**基于DevStack的Openstack folsom版开发环境搭建**

**http://iam42.iteye.com/blog/1747401**

一.使用DevStack搭建框架

   DevStack是一个开源脚本，用于搭建单节点的openstack开发环境。但是，如果不在localrc脚本里修改相应配置，其搭建出来的openstack不包含quantum模块（如何配置使其包含quantum模块openstack官网有说明），并且这个是使用screen技术集成的各个模块，重启之后需要手动开启各个服务，并导入环境变量。

开启各服务命令：

1.keystone

     keystone-all --config-file=/etc/keystone/keystone.conf &（&的意思是keystone在后台运行，可不加）

2.glance

     glance-api --config-file=/etc/glance/glance-api.conf &

     glance-registry --config-file=/etc/glance/glance-registry.conf &

3.cinder

     cinder-all --config-file=/etc/cinder/cinder.conf &

4.nova

     nova-api-os-compute --config-file=/etc/nova/nova.conf &

     nova-api-metadata --config-file=/etc/nova/nova.conf &  
     nova-compute --config-file=/etc/nova/nova.conf &  
     nova-cert --config-file=/etc/nova/nova.conf &

     nova-scheduler --config-file=/etc/nova/nova.conf &

     nova-volume --config-file=/etc/nova/nova.conf &

     nova-network --config-file=/etc/nova/nova.conf &

     nova-consoleauth --config-file=/etc/nova/nova.conf &  
     nova-novncproxy --config-file=/etc/nova/nova.conf &

     #nova-xvpvncproxy --config-file=/etc/nova/nova.conf &   
     #nova-consoleauth --config-file=/etc/nova/nova.conf &

     nova-objectstore --config-file=/etc/nova/nova.conf &

      -----或者直接nova-all --config-file=/etc/nova/nova.conf &

导入环境变量：

导入环境变量主要是通过keystone认证的需要

     export OS\_SERVICE\_TOKEN=123456  
     export OS\_USERNAME=admin

     export OS\_PASSWORD=123456  
     export OS\_TENANT\_NAME=admin  
     export OS\_AUTH\_URL=http://localhost:5000/v2.0/  
     export OS\_SERVICE\_ENDPOINT=http://localhost:35357/v2.0/

导入成功后可用env命令查看

使用glance创建镜像文件的命令

glance add name="ubuntu-test" container\_format=bare disk\_format=raw is\_public=true</home/zg/下载/ubuntu.img

二.安装quantum模块

    首先，需要保证quantum的版本和其他模块的版本匹配（我安装的是quantum-2012.2版本），否则会出如下错误：

Python代码 [复制代码](http://iam42.iteye.com/blog/1747547) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. Traceback (most recent call last):
2. File "/usr/local/lib/python2.7/dist-packages/cliff/app.py", line 249, in run\_subcommand
3. result = cmd.run(parsed\_args)
4. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/common/command.py", line 35, in run
5. return super(OpenStackCommand, self).run(parsed\_args)
6. File "/usr/local/lib/python2.7/dist-packages/cliff/display.py", line 84, in run
7. column\_names, data = self.take\_action(parsed\_args)
8. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/common/command.py", line 41, in take\_action
9. return self.get\_data(parsed\_args)
10. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/quantum/v2\_0/\_\_init\_\_.py", line 255, in get\_data
11. data = obj\_creator(body)
12. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 102, in with\_params
13. ret = self.function(instance, \*args, \*\*kwargs)
14. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 262, in create\_network
15. return self.post(self.networks\_path, body=body)
16. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 593, in post
17. headers=headers, params=params)
18. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 518, in do\_request
19. self.\_handle\_fault\_response(status\_code, replybody)
20. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 499, in \_handle\_fault\_response
21. exception\_handler\_v20(status\_code, des\_error\_body)
22. File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 82, in exception\_handler\_v20
23. message=message)
24. QuantumClientException: 404 Not Found
26. The resource could not be found.

