

Congress Data Sources - Design Doc

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Last Updated : March 25, 2014

Abstract

In this document we outline what data needs to be extracted from which data source and how it has to be stored in memory (and later in a database)

Details

Base Class for Data Source Sync

```
class DataSourceDriver(object):
    def __init__(self, **creds):
    def get_all(self, type):
        #replace boolean with string as congress
        #does not support boolean
    def boolean_to_congress(self, bool):
    def get_last_updated_time(self):
```

Neutron

Neutron Tuples and Constants representing them in the driver

```
NEUTRON_NETWORKS = "neutron:networks"
NEUTRON_NETWORKS_SUBNETS = "neutron:networks:subnets"
NEUTRON_PORTS = "neutron:ports"
NEUTRON_PORTS_ADDR_PAIRS = "neutron:ports:address_pairs"
NEUTRON_PORTS_SECURITY_GROUPS = "neutron:ports:security_groups"
NEUTRON_PORTS_BINDING_CAPABILITIES = "neutron:ports:binding_capabilities"
NEUTRON_PORTS_FIXED_IPS = "neutron:ports:fixed_ips"
NEUTRON_PORTS_EXTRA_DHCP_OPTS = "neutron:ports:extra_dhcp_opts"
NEUTRON_ROUTERS = "neutron:routers"
NEUTRON_SECURITY_GROUPS = "neutron:security_groups"
NEUTRON_SUBNETS = "neutron:subnets"
```

