



MicroStack 是一個基於 OpenStack 的輕量級容器管理平台，MicroStack 基於 OpenStack 的輕量級容器管理平台。

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- [Kubernetes](#)
- [OpenStack](#)
- [Ceph](#)
- [MicroStack](#)
- [MicroK8s](#)
- [MicroCeph](#)

## 系統要求

- Ubuntu 20.04 或 22.04 (Baremetal or VM)
- VM 需要啟用 Nested Virtualization
- 至少 4 CPU 核心, 16GB 記憶體, 50GB+ 硬碟空間
- MicroStack External Network 需要配置
- MicroCeph 需要配置

## 安裝步驟

- VMWare Workstation Pro 安裝 (Ubuntu 22.04 LTS)
- Virtualization 配置

- 2个虚拟机 - ens32 VM + ens34 MicroStack
- 6个 CPU
- 16GB 内存
- 60GB 磁盘 for VM
- 20GB 磁盘 for MicroCeph
- IP: 192.168.1.80/24 2个 NIC 每个 10G

安装

安装 OpenStack 时, 我们使用 MicroStack Sunbeam 来安装:

- [sunbeam/beta](#)
- [2023.1](#)
- [2023.1/stable/vancouver](#)

验证

安装完成后, 我们使用 MicroStack 来验证. 我们使用 microk8s 来安装 OpenStack 组件.

```
Every 2.0s: juju status --color -m
openstack
2023

Model      Controller      Cloud/Region      Version SLA      Timestamp
openstack  microk8s-localhost  microk8s/localhost  3.1.2  unsupported  19:12:25Z

App      Version      Status  Scale  Charm      Channel  Rev  Address      Exposed
Message
certificate-authority      active    1  tls-certificates-operator  stable    22  10.152.183.141  no
glance      waiting    1  glance-k8s      yoga/beta  27  10.152.183.244  no
installing agent
horizon      waiting    1  horizon-k8s      yoga/beta  32  10.152.183.184  no
installing agent
keystone      waiting    1  keystone-k8s      yoga/beta  82  10.152.183.186  no
installing agent
mysql      8.0.32-0ubuntu0.22.04.2  active    1  mysql-k8s      8.0/stable  75  10.152.183.67
no      Primary
neutron      waiting    1  neutron-k8s      yoga/beta  29  10.152.183.157  no
```

```
installing agent
nova                               waiting    1 nova-k8s                yoga/beta  20 10.152.183.254 no
installing agent
ovn-central                       active     1 ovn-central-k8s         22.03/beta 35 10.152.183.99  no
ovn-relay                         active     1 ovn-relay-k8s           22.03/beta 25 10.152.183.133 no
placement                         waiting    1 placement-k8s          yoga/beta  18 10.152.183.25  no
installing agent
rabbitmq      3.11.3                active     1 rabbitmq-k8s           3.11/beta  10 10.152.183.142 no
traefik       2.9.6                      waiting    1 traefik-k8s            1.0/stable 110 10.152.183.60  no
installing agent
```

Unit	Workload	Agent	Address	Ports	Message
certificate-authority/0*	active	idle	10.1.243.217		
glance/0*	waiting	idle	10.1.243.210		(ingress-internal) integration incomplete
horizon/0*	waiting	executing	10.1.243.214		(ingress-internal) integration incomplete
keystone/0*	waiting	idle	10.1.243.198		(workload) Not all relations are ready
mysql/0*	active	idle	10.1.243.216		Primary
neutron/0*	waiting	idle	10.1.243.203		(workload) Not all relations are ready
nova/0*	waiting	idle	10.1.243.207		(workload) Not all relations are ready
ovn-central/0*	active	idle	10.1.243.209		
ovn-relay/0*	active	idle	10.1.243.199		
placement/0*	waiting	idle	10.1.243.208		(workload) Not all relations are ready
rabbitmq/0*	active	idle	10.1.243.196		
traefik/0*	waiting	idle	10.1.243.205		gateway address unavailable

juju status waiting status.

juju microstack status waiting active microstack:

- OpenStack status . . . . ., . . . . .
- OpenStack-hypervisor DOWN . . . . . UP . . . . ., . . . . .