Traceback (most recent call last):

File "/usr/local/lib/python2.7/dist-packages/cliff/app.py", line 249, in run\_subcommand

result = cmd.run(parsed\_args)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/common/command.py", line 35, in run

return super(OpenStackCommand, self).run(parsed\_args)

File "/usr/local/lib/python2.7/dist-packages/cliff/display.py", line 84, in run

column\_names, data = self.take\_action(parsed\_args)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/common/command.py", line 41, in take\_action

return self.get\_data(parsed\_args)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/quantum/v2\_0/\_\_init\_\_.py", line 255, in get\_data

data = obj\_creator(body)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 102, in with\_params

ret = self.function(instance, \*args, \*\*kwargs)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 262, in create\_network

return self.post(self.networks\_path, body=body)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 593, in post

headers=headers, params=params)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 518, in do\_request

self.\_handle\_fault\_response(status\_code, replybody)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 499, in \_handle\_fault\_response

exception\_handler\_v20(status\_code, des\_error\_body)

File "/usr/local/lib/python2.7/dist-packages/python\_quantumclient-0.0.0-py2.7.egg/quantumclient/v2\_0/client.py", line 82, in exception\_handler\_v20

message=message)

QuantumClientException: 404 Not Found

The resource could not be found.

头疼的错误，及其不好找，卡了我两个礼拜...

安装过程：

1.安装openvswitch，具体过程参见之前写的博客

2.安装quantum，过程没啥好说的

启动quantum：

quantum一共有四部分，他们的启动顺序有一定要求

Python代码 [复制代码](http://iam42.iteye.com/blog/1747547) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. 1.sudo quantum-openvswitch-agent --config-file=/etc/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini
2. 2.sudo quantum-server --config-file=/etc/quantum/quantum.conf --config-file=/etc/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini
3. 3.sudo quantum-dhcp-agent --config-file=/etc/quantum/quantum.conf --config-file=/etc/quantum/dhcp\_agent.ini
4. 4.sudo quantum-l3-agent --config-file=/etc/quantum/l3\_agent.ini

1.sudo quantum-openvswitch-agent --config-file=/etc/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini

2.sudo quantum-server --config-file=/etc/quantum/quantum.conf --config-file=/etc/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini

3.sudo quantum-dhcp-agent --config-file=/etc/quantum/quantum.conf --config-file=/etc/quantum/dhcp\_agent.ini

4.sudo quantum-l3-agent --config-file=/etc/quantum/l3\_agent.ini

调试quantum过程中遇到的各种小错误：

1.日志输出AMQP server on localhost:5672 is unreachable问题的解决方法

/etc/quantum/quantum.conf配置文件中 配置rabbit的内容  
[default]  
rabbit\_password = 123456  
rabbit\_host = localhost

2.endpoint错误解决方法

 需要在keystone里为每个服务配置endpoint

3.启动nova-compute的ImportError: No module named quantum.manager问题

  注释掉nova.conf中的network\_manager即可

4.修复启动quantum-l3-agent时导入模块错误

 sed -i 's/quantum-l3-agent = quantum.agent.l3\_nat\_agent:main/quantum-l3-agent = quantum.agent.l3\_agent:main/g' setup.py

5.修复eventlet一个bug  
 sed -i 's/def wait(self, check\_interval=0.01):/def wait(self, check\_interval=0.01,timeout=None):/g' /usr/lib/python2.6/site-packages/eventlet/green/subprocess.py

6.quantum-dhcp启动问题

报错：

Java代码

1. 2012-12-11 14:47:12     INFO [quantum.openstack.common.rpc.common] Connected to AMQP server on localhost:5672
2. 2012-12-11 14:48:12    ERROR [quantum.openstack.common.rpc.common] Timed out waiting for RPC response: timed out

2012-12-11 14:47:12 INFO [quantum.openstack.common.rpc.common] Connected to AMQP server on localhost:5672

2012-12-11 14:48:12 ERROR [quantum.openstack.common.rpc.common] Timed out waiting for RPC response: timed out

 需要在quantum-dhcp 的启动命令里加quantum.conf配置文件

7.启动quantum-server时Cannot operate on a closed database的问题：

quantum-server启动要加ovs插件的配置文件

8.quantum-server net-list出错

报错：

Java代码

2012-12-12 14:20:52    ERROR [quantum.openstack.common.policy] Failed to understand rule u'l'

