

OpenShift Primer

Cloud development has never been easier

Eric D. Schabell
JBoss technology evangelist

First things first, sign up!

<http://openshift.redhat.com>

Create an account

Email address

erics@redhat.com

Password

.....

Password confirmation

.....

[Have a promo code to enter?](#)

Are you a spam bot?

333639561313

33363956

[Get Another](#)

[Get an audio CAPTCHA](#)

[Help](#)

reCAPTCHA provided by Google - help fight spam and fix books!

By signing up you agree to the [Terms of Service](#) and the [Privacy Policy](#)

SIGN UP

Already have an account? [Sign in](#)

You'll love OpenShift because it has:

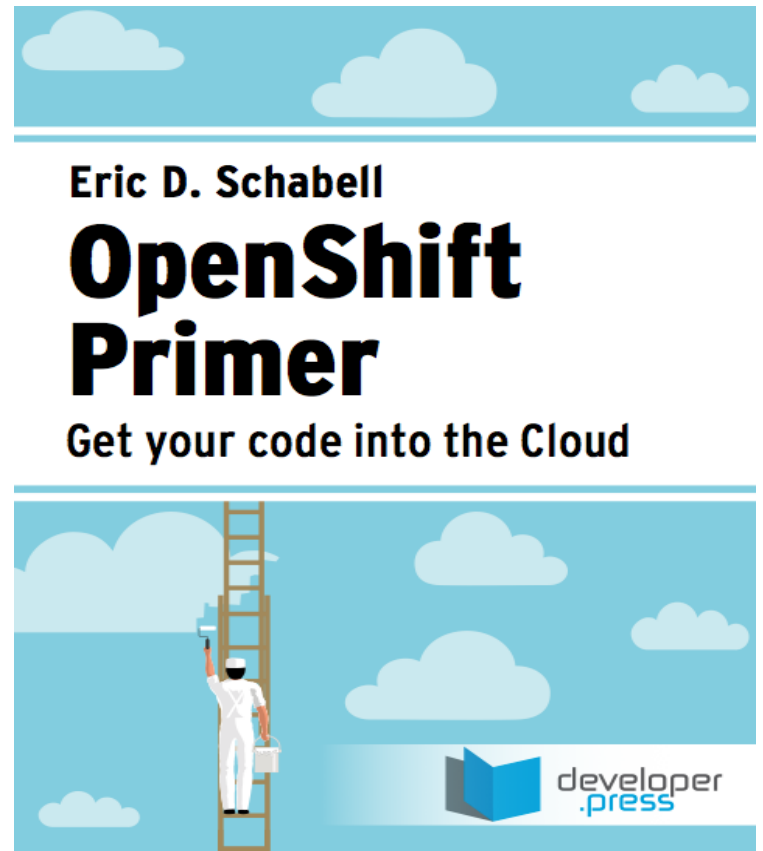
- Built-in support for Java, Node.js, Ruby, Python, PHP, Perl and extensible functionality to add other languages.
- Powerful command line client tools and a web management console to launch and manage your applications
- Pre-created quickstarts to instantaneously boot your favorite application framework
- A vibrant community forum watched around the clock by an army of developers, evangelists, and OpenShift devotees.
- A wide range of developer resources, including technology specific get started pages, how-to blog posts and videos.

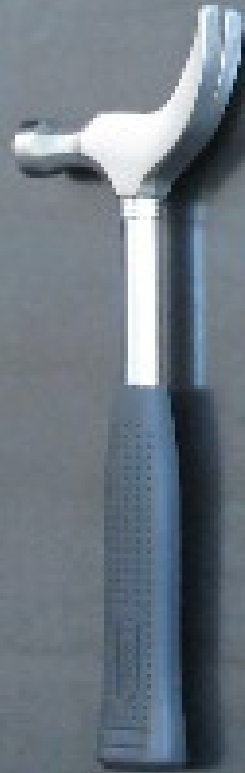
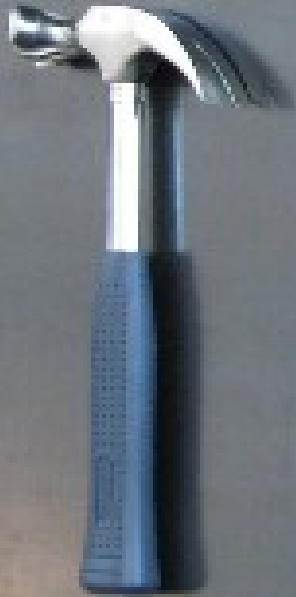
OpenShift, a little history

