DEPLOYMENT GUIDE

BloxOne™ Deployment on KVM-Based OpenStack

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Overview

This guide introduces the Infoblox BloxOne™ host for KVM-based OpenStack. It describes installing the Infoblox BloxOne host on KVM-based OpenStack.

Introduction

Infoblox supports KVM deployment managed by OpenStack via the OpenStack dashboard or CLI commands. Infoblox recommends you dedicate at least the minimum system requirements to the BloxOne Host you plan to deploy. The dedicated resources can't be shared with or used for other non-Infoblox applications. Sharing resources will negatively affect the performance of your BloxOne services.

Prerequisites

Before deploying a BloxOne host and creating BloxOne services, ensure that you prepare the deployment environment according to the requirements for the supported platforms and open all necessary ports for unrestricted outbound access. For details, see BloxOne Connectivity and Service Requirements.

Before you start the deployment, the following are requirements:

- The recommended resources required for the KVM BloxOne deployment are 8 vCPU and 16GB of memory. For details, see Minimum System Requirements for Hosts.
- Ensure that your KVM environment meets the minimum deployment requirements.
- Open all required ports on the BloxOne hosts, as a list in Port Usage for Bare-Metal Hosts, in addition to the ports required for firewalls.
- Ensure that there are no other processes using port 53 on the host system on which your BloxOne host will be deployed. For example, some Ubuntu systems running local DNS cache (system-resolved) might occupy port 53, and your BloxOne host may not function appropriately in this case.
- An appropriate flavor should be provided which meet the minimum requirements of 8 vCPUs, 16GB Memory and 64GB Storage.

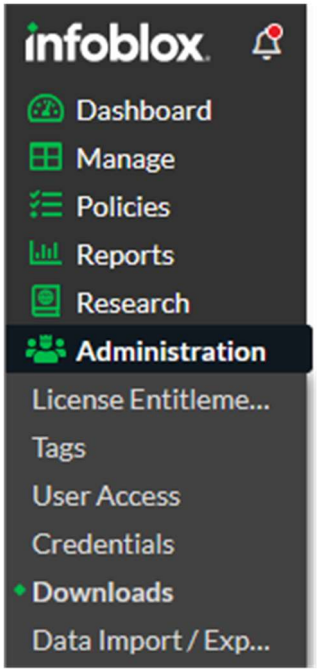
Deploying a BloxOne Host via the OpenStack Dashboard

Download Image

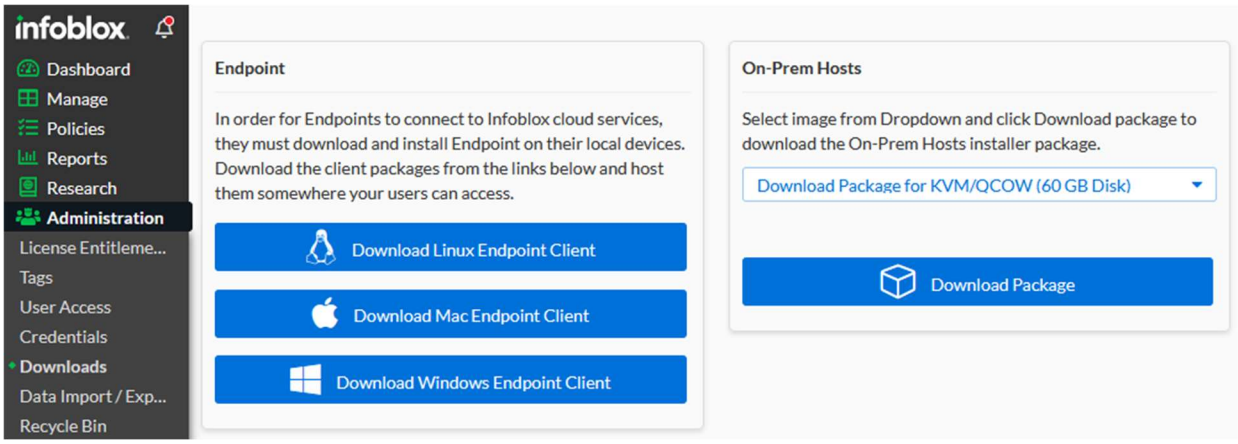
To deploy BloxOne on OpenStack, a BloxOne Image is required. To download the Image, perform the following steps:

1. **Log in** to the Cloud Services Portal.

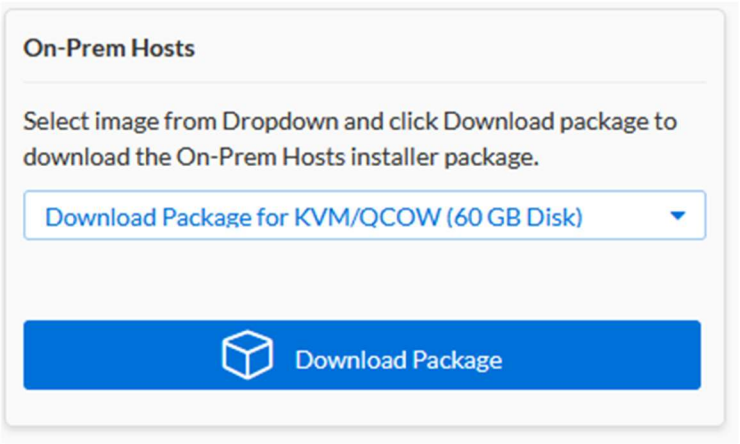
2. Navigate to **Administration** → **Downloads**.



3. On the Downloads page, select the Download Package for **KVM/QCOW (60 GB Disk)** in the *On-Prem Hosts* panel. *Note: The 700GB variant is used for Data Connector deployments.*



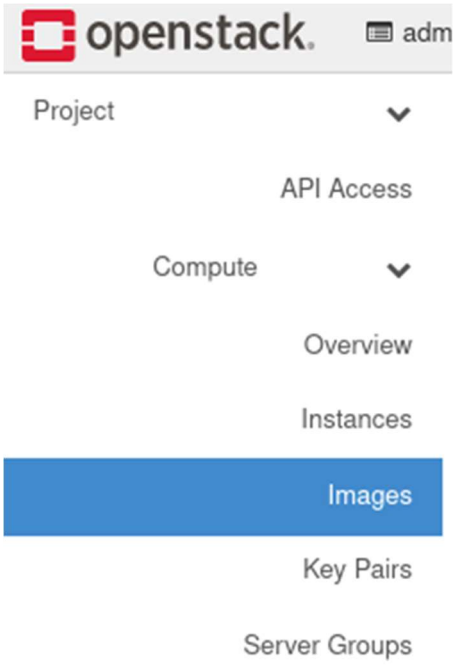
4. Click **Download Package**.



