

SmartMap

OpenStack 在 Ubuntu12.04X64 系统上的安装

GIS Pathfinder
2012-08-01

详细讲解了 OpenStack 在 Ubuntu12.04X64 系统上的安装过程

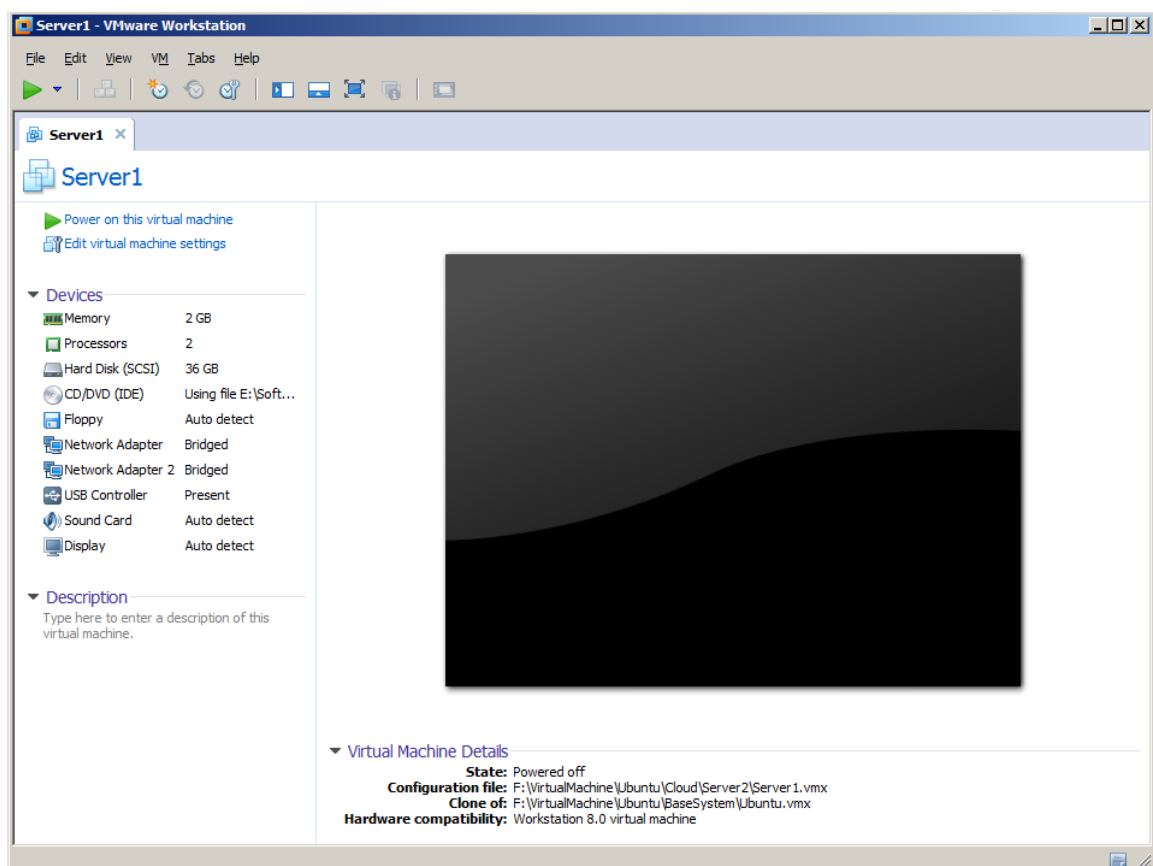
OpenStack 在 Ubuntu12.04X64 系统上的安装

1.运行 VMware Workstation 8。

2.安装 Ubuntu-12.04-server-amd64.iso 系统。

注意:选择安装 SSH 服务

安装过程略。



3.修改计算机 IP。

1)

```
sudo vi /etc/network/interfaces
```

```
auto lo
```

```
iface lo inet loopback
```

```
    auto eth0
```

```
    iface eth0 inet static
```

```
        address 192.168.1.110
```

```
        netmask 255.255.255.0
```

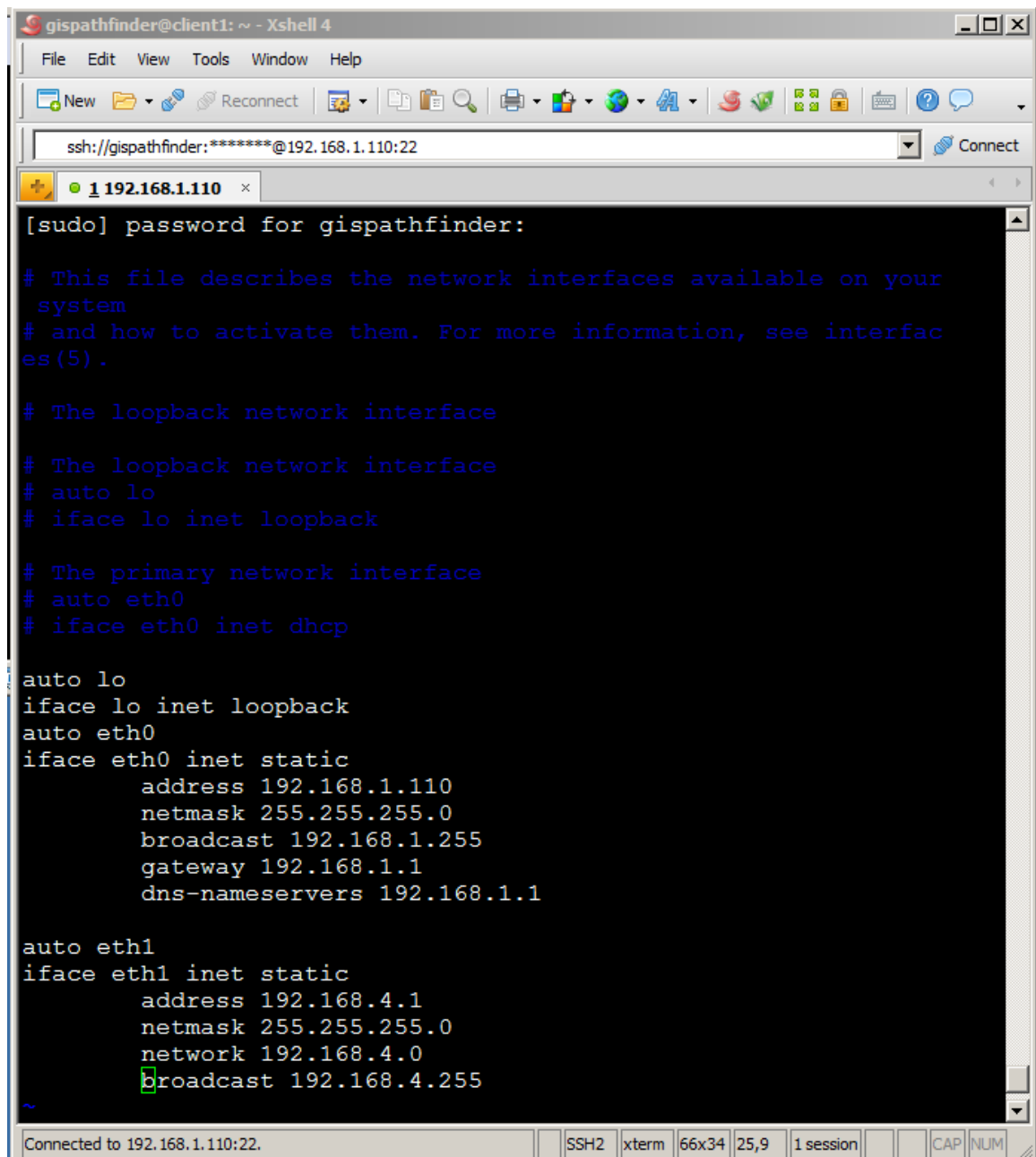
```
        broadcast 192.168.1.255
```

```
gateway 192.168.1.1
dns-nameservers 192.168.1.1
```

```
auto eth1
```

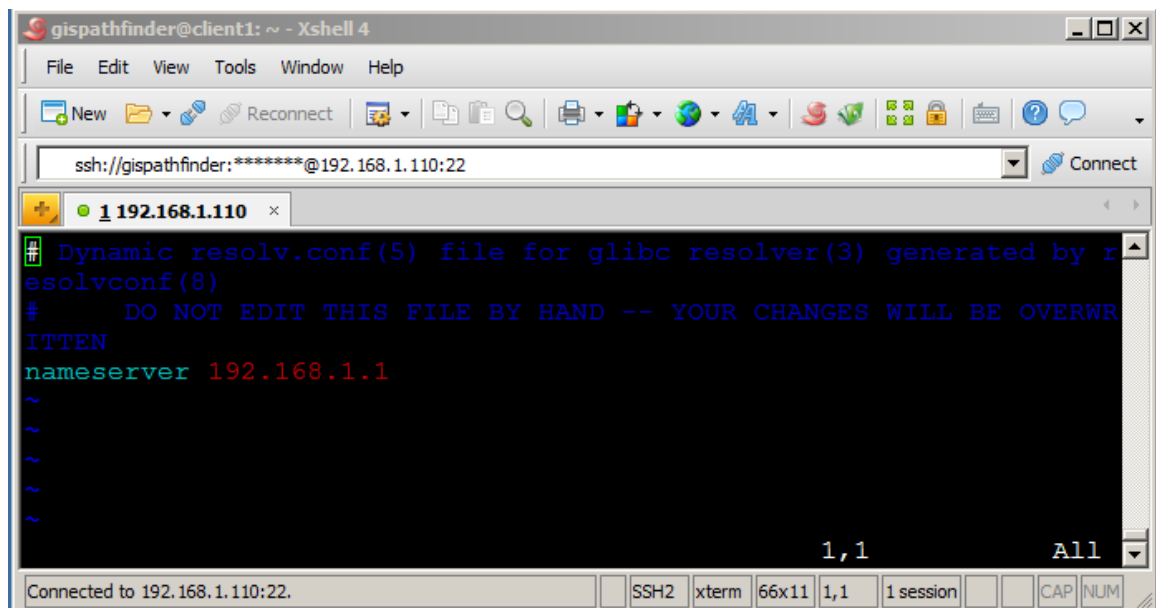
```
iface eth1 inet static
```

```
address 192.168.4.1
netmask 255.255.255.0
network 192.168.4.0
broadcast 192.168.4.255
```

The image is a screenshot of an Xshell terminal window. The title bar reads 'gispathfinder@client1: ~ - Xshell 4'. The menu bar includes 'File', 'Edit', 'View', 'Tools', 'Window', and 'Help'. The toolbar contains icons for 'New', 'Reconnect', and other standard terminal functions. The address bar shows 'ssh://gispathfinder:*****@192.168.1.110:22'. The terminal session shows a prompt '[sudo] password for gispathfinder:' followed by a series of network configuration lines. The configuration includes comments about network interfaces and specific settings for 'lo' and 'eth0' (static IP 192.168.1.110) and 'eth1' (static IP 192.168.4.1). The 'eth1' broadcast address '192.168.4.255' is highlighted with a green box. The status bar at the bottom indicates 'Connected to 192.168.1.110:22.' and shows session details like 'SSH2', 'xterm', '66x34', '25,9', and '1 session'.

2)

```
sudo vi /etc/resolv.conf
```



3) 删除 rules 文件

```
sudo rm -rf /etc/udev/rules.d/*.rules
```

4) 重启网卡

```
sudo /etc/init.d/networking restart
```

4.修改计算机名。

1)

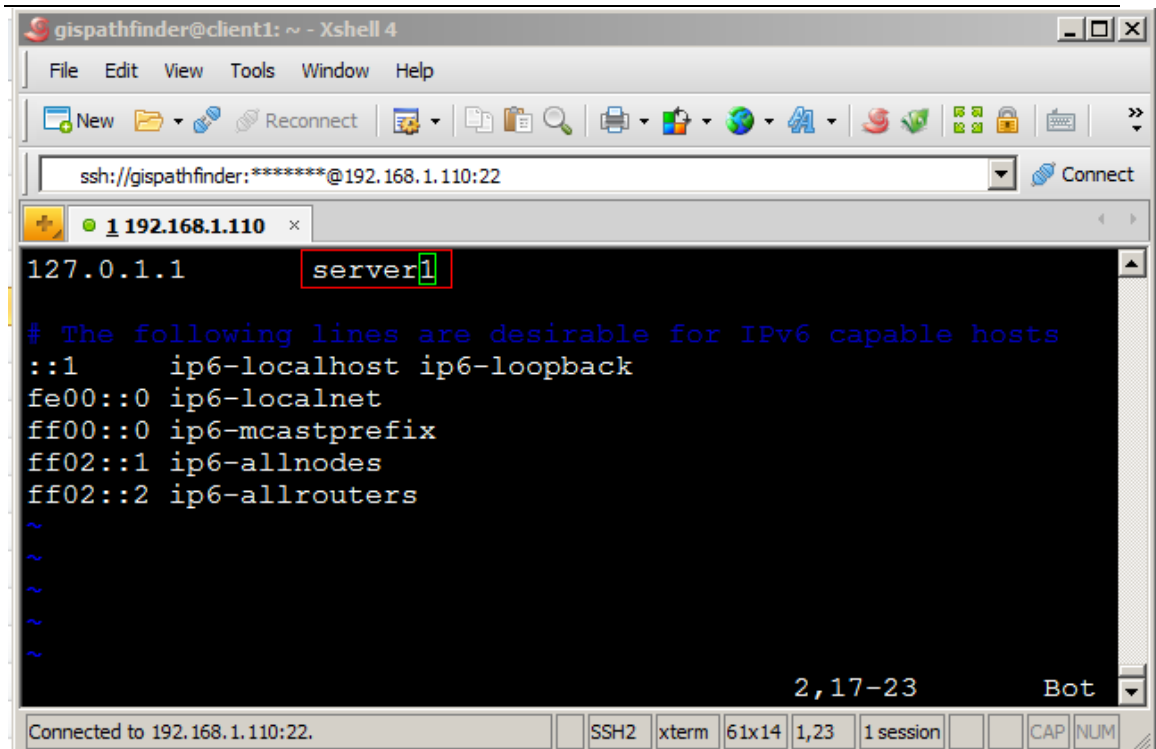
```
sudo vi /etc/hostname
```

```
server1
```

2)

```
sudo vi /etc/hosts
```

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5. 安装更新

- 1)
sudo apt-get update
- 2)
sudo apt-get upgrade

6. 安装 unzip

sudo apt-get install -y unzip

7. 安装 NTP

- 1)
sudo apt-get install -y ntp
- 2)
sudo vi /etc/ntp.conf

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

- 3)
sudo service ntp restart

8.安装 database

1)

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

设置密码: zyx

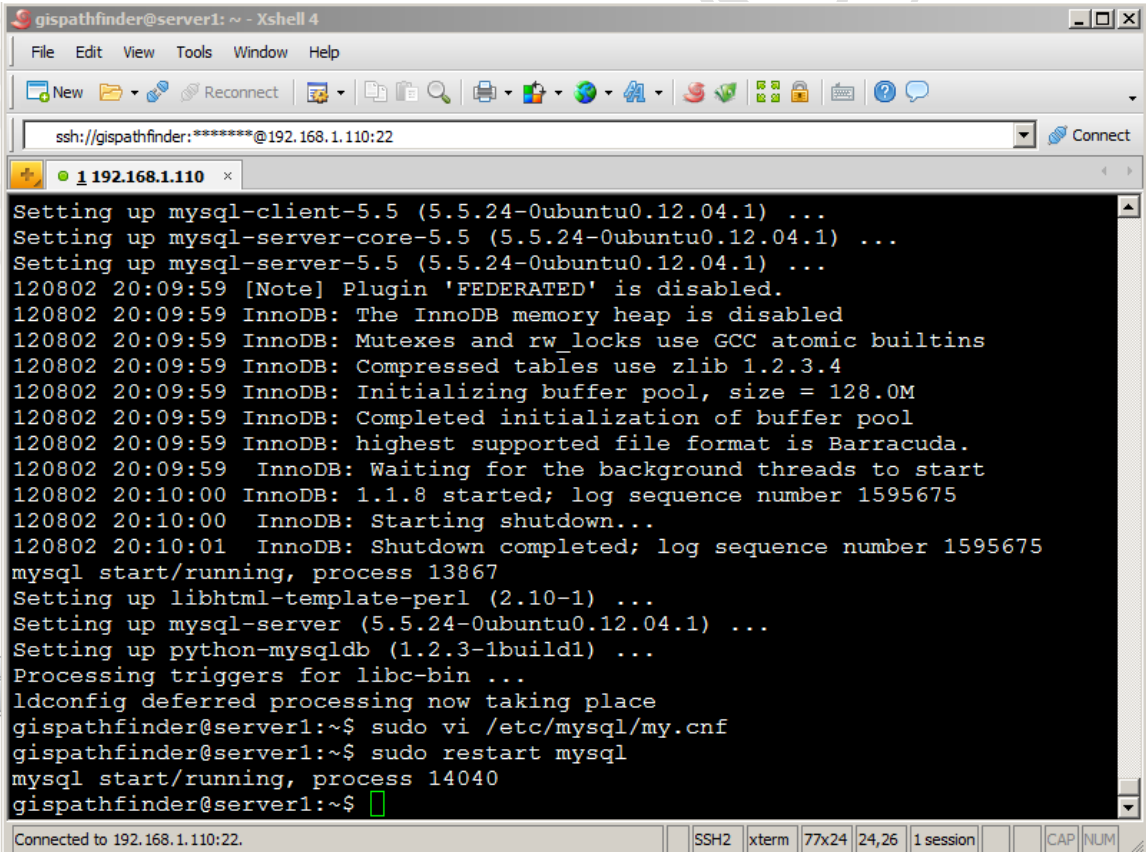
2)

```
sudo vi /etc/mysql/my.cnf
```

```
-----  
bind-address = 0.0.0.0
```

3)

```
sudo restart mysql
```



```
gispathfinder@server1: ~ - Xshell 4  
File Edit View Tools Window Help  
ssh://gispathfinder:*****@192.168.1.110:22  
1 192.168.1.110 x  
Setting up mysql-client-5.5 (5.5.24-0ubuntu0.12.04.1) ...  
Setting up mysql-server-core-5.5 (5.5.24-0ubuntu0.12.04.1) ...  
Setting up mysql-server-5.5 (5.5.24-0ubuntu0.12.04.1) ...  
120802 20:09:59 [Note] Plugin 'FEDERATED' is disabled.  
120802 20:09:59 InnoDB: The InnoDB memory heap is disabled  
120802 20:09:59 InnoDB: Mutexes and rw_locks use GCC atomic builtins  
120802 20:09:59 InnoDB: Compressed tables use zlib 1.2.3.4  
120802 20:09:59 InnoDB: Initializing buffer pool, size = 128.0M  
120802 20:09:59 InnoDB: Completed initialization of buffer pool  
120802 20:09:59 InnoDB: highest supported file format is Barracuda.  
120802 20:09:59 InnoDB: Waiting for the background threads to start  
120802 20:10:00 InnoDB: 1.1.8 started; log sequence number 1595675  
120802 20:10:00 InnoDB: Starting shutdown...  
120802 20:10:01 InnoDB: Shutdown completed; log sequence number 1595675  
mysql start/running, process 13867  
Setting up libhtml-template-perl (2.10-1) ...  
Setting up mysql-server (5.5.24-0ubuntu0.12.04.1) ...  
Setting up python-mysqldb (1.2.3-1build1) ...  
Processing triggers for libc-bin ...  
ldconfig deferred processing now taking place  
gispathfinder@server1:~$ sudo vi /etc/mysql/my.cnf  
gispathfinder@server1:~$ sudo restart mysql  
mysql start/running, process 14040  
gispathfinder@server1:~$
```

