

OpenShift Demo Walkthrough

CSCI4140

Open-Source Software Project Development

Spring 2014

29 Jan

Leave filename as blank in ssh-keygen to avoid extra setting

Last Update: 29 Jan 2015

Account Setup

OpenShift Demo Part (1)



PRODUCTS

GET INVOLVED

DEV CENTER

SUPPORT

PARTNERS

DEVELOP, HOST, AND SCALE YOUR APPS IN THE CLOUD

The Open Hybrid Cloud Application Platform by Red Hat



ONLINE

Public PaaS

Host your applications in the public cloud. OpenShift Online automates the provisioning, management and scaling of applications so that you can focus on development and creativity.

[Learn more](#) ▶

[SIGN UP FOR FREE](#)



ENTERPRISE

Private PaaS

Accelerate your IT service delivery and streamline application development by leveraging PaaS in your own datacenters or private cloud.

[Learn more](#) ▶

[REQUEST EVALUATION](#)



ORIGIN

Community PaaS

Explore the community-driven open source upstream of OpenShift. Download the bits, join the growing community, and help extend the functionality of OpenShift.

[Learn more](#) ▶

[JOIN THE COMMUNITY](#)

Signup (1)

Create an account

Email address

Valid email address

Password

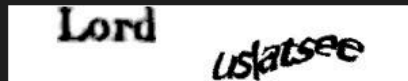
At least 6 characters

Password confirmation

Enter it again

Are you a spam bot?

Type the words that appear below



[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 backed 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.

Learn more about [OpenShift](#)



What's next?

Check your inbox for an email confirming your account. You must click the link in the email to complete the registration process.

If you do not receive an email within a few minutes, check your Spam folder to ensure it was not incorrectly moved. Please see our [FAQ for troubleshooting tips regarding signup](#). If these steps do not resolve your issue, contact us at openshift@redhat.com or on [IRC](#).

[« Back to the main page](#)

Signup (3)



openshift-email to me

02:02

Verify your account with OpenShift Online



Thanks for signing up to use OpenShift Online!

Please click the link below to activate your account:

[Verify Your Account](#)

The OpenShift Team

<https://www.openshift.com>

OpenShift Online is Red Hat's public cloud application development and hosting platform.

Learn more about developing on OpenShift Online:

<https://developers.openshift.com>

Signup (4)

Check your email to verify your account

Legal terms

Please Accept the Following Terms

In order to access and use the OpenShift Online Services and Software you will need to accept the terms and conditions of the OpenShift Online Services Agreement. Since OpenShift Online is just one of several online properties of Red Hat, you will also need to agree to certain site terms that will apply to your use of other Red Hat sites. As a result, by clicking "I Accept" you agree to comply with the following terms:

- [OpenShift Online Service Agreement](#)
- [Red Hat Site Terms](#)
- [Red Hat Portals Terms of Use](#)

These terms apply to the extent you use the Red Hat Customer Portal website.

Clicking I Accept means that you agree to the above terms.

I Accept

Signup (5)



PRODUCTS

GET INVOLVED

DEV CENTER

SUPPORT

PARTNERS

Get Started with OpenShift



WEB

Fastest way to start

Quickly create an app from
any browser

Good for

Launching new applications
Management and monitoring

\$> rhc_

COMMAND LINE

Code and manage everywhere

Full control of your
applications and code on any
platform

Good for

Coding and debugging
Application management



IDE

Rapid development with an IDE

Seamless integration with the
Eclipse development platform


Good for

Coding and debugging
Application management

OpenShift's web console gives you the power to create and manage your apps without installing anything or going to the command line. The console guides you through each application creation and suggests additional capabilities to complement it. Examples include, MongoDB, MySQL, or Jenkins continuous integration builds.


Signup (6)

You are done =D


 **OPENSIFT ONLINE**

jimmysin91@gmail.com ▾

Applications **Settings** Support Add-ons



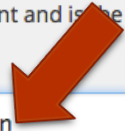
Settings

 You need to set a namespace before you can create applications

Namespace

Your namespace is unique to your account and is the suffix of the public URLs we assign to your applications. See [the User Guide](#) for information about adding your own domain names to an application.

http://applicationname- jimmysin .rhcloud.com



Your domain name must be letters or numbers with no spaces or symbols.

