

Tutorial 1

Demo Walkthrough

CSCI4140
Open-Source Software Project Development

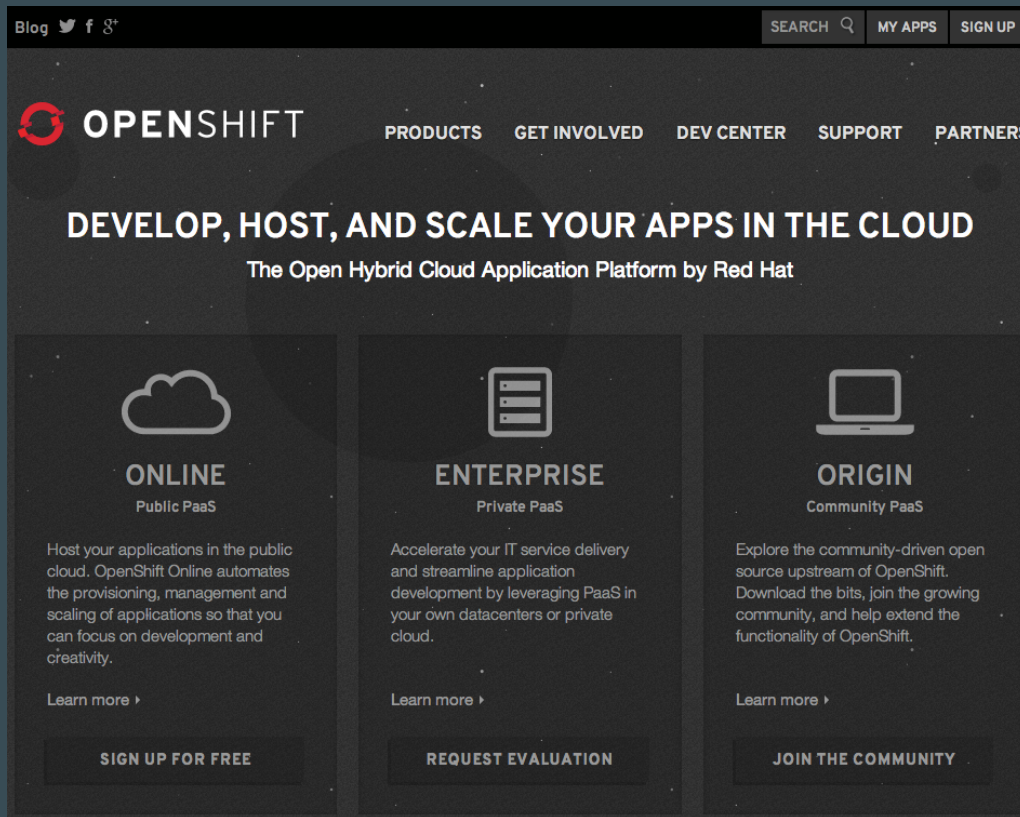
Spring 2014

Account Setup





OpenShift Demo Part (1)


OpenShift - Demo (1)

Signup (1)




The screenshot shows the OpenShift website homepage. At the top, there is a navigation bar with links for 'Blog', social media icons, a search bar, 'MY APPS', and 'SIGN UP'. Below this is the OpenShift logo and a main navigation menu with links for 'PRODUCTS', 'GET INVOLVED', 'DEV CENTER', 'SUPPORT', and 'PARTNERS'. The main heading reads 'DEVELOP, HOST, AND SCALE YOUR APPS IN THE CLOUD' with the subtitle 'The Open Hybrid Cloud Application Platform by Red Hat'. The page is divided into three columns, each representing a different OpenShift offering: 'ONLINE' (Public PaaS), 'ENTERPRISE' (Private PaaS), and 'ORIGIN' (Community PaaS). Each column includes an icon, a title, a brief description, a 'Learn more' link, and a prominent call-to-action button.

Blog    SEARCH  MY APPS SIGN UP

 **OPENSIFT** 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

OpenShift - Demo (1)

Signup (2)

 **OPENSIFT**

Create an account

Email address


Password

Password confirmation

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

Are you a spam bot?

This field is required.



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

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

☒ Subscribe to monthly newsletter with updates on new OpenShift features?

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

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.

Learn more about [OpenShift](#)

OpenShift - Demo (1)

Signup (3)



What's next?

