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| **Ex No : 1**  **Date :** | **PROGRAM ON SaaS TO CREATE WORD DOCUMENT** |

**Aim:**

To implement program on SaaS to Create an word document of your class time table and store locally and on cloud with doc and PDF format

**Procedure:**

1. With Google Docs, you can create and edit text documents right in your web browser—no special software is required. Even better, multiple people can work at the same time, you can see people’s changes as they make them, and every change is saved automatically.
2. To start, you need a document to work with. In this section

You learn how to:

* 1. Create a new document
  2. Import and convert old documents to Docs

**Create a new document**

1. You can create a new document right in Docs or in Google Drive.In Docs, click Create new document.
2. In Drive, click New > Google Docs > Blank document or From a template.

## Import and convert old documents to Docs

1. If you have existing text documents, such as Microsoft Word or Adobe PDF files, you can import and convert them to Docs.
   * Go to Drive.
   * Click New > File Upload and choose a text document from your computer. Supported files

include .doc, .docx, .dot, .html, plain text (.txt), .odt, and .rtf.

* + Right-click the file you want to convert and select Open with > Google Docs. Converting your document from another program creates a copy of your original file in Docs format. You can then edit it in your browser like any other document.

**Create Class timetable**

**Share documents**

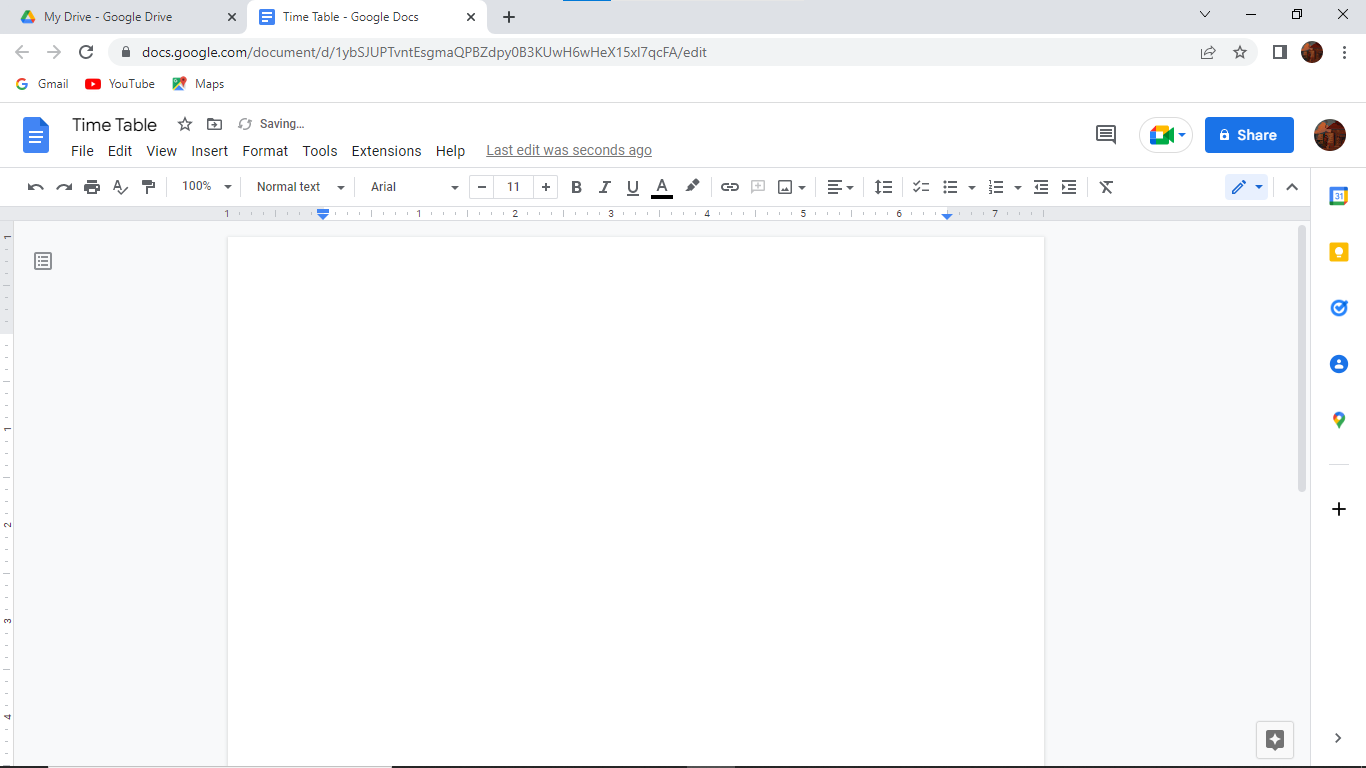
1. Open the file you want to share.
2. Click share.
3. Enter the email addresses or Google Groups you want to share with.

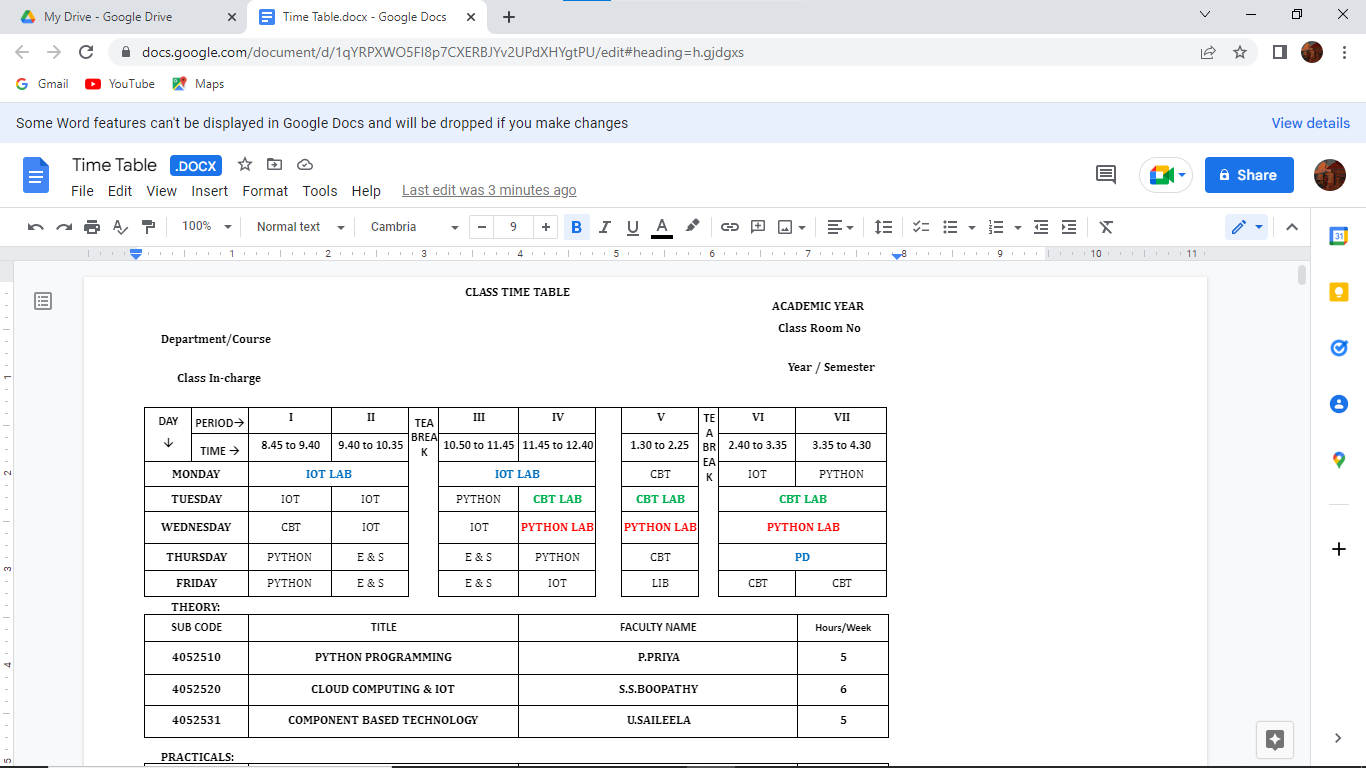
**Note:** If you can't add people outside your company, see your G Suite administrator.

1. Choose what kind of access you want to grant people:
   * **Can edit**—Collaborators can add and edit content as well as add comments.
   * **Can comment**—Collaborators can add comments, but not edit content.
   * **Can view**—People can view the file, but not edit or add comments. Click Send.

Everyone you shared the document with receives an email with a link to the document.