Save

Getting Namespace

Go to “Settings” tab

Setup SSH Key (1)

- Prepare SSH key
 - Using ssh-keygen
 - Available in department linux* and linux / mac machine
 - Using PuTTYgen
 - Get PuTTY / PuTTYgen:
<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>
- Get public key and private key pair
 - Upload public key to OpenShift (or other host) only
 - Use private key your own


```
✓ 02:14:53 jimmy@JimmyHMac ~ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/Users/jimmy/.ssh/id_rsa): .ssh/openshift
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in .ssh/openshift.
Your public key has been saved in .ssh/openshift.pub.
The key fingerprint is:
f9:72:63:c8:4f:dd:42:69:76:84:31:6b:e6:8e:a2:36 jimmy@JimmyHMac
The key's randomart image is:
+--[ RSA 2048 ]-----+
|           o           |
|           =           |
|           = .         |
|      . + o             |
|     S * .              |
|    . o B o             |
|    = B + .             |
|   E . B . .           |
|   ... .               |
+-----+

Leave empty
Leave this blank
Filename for private key
(and public key, .pub)
```

Setup SSH Key (2)

Generate ssh key by ssh-keygen

Settings

 You need to set a public key before you can work with application code

Public Keys

OpenShift uses a public key to securely encrypt the connection between your local machine and your application and to authorize you to upload code. You must create a private and public key on your local machine and then upload the public key before you can connect to your applications' Git repositories or remotely access your applications.

[Learn more about SSH keys.](#)

Paste the contents of your public key file (.pub)

```
ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAQAC0k2raM9IPfP26xuJkv3Wfbwr4Z4+Brj
wHbWlPlZ0WWxMBxhxpSaxpalyYES10JyTjjZeGZrSMAw12bcqDNlgtXzDmq8j
UtnkdwlS007kPiU9b696NC4cAxIVwdtczkRbUD0hUeK/J1dzoow7PfJ14DN+U4b
+nUvBs+jh9x25sKjPx0m6GRwz/Q/j7vANv7ou72Zcl1lq7tnVk1JAvwCB/f85Np
5VeA+dQYmATqZB1MuAu8Ix+Gs1Kpx4pm3EYA5yxJM7UDXOMUjOqLu/J7WuG
czj6VjZqbW2sPUePl9QlCtg6Yz538n0eT7TjmT5pm2+oVl6L5zsZ04sJl4hv
jimmy@JimmyHMac
```

Save

```
02:19:32 jimmy@JimmyHMac ~ cat .ssh/openshift.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQAC0k2raM9IPfP26xuJkv3Wfbwr4Z4+BrjwHbWlPlZ0
WWxMBxhxpSaxpalyYES10JyTjjZeGZrSMAw12bcqDNlgtXzDmq8jUtnkdwlS007kPiU9b696NC4cAx
IVwdtczkRbUD0hUeK/J1dzoow7PfJ14DN+U4b+nUvBs+jh9x25sKjPx0m6GRwz/Q/j7vANv7ou72Zcl1
l1q7tnVk1JAvwCB/f85Np5VeA+dQYmATqZB1MuAu8Ix+Gs1Kpx4pm3EYA5yxJM7UDXOMUjOqLu/J7WuG
czj6VjZqbW2sPUePl9QlCtg6Yz538n0eT7TjmT5pm2+oVl6L5zsZ04sJl4hv jimmy@JimmyHMac
```

Setup SSH Key (3)

Paste your public key (.pub) to OpenShift website

Create Application

OpenShift Demo Part (2)

Welcome to OpenShift

OpenShift helps you build and deploy web applications, mobile backends, service oriented architectures, and host your favorite services.

1. Choose a web framework or codebase to start from

Try JBoss, PHP, Python, Ruby, Node.js, or create a new Drupal or Wordpress site instantly.

2. Add cartridges like MySQL or MongoDB to your application

OpenShift lets you add services and tools to your application through **cartridges** - including databases, cache servers, management tools, and continuous integration servers.

3. Upload your code to OpenShift via Git

Your source code is stored with your application in a Git version control repository.

→ [Create your first application now](#)



For more about OpenShift, visit the [OpenShift Developer Portal](#).

Create Application (1)

Go to “Applications” tab

OPENSHIFT ONLINE

ApplicationsSettingsSupportAdd-ons

1 Choose a type of application

2 Configure the application

3 Next steps

There are not enough free gears available to create a new application. You can [upgrade your plan](#) to get access to more gears, or you will need to scale down or delete existing applications to free up resources.

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 or Browse by tag...

