

Setup a Seam project for WebSphere 7.0.

Conventions `${projectName}` stands for the project name in the RAD. This notation will be used primarily in the path describing which files are to be modified.

For example if a project with the name "HelloSeam" was created the following RAD projects would be created:

- HelloSeam = `${projectName}`
- HelloSeam-ear = `${projectName}-ear`
- HelloSeam-ejb = `${projectName}-ejb`
- HelloSeam-test = `${projectName}-test`
- HelloSeamEAR = `${projectName}EAR`

Some Notes

The original source for these directions comes from several pages:

- <http://seamframework.org/Documentation/RunningDefaultSeamWebProjectCreatedUsingRAD751UnderWebSphere7001>
- http://docs.jboss.com/seam/2.2.0.GA/en-US/pdf/seam_reference.pdf (Chapter 40 in particular.)
- <http://www.seamframework.org/Community/SpecifyingALocalReferenceToAnEJBOnWebSphere70> (EJB3 Config)

These directions were tested with: Seam 2.2.0.GA, RAD 7.5.5.1, JBoss Tools 3.0.3 WAS 7.0.0.9

Project Setup

1. If you haven't done so already [create a new project using JBoss Tools](#) . This creates four projects: `${PROJECT_NAME}`, `${PROJECT_NAME}-ear`, `${PROJECT_NAME}-ejb`, and `${PROJECT_NAME}-test`, plus the `${PROJECT_NAME}EAR` entry which I'm a little unsure of at the moment. At this point there will be one error in RAD saying "An EJB module must contain one of more enterprise beans." This error will be taken care of in the next few steps.
2. Add missing JAR libraries into `${PROJECT_NAME}-ear/EarContent/` to avoid `NoClassDefFoundExceptions` (All jars needed for Seam can be found in the lib folder of the Seam Runtime download. For example for the 2.2 version of Seam downloaded from Open Logic and expanded the path would be `"\openlogic-jboss-seam-2.2.0.GA-all-bin-1\jboss-seam-2.2.0.GA\lib"`):
 - a. hibernate.jar
 - b. hibernate-commons-annotations.jar
 - c. hibernate-annotations.jar
 - d. hibernate-entitymanager.jar
 - e. hibernate-validator.jar
 - f. dom4j.jar
 - g. slf4j-api.jar
 - h. slf4j-log4j12.jar
 - i. log4j.jar
 - j. javassist.jar
 - k. lucene-core.jar
 - l. commons-codec.jar
 - m. psu-base.jar ([Click to download](#))
 - n. xmlrpc-2.0.1.jar ([Click to download](#))
3. For both the `${PROJECT_NAME}` and `${PROJECT_NAME}-ejb` projects context click and select [Properties](#) -> [Java EE Module Dependencies](#) then put checks in front of all the jars and click [OK](#).
4. Remove the `${PROJECT_NAME}-ejb/ejb-module/META-INF/persistence.xml` file. (In order to use JPA to talk to DB2 or another relational DB, we'll need to come back and set up this file correctly, but it is not needed for now.)
5. Open the `${PROJECT_NAME}\WebContent\WEB-INF\components.xml` file.
 - a. Change the `<core:init .../>` element to the following

```
b. <core:init jndi-pattern="java:comp/env/#{ejbName}" debug="true"/>
```

- c. Save the file.
6. `ejb-jar.xml` changes? Not sure if needed yet. (EJB reference required when one Seam EJB component references another Seam EJB component using `@In`)
 7. Add the following to `${PROJECT_NAME}\WebContent\WEB-INF\web.xml`

```
a. <ejb-local-ref>
    <ejb-ref-name>${PROJECT_NAME}/EjbSynchronizations</ejb-ref-name>
    <ejb-ref-type>Session</ejb-ref-type>
    <local>org.jboss.seam.transaction.LocalEjbSynchronizations</local>
</ejb-local-ref>
```

8. In the \${PROJECT_NAME}\src folder create a file with the name, **seam-jndi.properties**. Insert the following as the contents of the file:

```
a. com.ibm.websphere.naming.hostname.normalizer=com.ibm.ws.naming.util.DefaultHostnameNormalizer
```