**OUTPUT:**

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**RESULT:**

Thus the word document is created, stored and accessed using cloud

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| **Ex No : 2**  **Date :** | **PROGRAM ON SAAS TO CREATE SPREADSHEET** |

**Aim:**

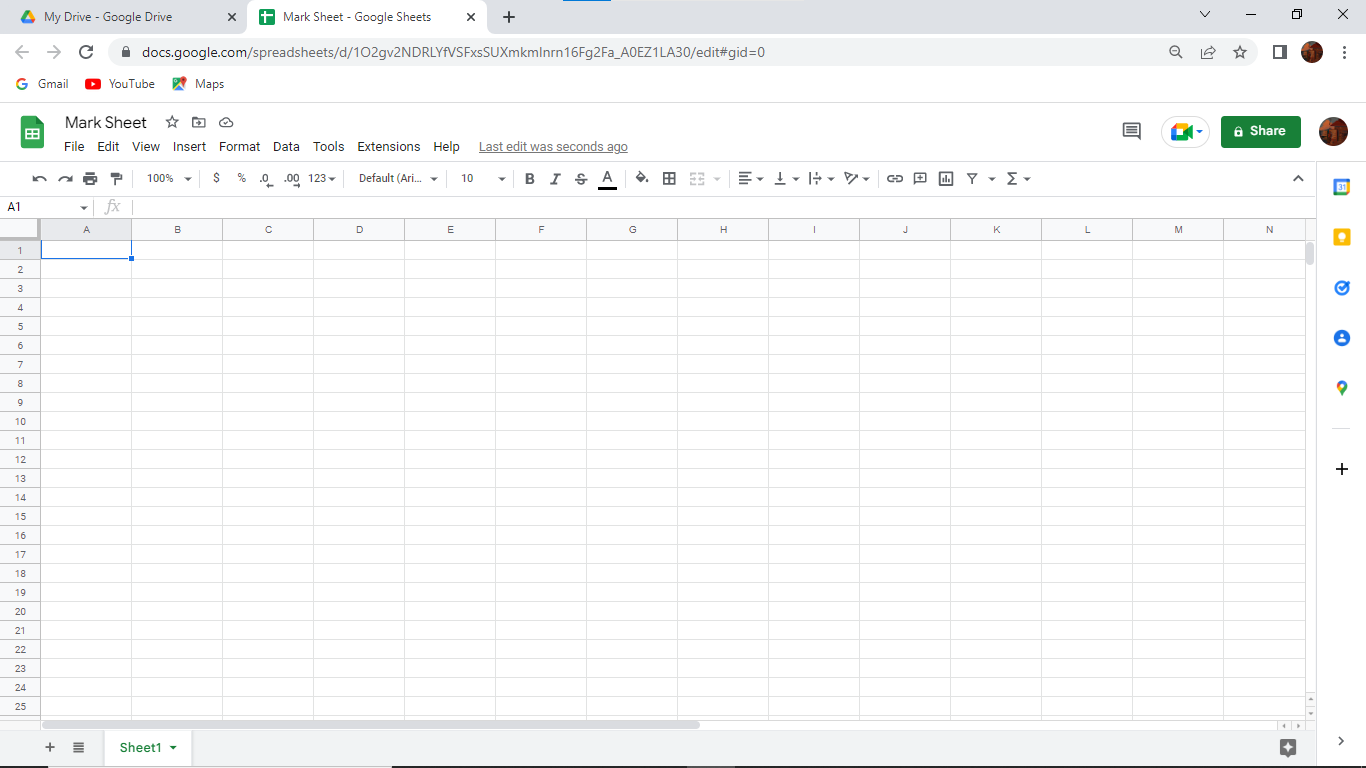
To implement program on SaaS to Create a spread sheet to generate a mark sheet for student progress report

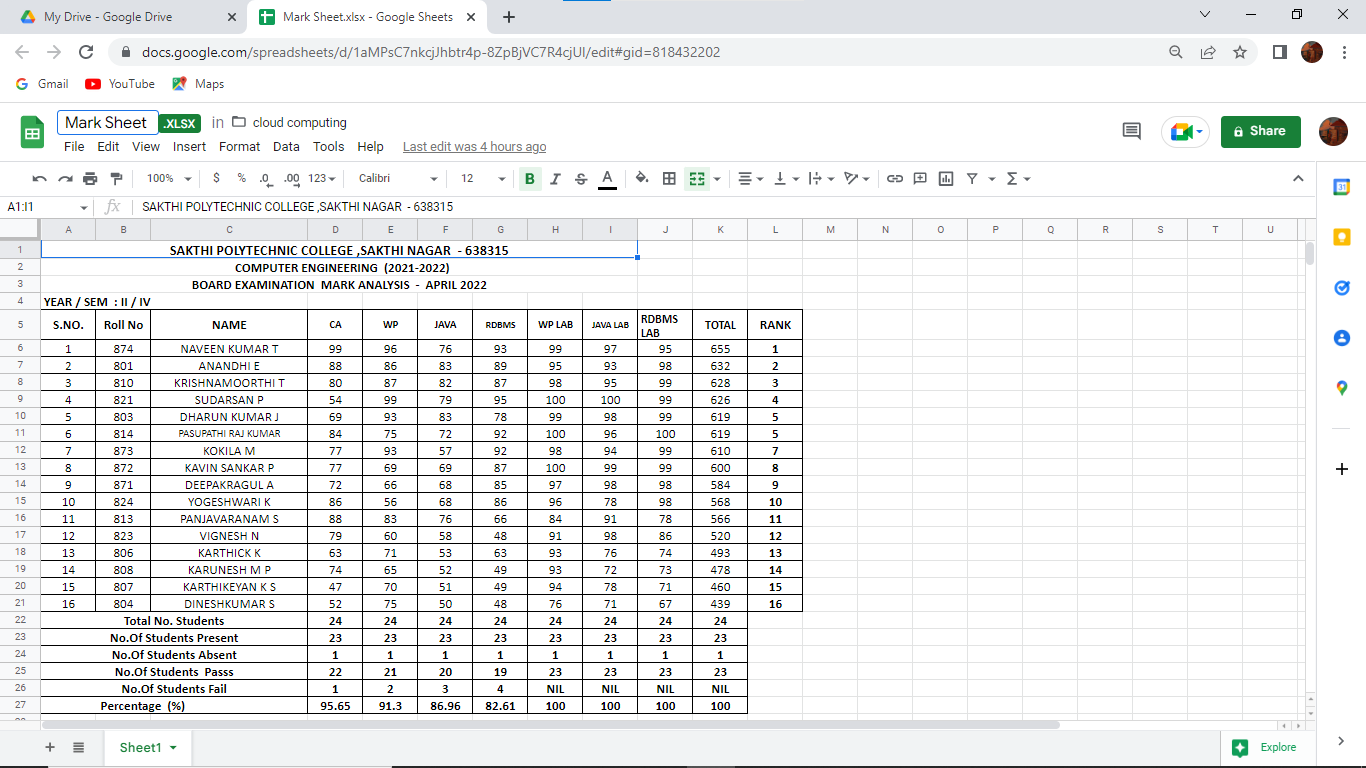
**Procedure:**

If you’re accustomed to creating your spread sheets using an office suite or software like Microsoft Excel, you won’t have any issue in creating a Google Spread sheet. Google Spread sheet works the same as Excel, and you can do most of the important spread sheet tasks with it. You can use Google Spread sheet directly from your web browser or from its mobile app

1. Sign into Google Sheets. Visit docs.google.com/spreadsheets and sign in with your Google or Gmail account. Your Gmail account gives you free access to Google Sheets.
2. View your existing sheets. Upon logging in, you will be brought to the main directory. If you already have existing spreadsheets, you can see and access them from here.
3. Create a new spreadsheet. Click the large red circle with a plus sign on the lower right corner. A new window or tab will be opened with the web-based spreadsheet.
4. Name the spreadsheet. “Untitled spreadsheet” appears on the top left corner. This is the current name of the spreadsheet. Click on it, and a small window will appear. Type in the name of the spreadsheet here, and click the “OK” button. You will see the name immediately change.

**OUTPUT:**

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**RESULT:**

Thus the Program on saas is implemented by creating spreadsheet and details are entered successfully.

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| **Ex No : 03**  **Date :** | **BLOGSPOT CREATION** |