1. Traceback (most recent call last):
2. File "/usr/local/lib/python2.7/dist-packages/quantum-2012.2-py2.7.egg/quantum/openstack/common/policy.py", line 161, in \_check
3. ValueError: need more than 1 value to unpack
4. /etc/quantum/policy.py

2012-12-12 14:20:52 ERROR [quantum.openstack.common.policy] Failed to understand rule u'l'

Traceback (most recent call last):

File "/usr/local/lib/python2.7/dist-packages/quantum-2012.2-py2.7.egg/quantum/openstack/common/policy.py", line 161, in \_check

ValueError: need more than 1 value to unpack

/etc/quantum/policy.py

 用/opt/stack/quantum/etc/policy.py覆盖etc/quantum下的同名文件即可

9.虚拟机分配不到ip地址问题

需要先用quantum创建net subnet router等等

Java代码 [复制代码](http://iam42.iteye.com/blog/1747547) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. tenant\_id=`keystone tenant-list |awk '/ admin/ {print $2}'`
2. net\_id=`quantum net-create --tenant-id $tenant\_id net\_one --provider:network\_type flat --provider:physical\_network physnet1 |awk '/ id/ {print $4}'`
3. subnet\_id=`quantum subnet-create --tenant-id $tenant\_id --ip\_version 4 --gateway 10.0.0.1 $net\_id 10.0.0.0/24 -- --enable\_dhcp=True |awk '/ id/ {print $4}'`
4. router\_id=`quantum router-create --tenant-id $tenant\_id router1 |awk '/ id/ {print $4}'`
5. quantum router-interface-add $router\_id $subnet\_id

tenant\_id=`keystone tenant-list |awk '/ admin/ {print $2}'`

net\_id=`quantum net-create --tenant-id $tenant\_id net\_one --provider:network\_type flat --provider:physical\_network physnet1 |awk '/ id/ {print $4}'`

subnet\_id=`quantum subnet-create --tenant-id $tenant\_id --ip\_version 4 --gateway 10.0.0.1 $net\_id 10.0.0.0/24 -- --enable\_dhcp=True |awk '/ id/ {print $4}'`

router\_id=`quantum router-create --tenant-id $tenant\_id router1 |awk '/ id/ {print $4}'`

quantum router-interface-add $router\_id $subnet\_id

 quantum.conf的相关配置进行调整

Java代码 [复制代码](http://iam42.iteye.com/blog/1747547) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. sed -i 's/sql\_connection = sqlite:\/\//sql\_connection = mysql:\/\/root:123456@localhost\/ovs\_quantum/g' /etc/quantum/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini
2. sed -i '24a tenant\_network\_type = none' /etc/quantum/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini
3. sed -i '36a network\_vlan\_ranges = physnet1' /etc/quantum/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini
4. sed -i '43a enable\_tunneling = False' /etc/quantum/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini
5. sed -i '60a integration\_bridge = br-int' /etc/quantum/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini
6. sed -i '81a bridge\_mappings = physnet1:br-int' /etc/quantum/quantum/plugins/openvswitch/ovs\_quantum\_plugin.ini

为OpenStack添加计算节点：

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计算节点需要安装的软件

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1.NTP服务器

   安装：apt-get –y install ntp

   配置：/etc/ntp.conf中写入server 10.21.3.83(主同步节点的ip)

  重启：/etc/init.d/ntp restart

2.安装KVM和libvirt

   安装：apt-get install -y kvm libvirt-bin pm-utils

   配置：

                编辑 /etc/libvirt/qemu.conf ，添加下面内容

Java代码 [复制代码](http://iam42.iteye.com/blog/1750527) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. cgroup\_device\_acl = [
2. "/dev/null", "/dev/full", "/dev/zero",
3. "/dev/random", "/dev/urandom",
4. "/dev/ptmx", "/dev/kvm", "/dev/kqemu",
5. "/dev/rtc", "/dev/hpet","/dev/net/tun",
6. ]

cgroup\_device\_acl = [

"/dev/null", "/dev/full", "/dev/zero",

"/dev/random", "/dev/urandom",

"/dev/ptmx", "/dev/kvm", "/dev/kqemu",

"/dev/rtc", "/dev/hpet","/dev/net/tun",

]

