OPENSHIFT

SWAP | UGR 2014-2015

CLOUD COMPUTING

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Introducción

- Veremos una solución a problemas relacionados con la programación web:
  - Infraestructura y servicios (servidor, hosting, módulos, …)
  - Proceso de desarrollo (organización, control, …)

- Definición de PaaS
- OpenShift y como funciona
- Ejemplo de uso

PaaS (Plataform As A Service)

> automatizar el almacenamiento, administración y desarrollo de aplicaciones web, además servir la aplicación y lanzarla para acceder a su contenido.

OpenShift

- Proyecto PaaS de código abierto.
- Creado por RedHat

- Presenta varios modelos
  - OpenShift Online
  - OpenShift Enterprise
  - OpenShift Origin

Características

- Código abierto
- Soporte de de varios lenguajes: PHP, Ruby, JAVA, Node.js, Python y Perl
- Proporciona varias herramientas y módulos: phpmyadmin, consola web, IDE, y otros
- Soporte de frameworks de aplicaciones web
- Entorno de nube flexible
- Infraestructura base en la que apoyarse sin necesidad de instalar nada

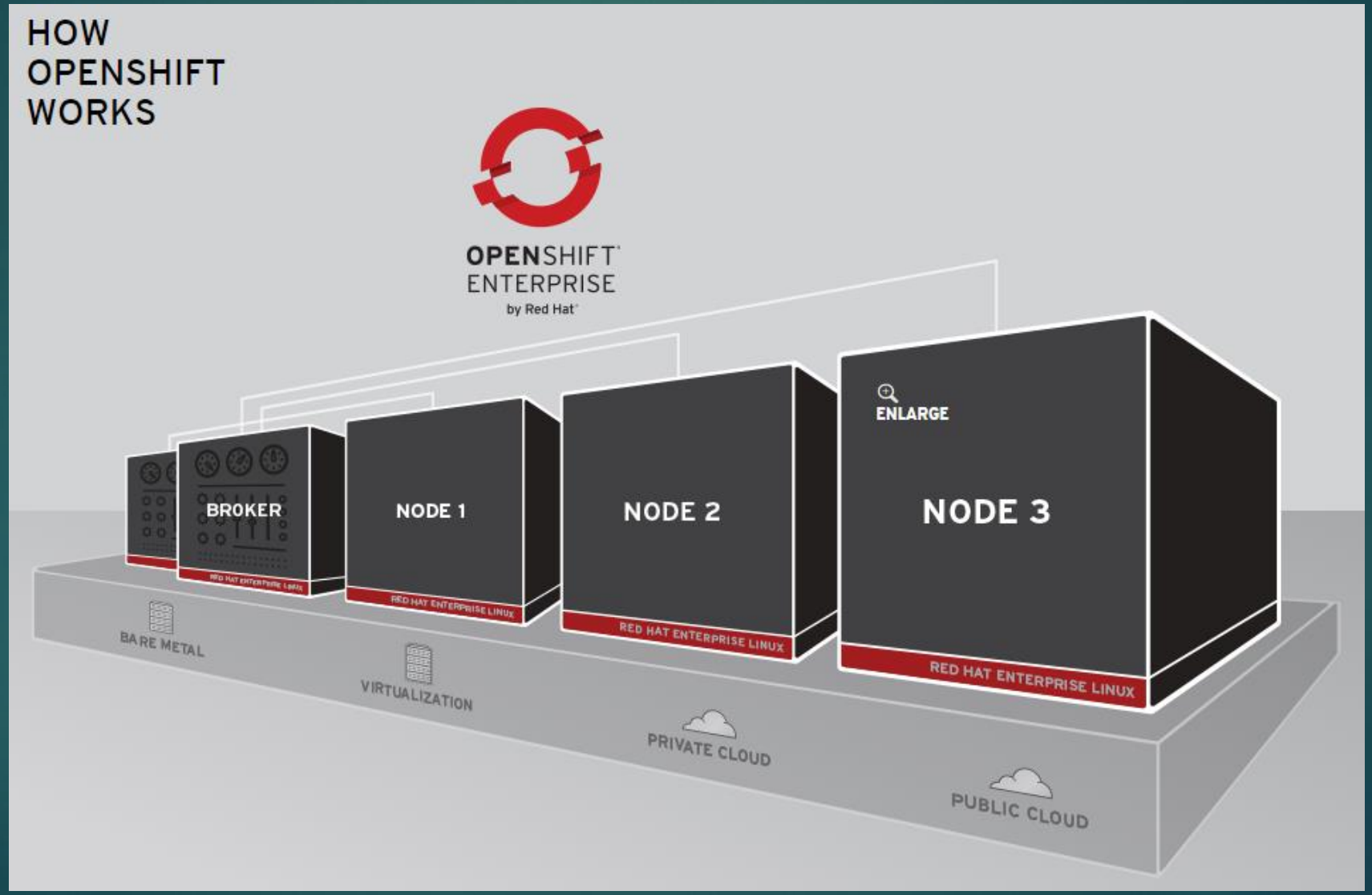
Ventajas

- Fácil de usar
- Fácil de configurar
- Múltiples lenguajes, frameworks y herramientas
- No requiere instalar ningún software, solo es necesario un navegador
- Proporciona hosting
- Portabilidad
- No dependencia de proveedores
- Escalabilidad

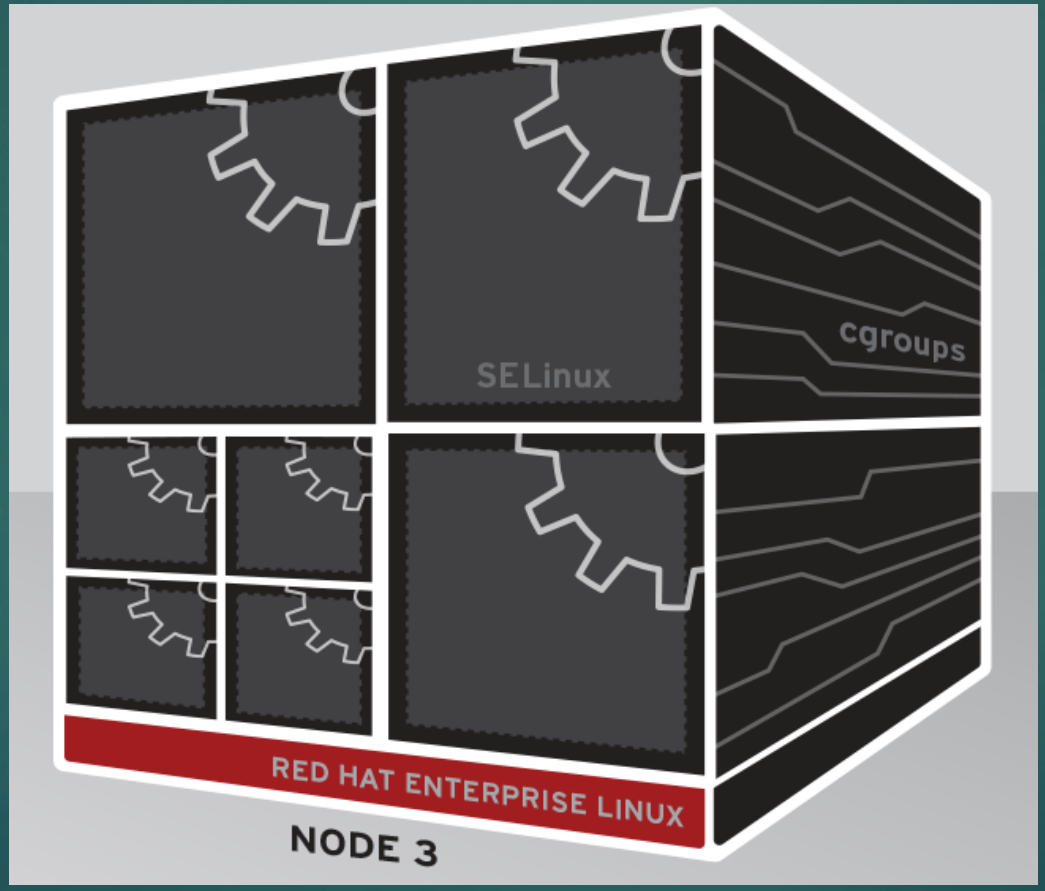
Como funciona – Ciclo de vida

- **1. Code** programar la aplicación, apoyándose en Git.
- **2. Build** se compila y ejecuta el código desde la nube
- **3. Deploy** desplegar módulos y funcionalidades adicionales
- **4. Manage** monitorizar, configurar y modificar sobre la marcha

