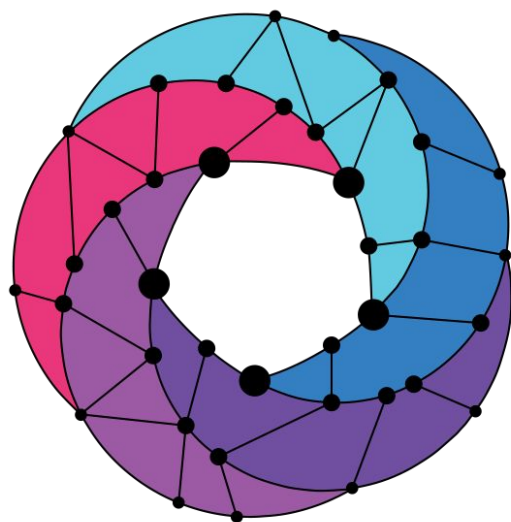




Open Source MANO

OSM Hackfest – Session 1 Installation and first use

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Installing OSM: using the script

- Official REL6 installation procedure:
 - https://osm.etsi.org/wikipub/index.php/OSM_Release_SIX#Install_OSM_Release_SIX
- Check the IP of your VM:
 - Access the VIM at <http://172.21.247.1/project/instances/> using your credentials and determine the IP.

- Access through SSH

- User: ubuntu
- Password: osm4u

☐	Instance Name	Image Name	IP Address	Flavor	Key Pair	Status	Availability Zone
☐	osmr6_38	ubuntu 16.04	172.21.248.63	osm_flavor	-	Active	nova

- Download and run the script:

```
wget https://osm-download.etsi.org/ftp/osm-6.0-six/install_osm.sh
chmod +x install_osm.sh
./install_osm.sh
```

- Allow every step of the installation process, **except IPv6**.

Installing OSM Release Candidate Lucca

- Steps:
 - wget https://osm-download.etsi.org/ftp/osm-6.0-six/install_osm_rc.sh
 - chmod +x install_osm_rc.sh
 - ./install_osm_rc.sh
 - Some dialog messages related to LXD configuration will be shown
 - Do you want to configure the LXD bridge (yes/no) [default=yes]? Yes
 - Do you want to setup an IPv4 subnet? Yes
 - Default values apply for next questions
 - Do you want to setup an IPv6 subnet? No

Installing OSM Option 2: with Vagrant

- Move to a work directory for OSM in your machine
- Initialize the environment for osm (it will create a Vagrant file)
`vagrant init osm/releasesix`
- Copy the provided image to the same folder, add it as a 'vagrant box', and then initialize the environment:
`vagrant box add osm/releasesix {image_filename}`
`vagrant init osm/releasesix --box-version 0`
- Modify the Vagrantfile, with your exposed ports preferences:
`config.vm.network "forwarded_port", guest: 80, host: 8080`
`config.vm.network "forwarded_port", guest: 3000, host: 3000`
- Start the Image (will download image if not added previously):
`vagrant up`
- Connect:
`vagrant ssh`

Internet

flashdrive



Troubleshooting Vagrant: Users with old windows

- In case you need see the following error after trying to power on the virtual machine:

```
C:\Users\guillermo.calvino\Documents\Vagrant>vagrant up
The version of powershell currently installed on this host is less than
the required minimum version. Please upgrade the installed version of
powershell to the minimum required version and run the command again.

Installed version: 2
Minimum required version: 3
```

- You need to upgrade the powershell version:
 - <http://www.microsoft.com/en-us/download/details.aspx?id=34595>
 - For example:
 - Windows 7 Service Pack 1 - 64-bit versions: Windows6.1-KB2506143-x64.msu

After installing OSM

- Test OSM client
 - Try 'osm'
- Test UI:
 - Access UI:
 - (Option 1) For script installation: <http://<IP of your VM>>
 - (Option 2) For Vagrant installation in your local machine: <http://localhost:8080>
 - Credentials are admin/admin

After installing OSM

- Test OSM client
 - Try 'osm'
- Test UI:
 - Access UI:
 - <http://<IP of your VM>>

Community OSM instances(ETSI OSM Servers)



- osm-plugtest1: <http://172.21.1.4>
- osm-plugtest2: <http://172.21.1.5>
- osm-hackfest1: <http://172.21.1.9>

