Name : Janhavi Katre
Roll No : 05
CC Lab 1

Part-1

Aim: Demonstrate implementation of Para-Virtualization using Oracle Virtual Box and Guest OS.

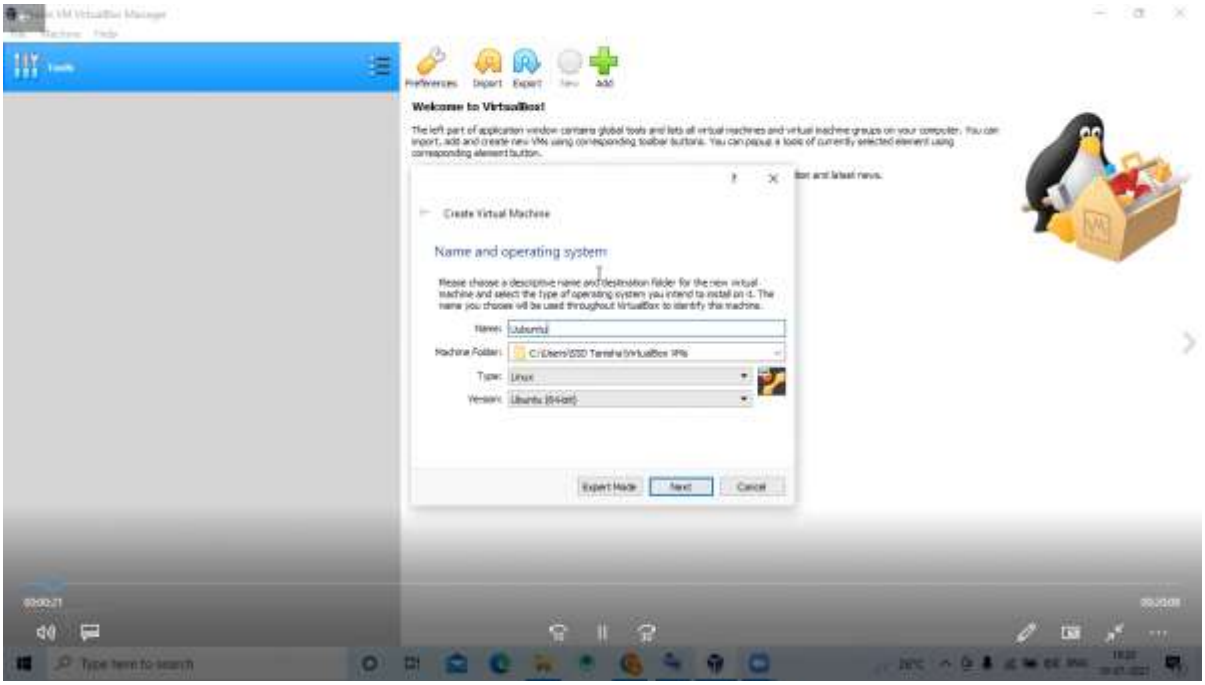
Task:

To find procedure to run the virtual machine of different configuration and check how many virtual machines can be utilized at particular time.

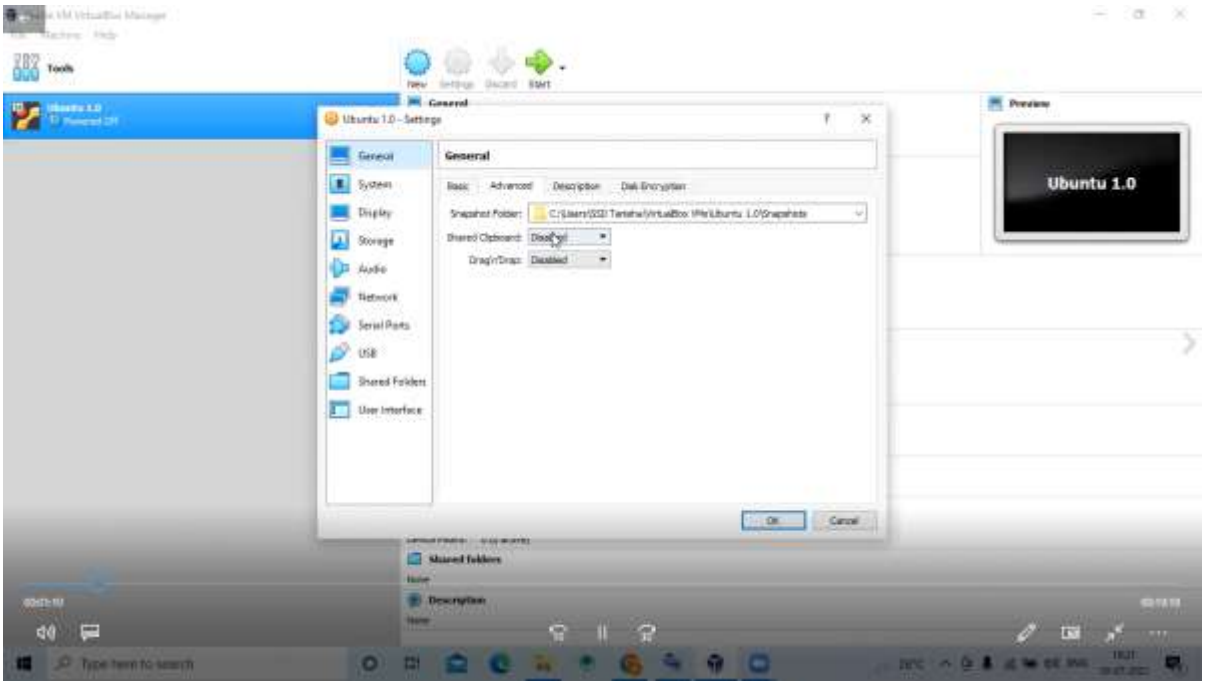
Procedure:

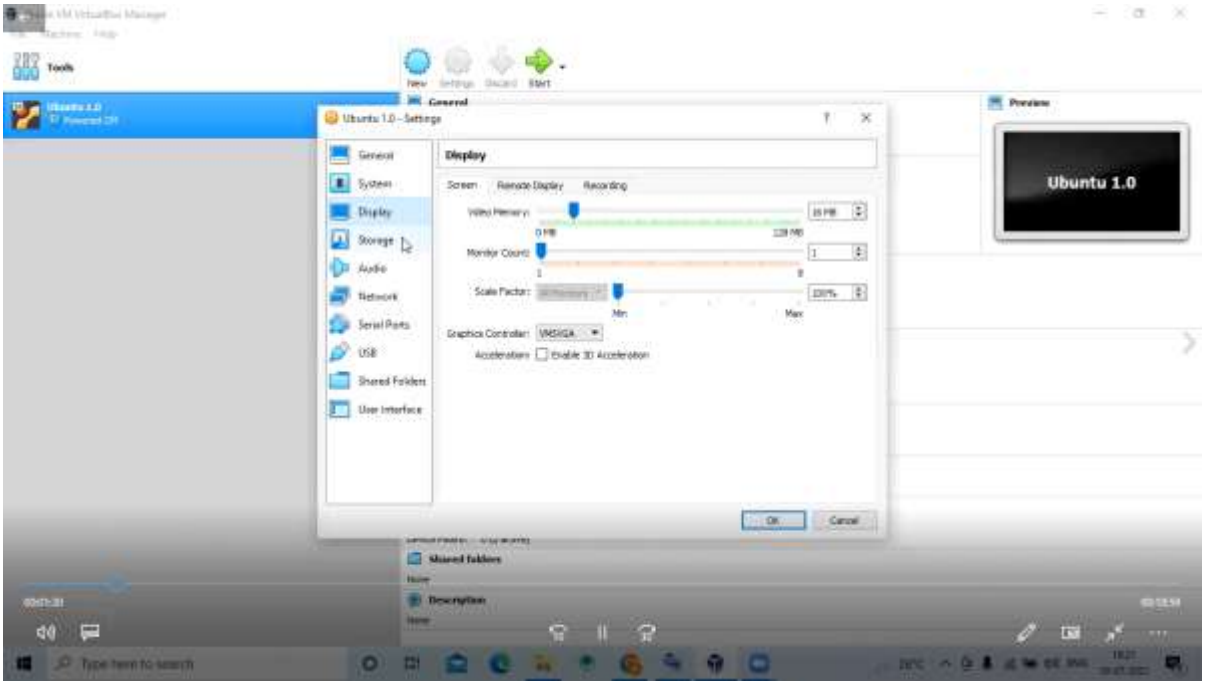
Installing Ubuntu using Oracle VirtualBox

1. Begin by launching the Oracle VirtualBox Manager and then select "Create New" followed by "Virtual Machine."

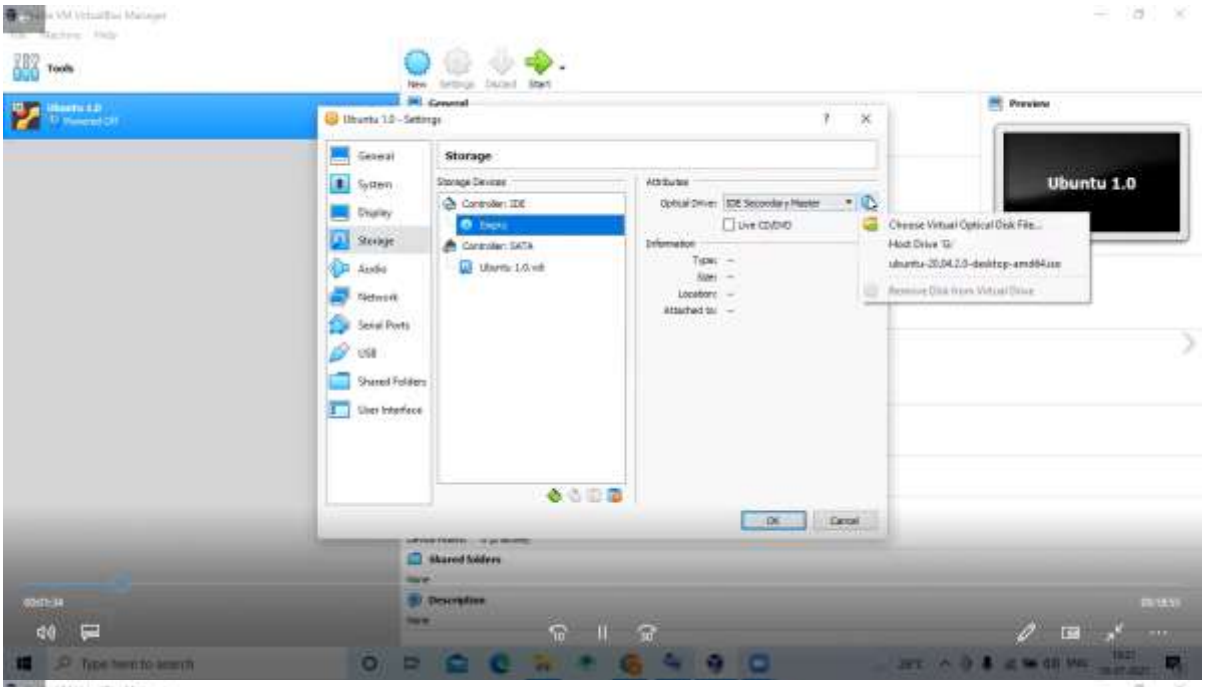


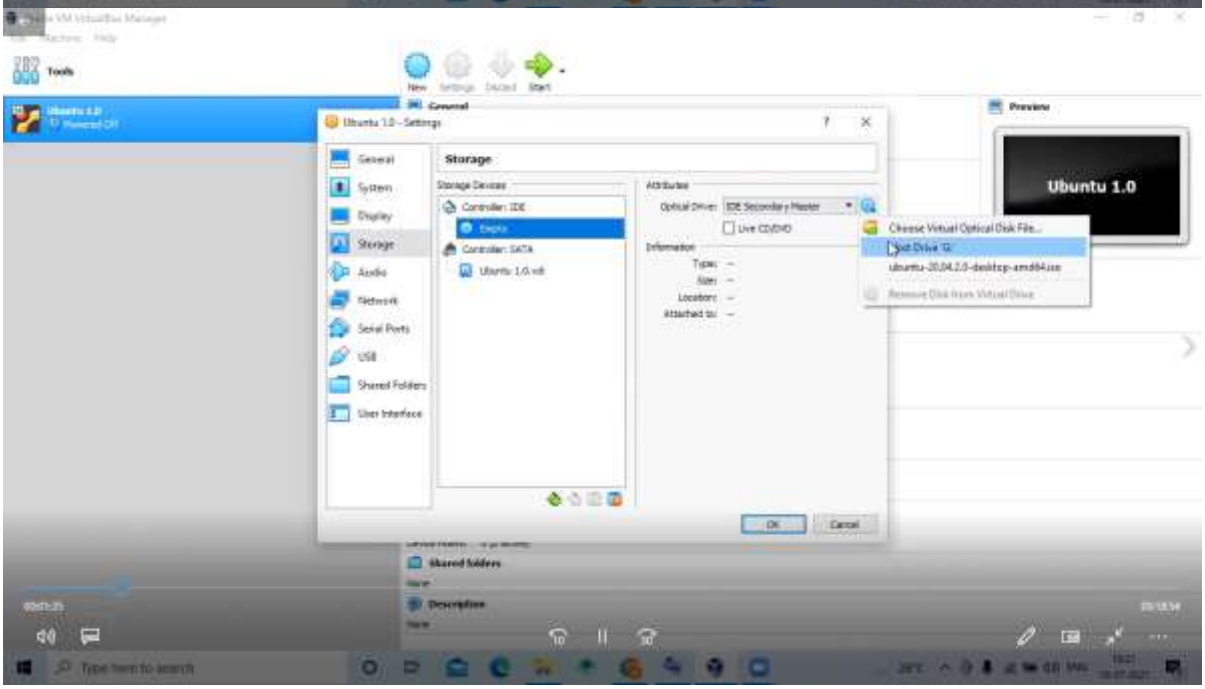
2. Proceed to the "Settings" menu and configure the necessary options as depicted in the provided images:
   - Enable bidirectional sharing
   - Allocate the desired amount of RAM and CPU resources

