Saltstack 自动化安装 openstack

一．SaltStack 的安装

一． SaltStatck 的安装

在 master 上按住如下软件

salt-master-2016.11.3-1.el6.noarch.rpm

在所有 minion 上安装如下软件

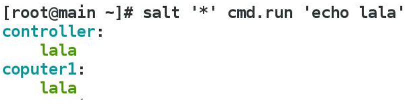
salt-minion-2016.11.3-1.el6.noarch.rpm

二． 修改从机的文件(controller，coputer1)

```
[root@controller ~]# vim /etc/salt/minion
master: main
```

#注意：你的/etc/hosts 文件中，应该有解析

```
[root@controller salt]# cat /etc/hosts
172.25.7.1  controller
172.25.7.2  compute1
172.25.7.3  main
[root@main ~]#   /etc/init.d/salt-master start
Starting salt-master daemon:                                   [   OK   ]
[root@controller ~]# /etc/init.d/salt-minion start
Starting salt-minion:root:server2.example.com daemon: OK
[root@main ~]# salt-key -L
[root@main ~]# salt-key -A
```

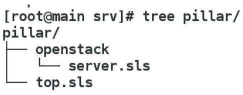


```
[root@main ~]# salt '*' cmd.run 'echo lala'
controller:
    lala
coputer1:
    lala
```

三.修 master 改配置文件

```
[root@main ~]# vim /etc/salt/master
file_roots:
   base:
      - /srv/salt
[root@main ~]# systemctl   restart   salt-master.service
[root@main ~]# vim /etc/salt/master
pillar_roots:
  base:
    - /srv/pillar
```

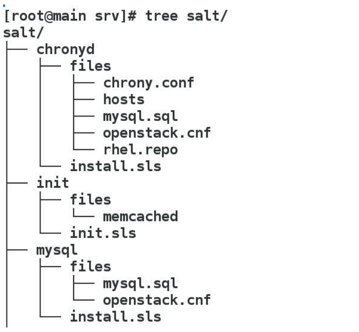
4. 自动化安装 pillar 目录



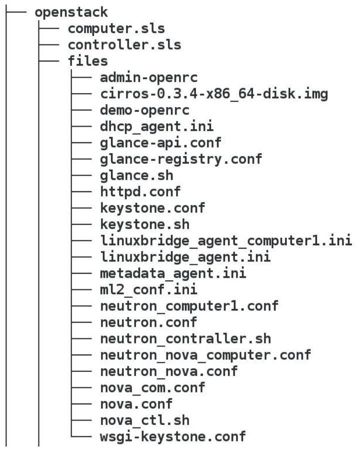
```
[root@main srv]# tree pillar/
pillar/
├── openstack
│   └── server.sls
└── top.sls
```

```
[root@main pillar]# cat top.sls
base:
  '*':
    - openstack.server
[root@main openstack]# cat server.sls
{% if grains['fqdn'] == 'contraller' %}
admin_token: '730bc9e37c3c1c884692'
{% endif %}
```

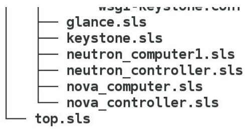
四. 自动化安装 salt 目录



```
[root@main srv]# tree salt/
salt/
├── chronyd
│   ├── files
│   │   ├── chrony.conf
│   │   ├── hosts
│   │   ├── mysql.sql
│   │   ├── openstack.cnf
│   │   └── rhel.repo
│   └── install.sls
├── init
│   ├── files
│   │   └── memcached
│   └── init.sls
├── mysql
│   ├── files
│   │   ├── mysql.sql
│   │   └── openstack.cnf
│   └── install.sls
│
```



```
├── openstack
│   ├── computer.sls
│   ├── controller.sls
│   ├── files
│   │   ├── admin-openrc
│   │   ├── cirros-0.3.4-x86_64-disk.img
│   │   ├── demo-openrc
│   │   ├── dhcp_agent.ini
│   │   ├── glance-api.conf
│   │   ├── glance-registry.conf
│   │   ├── glance.sh
│   │   ├── httpd.conf
│   │   ├── keystone.conf
│   │   ├── keystone.sh
│   │   ├── linuxbridge_agent_computer1.ini
│   │   ├── linuxbridge_agent.ini
│   │   ├── metadata_agent.ini
│   │   ├── ml2_conf.ini
│   │   ├── neutron_computer1.conf
│   │   ├── neutron.conf
│   │   ├── neutron_contraller.sh
│   │   ├── neutron_nova_computer.conf
│   │   ├── neutron_nova.conf
│   │   ├── nova_com.conf
│   │   ├── nova.conf
│   │   ├── nova_ctl.sh
│   │   └── wsgi-keystone.conf
│   │
```



```
│   │   wsgi-keystone.conf
│   ├── glance.sls
│   ├── keystone.sls
│   ├── neutron_computer1.sls
│   ├── neutron_controller.sls
│   ├── nova_computer.sls
│   └── nova_controller.sls
└── top.sls
```

