

**OPENSIFT****docker****kubernetes**<https://oneconnect.uhg.com/docs/DOC-53617>

Open Shift Enterprise V3

Training Presentation for OpenShift Enterprise
Sreejith Kaimal

Day 03

Required Apps

AppStore - Home | appstore.uhc.com

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AppStore

Search Result: **jboss**

App Name	Vendor Name	Win 7	Win 8
JBoss Developer Studio 8.1.0	RedHat	Restricted	Restricted
JBoss Developer Studio 9.0.0	RedHat	Yes	Yes
JBoss EAP 6.4.0	RedHat	Yes	Yes
JBoss Wildfly 8.1.0	RedHat	No	No

1 - 4 of 4 items

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EAP for local server instance. JBDS IDE for development

AppStore - Home | appstore.uhc.com

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Search Result: **maven**

App Name	Vendor Name	Win 7	Win 8
Apache Maven 3.2.3	Apache	Yes	Yes
Apache Maven 3.3.3	Apache	No	No

1 - 2 of 2 items

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Optional JBDS comes with Maven in-built. Required only if you are developing project build scripts outside JBDS

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Search Result: **git 1.9**

App Name	Vendor Name	Win 7	Win 8
Git 1.9.5	Git-SCM	Yes	Yes

1 - 1 of 1 items

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Required for code hub Git repo access.

AppStore - Home | https://codehub.optum.com/osev3hello

OPTUM® CodeHub

OSEv3Hello

Test Org

Repositories Access Overview

Filter Organization Repositories

OSEv3Hello / eapqs

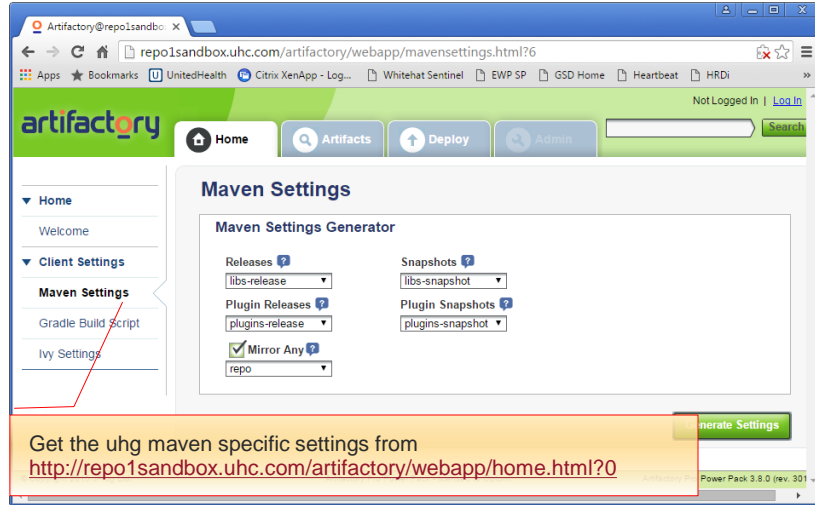
EAP Quickstarts

1 GIT PUBLIC ADMIN

Created: 2016-02-14

https://codehub.optum.com Use MS-ID & Pwd Codehub provides Organization / Repository type access to Git repos. Similar to GitHub.

JBoss Developer Studio – Creating a Java EE Project for OSE v3



Artifactory@repo1sandbox.uhc.com/artifactory/webapp/mavensettings.html?6

Not Logged In | Log In

Maven Settings

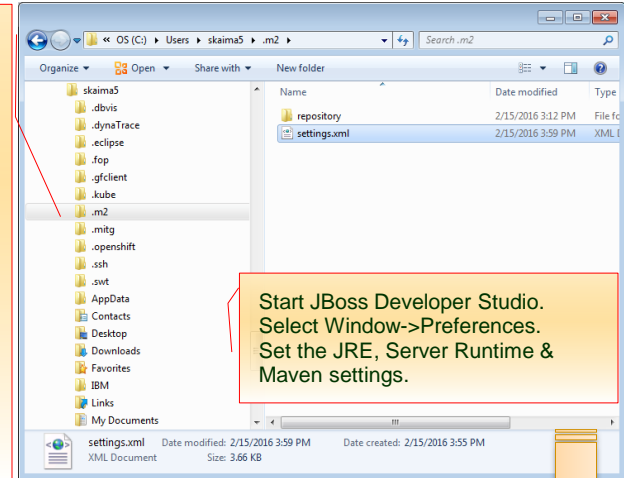
Maven Settings Generator

Releases	Snapshots
libs-release	libs-snapshot
Plugin Releases	Plugin Snapshots
plugins-release	plugins-snapshot
<input checked="" type="checkbox"/> Mirror Any	
repo	