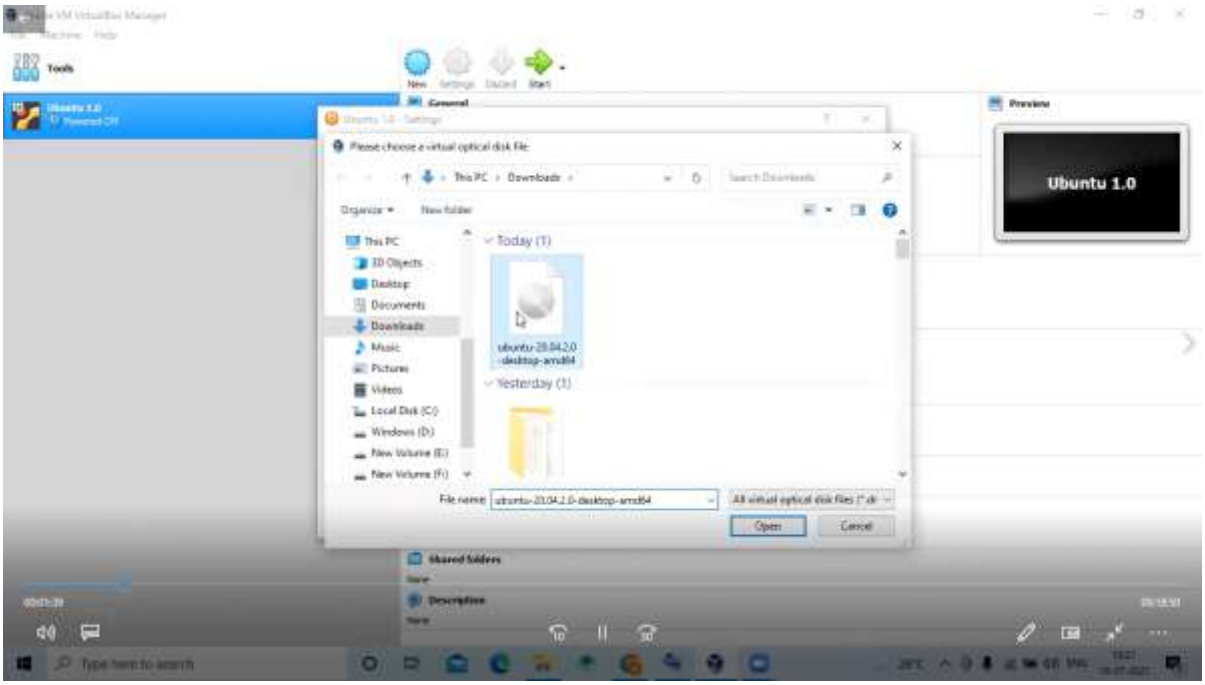




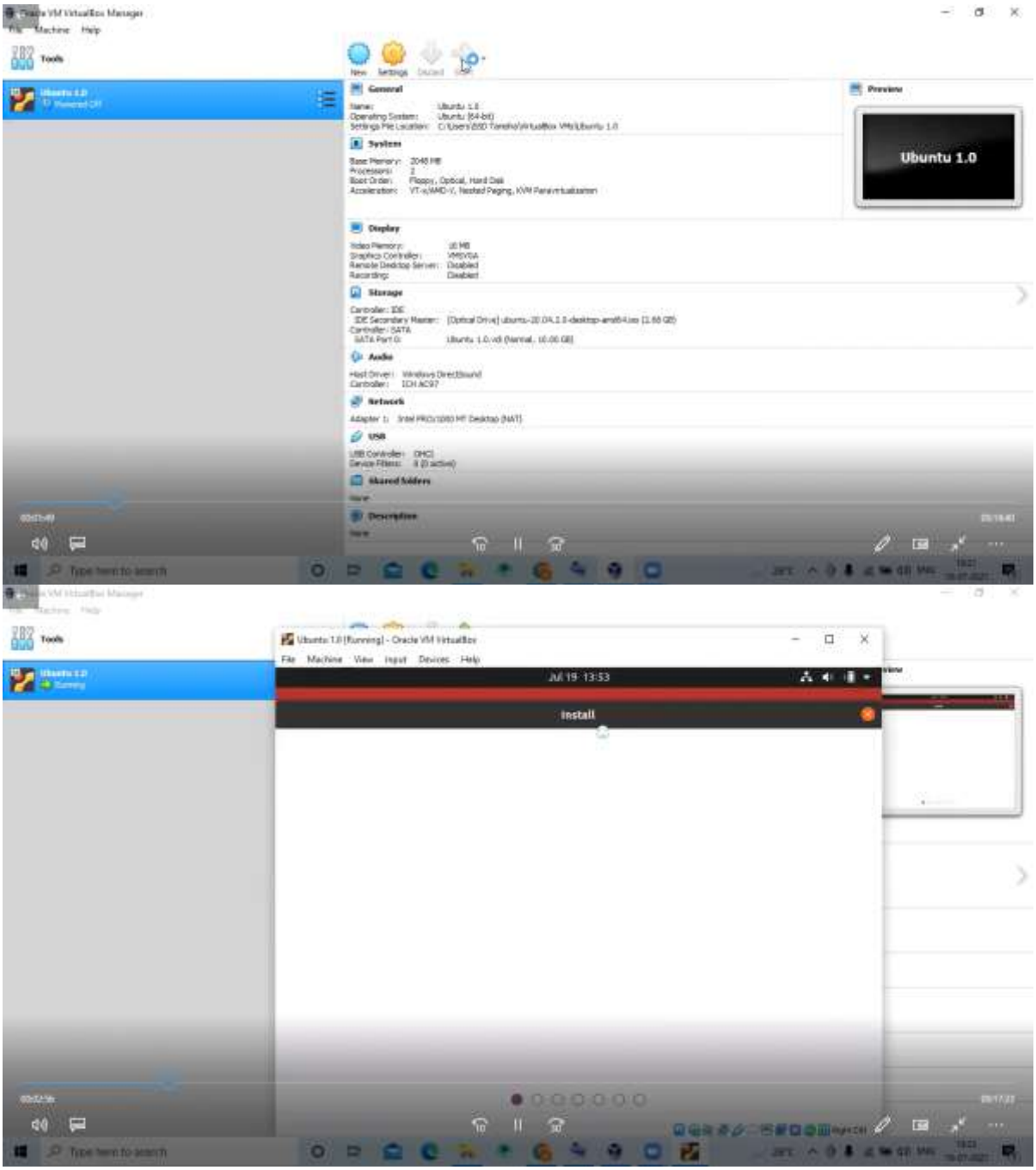
3. Access the "Storage" section and locate the empty disk icon. From there, choose the optical drive option and then select "Choose Virtual Optical Disk File." Now, pick the Ubuntu disk file and confirm by clicking "OK."

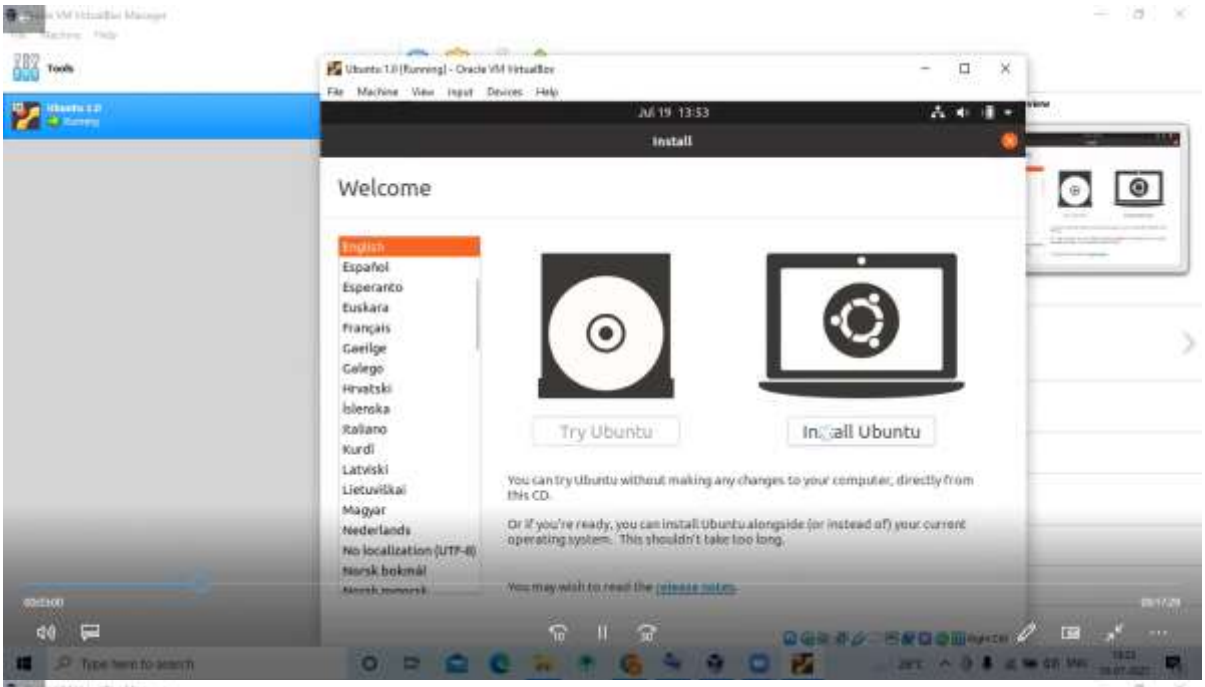

Tools
Ubuntu 1.0 - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
Empty
Controller: SATA
Ubuntu 1.0.vdi
Attributes
Optical Drive:
IDE Secondary Master
Live CD/DVD
Information
Type:
Size:
Location:
Attached to:
Choose Virtual Optical Disk File...
Host Drive 'G:'
ubuntu-20.04.2.0-desktop-amd64.iso
Remove Disk from Virtual Drive
OK
Cancel
Preview
Ubuntu 1.0
Shared folders
Description

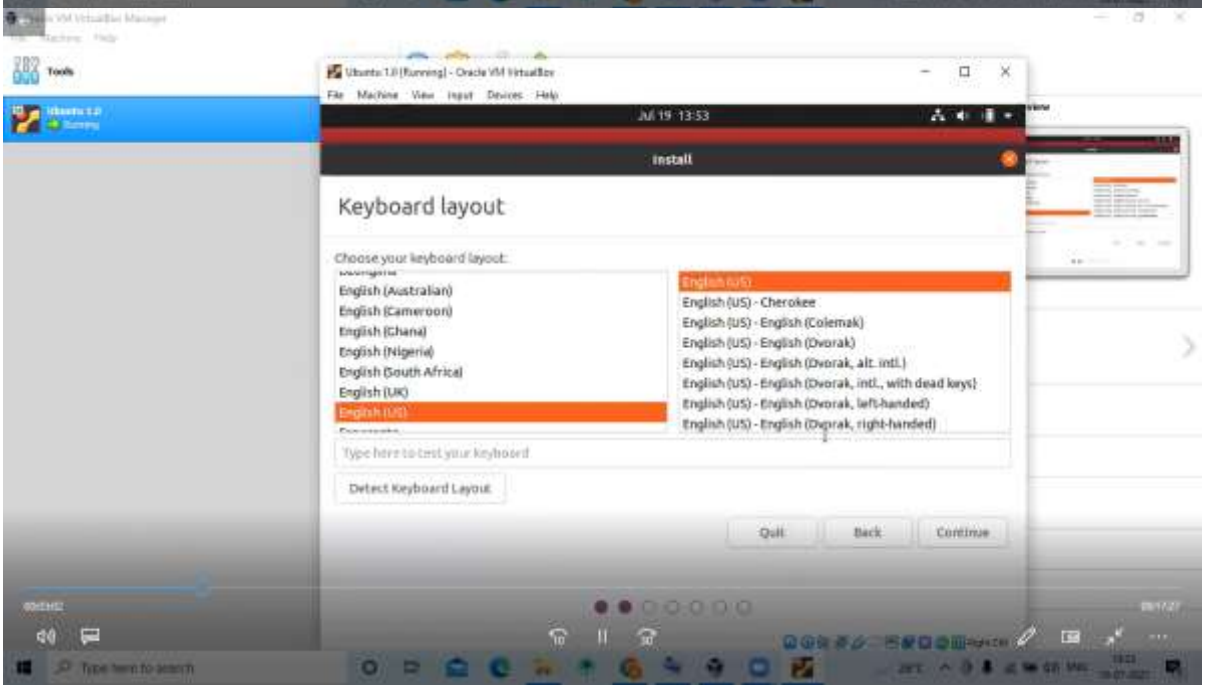

Tools
Ubuntu 1.0 - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
Empty
Controller: SATA
Ubuntu 1.0.vdi
Attributes
Optical Drive:
IDE Secondary Master
Live CD/DVD
Information
Type:
Size:
Location:
Attached to:
Choose Virtual Optical Disk File...
Host Drive 'G:'
ubuntu-20.04.2.0-desktop-amd64.iso
Remove Disk from Virtual Drive
OK
Cancel
Preview
Ubuntu 1.0
Shared folders
Description

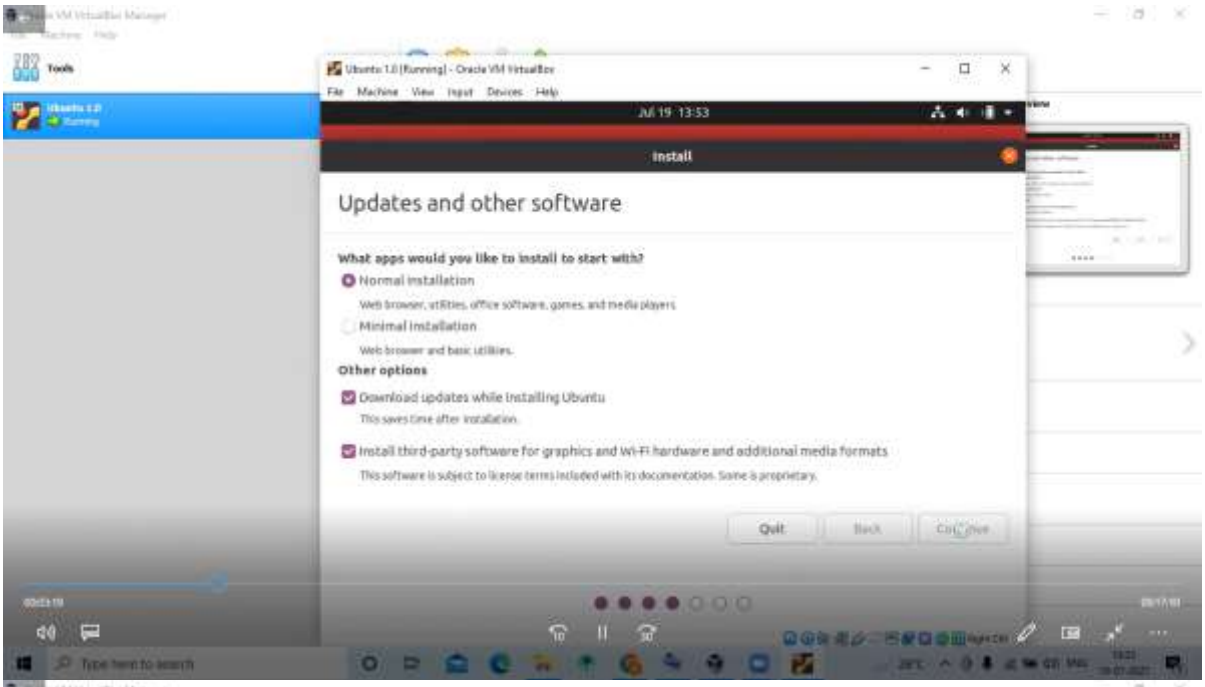


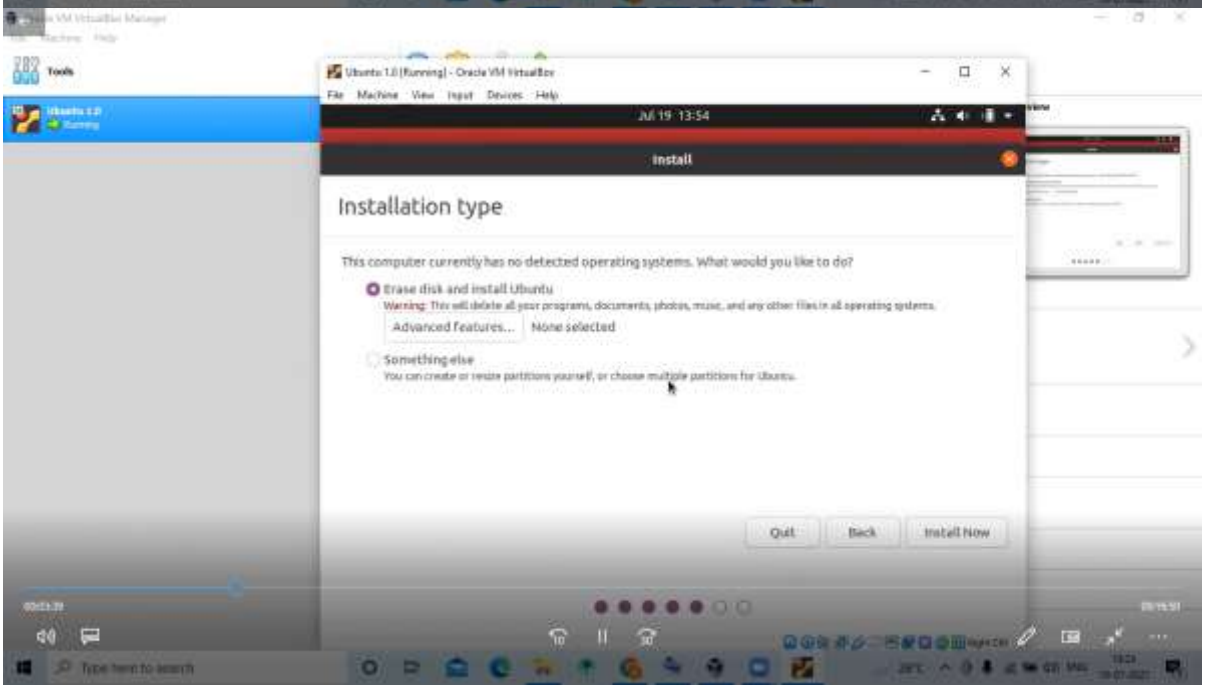
4. Initiate the virtual machine and commence the Ubuntu installation procedure, referencing the accompanying images.