Create Image

To upload the BloxOne image on OpenStack, perform the following steps:

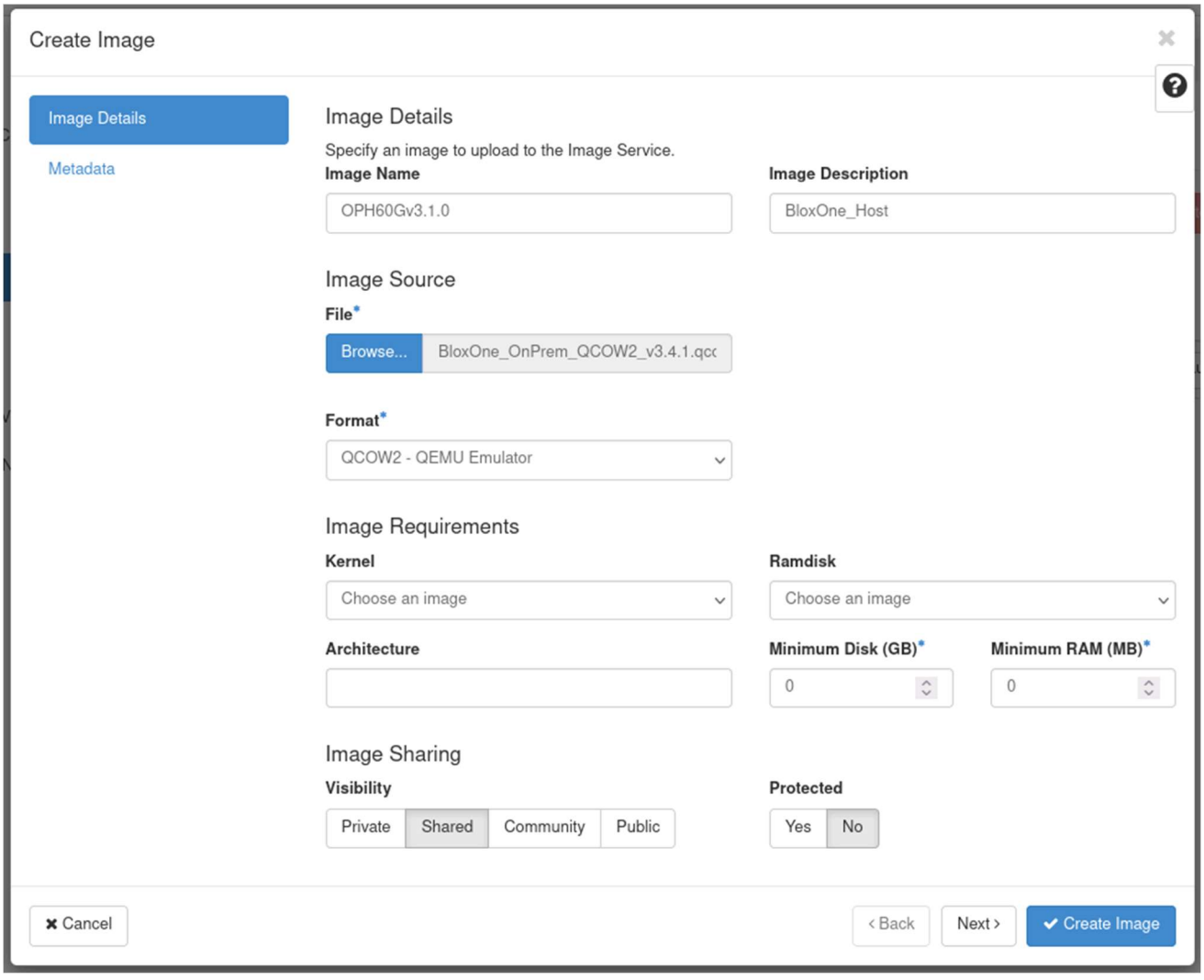
1. Open a new browser window and launch the **OpenStack dashboard**.
2. **Log in** to the dashboard using project user credentials.
3. Select the **project** from the drop-down menu at the top left.
4. On the Project tab, open the Compute tab and click **Images** category.



5. Click **Create Image.** Create an Image dialog appears.

6. In the Create an Image panel that is revealed, input the following data:

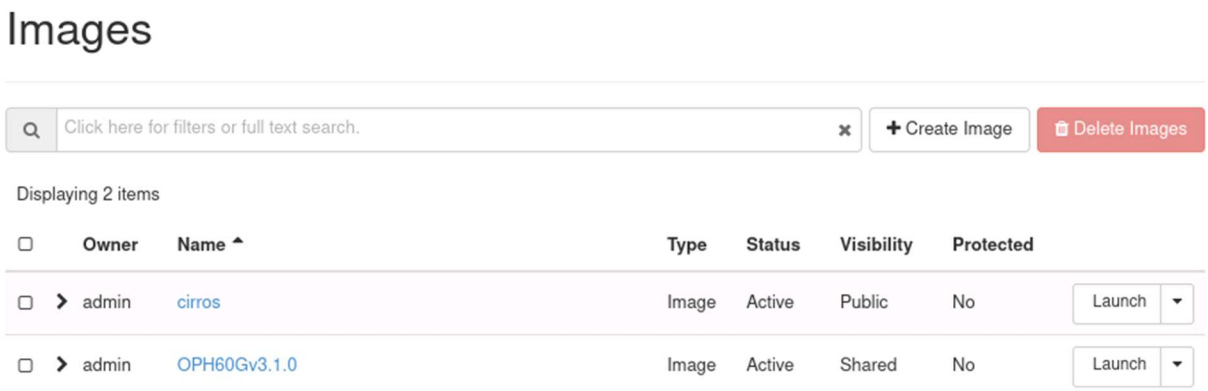
    a. **Image Name**: Give your image a unique name.
    b. **Image Source**: Select **File** and browse to the location to which you downloaded the QCOW2 image from the Cloud Services Portal.
    c. **Format**: Choose **QCOW2-QEMU Emulator** from the drop-down menu
    For more information about image details, refer to the *OpenStack documentation*.



