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Assignment 4

Notes from task 3

To create the same infrastructure as in assignment 2 you need:

- A network
  - With a subnet for floating IP
- A router with an interface to connect your network to ntnu-internal
- A key pair used to connect
- A VM running on a compute resource (m1.small, m1.medium, etc..)

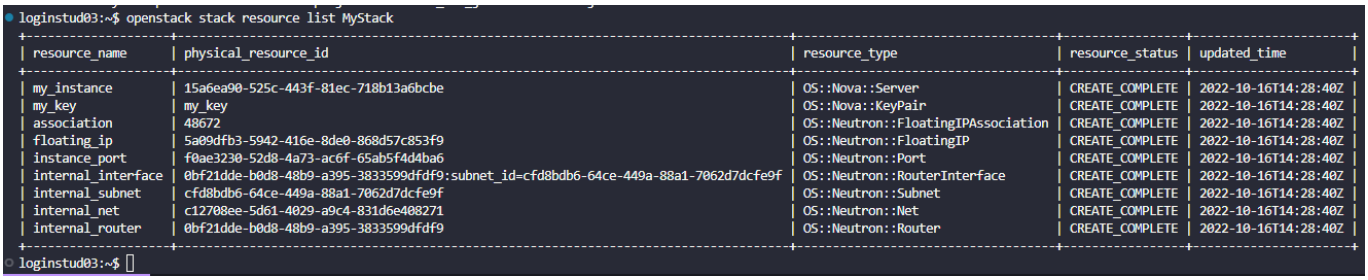
Also need to either create a new security group or add a new rule to an already existing security group to allow ssh (listen on port 22)

Definition code

```
heat_template_version: 2021-04-16

description: Template to deploy a VM with floating IP

parameters:
  key_name:
    type: string
    description: Name of key pair
    label: Key name
    default: my_key

resources:
  internal_net:
    type: OS::Neutron::Net

  internal_subnet:
    type: OS::Neutron::Subnet
    properties:
      network_id: { get_resource: internal_net }
      cidr: '10.8.1.0/24'
      dns_nameservers: ['8.8.8.8', '8.8.4.4']
      ip_version: 4

  internal_router:
    type: OS::Neutron::Router
    properties:
      external_gateway_info: { network: ntnu-internal }

  internal_interface:
    type: OS::Neutron::RouterInterface
```

```
      properties:
        router_id: { get_resource: internal_router }
        subnet: { get_resource: internal_subnet }

    instance_port:
      type: OS::Neutron::Port
      properties:
        network: { get_resource: internal_net }
        fixed_ips:
          - subnet_id: { get_resource: internal_subnet }

    floating_ip:
      type: OS::Neutron::FloatingIP
      properties:
        floating_network_id: ntnu-internal
        port_id: { get_resource: instance_port }

    association:
      type: OS::Neutron::FloatingIPAssociation
      properties:
        floatingip_id: { get_resource: floating_ip }
        port_id: { get_resource: instance_port }

    my_key:
      type: OS::Nova::KeyPair
      properties:
        save_private_key: true
        name: { get_param: key_name }

    my_instance:
      type: OS::Nova::Server
      properties:
        key_name: { get_resource: my_key }
        image: fe8be799-21f4-489a-9e3f-9b8a2e15c015 # Ubuntu Server 20.04 amd64
        flavor: m1.small
        networks:
          - port: { get_resource: instance_port }

  outputs:
    instance_ip:
      description: The IP address of the deployed MV
      value: { get_attr: [my_instance, first_address] }

    instance_floating_ip:
      description: Floating IP of the deployed VM
      value: { get_attr: [floating_ip, floating_ip_address] }

    private_key:
      description: Private key
      value: { get_attr: [my_key, private_key] }
```

Stack resource list



```
loginstud03:~$ openstack stack resource list MyStack
+--------------------+--------------------------------------------------------------------------------+--------------------------------+-----------------+----------------------+
| resource_name      | physical_resource_id                                                           | resource_type                  | resource_status | updated_time         |
+--------------------+--------------------------------------------------------------------------------+--------------------------------+-----------------+----------------------+
| my_instance        | 15a6ea90-525c-443f-81ec-718b13a6bcbe                                           | OS::Nova::Server               | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
| my_key             | my_key                                                                         | OS::Nova::KeyPair              | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
| association        | 48672                                                                          | OS::Neutron::FloatingIPAssociation | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
| floating_ip        | 5a09dfb3-5942-416e-8de0-868d57c853f9                                           | OS::Neutron::FloatingIP        | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
| instance_port      | f0ae3230-52d8-4a73-ac6f-65ab5f4d4ba6                                           | OS::Neutron::Port              | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
| internal_interface | 0bf21dde-b0d8-48b9-a395-3833599dfdf9:subnet_id=cfd8bdb6-64ce-449a-88a1-7062d7dcfe9f | OS::Neutron::RouterInterface   | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
| internal_subnet    | cfd8bdb6-64ce-449a-88a1-7062d7dcfe9f                                           | OS::Neutron::Subnet            | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
| internal_net       | c12708ee-5d61-4029-a9c4-831d6e408271                                           | OS::Neutron::Net               | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
| internal_router    | 0bf21dde-b0d8-48b9-a395-3833599dfdf9                                           | OS::Neutron::Router            | CREATE_COMPLETE | 2022-10-16T14:28:40Z |
+--------------------+--------------------------------------------------------------------------------+--------------------------------+-----------------+----------------------+
loginstud03:~$
```

Commands for stopping & deleting stack

Stopping:

```
openstack stack suspend stack-name
```

To resume after stopping:

```
openstack stack resume stack-name
```

Delete:

```
openstack stack delete stack-name
```