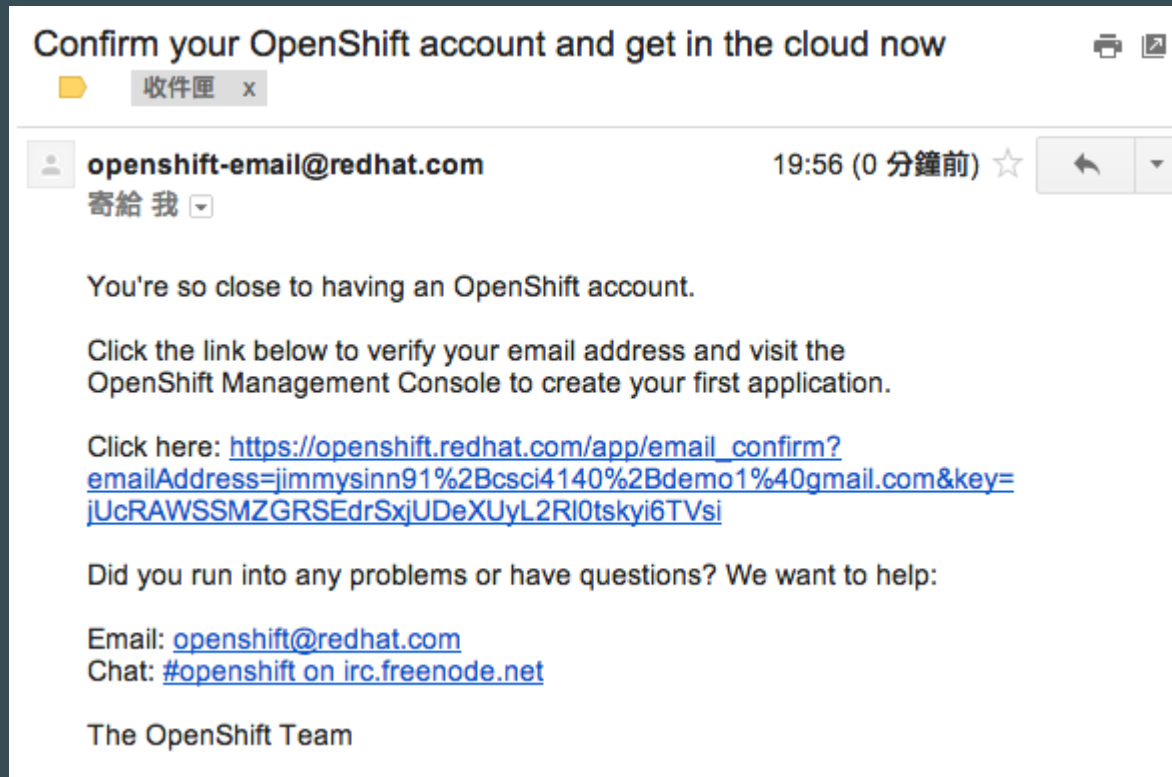
Check your inbox for an email confirming your account. You must click the link in the email to complete the registration process.

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](#)

OpenShift - Demo (1)

Signup (4)



OpenShift - Demo (1)

Signup (5)



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

OpenShift - Demo (1)

Signup (6)


[Blog](#) [Twitter](#) [Facebook](#) [Google+](#)

SEARCH MY APPS SIGN UP

 **OPENSIFT**

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




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.

OpenShift - Demo (1)

Generate 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

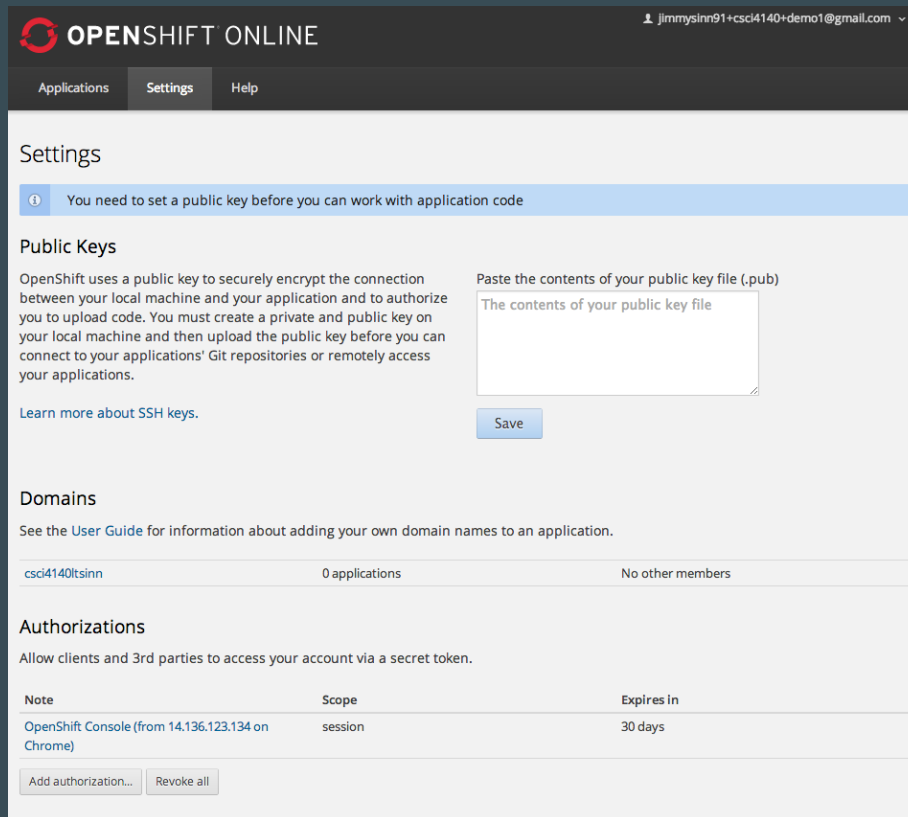
OpenShift - Demo (1)

