

Lab 1

1. SQL SETUP

This is an easy and safe way to create an isolated environment to do the coding for this course. Please follow these steps:

- 1) Download Oracle VirtualBox application for free, using [this link](#). The installation process is rather

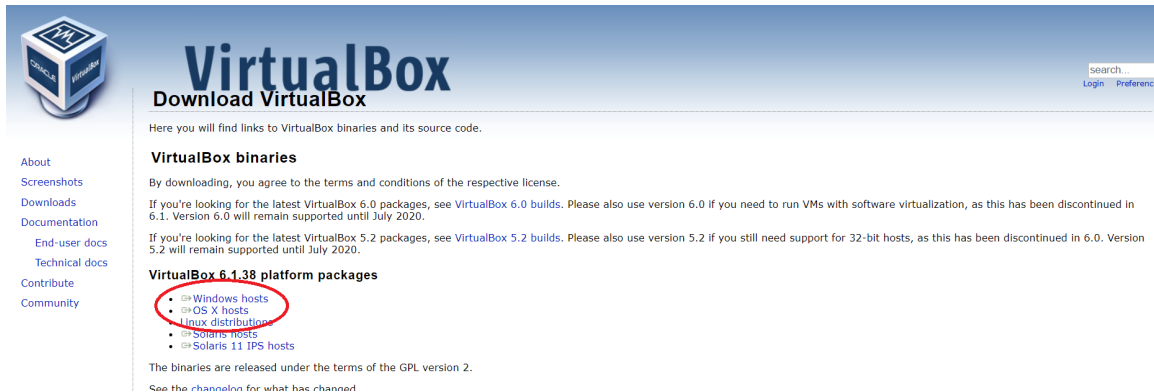


FIGURE 1. VirtualBox download page.

straight forward.

- 2) Download Ubuntu image from [this link](#).

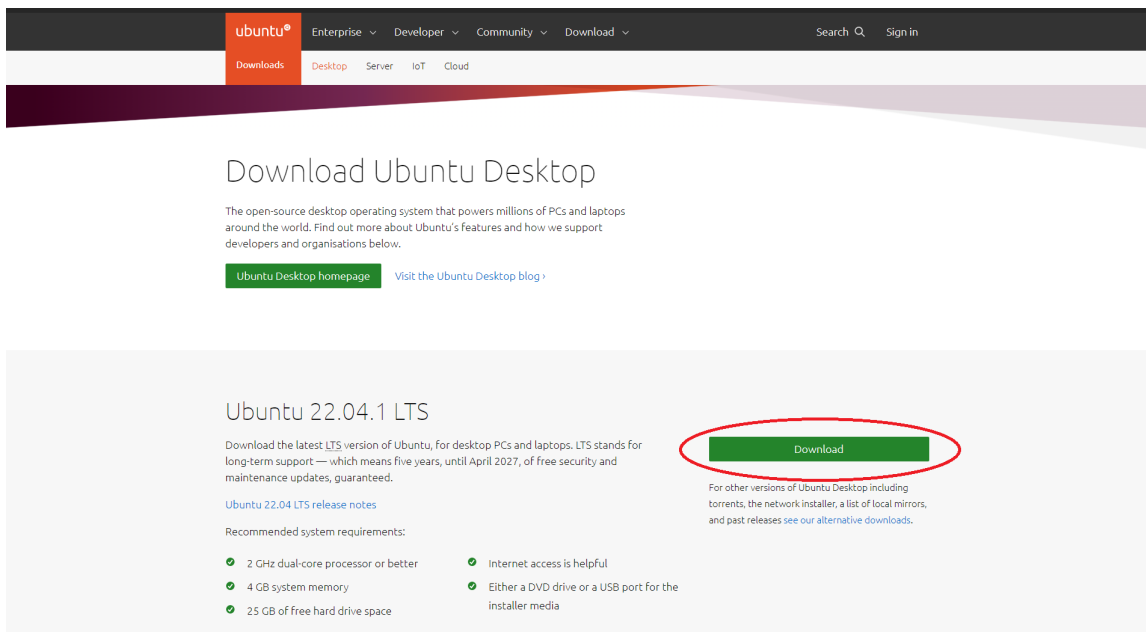


FIGURE 2. Ubuntu download page.

- 3) Run VirtualBox. Then click on New as shown in Fig.3.
- 4) Specify the machine name and folder as shown in Fig.4.
- 5) Move Ubuntu image to the machine folder recently created at the directory that you specified.
- 6) Assign a memory size on the green spectrum as shown in Fig.5.
- 7) Stick to the defaults until you can specify the storage as shown in Fig.6.
- 8) Click on the Settings tab as shown in Fig.7.

