A Developer Diary
{about:"code learn and share"}

Home   Data Science   Java   JavaScript   jBPM   Tools   Tips   About

November 8, 2015 By Abhisek Jana — 14 Comments (Edit)

Get started with jBPM KIE and Drools Workbench – Part 1

jBPM is the open source solution for workflow engine where complex business process can be defined and executed. Drools is the business rules management system (BRMS) based rules engine. KIE (Knowledge Is Everything) is the new name for Drools, jBPM and related technologies.

Often its challenging and time consuming to get started with the Web version of the Workbench. In this series I will talk about how to setup the KIE Workbench, develop and execute simple business processes using guided and DRL rules, which should save you a lot of time.

In this first part we will create a very basic business flow, then deploy and test it. We will then create more complex process in next part.

So let's get started with jBPM KIE and Drools Workbench.

We will download and install the war file of the KIE workbench in JBOSS Server.

As I am writing this article, the latest version is 6.3, however I am facing a small issue with the wildfly (the new JBOSS) server in my MAC, so I will be using the old JBOSS 7.1.1 server and the 6.2 `kie-wb-distribution-wars-6.2.0.Final-jboss-as7.war` file.

Install JBOSS Server:

Download the JBOSS Server, you can try the latest wildfly9/8 server. I had problem while using Process Model with El Capitan, however it worked fine in Windows 7.

Setup Wildfly9/8 or JBOSS 7.1.1:

The new name for the JBOSS Server is Wildfly9/8. Download it from the below link.

http://wildfly.org/downloads/

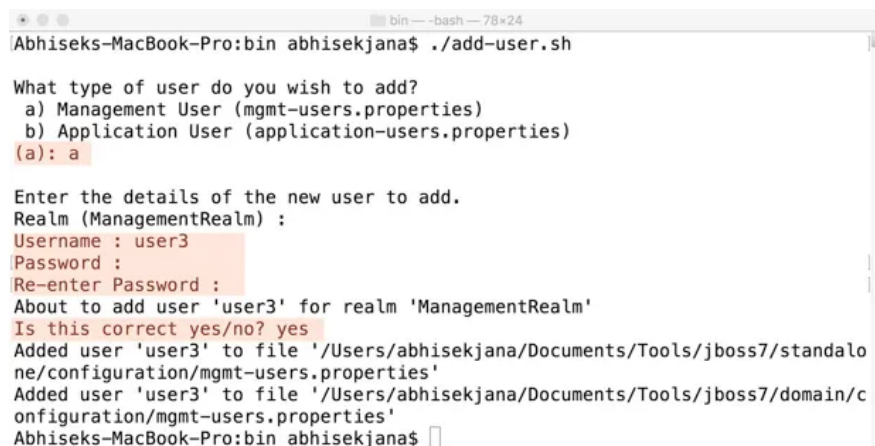Get the JBOSS 7.1.1 from the below URL.

http://jbossas.jboss.org/downloads

Exact URL:

http://download.jboss.org/jbossas/7.1/jboss-as-7.1.1.Final/jboss-as-7.1.1.Final.zip

Extract the zip file. Make sure the path does not have any space in it. Open the `/standalone/configuration` folder and rename the `standalond.xml` to `standalone_old.xml`. Then again rename the `standalone-full.xml` to `standalone.xml`

Now open the `/bin` folder and execute the `add-user.sh` or `add-user.bat`. We need to add two users, one for accessing the admin console of the app server and another for using the KIE Workbench.

At first, lets add the Management User (Option [a]), we will use this id to access the Admin Console. When prompted, enter the user name and password. I have highlighted the data entered by me.

Now add another user, this time enter option b (Application User). When asked, enter role as `admin`.

```
bin — -bash — 79×25
Abhiseks-MacBook-Pro:bin abhisekjana$ ./add-user.sh

What type of user do you wish to add?
 a) Management User (mgmt-users.properties)
 b) Application User (application-users.properties)
(a): b

Enter the details of the new user to add.
Realm (ApplicationRealm) :
Username : user4
Password :
Re-enter Password :
What roles do you want this user to belong to? (Please enter a comma separated
list, or leave blank for none) : admin
About to add user 'user4' for realm 'ApplicationRealm'
Is this correct yes/no? yes
Added user 'user4' to file '/Users/abhisekjana/Documents/Tools/jboss7/standalon
e/configuration/application-users.properties'
Added user 'user4' to file '/Users/abhisekjana/Documents/Tools/jboss7/domain/co
nfiguration/application-users.properties'
Added user 'user4' with roles admin to file '/Users/abhisekjana/Documents/Tools
/jboss7/standalone/configuration/application-roles.properties'
Added user 'user4' with roles admin to file '/Users/abhisekjana/Documents/Tools
/jboss7/domain/configuration/application-roles.properties'
Abhiseks-MacBook-Pro:bin abhisekjana$
```

Now start the `standalone.sh` or `standalone.bat`, your server should be up and running.