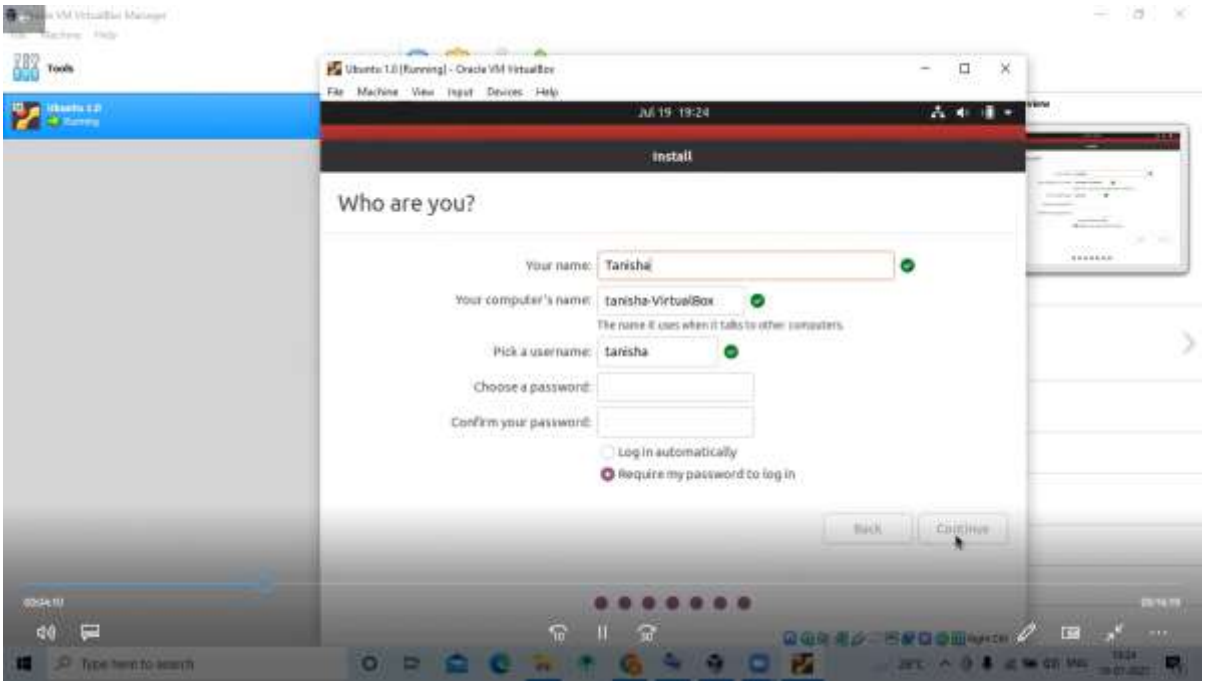

Ubuntu 1.0
Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 19 13:53
Install


Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 19 13:53
Install
Welcome
English
Español
Esperanto
Euskara
Français
Gaeilge
Galego
Hrvatski
Íslenska
Italiano
Kurdî
Latviski
Lietuviškai
Magyar
Nederlands
No localization (UTF-8)
Norsk bokmål
Try Ubuntu
Install Ubuntu
You can try Ubuntu without making any changes to your computer, directly from this CD.
Or if you're ready, you can install Ubuntu alongside (or instead of) your current operating system. This shouldn't take too long.
You may wish to read the release notes.

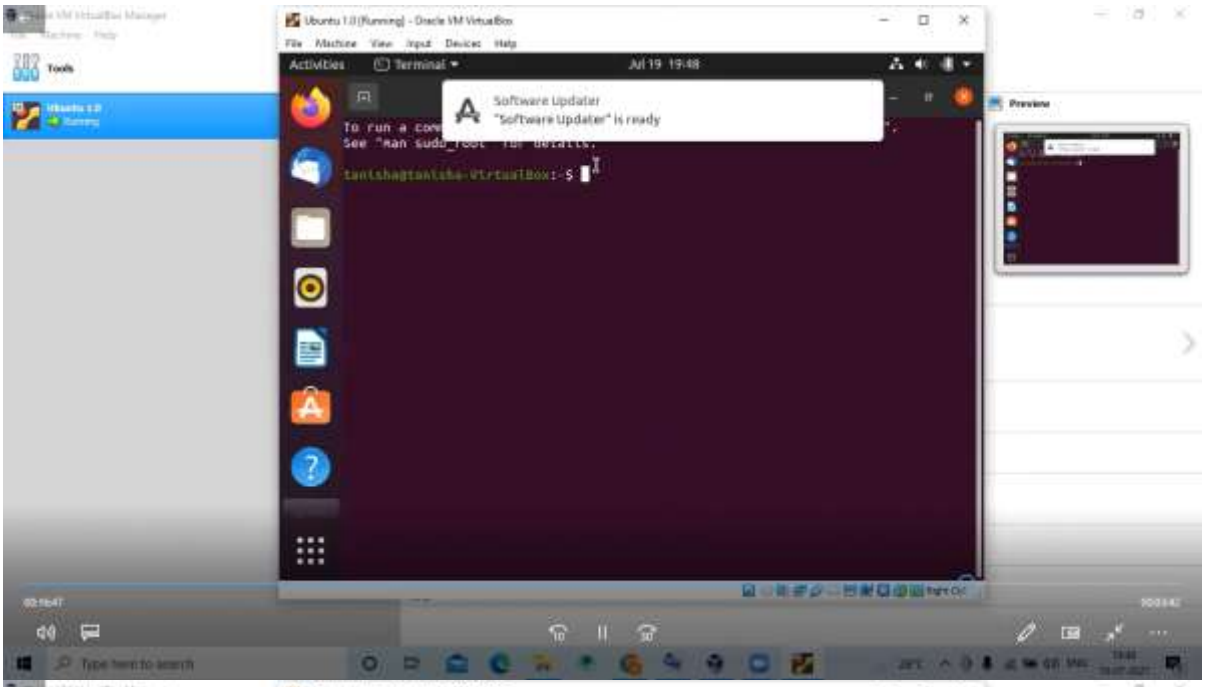

Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 19 13:53
Install
Keyboard layout
Choose your keyboard layout:
English (Australian)
English (Cameroon)
English (Ghana)
English (Nigeria)
English (South Africa)
English (UK)
English (US)
English (US)
English (US) - Cherokee
English (US) - English (Colemak)
English (US) - English (Dvorak)
English (US) - English (Dvorak, alt. intl.)
English (US) - English (Dvorak, intl., with dead keys)
English (US) - English (Dvorak, left-handed)
English (US) - English (Dvorak, right-handed)
Type here to test your keyboard
Detect Keyboard Layout
Quit
Back
Continue

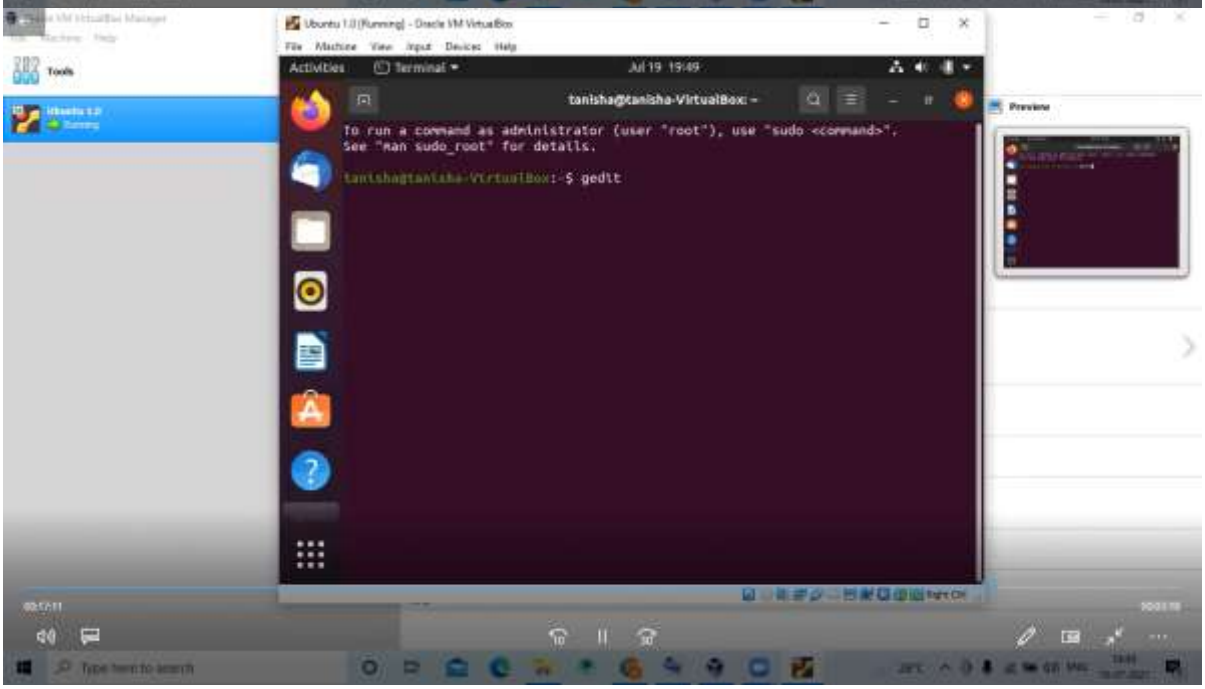

Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 19 13:53
Install
Updates and other software
What apps would you like to install to start with?
Normal installation
Web browser, utilities, office software, games, and media players
Minimal installation
Web browser and basic utilities
Other options
Download updates while installing Ubuntu
This saves time after installation
Install third-party software for graphics and Wi-Fi hardware and additional media formats
This software is subject to license terms included with its documentation. Some is proprietary.
Quit
Back
Continue

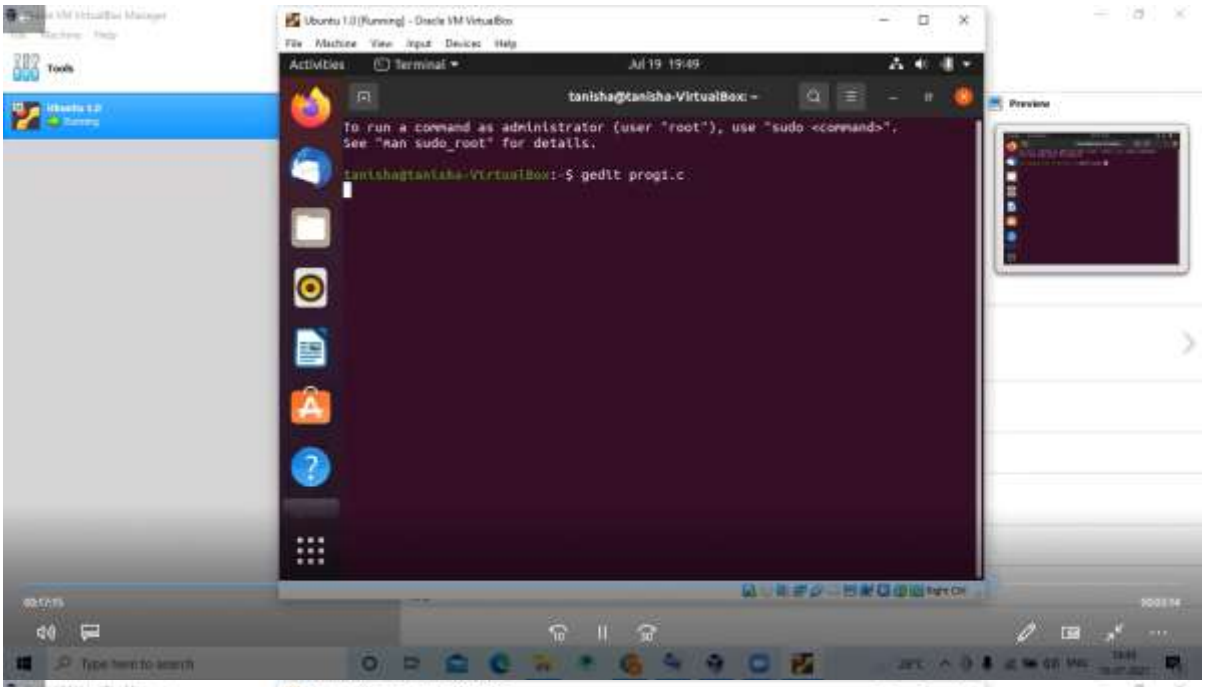

Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 19 13:54
Install
Installation type
This computer currently has no detected operating systems. What would you like to do?
Erase disk and install Ubuntu
Warning: This will delete all your programs, documents, photos, music, and any other files in all operating systems.
Advanced features...
None selected
Something else
You can create or resize partitions yourself, or choose multiple partitions for Ubuntu.
Quit
Back
Install Now

