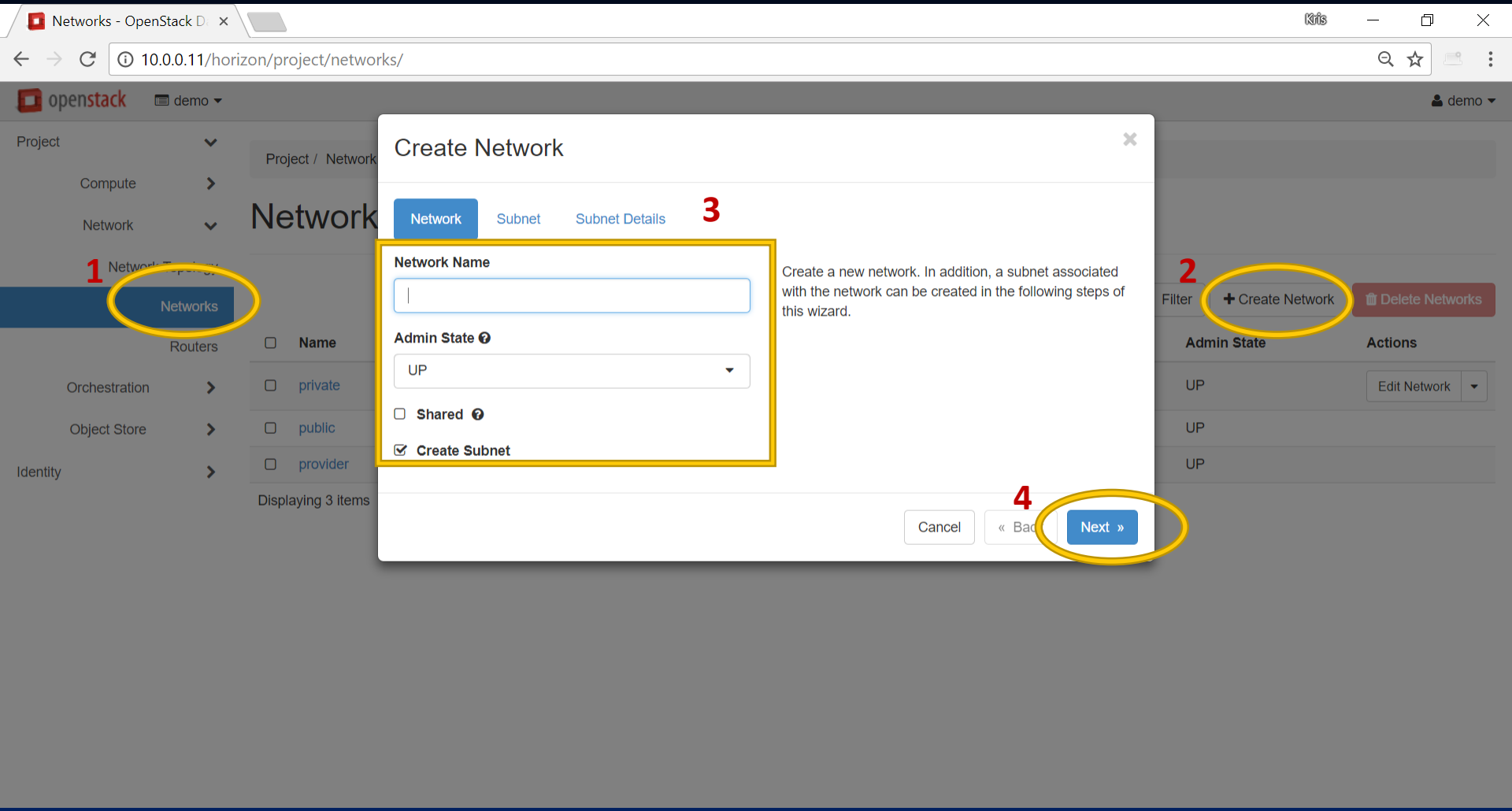
Open Cloud Consulting

Preparing to **Certified OpenStack Administrator** Exam

Section 8 – OpenStack Network Service

Lecture 35. Neutron Summary and Review

Create a Project Network



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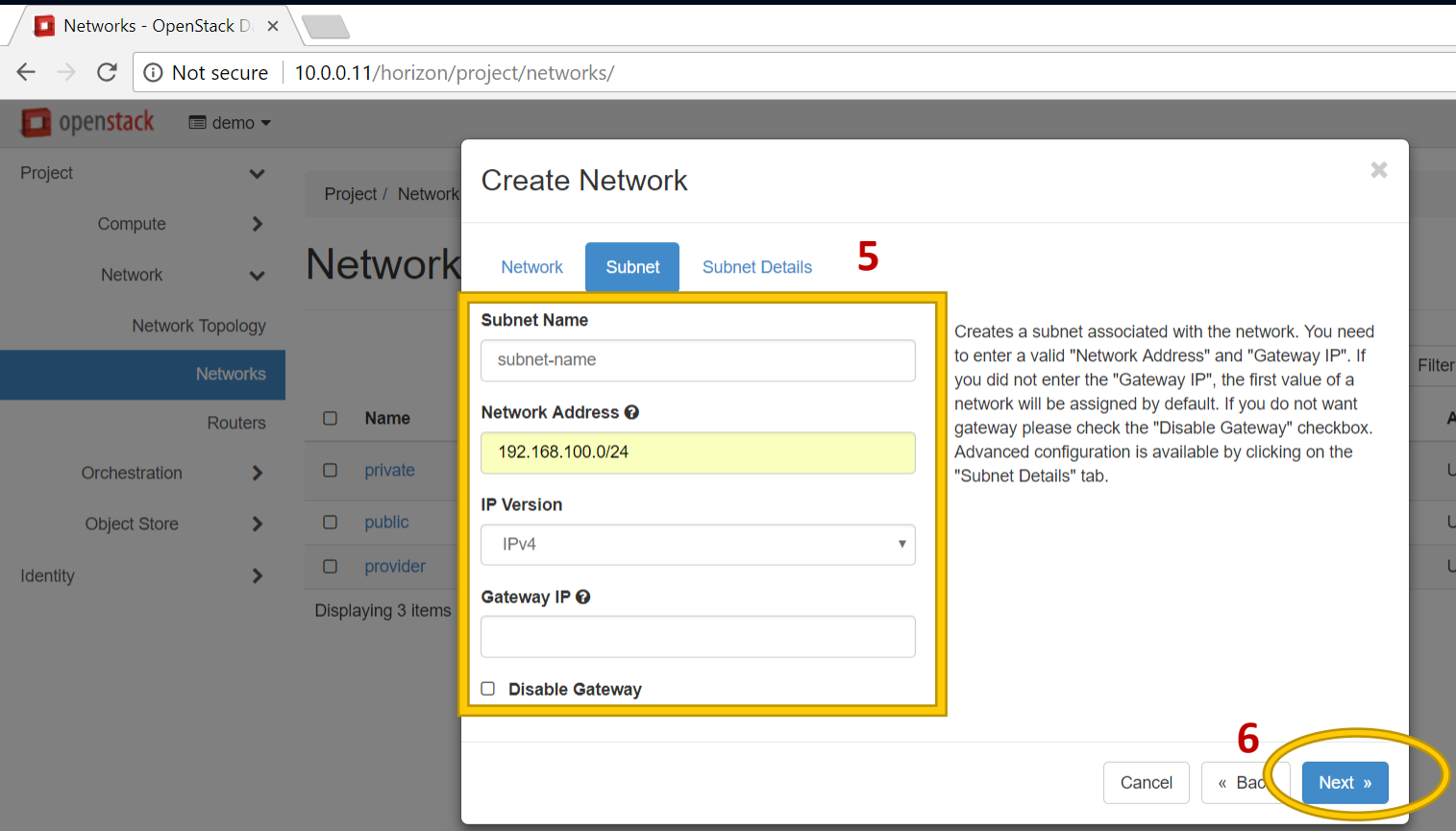