Note: In case you are using JBOSS 7.1.1 in MAC and you have JDK version 7 or 8 setup then the server won't start. There is an issue with JBOSS 7.x server with the JDK 7/8. In order to fix this, you need to set the default JDK to 1.6. In windows this is very easy, you can just change the `PATH` variable.

If you already know how to change the default JDK in Mac then skip the following part.

Change the default JDK in Mac:

Add the following in your `.bash_profile` file.

```
jvm() {
 export JAVA_HOME=`/usr/libexec/java_home -v "$1"`
 java -version
}
```

Restart the terminal, then you should be able to change the JDK by the command below.

`jvm 1.6*`

```
abhisekjana — -bash — 80×24
Abhiseks-MacBook-Pro:~ abhisekjana$ open -a atom .bash_profile
Abhiseks-MacBook-Pro:~ abhisekjana$ jvm 1.6*
java version "1.6.0_65"
Java(TM) SE Runtime Environment (build 1.6.0_65-b14-468-11M4833)
Java HotSpot(TM) 64-Bit Server VM (build 20.65-b04-468, mixed mode)
Abhiseks-MacBook-Pro:~ abhisekjana$
```

Access the server by using the following URL:

http://localhost:8080/

Then Click on `Administration Console`, enter the Management User ID (user3 in my case) and related password. You should now see the admin console.

Download the kie-wb-distribution-wars from the below Maven repository. I will be using the 6.2.0. Final version for released in Mar 2015.
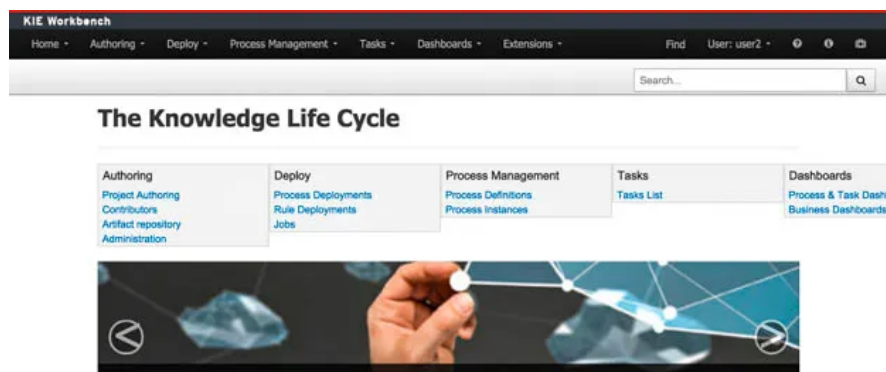
http://repo1.maven.org/maven2/org/kie/kie-wb-distribution-wars/

If you are using Wildfly then download the wildfly8 war, however I have downloaded the `kie-wb-distribution-wars-6.2.0.Final-jboss-as7.war` file.

Now deploy the war file from the admin console. The URL will be the name of the war file.

http://localhost:8080/kie-wb-distribution-wars-6.2.0.Final-jboss-as7/

KIE Workbench Interface:

Login using the Application User ID (user4 in my case) and related password. The landing page should be as below.

The menu on top also have been expanded in the dashboard. Let's talk about few of them.

Authoring -> Project Authoring:

This is the most important functionality. All the business process and rules will be created here.

Authoring -> Administration:

You can create the project repository here.

Deploy -> Process Deployments:

You can find all the deployed processes here.

Process Management -> Process Definitions:

The deployed process definitions will be listed here.