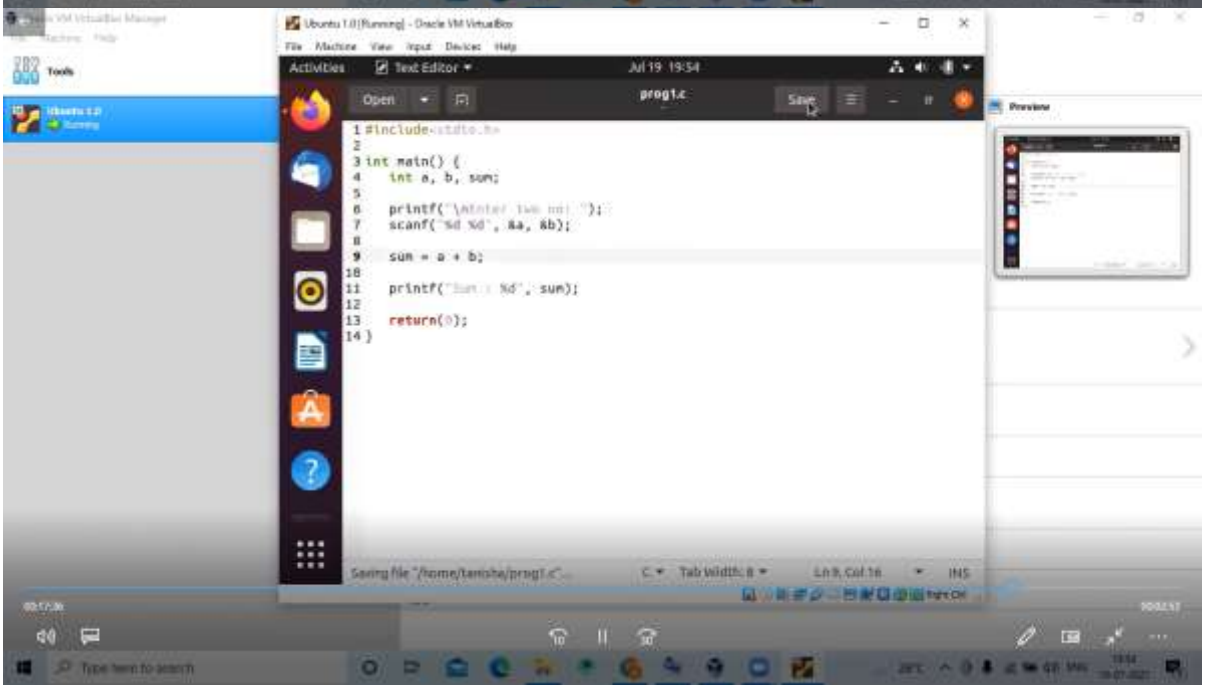


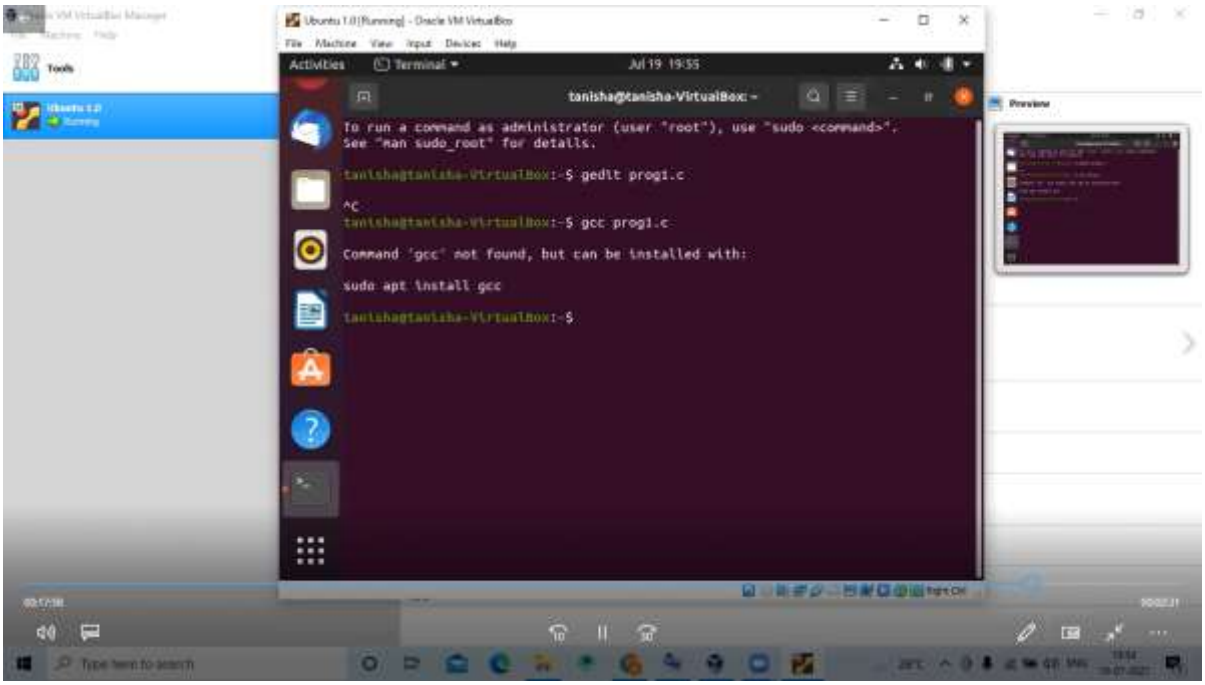
5. Transition to coding. Establish a new file and write your code. Subsequently, install the GCC compiler to facilitate code execution.

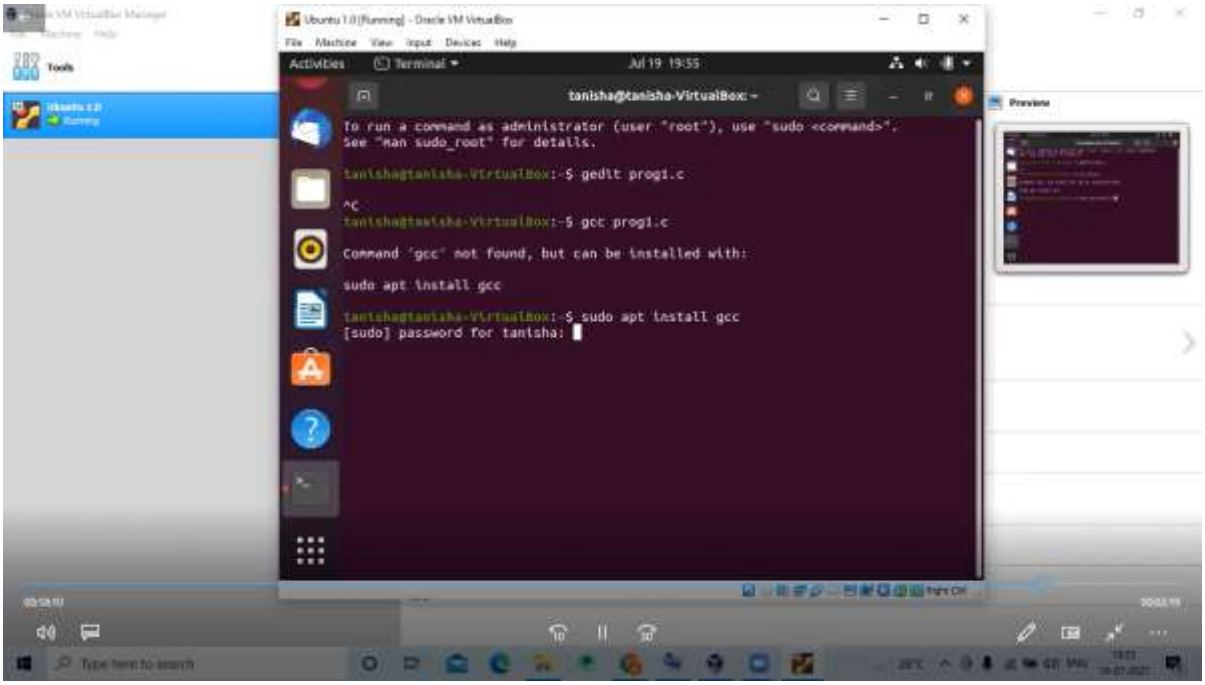

Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
Terminal
Jul 19 19:48
Software Updater
"Software Updater" is ready
To run a com
See "man sudo_root" for details.
tanisha@tanisha-VirtualBox:~$
Preview


Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
Terminal
Jul 19 19:49
tanisha@tanisha-VirtualBox: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
tanisha@tanisha-VirtualBox:~$ gedit
Preview

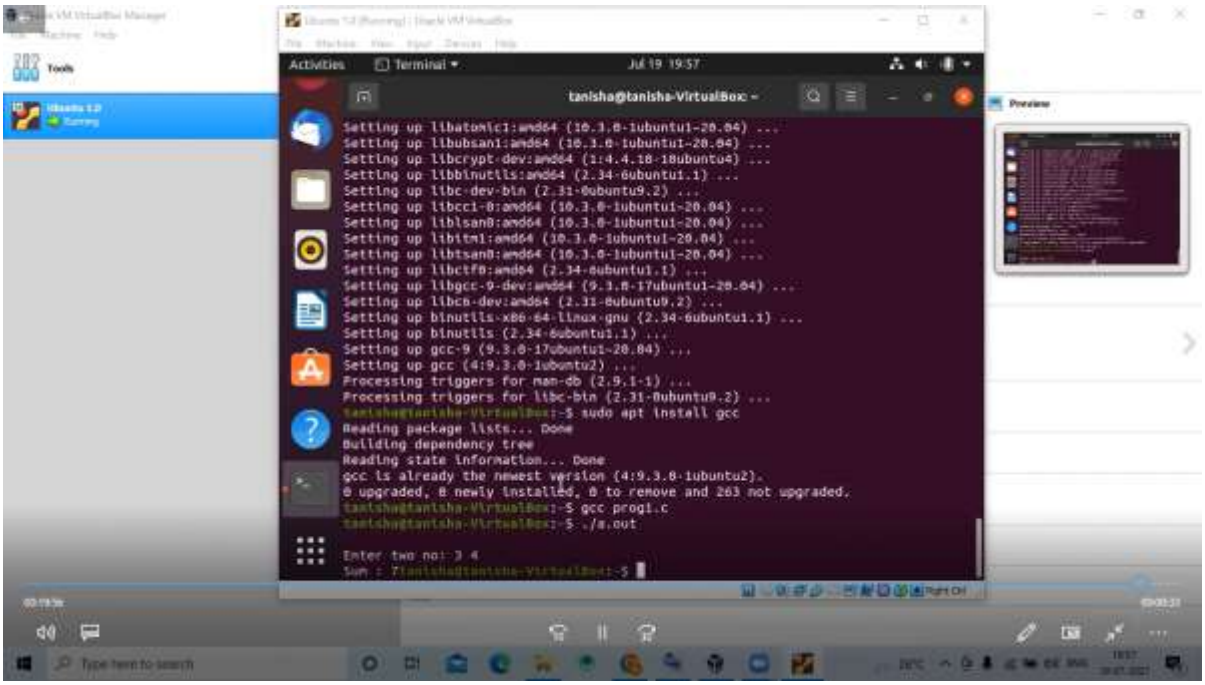

Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
Terminal
Jul 19 19:49
tanisha@tanisha-VirtualBox: ~
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
tanisha@tanisha-VirtualBox:~$ gedit prog1.c
Preview


Ubuntu 1.0 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
Text Editor
Jul 19 19:54
Open
prog1.c
Save
1 #include<stdio.h>
2
3 int main() {
4 int a, b, sum;
5
6 printf("\nEnter two no: ");
7 scanf("%d %d", &a, &b);
8
9 sum = a + b;
10
11 printf("Sum : %d", sum);
12
13 return(0);
14 }
Saving file "/home/tanisha/prog1.c"...
C Tab Width: 8 Ln 9, Col 16 INS
Preview





6. This results in the output displayed below.



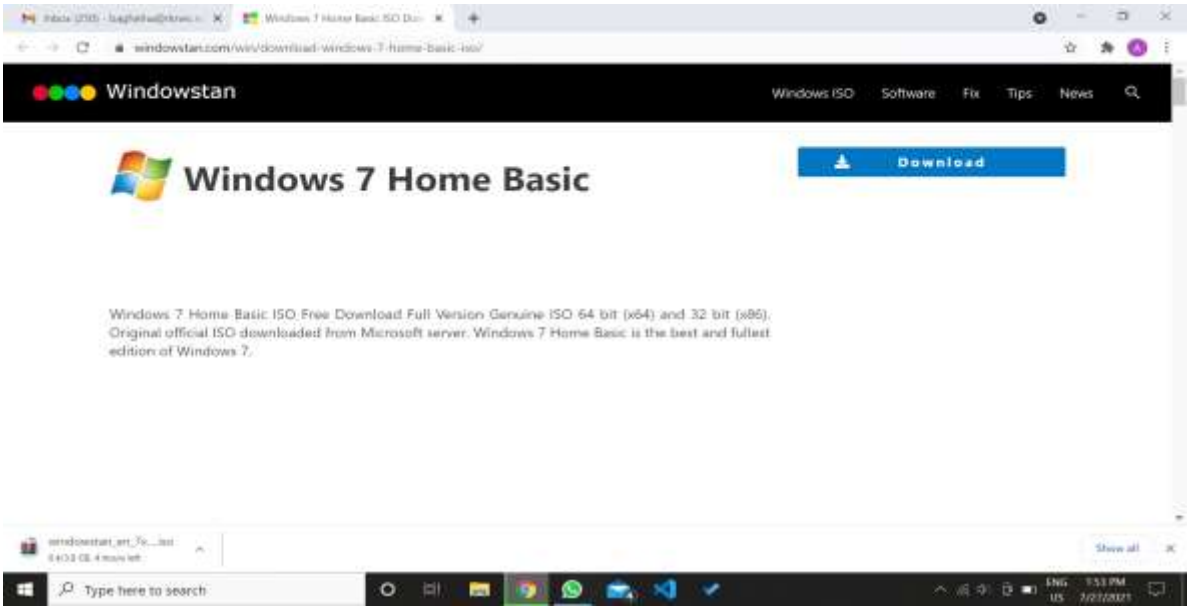
CONCLUSION:
As a result, the process of setting up multiple virtual machines on a single system using Oracle VirtualBox has been comprehensively explored and successfully executed.

Part-2

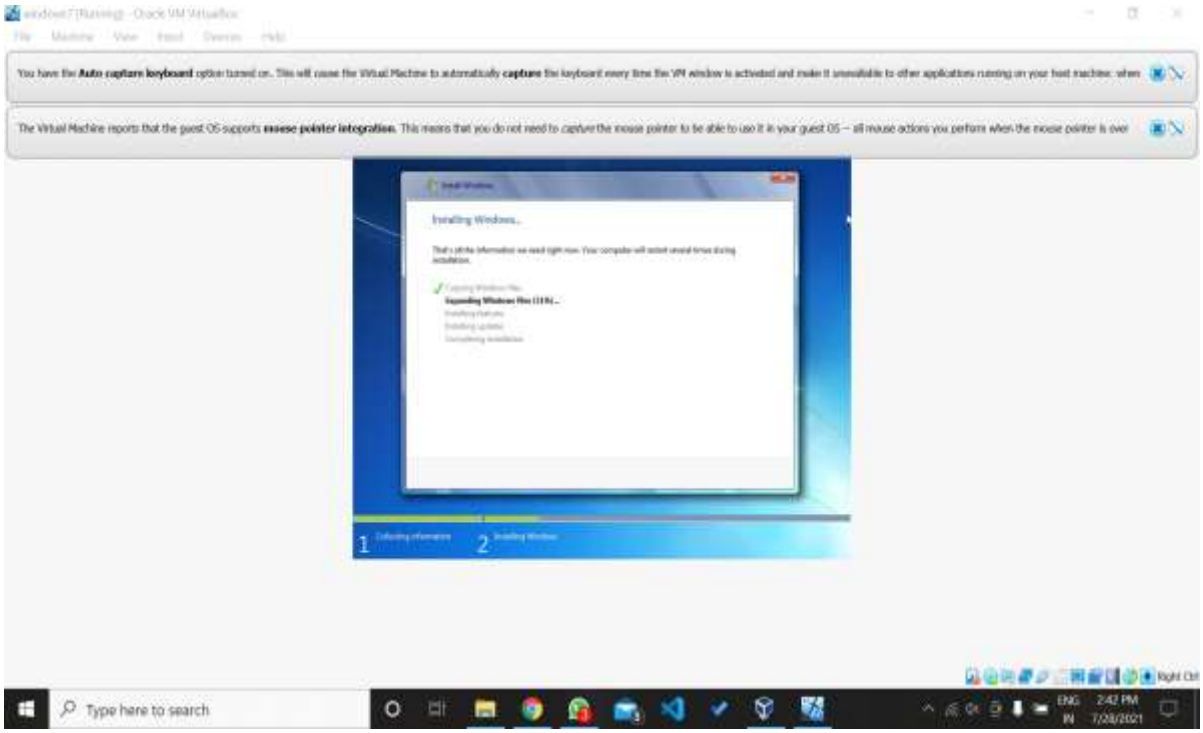
Aim: To move the files between virtual machine.