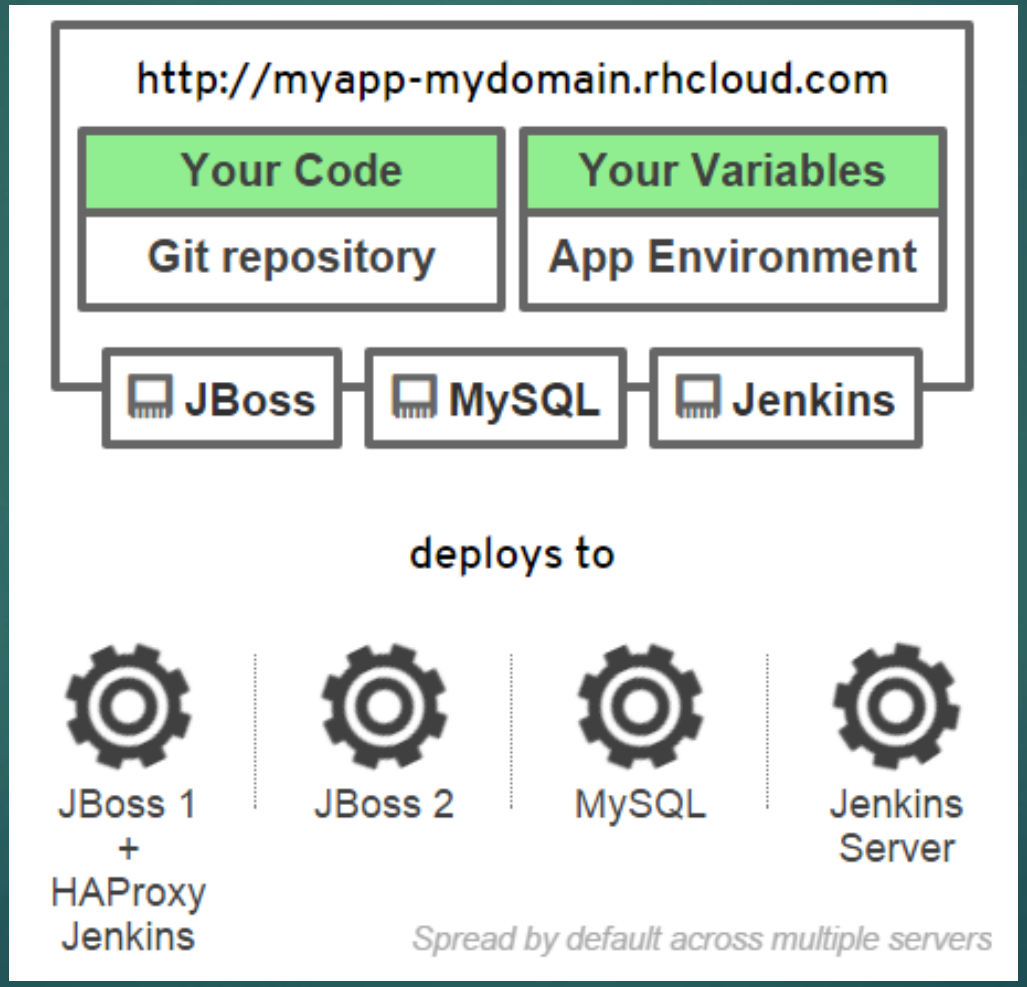
Como funciona - Componentes



Como funciona - Componentes



Como funciona - Aplicación



Código abierto

https://github.com/openshift/origin

