

## Ex.No.1

## INSTALLING & CREATING A VIRTUAL MACHINE USING VMWARE SOFTWARE

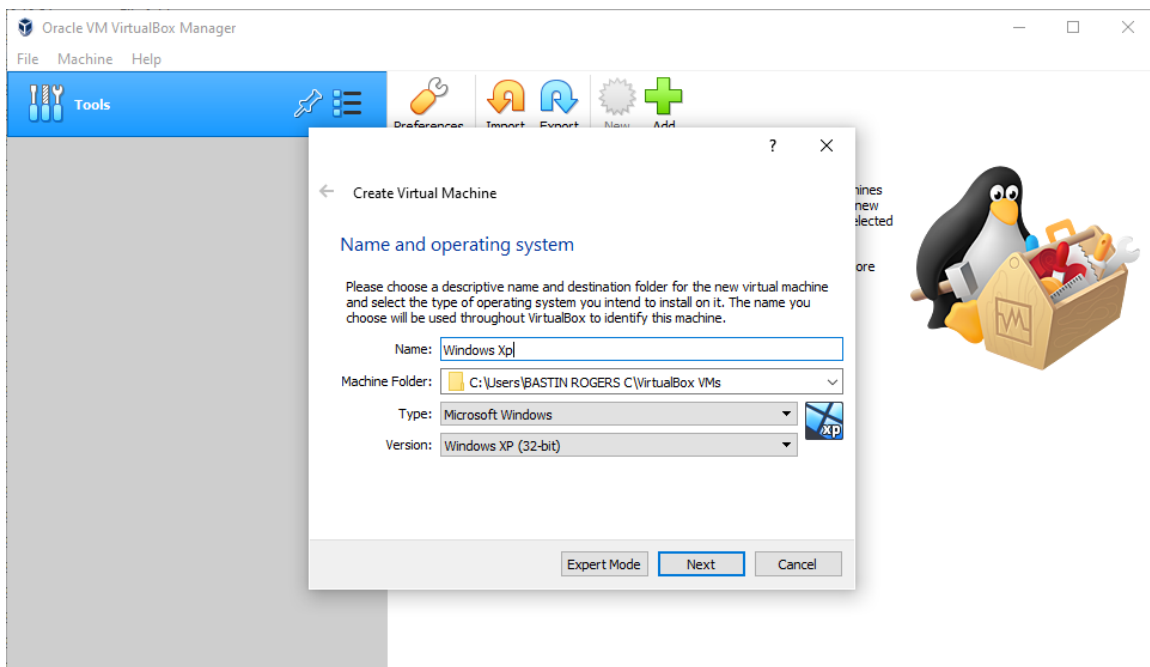
### AIM:

To Install Guest OS Windows XP using Oracle Virtual Box

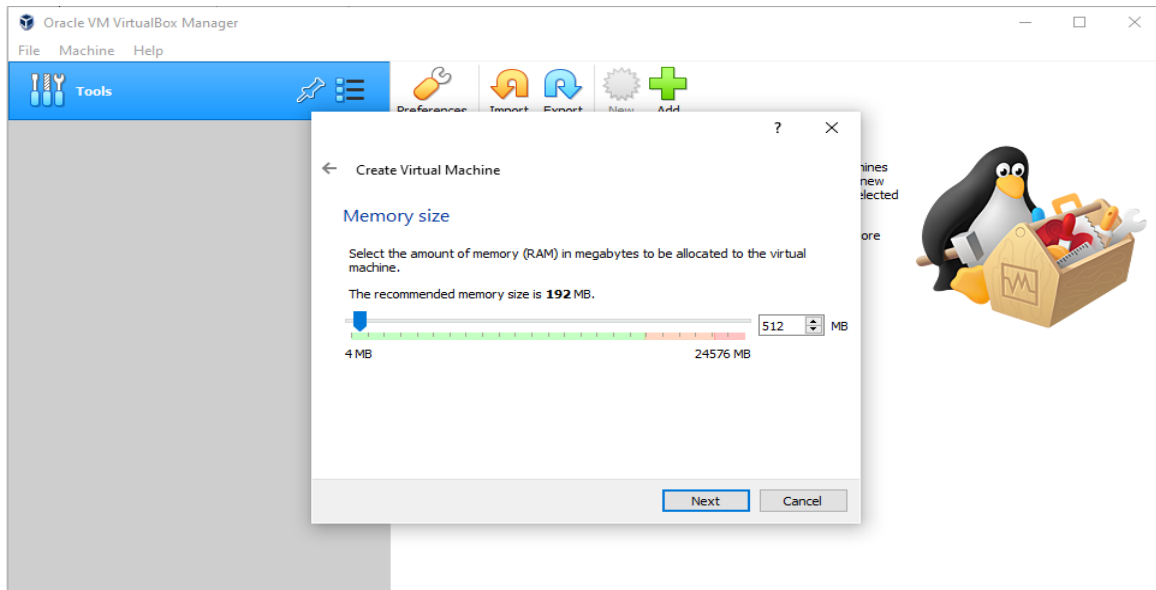
### PROCEDURE:

Open the Virtual Machine Software

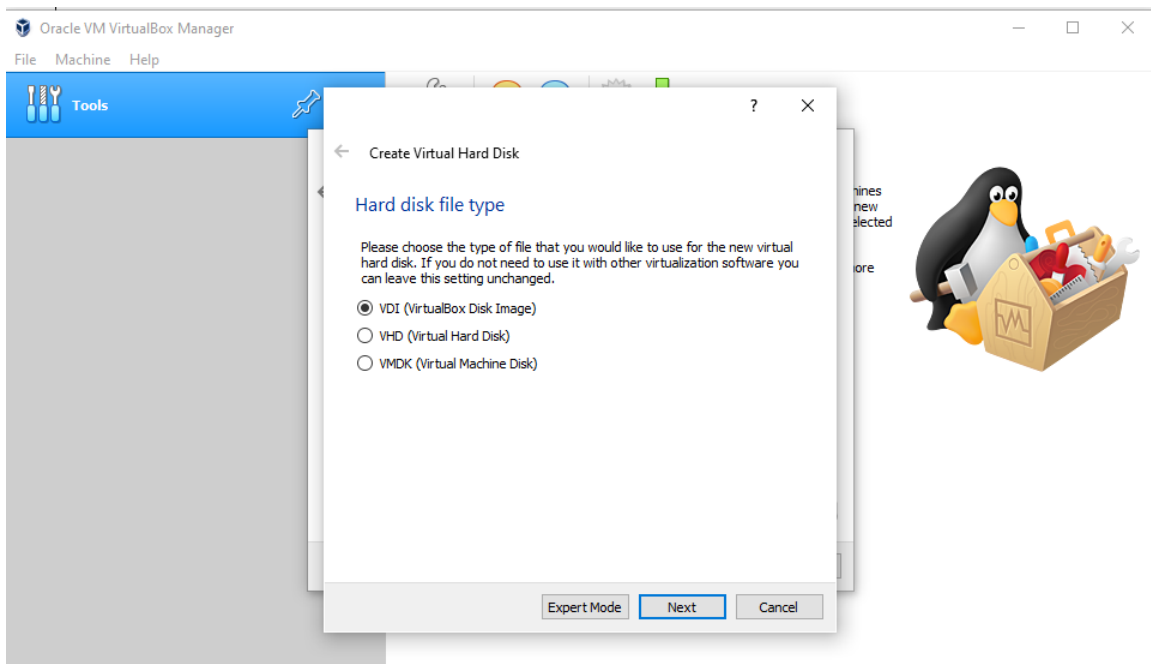
i)Click New and give the name of the Virtual Operating System you are going to install.  
The Virtual OS we are going to install is Windows Xp.Give the name as Windows Xp



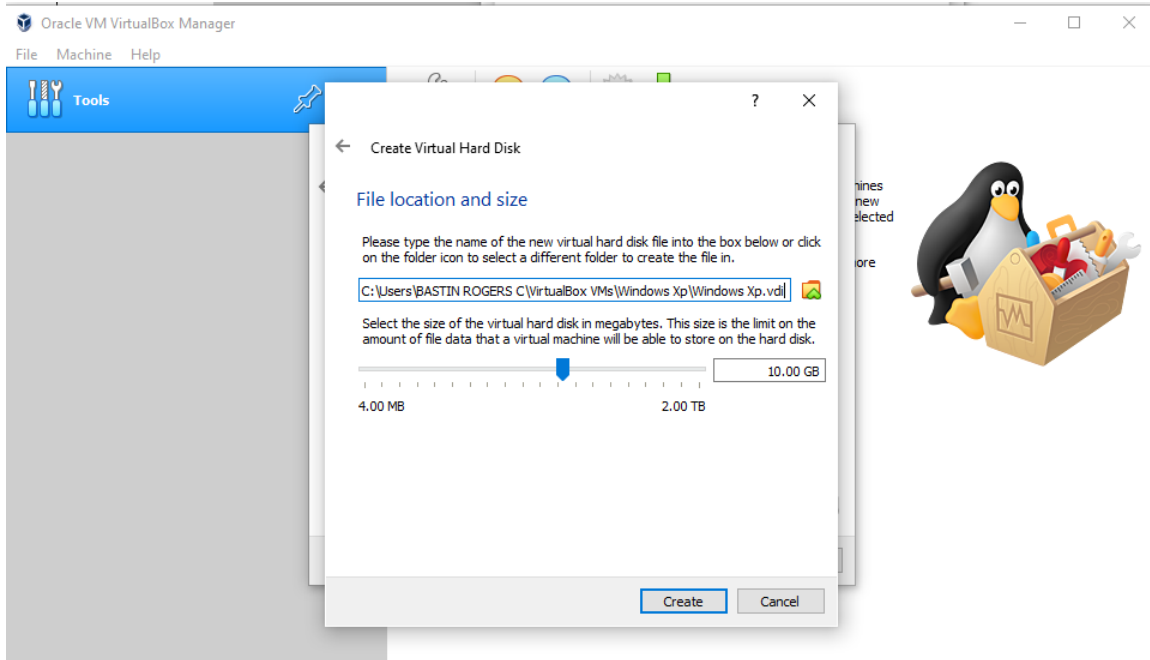
ii)Choose the Ram Capacity. Here we have allocated 512MB physical memory for Windows Xp



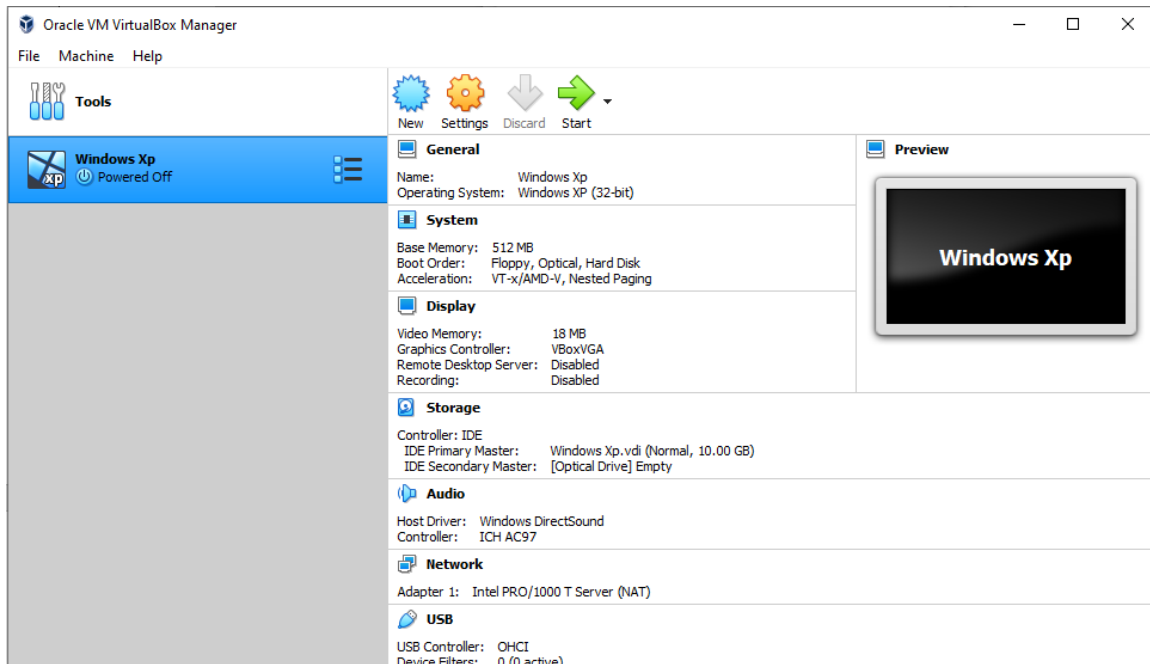
iii) Create Virtual Hard disk for the Virtual Guest OS.



