LIST OF EXPERIMENTS:

Course Objective:

- To develop web applications in cloud
- To learn the design and development process involved in creating a cloud based application
- To learn to implement and use parallel programming using Hadoop

Exercises:

Install Virtualbox/VMware Workstation with different flavours of linux or windows OS on top of windows7 or
Install a C compiler in the virtual machine created using virtual box and execute Simple Programs
Install Google App Engine. Create hello world app and other simple web applications using python/java.
Use GAE launcher to launch the web
Simulate a cloud scenario using CloudSim and run a scheduling algorithm that is not present in CloudSim.
Find a procedure to transfer the files from one virtual machine to another virtual
Find a procedure to launch virtual machine using trystack (Online Openstack Demo Version)
Install Hadoop single node cluster and run simple applications like

Course Outcome:

On completion of this course, the students will be able to:

- Configure various virtualization tools such as Virtual Box, VMware
- Design and deploy a web application in a PaaS
- Learn how to simulate a cloud environment to implement new schedulers.
- Install and use a generic cloud environment that can be used as a private
- Manipulate large data sets in a parallel

TOTAL: 45 PERIODS

EX.No:1 Install Virtualbox/VMware Workstation Aim

PROCEDURE TO INSTALL

Step 1- Download Link

Link for downloading the software is https://www.vmware.com/products/workstation-pro/workstation- pro-evaluation.html. Download the software for windows. Good thing is that there is no signup process. Click and download begins. Software is around 541 MB.

Step 2- Download the installer file

It should probably be in the download folder by default, if you have not changed the settings in your browser. File name should be something like VMware-workstation-full-15.5.1-15018445.exe. This file name can change depending on the version of the software currently available for download. But for now, till the next version is available, they will all be VMware Workstation 15 Pro.

Step 3- Locate the downloaded installer file

For demonstration purpose, I have placed the downloaded installer on my desktop. Find the installer on your system and double click to launch the application.

OUTPUT:

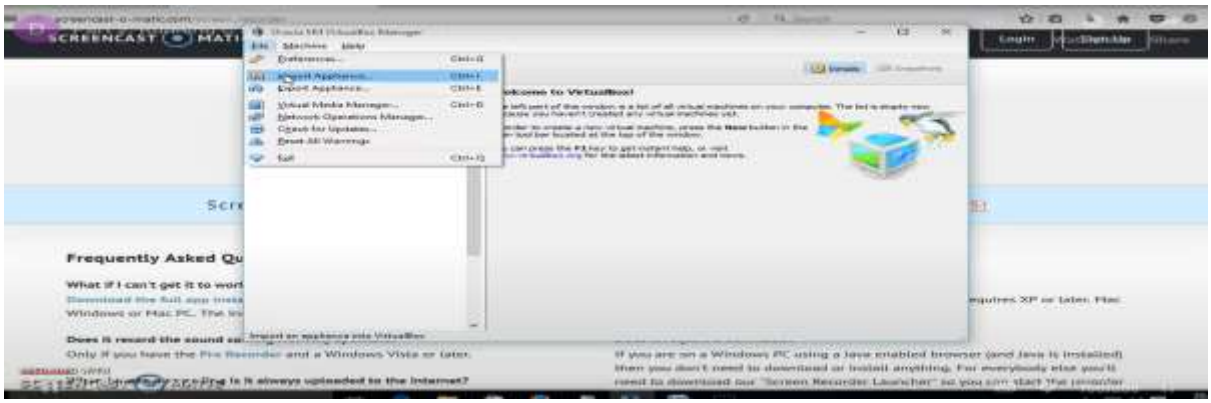
EX.No:2 Install a C compiler in the virtual machine created using virtual box

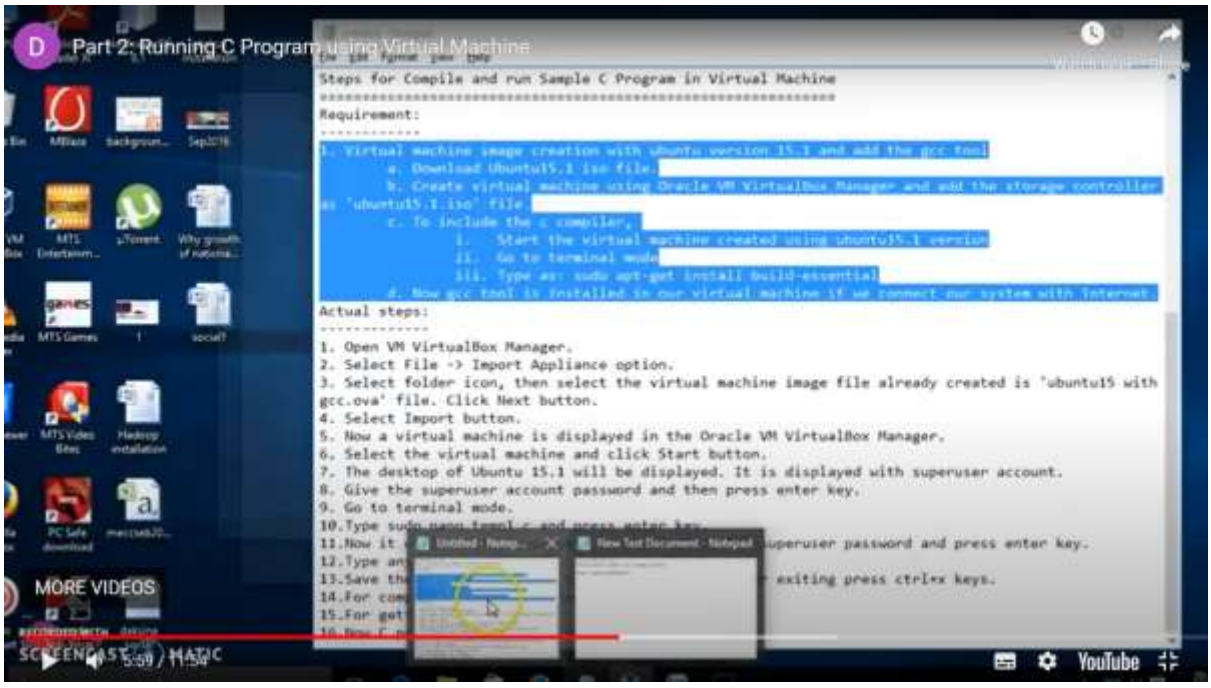
I.Visit http://www.virtualbox.org/wiki/downloads

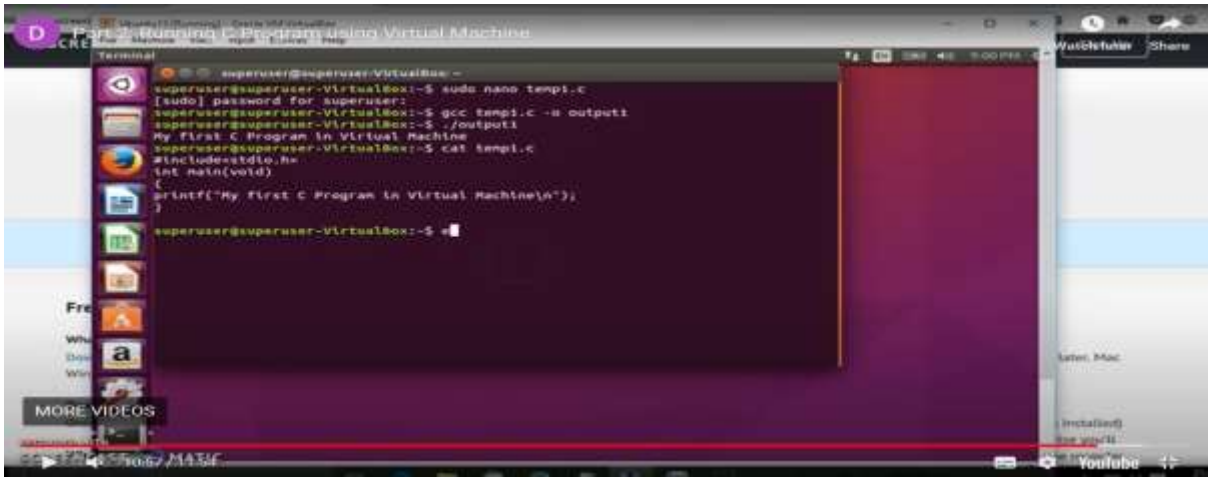
Download VirtualBox platform packages for your OS
Open the Installation Package by double clicking
Click continue and finish installing VirtualBox
When finished installation, close the window
Download Linux

I.Visit the page http://www.ubuntu.com/download/ubuntu/download

Choose the Latest version of Ubuntu and 32-bit and click “Start Download”
OUTPUT:







EX.No:3 Install Google App Engine. Create hello world app and other simple web applications