**Aim:**

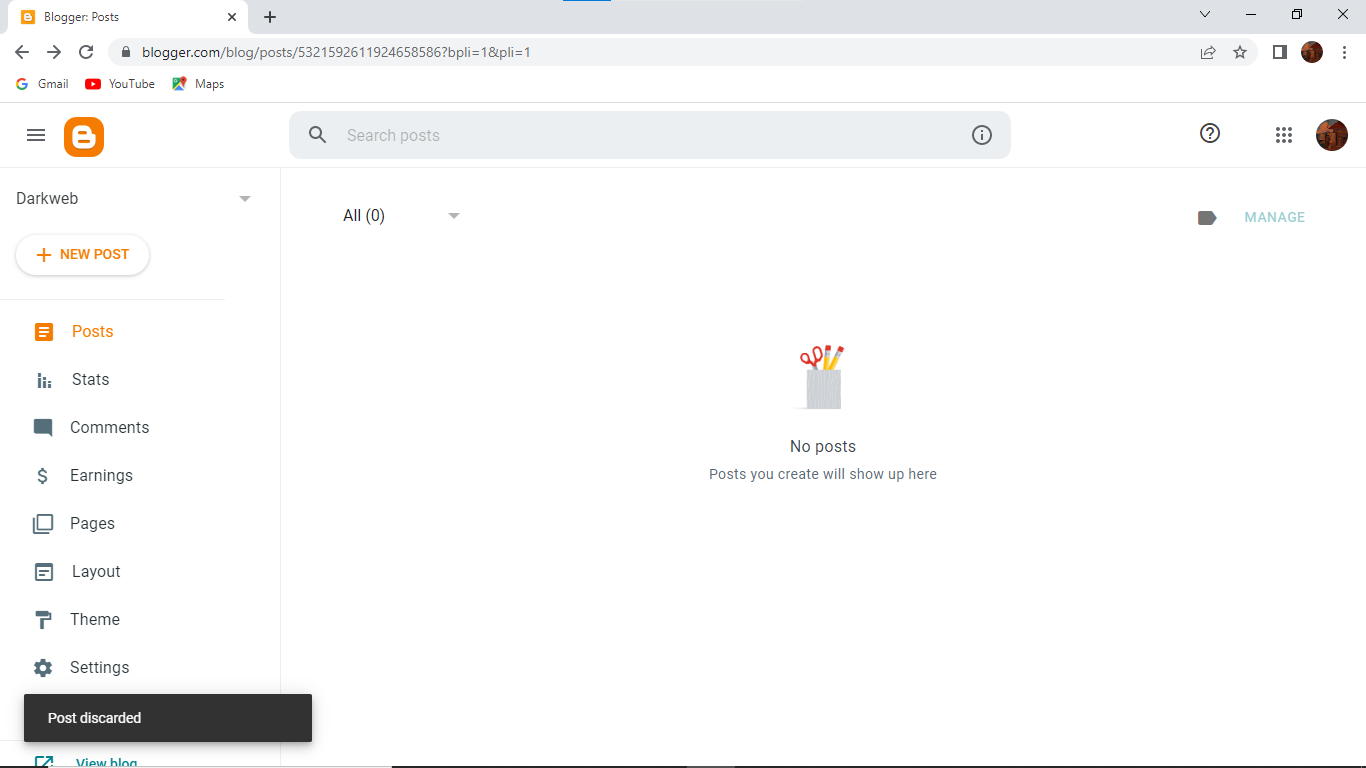
To implement web services by create your BlogSpot and Collaborating via Wikis.

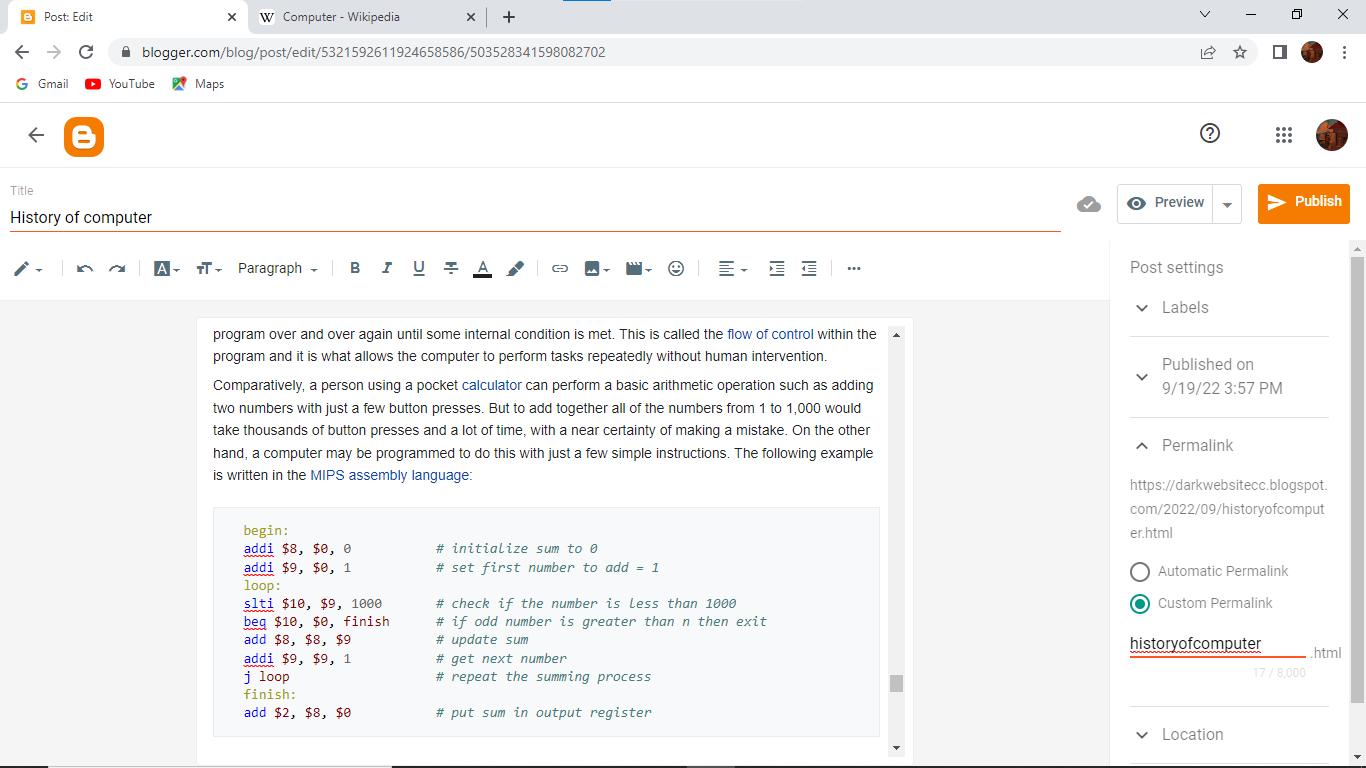
**PROCEDURE:**

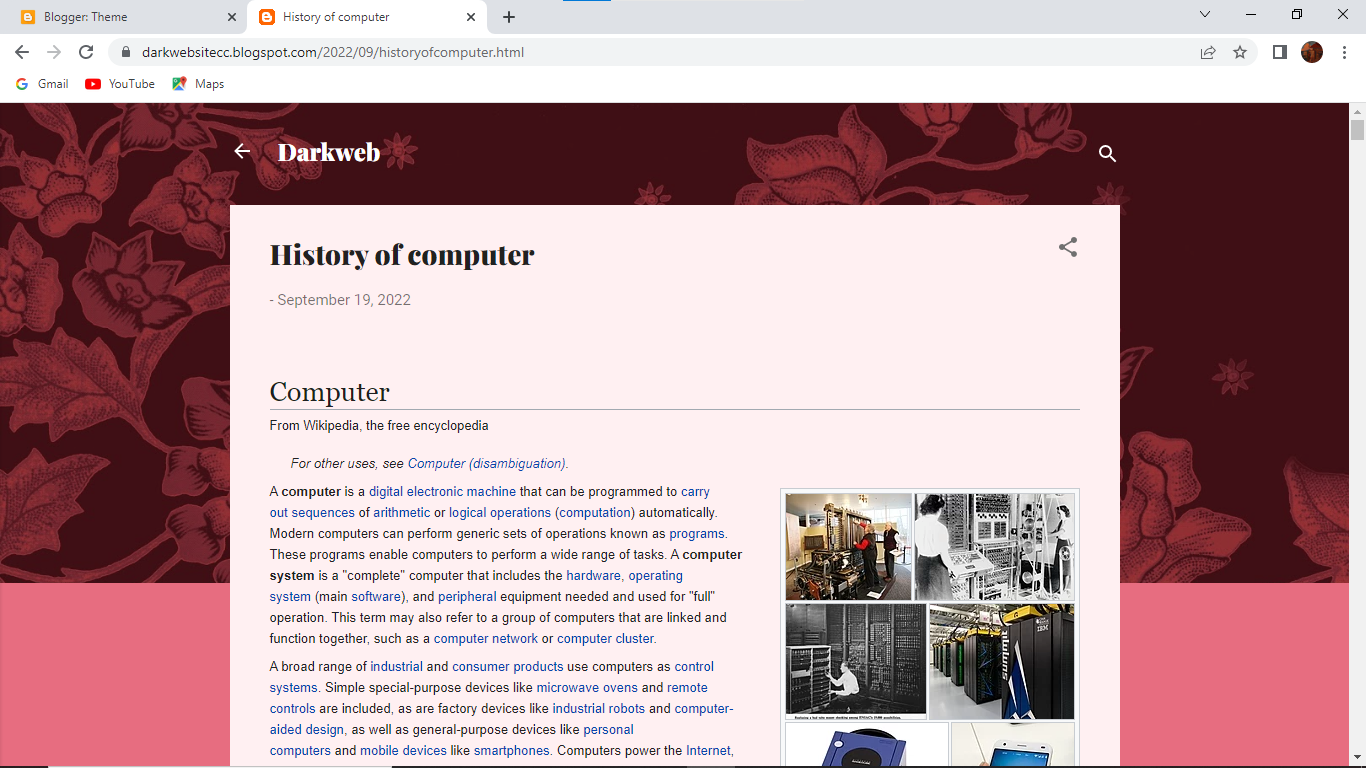
**CREATE A BLOG:**

1. Search in Google as “blogger”, there are many websites to create blogs. Let us take www.blogger.com.
2. Click on create blog. Sign in to your Google account
3. Choose a name for your blog and click on next.
4. Create the blog name click on next.
5. Type the display name and click on Finish
6. Click on create post and update your post in the displayed file and publish.
7. You can apply theme and create many post and labels in your blog and customize it.
8. Finally click on view blog from the menu and you can view the blog which you have created
9. In the blog site ,you can share on your own blog in any social medias and wikkis

**OUTPUT:**







**RESULT:**

Thus the log is created and collaborated successfully

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| **Ex No : 04**  **Date :** | **GOOGLE APP ENGINE** |

**Aim:**

To implement on PaaS to Install Google App Engine, create a program to validate user; create a database login(username, password)in mysql and deploy to cloud

**Procedure:**

* Create a Compute Engine instance
* Install MySQL
* Connect to MySQL

**Create a Compute Engine instance**

Create a new project in the Google Cloud console. You can use an existing project, but creating a new project makes cleanup easier.