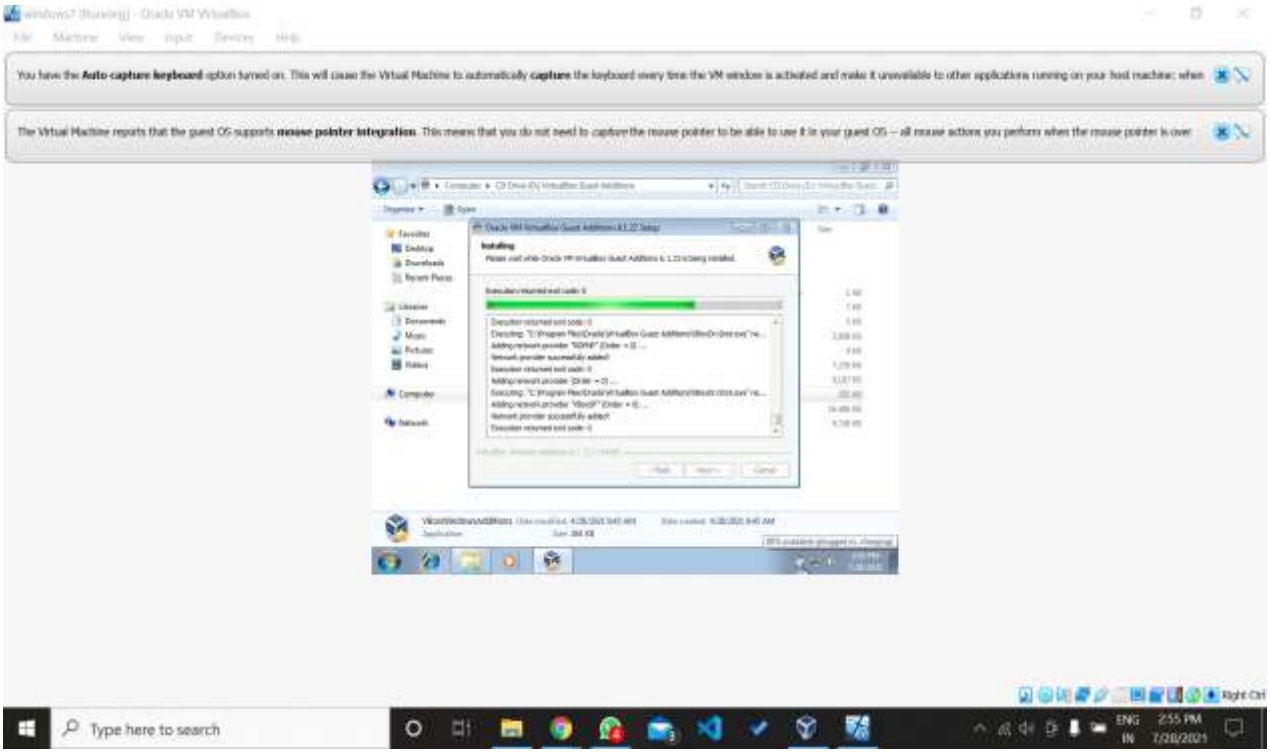
Procedure:
Setting Up Web Hosting Using Apache Server