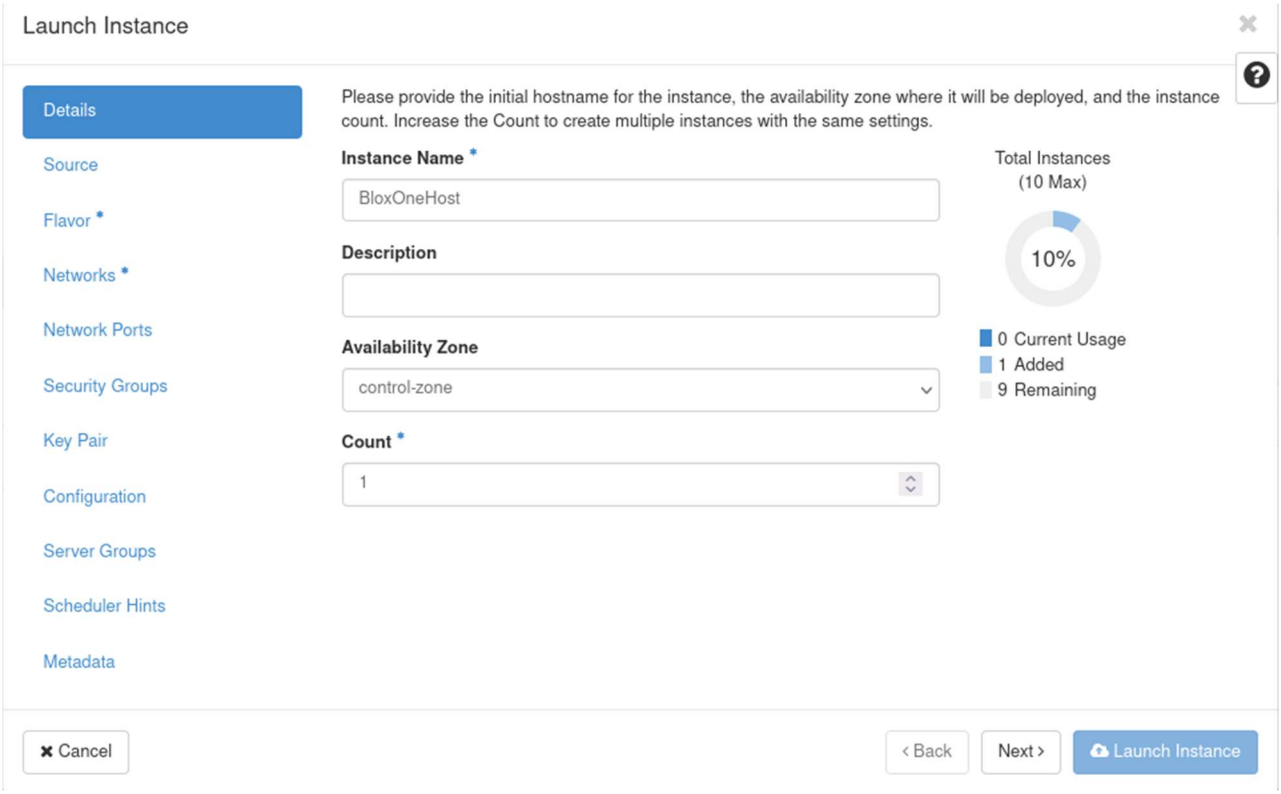
Launch Instance

Follow the steps in order to Launch an Instance:

1. Open the **Project tab** → **Compute tab** and **click Images**.
2. Choose the image you just created and click **Launch.**

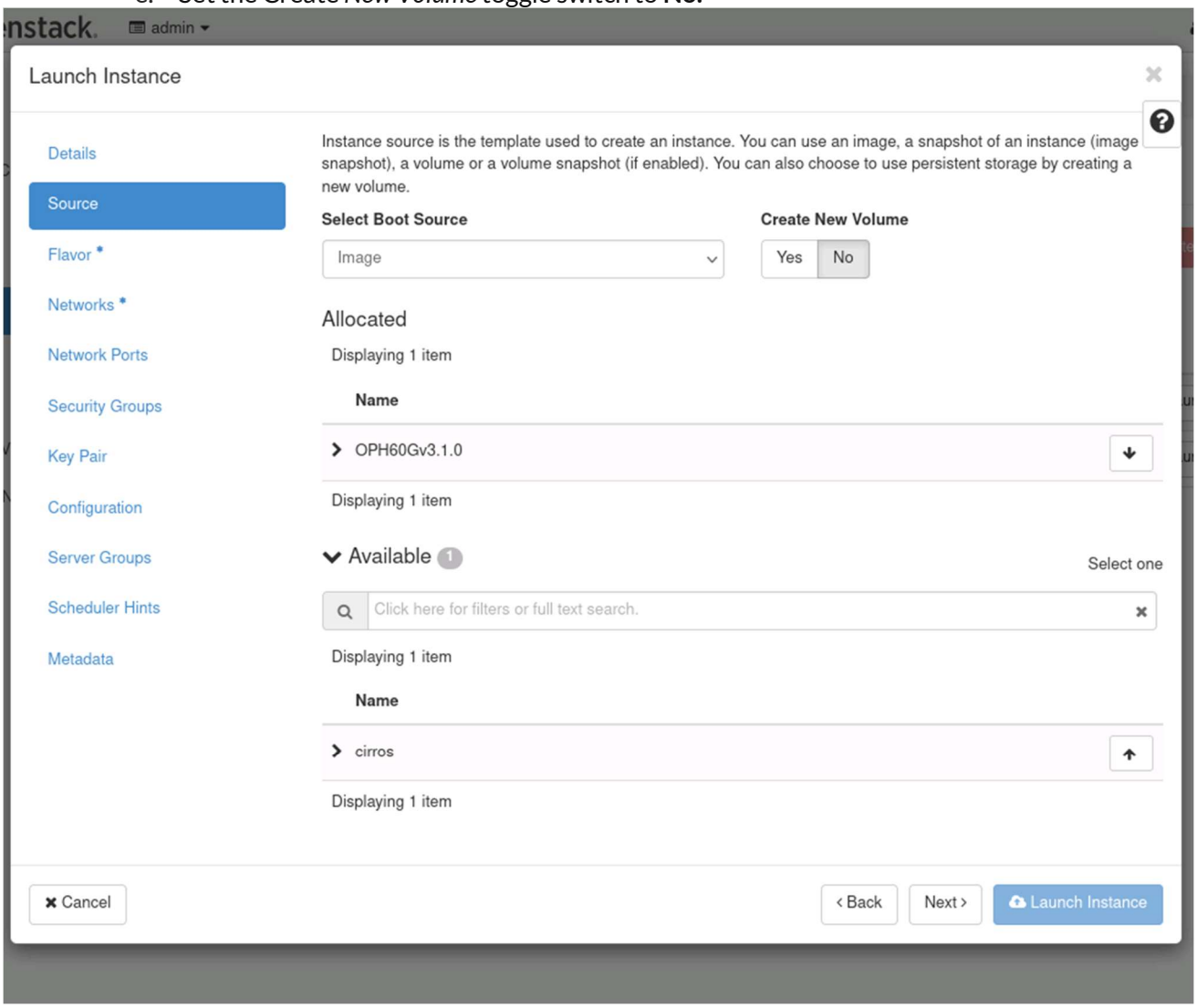


3. In the Launch Instance dialog, specify the following:
    a. **Instance Name**: Specify a name for the BloxOne host.
    b. **Availability Zone**: By default, set this value to the availability zone given by the cloud provider (for example, **us-west** or **apac-south**). In some cases, it could be **nova**.
    c. **Count**: Enter 1 and click **next**.

