



SAVEETHA SCHOOL OF ENGINEERING
SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES
**DEPARTMENT OF COMPUTER SCIENCE AND
ENGINEERING**



LAB MANUAL

CSA15

**CLOUD COMPUTING AND BIG
DATA ANALYTICS**

2022-2023



SAVEETHA SCHOOL OF ENGINEERING
SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES
**DEPARTMENT OF COMPUTER SCIENCE AND
ENGINEERING**



CSE DEPARTMENT VISION-MISSION

Vision of the Department

To establish an environment to provide quality education and Inculcate research attributes among computer science engineering graduates through problem solving skills and technological innovations.

Mission of the Department

M1

To create and sustain an academic environment to the highest level in teaching and research by enhancing the knowledge of the faculties and students in technological advancements to solve real time problems.

M2

Providing a suitable environment for the students to develop professionalism with knowledge in Computer Science & Engineering to meet the contemporary industry needs and satisfy global standards.

M3

To facilitate the development of professional behaviour and stronger ethical values so as to work with commitment for the progress of the nation and face challenges with ethical and social responsibility.

INSTRUCTIONS FOR THE EXPERIMENTS

1. Students are advised to come to the laboratory on time; those who come after 5 minutes will not be allowed into the lab.
2. Plan your task properly much before to the commencement, come prepared to the lab with the synopsis / program / experiment details. Student should enter into the laboratory with:
 - Laboratory observation notes with all the details (Problem statement, Aim, Implementation, Steps, Program, Expected Output, etc.,) filled in for the lab session.
 - Laboratory Record updated up to the last session experiments and other utensils (if any) needed in the lab.
 - Proper Dress code and Identity card.
 - Sign in the laboratory login register, write the TIME-IN, and occupy the computer system allotted to you by the faculty.
 - Execute your task in the laboratory, and record the results / output in the lab observation note book, and get certified by the concerned faculty.
 - All the students should be polite and cooperative with the laboratory staff, must maintain the discipline and decency in the laboratory.
 - Computer labs are established with sophisticated and high-end branded systems, which should be utilized properly.
 - Students / Faculty must keep their mobile phones in SWITCHED OFF mode during the lab sessions. Misuse of the equipment, misbehaviors with the staff and systems etc., will attract severe punishment.
 - Students must take the permission of the faculty in case of any urgency to go out; if anybody found loitering outside the lab / class without permission during working hours will be treated seriously and punished appropriately.
 - Students should LOG OFF/ SHUT DOWN the computer system before he/she leaves the lab after completing the task (experiment) in all aspects. He/she must ensure the system / seat is kept properly.



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DO'S AND DON'TS

- ✓ Be on time to lab and maintain silence.
- ✓ Inform the instructor /TA in case of any working environment problem.
- ✓ Be aware of all the safety devices. Even through the instructor and TA will take care of emergencies.
- ✓ Bring all the necessary things required to do laboratory experiments like observation notebook, record notebook and any others.
- ✓ Enter the system number, in-time, out-time register number, name and signature in the students log register.
- ✓ Arrange the seating chairs and system accessories in place at the end of the session.
- ✓ Shut down the system properly and switch off the power switch at the end of the session.
- ✓ Keep your bags in front of the labs empty space.
- ✓ Do not eat, drink, chew gum, smoke or apply cosmetics in the lab.
- ✓ Do not unplug/plug any wires of the system connectivity.
- ✓ Do not use or charge the mobile phone or any electronic gadgets inside the lab.
- ✓ Not to troubleshoot by yourself without knowledge of instructor/TA.
- ✓ Do not open any unnecessary applications in system.
- ✓ Mobiles phones are prohibited inside the lab.
- ✓ Do not share a system to do experiments.

Students strictly follow all the above instructions



SAVEETHA SCHOOL OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CSA15 – CLOUD COMPUTING AND BIG DATA ANALYTICS LABORATORY

LIST OF EXPERIMENTS

SNO	EXPERIMENT NAME	Blooms Taxonomy	CO	PO
1.	Create a simple cloud software application and provide it as a service using any Cloud Service Provider to demonstrate Software as a Service (SaaS).	K03, K04	CO7	PO5
2.	Create a simple cloud software application for Flight Reservation System using any Cloud Service Provider to demonstrate SaaS	K03, K04	CO7	PO5
3.	Create a simple cloud software application for Property Buying & Rental process (In Chennai city) using any Cloud Service Provider to demonstrate SaaS	K03, K04	CO7	PO5
4.	Create a simple cloud software application for Car Booking Reservation System using any Cloud Service Provider to demonstrate SaaS.	K03, K04	CO7	PO5
5.	Create a simple cloud software application for Library book reservation system for SIMATS library using any Cloud Service Provider to demonstrate SaaS	K03, K04	CO7	PO5
6.	Create a simple cloud software application for product selling using any cloud service provider to demonstrate saas.	K03, K04	CO7	PO5
7.	Demonstrate virtualization by Installing Type-2 Hypervisor in your device, create and configure VM image with a Host Operating system (Either Windows/Linux).	K03, K04	CO7	PO5
8.	Create a Virtual Machine with 1 CPU, 2GB RAM and 15GB storage disk using a Type 2 Virtualization	K03, K04	CO7	PO5

	Software.			
9.	Create a Virtual Hard Disk and allocate the storage using VM ware Workstation	K03, K04	C07	P05
10.	Create a Snapshot of a VM and Test it by loading the Previous Version/Cloned VM	K03, K04	C07	P05
11.	Create a Cloning of a VM and Test it by loading the Previous Version/Cloned VM	K03, K04	C07	P05
12.	Change Hardware compatibility of a VM (Either by clone/create new one) which is already created and configured.	K03, K04	C07	P05
13.	Demonstrate Infrastructure as a Service (IaaS) by creating a resources group using a Public Cloud Service Provider (Azure), configure with minimum CPU, RAM, and Storage.	K03, K04	C07	P05
14.	Demonstrate Infrastructure as a Service (IaaS) by creating a Virtual Machine using a Public Cloud Service Provider (Azure), configure with required memory and CPU.	K03, K04	C07	P05
15.	Demonstrate Infrastructure as a Service (IaaS) by establishing the remote connection, launch the created VM image and run in your desktop.	K03, K04	C07	P05
16.	Demonstrate Platform as a Service (PaaS) create and configure a new VM Image in any Public Cloud Service Provider	K03, K04	C07	P05
17.	Create a Simple Web Application using Java or Python and host it in any Public Cloud Service Provider (Azure/GCP/AWS) to demonstrate Platform as a Service (PaaS).	K03, K04	C07	P05
18.	Demonstrate Storage as a Service (SaaS) create and configure a new VM Image in any Public Cloud Service Provider	K03, K04	C07	P05
19.	Create a Storage service using any Public Cloud Service Provider (Azure/GCP/AWS) and check the public accessibility of the stored file to demonstrate Storage as a Service.	K03, K04	C07	P05
20.	Database as a Service (DaaS) create and configure a new VM Image in any Public Cloud Service Provider	K03, K04	C07	P05
21.	Create a SQL storage service and perform a basic query using any Public Cloud Service Provider (Azure/GCP/AWS) to demonstrate Database as a Service (DaaS)	K03, K04	C08	P05
22.	Perform the basic configuration setup for installing	K03, K04	C08	P05

	HADOOP 2.x like creating the HDUSER and SSH localhost			
23.	Install Hadoop 2.x and configure the Name Node and Data Node.	K03, K04	C08	P05
24.	Launch the Hadoop 2.x and test the Map-Reduce Platform with Hadoop.	K03, K04	C08	P05
25.	Launch the Hadoop 2.x and perform Map-Reduce program for a word count problem	K03, K04	C08	P05

EXP NO 1: CREATE A SIMPLE CLOUD SOFTWARE APPLICATION AND PROVIDE IT AS A SERVICE USING ANY CLOUD SERVICE PROVIDER TO DEMONSTRATE SOFTWARE AS A SERVICE (SAAS).

DATE:

AIM:

To create a simple cloud software application and provide it as a service using any cloud service provider to demonstrate software as a service (saas).

PROCEDURE:

STEP 1: GOTO ZOHO.COM

STEP 2: LOGIN TO THE ZOHO.COM

STEP 3: SELECT ONE APPLICATION

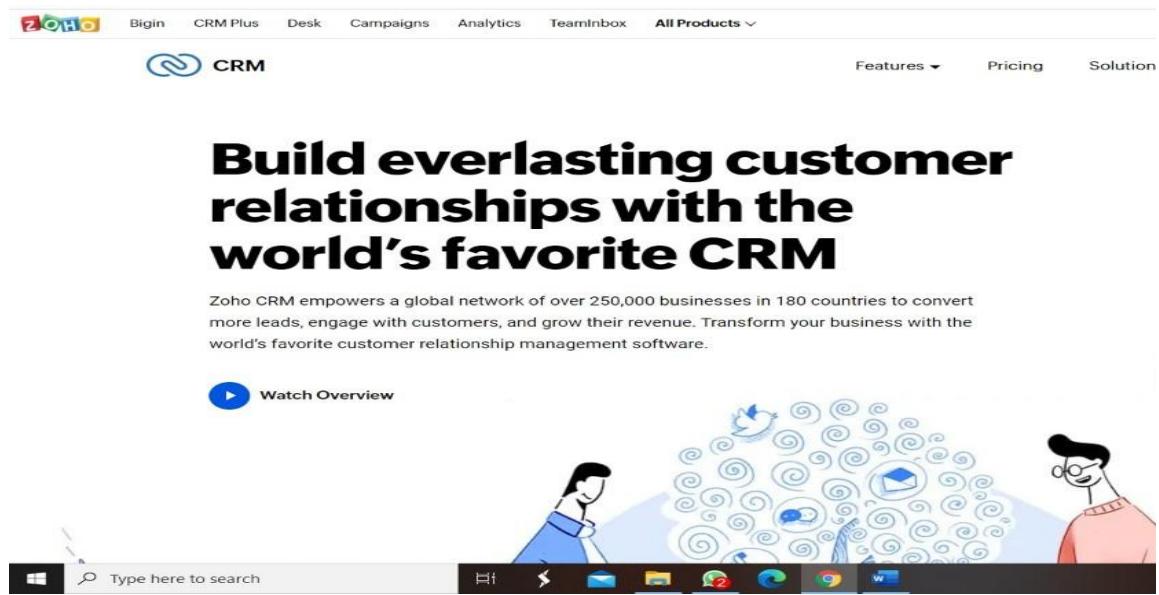
STEP 4: ENTER APPLICATION NAME

STEP 5: CREATED NEW APPLICATION

STEP 6: SELECT ONE FORM

STEP 7: THE SOFTWARE HAS BEEN CREATED.

IMPLEMENTATION:



STEP1: GOTO ZOHO.COM

You're one step away from getting started with Zoho CRM.

[Get Started for Free](#)

By creating a new account, you agree to our [Terms of Service](#).
Learn more about Zoho CRM [here](#).

STEP 2: LOGINTO THE ZOHO.COM

STEP 3: SELECT ONE APPLICATION

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

[Cancel](#)

The screenshot shows the Zoho Application Gallery interface. At the top, there's a search bar with placeholder text "Start typing to search for applications..." and a "Cancel" button. Below the search bar, a navigation bar includes tabs for "All", "Information Technology", "Business", "Sales & Marketing", "Educ...", and "More". The main area displays a grid of application cards:

- Create from scratch**: A card with a plus sign icon and a dashed border, labeled "Create from scratch".
- Sales Management**: A card with a blue square icon containing three people, labeled "Sales Management" and "Install this Application".
- Order Management**: A card with an orange square icon containing a shopping cart, labeled "Order Management" and "Follow your orders".
- Employee Management**: A card with a blue square icon containing three people, labeled "Employee Management" and "Handle your employees".
- IT Asset Tracker**: A card with a green square icon containing a computer monitor, labeled "IT Asset Tracker" and "Track your technology".
- Event Management**: A card with a blue square icon containing a calendar, labeled "Event Management" and "Organize your events".
- Course Planner**: A card with a black square icon containing a graduation cap, labeled "Course Planner" and "Schedule your courses".
- Expenses**: A card with a green square icon containing a credit card, labeled "Expenses" and "Watch your expenses".

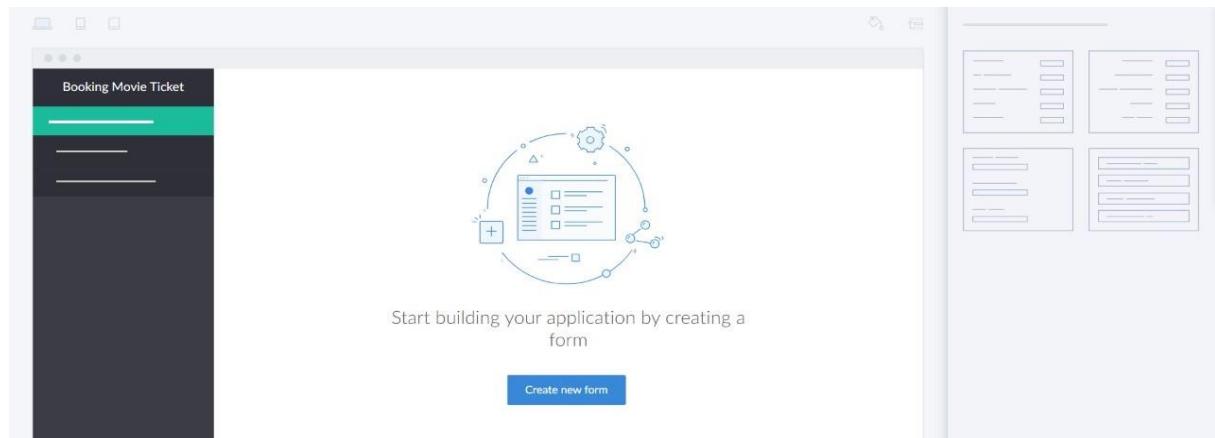
STEP 4: ENTER APPLICATION NAME

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

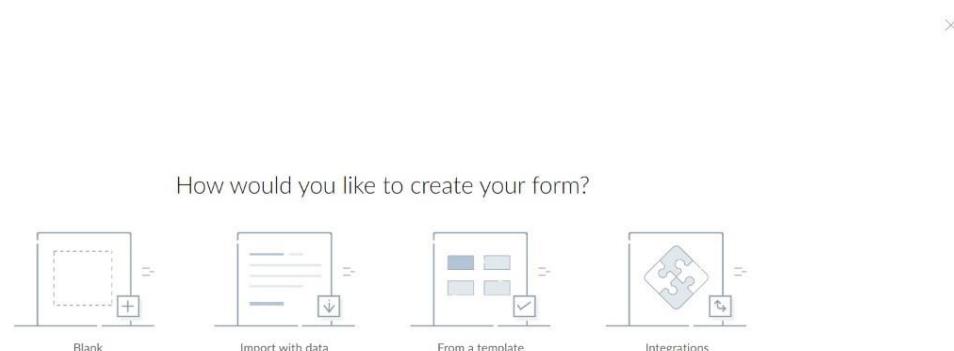
[Cancel](#)

The screenshot shows the Zoho Application Gallery interface with an "Enter Application Name" dialog box overlaid. The dialog has a white background and a close button "X" at the top right. It contains a text input field with placeholder text "Examples: Campaign Monitor, Order Management" and a blue "Create" button at the bottom. In the background, the application cards are dimmed, indicating they are not currently interactable while the dialog is open.



STEP 5: CREATED NEW APPLICATION

STEP 6: SELECT ONE FORM



STEP 7: THE SOFTWARE HASE BEEN CREATED.

The screenshot shows a software interface for creating a user details form. The main window displays a form titled "user details" with fields for Name (First Name and Last Name), Phone (+91 + 81234 56789), Email, Date-Time, Theatres, and Drop Down. The "Submit" and "Reset" buttons are located at the bottom. On the right, there is a panel titled "Form Customization - Web" with a section for "Label placement" showing four layout options.

Booking Movie Ticket
user details

Basic Fields

Name	Email
Address	Phone
Single Line	Multi Line
123	Date
Time	Drop Down

Name

Phone

Email

Date-Time

Theatres

Drop Down

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields

Prefix

First Name

Last Name

Suffix

Data Privacy

Done

EXP NO 2: CREATE A SIMPLE CLOUD SOFTWARE APPLICATION FOR FLIGHT RESERVATION SYSTEM USING ANY CLOUD SERVICE PROVIDER TO DEMONSTRATE SAAS.

DATE:

AIM:

To create a simple cloud software application for flight reservation system using any cloud service provider to demonstrate saas.

PROCEDURE:

step1: Go to zoho.com.

step 2: Log into the zoho.com.

step 3: Select one application step.

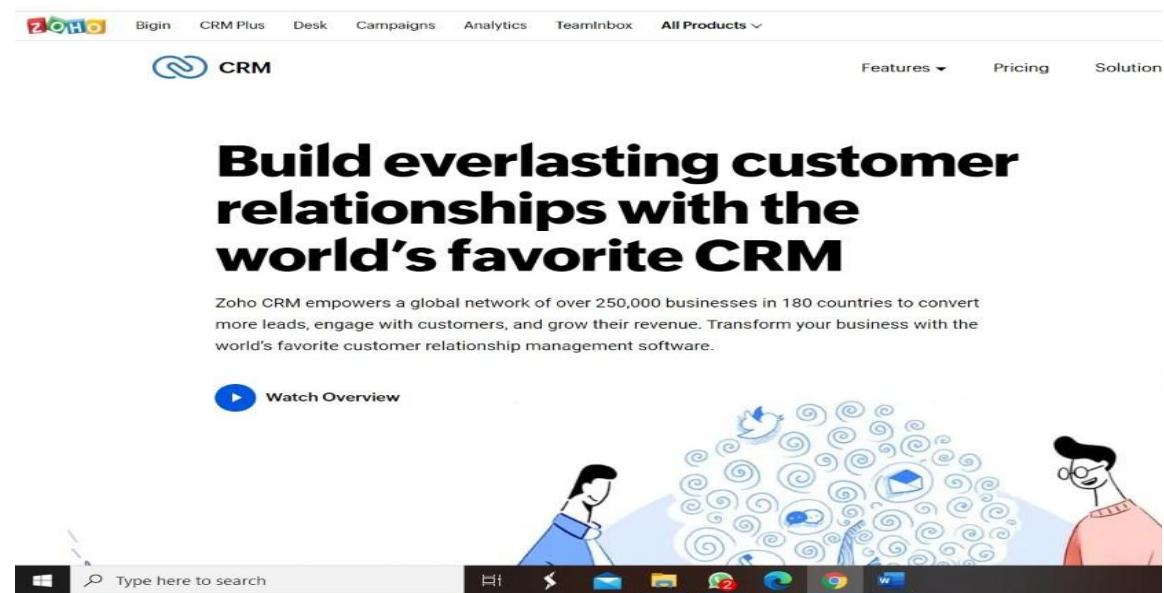
step4: Enter application name as flight reservation system.

step 5: Created new application flight reservation system.

step 6: Select one form

step 7: The software has been created.