For people using ETSI OSM servers: Install OSM client



- Instructions could be found here:
 - https://osm.etsi.org/wikipub/index.php/OSM_client

Steps:

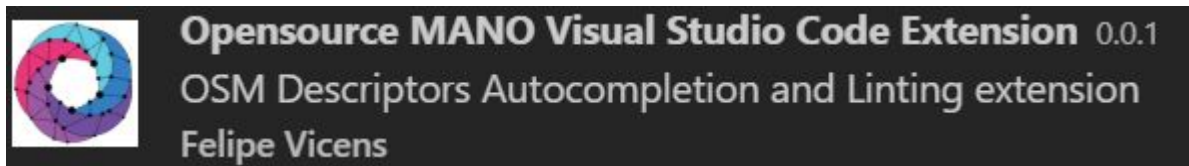
- `curl https://osm-download.etsi.org/repository/osm/debian/ReleaseSIX/OSM%20ETSI%20Release%20Key.gpg | sudo apt-key add -`
 - `sudo add-apt-repository -y "deb [arch=amd64] https://osm-download.etsi.org/repository/osm/debian/ReleaseSIX stable devops osmclient"`
 - `sudo apt-get update`
 - `sudo -H pip install python-magic`
 - `sudo apt-get install python-osmclient`
-
- After the installation completes, you might want to add the following environment variables to your `.bashrc` file:
 - `export OSM_HOSTNAME=<OSM_host> # IP of the OSM server (default: 127.0.0.1)`

Install OSM-Extension in VS-Code

- Install VS-Code
 - Steps:
 - `sudo apt install software-properties-common apt-transport-https wget`
 - `wget -q https://packages.microsoft.com/keys/microsoft.asc -O- | sudo apt-key add -`
 - `sudo add-apt-repository "deb [arch=amd64] https://packages.microsoft.com/repos/vscode stable main "`
 - `sudo apt update`
 - `sudo apt install code`

Install OSM-Extension in VS-Code

- Install OSM extensión
 - Steps
 - Open VS-Code using command “code” in command line
 - Go to extensions  and search “OSM”



- OSM Extension allows autocomplete the parameters of the descriptors using “ctrl+space”

Adding VIM accounts

- VIMs:

Name	Type	AUTH URL	tenant	user	Password
openstack1	openstack	http://172.21.247.1:5000/v3	xxx	xxx	xxx
openstack2	openstack	https://172.21.7.5:5000/v3	xxx	xxx	xxx
openstack3	openstack	https://172.21.5.4:5000/v3	xxx	xxx	xxx

- Test VIMs:

- ping <IP>
- curl -k http://<IP>:5000/v3
- Install python-openstackclient
 - sudo apt-get install python-openstackclient

Adding VIM accounts

- Load Openstack credentials
 - Option 1: running the script preloaded with the credentials:
 - `. osm_openrc.sh`
 - Option 2: setting the enviromental variables:
 - `export OS_AUTH_URL=http://172.21.247.1:5000/v3`
 - `export OS_USERNAME=osm_hackfest_XX`
 - `export OS_TENANT_NAME=osm_hackfest_XX`
 - `export OS_PASSWORD=osm_hackfest_XX`
 - `export OS_IDENTITY_API_VERSION=3`
- Run some commands for testing
 - `openstack image list`
 - `openstack network list`
 - `openstack flavor list`
 - `openstack server list`

OpenStack1

VIM Details



URL:

- `http://172.21.247.1:5000/v3`

Credentials

- Tenant: `osm_hackfest_X`
- Tenant user: `osm_hackfest_X`
- Tenant password: `osm_hackfest_X`

Where X goes from 1 to 40

Images:

- `ubuntu1604`
- `ubuntu-osm-hackfest`
- `hackfest3-mgmt`
- `cirros034`

Networks:

- Public & Management: `osm-ext`

Adding OpenStack1 using “osm” cli:

```
osm vim-create --name openstack1 --account_type openstack --auth_url http://172.21.247.1:5000/v3 --user osm_hackfest_X --password osm_hackfest_X --tenant osm_hackfest_X --description "Hackfest Openstack ETSI"
```

OpenStack2 VIM Details



URL:

- <http://172.21.7.5:5000/v3>

Credentials

- Tenant: osm_hackfest_X
- Tenant user: osm_hackfest_X
- Tenant password: osm_hackfest_X