Instant App

Jenkins Server

Drupal 7

CMS DRUPAL NOT SCALABLE PHP

WordPress 4

BLOG CMS NOT SCALABLE PHP WORDPRESS

Java

JBoss Application Server 7

xPaaS

JBoss Data Virtualization 6

JAVA EE 6

JBoss Enterprise

JAVA EE 6

JBoss Unified Push Server 1.0

JEE FULL PROFILE

JBoss Business Process Manager

Other types

Node.js 0.10

JAVASCRIPT NODEJS

Perl 5.10

PERL

Ghost

BLOG JAVASCRIPT

Go Language

GOOGLE

MEAN

JAVASCRIPT


Create Application (2)

Many type available
Choose Perl 5.10

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Applications Settings Support Add-ons

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

Based On Perl 5.10 Cartridge 
Perl is a high-level, general-purpose, interpreted, dynamic programming language. Dynamic content produced by Perl scripts can be served in response to requests.
<http://www.perl.org>
☆ OpenShift maintained
🔒 Receives automatic security updates

Public URL http:// jimmysinn.rhcloud.com
OpenShift will automatically register this domain name for your application. You can add your own domain name later.

Source Code Optional URL to a Git repository Branch/tag
We'll create a Git code repository in the cloud, and populate it with a set of reasonable defaults. If you provide a Git URL, your application will start with an exact copy of the code and configuration provided in this Git repository.

Gears small
Gears are the application containers running your code. For most applications, the small gear size provides plenty of resources. You can also [upgrade your plan](#) to get access to more gear sizes.

Cartridges Perl 5.10
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
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.

Region
☐ No preference
☒ **aws-us-east-1**
All gear sizes can be deployed to the US Region.
☐ **aws-eu-west-1**
WARNING: Small gears cannot be deployed to this region. Only production gears can be deployed to the EU Region (small, highcpu, medium, and large).
☐ **aws-ap-southeast-2**
WARNING: This region is reserved for Dedicated Hosts.
Gears within your application will run on servers in the selected region.

+1

Application name

Create Application (3)

Type an application name, then create

1

Choose a type of application

2

Configure the application

3

Next steps

Your application has been created. [Continue to the application overview page.](#)

Making code changes

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

```
git clone ssh://54b55a0be0b8cd1aab0000ef@demo-
jimmysinn.rhcloud.com/~/.git/demo.git/
cd demo/
```

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.

Manage your app

The console is convenient, but if you need deeper control try our other client tools

Command-Line

All of the capabilities of OpenShift are exposed through our command line tool, **rhc**. [Follow these steps to install the client](#) on Linux, Mac OS X, or Windows.

After installing the RHC 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](#).

Create Application (4)

Done 😊


Applications

Settings

Support

Add-ons



Applications

2 of 3 

Available in domain [jimmysinn](#)

demo

Perl 5.10


 1 

Add Application...


You may want to...

[Add a collaborator](#) 


[Use your own domain name](#) 

[Create a scalable application](#) 

From the command line


The `rhc` client lets you:
[logs](#) 

[Save and restore backups](#) 

[Connect directly to internal services](#) 

Application Overview

demo-jimmysinn.rhcloud.com [change](#)
Created 4 minutes ago in domain jimmysinn and the aws-us-east-1 region

Started 1  

Cartridges

 Perl 5.10




Status	Gears	Storage
Started	1 small	1 GB

Source Code


ssh://54b55a0be0b8cd1aab0000ef@dem


Pass this URL to 'git clone' to copy the repository


Databases

-  [Add MongoDB 2.4](#)
-  [Add MySQL 5.5](#)
-  [Add PostgreSQL 9.2](#)

Continuous Integration


 [Enable Jenkins](#)

Browse the  Marketplace, or see the list of cartridges you can

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Applications Settings Support Add-ons

Add Cartridge to demo

 **MySQL 5.5**

MySQL is a multi-user, multi-threaded SQL database server.


Website: <http://www.mysql.com>

☆ OpenShift maintained

🛡️ Receives automatic security updates



Using Gear Size small

Do you want to add the MySQL 5.5 cartridge to your application?

[Back](#) [Add Cartridge](#) +0 

Add Cartridge – MySQL (1)

demo-jimmysinn.rhcloud.com [change](#)

Started 1  

Created 6 minutes ago in domain jimmysinn and the aws-us-east-1 region

✓ MySQL 5.5 database added. Please make note of these credentials:

Root User: adminJgCaeFm
Root Password: 8KQTSmjEzpM6
Database Name: demo

Connection URL: mysql://\$OPENSIFT_MYSQL_DB_HOST:\$OPENSIFT_MYSQL_DB_PORT/

You can manage your new MySQL database by also embedding phpmyadmin.
The phpmyadmin username and password will be the same as the MySQL credentials above.