4)

```
sudo mysql -u root -p -e 'CREATE DATABASE nova;'
```

5)

```
sudo mysql -u root -p -e 'CREATE USER novadbadmin;'
```

6)

```
sudo mysql -u root -p -e "GRANT ALL PRIVILEGES ON nova.* TO 'novadbadmin'@'%';"
```

7)

```
sudo mysql -u root -p -e "SET PASSWORD FOR 'novadbadmin'@%' = PASSWORD('zyx');"
```

8)

```
sudo mysql -u root -p -e 'CREATE DATABASE glance;'
```

9)

```
sudo mysql -u root -p -e 'CREATE USER glancedbadmin;'
```

10)

```
sudo mysql -u root -p -e "GRANT ALL PRIVILEGES ON glance.* TO 'glancedbadmin'@'%';"
```

11)

```
sudo mysql -u root -p -e "SET PASSWORD FOR 'glancedbadmin'@%' = PASSWORD('zyx');"
```

12)

```
sudo mysql -u root -p -e 'CREATE DATABASE keystone;'
```

13)

```
sudo mysql -u root -p -e 'CREATE USER keystonedbadmin;'
```

14)

```
sudo mysql -u root -p -e "GRANT ALL PRIVILEGES ON keystone.* TO  
'keystonedbadmin'@'%';"
```

15)

```
sudo mysql -u root -p -e "SET PASSWORD FOR 'keystonedbadmin'@%' = PASSWORD('zyx');"
```

```

gispathfinder@server1: ~ - Xshell 4
File Edit View Tools Window Help
ssh://gispathfinder:*****@192.168.1.110:22
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
gispathfinder@server1:~$ sudo vi /etc/mysql/my.cnf
gispathfinder@server1:~$ sudo restart mysql
mysql start/running, process 14040
gispathfinder@server1:~$ sudo mysql -u root -p -e 'CREATE DATABASE nova;'
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e 'CREATE USER novadbadmin;'
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e "GRANT ALL PRIVILEGES ON nova.* TO 'novadbadmin'@'%' ;"
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e "SET PASSWORD FOR 'novadbadmin'@'%' = PASSWORD('zyx');"
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e 'CREATE DATABASE glance;'
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e 'CREATE USER glancedbadmin;'
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e "GRANT ALL PRIVILEGES ON glance.* TO 'glancedbadmin'@'%' ;"
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e "SET PASSWORD FOR 'glancedbadmin'@'%' = PASSWORD('zyx');"
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e 'CREATE DATABASE keystone;'
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e 'CREATE USER keystonedbadmin;'
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e "GRANT ALL PRIVILEGES ON keystone.* TO 'keystonedbadmin'@'%' ;"
Enter password:
gispathfinder@server1:~$ sudo mysql -u root -p -e "SET PASSWORD FOR 'keystonedbadmin'@'%' = PASSWORD('zyx');"
Enter password:
gispathfinder@server1:~$ █

```

16) 去掉一些账号

```
sudo mysql -u root -p
```

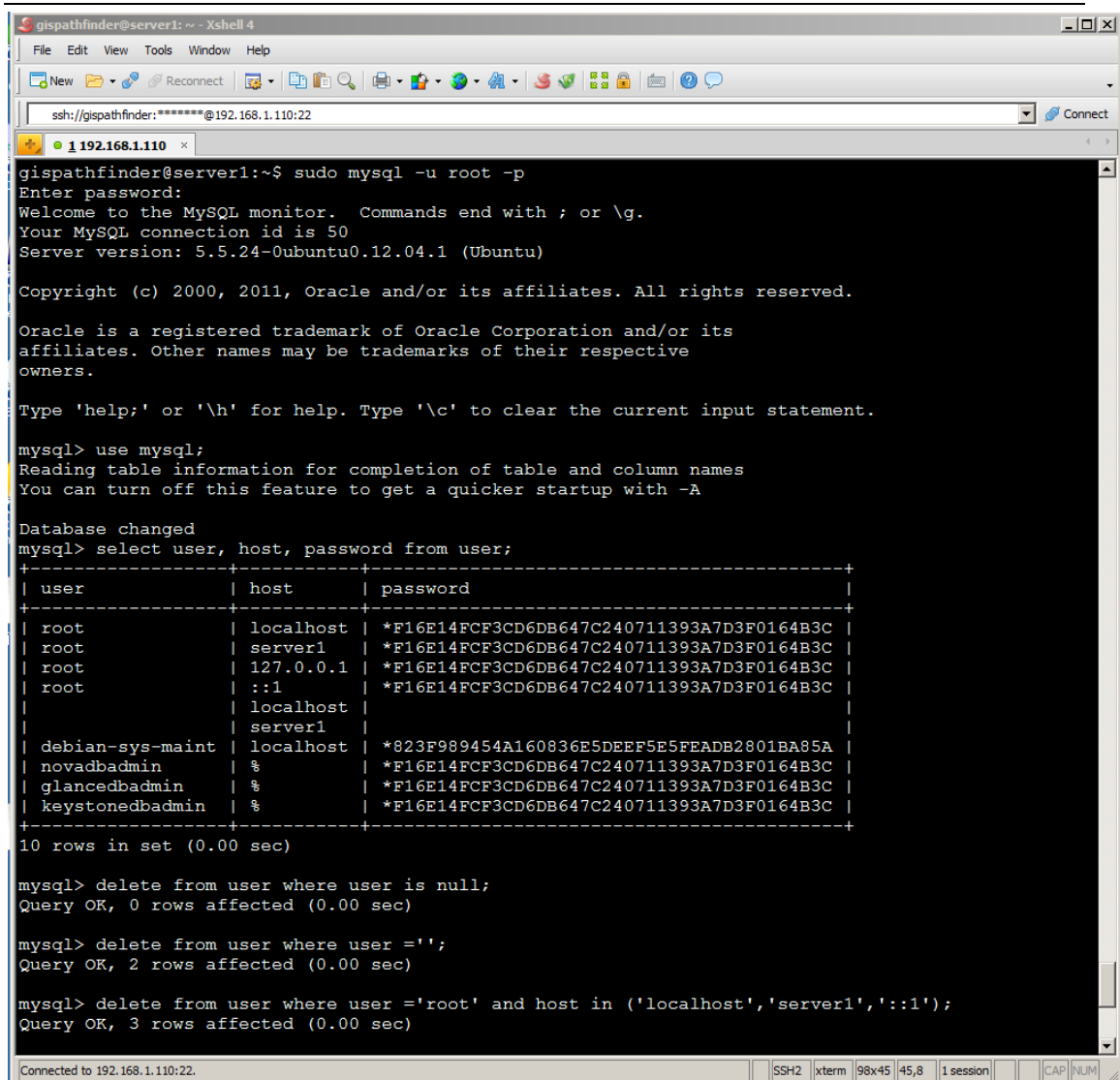
```
use mysql;
```

```
select user, host, password from user;
```

```
delete from user where user ='';
```

```
delete from user where user = 'root' and host in ('localhost', 'server1', ':::1');
```

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```
gispathfinder@server1: ~ - Xshell 4
File Edit View Tools Window Help
ssh://gispathfinder:*****@192.168.1.110:22
192.168.1.110
gispathfinder@server1:~$ sudo mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 50
Server version: 5.5.24-0ubuntu0.12.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use mysql;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> select user, host, password from user;
+-----+-----+-----+
| user      | host      | password                                     |
+-----+-----+-----+
| root      | localhost | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| root      | server1   | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| root      | 127.0.0.1 | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| root      | ::1       | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
|           | localhost |                                           |
|           | server1   |                                           |
| debian-sys-maint | localhost | *823F989454A160836E5DEEF5E5FEADB2801BA85A |
| novadbadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| glancedbadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| keystonedbadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> delete from user where user is null;
Query OK, 0 rows affected (0.00 sec)

mysql> delete from user where user = '';
Query OK, 2 rows affected (0.00 sec)

mysql> delete from user where user = 'root' and host in ('localhost', 'server1', '::1');
Query OK, 3 rows affected (0.00 sec)
```

update user set host = '%';

select user, host, password from user;

exit;

sudo restart mysql

```

gispathfinder@server1: ~ - Xshell 4
File Edit View Tools Window Help
ssh://gispathfinder:*****@192.168.1.110:22
192.168.1.110
+-----+
10 rows in set (0.00 sec)

mysql> delete from user where user is null;
Query OK, 0 rows affected (0.00 sec)

mysql> delete from user where user = '';
Query OK, 2 rows affected (0.00 sec)

mysql> delete from user where user = 'root' and host in ('localhost','server1','::1');
Query OK, 3 rows affected (0.00 sec)

mysql> select user, host, password from user;
+-----+
| user      | host      | password |
+-----+
| root      | 127.0.0.1 | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| debian-sys-maint | localhost | *823F989454A160836E5DEEF5E5FEADB2801BA85A |
| novadbadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| glancedbadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| keystoneadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
+-----+
5 rows in set (0.00 sec)

mysql> update user set host = '%';
Query OK, 2 rows affected (0.00 sec)
Rows matched: 5  Changed: 2  Warnings: 0

mysql> select user, host, password from user;
+-----+
| user      | host      | password |
+-----+
| root      | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| debian-sys-maint | %         | *823F989454A160836E5DEEF5E5FEADB2801BA85A |
| novadbadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| glancedbadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
| keystoneadmin | %         | *F16E14FCF3CD6DB647C240711393A7D3F0164B3C |
+-----+
5 rows in set (0.00 sec)

mysql> exit;
Bye
gispathfinder@server1:~$ sudo restart mysql
mysql start/running, process 14224
gispathfinder@server1:~$

```

9. 安装 Keystone

1)
sudo apt-get install qemu-kvm libvirt-bin virt-manager bridge-utils

2)
sudo vi /etc/keystone/keystone.conf

admin_token = admin

connection = mysql://keystoneadmin:zyx@192.168.1.110/keystone

3)
sudo service keystone restart

4)

```
sudo keystone-manage db_sync
```

5)

```
sudo vi ~/.bashrc
```

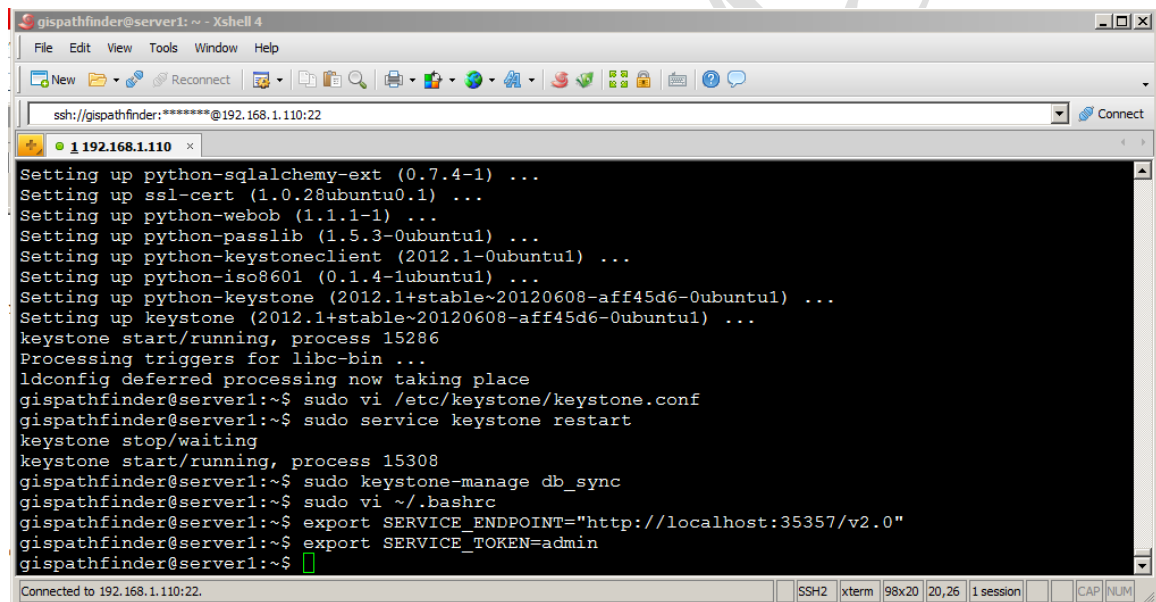
```
export SERVICE_ENDPOINT="http://127.0.0.1:35357/v2.0"
```

```
export SERVICE_TOKEN=admin
```

6)

```
export SERVICE_ENDPOINT="http://localhost:35357/v2.0"
```

```
export SERVICE_TOKEN=admin
```



```
gispathfinder@server1: ~ - Xshell 4
File Edit View Tools Window Help
New Reconnect
ssh://gispathfinder:*****@192.168.1.110:22
1 192.168.1.110
Setting up python-sqlalchemy-ext (0.7.4-1) ...
Setting up ssl-cert (1.0.28ubuntu0.1) ...
Setting up python-webob (1.1.1-1) ...
Setting up python-passlib (1.5.3-0ubuntu1) ...
Setting up python-keystoneclient (2012.1-0ubuntu1) ...
Setting up python-iso8601 (0.1.4-1ubuntu1) ...
Setting up python-keystone (2012.1+stable~20120608-aff45d6-0ubuntu1) ...
Setting up keystone (2012.1+stable~20120608-aff45d6-0ubuntu1) ...
keystone start/running, process 15286
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
gispathfinder@server1:~$ sudo vi /etc/keystone/keystone.conf
gispathfinder@server1:~$ sudo service keystone restart
keystone stop/waiting
keystone start/running, process 15308
gispathfinder@server1:~$ sudo keystone-manage db_sync
gispathfinder@server1:~$ sudo vi ~/.bashrc
gispathfinder@server1:~$ export SERVICE_ENDPOINT="http://localhost:35357/v2.0"
gispathfinder@server1:~$ export SERVICE_TOKEN=admin
gispathfinder@server1:~$
```

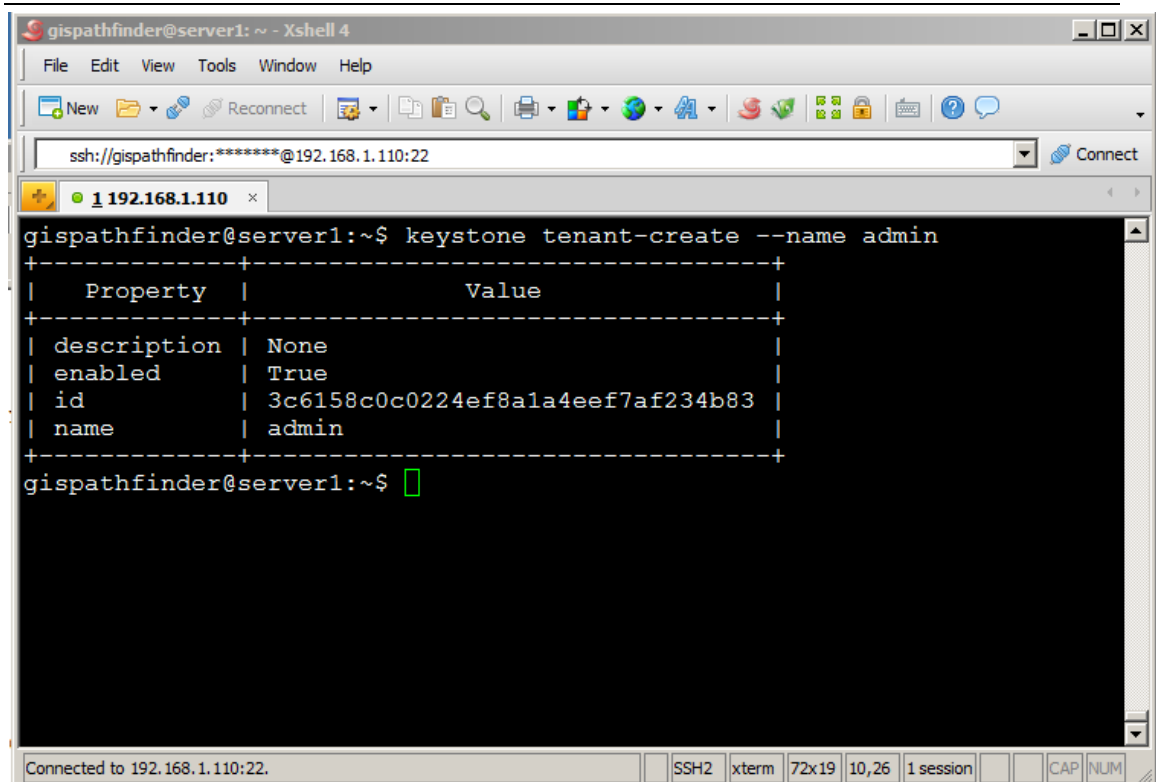
10. 安装 Tenant

1) tenant