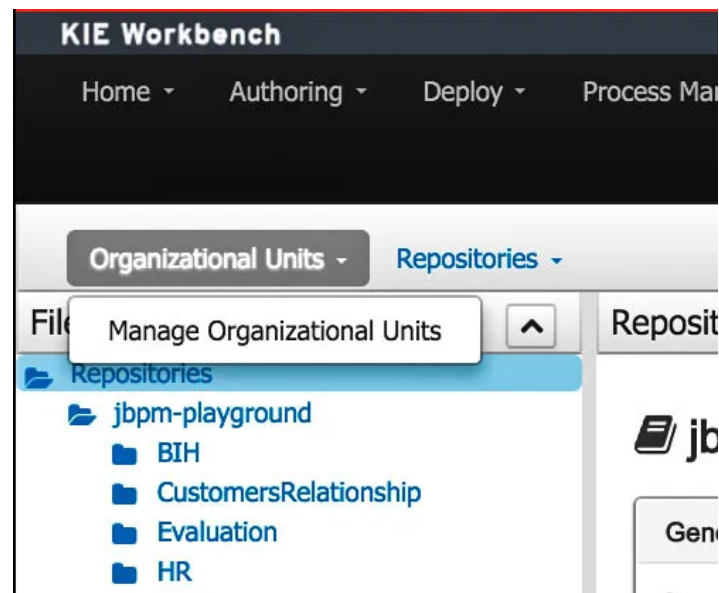## Process Management -> Process Instances:

Each process instances will be listed here.

Tasks -> Tasks List

All the tasks assigned to users will be displayed here.

Create Repository:

Let's start with creating a repository. Go to `Authoring -> Administration`. Click on `Organizational Units->Manage Organizational Units`.

Now click on Add, enter the following details and click on Ok.

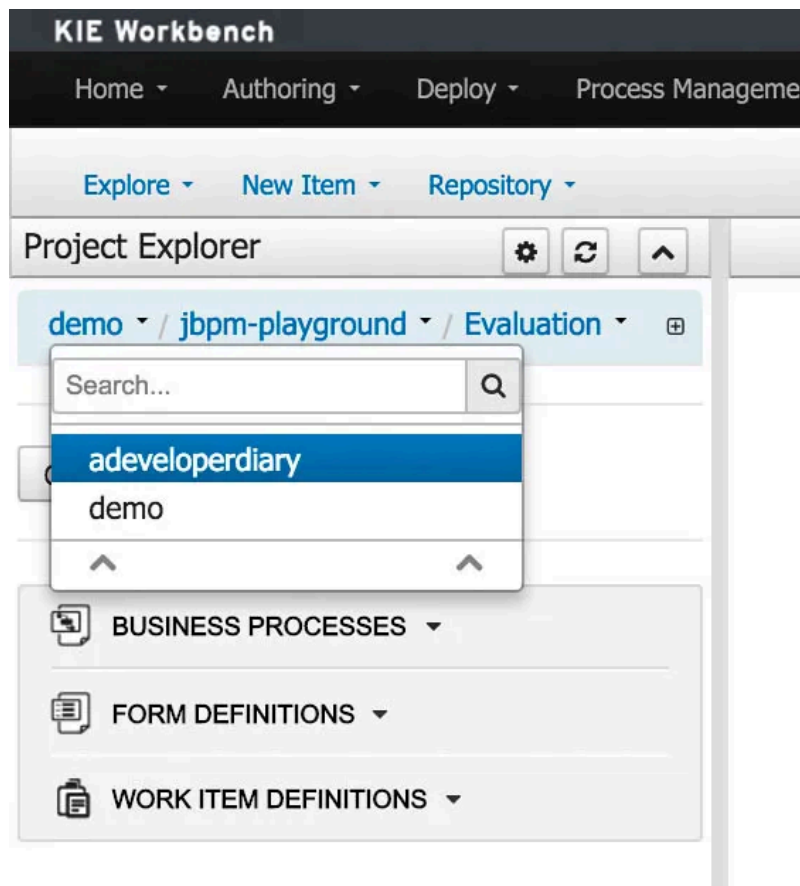## Add New Organizational Unit   ✕

Organizational Unit Information * is required

* Name

adeveloperdiary

* Default group ID

adeveloperdiary   ❓

Owner

Organizational Unit owner...

⊙ Ok   Cancel

Then click on `Repositories -> New Repository`. Now click on `Authoring -> Project Authoring`.Click on demo and select adeveloperdiary from the dropdown.