Installing and Running the Google App Engine On Windows

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/

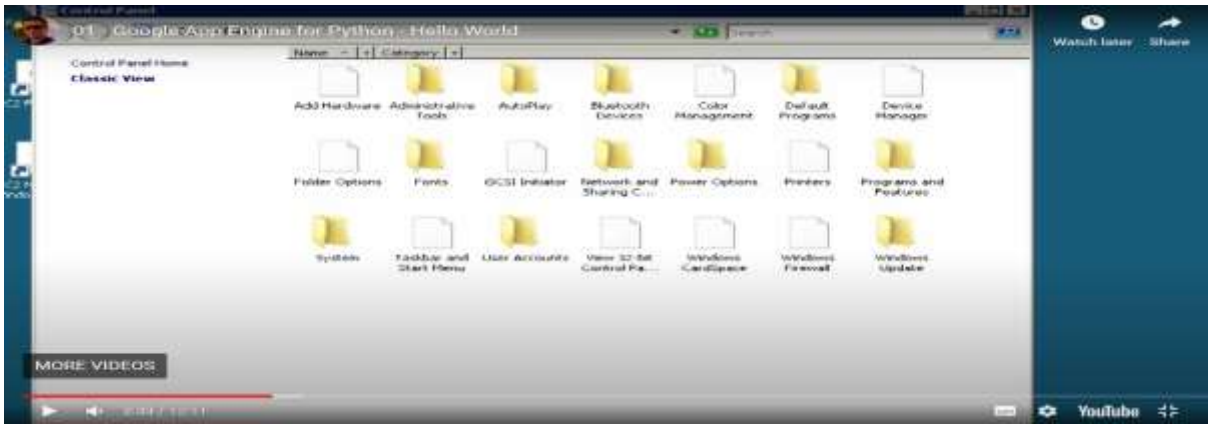
Download and Install

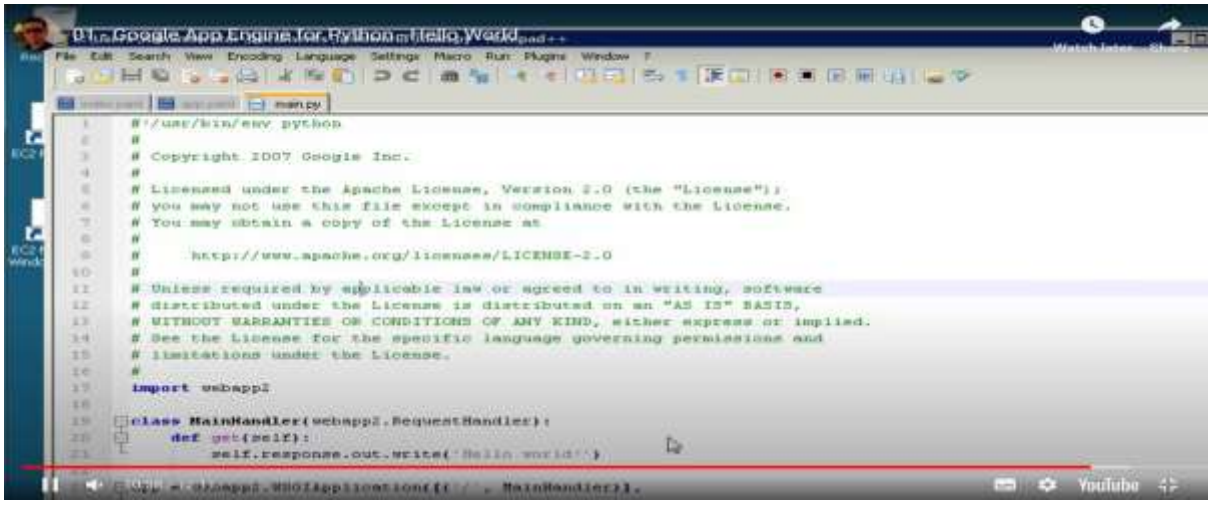
You can download the Google App Engine SDK by going to:

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

and download the appropriate install package.

OUTPUT:

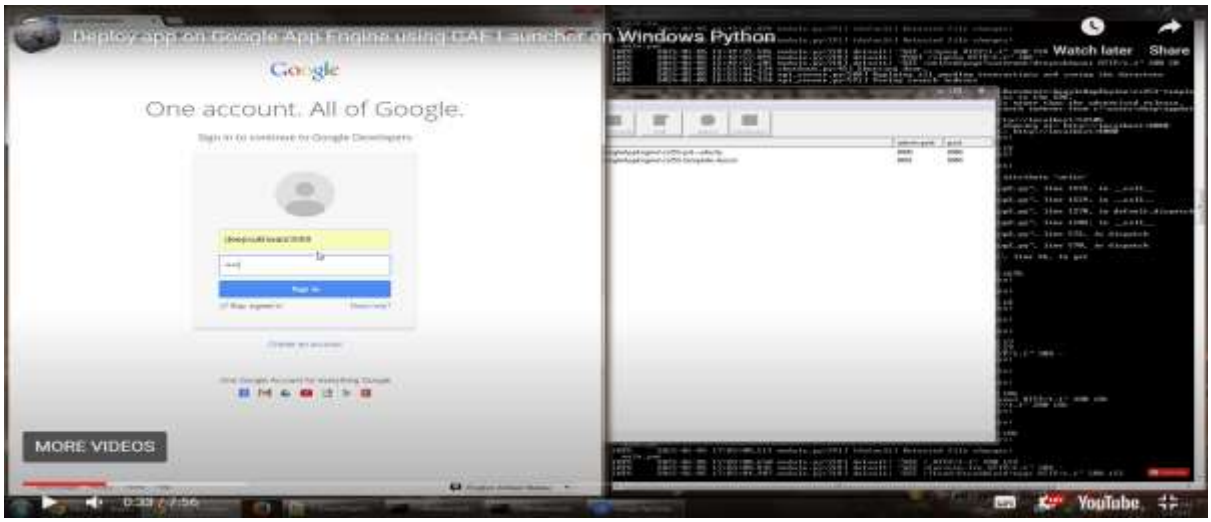


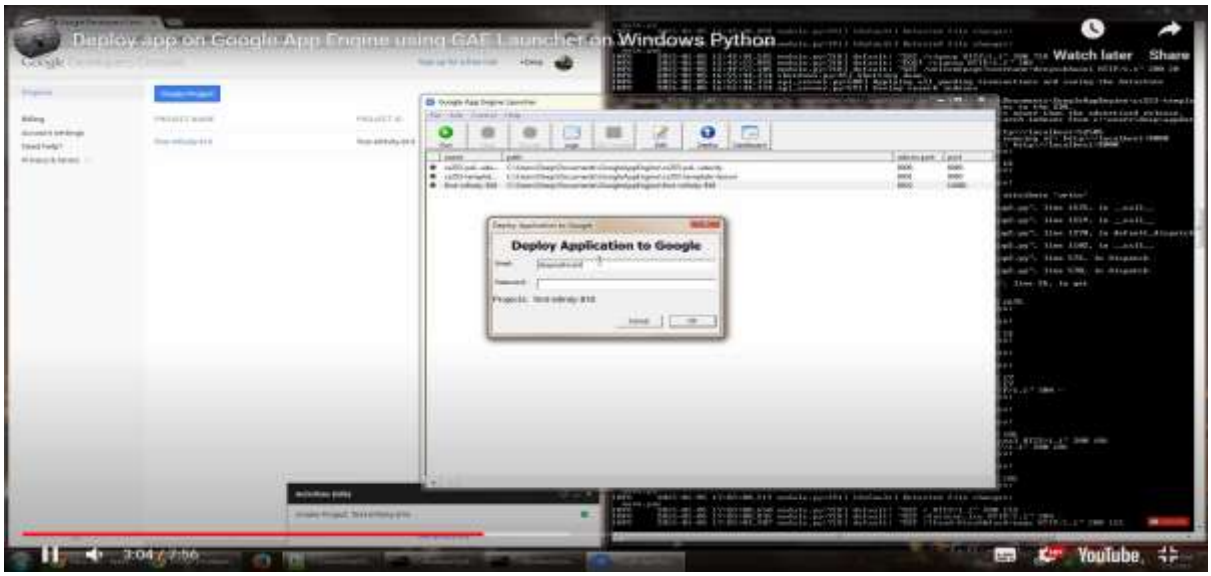


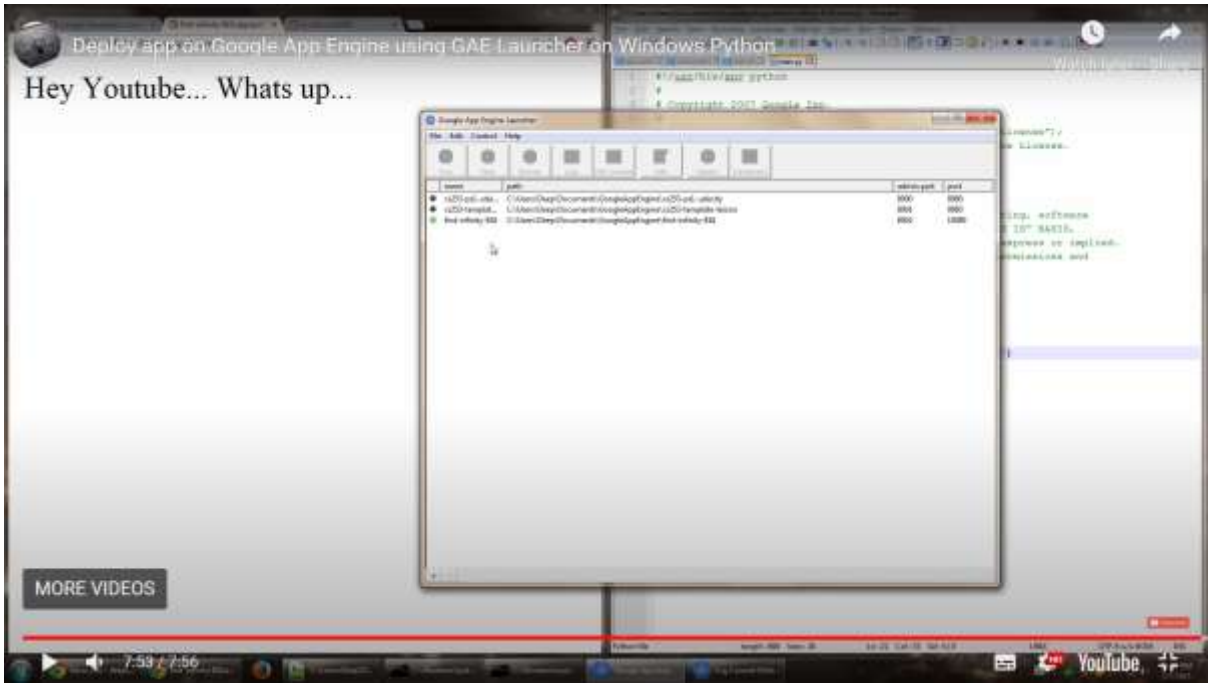
EX.No:4 Use GAE launcher to launch the web applications

PROCEDURE:
Use GAE launcher to launch the web applications.