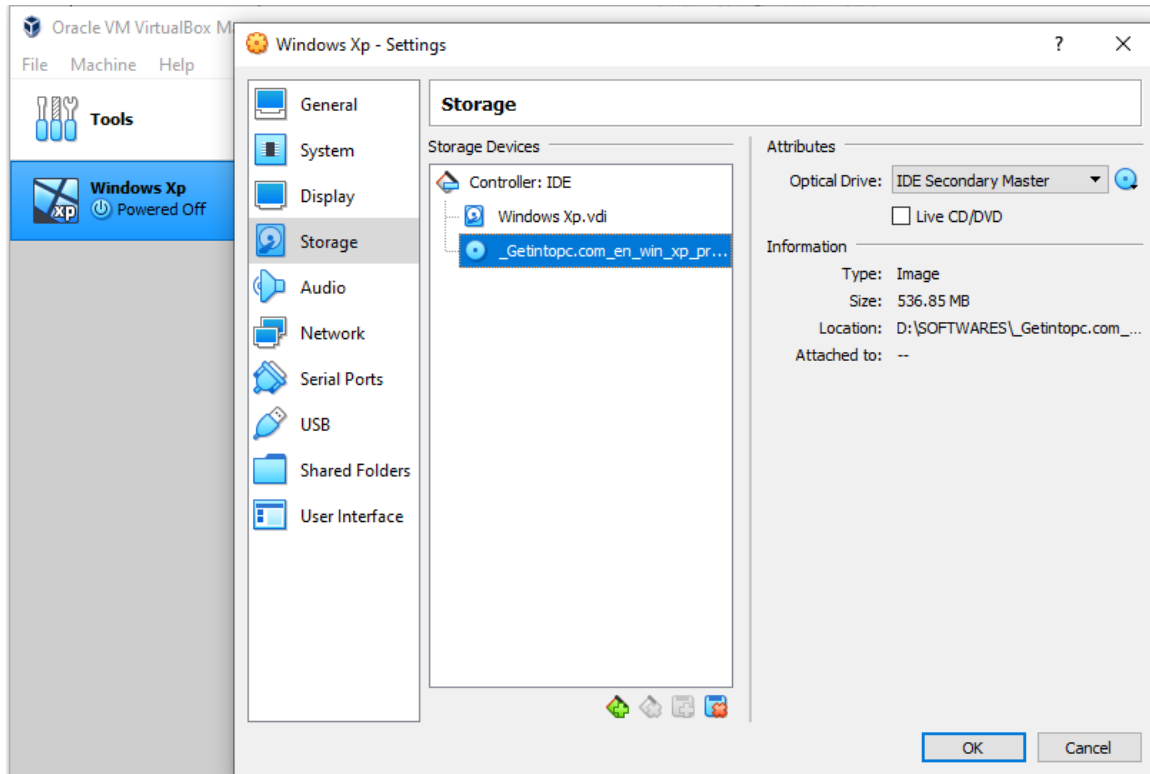
iv) Choose a Hard Disk space capacity for the Virtual OS



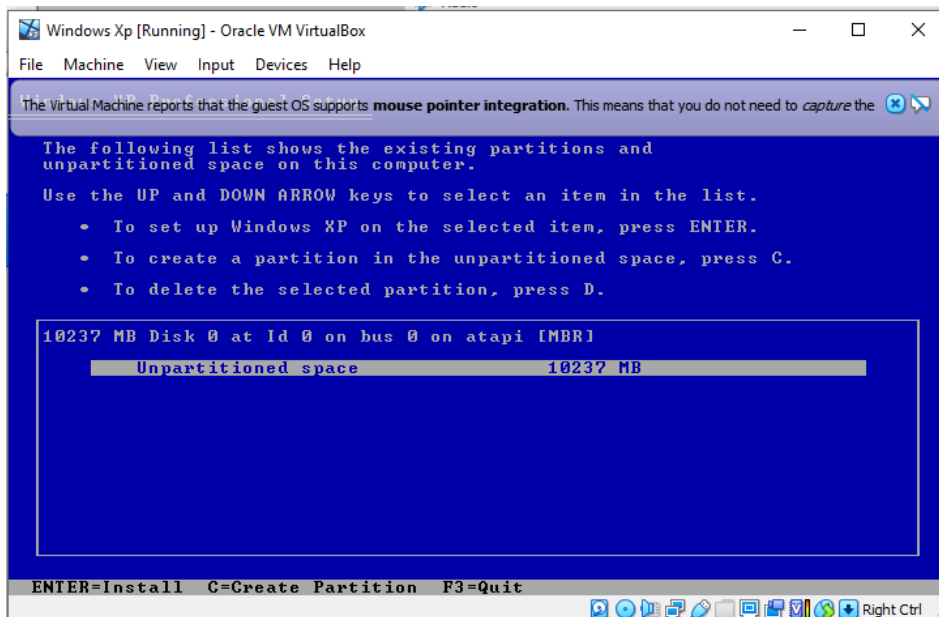
v) Click the Start Button and Select the Normal Start



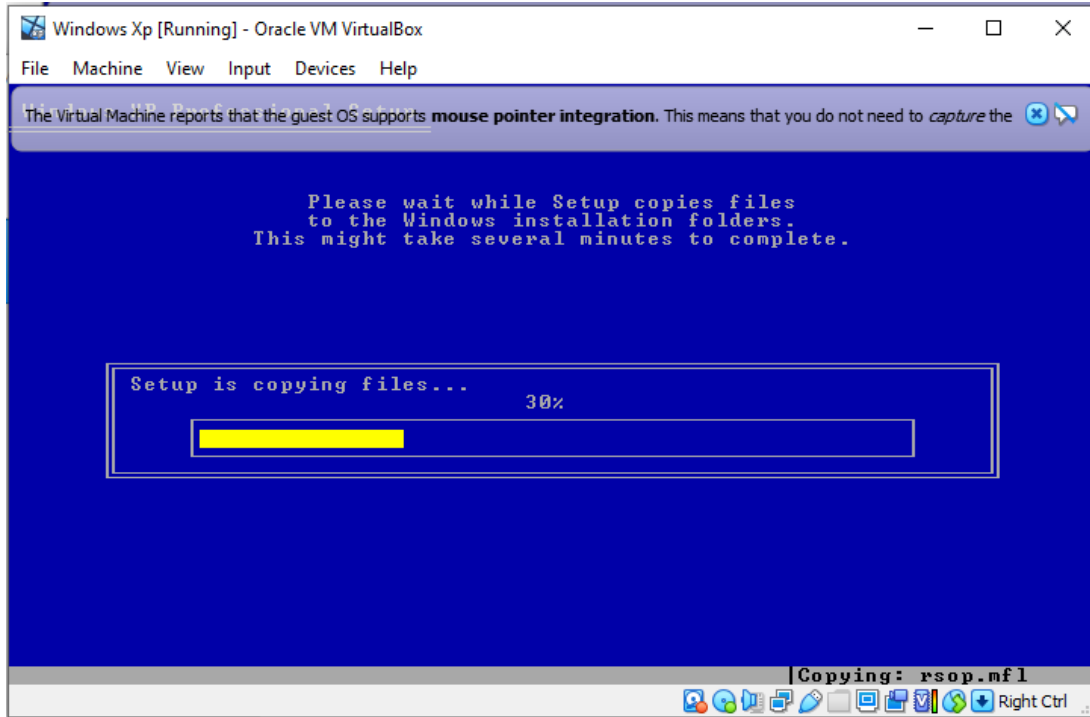
vi) Select Settings->Click Storage and add Windows xp ISO image you have downloaded



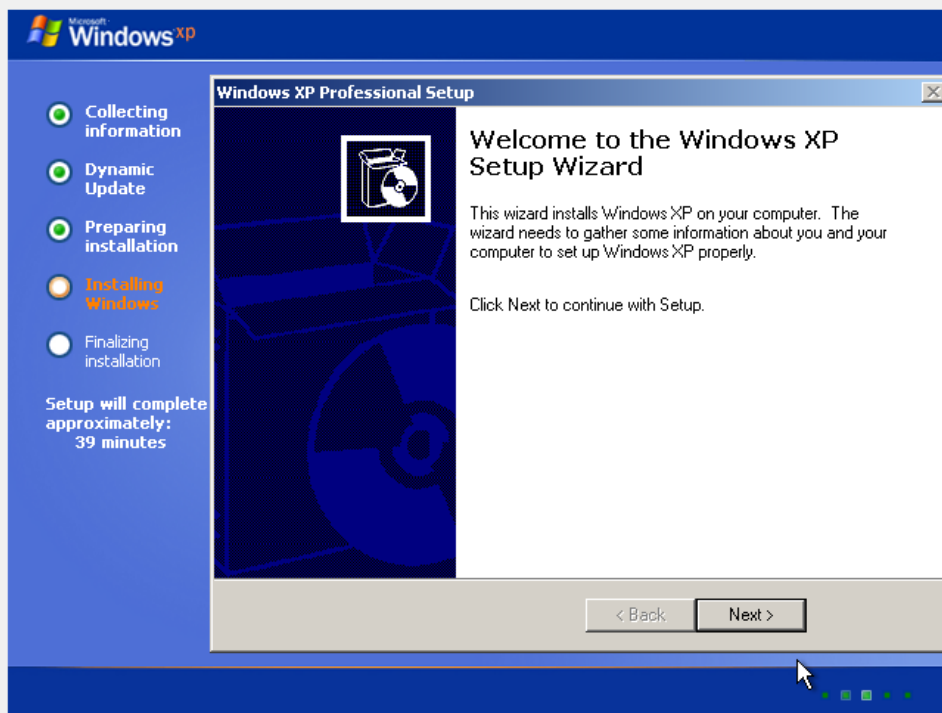
Xii) Now your Virtual OS will start to install. Click ENTER so that Virtual Hard Disk space we have created will be allocated.



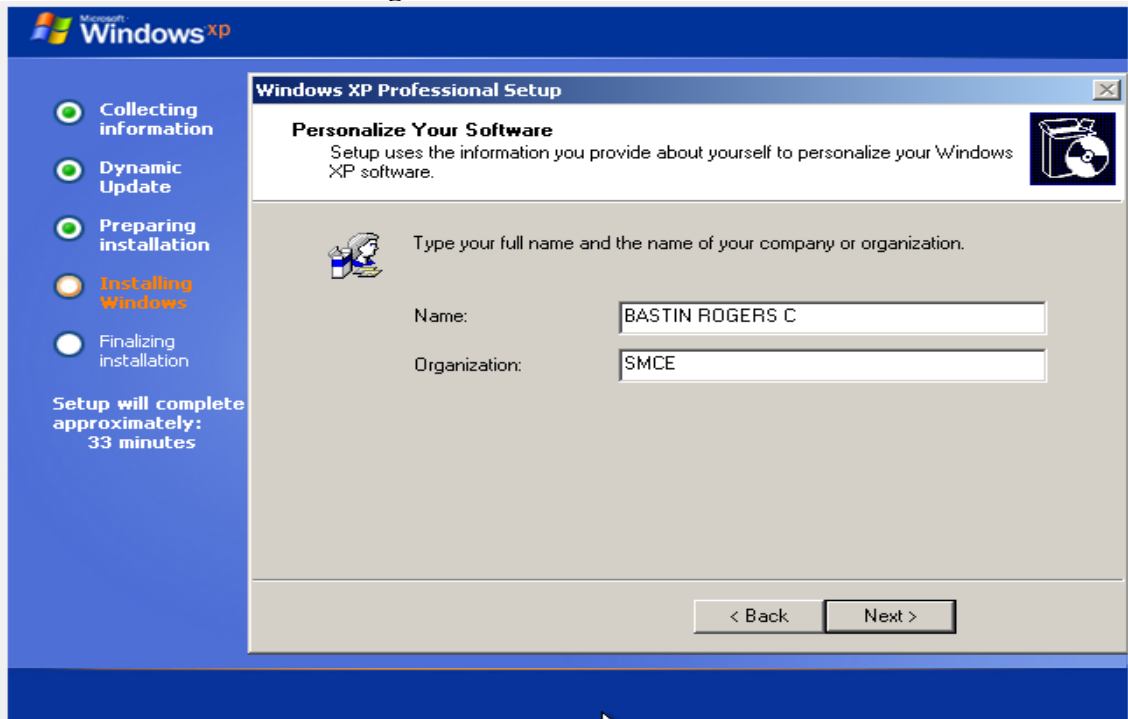
xiii) Now your Virtual OS will start to install



Click Next and Wait until your Windows Xp is Completely installed



## Give Your Name and the Organization Name.



The screenshot shows the 'Windows XP Professional Setup' window. On the left is a blue sidebar with a progress list: 'Collecting information' (green circle), 'Dynamic Update' (green circle), 'Preparing installation' (green circle), 'Installing Windows' (orange circle), and 'Finalizing installation' (white circle). Below the list, it says 'Setup will complete approximately: 33 minutes'. The main window has a title bar 'Windows XP Professional Setup' and a sub-header 'Personalize Your Software'. Below this, it says 'Setup uses the information you provide about yourself to personalize your Windows XP software.' There is a CD icon in the top right. The main area contains a text prompt 'Type your full name and the name of your company or organization.' followed by two input fields: 'Name:' with the text 'BASTIN ROGERS C' and 'Organization:' with the text 'SMCE'. At the bottom are '< Back' and 'Next >' buttons.

Microsoft Windows XP

Collecting information  
Dynamic Update  
Preparing installation  
Installing Windows  
Finalizing installation

Setup will complete approximately: 33 minutes

Windows XP Professional Setup

**Personalize Your Software**

Setup uses the information you provide about yourself to personalize your Windows XP software.