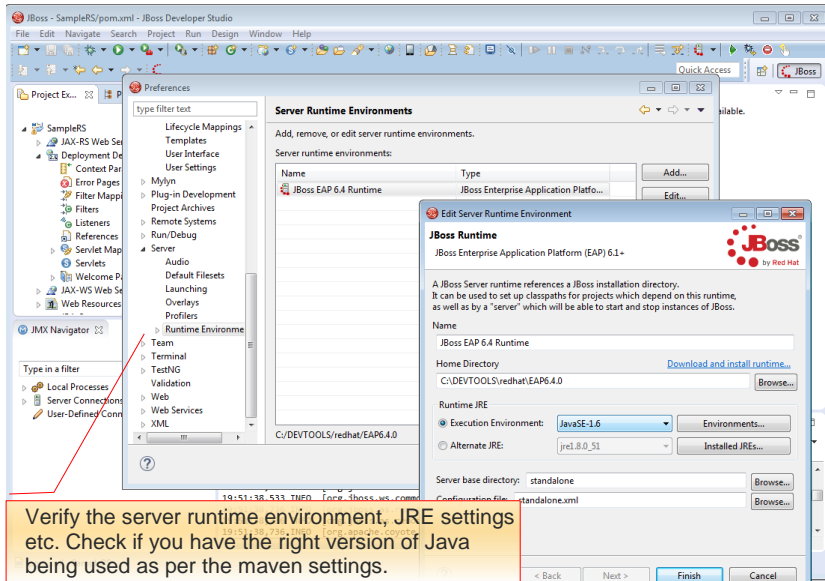
Generate Settings

Get the uhg maven specific settings from <http://repo1sandbox.uhc.com/artifactory/webapp/home.html?20>

settings.xml would be defaulted to maven repos. Some of it wont work within uhg network. You need to replace this with the settings.xml generated from artifactory. The settings.xml will be present in C:\users\<ntid>\.m2 Any new repos if added will be merged into this. Verify this on the JBDS maven preferences.



Start JBoss Developer Studio. Select Window->Preferences. Set the JRE, Server Runtime & Maven settings.



JBoss Developer Studio

Server Runtime Environments

Add, remove, or edit server runtime environments.

Name	Type
JBoss EAP 6.4 Runtime	JBoss Enterprise Application Platform...

Edit Server Runtime Environment

JBoss Runtime

JBoss Enterprise Application Platform (EAP) 6.1+

A JBoss Server runtime references a JBoss installation directory. It can be used to set up classpaths for projects which depend on this runtime, as well as by a "server" which will be able to start and stop instances of JBoss.

Name: JBoss EAP 6.4 Runtime

Home Directory: C:\DEVTOOLS\redhat\EAP6.4.0

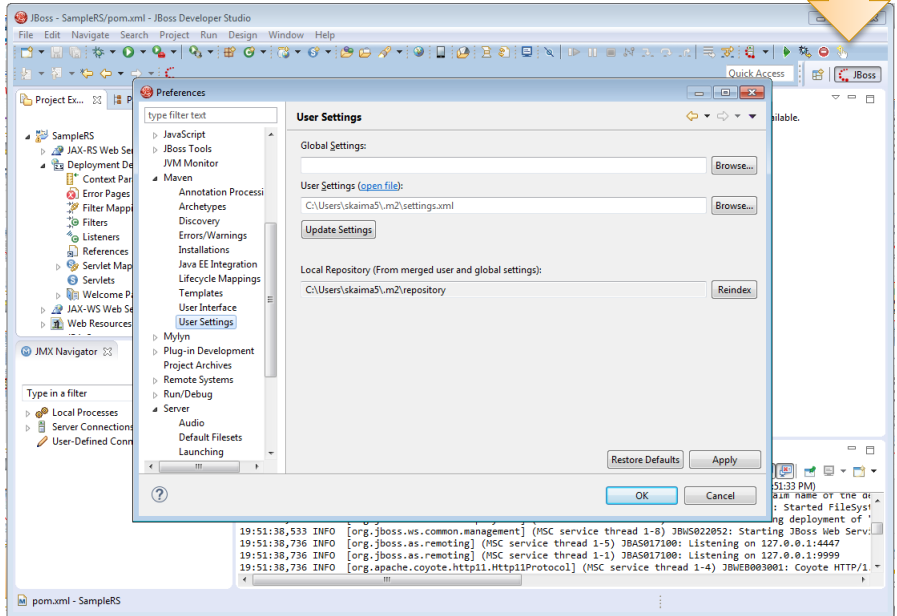
Runtime JRE: JavaSE-1.6

Execution Environment: JavaSE-1.6

Alternate JRE: jre1.8.0_51

Server base directory: standalone

Verify the server runtime environment, JRE settings etc. Check if you have the right version of Java being used as per the maven settings.



