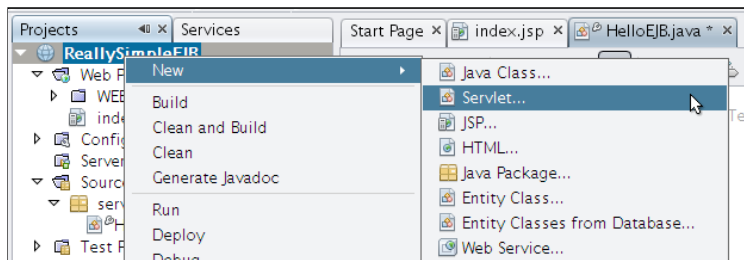


2. Declare a public method “sayHello” and add @javax.ejb.Stateless annotation to mark it a stateless EJB as shown

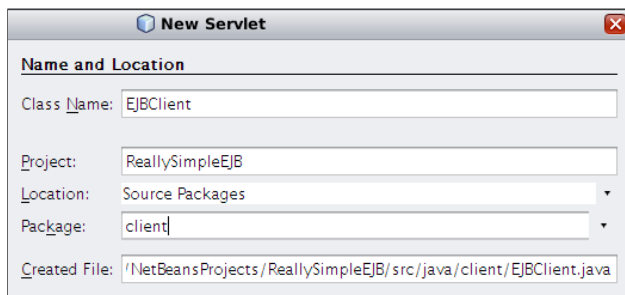


```
1  /*
2  * To change this template, choose Tools | Templates
3  * and open the template in the editor.
4  */
5
6  package server;
7
8  import javax.ejb.Stateless;
9
10 /*
11 *
12 * @author arun
13 */
14 @Stateless
15 public class HelloEJB {
16     public String sayHello(String name){
17         return "Hello " + name;
18     }
19 }
20
```

3. Create a new Servlet by selecting the option as shown



and specify the name as "EJBClient" in "client" package



and click on "Finish".

4. In the generated Servlet, declare a dependency on the EJB using @javax.ejb.EJB as shown

```

19  * @author arun
20  */
21  public class EJBClient extends HttpServlet {
22
23      @EJB HelloEJB ejbClient;
24
25      /**

```

5. Invoke the EJB by uncommenting the code in “processRequest” method and add “ejbClient.sayHell(“Duke”)” invocation as shown:

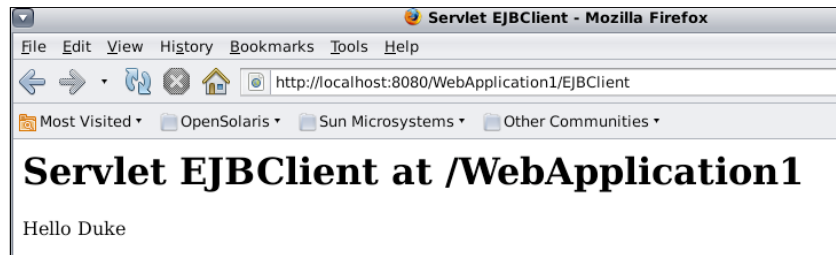
```

35      PrintWriter out = response.getWriter();
36      try {
37
38          out.println("<html>");
39          out.println("<head>");
40          out.println("<title>Servlet EJBClient</title>");
41          out.println("</head>");
42          out.println("<body>");
43          out.println("<h1>Servlet EJBClient at " + request
44              .getServletPath() + "</h1>");
45          out.println(ejbClient.sayHell("Duke"));
46          out.println("</body>");
47          out.println("</html>");
48      } finally {

```

If the application is pre-deployed then saving this file will auto-deploy it as shown in [screencast #27](#). Otherwise right-click on the project and select “Deploy”.

And finally invoking the servlet at “http://localhost:8080/ReallySimpleEJB/EJBClient” shows the following output:



EJBs in a WAR – simple and easy to use 😊

Download [GlassFish v3 Prelude](#) and get started!

Technorati: [glassfish v3 ejb netbeans war ear](#)

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1.

Arun,

this is cool stuff. Thank you for writing it down.

Greetings
Michael

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2.

What, no XML configuration? It can't be for the enterprise then. *grin*

Just kidding, great stuff. The EJB 3.1 & Glassfish team is really on to something here.

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Good page!

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6.

You were given good information. thank you

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What, no XML configuration? It can't be for the enterprise then. *grin*

Just kidding, great stuff. The EJB 3.1 & Glassfish team is really on to something here.

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Hi, Thanks for the example.

I am a newbie to the glassfish v3 prelude, and trying to see if I can follow your example in my own development env.

The code itself is pretty simple, but I am having trouble to figure out what are the jar files needed to make the code to compile.

In prev. glassfish version (v2.1), I can include javaee.jar and appsver-rt.jar make my both server and client code happy.

Now with v3 prelude, it seems to me that appsver-rt.jar is gone.

What should I use to make the project build. BTW, I don't use NetBean.

If you can publish the simple ant build scripts, that will help to clarify my questions.

thanks

Chester

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