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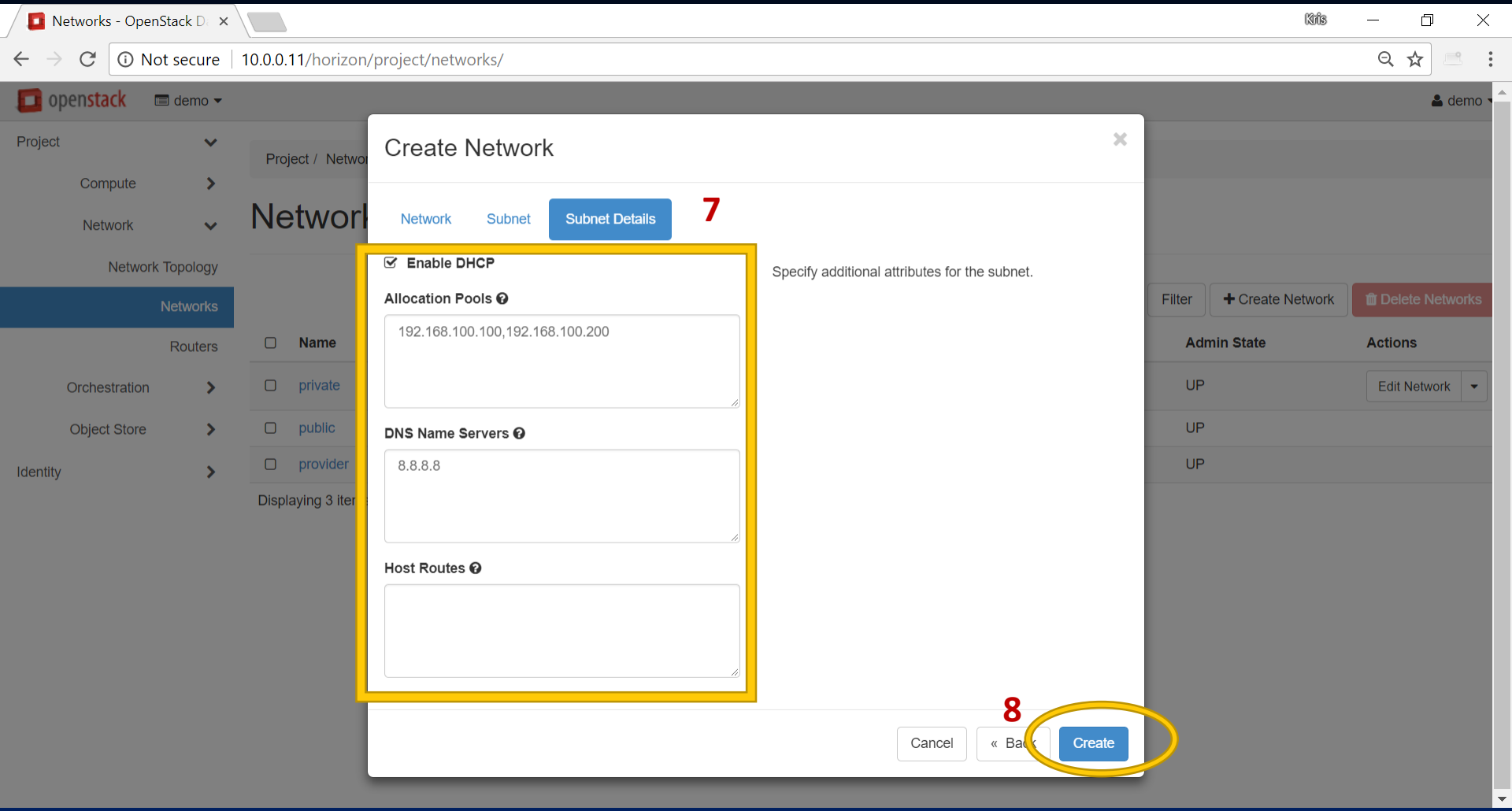
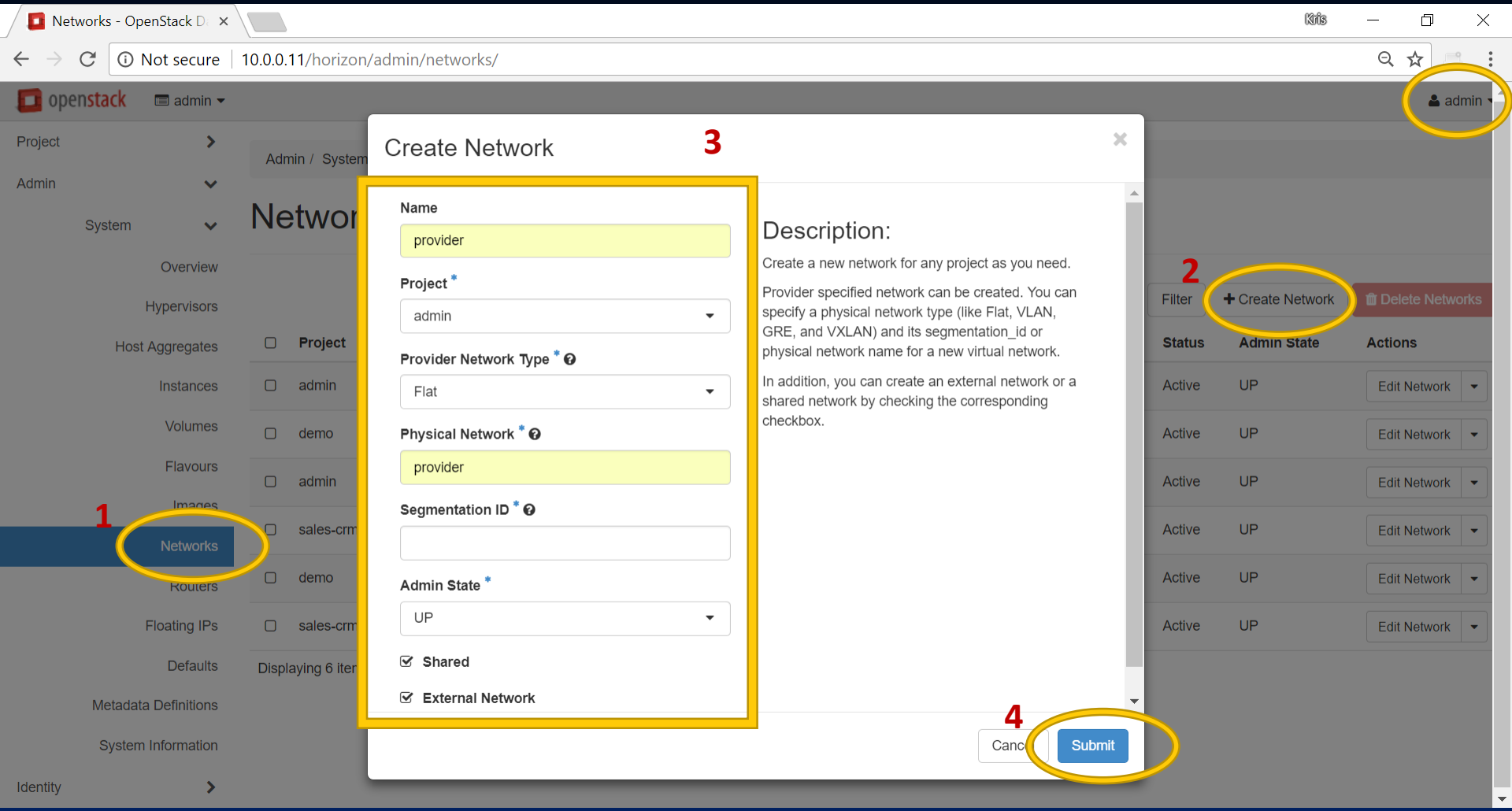
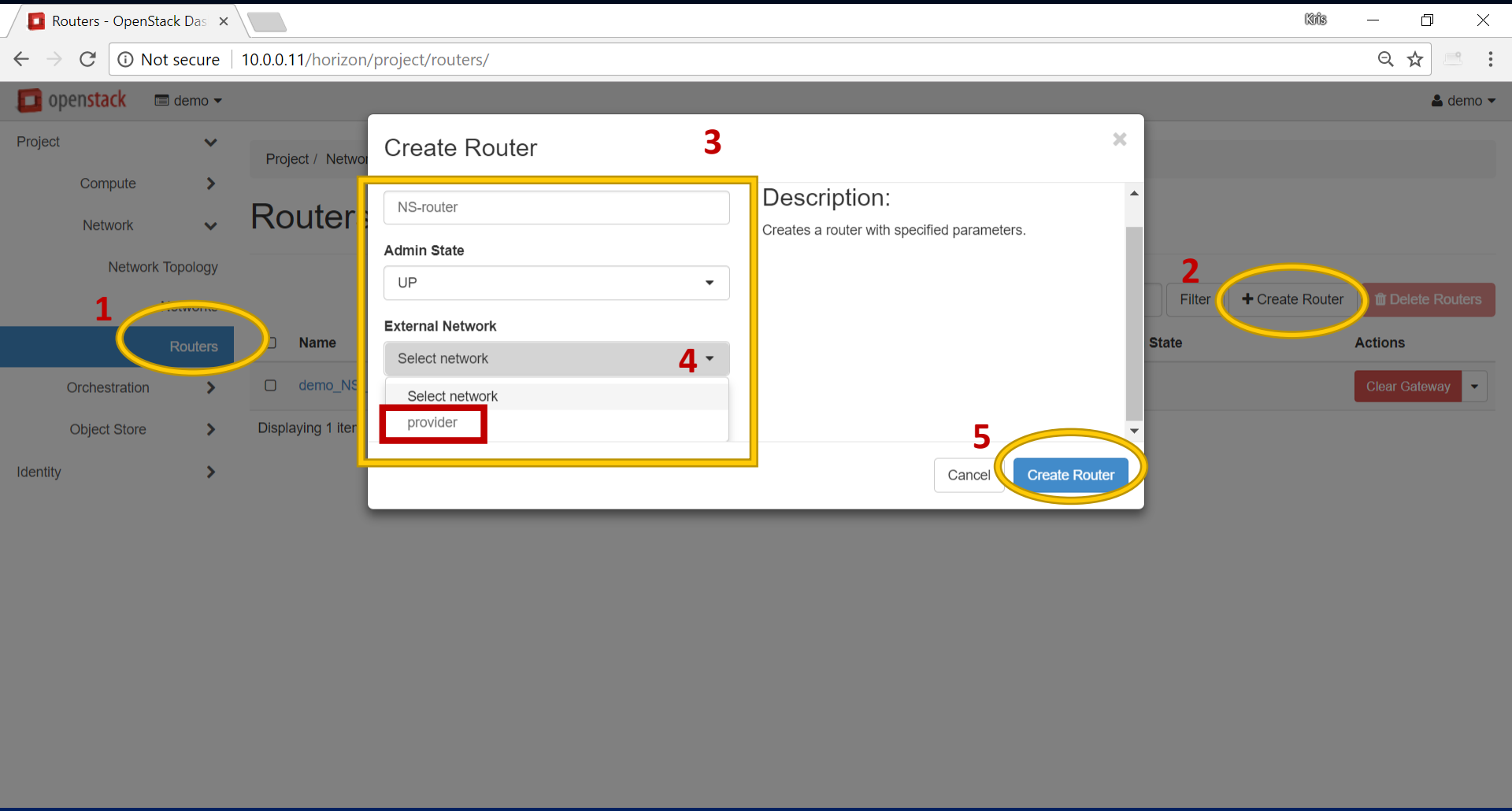


Create a Provider Network



Create a North-South Router



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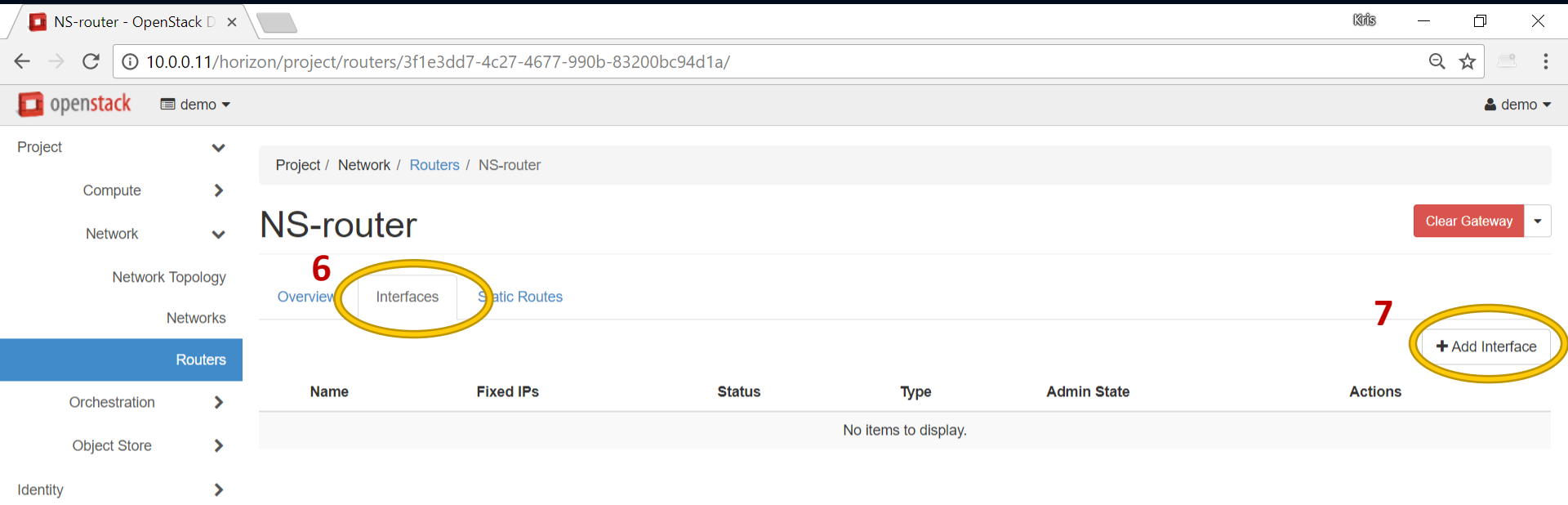