JBoss Developer Studio

User Settings

Global Settings:

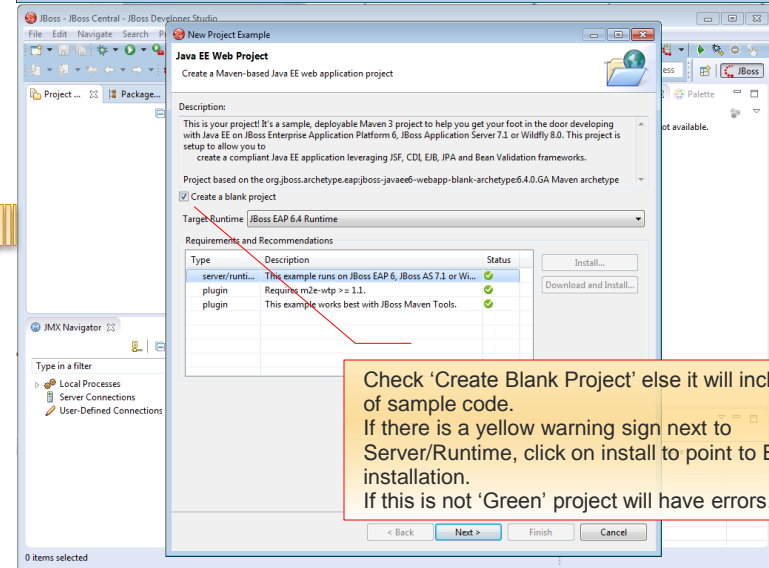
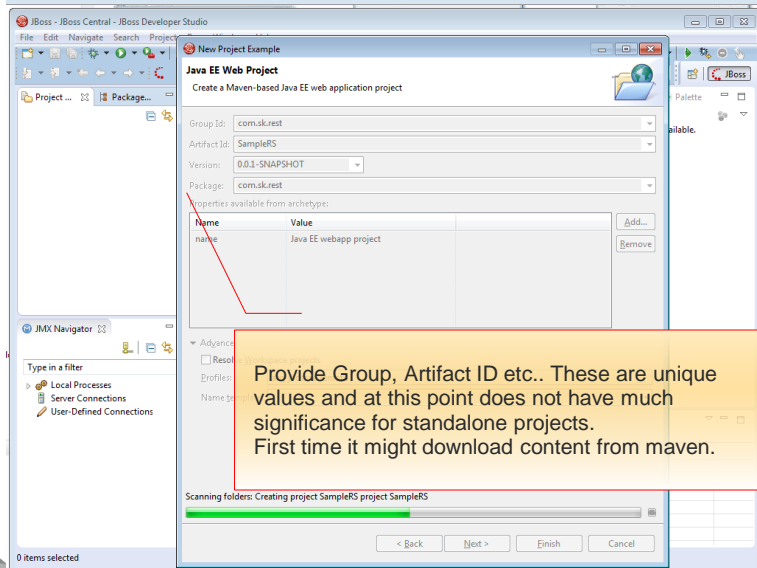
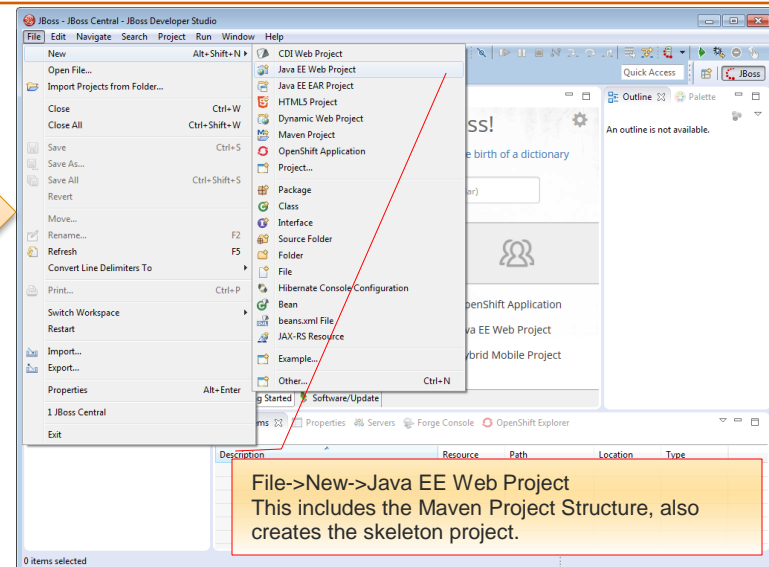
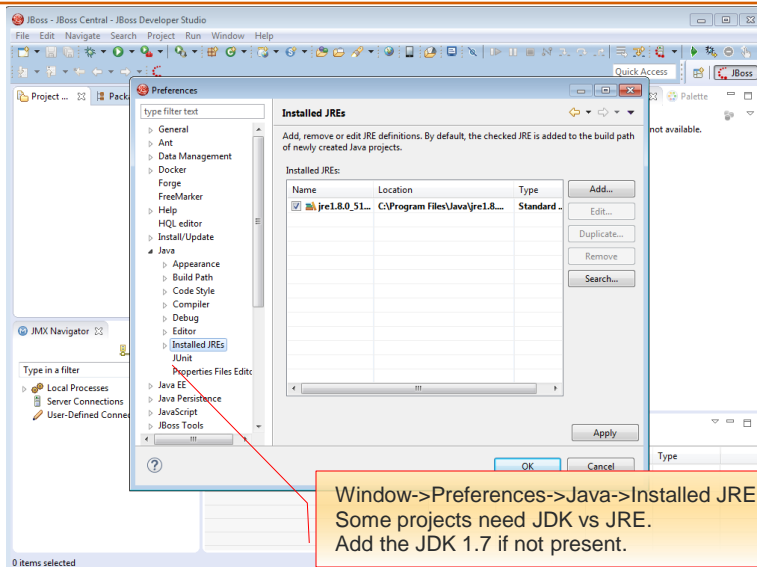
User Settings (open file): C:\Users\skaima5\.m2\settings.xml

