# Method of Procedure (MOP) for Installing a VM in OpenStack and Configuring ntopng

## Document Control

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## Purpose

This MOP outlines the steps to create a virtual machine (VM) in OpenStack, assign an IP address, install ntopng, and configure it to report usage by protocol. It also includes instructions on how to set CPU and RAM according to user requirements.

## 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. A valid OpenStack image for Ubuntu (preferably 22.04).

3. Network configuration details (e.g., network name, subnet).

4. Basic knowledge of OpenStack CLI or Horizon dashboard.

## Procedure

### Step 1: Create a VM in OpenStack

#### 1.1 Using OpenStack CLI

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

```bash

source /path/to/your/openrc.sh

```

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

Replace `<flavor>`, `<image>`, `<network>`, and `<keypair>` with your specific values.

```bash

openstack server create --flavor <flavor> --image <image> --network <network> --key-name <keypair> ntopng-vm

```

- \*\*Setting CPU and RAM:\*\*

- To set the desired CPU and RAM, choose an appropriate flavor or create a custom flavor:

```bash

openstack flavor create --ram <RAM\_in\_MB> --disk <DISK\_in\_GB> --vcpus <CPU\_count> <flavor\_name>

```

#### 1.2 Using OpenStack Horizon Dashboard

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

Open your web browser and navigate to the Horizon dashboard.

2. \*\*Create a new instance:\*\*

- Navigate to \*\*Project > Compute > Instances\*\*.

- Click on \*\*Launch Instance\*\*.

- Fill in the instance details:

- \*\*Instance Name:\*\* ntopng-vm

- \*\*Flavor:\*\* Select the desired flavor or create a new one.

- \*\*Image:\*\* Select the Ubuntu image.

- \*\*Network:\*\* Select the appropriate network.

- \*\*Key Pair:\*\* Select your SSH key pair.

3. \*\*Launch the instance.\*\*

### Step 2: Assign an IP Address

1. \*\*Check the floating IPs available:\*\*

```bash

openstack floating ip list

```

2. \*\*Allocate a new floating IP (if necessary):\*\*

```bash

openstack floating ip create <external\_network>

```

3. \*\*Associate the floating IP with the VM:\*\*

```bash

openstack floating ip set --port <port\_id> <floating\_ip>

```

### Step 3: Install ntopng

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

```bash

ssh -i /path/to/your/private\_key user@<floating\_ip>

```

2. \*\*Update the package list:\*\*

```bash

sudo apt update

```

3. \*\*Install ntopng:\*\*

```bash

sudo apt install ntopng

```

### Step 4: Configure ntopng

1. \*\*Edit the ntopng configuration file:\*\*

```bash

sudo vi /etc/ntopng/ntopng.conf

```

2. \*\*Add the following line to report usage by protocol:\*\*

```bash

-i=eth0

```

Replace `eth0` with the appropriate network interface if necessary.

3. \*\*Start and enable ntopng service:\*\*

```bash

sudo systemctl start ntopng

sudo systemctl enable ntopng

```

### Step 5: Access ntopng Web Interface

1. \*\*Open a web browser and navigate to:\*\*

```

http://<floating\_ip>:3000

```

2. \*\*Log in using the default credentials:\*\*

- \*\*Username:\*\* admin

- \*\*Password:\*\* admin

3. \*\*Change the default password upon first login.\*\*

### Step 6: Verify ntopng Configuration

1. \*\*Check the ntopng dashboard to ensure it is reporting usage by protocol.\*\*

2. \*\*Monitor the traffic and usage statistics as required.\*\*

## Conclusion

This MOP provides a comprehensive guide to creating a VM in OpenStack, installing ntopng, and configuring it to report usage by protocol. Ensure to follow each step carefully and verify the installation and configuration at the end.

## Notes

- Ensure that the necessary ports (e.g., 3000 for ntopng) are open in the security group associated with the VM.

- Regularly update ntopng and the underlying OS for security and performance improvements.