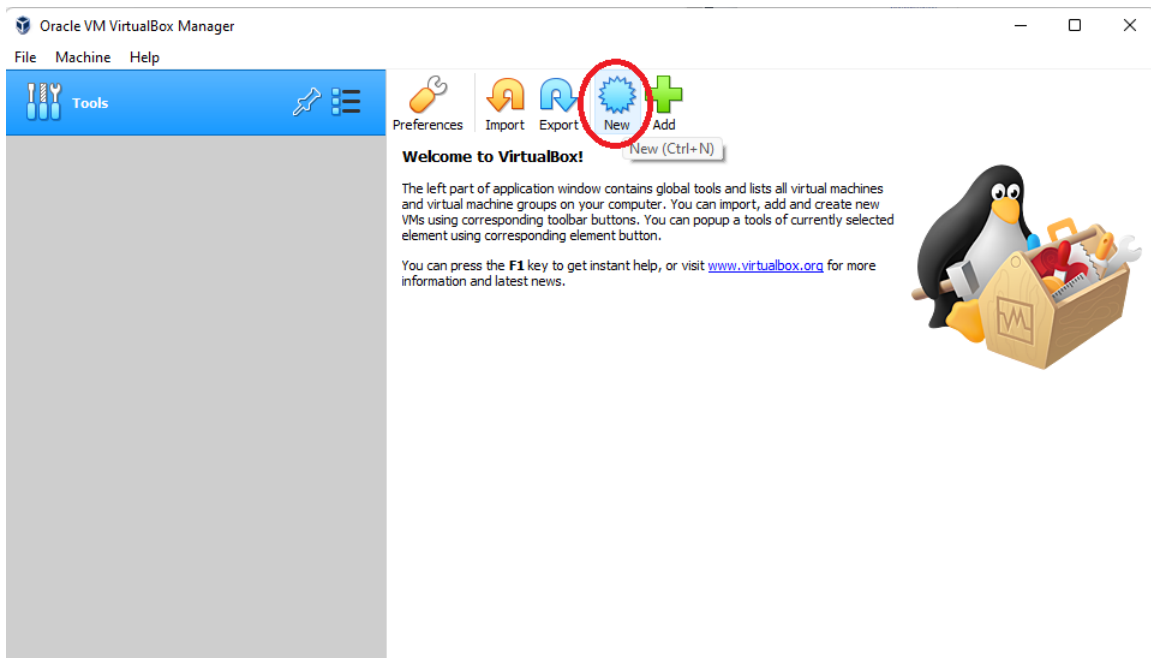


FIGURE 3. New virtual machine.

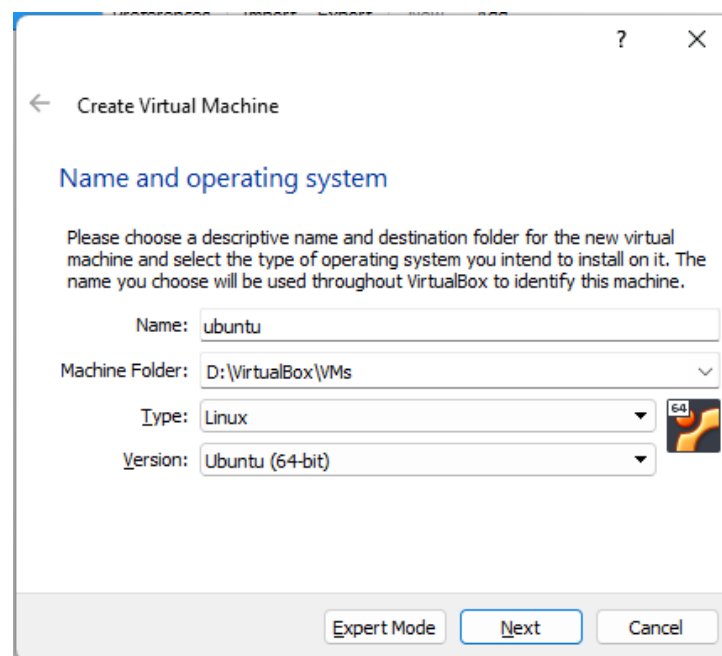


FIGURE 4. VM location.