              允许迁移，编辑 /etc/libvirt/libvirtd.conf, 去掉这三行的注释

Java代码 [复制代码](http://iam42.iteye.com/blog/1750527) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. listen\_tls = 0
2. listen\_tcp = 1
3. auth\_tcp = "none"

listen\_tls = 0

listen\_tcp = 1

auth\_tcp = "none"

             编辑 /etc/init/libvirt-bin.conf

Java代码 [复制代码](http://iam42.iteye.com/blog/1750527) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. env libvirtd\_opts="-d -l"

env libvirtd\_opts="-d -l"

             编辑 /etc/default/libvirt-bin

Java代码 [复制代码](http://iam42.iteye.com/blog/1750527) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. libvirtd\_opts="-d -l"

libvirtd\_opts="-d -l"

   重启：service libvirt-bin restart

3.安装Openvswitch

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安装Nova-compute和quantum-openvswitch-agent

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直接从10.21.3.83中拷出nova,quantum的源代码，安装setup.py（貌似不需要client）

 启动：nova-compute --config-file=/etc/nova/nova.conf

               quantum-openvswitch-agent --config-file=/etc/quantum/ovs\_quantum\_plugin.ini

启动完成后，能在nova-manage service list里看到新加的计算节点

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debug

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1.安装nova以及quantum需要提前安装 build-essential, python-dev（缺少，则会报错）,python-pyparsing（缺少，会报：SyntaxError: invalid syntax错误）

2.错误:Connection reset by peer-----解决：安装 python-cmd2

3.错误：No module named libvirt--------解决：安装 python-libvirt

4.错误：No module named mysql--------解决：安装python-mysqldb

5.错误：ImportERR: cannot import name sqlsoup-----解决:使用sqlalchemy0.7.9版本

修改原：sqlalchemy.ext import sqlsoup-----新：sqlalchemy.ext.sqlsoup import SqlSoup

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参考资料

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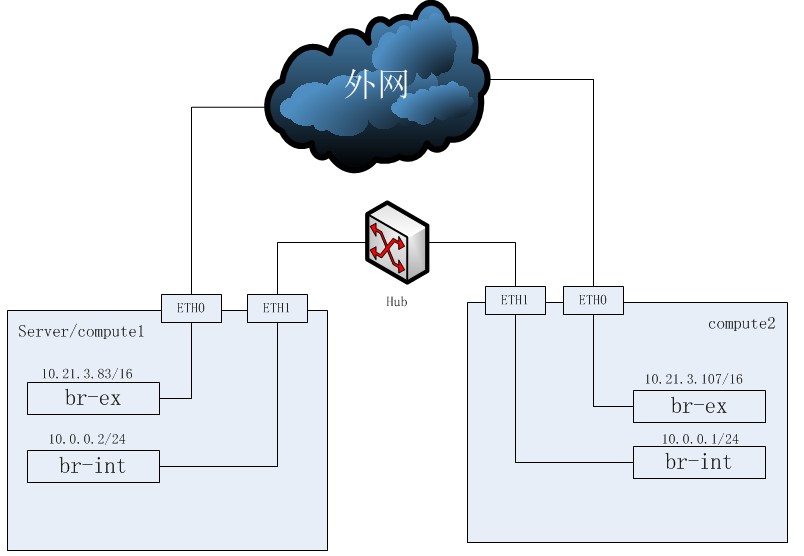
陈沙克日志：<http://www.chenshake.com/openstack-folsom-install-guide-vlan-mode/>

quantum虚拟网路配置(vlan模式)

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物理网络拓扑图

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两台机器都需要双网卡，在eth0上创建网桥br-ex ，负责虚拟机以及hypervisor和外部网络间的通信;在eth1上创建网桥br-int，负责计算节点与服务节点之间的通信。这里需要把IP地址与网关都配置在网桥上，ovs的相关配置命令：

