

Configuration Manual

MSc Research Project
Cloud Computing

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Project Submission Sheet
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Configuration Manual

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1 Introduction

This application is of tier architecture - user, cloudlet and cloud. cloudlet is nothing but a small scale cloud which is located near by user. Here, we have setup AWS EC2 instance as a VM which will act as a cloudlet and center cloud will be AWS of different region.

1.1 Prerequisites

Before starting with the setup, kindly install following tools on your machine.

- **git_bash installation:** You can follow the instruction given on Ulili (2019) site.
- Windows Subsystem for Linux (WSL) installation: For WSL you can go to craigloewen msft (n.d.) where they have given a procedure step by step

2 Application program

The application program is developed in python programming language and it is available on https://github.com/NileshwariVispute/Thesis_project.git. You can download this git repository using git clone command `git clone https://github.com/NileshwariVispute/Thesis_project.git`

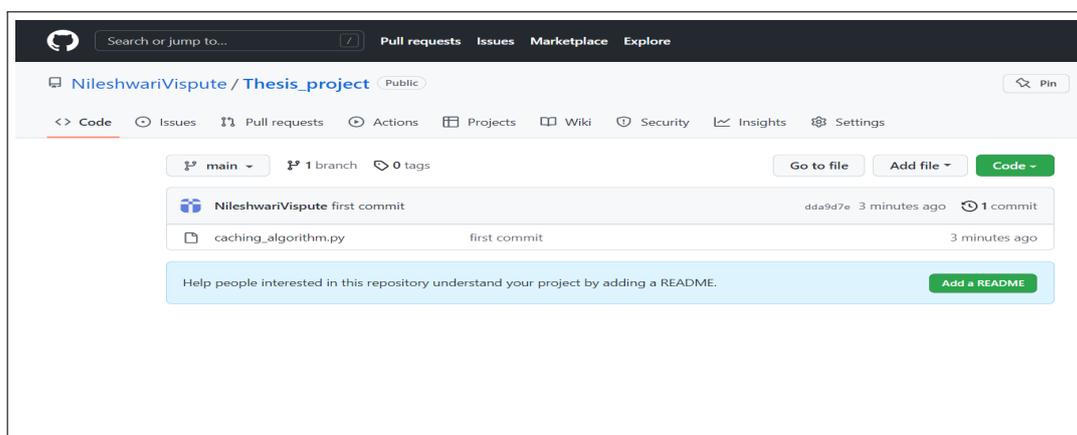


Figure 1: GitHub Repository

3 Section 3

Virtual Machines	
RAM	4 GB
CPU	2 vCPU cores
Disk Storage	40 GB

Table 1: Configuration required for one Virtual Machine.

4 Launch of OpenStack Instance

Firstly Go to OpenStack login page and login yourself on the site. Now go to instance tab and click on launch instance. After that give a name for your instance.

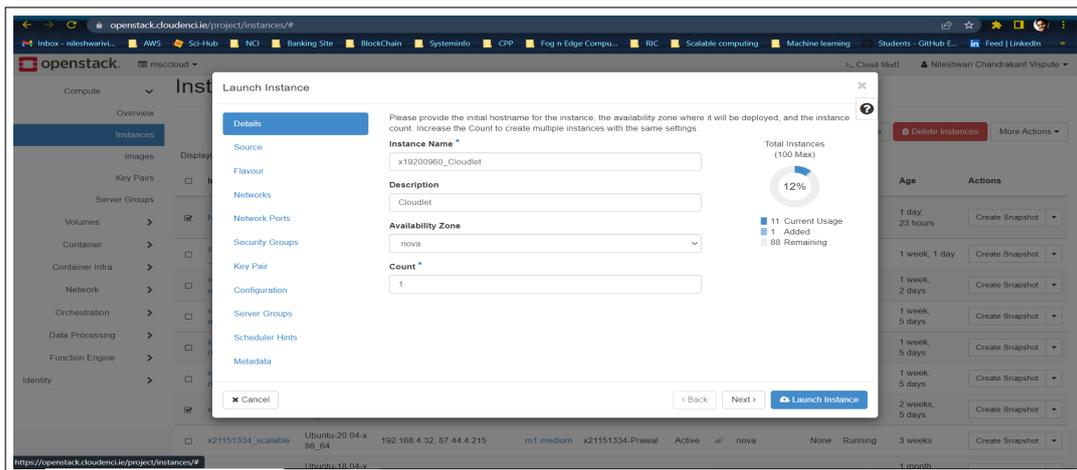


Figure 2: OpenStack instance

For this application **Ubuntu Server 20.04 LTS x64** is used as image .