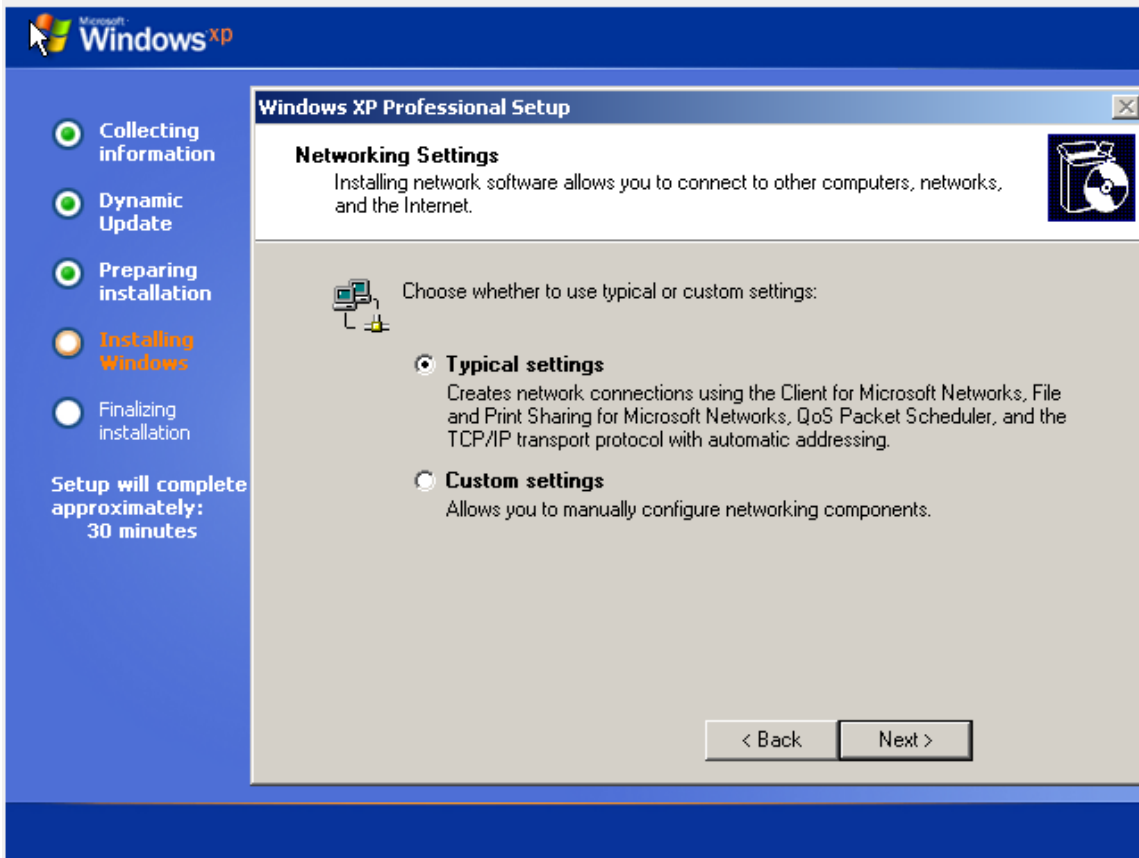
Type your full name and the name of your company or organization.

Name: BASTIN ROGERS C

Organization: SMCE

< Back Next >

## Click the Network Settings as Typical and Click next



The screenshot shows the 'Windows XP Professional Setup' window. The left sidebar is identical to the previous screen. The main window has a title bar 'Windows XP Professional Setup' and a sub-header 'Networking Settings'. Below this, it says 'Installing network software allows you to connect to other computers, networks, and the Internet.' There is a CD icon in the top right. The main area contains a text prompt 'Choose whether to use typical or custom settings:' followed by two radio button options: 'Typical settings' (selected) and 'Custom settings'. The 'Typical settings' description is 'Creates network connections using the Client for Microsoft Networks, File and Print Sharing for Microsoft Networks, QoS Packet Scheduler, and the TCP/IP transport protocol with automatic addressing.' The 'Custom settings' description is 'Allows you to manually configure networking components.' At the bottom are '< Back' and 'Next >' buttons.

Microsoft Windows XP

Collecting information  
Dynamic Update  
Preparing installation  
Installing Windows  
Finalizing installation

Setup will complete approximately: 30 minutes

Windows XP Professional Setup

**Networking Settings**

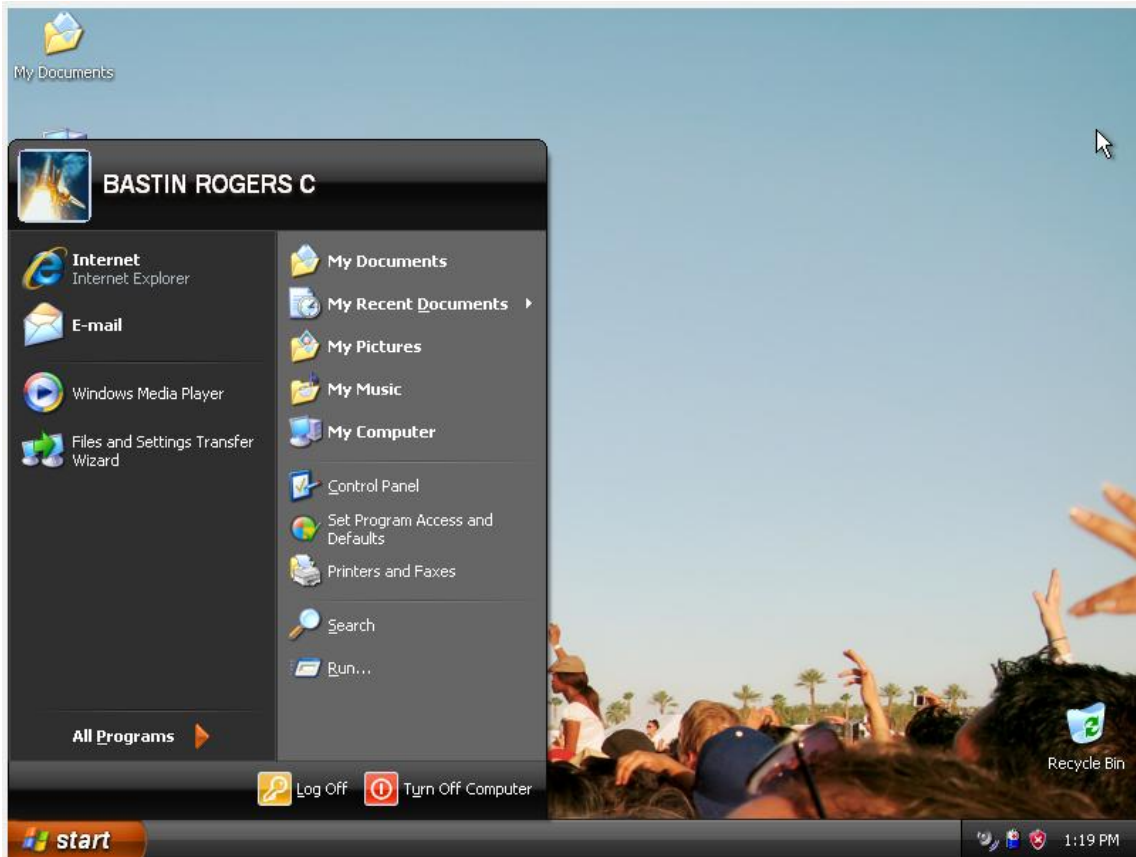
Installing network software allows you to connect to other computers, networks, and the Internet.

Choose whether to use typical or custom settings:

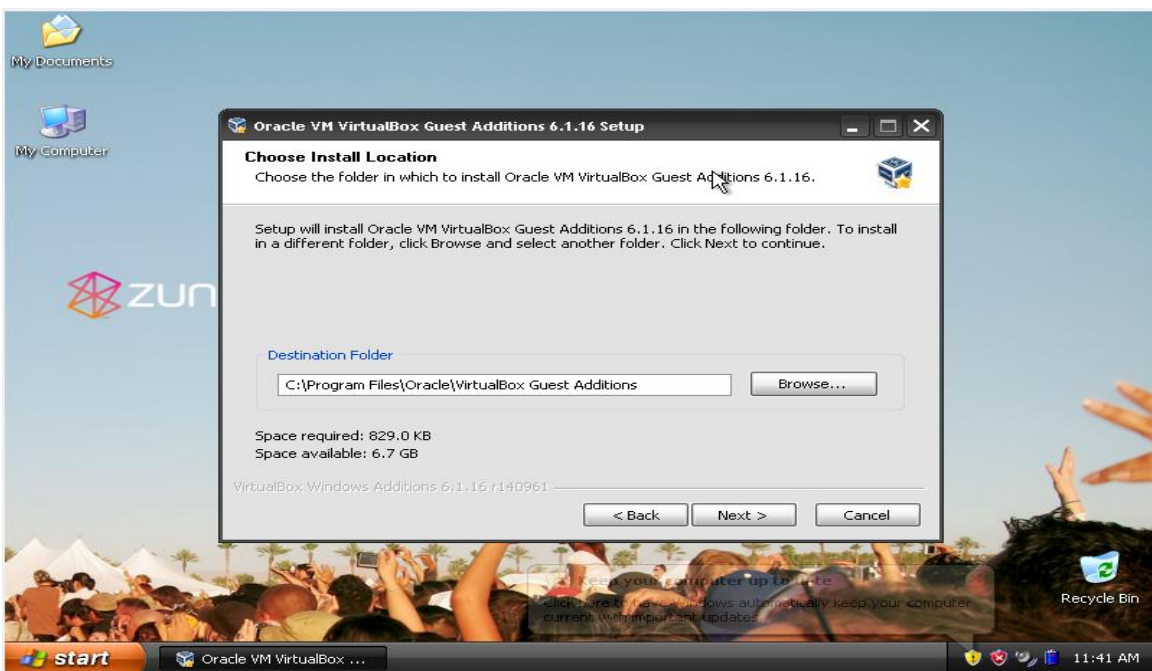
☒ **Typical settings**  
Creates network connections using the Client for Microsoft Networks, File and Print Sharing for Microsoft Networks, QoS Packet Scheduler, and the TCP/IP transport protocol with automatic addressing.

☐ **Custom settings**  
Allows you to manually configure networking components.

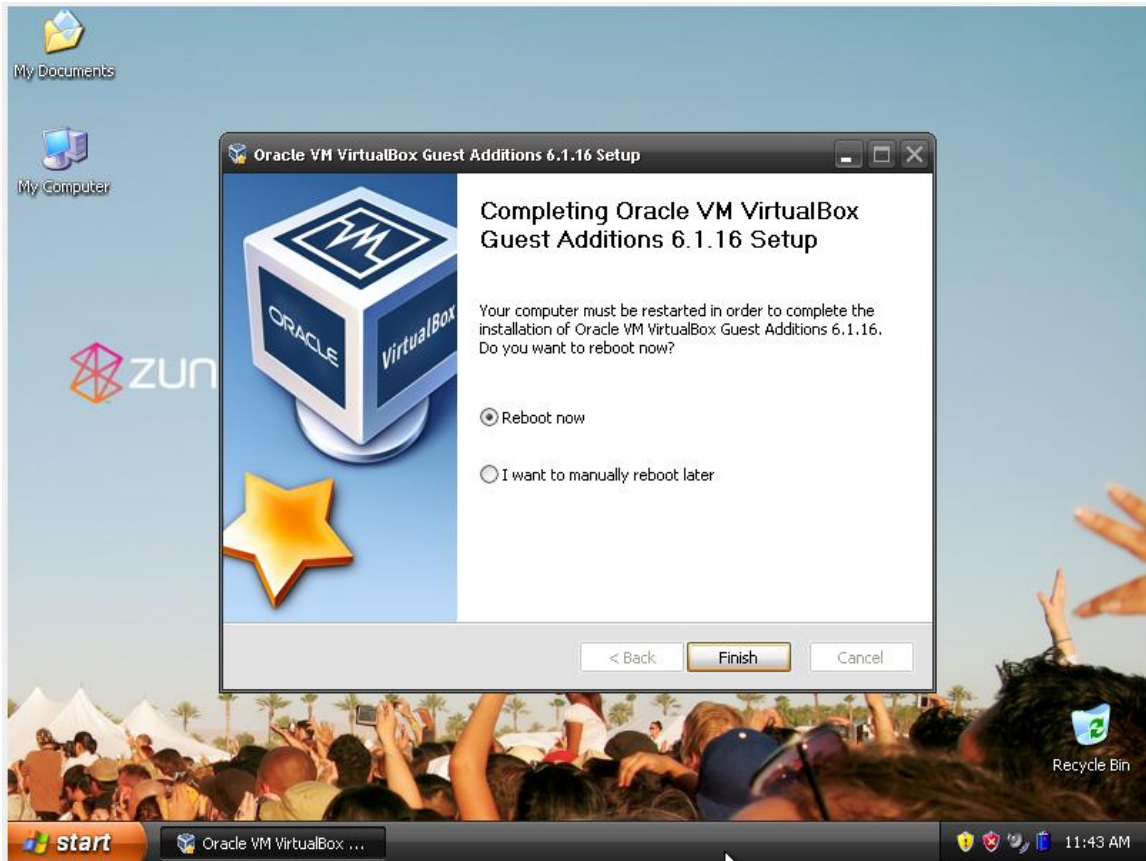
< Back Next >



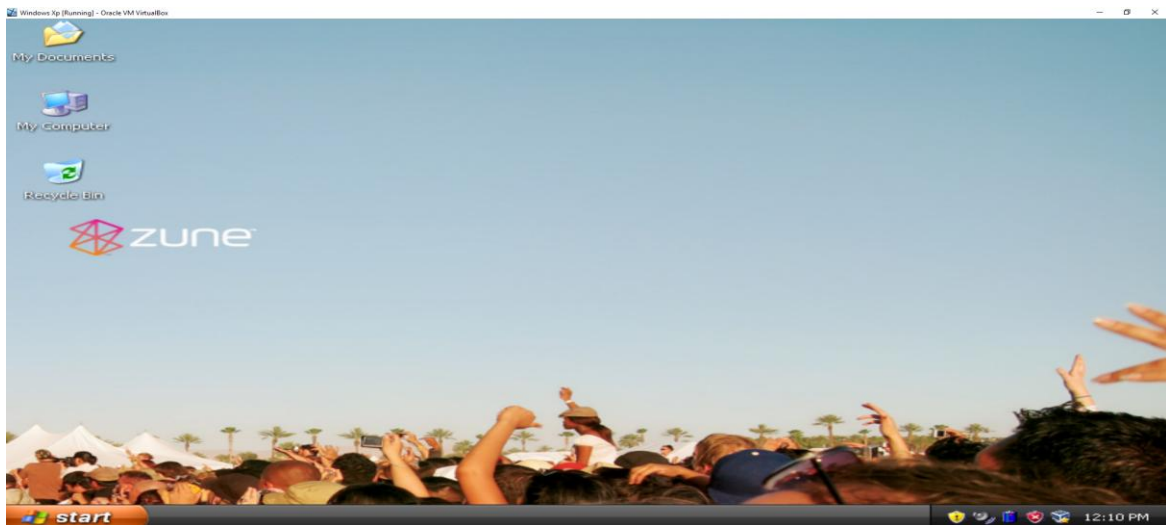
**Click Devices and Install Guest Additions so that you can view your Guest OS in full screen mode**