You can complete all of the steps in this document using the Google Cloud console, but if you prefer to use the gcloud CLI, follow these steps to enable the Compute Engine API and install the Google Cloud CLI.

* Use the Google Cloud console to enable the Compute Engine API.
* Install the [gcloud CLI](https://cloud.google.com/sdk/docs)
* Configure your workspace to make commands less verbose. Substitute your project's values for PROJECT\_ID and ZONE in the following commands. For the full list of zones, see [Available regions & zones](https://cloud.google.com/compute/docs/regions-zones/regions-zones).

gcloud config set project PROJECT\_ID

gcloud config set compute/zone ZONE

Create a Compute Engine instance for MySQL and establish an SSH connection to the newly created instance. The default operating system is Debian version 10. If you prefer to use a different operating system for this tutorial, you can choose from the options described on the [public images](https://cloud.google.com/compute/docs/images) page in the Compute Engine documentation.

To create a Compute Engine instance in the [Google Cloud console](https://console.cloud.google.com/):

* 1. Open the [Google Cloud console](https://console.cloud.google.com/compute/instances).
  2. Select your newly created project and click **Continue**.
  3. Click **Create instance** (**New instance** if you have existing instances). Name the instance **mysql-test**.
  4. To specify an operating system other than the default value, in the **Boot disk** section, click **Change** to configure the properties for the boot disk. In the **Public images** tab, select an operating system and then click **Save**.
  5. Click **Create**.

**To establish an SSH connection:**

1. On the **VM instances** page, find your new VM instance in the list.
2. In the **Connect** column, click **SSH**. The SSH terminal opens in a browser window.

**Install MySQL**

The following steps describe how to install MySQL on your Compute Engine instance.

Versions 10 and later of Debian contain MariaDB instead of MySQL as part of its package management system. MariaDB maintains compatilibity with the MySQL protocol, but has an independently evolving feature set. For more details, see [MariaDB](https://mariadb.com/database-topics/mariadb-vs-mysql/) vs. MySQL.

To install MySQL, download the release package and manually install using the dpkg commmand.

1. Install the wget dependency.

sudo apt-get install -y wget

1. Download the MySQL Community Server release package.

export DEB\_FILE=mysql-apt-config\_0.8.20-1\_all.deb cd /tmp

curl -L --output ${DEB\_FILE} \ https://dev.mysql.com/get/${DEB\_FILE}

1. Verify the integrity of the release package file. cat > ${DEB\_FILE}.md5 << EOL

799bb0aefb93d30564fa47fc5d089aeb ${DEB\_FILE} EOL

md5sum --check ${DEB\_FILE}.md5

1. The authenticity and integrity of the file are verified if you see the following output.

mysql-apt-config\_0.8.20-1\_all.deb: OK

1. After you have verified the file, add the MySQL package to the local package repository.

sudo dpkg -i ${DEB\_FILE}

1. With the top MySQL Server & Cluster menu option selected, press Return and then use the arrow keys to choose a server version.
2. This guide expects you to choose either MySQL 8.0 or 5.7. Press Return on your keyboard after you have selected the version.
3. When you are satisfied with the options selected in the configuration menu, use the arrow keys to select Ok in the menu and press Return on your keyboard.
4. Update the package cache.

sudo apt-get update

1. Install MySQL. The installation process starts the MySQL service for you.

sudo apt-get -y install mysql-community-server

1. You are prompted to provide some details for the installation such as the root password.

**Connect to MySQL**

1. Connect to MySQL using the MySQL client.

sudo mysql -u root -p

When you connect to MySQL, the prompt changes to mysql>

You can then run MySQL commands. For example, the following command shows the threads running, including the current connection.

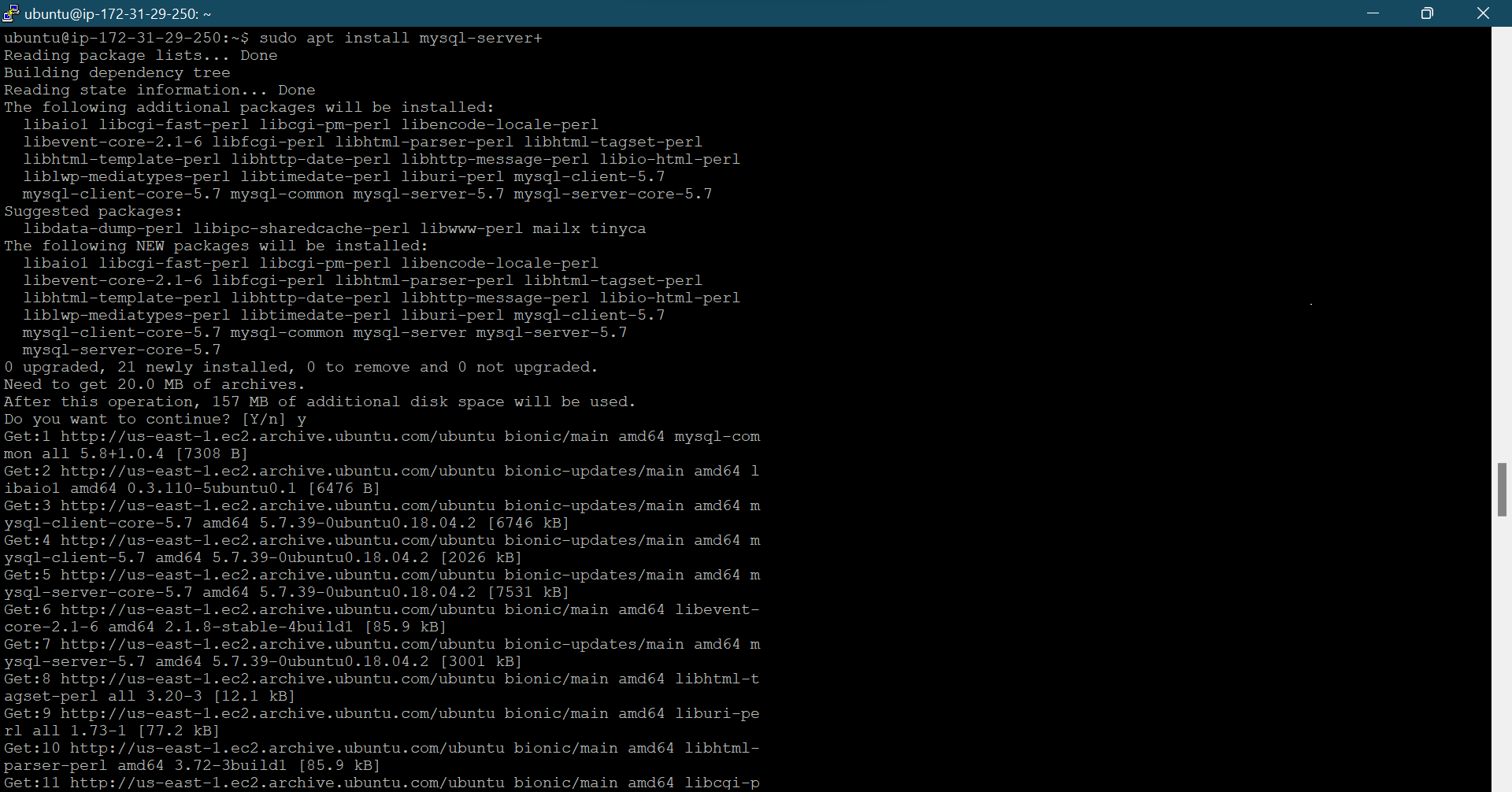
Mysql> SHOW processlist;