KIE Workbench

Home ▾   Authoring ▾   Deploy ▾   Process Manageme

Explore ▾   New Item ▾   Repository ▾

Project Explorer   ⚙ ↻ ⌃

demo ▾ / jbpm-playground ▾ / Evaluation ▾   ⊞

Search...   Q

adeveloperdiary

demo

⌃   ⌃

🗎 BUSINESS PROCESSES ▾

🗎 FORM DEFINITIONS ▾

🗎 WORK ITEM DEFINITIONS ▾

Create Business Process:

We will now create a sample business process. Click on `New Item-> Project` . Enter name as `MyProject` , click on `Ok` and then click on `Finish` . Once you create a project the Project Editor will be opened by default. Remember you can deploy a project from the project editor only.

Now click on `New Item->Business Process` , enter Business Process as `sample1` and package as `adeveloperdiary.myproject` . Click on `Ok` .
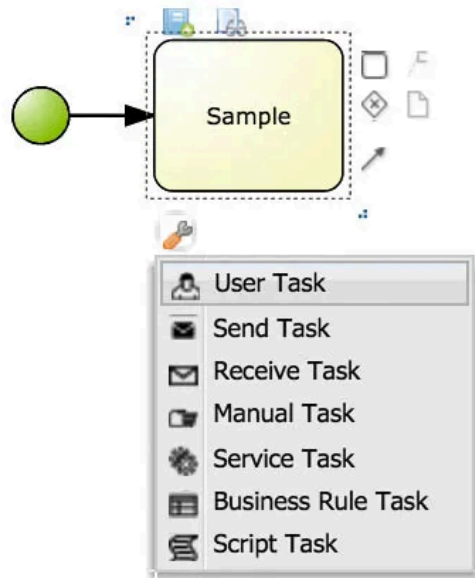

The process modelling tools will be opened at the right side. We will now create a sample process and test it.

Select the green circle, then you should see the options displayed there.

Click on the square rectangle, that should create a task. Double click on it, then enter `Sample` as the name. Select the task and you should see an option icon below it. Click on it and select `User Task` . There are different type of task type you can select from the list, we will learn bit more about them later.

Now select the Sample task again and once you move your mouse to the right side icons you can see a circle. Click on it. That should create a red circle, which will indicate end of our process flow.

Now Click on the save icon from the toolbar and click on save.

We need to assign the Sample task to one user since task type is User Task. Click on the Sample Task again and click on the small arrow at the right side, this bring up the property window.

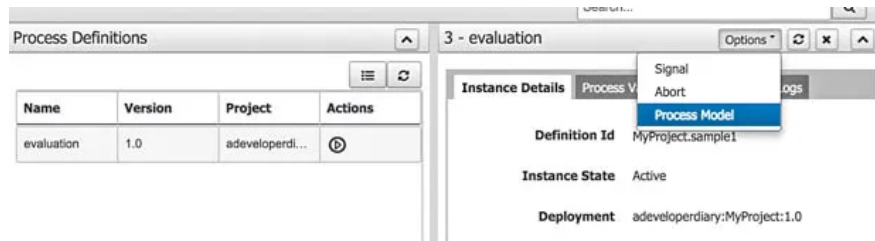Enter user4 in the `Actors`, also `Sample Task` as the `Task Name`. Click on save.

Our task does not do anything, however let's execute it.

Click on `Open Project Editor` button at the left then click on `Build->Build & Deploy` .
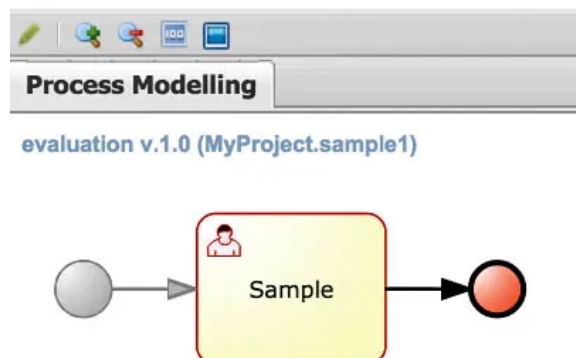
Execute and Test:

Click on `Process Management-> Process Definitions` . Click on the the start icon in `Action` column. Click on Submit from the popup. We didn't set a name for the process, so the default name evaluation will be displayed. Click on Submit.

Now click on `Process Management-> Process Instances` , click on the instance and the right panel should display the details about the Process Instance. Click on `Options -> Process Model` .

This is a very important functionality, you can how our business process is getting executed here. The process has been started, it's waiting on our user task. Let's complete that.