Where X goes from 1 to 40

Images:

- ubuntu1604
- US1604
- hackfest3-mgmt
- Cirros034

Networks:

- Provider/Management: PUBLIC

Adding Openstack2 VIM using “osm” cli:

```
osm vim-create --name openstack2 --account_type openstack --auth_url http://172.21.7.5:5000/v3 --user osm_hackfest_X --password osm_hackfest_X --tenant osm_hackfest_X --description "Hackfest OpenStack WhiteStack"
```

OpenStack3 VIM Details



URL:

- <http://172.21.5.4:5000/v3>

Credentials

- Tenant: hackfest_X
- Tenant user: hackfest_X
- Tenant password: hackfest_X

Where X goes from 0 to 9

Adding Openstack3 VIM using “osm” cli:

```
osm vim-create --name openstack3 --account_type openstack --auth_url http://172.21.5.4:5000/v3 --user hackfest_X --password  
hackfest_X --tenant hackfest_X --description "ETSI openstack3 Windriver Openstack, with tenant hackfest_X"
```

Images:

- ubuntu1604
- US1604
- hackfest3-mgmt
- cirros034

Networks:

- Provider/Management: external

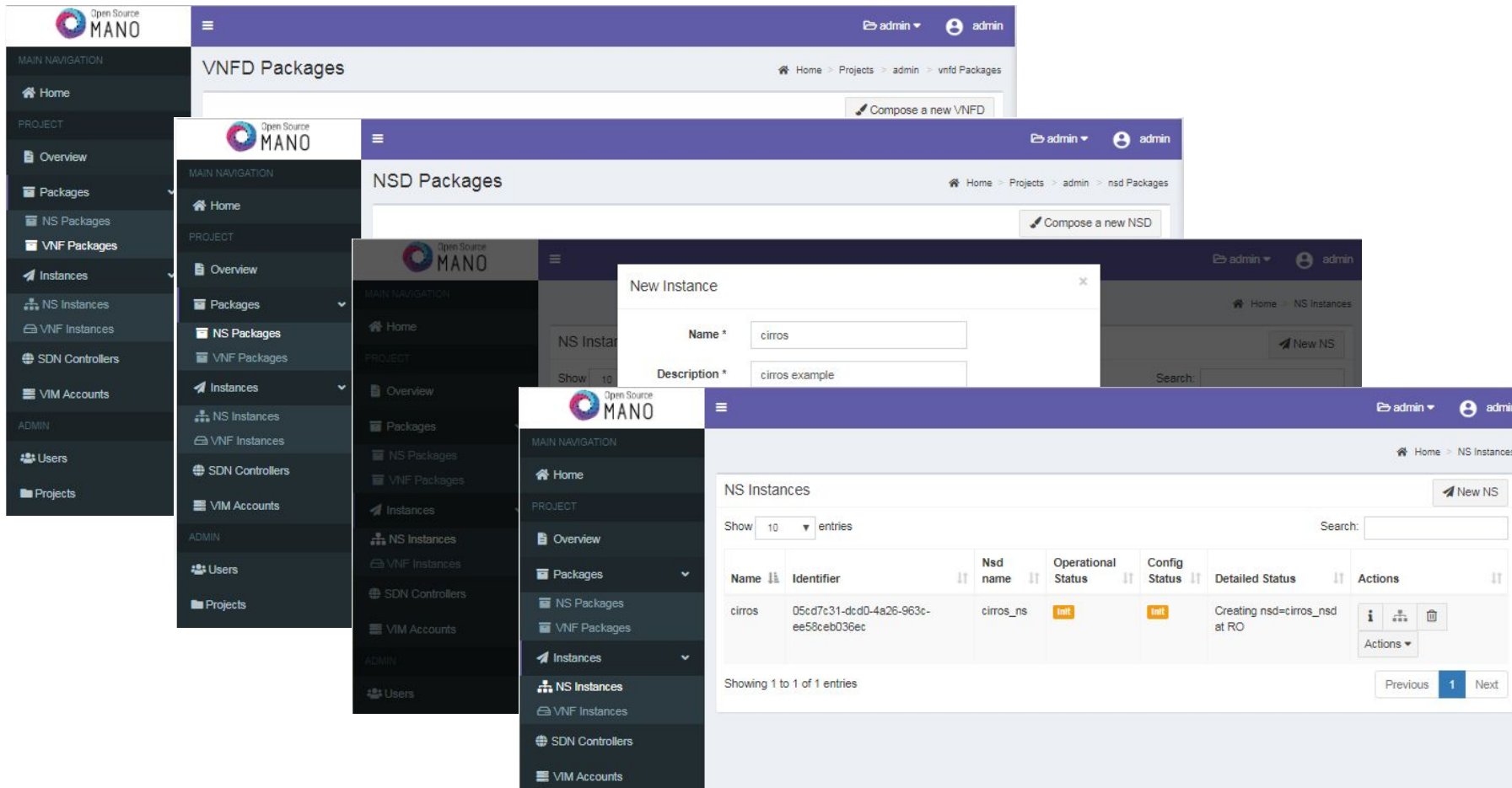
Adding images to the VIM

- 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 https://cloud-images.ubuntu.com/xenial/current/)
US1604	US1604.qcow2
hackfest3-mgmt	hackfest3-mgmt-qcow2
hackfest-pktgen	hackfest-pktgen-qcow2
cirros034	cirros-0.3.4-x86_64-disk.img
apache_ubuntu	apache_ubuntu.qcow2
haproxy_ubuntu	haproxy_Ubuntu.qcow2
vyos-1.1.7-cloudinit	vyos-1.1.7-cloudinit

Deploying our first NS with OSM UI



The collage illustrates the steps to create a new NS instance in the Open Source MANO UI:

- Top Left:** The main navigation sidebar with 'NS Packages' selected under the 'PROJECT' section.