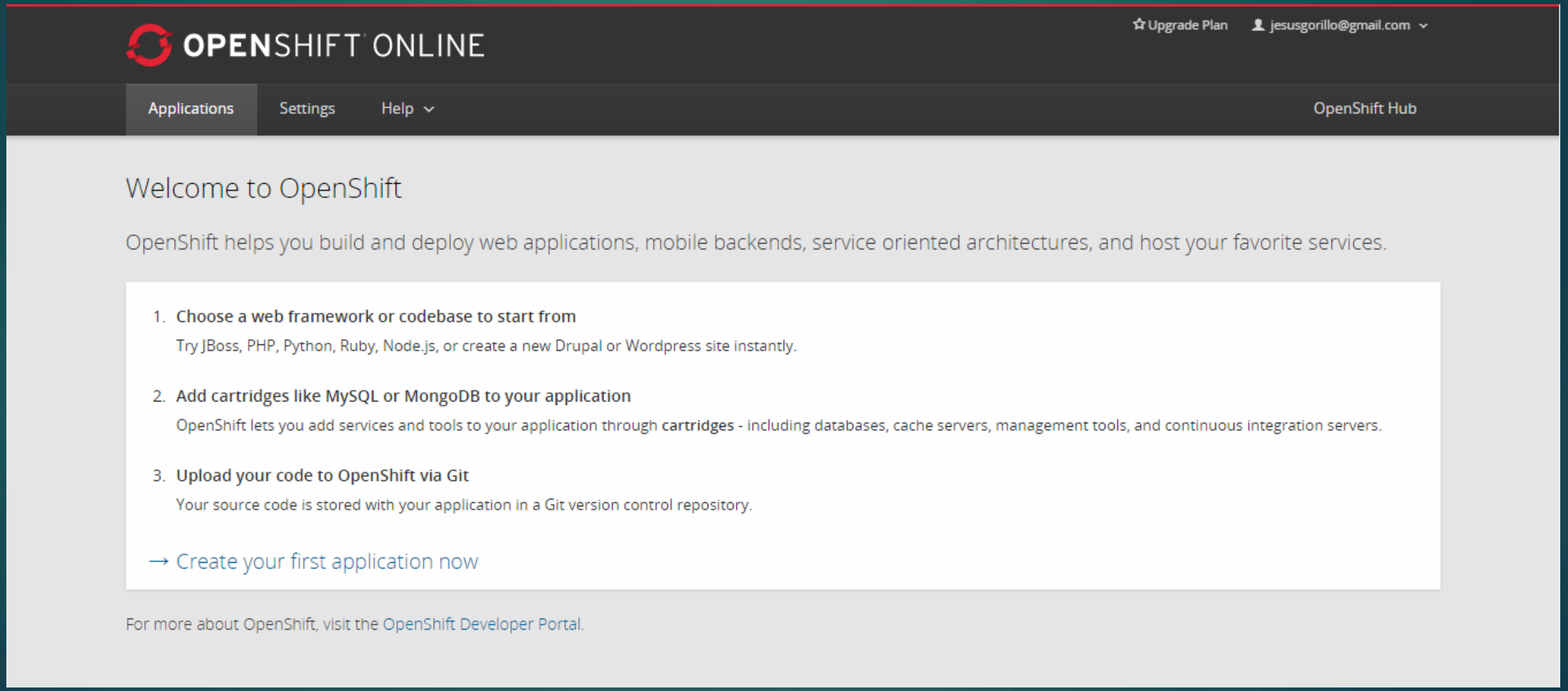
Open Source Project	Red Hat Commits last 30 days	Red Hat Pull Requests last 30 days	Issues involved in last 30 days
Origin	851	242	86