Click on `Tasks-> Tasks List` , you should see the Sample task is waiting for the user4 to complete. Click on the task and the right panel should open. Click on Start, there is nothing much to do here, so click on Complete. Now Go back to Process Instance and you can find the process in Completed Tab since it has already been completed. Click on it and verify the Process Model, you can see all the steps have been grayed our since we have completed our process.

We need to un-deploy the process to make change and deploy again. Click on `Deploy-> Process Deployments` and click on the `un-deploy` icon from the Action column. Note, if you have any instance running them you need to stop that before you can un-deploy any process.

We went through all the steps here, from creating a business process to deploy and test it. In the next part we will learn how to create more complex process and define rules for each task.
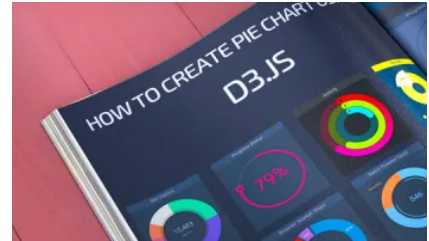

Related

[Get started with jBPM KIE and Drools Workbench – Part 2](#)
In "jBPM"

[Get started with jBPM KIE and Drools Workbench – Part 3](#)
In "jBPM"

[Create Pie Charts using D3.js](#)
In "D3.js"

Filed Under: [jBPM](#)   Tagged With: [BPM](#), [Business Process](#), [Drools](#), [JBOSS](#), [jBPM](#), [KIE](#), [KIE Workbench](#)

Subscribe to stay in loop

* indicates required

Email Address *

[   ]

[Subscribe   ]

Comments

Philippe Raynal says
November 25, 2015 at 2:29 am

(Edit)

Hello A Developer Diary,

I used the last version 6.3 build in http://repo1.maven.org/maven2/org/kie/kie-wb-distribution-wars/ but this version doesn't contains JBPM features like Dashboard and Process management functions !!!!

Except these problems, my first concern about KIE workbench with or without JBPM is how to execute a sample, except a test plan to validate, we haven't some complete help to process a complete cycle, except with eclipse, but in this case the knowledge of maven is required.

However, drools.org said kie is appropriate for a business analyst ….. I'm one and I used some engine rules in the past, but I'm not sure this is for me, not about these possibilities … but too stuck to java, no sufficient abstraction layer focus on essentials.

Best regards

Phil

Reply

chris says
June 8, 2016 at 1:01 pm

(Edit)

Hi A Developer Diary,
I am on 6.3 build and when tried the following step:

Now click on Process Management-> Process Instances, click on the instance and the right panel should display the details about the Process Instance. Click on Options -> Process Model.

pop window with message of 'jBPM Web Designer loading, please wait…' never mind.
Wonder if you could shed any light? Thanks.

Chris

Reply

A Developer Diary says
June 10, 2016 at 3:56 am

(Edit)

Hi Chris,
Could you please refer the server console log and look for errors? Sometime this may happen due to permission issue if you are in unix env. I had faced similar error.

Reply

shivam says
May 3, 2017 at 1:49 am

(Edit)

Hi,

I want to check server logs. Where to find these log file or Can I setup my own database on my own server. Currently i'm using Docker instance and whenever I kill the container instance, all of the data

vanished. How to persist the data on my own database or server?

Reply

Janice says

July 22, 2016 at 6:29 pm

(Edit)

Hi A Developer Diary,

I am having the same issue as Chris, and below is the snippet of the server log. I am on Windows environment. Do you happen have an idea what might be missing? Thanks.