**After Installing Virtual Box Guest Additions click Reboot now.**



**After Rebooting your system you can view your virtual OS in full screen mode**



**RESULT:**

Thus the Guest OS Windows XP is created using Oracle Virtual Box



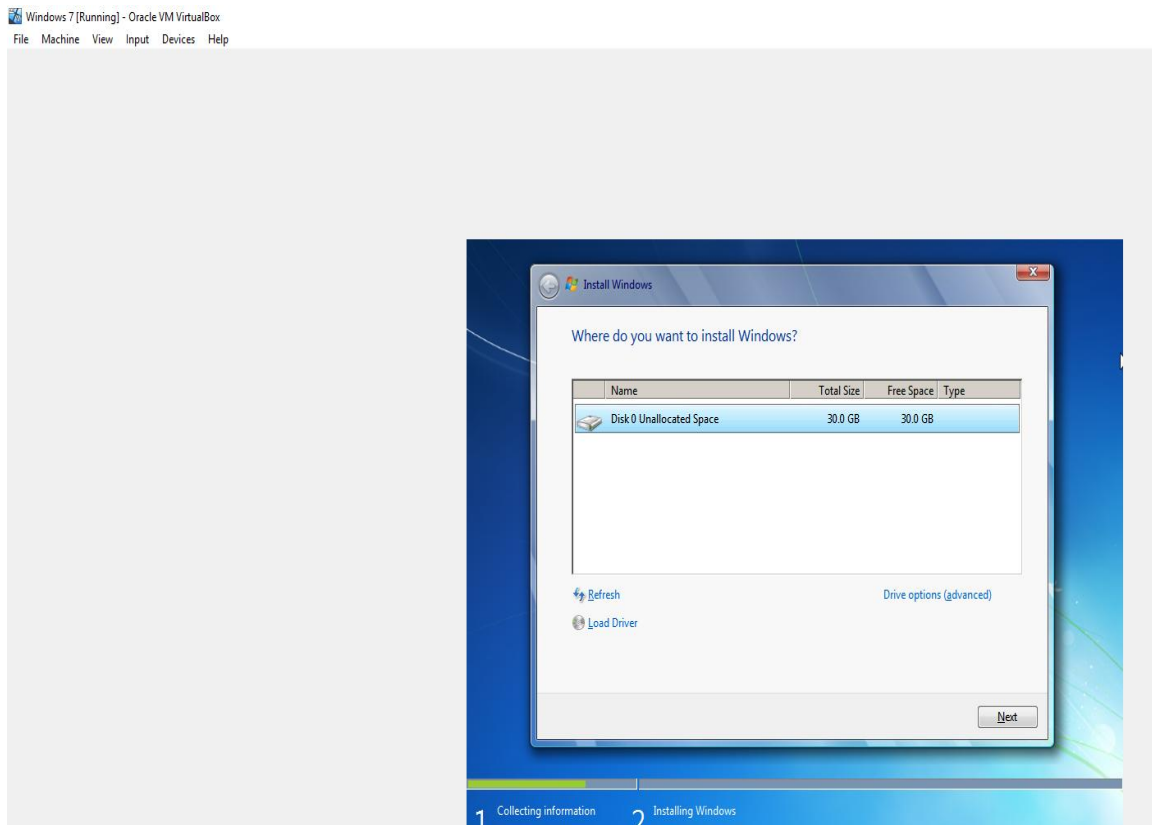
## **Installing Windows 7 using Oracle Virtual Box**

### **AIM:**

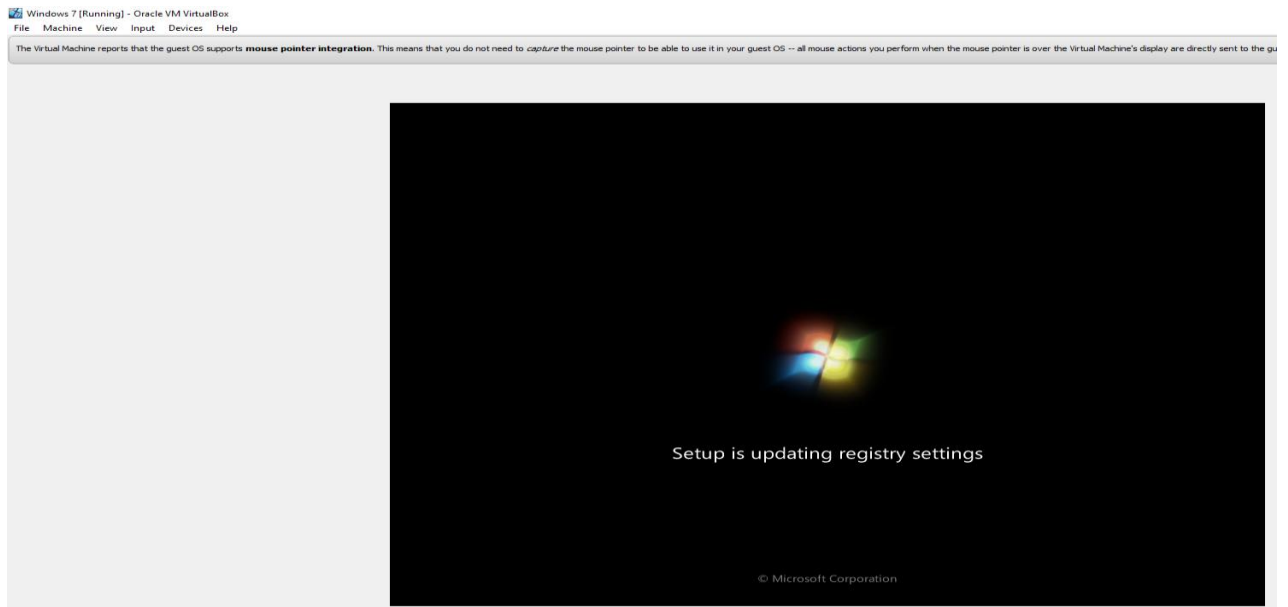
To Install an Operating System on Virtual Machine.

### **PROCEDURE:**

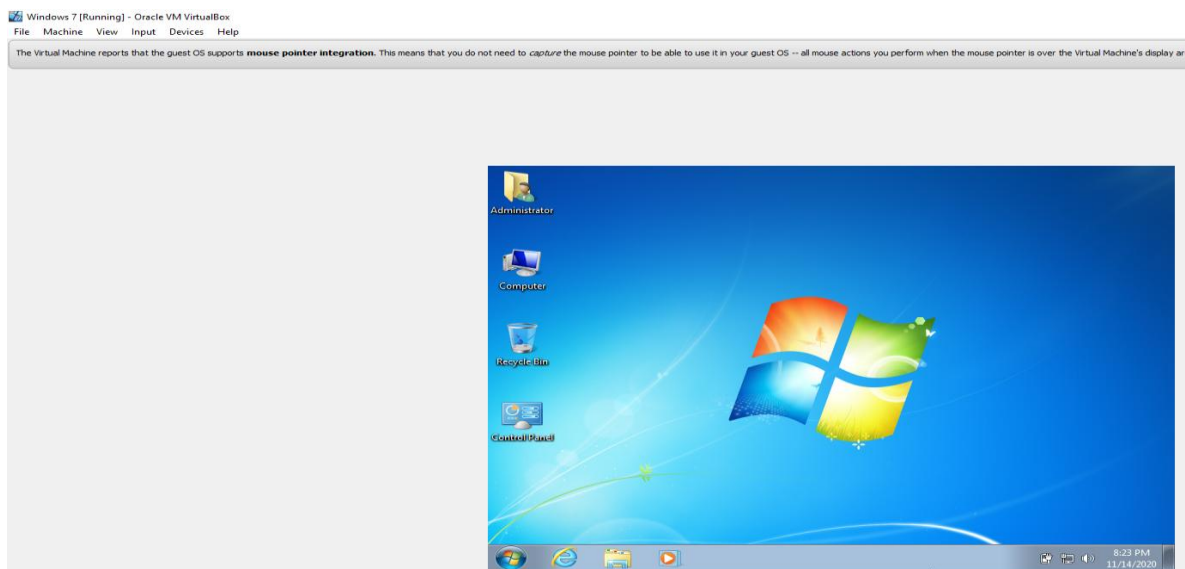
#### **Click Next and Continue the Installation**



## Windows 7 will start Installing



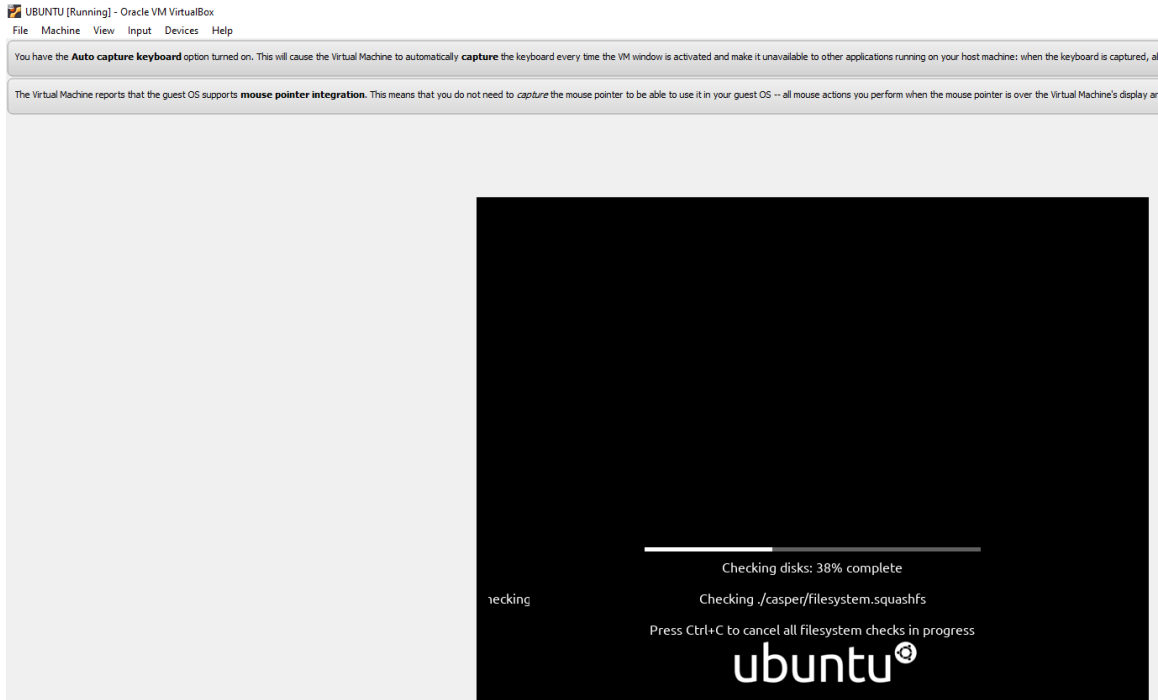
## After Installing windows 7 Guest OS in Oracle Virtual Box we can run applications using this Guest OS



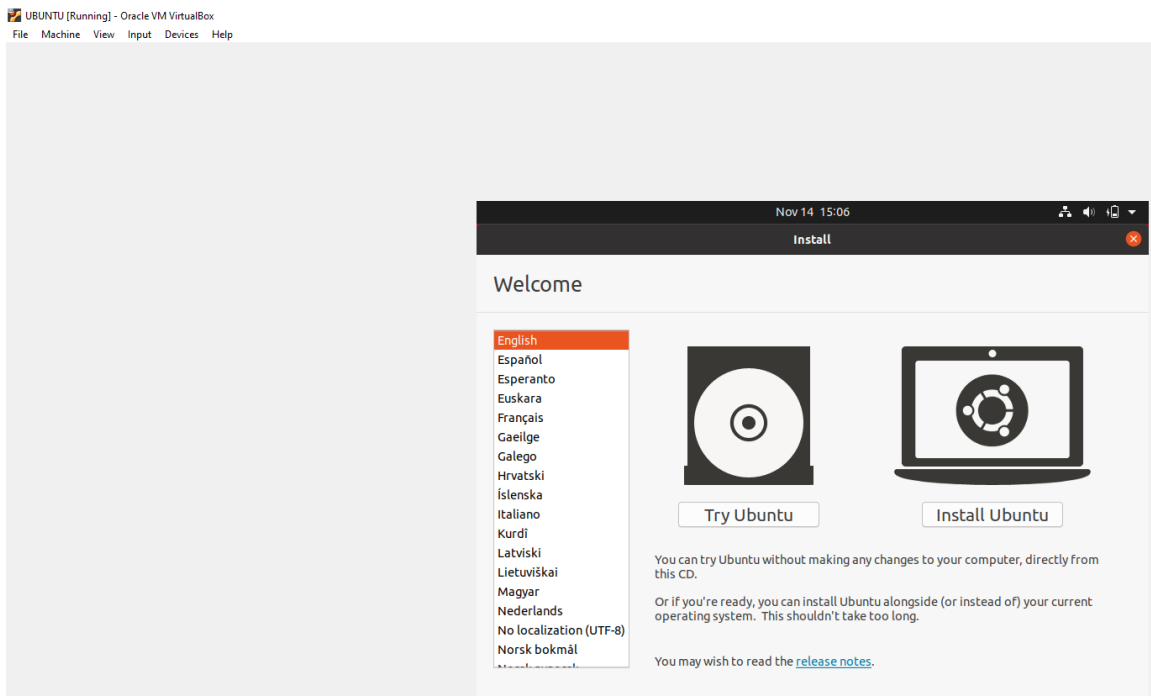
### iii)Installing Ubuntu 20.04 using Oracle Virtual Box

