# Method of Procedure (MOP) for Deploying a VM on OpenStack and Installing ntopng

## Document Version

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## Reference

- OpenStack Documentation: https://docs.openstack.org/

- ntopng Documentation: https://www.ntop.org/guides/ntopng/

## Prerequisites

1. Access to an OpenStack environment with appropriate permissions to create VMs.

2. OpenStack CLI or Horizon dashboard access.

3. Basic knowledge of Linux command line.

4. An Ubuntu 22.04 image available in your OpenStack environment.

## Objective

This MOP outlines the steps to deploy a VM on OpenStack with specific resource allocations, set a designated node name, assign a specific IP address, and install ntopng for network traffic monitoring.

## Procedure

### Step 1: Deploy a VM on OpenStack

1. \*\*Log in to OpenStack:\*\*

- Use the OpenStack CLI or Horizon dashboard to log in to your OpenStack environment.

2. \*\*Create a VM:\*\*

- If using the CLI, run the following command to create a VM. Replace the placeholders with your specific values:

```bash

openstack server create --flavor <FLAVOR\_ID> --image <IMAGE\_ID> --key-name <KEY\_NAME> --network <NETWORK\_ID> --security-group <SECURITY\_GROUP> --user-data <USER\_DATA\_FILE> <NODE\_NAME>

```

- \*\*Parameters:\*\*

- `<FLAVOR\_ID>`: The flavor that specifies the VM's resources (e.g., `m1.small` for 2 CPU and 2GB RAM).

- `<IMAGE\_ID>`: The ID of the Ubuntu 22.04 image.

- `<KEY\_NAME>`: The name of the SSH key pair for accessing the VM.

- `<NETWORK\_ID>`: The ID of the network to which the VM will be connected.

- `<SECURITY\_GROUP>`: The security group to apply to the VM.

- `<USER\_DATA\_FILE>`: A file containing cloud-init directives (optional).

- `<NODE\_NAME>`: The desired name for the VM.

3. \*\*Assign a Specific IP Address:\*\*

- If you need to assign a specific floating IP, you can do so by:

```bash

openstack floating ip create <EXTERNAL\_NETWORK>

openstack server add floating ip <NODE\_NAME> <FLOATING\_IP>

```

- \*\*Parameters:\*\*

- `<EXTERNAL\_NETWORK>`: The external network from which to allocate the floating IP.

- `<FLOATING\_IP>`: The IP address you want to assign to the VM.

### Step 2: Access the VM

1. \*\*SSH into the VM:\*\*

- Use the following command to SSH into the VM:

```bash

ssh -i <PATH\_TO\_PRIVATE\_KEY> <USER>@<FLOATING\_IP>

```

- \*\*Parameters:\*\*

- `<PATH\_TO\_PRIVATE\_KEY>`: Path to your private SSH key.

- `<USER>`: Default user for Ubuntu (usually `ubuntu`).

- `<FLOATING\_IP>`: The floating IP assigned to the VM.

### Step 3: Install ntopng

1. \*\*Update the Package List:\*\*

```bash

sudo apt update

```

2. \*\*Install ntopng:\*\*

```bash

sudo apt install ntopng -y

```

3. \*\*Configure ntopng:\*\*

- Open the ntopng configuration file:

```bash

sudo vi /etc/ntopng/ntopng.conf

```

- Add or modify the following lines to configure ntopng to report usage by protocol:

```

-i=eth0

--http-port=3000

```

- \*\*Note:\*\* Replace `eth0` with the appropriate network interface if necessary.

4. \*\*Start and Enable ntopng Service:\*\*

```bash

sudo systemctl start ntopng

sudo systemctl enable ntopng

```

### Step 4: Access ntopng Web Interface

1. \*\*Open a Web Browser:\*\*

- Navigate to `http://<FLOATING\_IP>:3000` to access the ntopng web interface.

2. \*\*Log in:\*\*

- Use the default credentials (admin/admin) to log in. Change the password upon first login.

### Step 5: Verify ntopng Configuration

1. \*\*Check ntopng Status:\*\*

```bash

sudo systemctl status ntopng

```

- Ensure that the service is active and running.

2. \*\*Monitor Traffic:\*\*

- Use the ntopng web interface to monitor network traffic and usage by protocol.

## Conclusion

This MOP provides a detailed guide for deploying a VM on OpenStack, assigning a specific IP address, and installing ntopng for network monitoring. Ensure to follow each step carefully and verify the installation and configuration of ntopng to effectively monitor network traffic.

## Troubleshooting

- If you encounter issues during VM creation, check the OpenStack logs for errors.

- For ntopng issues, refer to the ntopng documentation for troubleshooting tips.

## References

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