- Nov 2010 – Makara acquired
- In 2011 – merged into OpenShift project
- May 2012 – Open Sourced
 - GitHub, blogs, howto's, quickstarts, webinars
- June 2012 – OpenShift State of the Union
- Dec 2012 – OpenShift Primer (e-book)
- June 2013 – Online Public PaaS / Enterprise Private PaaS
- Sep 2013 – JBoss xPaaS Services for OpenShift

An OpenShift Primer

- Amazon
- Barnes&Nobel
- iTunes
- Developerpresss.com

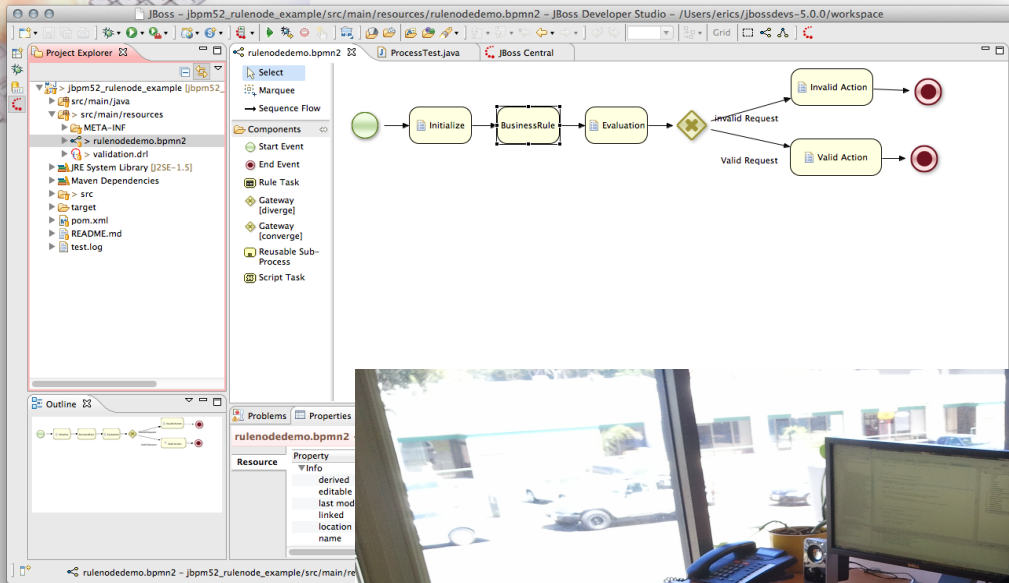




© 2011/12 van der Grinten, Sijpe



Never look back...



*Why am i DORKING
with the stack?!*



Quickstart

1. Sign Up
2. Install Client Tools
3. Create Domain
4. Create Application
5. Deploy Application (GIT)

Sign up, it's free!

- <http://openshift.redhat.com>
- Example projects you can deploy now
 - <https://www.github.com/openshift>
- Help?
 - IRC: freenode #openshift
 - Forums
 - Email: openshift@redhat.com

Create an account

Email address

Password

Password confirmation

[Have a promo code to enter?](#)

Are you a spam bot?

[Get Another](#) [Get an audio CAPTCHA](#) [Help](#)

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Install Client Tools

- Fedora / RHEL
 - openshift.repo
 - /etc/yum.repos.d

```
$ sudo yum install rubygem-rhc
```

- The rest:
 - gem install rhc (json_pure)
 - see forums, blogs

```
13:22:38 erics@jbpmigration $ sudo gem install rhc
Password:
=====
If this is your first time installing the RHC tools, please run 'rhc setup'
=====
Successfully installed rhc-1.14.7
1 gem installed
Installing ri documentation for rhc-1.14.7...
Installing RDoc documentation for rhc-1.14.7...
```

Create Domain

- Use rhc command
 - \$ rhc domain create -n mydomain
- Use admin console!