Generate SSH Key (2)

```
[19:42:09] ltsinn@linux3 csci4140 $ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/uac/gds/ltsinn/.ssh/id_rsa): openshift
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in openshift.
Your public key has been saved in openshift.pub.
The key fingerprint is:
0b:62:dd:03:58:0e:d0:97:70:35:19:66:2c:67:9d:5c ltsinn@linux3
The key's randomart image is:
+---[ RSA 2048]-----+
| .oo.o+*= oE          |
| .*+o=.,+            |
| ..o+                |
| . o                 |
| o o $               |
| . . . o             |
| .                   |
+-----+
[19:42:14] ltsinn@linux3 csci4140 $ ls
openshift  openshift.pub
```

OpenShift - Demo (1)

Add SSH Public Key (1)



The screenshot shows the OpenShift Online web interface. At the top, there's a header with the OpenShift logo and the text "OPENSHIFT ONLINE". To the right of the header, a user profile is shown with the email "jimmysinn91+csci4140+demo1@gmail.com". Below the header is a navigation bar with three tabs: "Applications", "Settings", and "Help". The "Settings" tab is currently selected.

The main content area is titled "Settings". Below this title, there's a blue notification bar with an information icon and the text: "You need to set a public key before you can work with application code".


The "Public Keys" section is the focus. It contains a paragraph explaining that OpenShift uses a public key to encrypt the connection between the local machine and the application, and that the user must create a private and public key on their local machine and upload the public key before they can connect to their applications' Git repositories or remotely access their applications. To the right of this text is a text area labeled "Paste the contents of your public key file (.pub)" with the placeholder text "The contents of your public key file". Below the text area is a "Save" button. A link "Learn more about SSH keys." is also present.

Below the "Public Keys" section is the "Domains" section. It contains a paragraph stating: "See the [User Guide](#) for information about adding your own domain names to an application." Below this is a table with one row showing the domain "csci4140tsinn", "0 applications", and "No other members".

The "Authorizations" section follows. It contains a paragraph: "Allow clients and 3rd parties to access your account via a secret token." Below this is a table with three columns: "Note", "Scope", and "Expires in". The table has one row showing an authorization for "OpenShift Console (from 14.136.123.134 on Chrome)" with a "session" scope and an expiration of "30 days". At the bottom of the "Authorizations" section are two buttons: "Add authorization..." and "Revoke all".

OpenShift - Demo (1)

Add SSH Public Key (2)

 **OPENSIFT** ONLINE

jimmysin91+csc4140+demo1@gmail.com ▾

Applications Settings Help

Add a public key

Key name *

Paste the contents of your public key file

The contents of your public key file

Cancel Create

Before you can upload and download code, you need to upload a **public key** to identify you to our servers. If this is your first time creating a public key [read more about SSH keys and remote access](#).