OUTPUT:







EX.No:5 Simulate a cloud scenario using CloudSim and run a scheduling algorithm

PROCEDURE:

Simulate a cloud scenario using CloudSim and run a scheduling algorithm

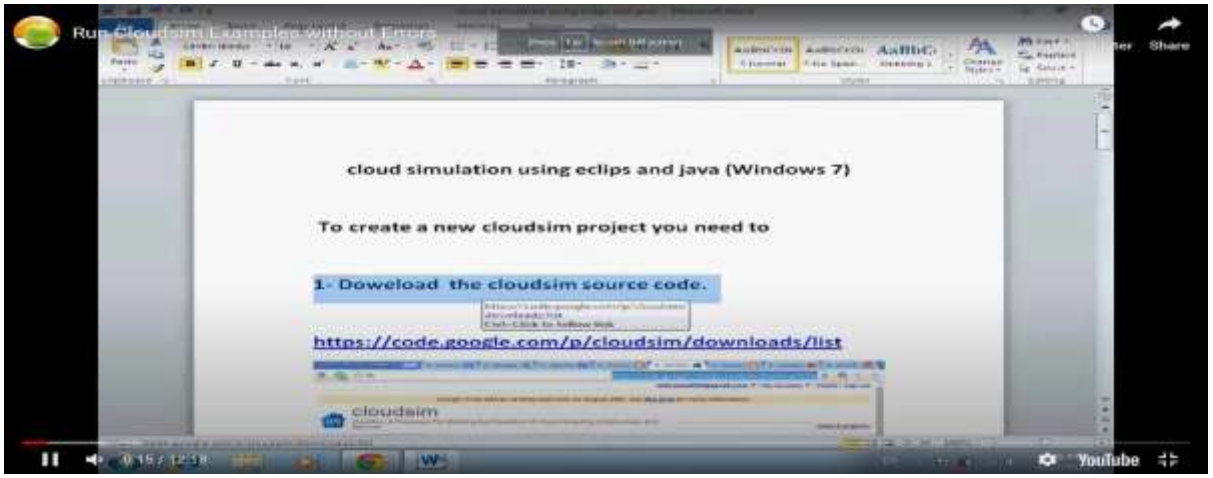
Download the cloudsim source code.

