

Load Test Setup Document

1:- Task requirement:-

To show the result of response time in grafana with the help of locust tool.

2:- Load testing:-

Load Testing is a non-functional software testing process in which the performance of software application is tested under a specific expected load. It determines how the software application behaves while being accessed by multiple users simultaneously.

3:-Environmental detail:-

OS: Ubuntu 20.04

Podman 3.4.2

4:- System configuration:-

CPU - 4

Storage -16 GB

5:- List of tools and technologies:-

Grafana Postgres Locust

6:-Definition of tools:-

(a). Grafana is a multi-platform open source analytics and interactive visualisation web application. It provides charts, graphs, and alerts for the web when connected to supported data sources. It can be easily installed using Docker or Docker Compose. PostgreSQL: Post

(b). PostgreSQL, also known as Postgres, is a free and open-source relational database management system emphasising extensibility and SQL compliance. Locust:

(c). Locust is an open-source load-testing tool. Load testing is a type of software testing that is conducted to check the tolerance/behaviour of the system under a specific expected load. Command for the setup or configuration

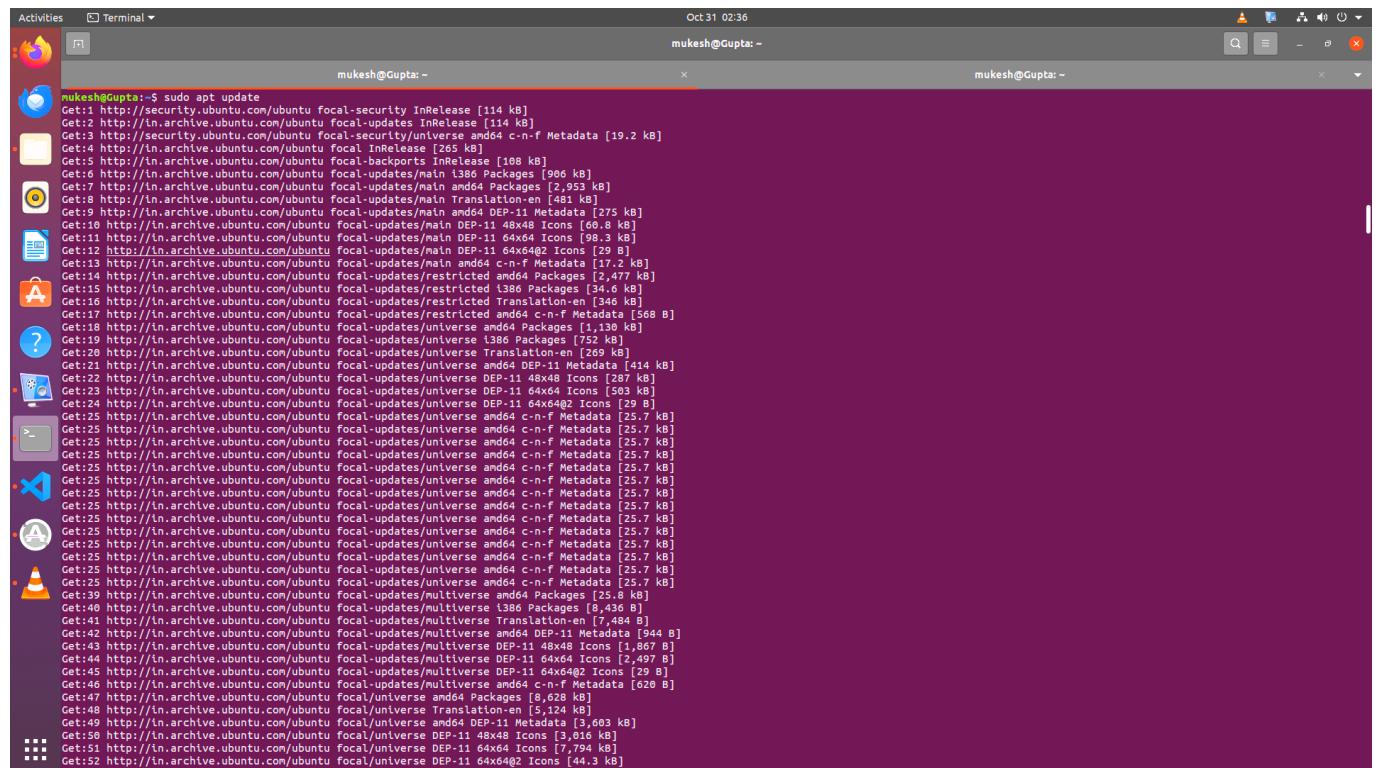
Installation Podman

Step:- 1

Follow this step

```
sudo apt update
```

The **sudo apt update** command is used in Debian-based Linux distributions, such as Ubuntu, to update the package repository information on your system.



```
mukesh@Gupta:~$ sudo apt update
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [19.2 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-security/universe armhf Translation-en [263 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-security/universe arm64 Translation-en [100 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [906 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates/main arm64 Packages [2,953 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [481 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [275 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 48x48 Icons [60,8 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64 Icons [98,3 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64@2 Icons [29 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [17,2 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [2,477 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted arm64 Packages [34,6 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted armhf Translation-en [30 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 C-n-f Metadata [568 kB]
Get:18 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [1,130 kB]
Get:19 http://in.archive.ubuntu.com/ubuntu focal-updates/universe arm64 Packages [752 kB]
Get:20 http://in.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [269 kB]
Get:21 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11 Metadata [414 kB]
Get:22 http://in.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 48x48 Icons [287 kB]
Get:23 http://in.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 64x64 Icons [503 kB]
Get:24 http://in.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 64x64@2 Icons [29 kB]
Get:25 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25,7 kB]
Get:26 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 C-n-f Metadata [25,7 kB]
Get:27 http://in.archive.ubuntu.com/ubuntu focal-updates/universe arm64 C-n-f Metadata [25,7 kB]
Get:28 http://in.archive.ubuntu.com/ubuntu focal-updates/universe arm64 DEP-11 Metadata [25,7 kB]
Get:29 http://in.archive.ubuntu.com/ubuntu focal-updates/universe arm64 DEP-11 48x48 Icons [25,7 kB]
Get:30 http://in.archive.ubuntu.com/ubuntu focal-updates/universe arm64 DEP-11 64x64 Icons [25,7 kB]
Get:31 http://in.archive.ubuntu.com/ubuntu focal-updates/universe arm64 DEP-11 64x64@2 Icons [25,7 kB]
Get:32 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 C-n-f Metadata [25,7 kB]
Get:33 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [25,0 kB]
Get:34 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse arm64 Packages [25,0 kB]
Get:35 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse DEP-11 48x48 Icons [7,436 kB]
Get:36 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse DEP-11 64x64 Icons [7,494 kB]
Get:37 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse DEP-11 64x64@2 Icons [7,494 kB]
Get:38 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8,028 kB]
Get:39 http://in.archive.ubuntu.com/ubuntu focal/universe Translation-en [5,124 kB]
Get:40 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 48x48 Icons [1,867 kB]
Get:41 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64 Icons [2,497 kB]
Get:42 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64@2 Icons [29 kB]
Get:43 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 DEP-11 Metadata [944 kB]
Get:44 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 48x48 Icons [1,867 kB]
Get:45 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64 Icons [2,497 kB]
Get:46 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64@2 Icons [29 kB]
Get:47 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8,028 kB]
Get:48 http://in.archive.ubuntu.com/ubuntu focal/universe Translation-en [5,124 kB]
Get:49 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 48x48 Icons [1,867 kB]
Get:50 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64 Icons [2,497 kB]
Get:51 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64@2 Icons [7,794 kB]
Get:52 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64@2 Icons [44,3 kB]
Get:53 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64@2 Metadata [44,3 kB]
```

```
echo "deb
https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/xUbuntu_20.04/ /" | sudo tee
/etc/apt/sources.list.d/devel:kubic:libcontainers:stable.list
```



```
mukesh@Gupta:~$ 
mukesh@Gupta:~$ 
mukesh@Gupta:~$ echo "deb https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/xUbuntu_20.04/ /" | sudo tee /etc/apt/sources.list.d/devel:kubic:libcontainers:stable.list
deb https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/xUbuntu_20.04/ /
mukesh@Gupta:~$ 
mukesh@Gupta:~$ 
mukesh@Gupta:~$
```

```
curl -L
"https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/xUbuntu_20.04/Release.key" | sudo apt-key add -
```



```
mukesh@Gupta:~$ 
mukesh@Gupta:~$ 
mukesh@Gupta:~$ curl -L "https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/xUbuntu_20.04/Release.key" | sudo apt-key add -
% Total    % Received % Xferd  Average Speed   Time   Time     Current
          Dload  Upload Total   Spent    Left Speed
100 1093 100 1093  0     0  448      0  0:00:02  0:00:02  ---:--  448
OK
mukesh@Gupta:~$ 
mukesh@Gupta:~$
```

```
sudo apt update
```