Local Repository (From merged user and global settings): C:\Users\skaima5\.m2\repository

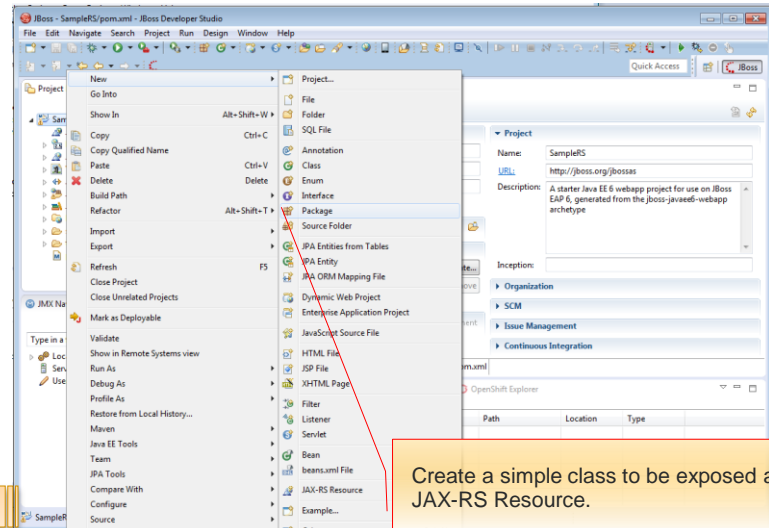
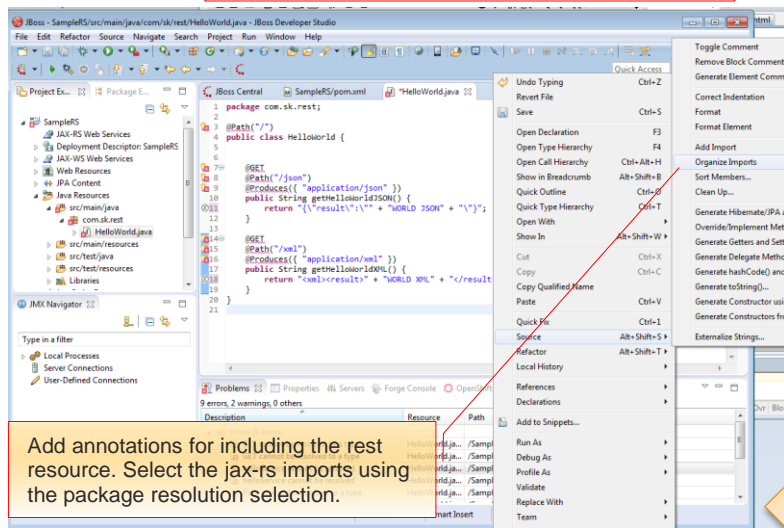
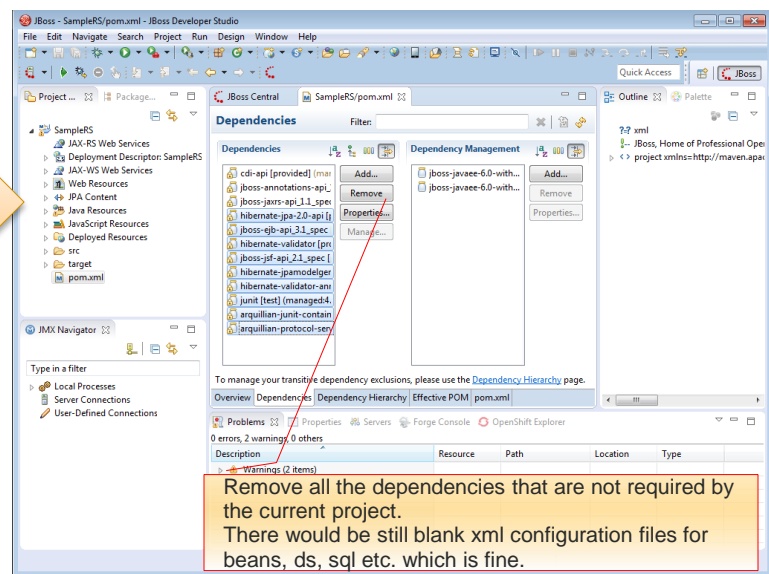
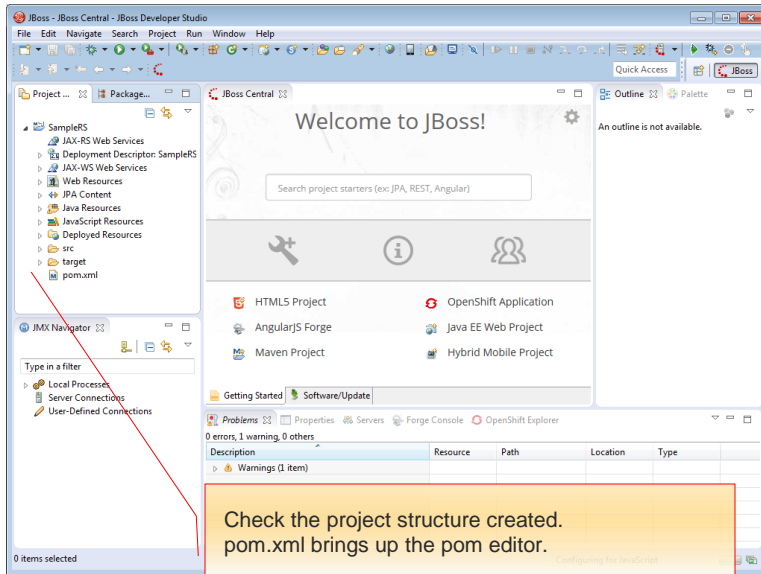