OpenShift Online

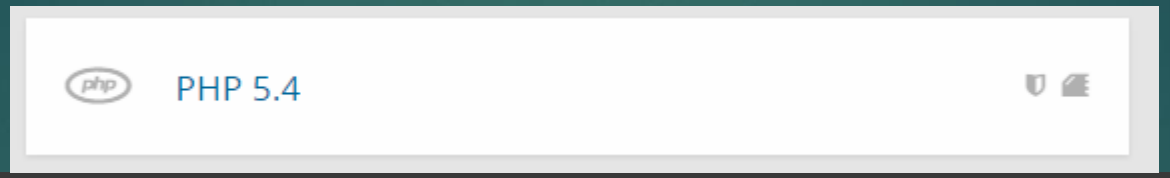
https://openshift.redhat.com/

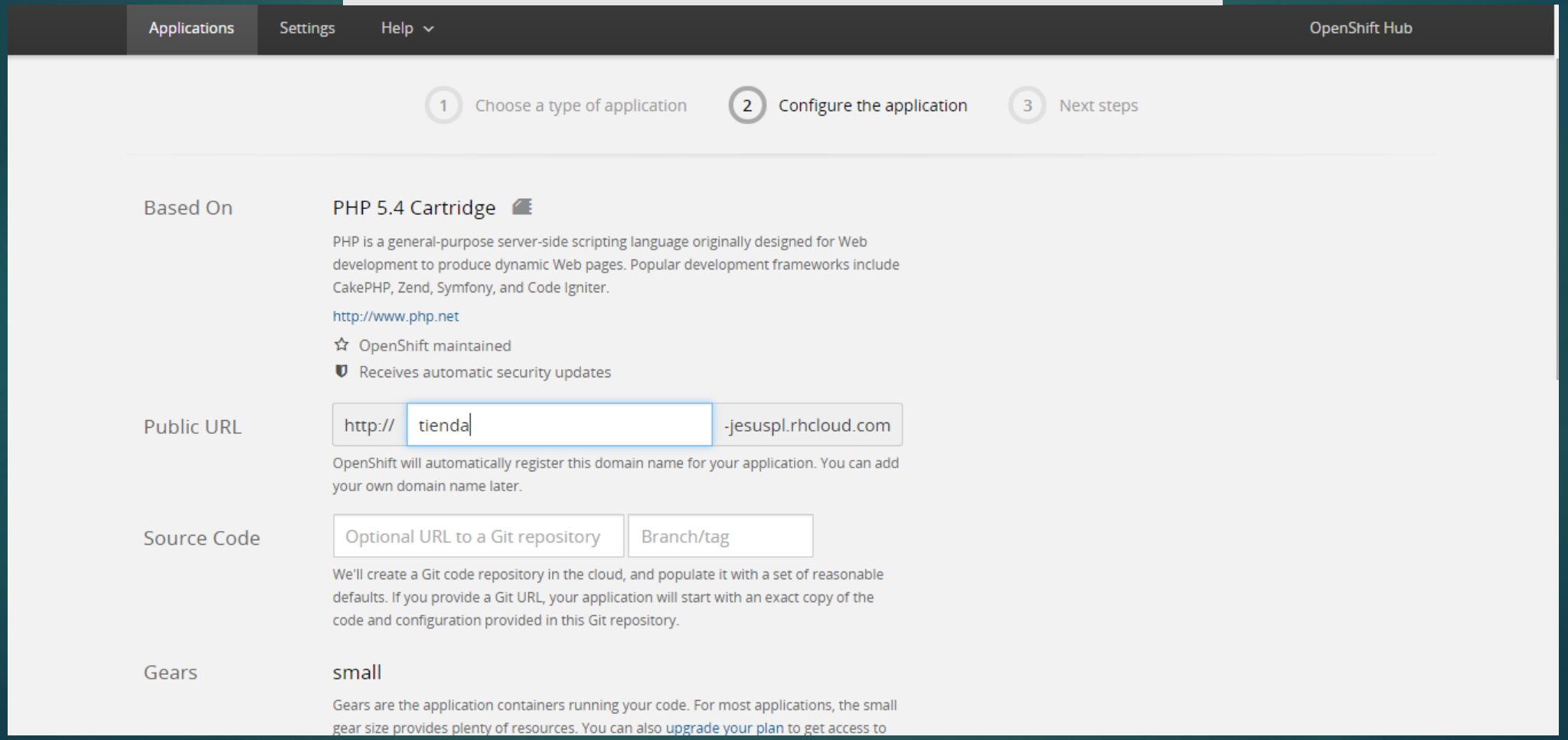
	Free Plan	Bronze Plan	Silver Plan
$ BASE PRICE	Free	Free	€15/month
APPLICATION IDLING	24 hours	Never	Never
INCLUDED GEARS	3 small gears	3 small gears	3 small gears
MAX GEARS	3	16	16+
SCALING	Yes (3 min / 3 max)	Yes (3 min / 16 max)	Yes (3 min / 16 max)
GEAR SIZES	small	small ($0.02/hour) small.highcpu ($0.025/hour) medium ($0.05/hour) large ($0.10/hour)	small ($0.02/hour) small.highcpu ($0.025/hour) medium ($0.05/hour) large ($0.10/hour)
STORAGE	1GB per gear	1GB per gear; $1.00/month per additional GB	6GB per gear; $1.00/month per additional GB
SSL	Shared	For custom domains	For custom domains
TEAMS	Not included	Up to 15	Up to 15
JBOSS EAP 6	Included	3 gears free; $0.03/hr per additional gear	3 gears free; $0.03/hr per additional gear
SUPPORT FROM	Community	Community	Red Hat & Community