The **sudo apt update** command is used in Debian-based Linux distributions, such as Ubuntu, to update the package repository information on your system.

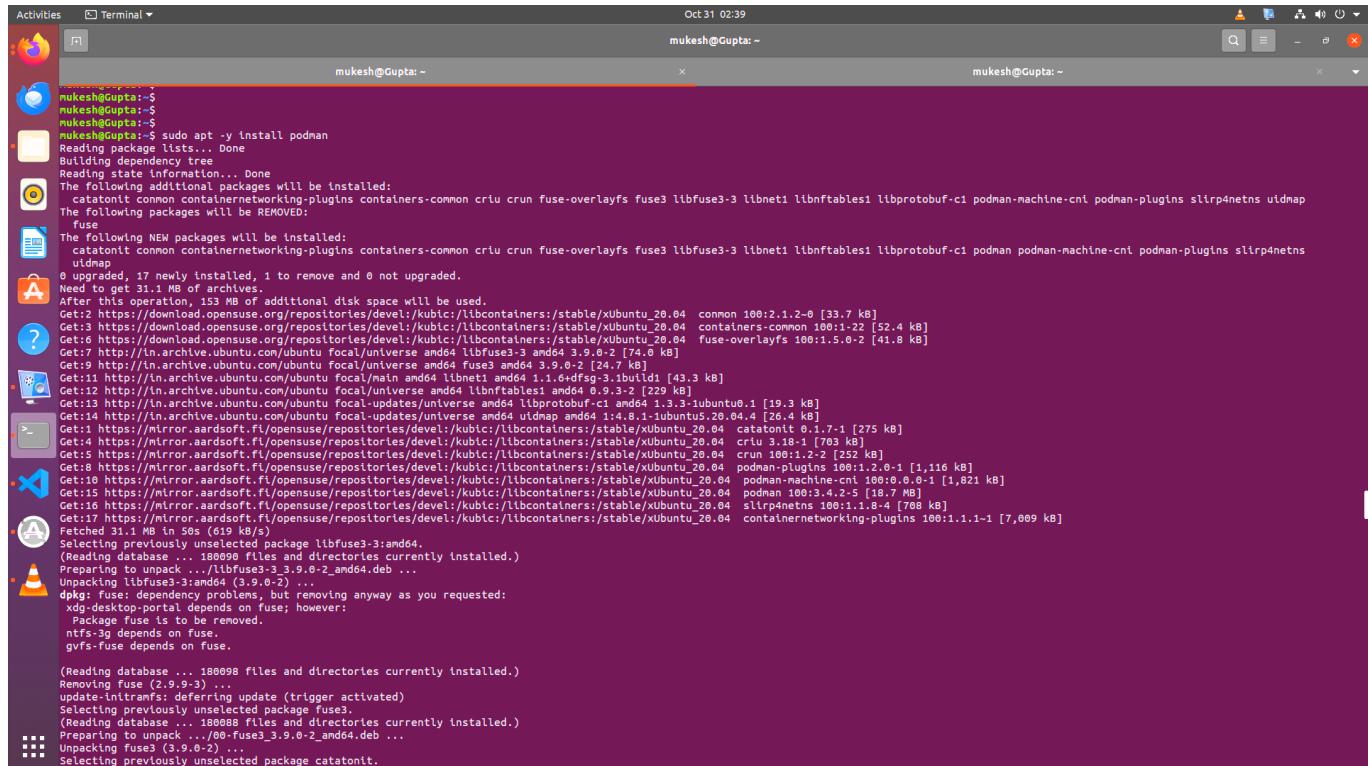
```
nukesh@Gupta:~$  
nukesh@Gupta:~$  
nukesh@Gupta:~$ sudo apt update  
Hit:1 http://security.ubuntu.com/ubuntu focal-security InRelease  
Get:2 https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/xUbuntu_20.04 InRelease [1,642 B]  
Get:3 https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/xUbuntu_20.04 Packages [15.0 kB]  
Hit:4 http://in.archive.ubuntu.com/ubuntu focal InRelease  
Hit:5 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease  
Hit:6 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease  
Fetched 16.6 kB in 5s (3,284 B/s)  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
249 packages can be upgraded. Run 'apt list --upgradable' to see them.  
nukesh@Gupta:~$  
nukesh@Gupta:~$
```

```
sudo apt upgrade
```

The **`sudo apt upgrade`** command is used in Linux-based operating systems, such as Ubuntu, to update the installed packages on your system to their latest versions.

```
sudo apt -y install podman
```

The command **sudo apt -y install podman** is used to install the Podman container management tool on a system running a Debian-based Linux distribution. Podman is an alternative to Docker, designed to manage containers.



```
mukesh@Gupta:~$ sudo apt -y install podman
Reading package lists... Done
Building dependency tree...
Reading state information...
The following additional packages will be installed:
  catatonit common containernetworking-plugins containers-common criu crun fuse-overlayfs fuse3 libfuse3-3 libnet1 libnftables1 libprotobuf-c1 podman-machine-cni podman-plugins slirp4netns uidmap
The following packages will be REMOVED:
  fuse
The following NEW packages will be installed:
  catatonit common containernetworking-plugins containers-common criu crun fuse-overlayfs fuse3 libfuse3-3 libnet1 libnftables1 libprotobuf-c1 podman podman-machine-cni podman-plugins slirp4netns
uidmap
0 upgraded, 17 newly installed, 1 to remove and 0 not upgraded.
Need to get 31.1 MB of archives.
After this operation, approximately 48 MB of additional disk space will be used.
Get:1 https://download.opensuse.org/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 common 100:2.1.2-0 [33.7 kB]
Get:2 https://download.opensuse.org/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 containers-common 100:1.1-22 [52.4 kB]
Get:3 https://download.opensuse.org/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 fuse-overlayfs 100:1.5.0-2 [41.8 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 fuse3-amd64 3.9.0-2 [74.0 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 libfuse3-3 amd64 1.1.6+dfsg-3.1build1 [43.3 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 libnftables1 amd64 0.9.3-2 [229 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 libprotobuf-c1 amd64 1.3.3-1ubuntu0.1 [19.3 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 libprotobuf-c1 amd64 1.3.3-1ubuntu0.1 [19.3 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 uidmap amd64 1:4.8.1-1ubuntu5.20.04.4 [26.4 kB]
Get:10 https://mirror.aarsoft.fl/openuse/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 catatonit-common 1.7-1 [275 kB]
Get:11 https://mirror.aarsoft.fl/openuse/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 criu 3.18.1 [783 kB]
Get:12 https://mirror.aarsoft.fl/openuse/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 libcontainerd 100:1.2.3 [352 kB]
Get:13 https://mirror.aarsoft.fl/openuse/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 podman-plugins 100:1.2.0-1 [1,116 kB]
Get:14 https://mirror.aarsoft.fl/openuse/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 podman-machine-cni 100:0.0.0-1 [1,821 kB]
Get:15 https://mirror.aarsoft.fl/openuse/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 podman 100:3.4.2-5 [18.7 MB]
Get:16 https://mirror.aarsoft.fl/openuse/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 slirp4netns 100:1.1.8-4 [708 kB]
Get:17 https://mirror.aarsoft.fl/openuse/repositories/devel:/kubic/libcontainers:/stable/xUbuntu_20.04 containerNetworking-plugins 100:1.1.1-1 [7,009 kB]
Fetched 31.1 MB in 50s (619 kB/s)
Selecting previously unselected package libfuse3-3:amd64.
(Reading database ... 180090 files and directories currently installed.)
Preparing to unpack .../000-fuse3-3.9.0-2_amd64.deb ...
Unpacking libfuse3-3:amd64 (3.9.0-2) ...
dpkg: error processing archive /tmp/tmp.1qjwv4tqf0/000-fuse3-3.9.0-2_amd64.deb (--unpack):
 dependency problem; removing anyway as you requested:
 xdg-desktop-portal depends on fuse; however:
  Package fuse is to be removed.
  nfts-3g depends on fuse.
  gvfs-fuse depends on fuse.

(Reading database ... 180098 files and directories currently installed.)
Removing fuse (2.9.9-3) ...
update-intramfs: deferring update (trigger activated)
Selecting previously unselected package fuse3.
(Reading database ... 180098 files and directories currently installed.)
Preparing to unpack .../001-fuse3-3.9.0-2_amd64.deb ...
Unpacking fuse3 (3.9.0-2) ...
Selecting previously unselected package catatonit. ....
```