Change your Namespace

Warning Changing your namespace will alter the public URLs of your applications. If you change your namespace you will need to update any bookmarks or external links to your applications.

http://applicationname- .rhcloud.com

Cancel

Save

All Applications

Designer @ <http://designer-inthe.rhcloud.com/> >

Judcon @ <http://judcon-inthe.rhcloud.com/> >

Droolsplanner @ <http://droolsplanner-inthe.rhcloud.com/> >

Jbpm migration @ <http://jbpm migration-inthe.rhcloud.com/> >

Bam @ <http://bam-inthe.rhcloud.com/> >

Editor @ <http://editor-inthe.rhcloud.com/> >

OPENSIFT HELP

[Developer Center](#)

[OpenShift User Guide](#)

[Installing OpenShift client tools on Mac OSX, Linux, and Windows](#)

[Sync your OpenShift repo with an existing Git repo](#)

[More help »](#)

POPULAR FAQs

[How do I start a new Forum discussion?](#)

[How do I install the rhc client tools on Windows?](#)

[More FAQs »](#)

ADD APPLICATION

<-- Create your application

UPDATES

Latest News

Check out what's happening in OpenShift

NEED HELP?

Find Answers Online

The help page brings together all our resources

PARTICIPATE

Check out the forum

Our community is what makes OpenShift strong

Instant Applications

1 Choose a type of application

2 Configure and deploy the application

3 Next steps

Choose a web programming cartridge or kick the tires with a quickstart. After you create the application you can add **cartridges** to enable additional capabilities like databases, metrics, and continuous build support with Jenkins.

Search by keyword or tag

Browse by tag...



Cartridge

A managed runtime that receives security updates and upgrades automatically.



QuickStart

An quick way to try out a new technology with code and libraries preconfigured. You are responsible for updating core libraries for security updates.

Tagged with instant_app (show all)

Jenkins Server

Jenkins is a continuous integration (CI) build server that is deeply integrated into OpenShift. See the Jenkins info page for more. Based on Jenkins 1.509+

<http://www.jenkins-ci.org>

OpenShift maintained

CI INSTANT APP

AppStar

Building your own mobile web application from scratch.

[Learn more](#)

Community created / Does not receive automatic security updates

HTML5 INSTANT APP JAVASCRIPT PHP

Drupal 7

AeroGear Push 0.X

The AeroGear UnifiedPush Server allows for sending native push messages to different mobile operation systems. This initial community version of the server supports Apple's Push Notification Service (APNs), Google Cloud Messaging (GCM) and Mozilla's SimplePush.

It has a built in administrative console that makes it easy for developers of any type to create and manage push related aspects of their applications.

[Learn more](#)

OpenShift maintained / Does not receive automatic security updates

NEW INSTANT APP JAVA MESSAGING NOT SCALABLE

DokuWiki

DokuWiki is a simple to use and highly versatile Open Source wiki software that doesn't require a database. It is loved by users for its clean and readable syntax. The ease of maintenance, backup and integration makes it an administrator's favorite. Built in access controls and authentication connectors make DokuWiki especially useful in the enterprise context and the large number of plugins contributed by its vibrant community allow for a

CREATE AN APPLICATION

1 Choose a type of application**2** Configure and deploy the application**3** Next steps

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**Cartridge**

A managed runtime that receives security updates and upgrades automatically.

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Featured**JBoss Enterprise Application****Platform 6.1.0** \$

Market-leading open source enterprise platform for next-generation, highly transactional enterprise Java applications. Build and deploy enterprise Java in the cloud.

<http://www.redhat.com/products/jbossenterprise-middleware/application-platform/>

OpenShift maintained

JAVA JBOSS JEE FULL PROFILE

Zend Server 5.6

A PHP server by Zend for applications that require performance, reliability and security. Zend Server combined with Zend Studio offers code optimization, debugging, and code assist.

<http://www.zend.com>

OpenShift maintained

PHP

AeroGear Push 0.X

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[Learn more](#)

OpenShift maintained / Does not receive automatic security updates

NEW INSTANT APP JAVA MESSAGING NOT SCALABLE

1 Choose a type of application**2** Configure and deploy the application**3** Next steps

Based On

JBoss Enterprise Application Platform 6.1.0 Cartridge  

Market-leading open source enterprise platform for next-generation, highly transactional enterprise Java applications. Build and deploy enterprise Java in the cloud.

<http://www.redhat.com/products/jbossenterprise middleware/application-platform/>

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[JAVA](#) [JBoss](#) [JEE Full Profile](#)

Public URL

OpenShift will automatically register this domain name for your application. You can add your own domain name later.

