

Open Source  
**MANO**

# OSM Hackfest – Session 1 Installation and first use

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# Installing OSM

- Official REL4 installation procedure:
  - [https://osm.etsi.org/wikipub/index.php/OSM\\_Release\\_FOUR](https://osm.etsi.org/wikipub/index.php/OSM_Release_FOUR)
- Using Vagrant:
  - [https://osm.etsi.org/wikipub/index.php/How\\_to\\_run\\_OSM\\_on\\_Vagrant](https://osm.etsi.org/wikipub/index.php/How_to_run_OSM_on_Vagrant)
  - Instructions when using a downloaded image:
    - Initialize the environment:
      - `vagrant init osm/releasefour --box-version 0`
    - Copy the image to the same folder and add as a 'vagrant box':
      - `vagrant box add osm/releasefour virtualbox.box`
    - Modify the Vagrantfile your exposed ports preferences:
      - `config.vm.network "forwarded_port", guest: 80, host: 8080`
    - `vagrant up`
    - `vagrant ssh`

# After installing OSM

- Test OSM client
  - Try 'osm'
- Test UI:
  - Access UI:  
[http://<IP\\_OSM>:8080](http://<IP_OSM>:8080)  
Credentials are admin/admin

# Adding VIM accounts

- VIMs:

Name	Type	AUTH URL	tenant	user	Password	SDN controller
openstack1	openstack	http://172.21.7.4:5000/v2.0	xxx	xxx	xxx	YES
openstack-vio	openstack	https://172.21.6.140:5000/v3	xxx	xxx	xxx	YES
vcd1	openstack	https://172.21.6.26	xxx	xxx	xxx	NO

- ping <IP>
- curl http://<IP>:5000/v2.0 (or v3)
- Install python-openstackclient
  - sudo apt-get install python-openstackclient

# Adding VIM accounts

- Load Openstack credentials and run some commands for testing:
  - export OS\_AUTH\_URL=xxx
  - export OS\_USERNAME=xxx
  - export OS\_TENANT\_NAME=xxx
  - export OS\_PASSWORD=xxx
  - export OS\_IDENTITY\_API\_VERSION=3
  - openstack image list
  - openstack network list
  - openstack flavor list
  - openstack server list

# WhiteCloud OpenStack VIM Details



## URL:

- <http://172.21.7.4:5000/v3>

## Credentials

- Each participant will have a tenant
  - User: osmX
  - Password: osmX
  - Tenant/Project: osmX...where X is your POD number

## Images:

- ubuntu1604
- US1604
- hackfest3-mgmt
- hackfest-pktgen
- cirros034

## Networks:

- Public & Management: PUBLIC

## Adding WhiteCloud OpenStack using “osm” cli:

```
osm vim-create --name openstack1 --account_type openstack --auth_url http://172.21.7.4:5000/v3 \  
--user xxx --password xxx --tenant xxx --description "WhiteCloud OpenStack"
```

```
osm vim-list
```

# VMWare Integrated OpenStack VIM Details



## URL:

- `https://vio.corp.local:5000/v3`  
Or
- `https://172.21.6.140:5000/v3`

## Credentials

- Domain: default
- Tenant user: etsi
- Tenant password: Hive@VMware1!

## Images:

- US1604
- hackfest-pktgen
- hackfest3-mgmt
- hackfest-mgmt-bis

## Networks:

- Tenant: OSM-TENANT-NET
  - Subnet: 192.168.10.0/24
  - GW: 192.168.10.1
- Provider/Management: DPG-VIO-PROVIDER
  - Subnet: 172.21.6.128/25
  - GW: 172.21.6.130

## Adding VIO VIM using “osm” cli:

```
osm vim-create --name VIO --user etsi --password Hive@VMware1! --auth_url  
https://172.21.6.140:5000/v3 --tenant osm --account_type openstack --config '{insecure: True,  
vim_type: VIO, APIVersion: v3.3, dataplane_physical_net: dvs-255,  
"use_internal_endpoint":true,"dataplane_net_vlan_range":["1-5","7-10"]}'
```

# vCloud Director VIM Details



## URL:

- <https://vcd-cell-1.corp.local>
- Or
- <https://172.21.6.26>

## Credentials

admin user: etsi

- admin password: Hive@VMware1!
- Org/tenant user: orgadmin
- Org/tenant password: Hive@VMware1!
- vCenter User: etsi@vsphere.local
- vCenter Password: Hive@VMware1!