9. Create a New Seam Form and Action (Make sure you're in the Seam perspective in RAD):

- Select **File -> New -> Seam Form**
- Click the **Browse...** button to select your Seam project.
- Fill in the name the Seam component name (the other values on the form will be filled in automatically):

New Seam Form

Seam Form

Create a new Seam form

Seam Project: HelloSeam [Settings...](#)

Seam component name: hello

Local interface: Hello

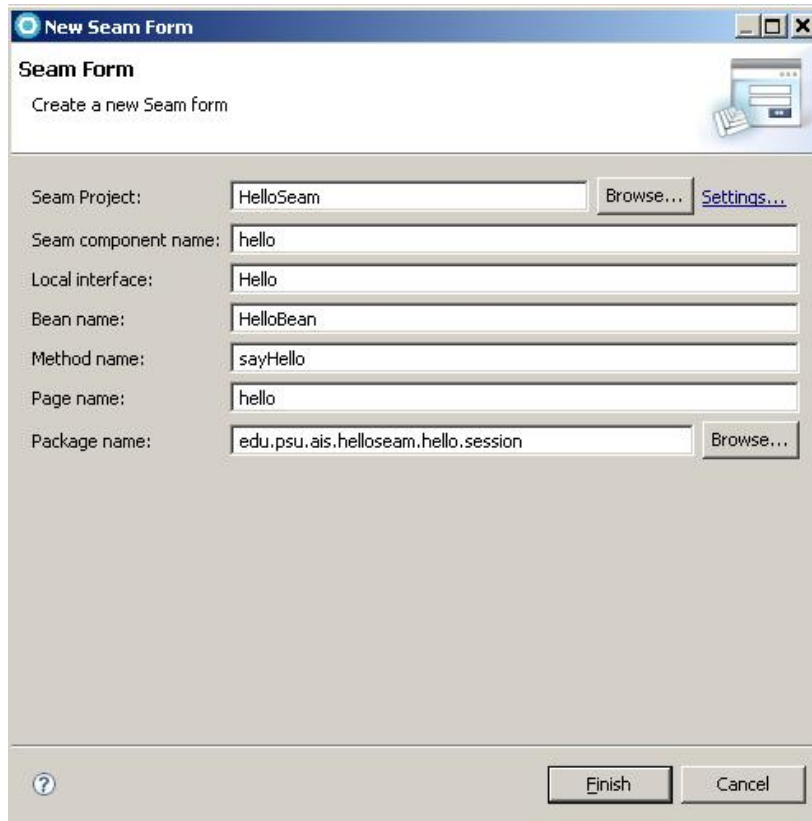
Bean name: HelloBean

Method name: hello

Page name: hello

Package name: edu.psu.ais.helloseam.session

- Make any adjustments you desire to the values. (In this case I've adjusted the method and package name. I imagine we'll come up with standards for these at some point.)



e. Click **Finish**

10. In order to "Register" each EJB for use with Seam add the following annotation in each Session Bean:

```
a. @JndiName("ejblocal:${fully_qualified_interface_name}")
```

b. For Example this is how it would look for the HelloBean created during the previous step:

```
c. @JndiName("ejblocal:edu.psu.ais.helloseam.hello.session.Hello")
```

11. Refresh (F5) and clean the \${PROJECT_NAME}* projects (Project\Clean menu).
12. WAS Container Config: (Is this needed? Seemed to work before I did it, but also worked after. Maybe only needed for 2.2.1?)
<http://docs.jboss.org/seam/2.2.1.CR1/reference/en-US/html/websphere.html>
13. Deploy the \${PROJECT_NAME}-ear on the server by context clicking and selecting **Run As** -> **Run on server**.
14. Test your application on [http://localhost:9080/\\${PROJECT_NAME}](http://localhost:9080/${PROJECT_NAME})

Creating additional Forms and Actions.

For each new Form/Action combination repeat steps 9 and 10 from above. (I'm pretty sure you'll need to republish to have these changes represented on the server, but I have to revisit this because there is a setting I need to check which may make the republishing unnecessary.)