IMPLEMENTATION:



STEP1: GOTO ZOHO.COM

You're one step away from getting started with Zoho CRM.

[Get Started for Free](#)

By creating a new account, you agree to our [Terms of Service](#).
Learn more about Zoho CRM [here](#).

STEP 2: LOGINTO THE ZOHO.COM

STEP 3: SELECT ONE APPLICATION

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

[Cancel](#)

The screenshot shows the Zoho Application Gallery interface. At the top, there's a search bar with placeholder text "Start typing to search for applications..." and a "Cancel" button. Below the search bar, there are several filter categories: "All", "Information Technology", "Business", "Sales & Marketing", "Educ...", and "More". The main area displays a grid of application cards:

- Create from scratch**: A card with a large plus sign icon and a dashed border.
- Sales Management**: Card with a blue icon showing three people.
- Order Management**: Card with an orange icon showing a shopping cart.
- Employee Management**: Card with a blue icon showing three people.
- IT Asset Tracker**: Card with a green icon showing a server.
- Event Management**: Card with a blue icon showing a calendar.
- Course Planner**: Card with a black icon showing a person with a graduation cap.
- Expenses**: Card with a green icon showing a receipt.

Each card includes a "More Info" link and an "Install this Application" button.

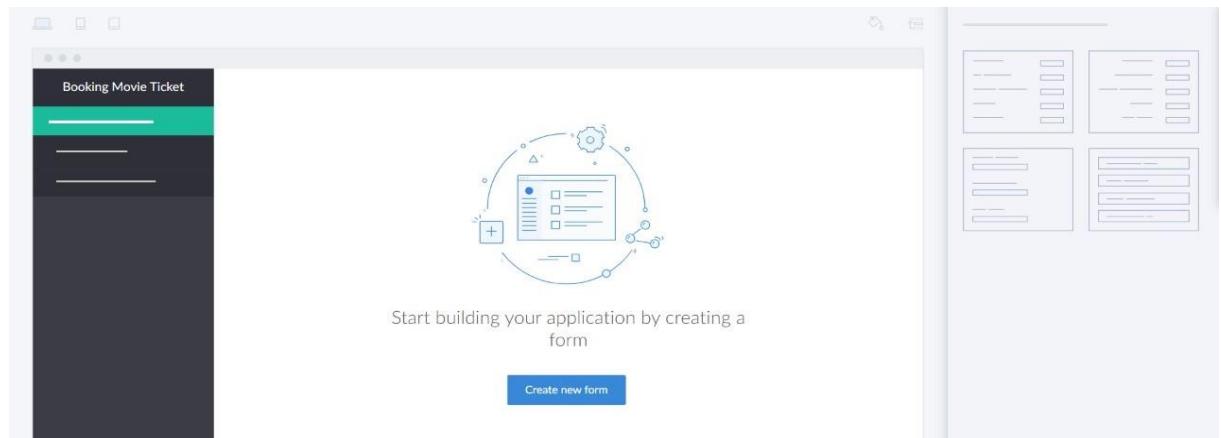
STEP 4: ENTER APPLICATION NAME

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

[Cancel](#)

The screenshot shows the Zoho Application Gallery interface with an "Enter Application Name" dialog box overlaid. The dialog has a "Create" button at the bottom. In the background, the application cards are dimmed, indicating they are not currently interactable while the dialog is open.



STEP 5: CREATED NEW APPLICATION

STEP 6: SELECT ONE FORM



STEP 7: THE SOFTWARE HASE BEEN CREATED.

The screenshot shows a software interface for creating a user details form. The main area displays the following fields:

- Name: First Name [Input], Last Name [Input]
- Phone: +91 + 81234 56789
- Email: [Input]
- Date-Time: dd-MMM-yyyy HH:mm:ss [Input]
- Theatres: First Name [Input], Last Name [Input]
- Drop Down: Select [Input]

At the bottom are 'Submit' and 'Reset' buttons. To the right, a 'Form Customization - Web' panel is open, showing 'Label placement' options with four preview cards.

Booking Movie Ticket
user details

Basic Fields

	Name		Email
	Address		Phone
	Single Line		Multi Line
	Number		Date
	Time		Drop Down

Name

Phone

Email

Date-Time

Theatres

Drop Down

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields

Prefix

First Name

Last Name

Suffix

Data Privacy

Done

EXP NO 3: CREATE A SIMPLE CLOUD SOFTWARE APPLICATION FOR PROPERTY BUYING & RENTAL PROCESS (IN CHENNAI CITY) USING ANY CLOUD SERVICE PROVIDER TO DEMONSTRATE SAAS.

DATE:

AIM:

To Create a simple cloud software application for Property Buying & Rental process (In Chennai city) using any Cloud Service Provider to demonstrate SaaS.

PROCEDURE:

step1: Go to zoho.com.

step 2: Log into the zoho.com.

step 3: Select one application step.

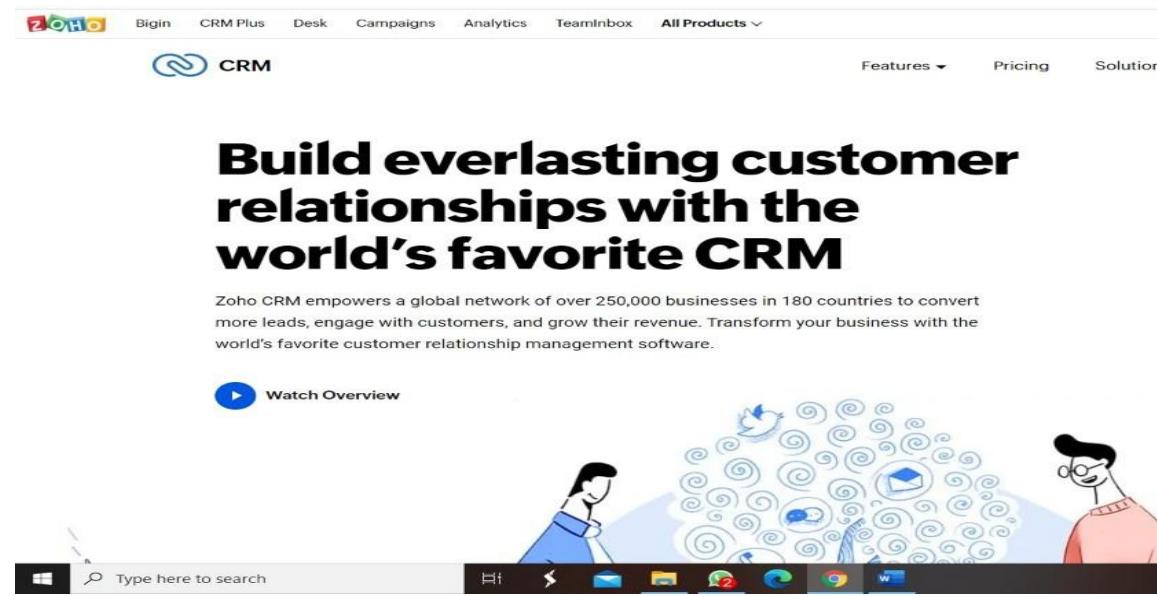
step4: Enter application name as property buying & rental.

step 5: Created new application as property buying & rental.

step 6: Select one form

step 7: The software has been created.

IMPLEMENTATION:



STEP1: GOTO ZOHO.COM

You're one step away from getting started with Zoho CRM.

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Learn more about Zoho CRM [here](#).

STEP 2: LOGINTO THE ZOHO.COM

STEP 3: SELECT ONE APPLICATION

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

[Cancel](#)

The screenshot shows the Zoho Application Gallery interface. At the top, there's a search bar with placeholder text "Start typing to search for applications..." and a "Cancel" button. Below the search bar, there are several filter categories: "All", "Information Technology", "Business", "Sales & Marketing", "Educ...", and "More". The main area displays a grid of application cards:

- Create from scratch**: A card with a large plus sign icon and a dashed border.
- Sales Management**: Card with a blue icon showing three people.
- Order Management**: Card with an orange icon showing a shopping cart.
- Employee Management**: Card with a blue icon showing three people.
- IT Asset Tracker**: Card with a green icon showing a server.
- Event Management**: Card with a blue icon showing a calendar.
- Course Planner**: Card with a black icon showing a person with a graduation cap.
- Expenses**: Card with a green icon showing a receipt.

Each card includes a "More Info" link and an "Install this Application" button.

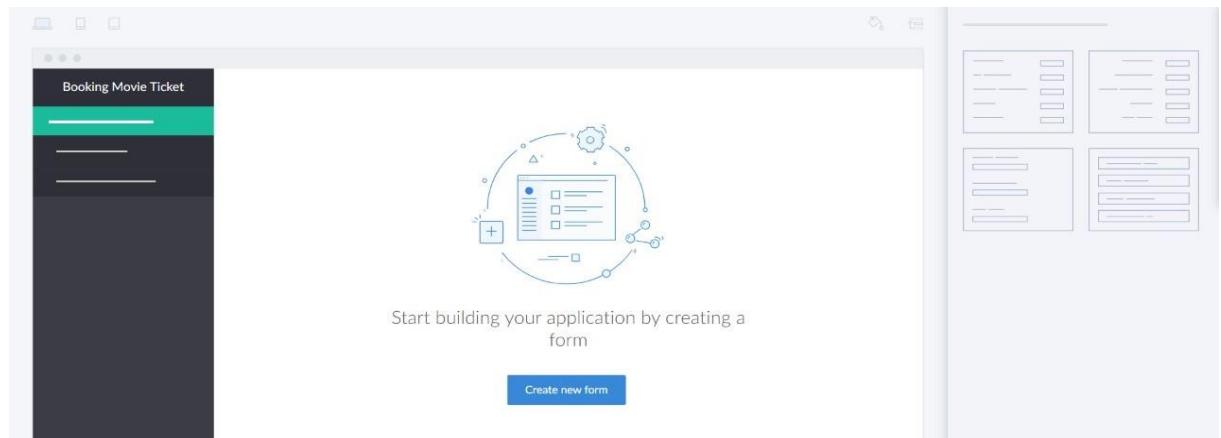
STEP 4: ENTER APPLICATION NAME

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

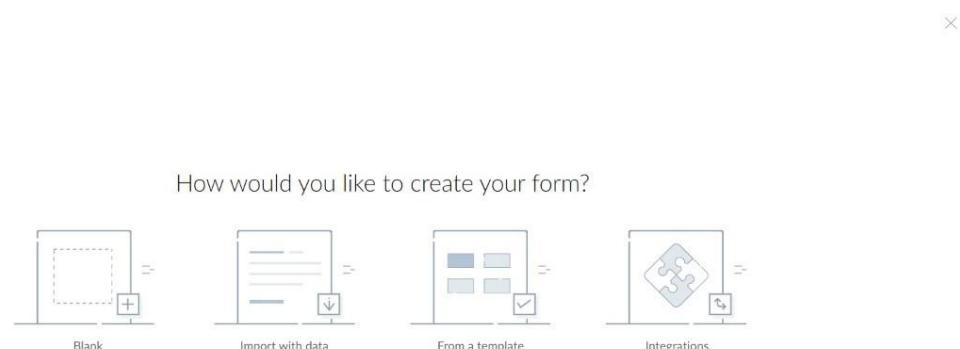
[Cancel](#)

The screenshot shows the Zoho Application Gallery interface with an "Enter Application Name" dialog box overlaid. The dialog has a "Create" button at the bottom. In the background, the application cards are dimmed, indicating they are not currently interactable while the dialog is open.



STEP 5: CREATED NEW APPLICATION

STEP 6: SELECT ONE FORM



STEP 7: THE SOFTWARE HASE BEEN CREATED.

Booking Movie Ticket
user details

Basic Fields

Name	Email
Address	Phone
Single Line	Multi Line
Number	Date
Time	Drop Down

Name

Phone

Email

Date-Time

Theatres

Drop Down

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields

Prefix

First Name

Last Name

Suffix

Data Privacy

Done

EXP NO 4: CREATE A SIMPLE CLOUD SOFTWARE APPLICATION FOR CAR BOOKING RESERVATION SYSTEM USING ANY CLOUD SERVICE PROVIDER TO DEMONSTRATE SaaS.

DATE:

AIM:

To Create a simple cloud software application for Car Booking Reservation System using any Cloud Service Provider to demonstrate SaaS.

PROCEDURE:

step1: Go to zoho.com.

step 2: Log into the zoho.com.

step 3: Select one application step.

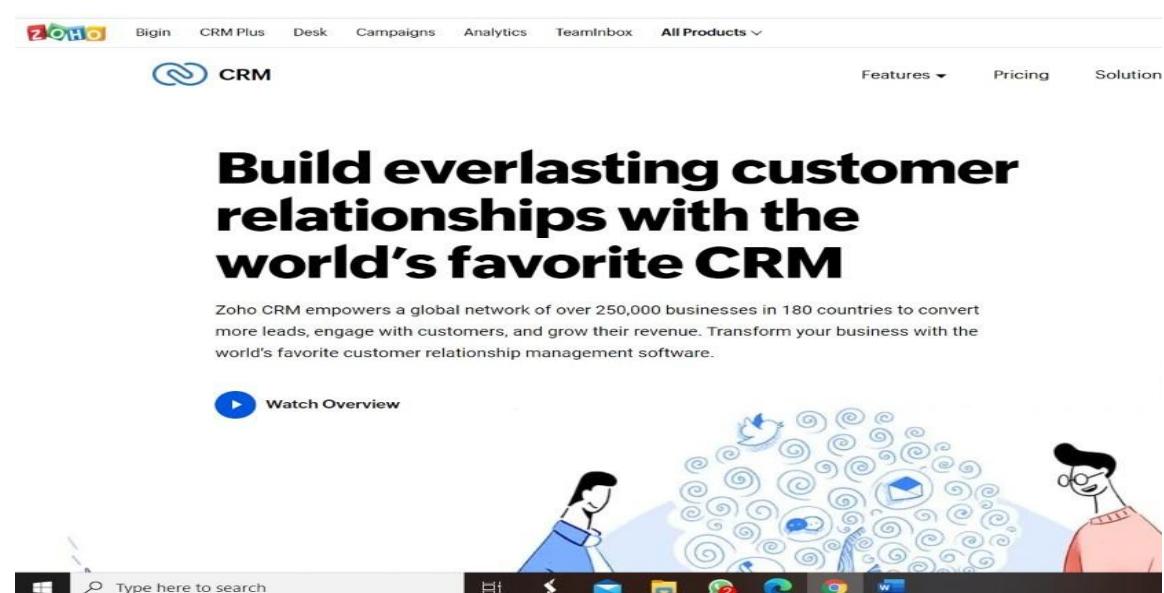
step4: Enter application name as Car Booking Reservation System.

step 5: Created new application as Car Booking Reservation System.

step 6: Select one form

step 7: The software has been created.

IMPLEMENTATION:



STEP1: GOTO ZOHO.COM

You're one step away from getting started with Zoho CRM.

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Learn more about Zoho CRM [here](#).

STEP 2: LOGINTO THE ZOHO.COM

STEP 3: SELECT ONE APPLICATION

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

[Cancel](#)

The screenshot shows the Zoho Application Gallery interface. At the top, there's a search bar with placeholder text "Start typing to search for applications..." and a "Cancel" button. Below the search bar, there are several filter categories: "All", "Information Technology", "Business", "Sales & Marketing", "Educ...", and "More". The main area displays a grid of application cards:

- Create from scratch**: A card with a large plus sign icon and a dashed border.
- Sales Management**: Card with a blue icon showing three people.
- Order Management**: Card with an orange icon showing a shopping cart.
- Employee Management**: Card with a blue icon showing three people.
- IT Asset Tracker**: Card with a green icon showing a server.
- Event Management**: Card with a blue icon showing a calendar.
- Course Planner**: Card with a black icon showing a person with a graduation cap.
- Expenses**: Card with a green icon showing a receipt.

Each card includes a "More Info" link and an "Install this Application" button.

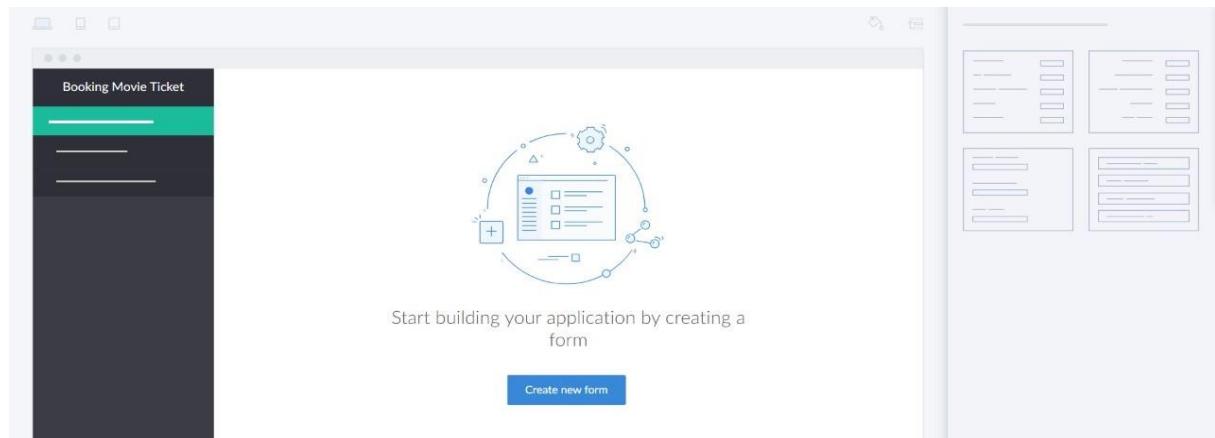
STEP 4: ENTER APPLICATION NAME

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

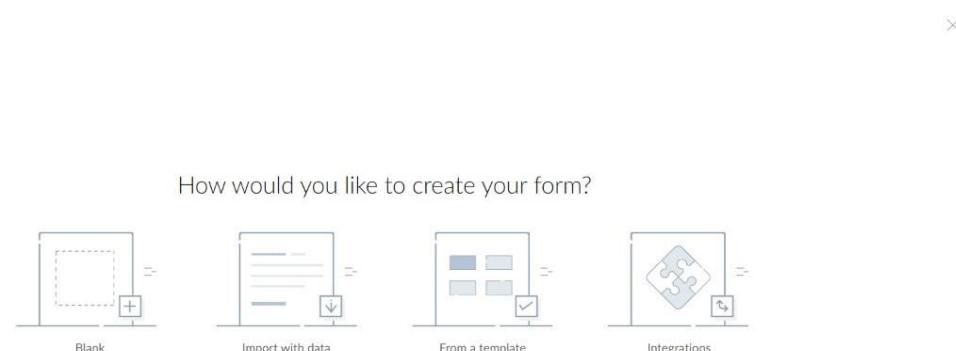
[Cancel](#)

The screenshot shows the Zoho Application Gallery interface with an "Enter Application Name" dialog box overlaid. The dialog has a "Create" button at the bottom. In the background, the application cards are dimmed, indicating they are not currently interactable while the dialog is open.