## Images:

- US1604
- hackfest-pktgen
- hackfest3-mgmt
- hackfest-mgmt-bis

## Networks:

- Management: DPG-VCD-EXT-V70
  - Subnet: 172.21.6.128/25 (DHCP enabled)
  - GW: 172.21.6.130

## Adding vCD VIM using “osm” cli:

```
osm vim-create --name vCD --user orgadmin --password 'Hive@VMware1!' --auth_url https://172.21.6.26 --tenant
osm --config '{"admin_password": "Hive@VMware1!","admin_username":"etsi", "orgname": "osm", "nsx_user":
"etsi", "nsx_password": "Hive@VMware1!", "nsx_manager":"https://172.21.6.14", "vcenter_ip":"172.21.6.13",
"vcenter_port":"443", "vcenter_user":"etsi@vsphere.local", "vcenter_password":"Hive@VMware1!"}' --account_type
vmware
```



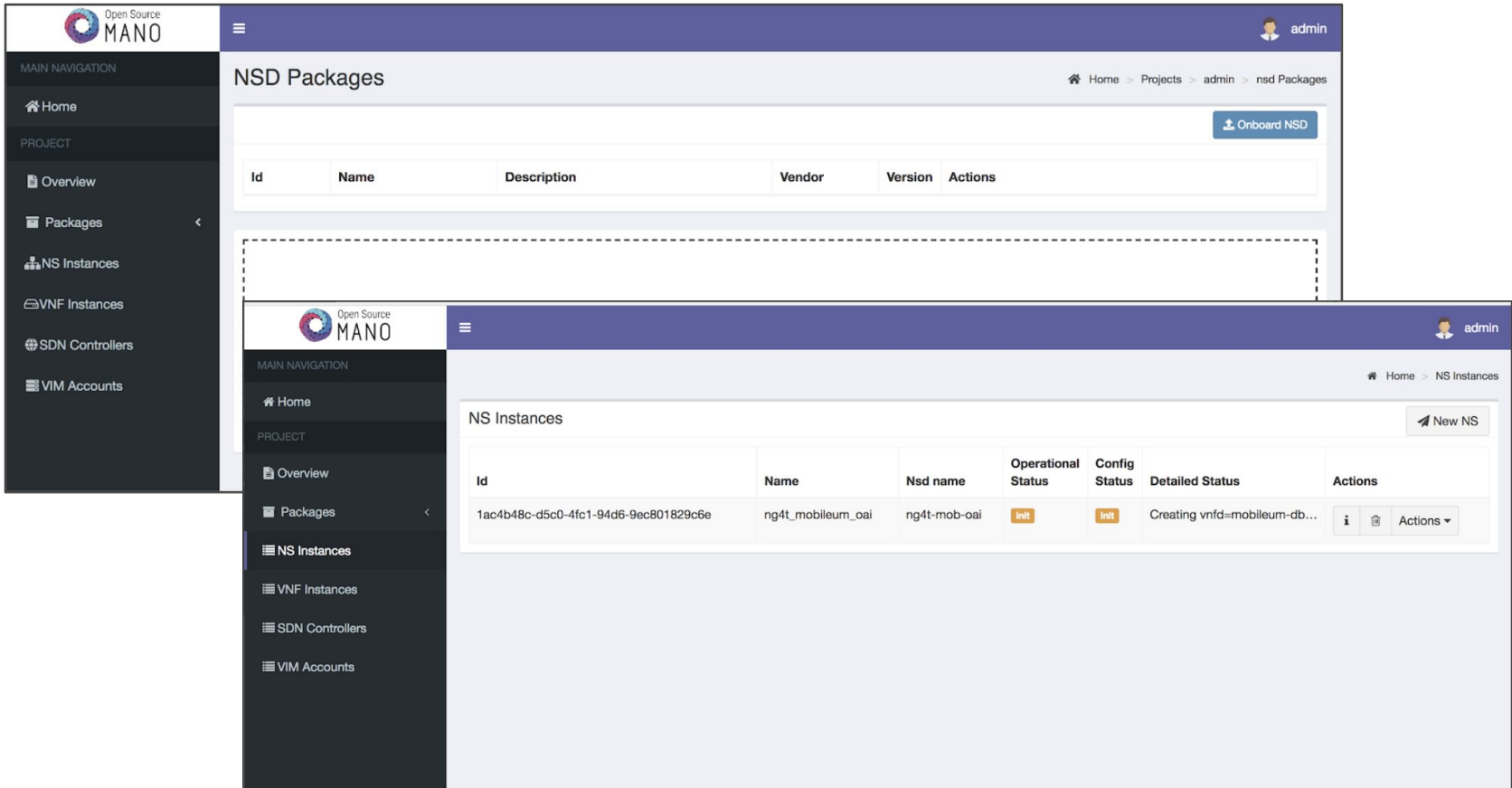
# Adding images to the VIM

- Image management is not implemented in OSM today. It has to be done independently on each VIM.
  