Cartridges



Perl 5.10

Status: Started
Gears: 1 small
Storage: 1 GB



MySQL 5.5

Database: demo User: adminJgCaeFm Password: [show](#)

Source Code


ssh://54b55a0be0b8cd1aab0000ef@dem

Pass this URL to 'git clone' to copy the repository locally.

Remote Access

[Want to log in to your application?](#)
[Delete this application...](#)

Continuous Integration

 [Enable Jenkins](#)


Tools and Support

 [Add phpMyAdmin 4.0](#)



Browse the [Marketplace](#), or see the list of cartridges you can add

Add Cartridge – MySQL (2)

No need to record username / password ...
Use environment variable in your code!



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Applications Settings Support Add-ons


demo-jimmysinn.rhcloud.com [change](#) Started 1  


Created 6 minutes ago in domain jimmysinn and the aws-us-east-1 region

Cartridges

	Status	Gears	Storage
 Perl 5.10	Started	1 small	1 GB
 MySQL 5.5	Database: demo User: adminJgCaeFm Password: show		


Continuous Integration
 [Enable Jenkins](#)

Tools and Support
 [Add phpMyAdmin 4.0](#)

Browse the  Marketplace, or see the list of cartridges you can add


Source Code
`ssh://54b55a0be0b8cd1aab0000ef@dem`
Pass this URL to 'git clone' to copy the repository locally.

Remote Access
[Want to log in to your application?](#)

 **OPENSIFT ONLINE** jimmysinn91@gmail.com


Applications Settings Support Add-ons

Add Cartridge to demo

 **phpMyAdmin 4.0**
Web based MySQL admin tool. Requires the MySQL cartridge to be installed
Website: <http://www.phpmyadmin.net/>
☆ OpenShift maintained
🛡️ Receives automatic security updates

Using Gear Size small

Do you want to add the phpMyAdmin 4.0 cartridge to your application?

[Back](#) [Add Cartridge](#) +0 

Add Cartridge – phpMyAdmin (1)

Ease your effort in managing MySQL database

Applications

Settings

Support

Add-ons

demo-jimmysinn.rhcloud.com [change](#)

Started 1  

Created 8 minutes ago in domain jimmysinn and the aws-us-east-1 region



Please make note of these MySQL credentials again:

Root User: adminJgCaeFm

Root Password: 8KQTSmjEzpM6

URL: https://demo-jimmysinn.rhcloud.com/phpmyadmin/



Cartridges



Perl 5.10

Status	Gears	Storage
Started	1 small	1 GB



MySQL 5.5

Database: demo User: adminJgCaeFm Password: [show](#)


phpMyAdmin 4.0

Source Code


ssh://54b55a0be0b8cd1aab0000ef@dem

Pass this URL to 'git clone' to copy the repository locally.

Remote Access

[Want to log in to your application?](#)
[Delete this application...](#)

Continuous Integration

 [Enable Jenkins](#)

Add Cartridge – phpMyAdmin (2)

You can get the password afterward by “show”

Using OpenShift

OpenShift Demo Part (3)

Applications



Settings

Support

Add-ons

asg1demo-jimmysinn.rhcloud.com [change](#)

Created about 1 hour ago in domain jimmysinn and the aws-us-east-1 region

Started 1  

Cartridges



Perl 5.10

Status
Started

Gears
1 small

Storage
1 GB


MySQL



phpMyAdmin

Source Code

ssh://54ad66eefcf93300aa0000f5@asg1c

Pass this URL to 'git clone' to copy the repository locally.

```

02:07:16 jimmy@JimmyHMac ~/openshift
git clone ssh://54ad66eefcf93300aa0000f5@asg1demo-jimmysinn.rhcloud.com/~/.git/
Cloning into 'asg1demo'...
remote: Counting objects: 20, done.
remote: Compressing objects: 100% (15/15), done.
remote: Total 20 (delta 1), reused 20 (delta 1)
Receiving objects: 100% (20/20), 18.38 KiB | 0 bytes/s, done.
Resolving deltas: 100% (1/1), done.
Checking connectivity... done.

