Python OpenStack SDK

Who am I?

Yet Another Developer

Individual contributor to OpenStack

Outreachy Intern

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Agenda

- Ways to use OpenStack cloud services
- Using Python OpenStack SDK
- Python OpenStack SDK Architecture

3

ways

GUI

3

ways

Command line

```
[root@          ~(keystone_admin)]# neutron net-list
+--------------------------------------+---------+---------+
| id                                   | name    | subnets |
+--------------------------------------+---------+---------+
| c24449ea-1c27-4b50-87f7-391d74d3f992 | private |         |
| fbe986a5-842c-4c9d-a961-55556047866d | public  |         |
+--------------------------------------+---------+---------+
[root@          ~(keystone_admin)]# neutron net-show c24449ea-1c27-4b50-87f7-391d74d3f992
+---------------------------+--------------------------------------+
| Field                     | Value                                |
+---------------------------+--------------------------------------+
| admin_state_up            | True                                 |
| id                        | c24449ea-1c27-4b50-87f7-391d74d3f992 |
| name                      | private                              |
| provider:network_type     | local                                |
| provider:physical_network |                                      |
| provider:segmentation_id  |                                      |
| router:external           | False                                |
| shared                    | False                                |
| status                    | ACTIVE                               |
| subnets                   |                                      |
| tenant_id                 | b3aaf3332a3d44bc8df843295d988fca     |
+---------------------------+--------------------------------------+
[root@          ~(keystone_admin)]# neutron net-delete c24449ea-1c27-4b50-87f7-391d74d3f992
Deleted network: c24449ea-1c27-4b50-87f7-391d74d3f992
```

3

ways

SDK

Create

```
img = conn.compute.find_image("cirros")
flv = conn.compute.find_flavor("m1.small")

conn.compute.create_server(
    name="MyServer1", image=img, flavor=flv)
```

· Named arguments correspond to Server attributes

All of them

uses...

APIs

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- Ways to use OpenStack cloud services
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Let's talk more about SDK

...Python sdk

Installation

pip install openstacksdk

Learn the Rules first...

...and then Play Better

Connection

Service

Resources

Keystone v3

To make connection

from openstack import connection

conn = connection.Connection(auth_url="http://10.0.2.15/identity/v3",

project_name="admin", username="admin",

password="shaifali123",

user_domain_id="default",

project_domin_id="default")

Using SDK

```
for server in conn.compute.servers():

    print(server.name)



for image in conn.compute.images():

    print(image.name)
```

Using SDK

```
for flavor in conn.compute.flavors():

    print(flavor.name)



for endpoint in conn.identity.endpoints():

    print(endpoint)
```

Using SDK

```
for project in conn.identity.projects():

    print(project)



for user in conn.identity.users():

    print(user)
```

Creating Network

my_network = conn.network.create(name='my_network')

my_subnet = conn.network.create_subnet(name='my_subnet',

network_id=my_network.id,

id_version='4',

...)

Agenda

- Ways to use OpenStack cloud services
- Using Python OpenStack SDKs
- Python OpenStack SDK Architecture

Internals

- Connection
- Profile
- Session
- Proxy
- Resources

References

https://github.com/openstack/python-openstacksdk

http://docs.openstack.org/user-guide/intro-user.html

https://wiki.openstack.org/wiki/SDK-Development/PythonOpenStackSDK

https://www.youtube.com/watch?v=mBa3cyKca2Y

http://blog.briancurtin.com/posts/openstack-sdk-post-summit-update.html

Gracias!

Questions?