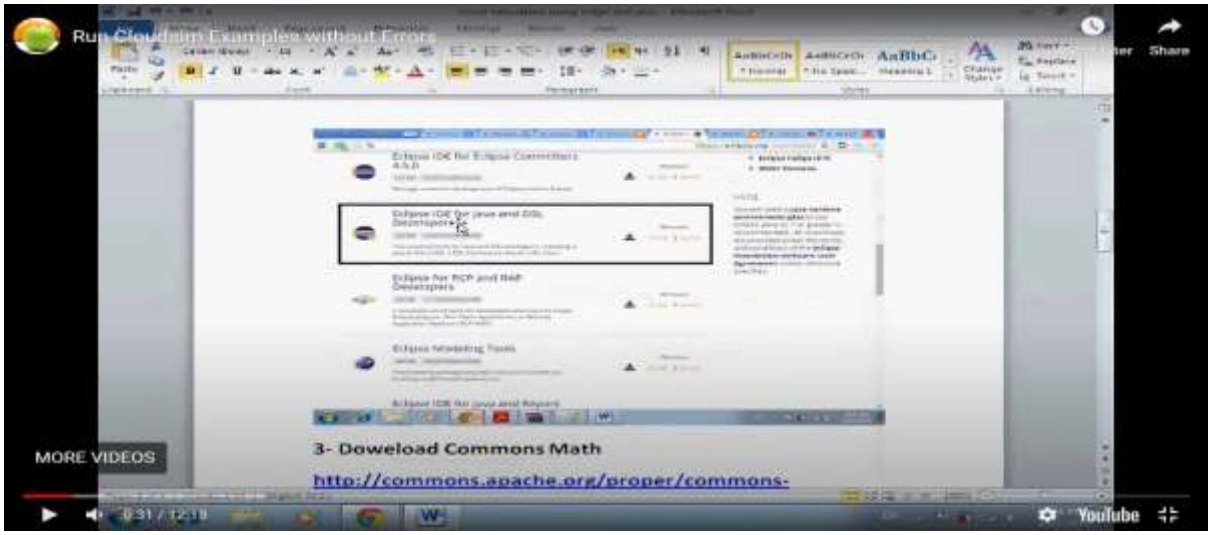
Download Eclipse

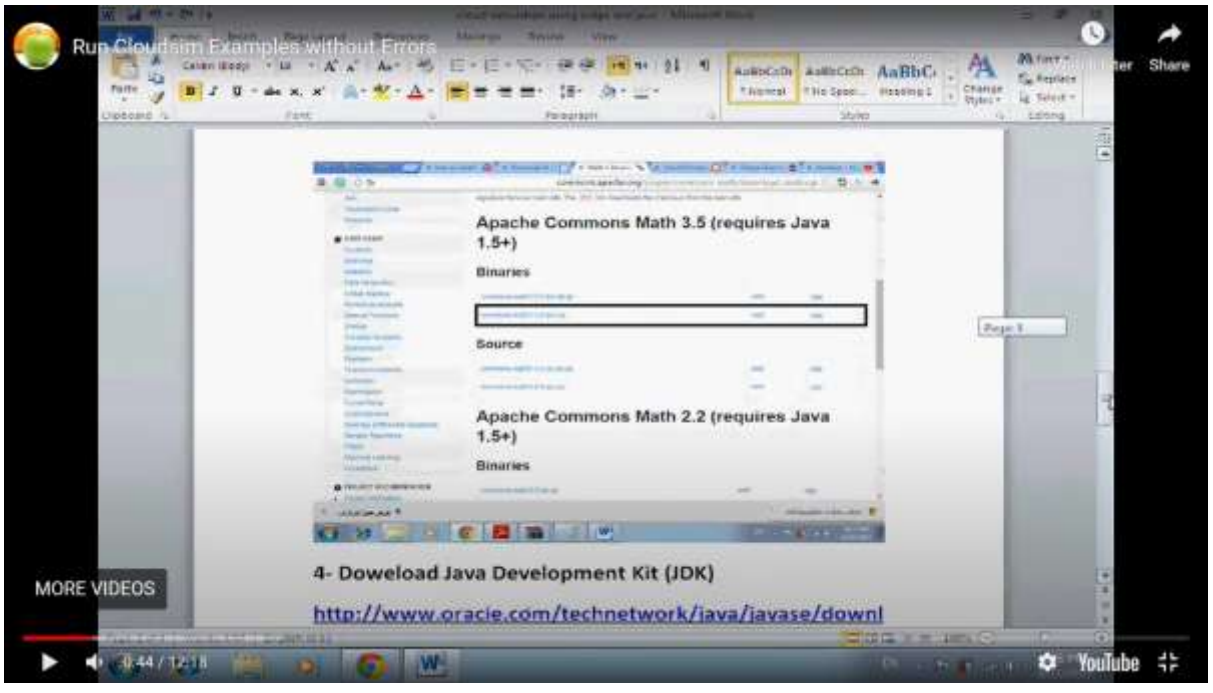
Download Common Math

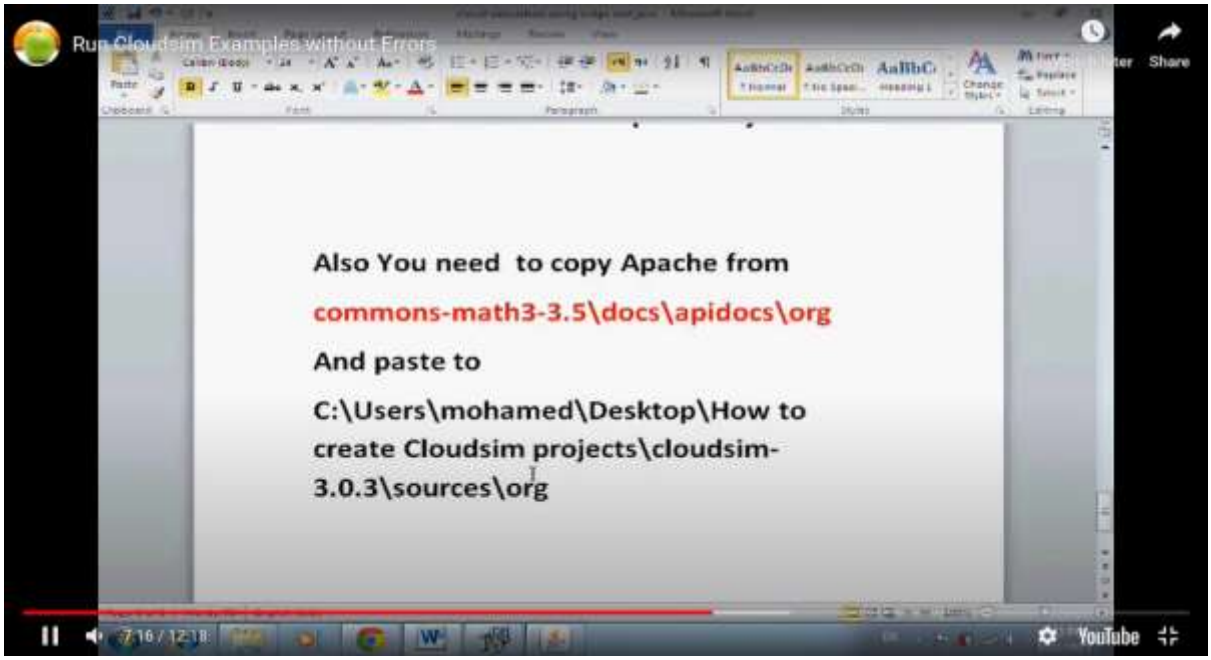
Download Java Development Kit

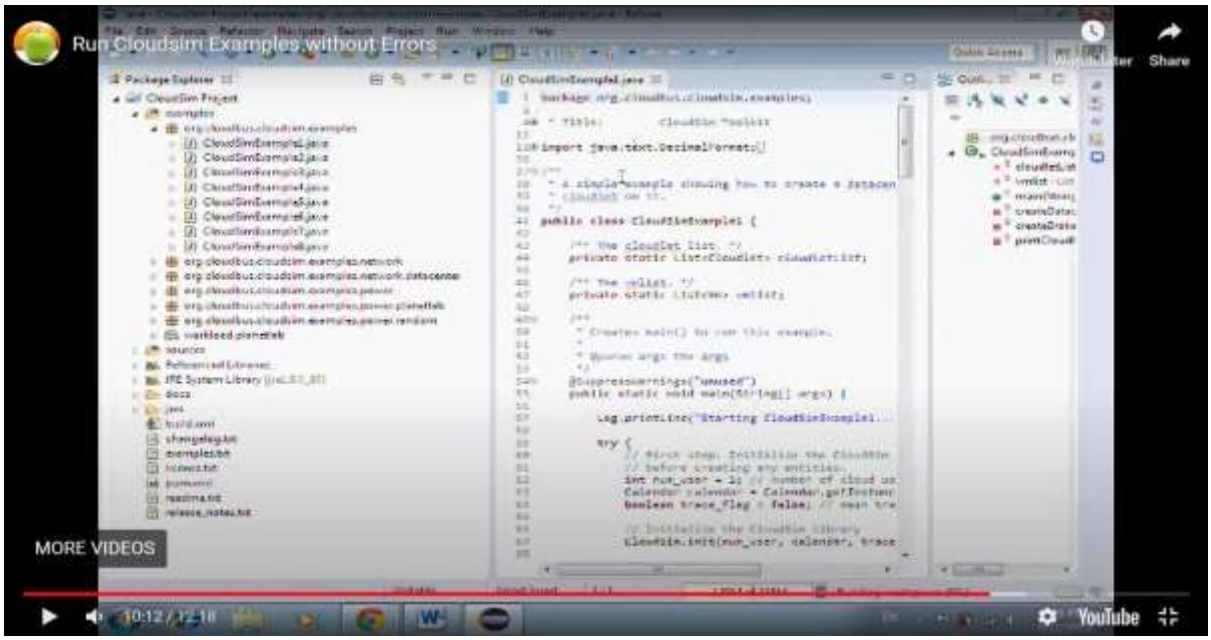
OUTPUT:








Run Cloudsim Examples without Errors
Share
Also You need to copy Apache from
commons-math3-3.5\docs\apidocs\org
And paste to
C:\Users\mohamed\Desktop\How to create Cloudsim projects\cloudsim-3.0.3\sources\org
7:16 / 12:18
YouTube


Run Cloudsim Examples without Errors
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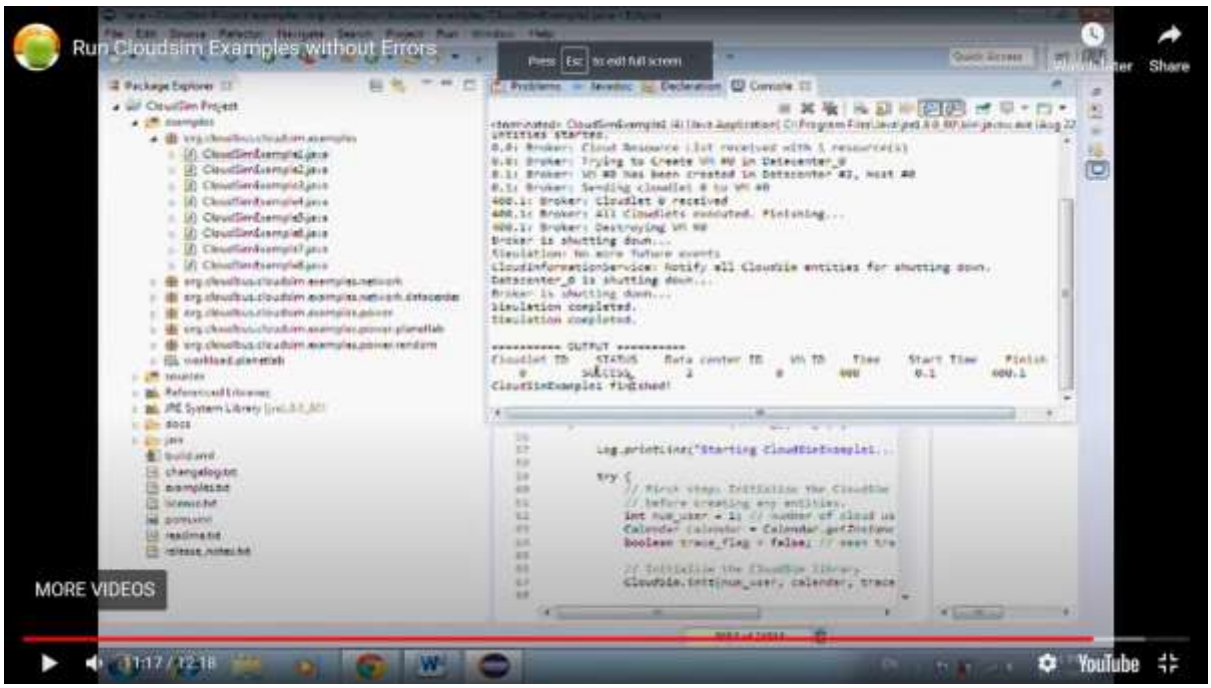
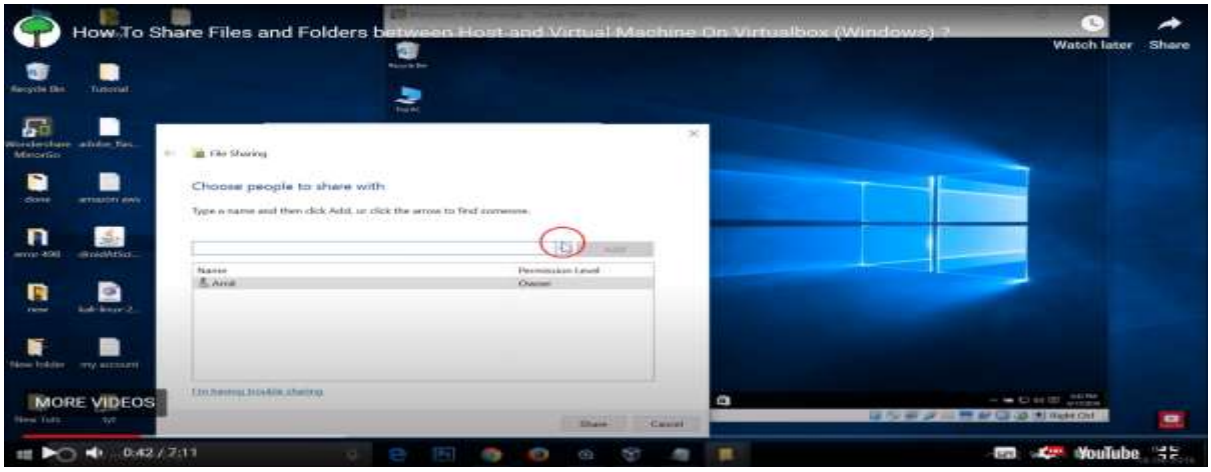
YouTube

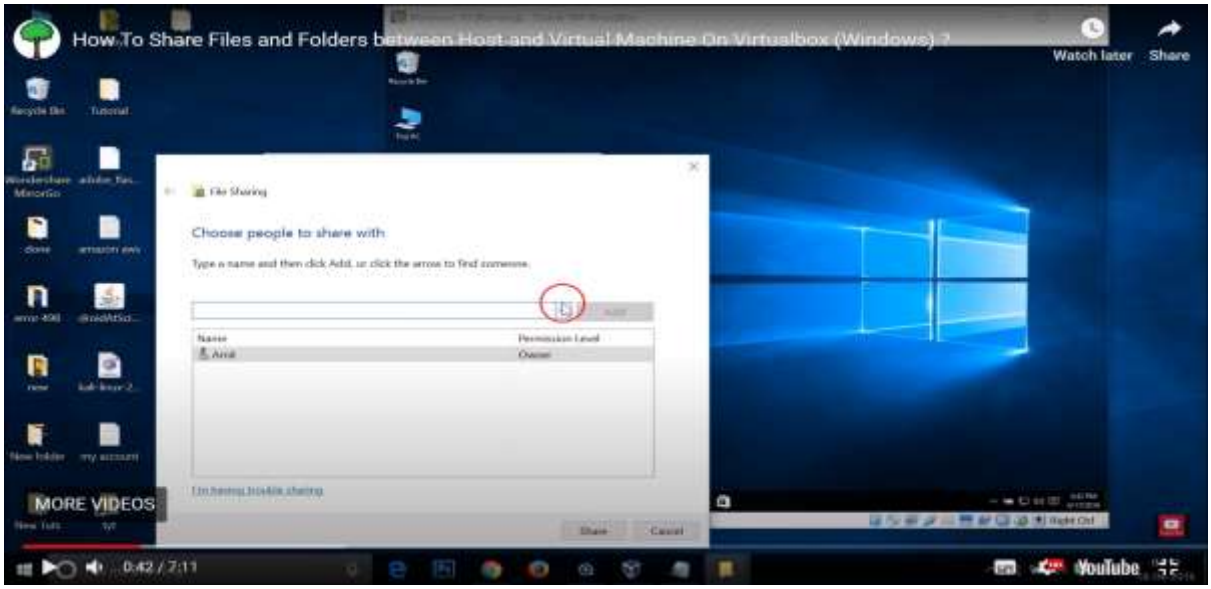

Run Cloudsim Examples without Errors
Share
Press Esc to exit full screen
MORE VIDEOS
11:17 / 12:18
YouTube

