

# Installing OpenShift Enterprise multi-nodes config using VirtualBox for extended demos

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<https://github.com/gbechara/osedevops>

# Prerequisites

- Virtual Box (tested on Version 5.0.20 r106931)
- Vagrant (tested on 1.8.1)
- Valid RHEL7 & OpenShift Container Platform Subscription
  - Trials are available on <https://www.openshift.com/container-platform/trial.html>
- Create your own Vagrant Box
  - Create a VirtualBox with RHEL7 “Server”
  - Add to this VirtualBox your valid Subs or use vagrant-registration plugin
  - Convert this Box into a Vagrant Base Box located on your local disk
    - Instruction are here <https://www.vagrantup.com/docs/boxes/base.html>
    - name this base box rhel72-server-base.box (or change the name in the Vagrantfile)
    - do not share this box : it contains your subscriptions

# Architecture

## DNS entry for each VM

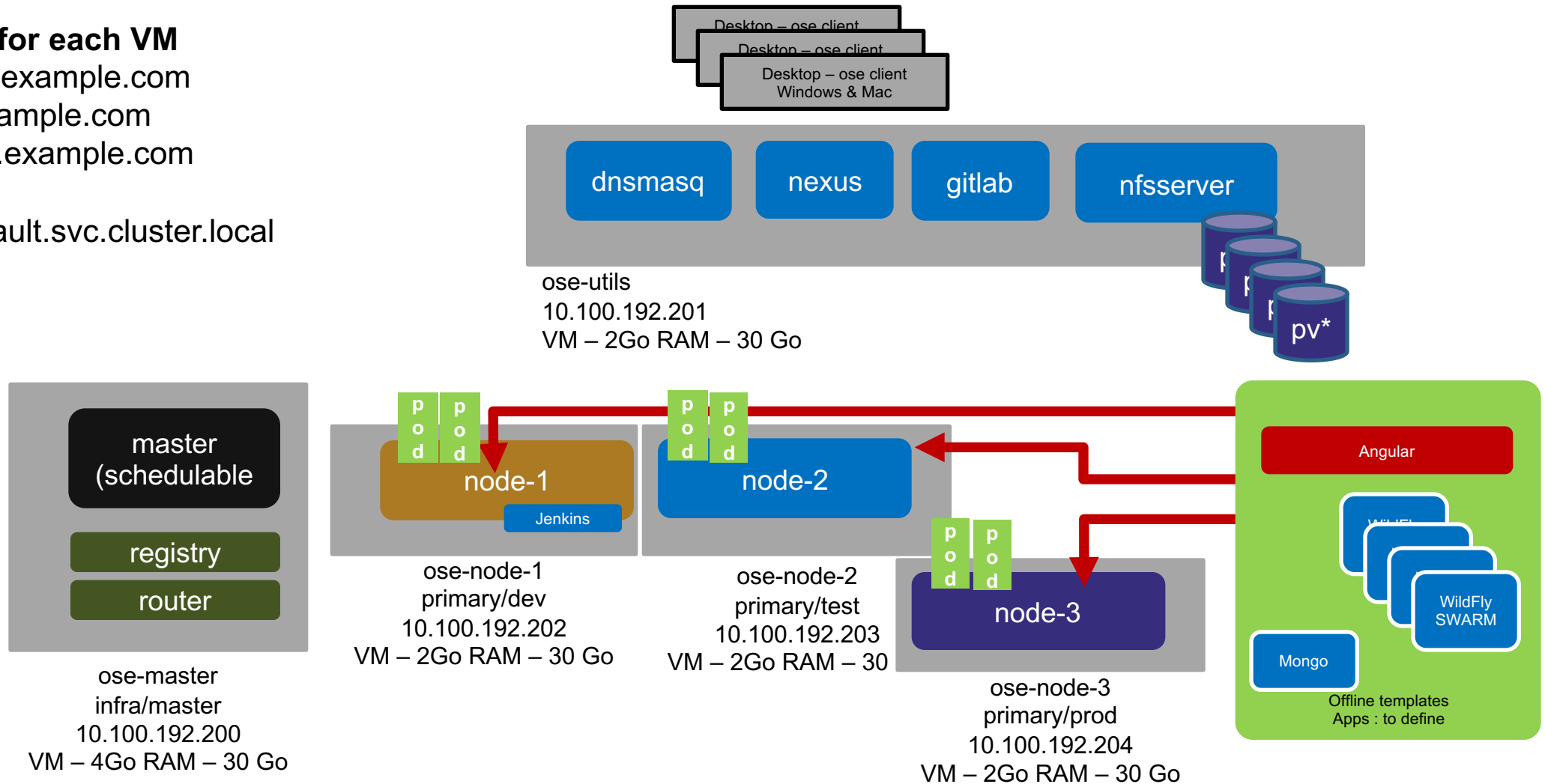
ose-master.example.com

ose-utils.example.com

ose-node-1.example.com

## Wildcards

\*.router.default.svc.cluster.local



# Usage (1/2)

- Get the source code
    - > git clone <https://github.com/gbechara/osdevops.git>
  - If your Sub is not in the Vagrant box you can use the vagrant-registration plugin
    - add in ~/.vagrant.d/Vagrantfile or in the Vagrantfile you got from github the following







```
Vagrant.configure('2') do |config|  
  config.registration.username = '<your Red Hat username>  
  config.registration.password = '<your Red Hat password>  