sudo: Superuser "do." It is used to execute a command with administrative or superuser privileges.

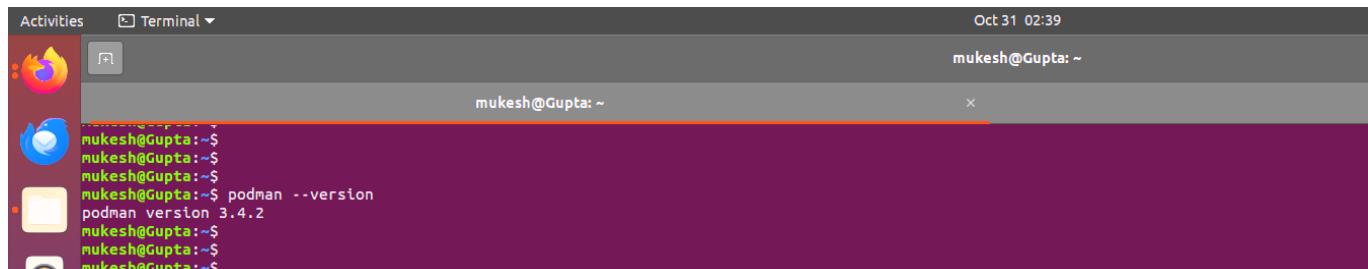
apt: Advanced Package Tool. It is a package management system used by Debian and Debian-based distributions.

install: The command used to install new packages.

upgrade This is a command used with apt-get to upgrade installed packages. When you run apt-get upgrade, it downloads and installs the latest versions of all currently installed packages on your system.

-y The -y is like saying, "Yes, go ahead!" It tells the magic tool to answer "Yes" to any questions it might ask during the installation, so you don't have to type "Yes" manually.

podman --version



```
mukesh@Gupta:~$ podman --version
podman version 3.4.2
mukesh@Gupta:~$ mukesh@Gupta:~$ mukesh@Gupta:~$
```

Step 2:-

sudo apt install python3-pip

The command **sudo apt install python3-pip** is used to install the Python package manager called pip for Python 3.x. Let's break down what this command does

```
mukesh@Gupta:~$ 
mukesh@Gupta:~$ sudo apt install python3-pip
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  binutils binutils-common binutils-x86_64-linux-gnu build-essential dpkg-dev fakeroot g++ g++-9 gcc gcc-9 libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan5 libbinutils libc-dev-bin libcc-dev libcrypt-dev libctf-nobfd0 libctf0 libexpat1-dev libfbroker libgcc-9-dev libitm1 liblsan0 libpython3-dev libpython3.8-dev libquadmath0 libstdc++-9-dev libtsan0 libubsan1 linux-libc-dev make manpages-dev python-pip-whl python3-dev python3-distutils python3-setuptools python3-wheel python3.8-dev zlib1g-dev
Suggested packages:
  binutils-doc debian-keyring g++-multilib gcc-9-doc gcc-multilib autoconf automake libtool flex bison gcc-doc gcc-9-multilib gcc-9-locales glIBC-doc libstdc++-9-doc make-doc python-setuptools-doc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86_64-linux-gnu build-essential dpkg-dev fakeroot g++ g++-9 gcc gcc-9 libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan5 libbinutils libc-dev-bin libcc-dev libcrypt-dev libctf-nobfd0 libctf0 libexpat1-dev libfbroker libgcc-9-dev libitm1 liblsan0 libpython3-dev libpython3.8-dev libquadmath0 libstdc++-9-dev libtsan0 libubsan1 linux-libc-dev make manpages-dev python-pip-whl python3-dev python3-distutils python3-pip python3-setuptools python3-wheel python3.8-dev zlib1g-dev
0 upgraded, 42 newly installed, 0 to remove and 0 not upgraded.
Need to get 44.1 MB of archives.
After this operation, 199 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 binutils-common amd64 2.34-6ubuntu1.6 [207 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libbinutils amd64 2.34-6ubuntu1.6 [473 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libctf-nobfd0 amd64 2.34-6ubuntu1.6 [47.4 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libexpat1 amd64 2.34-6ubuntu1.6 [134 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libgcc-9-dev amd64 9.4.0-1ubuntu1.6 [2,346 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libitm1 amd64 2.34-6ubuntu1.6 [1,613 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 liblibc-dev-bin amd64 2.31-1ubuntu9.12 [71.6 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 liblinux-llbc-dev amd64 5.4.0-166.183 [1,121 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal/main amd64 libcrypt-dev amd64 1:4.4.10-10ubuntu4 [104 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libcc6-dev amd64 2.31-1ubuntu9.12 [2,519 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libitm1 amd64 10.5.0-1ubuntu1-20.04 [26.2 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libasan5 amd64 9.4.0-1ubuntu1-20.04.2 [2,752 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 liblsan0 amd64 10.5.0-1ubuntu1-20.04.2 [835 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++-9-dev amd64 9.4.0-1ubuntu1-20.04.2 [2,016 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libquadmath0 amd64 10.5.0-1ubuntu1-20.04.2 [785 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libtsan0 amd64 9.4.0-1ubuntu1-20.04.2 [146 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libgcc-9-dev amd64 9.4.0-1ubuntu1-20.04.2 [2,359 kB]
Get:18 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 gcc-9 amd64 9.4.0-1ubuntu1-20.04.2 [8,276 kB]
Get:19 http://in.archive.ubuntu.com/ubuntu focal/main amd64 gcc amd64 4:9.3.0-1ubuntu2 [5,298 kB]
Get:20 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 libstdc++-9-dev amd64 9.4.0-1ubuntu1-20.04.2 [1,722 kB]
Get:21 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 g++-9 amd64 9.4.0-1ubuntu1-20.04.2 [8,421 kB]
Get:22 http://in.archive.ubuntu.com/ubuntu focal/main amd64 g++-9 amd64 4:9.3.0-1ubuntu2 [1,664 kB]
```

sudo: Superuser "do." It is used to execute a command with administrative or superuser privileges.

apt: Advanced Package Tool. It is a package management system used by Debian and Debian-based distributions.

install: The command used to install new packages.

python3-pip: The name of the package you want to install. In this case, it's the Python 3 version of the pip package.