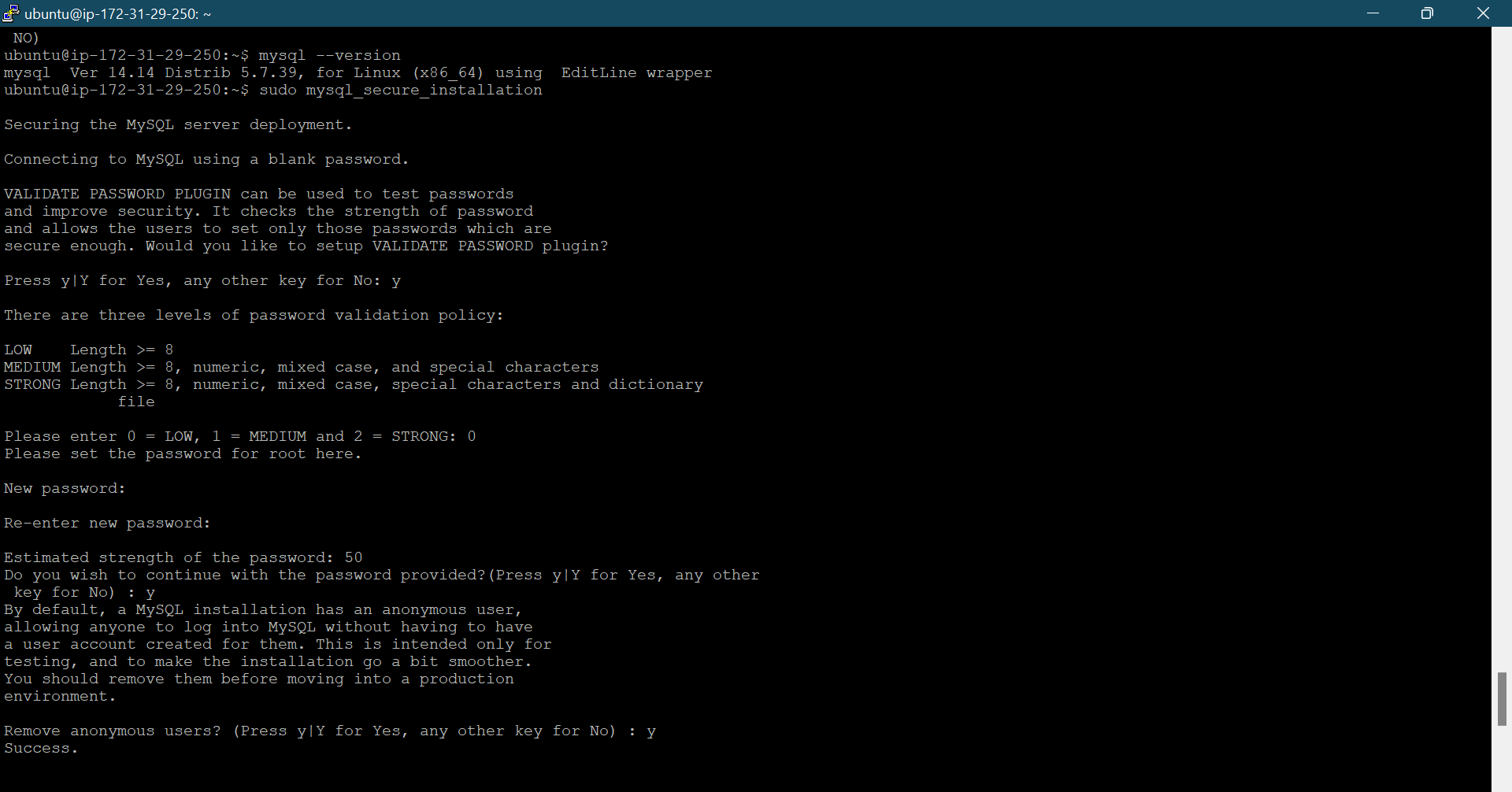
You can use the following command to generate a list of users.

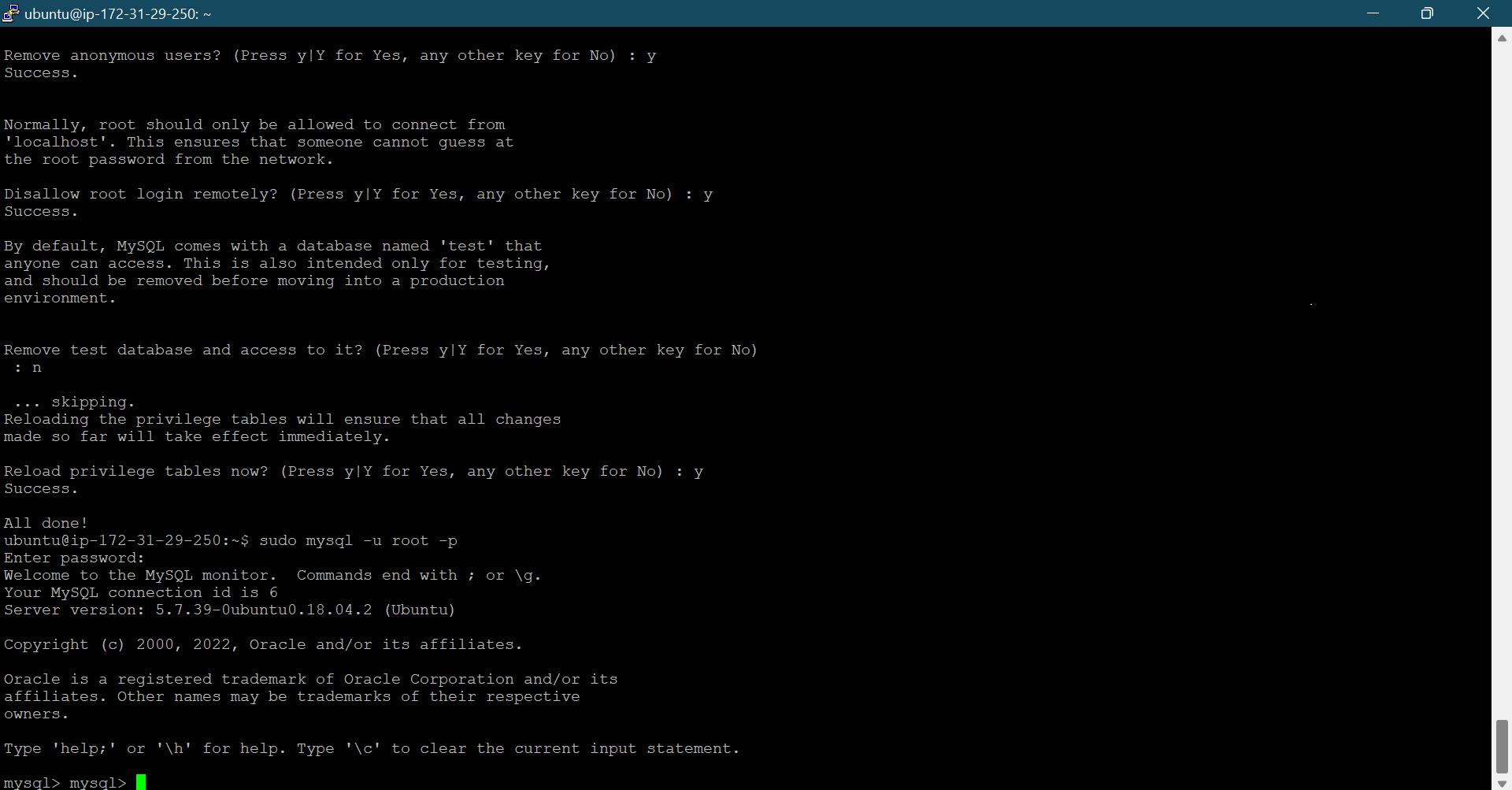
Mysql> SELECT User, Host, authentication\_string FROM mysql.user;

Mysql> exit

**OUTPUT:**

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**RESULT:**

Thus mysql is installed successfully in Google compute engine using Paas services

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| **Ex No : 05**  **Date :** | **LINUX INSTALLATION USING VMware** |

**Aim:**

To Install VMware Workstation with different flavours of Linux or Windows OS on top of windows 7 or 8

**Procedure:**

Step 1: Install VMware

Step 2: Download ISO file from linux website

Step 3: Open VMWare

Step 4: Click “Open a Virtual Machine “

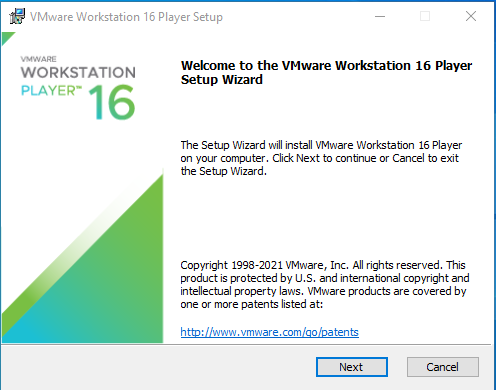
Step 5: Brows VM ware File in File Manager