2016-07-22 15:13:44,011 INFO [org.guvnor.common.services.builder.ResourceChangeIncrementalBuilder] (Thread-196) – Batch content:
default://master@jwadeveloperdiary2/MyProject2/src/main/resources/adeveloperdiary2/myproject2/WorkDefinitions.wid (ADD).
2016-07-22 15:13:44,167 INFO [org.jbpm.designer.web.server.DictionaryServlet] (default task-11) Unable to find existing dictionary information.
2016-07-22 15:13:44,302 INFO [org.guvnor.common.services.builder.ResourceChangeIncrementalBuilder] (EJB default – 3) Batch incremental build request being processed.
2016-07-22 15:15:36,489 WARN [org.jbpm.designer.bpmn2.impl.Bpmn2JsonUnmarshaller] (default task-58) index=0, size=0
2016-07-22 15:15:36,626 INFO [org.guvnor.common.services.builder.ResourceChangeIncrementalBuilder] (Thread-196) Incremental build request received for:
default://master@jwadeveloperdiary2/MyProject2/src/main/resources/adeveloperdiary2/myproject2/sample2.bpmn2 (updated).
2016-07-22 15:15:36,866 INFO [org.guvnor.common.services.builder.ResourceChangeIncrementalBuilder] (EJB default – 7) Incremental build request being processed:
default://master@jwadeveloperdiary2/MyProject2/src/main/resources/adeveloperdiary2/myproject2/sample2.bpmn2 (updated).
2016-07-22 15:15:36,984 ERROR [org.drools.core.xml.ExtensibleXmlParser] (EJB default – 7) (null: 28, 31): cvc-complex-type.2.4.b: The content of element 'bpmn2:ioSpecification' is not complete. One of '{"http://www.omg.org/spec/BPMN/20100524/MODEL":inputSet, "http://www.omg.org/spec/BPMN/20100524/MODEL":outputSet}' is expected.
2016-07-22 15:15:36,996 INFO [org.drools.compiler.kie.builder.impl.KieRepositoryImpl] (EJB default – 7) KieModule was added: MemoryKieModule[releaseId=adeveloperdiary2:MyProject2:1.0]
2016-07-22 15:17:02,888 WARN [org.jbpm.designer.bpmn2.impl.Bpmn2JsonUnmarshaller] (default task-5) index=0, size=0
2016-07-22 15:17:03,037 INFO [org.guvnor.common.services.builder.ResourceChangeIncrementalBuilder] (Thread-196) Incremental build request received for:
default://master@jwadeveloperdiary2/MyProject2/src/main/resources/adeveloperdiary2/myproject2/sample2.bpmn2 (updated).
2016-07-22 15:17:03,245 INFO [org.guvnor.common.services.builder.ResourceChangeIncrementalBuilder] (EJB

default – 6) Incremental build request being processed:
default://master@jwadeveloperdiary2/MyProject2/src/main/resources/adeveloperdiary2/myproject2/sample2.bpmn2
(updated).

2016-07-22 15:17:03,383 INFO [org.drools.compiler.kie.builder.impl.KieRepositoryImpl] (EJB default – 6) KieModule
was added: MemoryKieModule[releaseId=adeveloperdiary2:MyProject2:1.0]

2016-07-22 15:18:07,142 INFO [org.drools.compiler.kie.builder.impl.KieRepositoryImpl] (default task-15) KieModule
was added: MemoryKieModule[releaseId=adeveloperdiary2:MyProject2:1.0]

2016-07-22 15:18:07,226 INFO [org.kie.scanner.embedder.MavenEmbedderUtils] (default task-15) Not in OSGi:
using plexus based maven parser

2016-07-22 15:18:07,287 INFO [org.jbpm.console.ng.bd.backend.server.DeploymentManagerEntryPointImpl]
(default task-15) Deploying unit adeveloperdiary2:MyProject2:1.0

2016-07-22 15:18:07,389 INFO [org.jbpm.kie.services.impl.store.DeploymentSynchronizer] (default task-15)
Deployment unit adeveloperdiary2:MyProject2:1.0 stored successfully

2016-07-22 15:19:16,708 INFO [org.jbpm.designer.server.EditorHandler] (default task-60) Performing diagram
information pre-processing steps.

2016-07-22 15:19:16,711 INFO [org.jbpm.designer.web.preprocessing.impl.JbpmPreprocessingUnit] (default task-
60) Performing preprocessing steps in readonly mode.

2016-07-22 15:19:16,806 INFO [org.jbpm.designer.web.preprocessing.impl.JbpmPreprocessingUnit] (default task-
60) Successfully deleted file: C:\Users\Program\jbpm-installer-6.3.0\wildfly-
8.1.0.Final\standalone\tmp\vfs\temp\temp35ae6535154d5f9d\jbpm-console.war-
1f41aaefbdbe92e2\org.kie.workbench.KIEWebapp\stencilsets/bpmn2.0jbpm/bpmn2.0jbpm.json

2016-07-22 15:19:16,816 ERROR [stderr] (default task-60) context [anonymous] 6597:12 attribute includedo isn't
defined