Verify the server runtime environment, JRE settings etc. Check if you have the right version of Java being used as per the maven settings.

<http://repo1sandbox.uhc.com/artifactory/webapp/mavensettings.html?1>

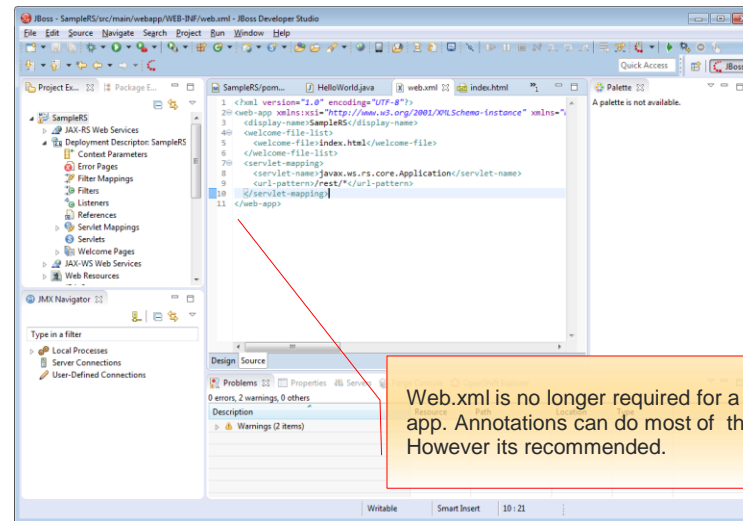
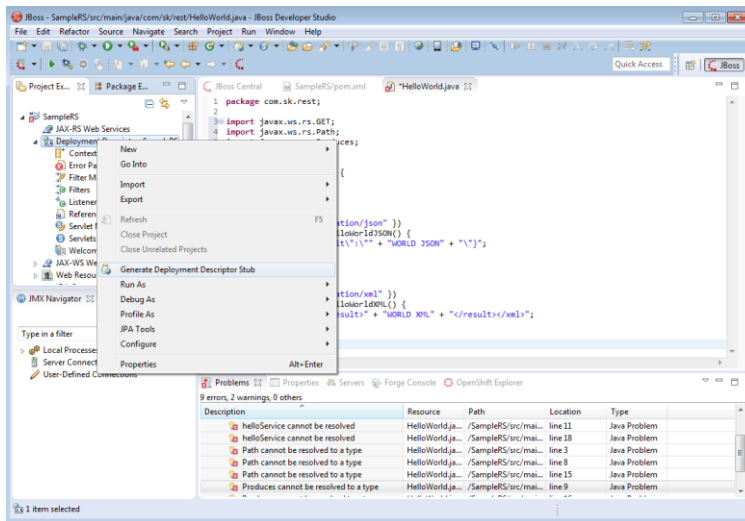
JBDS – Creating a Java EE Project for OSE v3