STEP 1 - INSTALLING WINDOWS ISO FILE

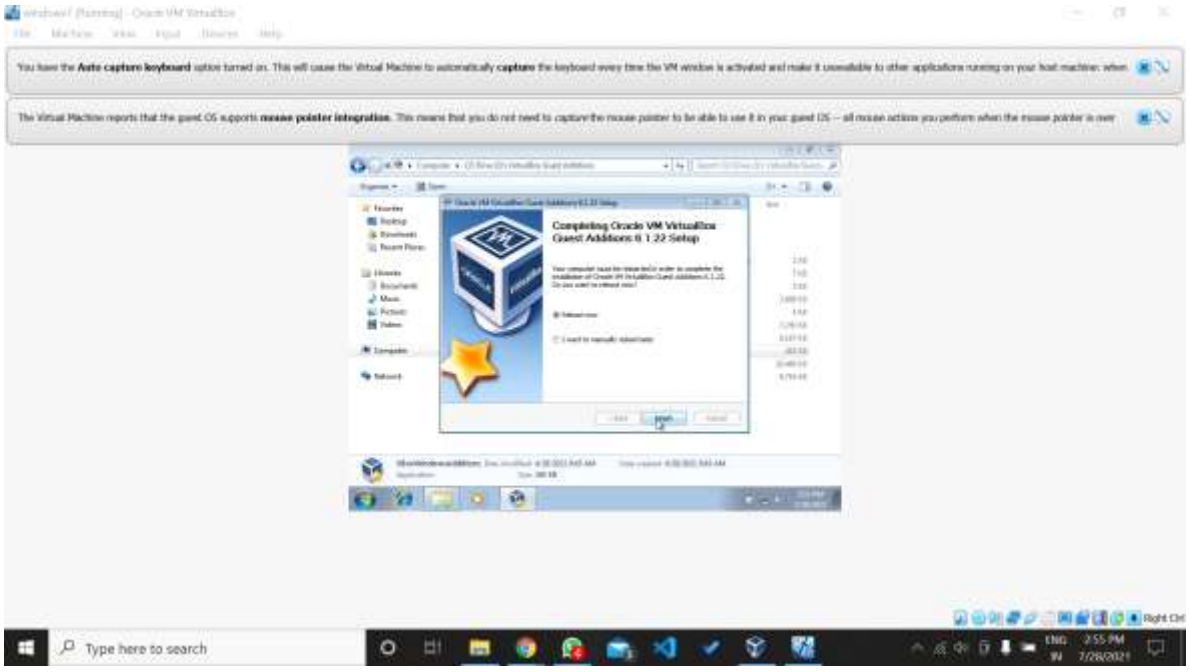


STEP 2 - INSTALLING WINDOWS

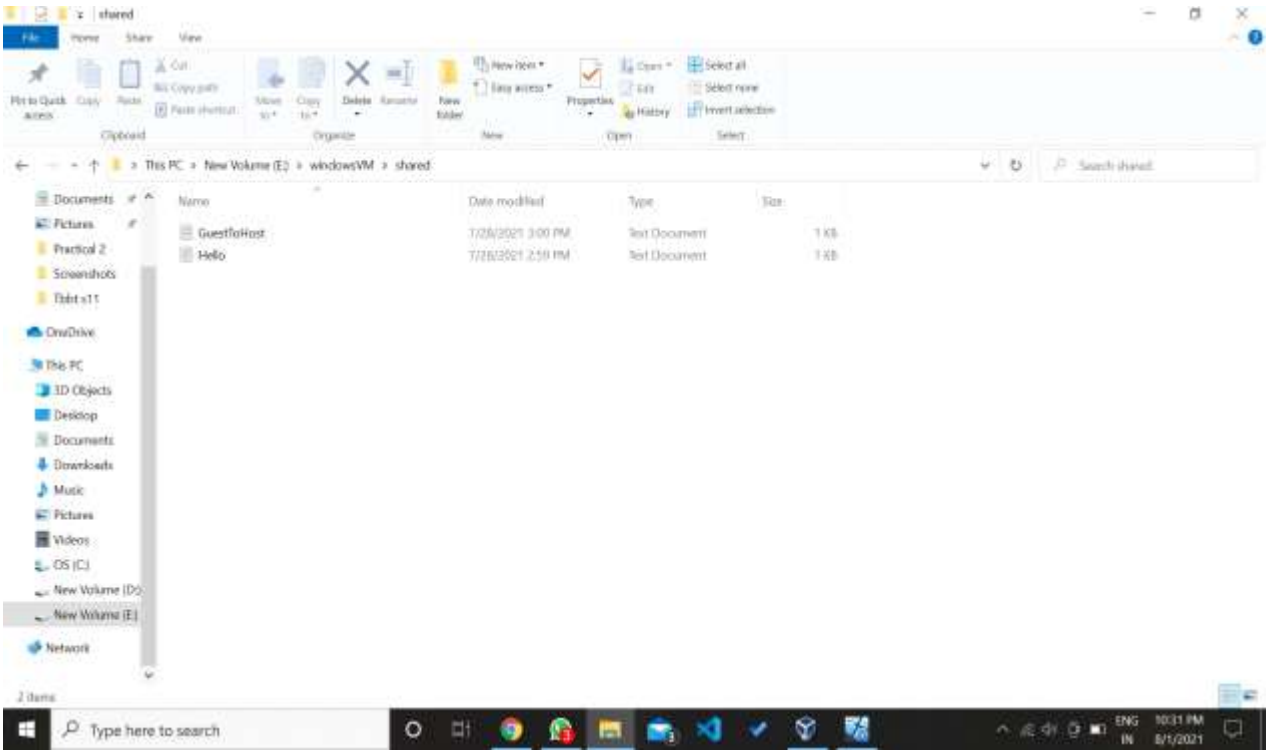




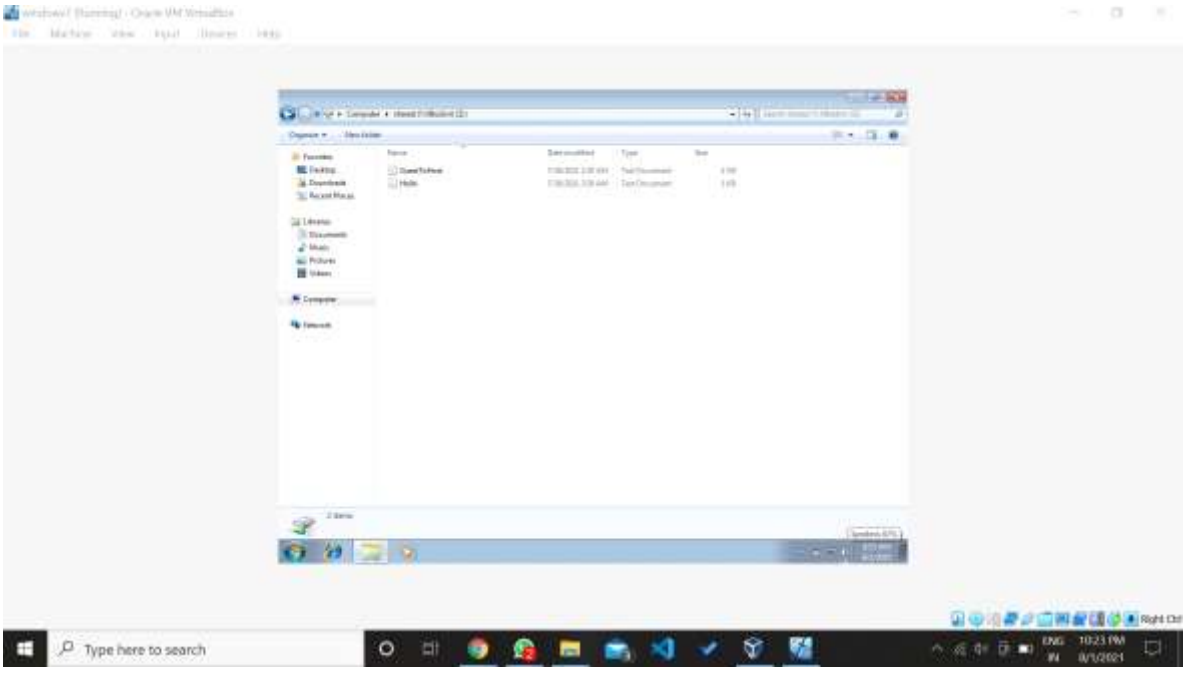
STEP 3 - SETTING UP FILE SHARING FOR GUEST MACHINE



STEP 4 - SHARED FOLDER IN HOST MACHINE

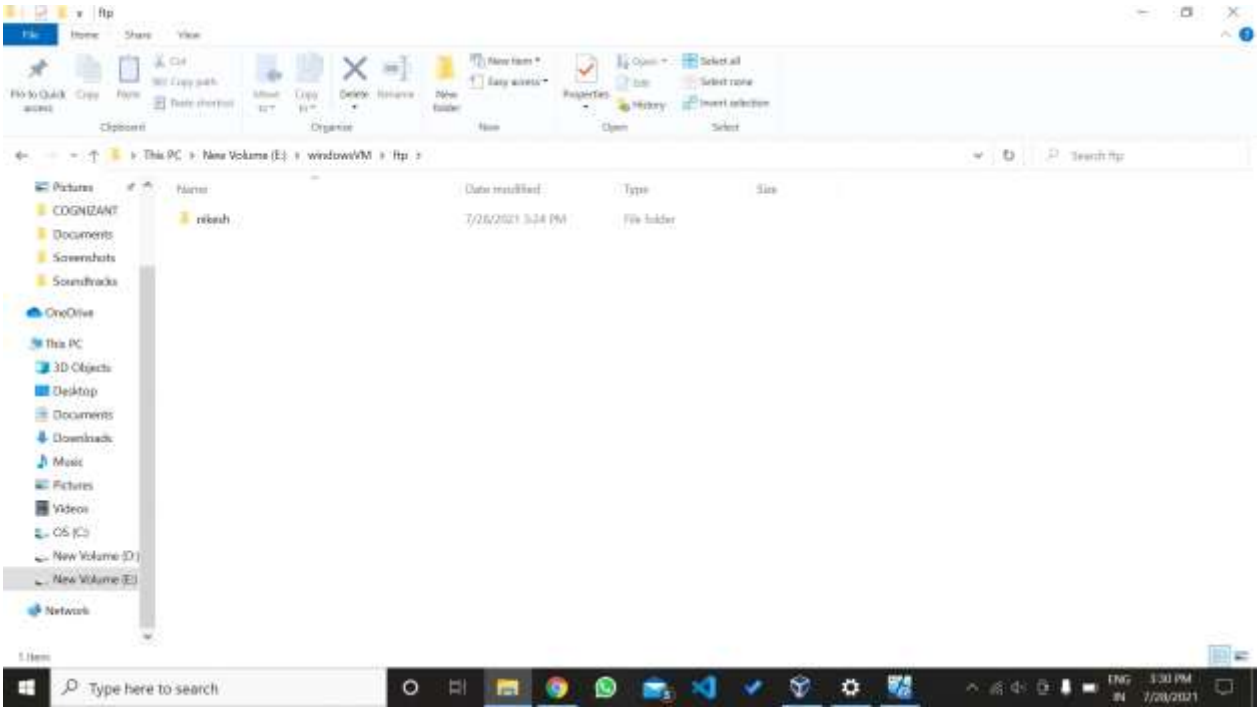


STEP 5 - SHARED FOLDER IN VIRTUAL MACHINE

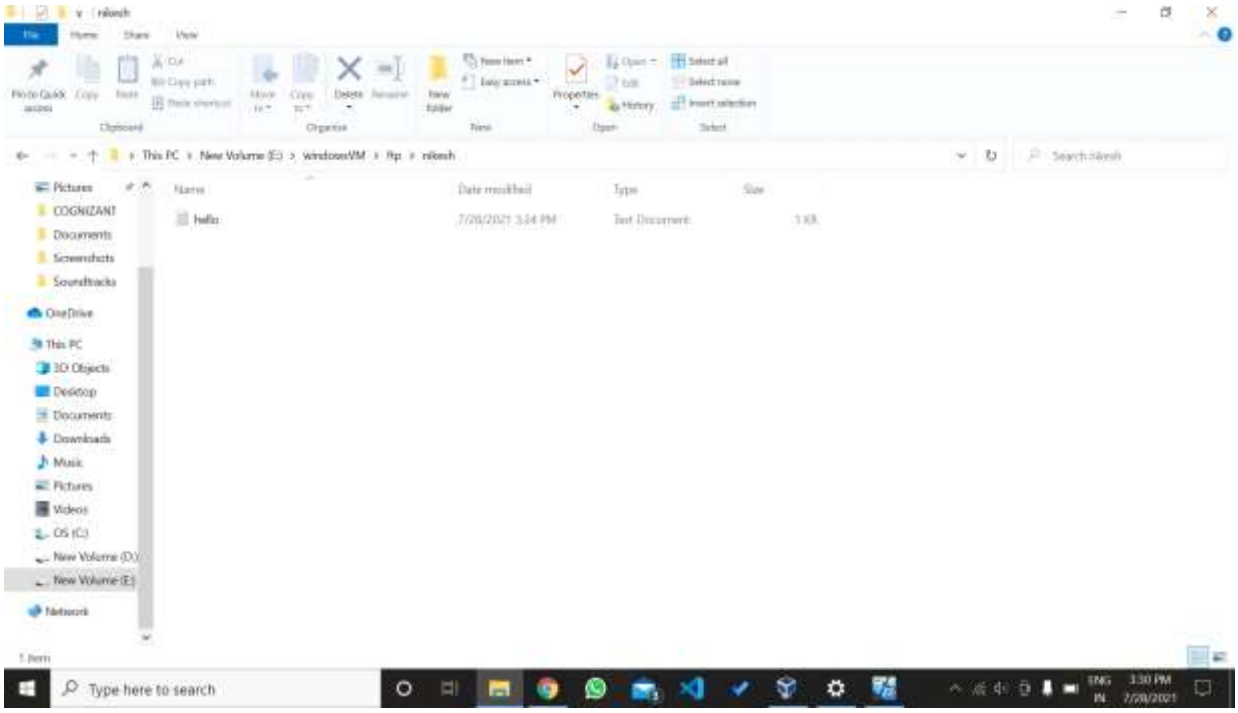


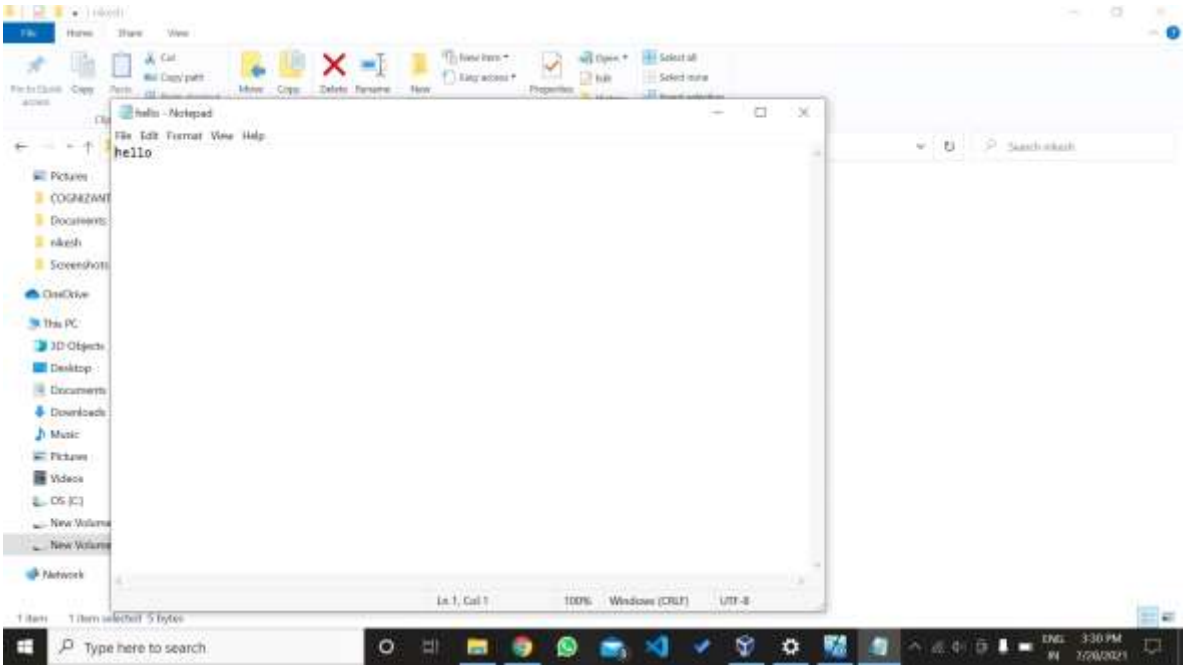
FTP(FILE TRANSFER PROTOCOL)

STEP 1 - CREATING SHARED FOLDER IN FOLDER NAMED AS ‘FTP’



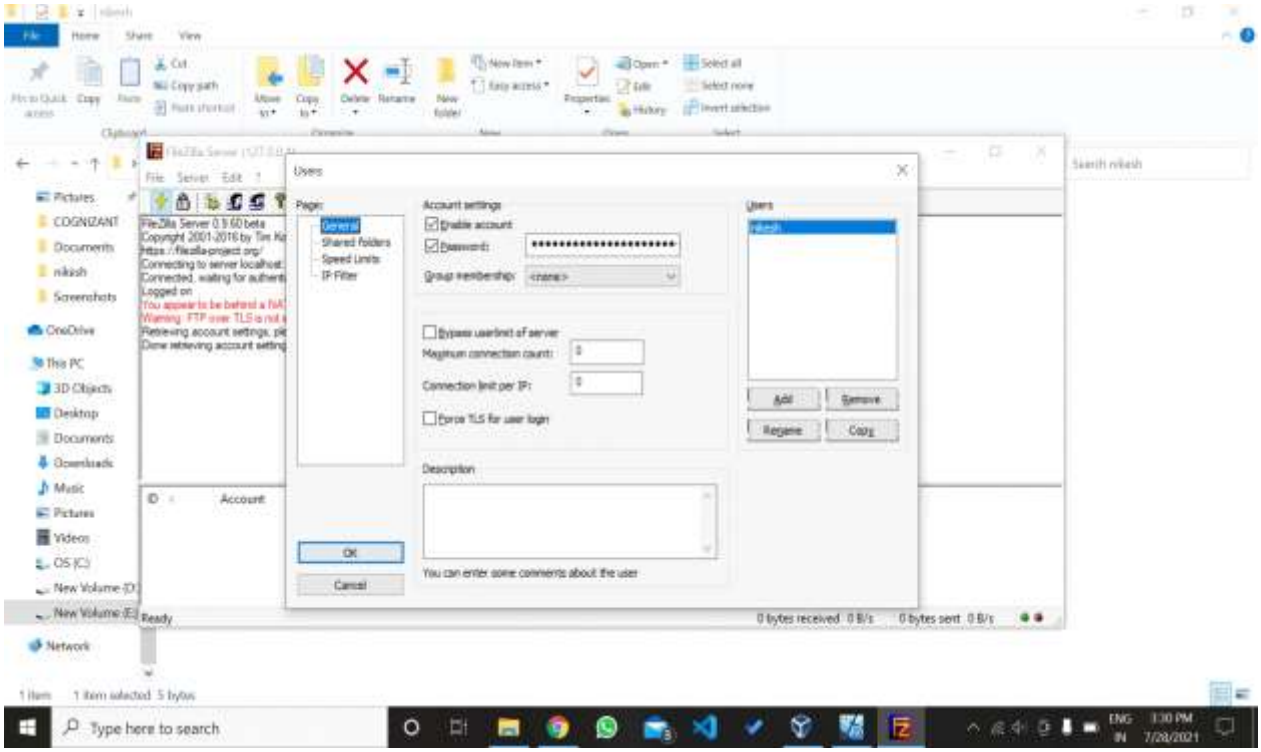
STEP 2 - CREATED A FOLDER NAMED AS fname

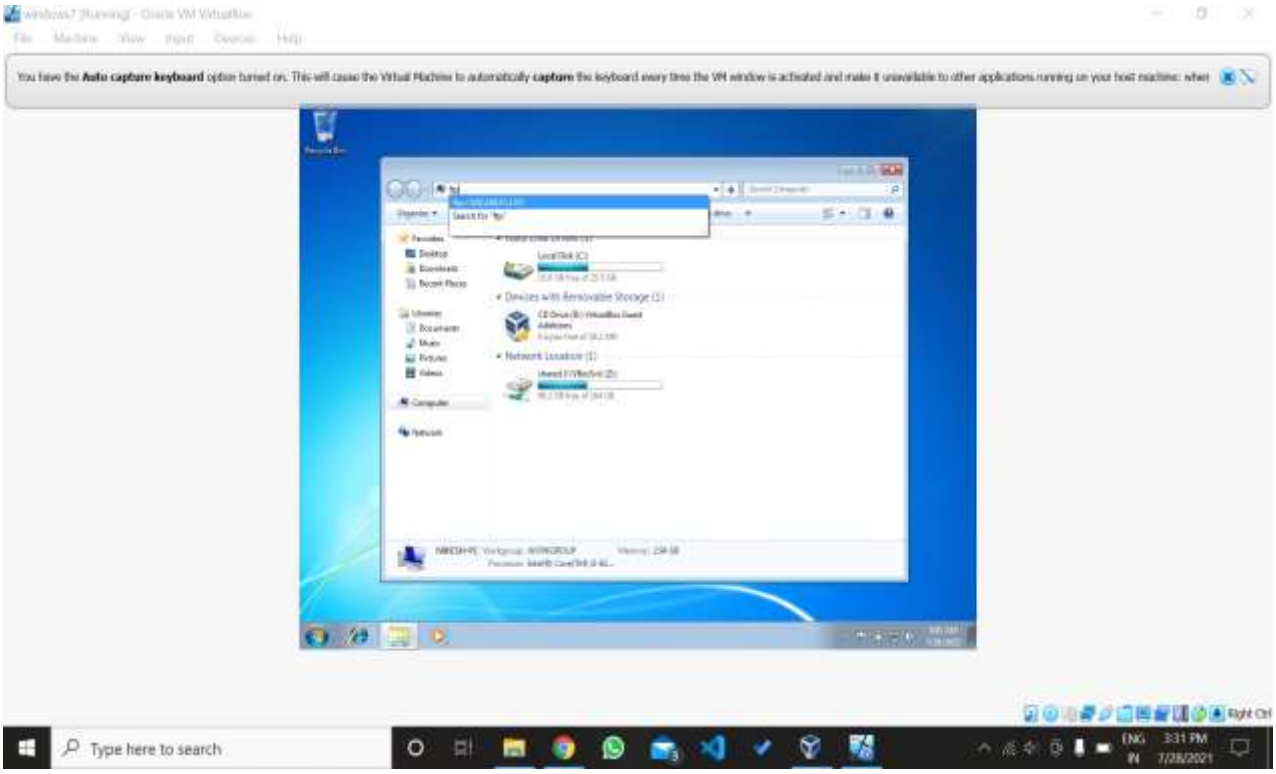




STEP 3 - ADDING TEXT FILE NAMED AS ‘HELLO.TXT’

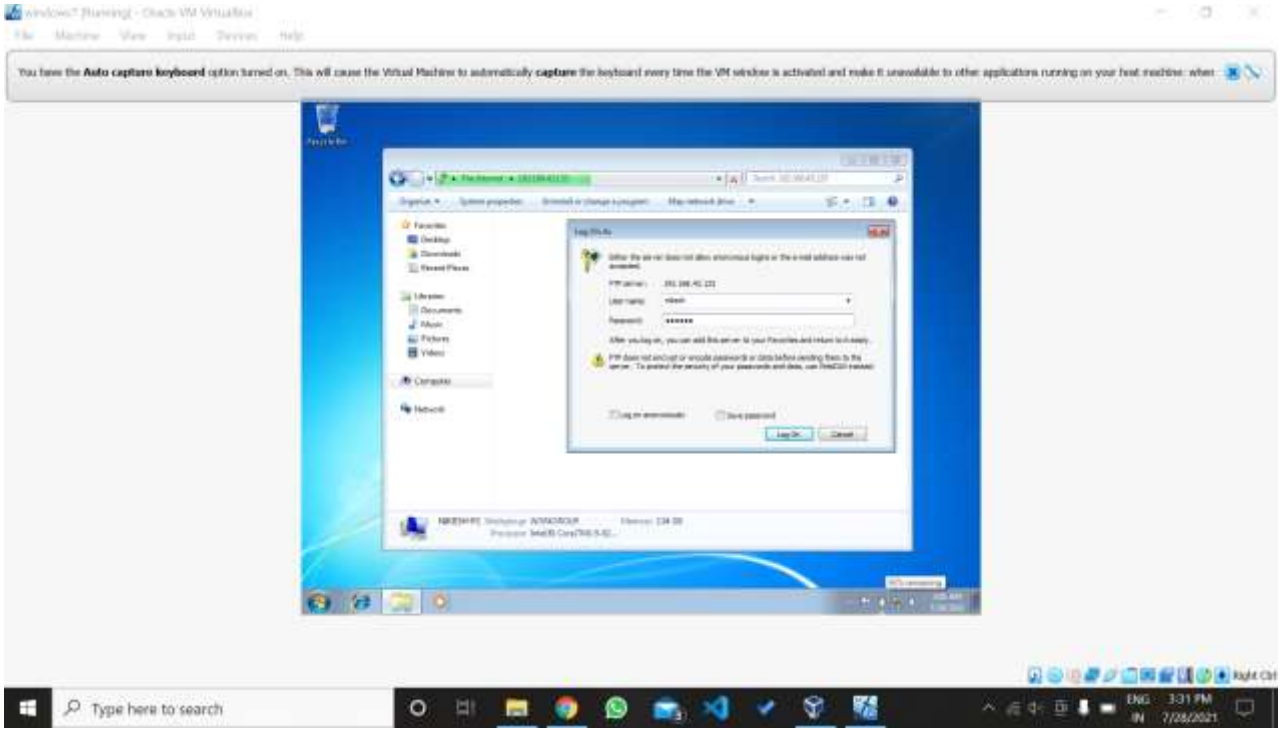
STEP 4 - CREATING FTP SERVER USING FILEZILLA SOFTWARE ANDSHARING THE FTP FOLDER

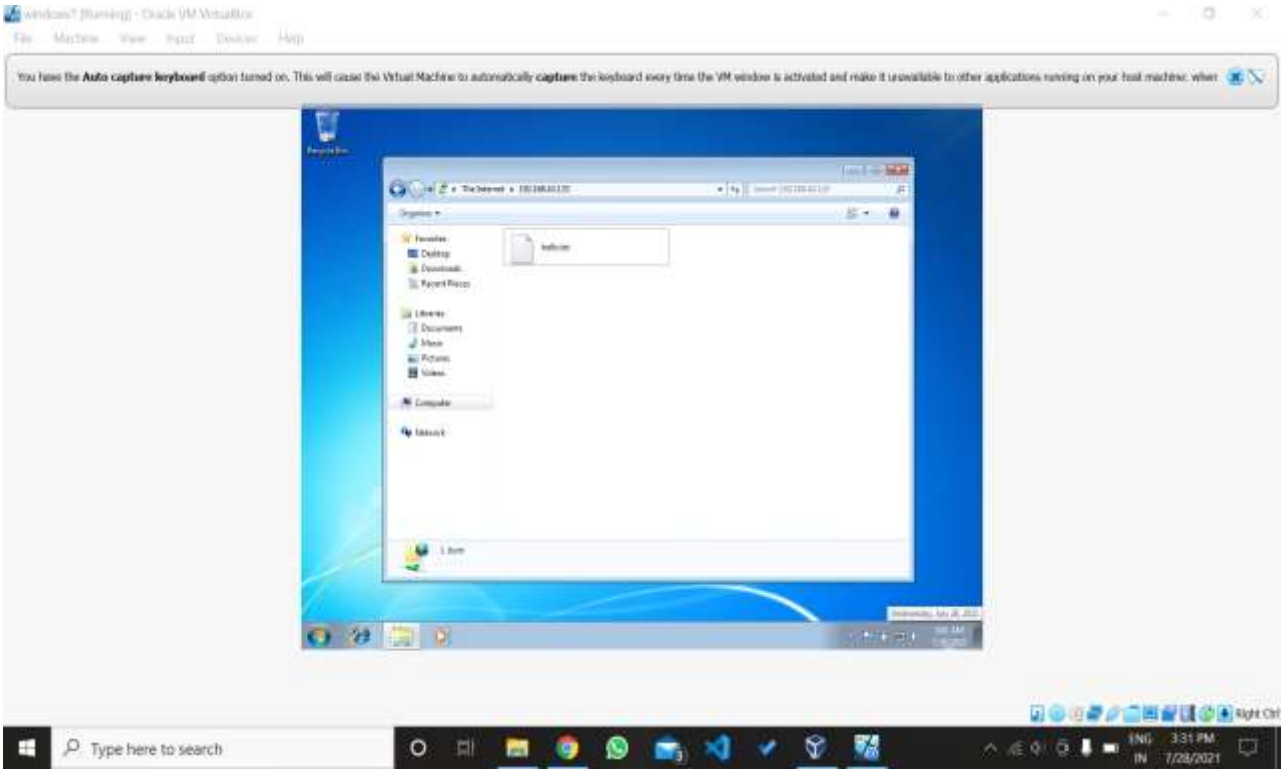




STEP 5 - ADDING THE FTP SERVER IN ADDRESS BAR OF VIRTUAL MACHINE

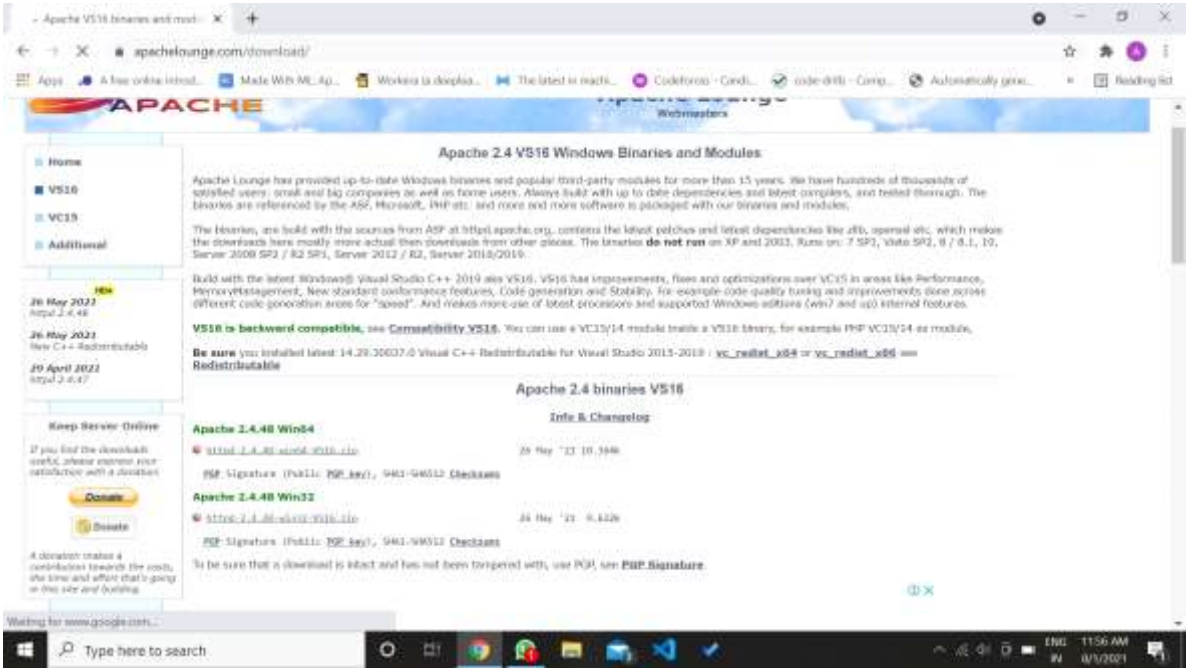
STEP 6 - ADDING USERNAME AND PASSWORD OF FTP SERVER





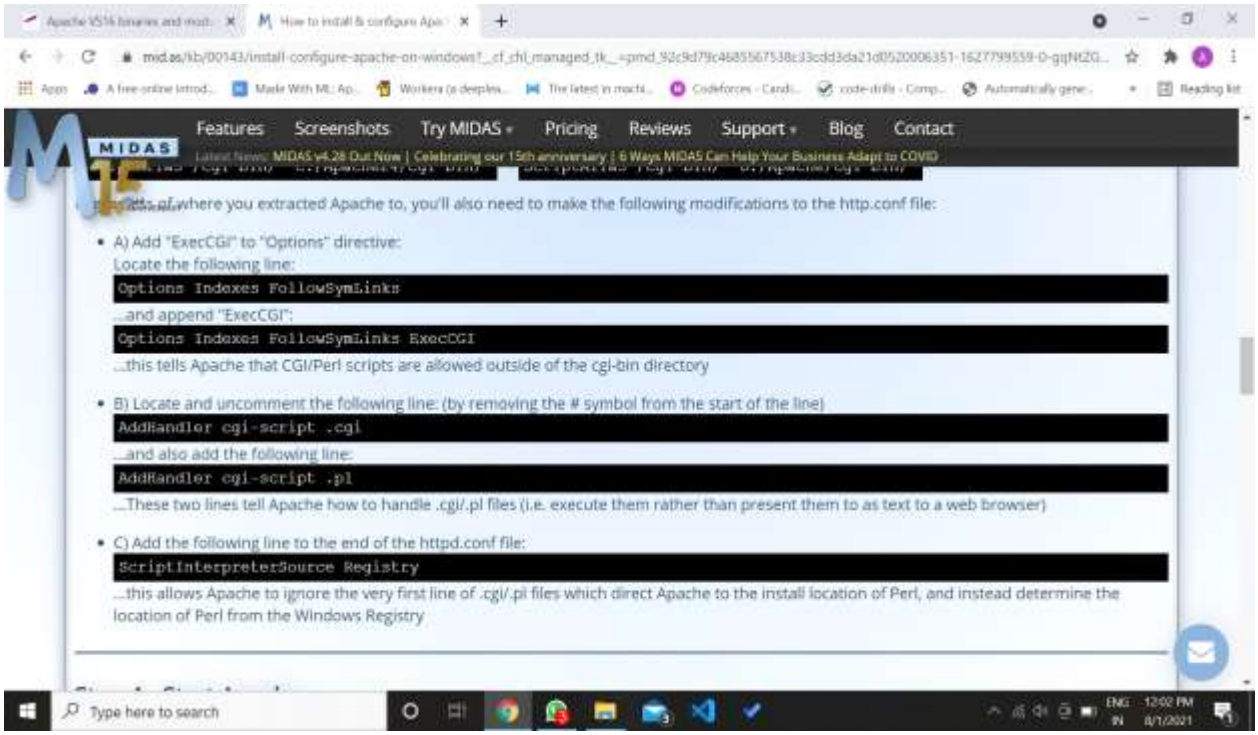
STEP 7 - ACCESSING THE SHARED TEXT FILE

WEB HOSTING USING APACHE SERVER

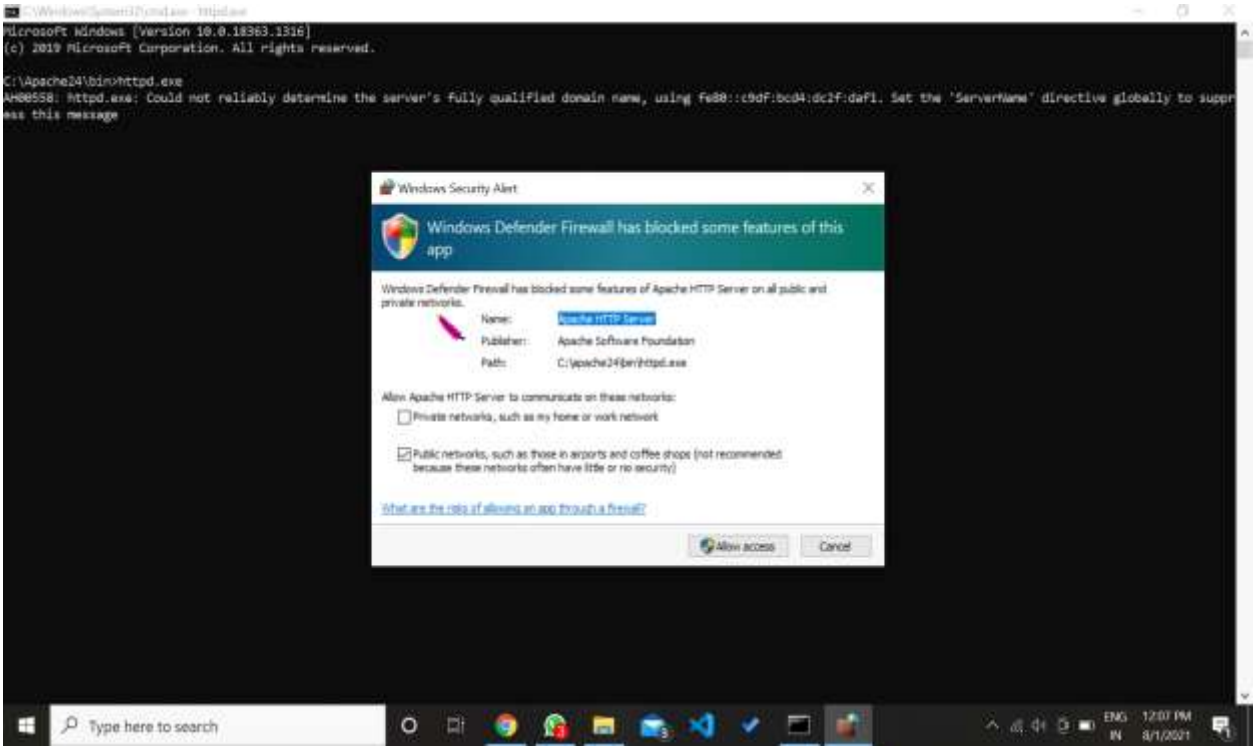


STEP 1 - DOWNLOADING APACHE24

STEP 2 - MAKING A FOLDER NAMED AS APACHE24 IN C DRIVE ANDMAKING THE GIVEN CHANGES

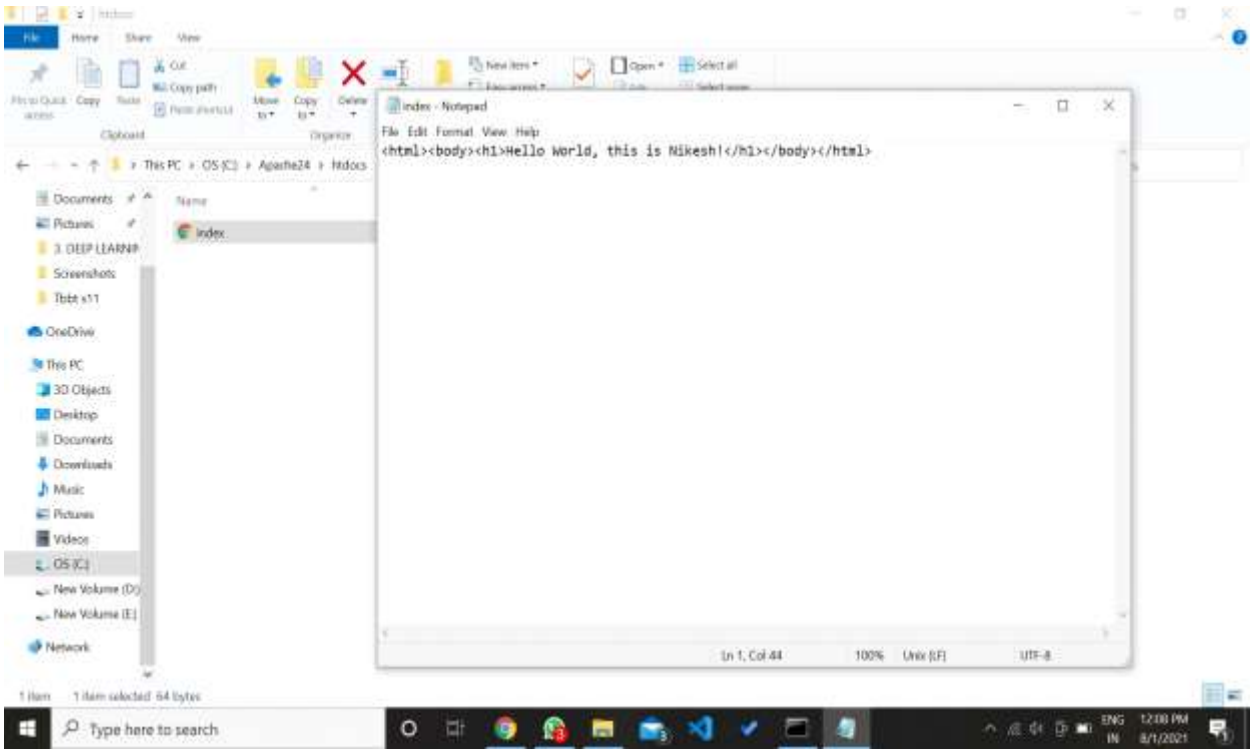


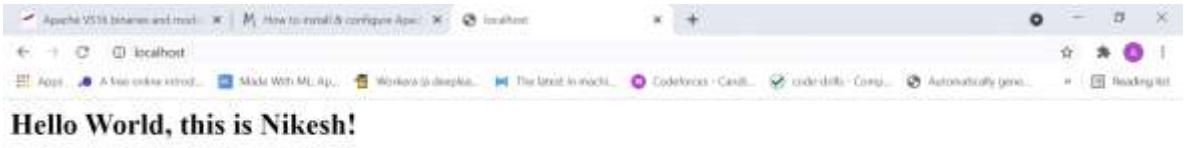
STEP 3 - STARTING THE APACHE HTTP SERVER USING COMMAND