2016-07-22 15:19:16,822 INFO [org.jbpm.designer.web.preprocessing.impl.JbpmPreprocessingUnit] (default task-
60) Created file: C:\Users\Program\jbpm-installer-6.3.0\wildfly-
8.1.0.Final\standalone\tmp\vfs\temp\temp35ae6535154d5f9d\jbpm-console.war-
1f41aaefbdbe92e2\org.kie.workbench.KIEWebapp\stencilsets/bpmn2.0jbpm/bpmn2.0jbpm.json

2016-07-22 15:19:16,829 INFO [org.jbpm.designer.web.preprocessing.impl.JbpmPreprocessingUnit] (default task-
60) Created file: C:\Users\Program\jbpm-installer-6.3.0\wildfly-
8.1.0.Final\standalone\tmp\vfs\temp\temp35ae6535154d5f9d\jbpm-console.war-
1f41aaefbdbe92e2\org.kie.workbench.KIEWebapp\stencilsets/bpmn2.0jbpm/view/activity/workitems/ReadOnlyService.svg

Reply

> joao says
> September 26, 2016 at 7:33 am
>
> (Edit)
>
> HI Have you fix the issue?
> If yes ca you please tell me how?
>
> Thanks
>
> Reply

sangeetha says
August 25, 2016 at 1:16 pm

(Edit)

Hi A Developer Diary,
I am trying to get kie workbench working in cloud(cloudfoundry). I tried working with docker, I am able launch workbench in local maching using docker, but due to lack of support for docker in my cloud env, I tried to push the war file. kie-wb-distribution-wars-6.3.0.Final-wildfly8.war.
Now, my drools workbench is running in cloud foundry, I am not sure how to launch it.
Need some guidance here how to get the login page.

Reply

hongxin says
November 24, 2016 at 9:02 am

(Edit)

Hi A Developer Diary,
i follow your document, and i can run the Administration Console ok. (because my local port 8080 is used , so it listen 9990 instead). Then i deploy the kie-wb-distribution-wars-6.2.0.Final-jboss-as7 through the administration console and the Deployment is enable , but when i open the url 'http://localhost:8080/kie-wb-distribution-wars-6.2.0.Final-jboss-as7/' , the browser only display "Generated by XFire (http://xfire.codehaus.org)". Then i find the windows-console(i user win7 os) tip :"unable to find class 'org.kie.api.executor.Command'". I want to login KIE Workbench, what can i do ? thank you ^_^

Reply

Josh says
January 4, 2017 at 6:12 am

(Edit)

I followed this tutorial on Windows 7 using the resources you specified and it worked fine and provided me with a really good overview of Drools.

It was very helpful. Thanks for writing it!

Reply

Christy Fernandes says
February 10, 2017 at 8:55 am

(Edit)

Hi There,

First of all i'd like to thank your for the great descriptive post.

I'm stuck at one point.

i have completed the below mentioned stage

"Now click on Process Management-> Process Instances, click on the instance and the right panel should display the details about the Process Instance. Click on Options -> Process Model"

i did get the pop up, the process model (the flow we designed). However what do we do next.

You have mentioned to go to task page and execute the task, but i have to close the process model block to access the task list. Once i close the process model popup, the task list is empty.

Can you please help me out here

Reply

David Coats says
April 19, 2017 at 10:04 am

(Edit)

I have gotten stuck on the step:
"Now click on Process Management-> Process Instances, click on the instance and the right panel should display the details about the Process Instance. Click on Options -> Process Model"
When I click on Process Model, it just gets hung on the popup window "Process Model" and it just says "jBPM Web Designer loading. Please wait…."
I've left it for at least 3 hrs and it never loads.
Any ideas what may be happening?

Reply

Amruta says
May 9, 2017 at 11:22 am

(Edit)

Hello,

I tried above given steps am facing some problem like in process definitions menu am unable to see my process which is created. my os is windows 10.

Reply

Ambarish Pande says
August 9, 2017 at 7:27 am

(Edit)

Have you tried deploying kie workbench on JETTY? Preferable embedded jetty?

Reply

Anu says
August 17, 2017 at 1:48 am

(Edit)

Really a very good and simple example to setup a business process in KIE Workbench… Keep posting these kinds of examples

Reply

Leave a Reply

Logged in as Abhisek Jana. Edit your profile. Log out? Required fields are marked *

Comment *

Post Comment

This site uses Akismet to reduce spam. Learn how your comment data is processed.