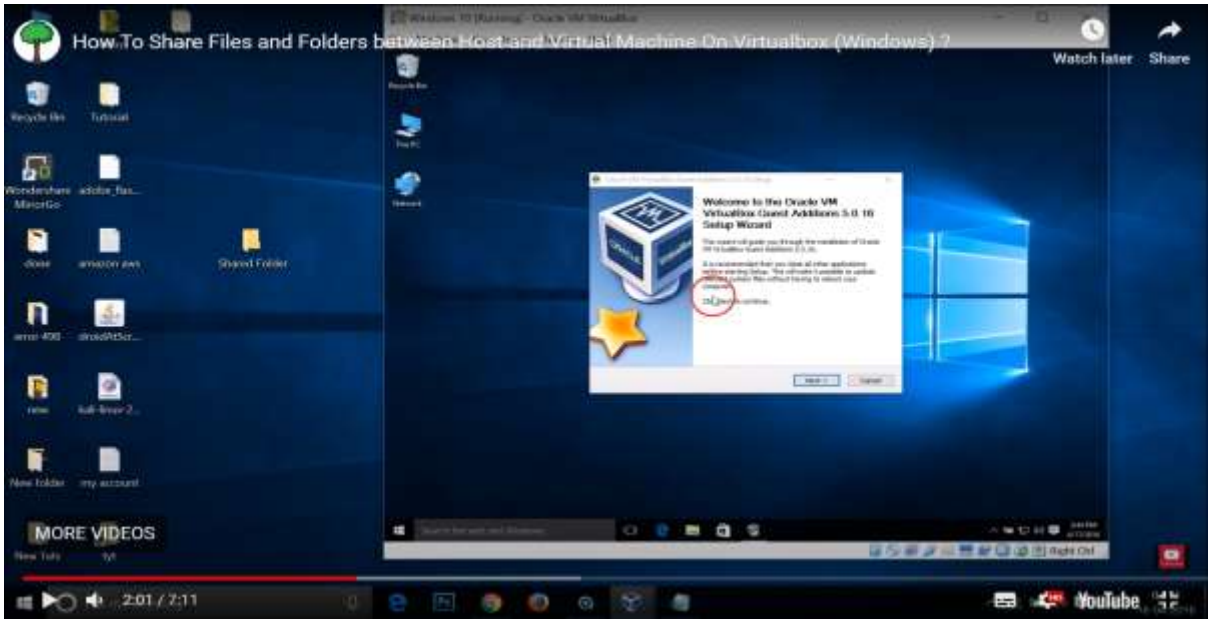
EX.No:6 Find a procedure to transfer the files from one virtual machine to another virtual machine

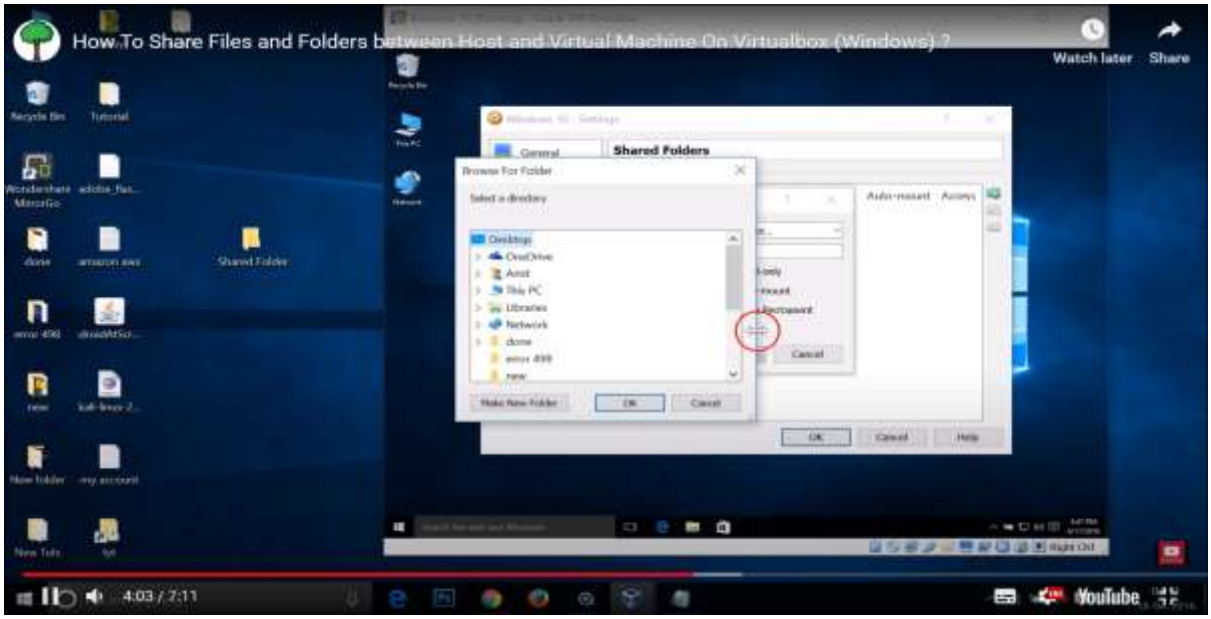
PROCEDURE:
Create a folder in desktop
Name it as Shared Folder
Go to Settings of the folder and select sharing
In File Sharing window give access to Everyone to share your folder
Run VM Guest Wizard

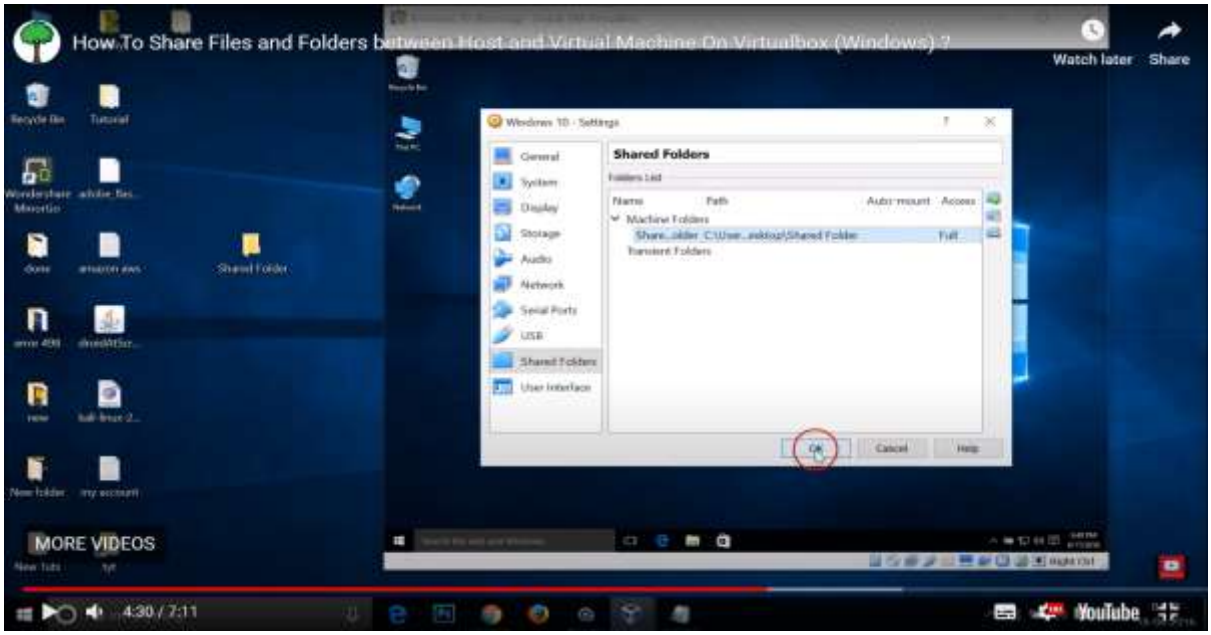
OUTPUT:








How To Share Files and Folders between Host and Virtual Machine On Virtualbox (Windows) ?
Watch later
Share
Shared Folders
4:03 / 7:11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Shared Folders
MORE VIDEOS
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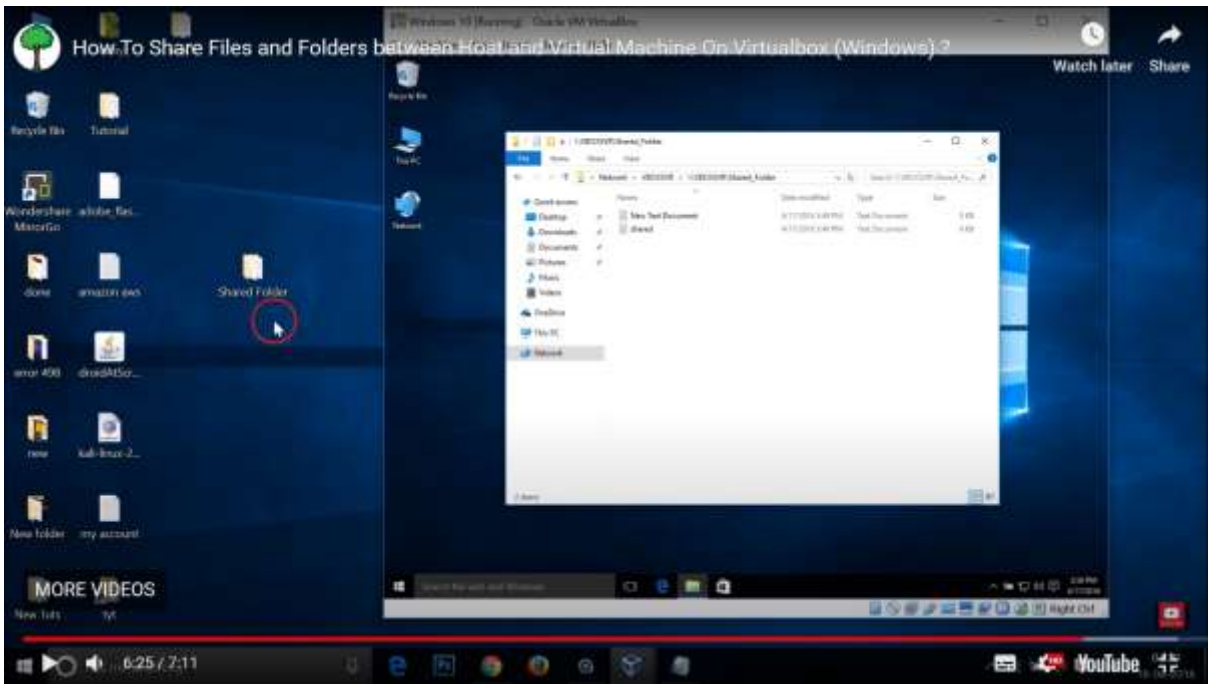
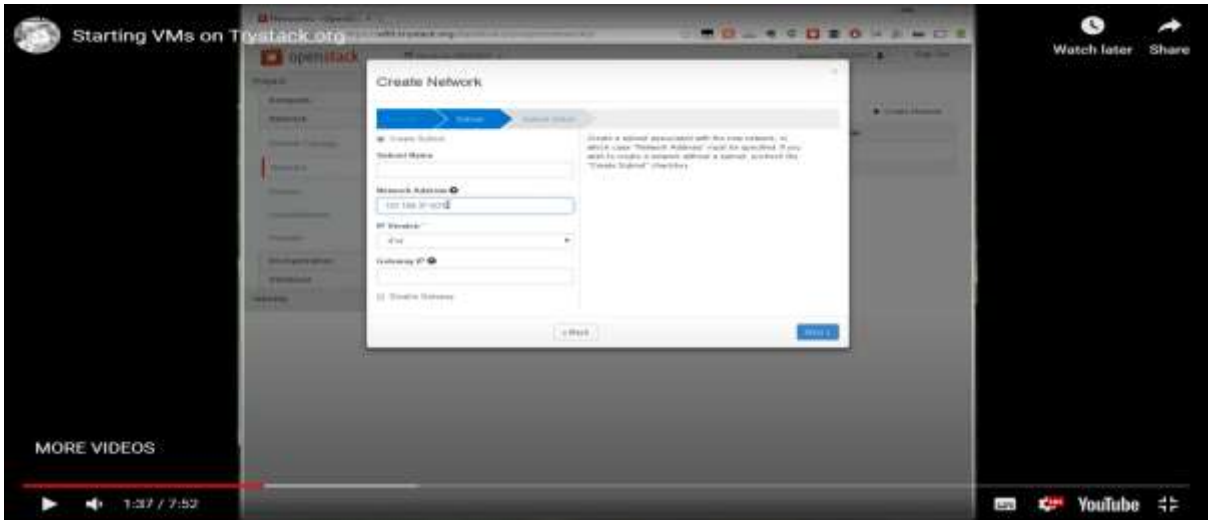
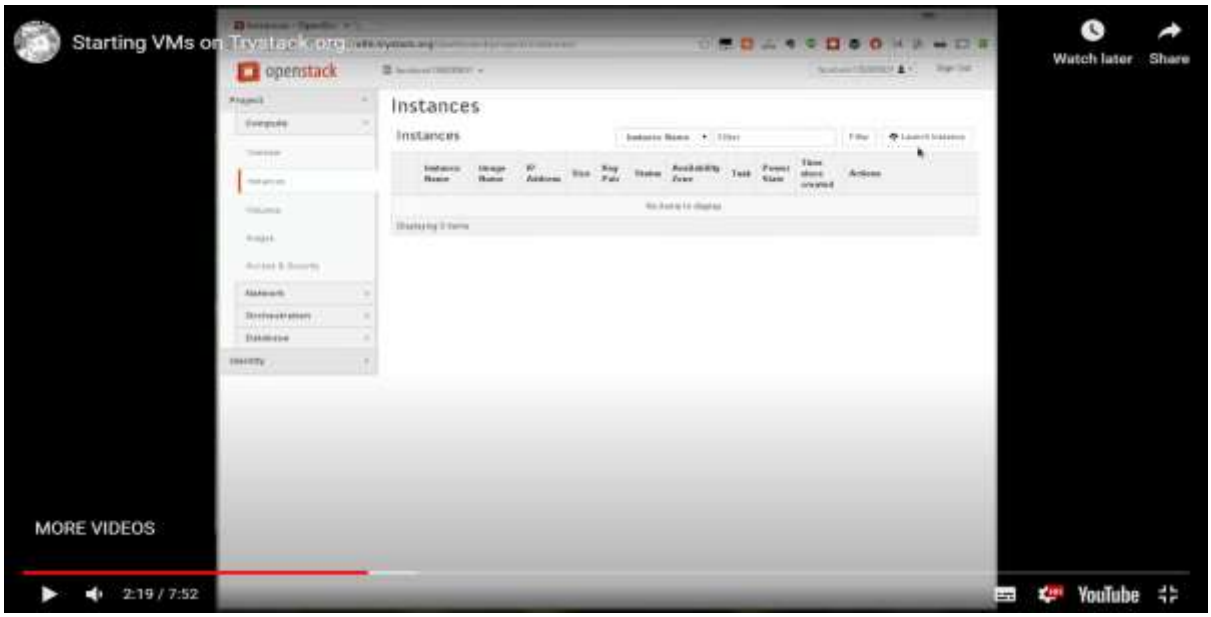

How To Share Files and Folders between Host and Virtual Machine On Virtualbox (Windows) ?
Watch later
Share
MORE VIDEOS
6:25 / 7:11

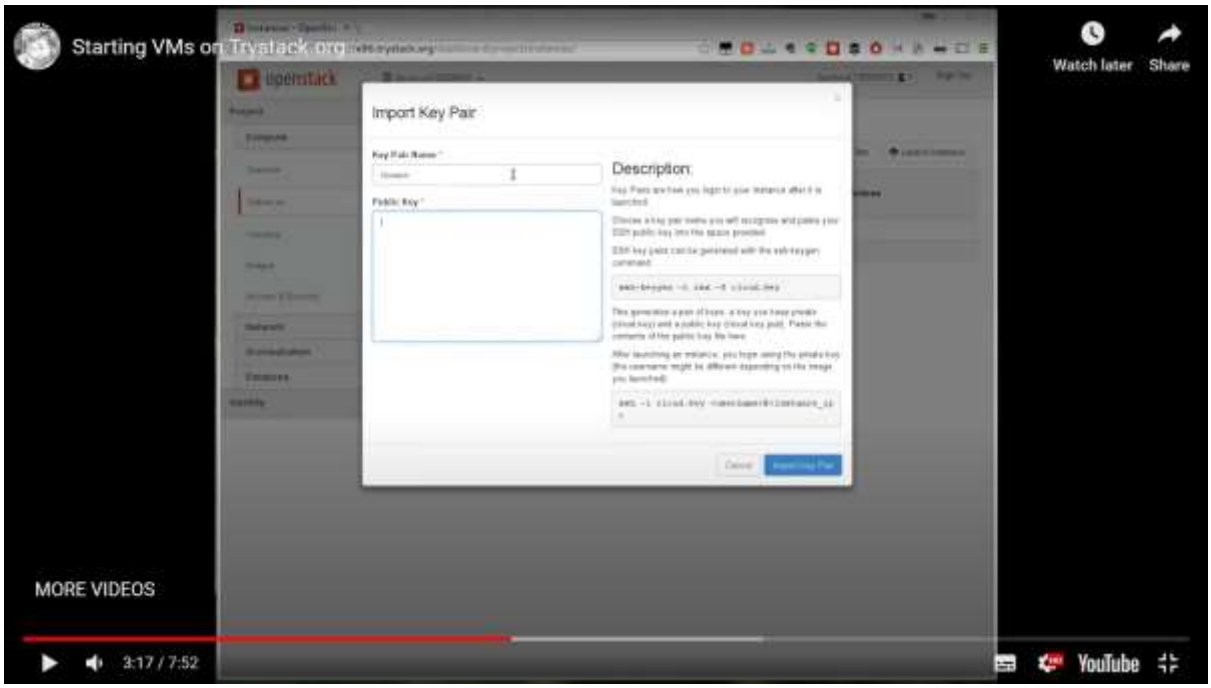
EX.No:7 Find a procedure to launch virtual machine using trystack

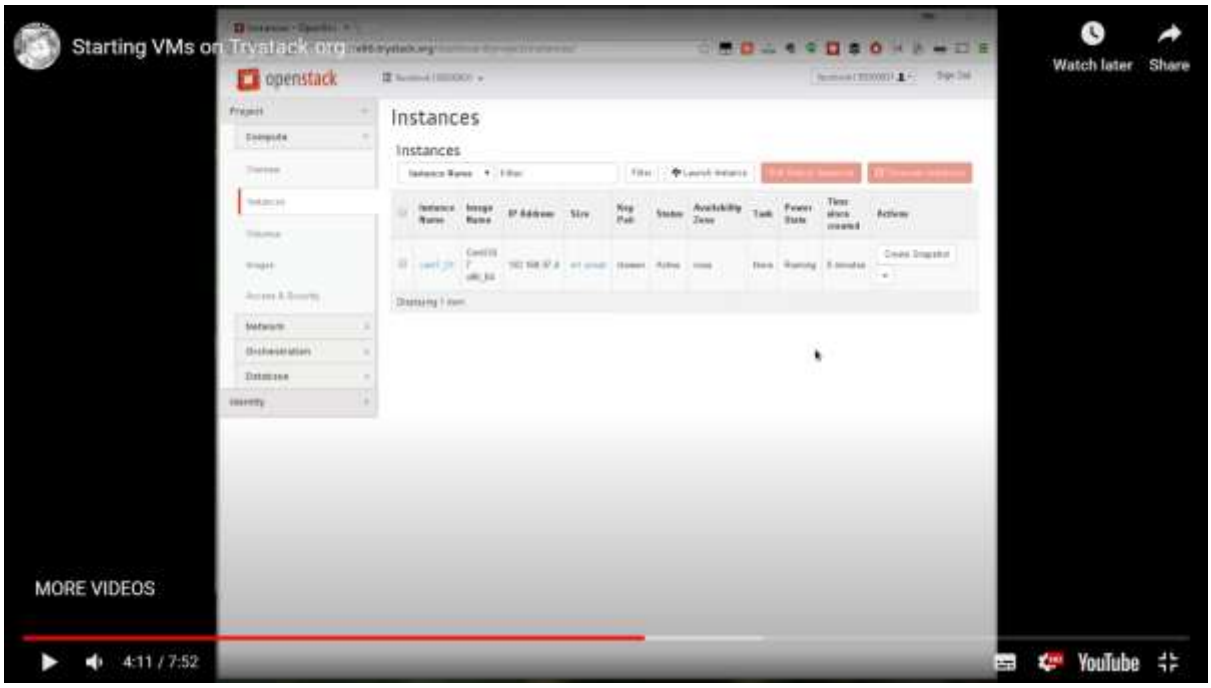
PROCEDURE:
Open TryStack free Virtual machine
Give Network Address in Create Network
Launch Instances
In Access and Security provide KeyPairName
Create Router
Add the instance in Router and view the network topology