- Top Right:** The 'VNFD Packages' page with a 'Compose a new VNFD' button.
- Middle Left:** The 'NSD Packages' page with a 'Compose a new NSD' button.
- Middle Right:** The 'New Instance' modal form with fields for 'Name' (filled with 'cirros') and 'Description' (filled with 'cirros example').
- Bottom:** The 'NS Instances' page showing a table with one entry.

NS Instances Table:

Name	Identifier	Nsd name	Operational Status	Config Status	Detailed Status	Actions
cirros	05cd7c31-dcd0-4a26-963c-ee58ceb036ec	cirros_ns	init	init	Creating nsd=cirros_nsd at RO	[Info] [Refresh] [Delete] [Actions]

Showing 1 to 1 of 1 entries

Download VNF and NS packages

- Download VNF

wget https://osm-download.etsi.org/ftp/osm-6.0-six/8th-hackfest/packages/cirros_vnf.tar.gz

- Download NS

wget https://osm-download.etsi.org/ftp/osm-6.0-six/8th-hackfest/packages/cirros_2vnf_ns.tar.gz

Deploying our first NS with the UI

- Add VNF package (drag&drop)
- Add NS package (drag&drop)
- Instantiate
 - `{vld: [ {name: cirros_2vnf_nsd_vld1, vim-network-name: <VIM_MGMT_NAME>} ] }`
- Get VNF record and obtain mgmt IP address
- Access to the VNF via SSH (user: “cirros”, pass: “cubswin:”) or “gocubsgo” depending on the VIM)
- 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**

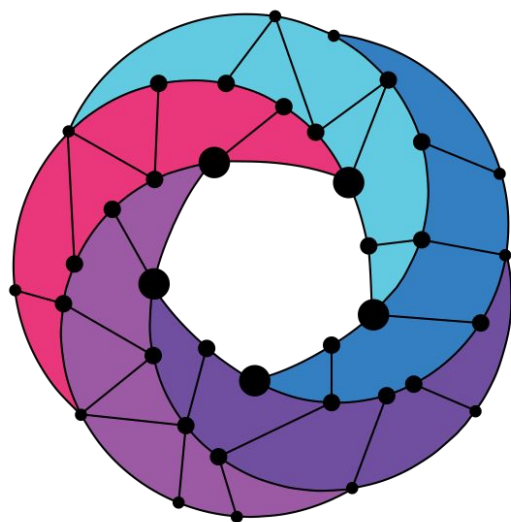
- `osm ns-create --nsd_name cirros_2vnf_ns --ns_name <ns-instance-name> --vim_account <data-center-name> --config '{vld: [ {name: cirros_2vnf_nsd_vld1, vim-network-name: <VIM_MGMT_NAME>} ] }'`
- `osm ns-list`

- **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`



Open Source MANO

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