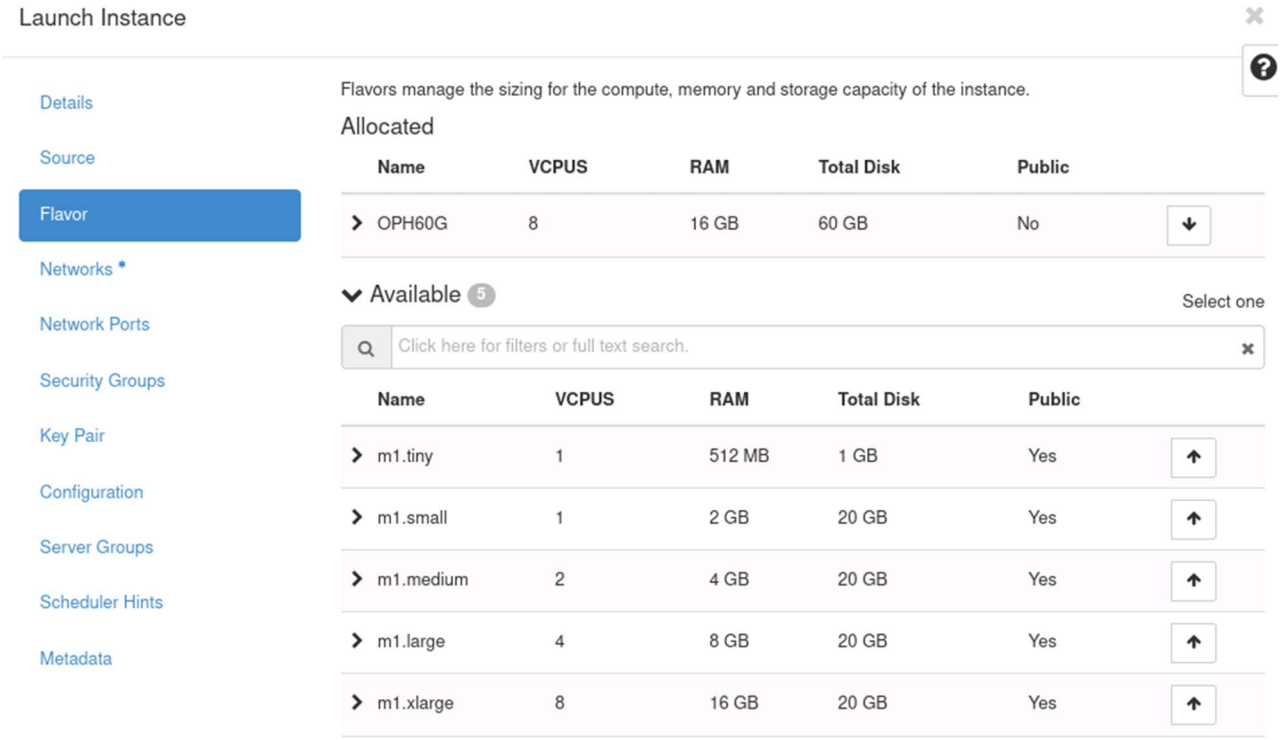


    d. Select **Image** via the *Select boot source* drop-down menu.

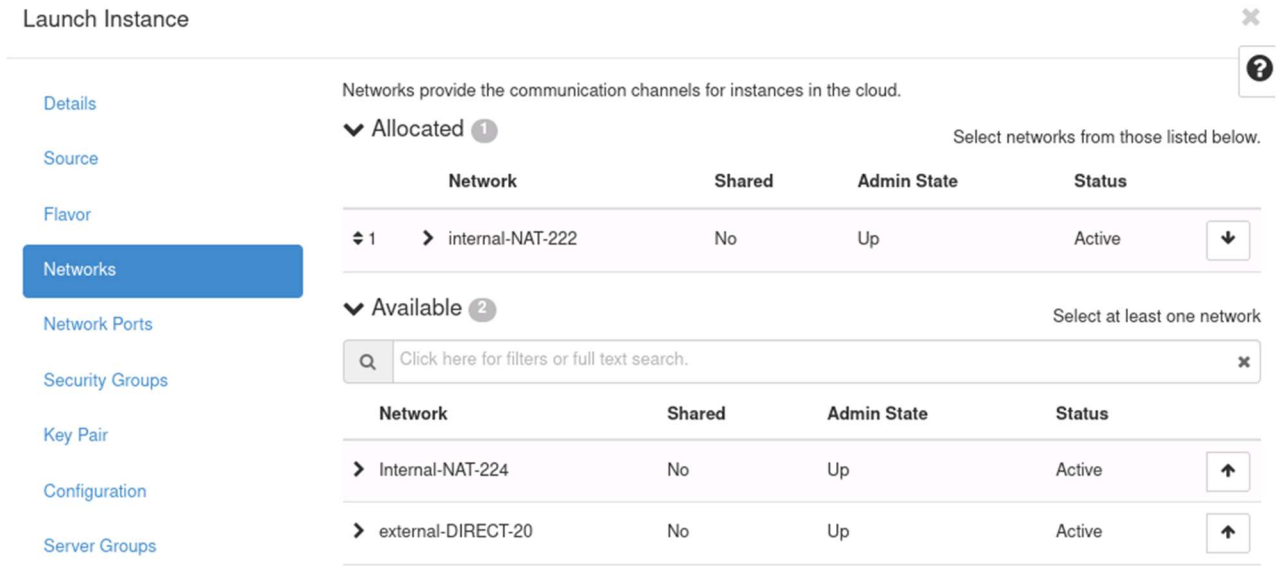
e. Set the Create *New Volume* toggle switch to **No.**