1 . Top 文件

```
[root@main salt]# cat top.sls
base:
  'controller':
    - openstack.controller
  'computer1':
    - openstack.computer
```

2.computer1 节点安装软件

```
[root@main openstack]# cat computer.sls
include:
  - chronyd.install
  - openstack.nova_computer
  - openstack.neutron_computer1
```

3. Controller 安装软件

```
[root@main openstack]# cat controller.sls
include:
  - chronyd.install
  - init.init
  - mysql.install
  - openstack.keystone
  - openstack.glance
  - openstack.nova_computer
  - openstack.neutron_computer1
```

4. Memcache 和消息队列

```
[root@main init]# cat init.sls
init-install:
  pkg.installed:
    - pkgs:
      - rabbitmq-server
      - memcached
      - python-memcached
  service.running:
    - name: rabbitmq-server
    - enable: true
    - reload: true
  cmd.run:
    - name: rabbitmqctl add_user openstack openstack && rabbitmqctl set_permissions openstack ".*" ".*" ".*" && rabbitmq-plugins enable rabbitmq_management
memcached-install:
  file.managed:
    - name: /etc/sysconfig/memcached
    - source: salt://init/files/memcached
  service.running:
    - name: memcached.service
    - enable: true
    - reload: true
```

5 . mysql

```
[root@main salt]# cat mysql/install.sls
mysql-install:
  pkg.installed:
    - pkgs:
      - mariadb-server
      - mariadb
      - python2-PyMySQL
/root/mysql.sql:
  file.managed:
    - source: salt://mysql/files/mysql.sql
/mnt/my.cnf.d/openstack.cnf:
  file.managed:
    - source: salt://mysql/files/openstack.cnf
mariadb-service:
  service.running:
    - name: mariadb.service
    - enable: true
  cmd.run:
    - name: /usr/bin/mysqladmin -u root password westos &&  mysql -pwestos < /mnt/mysql.sql
```

6 .时间同步

```
[root@main chronyd]# cat install.sls
chronyd-install:
  pkg.installed:
    - pkgs:
      - chrony
  file.managed:
    - name: /etc/chrony.conf
    - source: salt://chronyd/files/chrony.conf
    - mode: 644
    - group: root
    - user: root
  service.running:
    - name: chronyd
    - enable: true
    - reload: true
    - watch:
      - file: /etc/chrony.conf
ssh-install:
  file.managed:
    - name: /etc/hosts
    - source: salt://chronyd/files/hosts
yum.install:
  file.managed:
    - name: /etc/yum.repos.d/rhel.repo
    - source: salt://chronyd/files/rhel.repo
  cmd.run:
    - name: yum clean all && yum repolist && yum upgrade -y &&  yum install python-openstackclient
```