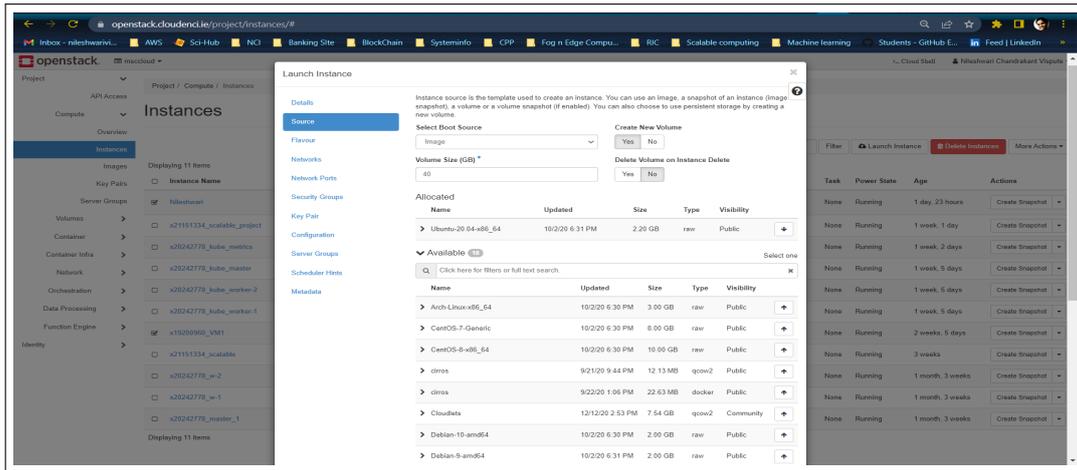


Figure 3: Openstack instance

Next choose m1.medium as a flavour type and choose keypair for instance creation or generate it by clicking 'Create new key pair' button.