Source Code **Default** [Change](#)

We'll create a Git code repository in the cloud, and populate it with a set of reasonable defaults.

Gears **Small** [Change](#)

Gears are the application containers running your code. For most applications, the 'small' gear size provides plenty of resources. If you require more resources, select a larger gear size here.

Cartridges **JBoss Enterprise Application Platform 6.1.0**

Applications are composed of cartridges - each of which exposes a service or capability to your code. All applications must have a web cartridge.

Scaling **No scaling** [Change](#)

OpenShift automatically routes web requests to your web gear. If you allow your application to scale, we'll set up a load balancer and allocate more gears to handle traffic as you need it.

JBoss Enterprise Application Platform 6.1.0 is based on a premium cartridge.

It costs an additional **\$0.03** per gear hour after the first **3** gears.

[Back](#)[Create Application](#)

- 1 Choose a type of application
- 2 Configure and deploy the application
- 3 **Next steps**

Artifacts deployed: ./ROOT.war

Your application has been created. If you're new to OpenShift check out these tips for where to go next.

Accessing your application

Your application has one or more cartridges that expose a public URL. Click the link below to see your application:

<http://goto-inthe.rhcloud.com/>

The [application overview page](#) provides a summary of your application and its cartridges.

Making code changes

OpenShift uses the [Git version control system](#) to manage the code of your application. Each cartridge has a single [Git repository](#) that you'll use to check in changes to your application. When you **push** a change to your Git repository we'll automatically deploy your code and restart your application if necessary.

Install the Git client for your operating system, and from your command line run

```
git clone ssh://5242d855500446e83f0000d6@goto-  
inthe.rhcloud.com/~/.git/goto.git/  
cd goto/
```

This will create a folder with the source code of your application. After making a change, **add**, **commit**, and **push** your changes.

```
git add .  
git commit -m 'My changes'  
git push
```

When you push changes the OpenShift server will report back its status on deploying your code. The server will run any of your configured [deploy hooks](#) and then restart the application.

Adding capabilities

Cartridges are the components of an OpenShift application, and include databases, build systems, and management capabilities. [Adding a cartridge](#) such as [MySQL](#) or [MongoDB](#) to an application provides the desired capability without forcing you to administrate or update that feature.

[Add a cartridge to your application now](#)

Managing your application

RHC Client Tools

Most of the capabilities of OpenShift are exposed through our command line tool, [rhc](#). Whether it's adding cartridges, checking uptime, or pulling log files from the server, you can quickly put a finger on the pulse of your application. [Follow these steps to install the client](#) on Linux, Mac OS X, or Windows.

After installing the command line tool read more [on how to manage your application from the command line](#) in our User Guide.

JBoss Developer Studio

The JBoss Developer Studio is a full featured IDE with OpenShift integration built in. It gives you the ability to create, edit and deploy applications without having to leave the IDE. Links to download, install and use the JBoss Developer Studio for Linux, Mac OS X, or Windows can be found on the [JBoss Developer Studio tools page](#).

Application Details

MY APPLICATIONS / GOTO

Goto @ <http://goto-inthe.rhcloud.com/>

GEARS
1 TOTAL



Cartridges

ADD CARTRIDGE



JBoss Enterprise Application Platform 6.1.0

STATUS	GEARS	STORAGE
STARTED	1 SMALL	1 GB

GIT REPOSITORY

`ssh://5242d855500446e83f0000d6@goto-inthe.rhcloud.com/~/.git/goto.git/`

WANT TO LOG IN TO YOUR APPLICATION?

Enable Jenkins builds

ALIASES

ADD ALIAS



No aliases set. [Set one now](#)

NEW TO OPENSHIFT?

[See the getting started tips for this app](#) →

NEED HELP?

[OpenShift User Guide](#)

[Sync your OpenShift repo with an existing Git repo](#)

Delete this application

ADD CARTRIDGE

Other Options

- Name app and define type
\$ rhc app create -t apptype appname

(Node.js, DIY, Jenkins, PHP, Ruby, Python, Perl and most important, Java!)

- Add application to local repo

\$ git add .

- Commit changes

\$ git commit -m "Initial app import."

New OpenShift Application

Setup OpenShift Application
Select an existing or create a new OpenShift Application.