STEP 5: CREATED NEW APPLICATION

STEP 6: SELECT ONE FORM



STEP 7: THE SOFTWARE HASE BEEN CREATED.

Booking Movie Ticket
user details

Basic Fields

Name	Email
Address	Phone
Single Line	Multi Line
Number	Date
Time	Drop Down

Name

Phone

Email

Date-Time

Theatres

Drop Down

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields

Prefix

First Name

Last Name

Suffix

Data Privacy

Done

EXP NO 5: CREATE A SIMPLE CLOUD SOFTWARE APPLICATION FOR LIBRARY BOOK RESERVATION SYSTEM FOR SIMATS LIBRARY USING ANY CLOUD SERVICE PROVIDER TO DEMONSTRATE SAAS

DATE:

AIM:

To Create a simple cloud software application for Library book reservation system for SIMATS library using any Cloud Service Provider to demonstrate SaaS

PROCEDURE:

step1: Go to zoho.com.

step 2: Log into the zoho.com.

step 3: Select one application step.

step4: Enter application name as library book reservation system.

step 5: Created new application as library book reservation system.

step 6: Select one form

step 7: The software has been created.

IMPLEMENTATION:



STEP1: GOTO ZOHO.COM

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Learn more about Zoho CRM [here](#).

STEP 2: LOGIN TO THE ZOHO.COM

STEP 3: SELECT ONE APPLICATION

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

[Cancel](#)

The screenshot shows the Zoho Application Gallery interface. At the top, there's a search bar with placeholder text "Start typing to search for applications..." and a "Cancel" button. Below the search bar, there are several filter categories: "All", "Information Technology", "Business", "Sales & Marketing", "Educ...", and "More". The main area displays a grid of application cards:

- Create from scratch**: A card with a large plus sign icon and a dashed border.
- Sales Management**: Card with a blue icon showing three people.
- Order Management**: Card with an orange icon showing a shopping cart.
- Employee Management**: Card with a blue icon showing three people.
- IT Asset Tracker**: Card with a green icon showing a server.
- Event Management**: Card with a blue icon showing a calendar.
- Course Planner**: Card with a black icon showing a person with a graduation cap.
- Expenses**: Card with a green icon showing a receipt.

Each card includes a "More Info" link and an "Install this Application" button.

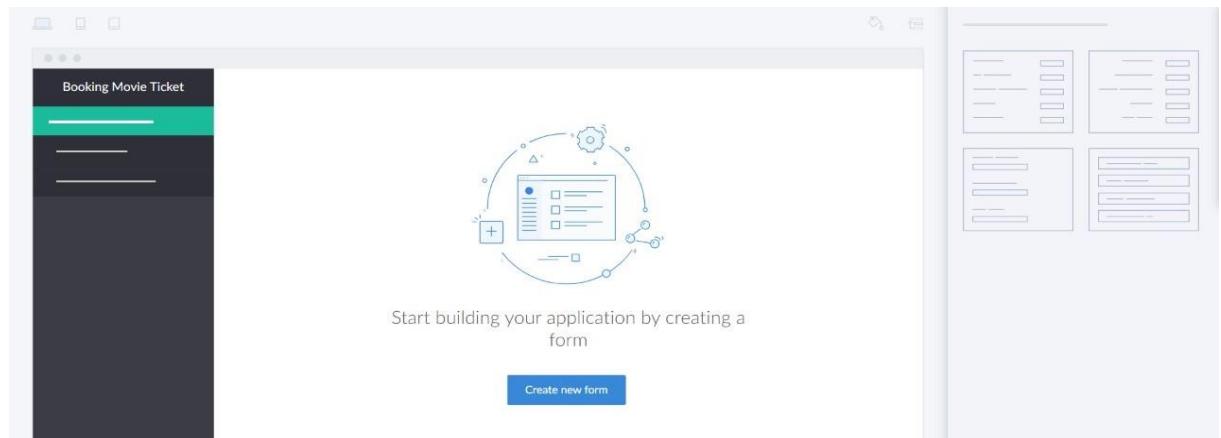
STEP 4: ENTER APPLICATION NAME

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

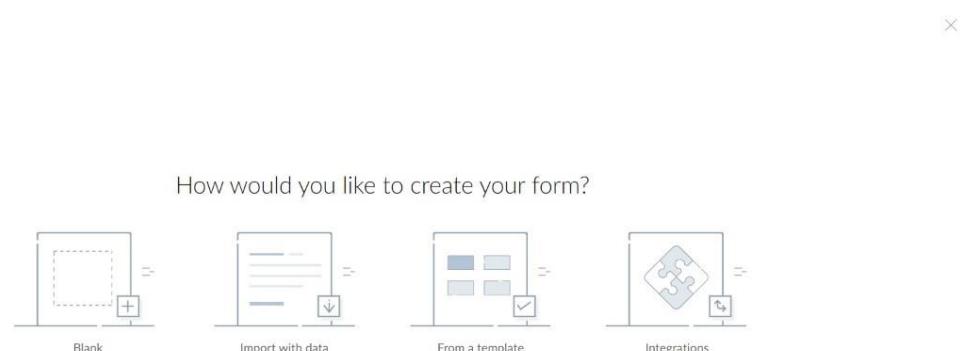
[Cancel](#)

The screenshot shows the Zoho Application Gallery interface with an "Enter Application Name" dialog box overlaid. The dialog has a "Create" button at the bottom. In the background, the application cards are dimmed, indicating they are not currently interactable while the dialog is open.



STEP 5: CREATED NEW APPLICATION

STEP 6: SELECT ONE FORM



STEP 7: THE SOFTWARE HASE BEEN CREATED.

Booking Movie Ticket
user details

Basic Fields

Name	Email
Address	Phone
Single Line	Multi Line
Number	Date
Time	Drop Down

Name

Phone

Email

Date-Time

Theatres

Drop Down

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields

Prefix

First Name

Last Name

Suffix

Data Privacy

Done

EXP NO 6: CREATE A SIMPLE CLOUD SOFTWARE APPLICATION FOR PRODUCT SELLING USING ANY CLOUD SERVICE PROVIDER TO DEMONSTRATE SAAS.

DATE:

AIM:

To create a simple cloud software application for product selling using any cloud service provider to demonstrate saas.

PROCEDURE:

step1: Go to zoho.com.

step 2: Log into the zoho.com.

step 3: Select one application step.

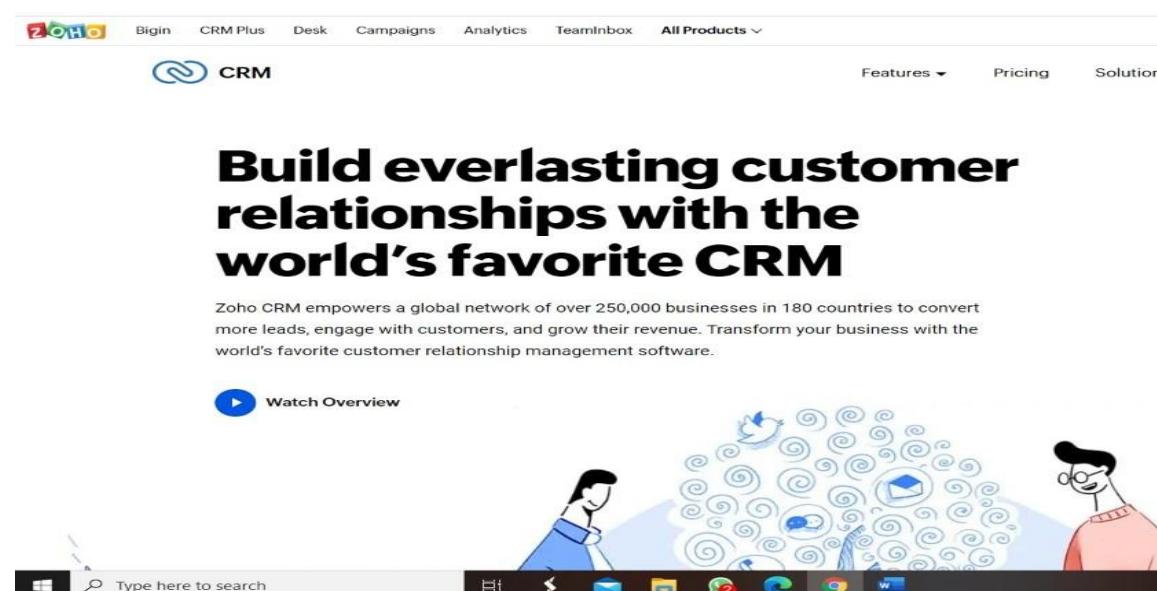
step4: Enter application name as product selling.

step 5: Created new application as product selling.

step 6: Select one form

step 7: The software has been created.

IMPLEMENTATION:



STEP1: GOTO ZOHO.COM

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Learn more about Zoho CRM [here](#).

STEP 2: LOGIN TO THE ZOHO.COM

STEP 3: SELECT ONE APPLICATION

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

[Cancel](#)

The screenshot shows the Zoho Application Gallery interface. At the top, there's a search bar with placeholder text "Start typing to search for applications..." and a "Cancel" button. Below the search bar, a navigation bar includes tabs for "All", "Information Technology", "Business", "Sales & Marketing", "Educ...", and "More". The main area displays a grid of application cards:

- Create from scratch**: A card with a large plus sign icon and a dashed border.
- Sales Management**: Card with a blue icon showing three people.
- Order Management**: Card with an orange icon showing a shopping cart.
- Employee Management**: Card with a blue icon showing three people.
- IT Asset Tracker**: Card with a green icon showing a server.
- Event Management**: Card with a blue icon showing a calendar.
- Course Planner**: Card with a black icon showing a person with a graduation cap.
- Expenses**: Card with a green icon showing a receipt.

Each card has a "More Info" link and an "Install this Application" button.

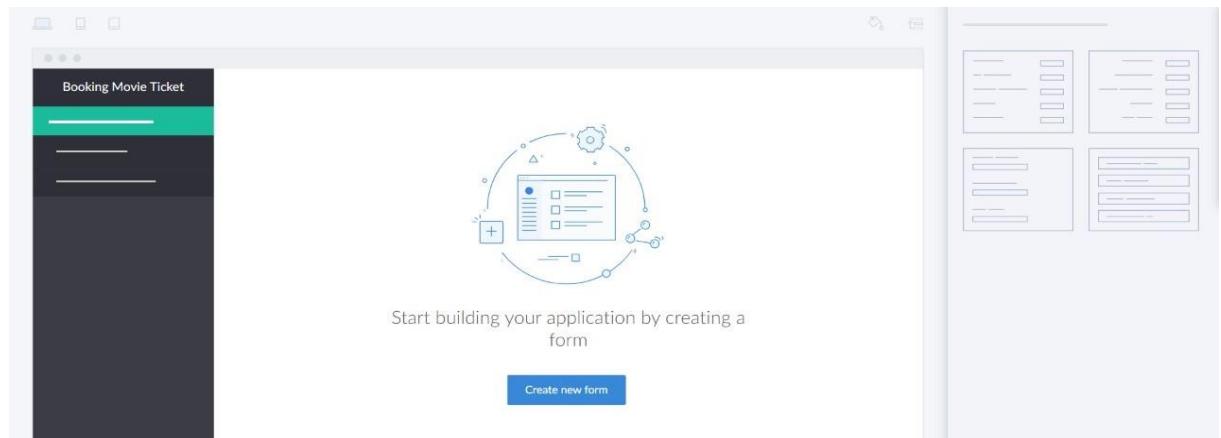
STEP 4: ENTER APPLICATION NAME

Create Application

You can create your application from scratch, or install a pre-made application from our gallery.

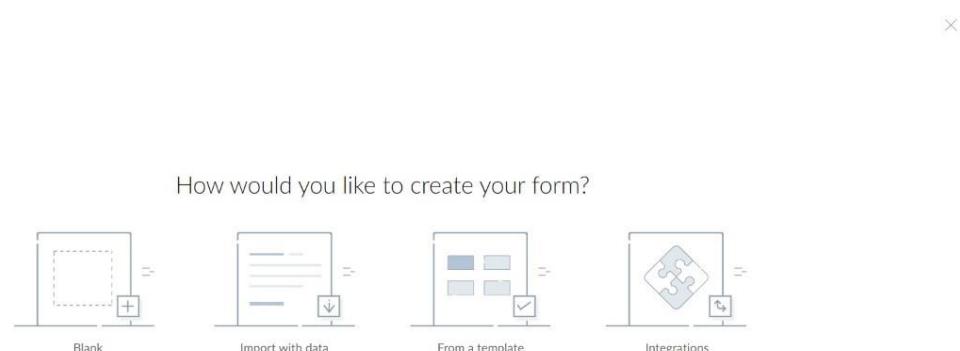
[Cancel](#)

The screenshot shows the Zoho Application Gallery interface with an "Enter Application Name" dialog box overlaid. The dialog has a "Create" button at the bottom. In the background, the application cards are dimmed, indicating they are inactive while the dialog is open.



STEP 5: CREATED NEW APPLICATION

STEP 6: SELECT ONE FORM



STEP 7: THE SOFTWARE HASE BEEN CREATED.

Booking Movie Ticket
user details

Basic Fields

Name	Email
Address	Phone
Single Line	Multi Line
123	Date
Time	Drop Down

Name

Phone

Email

Date-Time

Theatres

Drop Down

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields

Prefix

First Name

Last Name

Suffix

Data Privacy

Done

EXP NO 7: DEMONSTRATE VIRTUALIZATION BY INSTALLING TYPE-2 HYPERVISOR IN YOUR DEVICE, CREATE AND CONFIGURE VM IMAGE WITH A HOST OPERATING SYSTEM (EITHER WINDOWS/LINUX).

DATE:

AIM:

To demonstrate virtualization by installing type-2 hypervisor in your device, create and configure VM image with a host operating system (either windows/linux).

PROCEDURE:

STEP 1: Download VMware workstation and installed as type 2hypervisor.

STEP2: Download ubuntu or tiny OS as iso image file.

STEP 3: In VMware workstation->create new VM.

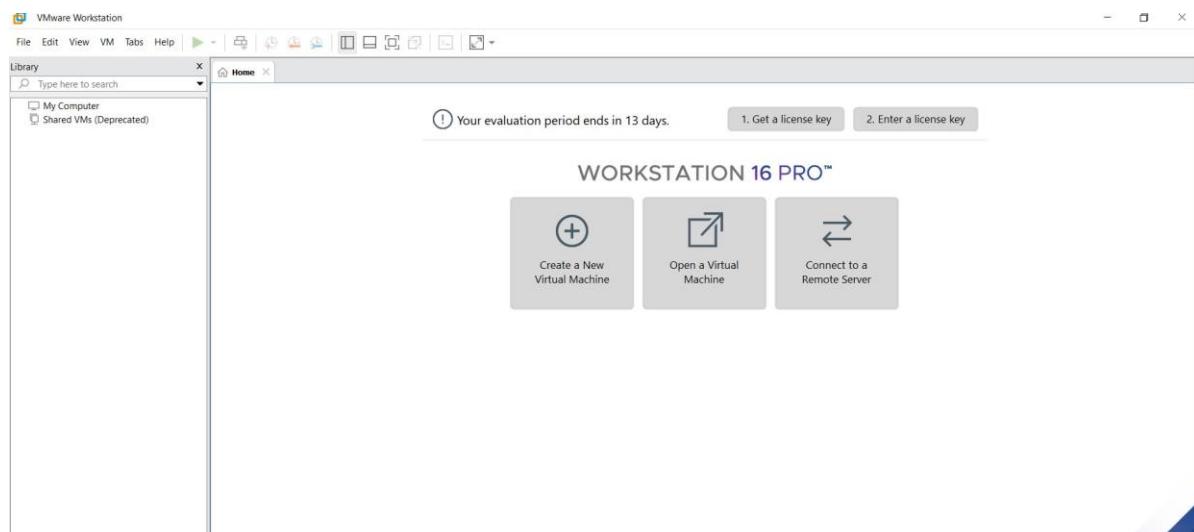
STEP 4: Do the basic configuration settings.

STEP 5: Created tiny OS virtual machine.

STEP 6: Launch the VM.