7. 认证服务

```
[root@main openstack]# cat keystone.sls
keystone-install:
  pkg.installed:
    - pkgs:
      - openstack-keystone
      - httpd
      - mod_wsgi
/etc/keystone/keystone.conf:
  file.managed:
    - source: salt://openstack/files/keystone.conf
    - template: jinja
    - context:
        admin_token: {{ pillar['admin_token'] }}
/etc/httpd/conf/httpd.conf:
  file.managed:
    - source: salt://openstack/files/httpd.conf
/etc/httpd/conf.d/wsgi-keystone.conf:
  file.managed:
    - source: salt://openstack/files/wsgi-keystone.conf
/mnt/admin-openrc:
  file.managed:
    - source: salt://openstack/files/admin-openrc
/mnt/demo-openrc:
  file.managed:
    - source: salt://openstack/files/demo-openrc
/mnt/keystone.sh:
  file.managed:
    - source: salt://openstack/files/keystone.sh
    - template: jinja
    - context:
        admin_token: {{ pillar['admin_token'] }}
  service.running:
    - name: httpd.service
    - enable: true
    - reload: true
  cmd.run:
    - name: /bin/sh /mnt/keystone.sh

[root@main files]# cat keystone.sh
#!/bin/sh
su -s /bin/sh -c "keystone-manage db_sync" keystone
keystone-manage fernet_setup --keystone-user keystone --keystone-group keystone
export OS_TOKEN={{ admin_token }}
export OS_URL=http://controller:35357/v3
export OS_IDENTITY_API_VERSION=3
openstack service create   --name keystone --description "OpenStack Identity" identity
openstack endpoint create --region RegionOne identity public http://controller:5000/v3
openstack endpoint create --region RegionOne identity internal http://controller:5000/v3
openstack endpoint create --region RegionOne identity admin http://controller:35357/v3
openstack domain create --description "Default Domain" default
openstack project create --domain default --description "Admin Project" admin
openstack user create --domain default --password admin admin
openstack role create admin
openstack role add --project admin --user admin admin
openstack project create --domain default --description "Service Project" service
openstack project create --domain default --description "Demo Project" demo
openstack user create --domain default --password demo demo
openstack role create user
openstack role add --project demo --user demo user
```

8. 镜像服务

```
[root@main openstack]# cat glance.sls
glance-install:
  pkg.installed:
    - pkgs:
      - openstack-glance
  cmd.run:
    - name: /bin/sh /mnt/glance.sh
/utc/glance/glance-api.conf:
  file.managed:
    - source: salt://openstack/files/glance-api.conf
/etc/glance/glance-registry.conf:
  file.managed:
    - source: salt://openstack/files/glance-registry.conf
/mnt/glance.sh:
  file.managed:
    - source: salt://openstack/files/glance.sh
/mnt/cirros-0.3.4-x86_64-disk.img:
  file.managed:
    - source: salt://openstack/files/cirros-0.3.4-x86_64-disk.img
glance-service:
  service.running:
    - names:
      - openstack-glance-api.service
      - openstack-glance-registry.service
    - enable: true
    - reload: true

    [root@main files]# cat glance.sh
    #!/bin/sh
    source /mnt/admin-openrc
    openstack user create --domain default --password glance glance
    openstack role add --project service --user glance admin
    openstack service create --name glance --description "OpenStack Image" image
    openstack endpoint create --region RegionOne image public http://controller:9292
    openstack endpoint create --region RegionOne image internal http://controller:9292
    openstack endpoint create --region RegionOne image admin http://controller:9292
    su -s /bin/sh -c "glance-manage db_sync" glance
```

9.controller 节点计算服务

```
[root@main openstack]# cat nova_controller.sls
novactl-install:
  pkg.installed:
    - pkgs:
       - openstack-nova-api
       - openstack-nova-conductor
       - openstack-nova-console
       - openstack-nova-novncproxy
       - openstack-nova-scheduler
  file.managed:
    - name: /etc/nova/nova.conf
    - source: salt://openstack/files/novactl.conf
    - user: root
    - group: root
    - mode: 644
/mnt/nova_ctl.sh:
  file.managed:
    - source: salt://openstack/files/nova_ctl.sh
  cmd.run:
    - name: /bin/sh  /mnt/nova_ctl.sh
novactl-service:
    service.running:
    - names:
      - openstack-nova-api.service
      - openstack-nova-consoleauth.service
      - openstack-nova-scheduler.service
      - openstack-nova-conductor.service
      - openstack-nova-novncproxy.service
    - enable: true

[root@main files]# cat nova_ctl.sh
#!/bin/sh
source /mnt/admin-openrc
openstack user create --domain default --password  nova nova
openstack role add --project service --user nova admin
openstack service create --name nova --description "OpenStack Compute"
compute
openstack endpoint create --region RegionOne  compute public
http://controller:8774/v2.1/%\(tenant_id\)s
openstack endpoint create --region RegionOne compute internal
http://controller:8774/v2.1/%\(tenant_id\)s
openstack endpoint create --region RegionOne  compute admin
http://controller:8774/v2.1/%\(tenant_id\)s
su -s /bin/sh -c "nova-manage api_db sync" nova
su -s /bin/sh -c "nova-manage db sync" nova
systemctl enable openstack-nova-api.service
openstack-nova-consoleauth.service openstack-nova-scheduler.service
openstack-nova-conductor.service openstack-nova-novncproxy.service
systemctl start openstack-nova-api.service
openstack-nova-consoleauth.service openstack-nova-scheduler.service
openstack-nova-conductor.service openstack-nova-novncproxy.service
```

10.computer1 节点的计算服务

```
[root@main openstack]# cat  nova_computer.sls
```

```
novacomputer-install:
  pkg.installed:
    - names:
       - openstack-nova-compute

/etc/nova/nova.conf:
  file.managed:
    - source: salt://openstack/files/nova_com.conf
  service.running:
    - names:
      - libvirtd.service
      - openstack-nova-compute.service
    - enable: true
    - reload: true
```

11.Controller 节点的网络服务

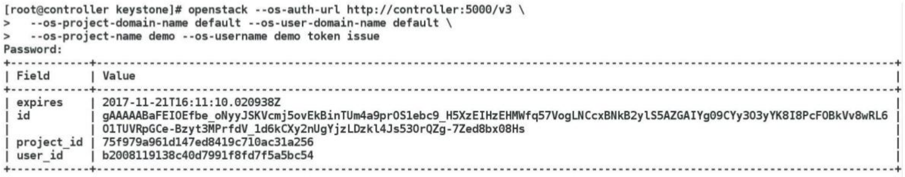
```
[root@main openstack]# cat neutron_controller.sls
neutron_contronall-install:
  pkg.installed:
    - pkgs:
       - openstack-neutron
       - openstack-neutron-ml2
       - openstack-neutron-linuxbridge
       - ebtables
  file.managed:
    - name: /etc/neutron/metadata_agent.ini
    - source.running: salt://openstack/files/metadata_agent.ini
/etc/neutron/neutron.conf:
  file.managed:
    - source: salt://openstack/files/neutron.conf
/etc/neutron/plugins/ml2/ml2_conf.ini:
  file.managed:
    - source: salt://openstack/files/ml2_conf.ini
/etc/neutron/plugins/ml2/linuxbridge_agent.ini:
  file.managed:
    - source: salt://openstack/files/linuxbridge_agent.ini
/mnt/neutron_contraller.sh:
  file.managed:
    - source: salt://openstack/files/neutron_contraller.sh
neutron-service:
  cmd.run:
    - name: /bin/sh  /mnt/neutron_contraller.sh
    service.running:
    - names:
          - neutron-server.service
          - neutron-linuxbridge-agent.service
          - neutron-dhcp-agent.service
          - neutron-metadata-agent.service
        - enable: true

[root@main files]# cat neutron_contraller.sh
#!/bin/sh
source /mnt/admin-openrc
openstack user create --domain default --password  neutron neutron
openstack role add --project service --user neutron admin
openstack service create --name neutron description "OpenStack Networking" network
openstack endpoint create --region RegionOne  network public http://controller:9696
openstack endpoint create --region RegionOne network internal http://controller:9696
openstack endpoint create --region RegionOne network admin http://controller:9696
ln -s /etc/neutron/plugins/ml2/ml2_conf.ini /etc/neutron/plugin.ini
su -s /bin/sh -c "neutron-db-manage --config-file /etc/neutron/neutron.conf --config-file /etc/neutron/plugins/ml2/ml2_conf.ini upgrade head" neutron
systemctl restart openstack-nova-api.service
```

12.Computer 节点的网络服务

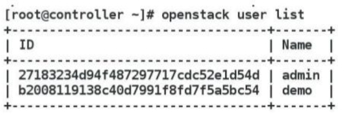
```
[root@main openstack]# cat  nova_computer.sls
novacomputer-install:
  pkg.installed:
    - names:
       - openstack-nova-compute

/etc/nova/nova.conf:
  file.managed:
    - source: salt://openstack/files/nova_com.conf
  service.running:
    - names:
      - libvirtd.service
      - openstack-nova-compute.service
    - enable: true
    - reload: true
[root@main openstack]# cat  neutron_computer1.sls
neutron-cpmputer1-install:
  pkg.installed:
    - pkgs:
      - openstack-neutron-linuxbridge
      - ebtables
      - ipset
  file.managed:
    - name: /etc/neutron/neutron.conf
    - source: salt://openstack/files/neutron_computer1.conf
/etc/neutron/plugins/ml2/linuxbridge_agent.ini:
  file.managed:
    - source: salt://openstack/files/linuxbridge_agent_computer1.ini
/etc/nova/nova.conf:
  file.managed:
    - source: salt://openstack/files/neutron_nova_computer.conf
  service.running:
    - names:
      - neutron-linuxbridge-agent
      - openstack-nova-compute
    - enable: true
    - reload: true
```

五． 检查各个服务启动是否成功

1.认证服务

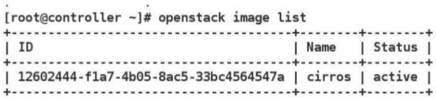


```
[root@controller keystone]# openstack --os-auth-url http://controller:5000/v3 \
>   --os-project-domain-name default --os-user-domain-name default \
>   --os-project-name demo --os-username demo token issue
Password:
+------------+-----------------------------------------------------------------------------------------------------+
| Field      | Value                                                                                               |
+------------+-----------------------------------------------------------------------------------------------------+
| expires    | 2017-11-21T16:11:10.020938Z                                                                         |
| id         | gAAAAABaFEIOEfbe_oNyyJSKVcmj5ovEkBinTUm4a9prOS1ebc9_H5XzEIHzEHMWfq57VogLNCcxBNkB2ylS5AZGAIYg09CYy3O3yYK8I8PcFOBkVv8wRL6 |
|            | O1TUVRpGCe-Bzyt3MPrfdV_1d6kCXy2nUgYjzLDzkl4Js53OrQZg-7Zed8bx08Hs                                    |
| project_id | 75f979a961d147ed8419c710ac31a256                                                                    |
| user_id    | b2008119138c40d7991f8fd7f5a5bc54                                                                    |
+------------+-----------------------------------------------------------------------------------------------------+
```



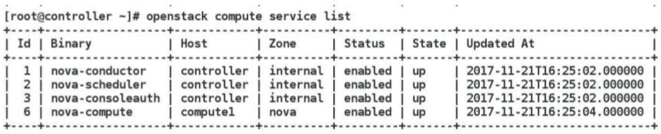
```
[root@controller ~]# openstack user list
+----------------------------------+-------+
| ID                               | Name  |
+----------------------------------+-------+
| 27183234d94f487297717cdc52e1d54d | admin |
| b2008119138c40d7991f8fd7f5a5bc54 | demo  |
+----------------------------------+-------+
```

2.镜像服务



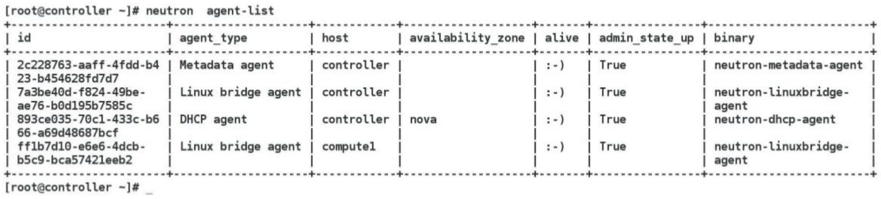
```
[root@controller ~]# openstack image list
+--------------------------------------+--------+--------+
| ID                                   | Name   | Status |
+--------------------------------------+--------+--------+
| 12602444-f1a7-4b05-8ac5-33bc4564547a | cirros | active |
+--------------------------------------+--------+--------+
```