```
keystone tenant-create --name admin
```

```
keystone tenant-create --name service
```

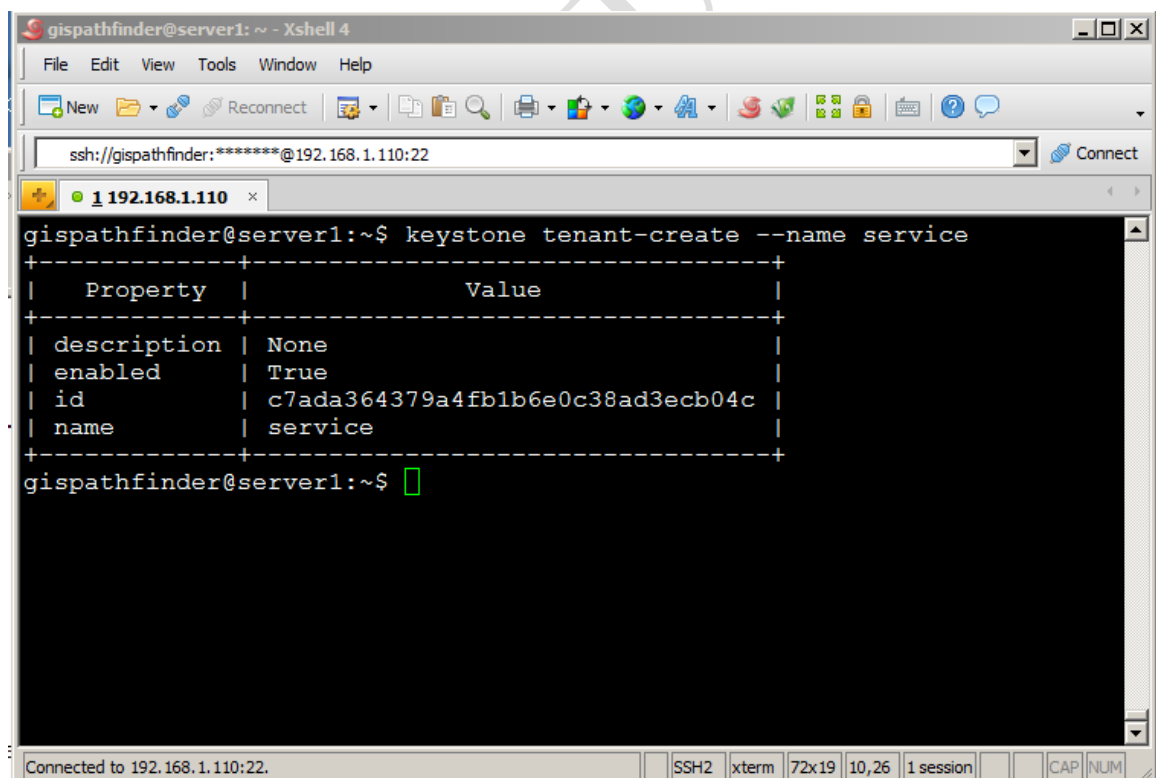
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The screenshot shows an Xshell terminal window titled 'gispathfinder@server1: ~ - Xshell 4'. The address bar shows 'ssh://gispathfinder:*****@192.168.1.110:22'. The terminal output shows the command 'keystone tenant-create --name admin' being executed. The output is a table with the following properties and values:

Property	Value
description	None
enabled	True
id	3c6158c0c0224ef8a1a4eef7af234b83
name	admin

The terminal prompt is 'gispathfinder@server1:~\$'.



The screenshot shows an Xshell terminal window titled 'gispathfinder@server1: ~ - Xshell 4'. The address bar shows 'ssh://gispathfinder:*****@192.168.1.110:22'. The terminal output shows the command 'keystone tenant-create --name service' being executed. The output is a table with the following properties and values:

Property	Value
description	None
enabled	True
id	c7ada364379a4fb1b6e0c38ad3ecb04c
name	service

The terminal prompt is 'gispathfinder@server1:~\$'.

2) user

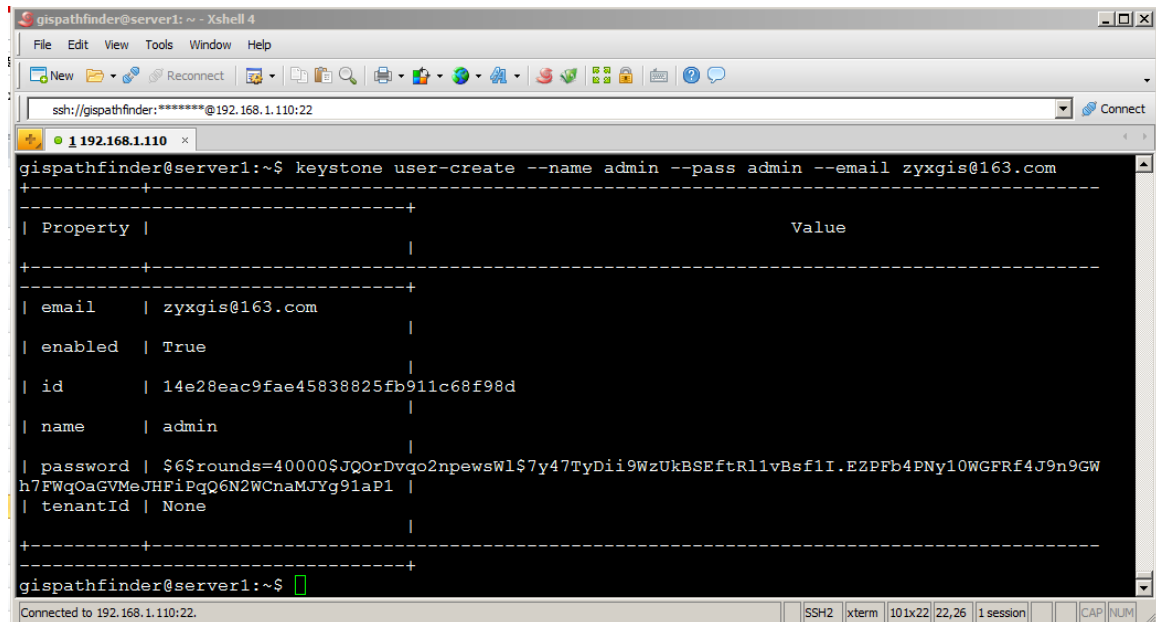
keystone user-create --name admin --pass admin --email zyxgis@163.com

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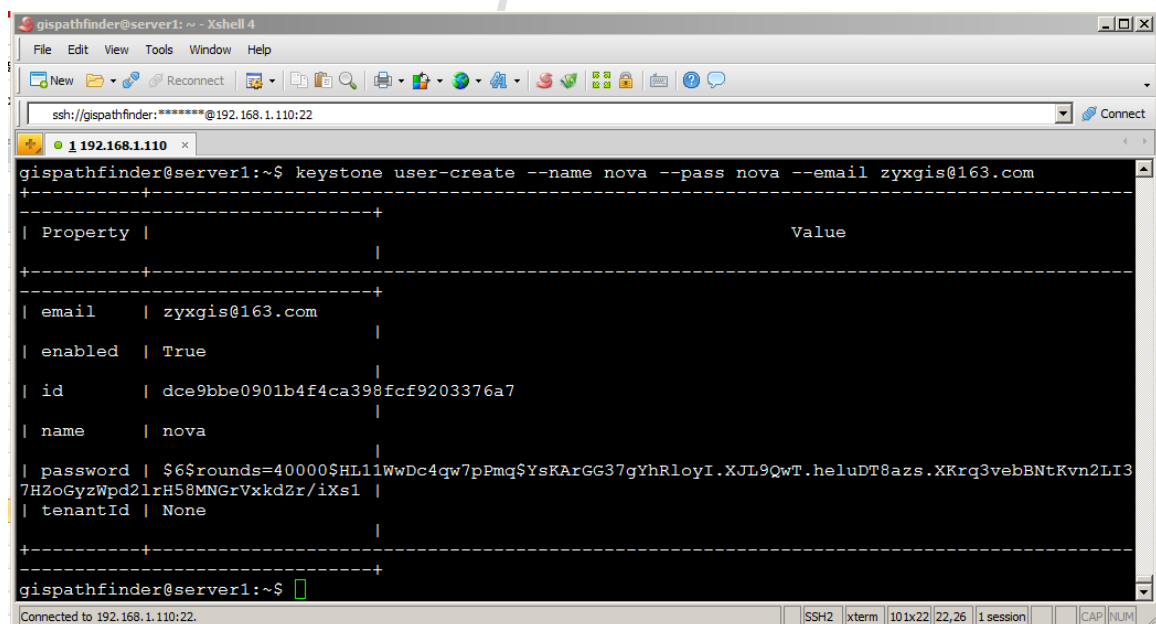
keystone user-create --name nova --pass nova --email zyxgis@163.com

keystone user-create --name glance --pass glance --email zyxgis@163.com

keystone user-create --name swift --pass swift --email zyxgis@163.com

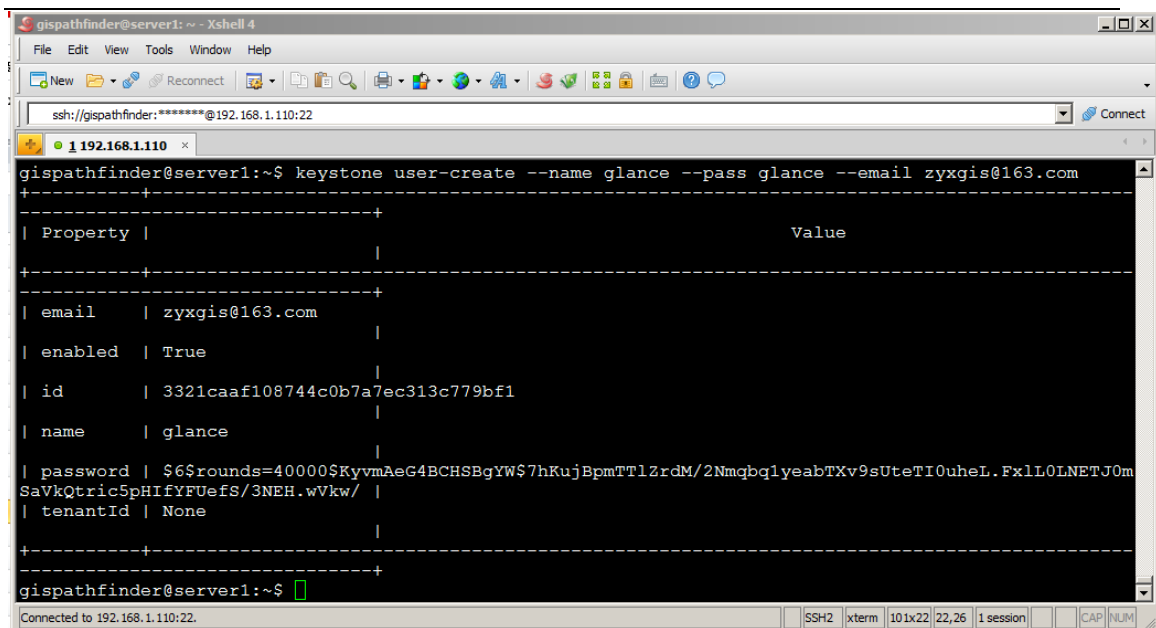


```
gispathfinder@server1: ~ - Xshell 4
ssh://gispathfinder:*****@192.168.1.110:22
1 192.168.1.110
gispathfinder@server1:~$ keystone user-create --name admin --pass admin --email zyxgis@163.com
+-----+-----+
| Property | Value |
+-----+-----+
| email    | zyxgis@163.com |
| enabled  | True          |
| id       | 14e28eac9fae45838825fb911c68f98d |
| name     | admin         |
| password | $6$rounds=40000$JQOrDvgo2npewsWl$7y47TyDii9WzUkBSEftRl1vBsflI.EZPFb4PNy10WGFrf4J9n9GW
h7FWqOaGVMeJHFipQqQ6N2WCnaMJYg91aP1 |
| tenantId | None          |
+-----+-----+
gispathfinder@server1:~$
```



```
gispathfinder@server1: ~ - Xshell 4
ssh://gispathfinder:*****@192.168.1.110:22
1 192.168.1.110
gispathfinder@server1:~$ keystone user-create --name nova --pass nova --email zyxgis@163.com
+-----+-----+
| Property | Value |
+-----+-----+
| email    | zyxgis@163.com |
| enabled  | True          |
| id       | dce9bbe0901b4f4ca398fcf9203376a7 |
| name     | nova          |
| password | $6$rounds=40000$HL11WwDc4qw7pPmq$YsKARGG37gYhRloyI.XJL9QwT.heluDT8azs.XKrq3vebBntKvn2LI3
7HZoGyzWpd2lrH58MNGrVxkdZr/iXs1 |
| tenantId | None          |
+-----+-----+
gispathfinder@server1:~$
```

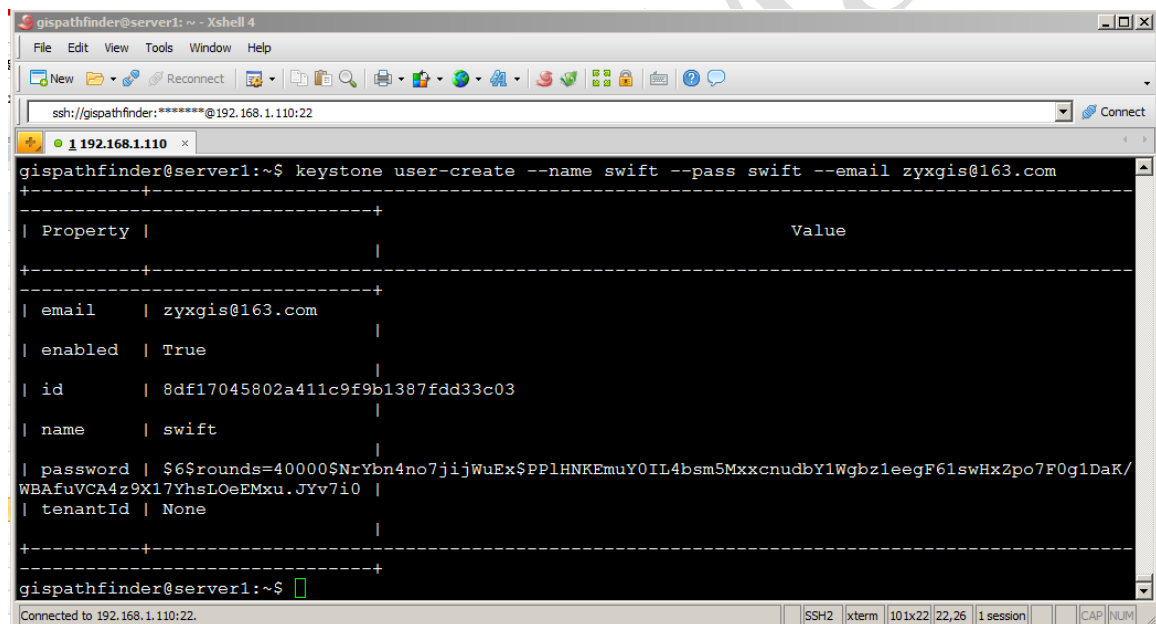
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The screenshot shows an Xshell terminal window titled 'gispathfinder@server1: ~ - Xshell 4'. The terminal displays the command `keystone user-create --name glance --pass glance --email zyxgis@163.com` and its output. The output is a table with two columns: 'Property' and 'Value'.

Property	Value
email	zyxgis@163.com
enabled	True
id	3321caaf108744c0b7a7ec313c779bf1
name	glance
password	\$6\$rounds=40000\$KyvmAeG4BCHSBgYW\$7hKujBpmTtLzrdM/2Nmqbq1yeabTXv9sUteTI0uheL.Fx1L0LNETJ0mSaVqQtric5pHIfyFUefs/3NEH.wVkw/
tenantId	None

The terminal prompt is `gispathfinder@server1:~$`. The status bar at the bottom indicates 'Connected to 192.168.1.110:22'.



The screenshot shows an Xshell terminal window titled 'gispathfinder@server1: ~ - Xshell 4'. The terminal displays the command `keystone user-create --name swift --pass swift --email zyxgis@163.com` and its output. The output is a table with two columns: 'Property' and 'Value'.

Property	Value
email	zyxgis@163.com
enabled	True
id	8df17045802a411c9f9b1387fdd33c03
name	swift
password	\$6\$rounds=40000\$NrYbn4no7jiWuEx\$PP1HNKEmuY0IL4bsm5Mxxcnudby1Wgbz1eegF61swHx2po7F0g1DaK/WBAfuVCA4z9X17YhsLOeEMxu.JYv7i0
tenantId	None

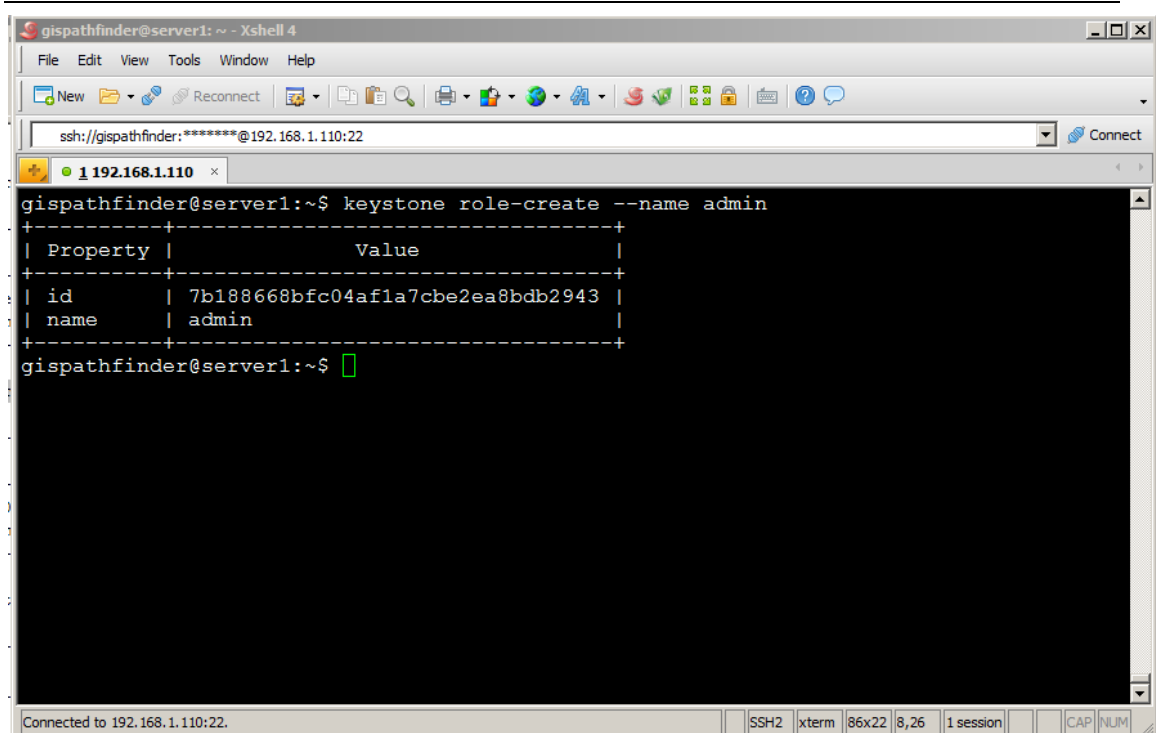
The terminal prompt is `gispathfinder@server1:~$`. The status bar at the bottom indicates 'Connected to 192.168.1.110:22'.

3) Roles

`keystone role-create --name admin`

`keystone role-create --name Member`

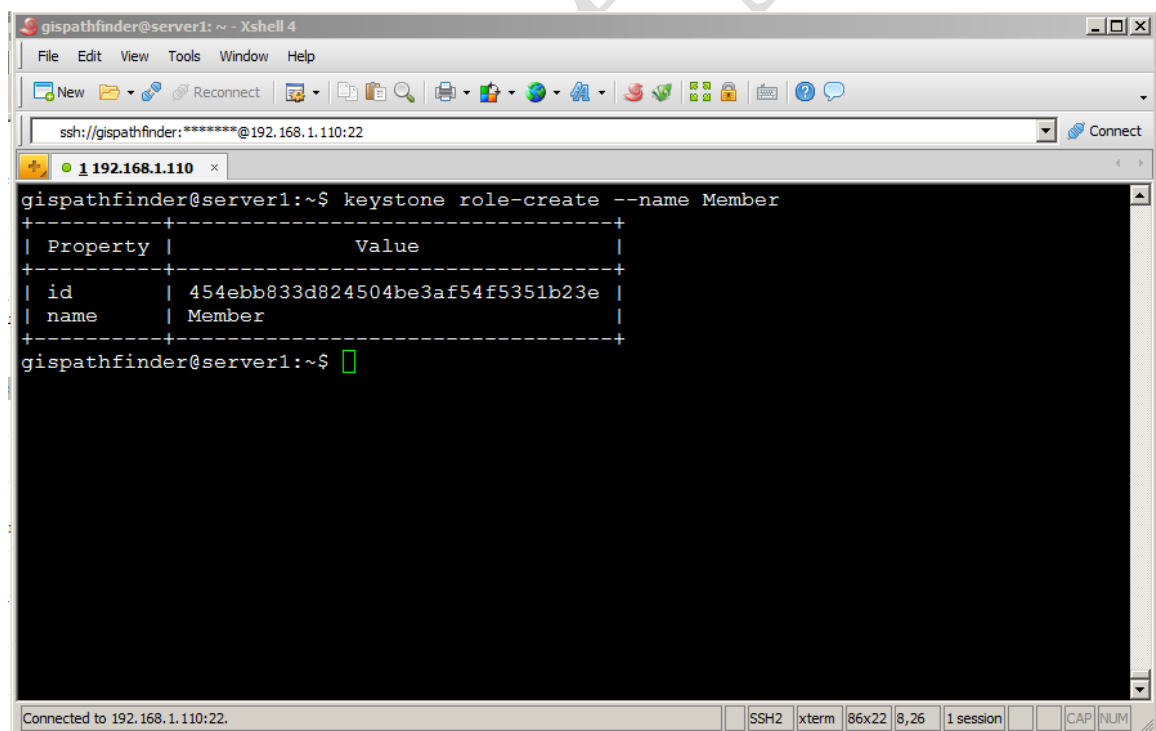
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The screenshot shows an Xshell terminal window titled 'gispathfinder@server1: ~ - Xshell 4'. The terminal displays the command `keystone role-create --name admin` and its output, which is a table showing the properties of the newly created role.