IMPLEMENTATION:

STEP 1:DOWLOAD VMWARE WORKSTATION AND INSTALLED AS TYPE 2HYPERVISOR

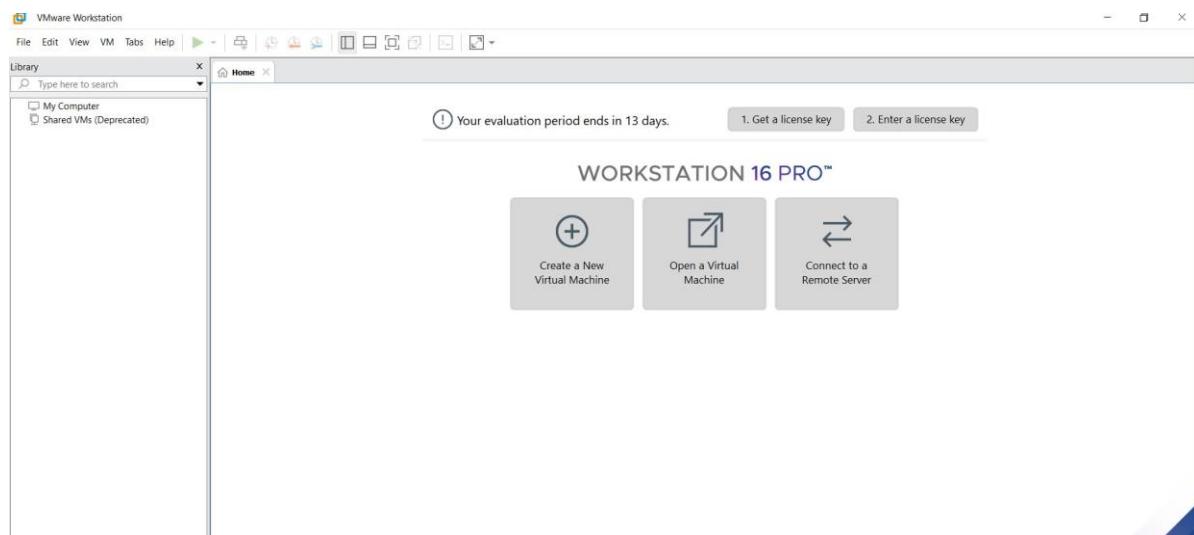


STEP2: DOWNLOAD UBUNTU OR TINY OS AS ISO IMAGE FILE

Index of /11.x/x86/release/

distribution_files/	
src/	
Core-11.1.iso	09-Feb-2020 11:50
Core-11.1.iso.md5.txt	03-Dec-2019 11:14
Core-11.1.iso.zsync	-
Core-current.iso	01-Apr-2020 07:49
CorePlus-11.1.iso	14757888
CorePlus-11.1.iso.md5.txt	01-Apr-2020 07:49
CorePlus-11.1.iso.zsync	48
CorePlus-current.iso	01-Apr-2020 07:49
TinyCore-11.1.iso	50639
TinyCore-11.1.iso.md5.txt	01-Apr-2020 07:49
TinyCore-11.1.iso.zsync	14757888
TinyCore-current.iso	216006656
TinyCore-11.1.iso	01-Apr-2020 07:50
TinyCore-11.1.iso.md5.txt	01-Apr-2020 07:50
TinyCore-11.1.iso.zsync	52
TinyCore-current.iso	369358
TinyCore-11.1.iso	01-Apr-2020 07:50
TinyCore-11.1.iso.md5.txt	01-Apr-2020 07:50
TinyCore-11.1.iso.zsync	19922944
TinyCore-current.iso	68301
tinycore-current.iso	01-Apr-2020 07:50

STEP 3: IN VMWARE WORKSTATION->CREATE NEW VM



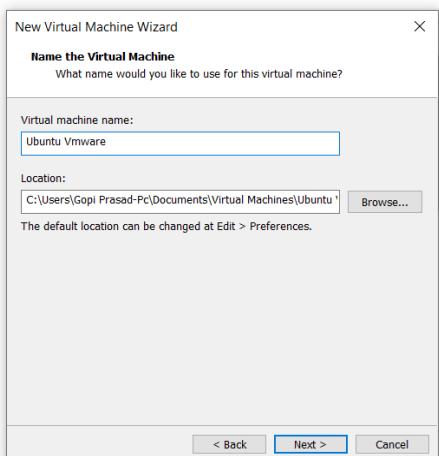
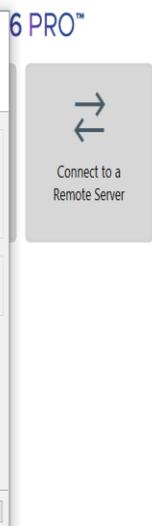
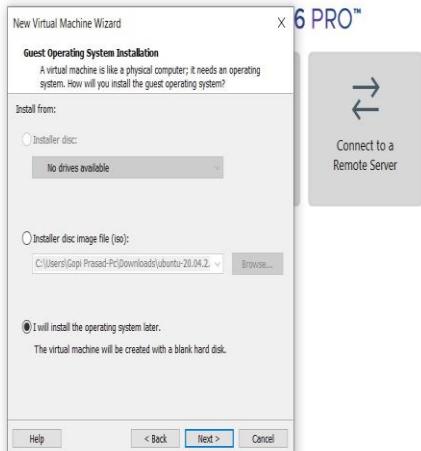
STEP 4: DO THE BASIC CONFIGURATION SETTINGS.

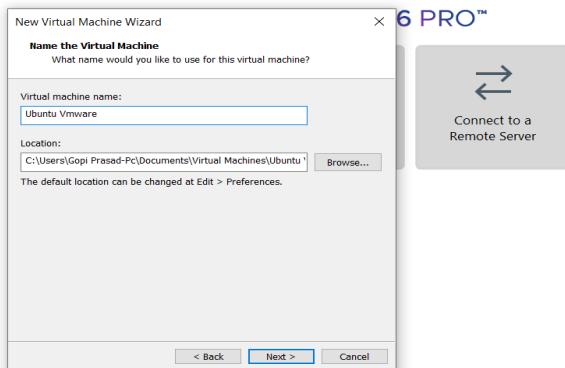


! Your evaluation period ends in 12 days.

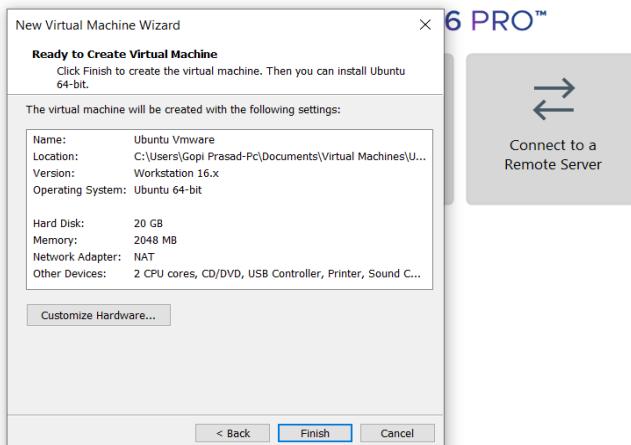
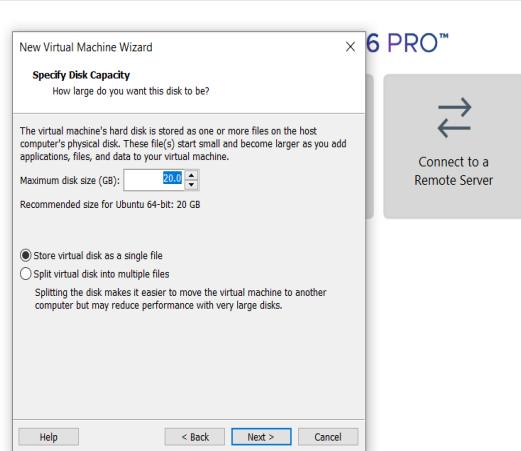
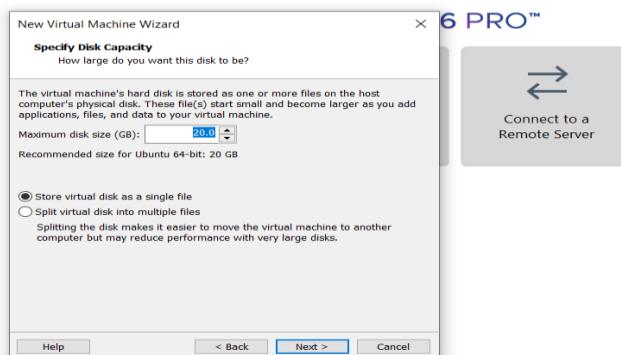
1. Get a license key

2. Enter a license key

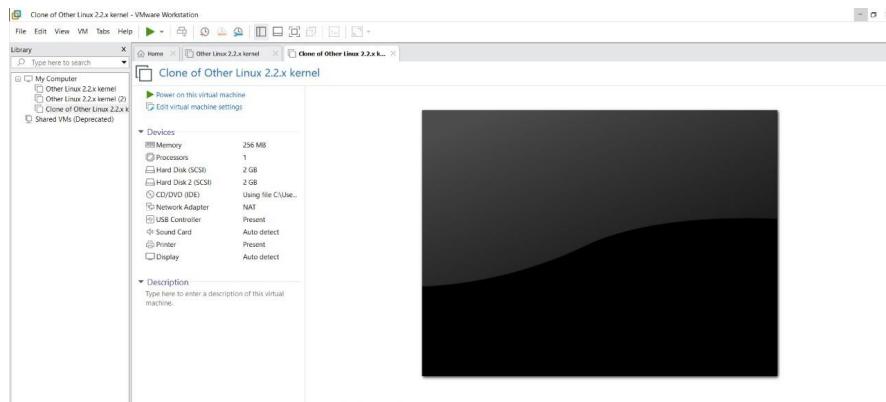




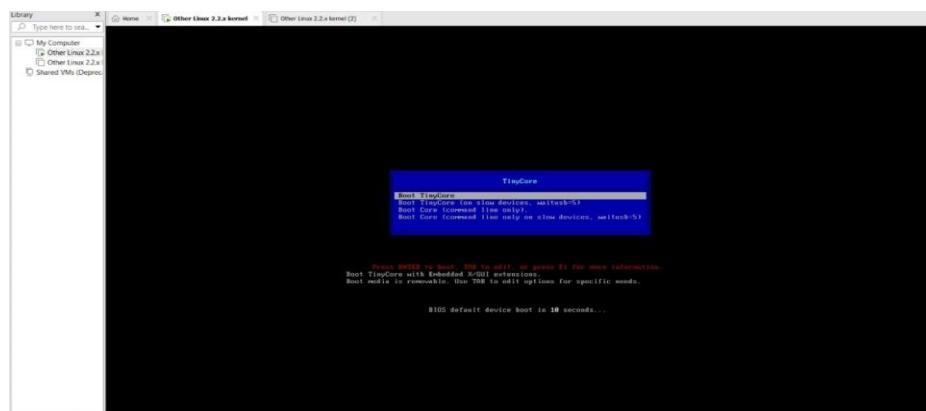
! Your evaluation period ends in 12 days. 1. Get a license key 2. Enter a license key ! Your evaluation period ends in 12 days. 1. Get a license key 2. Enter a license key



STEP 5: CREATED TINYOS VIRTUAL MACHINE



STEP 6: LAUNCH THE VM



EXPNO 8: CREATE A VIRTUAL MACHINE WITH 1 CPU, 2GB RAM AND 15GB STORAGE DISK USING A TYPE 2 VIRTUALIZATION SOFTWARE.

DATE:

AIM:

To create a virtual machine with 1 cpu, 2gb ram and 15gbstorage disk using a type 2 virtualization software.

PROCEDURE:

STEP 1: Download VMware workstation and installed as type 2hypervisor.

STEP 2: Download ubuntu or tiny OS as iso image file.

STEP 3: In VMware workstation->create new VM.

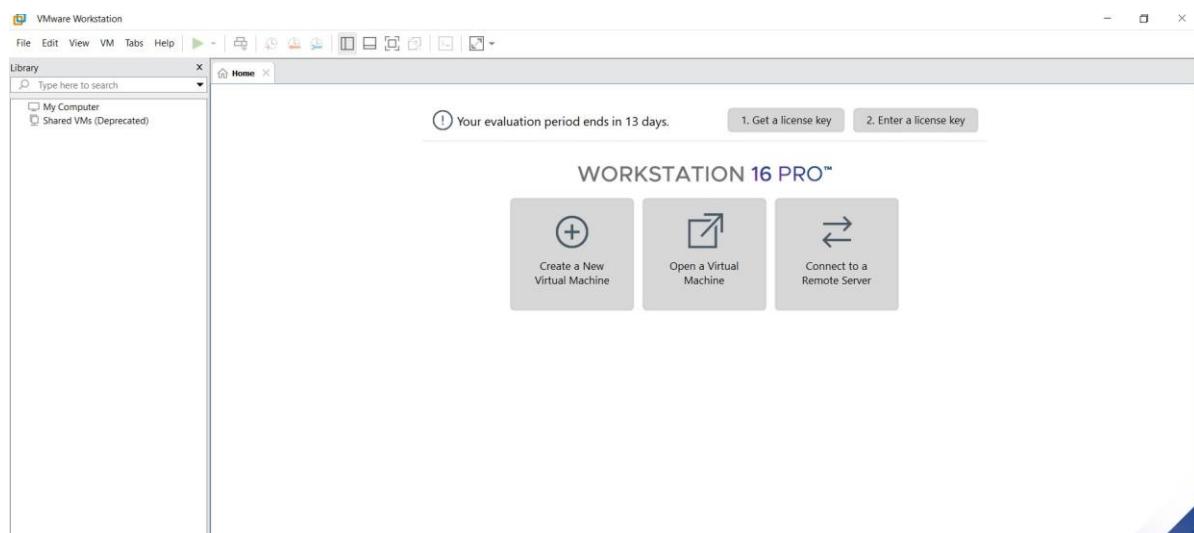
STEP 4: Do the basic configuration settings.

STEP 5: Created tiny OS virtual machine.

STEP 6: Launch the VM.

IMPLEMENTATION:

STEP 1:DOWLOAD VMWARE WORKSTATION AND INSTALLED AS TYPE 2HYPERVISOR

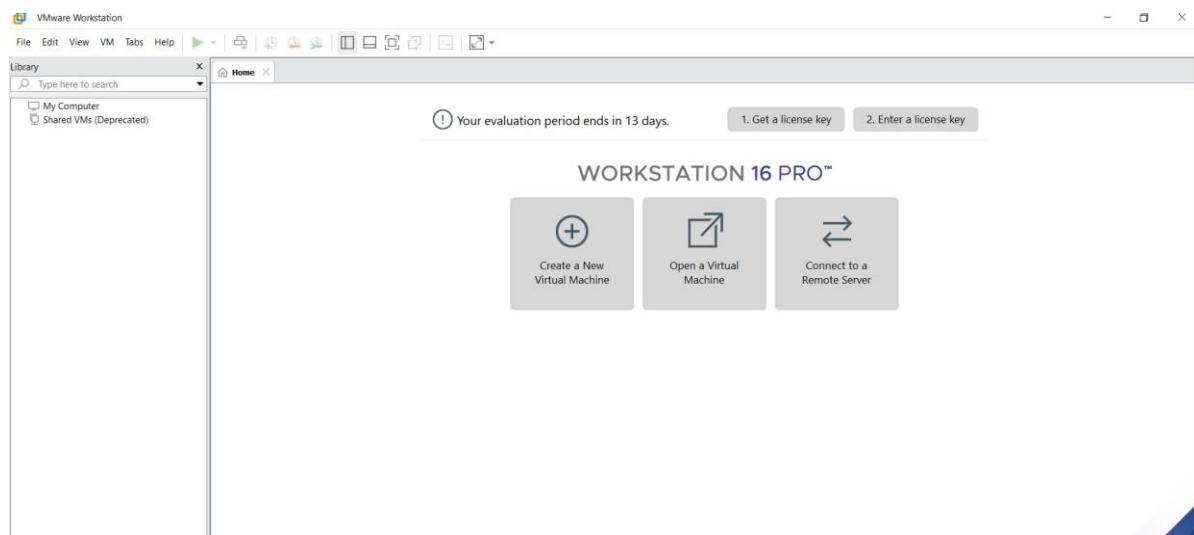


STEP2: DOWNLOAD UBUNTU OR TINY OS AS ISO IMAGE FILE

Index of /11.x/x86/release/

distribution_files/	
src/	
Core-11.1.iso	09-Feb-2020 11:50
Core-11.1.iso.md5.txt	03-Dec-2019 11:14
Core-11.1.iso.zsync	-
Core-current.iso	01-Apr-2020 07:49
CorePlus-11.1.iso	14757888
CorePlus-11.1.iso.md5.txt	01-Apr-2020 07:49
CorePlus-11.1.iso.zsync	48
CorePlus-current.iso	01-Apr-2020 07:49
TinyCore-11.1.iso	50639
TinyCore-11.1.iso.md5.txt	01-Apr-2020 07:49
TinyCore-11.1.iso.zsync	14757888
TinyCore-current.iso	216006656
TinyCore-11.1.iso	01-Apr-2020 07:50
TinyCore-11.1.iso.md5.txt	01-Apr-2020 07:50
TinyCore-11.1.iso.zsync	52
TinyCore-current.iso	369358
TinyCore-11.1.iso	01-Apr-2020 07:50
TinyCore-11.1.iso.md5.txt	01-Apr-2020 07:50
TinyCore-11.1.iso.zsync	19922944
TinyCore-current.iso	68301
tinycore-current.iso	01-Apr-2020 07:50

STEP 3: IN VMWARE WORKSTATION->CREATE NEW VM



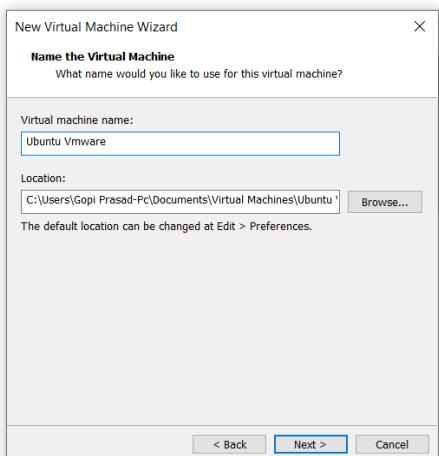
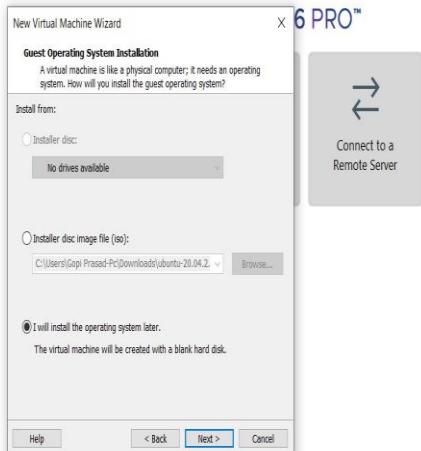
STEP 4: DO THE BASIC CONFIGURATION SETTINGS.

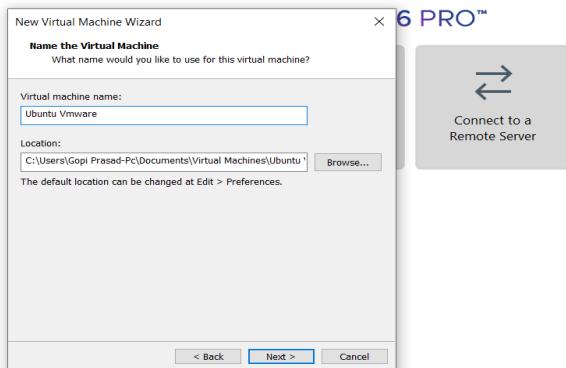


! Your evaluation period ends in 12 days.

