OpenStack Folsom Guide

Guide for Ubuntu Precise

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Introduction

I'm writing this document a few weeks before Folsom stable release. I could not resist to share my experience with the community who can't wait the D Day (like me actually !).

This document helps anyone who wants to deploy Folsom of OpenStack for development purpose.

Table 1. Architecture and informations

	controller	**compute**
Managment Network	192.168.0.1/24	192.168.0.2/24
Hostname	folsom-controller	folsom-compute
Services	MySQL, RabbitMQ, Nova, Glance, Keystone, Quantum	nova-compute, KVM, nova-api

Note

That's a basic architecture, of course you can add many compute nodes as you want.

Since Folsom code has not been release into stable Ubuntu Packages, we are going to use "Folsom Testing Packages" which are very close from latest code.

Requirements

You need at least two machines (virtual or physical) with 2 NIC. You need also to download Ubuntu 12.04 (LTS).

Note

Run all commands as the root user

Controller Node

Operating System

1. Install Ubuntu with this parameters :

   - Time zone : **UTC**
   - Hostname : **folsom-controller**
   - Packages : **OpenSSH-Server**

   After OS Installation, reboot the server .

2. Add the repository and upgrade Ubuntu :

```
apt-get install -y python-software-properties
add-apt-repository ppa:openstack-ubuntu-testing/folsom-trunk-testing
apt-get update && apt-get -y dist-upgrade
```

   Reboot the server.

3. Configure the network :

   - Edit **/etc/network/interfaces** file :

```
# Management Network
auto eth0
    iface eth0 inet static
    address 192.168.0.1
    netmask 255.255.255.0
    gateway 192.168.0.254
    dns-nameservers 8.8.8.8

# Bridged Network
auto eth1
    iface eth1 inet manual
    up ifconfig $IFACE 0.0.0.0 up
    up ip link set $IFACE promisc on
    down ip link set $IFACE promisc off
    down ifconfig $IFACE down
```

   Then, restart network service :

```
service networking restart
```

Note

If **eth1** is connected to a Switch, it should be in tagged mode.

   - Enable **IP forwarding** :

```
sed -i -r 's/^\s*#(net\.ipv4\.ip_forward=1.*)/\1/' /etc/sysctl.conf
echo 1 > /proc/sys/net/ipv4/ip_forward
```

- Edit the **/etc/hosts** file and add **folsom-controller** & **folsom-compute** hostnames with correct IP.

4. Install & Configure NTP :

   - Install the package :

     ```
     apt-get install -y ntp
     ```

   - Configure **/etc/ntp.conf** file :

     ```
     server ntp.ubuntu.com iburst
     server 127.127.1.0
     fudge 127.127.1.0 stratum 10
     ```

   - Restart the service :

     ```
     service ntp restart
     ```

MySQL

1. Install the packages :

   ```
   apt-get -y install mysql-server python-mysqldb
   ```

2. Allow connection from the network :

   ```
   sudo sed -i 's/127.0.0.1/0.0.0.0/g' /etc/mysql/my.cnf
   ```

3. Restart the service :

   ```
   service mysql restart
   ```

4. Create Databases, Users, Rights :

   ```
   mysql -u root -ppassword <<EOF
   CREATE DATABASE nova;
   GRANT ALL PRIVILEGES ON nova.* TO 'nova'@'localhost' IDENTIFIED BY 'password'
   CREATE DATABASE glance;
   GRANT ALL PRIVILEGES ON glance.* TO 'glance'@'localhost' IDENTIFIED BY 'passw
   CREATE DATABASE keystone;
   GRANT ALL PRIVILEGES ON keystone.* TO 'keystone'@'localhost' IDENTIFIED BY 'pa
   CREATE DATABASE quantum;
   GRANT ALL PRIVILEGES ON quantum.* TO 'quantum'@'localhost' IDENTIFIED BY 'pass
   FLUSH PRIVILEGES;
   EOF
   ```

RabbitMQ

1. Install the packages :

   ```
   apt-get -y install rabbitmq-server
   ```

2. Create an user for OpenStack services with a password :

   ```
   rabbitmqctl add_user openstack password
   ```

Keystone

1. Install the packages :

```
apt-get -y install keystone python-keystone python-keystoneclient
```

2. Edit **/etc/keystone/keystone.conf** :

```
[DEFAULT]
admin_token = password
bind_host = 0.0.0.0
public_port = 5000
admin_port = 35357
compute_port = 8774
verbose = True
debug = True
log_file = keystone.log
log_dir = /var/log/keystone
log_config = /etc/keystone/logging.conf

[sql]
connection = mysql://keystone:password@localhost:3306/keystone
idle_timeout = 200

[identity]
driver = keystone.identity.backends.sql.Identity

[catalog]
driver = keystone.catalog.backends.sql.Catalog

(...)
```

3. Restart Keystone and create the tables in the database :

```
service keystone restart
keystone-manage db_sync
```

4. Load environment variables :

   - Create **novarc** file :

```
export OS_TENANT_NAME=admin
export OS_USERNAME=admin
export OS_PASSWORD=password
export OS_AUTH_URL="http://localhost:5000/v2.0/"
export SERVICE_ENDPOINT="http://localhost:35357/v2.0";
export SERVICE_TOKEN=password
```

5. • Load the variables :

```
source novarc
echo "source novarc">>.bashrc
```

6. Fill Keystone database with datas :

```
./keystone-data.sh
```

7. Create Endpoints :

```
./keystone-endpoints.sh
```

Glance

lol

Nova

lol

Quantum

lol

Open-vSwitch

lol

Horizon

lol

Compute Node

Operating System

lol

Hypervisor

lol

Nova

lol

Open-vSwitch

lol

Credits

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