```
gispathfinder@server1:~$ keystone role-create --name admin
+-----+-----+
| Property | Value |
+-----+-----+
| id       | 7b188668bfc04af1a7cbe2ea8bdb2943 |
| name     | admin |
+-----+-----+
```

The terminal status bar at the bottom indicates 'Connected to 192.168.1.110:22' and shows session details: SSH2, xterm, 86x22, 8,26, 1 session, CAP, NUM.



The screenshot shows an Xshell terminal window titled 'gispathfinder@server1: ~ - Xshell 4'. The terminal displays the command `keystone role-create --name Member` and its output, which is a table showing the properties of the newly created role.

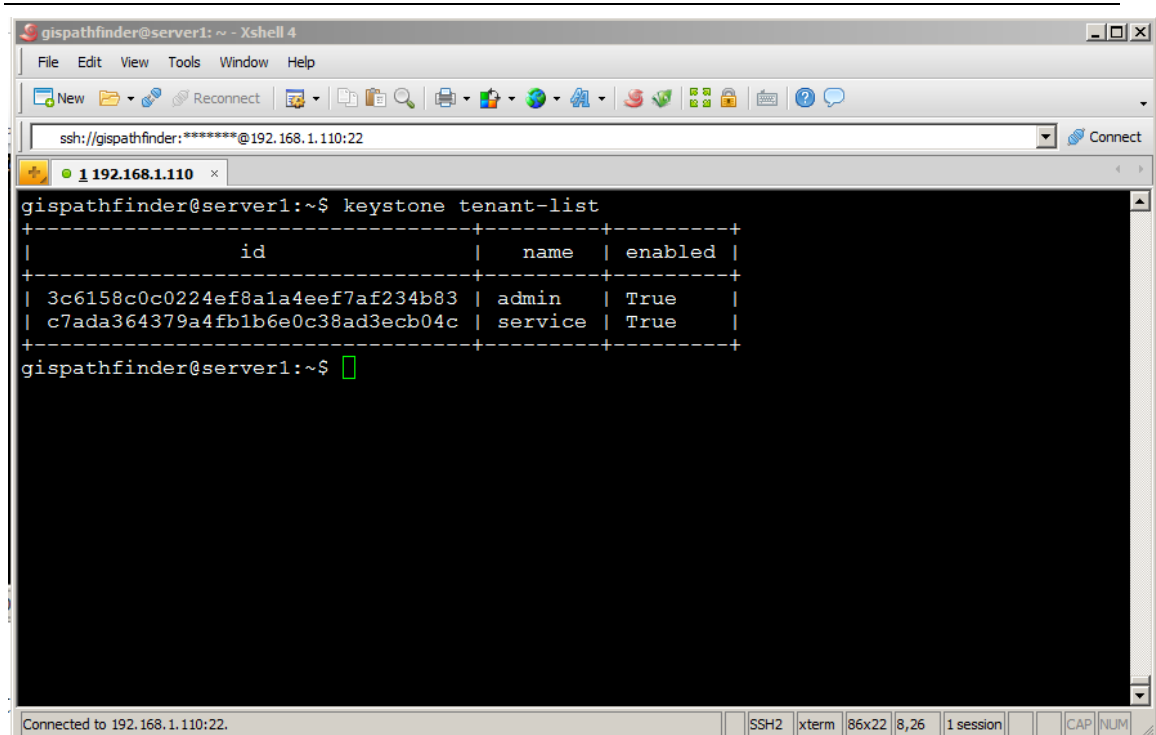
```
gispathfinder@server1:~$ keystone role-create --name Member
+-----+-----+
| Property | Value |
+-----+-----+
| id       | 454ebb833d824504be3af54f5351b23e |
| name     | Member |
+-----+-----+
```

The terminal status bar at the bottom indicates 'Connected to 192.168.1.110:22' and shows session details: SSH2, xterm, 86x22, 8,26, 1 session, CAP, NUM.

4) Listing Tenants, Users and Roles

`keystone tenant-list`

SmartMap



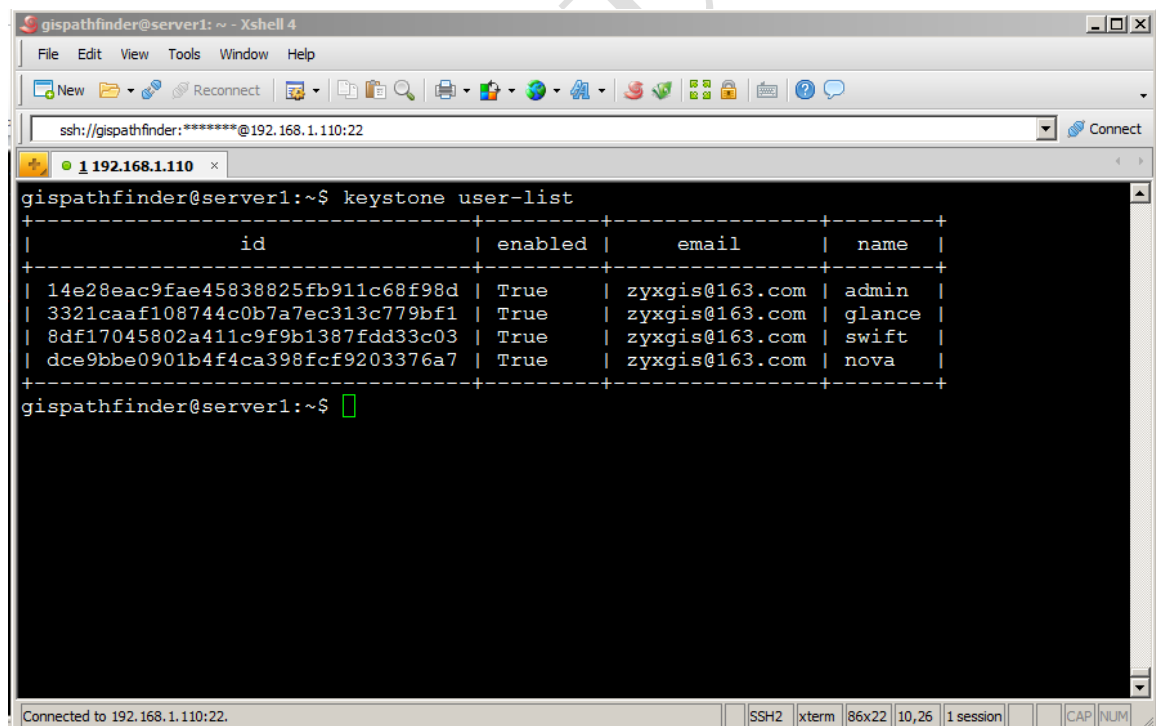
The screenshot shows an Xshell terminal window titled 'gispathfinder@server1: ~ - Xshell 4'. The terminal displays the command 'keystone tenant-list' and its output, which is a table of tenants. The table has three columns: 'id', 'name', and 'enabled'. There are two rows of data: one for 'admin' and one for 'service', both with 'enabled' status set to 'True'.

```
gispathfinder@server1:~$ keystone tenant-list
```

id	name	enabled
3c6158c0c0224ef8a1a4eef7af234b83	admin	True
c7ada364379a4fb1b6e0c38ad3ecb04c	service	True

```
gispathfinder@server1:~$
```

keystone user-list



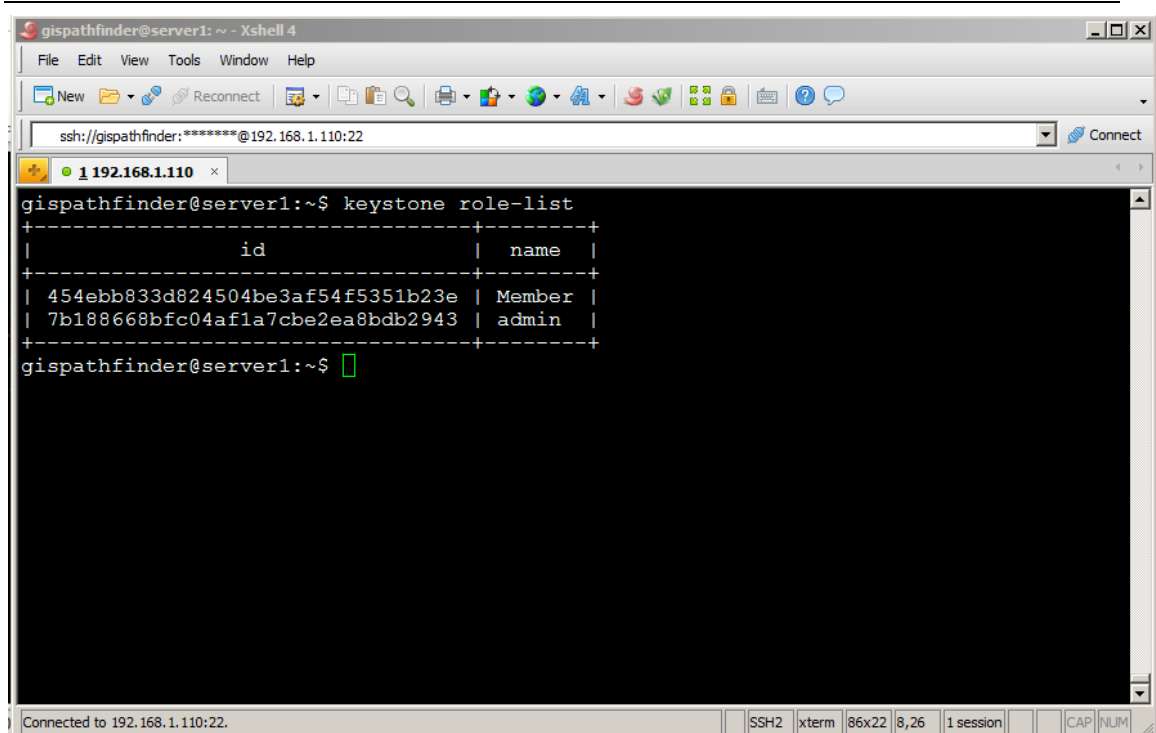
The screenshot shows an Xshell terminal window titled 'gispathfinder@server1: ~ - Xshell 4'. The terminal displays the command 'keystone user-list' and its output, which is a table of users. The table has four columns: 'id', 'enabled', 'email', and 'name'. There are four rows of data, all with 'enabled' status set to 'True' and 'email' set to 'zyxgis@163.com'. The names are 'admin', 'glance', 'swift', and 'nova'.

```
gispathfinder@server1:~$ keystone user-list
```

id	enabled	email	name
14e28eac9fae45838825fb911c68f98d	True	zyxgis@163.com	admin
3321caaf108744c0b7a7ec313c779bf1	True	zyxgis@163.com	glance
8df17045802a411c9f9b1387fdd33c03	True	zyxgis@163.com	swift
dce9bbe0901b4f4ca398fcf9203376a7	True	zyxgis@163.com	nova

```
gispathfinder@server1:~$
```

keystone role-list



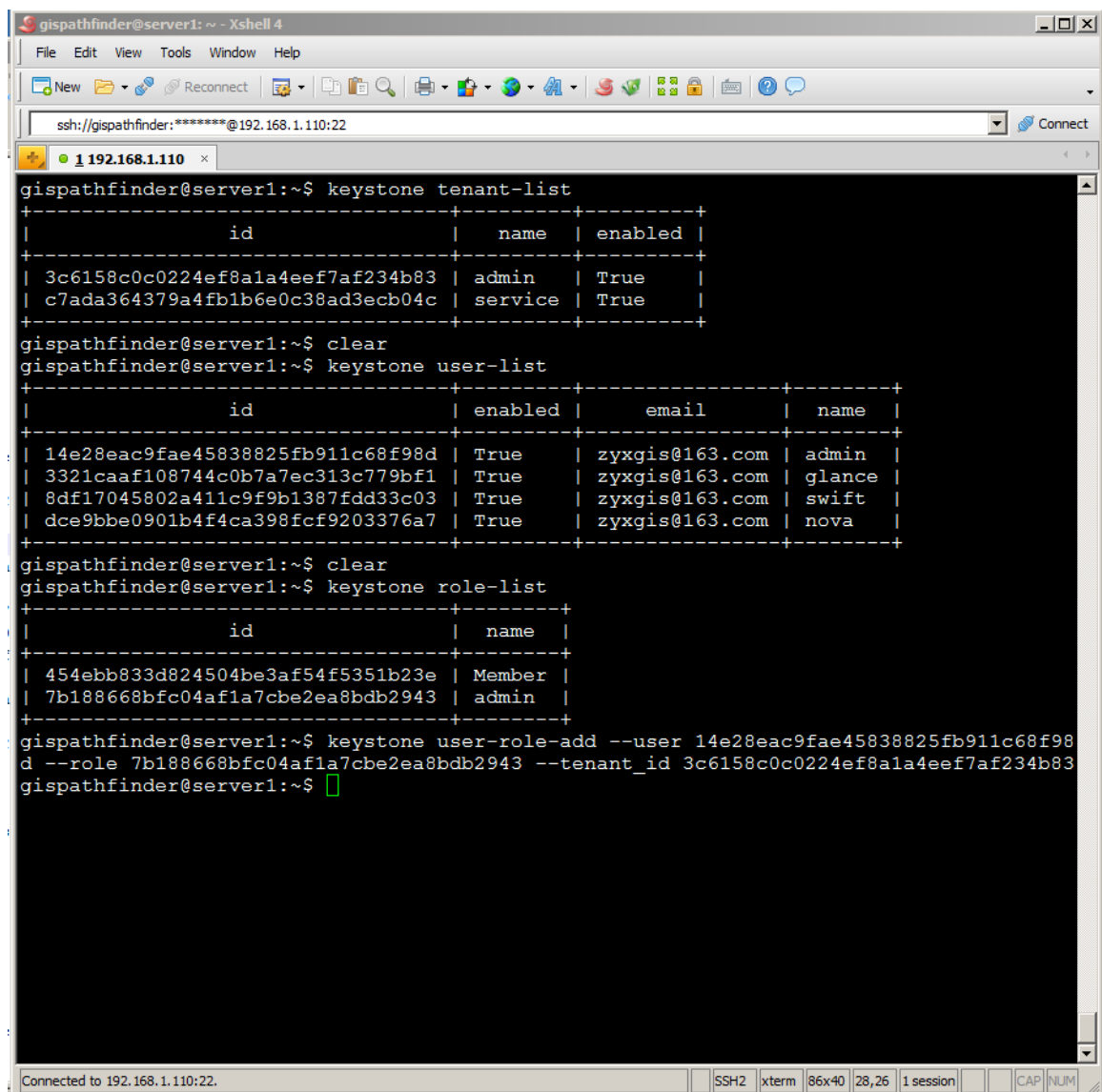
```
gispathfinder@server1: ~ - Xshell 4
ssh://gispathfinder:*****@192.168.1.110:22
1 192.168.1.110 x
gispathfinder@server1:~$ keystone role-list
+-----+-----+
| id | name |
+-----+-----+
| 454ebb833d824504be3af54f5351b23e | Member |
| 7b188668bfc04af1a7cbe2ea8bdb2943 | admin |
+-----+-----+
gispathfinder@server1:~$
```

11.建立 Role、 User、 Tenant 之间的关系

1) add a role of 'admin' to the user 'admin' of the tenant 'admin'

```
keystone user-role-add --user 14e28eac9fae45838825fb911c68f98d --role
7b188668bfc04af1a7cbe2ea8bdb2943 --tenant_id 3c6158c0c0224ef8a1a4eef7af234b83
```

SmartMap



```
gispathfinder@server1: ~ - Xshell 4
File Edit View Tools Window Help
ssh://gispathfinder:*****@192.168.1.110:22
192.168.1.110
gispathfinder@server1:~$ keystone tenant-list
+-----+-----+-----+
| id | name | enabled |
+-----+-----+-----+
| 3c6158c0c0224ef8a1a4eef7af234b83 | admin | True |
| c7ada364379a4fb1b6e0c38ad3ecb04c | service | True |
+-----+-----+-----+
gispathfinder@server1:~$ clear
gispathfinder@server1:~$ keystone user-list
+-----+-----+-----+-----+
| id | enabled | email | name |
+-----+-----+-----+-----+
| 14e28eac9fae45838825fb911c68f98d | True | zyxgis@163.com | admin |
| 3321caaf108744c0b7a7ec313c779bf1 | True | zyxgis@163.com | glance |
| 8df17045802a411c9f9b1387fdd33c03 | True | zyxgis@163.com | swift |
| dce9bbe0901b4f4ca398fcf9203376a7 | True | zyxgis@163.com | nova |
+-----+-----+-----+-----+
gispathfinder@server1:~$ clear
gispathfinder@server1:~$ keystone role-list
+-----+-----+
| id | name |
+-----+-----+
| 454ebb833d824504be3af54f5351b23e | Member |
| 7b188668bfc04af1a7cbe2ea8bdb2943 | admin |
+-----+-----+
gispathfinder@server1:~$ keystone user-role-add --user 14e28eac9fae45838825fb911c68f98d --role 7b188668bfc04af1a7cbe2ea8bdb2943 --tenant_id 3c6158c0c0224ef8a1a4eef7af234b83
gispathfinder@server1:~$
```

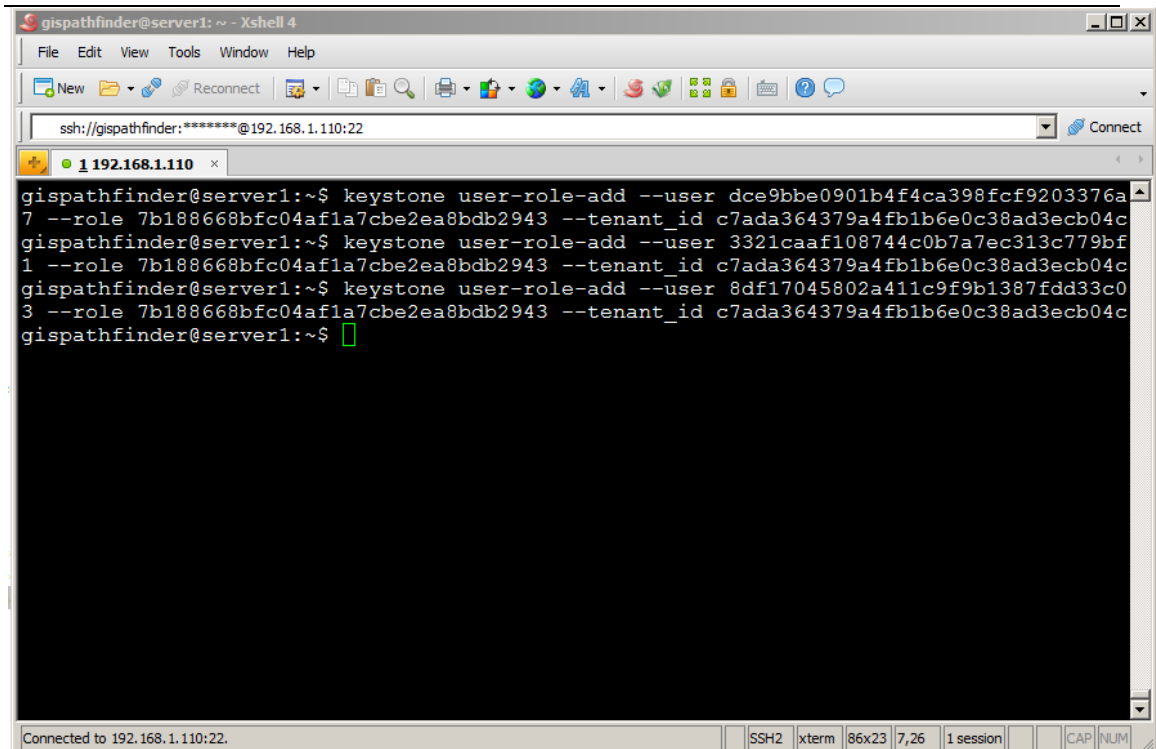
2) add a role of 'admin' to the users 'nova', 'glance' and 'swift' of the tenant 'service'

