K Pre-Post Cloud
Tutorial for creating your VM
These slides explain how to create your first VM with OpenStack dashboard in order to know what OpenStack virtualization is.

These slides’ target is beginners to learn the K Pre-Post Cloud.

The following contents are included.

• To access the Horizon as a service portal.
• To configure a security group.
• To create Virtual Machine (VM).
• To assign a floating IP address.
• To access the created VM.
Access the Horizon Service (dashboard)

- Users can quickly access most of the OpenStack features by a web browser.
  - Also, Python-based command interface (CLI) and REST CLI are available to control OpenStack features. (However, this slide omits such kinds of the explanation.)

- At first, establish a VPN connection.

- Access https://10.9.255.25 using Chrome or Firefox and so on.

- The dashboard appears as you can see in the figure.
  - Note: Since the Horizon uses the self-signed certificate, you need to avoid the security check in your web browser.

- Input the [User Name] and [Password] fields.
  - A pair of [User Name] and [Password] is the same as you used in the VPN connection.
Configure your Security Group (1/5)

- Create a security group to control the ingress/egress communication in your VM.
  - The default configuration does not allow a user to access your VM from the outside network because all ports in TCP/UDP are closed to increase security.
  - In this tutorial, you need to permit SSH (22/tcp).
  - Note: The security group setting is shared with other members in the project/tenant. If other people already have created the same setting, you can use it.

- Click the [Create Security Group] button.
Configure your Security Group (2/5)

• Input your security group name to the [Name] field.
  • We recommend using a recognizable name.
  • For instance, the name should include VM service name or username.
  • “my-security” is a bad example.

• Click the [Create Security Group] button.
Configure your Security Group (3/5)

- Click the [Manage Rules] button corresponding your security group on the list.
- Click the [Add Rule] button.
Configure your Security Group (4/5)

- Select the [SSH] item from the [Rule] pull-down menu.
- Click the [Add] button.
Configure your Security Group (5/5)

- In the security group list, you can see the new rule (SSH) setting you added.
Create your VM (1/8)

- In the rest of the slides, we explain the main topic, creating a VM.
- Click [Project] -> [Compute] -> [Instances] on the navigation bar.
  - Note: Instance means VM.
- Click the [Launch Instance] button.
• You can see the wizard dialog to create a VM.

• In the [Details] step of the wizard, input your VM name to the [Instance Name] field.
  • As well as the security group setting, you should use a recognizable name because the instance name is shared with members in the project.
Create your VM (3/8)

- Select the [Image] item from the [Select Boot Source] pull-down menu.
- Select the [No] button in the [Create New Volume] switch.
- Add an OS image in the [Available] list.
- In this slide, CentOS7 is chosen as you can see in the figure.
Create your VM (4/8)

- Add a flavor from the [Available] list.
  - Flavor means an allocation size of the resource (VCPUs, RAM, local disk size) to allocate VM.
- In this slide, **A2.small** is selected as you can see.
Create your VM (5/8)

- Add an internal network that connects to your VM.
  - Note: The Internal network already has been created by the administrator.
- Add `${project-name}-internal` to your VM.
  - `${project-name}` is the same as your K group name.
  - In the figure, we allocated `guest-internal` as the internal network.
Create your VM (6/8)

- Add your security group you added from the [Available] list.
- Remove the default settings.
Create your VM (7/8)

- Add your SSH public key to access your VM.
  - Tips: You can create a new SSH secret/public keys by the wizard. However, this slide omits the creating process.
- Click the [Import Key Pair] button.
- Input the [Key Pair Name] and [Public Key] fields.
  - As well as the security group setting, the SSH public key name is shared with other members in the project/tenant.
- Click the [Import Key Pair] button.
- Finally, click the [Launch Instance] button.
Create your VM (8/8)

- VM starts to launch.
- After [Power Status] changed to Running, your VM is ready.
To control your VM, Horizon provides the instance console on your web browser.

This console may be inevitable if you installed Windows on your VM.

If you can see a login prompt, your VM is booted.

Note: You cannot log in to your VM because only public key authentication is permitted at this time.
Assign the Floating IP address to your VM (1/3)

- In the default setting, your VM does not allow to access from the outside of the internal network.
- You need to assign a Public IP (floating IP address) to your VM to access the VM via the External Network.
- Select the [Associate Floating IP] item from the pull-down menu.
Assign the Floating IP address to your VM (2/3)

- You can see the [Manage Floating IP Associations] dialog.
- This slide explains to allocate/assign a new floating IP address to your VM.
  - If there are previously allocated floating IP addresses not in use, you can use the IP address from the pull-down menu.
- At first, click [+ button.
- Select the [External] item in the [Pool] pull-down menu, and then click the [Allocate IP] button. A new IP address is allocated.
- Select the allocated IP address, and then click [Associate] button.
- Finally, the IP address is assigned to your VM.
• You can confirm that the floating IP address is assigned to your.

• Note: A range of the IP addresses is 10.9.0.0/16.
  • In this figure, the assigned IP address is 10.9.1.35.
Access your VM (1/2)

- At first, establish a VPN connection.
- Using an SSH terminal, connect your VM with the assigned floating IP address.
- If there is no problem, you can connect your VM as you can see in the figure.
- Then, you can do anything (e.g., “sudo yum -y update”) as well as an ordinary server.
Access your VM (2/2)

• Note: The default username depends on the OS image configuration.

• For CentOS
  
  $ ssh centos@10.9.x.x

• For Ubuntu
  
  $ ssh ubuntu@10.9.x.x

• For CirrOS (pass: cubswin:)), private
  
  $ ssh cirros@10.9.x.x
All the OpenStack documentations including manuals are overwhelming volume. Please refer the following URL.

- **Product Document**
  - [https://access.redhat.com/documentation/en-us/red_hat_openstack_platform/](https://access.redhat.com/documentation/en-us/red_hat_openstack_platform/)

- **Product Document in Japanese**
  - [https://access.redhat.com/documentation/ja-jp/red_hat_openstack_platform/](https://access.redhat.com/documentation/ja-jp/red_hat_openstack_platform/)

- **OpenStack Community Document (Newton)**
  - [https://docs.openstack.org/newton/](https://docs.openstack.org/newton/)

- **OpenStack Community Document (Newton) in Japanese**
  - [https://docs.openstack.org/ja/](https://docs.openstack.org/ja/)