Step 3:-

```
pip3 install locust
```

locust is an open-source load testing tool that simulates a large number of users accessing your application simultaneously.

pip3: The package installer for Python3

install: The command to install a Python package.

locust: The name of the package you want to install (in this case, Locust).

Step 3:-

```
pip3 install locust_plugins
```

locust_plugins is a package that extends the functionality of the Locust load testing tool, offering additional features and integrations.

pip3: The package installer for Python3

install: The command to install a Python package.

locust_plugins: The name of the package you want to install (in this case, the Locust plugins package).

Step 4:-

```
pip3 show locust
```

```
mukesh@Gupta:~$ pip3 show locust
Name: locust
Version: 2.18.0
Summary: Developer friendly load testing framework
Home-page: None
Author: None
Author-email: None
License: MIT
Location: /home/mukesh/.local/lib/python3.8/site-packages
Requires: Werkzeug, pyzmq, Flask-BasicAuth, geventhttpclient, psutil, requests, gevent, Flask-Cors, ConfigArgParse, flask, msgpack, roundrobin
Required-by: locust-plugins
mukesh@Gupta:~$ 
mukesh@Gupta:~$
```

pip3: The package installer for Python 3. It is a command-line tool for installing and managing Python packages.

show: A subcommand of pip used to display information about one or more installed packages.

locust: The name of the package for which you want to retrieve information. In this case, it's the Locust package

Step 5:-

```
sudo mkdir locust
```

The command **sudo mkdir locust** is a Unix/Linux command that creates a new directory (folder) named "locust" with administrative privileges using the sudo command.

```
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$ sudo mkdir locust
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$
```

```
ls
```

The **ls** command is used in Unix and Unix-like operating systems (including Linux) to list files and directories in a directory.

```
? Mukesh@Gupta:~$ 
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$ ls
Desktop Documents Downloads locust Music Pictures Public Templates Videos
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$ 
Mukesh@Gupta:~$
```

```
sudo touch locustfile.py
```

The command you mentioned, **sudo touch locustfile.py**, is a Unix/Linux command used to create a new file named locustfile.py

```
mukesh@Gupta:~/locust$  
mukesh@Gupta:~/locust$  
mukesh@Gupta:~/locust$ sudo touch locustfile.py  
mukesh@Gupta:~/locust$  
mukesh@Gupta:~/locust$  
mukesh@Gupta:~/locust$  
mukesh@Gupta:~/locust$
```

```
ls
```

```
? mukesh@Gupta:~$  
mukesh@Gupta:~$ ls  
Desktop Documents Downloads locust Music Pictures Public Templates Videos  
mukesh@Gupta:~$  
mukesh@Gupta:~$  
mukesh@Gupta:~$
```

Step 6:-

```
hostname -I
```

```
mukesh@Gupta:~/locust$ cd  
mukesh@Gupta:~$  
mukesh@Gupta:~$ mukesh@Gupta:~$ hostname -I  
192.168.122.29  
mukesh@Gupta:~$  
mukesh@Gupta:~$
```

Change the IP address , according to your System IP

Step 7:-

```
sudo apt install vim
```

```
mukesh@Gupta:~$  
mukesh@Gupta:~$  
mukesh@Gupta:~$ mukesh@Gupta:~$ sudo apt install vim  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following additional packages will be installed:  
  vim-runtime  
Suggested packages:  
  ctags vim-doc vim-scripts  
The following NEWER packages will be installed:  
  vim vim-runtime  
0 upgraded, 0 to remove and 0 not upgraded.  
Need to get 7,120 kB of archives.  
After this operation, 34.6 MB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 vim-runtime all 2:8.1.2269-1ubuntu5.20 [5,878 kB]  
Get:2 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 vim amd64 2:8.1.2269-1ubuntu5.20 [1,242 kB]  
Fetched 7,120 kB in 13s (549 kB/s)  
Selecting previously unselected package vim-runtime.  
(Reading database... 186616 files and directories currently installed.)  
Preparing to unpack .../vim-runtime_2:8.1.2269-1ubuntu5.20_all.deb ...  
Adding 'diversion of /usr/share/vim/vim81/doc/help.txt to /usr/share/vim/vim81/doc/help.txt.vim-tiny by vim-runtime'  
Adding 'diversion of /usr/share/vim/vim81/doc/tags to /usr/share/vim/vim81/doc/tags.vim-tiny by vim-runtime'  
Unpacking vim-runtime (2:8.1.2269-1ubuntu5.20) ...  
Selecting previously unselected package vim.  
Preparing to unpack .../vim_2:8.1.2269-1ubuntu5.20_amd64.deb ...  
Unpacking vim (2:8.1.2269-1ubuntu5.20) ...  
Setting up vim-runtime (2:8.1.2269-1ubuntu5.20) ...  
Setting up vim (2:8.1.2269-1ubuntu5.20) ...  
update-alternatives: using /usr/bin/vim.basic to provide /usr/bin/vim (vim) in auto mode  
update-alternatives: using /usr/bin/vim.tiny to provide /usr/bin/vim (vim) in auto mode  
update-alternatives: using /usr/bin/vim.basic to provide /usr/bin/rview (rview) in auto mode  
update-alternatives: using /usr/bin/vim.basic to provide /usr/bin/vt (vt) in auto mode  
update-alternatives: using /usr/bin/vim.basic to provide /usr/bin/view (view) in auto mode  
update-alternatives: using /usr/bin/vim.basic to provide /usr/bin/ex (ex) in auto mode  
Processing triggers for man-db (2.9.1-1) ...
```

The command **sudo apt install vim** is used in Linux to install the Vim text editor. Let me explain why you might want to use Vim:

Step 8:-

```
sudo vim locustfile.py
```

```
nukesh@Gupta:~$  
nukesh@Gupta:~$  
nukesh@Gupta:~$  
nukesh@Gupta:~$ sudo vim locustfile.py
```

Step 9:-

```
from locust import HttpUser, constant, task, between, TaskSet,  
SequentialTaskSet, events  
import locust_plugins  
  
@events.test_start.add_listener  
def on_test_start(environment, **kwargs):  
    print("A new test is starting")  
  
@events.test_stop.add_listener  
def on_test_stop(environment, **kwargs):  
    print("A new test is ending")  
  
class InactiveUsers(SequentialTaskSet):  
    @task  
    def helloworld(self):  
        with self.client.get("/hello", catch_response=True,  
name="helloworld", json={}, headers={"accept": "application/json",  
"Content-Type": "application/json"}) as response:  
            if response.status_code != 200:  
                response.failure("Failed to get item: StatusCode " +  
str(response.status_code))  
            else:  
                json_response_data = response.json()  
  
class MyInactiveUsers(HttpUser):  
    wait_time = between(1,2)  
    tasks = [InactiveUsers]  
    host = "http://192.168.122.29:8080"
```

```

Activities Terminal Oct 31 01:12
mukesh@Gupta: ~
from locust import HttpUser, constant, task, between, TaskSet, SequentialTaskSet, events
import locust_plugins

@events.test_start.add_listener
def on_test_start(environment, **kwargs):
    print("A new test is starting")

@events.test_stop.add_listener
def on_test_stop(environment, **kwargs):
    print("A new test is ending")

class InactiveUsers(SequentialTaskSet):
    @task
    def helloworld(self):
        with self.client.get("/hello", catch_response=True, name="helloworld", json={}, headers={"accept": "application/json", "Content-Type": "application/json"}) as response:
            if response.status_code != 200:
                response.failure("Failed to get item: StatusCode " + str(response.status_code))
            else:
                json_response_data = response.json()

class MyInactiveUsers(HttpUser):
    wait_time = between(1,2)
    tasks = [InactiveUsers]
    host = "http://192.168.122.29:8080"