```
keystone user-role-add --user dce9bbe0901b4f4ca398fcf9203376a7 --role 7b188668bfc04af1a7cbe2ea8bdb2943 --tenant_id c7ada364379a4fb1b6e0c38ad3ecb04c
```

```
keystone user-role-add --user 3321caaf108744c0b7a7ec313c779bf1 --role 7b188668bfc04af1a7cbe2ea8bdb2943 --tenant_id c7ada364379a4fb1b6e0c38ad3ecb04c
```

```
keystone user-role-add --user 8df17045802a411c9f9b1387fdd33c03 --role 7b188668bfc04af1a7cbe2ea8bdb2943 --tenant_id c7ada364379a4fb1b6e0c38ad3ecb04c
```

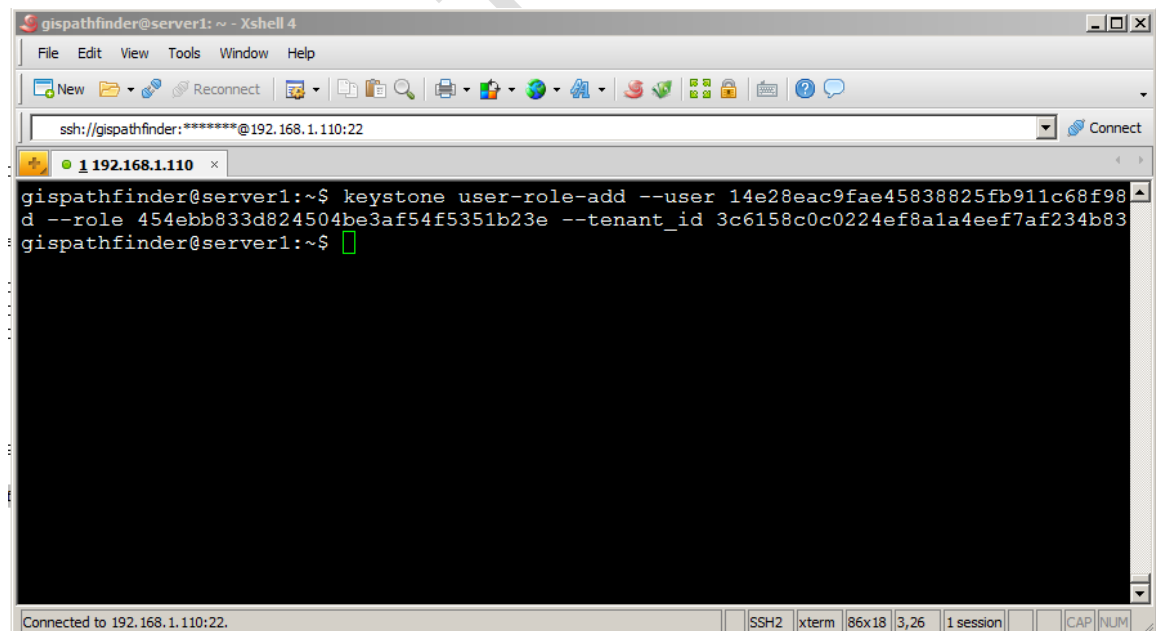
SmartMap



```
gispathfinder@server1: ~ - Xshell 4
File Edit View Tools Window Help
New Reconnect
ssh://gispathfinder:*****@192.168.1.110:22
1 192.168.1.110
gispathfinder@server1:~$ keystone user-role-add --user dce9bbe0901b4f4ca398fcf9203376a7 --role 7b188668bfc04af1a7cbe2ea8bdb2943 --tenant_id c7ada364379a4fb1b6e0c38ad3ecb04c
gispathfinder@server1:~$ keystone user-role-add --user 3321caaf108744c0b7a7ec313c779bf1 --role 7b188668bfc04af1a7cbe2ea8bdb2943 --tenant_id c7ada364379a4fb1b6e0c38ad3ecb04c
gispathfinder@server1:~$ keystone user-role-add --user 8df17045802a411c9f9b1387fdd33c03 --role 7b188668bfc04af1a7cbe2ea8bdb2943 --tenant_id c7ada364379a4fb1b6e0c38ad3ecb04c
gispathfinder@server1:~$
```

3) add a role of 'Member' to the user 'admin' of the tenant 'admin'

```
keystone user-role-add --user 14e28eac9fae45838825fb911c68f98d --role 454ebb833d824504be3af54f5351b23e --tenant_id 3c6158c0c0224ef8a1a4eef7af234b83
```



```
gispathfinder@server1: ~ - Xshell 4
File Edit View Tools Window Help
New Reconnect
ssh://gispathfinder:*****@192.168.1.110:22
1 192.168.1.110
gispathfinder@server1:~$ keystone user-role-add --user 14e28eac9fae45838825fb911c68f98d --role 454ebb833d824504be3af54f5351b23e --tenant_id 3c6158c0c0224ef8a1a4eef7af234b83
gispathfinder@server1:~$
```

12.创建服务

1)

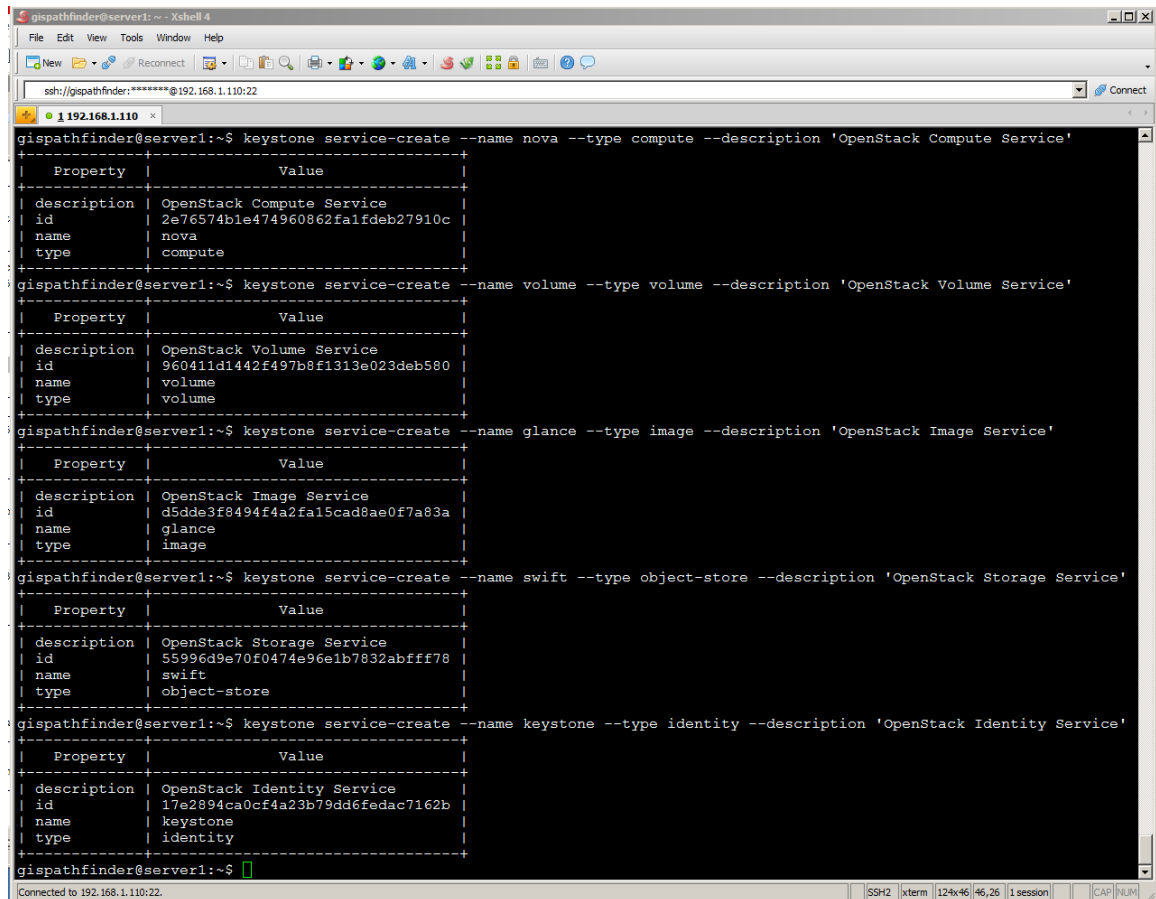
```
keystone service-create --name nova --type compute --description 'OpenStack Compute Service'
```

keystone service-create --name volume --type volume --description 'OpenStack Volume Service'

keystone service-create --name glance --type image --description 'OpenStack Image Service'

keystone service-create --name swift --type object-store --description 'OpenStack Storage Service'

keystone service-create --name keystone --type identity --description 'OpenStack Identity Service'



```
gispathfinder@server1:~$ keystone service-create --name nova --type compute --description 'OpenStack Compute Service'
```

Property	Value
description	OpenStack Compute Service
id	2e76574b1e474960862falfdeb27910c
name	nova
type	compute

```
gispathfinder@server1:~$ keystone service-create --name volume --type volume --description 'OpenStack Volume Service'
```

Property	Value
description	OpenStack Volume Service
id	960411d1442f497b8f1313e023deb580
name	volume
type	volume

```
gispathfinder@server1:~$ keystone service-create --name glance --type image --description 'OpenStack Image Service'
```

Property	Value
description	OpenStack Image Service
id	d5dde3f8494f4a2fa15cad8ae0f7a83a
name	glance
type	image

```
gispathfinder@server1:~$ keystone service-create --name swift --type object-store --description 'OpenStack Storage Service'
```

Property	Value
description	OpenStack Storage Service
id	55996d9e70f0474e96e1b7832abfff78
name	swift
type	object-store

```
gispathfinder@server1:~$ keystone service-create --name keystone --type identity --description 'OpenStack Identity Service'
```

Property	Value
description	OpenStack Identity Service
id	17e2894ca0cf4a23b79dd6fedac7162b
name	keystone
type	identity

```
gispathfinder@server1:~$
```

keystone service-create --name ec2 --type ec2 --description 'EC2 Service'

SmartMap

```
gispathfinder@server1: ~ - Xshell 4
ssh://gispathfinder:*****@192.168.1.110:22

gispathfinder@server1:~$ keystone service-create --name volume --type volume --description 'OpenStack Volume Service'
+-----+-----+
| Property | Value |
+-----+-----+
| description | OpenStack Volume Service |
| id | 960411d1442f497b8f1313e023deb580 |
| name | volume |
| type | volume |
+-----+-----+

gispathfinder@server1:~$ keystone service-create --name glance --type image --description 'OpenStack Image Service'
+-----+-----+
| Property | Value |
+-----+-----+
| description | OpenStack Image Service |
| id | d5dde3f8494f4a2fa15cad8ae0f7a83a |
| name | glance |
| type | image |
+-----+-----+

gispathfinder@server1:~$ keystone service-create --name swift --type object-store --description 'OpenStack Storage Service'
+-----+-----+
| Property | Value |
+-----+-----+
| description | OpenStack Storage Service |
| id | 55996d9e70f0474e96e1b7832abfff78 |
| name | swift |
| type | object-store |
+-----+-----+

gispathfinder@server1:~$ keystone service-create --name keystone --type identity --description 'OpenStack Identity Service'
+-----+-----+
| Property | Value |
+-----+-----+
| description | OpenStack Identity Service |
| id | 17e2894ca0cf4a23b79dd6fedac7162b |
| name | keystone |
| type | identity |
+-----+-----+

gispathfinder@server1:~$ keystone service-create --name ec2 --type ec2 --description 'EC2 Service'
+-----+-----+
| Property | Value |
+-----+-----+
| description | EC2 Service |
| id | 7ab9254829ce42a18e7315585f4fb06d |
| name | ec2 |
| type | ec2 |
+-----+-----+

gispathfinder@server1:~$
```

2)
keystone service-list

```
gispathfinder@server1: ~ - Xshell 4
ssh://gispathfinder:*****@192.168.1.110:22

gispathfinder@server1:~$ keystone service-list
+-----+-----+-----+-----+
| id | name | type | description |
+-----+-----+-----+-----+
| 17e2894ca0cf4a23b79dd6fedac7162b | keystone | identity | OpenStack Identity Service |
| 2e76574b1e474960862fa1fdeb27910c | nova | compute | OpenStack Compute Service |
| 55996d9e70f0474e96e1b7832abfff78 | swift | object-store | OpenStack Storage Service |
| 7ab9254829ce42a18e7315585f4fb06d | ec2 | ec2 | EC2 Service |
| 960411d1442f497b8f1313e023deb580 | volume | volume | OpenStack Volume Service |
| d5dde3f8494f4a2fa15cad8ae0f7a83a | glance | image | OpenStack Image Service |
+-----+-----+-----+-----+

gispathfinder@server1:~$
```

13.创建终端点。

1)
creating an endpoint for nova-compute

```
keystone endpoint-create --region myregion --service_id 2e76574b1e474960862fa1fdeb27910c
```

SmartMap

```
--publicurl          'http://192.168.1.110:8774/v2/$(tenant_id)s'          --adminurl
'http://192.168.1.110:8774/v2/$(tenant_id)s'          --internalurl
'http://192.168.1.110:8774/v2/$(tenant_id)s'
```

2)

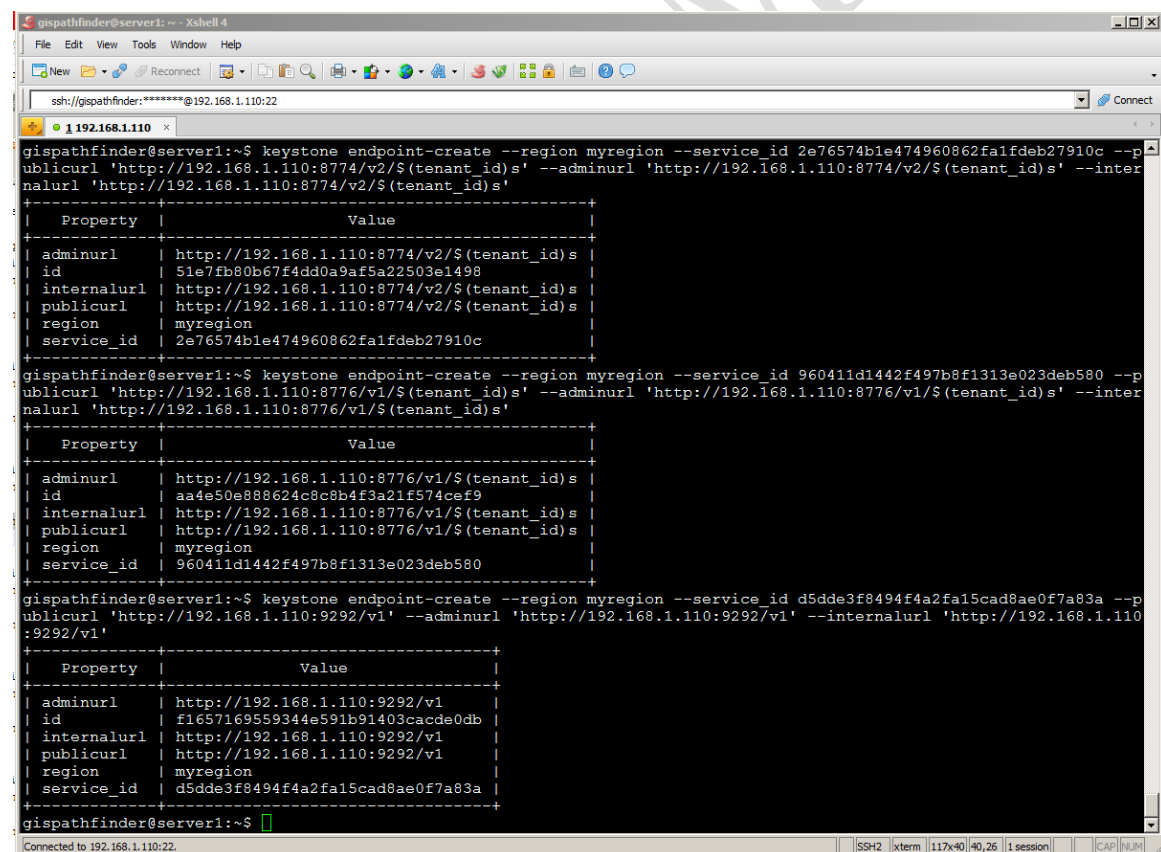
creating an endpoint for nova-volume

```
keystone endpoint-create --region myregion --service_id 960411d1442f497b8f1313e023deb580
--publicurl          'http://192.168.1.110:8776/v1/$(tenant_id)s'          --adminurl
'http://192.168.1.110:8776/v1/$(tenant_id)s'          --internalurl
'http://192.168.1.110:8776/v1/$(tenant_id)s'
```

3)

creating an endpoint for glance

```
keystone endpoint-create --region myregion --service_id d5dde3f8494f4a2fa15cad8ae0f7a83a
--publicurl 'http://192.168.1.110:9292/v1' --adminurl 'http://192.168.1.110:9292/v1' --internalurl
'http://192.168.1.110:9292/v1'
```