- **IMAGES HAVE BEEN ALREADY ADDED TO THE REMOTE VIMS IN THE HACKFEST**
  
- Example for Openstack:
  - `openstack image create --file="./cirros-0.3.4-x86_64-disk.img" --container-format=bare --disk-format=qcow2 --public cirros034`

# Adding images to the VIM

Image name in descriptors	Filename
ubuntu1604	xenial-server-cloudimg-amd64-disk1.img (you can get it from <a href="https://cloud-images.ubuntu.com/xenial/current/">https://cloud-images.ubuntu.com/xenial/current/</a> )
US1604	US1604.qcow2
hackfest3-mgmt	hackfest3-mgmt-qcow2
hackfest-pktgen	hackfest-pktgen-qcow2
cirroso34	cirros-0.3.4-x86_64-disk.img

# Deploying our first NS with OSM UI



The image displays two screenshots of the Open Source MANO user interface. The top screenshot shows the 'NSD Packages' page, and the bottom screenshot shows the 'NS Instances' page.

**NSD Packages Page:**

- Header: Open Source MANO, admin
- Breadcrumbs: Home > Projects > admin > nsd Packages
- Buttons: Onboard NSD
- Table Headers: Id, Name, Description, Vendor, Version, Actions

**NS Instances Page:**

- Header: Open Source MANO, admin
- Breadcrumbs: Home > NS Instances
- Buttons: New NS
- Table Headers: Id, Name, Nsd name, Operational Status, Config Status, Detailed Status, Actions
- Table Data:

Id	Name	Nsd name	Operational Status	Config Status	Detailed Status	Actions
1ac4b48c-d5c0-4fc1-94d6-9ec801829c6e	ng4t_mobileum_oai	ng4t-mob-oai	Init	Init	Creating vnf=mobileum-db...	Info, Delete, Actions

# Deploying our first NS with the UI

- Add VNF package
- Add NS package
- Instantiate
- Get VNF record and obtain mgmt IP address
- Access to the VNF via SSH (user: cirros, pass: gocubsgo)
- Delete NS instance
- Delete NS
- Delete VNF

# Deploying our first NS with OSM client

- **Add VNF and NS packages**

- `osm vnfd-create cirros_vnf.tar.gz`
- `osm vnfd-list`
- `osm nsd-create cirros_2vnf_ns.tar.gz`
- `osm nsd-list`

- **Instantiate**

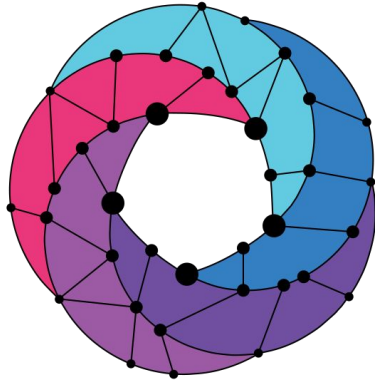
- `osm ns-create --nsd_name cirros_2vnf_ns --ns_name <ns-instance-name> --vim_account <data-center-name>`
- `osm ns-list`

- **Delete NS instance**

- `osm ns-delete <ns-instance-name>`
- `osm ns-list`

- **Delete VNF and NS package**

- `osm nsd-delete cirros_2vnf_ns`
- `osm nsd-list`
- `osm vnfd-delete cirros_vnfd`
- `osm vnfd-list`

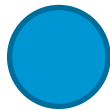


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Find us at:

[osm.etsi.org](http://osm.etsi.org)  
[osm.etsi.org/wikipub](http://osm.etsi.org/wikipub)

# VMware Hive Lab Logical Layout



Hive Router  
172.21.6.3/25  
&  
172.21.6.130/  
25

Local DNS Server:  
172.21.6.11

This can be used to verify  
VPN connectivity to VMware  
Hive Lab