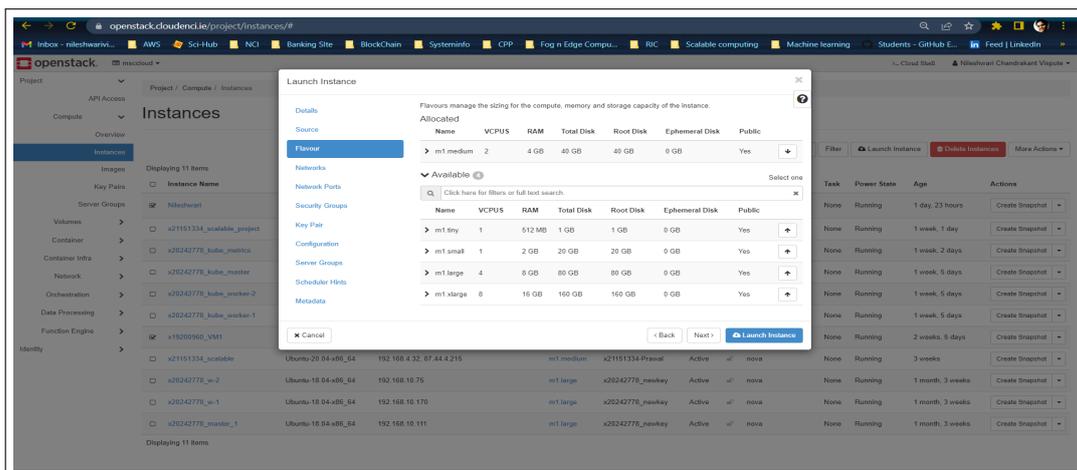


Figure 4: OpenStack instance

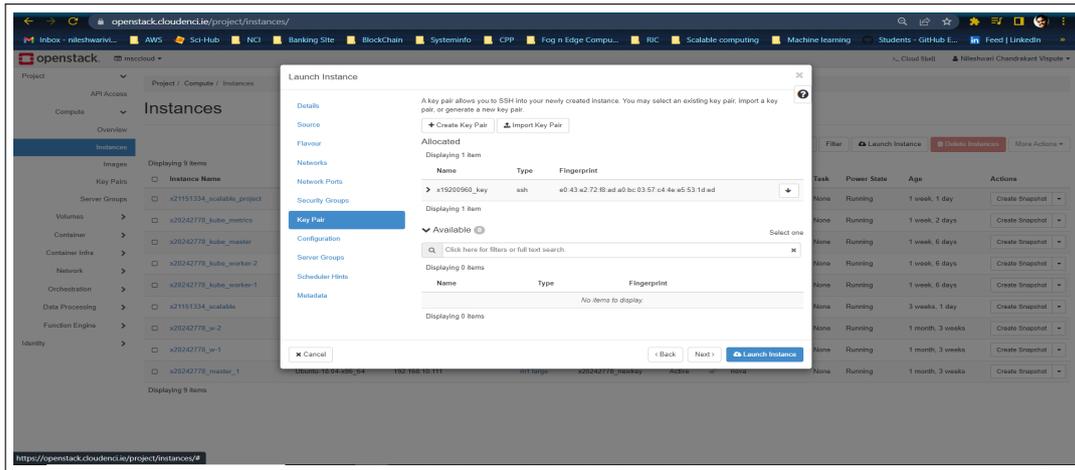


Figure 5: OpenStack instance

Now keep rest network setting as default and at last review your instance and then launch it Once the instance is launched you can connect it with ssh client using given command. `ssh -i [MyKey].pem ubuntu@[instanceip]`

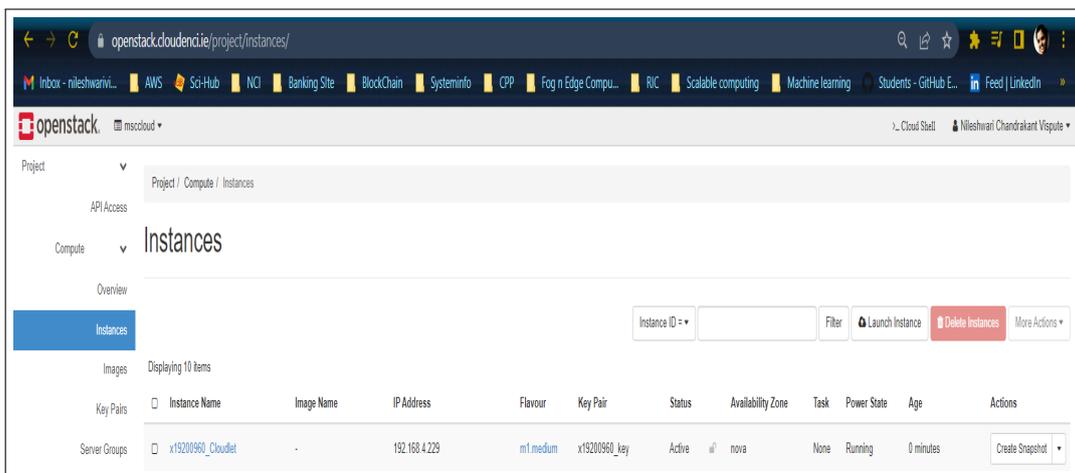


Figure 6: Openstack instance

5 Install all dependant libraries

Install all the below libraries before starting execution of the program.

5.1 Install pip

Install python using following command:

```
ubuntu@x19200960-cloudlet:~$ sudo apt-get install pip_
```

Figure 7: EC2 instance

5.2 Install python

Install python using following command:

```
ubuntu@x19200960-cloudlet:~$ sudo apt install python3_
```

Figure 8: EC2 instance

5.3 Install pandas

Install panda library using following command:

```
ubuntu@x19200960-cloudlet:~$ pip install pandas_
```

Figure 9: EC2 instance

5.4 Install SQL

Install SQL using following command:

```
ubuntu@x19200960-cloudlet:~$ sudo apt install mysql-client-core-8.0_
```

Figure 10: EC2 instance

5.5 Install scikit-learn library

Install scikit-learn library using following command:

```
ubuntu@x19200960-cloudlet:~$ pip install scikit-learn_
```

Figure 11: EC2 instance

5.6 Install mlxtend

Install mlxtend library using following command:

```
ubuntu@x19200960-cloudlet:~$ pip install mlxtend_
```

Figure 12: EC2 instance

References

craigloewen msft (n.d.). Manual installation steps for older versions of wsl.

URL: <https://docs.microsoft.com/en-us/windows/wsl/install-manual>

Ulili, S. (2019). How to install git bash on windows.

URL: <https://www.stanleyulili.com/git/how-to-install-git-bash-on-windows/>