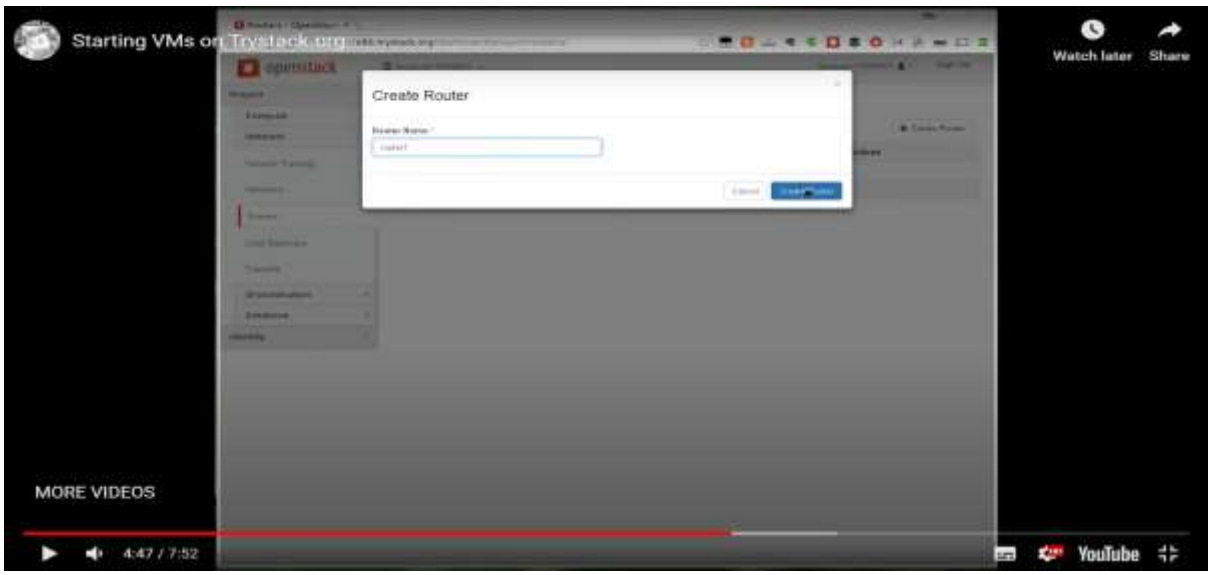
OUTPUT:

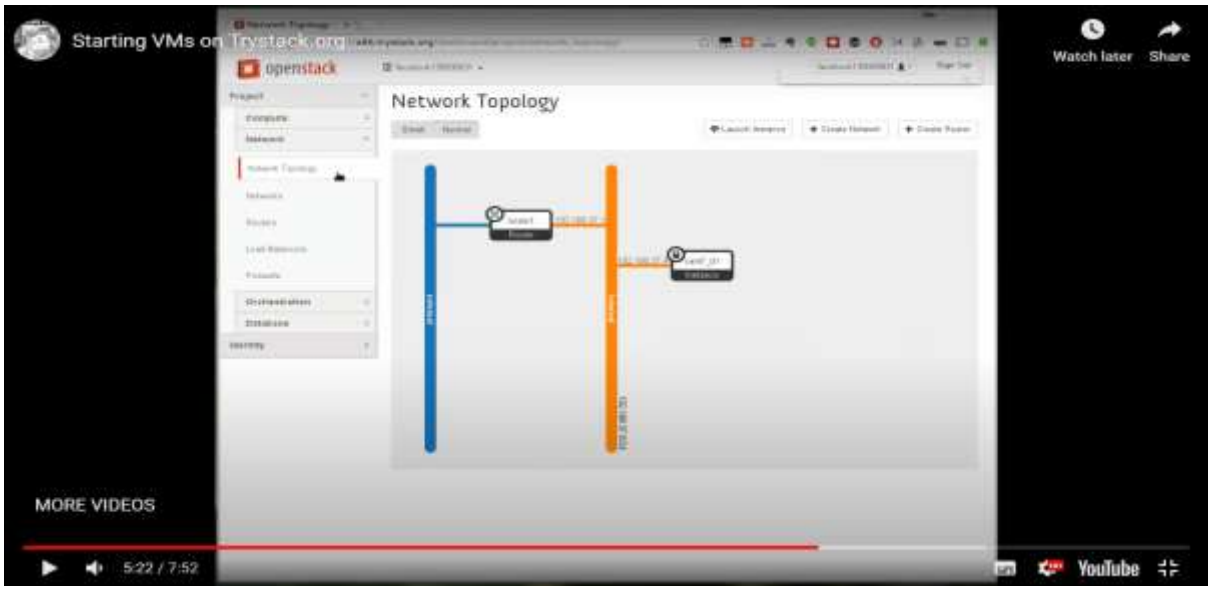





Starting VMs on Trystack.org
Watch later
Share
openstack
Import Key Pair
Description:
MORE VIDEOS
3:17 / 7:52
YouTube


Starting VMs on Trystack.org
Watch later
Share
openstack
Instances
Instances
MORE VIDEOS
4:11 / 7:52
YouTube


Starting VMs on Trystack.org
Watch later
Share
openstack
Create Router
MORE VIDEOS
4:47 / 7:52
YouTube


Starting VMs on Trystack.org
Watch later
Share
openstack
Network Topology
MORE VIDEOS
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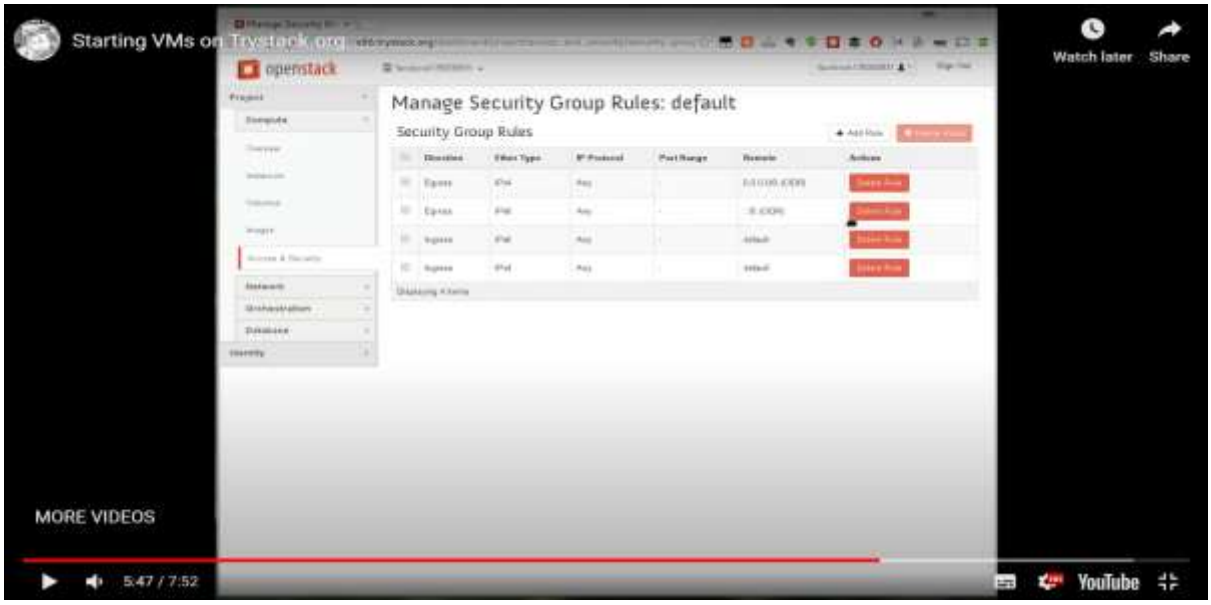
YouTube