```

Step 10:-

```
cd Download/
```

```
ls
```

```
unzip finobank-ptaplus-settlement.zip
```

```

mukesh@Gupta:~/Downloads$ 
mukesh@Gupta:~/Downloads$ 
mukesh@Gupta:~/Downloads$ unzip finobank-ptaplus-settlement.zip
Archive: finobank-ptaplus-settlement.zip
  creating: finobank-ptaplus-settlement/
  creating: finobank-ptaplus-settlement/.gitignore
  inflating: finobank-ptaplus-settlement/pom.xml
  inflating: finobank-ptaplus-settlement/README.md
  inflating: finobank-ptaplus-settlement/.dockerignore
  inflating: finobank-ptaplus-settlement/nvw.cmd
  inflating: finobank-ptaplus-settlement/nvw
  creating: finobank-ptaplus-settlement/src/
  creating: finobank-ptaplus-settlement/src/main/
  creating: finobank-ptaplus-settlement/src/main/java/
  creating: finobank-ptaplus-settlement/src/main/java/com/
  creating: finobank-ptaplus-settlement/src/main/java/com/finobank/
  creating: finobank-ptaplus-settlement/src/main/java/com/finobank/ptaplus/
  inflating: finobank-ptaplus-settlement/src/main/java/com/finobank/ptaplus/GreetingResource.java
  creating: finobank-ptaplus-settlement/src/main/resources/
  inflating: finobank-ptaplus-settlement/src/main/resources/application.properties
  creating: finobank-ptaplus-settlement/src/main/resources/META-INF/
  creating: finobank-ptaplus-settlement/src/main/resources/META-INF/resources/
  inflating: finobank-ptaplus-settlement/src/main/resources/META-INF/resources/Index.html
  creating: finobank-ptaplus-settlement/src/main/docker/
  inflating: finobank-ptaplus-settlement/src/main/docker/Dockerfile.legacy-jar
  inflating: finobank-ptaplus-settlement/src/main/docker/Dockerfile.jvm
  inflating: finobank-ptaplus-settlement/src/main/docker/Dockerfile.native-micro
  creating: finobank-ptaplus-settlement/src/test/
  creating: finobank-ptaplus-settlement/src/test/java/
  creating: finobank-ptaplus-settlement/src/test/java/com/
  creating: finobank-ptaplus-settlement/src/test/java/com/finobank/
  creating: finobank-ptaplus-settlement/src/test/java/com/finobank/ptaplus/
  inflating: finobank-ptaplus-settlement/src/test/java/com/finobank/ptaplus/GreetingResourceIT.java
  inflating: finobank-ptaplus-settlement/src/test/java/com/finobank/ptaplus/GreetingResourceTest.java
  creating: finobank-ptaplus-settlement/.mvn/
  creating: finobank-ptaplus-settlement/.mvn/wrapper/
  inflating: finobank-ptaplus-settlement/.mvn/wrapper/.gitignore
  inflating: finobank-ptaplus-settlement/.mvn/wrapper/maven-wrapper.properties
  inflating: finobank-ptaplus-settlement/.mvn/wrapper/MavenWrapperDownloader.java
  inflating: finobank-ptaplus-settlement/target/
  creating: finobank-ptaplus-settlement/target/build-metrics.json
  creating: finobank-ptaplus-settlement/target/classes/
  inflating: finobank-ptaplus-settlement/target/classes/application.properties

```

Step 11:-

```
ls
```

```
tar -zxvf loadtestimage.tar.gz
```

Step 12:-

```
podman load -i loadtestimage.tar.gz
```

The command you provided, `podman load -i loadtestimage.tar.gz`, is used in the context of containerization. Let me break it down for you:

```
mukesh@Gupta:~/Downloads$ mukesh@Gupta:~/Downloads$ mukesh@Gupta:~/Downloads$ podman load -i loadtestimage.tar.gz Getting image source signatures Copying blob 361474b16f41 done Copying blob 7d13900c8624 done Copying blob 650abce4b096 done Copying blob 1ff58c608c7a0 done Copying blob 6904bcfe46b4 done Copying blob 1e1355fid464 done Copying blob ad1f370f2a87 done Copying blob d4bbb4245d35 done Copying blob 5f70bf18a086 done Copying blob c4d5c5bfdad4 done Copying config 49a55a1d94 done Writing manifest to image destination Storing signatures Loaded image(s): localhost/loadtest:v1 mukesh@Gupta:~/Downloads$ mukesh@Gupta:~/Downloads$ mukesh@Gupta:~/Downloads$ mukesh@Gupta:~/Downloads$
```

Step 13:-

podman images

podman images is a command-line interface (CLI) command used in Podman, a containerization tool similar to Docker. It is used to list the locally available container images on your system.

```
mukesh@Gupta:~/Downloads$ podman images
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE
localhost/loadtest v1      49a55a1d94ca  5 months ago  546 MB
mukesh@Gupta:~/Downloads$ 
mukesh@Gupta:~/Downloads$ 
mukesh@Gupta:~/Downloads$ 
mukesh@Gupta:~/Downloads$
```

Step 14:-

```
sudo apt update
```

```
mukesh@Gupta:~$ sudo apt update
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [19.2 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu focal InRelease [265 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu focal-updates/main l386 Packages [900 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1959 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu focal-updates/main i386 Packages [1464 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [275 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 48x48 Icons [60.8 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64 Icons [98.3 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64@2 Icons [29 kB]
Get:13 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [17.2 kB]
Get:14 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [2,477 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted l386 Packages [34.6 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [346 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [568 kB]
Get:18 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11 48x48 Icons [1,130 kB]
Get:19 http://in.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 64x64 Icons [1,130 kB]
Get:20 http://in.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [269 kB]
Get:21 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 DEP-11 Metadata [414 kB]
Get:22 http://in.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 48x48 Icons [287 kB]
Get:23 http://in.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 64x64 Icons [503 kB]
Get:24 http://in.archive.ubuntu.com/ubuntu focal-updates/universe DEP-11 64x64@2 Icons [29 kB]
Get:25 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:26 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:27 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:28 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:29 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:30 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:31 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:32 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:33 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:34 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:35 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:36 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:37 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:38 http://in.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [25.7 kB]
Get:39 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [25.8 kB]
Get:40 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse l386 Packages [8,436 kB]
Get:41 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse Translation-en [486 kB]
Get:42 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 DEP-11 Metadata [344 kB]
Get:43 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse DEP-11 48x48 Icons [1,867 kB]
Get:44 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse DEP-11 64x64 Icons [2,497 kB]
Get:45 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse DEP-11 64x64@2 Icons [29 kB]
Get:46 http://in.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [620 kB]
Get:47 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8,628 kB]
Get:48 http://in.archive.ubuntu.com/ubuntu focal/universe Translation-en [5,124 kB]
Get:49 http://in.archive.ubuntu.com/ubuntu focal/universe amd64 DEP-11 Metadata [3,603 kB]
Get:50 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 48x48 Icons [3,016 kB]
Get:51 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64 Icons [7,794 kB]
Get:52 http://in.archive.ubuntu.com/ubuntu focal/universe DEP-11 64x64@2 Icons [44.3 kB]
```

```
sudo snap install --classic code
```

```
code .
```