- 9) Change these options to improve performance based on your system specifications as shown in Fig.8.
- 10) Press start and choose the disk image that you moved to the machine folder. Wait for the image to boot then choose "Try or install Ubuntu".
- 11) Proceed with the installation. Choose extra software to be installed as shown in Fig.9.
- 12) After the installation is complete, power off the VM, remove the disk image as shown in Fig.10, and then start the VM again.
- 13) Next, install PostgreSQL using [this link](#).
- 14) Now create your user based on the OS username so you have easier terminal access.

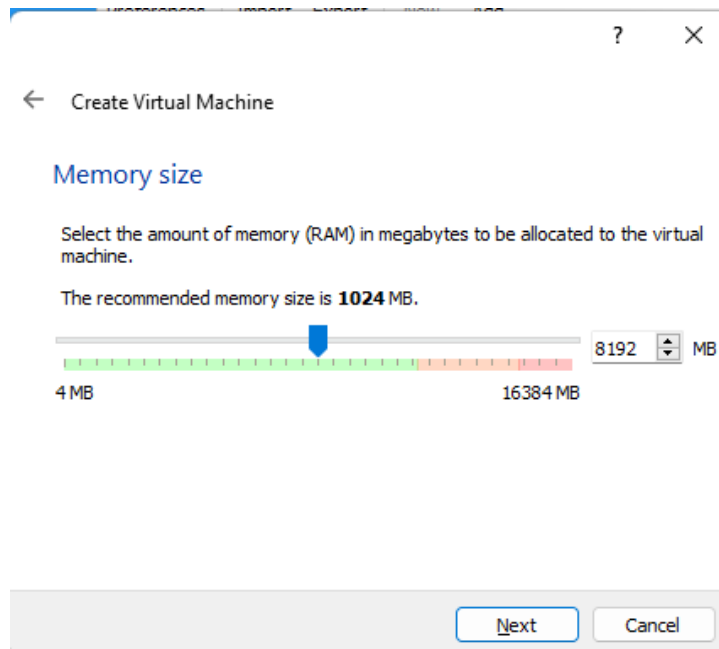


FIGURE 5. Memory size.

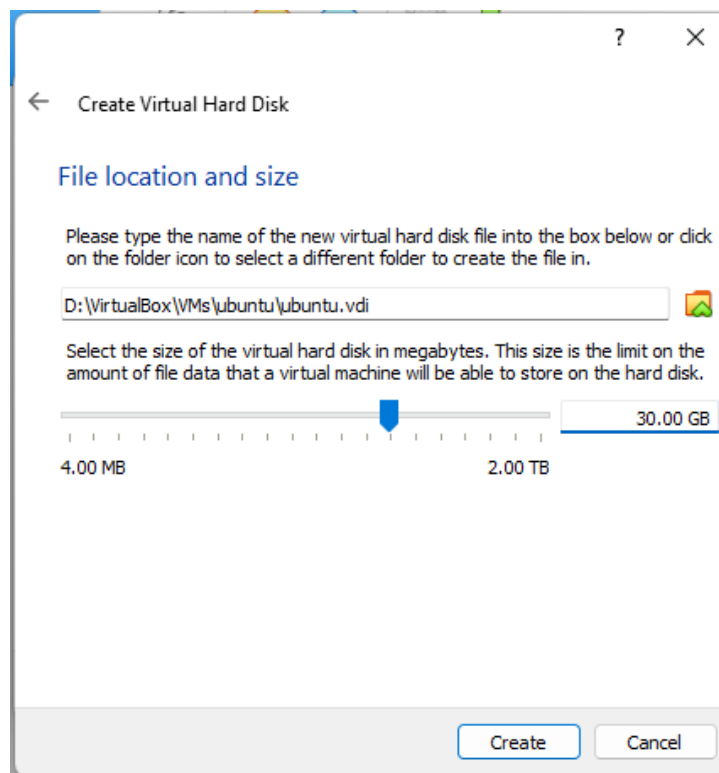


FIGURE 6. Storage size.

```

1 echo $USER
2 sudo su - postgres
3 psql
4
5 CREATE USER testuser WITH PASSWORD '1234';
6 -- ALTER USER testuser WITH PASSWORD 'newpassword';
7 ALTER USER testuser WITH SUPERUSER;

```

LISTING 1. psql commands.