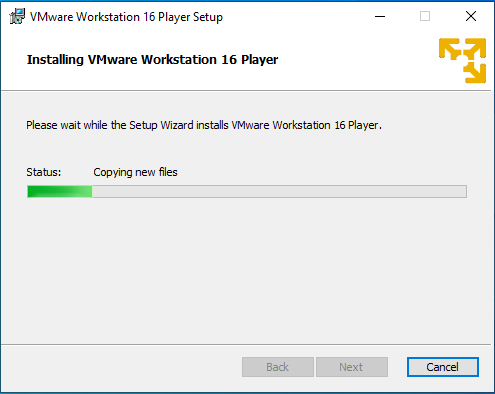
Step 6: Click Open

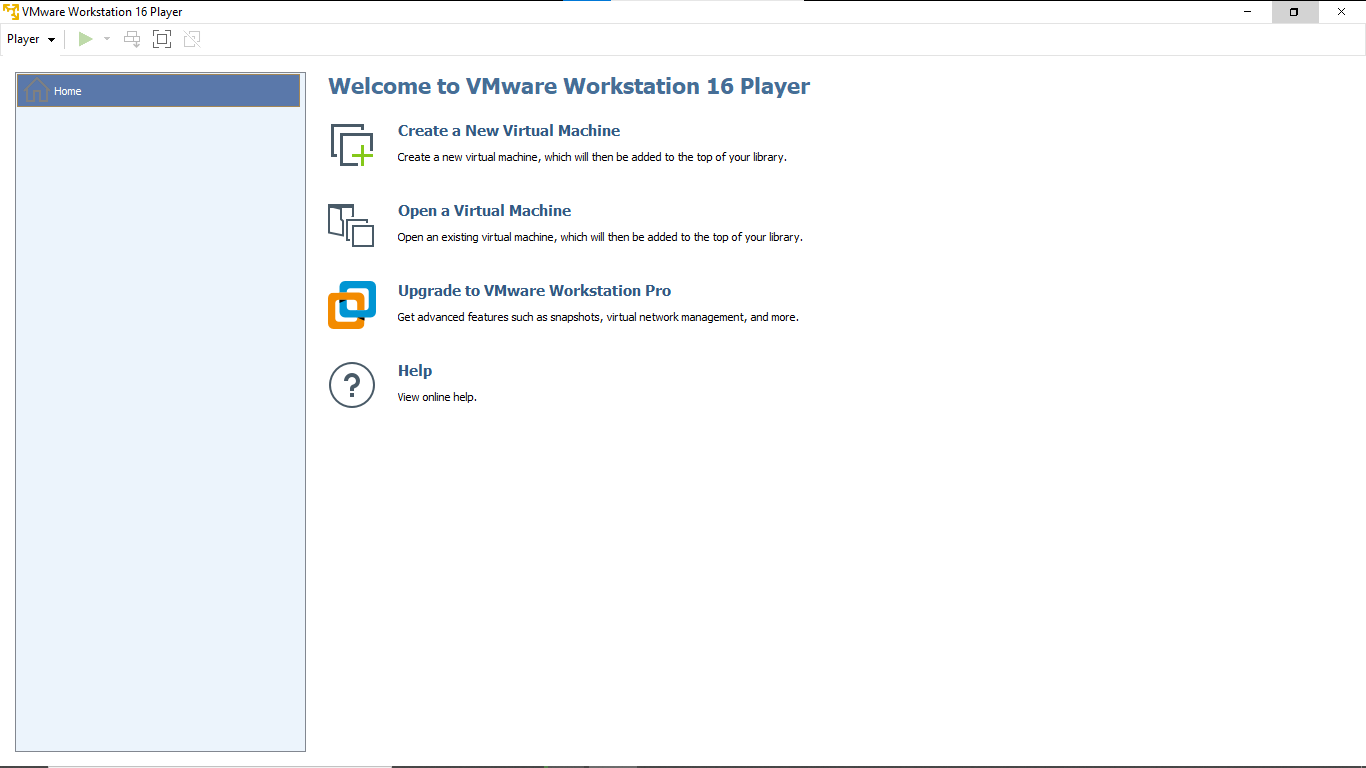
Step 7: Click Run Virtual Machine.