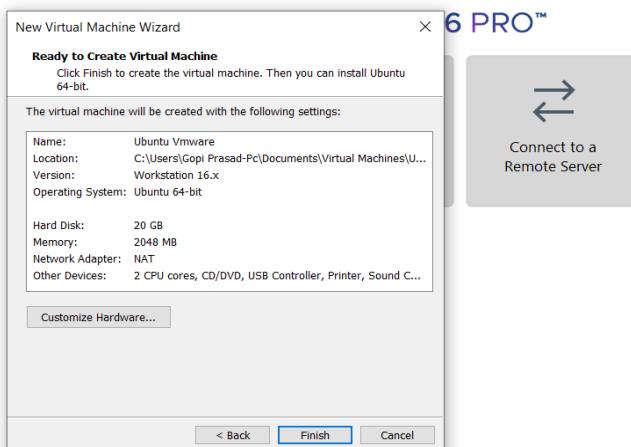
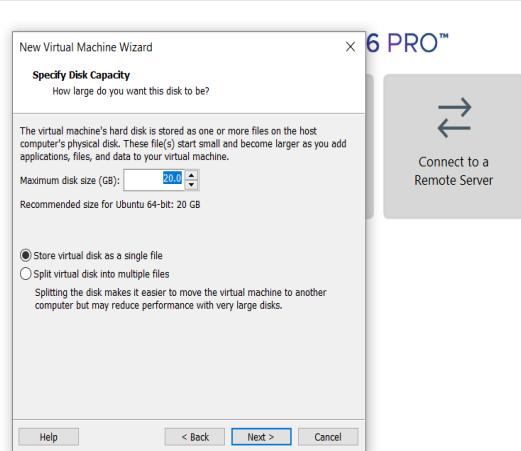
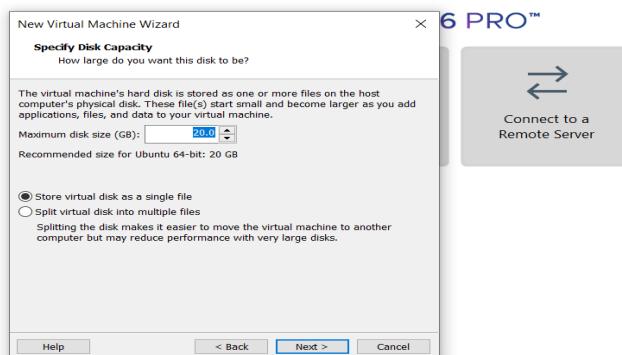
1. Get a license key

2. Enter a license key

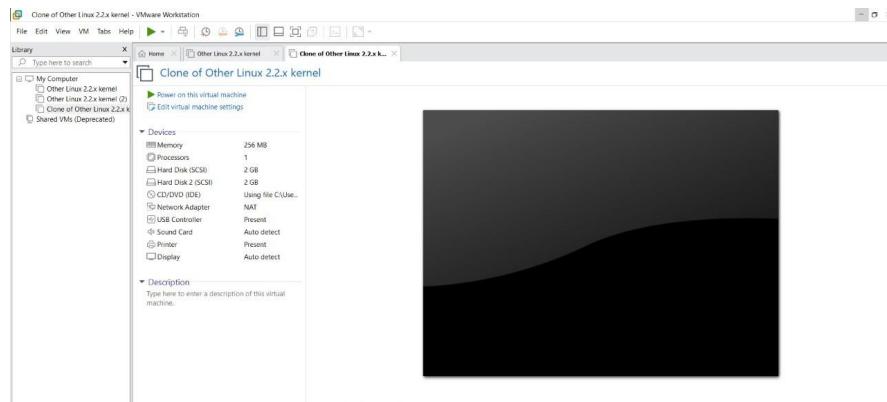




! Your evaluation period ends in 12 days. 1. Get a license key 2. Enter a license key ! Your evaluation period ends in 12 days. 1. Get a license key 2. Enter a license key



STEP 5: CREATED TINYOS VIRTUAL MACHINE



EXP 9: CREATE A VIRTUAL HARD DISK AND ALLOCATE THE STORAGE USING VM WARE WORKSTATION.

DATE:

AIM:

To create a virtual hard disk and allocate the storage using vm ware workstation

PROCEDURE:

STEP 1: GOTO VM WARE WORKSTATION.

STEP 2: RIGHT CLICK THE VM AND GOTO THE SETTINGS.

STEP 3: ADD HARDWARE WIZARD AND SELECT SCSI AND CLICK NEXT.

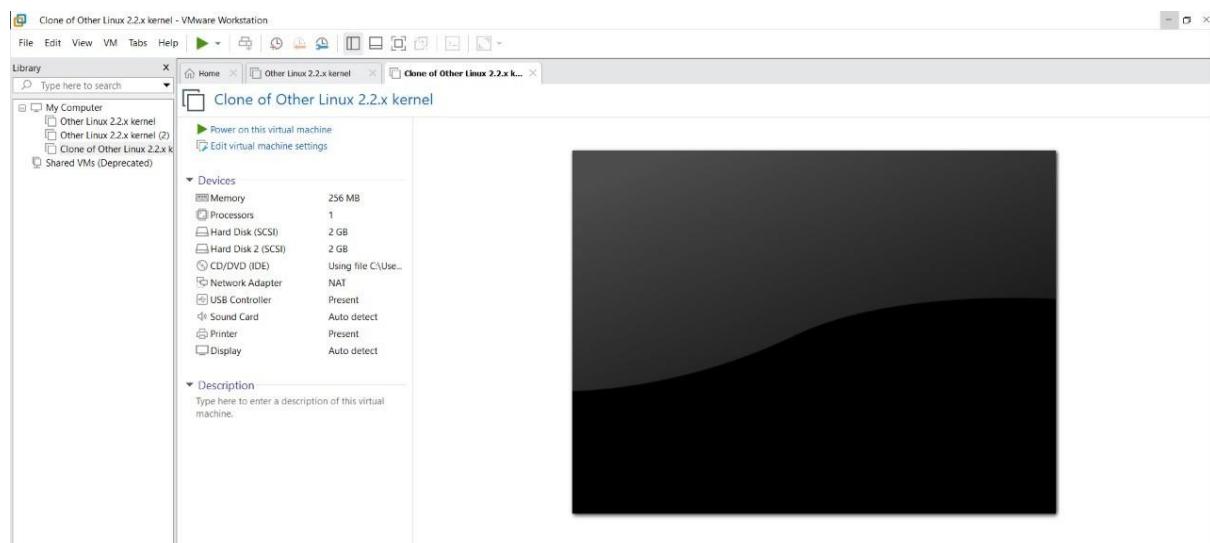
STEP 4: CREATE NEW VIRTUAL DISK.

STEP 5: SELCT THE DISK SIZE AS 2.0. AND SELCT SPLIT VIRTUAL DISK INTO MULTIFILES.

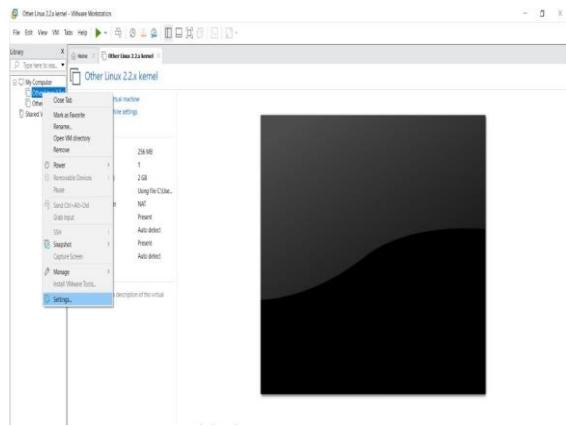
STEP 6: GIVE NAME AND CLICK THE FINISH.

IMPLEMENTATION:

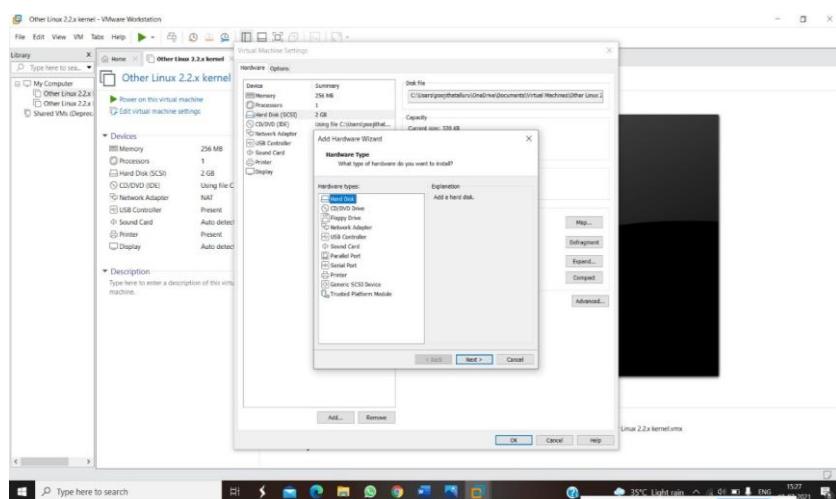
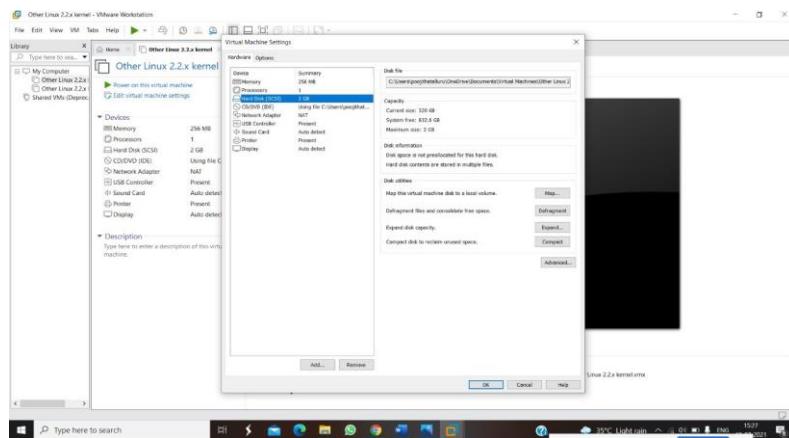
STEP 1: GOTO VM WARE WORKSTATION



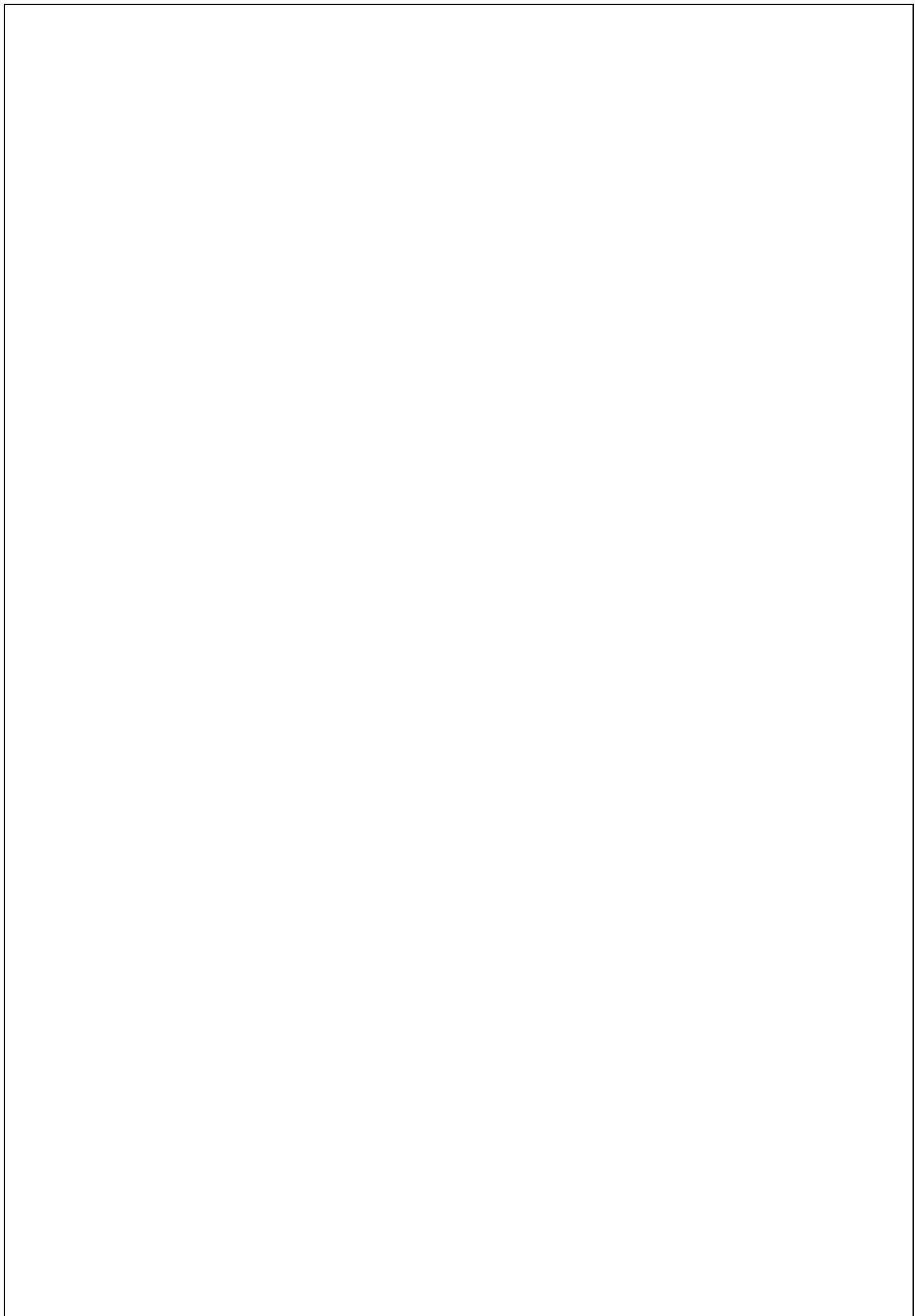
STEP2: RIGHT CLICK THE VM AND GOTO THE SETTINGS

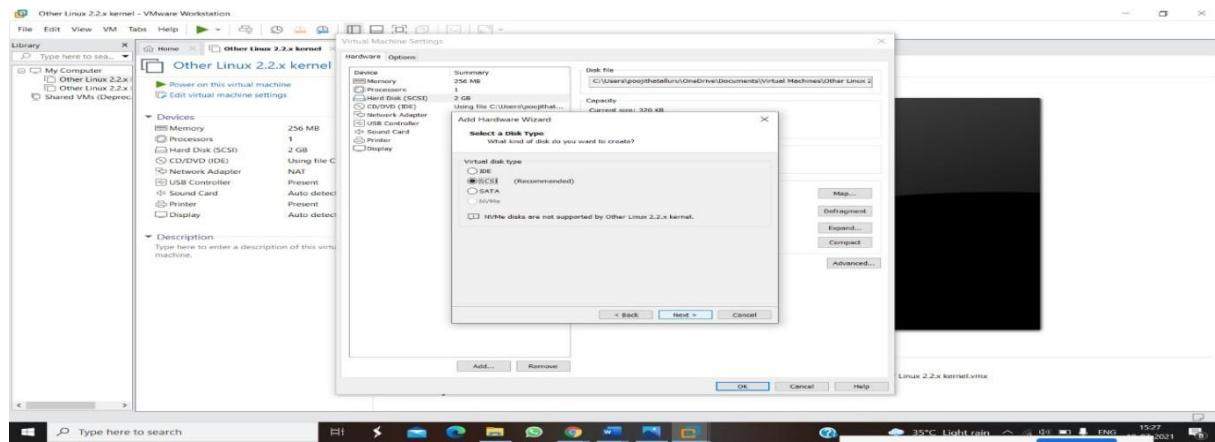


STEP 3: ADD HARDWARE WIZARD AND SELECT SCSI AND CLICK NEXT

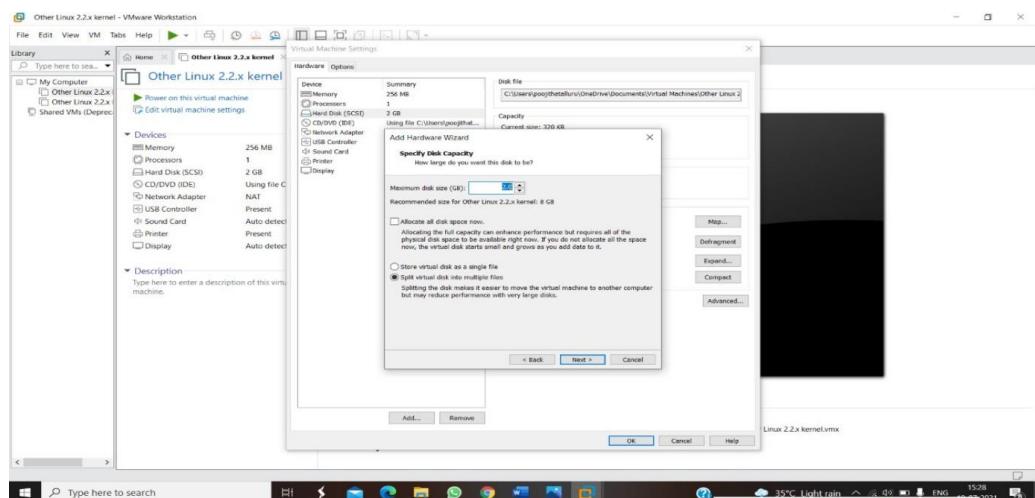


STEP 4: CREATE NEW VIRTUAL DISK

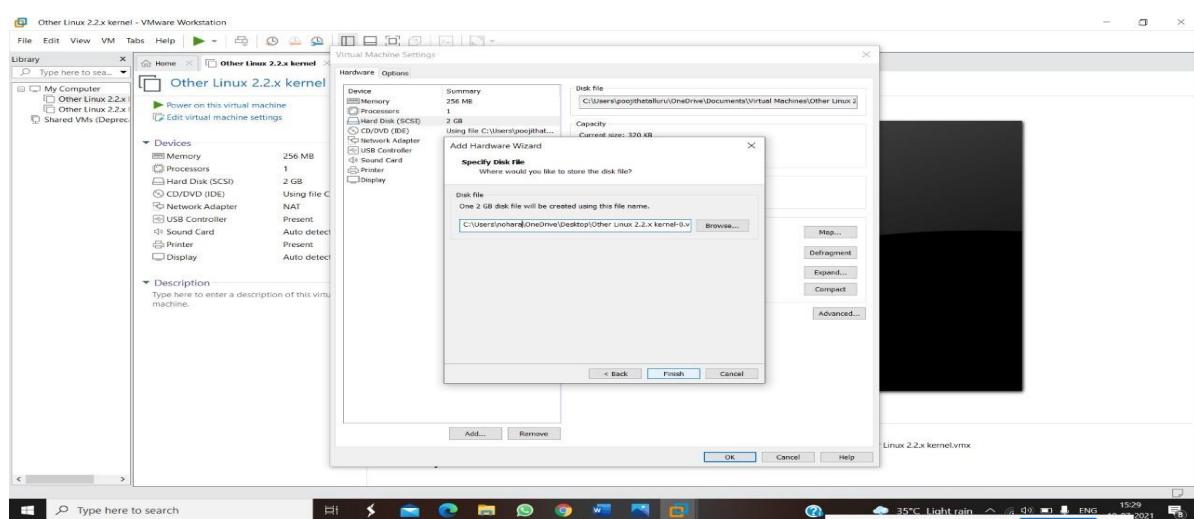


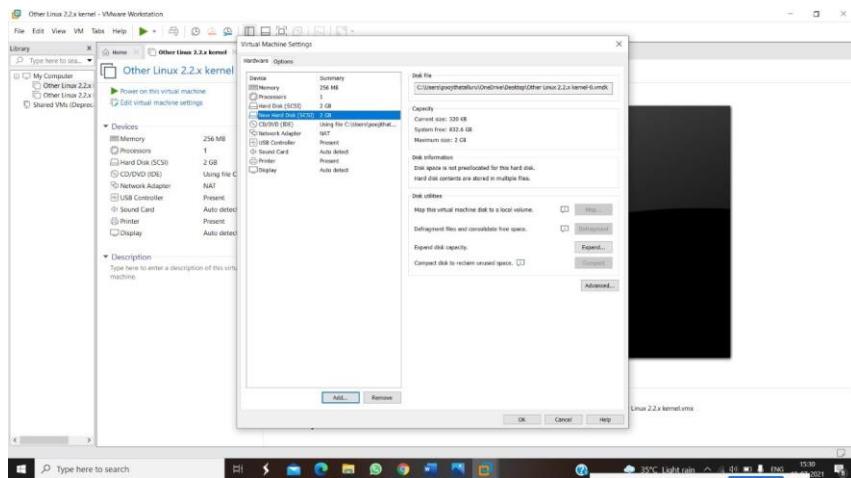


STEP 5: SELECT THE DISK SIZE AS 2.0. AND SELECT SPLIT VIRTUAL DISK INTO MULTIFILES.