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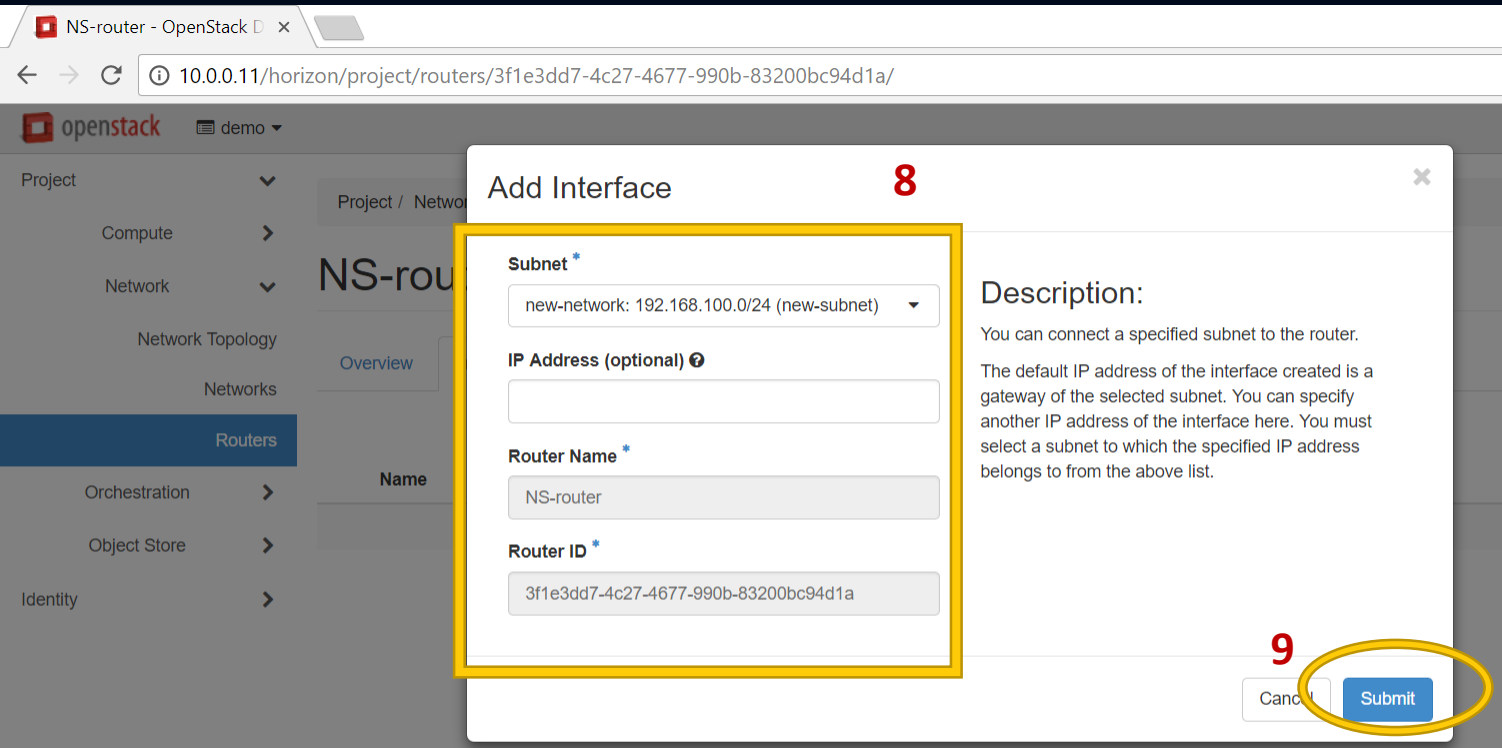
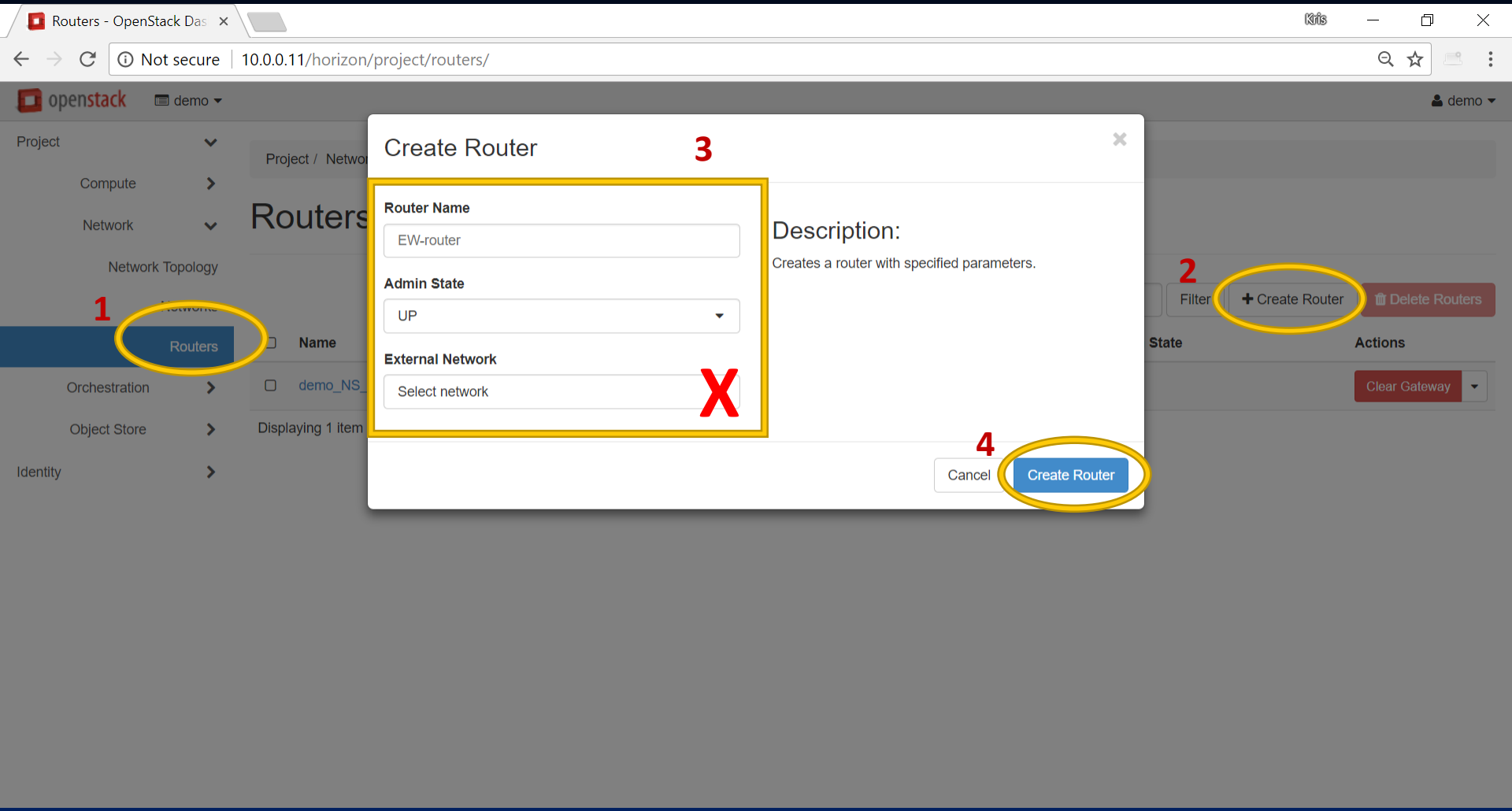


Create East-West Router



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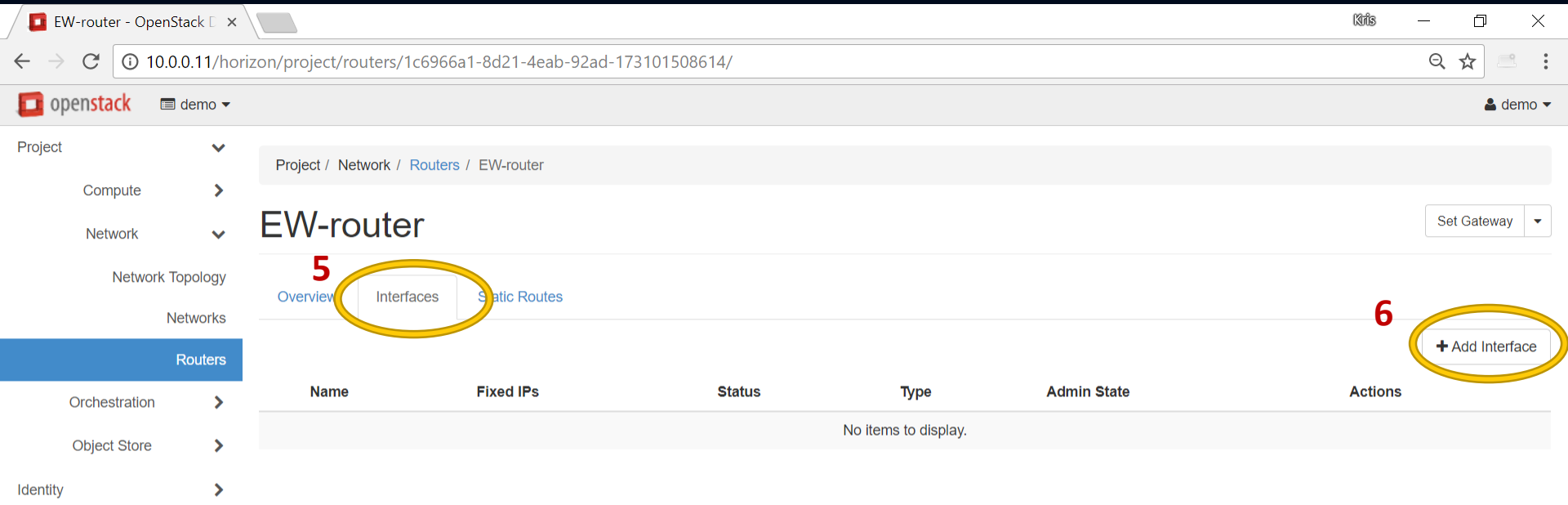

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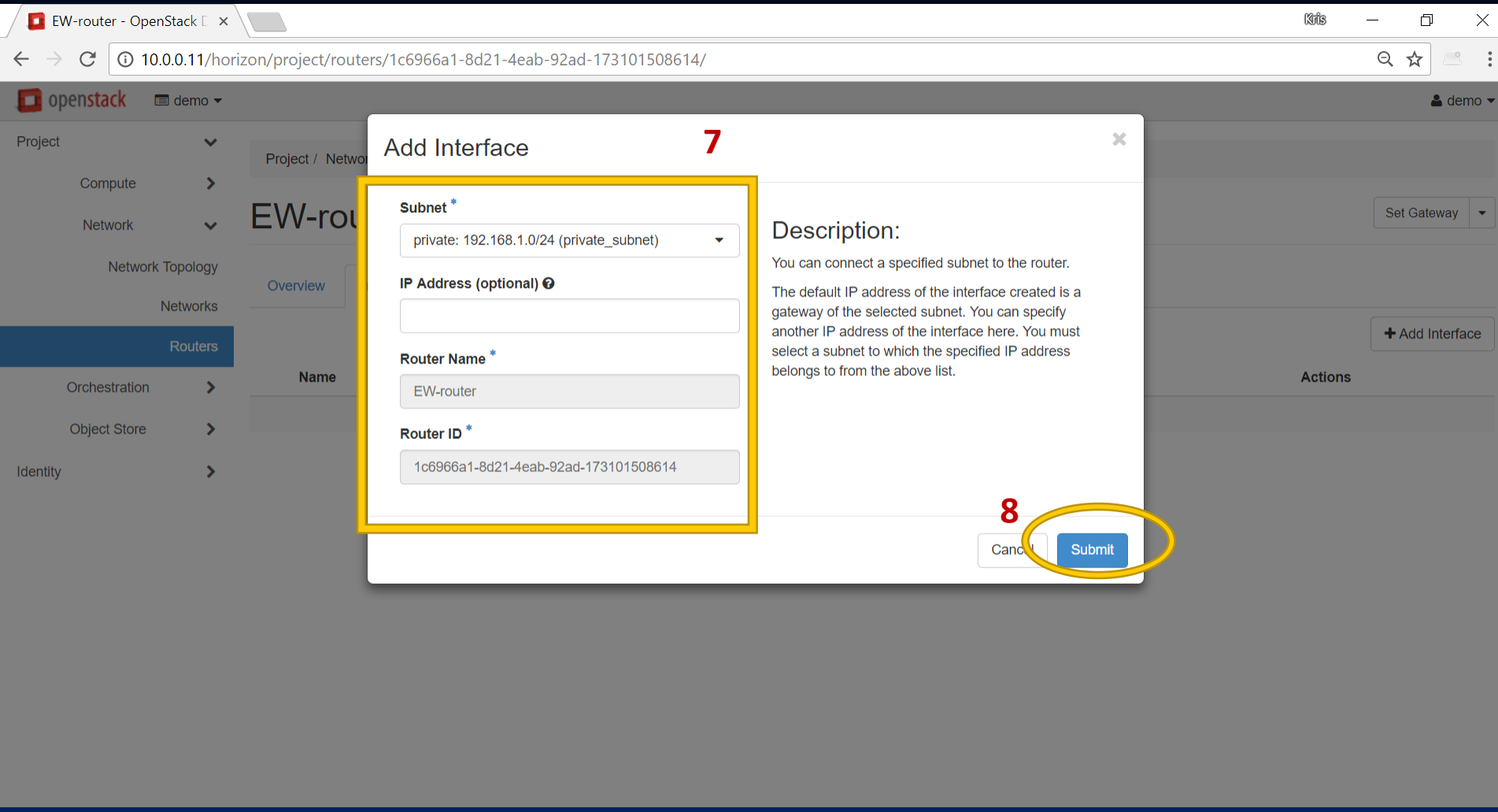