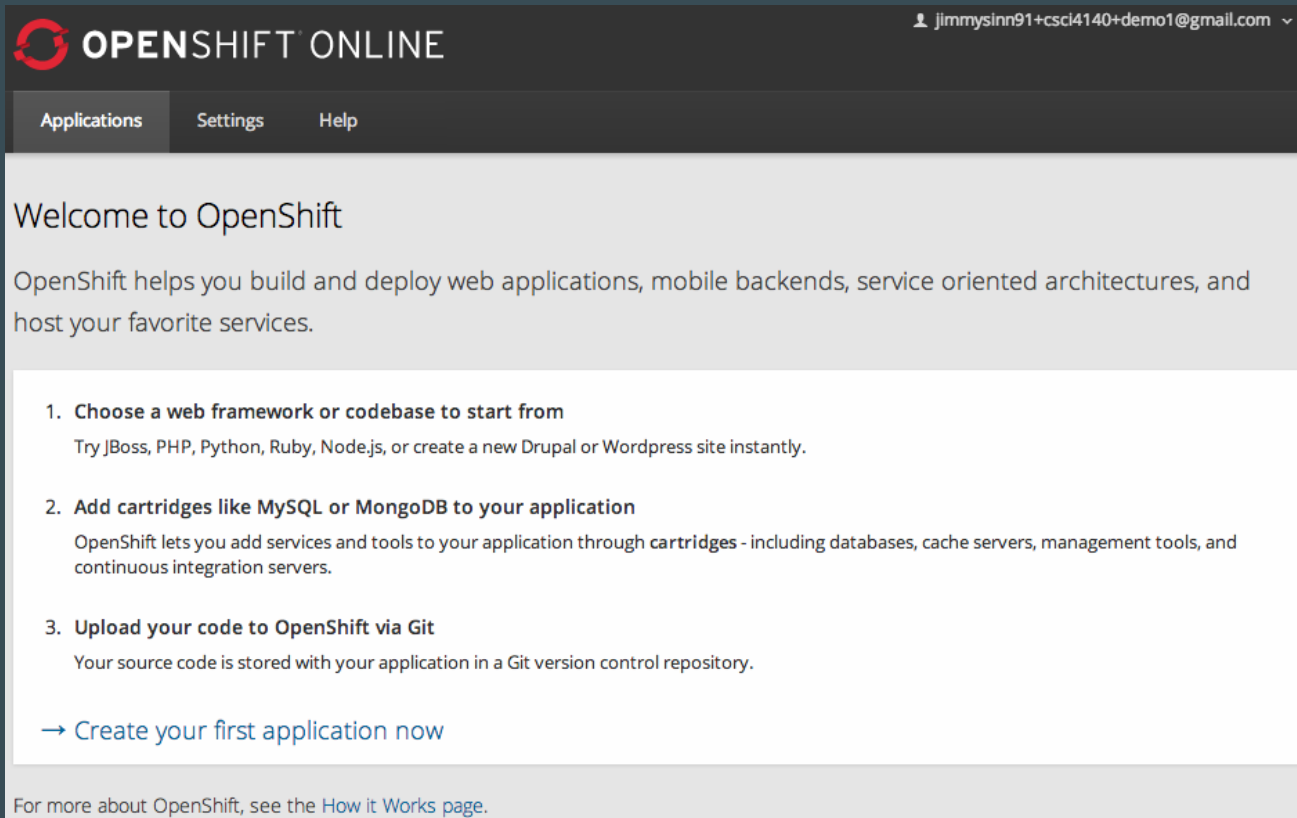
Each gear in your application will have a copy of your public key - this allows you to read and write to your Git repository as well as to access your application gears via SSH.

Create Application

OpenShift Demo Part (2)

OpenShift - Demo (2)

Create Application (1)



The screenshot shows the OpenShift Online web interface. At the top, there is a dark header with the OpenShift logo and the text 'OPENSHIFT ONLINE'. To the right of the header, a user profile icon and the email address 'jimmysinn91+csci4140+demo1@gmail.com' are visible. Below the header is a navigation bar with three tabs: 'Applications', 'Settings', and 'Help'. The main content area has a light gray background and contains the following text:

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, see the [How it Works](#) page.

OpenShift - Demo (2)

Create Application (2)

The screenshot shows the OpenShift Online console interface. At the top, the navigation bar includes 'Applications', 'Settings', and 'Help'. The main header displays the user's email: 'jimmyjones@vcp04140-demo1@gmail.com'. Below the navigation bar, a progress indicator shows three steps: '1 Choose a type of application', '2 Configure the application', and '3 Next steps'. The current step, 'Choose a type of application', contains a search bar with the text 'Search by keyword or tag...'. Below the search bar, there are three featured application cards: 'Boss Enterprise Application Platform 5', 'PHP - Zend Server 5.6 (PHP 5.6)', and 'AeroGear Push 0.X'. Each card provides a brief description and a link to learn more. Below the featured cards, there are several categorized lists of applications, including 'Instant App', 'PHP', 'Python', 'Django', 'Ruby', and 'Other types'. Each list contains application icons, names, and brief descriptions. At the bottom of the page, there is a section for 'Code Anything' and a 'Cartridge Development Kit'.

OPENSHIFT ONLINE | jimmyjones@vcp04140-demo1@gmail.com

Applications Settings Help

1 Choose a type of application 2 Configure 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...

Featured

- Boss Enterprise Application Platform 5**
Market-leading open source enterprise platform for next-generation, highly transactional enterprise applications. Build and deploy enterprise Java in the cloud.
<http://www.redhat.com/en/openshift-boss-enterprisejava-server-application-platform>
OpenShift maintained
JAVA JBOSS JEE FULL PROFILE
- PHP - Zend Server 5.6 (PHP 5.6)**
A PHP server by Zend for applications that require performance, reliability and security. Zend Server contains all Zend Studio's core code optimization, debugging, and code assist.
<http://www.zend.com>
OpenShift maintained
PHP
- AeroGear Push 0.X**
The AeroGear UnifiedPush Server allows for sending native push messages to different mobile operating systems. The open community version of the server supports Apple's Push Notification Service (APNS), Google Cloud Messaging (GCM), and Mozilla's xmpush.
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

Instant App [see all](#)

- Jenkins Server
CI
- Drupal 7
CMS DRUPAL NOT SCALABLE PHP
- WordPress 3.x
BLOG CMS NOT SCALABLE

PHP [see all](#)

- PHP - Zend Server 6.1 (PHP 5.6)
- PHP 5.3
- CakePHP
NOT SCALABLE
- Reveal.js
CSS3 HTML5 PRESENTATIONS

Python [see all](#)

- Python 2.6
- Python 2.7
- Python 3.3
COMMUNITY
- Django

Ruby [see all](#)

- Ruby 1.9
- Ruby 1.8
- Ruby on Rails
RAILS

Other types

- Node.js 0.10
JAVASCRIPT NODEJS
- Node.js 0.8
JAVASCRIPT NODEJS
- Perl 5.10
PERL
- Go Language
GOOGLE

Can't find what you're looking for? Try searching for a specific quickstart or filtering by tag. Or, browse the entire list on our QuickStart gallery.