STEP 6: GIVE NAME AND CLICK THE FINISH





EXPNO 10: CREATE A SNAPSHOT OF A VM AND TEST IT BY LOADING THE PREVIOUS VERSION/CLONED VM

DATE:

AIM:

To create a snapshot of a vm and test it by loading the previous version/cloned vm

PROCEDURE:

STEP 1: GOTO VMWARE WORKSTATION.

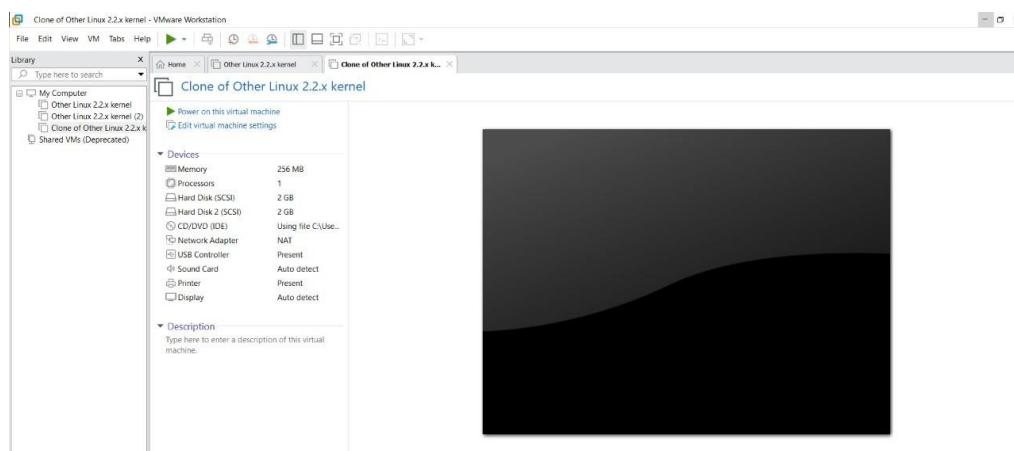
STEP 2: CREATE FILES ON DESKTOP.

STEP 3: CLICK ON VM AND SELECTS SNAPSHOT-> TAKE SNAPSHOT.

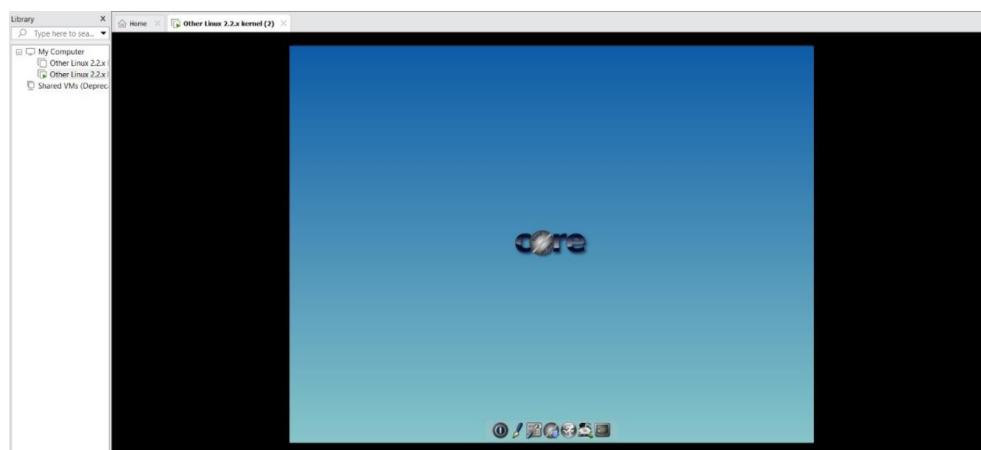
STEP 4: SNAPSHOT IS BEING DONE

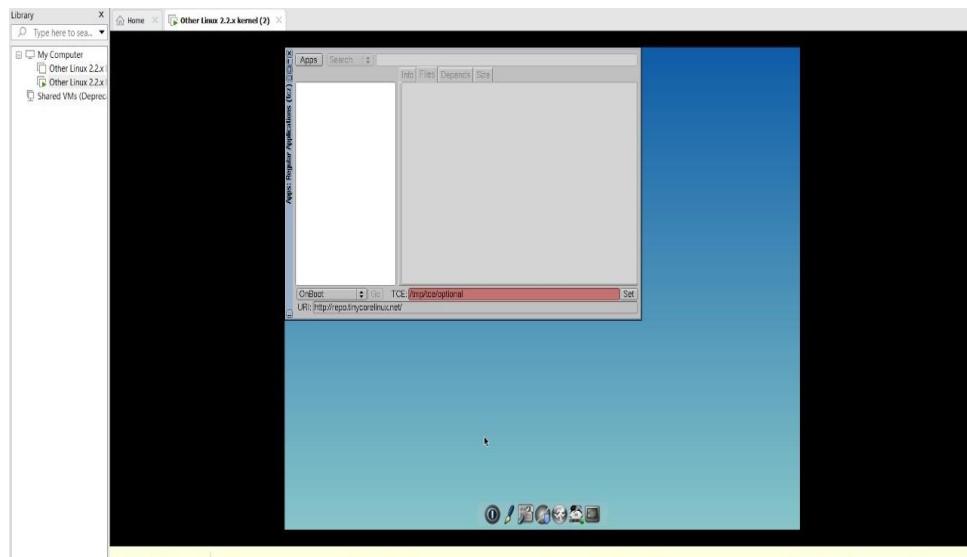
IMPLEMENTATION:

STEP 1: GOTO VMWARE WORKSTATION

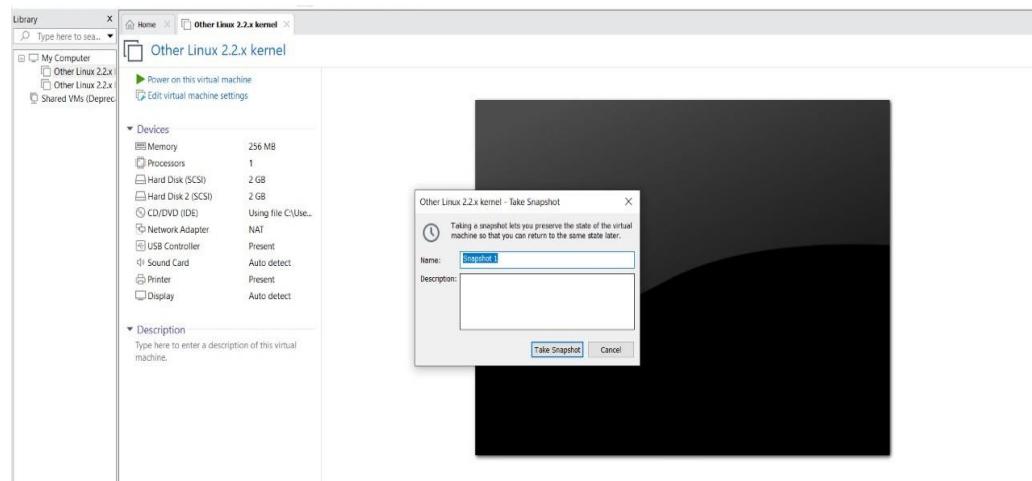
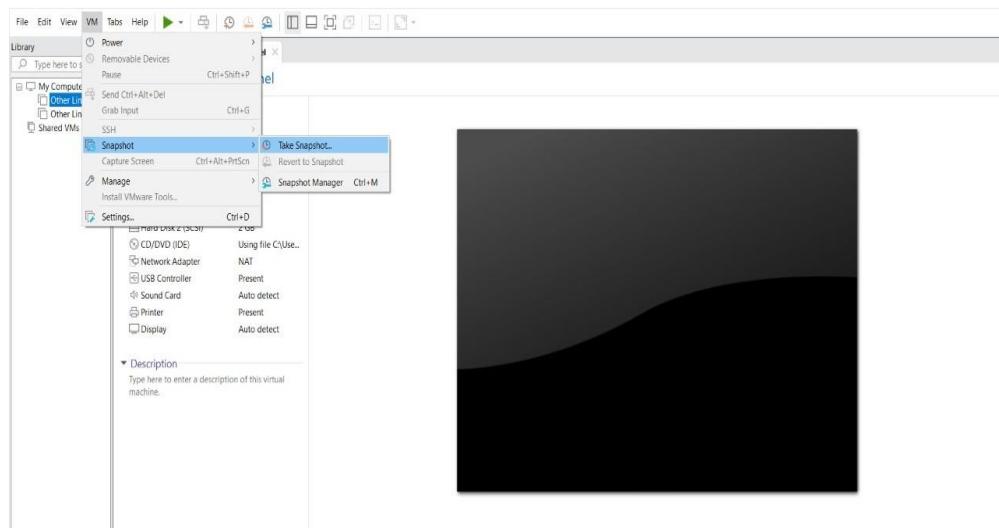


STEP 2: CREATE FILES ON DESKTOP

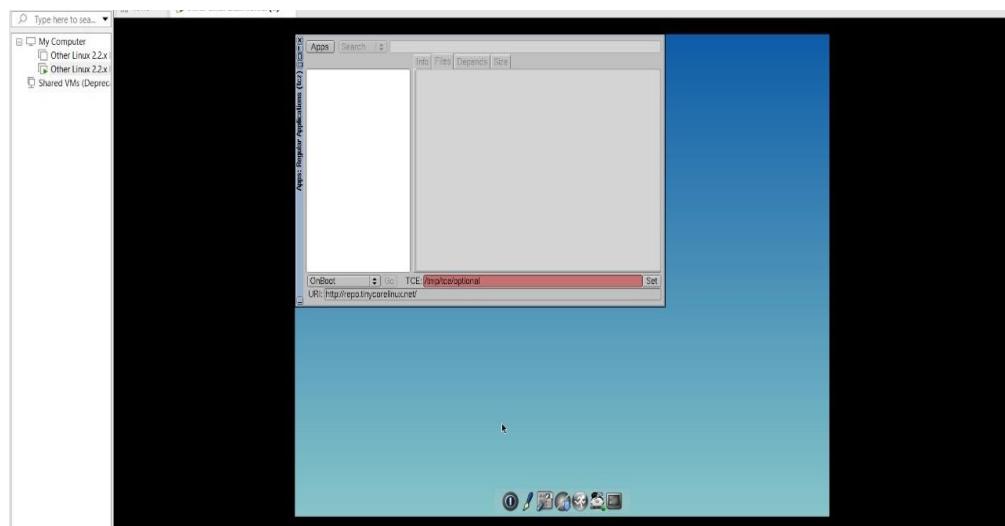




STEP 3: CLICK ON VM AND SELECTS SNAPSHOT-> TAKE SNAPSHOT.



STEP 4: SNAPSHOT IS BEING DONE



EXPNO 11: CREATE A CLONING OF A VM AND TEST IT BY LOADING THE PREVIOUS VERSION/CLONED VM.

DATE:

AIM:

To create a cloning of a vm and test it by loading the previous version/cloned vm.

PROCEDURE:

STEP 1: GO TO VM AND GOTO MANAGE AND CLICK CLONE

STEP 2: CLICK CLONE

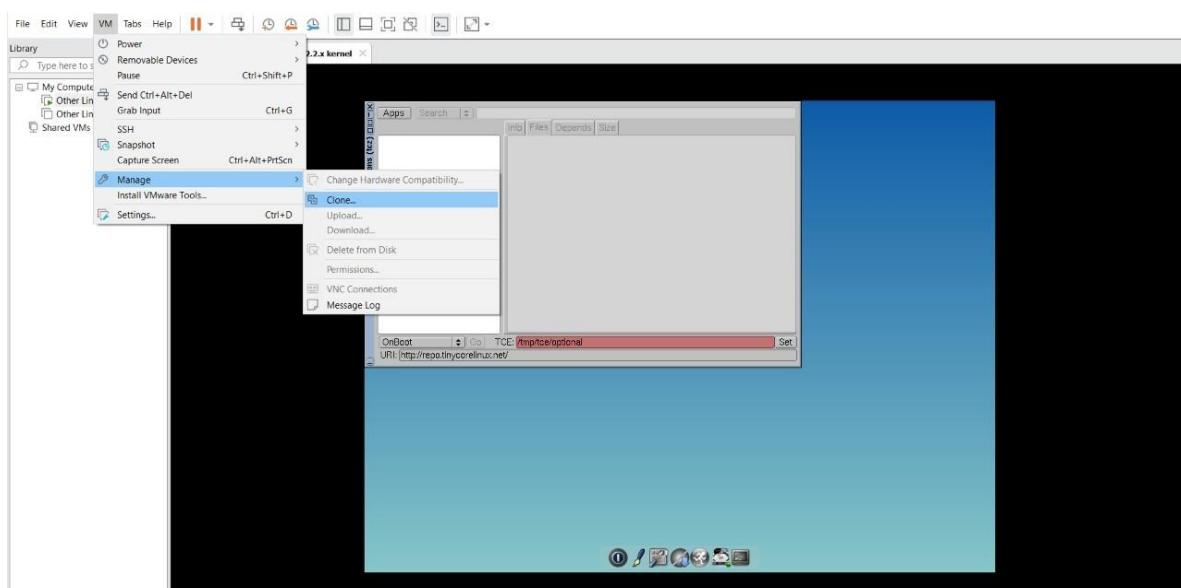
STEP 3: SELECT THE FULL CLONE

STEP 4: AFTER CLONE AGAIN OR VM IS OPENED.

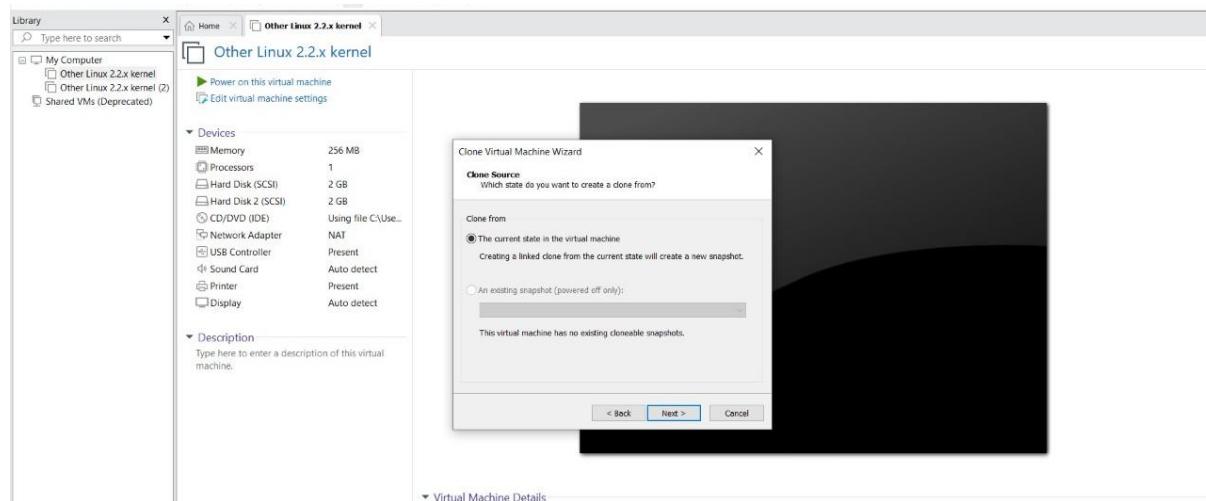
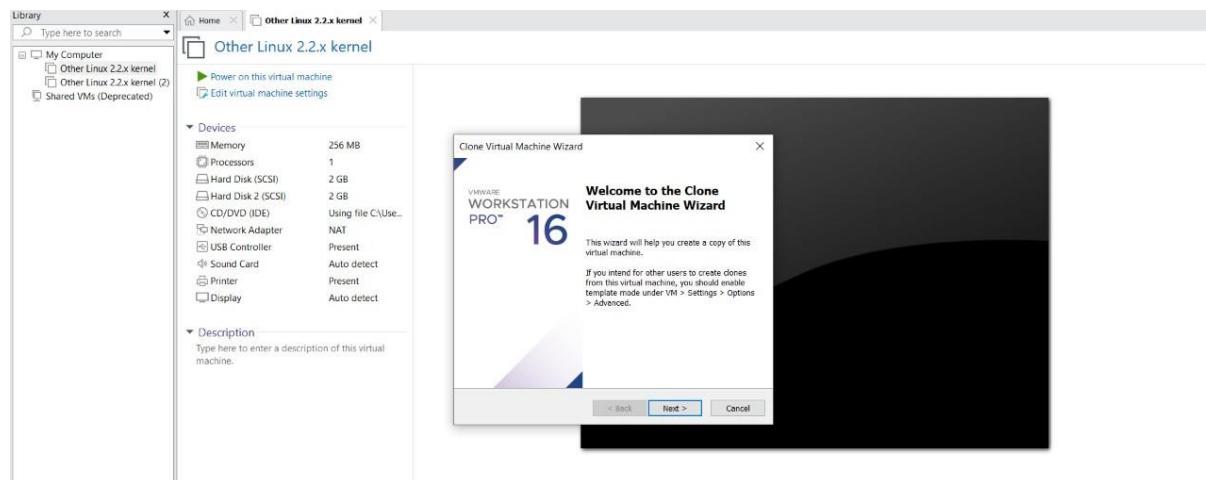
IMPLEMENTATION:

CLONING OF A VM

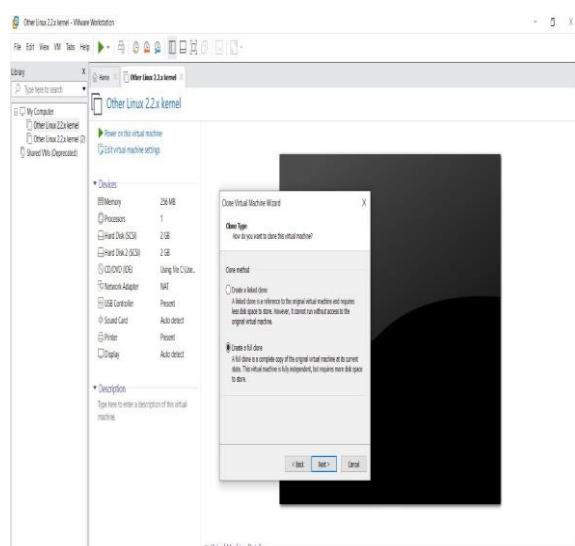
STEP 1: GO TO VM AND GOTO MANAGE AND CLICK CLONE

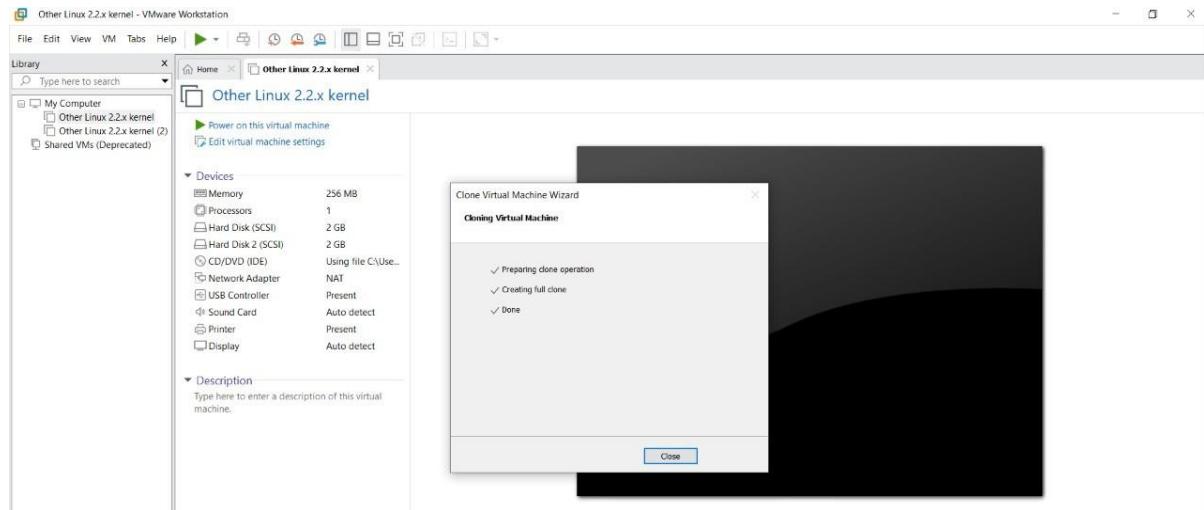


STEP 2: CLICK CLONE

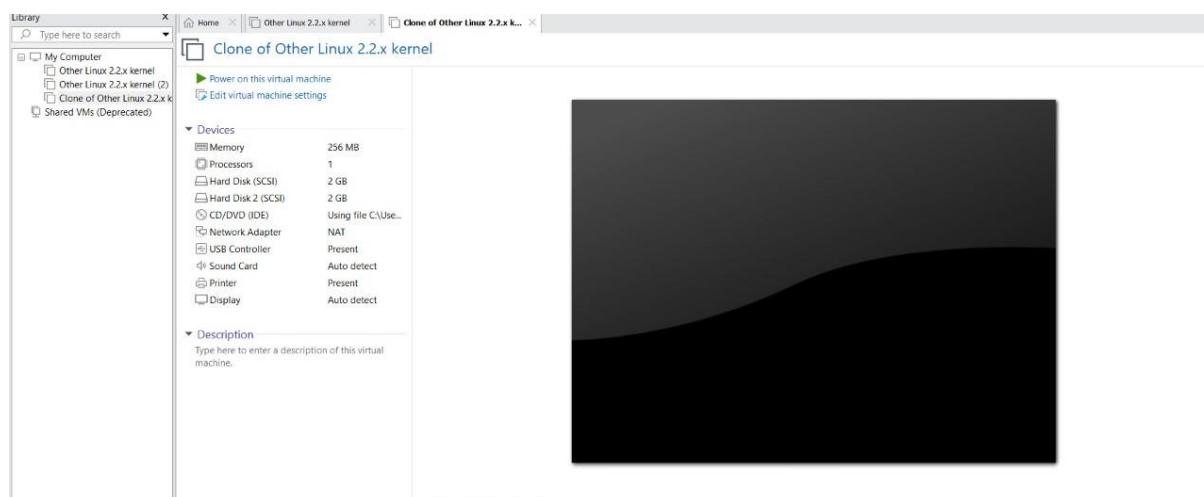


STEP 3: SELECT THE FULL CLONE





STEP 4: AFTER CLONE AGAIN OR VM IS OPENED.



EXP 12: CHANGE HARDWARE COMPATIBILITY OF A VM (EITHER BY CLONE/CREATE NEW ONE) WHICH IS ALREADY CREATED AND CONFIGURED.

DATE:

AIM:

To Change Hardware compatibility of a VM (Either by clone/create new one) which is already created and configured.

PROCEDURE:

STEP 1:GOTO VM WARE WORKSTATION.

STEP2: RIGHT CLICK THE VM AND GOTO THE SETTINGS.

STEP 3: ADD HARDWARE WIZARD AND SELECT SCSI AND CLICK NEXT.

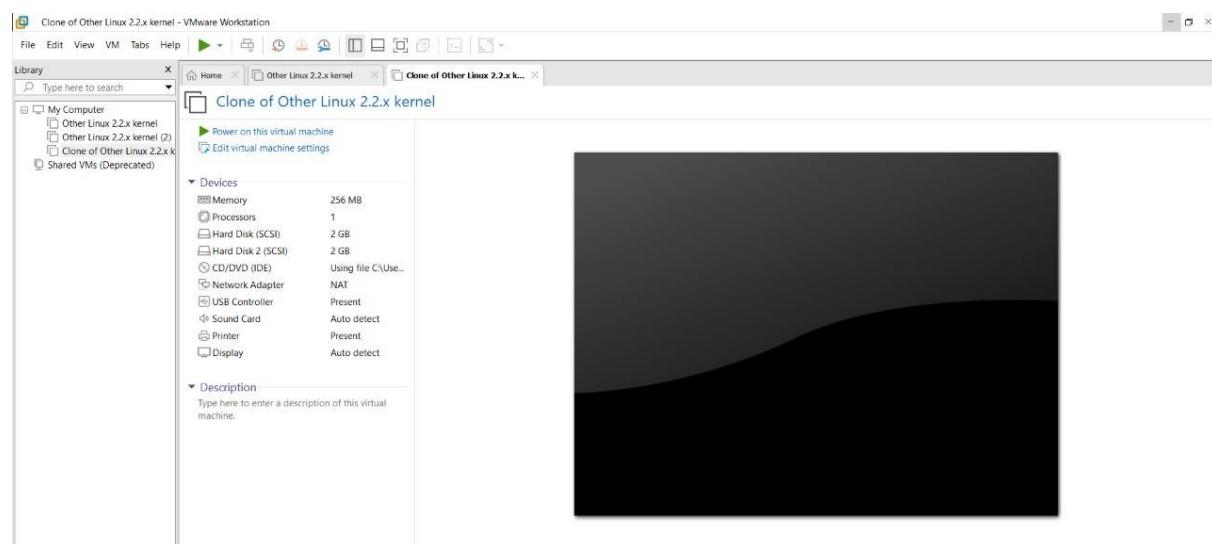
STEP 4: CREATE NEW VIRTUAL DISK.

STEP 5: SELCT THE DISK SIZE AS 2.0. AND SELCT SPLIT VIRTUAL DISK INTOMULTIFILES.

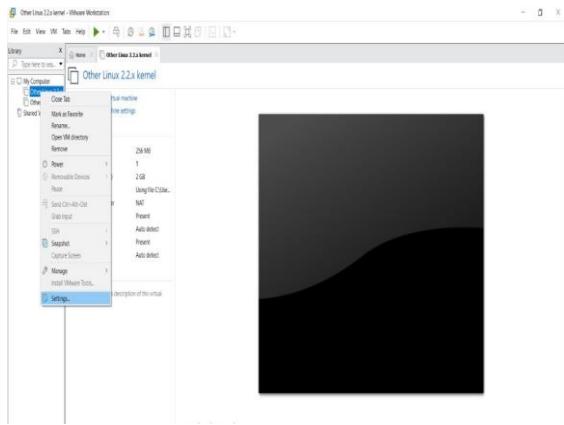
STEP 6: GIVE NAME AND CLICK THE FINISH.

IMPLEMENTATION:

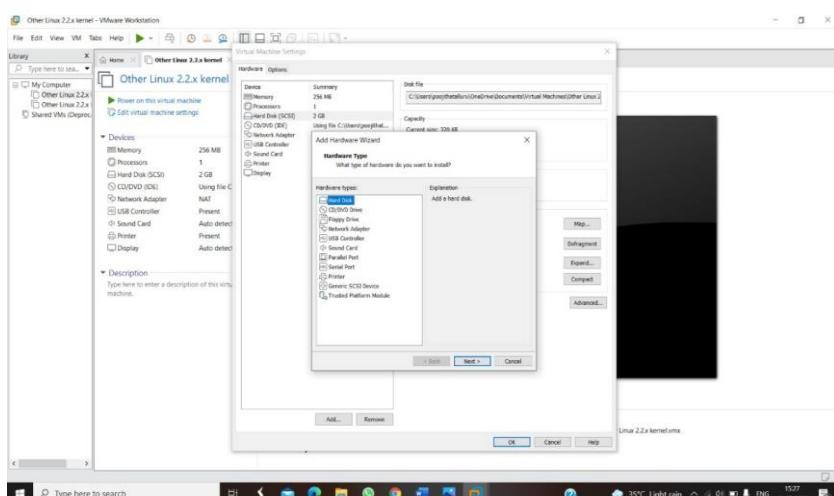
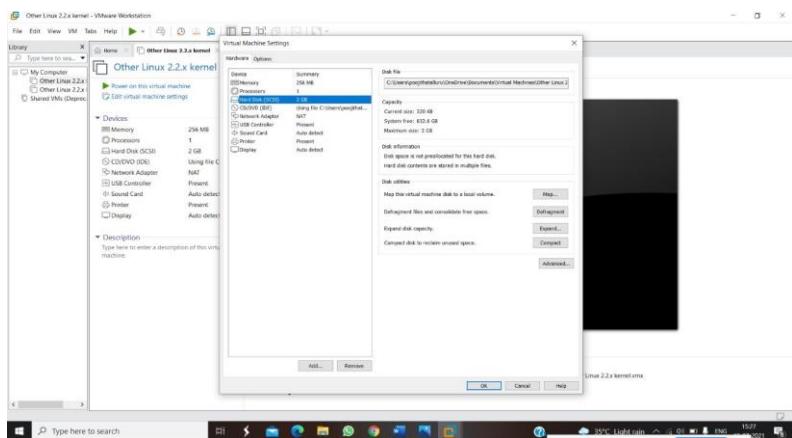
STEP 1:GOTO VM WARE WORKSTATION