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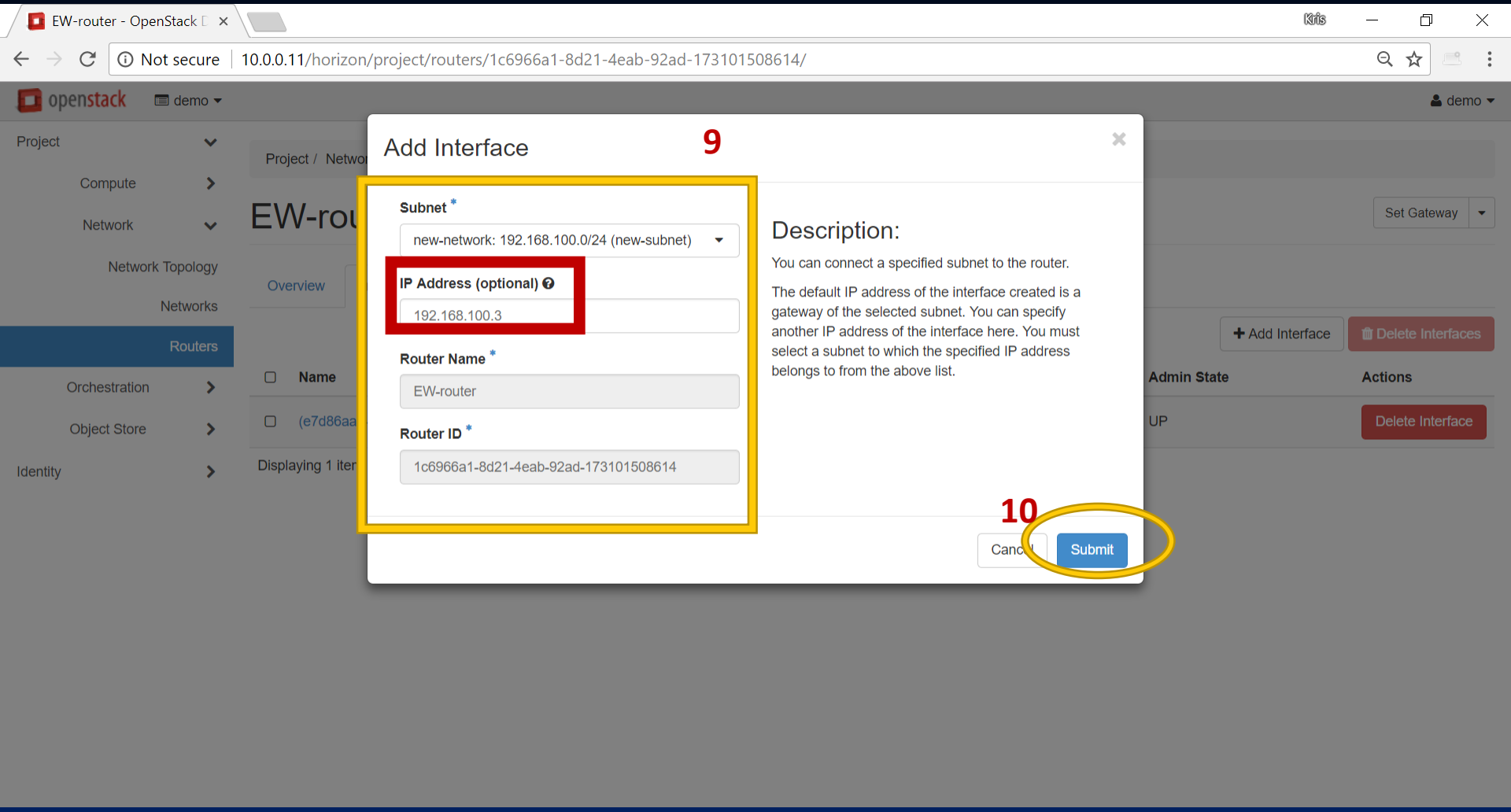
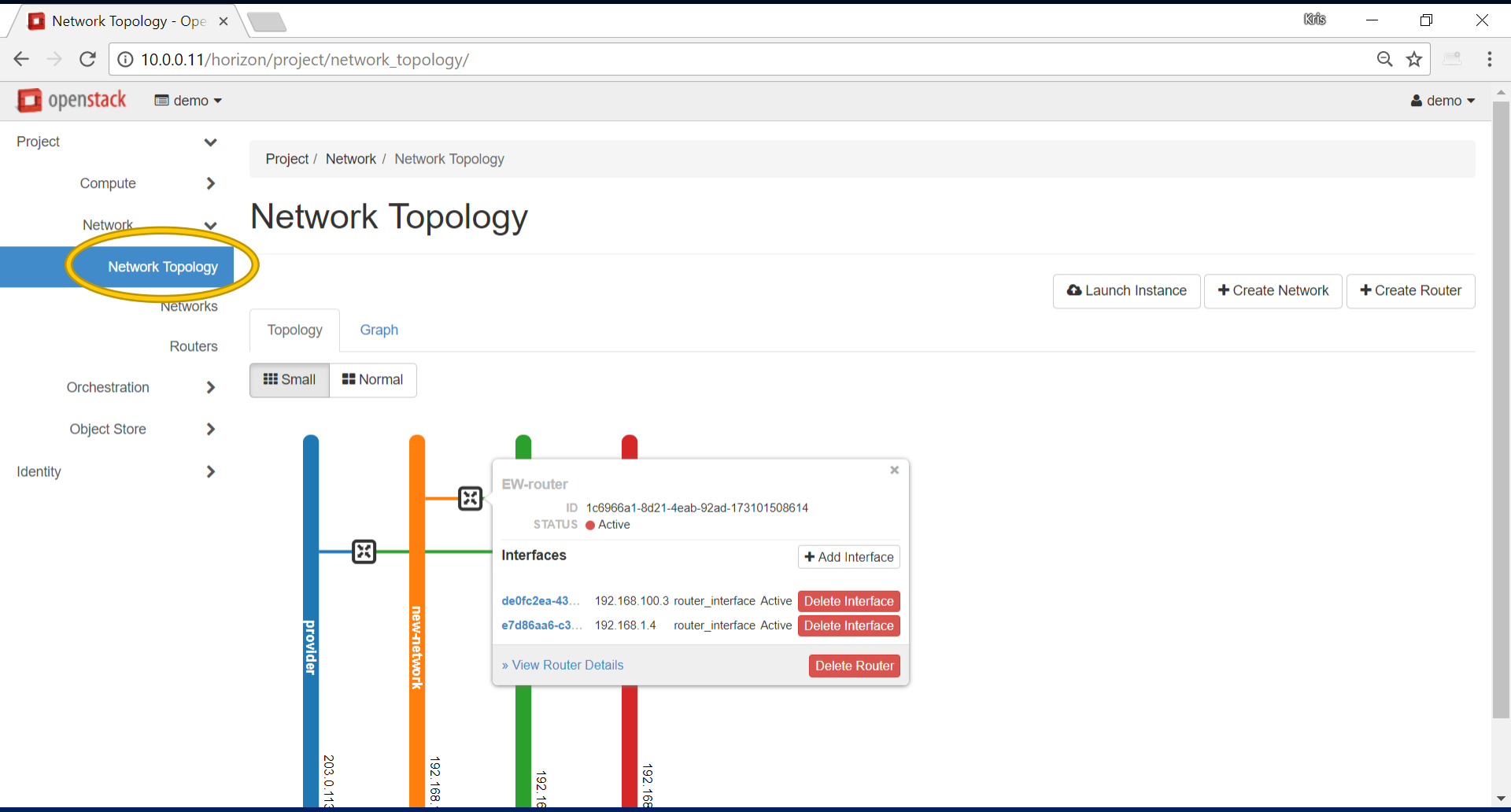
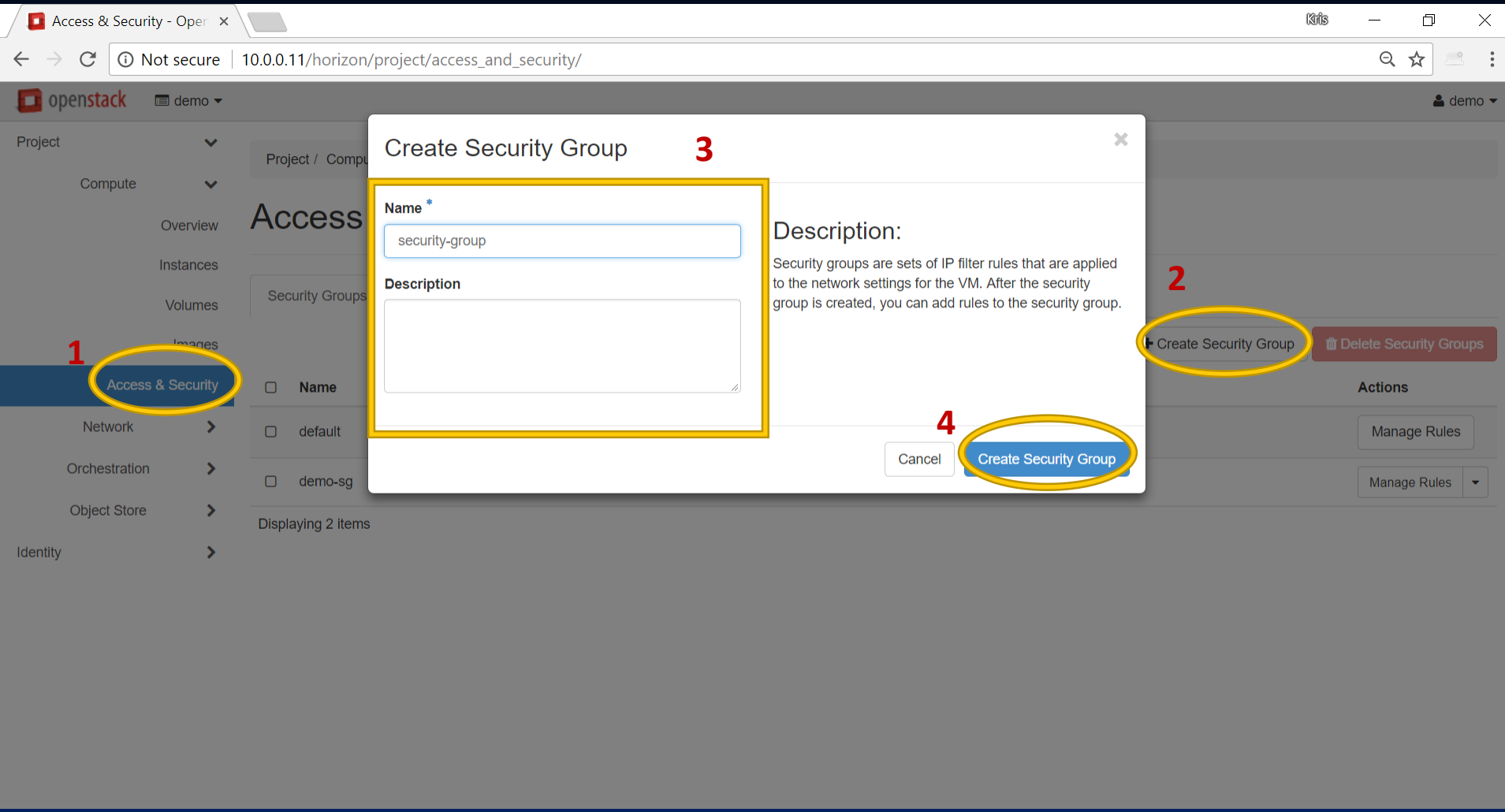