Code Anything
Have your own framework? Provide the URL of a cartridge here, and OpenShift will download and provision it automatically for you. Your new app!


URL to a cartridge definition [next](#)


Want to build your own cartridge? Get started with the DIY cart.

- Do-it-Yourself 0.1
- Cartridge Development Kit
NOT SCALABLE

OpenShift - Demo (2)

Create Application (3)

 **OPENSHIFT ONLINE**

 jimmysinn91+csci4140+demo1@gmail.com


Applications Settings Help

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 incoming web requests.
<http://www.perl.org>
☆ OpenShift maintained

Public URL

-

Because this is your first application, you need to provide a domain under which your applications will be grouped
OpenShift will automatically register this domain name for your application. You can add your own domain name later.

Source Code

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.

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



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.

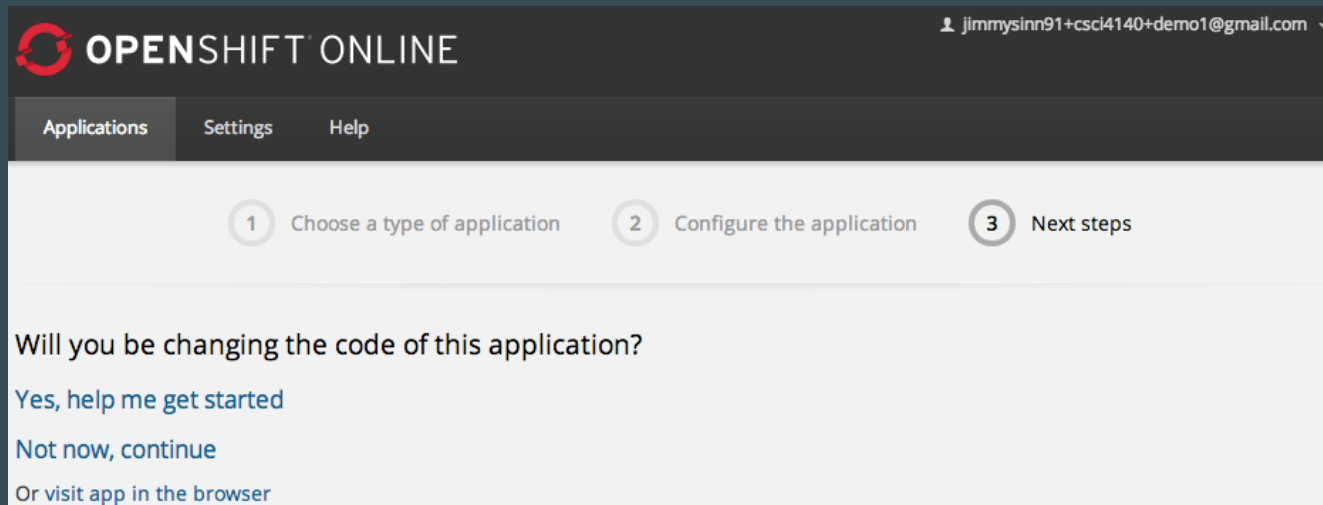
Back

Create Application

+1 ⓘ

OpenShift - Demo (2)

Create Application (4)



The screenshot shows the OpenShift Online interface. At the top, the OpenShift logo and 'OPENSHIFT ONLINE' are on the left, and the user email 'jimmysinn91+csci4140+demo1@gmail.com' is on the right. Below this is a navigation bar with 'Applications', 'Settings', and 'Help'. The main content area has a progress bar with three steps: '1 Choose a type of application', '2 Configure the application', and '3 Next steps'. Step 3 is currently active. Below the progress bar, the question 'Will you be changing the code of this application?' is displayed. Three options are listed: 'Yes, help me get started', 'Not now, continue', and 'Or visit app in the browser'.

OPENSHIFT ONLINE jimmysinn91+csci4140+demo1@gmail.com

Applications Settings Help

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

Will you be changing the code of this application?