#### Aim

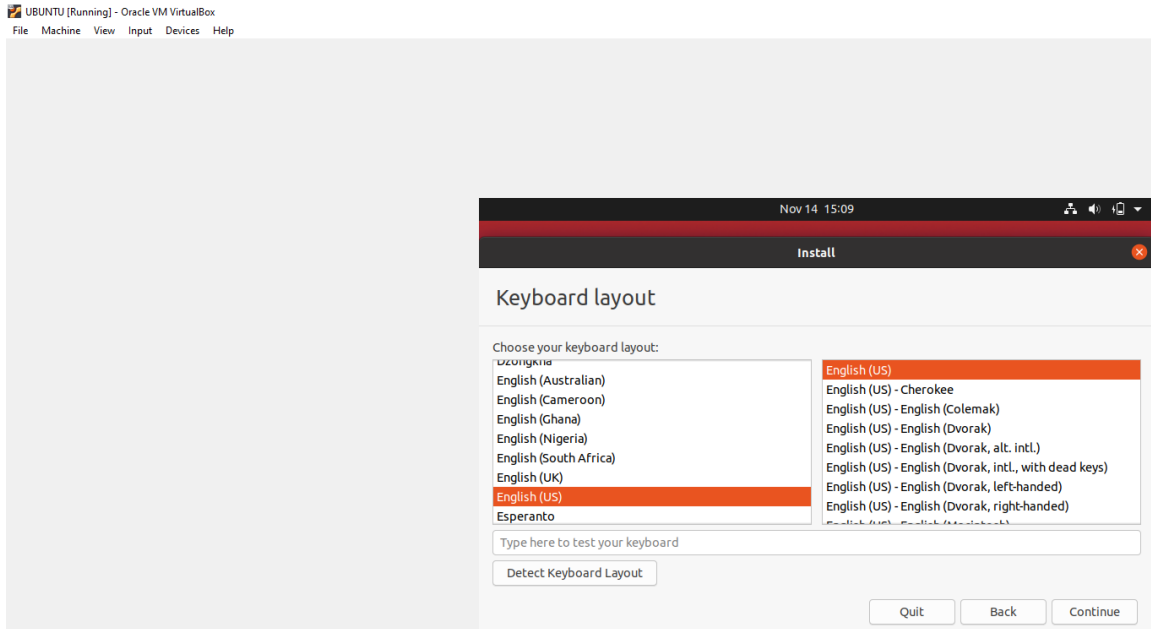
#### To install Guest OS Ubuntu 20.04 using Oracle Virtual Box



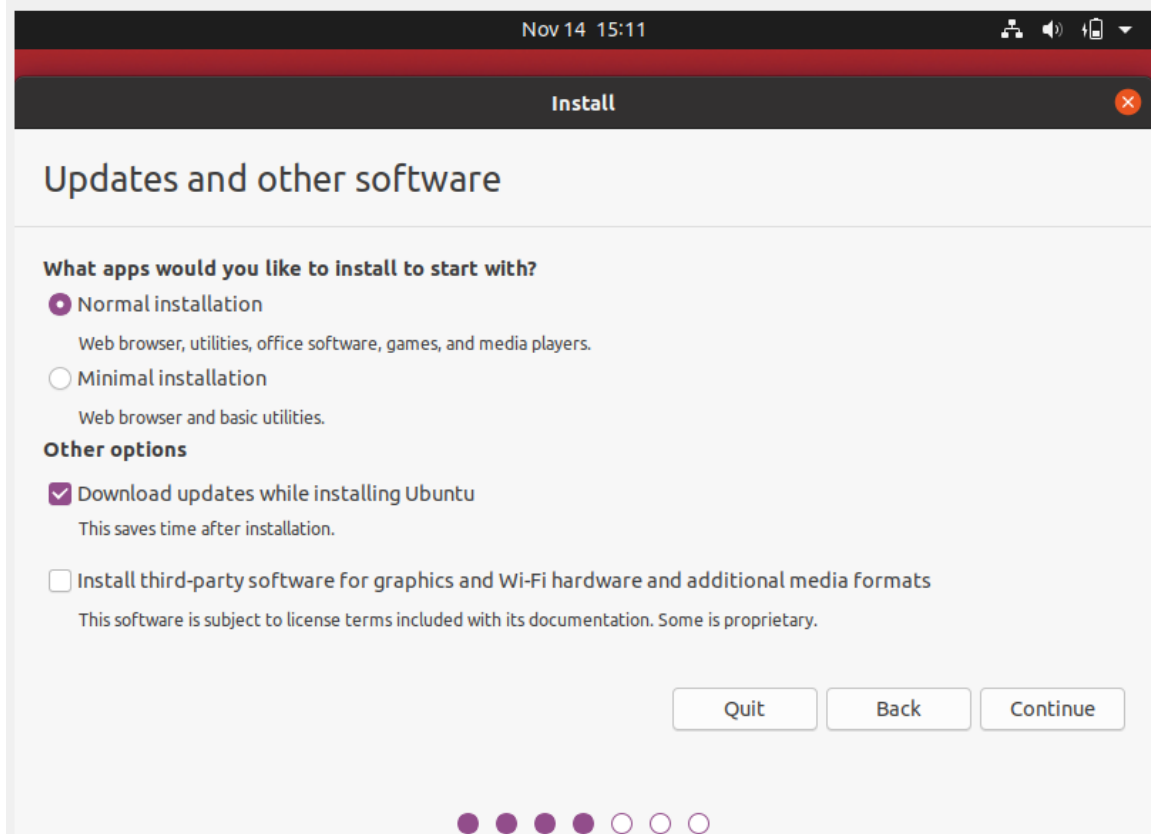
Click Install Ubuntu so that Ubuntu will start installing.



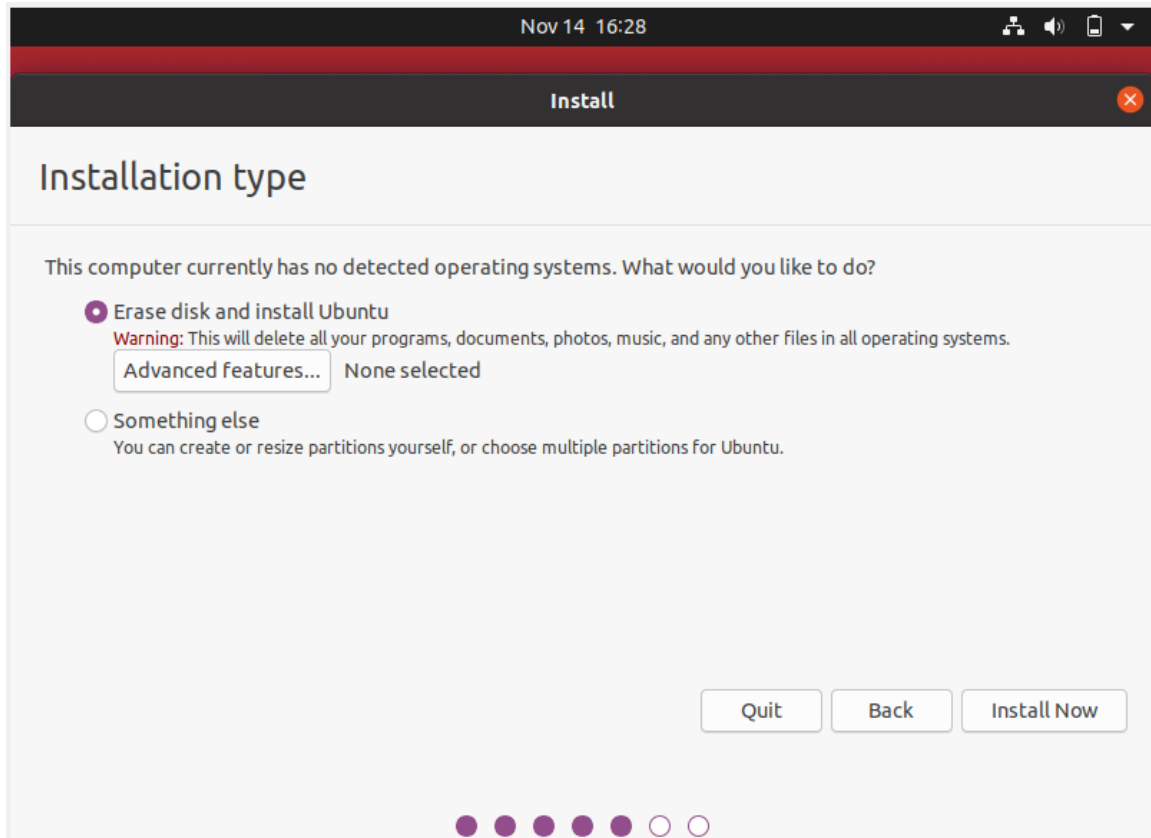
## Select language English and Click Continue



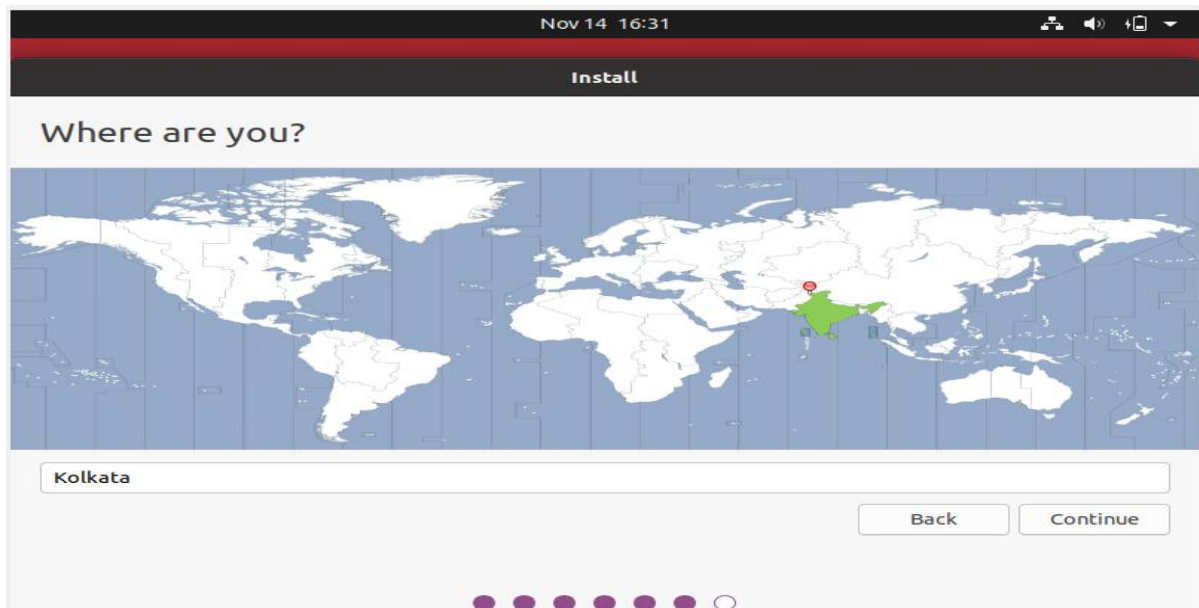
## Select Normal Installation and click conti



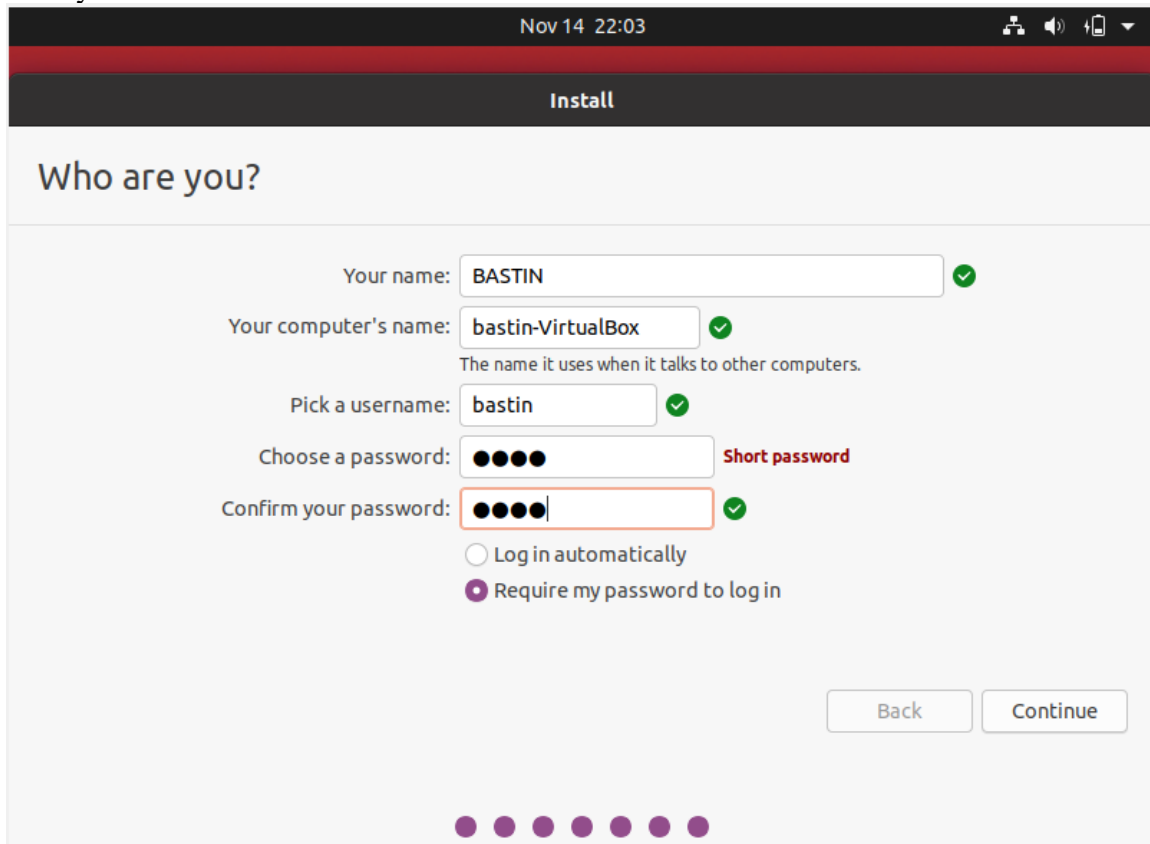
Select Erase disk and install Ubuntu and click Install Now



Select the Location and Click Continue



Give your Name and Password then click Continue



The image shows the 'Who are you?' screen in the Ubuntu installer. At the top, the date and time are 'Nov 14 22:03'. The title bar says 'Install'. The main heading is 'Who are you?'. Below this, there are several input fields and checkboxes. 'Your name:' is filled with 'BASTIN' and has a green checkmark. 'Your computer's name:' is filled with 'bastin-VirtualBox' and has a green checkmark. Below this is the text 'The name it uses when it talks to other computers.' 'Pick a username:' is filled with 'bastin' and has a green checkmark. 'Choose a password:' is filled with four dots and has a red 'Short password' label. 'Confirm your password:' is filled with four dots and has a green checkmark. Below these are two radio buttons: 'Log in automatically' (unselected) and 'Require my password to log in' (selected). At the bottom right are 'Back' and 'Continue' buttons. At the very bottom are seven purple dots.