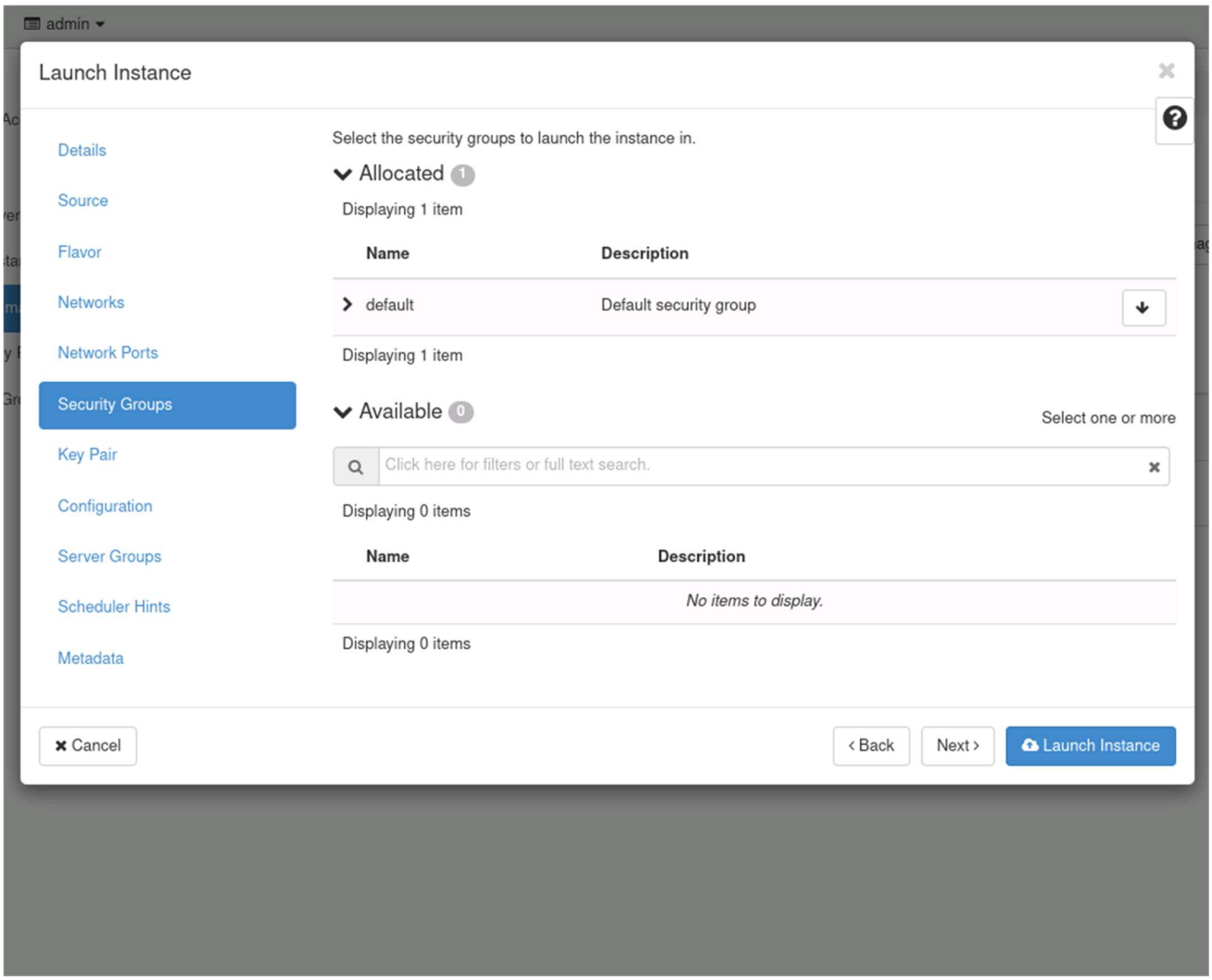
f. **Flavor**: Choose a Flavor that meets the minimum requirements as specified in the Prerequisites section. ***Note:*** *The in the example screenshot, a custom flavor named OPH60G was created with* ***8 vCPUs*** *and a* ***60 GB Disk****. For more information on how to create a flavor, see the Appendix of this document.*



g. **Networks:** Add interfaces by selecting applicable networks from the list (for this setup we have chosen "internal-NAT-222" network and after creating the instance assign a floating IP address). *Note: The default network topology of OpenStack deployed using Microstack consists of an external network to which the internal network called internal-NAT-222 is connected via a Router and the instances are created in the test network.*



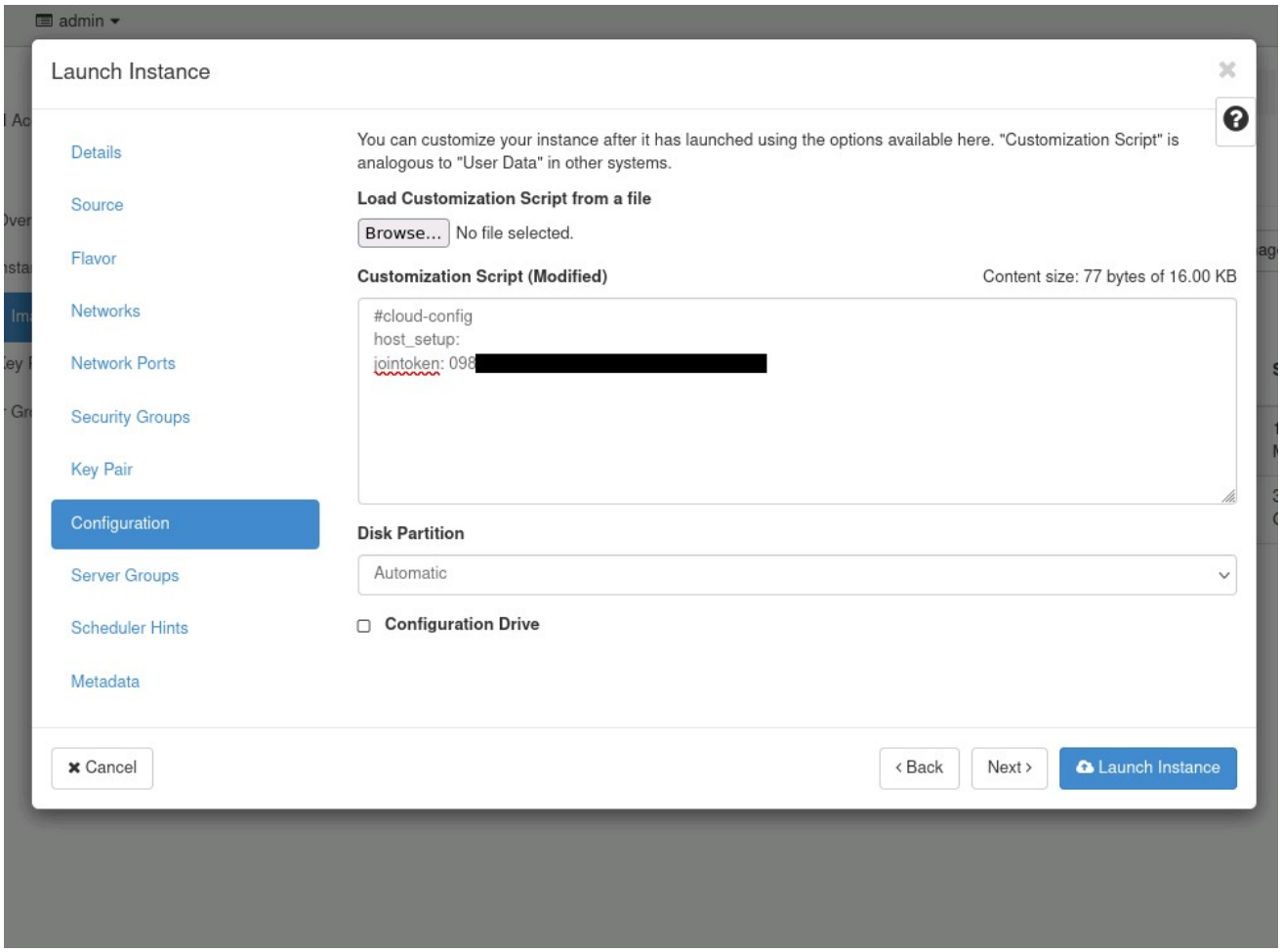
h. Under **Security Groups**, select **default** to use the default security groups, or select **permissive** to open a few default ports. For more information, please refer to the *Security Groups Documentation*.