##

```
openstack hypervisor list
+---+-----+-----+-----+-----+
| ID | Hypervisor Hostname | Hypervisor Type | Host IP | State |
+---+-----+-----+-----+-----+
| 1 | ubuntu | QEMU | 192.168.1.80 | up |
```

##

openstack hypervisor list

```
+-----+-----+-----+-----+-----+
| ID | Hypervisor Hostname | Hypervisor Type | Host IP | State |
+-----+-----+-----+-----+-----+
| 1 | ubuntu | QEMU | 192.168.1.80 | down |
+-----+-----+-----+-----+-----+
```

OpenStack Hypervisor DOWN. Nova-compute down.

openstack compute service list

```
+-----+-----+-----+-----+-----+-----+-----+
| ID | Binary | Host | Zone | Status | State | Updated At |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | nova-scheduler | nova-0 | internal | enabled | up | 2023-06-13T04:19:06.000000 |
| 2 | nova-conductor | nova-0 | internal | enabled | up | 2023-06-13T04:19:14.000000 |
| 8 | nova-compute | ubuntu | nova | enabled | down | 2023-06-12T18:08:40.000000 |
+-----+-----+-----+-----+-----+-----+-----+
```

2023.1 Cinder cinder-ceph

Unit	Workload	Agent	Address	Ports	Message
certificate-authority/0*	active	idle	10.1.243.197		
cinder-ceph-mysql-router/0*	active	idle	10.1.243.209		
cinder-ceph/0*	blocked	idle	10.1.243.231		(ceph) integration missing
cinder-mysql-router/0*	active	idle	10.1.243.215		

Workload Blocked MicroStack

볼륨

필터

+

볼륨 생성

=

볼륨 이전 받기

볼륨 삭제

1 항목 표시

<input type="checkbox"/>	Name	Description	Size	Status	Group	Type	Attached To	Availability Zone	Bootable	Encrypted	Actions
<input type="checkbox"/>	b9265200-ba57-4d6b-90a3-a8f7e02d70ac	-	1GiB	Error	-	__DEFAULT__		nova	아니오	No	<div>볼륨 삭제</div>

1 항목 표시

MicroCeph glance integration incomplete

```
Every 2.0s: juju status --color -m openstack

Model          Controller      Cloud/Region  Version  SLA      Timestamp
openstack      sunbeam-controller  sunbeam-microk8s/localhost  3.2.0    unsupported  14:20:11Z

SAAS           Status  Store  URL
microceph      blocked local  admin/controller.microceph

App            Version      Status  Scale  Charm          Channel      Rev  Address      Exposed  Message
certificate-authority  active      1  tls-certificates-operator  latest/stable  22  10.152.183.244  no
cinder          active      1  cinder-k8s          2023.1/stable  25  10.152.183.218  no
cinder-ceph     waiting    1  cinder-ceph-k8s     2023.1/stable  19  10.152.183.157  no  waiting for units to settle down
cinder-ceph-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.179  no
cinder-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.182  no
glance          waiting    1  glance-k8s          2023.1/stable  36  10.152.183.143  no  installing agent
glance-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.248  no
horizon         active      1  horizon-k8s         2023.1/stable  43  10.152.183.131  no  http://192.168.1.5:80/openstack-horizon
horizon-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.142  no
keystone        active      1  keystone-k8s        2023.1/stable  102 10.152.183.190  no
keystone-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.200  no
mysql           active      1  mysql-k8s           2023.1/stable  85  10.152.183.199  no  Primary
neutron         active      1  neutron-k8s         2023.1/stable  33  10.152.183.184  no
neutron-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.118  no
nova           active      1  nova-k8s            2023.1/stable  29  10.152.183.41   no
nova-api-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.213  no
nova-cell-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.44   no
nova-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.96   no
ovn-central     active      1  ovn-central-k8s     23.03/stable  45  10.152.183.122  no
ovn-relay       active      1  ovn-relay-k8s       23.03/stable  34  192.168.1.7     no
placement       active      1  placement-k8s       2023.1/stable  23  10.152.183.181  no
placement-mysql-router  8.0.32-0ubuntu0.22.04.2  active  1  mysql-router-k8s  8.0/edge    45  10.152.183.132  no
rabbitmq        3.9.13     active  1  rabbitmq-k8s        3.9/beta     23  192.168.1.6     no
traefik         2.9.6      waiting 1  traefik-k8s         1.0/candidate 129 192.168.1.5     no  installing agent

Unit            Workload      Agent  Address      Ports  Message
certificate-authority/0*  active      idle   10.1.243.199
cinder-ceph-mysql-router/0*  active      idle   10.1.243.202
cinder-ceph/0*           waiting     idle   10.1.243.232  (workload) Not all relations are ready
cinder-mysql-router/0*     active      idle   10.1.243.208
cinder/0*                 active      idle   10.1.243.218
glance-mysql-router/0*     active      idle   10.1.243.223
glance/0*                 waiting     idle   10.1.243.231  (ceph) integration incomplete
horizon-mysql-router/0*    active      idle   10.1.243.229
horizon/0*                active      idle   10.1.243.230
keystone-mysql-router/0*   active      idle   10.1.243.211
keystone/0*               active      idle   10.1.243.220
mysql/0*                  active      idle   10.1.243.210  Primary
neutron-mysql-router/0*    active      idle   10.1.243.228
neutron/0*                active      idle   10.1.243.206
```

stable/vancouver Cinder Ceph

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