JBDS – Creating a Java EE Project for OSE v3



JBDS – Creating a Java EE Project for OSE v3



Web.xml is no longer required for a JEE app. Annotations can do most of the job. However its recommended.

These three methods are specified in the JAX-RS 1.1 specification to deploy JAX-RS applications

1. Subclassing `javax.ws.rs.core.Application` and using `@ApplicationPath`
`@ApplicationPath("/mypath")`

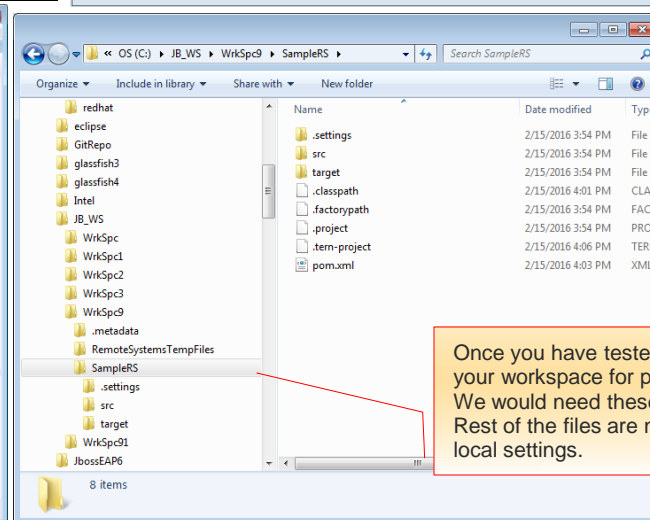
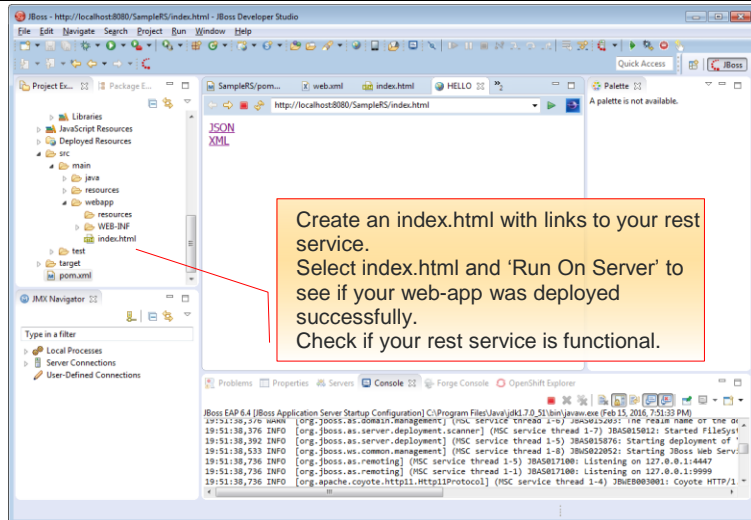
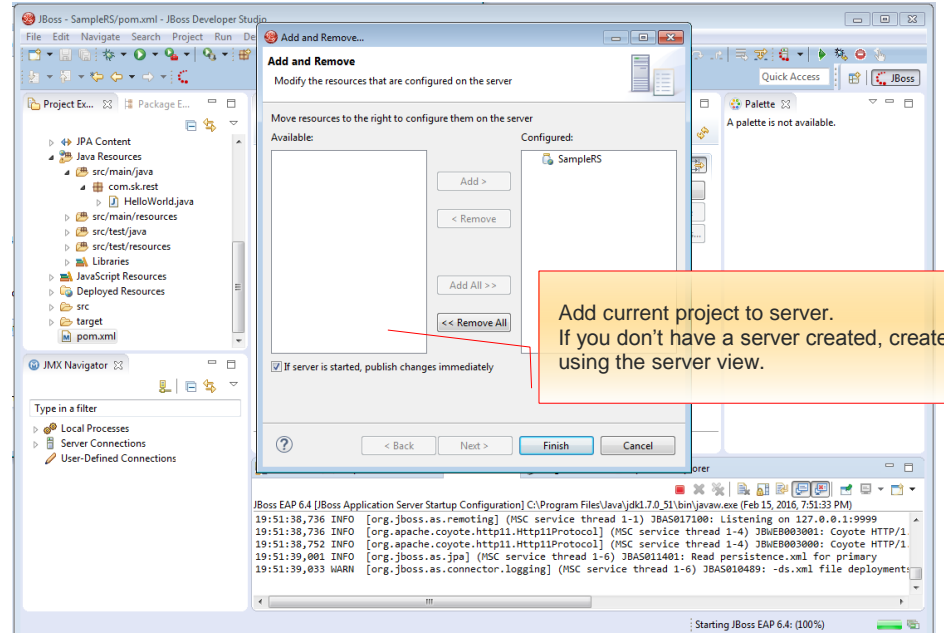
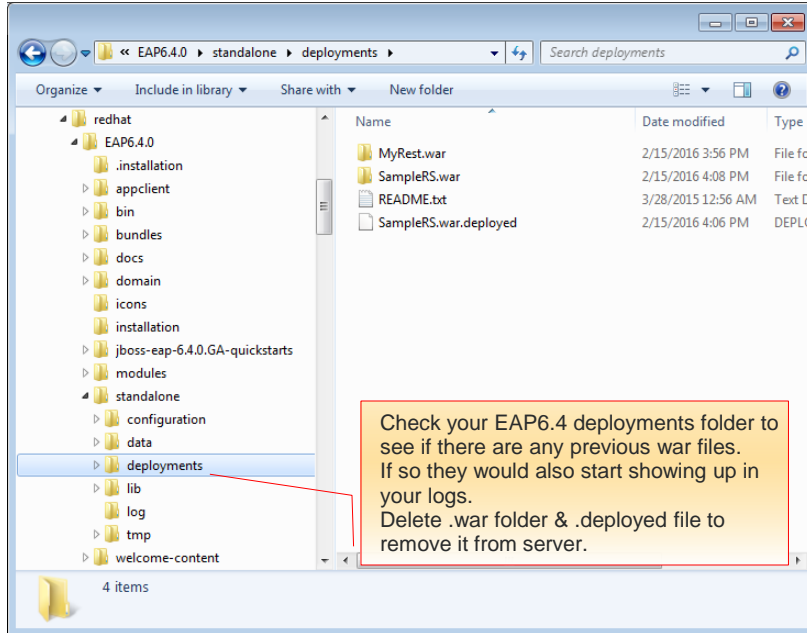
```
public class MyApplication extends Application {  
}
```
2. Subclassing `javax.ws.rs.core.Application` and using `web.xml`

```
<servlet-mapping>  
  <servlet-name>com.acme.MyApplication</servlet-name>  
  <url-pattern>/hello/*</url-pattern>  
</servlet-mapping>
```
3. Using `web.xml`

```
<servlet-mapping>  
  <servlet-name>javax.ws.rs.core.Application</servlet-name>  
  <url-pattern>/hello/*</url-pattern>  
</servlet-mapping>
```

These options are available via the New->JAX-RS Resource wizard on JBDS.
pom.xml should have the dependency configuration for CDI, Annotations, JAX-RS.

JAX-RS Using JBDS



Git Repo & CodeHub

New Repository

A repository is a database containing the history of all changes made to your source code over time. CodeHub allows you to create and manage Git or Subversion repositories. See [CodeHub Repositories](#) for more information.

Name

samlers

Choose a name that is meaningful to you and your team.

Description

Sample RS OSEv3

A good description will help other users find your repository.

Visibility

☐ Private

☒ Public

All CodeHub users will have read access to public repositories. See [Private vs Public](#) for more information.

Version Control System

☒ Git

☐ Subversion

Create Repo Cancel

Clone Repository

Git clone url:

<https://skaima5@codehub.optum.com/osev3hello/samlers.git>

Copy to Clipboard Done

This repository is currently empty.

You will be able to view your code after you push it into CodeHub.