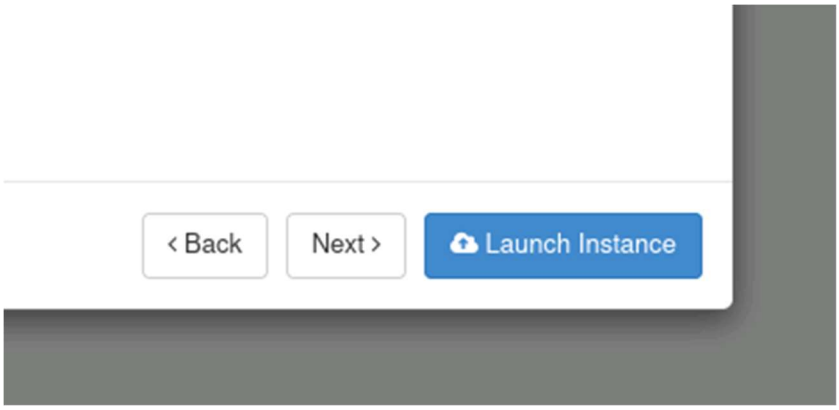
i. **Configuration:** Enter the following script in the **Customization Script** field. Replace the text *your_BloxOne_join_token*, with a join token that was created in the Infoblox CSP. *Note, you may optionally upload a file that contains scripts such as the join token for a cluster account, as follows. For more information on how to obtain a join token, see Creating Join Tokens.*

```
#This is a YAML code snippet

#cloud-config

host_setup:

jointoken: your_BloxOne_join_token
```

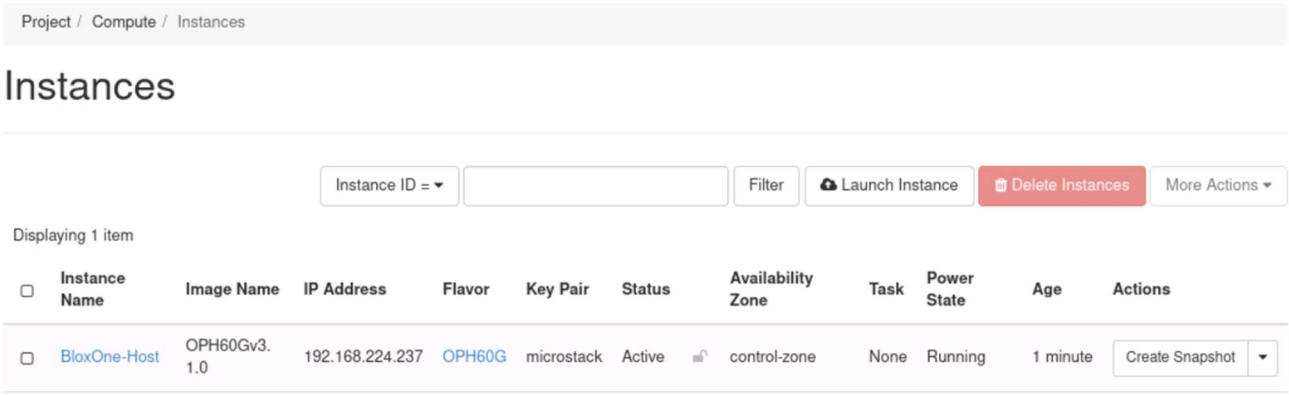
j. (Optional) For Disk Partitioning select either **Manual** or **Automatic**.
k. (Optional) Check the **Configuration Drive** checkbox to write metadata to a configuration drive if cloud_init is not available.



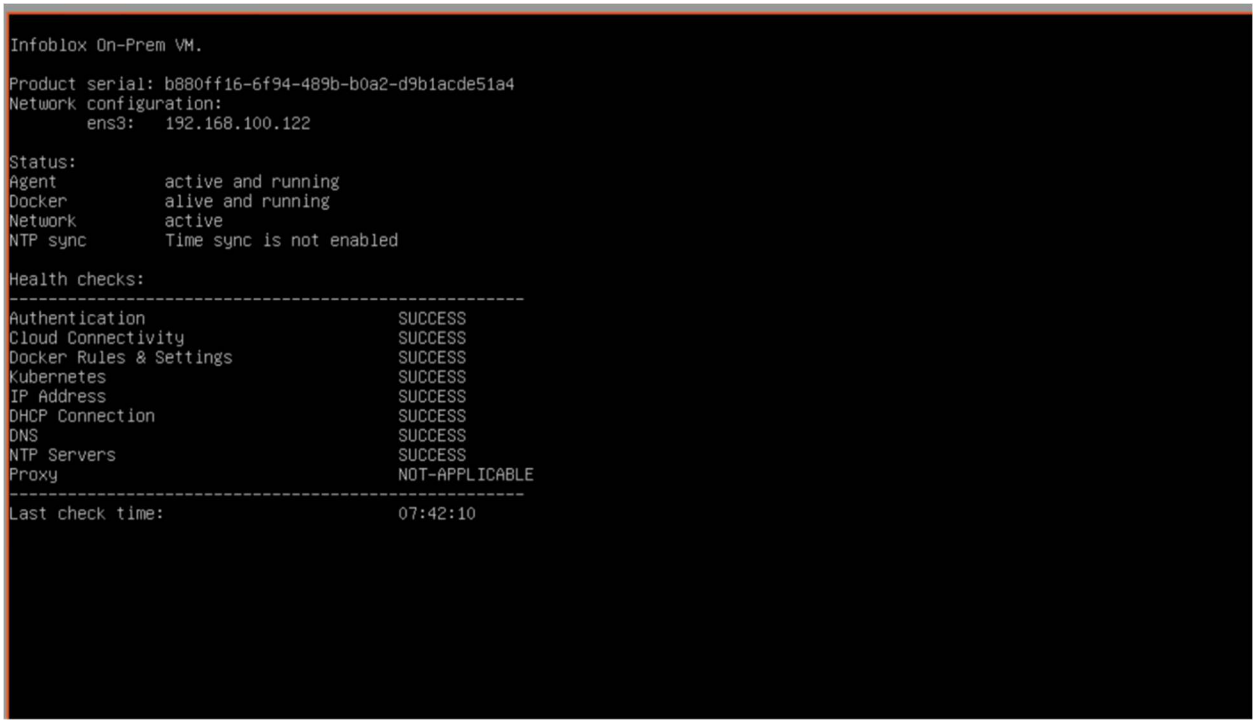
l. Click **Launch** to launch the instance.