Step 15:-

```
ls
```

```

Oct 31 01:33
Activities  Visual Studio Code - Downloads - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER ...
DOWNLOADS
> 6ce524a4fa1112fd109af7f5cc98...
> 8d1c98e8dd677bc7df6f3877b1571...
> 9b5b1c24568650b89c5a4103e5fa...
> 44cdffd4551e1f41918e9ea323ca...
> 27845e6bb0340b7c7c755348d5c2...
> c2bba81dd9cc674a90dd2664174...
> c93c094df15f5e728c02bd45a5c...
> cb9781344607d95c0360c1cb611...
> ed86512bed7afab0bf2cb4a0f...
> f600fcfcdaabee9fa0a10f5067f...
> finobank-ptaplus-settlement
# 1f58c608c7a00293999e070892e7...
# S700f18a08607016e9480d4ed3...
# 7d13900c8d2491072ebd8e62b1f4...
# 4ta551a194ca4b7rf53a565d82...
# 650ace4b40606a0acae2046d92...
# 690abc4b40497d8a5f5d8e092...
# 101355f1d464e81e8453a810eeef8...
# 361474b16f413020f51b1aa8aa283...
# ad1f370f2a87f2380a3621a76668...
# cd5c5b1fda4120d5d4e497a2e3...
# dbeb4245d35a2e1d9ca3a3d07...
# finobank-ptaplus-settlement.zip
# loadtestimage.tar.gz
# manifest.json
# repositories
# vokoscreenNG-3.8.0-win64.exe
# cd5c5b1fda4120d5d4e497a2e3...
# dbeb4245d35a2e1d9ca3a3d07...
# mukesh@gupta:~/Downloads$ ls
101355f1d464e81e8453a810eeef8/cfbff28806e47db8dcf51b252ba11c588.tar
1f58c608c7a00293999e070892e7d92e7597da8745c09569a1f432e0ef63f015c7.tar
27845e6bb0340b7c7c755348d5c29e924fxe921fa13458f48956988a0616
361474b16f413020f51b1aa8aa283/manifest.json
44cdffd4551e1f41918e9ea323ca...
493c094df15f5e728c02bd45a5c2...
49551d910f51b1f413020f51b1aa8aa283/7f7e2024d.json
517fb1f8a8607016e9480d4ed3b21a3a36bea41755b6cdffaf1fa0ca3e6ef.tar
64cdffd4551e1f41918e9ea323c73cd12ea094d187c5d5d7b8a771c0e971d
650abc4b40606a0acae2046d92...
690abc4b40497d8a5f5d8e092...
7d13900c8d2491072ebd8e62b1f4...
7d13900c8d2491072ebd8e62b1f4...
8d1c98e8dd677bc7df6f3877b1571...
8d1c98e8dd677bc7df6f3877b1571...
9b5b1c24568650b89c5a4103e5fa...
9b5b1c24568650b89c5a4103e5fa...
ad1f370f2a87f2380a3621a76668...
ad1f370f2a87f2380a3621a76668...
# cd5c5b1fda4120d5d4e497a2e3...
# dbeb4245d35a2e1d9ca3a3d07...
# mukesh@gupta:~/Downloads$ 
# mukesh@gupta:~/Downloads$ 

```

```
cd finobank-ptaplus-settlement/
```

```
sudo apt install maven
```

```

Oct 31 01:33
Activities  Visual Studio Code - Downloads - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER ...
DOWNLOADS
> 6ce524a4fa1112fd109af7f5cc98...
> 8d1c98e8dd677bc7df6f3877b1571...
> 9b5b1c24568650b89c5a4103e5fa...
> 44cdffd4551e1f41918e9ea323ca...
> 27845e6bb0340b7c7c755348d5c2...
> c2bba81dd9cc674a90dd2664174...
> c93c094df15f5e728c02bd45a5c...
> cb9781344607d95c0360c1cb611...
> ed86512bed7afab0bf2cb4a0f...
> f600fcfcdaabee9fa0a10f5067f...
> finobank-ptaplus-settlement
# 1f58c608c7a00293999e070892e7...
# S700f18a08607016e9480d4ed3...
# manifest.json
# repositories
# vokoscreenNG-3.8.0-win64.exe
# cd5c5b1fda4120d5d4e497a2e3...
# dbeb4245d35a2e1d9ca3a3d07...
# mukesh@gupta:~/Downloads$ ls
101355f1d464e81e8453a810eeef8/cfbff28806e47db8dcf51b252ba11c588.tar
1f58c608c7a00293999e070892e7d92e7597da8745c09569a1f432e0ef63f015c7.tar
27845e6bb0340b7c7c755348d5c29e924fxe921fa13458f48956988a0616
361474b16f413020f51b1aa8aa283/manifest.json
44cdffd4551e1f41918e9ea323ca...
493c094df15f5e728c02bd45a5c2...
49551d910f51b1f413020f51b1aa8aa283/7f7e2024d.json
517fb1f8a8607016e9480d4ed3b21a3a36bea41755b6cdffaf1fa0ca3e6ef.tar
64cdffd4551e1f41918e9ea323c73cd12ea094d187c5d5d7b8a771c0e971d
650abc4b40606a0acae2046d92...
690abc4b40497d8a5f5d8e092...
7d13900c8d2491072ebd8e62b1f4...
7d13900c8d2491072ebd8e62b1f4...
8d1c98e8dd677bc7df6f3877b1571...
8d1c98e8dd677bc7df6f3877b1571...
9b5b1c24568650b89c5a4103e5fa...
9b5b1c24568650b89c5a4103e5fa...
ad1f370f2a87f2380a3621a76668...
ad1f370f2a87f2380a3621a76668...
# cd5c5b1fda4120d5d4e497a2e3...
# dbeb4245d35a2e1d9ca3a3d07...
# mukesh@gupta:~/Downloads$ 
# mukesh@gupta:~/Downloads$ 
# mukesh@gupta:~/Downloads$ sudo apt install maven
[sudo] password for mukesh:
Reading package lists... Done
Building dependency tree
The following additional packages will be installed:
  ca-certificates-java default-jre-headless java-common libapacharlide-java libapache-pom-java libatinject-jsr30-api-java libcdi-api-java libcommons-cli-java libcommons-io-java libcommons-lang3-java libcommons-parent-java liberonimo-annotation-1.3-spec-java liberonimo-interceptor-3.0-spec-java libguice-java libhwjni-runtime-java libjansi-java libjansi-native-java libjsr305-java libmaven-parent-java libmaven-resolver-java libmaven-shared-utils-java libmaven3-core-java libplexus-cipher-java libplexus-classworlds-java libplexus-component-annotations-java libplexus-interpolation-java libplexus-sec-dispatcher-java libplexus-utils2-java libsisu-inject-java libsisu-plexus-java libwagon-file-java libwagon-http-shaded-java libwagon-provider-api-java maven openjdk-11-jre-headless
Suggested packages:
  default-jre libapacharlide-java-doc libatinject-jsr30-api-java-doc libcdi-api-java-doc libcommons-cli-java-doc libcommons-io-java-doc libcommons-lang3-java-doc libguice-java-doc libhwjni-runtime-java-doc libjansi-native-java-doc libjsr305-java-doc libmaven-parent-java-doc libmaven-resolver-java-doc libmaven-shared-utils-java-doc libmaven3-core-java-doc libplexus-cipher-java-doc libplexus-classworlds-java-doc libplexus-component-annotations-java-doc libplexus-interpolation-java-doc libplexus-sec-dispatcher-java-doc libplexus-utils2-java-doc libsisu-inject-java-doc libsisu-plexus-java-doc libwagon-file-java-doc libwagon-http-shaded-java-doc libwagon-provider-api-java-doc maven-openjdk-11-jre-headless
The following NEW packages will be installed:
  maven
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 47.5 MB of archives.
After this operation, 188 MB of additional disk space will be used.
Do you want to continue? [Y/n] 
# mukesh@gupta:~/Downloads$ 

```

Step 16:

```
mvn clean compile quarkus:dev -DskipTest
```

The command **mvn clean compile quarkus:dev -DskipTests** is used in the context of developing applications using the Quarkus framework in Java.