  config.registration.pools = [ 'thepoolthatcontainstheadequatesubs' ]  
End
```
- Launch
  - > Change the passwords in the file Vagrantfile to match the root password of your box
  - This password is needed to copy the generated ssh key to all OpenShift nodes
  - > cd osdevops
  - > vagrant plugin install vagrant-cachier
  - > vagrant plugin install vagrant-registration (if your sub is not in the vbox)
  - > vagrant up
- configure your host to add a dnsserver
  - on linux add in /etc/resolv.conf

```
search example.com  
10.100.192.201
```
- on osx create 2 files named 'example.com' and 'router.default.svc.cluster.local' in /etc/resolver add to those files
- ```
nameserver 10.100.192.201
```






# Usage (2/2)

- Openshift Web Console
  - <https://ose-master.example.com:8443/console/>
  - User dev1/dev1 have access to the development project
  - User test1/test1 have access to development, testing, ci and production (when created) project
- Jenkins
  - <https://jenkins-ci.router.default.svc.cluster.local/>
  - Jenkins user is admin/password
  - Use **pipeline-development-ticket-monster/**
- GitLab
  - <http://gitlab.example.com/>
  - User gabriel/weareawesome
  - 2 projects used by offline templates and one for jenkins

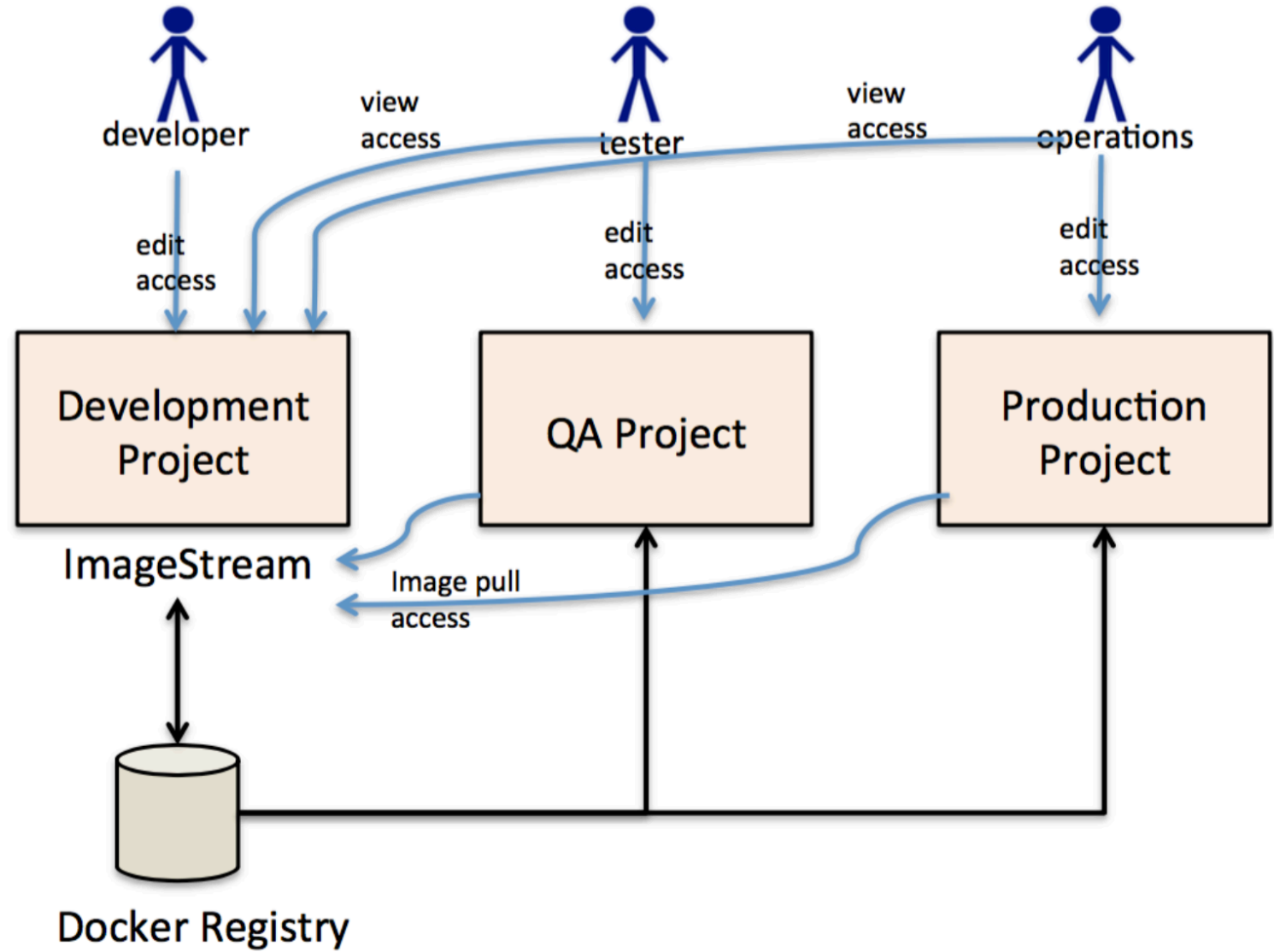
|   |                                    |
|---|------------------------------------|
| T | Gabriel Bechara / ticket-monster   |
| O | Gabriel Bechara / osdevops-jenkins |
| C | Gabriel Bechara / cake-php         |