Starting VMs on Trystack.org
Watch later
Share
openstack
Manage Security Group Rules: default
Security Group Rules
MORE VIDEOS
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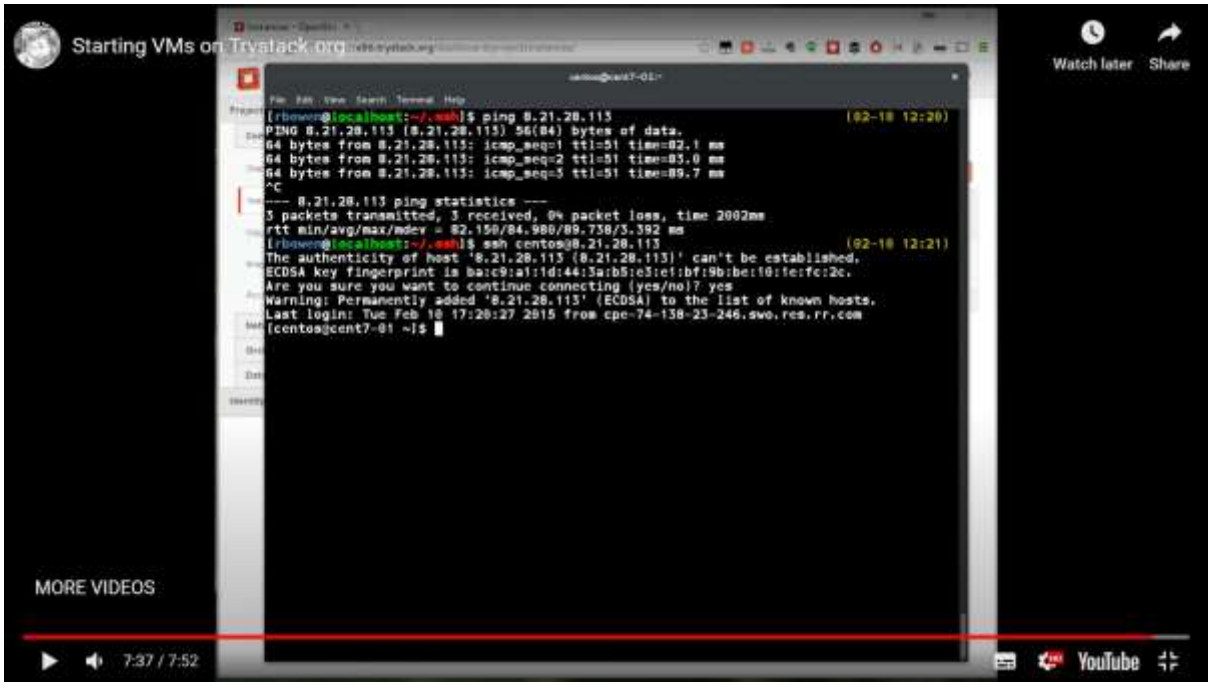
YouTube


Starting VMs on Trystack.org
Watch later
Share
[rbowen@localhost:~/.ssh]$ ping 8.21.28.113
PING 8.21.28.113 (8.21.28.113) 56(84) bytes of data.
64 bytes from 8.21.28.113: icmp_seq=1 ttl=51 time=82.1 ms
64 bytes from 8.21.28.113: icmp_seq=2 ttl=51 time=83.0 ms
64 bytes from 8.21.28.113: icmp_seq=5 ttl=51 time=89.7 ms
^C
--- 8.21.28.113 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 82.150/84.980/89.738/3.392 ms
[rbowen@localhost:~/.ssh]$ ssh centos@8.21.28.113
The authenticity of host '8.21.28.113 (8.21.28.113)' can't be established.
ECDSA key fingerprint is ba:c9:af:1d:44:3a:b5:e3:ef:bf:9b:be:10:1e:fc:2c.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '8.21.28.113' (ECDSA) to the list of known hosts.
Last login: Tue Feb 10 17:20:27 2015 from cpe-74-138-23-246.swo.res.rr.com
[centos@cent7-01 ~]$
MORE VIDEOS
7:37 / 7:52
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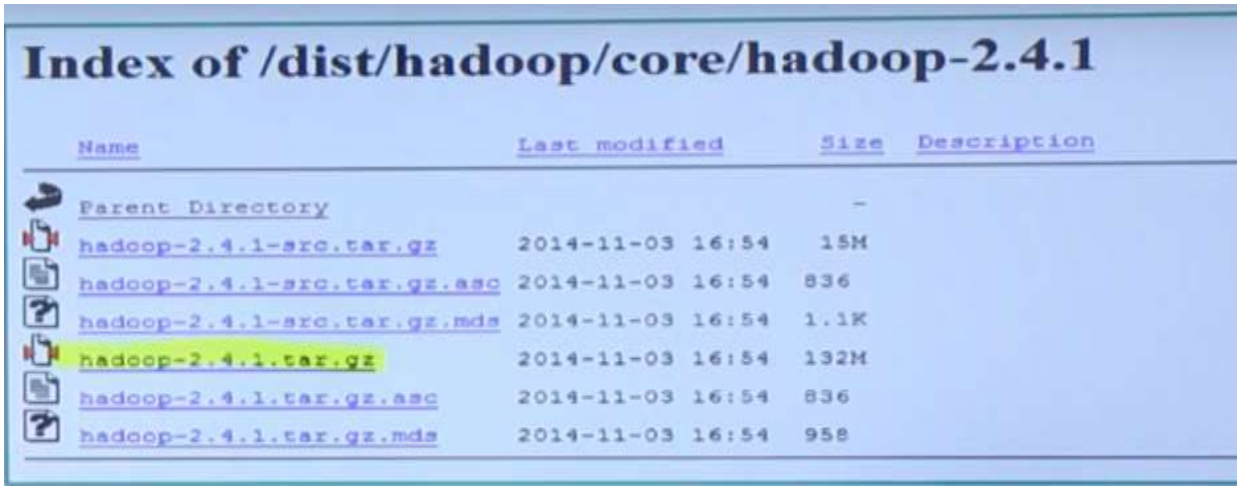
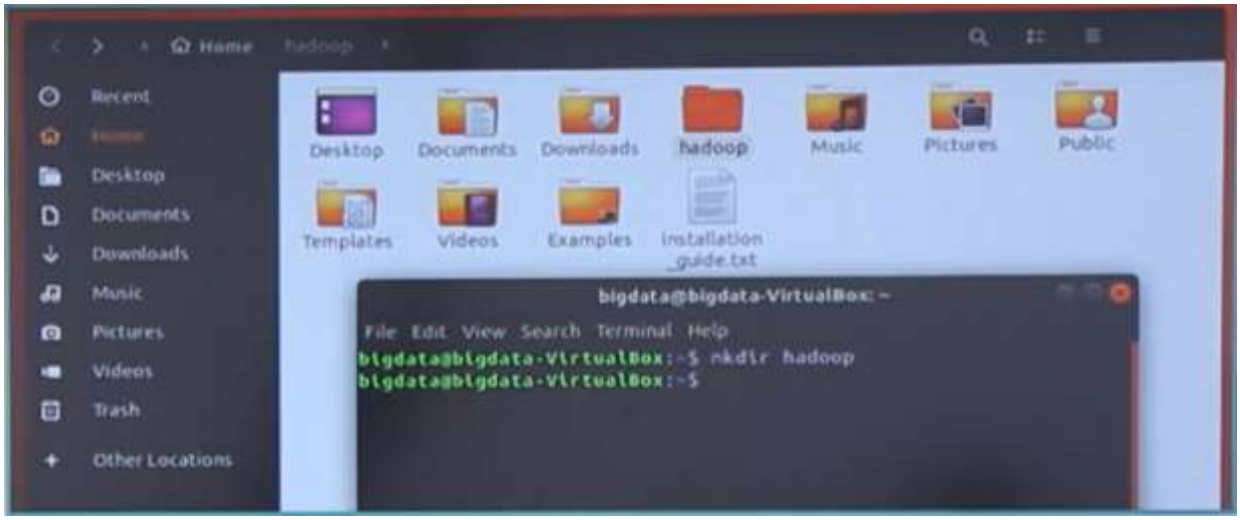
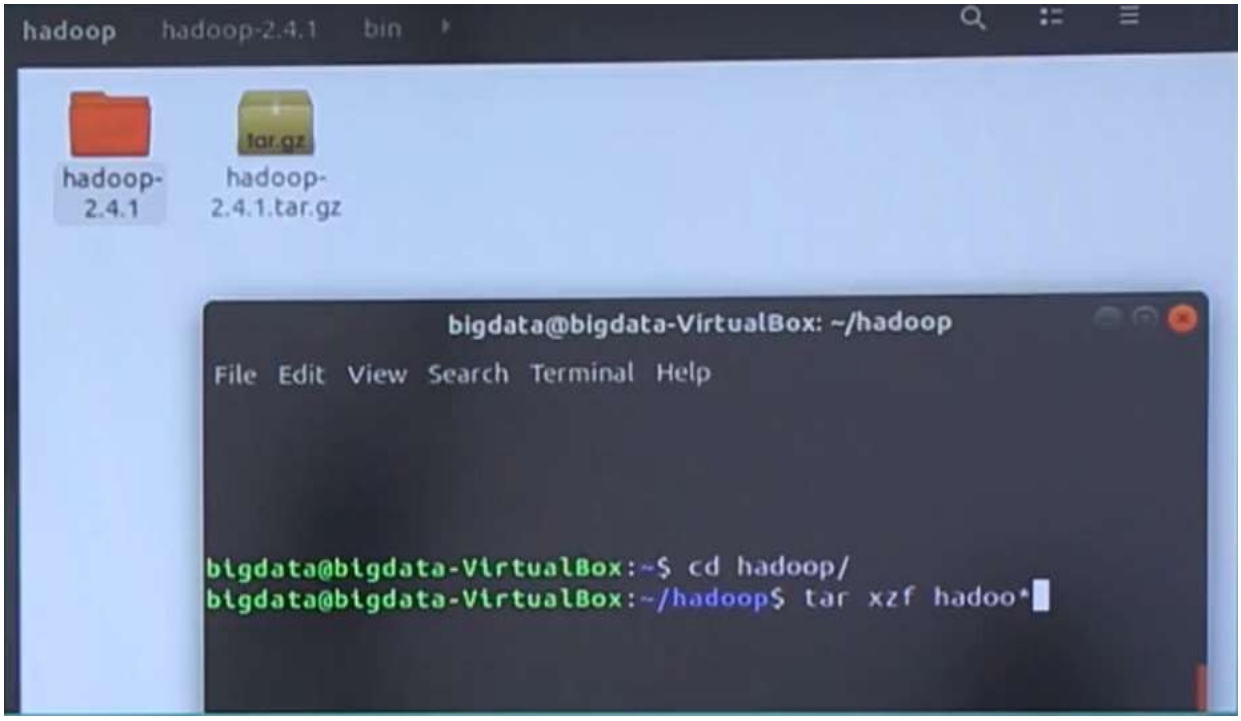
EX.No:8 Install Hadoop single node cluster and run simple applications

PROCEDURE:
Give $ sudo apt-get install ssh
Give $ sudo apt-get install rsync

OUTPUT: