Openstack_v10(CL-210课程)_02

2018年3月7日　　22:03

Keystone（Identtity Service）

提供用户认证，基于角色的授权，策略管理，令牌管理，目录服务。

登陆workstation主机执行如下命令：

```
[student@workstation ~]$ source admin-rc
[student@workstation ~(admin-admin)]$ openstack user list
[student@workstation ~(admin-admin)]$ openstack role list
[student@workstation ~(admin-admin)]$ openstack role assignment list \
> --user admin --project admin
[student@workstation ~(admin-admin)]$ openstack endpoint list
[student@workstation ~(admin-admin)]$ openstack endpoint show nova
```

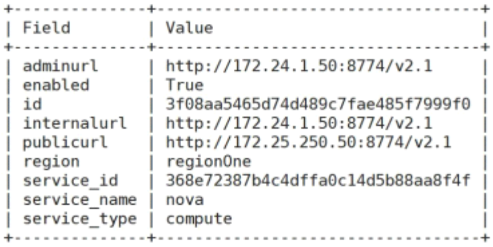
/etc/keystone/policy.json（说明什么角色可以做什么事情）

keystone会为访问者提高令牌，以方便用户访问其他Openstack组件，但当令牌过期后，默认Openstack不会删除过期的令牌，这会让数据库变的很大，并且降低性能。

建议定期清空过期令牌（红帽通过计划任务默认一天清理一次，建议修改为1小时一次）：

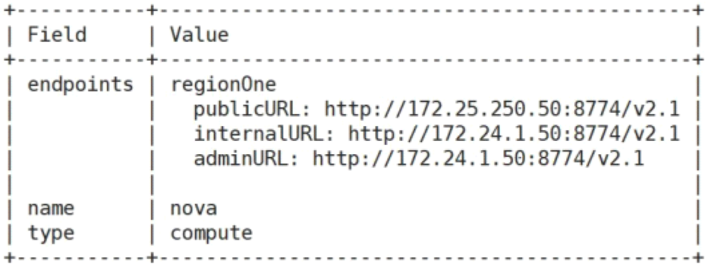
```
[root@overcloud-controller-0 cron]# cat /var/spool/cron/keystone
# Puppet Name: keystone-manage token_flush
PATH=/bin:/usr/bin:/usr/sbin SHELL=/bin/sh
1 0 * * * sleep `expr ${RANDOM} \% 3600`; keystone-manage token_flush >>/dev/null 2>&1
```

```
[heat-admin@overcloud-controller-0 ~]$ openstack endpoint show nova
```

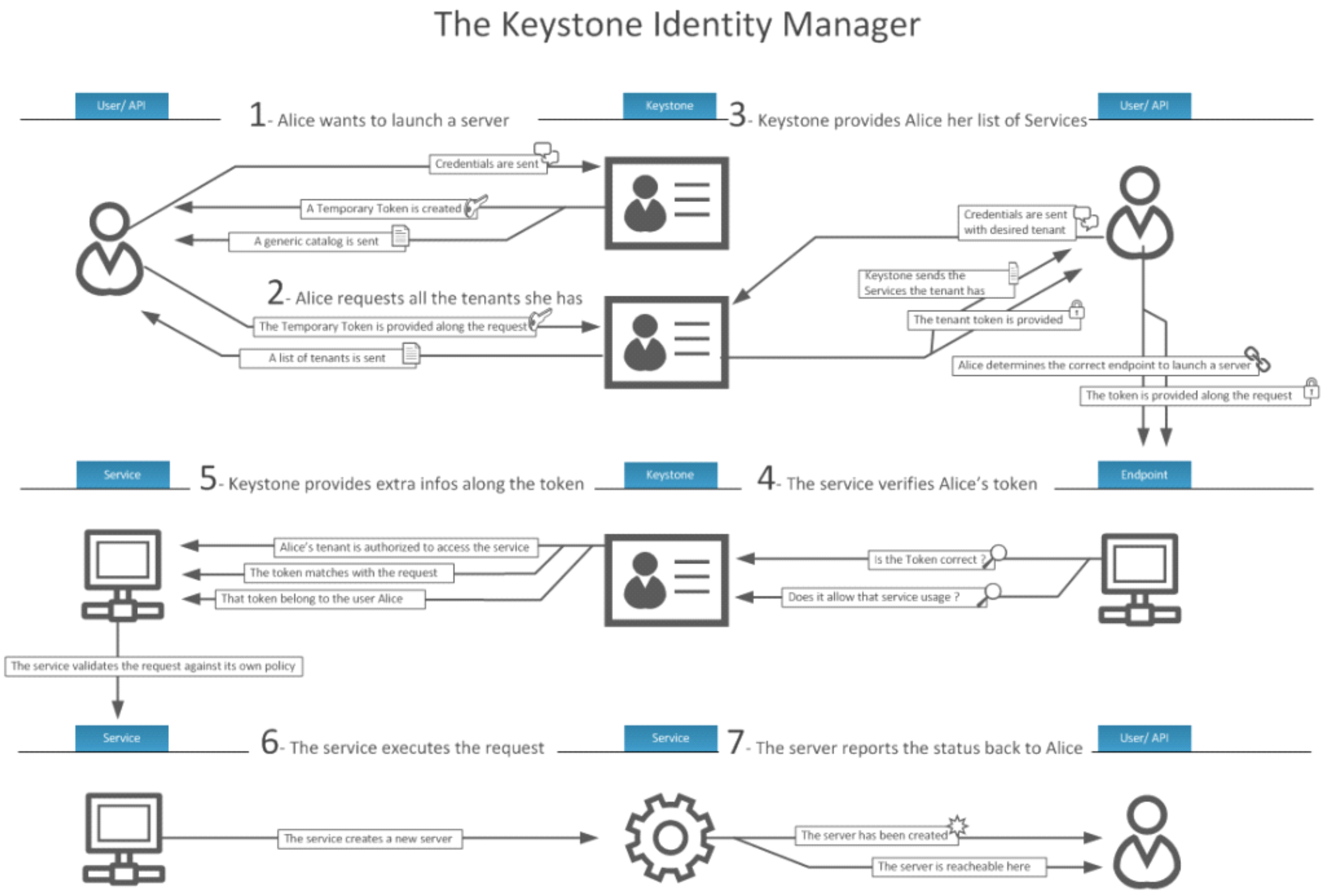


```
+--------------+----------------------------------+
| Field        | Value                            |
+--------------+----------------------------------+
| adminurl     | http://172.24.1.50:8774/v2.1     |
| enabled      | True                             |
| id           | 3f08aa5465d74d489c7fae485f7999f0 |
| internalurl  | http://172.24.1.50:8774/v2.1     |
| publicurl    | http://172.25.250.50:8774/v2.1   |
| region       | regionOne                        |
| service_id   | 368e72387b4c4dffa0c14d5b88aa8f4f |
| service_name | nova                             |
| service_type | compute                          |
+--------------+----------------------------------+
```

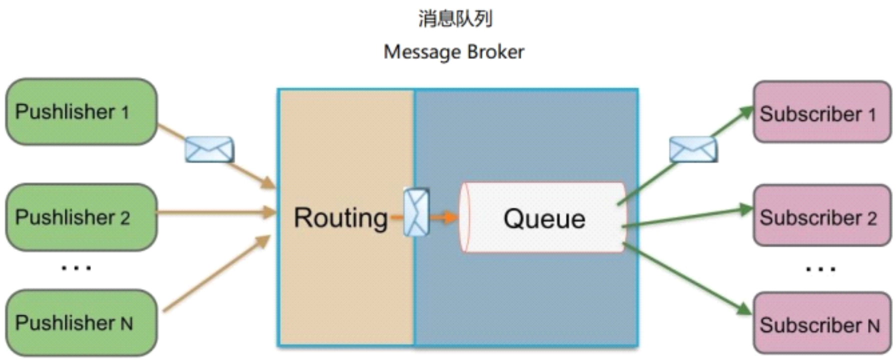
```
[heat-admin@overcloud-controller-0 ~]$ openstack catalog show nova
```



```
+-----------+-----------------------------------------+
| Field     | Value                                   |
+-----------+-----------------------------------------+
| endpoints | regionOne                               |
|           |   publicURL: http://172.25.250.50:8774/v2.1 |
|           |   internalURL: http://172.24.1.50:8774/v2.1 |
|           |   adminURL: http://172.24.1.50:8774/v2.1    |
|           |                                         |
| name      | nova                                    |
| type      | compute                                 |
+-----------+-----------------------------------------+
```


The Keystone Identity Manager
User/ API
1- Alice wants to launch a server
Keystone
3- Keystone provides Alice her list of Services
User/ API
Credentials are sent
A Temporary Token is created
A generic catalog is sent
2- Alice requests all the tenants she has
The Temporary Token is provided along the request
A list of tenants is sent
Credentials are sent with desired tenant
Keystone sends the Services the tenant has
The tenant token is provided
Alice determines the correct endpoint to launch a server
The token is provided along the request
Service
5- Keystone provides extra infos along the token
Keystone
4- The service verifies Alice's token
Endpoint
Alice's tenant is authorized to access the service
The token matches with the request
That token belong to the user Alice
Is the Token correct ?
Does it allow that service usage ?
The service validates the request against its own policy
Service
6- The service executes the request
Service
7- The server reports the status back to Alice
User/ API
The service creates a new server
The server has been created
The server is reacheable here

消息队列（RabbitMQ）



消息队列模型：

点对点模型（一对一的消息队列）queue

发布订阅模型（1人生产消息，允许多人订阅消息）topic

概念：

术语	描述

Publisher/Producer	发布消息的应用
Consumer	接受处理消息的应用
Exchange	接受发布者发来的消息，发布到消息队列中去
Queues	存储消息的队列
Binding	连接Exchange与Queues
Routing Key	让Exchange决定如何路由消息（哪些消息存储在哪些队列）
Message broker	消息队列服务器（允许生产者和消费者发送和接受消息）的应用程序

登陆workstation初始化实验环境

```
[student@workstation ~]$ lab communication-msg-brokering setup
```

登陆Director主机，进行消息队列实验：

```
[stack@director ~]$ sudo -i                                                    //切换用户root
[root@director ~]# rabbitmqctl report |  head                                  //查看rabbit状态
Reporting server status on {{2018,3,7},{22,1,23}}
[root@director ~]# rabbitmqctl help
[root@director ~]# rabbitmqctl add_user rabbitmqauth redhat                    //创建账户与密码(redhat)
Creating user "rabbitmqauth" ...
[root@director ~]# rabbitmqctl help |grep set_permission
[root@director ~]# rabbitmqctl set_permissions rabbitmqauth ".*" ".*" ".*"     //为用户配置权限
Setting permissions for user "rabbitmqauth" in vhost "/" ...
//设置config配置、write写、read读的权限，可以使用通配符允许所有，允许配置所有，写所有，读所有
[root@director ~]# rabbitmqctl set_user_tags rabbitmqauth administrator        //为账户配置管理员权限，管理后台
Setting tags for user "rabbitmqauth" to [administrator] ...

[root@director ~]# cat .rabbitmqadmin.conf                       //确认root家目录有该隐藏文件，内容如下
[default]
hostname = 172.25.249.200
port = 15672
username = rabbitmqauth
password = redhat

[root@director ~]# rabbitmqctl list_users                                  //查看账户列表
Listing users ...
6cddb42684255b8f135c3729b2bdee2ca72943d1        [administrator]
rabbitmqauth    [administrator]

[root@director ~]# rabbitmqadmin help subcommands                          //查看帮助
[root@director ~]# rabbitmqadmin -c .rabbitmqadmin.conf declare exchange name=cl210.topic type=topic
exchange declared
//使用declare创建Exchange，名称为cl210.topic，类型为topic（发布订阅模型）
//rabbitmqadmin是python脚本

[root@director ~]# rabbitmqctl list_exchanges |grep cl210
//查看exchange

[root@director ~]# rabbitmqadmin -c .rabbitmqadmin.conf declare queue name=redhat.queue
queue declared
//创建消息队列queue
[root@director ~]# rabbitmqctl list_queues |grep redhat

[root@director ~]# rabbitmqadmin -c .rabbitmqadmin.conf  \
> publish routing_key=redhat.queue payload="a message"
Message published
//发布消息到redhat.queue队列，信息内容为：a  message
```

```
[root@director ~]# rabbitmqadmin -c .rabbitmqadmin.conf  \
> publish routing_key=redhat.queue payload="another message"
Message published
//发布消息到redhat.queue队列，信息内容为：another message

[root@director ~]# rabbitmqadmin -c .rabbitmqadmin.conf publish routing_key=redhat.queue
message line1
message line2
message line3
Ctrl+D
Message published
//不使用payload，程序等待多行输入，输入完成后，Ctrl+D结束输入

[root@director ~]# rabbitmqctl list_queues |grep redhat
redhat.queue    3
//查看消息队列中有3条消息

[root@director ~]# rabbitmqadmin -c .rabbitmqadmin.conf  \
> get queue=redhat.queue
//查看1条消息
[root@director ~]# rabbitmqadmin -c .rabbitmqadmin.conf get queue=redhat.queue count=3
//查看所有3条消息

[root@director ~]# rabbitmqadmin -c .rabbitmqadmin.conf delete queue name=redhat.queue
```

登陆workstation清除实验环境

```
[student@workstation ~]$ lab communication-msg-brokering cleanup
```