Use existing application: designer

New application

Name: *

Type: jbossas-7

Gear profile: small Enable scaling

Embeddable Cartridges

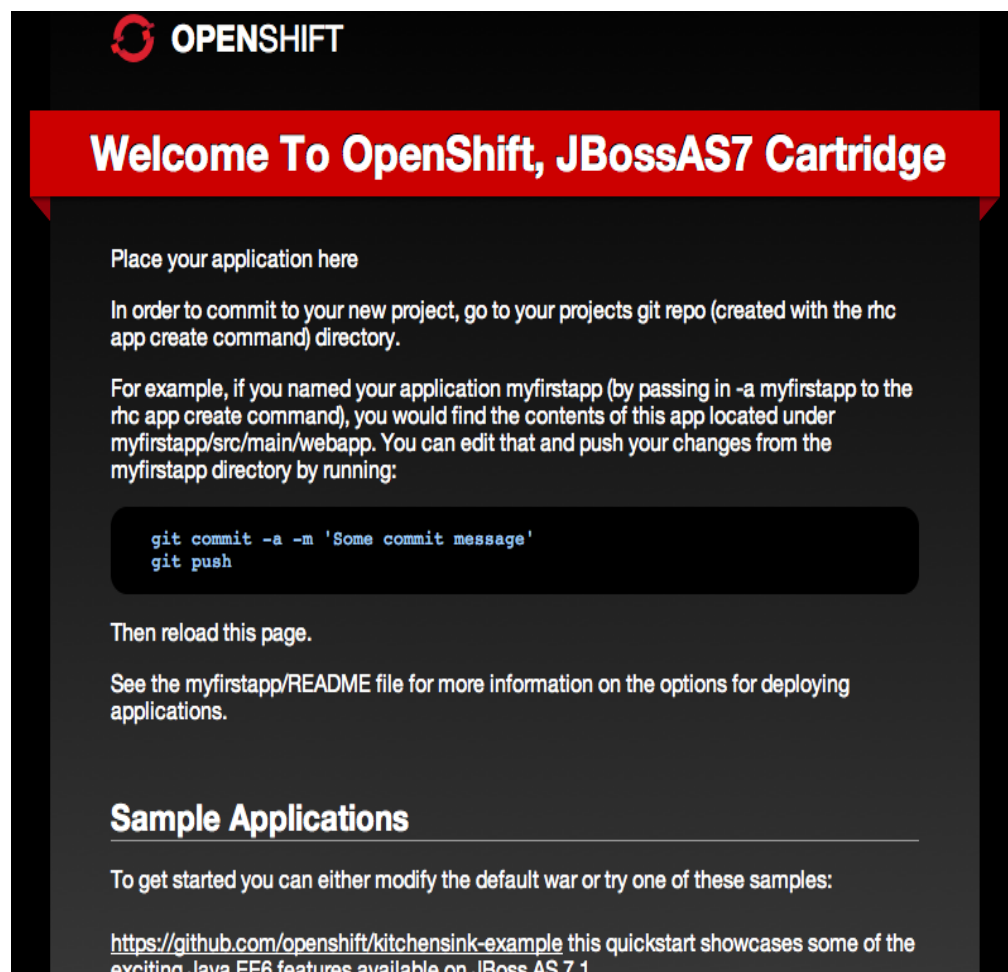
<input type="checkbox"/> 10gen-mms-agent-0.1	<input type="button" value="Select All"/> <input type="button" value="Deselect All"/>
<input type="checkbox"/> cron-1.4	
<input type="checkbox"/> haproxy-1.4	
<input type="checkbox"/> jenkins-client-1.4	
<input type="checkbox"/> metrics-0.1	
<input type="checkbox"/> mongodb-2.2	
<input type="checkbox"/> mysql-5.1	
<input type="checkbox"/> phpmyadmin-3.4	
<input type="checkbox"/> postgresql-8.4	
<input type="checkbox"/> rockmongo-1.1	
<input type="checkbox"/> switchyard-0.6	

Deploy to Cloud

- Push the code

```
$ git push
```

- Congratulations,
your app is in
the cloud!



OPENSIFT

Welcome To OpenShift, JBossAS7 Cartridge

Place your application here

In order to commit to your new project, go to your projects git repo (created with the `rhc app create` command) directory.

For example, if you named your application `myfirstapp` (by passing in `-a myfirstapp` to the `rhc app create` command), you would find the contents of this app located under `myfirstapp/src/main/webapp`. You can edit that and push your changes from the `myfirstapp` directory by running:

```
git commit -a -m 'Some commit message'
git push
```

Then reload this page.