[Yes, help me get started](#)

[Not now, continue](#)

[Or visit app in the browser](#)

OpenShift - Demo (2)

Create Application (5)

 **OPENSHIFT ONLINE**

jimmysin91+csci4140+demo1@gmail.com

ApplicationsSettingsHelp

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://52c7fe41500446534c0000ac@asg1-
csci4140ltsinn.rhcloud.com/~/git/asg1.git/
cd asg1/
```

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.

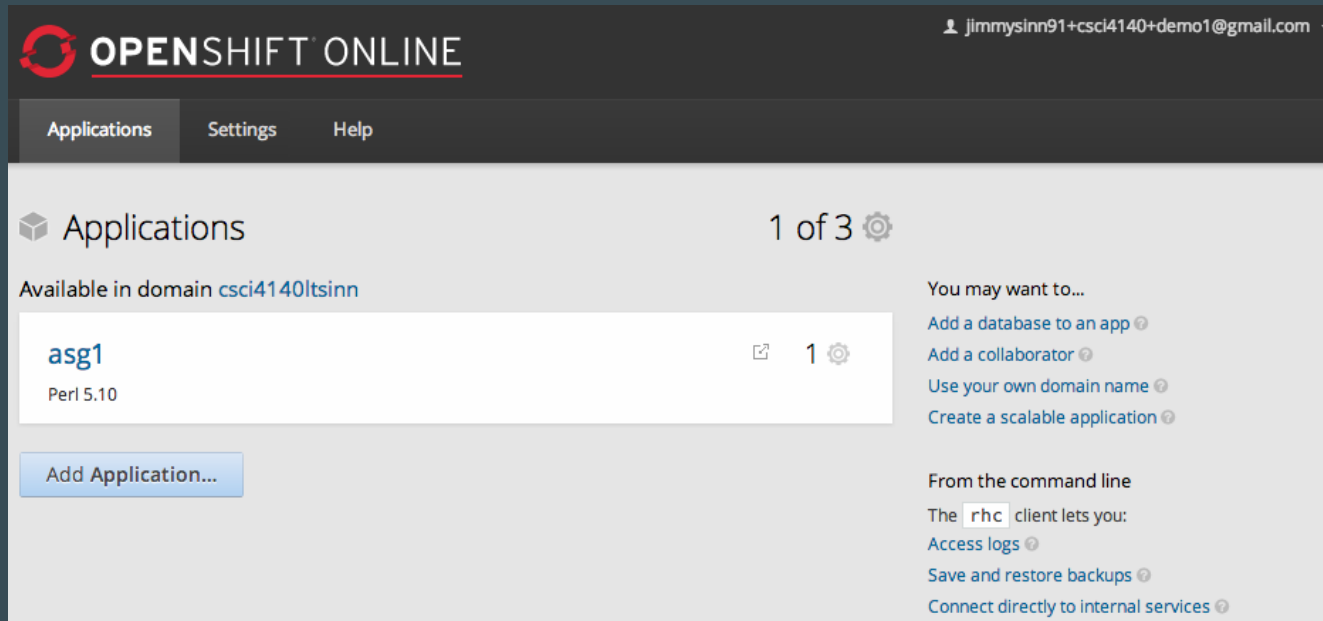
After installing the RHC read more [on how to manage your application from the command line](#) in our [User Guide](#).

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](#).

OpenShift - Demo (2)

Create Application (6)



The screenshot displays the OpenShift Online web interface. At the top, the header includes the OpenShift logo and the text "OPENSHIFT ONLINE". To the right of the header, the user's email address "jimmysinn91+csci4140+demo1@gmail.com" is shown with a dropdown arrow. Below the header, there is a navigation bar with three tabs: "Applications" (which is selected), "Settings", and "Help".


The main content area is titled "Applications" with a cube icon. To the right of this title, it says "1 of 3" followed by a gear icon. Below the title, it states "Available in domain csci4140tsinn".

There is a list of applications. The first application is named "asg1" and is associated with "Perl 5.10". To the right of the application name is a small icon of a document with a plus sign, followed by the number "1" and a gear icon. Below the application list, there is a blue button labeled "Add Application...".

On the right side of the main content area, there are two sections of links. The first section is titled "You may want to..." and contains four links: "Add a database to an app", "Add a collaborator", "Use your own domain name", and "Create a scalable application". The second section is titled "From the command line" and contains the text "The rhc client lets you:" followed by three links: "Access logs", "Save and restore backups", and "Connect directly to internal services".