Nov 14 22:03

Install

Who are you?

Your name: BASTIN ✓

Your computer's name: bastin-VirtualBox ✓  
The name it uses when it talks to other computers.

Pick a username: bastin ✓

Choose a password: ●●●● Short password

Confirm your password: ●●●● ✓

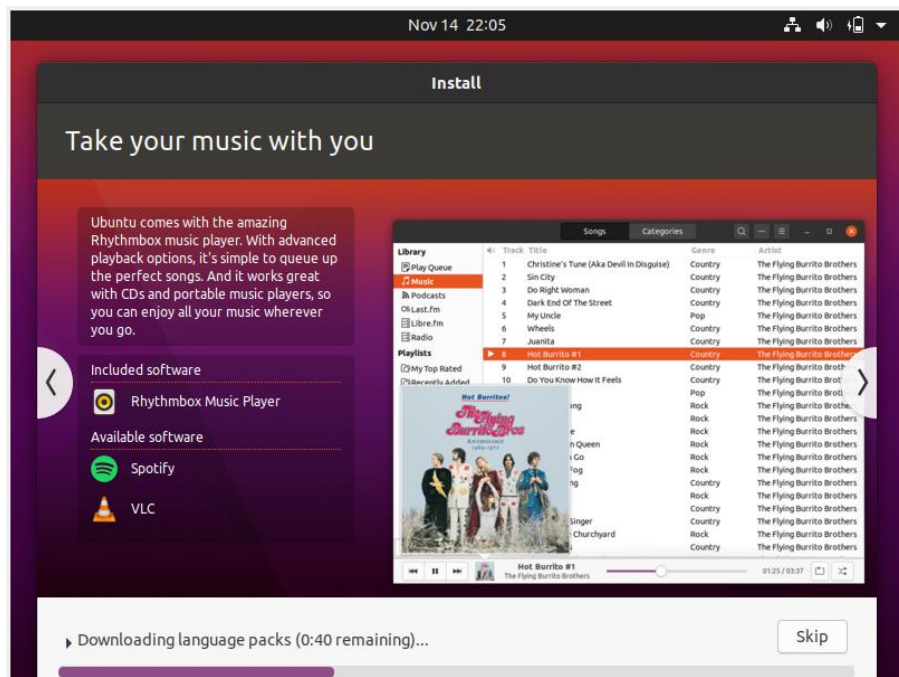
☐ Log in automatically

☒ Require my password to log in

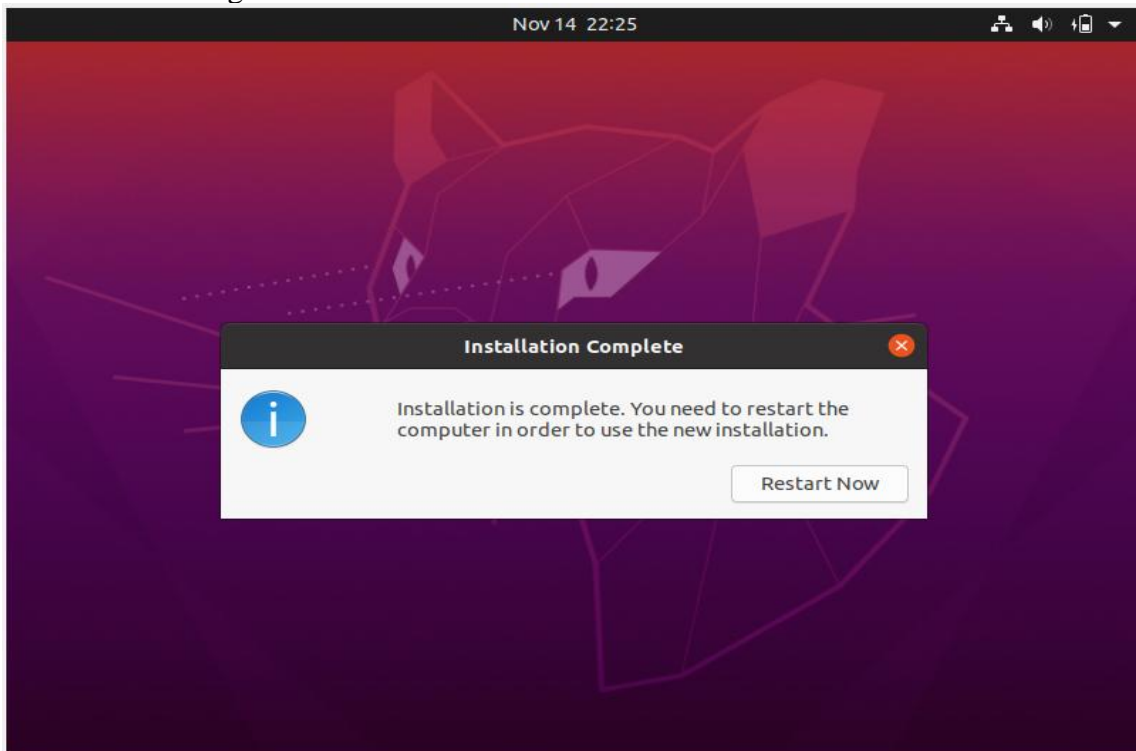
Back Continue

● ● ● ● ● ● ●

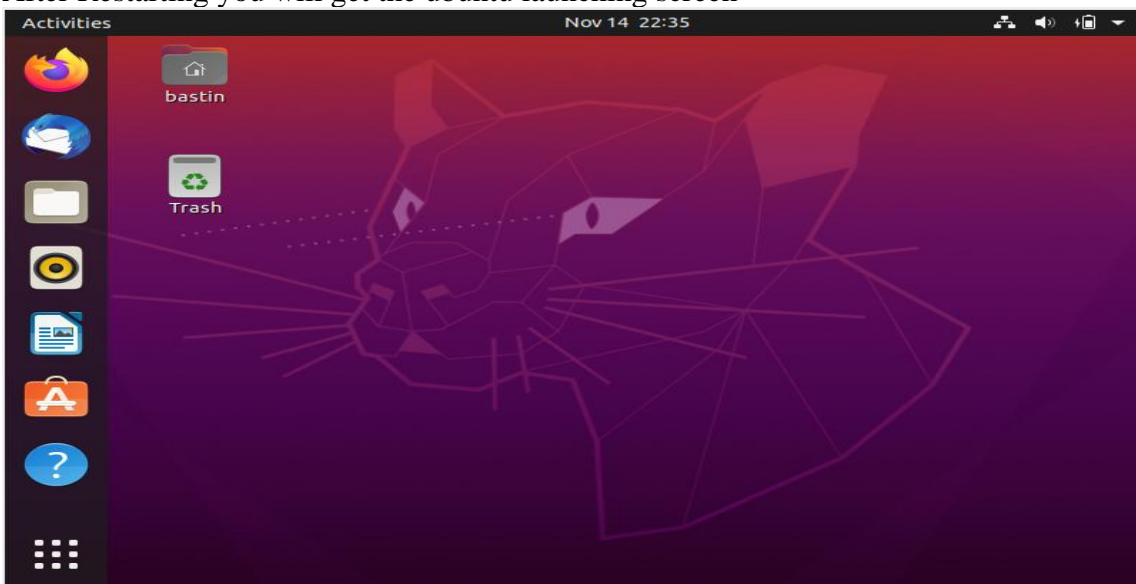
Launch Ubuntu once the installation gets completed



After installation get over click Restart Now and Launch Ubuntu Virtual OS



After Restarting you will get the ubuntu launching screen



## Result

Thus, we can install different flavors of Linux and Windows using Oracle Virtual Box

## Ex.No.2

## Install a C compiler on Virtual Machine and execute a simple C program

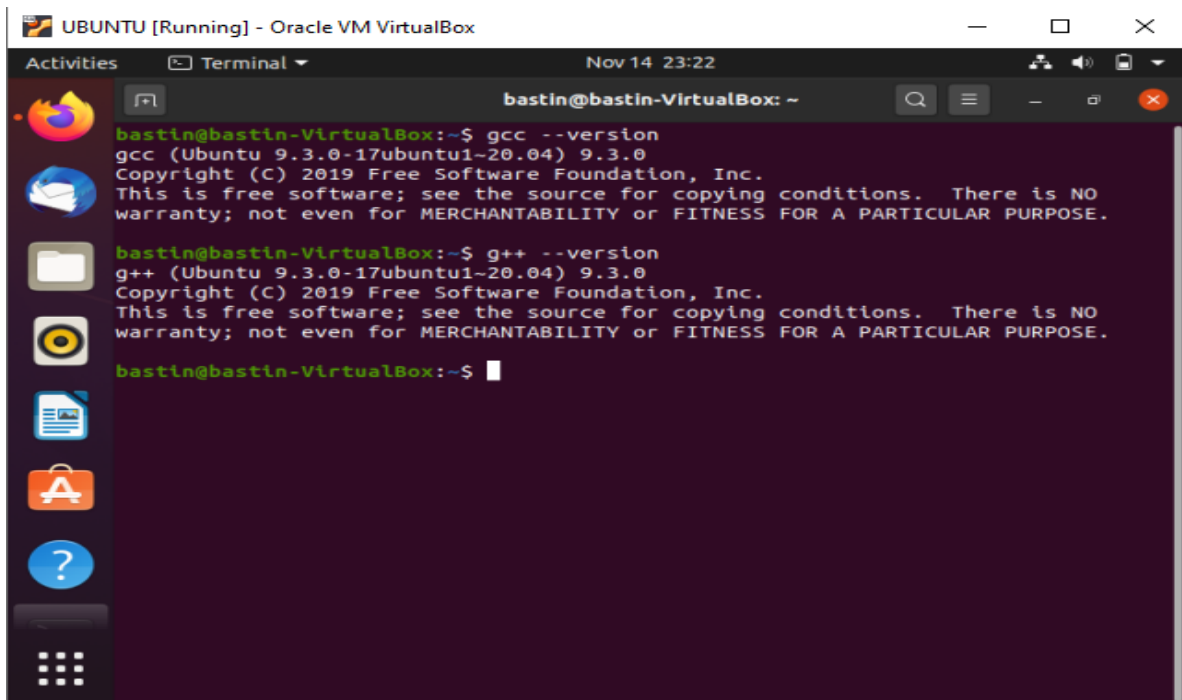
### Aim :

To develop a C program using compiler in the virtual machine.

### Algorithm:

1. Open terminal and type the command touch Hello.c
2. Save the file
3. Compile the program using gcc hello.c -o test
4. Run it using ./test

Checking gcc and g++ compiler after installation by typing gcc --version and g++ --version command in Terminal



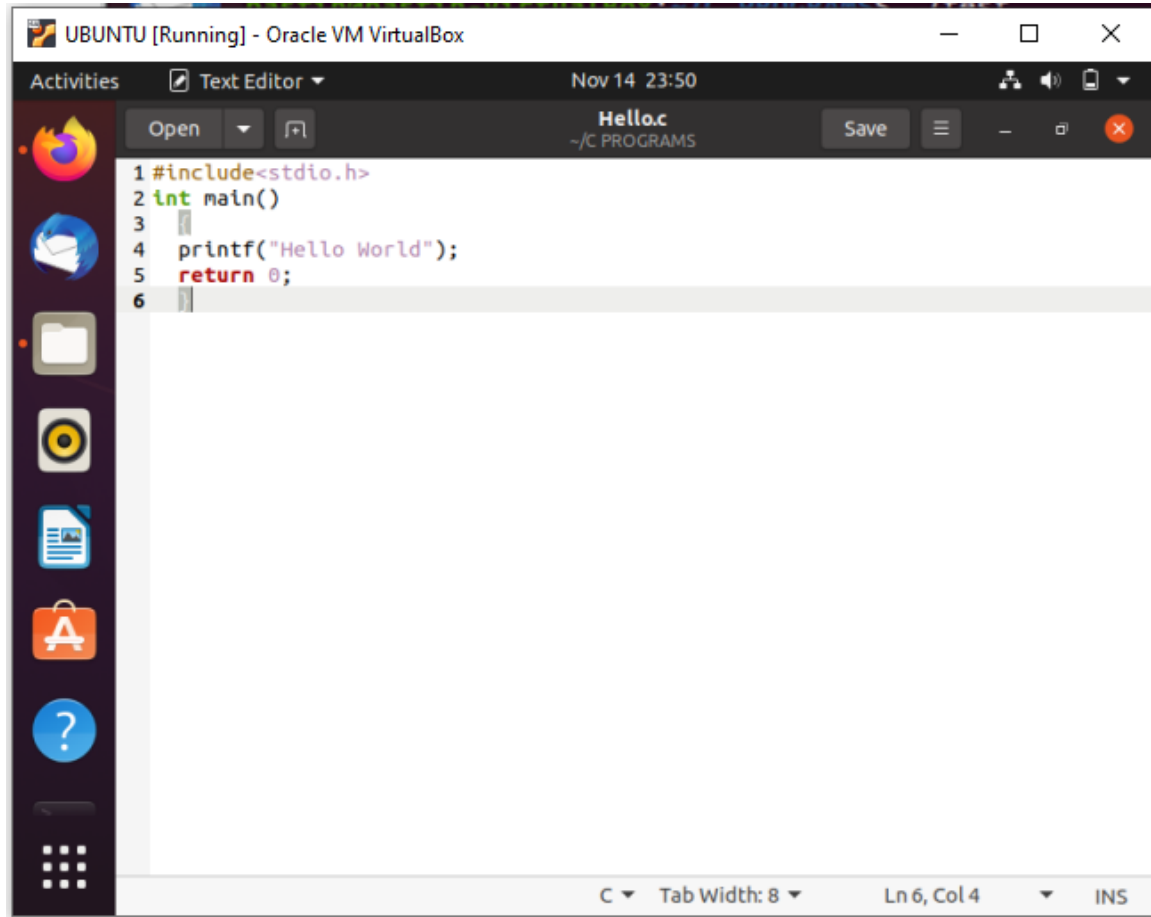
```
UBUNTU [Running] - Oracle VM VirtualBox
Nov 14 23:22
bastin@bastin-VirtualBox: ~
bastin@bastin-VirtualBox:~$ gcc --version
gcc (Ubuntu 9.3.0-17ubuntu1~20.04) 9.3.0
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

bastin@bastin-VirtualBox:~$ g++ --version
g++ (Ubuntu 9.3.0-17ubuntu1~20.04) 9.3.0
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

bastin@bastin-VirtualBox:~$
```