```
gispathfinder@server1:~$ ssh://gispathfinder:*****@192.168.1.110:22
gispathfinder@server1:~$ keystone endpoint-create --region myregion --service_id 2e76574b1e474960862fa1fdeb27910c --p
ublicurl 'http://192.168.1.110:8774/v2/$(tenant_id)s' --adminurl 'http://192.168.1.110:8774/v2/$(tenant_id)s' --inter
nalurl 'http://192.168.1.110:8774/v2/$(tenant_id)s'
+-----+-----+
| Property | Value |
+-----+-----+
| adminurl | http://192.168.1.110:8774/v2/$(tenant_id)s |
| id       | 51e7fb80b67f4dd0a9af5a22503e1498 |
| internalurl | http://192.168.1.110:8774/v2/$(tenant_id)s |
| publicurl | http://192.168.1.110:8774/v2/$(tenant_id)s |
| region   | myregion |
| service_id | 2e76574b1e474960862fa1fdeb27910c |
+-----+-----+
gispathfinder@server1:~$ keystone endpoint-create --region myregion --service_id 960411d1442f497b8f1313e023deb580 --p
ublicurl 'http://192.168.1.110:8776/v1/$(tenant_id)s' --adminurl 'http://192.168.1.110:8776/v1/$(tenant_id)s' --inter
nalurl 'http://192.168.1.110:8776/v1/$(tenant_id)s'
+-----+-----+
| Property | Value |
+-----+-----+
| adminurl | http://192.168.1.110:8776/v1/$(tenant_id)s |
| id       | aa4e50e888624c8c8b4f3a21f574cef9 |
| internalurl | http://192.168.1.110:8776/v1/$(tenant_id)s |
| publicurl | http://192.168.1.110:8776/v1/$(tenant_id)s |
| region   | myregion |
| service_id | 960411d1442f497b8f1313e023deb580 |
+-----+-----+
gispathfinder@server1:~$ keystone endpoint-create --region myregion --service_id d5dde3f8494f4a2fa15cad8ae0f7a83a --p
ublicurl 'http://192.168.1.110:9292/v1' --adminurl 'http://192.168.1.110:9292/v1' --internalurl 'http://192.168.1.110
:9292/v1'
+-----+-----+
| Property | Value |
+-----+-----+
| adminurl | http://192.168.1.110:9292/v1 |
| id       | f1657169559344e591b91403cacde0db |
| internalurl | http://192.168.1.110:9292/v1 |
| publicurl | http://192.168.1.110:9292/v1 |
| region   | myregion |
| service_id | d5dde3f8494f4a2fa15cad8ae0f7a83a |
+-----+-----+
gispathfinder@server1:~$
```

4)

creating an endpoint for swift

```
keystone endpoint-create --region myregion --service_id 55996d9e70f0474e96e1b7832abfff78
--publicurl          'http://192.168.1.110:8080/v1/AUTH_$(tenant_id)s'          --adminurl
'http://192.168.1.110:8080/v1' --internalurl 'http://192.168.1.110:8080/v1/AUTH_$(tenant_id)s'
```

5)

creating an endpoint for keystone

```
keystone endpoint-create --region myregion --service_id 17e2894ca0cf4a23b79dd6fedac7162b
--publicurl 'http://192.168.1.110:5000/v2.0' --adminurl 'http://192.168.1.110:35357/v2.0'
--internalurl 'http://192.168.1.110:5000/v2.0'
```

6)

creating an endpoint for ec2

```
keystone endpoint-create --region myregion --service_id 7ab9254829ce42a18e7315585f4fb06d
--publicurl 'http://192.168.1.110:8773/services/Cloud' --adminurl 'http://192.168.1.110:8773/services/Admin'
--internalurl 'http://192.168.1.110:8773/services/Cloud'
```

```
gispathfinder@server1:~$ keystone endpoint-create --region myregion --service_id 55996d9e70f0474e96e1b7832abfff78 --p
ublicurl 'http://192.168.1.110:8080/v1/AUTH_${tenant_id}s' --adminurl 'http://192.168.1.110:8080/v1' --internalurl 'h
ttp://192.168.1.110:8080/v1/AUTH_${tenant_id}s'
```

Property	Value
adminurl	http://192.168.1.110:8080/v1
id	8db95929f2c147b5ae0de0c678065844
internalurl	http://192.168.1.110:8080/v1/AUTH_\${tenant_id}s
publicurl	http://192.168.1.110:8080/v1/AUTH_\${tenant_id}s
region	myregion
service_id	55996d9e70f0474e96e1b7832abfff78

```
gispathfinder@server1:~$ keystone endpoint-create --region myregion --service_id 17e2894ca0cf4a23b79dd6fedac7162b --p
ublicurl 'http://192.168.1.110:5000/v2.0' --adminurl 'http://192.168.1.110:35357/v2.0' --internalurl 'http://192.168.
1.110:5000/v2.0'
```

Property	Value
adminurl	http://192.168.1.110:35357/v2.0
id	0530f82edb82408e83843762fcfc669
internalurl	http://192.168.1.110:5000/v2.0
publicurl	http://192.168.1.110:5000/v2.0
region	myregion
service_id	17e2894ca0cf4a23b79dd6fedac7162b

```
gispathfinder@server1:~$ keystone endpoint-create --region myregion --service_id 7ab9254829ce42a18e7315585f4fb06d --p
ublicurl 'http://192.168.1.110:8773/services/Cloud' --adminurl 'http://192.168.1.110:8773/services/Admin' --internalu
rl 'http://192.168.1.110:8773/services/Cloud'
```

Property	Value
adminurl	http://192.168.1.110:8773/services/Admin
id	4e3e005d660b419daea9a4f6cf86da8a
internalurl	http://192.168.1.110:8773/services/Cloud
publicurl	http://192.168.1.110:8773/services/Cloud
region	myregion
service_id	7ab9254829ce42a18e7315585f4fb06d

```
gispathfinder@server1:~$
```

14. 安装 Glance

1)

```
sudo apt-get install glance glance-api glance-client glance-common glance-registry python-glance
```

2)

```
sudo vi /etc/glance/glance-api-paste.ini
```

```
admin_tenant_name = service
admin_user = glance
admin_password = glance
```

3)

```
sudo vi /etc/glance/glance-registry-paste.ini
```

```
admin_tenant_name = service
admin_user = glance
admin_password = glance
```

4)

```
sudo vi /etc/glance/glance-registry.conf
```

```
sql_connection = mysql://glancedbadmin:zyx@192.168.1.110/glance
```

```
[paste_deploy]
flavor = keystone
```

5)

```
sudo vi /etc/glance/glance-api.conf
```

```
[paste_deploy]
flavor = keystone
```

6)

```
sudo glance-manage version_control 0
sudo glance-manage db_sync
```

7)

```
sudo restart glance-api
sudo restart glance-registry
```

8)

```
sudo vi ~/.bashrc
```

```
-----

export SERVICE_TOKEN=admin
export OS_TENANT_NAME=admin
export OS_USERNAME=admin
export OS_PASSWORD=admin
export OS_AUTH_URL="http://127.0.0.1:5000/v2.0/"
export SERVICE_ENDPOINT="http://127.0.0.1:35357/v2.0"
```

9)

```
export SERVICE_TOKEN=admin
export OS_TENANT_NAME=admin
export OS_USERNAME=admin
export OS_PASSWORD=admin
export OS_AUTH_URL="http://127.0.0.1:5000/v2.0/"
export SERVICE_ENDPOINT=http://127.0.0.1:35357/v2.0
```

15. 安装 Nova

1)

```
sudo apt-get install nova-api nova-cert nova-compute nova-compute-kvm nova-doc nova-network
nova-objectstore nova-scheduler nova-volume rabbitmq-server novnc nova-consoleauth
```

2)

```
sudo vi /etc/nova/nova.conf
```

```
-----
--dhcpbridge_flagfile=/etc/nova/nova.conf
--dhcpbridge=/usr/bin/nova-dhcpbridge
--logdir=/var/log/nova
--state_path=/var/lib/nova
--lock_path=/run/lock/nova
--allow_admin_api=true
--use_deprecated_auth=false
--auth_strategy=keystone
--scheduler_driver=nova.scheduler.simple.SimpleScheduler
--s3_host=192.168.1.110
--ec2_host=192.168.1.110
--rabbit_host=192.168.1.110
--cc_host=192.168.1.110
--nova_url=http://192.168.1.110:8774/v1.1/
--routing_source_ip=192.168.1.110
--glance_api_servers=192.168.1.110:9292
--image_service=nova.image.glance.GlanceImageService
--iscsi_ip_prefix=192.168.4
--sql_connection=mysql://novadbadmin:zyx@192.168.1.110/nova
--ec2_url=http://192.168.1.110:8773/services/Cloud
--keystone_ec2_url=http://192.168.1.110:5000/v2.0/ec2tokens
--api_paste_config=/etc/nova/api-paste.ini
--libvirt_type=kvm
```

```
--libvirt_use_virtio_for_bridges=true
--start_guests_on_host_boot=true
--resume_guests_state_on_host_boot=true
# vnc specific configuration
--novnc_enabled=true
--novncproxy_base_url=http://192.168.1.110:6080/vnc_auto.html
--vncserver_proxycient_address=192.168.1.110
--vncserver_listen=192.168.1.110
# network specific settings
--network_manager=nova.network.manager.FlatDHCPManager
--public_interface=eth0
--flat_interface=eth1
--flat_network_bridge=br100
--fixed_range=192.168.4.1/27
--floating_range=192.168.1.110/27
--network_size=32
--flat_network_dhcp_start=192.168.4.33
--flat_injected=False
--force_dhcp_release
--iscsi_helper=tgtadm
--connection_type=libvirt
--root_helper=sudo nova-rootwrap
--verbose
```

16. 安装 iscsi

- 1)
sudo apt-get -y install iscsitarget iscsitarget-dkms
- 2)
sudo sed -i 's/false/true/g' /etc/default/iscsitarget
- 3)
sudo service iscsitarget restart

17. 创建 LVM

- 1)
sudo fdisk -l

```

gispathfinder@server1: ~ - Xshell 4
ssh://gispathfinder:*****@192.168.1.110:22
1 192.168.1.110 x
gispathfinder@server1:~$ sudo fdisk -l

Disk /dev/sda: 38.7 GB, 38654705664 bytes
255 heads, 63 sectors/track, 4699 cylinders, total 75497472 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00063bd8

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1             2048        390535        195174   82  Linux swap / Solaris
/dev/sda2  *       3905536       4405247         24986   83  Linux
/dev/sda3             4407294       33701887       14647297    5  Extended
/dev/sda4             33701888       75495423       20896768   83  Linux
/dev/sda5             4407296       33701887       14647296   8e  Linux LVM
gispathfinder@server1:~$ █

```

2)

`sudo pvcreate /dev/sda5`

3)

`sudo vgcreate nova-volumes /dev/sda5`

18.配置 Nova

1)

`sudo chown -R nova:nova /etc/nova`
`sudo chmod 644 /etc/nova/nova.conf`

2)

`sudo vi /etc/nova/api-paste.ini`

```

-----
admin_tenant_name = service
admin_user = nova
admin_password = nova

```

3)

`sudo nova-manage db sync`

4)

`sudo nova-manage network create private --fixed_range_v4=192.168.4.32/27 --num_networks=1`
`--bridge=br100 --bridge_interface=eth1 --network_size=32`

5)

sudo vi .bashrc

```
-----  
export OS_TENANT_NAME=admin  
export OS_USERNAME=admin  
export OS_PASSWORD=admin  
export OS_AUTH_URL="http://127.0.0.1:5000/v2.0/"
```

6)

```
export OS_TENANT_NAME=admin  
export OS_USERNAME=admin  
export OS_PASSWORD=admin  
export OS_AUTH_URL="http://127.0.0.1:5000/v2.0/"
```

7)

```
sudo restart libvirt-bin; sudo restart nova-network; sudo restart nova-compute; sudo restart  
nova-api; sudo restart nova-objectstore; sudo restart nova-scheduler; sudo restart nova-volume;  
sudo restart nova-consoleauth;
```

8)

```
sudo nova-manage service list
```

19.安装 Dashboard

1)

```
sudo apt-get install openstack-dashboard
```

2)

```
sudo service apache2 restart
```

3)

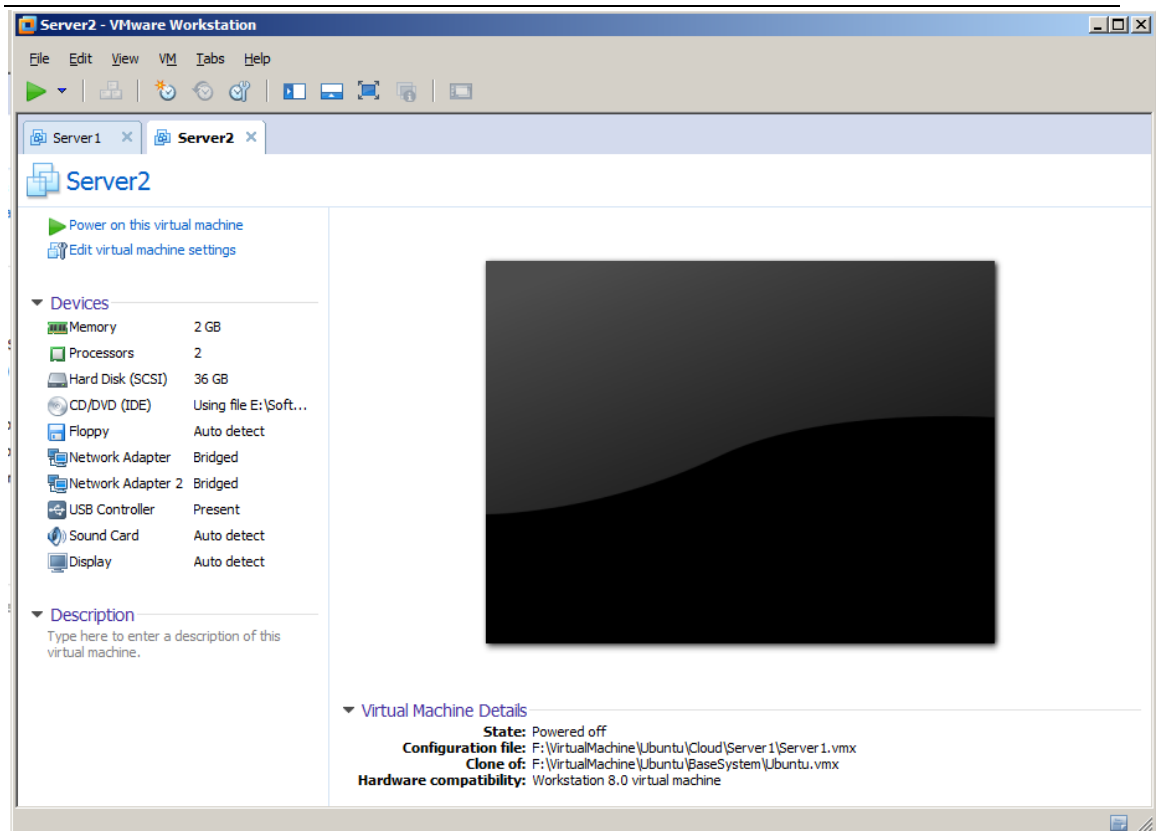
```
sudo nova-manage service list
```

```
*****  
  
*****
```

1.安装 Ubuntu-12.04-server-amd64.iso 系统。

注意:选择安装 SSH 服务
安装过程略。

SmartMap



2.修改计算机 IP。

1)

```
sudo vi /etc/network/interfaces
```

```
-----  
auto lo
```

```
iface lo inet loopback
```

```
    auto eth0
```

```
    iface eth0 inet static
```

```
        address 192.168.1.120
```

```
        netmask 255.255.255.0
```

```
        broadcast 192.168.1.255
```

```
        gateway 192.168.1.1
```

```
        dns-nameservers 192.168.1.1
```

```
auto eth1
```

```
iface eth1 inet static
```

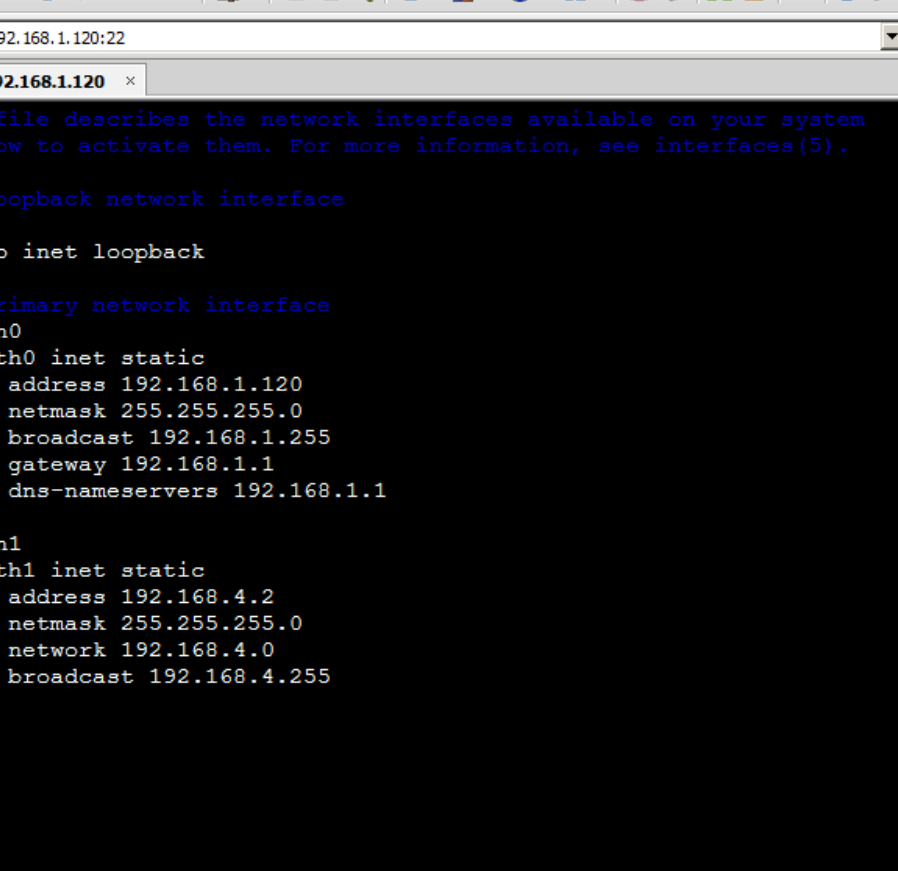
```
    address 192.168.4.2
```

```
    netmask 255.255.255.0
```

```
    network 192.168.4.0
```

```
    broadcast 192.168.4.255
```

SmartMap



The screenshot shows a terminal window titled "gispathfinder@Ubuntu: ~ - Xshell 4". The terminal displays the contents of a network configuration file, likely `/etc/network/interfaces`. The configuration defines two network interfaces: `lo` (loopback) and `eth0` (primary network interface). The `eth0` interface is configured with a static IP address of `192.168.1.120`, a netmask of `255.255.255.0`, a broadcast address of `192.168.1.255`, a gateway of `192.168.1.1`, and DNS servers at `192.168.1.1`. A second interface, `eth1`, is also configured with a static IP address of `192.168.4.2`, a netmask of `255.255.255.0`, and a broadcast address of `192.168.4.255`. The terminal shows the first few lines of the configuration file, including comments and the interface definitions. The terminal prompt is `ssh://192.168.1.120:22`. The terminal window has a menu bar (File, Edit, View, Tools, Window, Help) and a toolbar with various icons. The status bar at the bottom shows "Connected to 192.168.1.120:22." and a session information table.

SSH2	xterm	78x32	1,1	1 session	CAP	NUM

2)

```
sudo vi /etc/resolv.conf
```

The screenshot shows an Xshell terminal window with the title "gispathfinder@Ubuntu: ~ - Xshell 4". The terminal interface includes a menu bar (File, Edit, View, Tools, Window, Help), a toolbar with various icons, and a status bar at the bottom. The main terminal area shows an SSH session to 192.168.1.120. The output of the session is as follows:

```
Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
#     DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
nameserver 192.168.1.1
~
~
~
~
```

The status bar at the bottom indicates the connection details: "Connected to 192.168.1.120:22." and session information: "SSH2 xterm 78x9 1,1 1 session".

3) 删除 rules 文件