OpenShift - Demo (2)



Application Overview

 **OPENSHIFT ONLINE**

jimmysin91+csci4140+demo1@gmail.com ▾


Applications Settings Help

asg1-csci4140tsinn.rhcloud.com [change](#)




Started 1  

Created about 3 hours ago in domain csci4140tsinn

Cartridges


 Perl 5.10	Status Started	Gears 1 small	Storage 1 GB
--	-------------------	------------------	-----------------

Databases

-  [Add MongoDB 2.2](#)
-  [Add MySQL 5.1](#)
-  [Add PostgreSQL 9.2](#)

[Or, see the entire list of cartridges you can add](#)

Continuous Integration

-  [Enable Jenkins](#)

Source Code

ssh://52c7fe41500446534c0000ac@asg1

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


Remote Access

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

Delete this application...

OpenShift - Demo (2)


Add MySQL Cartridge (1)

 **OPENSIFT** ONLINE

jimmysin91+csc4140+demo1@gmail.com ▾

Applications Settings Help

Add Cartridge to asg1

 **MySQL 5.1**
Website: <http://www.mysql.com>
Version: 5.1

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

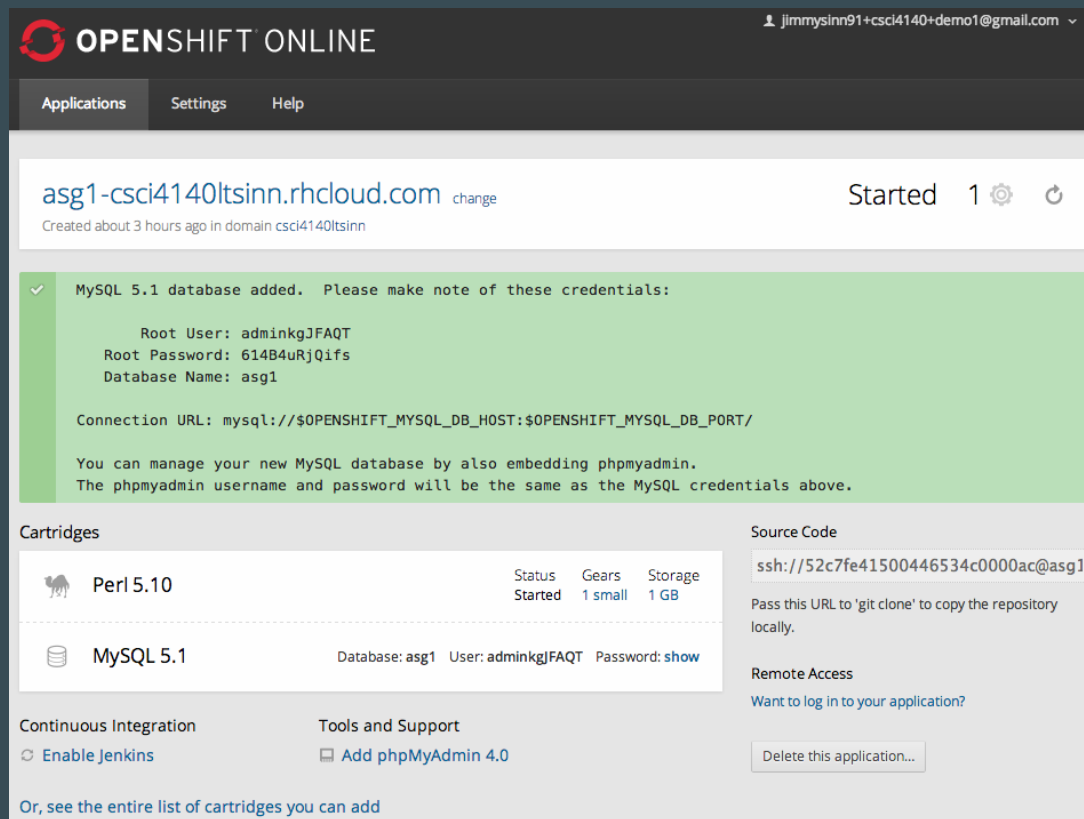
Gear Size Small

Do you want to add the MySQL 5.1 cartridge to your application?

Back Add Cartridge +0 ⚙

OpenShift - Demo (2)



Add MySQL Cartridge (2)



OPENSIFT ONLINE jimmysinn91+csci4140+demo1@gmail.com

Applications Settings Help

asg1-csci4140tsinn.rhcloud.com change
Created about 3 hours ago in domain csci4140tsinn

Started 1  



✓ MySQL 5.1 database added. Please make note of these credentials:


Root User: adminkgJFAQT
Root Password: 614B4uRjQifs
Database Name: asg1


Connection URL: mysql://\$OPENSHIFT_MYSQL_DB_HOST:\$OPENSHIFT_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 5.1	Database: asg1 User: adminkgJFAQT Password: show		

Continuous Integration
 [Enable Jenkins](#)

Tools and Support
 [Add phpMyAdmin 4.0](#)

Source Code
`ssh://52c7fe41500446534c0000ac@asg1`
Pass this URL to 'git clone' to copy the repository locally.

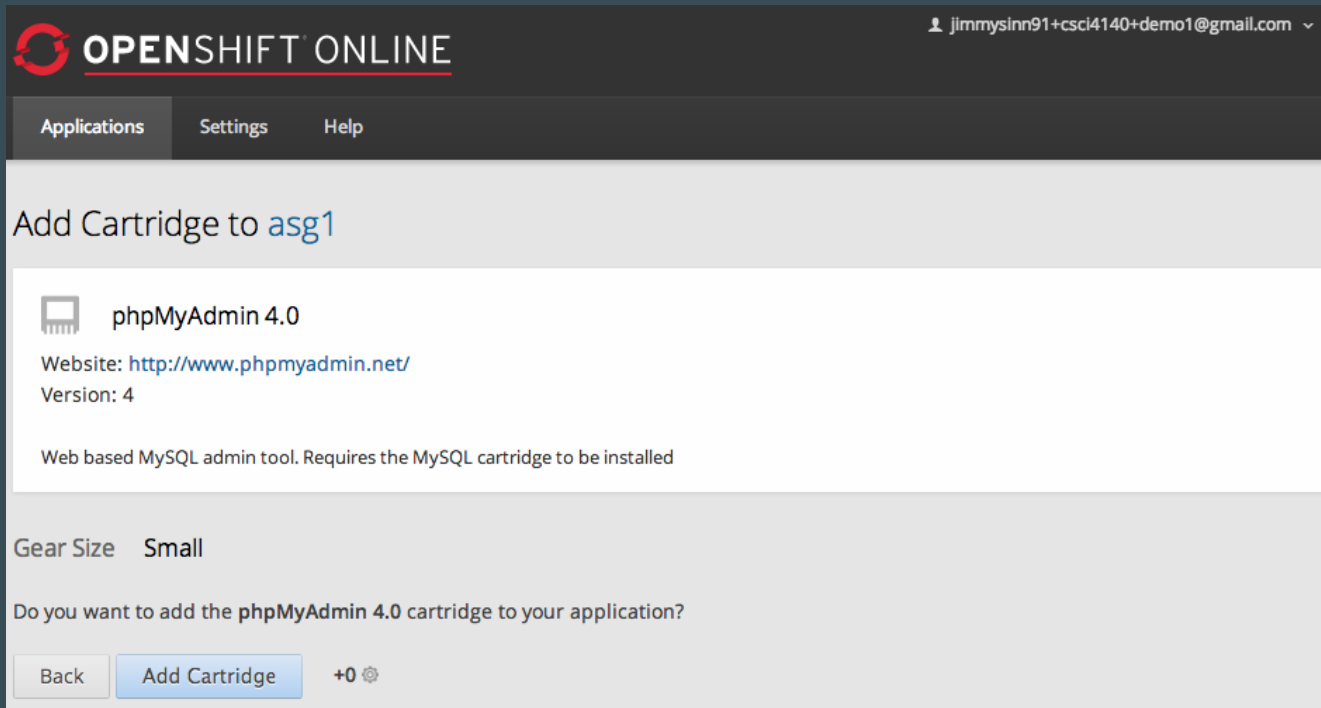
Remote Access