### Simple example program:

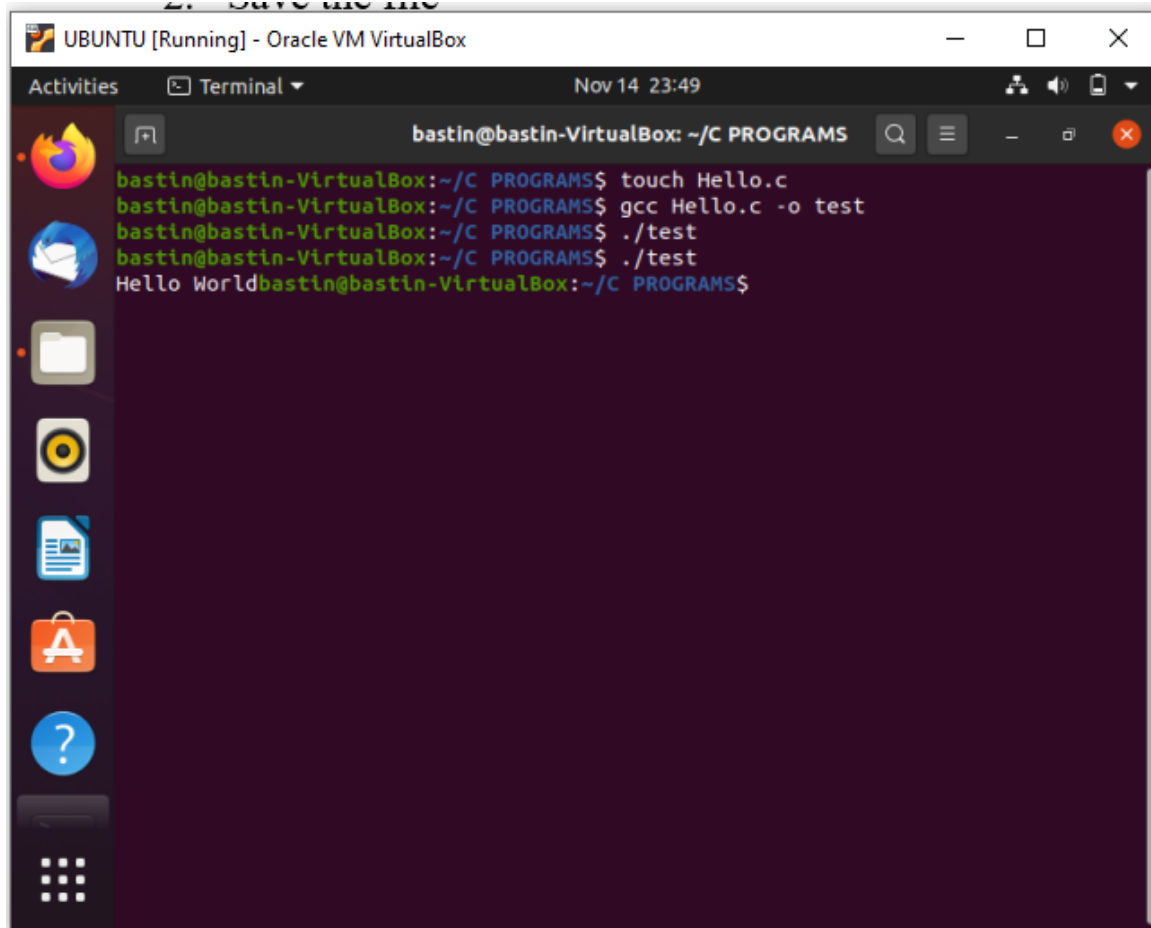


The screenshot shows a window titled "UBUNTU [Running] - Oracle VM VirtualBox". Inside the window is the Ubuntu desktop environment. A text editor window is open, titled "Hello.c" with the path "~/C PROGRAMS". The text editor contains the following C code:

```
1 #include<stdio.h>
2 int main()
3 {
4     printf("Hello World");
5     return 0;
6 }
```

The status bar at the bottom of the text editor shows "C", "Tab Width: 8", "Ln 6, Col 4", and "INS".

## Compiling and Running C programs



The screenshot shows a terminal window titled "UBUNTU [Running] - Oracle VM VirtualBox". The terminal prompt is "bastin@bastin-VirtualBox: ~/C PROGRAMS". The user enters the following commands and receives the following output:

```
bastin@bastin-VirtualBox:~/C PROGRAMS$ touch Hello.c
bastin@bastin-VirtualBox:~/C PROGRAMS$ gcc Hello.c -o test
bastin@bastin-VirtualBox:~/C PROGRAMS$ ./test
bastin@bastin-VirtualBox:~/C PROGRAMS$ ./test
Hello Worldbastin@bastin-VirtualBox:~/C PROGRAMS$
```

### Result:

Thus, the above C program was developed using in C compiler in the virtual machine application executed successfully.

**Ex.No.3****Install Google App Engine. Create hello world app and other simple web applications using python/java.****Aim**

To install GAE and creating simple Hello World applications using GAE

**Procedure:**

This document describes the installation of the Google App Engine Software Development Kit (SDK) on a Microsoft Windows and running a simple “hello world” application.

The App Engine SDK allows you to run Google App Engine Applications on your local computer. It simulates the run-time environment of the Google App Engine infrastructure.

**Pre-Requisites: Python 2.5.4**

If you don't already have Python 2.5.4 installed in your computer, download and Install Python 2.5.4 from:

<http://www.python.org/download/releases/2.5.4/>

**Download and Install**

You can download the Google App Engine SDK by going to:

<http://code.google.com/appengine/downloads.html>

and download the appropriate install package.

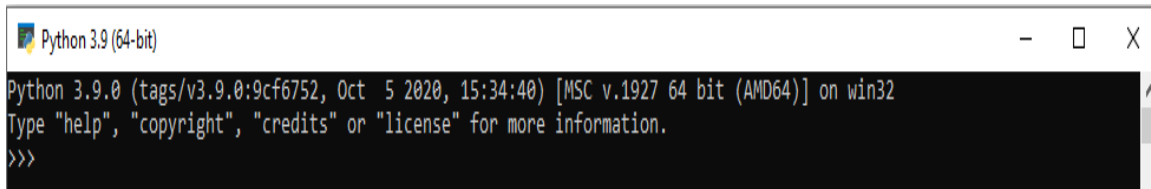
**Download the Google App Engine SDK**

Before downloading, please read the [Terms](#) that govern your use of the App Engine SDK.

Please note: The App Engine SDK is under **active development**, please keep this in mind as you explore its capabilities. See the [SDK Release Notes](#) for the information on the most recent changes to the App Engine SDK. If you discover any issues, please feel free to notify us via our [Issue Tracker](#).

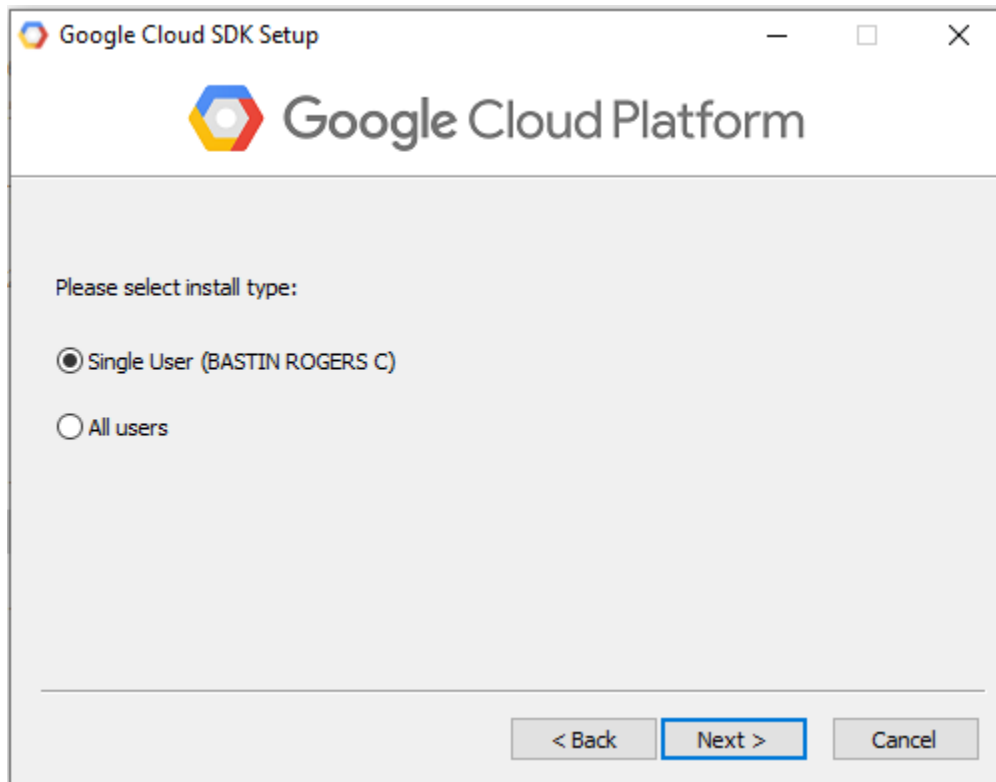
Platform	Version	Package	Size	SHA1 Checksum
Windows	1.1.5 - 10/03/08	<a href="#">GoogleAppEngine_1.1.5.msi</a>	2.5 MB	e974312b4aefc0b3873ff0d93eb4c525d5e88c30
Mac OS X	1.1.5 - 10/03/08	<a href="#">GoogleAppEngineLauncher-1.1.5.dmg</a>	3.6 MB	f62208ac01c1b3e39796e58100d5f1b2f052d3e7
Linux/Other Platforms	1.1.5 - 10/03/08	<a href="#">google_appengine_1.1.5.zip</a>	2.6 MB	cbb9ce817bdabf1c4f181d9544864e55ee253de1