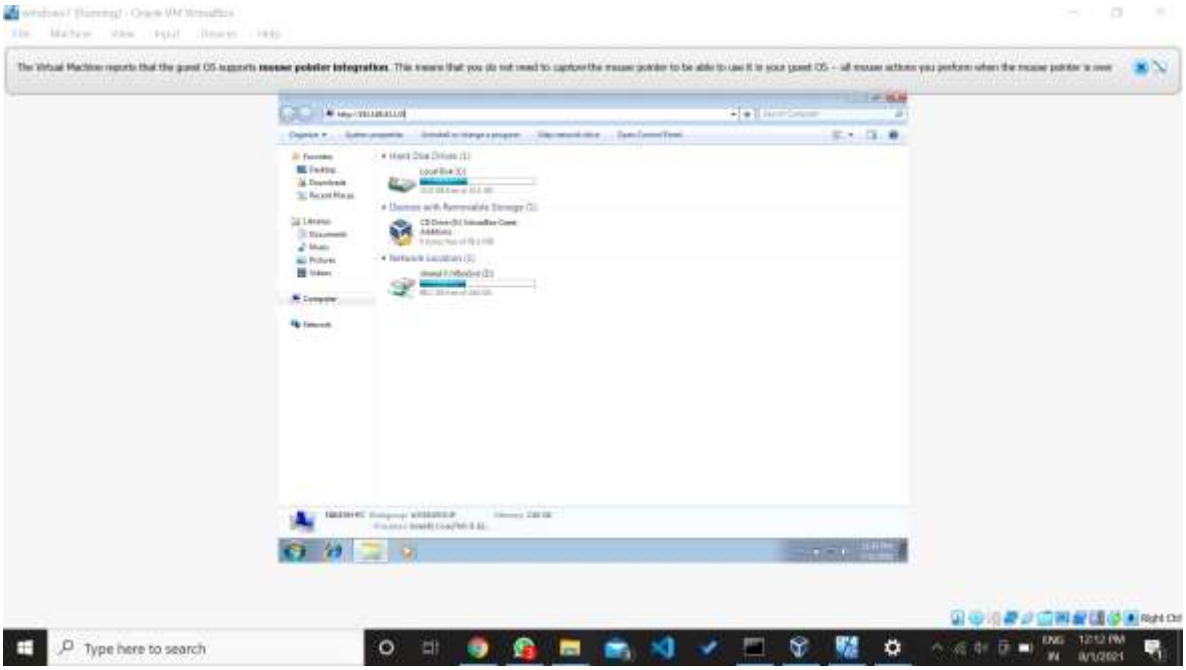
'httpd.exe'

STEP 4 - CHANGING THE INDEX.HTML FILE htdocs folder



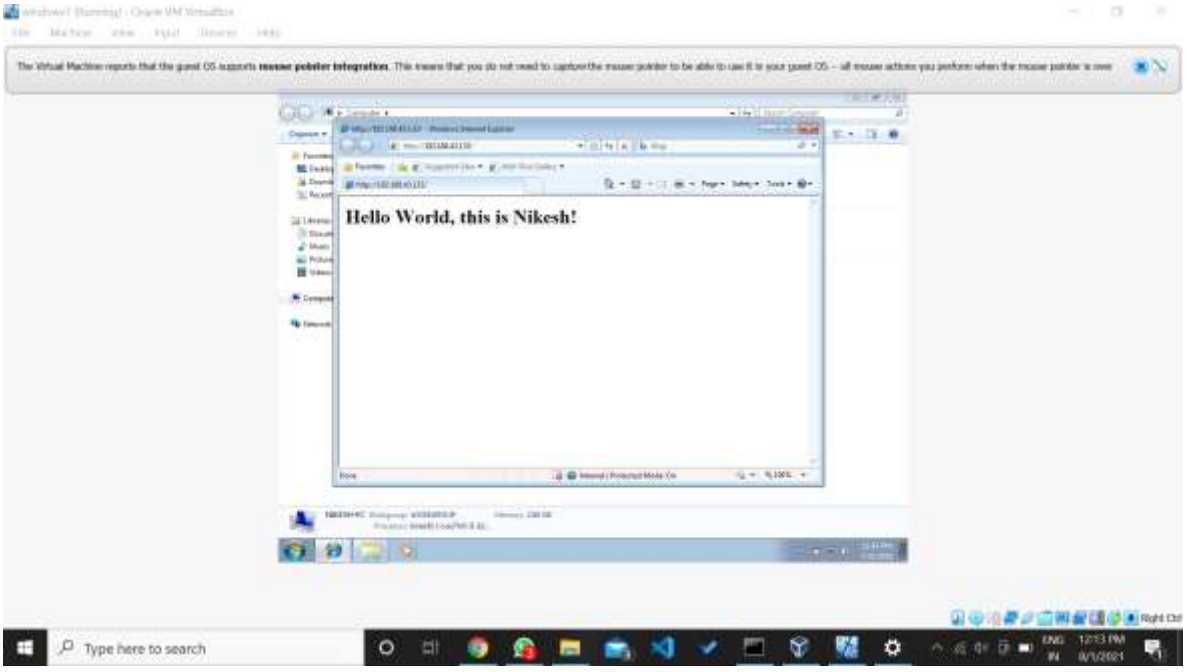


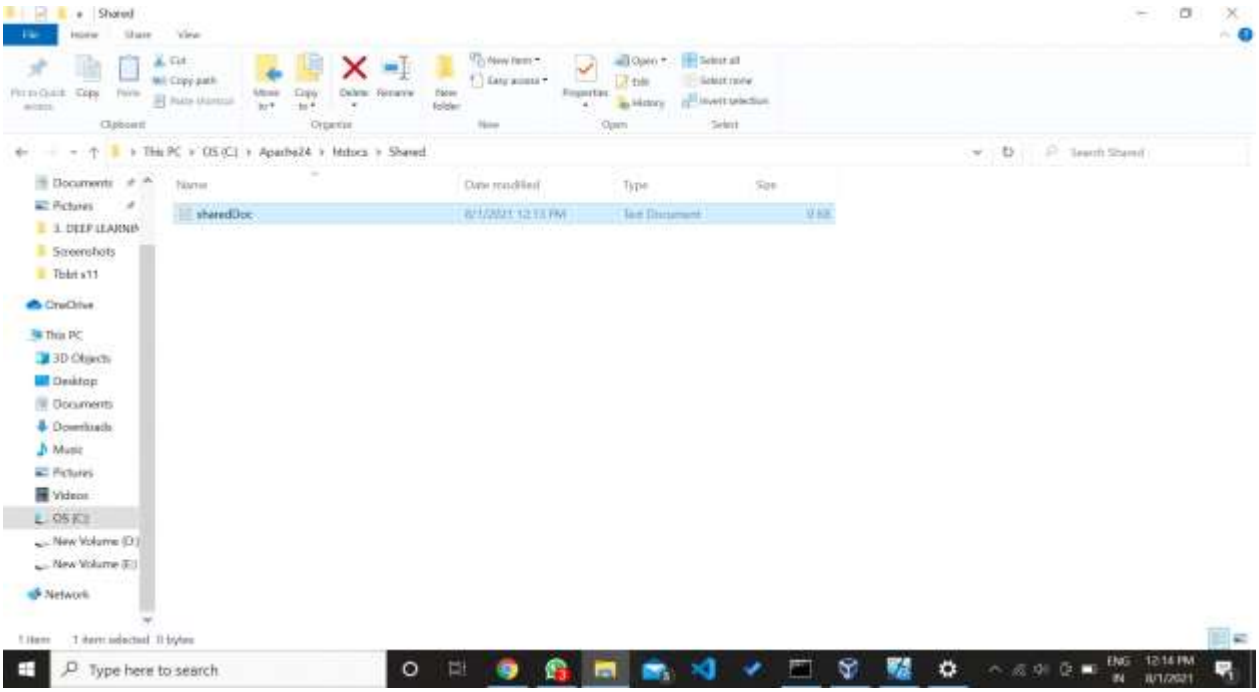
STEP 5 - OPENING THE LOCALHOST IN BROWSER



STEP 6 - OPENING THE HTTP SERVER IN VIRTUAL MACHINE

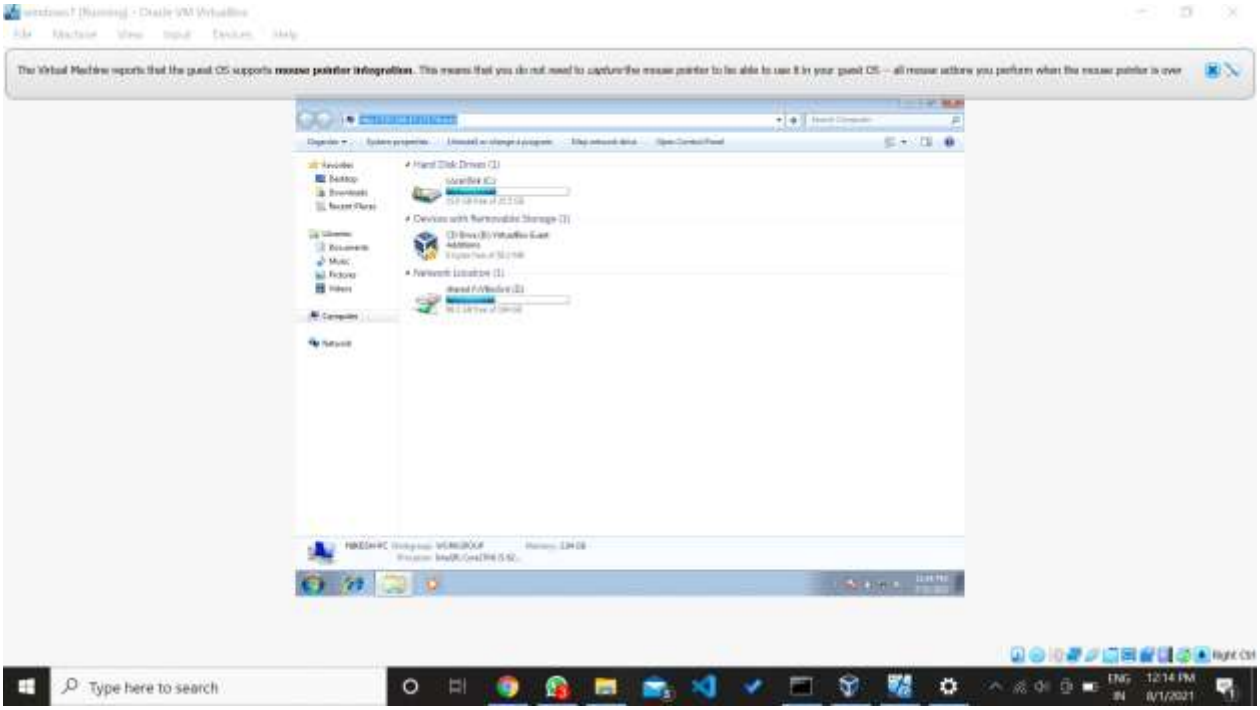
STEP 7 - THE RESULT AFTER OPENING THE SERVER
(This shows the result that a server is created in VM by opening the htmlfile of host machine)



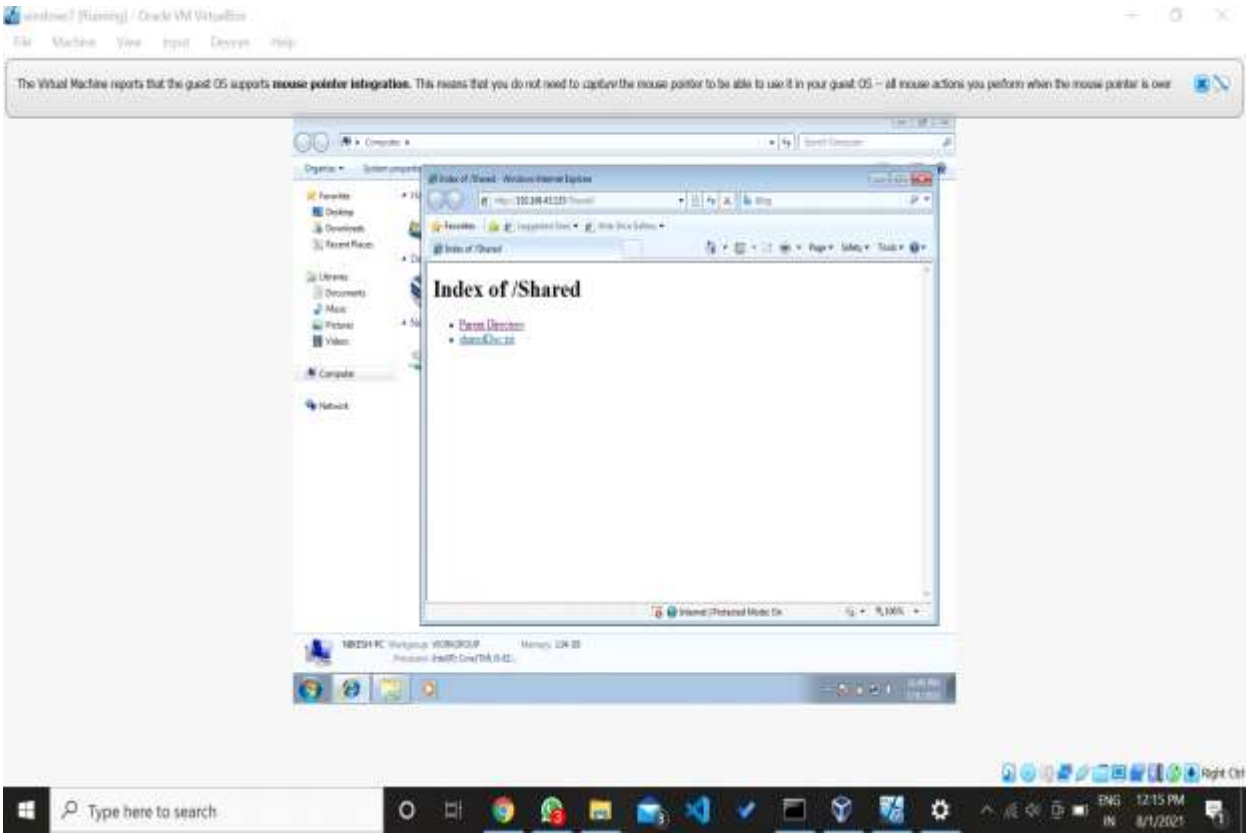


STEP 8 - CREATING A SHARED FOLDER AND ADDING A TEXT FILE IN IT

STEP 9 - ADDING THE ADDRESS OF SHARED FOLDER IN THE ADDRESSBAR OF VM



(Address is - 'http://192.168.43.133/Shared')



STEP 10 - RESULT!

We can see the sharedDoc.txt file in Shared path of http address