3.计算节点



```
[root@controller ~]# openstack compute service list
+----+------------------+------------+----------+---------+-------+----------------------------+
| Id | Binary           | Host       | Zone     | Status  | State | Updated At                 |
+----+------------------+------------+----------+---------+-------+----------------------------+
|  1 | nova-conductor   | controller | internal | enabled | up    | 2017-11-21T16:25:02.000000 |
|  2 | nova-scheduler   | controller | internal | enabled | up    | 2017-11-21T16:25:02.000000 |
|  3 | nova-consoleauth | controller | internal | enabled | up    | 2017-11-21T16:25:02.000000 |
|  6 | nova-compute     | compute1   | nova     | enabled | up    | 2017-11-21T16:25:04.000000 |
+----+------------------+------------+----------+---------+-------+----------------------------+
```

4.网络节点



```
[root@controller ~]# neutron  agent-list
+-----------------------+-------------------+------------+-------------------+-------+----------------+-----------------------+
| id                    | agent_type        | host       | availability_zone | alive | admin_state_up | binary                |
+-----------------------+-------------------+------------+-------------------+-------+----------------+-----------------------+
| 2c228763-aaff-4fdd-b4 | Metadata agent    | controller |                   | :-)   | True           | neutron-metadata-agent |
| 23-b454628fd7d7       |                   |            |                   |       |                |                       |
| 7a3be40d-f824-49be-   | Linux bridge agent | controller |                  | :-)   | True           | neutron-linuxbridge-  |
| ae76-b0d195b7585c     |                   |            |                   |       |                | agent                 |
| 893ce035-70c1-433c-b6 | DHCP agent        | controller | nova              | :-)   | True           | neutron-dhcp-agent    |
| 66-a69d48687bcf       |                   |            |                   |       |                |                       |
| ff1b7d10-e6e6-4dcb-   | Linux bridge agent | compute1  |                   | :-)   | True           | neutron-linuxbridge-  |
| b5c9-bca57421eeb2     |                   |            |                   |       |                | agent                 |
+-----------------------+-------------------+------------+-------------------+-------+----------------+-----------------------+
[root@controller ~]# _
```

六. 启动一个实例

1. 创建提供者网络

```
$ neutron net-create --shared --provider:physical_network provider \
  --provider:network_type flat provider
```

在网络上创建一个子网：

```
neutron subnet-create --name provider --allocation-pool start=172.25.7.100,end=172.25.7.200 --dns-nameserver 192.168.1.1 --gateway 172.25.7.250 provider 172.25.7.0/24
```

2. 创建 m1.nano 规格的主机

```
$ openstack flavor create --id 0 --vcpus 1 --ram 64 --disk 1 m1.nano
```

3. 生成一个键值对

导入租户``demo``的凭证

```
$ . demo-openrc
```

生成和添加秘钥对：

```
$ ssh-keygen -q -N ""
$ openstack keypair create --public-key ~/.ssh/id_rsa.pub mykey
```

验证公钥的添加：

```
$ openstack keypair list
```

4 .增加安全组规则

允许 ICMP (ping)：

```
$ openstack security group rule create --proto icmp default
```

允许安全 shell (SSH) 的访问：

```
$ openstack security group rule create --proto tcp --dst-port 22 default
```

5. 启动一个示例

确定实力选项

在控制节点上，获得 admin 凭证来获取只有管理员能执行的命令的访问权限：

```
$ . demo-openrc
```

一个实例指定了虚拟机资源的大致分配，包括处理器、内存和存储。

列出可用类型：

```
$ openstack flavor list
```

列出可用镜像：

```
$ openstack image list
```

列出可用网络：

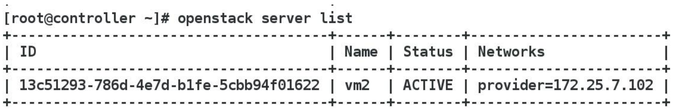
```
$ openstack network list
```

列出可用的安全组：

```
$ openstack security group list
[root@controller ~]# openstack server create --flavor m1.nano --image cirros --nic net-id=ed7d81f2-2330-44ce-925a-6ee9a4f42c3f --security-group default --key-name mykey vm1
```