```
sudo rm -rf /etc/udev/rules.d/*.rules
```

4) 重启网卡

```
sudo /etc/init.d/networking restart
```

3.修改计算机名。

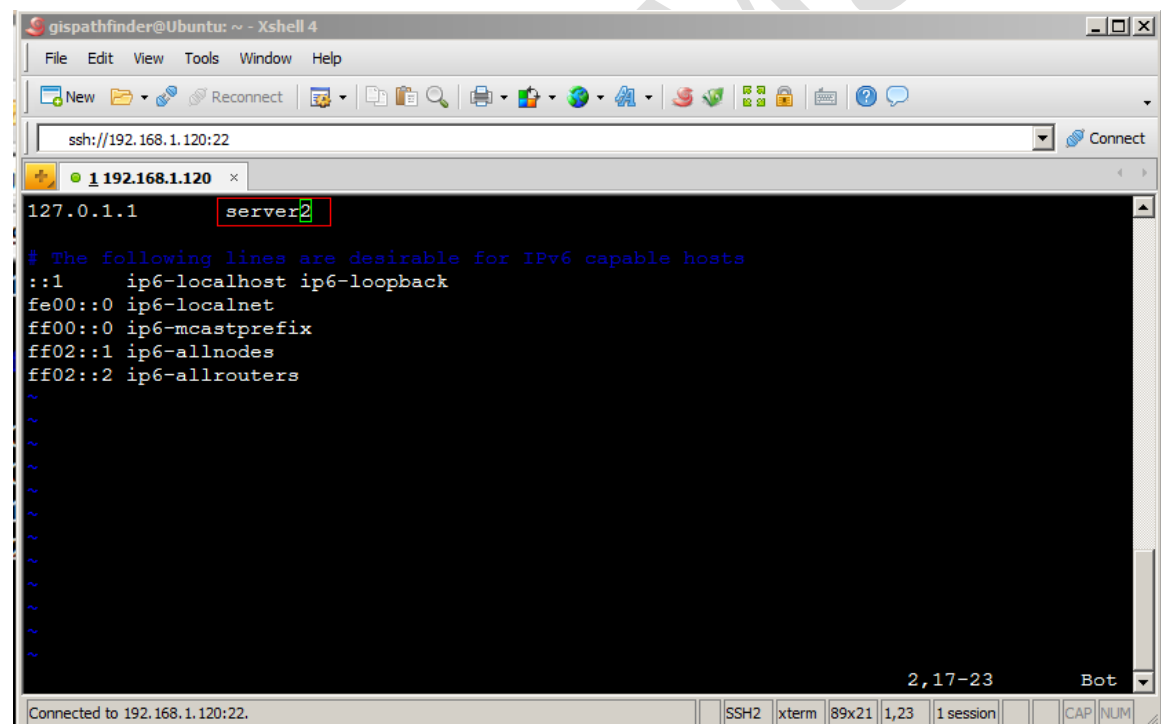
1)

```
sudo vi /etc/hostname
```

```
server2
```

2)

```
sudo vi /etc/hosts
```



4.安装更新

1)

```
sudo apt-get update
```

2)

```
sudo apt-get upgrade
```

5.安装 unzip

```
sudo apt-get install -y unzip
```

6.安装 NTP

1)

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

2)

```
sudo vi /etc/ntp.conf
```

```
-----  
server 192.168.1.110
```

3)

```
sudo service ntp restart
```

7.安装 bridge-utils

```
sudo apt-get install bridge-utils
```

8.安装 nova-compute

1)

```
sudo apt-get install nova-compute
```

2)

```
sudo chown -R nova:nova /etc/nova
```

```
sudo chmod -R 777 /etc/nova/
```

3)

```
sudo vi /etc/nova/nova.conf
```

```
-----  
--dhcpbridge_flagfile=/etc/nova/nova.conf  
--dhcpbridge=/usr/bin/nova-dhcpbridge  
--logdir=/var/log/nova  
--state_path=/var/lib/nova  
--lock_path=/run/lock/nova  
--allow_admin_api=true  
--use_deprecated_auth=false  
--auth_strategy=keystone  
--scheduler_driver=nova.scheduler.simple.SimpleScheduler  
--s3_host=192.168.1.110  
--ec2_host=192.168.1.110
```

```
--rabbit_host=192.168.1.110
--cc_host=192.168.1.110
--nova_url=http://192.168.1.110:8774/v1.1/
--routing_source_ip=192.168.1.110
--glance_api_servers=192.168.1.110:9292
--image_service=nova.image.glance.GlanceImageService
--iscsi_ip_prefix=192.168.4
--sql_connection=mysql://novadbadmin: zyx@192.168.1.110/nova
--ec2_url=http://192.168.1.110:8773/services/Cloud
--keystone_ec2_url=http://192.168.1.110:5000/v2.0/ec2tokens
--api_paste_config=/etc/nova/api-paste.ini
--libvirt_type=kvm
--libvirt_use_virtio_for_bridges=true
--start_guests_on_host_boot=true
--resume_guests_state_on_host_boot=true
# vnc specific configuration
--novnc_enabled=true
--novncproxy_base_url=http://192.168.1.110:6080/vnc_auto.html
--vncserver_proxycient_address=192.168.1.110
--vncserver_listen=192.168.1.110
# network specific settings
--network_manager=nova.network.manager.FlatDHCPManager
--public_interface=eth0
--flat_interface=eth1
--flat_network_bridge=br100
--fixed_range=192.168.4.1/27
--floating_range=192.168.1.110/27
--network_size=32
--flat_network_dhcp_start=192.168.4.33
--flat_injected=False
--force_dhcp_release
--iscsi_helper=tgtadm
--connection_type=libvirt
--root_helper=sudo nova-rootwrap
--verbose
```

3)

```
sudo vi .bashrc
```

```
-----
export OS_TENANT_NAME=admin
export OS_USERNAME=admin
export OS_PASSWORD=admin
```

```
export OS_AUTH_URL="http://127.0.0.1:5000/v2.0/"
```

4)

```
export OS_TENANT_NAME=admin
export OS_USERNAME=admin
export OS_PASSWORD=admin
export OS_AUTH_URL="http://127.0.0.1:5000/v2.0/"
```

5)

```
sudo service restart nova-compute
```

6)

```
sudo nova-manage service list
```

```

gispathfinder@server2: ~ - Xshell 4
File Edit View Tools Window Help
ssh://gispathfinder:*****@192.168.1.120:22
1 192.168.1.110 2 192.168.1.120 x
Graph this data and manage this system at https://landscape.canonical.com/
Last login: Fri Aug 3 20:49:49 2012 from 192.168.1.19
gispathfinder@server2:~$ ps tree
init--+-acpid
      |--atd
      |--cron
      |--dbus-daemon
      |--dnsmasq
      |--6*[getty]
      |--irqbalance
      |--2*[iscsid]
      |--libvirtd--10*[libvirtd]
      |--ntpd
      |--rsyslogd--3*[rsyslogd]
      |--sshd--sshd--sshd--bash--pstree
      |--su--nova-compute
      |--udev--2*[udev]
      |--upstart-socket-
      |--upstart-udev-br
      |--whoopsie--{whoopsie}
gispathfinder@server2:~$ sudo nova-manage service list
[sudo] password for gispathfinder:
2012-08-03 21:01:30 DEBUG nova.utils [req-0b58bd54-7933-470c-942b-2be871244c57 None None] backend <module 'nova.db.sqlalch
emy.api' from '/usr/lib/python2.7/dist-packages/nova/db/sqlalchemy/api.pyc'> from (pid=1899) __get_backend /usr/lib/python
2.7/dist-packages/nova/utils.py:658
Binary      Host      Zone      Status      State Updated At
nova-scheduler server1    nova      enabled      :-      2012-08-03 13:01:26
nova-consoleauth server1    nova      enabled      :-      2012-08-03 13:01:27
nova-compute server1    nova      enabled      :-      2012-08-03 13:01:27
nova-network server1    nova      enabled      :-      2012-08-03 13:01:24
nova-cert server1    nova      enabled      :-      2012-08-03 13:01:26
nova-volume server1    nova      enabled      :-      2012-08-03 13:01:26
nova-compute server2    nova      enabled      :-      2012-08-03 13:01:27
gispathfinder@server2:~$
Connected to 192.168.1.120:22.
SSH2 | xterm | 122x35 | 35,26 | 2 sessions | CAP | NUM

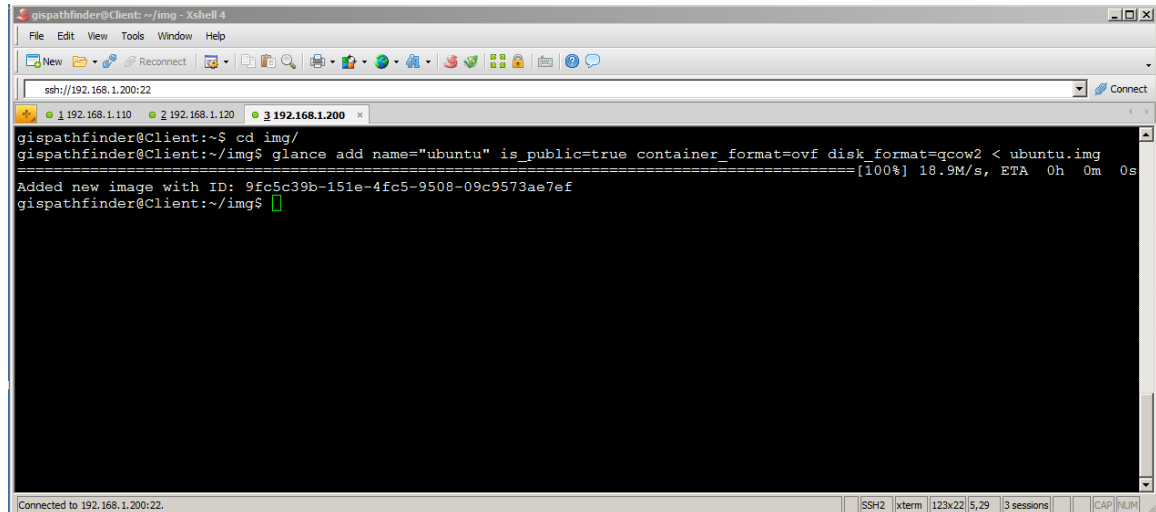
```

1.上传镜像到服务

1)

cd img

glance add name="ubuntu" is_public=true container_format=ovf disk_format=qcow2 < ubuntu.img



2.产生 SSH 密钥

1)

ssh-keygen

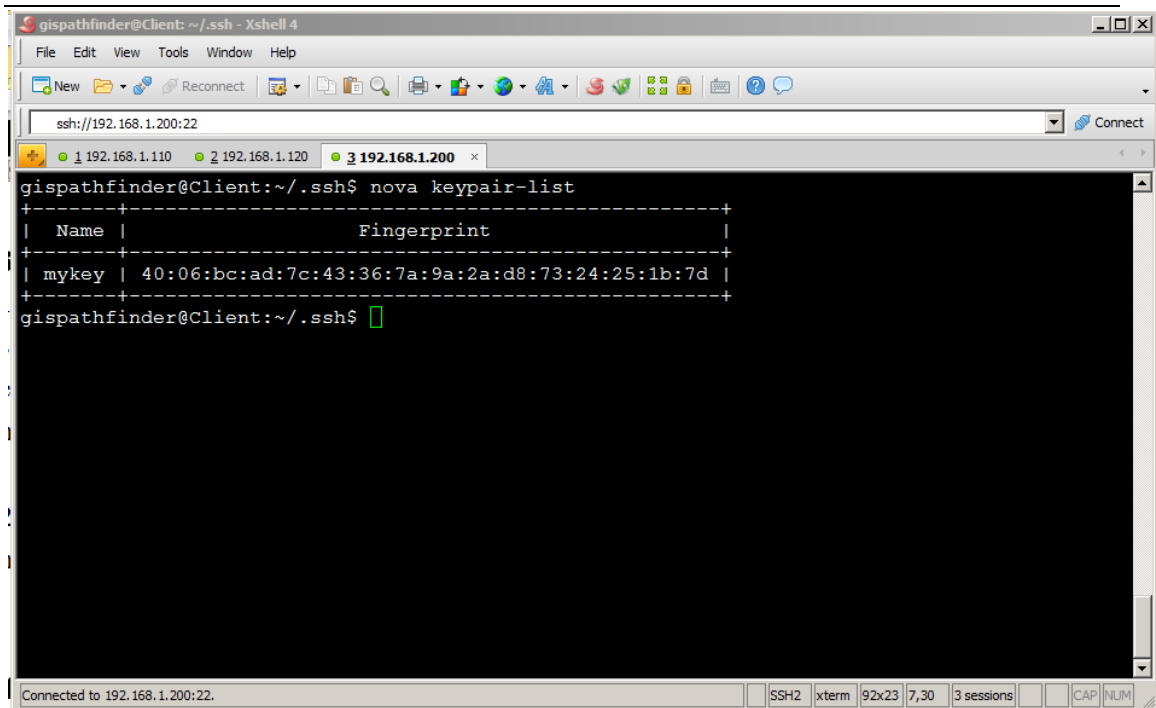
cd .ssh

nova keypair-add --pub_key id_rsa.pub mykey

2)

nova keypair-list

SmartMap

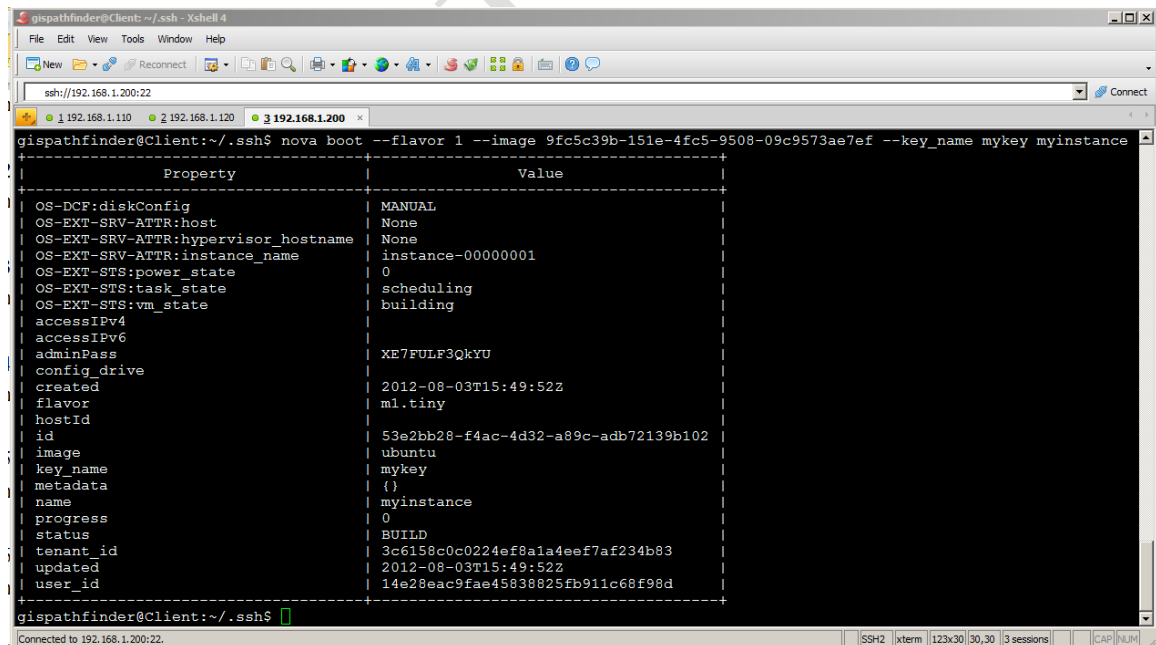


```
gispathfinder@Client: ~/.ssh - Xshell 4
File Edit View Tools Window Help
ssh://192.168.1.200:22
1 192.168.1.110 2 192.168.1.120 3 192.168.1.200 x
gispathfinder@Client:~/.ssh$ nova keypair-list
+-----+
| Name | Fingerprint |
+-----+
| mykey | 40:06:bc:ad:7c:43:36:7a:9a:2a:d8:73:24:25:1b:7d |
+-----+
gispathfinder@Client:~/.ssh$
```

3.启动实例

1)创建实例

nova boot --flavor 1 --image 9fc5c39b-151e-4fc5-9508-09c9573ae7ef --key_name mykey myinstance



```
gispathfinder@Client: ~/.ssh - Xshell 4
File Edit View Tools Window Help
ssh://192.168.1.200:22
1 192.168.1.110 2 192.168.1.120 3 192.168.1.200 x
gispathfinder@Client:~/.ssh$ nova boot --flavor 1 --image 9fc5c39b-151e-4fc5-9508-09c9573ae7ef --key_name mykey myinstance
+-----+
| Property | Value |
+-----+
| OS-DCF:diskConfig | MANUAL |
| OS-EXT-SRV-ATTR:host | None |
| OS-EXT-SRV-ATTR:hypervisor_hostname | None |
| OS-EXT-SRV-ATTR:instance_name | instance-00000001 |
| OS-EXT-STS:power_state | 0 |
| OS-EXT-STS:task_state | scheduling |
| OS-EXT-STS:vm_state | building |
| accessIPv4 | |
| accessIPv6 | |
| adminPass | XE7FULF3QkYU |
| config_drive | |
| created | 2012-08-03T15:49:52Z |
| flavor | ml.tiny |
| hostId | |
| id | 53e2bb28-f4ac-4d32-a89c-adb72139b102 |
| image | ubuntu |
| key_name | mykey |
| metadata | {} |
| name | myinstance |
| progress | 0 |
| status | BUILD |
| tenant_id | 3c6158c0c0224ef8a1a4eef7af234b83 |
| updated | 2012-08-03T15:49:52Z |
| user_id | 14e28eac9fae45838825fb911c68f98d |
+-----+
gispathfinder@Client:~/.ssh$
```

2)列出实例

nova list

```

gispathfinder@Client: ~/.ssh - Xshell 4
File Edit View Tools Window Help
ssh://192.168.1.200:22
gispathfinder@Client: ~/.ssh$ clear
gispathfinder@Client: ~/.ssh$ nova boot --flavor 1 --image 9fc5c39b-151e-4fc5-9508-09c9573ae7ef --key_name mykey myinstance
+-----+-----+
| Property | Value |
+-----+-----+
| OS-DCF:diskConfig | MANUAL |
| OS-EXT-SRV-ATTR:host | None |
| OS-EXT-SRV-ATTR:hypervisor_hostname | None |
| OS-EXT-SRV-ATTR:instance_name | instance-00000001 |
| OS-EXT-STS:power_state | 0 |
| OS-EXT-STS:task_state | scheduling |
| OS-EXT-STS:vm_state | building |
| accessIPv4 | |
| accessIPv6 | |
| adminPass | XE7FULF3QkYU |
| config_drive | |
| created | 2012-08-03T15:49:52Z |
| flavor | ml.tiny |
| hostId | |
| id | 53e2bb28-f4ac-4d32-a89c-adb72139b102 |
| image | ubuntu |
| key_name | mykey |
| metadata | {} |
| name | myinstance |
| progress | 0 |
| status | BUILD |
| tenant_id | 3c6158c0c0224ef8a1a4eef7af234b83 |
| updated | 2012-08-03T15:49:52Z |
| user_id | 14e28eac9fae45838825fb911c68f98d |
+-----+-----+
gispathfinder@Client: ~/.ssh$ nova list
+-----+-----+-----+-----+
| ID | Name | Status | Networks |
+-----+-----+-----+-----+
| 53e2bb28-f4ac-4d32-a89c-adb72139b102 | myinstance | BUILD | private=192.168.4.34 |
+-----+-----+-----+-----+
gispathfinder@Client: ~/.ssh$

```

3)重启实例

`nova reboot 9fc5c39b-151e-4fc5-9508-09c9573ae7ef`

4)删除实例

`nova delete 9fc5c39b-151e-4fc5-9508-09c9573ae7ef`

5)

`nova console-log myinstance`

6)

`nova console-log myinstance`

7)

`ssh -i mykey username@192.168.1.110`

8)

`nova flavor-list`

`sudo nova-manage flavor create <args> [options]`

`sudo nova-manage flavor delete <args> [options]`

4.生成 IP

1)生成固定 IP