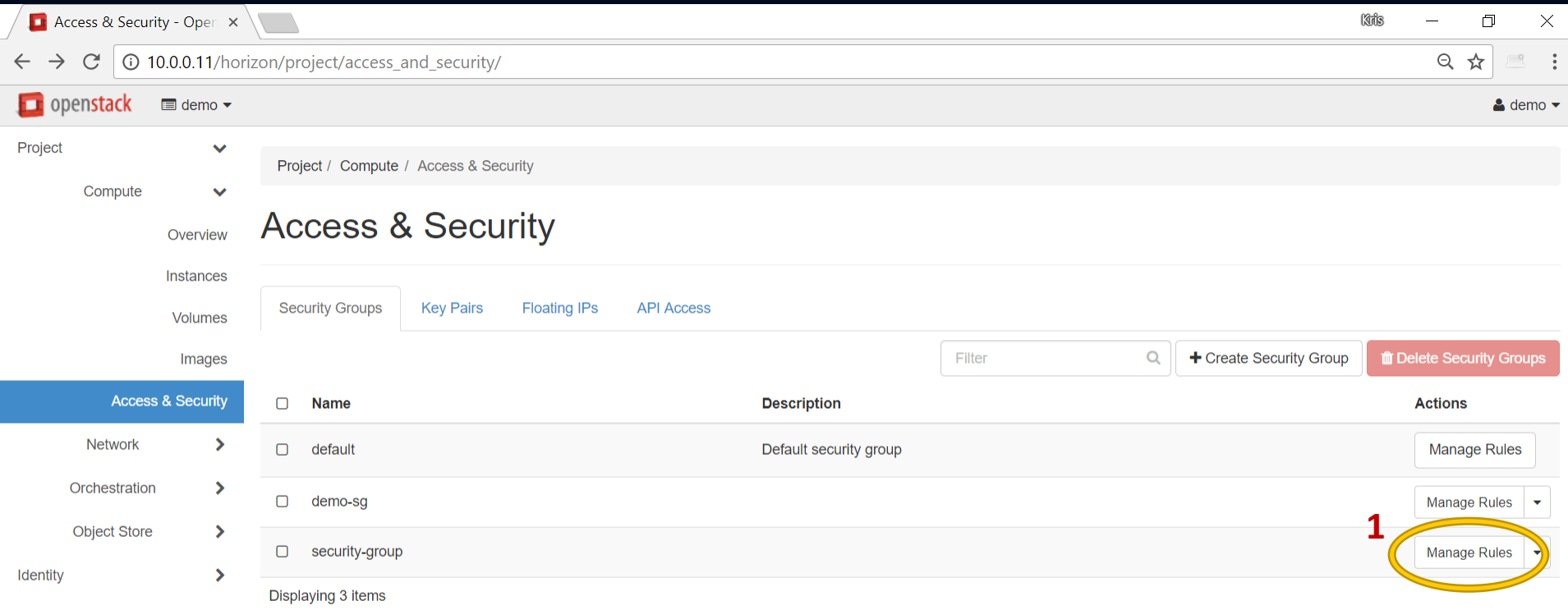
Review Project Network Topology



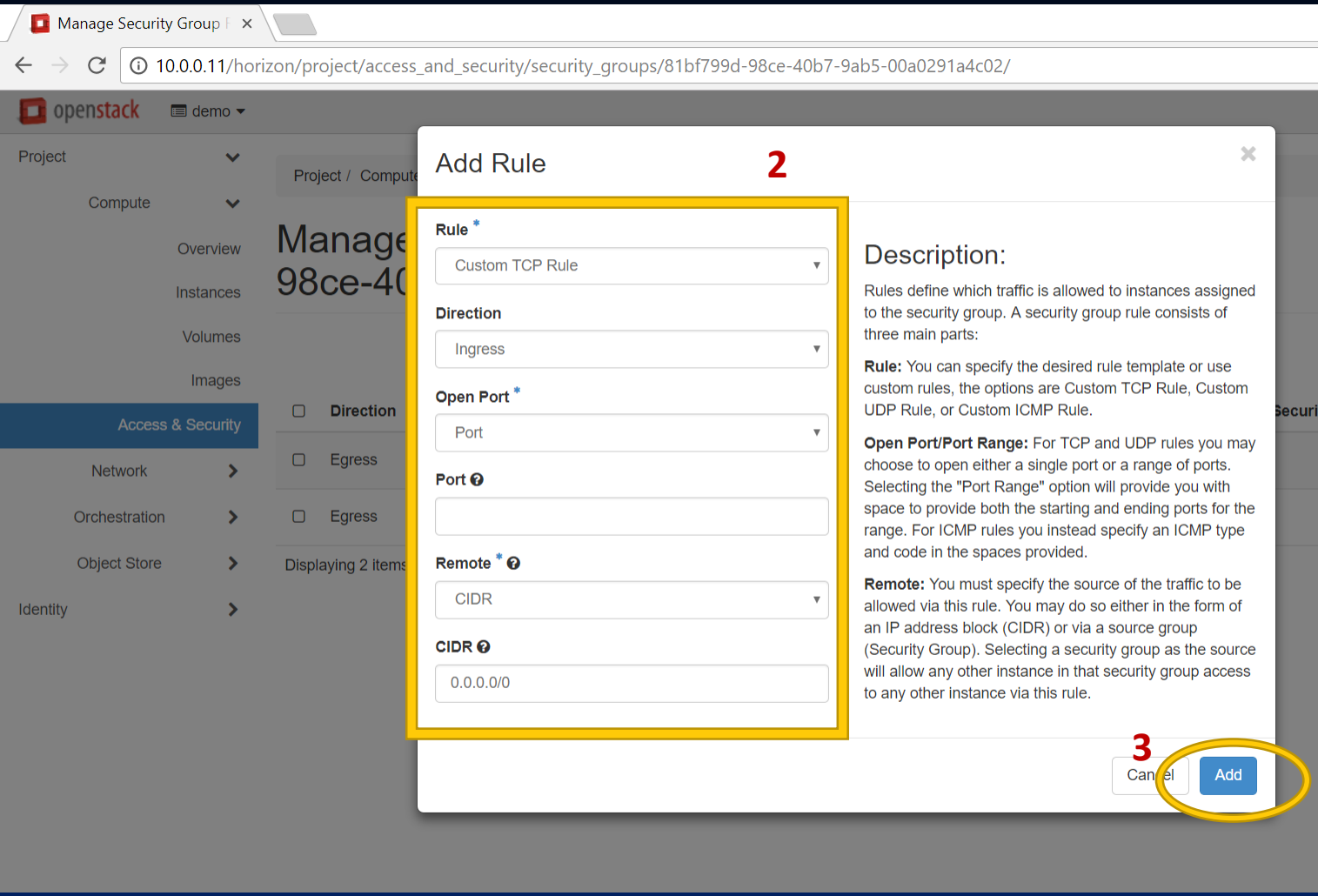
Create Security Group



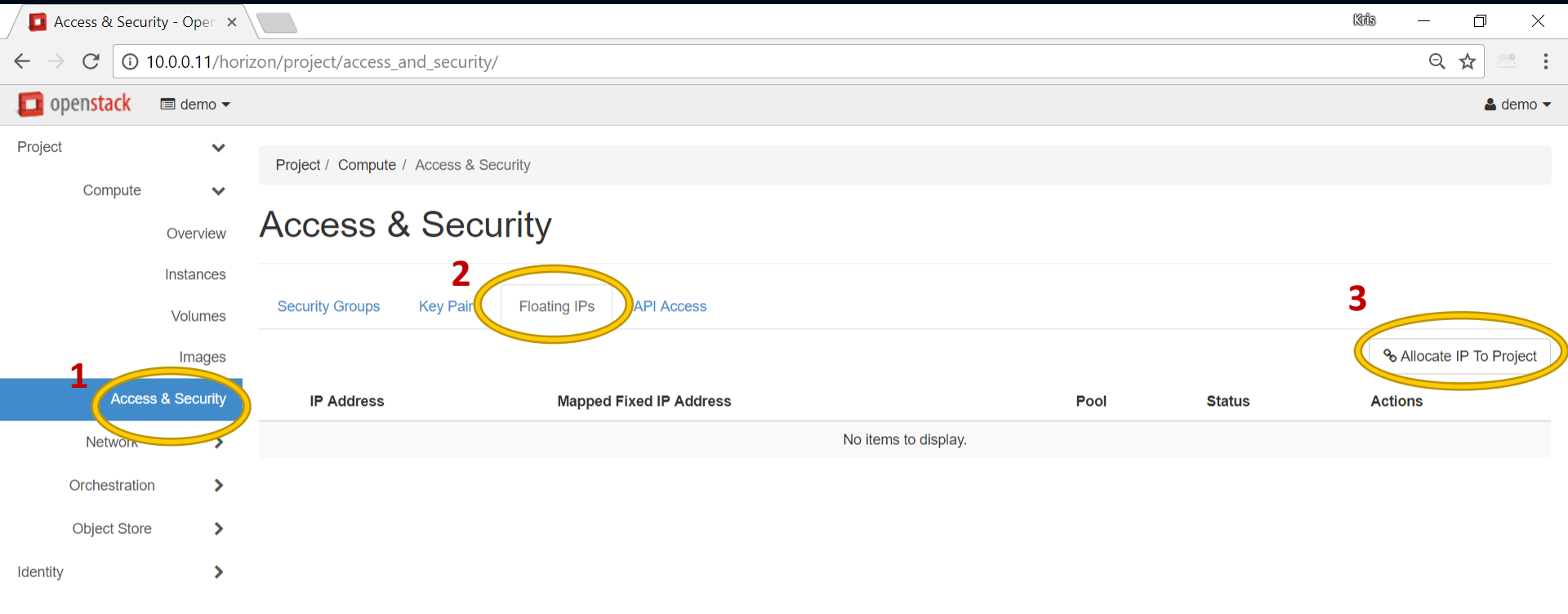
Manage Security Group Rules



Manage Security Group Rules



Allocate Floating IP to a Project