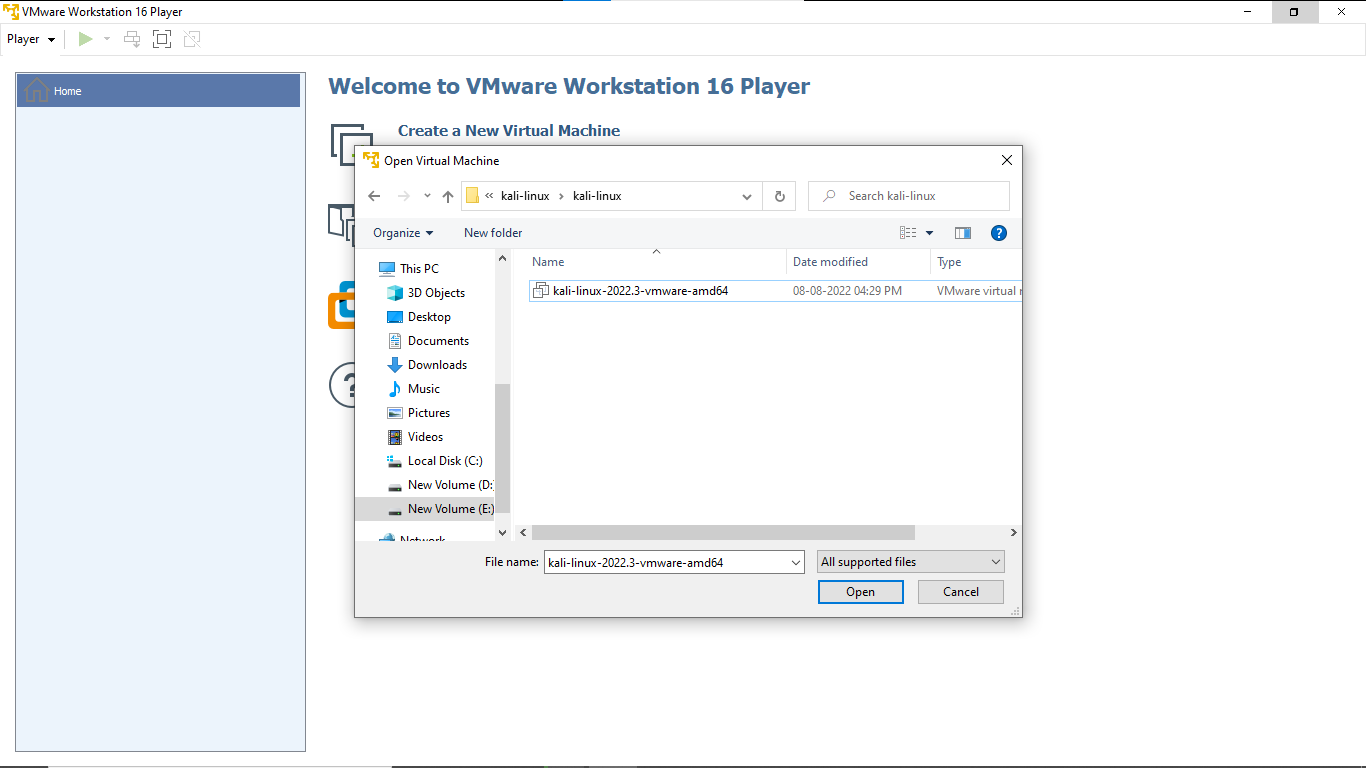
Your OS will Installed Successfully

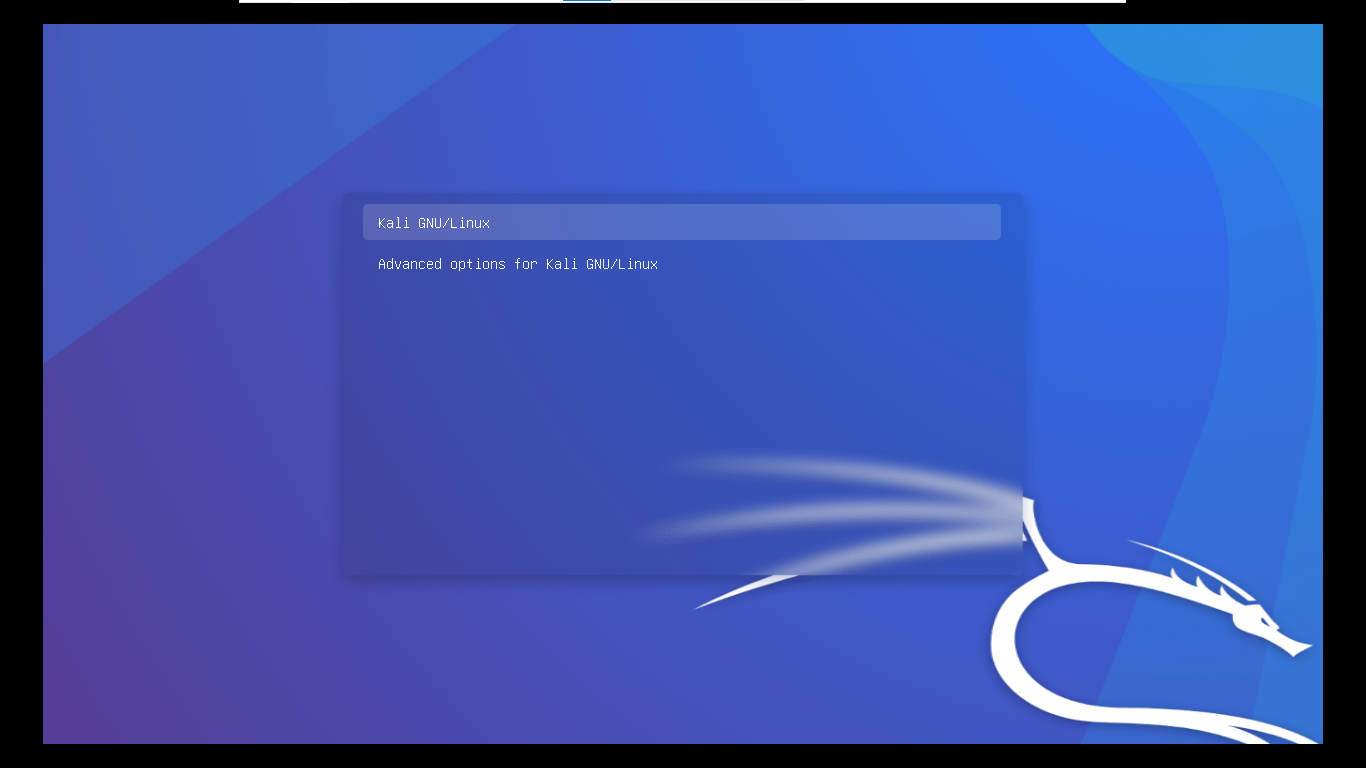
**OUTPUT:**

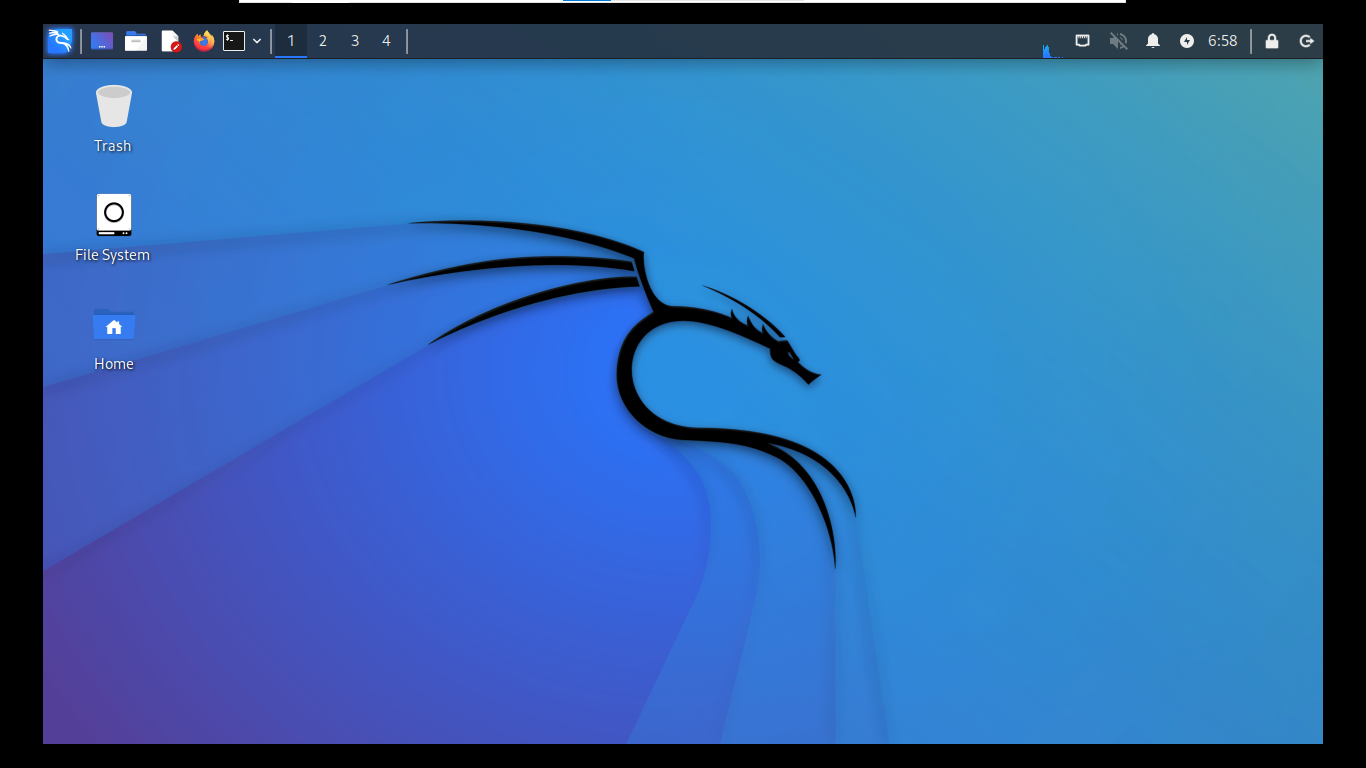
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**RESULT:**

Thus the Linux os is installed in the virtual box successfully.

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| **Ex No : 06**  **Date :** | **OPEN STACK INSTALLATION** |

**Aim:**

To install the open stack and use it as a infrastructure as a service and Use technology own cloud

**Procedure:**

**Steps to install openstack on Ubuntu 18.04 in Virtual box**

1. First install virtual box https://www.virtualbox.org/wiki/Downl...
2. Download Ubuntu 18.04 ISO [https://releases.ubuntu.com/18.04/](https://www.youtube.com/redirect?event=video_description&redir_token=QUFFLUhqazZzT1huam1USzBQMEp1NHdCcWl3cGM3NVB5QXxBQ3Jtc0tuX1ZxSE9LTGE2TlF2ei13WWoyRHFTN0gxOG11cU1aMER0ek9CVnJmSG5OQjRvSVpTd0RlbEhZc2xnR0xhMWdPM2c2SkV3a3dmNEpKWXJpYk9aR3NWQWpaTENpQ3Y0bEJCVTZ2RXpKVXlUN2daWVh6Zw&q=https%3A%2F%2Freleases.ubuntu.com%2F18.04%2F&v=N6Cbb_dSzpc)
3. Create Ubuntu 18.04 VM in Virtual box 4 GB RAM + 2 vCPUs Hard disk capacity of Min 10 GB
4. After succesful installation of ubuntu ,start Openstack installation

Execute below steps in terminal:

sudo su apt update -y && apt upgrade -y sudo reboot sudo useradd -s /bin/bash -d /opt/stack -m stack echo "stack ALL=(ALL) NOPASSWD: ALL" |

sudo tee /etc/sudoers.d/stack sudo su - stack If git not installed:

sudo apt install git -y

git clone <https://github.com/openstack-dev/devs>... -b stable/pike devstack/ cd devstack/ ifconfig

If it did not work:

sudo apt install net-tools

ADMIN\_PASSWORD=secret

DATABASE\_PASSWORD=\$ADMIN\_PASSWORD RABBIT\_PASSWORD=\$ADMIN\_PASSWORD SERVICE\_PASSWORD=\$ADMIN\_PASSWORD

HOST\_IP=10.0.2.15 RECLONE=yes EOF ./stack.sh

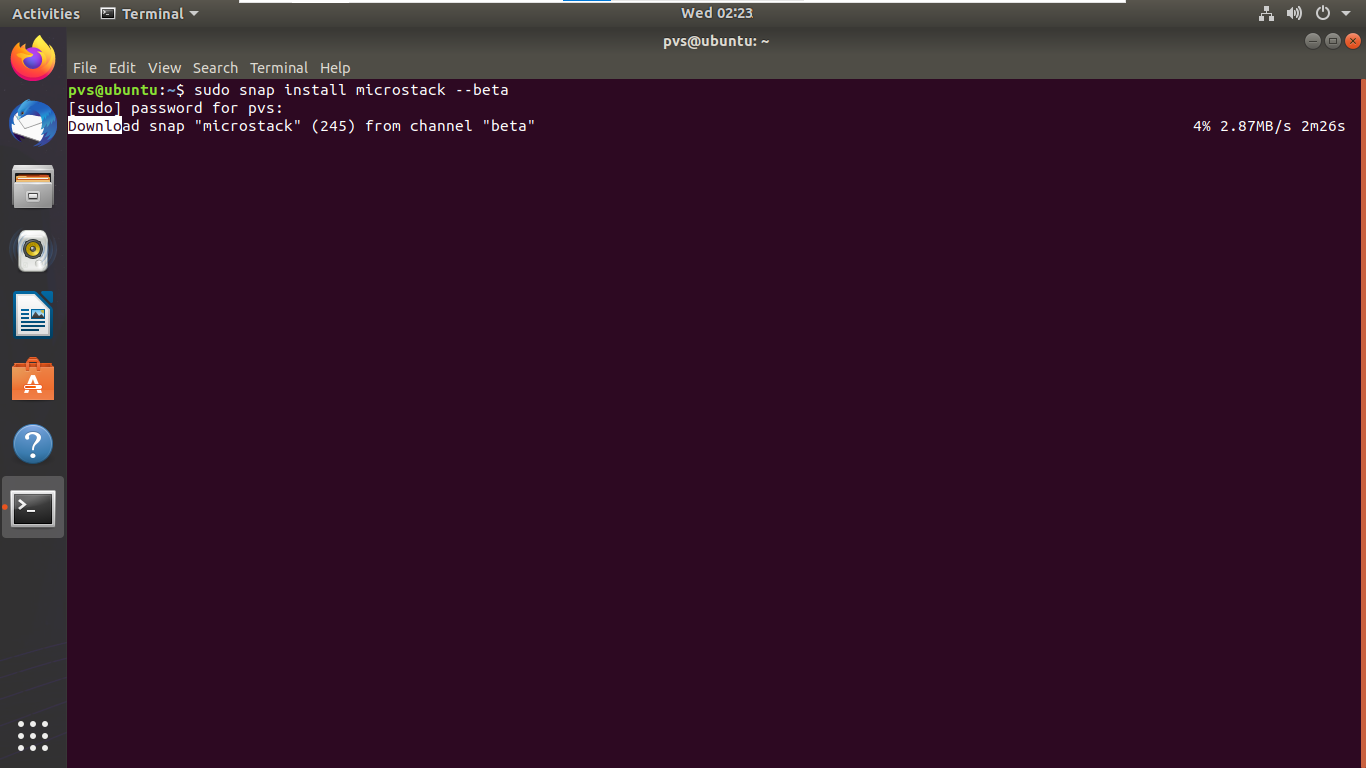
If stack.sh failed with permission error:

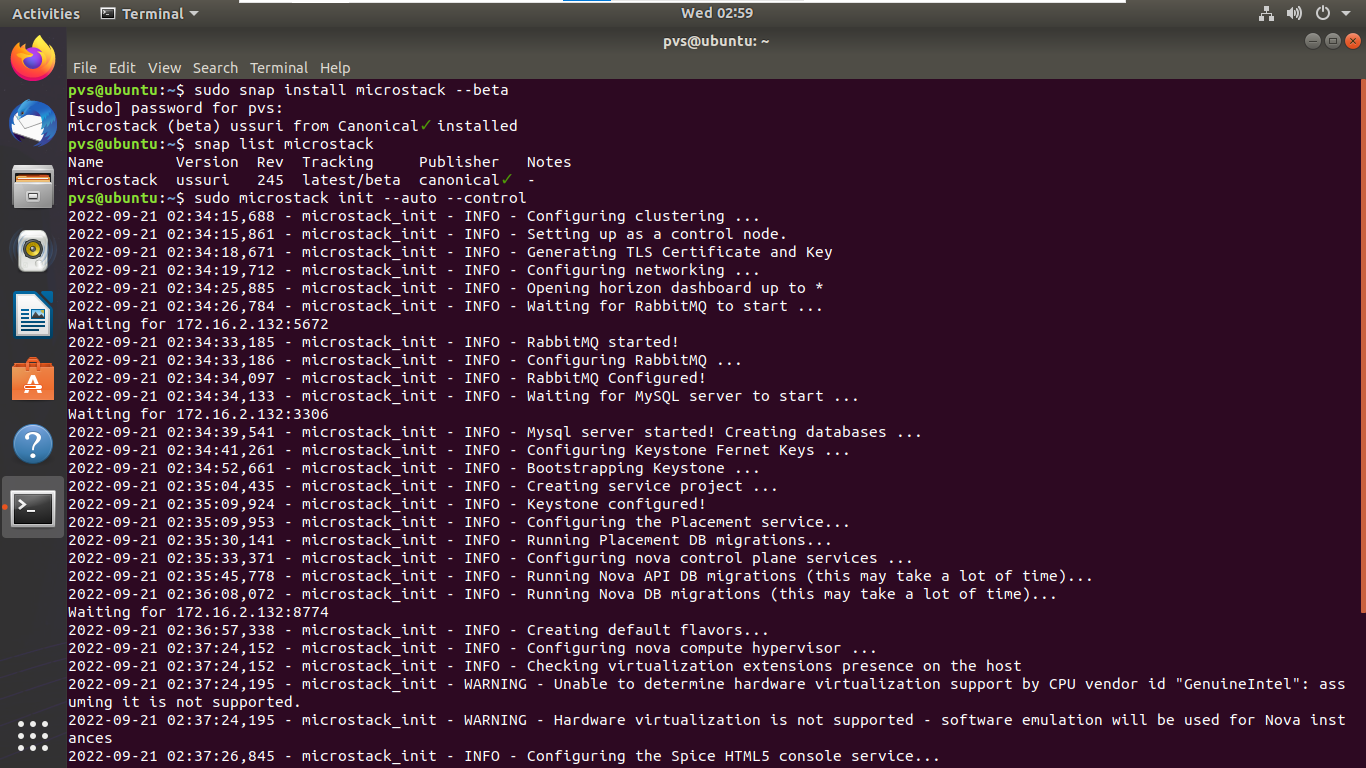
FORCE=yes ./stack.sh

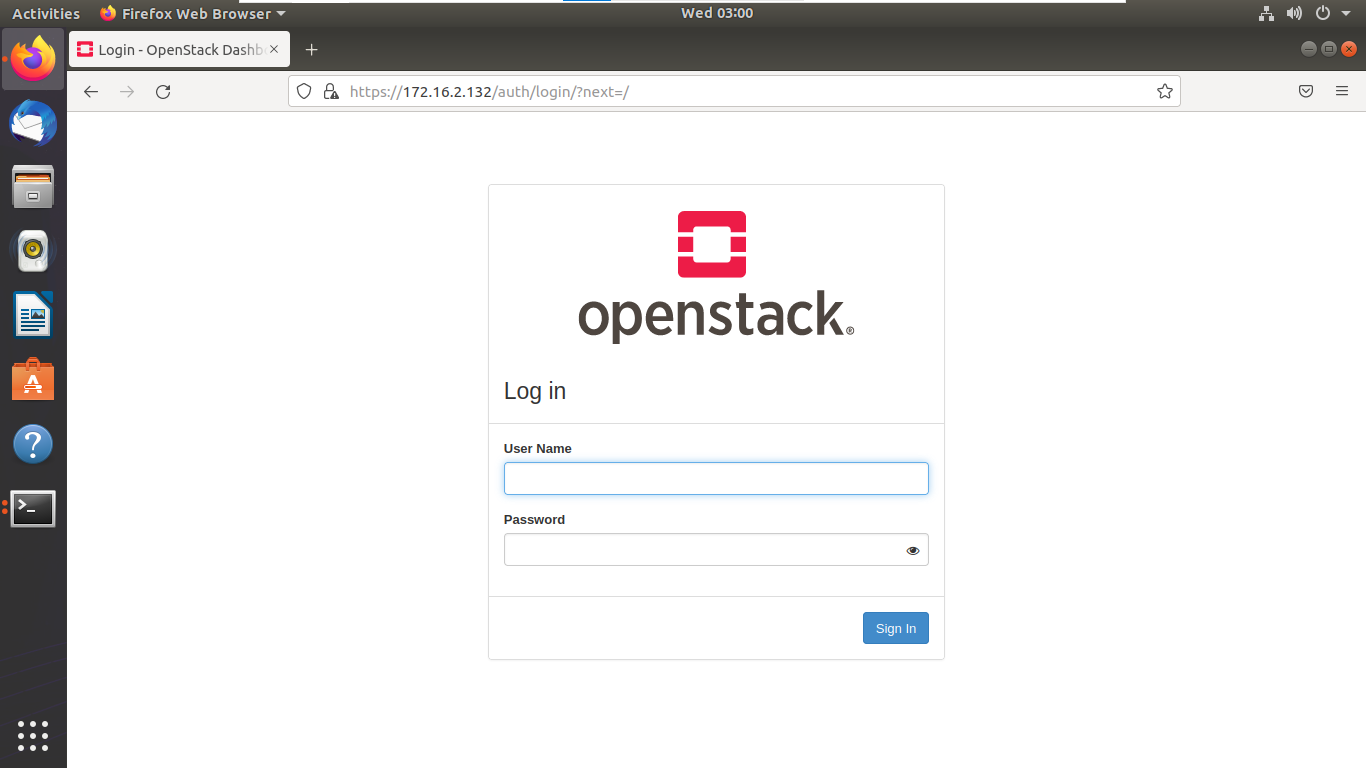
After Successfully installation of Openstack access the Horizon dashboard with below URL:

<http://10.0.2.15/dashboard>

**OUTPUT:**

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**RESULT:**

Thus the open stack is installed successfully in the virtual box

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| **Ex No: 07**  **Date :** | **CASE STUDY Amazon EC2 and Azure** |

**AIM:**

Case study on open source and commercial cloud.

**THEORY:**

Amazon Web Services (AWS) and Microsoft Azure are the two giants in the world of cloud computing.

While AWS is the largest cloud computing platform, Microsoft Azure is the fastest-growing and second-largest.

Azure is a cloud computing platform and an online portal that allows you to access and manage cloud services and resources provided by Microsoft. These services and resources include storing your data and transforming it, depending on your requirements. To get access to these resources and services, all you need to have is an active internet connection and the ability to connect to the Azure portal.

Azure provides more than 200 services, are divided into 18 categories. These categories include computing, networking, storage, IoT, migration, mobile, analytics, containers, artificial intelligence, and other machine learning, integration, management tools, developer tools, security, databases, DevOps, media identity, and web services.

Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) Cloud. Using Amazon EC2 eliminates your need to invest in hardware up front, so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.