Install Python and check whether it is working correctly or not

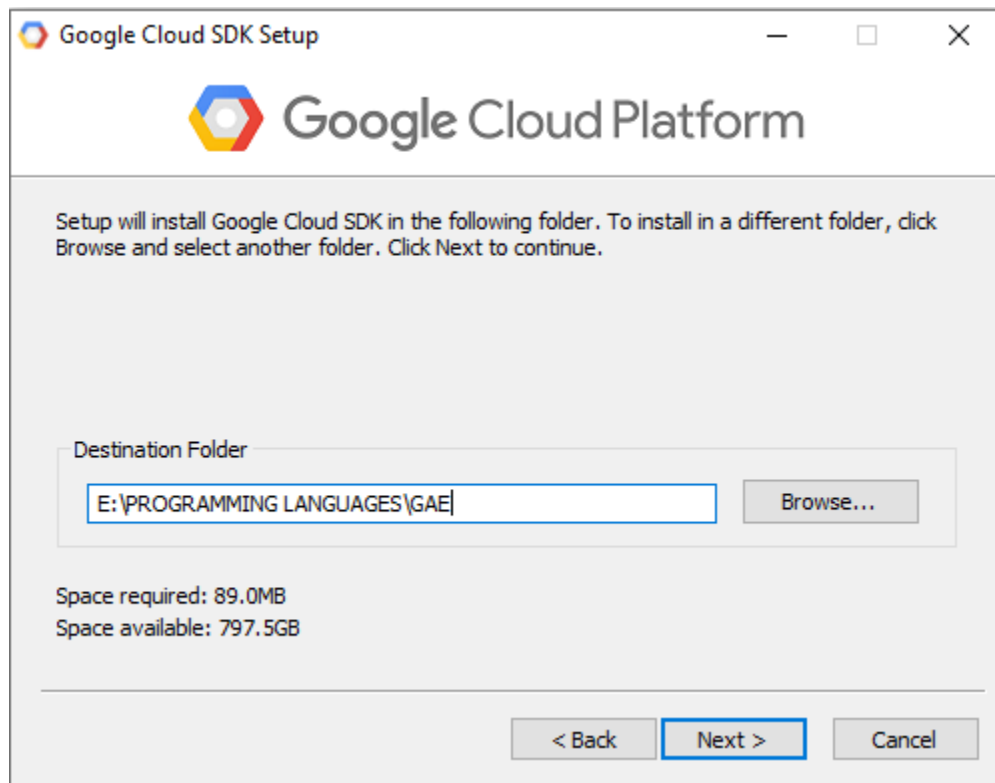


```
Python 3.9 (64-bit)
Python 3.9.0 (tags/v3.9.0:9cf6752, Oct 5 2020, 15:34:40) [MSC v.1927 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

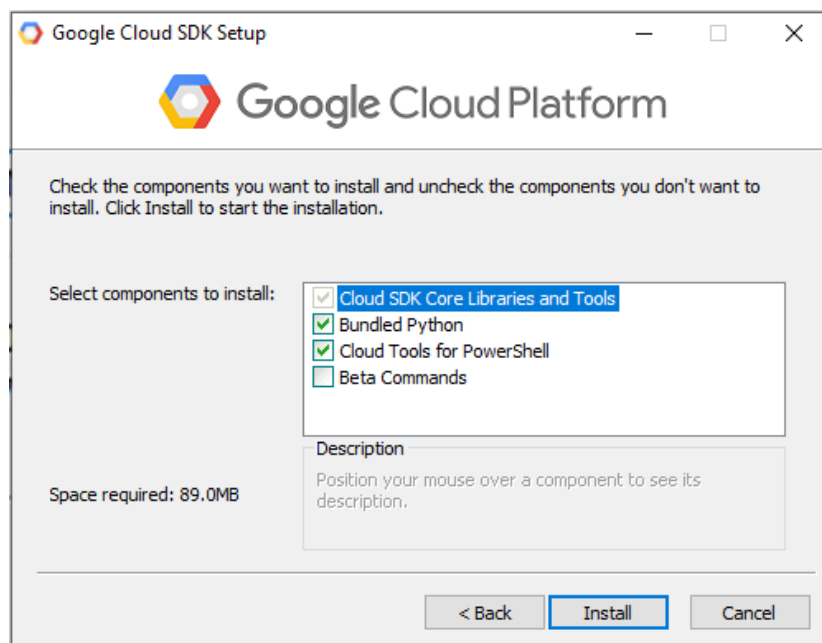
### GAE installation steps:

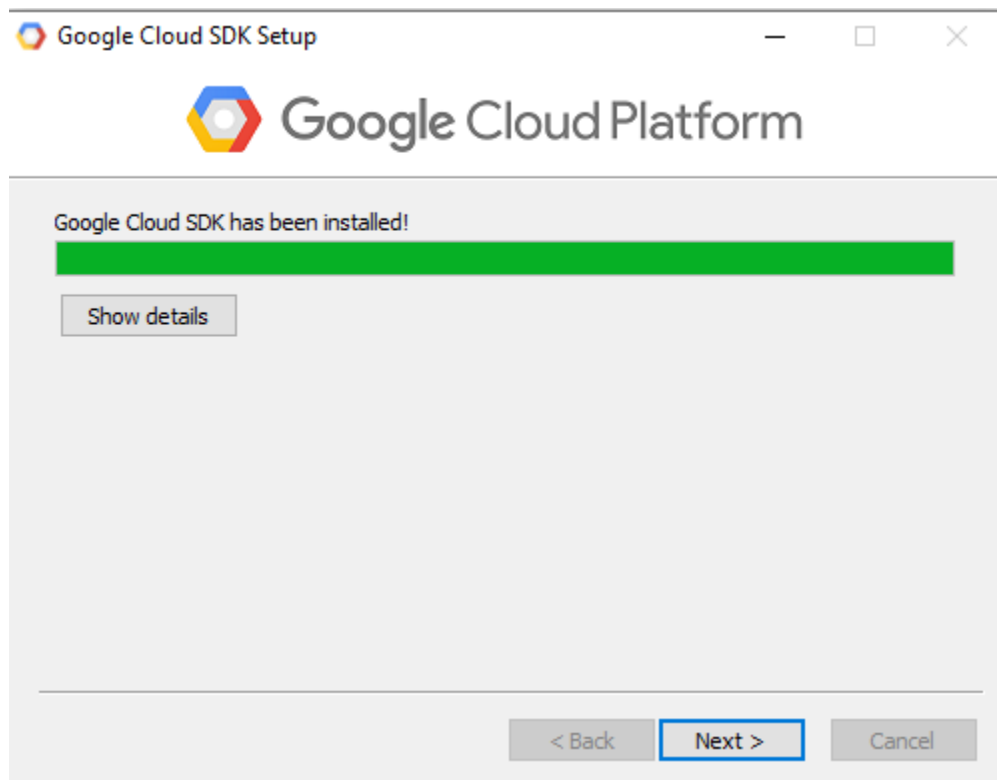
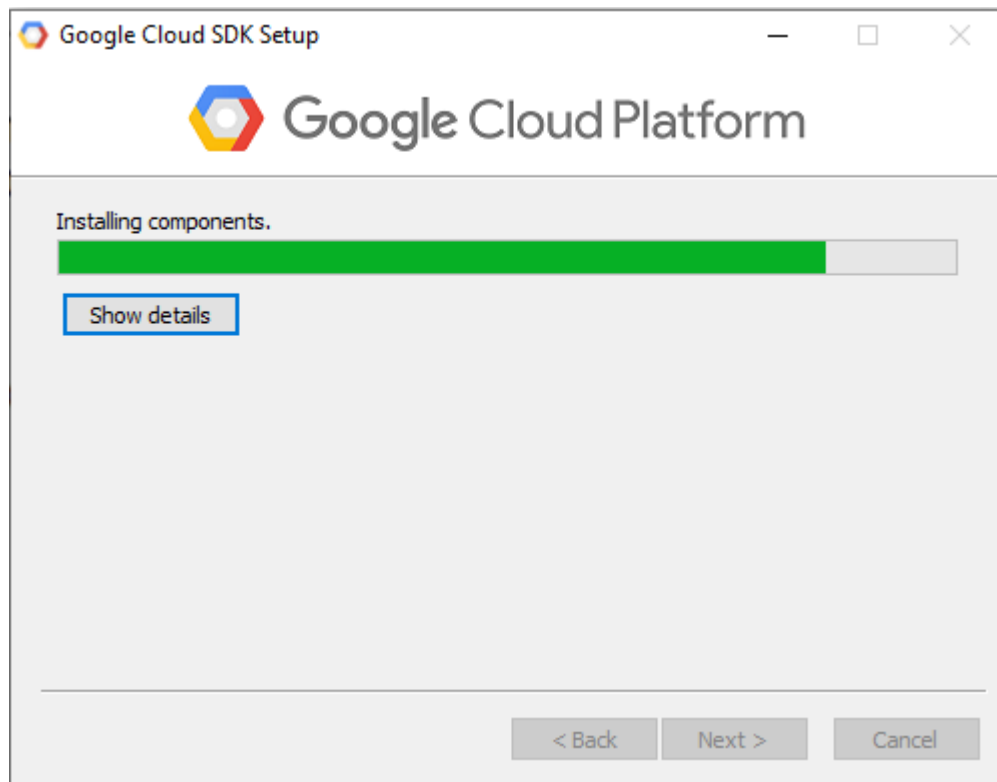


Give the destination path where you are going to install your GAE

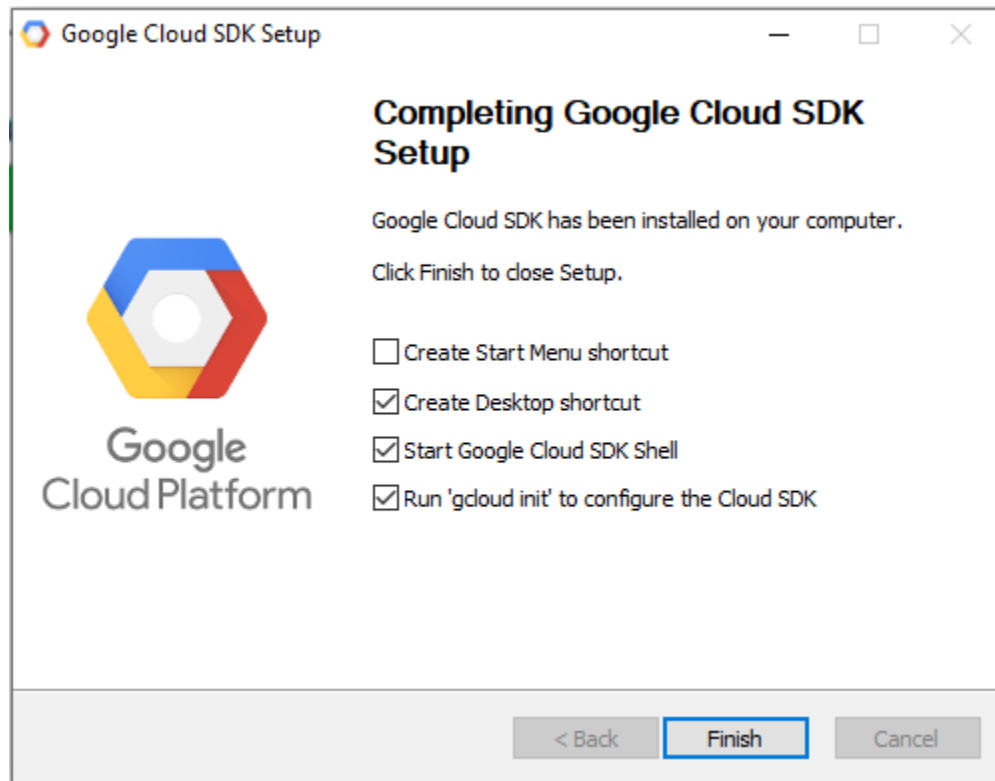


Click Install and wait till installation gets completed





After installation is over click finish



```
Welcome to the Google Cloud SDK! Run "gcloud -h" to get the list of available commands.
---
Welcome! This command will take you through the configuration of gcloud.

Your current configuration has been set to: [default]

You can skip diagnostics next time by using the following flag:
  gcloud init --skip-diagnostics

Network diagnostic detects and fixes local network connection issues.
Checking network connection...done.
Reachability Check passed.
Network diagnostic passed (1/1 checks passed).

You must log in to continue. Would you like to log in (Y/n)?
```

```

C:\Windows\SYSTEM32\cmd.exe - gcloud init

Welcome to the Google Cloud SDK! Run "gcloud -h" to get the list of available commands.
---
Welcome! This command will take you through the configuration of gcloud.

Your current configuration has been set to: [default]

You can skip diagnostics next time by using the following flag:
  gcloud init --skip-diagnostics

Network diagnostic detects and fixes local network connection issues.
Checking network connection...done.
Reachability Check passed.
Network diagnostic passed (1/1 checks passed).

You must log in to continue. Would you like to log in (Y/n)? Y

```

## Run the python file using Google Cloud SDK Shell

```

Administrator: Google Cloud SDK Shell - google-cloud-sdk\bin\dev_appserver.py "E:\PROGRAMMING LANGUAGES\HelloWorld"

Welcome to the Google Cloud SDK! Run "gcloud -h" to get the list of available commands.
---

C:\Windows\system32>d:
D:\>e:
E:\PROGRAMMING LANGUAGES\GAE>google-cloud-sdk\bin\dev_appserver.py "E:\PROGRAMMING LANGUAGES\HelloWorld"
This action requires the installation of components: [app-engine-
python, cloud-datastore-emulator]

Your current Cloud SDK version is: 319.0.0
Installing components from version: 319.0.0

-----+
|           These components will be installed.           |
+-----+-----+-----+
| Name                | Version | Size  |
+-----+-----+-----+
| Cloud Datastore Emulator | 2.1.0   | 18.4 MiB |
| gRPC python library    | 1.20.0  | 1.5 MiB |
| gRPC python library    | 1.20.0  | 1.5 MiB |
| gcloud app Python Extensions | 1.9.91  | 6.1 MiB |
+-----+-----+-----+

For the latest full release notes, please visit:
  https://cloud.google.com/sdk/release_notes

Do you want to continue (Y/n)? Y

#####
#- Creating update staging area                                -#
#####
#- Installing: Cloud Datastore Emulator                      -#
#####
#- Installing: gRPC python library                          -#
#####
#- Installing: gRPC python library                          -#
#####
#- Installing: gcloud app Python Extensions                 -#
#####
#- Creating backup and activating new installation           -#
#####
#####

Performing post processing steps...done.

Update done!

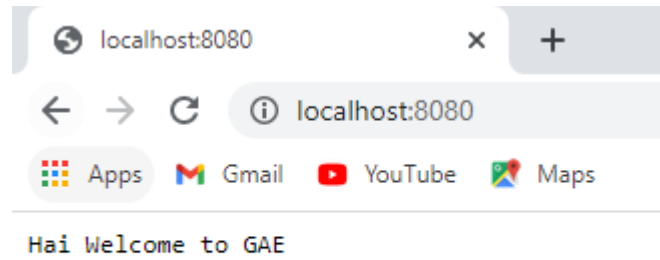
Restarting command:
$ dev_appserver.py E:\PROGRAMMING LANGUAGES\HelloWorld

INFO 2020-11-19 11:06:30,499 devappserver2.py:289] Skipping SDK update check.
WARNING 2020-11-19 11:06:30,854 simple_search_stub.py:1198] Could not read search indexes from c:\users\bastin~1\appdata\local\temp\appengine.None\search_indexes
INFO 2020-11-19 11:06:30,858 api_server.py:282] Starting API server at: http://localhost:56792
INFO 2020-11-19 11:06:30,865 dispatcher.py:267] Starting module "default" running at: http://localhost:8080
INFO 2020-11-19 11:06:30,865 admin_server.py:150] Starting admin server at: http://localhost:8080
INFO 2020-11-19 11:06:32,907 instance.py:294] Instance PID: 12336
INFO 2020-11-19 11:07:22,219 module.py:865] default: "GET / HTTP/1.1" 200 19
INFO 2020-11-19 11:07:22,273 module.py:865] default: "GET /favicon.ico HTTP/1.1" 404 -
INFO 2020-11-19 11:07:23,334 instance.py:294] Instance PID: 14484

```



**Open your browser and type localhost:8080**



**Result:**

Thus, we can create simple web based applications using Python and Java and execute using GAE.