```

Continuous Integration

[Enable Jenkins](#)

Browse the [Marketplace](#)

Clone Repository to Local Machine

Pass source code URL to git clone

Source Code

```
ssh://54b55a0be0b8cd1aab0000ef@dem
```

Pass this URL to 'git clone' to copy the repository



```
✓ 01:57:33 jimmy@JimmyHMac ~
ssh://54b55a0be0b8cd1aab0000ef@demo-jimmysinn.rhcloud.com/~/git/demo.git/
```



```
✓ 01:57:33 jimmy@JimmyHMac ~
ssh 54b55a0be0b8cd1aab0000ef@demo-jimmysinn.rhcloud.com
```



```
The authenticity of host 'demo-jimmysinn.rhcloud.com (174.129.86.104)' can't be established.
RSA key fingerprint is cf:ee:77:cb:0e:fc:02:d7:72:7e:ae:80:c0:90:88:a7.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'demo-jimmysinn.rhcloud.com,174.129.86.104' (RSA) to the list of known hosts.
```

```
*****
```

```
You are accessing a service that is for use only by authorized users.
If you do not have authorization, discontinue use at once.
Any use of the services is subject to the applicable terms of the
agreement which can be found at:
https://www.openshift.com/legal
```

```
*****
```

```
Welcome to OpenShift shell
```

```
This shell will assist you in managing OpenShift applications.
```

```
!!! IMPORTANT !!! IMPORTANT !!! IMPORTANT !!!
Shell access is quite powerful and it is possible for you to
accidentally damage your application. Proceed with care!
If worse comes to worst, destroy your application with "rhc app delete"
and recreate it
!!! IMPORTANT !!! IMPORTANT !!! IMPORTANT !!!
```

```
Type "help" for more info.
```

```
[demo-jimmysinn.rhcloud.com 54b55a0be0b8cd1aab0000ef]\>
```

SSH to OpenShift Application

```

✓ 02:16:40 jimmy@JimmyHMac ~/openshift/asg1demo ⌚ master ➔ cd .openshift/action_hooks
✓ 02:16:47 jimmy@JimmyHMac ~/openshift/asg1demo/.openshift/action_hooks
⌚ master ➔ cat > deploy
echo ">> Running deploy script <<"
ln -s ${OPENSIFT_DATA_DIR} ${OPENSIFT_REPO_DIR}/data
echo ">> Deploy script done <<"
✗ 02:17:42 jimmy@JimmyHMac ~/openshift/asg1demo/.openshift/action_hooks
⌚ master ➔ chmod +x deploy
✓ 02:17:46 jimmy@JimmyHMac ~/openshift/asg1demo/.openshift/action_hooks
⌚ master ➔ git add deploy
✓ 02:17:51 jimmy@JimmyHMac ~/openshift/asg1demo/.openshift/action_hooks
⌚ master + ➔ git commit -am "Add deploy script"
[master 03fb6c8] Add deploy script
1 file changed, 3 insertions(+)
✓ 02:18:06 jimmy@JimmyHMac ~/openshift/asg1demo/.openshift/action_hooks
✓ 02:18:09 jimmy@JimmyHMac ~/openshift/asg1demo/.openshift/action_hooks
⌚ master ➔ git push

```

Add Action Hook Script

```
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 215 bytes | 0 bytes/s, done.
Total 2 (delta 1), reused 0 (delta 0)
remote: Stopping Perl cartridge
remote: Waiting for stop to finish
remote: Waiting for stop to finish
remote: Stopping MySQL 5.5 cartridge
remote: Stopping PHPMyAdmin cartridge
remote: Waiting for stop to finish
remote: Waiting for stop to finish
remote: Building git ref 'master', commit 8cd43f0
remote: Building Perl cartridge
remote: *** Installing modules from .openshift/cpan.txt
remote: Preparing build for deployment
remote: Deployment id is ff2b4ca6
remote: Activating deployment
remote: Starting MySQL 5.5 cartridge
remote: Starting PHPMyAdmin cartridge
remote: >> Running deploy script <<
remote: >> Deploy script done <<
remote: Starting Perl cartridge
remote: Application directory "/" selected as DocumentRoot
remote: -----
remote: Git Post-Receive Result: success
remote: Activation status: success
remote: Deployment completed with status: success
To ssh://54ad66eefcf93300aa0000f5@asg1demo-jimmysinn.rhcloud.com/~/git/asg1demo
.git/
03fb6c8..8cd43f0 master -> master
```

Checking Deploy Script



problem?

Find us on Facebook Group!