```
sudo nova-manage network create private --fixed_range_v4=192.168.4.3/27 --num_networks=1
--bridge=br100 --bridge_interface=eth1 --network_size=32
```

2)生成浮动 IP

```
sudo nova-manage floating create --ip_range=192.168.1.224/27
```

```
gispatherfinder@server1: ~ - Xshell 4
ssh://gispatherfinder:*****@192.168.1.110:22
192.168.1.110 192.168.1.120 192.168.1.200
gispatherfinder@server1:~$ sudo nova-manage network create private --fixed_range_v4=192.168.4.3/27 --num_networks=1 --bridge=br100 --bridge_interface=eth1 --network_size=32
[sudo] password for gispatherfinder:
2012-08-04 00:01:32 DEBUG nova.utils [req-52d4d281-2566-4eb4-9067-cc25b190c025 None None] backend <module 'nova.db.sqlalche
my.api' from '/usr/lib/python2.7/dist-packages/nova/db/sqlalchemy/api.pyc'> from (pid=8595) __get_backend /usr/lib/python2.
7/dist-packages/nova/utils.py:658
gispatherfinder@server1:~$ sudo nova-manage floating create --ip_range=192.168.1.224/27
2012-08-04 00:01:51 DEBUG nova.utils [req-3e868137-e3a2-4dd1-9529-0af9a7f26a42 None None] backend <module 'nova.db.sqlalche
my.api' from '/usr/lib/python2.7/dist-packages/nova/db/sqlalchemy/api.pyc'> from (pid=8682) __get_backend /usr/lib/python2.
7/dist-packages/nova/utils.py:658
gispatherfinder@server1:~$
```

3)为实例生成浮动 IP（外网 IP）

```
nova floating-ip-create
```

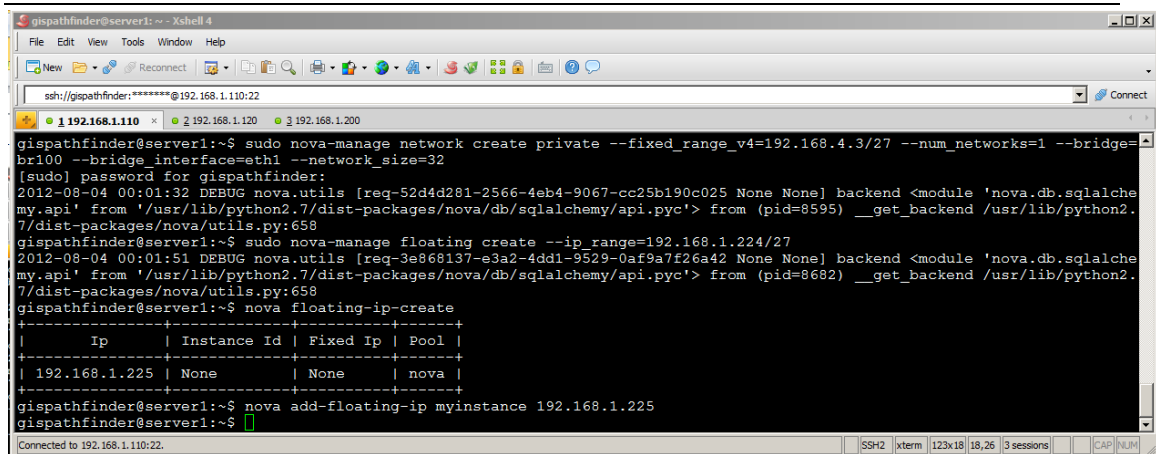
192.168.1.225

```
gispatherfinder@server1: ~ - Xshell 4
ssh://gispatherfinder:*****@192.168.1.110:22
192.168.1.110 192.168.1.120 192.168.1.200
gispatherfinder@server1:~$ sudo nova-manage network create private --fixed_range_v4=192.168.4.3/27 --num_networks=1 --bridge=br100 --bridge_interface=eth1 --network_size=32
[sudo] password for gispatherfinder:
2012-08-04 00:01:32 DEBUG nova.utils [req-52d4d281-2566-4eb4-9067-cc25b190c025 None None] backend <module 'nova.db.sqlalche
my.api' from '/usr/lib/python2.7/dist-packages/nova/db/sqlalchemy/api.pyc'> from (pid=8595) __get_backend /usr/lib/python2.
7/dist-packages/nova/utils.py:658
gispatherfinder@server1:~$ sudo nova-manage floating create --ip_range=192.168.1.224/27
2012-08-04 00:01:51 DEBUG nova.utils [req-3e868137-e3a2-4dd1-9529-0af9a7f26a42 None None] backend <module 'nova.db.sqlalche
my.api' from '/usr/lib/python2.7/dist-packages/nova/db/sqlalchemy/api.pyc'> from (pid=8682) __get_backend /usr/lib/python2.
7/dist-packages/nova/utils.py:658
gispatherfinder@server1:~$ nova floating-ip-create
+-----+-----+-----+-----+
|      Ip      | Instance Id | Fixed Ip | Pool |
+-----+-----+-----+-----+
| 192.168.1.225 | None       | None    | nova |
+-----+-----+-----+-----+
gispatherfinder@server1:~$
```

4)为实例分配浮动 IP

```
nova add-floating-ip myinstance 192.168.1.225
```

SmartMap



```
gispathfinder@server1: ~ - Xshell 4
File Edit View Tools Window Help
ssh://gispathfinder:*****@192.168.1.110:22
1 192.168.1.110 2 192.168.1.120 3 192.168.1.200
gispathfinder@server1:~$ sudo nova-manage network create private --fixed_range_v4=192.168.4.3/27 --num_networks=1 --bridge=br100 --bridge_interface=eth1 --network_size=32
[sudo] password for gispathfinder:
2012-08-04 00:01:32 DEBUG nova.utils [req-52d4d281-2566-4eb4-9067-cc25b190c025 None None] backend <module 'nova.db.sqlalche
my.api' from '/usr/lib/python2.7/dist-packages/nova/db/sqlalchemy/api.pyc'> from (pid=8595) __get_backend /usr/lib/python2.
7/dist-packages/nova/utils.py:658
gispathfinder@server1:~$ sudo nova-manage floating create --ip_range=192.168.1.224/27
2012-08-04 00:01:51 DEBUG nova.utils [req-3e868137-e3a2-4dd1-9529-0af9a7f26a42 None None] backend <module 'nova.db.sqlalche
my.api' from '/usr/lib/python2.7/dist-packages/nova/db/sqlalchemy/api.pyc'> from (pid=8602) __get_backend /usr/lib/python2.
7/dist-packages/nova/utils.py:658
gispathfinder@server1:~$ nova floating-ip-create
+-----+
| Ip | Instance Id | Fixed Ip | Pool |
+-----+
| 192.168.1.225 | None | None | nova |
+-----+
gispathfinder@server1:~$ nova add-floating-ip myinstance 192.168.1.225
gispathfinder@server1:~$
```

5.去掉防火墙

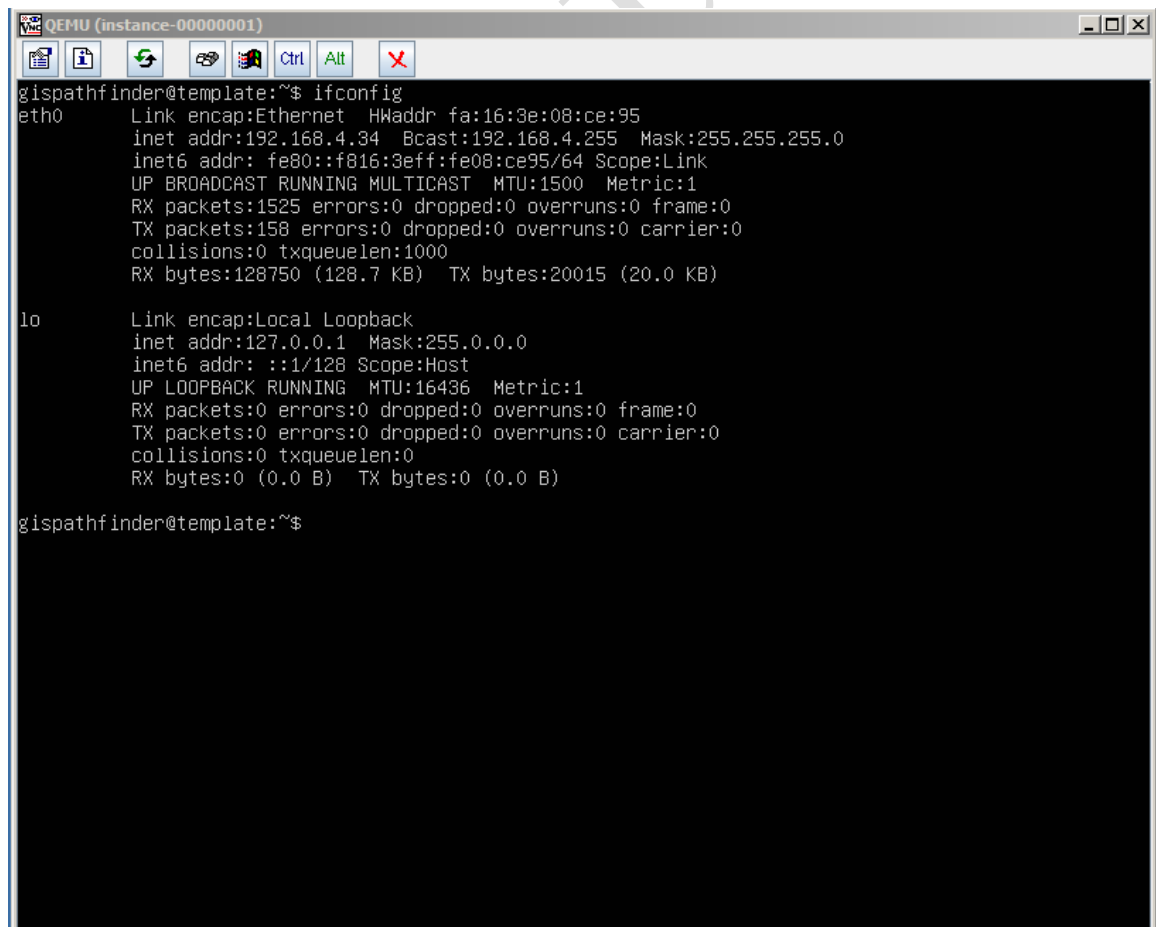
sudo iptables -F

sudo iptables -X

sudo iptables -Z

sudo iptables -L

6.连接实例

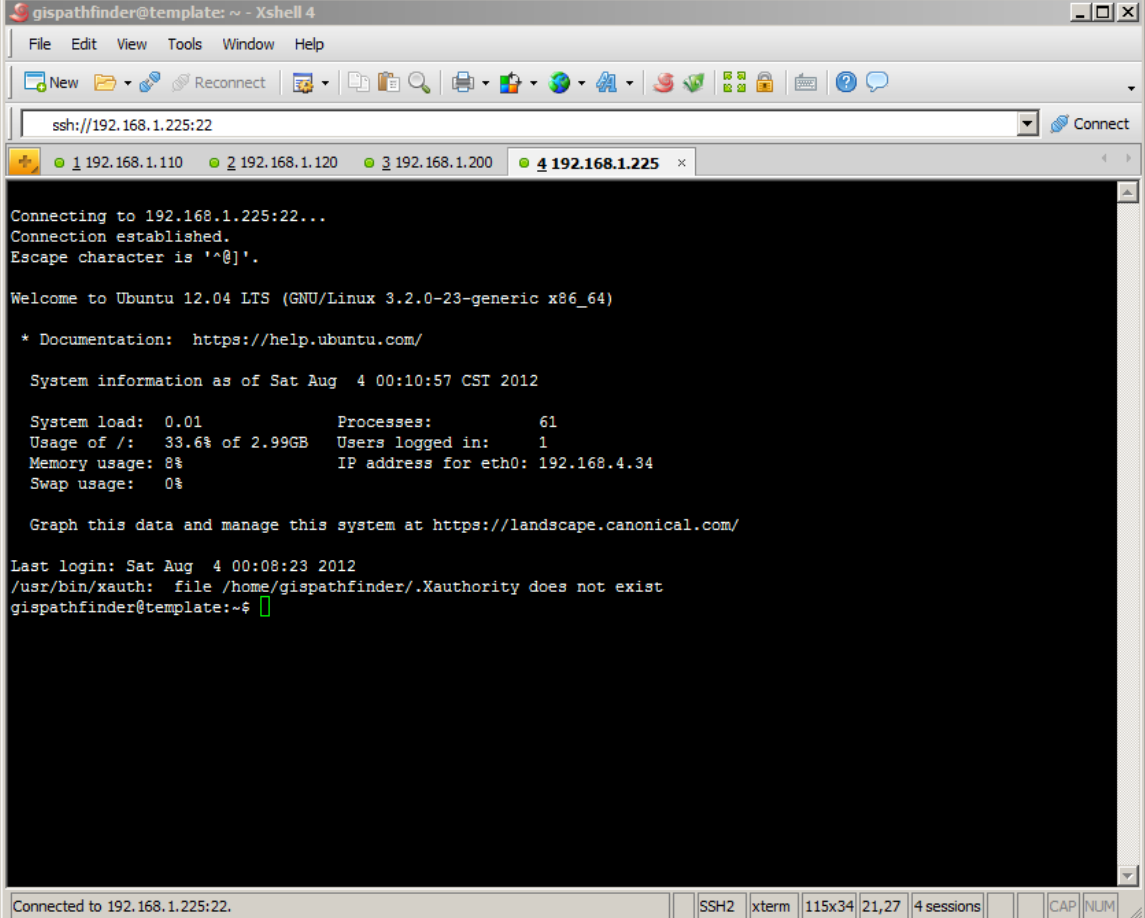


```
QEMU (instance-00000001)
gispathfinder@template:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr fa:16:3e:08:ce:95
          inet addr:192.168.4.34  Bcast:192.168.4.255  Mask:255.255.255.0
          inet6 addr: fe80::f816:3eff:fe08:ce95/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:1525 errors:0 dropped:0 overruns:0 frame:0
          TX packets:158 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:128750 (128.7 KB)  TX bytes:20015 (20.0 KB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

gispathfinder@template:~$
```

SmartMap



```
gispathfinder@template: ~ - Xshell 4
File Edit View Tools Window Help
ssh://192.168.1.225:22
1 192.168.1.110 2 192.168.1.120 3 192.168.1.200 4 192.168.1.225 x
Connecting to 192.168.1.225:22...
Connection established.
Escape character is '^@]'.
Welcome to Ubuntu 12.04 LTS (GNU/Linux 3.2.0-23-generic x86_64)

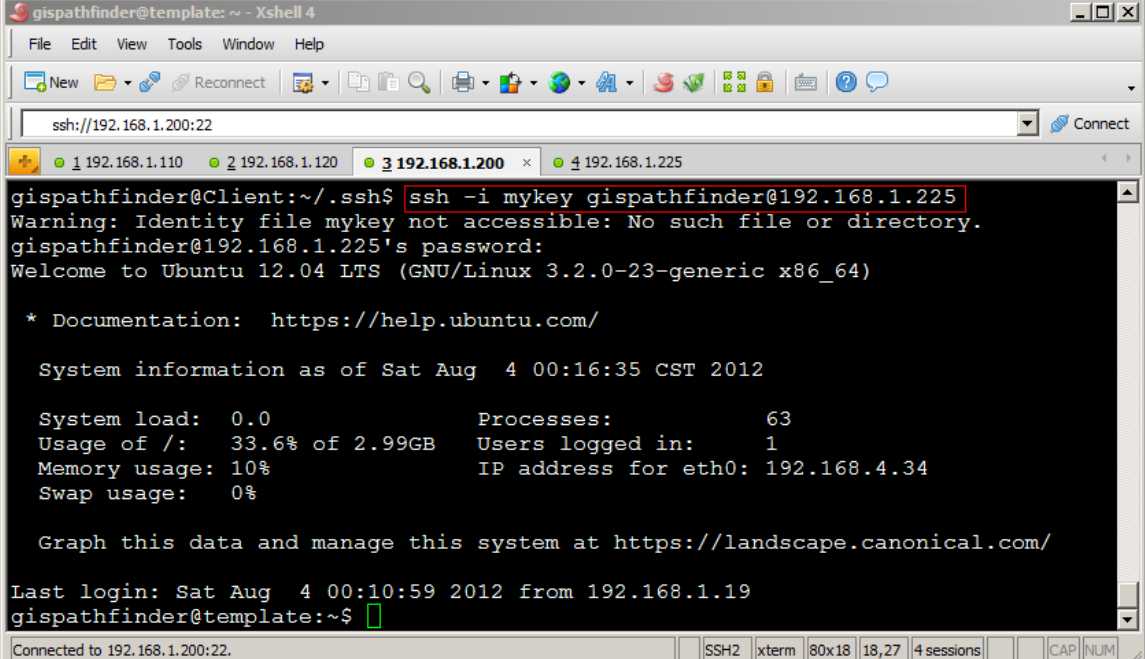
* Documentation:  https://help.ubuntu.com/

System information as of Sat Aug  4 00:10:57 CST 2012

System load:  0.01          Processes:           61
Usage of /:   33.6% of 2.99GB Users logged in:        1
Memory usage: 8%           IP address for eth0: 192.168.4.34
Swap usage:   0%

Graph this data and manage this system at https://landscape.canonical.com/

Last login: Sat Aug  4 00:08:23 2012
/usr/bin/xauth: file /home/gispathfinder/.Xauthority does not exist
gispathfinder@template:~$
```



```
gispathfinder@template: ~ - Xshell 4
File Edit View Tools Window Help
ssh://192.168.1.200:22
1 192.168.1.110 2 192.168.1.120 3 192.168.1.200 x 4 192.168.1.225
gispathfinder@Client:~/.ssh$ ssh -i mykey gispathfinder@192.168.1.225
Warning: Identity file mykey not accessible: No such file or directory.
gispathfinder@192.168.1.225's password:
Welcome to Ubuntu 12.04 LTS (GNU/Linux 3.2.0-23-generic x86_64)

* Documentation:  https://help.ubuntu.com/

System information as of Sat Aug  4 00:16:35 CST 2012

System load:  0.0          Processes:           63
Usage of /:   33.6% of 2.99GB Users logged in:        1
Memory usage: 10%         IP address for eth0: 192.168.4.34
Swap usage:   0%

Graph this data and manage this system at https://landscape.canonical.com/

Last login: Sat Aug  4 00:10:59 2012 from 192.168.1.19
gispathfinder@template:~$
```