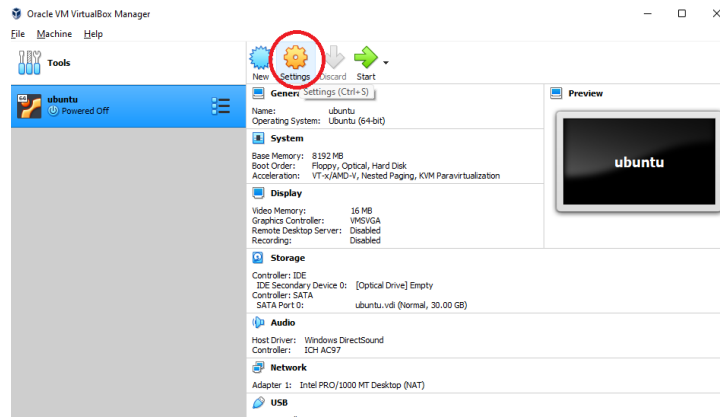


FIGURE 7. VM settings.

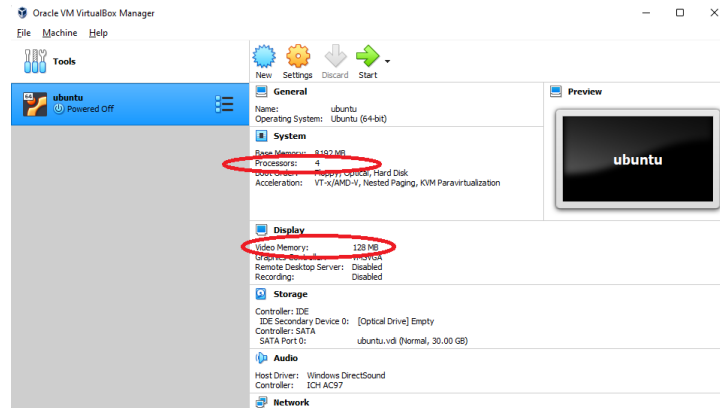


FIGURE 8. VM settings parameters.

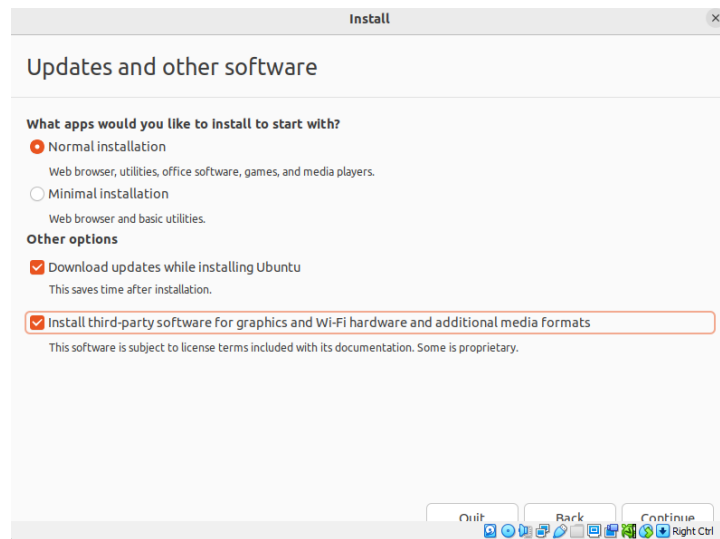


FIGURE 9. VM extra software installation.

- 15) Finally, continue install pgAdmin4 web interface and try to connect to your database following [this link](#).

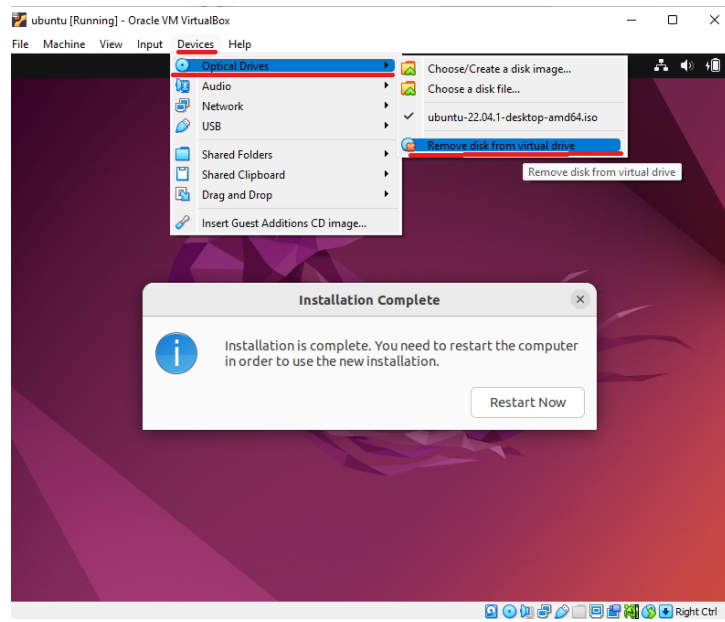


FIGURE 10. Remove disk image.