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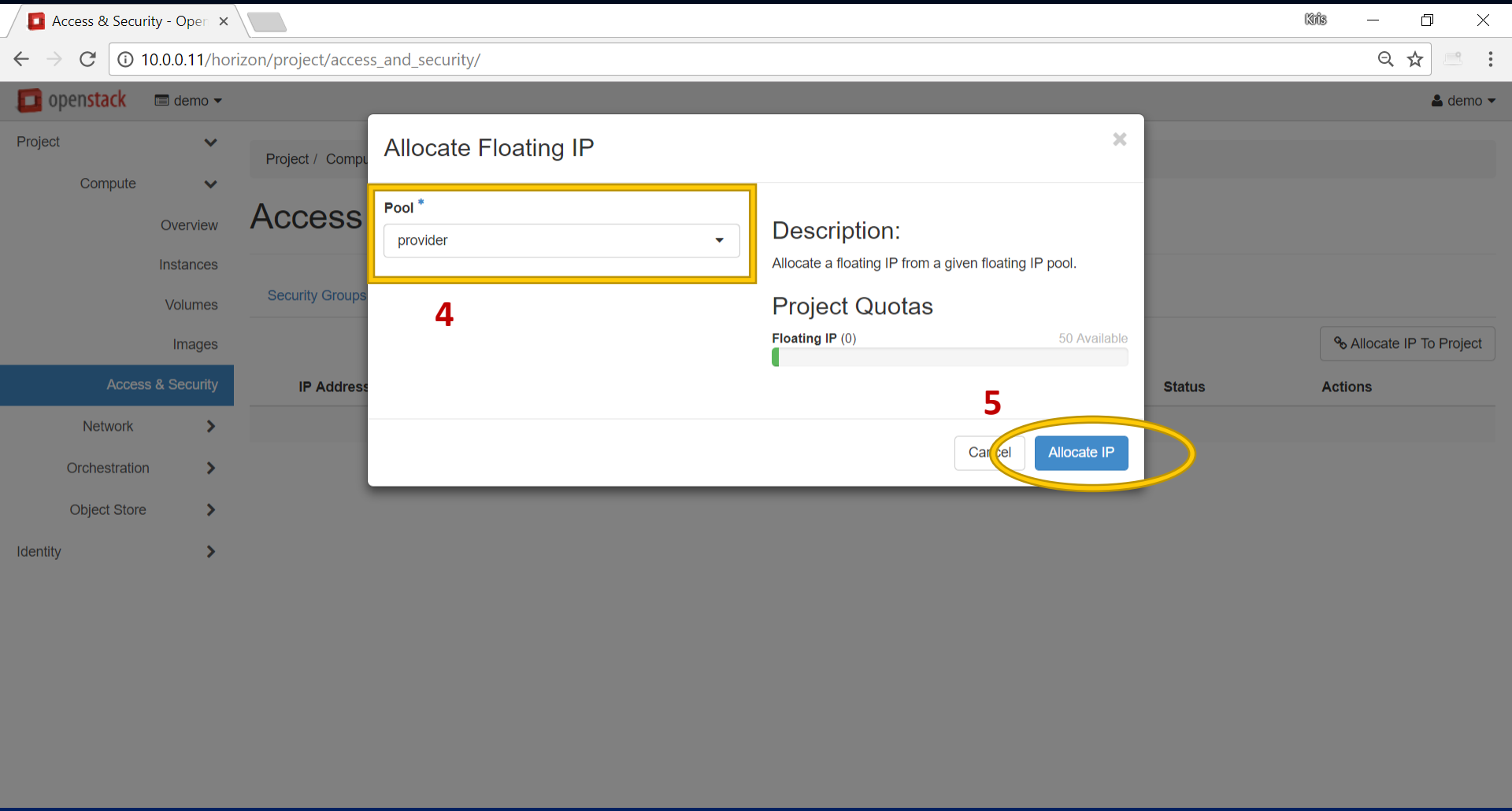
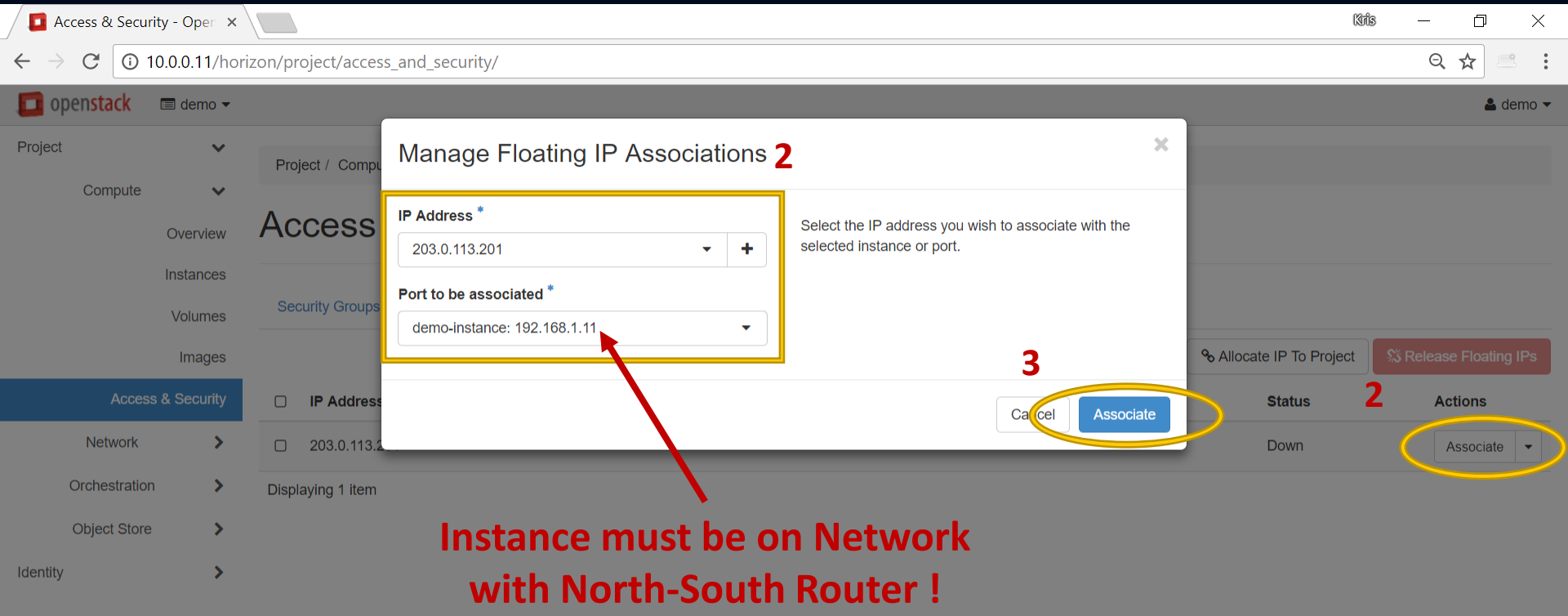


Associate Floating IP to an Instance



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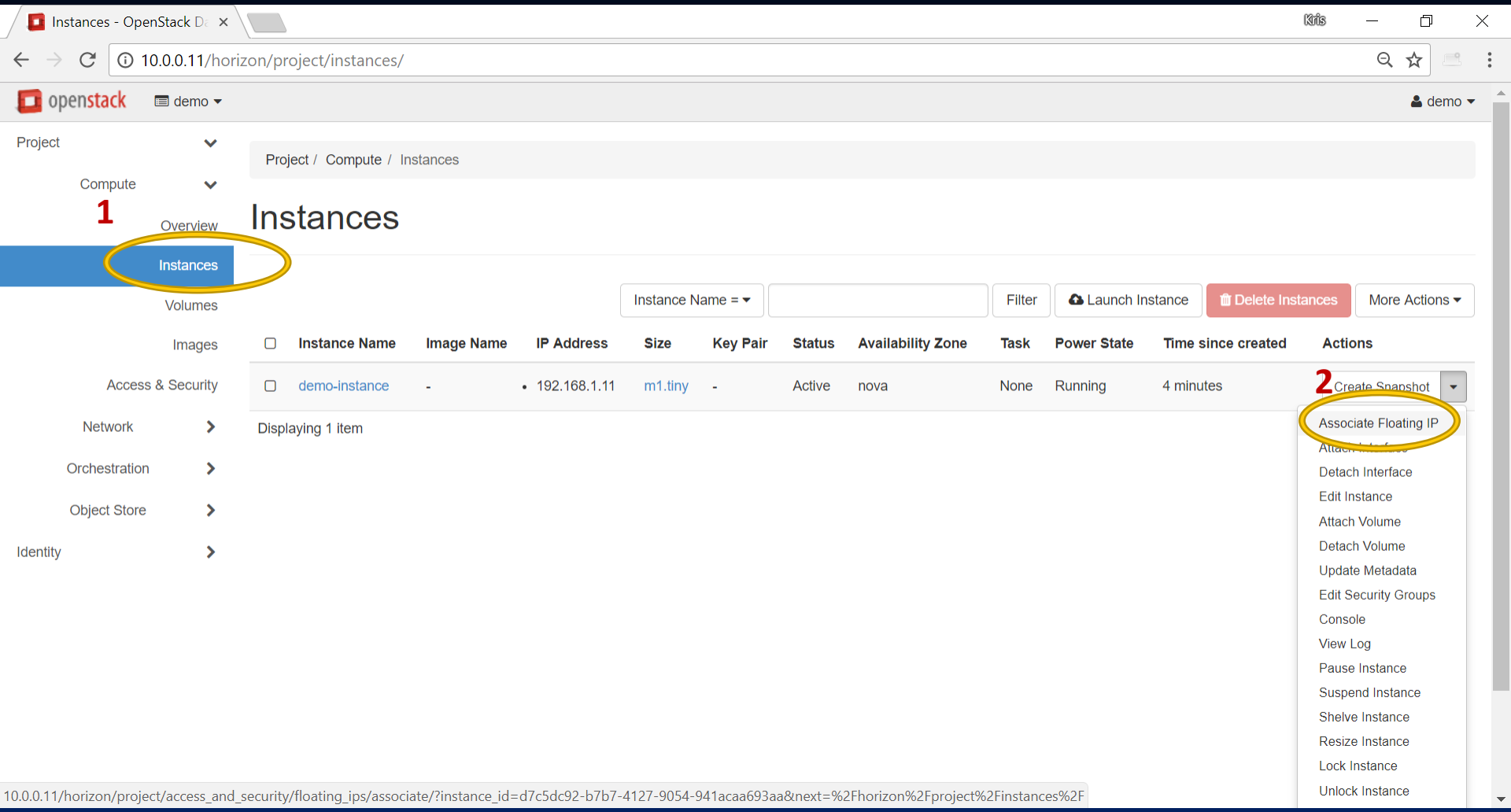