[Want to log in to your application?](#)

[Delete this application...](#)

[Or, see the entire list of cartridges you can add](#)

OpenShift - Demo (2)

Add phpMyAdmin Cartridge (1)




The screenshot shows the OpenShift Online web interface. At the top, the 'OPENS SHIFT ONLINE' logo is on the left, and the user's email 'jimmysinn91+csci4140+demo1@gmail.com' is on the right. Below the header is a navigation bar with 'Applications', 'Settings', and 'Help'. The main content area is titled 'Add Cartridge to asg1'. It features a card for 'phpMyAdmin 4.0' with a database icon, the website 'http://www.phpmyadmin.net/', and the version '4'. A description states it is a 'Web based MySQL admin tool. Requires the MySQL cartridge to be installed'. Below the card, the 'Gear Size' is set to 'Small'. At the bottom, a question asks 'Do you want to add the phpMyAdmin 4.0 cartridge to your application?'. There are three buttons: 'Back', 'Add Cartridge', and '+0' with a gear icon.

OPENS SHIFT ONLINE

jimmysinn91+csci4140+demo1@gmail.com

Applications Settings Help

Add Cartridge to asg1

 phpMyAdmin 4.0


Website: <http://www.phpmyadmin.net/>

Version: 4

Web based MySQL admin tool. Requires the MySQL cartridge to be installed


Gear Size Small

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

Back Add Cartridge +0 



OpenShift - Demo (2)

Add phpMyAdmin Cartridge (2)

 **OPENSHIFT ONLINE**

[Applications](#) [Settings](#) [Help](#)





asg1-csci4140tsinn.rhcloud.com [change](#)

Started 1  

Created about 3 hours ago in domain csci4140tsinn

✓ Please make note of these MySQL credentials again:
Root User: adminkgJFAQT
Root Password: 614B4uRjQifs
URL: <https://asg1-csci4140tsinn.rhcloud.com/phpmyadmin/>

Cartridges

 Perl 5.10	Status Started	Gears 1 small	Storage 1 GB
 MySQL 5.1	Database: asg1 User: adminkgJFAQT Password: show		
 phpMyAdmin 4.0			

Source Code

ssh://52c7fe41500446534c0000ac@asg1


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](#)

[Or, see the entire list of cartridges you can add](#)