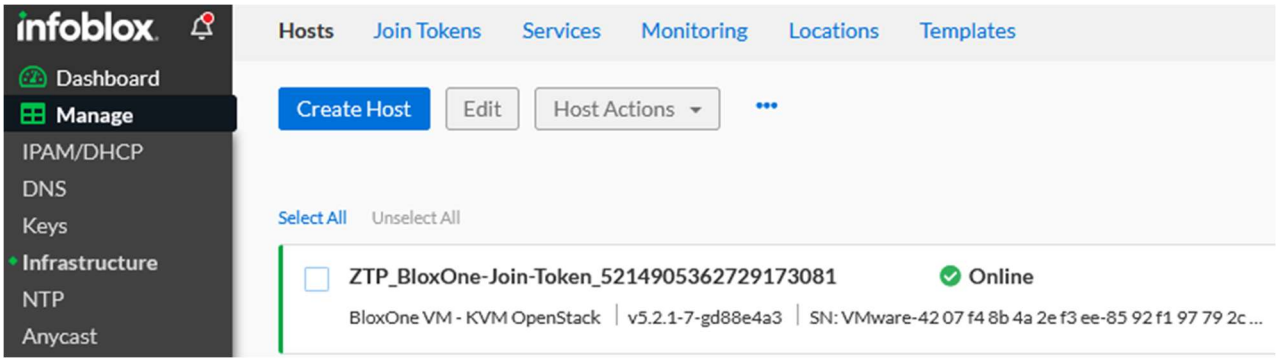
4. The BloxOne host will be displayed on the **Instance** page.



5. (Optional) If desired, click **Console** at the top of the Instance page to view the instance's details in the console. Users may also assign a floating IP address to the instance if needed. *Note: Connecting the BloxOne host and the Cloud Services Portal may take a couple of minutes.*



6. To check the current status of the BloxOne host, navigate to **Infrastructure** → **Hosts** in the Infoblox CSP. For more information about the host status see Viewing Host Information. *Note: the name of the BloxOne host will be "ZTP_Your-Join-Tokens-Name_####..."*



7. (Optional) For more information regarding how to configure a Host post-deployment please view the BloxOne documentation portal.

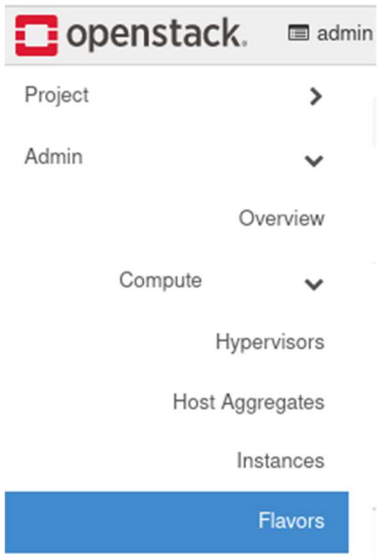
Appendix

The appendix contains helpful explanations meant to assist with the configuration of a BloxOne host on OpenStack.

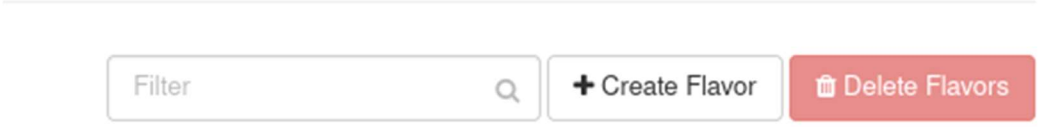
Creating a Flavor

In OpenStack, flavors define the compute, memory, and storage capacity of nova computing instances. Put simply, a flavor is an available hardware configuration for a server. It defines the size of a virtual server that can be launched.

1. To create a flavor in OpenStack, click Flavors under **Admin** → **Compute** in the Horizon Dashboard.



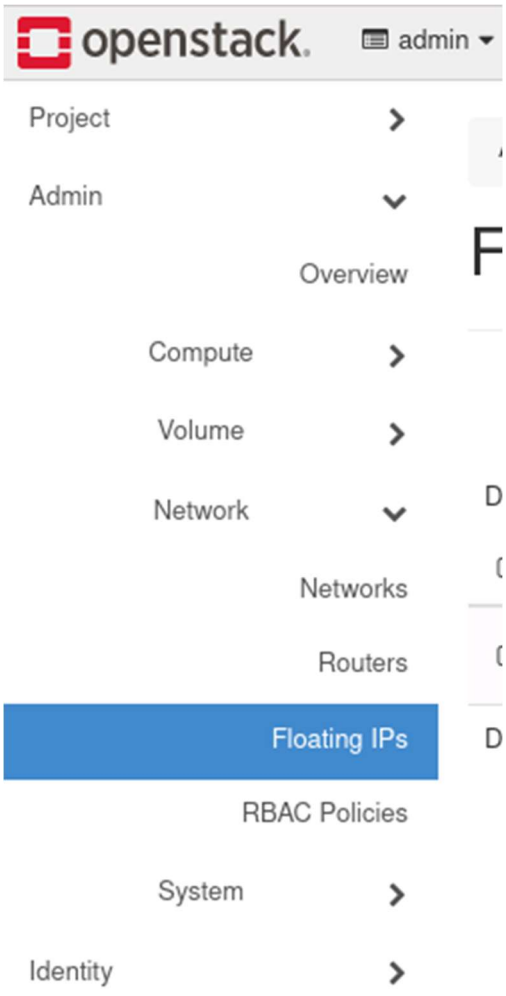
2. Flavors can be created via the **Create Flavor** button. *Note: For more information on how to create flavors please view the [OpenStack documentation](#).*



Allocate and Associate Floating IP

To access services like DNS and DHCP from a BloxOne Host a floating IP address must be assigned. A floating IP address is used to resolve DNS queries and act as a DHCP server address for clients. To create a floating IP, perform the following steps:

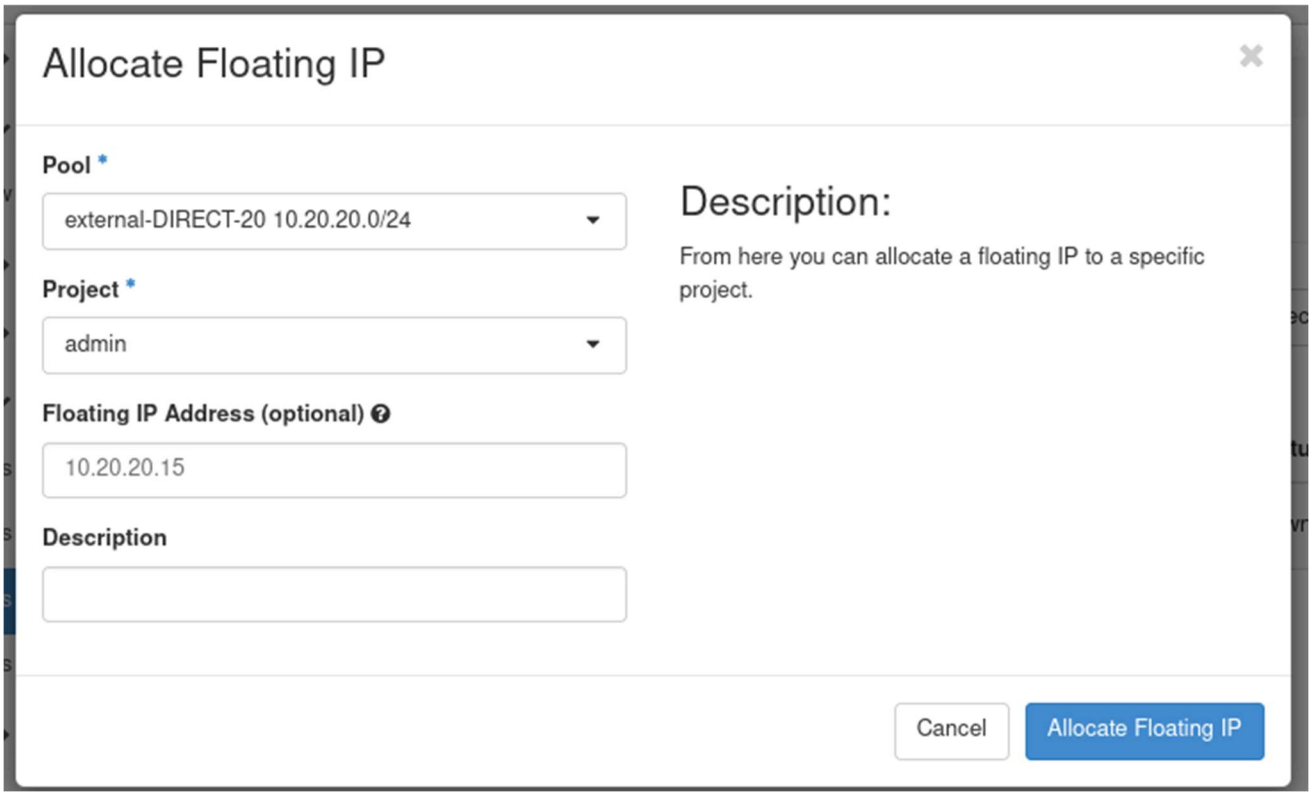
1. In the OpenStack GUI, navigate to **Admin** → **Networks** → **Floating IPs**.