| All                                                                                 | pipeline                                                                            | +                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------|
| S                                                                                   | M                                                                                   | Nom du projet ↓                                     |
|  |  | <a href="#">build-development-ticket-monster</a>    |
|  |  | <a href="#">deploy-testing-ticket-monster</a>       |
|  |  | <a href="#">pipeline-development-ticket-monster</a> |

Icône: [S](#) [M](#) [L](#)

| Instant Apps                                                                          |                                                                                                    | See all                                                                                                                                                                     |
|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>1-cakephp-offline</b><br>INSTANT-APP QUICKSTART PHP CAKEPHP                                     |   |
|  | <b>1-eap64-ticket-monster-offline</b><br>Version: 1.2.0<br>INSTANT-APP EAP JAVAEE JAVA JBOSS XPAAS |                                                                                        |


# Example



Based on <https://blog.openshift.com/promoting-applications-across-environments/>

# Jenkins Pipeline : from dev to production


→ Approvals between environments and creation of the next env if it does not exist


**Jenkins**


rechercher


Jenkins Admin | se déconnecter


Jenkins > pipeline-development-ticket-monster > [Rafraîchissement automatique](#)


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 [Configurer](#)

 [Move](#)

 [Full Stage View](#)

 **Historique des builds** [tendance](#)



find

#4 3 juin 2016 23:04

#3 3 juin 2016 23:02

#2 3 juin 2016 22:42

#1 3 juin 2016 22:36

 [RSS des builds](#)  [RSS des échecs](#)

## Pipeline pipeline-development-ticket-monster

 [Recent Changes](#)

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### Stage View

Average stage times:  
(Average full run time: ~25s)

#4  
Jun 04 01:04  
No Changes

#3  
Jun 04 01:02  
No Changes

#2

| Build image and deploy in Dev | Wait for approval                   | Deploy to testing   | Wait for approval                  | Deploy to production |
|-------------------------------|-------------------------------------|---------------------|------------------------------------|----------------------|
| 8s                            | 714ms                               | 5s                  | NaNy NaNd                          | 8s                   |
| 8s<br>master                  | 471ms<br>(paused for 46s)<br>master | 7s<br>master        | 263ms<br>(paused for 8s)<br>master | 8s<br>master         |
| 7s<br>master                  | 418ms<br>(paused for 7s)<br>master  | 6s<br>master failed |                                    |                      |
|                               |                                     |                     |                                    |                      |

# Notes

- Installation works only when connected to internet
  - OOTB Templates use github and maven repos
  - It may take time, around 40 minutes, depending on the roles you add
- 2 templates can then be used to do offline demos
  - 1-eap64-ticket-monster-offline
  - 1-cakephp-offline
- During the install the sample gitlab, nexus, the docker images, the jenkins plugins are all populated to work offline for the 2 templates
- 3 users (gabriel, dev1, test1), 2 projects (development, testing) are created to deploy the sample, the jenkins job “pipeline-development-ticket-monster” will create a third project



# Roadmap

- ✓ Add NFS for persistent Volumes
- ✓ Add a git server
- ✓ Add a nexus
- ✓ Add templates for offline demos using the git server and the nexus
- ✓ Deploy and example to populate the docker registry, gitlab and nexus
- ✓ Showcase an application promotion across environments
- ✓ Showcase Jenkins with approval steps
- Add other samples
  - Deploying WildFly SWARM microservices on OpenShift
  - Covering the entire DevOps lifecycle
  - Other ideas ?
  - ....