See the `myfirstapp/README` file for more information on the options for deploying applications.

Sample Applications

To get started you can either modify the default war or try one of these samples:

<https://github.com/openshift/kitchensink-example> this quickstart showcases some of the exciting Java EE6 features available on JBoss AS 7.1



EASY PEASY

Gears



500MB memory + 1GB storage

JBoss Developer Studio

The screenshot shows the JBoss Developer Studio interface. At the top, there are tabs for 'Problems', 'Properties', 'Servers', 'Progress', and 'OpenShift Explorer'. Below these, a server console shows a list of projects under the 'eschabell' user on 'https://openshift.redhat.com (default)'. The projects listed are: bam jbossas-7, designer jbossas-7, droolsplanner jbosseap-6.0, editor jbossas-7, jbpmmigration jbossas-7, judcon jbossas-7, and portal jbossas-7.

Below the server console, there is a 'Comprehensive Tutorial' section with a small image of a person's face.

At the bottom of the main interface, there is a 'JBoss Buzz' section with a list of recent news items, including 'This week in JBoss (30 May): Catching up 5 days ago by Eric D. Schabell' and 'Eclipse Day Florence 6 days ago'.

The screenshot shows a 'Select a wizard' dialog box titled 'New'. The main heading is 'Create a new OpenShift Application'. Below this, there is a list of 'Wizards' with a search filter 'type filter text'. The list includes: JBoss Tools Web, jBPM, JPA, Maven, OpenShift (highlighted in red), Plug-in Development, Remote System Explorer, SAR / MBean Components, Savara, Seam, and Server. At the bottom of the dialog, there are buttons for '< Back', 'Next >', 'Cancel', and 'Finish'.

- Other resources
- [JBoss developer website](#)
 - [User Forum](#)
 - [Developer Forum](#)
 - [Product documentation](#)
 - [Videos](#)

GOTO 2013 Mobile App Demo

```
$ rhc app create -t jbosseap-6 goto
```

```
$ cd goto
```

```
$ git remote add upstream -m master  
git://github.com/eschabell/openshift-goto.git
```

```
$ git pull -s recursive -X theirs upstream master
```

```
$ git push
```

[http://goto-\\$your_domain.rhcloud.com](http://goto-$your_domain.rhcloud.com)



jBPM Migration Project Demo

```
$ rhc app create -t jbossas-7 --from-code  
git://github.com/eschabell/openshift-jbpmmigration.git  
jbpmmigration
```

[http://jbpmmigration-\\$your_domain.rhcloud.com/jbpmmigration_upload-0.4](http://jbpmmigration-$your_domain.rhcloud.com/jbpmmigration_upload-0.4)



Host Awestruct Presentations

```
$ rhc app create -t ruby-1.9 --from-code  
git://github.com/eschabell/openshift-presos-  
awestruct.git presos
```

[http://presos-\\$your_domain.rhcloud.com](http://presos-$your_domain.rhcloud.com)

Presentations

- JUDCon 2013 Boston
- June 2013 - Eric Live in Chicago
- Webinar July 2013 - Are you ready to rumble with JBoss Integration & BPM
- GOTO Aarhus 2013 - OpenShift Primer

Eric D. Schabell
Jboss Technology Evangelist (Integration & BPM)
[@ericSchabell](https://twitter.com/ericSchabell)



Drools (Opta) Planner Demo

```
$ rhc app create -t jbosseap-6.0 --from-code  
git://github.com/eschabell/openshift-droolsplanner.git  
droolsplanner
```

[http://droolsplanner-\\$your_domain.rhcloud.com/droolsplanner](http://droolsplanner-$your_domain.rhcloud.com/droolsplanner)

OptaPlanner 

Business Activity Monitoring

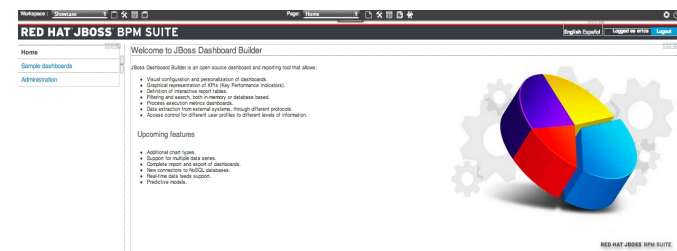
```
$ rhc app create -t jbossas-7 --from-code  
git://github.com/eschabell/openshift-bpm-bam-  
dashboard.git bam
```