A screenshot of a Linux desktop environment. On the left is a vertical dock with icons for various applications like a terminal, file manager, and system settings. The main window is a Visual Studio Code instance titled 'Downloads - Visual Studio Code'. It shows an 'EXPLORER' view with a 'DOWNLOADS' folder containing several Java files. Below it is a 'PROBLEMS' view which is currently empty. The 'TERMINAL' tab is active, displaying the command line interface for a Java project named 'finobank-ptplus-settlement'. The user is running Maven commands to clean, compile, and run the application. The 'OUTPUT' tab shows logs from the build process. At the bottom of the terminal, a progress bar indicates the completion of a task: 'Progress (1): 4.4 kB'. The status bar at the very bottom of the screen shows the date and time as 'Oct 31 01:35'.

Step 17:- Change the IP address , according to your System IP

```
mvn clean compile quarkus:dev -DskipTests -Dquarkus.http.host=192.168.122.82
```

A screenshot of a Linux desktop environment, likely Ubuntu, showing a terminal window titled "night2.mkv - VLC media player". The terminal is running a series of Maven commands to build a Quarkus application named "finobank-ptaplus-settlement". The commands include "mvn clean compile quarkus:dev -Dquarkus.http.host=192.168.122.29", "mvn dependency:analyze", and "mvn dependency:tree". The terminal also displays several warning messages about illegal reflective access operations and encourages reporting them to the maintainers of the Google Guice library. The desktop interface includes a dock with various icons, a file manager window titled "Downloads - Visual Studio Code", and a system tray at the top.

Step 18:- Go to main terminal

```
cd
```

```
locust -f locustfile.py
```

The command **locust -f locustfile.py** is used to run performance tests using Locust, which is an open-source load testing tool. Let's break down the command

Step 19:-

```
podman run -itd --name loadtesting -p 8089:8089 -v <Directory>:/mnt/locust
localhost/loadtest:v1 -f /mnt/locust/locustfile.py
```

The command **podman run -itd --name loadtesting -p 8089:8089 -v :/mnt/locust localhost/loadtest:v1 -f /mnt/locust/locustfile.py** is used to run a containerized instance of a load testing tool using Podman. Let's break down the command

```
mukesh@Gupta:~$ podman run -itd --name loadtesting -p 8089:8089 -v /home/mukesh:/mnt/locust localhost/loadtest:v1 -f /mnt/locust/locustfile.py
Sebad0fb3780c3d6c40b3c1508830c0b8510e21cbe62717845e0d0ed398e8d2
mukesh@Gupta:~$
```

Step 20:-

```
podman ps
```

The **podman ps** command is used to list running containers and provide information about them.

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
mukesh@Gupta:~\$						

```
locust -f locustfile.py
```

The command **locust -f locustfile.py** is used to run performance tests using Locust, which is an open-source load testing tool. Let's break down the command

Step 21:-

Go to the browser type localhost:8089*

Step 22:-

```
podman pod create --name timescale --publish 5432:5432 --publish 3000:3000
```

podman command-line tool is used to manage pods on your system.

pod subcommand indicates that you are working with pods, rather than individual containers.

create subcommand is used to create a new pod.

--name timescale sets the name of the new pod to "timescale". This is a user-defined label that can be used to refer to the pod in subsequent commands.

--publish 5432:5432 maps port 5432 on the host system to port 5432 within the pod. This enables external services to communicate with a PostgreSQL database that may be running inside the pod.

--publish 3000:3000 maps port 3000 on the host system to port 3000 within the pod. This enables external services to communicate with a Grafana application that may be running inside the pod.

```
podman pod ps
```

podman pod ps command is used to list the pods currently running on your system when you're using Podman, which is a container management tool similar to Docker.

```
cd
```

```
cd Downloads/
```

```
mkdir -p ~/postgres/data/ ~/grafana/data
```

```
vim script.sh
```

Put this script

```
#!/bin/bash

# Create the first directory
mkdir -p /home/user/Downloads/postgres/data

# Create the second directory
mkdir -p /home/user/Downloads/grafana/data
```

```
# Create a postgres container, give it the desired environment variables,  
# attach it to the created pod  
podman run -dt \  
  --pod timescale \  
  --name timescale-postgres \  
  -e POSTGRES_PASSWORD=password \  
  -e TIMESCALEDB_TELEMETRY=off \  
  -v /home/user/Downloads/postgres/data:/var/lib/postgresql/data \  
  cyberw/locust-timescale:4  
  
# Create the grafana container, give it the desired environment variables,  
# importantly PGHOST, attach it to the created pod  
podman run -dt \  
  --pod timescale \  
  --name timescale-grafana \  
  -e GF_AUTH_DISABLE_LOGIN_FORM=true \  
  -e GF_AUTH_ANONYMOUS_ENABLED=true \  
  -e GF_AUTH_ANONYMOUS_ORG_ROLE=Admin \  
  -e GF_SECURITY_ALLOW_EMBEDDING=true \  
  -e GF_LOG_LEVEL=warn \  
  -e PGHOST=localhost \  
  -v /home/user/Downloads/grafana/data:/var/lib/grafana \  
  cyberw/locust-grafana:2
```

```
pwd
```

*Step 25:-

```
chmod 775 script.sh
```

The command **chmod 775 script.sh** is used to change the permissions of a file named script.sh.

Step 26:-

```
bash script.sh
```

```
Step 27:-
```

```
podman ps
```

podman command-line tool is used to manage pods on your system.

ps subcommand lists the current status of all running pods.

Step 28:-

```
cd ~/grafana/
```

Step 29:-

```
sudo apt install jq
```

Step 31:-

```
Vim pipeline.sh
```

Put this script

```
GRAFANA_CRED="admin:admin"
GRAFANA_HOST="http://192.168.1.101:3000"
GRAFANA_OVERWRITE=false
DS_NAME="locust_timescale"
PGHOST="postgres"
PGPORT="5432"

curl -u "$GRAFANA_CRED" $GRAFANA_HOST/api/datasources -XPOST -H "Accept: application/json" -H "Content-Type: application/json" -d '{"access": "proxy", "basicAuth": false, "basicAuthPassword": "", "basicAuthUser": "", "database": "postgres", "isDefault": false, "jsonData": {"postgresVersion": 1200, "sslmode": "disable", "timescaledb": true}, "name": "'$DS_NAME'", "orgId": 1, "password": "", "readOnly": false, "secureJsonData": {"password": "password"}, "type": "postgres", "url": "'$PGHOST':$PGPORT", "user": "postgres", "version": 3, "withCredentials": false}'

ds=(10878 14423 14422 15419);
for d in "${ds[@]}"; do
    echo -n "Processing $d: "
    j=$(curl -s -k -u "$GRAFANA_CRED" $GRAFANA_HOST/api/gnet/dashboards/$d | jq .json)
    echo "{\"dashboard\": \"$j\", \"overwrite\": $GRAFANA_OVERWRITE, \"inputs\": [{\"name\": \"$DS_LOCUST\", \"type\": \"datasource\", \"pluginId\": \"postgres\", \"value\": \"$DS_NAME\"}]}" > payload.json
    curl -v -k -u "$GRAFANA_CRED" -H "Accept: application/json" \
        -H "Content-Type: application/json" \
        -d @payload.json \
        $GRAFANA_HOST/api/dashboards/import; echo ""
done
```