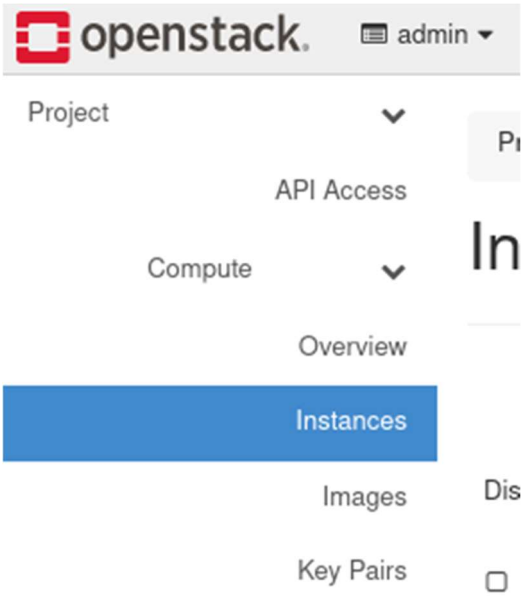
2. Click the **Allocate IP to Project** button.

3. In the *Allocate Floating IP* panel perform the following steps:

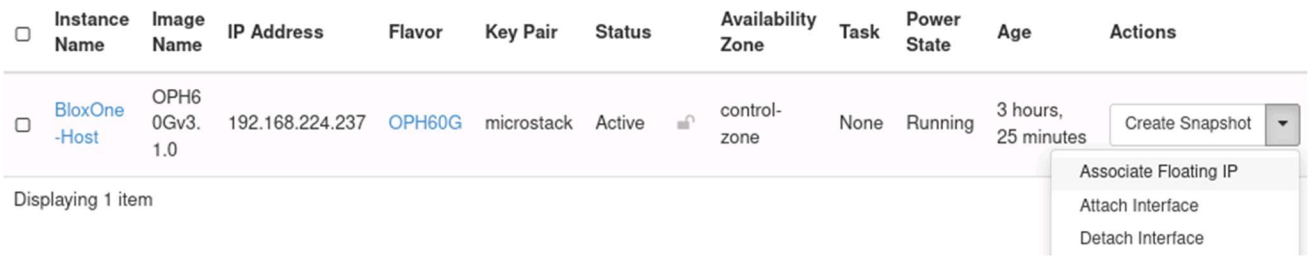
    a. Select the correct **Pool** via the *Pool* drop-down.
    b. Select the **Project** that the BloxOne Host is associated with via the *Project* drop-down.
    c. input a **Floating IP** via the *Floating IP Address* text box.
    d. (Optional) Input a **Description** for the Floating IP.
    e. Click **Allocate Floating IP** to confirm the creation of the Floating IP.



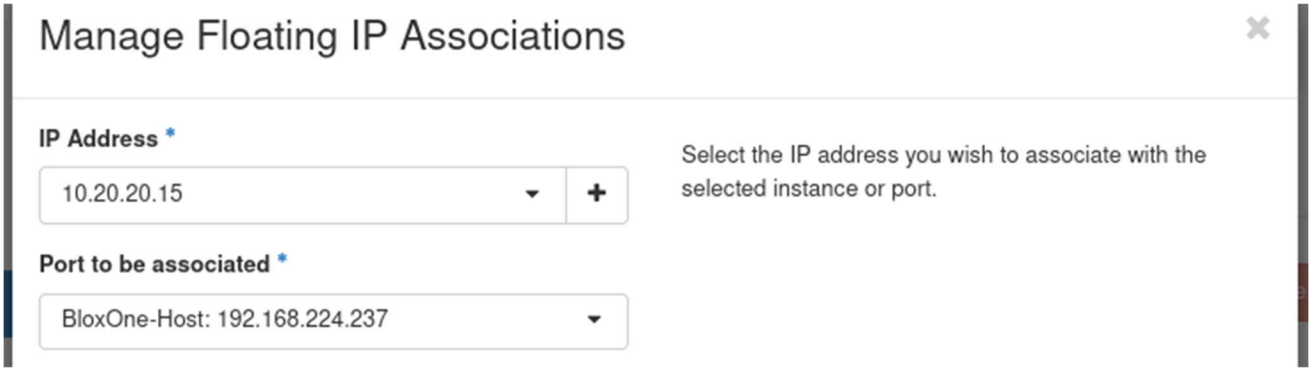
4. Navigate to **Project** → **Compute** → **Instances**.



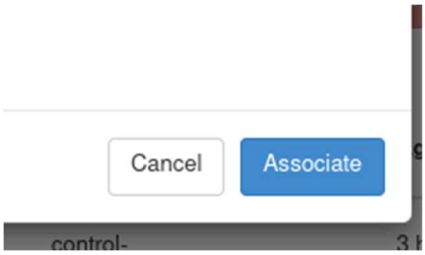
5. Click the **drop-down** associated with the Instance that the newly created Floating IP will be assigned to. Then, click **Associate Floating IP** in the list that is revealed.



6. In the Manage Floating IP Associations panel, select the appropriate Floating IP Address via the **IP Address** drop-down.



7. Click **Associate** to confirm the action.



Infoblox unites networking and security to deliver unmatched performance and protection. Trusted by Fortune 100 companies and emerging innovators, we provide real-time visibility and control over who and what connects to your network, so your organization runs faster and stops threats earlier.

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