Setup user login:

```
$ rhc app show bam
```

```
$ scp bampreview/.openshift/config/bam-*.properties  
xxxxxxxxxx@bam-  
inthe.rhcloud.com:~/jbossas/standalone/configuration/
```

```
http://bam-$your_domain.rhcloud.com (u:erics / p:erics)
```



JBoss BPM v6 Designer Demo

```
$ rhc app create -t jbossas-7 --from-code  
git://github.com/eschabell/openshift-bpm-process-  
designer.git designer
```

[http://designer-\\$your_domain.rhcloud.com](http://designer-$your_domain.rhcloud.com) (follow link)

[http://editor-\\$your_domain.rhcloud.com/designer](http://editor-$your_domain.rhcloud.com/designer) (u:erics / p:erics)

The screenshot displays the JBoss BPM v6 Designer web application. The browser address bar shows the URL: `designer-inthe.rhcloud.com/designer/org.jboss.designer.jBPMDesigner/_security_check#git://master@bpm-playground/processes/HR/hiring.bpmn2`. The interface includes a Project Explorer on the left showing the project structure, a central Process Modelling canvas with a BPMN diagram, and a Properties panel on the right.

The BPMN diagram in the center shows a linear process flow for 'hiring.bpmn2':

```
graph LR; Start(( )) --> HRInterview[HR Interview]; HRInterview --> TechInterview[Tech Interview]; TechInterview --> CreateProposal[Create Proposal]; CreateProposal --> SendProposal[Send Proposal]; SendProposal --> SignContract[Sign Contract]; SignContract --> TweetNewHire[Tweet New Hire]; TweetNewHire --> End((( )))
```

The Properties panel on the right shows the following details for the BPMN-Diagram:

Name	Value
Common	
Documentation	
Name	Hiring a Developer
Extra	
AdHoc	false
Executable	true
Global	
ID	hiring
Imports	
Package	processes.HR
Target Name...	http://www.omg.org/bpmn20
TypeLanguage	http://www.java.com/javatypes
Variable Defn...	name:String,age:Integer,twitter:String,offering:Integer...
Version	1
Simulation	
Base Currency	
Base time unit	seconds

WHAT OTHERS ARE SAYING

“ As a start-up, OpenShift has been an ideal platform because it has allowed us to focus on our application and our customers and not on infrastructure and operations.

— Ruben Daniels, Cloud 9 IDE



I'm at the #dockerboston meetup representin' if anyone has questions about #docker on #fedora, #rhel, #centos. Because it's pretty awesome.

mattdm

“ With OpenShift, I can have a developer deploy her first line of business logic in less time than a meeting with an IT organization.

— Gregori Faroux. TekAways



Deploying #Drupal 8 project to the @openshift cloud in a matter of minutes. Just start with openshift.com/quickstarts/dr... #DrupalCon

Vojtech Vitek

“ In my first 3 days with the OpenShift Online service I was able to stand up Django-CMS, Redis, OwnCloud, Sonar, Sugar-CRM, WordPress, Jmeter, Node.JS, MongoDB, and Jenkins; and hosted a hackathon and several workshops for 88 senior developers, solution architects. If I could do all this in my spare time in just three days, I cannot wait to see how productive our technical teams can get in the next 30 days!

— David Perales Ferrera, Telefonica Digital



Just finish my working (but still dumb) Flask+SQLAlchemy app on RedHat #OpenShift. using this concise tutorial openshift.com/blogs/build-yo...

Eko Suprpto Wibowo



. @TheSteve0 proves his mastery if engaging an audience yet again. Great talk on #OpenShift. #JavaOne <http://t.co/8nwYFdADEV>

Ray Ploski

Loving your hammers?





- OpenShift: <http://openshift.redhat.com>
- Blogs: <https://www.redhat.com/openshift/community/blogs>
- Repository for all OpenShift demos shown here:
<https://github.com/eschabell>
- OpenShift demo repository: <https://github.com/openshift>
- Rise above the Cloud hype with OpenShift:
<http://www.schabell.org/2012/12/openshift-primer-book-published-amazon-ibooks.html>