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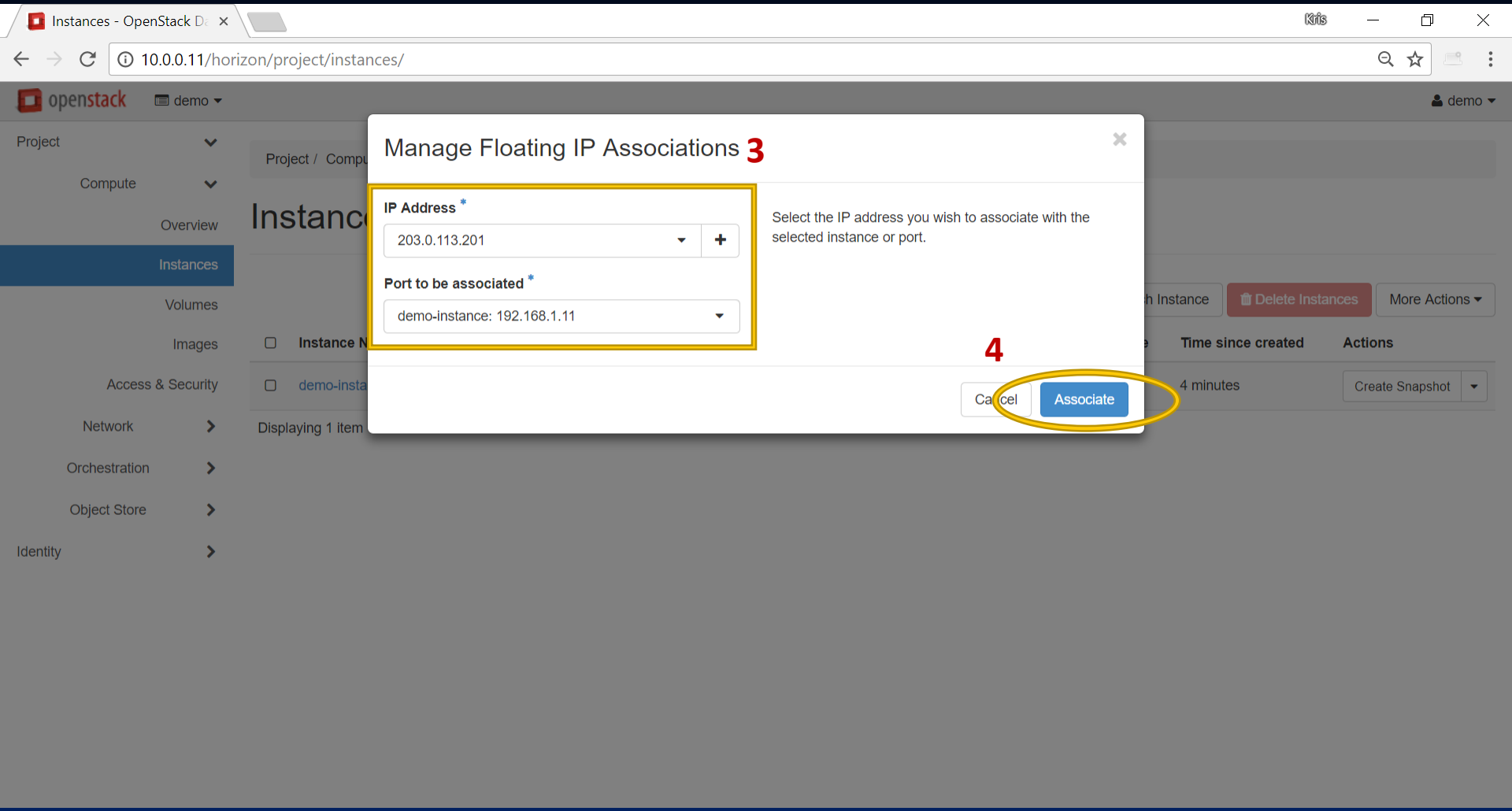
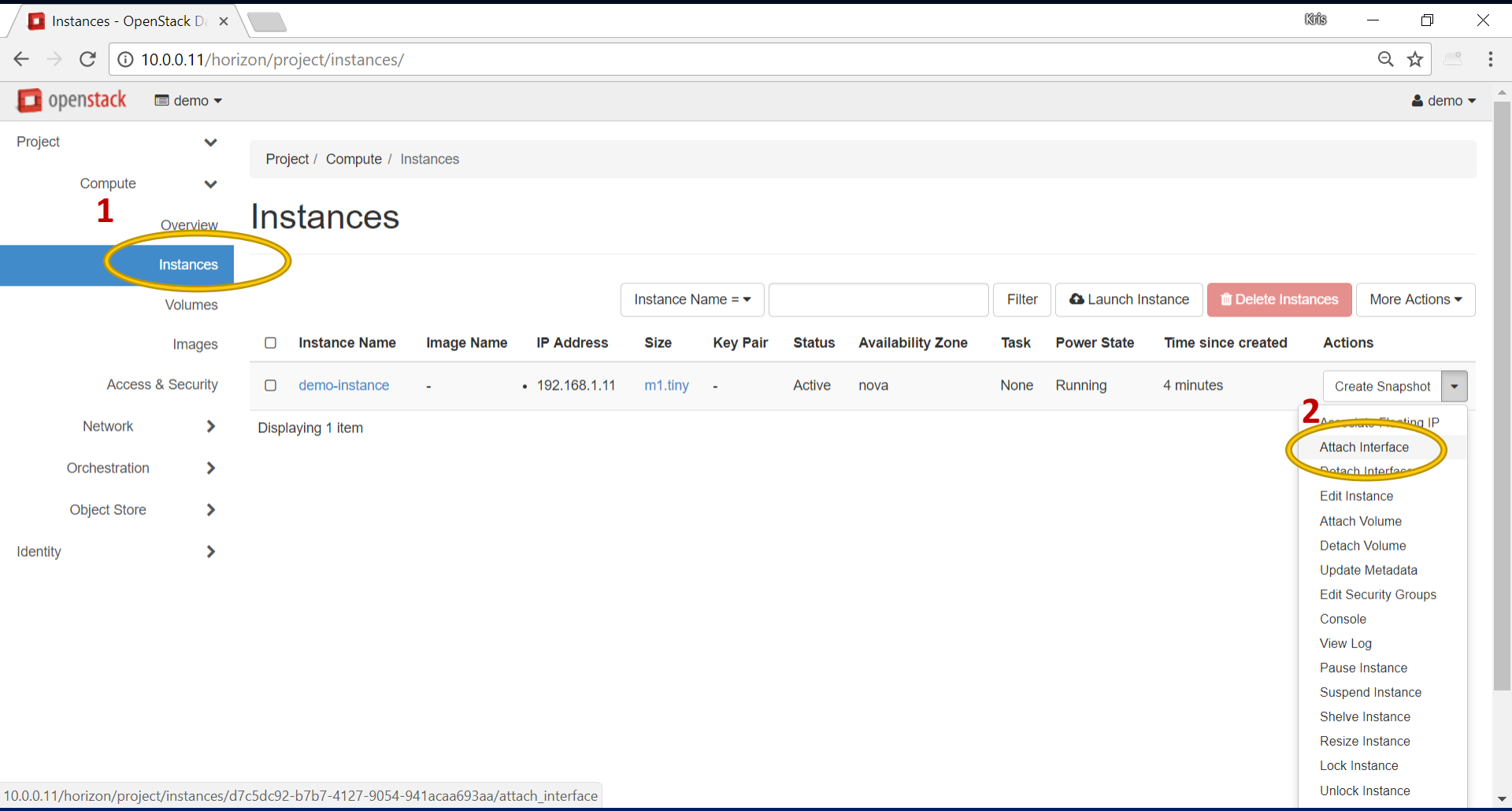


Attach Network Interface to an Instance



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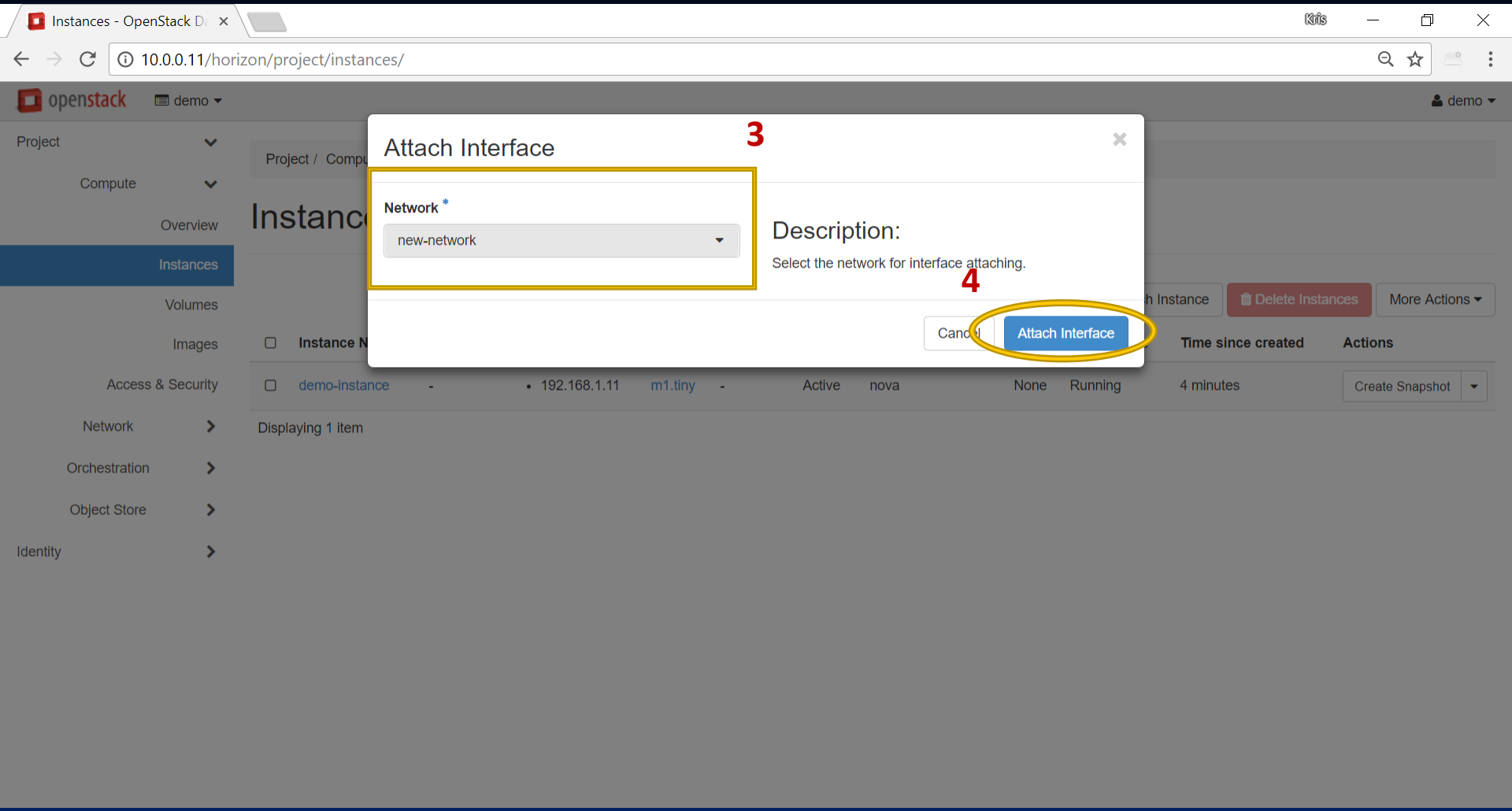
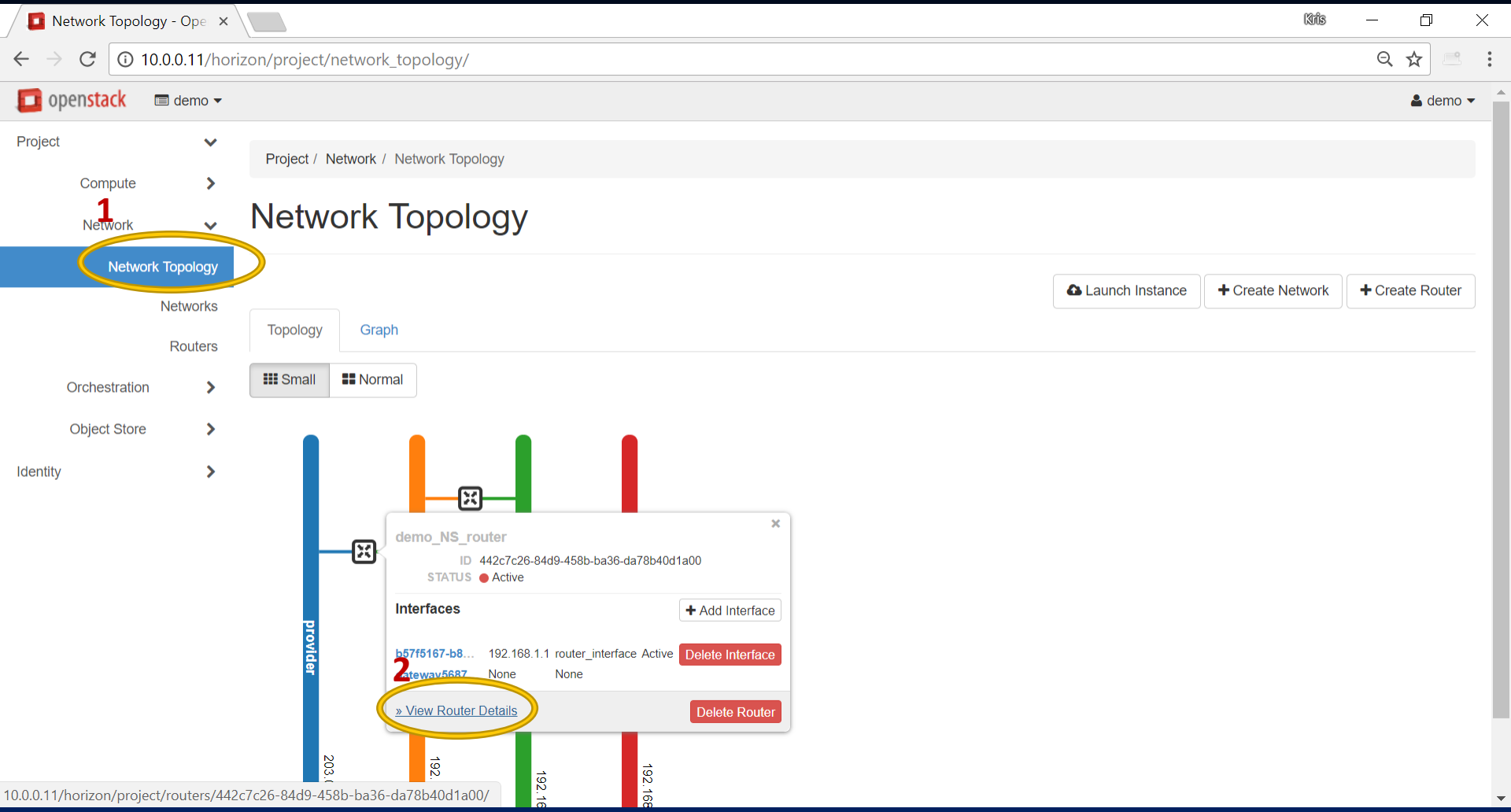


Modify Routing Tables of a Router



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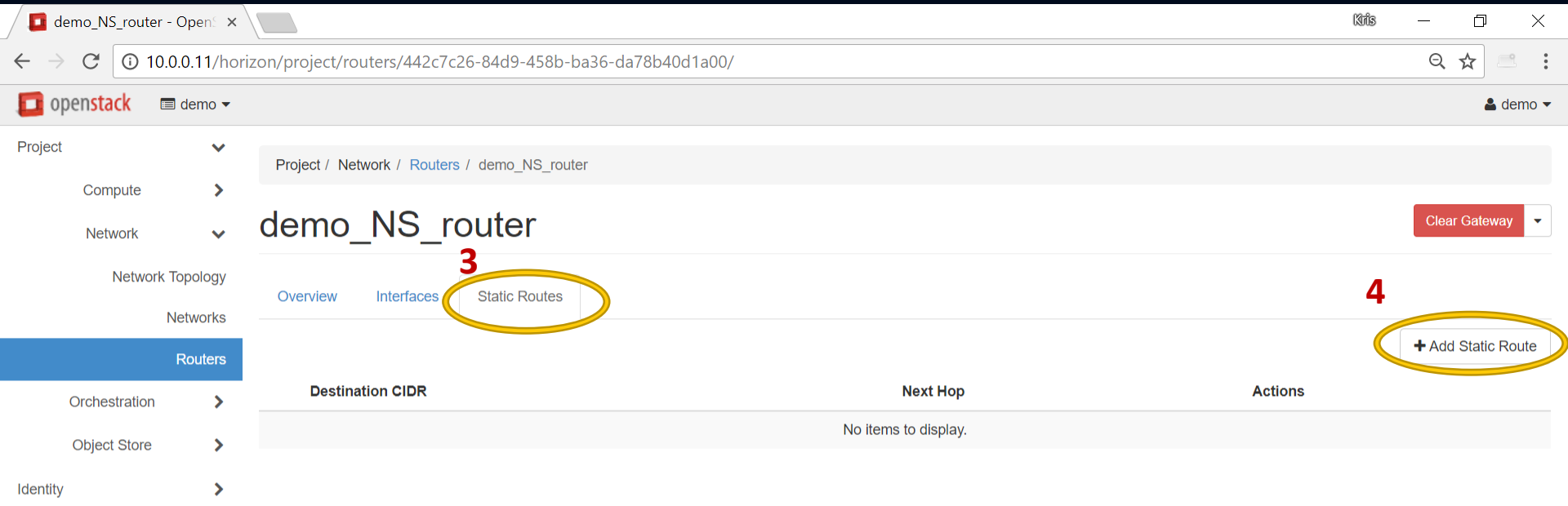

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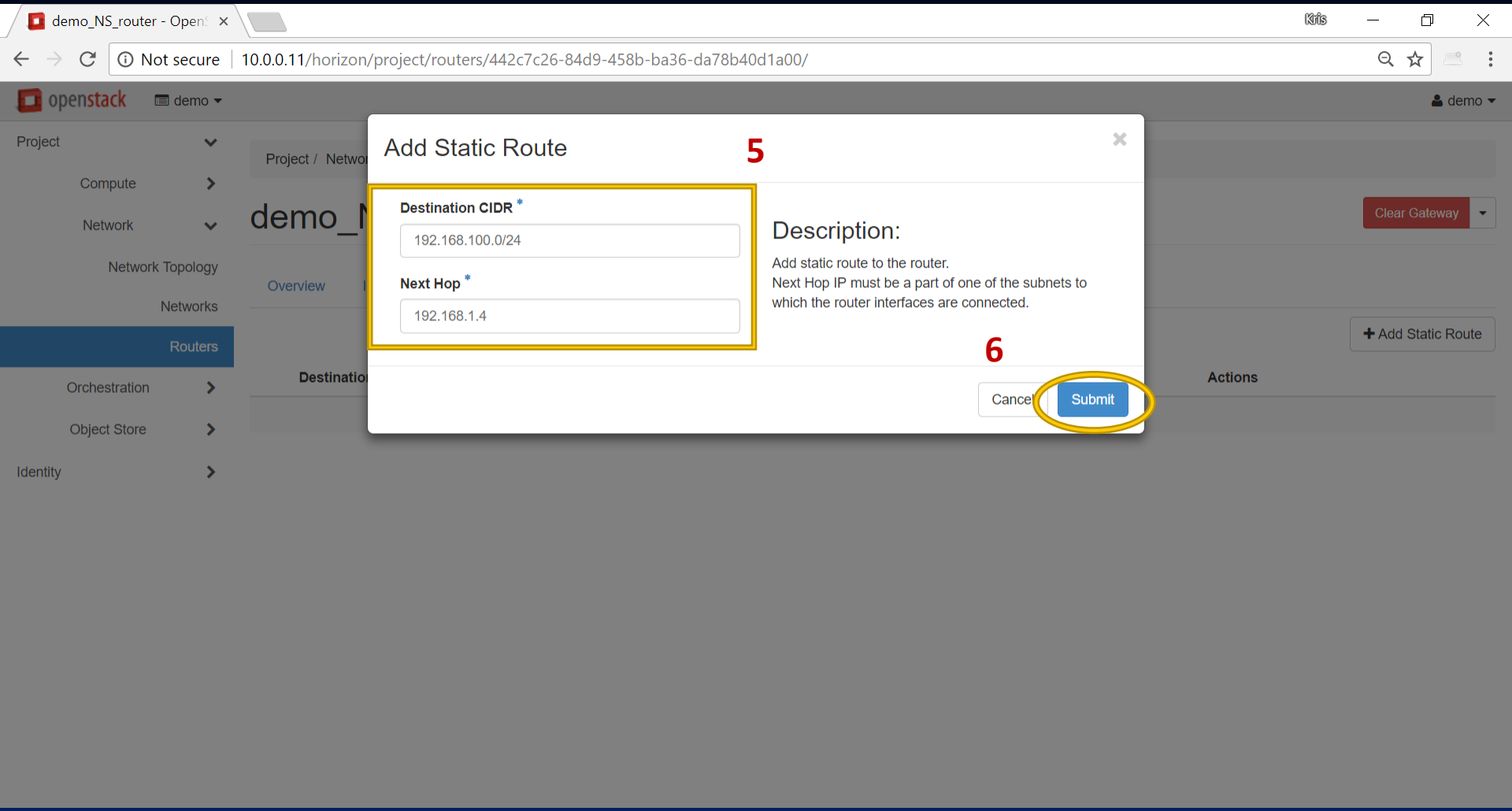

CLI Review

```
$ neutron net-create <project-network-name>

$ grep "physical_interface_mappings" \
  /etc/neutron/plugins/ml2/linuxbridge_agent.ini
  physical_interface_mappings = provider:eth1
$ neutron net-create --shared --router:external=true \
  --provider:network-type=<flat> \
  --provider:physical-network=<provider> \
  <provider-network-name>

$ openstack subnet create --network <network> \
  --subnet-range <CIDR> --dns-nameserver <dns-nameserver> \
  --allocation pool start=<addr>,end=<addr>
  <subnet-name>
```

CLI Review

```
$ neutron net-list
$ neutron net-list --tenant-id <project>
$ neutron net-list --router:external True

$ neutron net-show <network>

$ neutron subnet-list
$ neutron subnet-show <subnet>

$ neutron net-ip-availability-list
$ neutron net-ip-availability-show <network>
```

CLI Review

```
$ neutron router-create <router-name>

$ neutron router-gateway-set <router> <external-network>

$ neutron router-interface-add <router> <subnet>

$ neutron port-create --name <port-name> <network>
$ neutron router-interface-add <router> port=<port-name>

$ neutron router-list
$ neutron router-show <router>

$ neutron router-port-list <router>
```

CLI Review

```
$ neutron security-group-create <security-group-name>

$ neutron security-group-list
$ neutron security-group-show <security-group>

$ neutron security-group-rule-create --protocol <icmp|tcp|..> \
  --direction <ingress|egress> \
  --port-range-min <port-num> --port-range-max <port-num> \
  --remote-ip-prefix <CIDR> | --remote-group-id <sec-group> \
  <security-group>

$ neutron security-group-rule-list
$ neutron security-group-show <sec-group-rule-id>
$ neutron security-group-rule-delete
```

CLI Review

```
$ neutron floatingip-create
$ neutron floatingip-create --tenant <project>

$ neutron floatingip-list
$ neutron floatingip-show <floating-ip>

$ openstack server add floating ip <instance> <floating-ip>

$ openstack server remove floating ip <instance> <floating-ip>

$ neutron floatingip-delete <floating-ip>
```

CLI Review

```
$ openstack router list
$ openstack server show <instance>
$ sudo su
# ip netns | grep <router-UUID>
# ip netns exec qrouter-<router-UUID> bash
$ ping -c 3 <floating-ip>
$ ssh <user>@<floating-ip>
```

CLI Review

```
$ openstack network list
$ nova interface-attach --net-id <network-UUID> <instance>
$ openstack server add security group <instance> <sec-group>
$ openstack server show <instance>

<controller> $ sudo su
<controller> # ip netns exec qdhcp-<network-UUID> \
               ssh <user>@<ip-addr-in-eth0-net>
<instance> $ sudo su
<instance> # vi /etc/network/interfaces
…
auto eth1
iface eth1 inet dhcp
```

CLI Review

```
<instance> # ifup eth1
<instance> # ip route
<instance> # ip route del default via <second-net-gw-ipaddr>

$ neutron quota-default-show
$ neutron quota-show --tenant-id <project>
$ neutron quota-update --tenant-id <project> \
  --network <networks> --subnet <subnets> --router <routers> \
  --floatingip <floatingips> --security-group <sec-groups> \
  --security-group-rule <sec-group-rules>
```

Preparing to **Certified OpenStack Administrator** Exam

Section 8 – OpenStack Network Service

Lecture 35. Neutron Summary and Review

Thank you!