OSEv3Hello/samlers

Sample RS OSEv3

1 commit
1 branch
0 tags

1 user and 0 groups
0 merge requests

branch: master

New Branch Compare

My Sample RS

unknown authored 2 minutes ago

commit b7c0dfe856e692263f184cce0dd3039904e25

src My Sample RS 2 minutes ago

pom.xml My Sample RS 2 minutes ago

- 1.git init
Initializes the git repo in the working directory.
- 2.git remote add origin <URL>
Adds the remote server url for current git.
- 3.Git add -all
Adds all the files to the repo
- 4.Git commit -m 'comment'
Commits all changes to local repo
- 5.Git push -u origin master
Pushes the changes to the remote server.
6. Verify on the codehub to see if your files are uploaded.

```
skaima5@H7U05CG4422YGL /c/GitRepo/sample2
$ ls
pom.xml src
skaima5@H7U05CG4422YGL /c/GitRepo/sample2
$ git init
Initialized empty Git repository in c:/GitRepo/sample2/.git/
skaima5@H7U05CG4422YGL /c/GitRepo/sample2 (master)
$ git remote add origin https://codehub.optum.com/osev3hello/samlers.git
skaima5@H7U05CG4422YGL /c/GitRepo/sample2 (master)
$ git add --all
skaima5@H7U05CG4422YGL /c/GitRepo/sample2 (master)
$ git commit -m 'My Sample RS'
[master (root-commit) b7c0dfe] My Sample RS
Committer: unknown <skaima5@H7U05CG4422YGL.ms.ds.uhc.com>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

    git config --global user.name "Your Name"
    git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

12 files changed, 643 insertions(+)
create mode 100644 pom.xml
create mode 100644 src/main/java/com/sk/HelloWorld.java
create mode 100644 src/main/resources/META-INF/persistence.xml
create mode 100644 src/main/resources/maven/settings.xml
create mode 100644 src/main/webapp/WEB-INF/SampleRS-ds.xml
create mode 100644 src/main/webapp/WEB-INF/beans.xml
create mode 100644 src/main/webapp/WEB-INF/faces-config.xml
create mode 100644 src/main/webapp/WEB-INF/web.xml
create mode 100644 src/test/resources/META-INF/test-persistence.xml
create mode 100644 src/test/resources/arquillian.xml
create mode 100644 src/test/resources/test-ds.xml
skaima5@H7U05CG4422YGL /c/GitRepo/sample2 (master)
$ git push -u origin master
Username for 'https://codehub.optum.com': skaima5
Password for 'https://skaima5@codehub.optum.com':
```


Build & Deploy

The process is shown in four sequential screenshots of the OpenShift Web Console:

- Step 1: Create Project**
The 'Add to Project' page for 'jboss-eap64-openshift'. A text box instructs: "Add a new S2I build to your OSE v3 project. Give the codehub repo path. Remove the user-id from the clone URL." The 'Name' field is 'samplers' and the 'Git Repository URL' is 'https://codehub.optum.com/osev3hello/samplers.git'.
Create **Cancel**
- Step 2: Build Configuration**
The 'Build Configuration' page. A text box instructs: "Set MAVEN_MIRROR_URL for the build to work fine. Set memory settings on container for deployment completion if stuck." The 'MAVEN_MIRROR_URL' environment variable is set to 'http://repo1sandbox.uhc.com/artifactory/repo'.
Deployment Configuration
Autodeploy when:
☒ New image is available
☒ Deployment configuration changes
Environment Variables (Runtime only):

Name	Value
- Step 3: REST API**
The browser shows 'samlers-sk.ose-core.optum.com/rest/xml'. The XML response is:

```
<?xml version='1.0' encoding='UTF-8'>
<result>World</result>
</xml>
```
- Step 4: Overview**
The 'Overview' page for the 'pod' service. It shows the deployment 'SAMPLERS, #1' and the container 'SAMPLERS' with image 'sk/samplers (aa2df79)' and build '#1 from <> My Sample RS (b7c0dfc)'.

Repeat

1. The same steps work for any spring / hibernate / jsf web-app.
2. Try adding a Data Source in your web-app.
3. Try consuming a web-service & build a rest service around it.
4. Here are some useful links
 - [JBoss Tools - Evaluate OpenShift 3 with the IDE](#)
 - [JBoss Tools - Create and Build OpenShift 3 Applications in the IDE](#)
 - [JBoss Tools - Set up and Remotely Monitor an OpenShift Database Server](#)
 - [JBoss Tools - Deploy a Docker Image to OpenShift 3](#)



Optum Global Solutions

Thank you.

Sreejith Kaimal
Sr.Architect
Provider Portal Applications