Mappings - JSON to Tuple

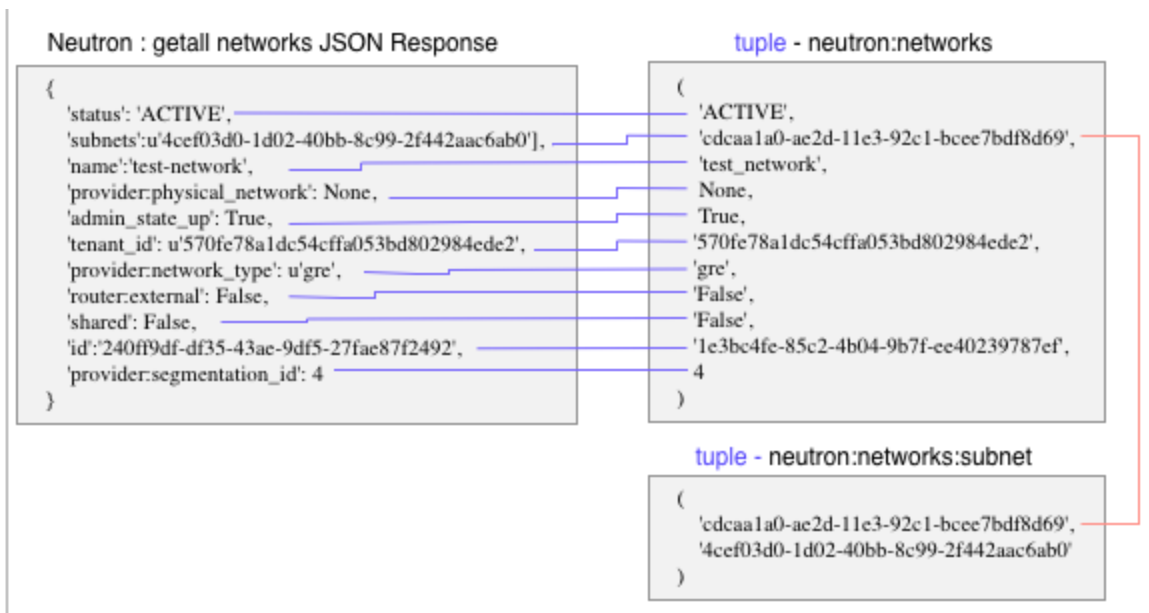


Figure 1 : Networks - JSON to Tuple mapping

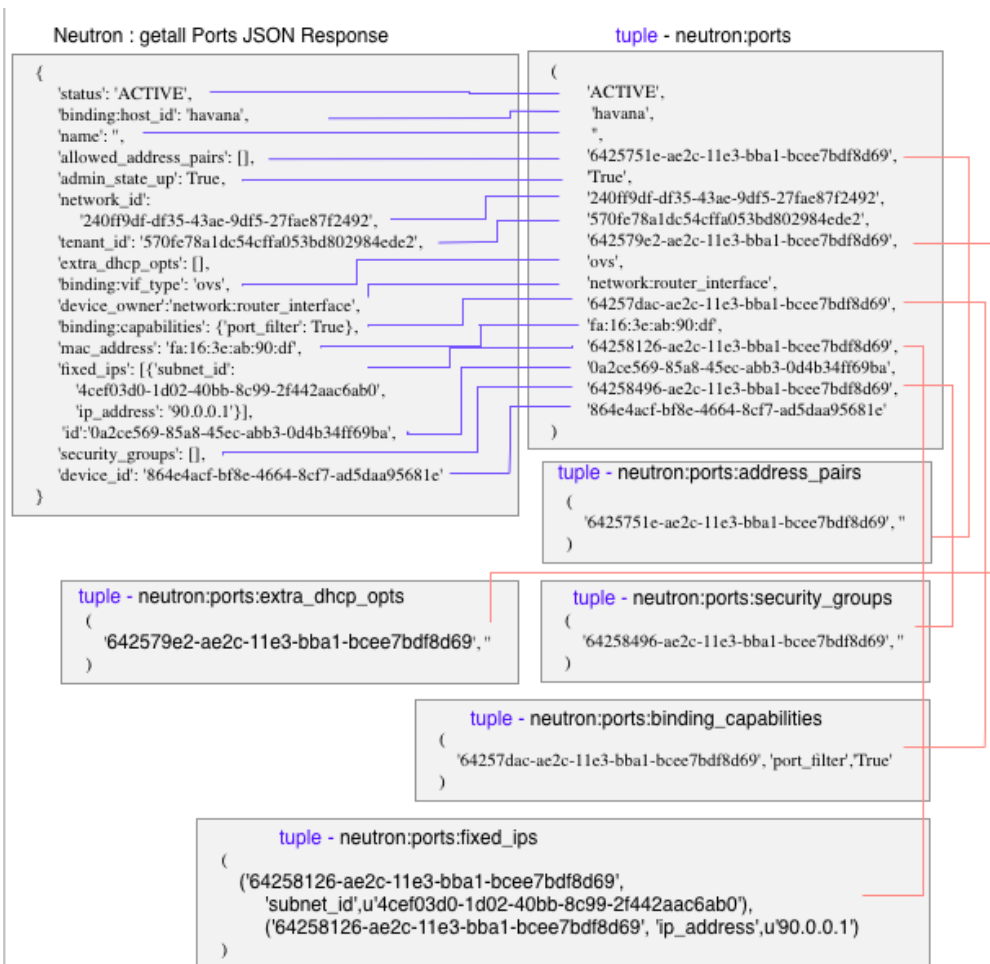


Figure 2 : Ports - JSON to Tuple mapping

Driver Class

```
class NeutronDriver(DataSourceDriver):  
    def __init__(self, **creds):  
    def get_all(self, type)
```

Nova

Tuple types supported

- Servers
- Flavors
- Hosts
- Floating IPs

Specifying the Type of tuple

Type is one of the following constants

SERVERS

FLAVORS

HOSTS

FLOATING_IPS

Driver Class

```
class NovaDriver(DataSourceDriver):  
    def __init__(self, **creds):  
    def get_all(self, type)
```

JSON to Tuple Mapping

Server JSON to Tuple Mapping

```
{
  "id": 1234,
  "name": "sample-server",
  "image": {
    "id": 2,
    "name": "sample image",
  },
  "flavor": {
    "id": 1,
    "name": "256 MB Server",
  },
  "hostId": "e4d909c290d0fb1ca068ffaddf22cbd0",
  "status": "BUILD",
  "progress": 60,
  "tenant_id": "4ffc664c198e435e9853f2538fbc7a7",
  "user_id": "4c7057c23b9c46c5ac21-b91bd8b5462b",
  "addresses": {
    "public": [{
      "version": 4,
      "addr": "1.2.3.4",
    }],
    "private": [{
      "version": 4,
      "addr": "5.6.7.8",
    }],
    "private": [{
      "version": 4,
      "addr": "10.11.12.13",
    }],
  },
  "metadata": {
    "Server Label": "Web Head 1",
    "Image Version": "2.1"
  },
  "OS-EXT-SRV-ATTR:host": "computenode1",
  "security_groups": [{
    "id": 1, "name": "securitygroup1",
    "description": "FAKE_SECURITY_GROUP",
    "tenant_id": "4ffc664c198e435e9853f2538fbc7a7"
  }],
  "OS-EXT-MOD:some_thing":
  "mod_some_thing_value",
}
```

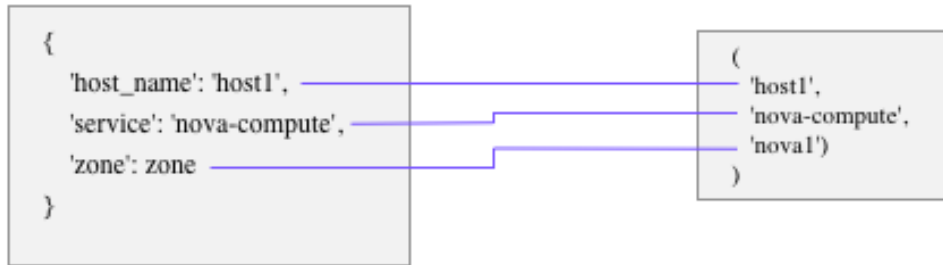
```
(
  1234,
  'sample-server',
  'e4d909c290d0fb1ca068ffaddf22cbd0',
  'BUILD',
  '4ffc664c198e435e9853f2538fbc7a7',
  '4c7057c23b9c46c5ac21-b91bd8b5462b',
  2,
  1
)
```

Flavor JSON to Tuple Mapping

```
{
  'id': 1,
  'name': '256 MB Server',
  'ram': 256,
  'disk': 10,
  'vcpus': 1,
  'OS-FLV-EXT-DATA:ephemeral': 10,
  'os-flavor-access:is_public': True,
  'rxtx_factor': 1.0,
  'links': {}
}
```

```
(
  1,
  '256 MB Server',
  1,
  256,
  10,
  10,
  10,
  1.0
)
```

HOST JSON to Tuple Mapping



Keystone

Congress Tables

- keystone:user(id, name)
- keystone:role(id,name)
- keystone:user.role(id,role)

Driver Class

```
class KeystoneDriver(DataSourceDriver):
    def __init__(self, **creds):
    def get_all(self, type)
```

Cinder

Dimensions

Mappings to be stored

Driver Class

```
class CinderDriver(DataSourceDriver):
    def __init__(self, **creds):
    def get_all(self, type)
```

Appendix

NOVA APIS

NEUTRON APIS