Probando OpenShift Online

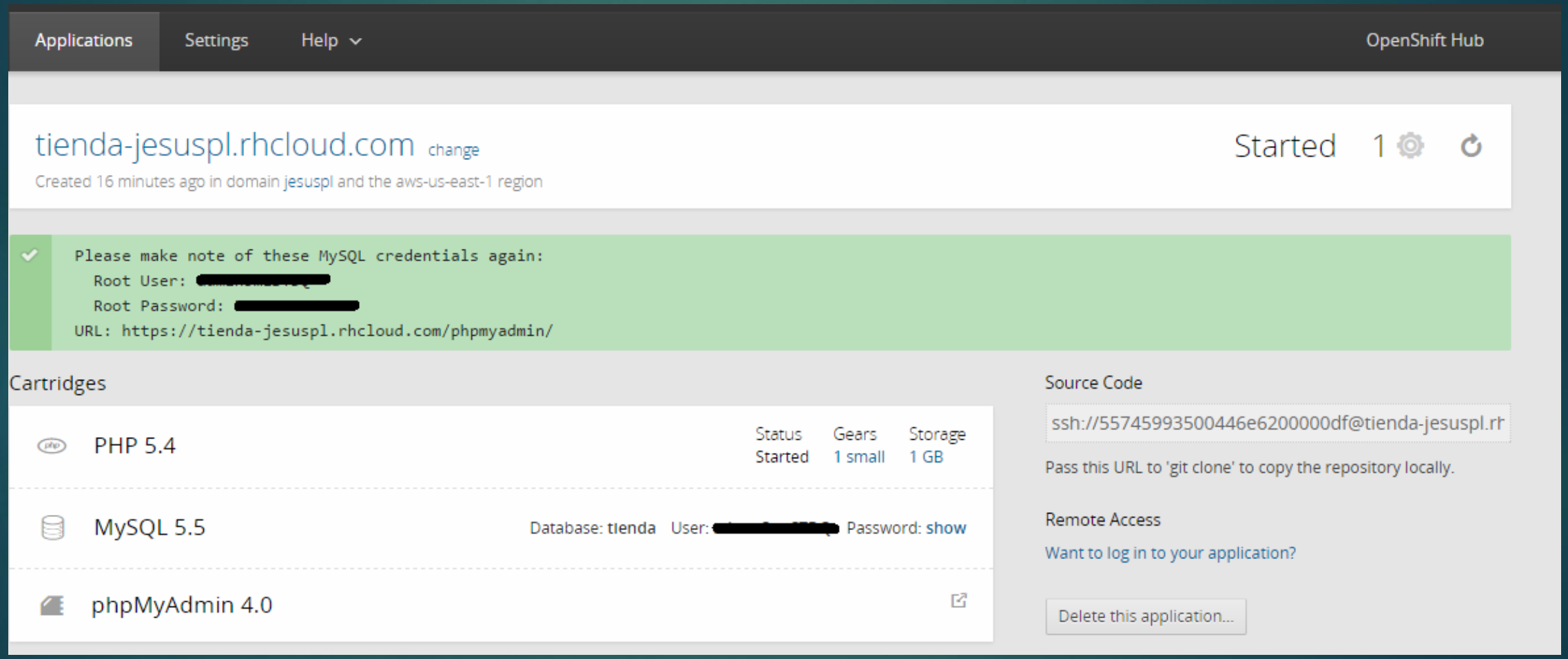


Creando la aplicación



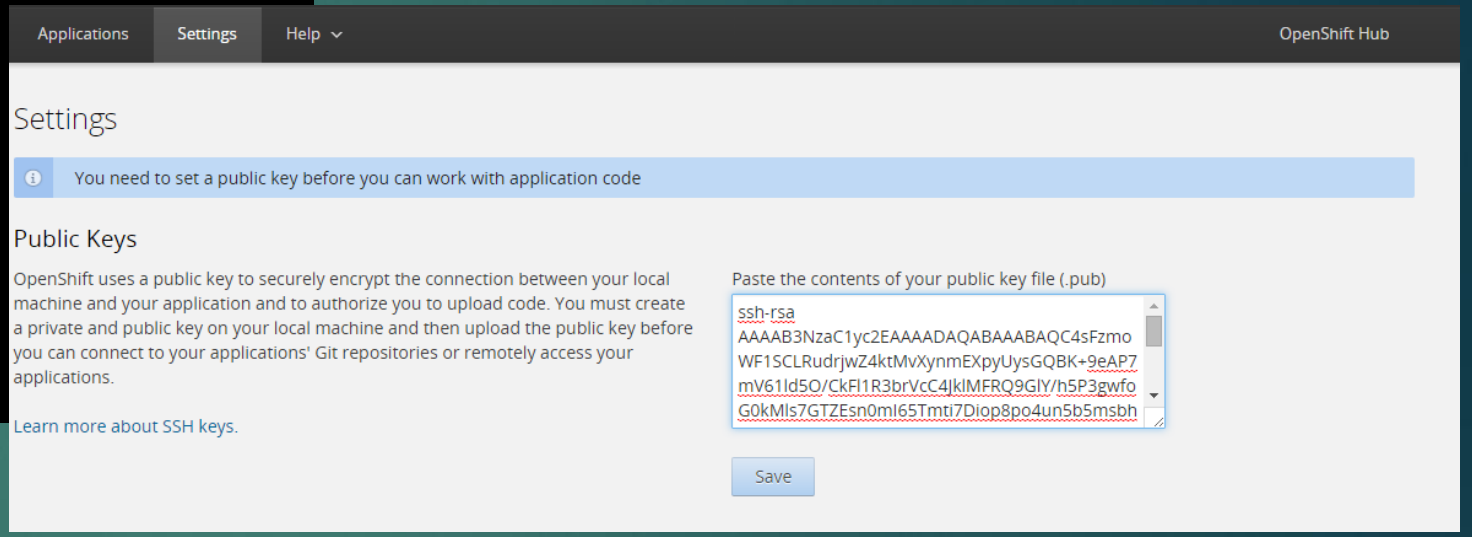


Panel de aplicación



Trabajar con la aplicación

```
Jesus@JES /C/Users/Jesus/Desktop/openshift (master)
$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/Jesus/.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:
1e:72:b7:e5:47:8e:65:be:ae:b6:2d:6f:ef:8a:e3:d7 Jesus@JES
The key's randomart image is:
+--[ RSA 2048]----+
|                 |
|                 |
|                 |
|                 |
|      . S . . +  |
|       + o + B   |
|        . . o +. |
|           ++o.E |
|          o=X*+o |
+-----------------+
```




```
Jesus@JES /C/Users/Jesus/Desktop/openshift (master)
$ eval $(ssh-agent -s)
Agent pid 2172

Jesus@JES /C/Users/Jesus/Desktop/openshift (master)
$ ssh-add openshift
Identity added: openshift (openshift)
```

```
Jesus@JES /C/Users/Jesus/Desktop/openshift (master)
$ git clone ssh://55745993500446e6200000df@tienda-jesuspl.rhcloud.com/~/git/tie
nda.git/ tienda
Cloning into 'tienda'...
remote: Counting objects: 19, done.
remote: Compressing objects: 100% (13/13), done.
remote: Total 19 (delta 2), reused 19 (delta 2)
Receiving objects: 100% (19/19), 18.12 KiB | 0 bytes/s, done.
Resolving deltas: 100% (2/2), done.
Checking connectivity... done.
```

Referencias

https://openshift.redhat.com/

http://www.redhat.com/es/technologies/cloud-computing/openshift

http://www.redhat.com/es/about/press-releases/openshift-red-hat-named-infoworld-technology-year-award-winner

http://docs.openshift.org/origin-m4/oo_deployment_guide_comprehensive.html

https://github.com/openshift/origin

https://www.openshift.com/products/architecture