Check if Grafana is ready before proceeding

`check_grafana_ready`

Create datasource

`create_datasource`

Import dashboards

`import_dashboards`

Step 32:-

```
bash pipeline.sh
```

```
mukesh@Gupta:~/grafana$ bash pipeline.sh
{"datasource":{"id":1,"uid":"Z3exjZ4ik","orgId":1,"name":"locust_timestable","type":"postgres","typeLogoUrl":"","access":"proxy","url":"postgres:5432","password":"","user":"postgres","database":"postgres","basicAuth":false,"basicAuthUser":"","basicAuthPassword":"","withCredentials":false,"isDefault":false,"jsonData":{"postgresVersion":1200,"sslmode":"disable","timescaledb":true}, "secureJsonFields":["password":true],"version":1,"readonly":false},"id":1,"message":"Datasource added","name":"locust_timestable"}Processing 10878: * Trying 192.168.122.29:3000...
* TCP_NODELAY set
* Connected to 192.168.122.29 (192.168.122.29) port 3000 (#0)
* Server auth using Basic with user 'admin'
> POST /api/dashboards/import HTTP/1.1
> Host: 192.168.122.29:3000
> Authorization: Basic YWRtaW46YWRtaW4=
> User-Agent: curl/7.68.0
> Accept: application/json
> Content-Type: application/json
> Content-Length: 30830
> Expect: 100-continue
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 100 Continue
* We are completely uploaded and fine
* Mark bundle as not supporting multiuse
< HTTP/1.1 200 OK
< Cache-Control: no-cache
< Content-Type: application/json
< Expires: -1
< Pragma: no-cache
< X-Content-Type-Options: nosniff
< X-Xss-Protection: 1; mode=block
< Date: Mon, 30 Oct 2023 20:45:15 GMT
< Content-Length: 250
<
* Connection #0 to host 192.168.122.29 left intact
{"uid":"qjIIw4Zz","pluginId":"","title":"Locust","imported":true,"importedUrl":"db/locust","importedUrl":"/d/qjIIw4Zz/locust","slug":"locust","dashboardId":1,"folderId":0,"importedRevision":1,"revision":1,"description":"","path":"","removed":false}
Processing 14423: * Trying 192.168.122.29:3000...
* TCP_NODELAY set
* Connected to 192.168.122.29 (192.168.122.29) port 3000 (#0)
* Server auth using Basic with user 'admin'
> POST /api/dashboards/import HTTP/1.1
> Host: 192.168.122.29:3000
> Authorization: Basic YWRtaW46YWRtaW4=
> User-Agent: curl/7.68.0
> Accept: application/json
> Content-Type: application/json
> Content-Length: 5339
> Expect: 100-continue
>
* Mark bundle as not supporting multiuse
< HTTP/1.1 100 Continue
* We are completely uploaded and fine
```

Step 33:-

```
cd
```

```
podman exec -it timescale-postgres bash
```

```
mukesh@Gupta:~$  
mukesh@Gupta:~$  
mukesh@Gupta:~$  
mukesh@Gupta:~$ podman exec -it timescale-postgres bash  
bash-5.1#  
bash-5.1#  
bash-5.1#  
bash-5.1#  
bash-5.1#
```

Step 34:-

```
psql -U postgres
```

```
bash-5.1#  
bash-5.1#  
bash-5.1# psql -U postgres  
psql (13.7)  
Type "help" for help.  
  
postgres=#  
postgres=#  
postgres=#
```

Step 35:-

```
\dt
```

```
postgres=#  
postgres=#  
postgres=#  
postgres=#  
postgres=# \dt  
          List of relations  
 Schema |   Name    | Type  | Owner  
-----+-----+-----+-----+  
 public | events  | table | postgres  
 public | request | table | postgres  
 public | testrun | table | postgres  
 public | user_count | table | postgres  
(4 rows)  
  
postgres=#  
postgres=#  
postgres=#
```

Step 36:-

```
select * from user_count;
```

```
postgres=#  
postgres=#  
postgres=#  
postgres=#  
postgres=#  
postgres=# select * from user_count;  
testplan | user_count | time | run_id  
-----+-----+-----+-----+  
(0 rows)  
  
postgres=#  
postgres=#  
postgres=#  
postgres=#  
postgres=# \dla
```

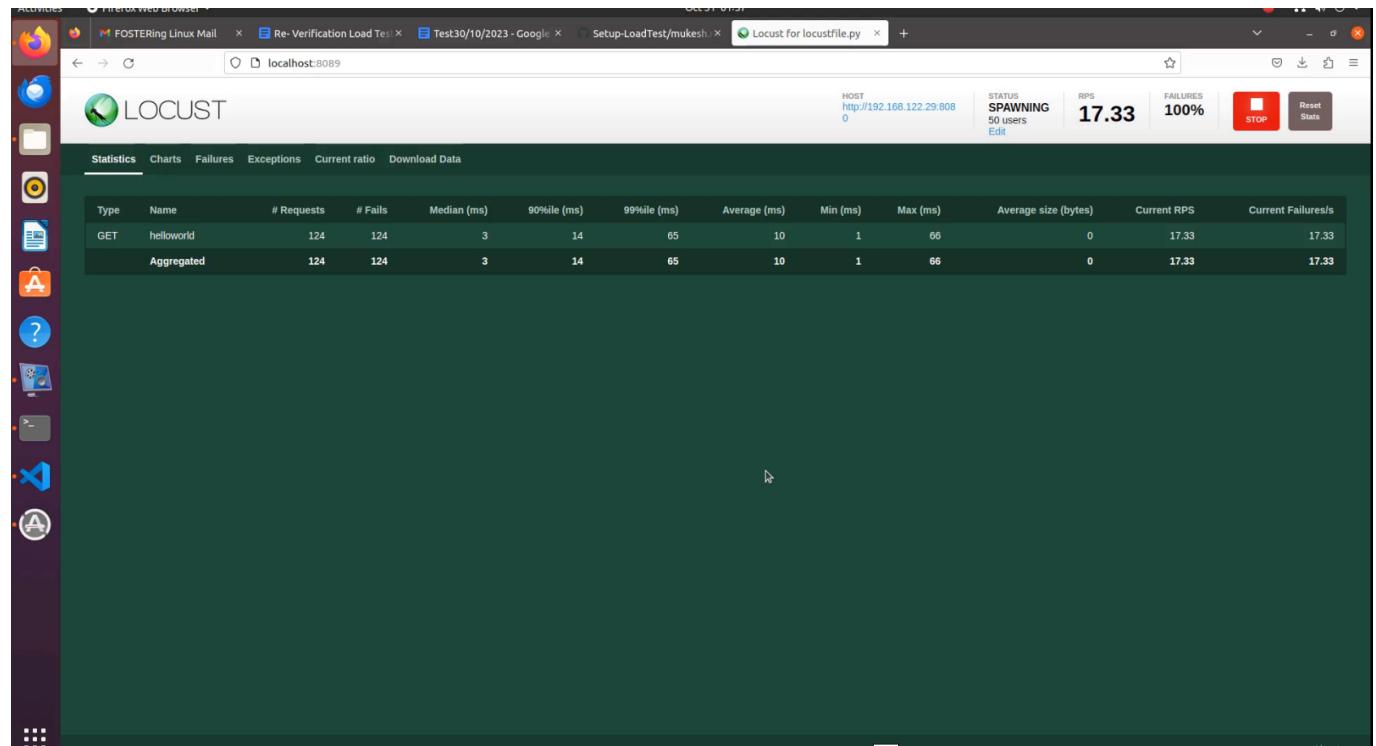
Step 37:-

```
podman run -itd --name loadtesting -p 8089:8089 -v /home/sam:/mnt/locust  
localhost/loadtest:v1 -f /mnt/locust/locustfile.py --timescale --grafana-  
url=http://192.168.122.82:3000 --pogport=192.168.122.82 --pgport=5432 --  
pgpassword=password --pguser=postgres
```

The command you provided, `podman run -itd --name loadtesting -p 8089:8089 -v /home/sam:/mnt/locust localhost/loadtest:v1 -f /mnt/locust/locustfile.py --timescale --grafana-url=http://192.168.122.82:3000 --pogport=192.168.122.82 --pgport=5432 --pgpassword=password --pguser=postgres`, is a command for running a containerized load testing environment using Podman.

Step 38:-

Run the load test with grafana and timescale-DB Locust ui exposed to the localhost:8089 Start a new test with the number of users and spawn rate.



Step 39:- You can add panels in grafana to get the graphical view of the responses.