Java代码 [复制代码](http://iam42.iteye.com/blog/1751194) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. ovs-vsctl add-br br-int
2. ovs-vsctl add-port br-int eth1  //br-int与eth1绑定
3. ovs-vsctl add-br br-ex
4. ovs-vsctl add-port br-ex eth0  //br-ex与eth0绑定

ovs-vsctl add-br br-int

ovs-vsctl add-port br-int eth1 //br-int与eth1绑定

ovs-vsctl add-br br-ex

ovs-vsctl add-port br-ex eth0 //br-ex与eth0绑定

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quantum虚拟网络创建（参照陈沙克老师博客）

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 quantum为单个租户创建一个网络，这个租户创建的所有虚拟机都是用这个网络（net），一个网络下可以划分若干子网（subnet），然后需要为每个子网建立一个虚拟router，并把他们关联上。

创建一个租户

Java代码 [复制代码](http://iam42.iteye.com/blog/1751194) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. keystone tenant-create --name project\_one

keystone tenant-create --name project\_one

创建一个用户：user\_one，roles是成员角色

Java代码 [复制代码](http://iam42.iteye.com/blog/1751194) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. keystone user-create --name=user\_one --pass=user\_one --tenant-id $put\_id\_of\_project\_one --email=user\_one@domain.com
2. keystone user-role-add --tenant-id $put\_id\_of\_project\_one  --user-id $put\_id\_of\_user\_one --role-id $put\_id\_of\_member\_role

keystone user-create --name=user\_one --pass=user\_one --tenant-id $put\_id\_of\_project\_one --email=user\_one@domain.com

keystone user-role-add --tenant-id $put\_id\_of\_project\_one --user-id $put\_id\_of\_user\_one --role-id $put\_id\_of\_member\_role

为该租户创建一个网络

Java代码 [复制代码](http://iam42.iteye.com/blog/1751194) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. quantum net-create --tenant-id $put\_id\_of\_project\_one net\_proj\_one --provider:network\_type vlan --provider:physical\_network physnet1 --provider:segmentation\_id 1024

quantum net-create --tenant-id $put\_id\_of\_project\_one net\_proj\_one --provider:network\_type vlan --provider:physical\_network physnet1 --provider:segmentation\_id 1024

为租户创建一个子网

Java代码 [复制代码](http://iam42.iteye.com/blog/1751194) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. quantum subnet-create --tenant-id $put\_id\_of\_project\_one net\_proj\_one 10.10.10.0/24

quantum subnet-create --tenant-id $put\_id\_of\_project\_one net\_proj\_one 10.10.10.0/24

为租户创建一个路由

Java代码 [复制代码](http://iam42.iteye.com/blog/1751194) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. quantum router-create --tenant\_id $put\_id\_of\_project\_one router\_proj\_one

quantum router-create --tenant\_id $put\_id\_of\_project\_one router\_proj\_one

路由和网络进行关联

Java代码 [复制代码](http://iam42.iteye.com/blog/1751194) [[收藏代码http://iam42.iteye.com/images/spinner.gif](javascript:void())](javascript:void())

1. quantum router-interface-add $put\_router\_proj\_one\_id\_here $put\_subnet\_id\_here

quantum router-interface-add $put\_router\_proj\_one\_id\_here $put\_subnet\_id\_here

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debug

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1.nova.conf  api-past  api-paste.ini  quantum.conf  openvswitch/ovs\_quantum\_plugin.ini  中的localhost都要换成server的ip地址，对应的网桥名字也要改对，否则汇报错

QuantumClientException: [Errno 111] ECONNREFUSED  
Unauthorized: [Errno 111] ECONNREFUSED

2.具体为那个租户创建虚拟机是在env里配置的，OS\_TENANT\_NAME和OS\_USERNAME两个。选择完租户之后，自然就会把该租户创建的虚拟机加入对应的quantum网络，所以不需要在nova boot命令里加入选择网络的参数

### http://dl2.iteye.com/upload/attachment/0078/2137/031f579a-636a-32ad-8da3-0356c6afb4d5.jpg