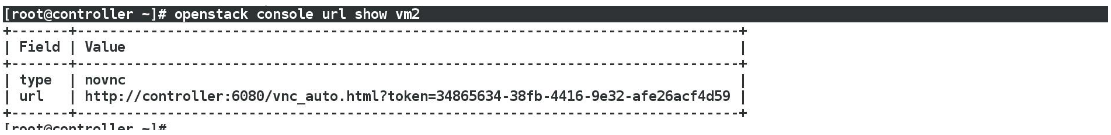
#第一个失败了,加速那里没有弄 virt_type = qemu

```
[root@controller ~]# openstack server list
```



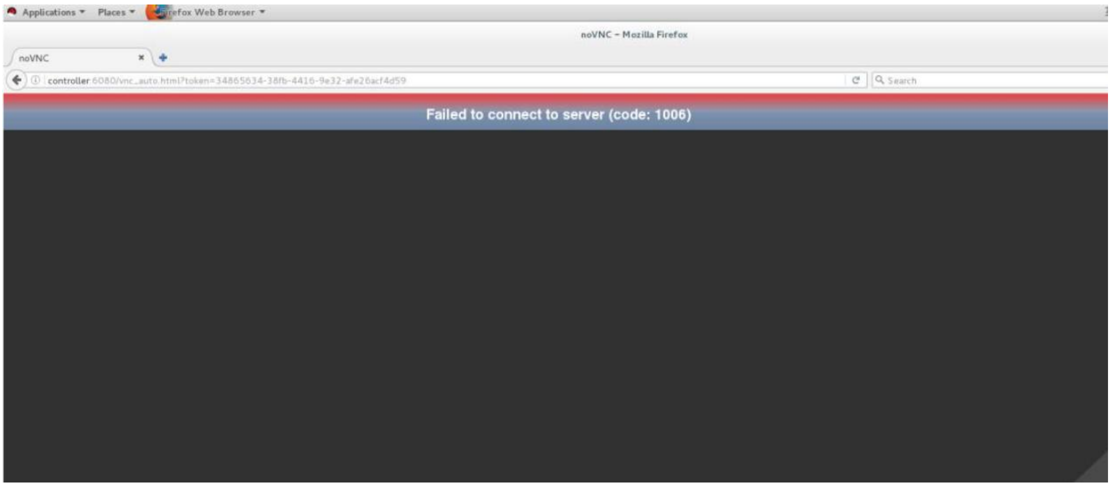
```
[root@controller ~]# openstack server list
+--------------------------------------+------+--------+-----------------------+
| ID                                   | Name | Status | Networks              |
+--------------------------------------+------+--------+-----------------------+
| 13c51293-786d-4e7d-b1fe-5cbb94f01622 | vm2  | ACTIVE | provider=172.25.7.102 |
+--------------------------------------+------+--------+-----------------------+
```

```
[root@controller ~]# openstack console url show vm2
```



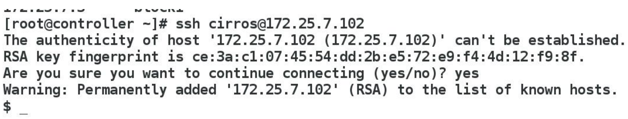
```
[root@controller ~]# openstack console url show vm2
+-------+-------------------------------------------------------------------------------+
| Field | Value                                                                         |
+-------+-------------------------------------------------------------------------------+
| type  | novnc                                                                         |
| url   | http://controller:6080/vnc_auto.html?token=34865634-38fb-4416-9e32-afe26acf4d59 |
+-------+-------------------------------------------------------------------------------+
[root@controller ~]#
```

#这里还是网站访问不了，但是 ssh 可以连接



Applications
Places
Firefox Web Browser
noVNC – Mozilla Firefox
noVNC
controller:6080/vnc_auto.html?token=34865634-38fb-4416-9e32-afe26acf4d59
Search

Failed to connect to server (code: 1006)



```
172.25.7.5      block1
[root@controller ~]# ssh cirros@172.25.7.102
The authenticity of host '172.25.7.102 (172.25.7.102)' can't be established.
RSA key fingerprint is ce:3a:c1:07:45:54:dd:2b:e5:72:e9:f4:4d:12:f9:8f.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '172.25.7.102' (RSA) to the list of known hosts.
$ _
```