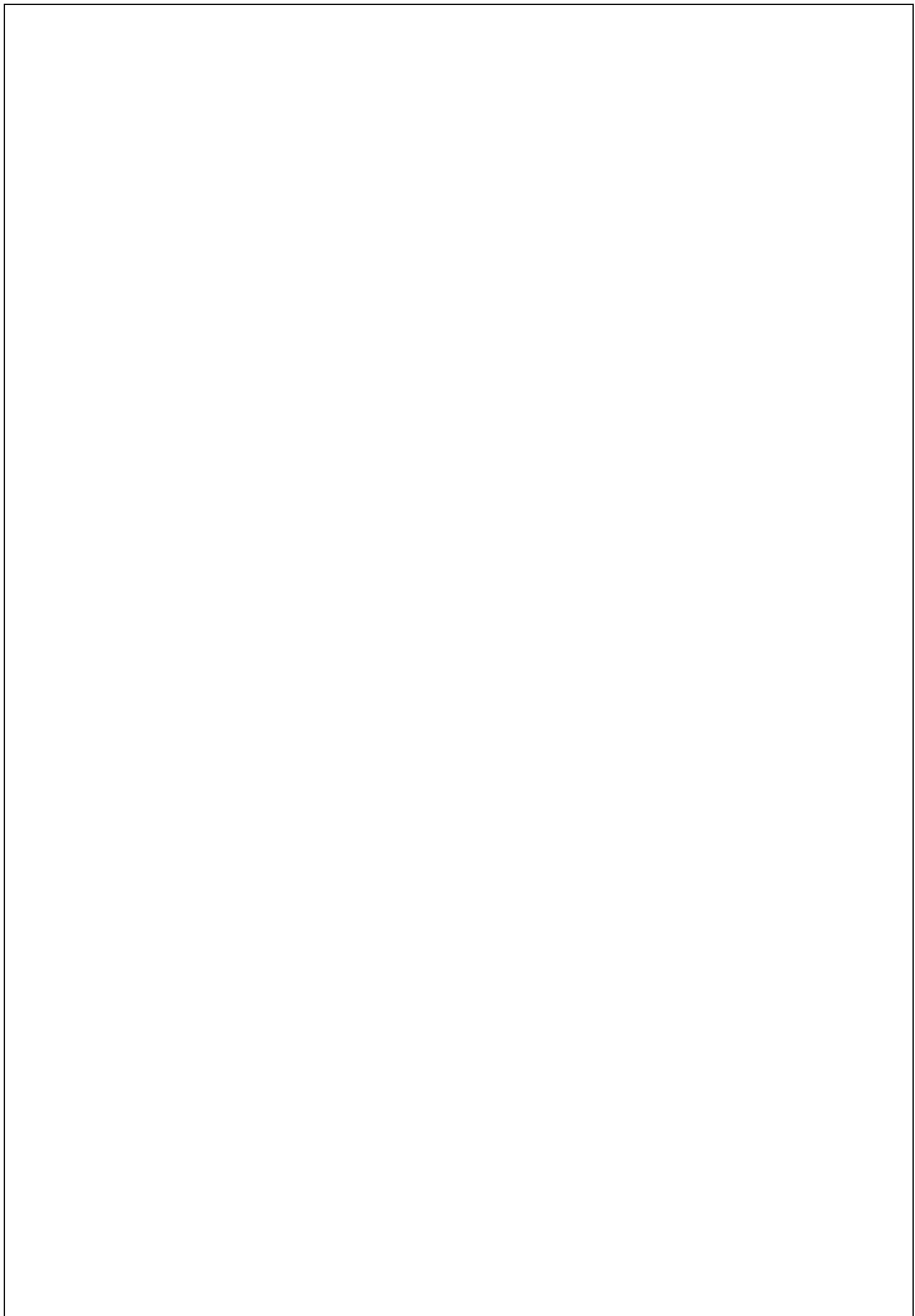
STEP2: RIGHT CLICK THE VM AND GOTO THE SETTINGS

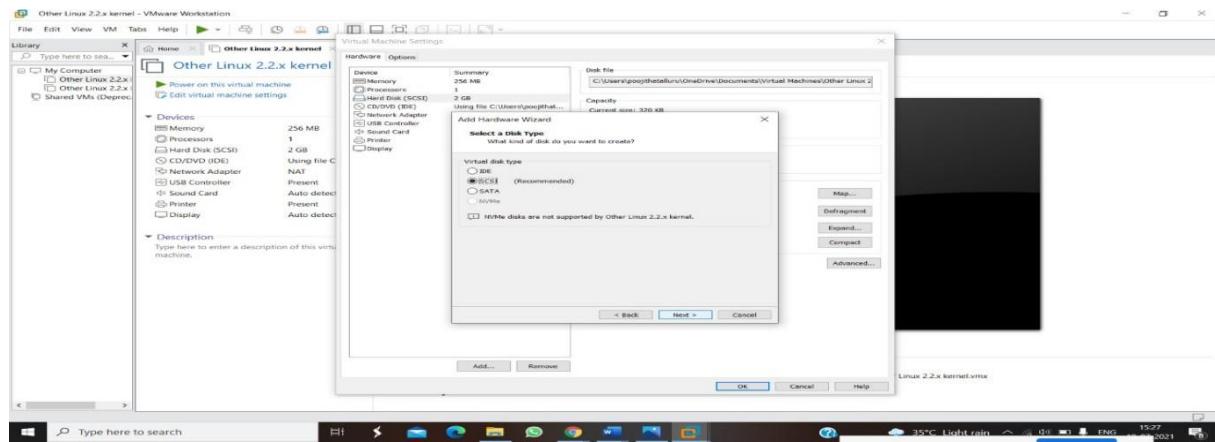


STEP 3: ADD HARDWARE WIZARD AND SELECT SCSI AND CLICK NEXT

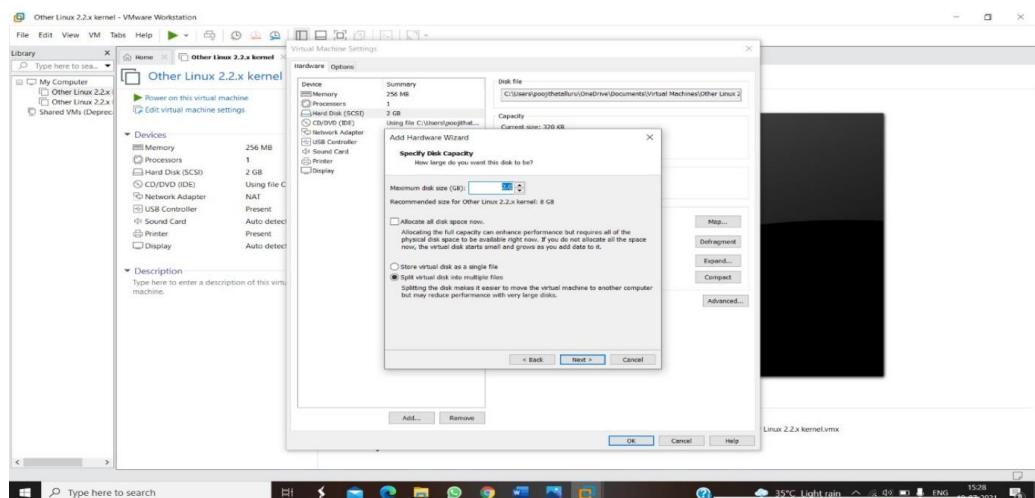


STEP 4: CREATE NEW VIRTUAL DISK

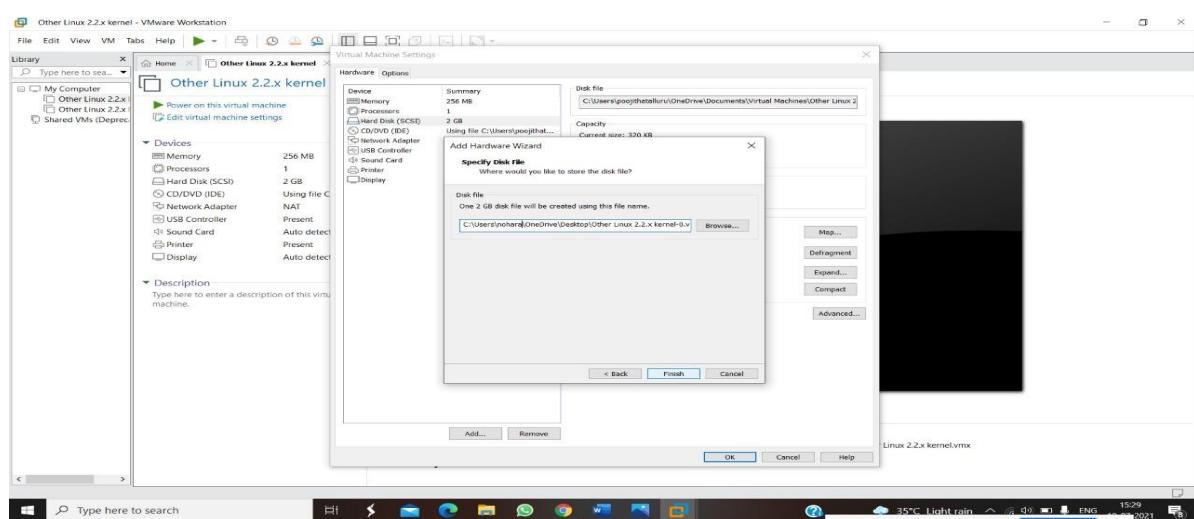


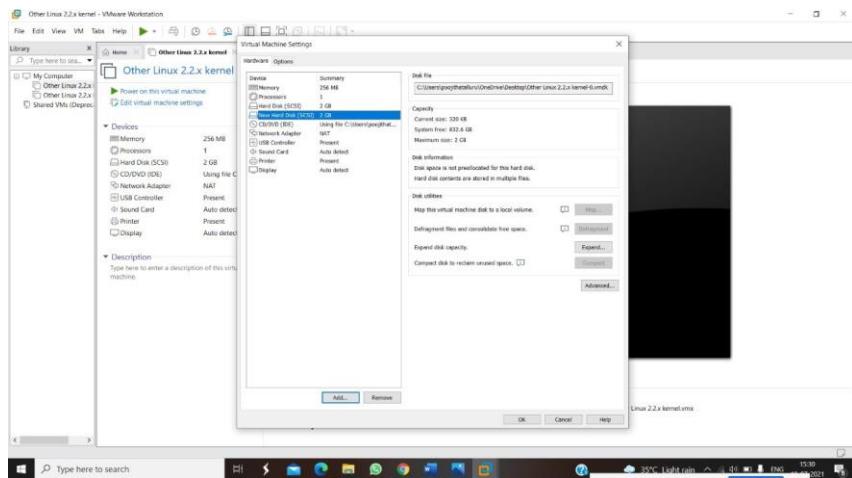


STEP 5: SELECT THE DISK SIZE AS 2.0. AND SELECT SPLIT VIRTUAL DISK INTO MULTIFILES.



STEP 6: GIVE NAME AND CLICK THE FINISH





EXP 13 . DEMONSTRATE INFRASTRUCTURE AS A SERVICE(IAAS) BY CREATING A VIRTUAL MACHINE USING A PUBLIC CLOUD SERVICE PROVIDER(AZURE/GCP/AWS) CONFIGURE WITH MINIMUM CPU, RAM AND STORAGE AND LAUNCH THE VM IMAGE.---12

AIM:

To demonstrate infrastructure as a service(iaas) by creating a virtual machine using a public cloud service provider(azure/gcp/aws) configure with minimum cpu,ram and storage and launch the vm image.

PROCEDURE:

STEP1: CREATE AN ACCOUNT IN MICROSOFT AZURE.

STEP2: GOTO RESOURCE GROUP AND CREATE A RESOURCE GROUP.

STEP3: GIVE NECESSARY THINGS FOR RESOURCE GROUP.

STEP4: CREATE A VIRTUAL NETWORK FOR TO CREATE A VIRTUAL MACHINE.

STEP5: NOW CREATE A VIRTUAL MACHINE WITH UR IP ADDRESS AN USERNAME AND PASSWORD FOR YOUR VIRTUAL MACINE.

STEP6: AND YOUR VIRTUAL MACHINE IS DEPLOYED.

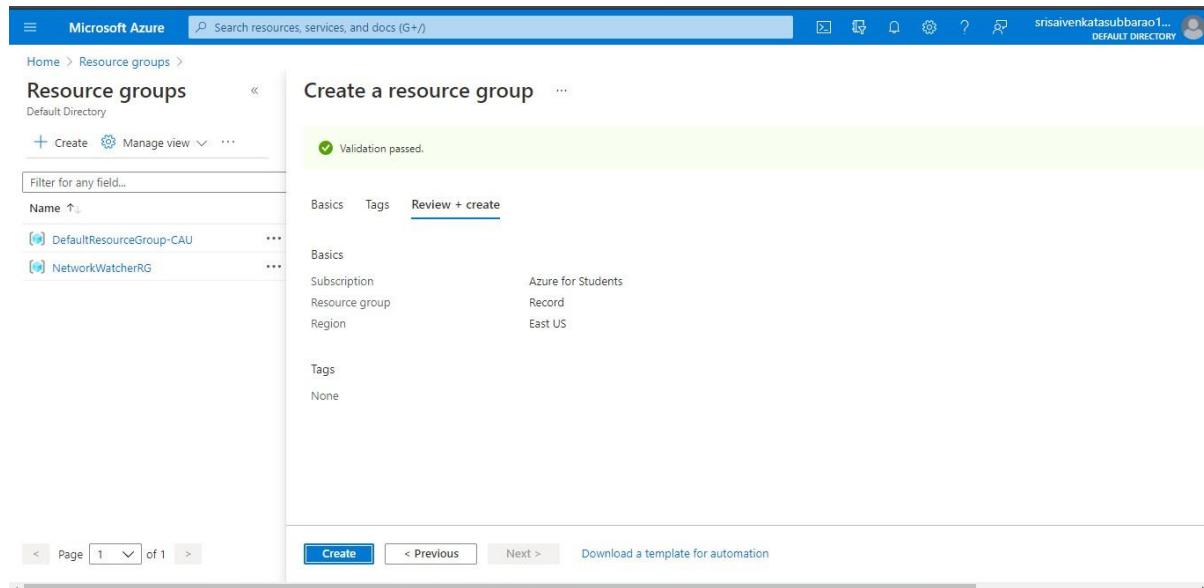
STEP7: NOW CONNECT THE VIRTUAL MACHINE AND DOWNLOAD THE RDP FILE TO OPEN YOUR WINDOWS VIRTUAL MACHINE.

STEP8: CREATED A NEW WINDOWS VIRTUAL MACHINE

IMPLEMENTATION:

STEP1: CREATE AN ACCOUNT IN MICROSOFT AZURE.

STEP2: GOTO RESOURCE GROUP AND CREATE A RESOURCE GROUP.



STEP3: GIVE NECESSARY THINGS FOR RESOURCE GROUP.

STEP4: CREATE A VIRTUAL NETWORK FOR TO CREATE A VIRTUAL MACHINE .

STEP5: NOW CREATE A VIRTUAL MACHINE WITH UR IP ADDRESS ANUSERNAME AND PASSWORD FOR YOUR VIRTUAL MACINE.

The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar and a user profile. Below it, the title is "CreateVm-MicrosoftWindowsServer.WindowsServer-201-20210721104828 | Overview". On the left, a sidebar has "Deployment" selected. The main area says "Your deployment is complete" with a green checkmark. It provides deployment details: Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe... Start time: 7/21/2021, 10:52:14 AM; Subscription: Azure for Students; Correlation ID: a0f40b35-8270-49dc-bcf7-42eec66e5c61; Resource group: Record. Below this, "Deployment details" and "Next steps" sections are shown, along with "Go to resource" and "Create another VM" buttons. To the right, there's a sidebar with links to Security Center, Free Microsoft tutorials, and Work with an expert.

STEP6: AND YOUR VIRTUAL MACHINE IS DEPLOYED.

STEP7: NOW CONNECT THE VIRTUAL MACHINE AND DOWNLOAD THE RDP FILE TO OPEN YOUR WINDOWS VIRTUAL MACHINE.

The screenshot shows the Microsoft Azure portal interface for a virtual machine named "Record-virtual". The title is "Record-virtual | Overview". The left sidebar includes options like Activity log, Access control (IAM), Tags, Diagnose and solve problems, Networking, Connect, Windows Admin Center (preview), Disks, Size, Security, Advisor recommendations, and Extensions. The main area shows "Essentials" details: Resource group (change) : Record, Status : Running, Location : East US, Subscription (change) : Azure for Students, Subscription ID : db4eeed0b-1e34-4be0-9e9c-65cc0d390405, Tags (change) : Click here to add tags. It also lists Properties, Monitoring, Capabilities (8), Recommendations, and Tutorials. The "Networking" section shows Public IP address : 23.96.9.147, Private IP address : 10.0.0.4, Virtual network/subnet : Record-vnet/default, and DNS name : Not configured. A JSON View button is also present.

STEP8: CREATED A NEW WINDOWS VIRTUAL MACHINE.



EXP14. DEMONSTRATE INFRASTRUCTURE AS A SERVICE (IAAS) BY CREATING A VIRTUAL MACHINE USING A PUBLIC CLOUD SERVICE PROVIDER (AZURE), CONFIGURE WITH REQUIRED MEMORY AND CPU.

AIM:

To demonstrate infrastructure as a service (iaas) by creating a virtual machine using a public cloud service provider (azure), configure with required memory and cpu.

PROCEDURE:

STEP1: CREATE AN ACCOUNT IN MICROSOFT AZURE.

STEP2: GOTO RESOURCE GROUP AND CREATE A RESOURCE GROUP.

STEP3: GIVE NECESSARY THINGS FOR RESOURCE GROUP.

STEP4: CREATE A VIRTUAL NETWORK FOR TO CREATE A VIRTUALMACHINE .

STEP5: NOW CREATE A VIRTUAL MACHINE WITH UR IPADDRESS ANUSERNAME AND PASSWORD FOR YOUR VIRTUAL MACINE.

STEP6: AND YOUR VIRTUAL MACHINE IS DEPLOYED.

STEP7: NOW CONNECT THE VIRTUAL MACHINE AND DOWNLOAD THE RDP FILETO OPEN YOUR WINDOWS VIRTUAL MACHINE.

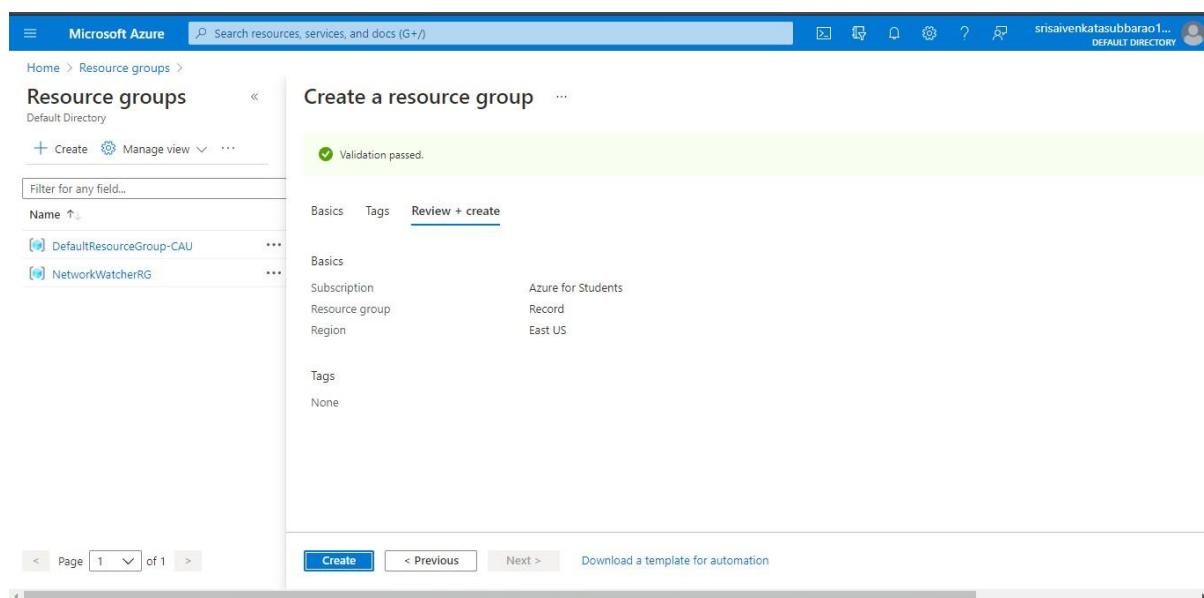
STEP8: NOW RESIZE THE VIRTUAL MACHINE SIZE.

STEP9: CREATED A NEW WINDOWS VIRTUAL MACHINE

IMPLEMENTATION:

STEP1:CREATE AN ACCOUNT IN MICROSOFT AZURE.

STEP2: GOTO RESOURCE GROUP AND CREATE A RESOURCE GROUP.



STEP3: GIVE NECESSARY THINGS FOR RESOURCE GROUP.

STEP4: CREATE A VIRTUAL NETWORK FOR TO CREATE A VIRTUAL MACHINE .

STEP5: NOW CREATE A VIRTUAL MACHINE WITH UR IP ADDRESS ANUSERNAME AND PASSWORD FOR YOUR VIRTUAL MACINE.

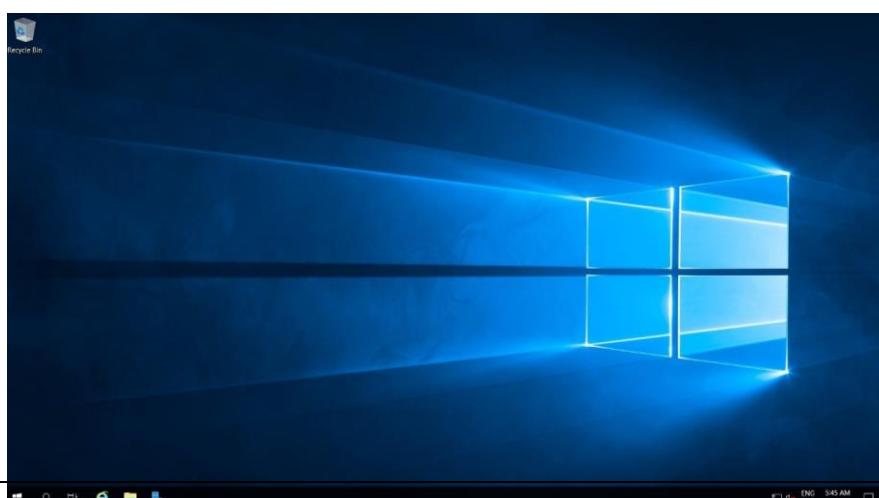
The screenshot shows the Microsoft Azure portal interface. At the top, there's a search bar and a user profile. Below it, the title is "CreateVm-MicrosoftWindowsServer.WindowsServer-201-20210721104828 | Overview". On the left, a sidebar has "Deployment" selected. The main area says "Your deployment is complete" with a green checkmark. It provides deployment details: Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe... Start time: 7/21/2021, 10:52:14 AM; Subscription: Azure for Students; Correlation ID: a0f40b35-8270-49dc-bcf7-42eec66e5c61; Resource group: Record. Below this, "Deployment details" and "Next steps" sections are shown, along with "Go to resource" and "Create another VM" buttons. To the right, there are links to "Security Center", "Free Microsoft tutorials", and "Work with an expert".

STEP6: AND YOUR VIRTUAL MACHINE IS DEPLOYED.

STEP7: NOW CONNECT THE VIRTUAL MACHINE AND DOWNLOAD THE RDP FILE TO OPEN YOUR WINDOWS VIRTUAL MACHINE.

The screenshot shows the Microsoft Azure portal interface for a virtual machine named "Record-virtual". The title is "Record-virtual | Overview". The left sidebar includes options like "Activity log", "Access control (IAM)", "Tags", "Diagnose and solve problems", "Networking", "Connect", "Windows Admin Center (preview)", "Disks", "Size", "Security", "Advisor recommendations", and "Extensions". The main content area shows "Essentials" information: Resource group (change) : Record, Status : Running, Location : East US, Subscription (change) : Azure for Students, Subscription ID : db4eed0b-1e34-4be0-9e9c-65cc0d390405, Tags (change) : Click here to add tags. It also shows "Virtual machine" and "Networking" details. The "Virtual machine" section includes Computer name: Record-virtual, Operating system: Windows (Windows Server 2019 Datacenter), Publisher: MicrosoftWindowsServer, Offer: WindowsServer, Plan: 2019-Datacenter, VM generation: V1, and Agent status: Ready. The "Networking" section includes Public IP address: 23.96.9.147, Public IP address (IPv6): -, Private IP address: 10.0.0.4, Private IP address (IPv6): -, Virtual network/subnet: Record-vnet/default, and DNS name: Not configured. There's also a "JSON View" button.

STEP8: CREATED A NEW WINDOWS VIRTUAL MACHINE.



15. DEMONSTRATE INFRASTRUCTURE AS A SERVICE (IAAS) BY ESTABLISHING THE REMOTE CONNECTION, LAUNCH THE CREATED VM IMAGE AND RUN IN YOUR DESKTOP

Aim:

To demonstrate infrastructure as a service (iaas) by establishing the remote connection, launch the created vm image and run in your desktop.

Procedure:

STEP 1: create an account of Microsoft azure

STEP 2: click on create a resource

STEP 3: click on create of virtual machine

STEP 4: create a resource group

STEP 5: give the name of virtual machine

STEP 6: choose any region based on CPU & ram configuration of size

STEP 7: click on authenticated type //and choose >>password<<and create your own username and password

STEP 8: click on<<review and create>>

STEP 9: wait few minutes for getting the validation passed

STEP 10: after click on <<create>>then see your resource group is created and virtual machine also

STEP 11: click on << back to home >>

STEP 12: now see your resource group and virtual machine is created

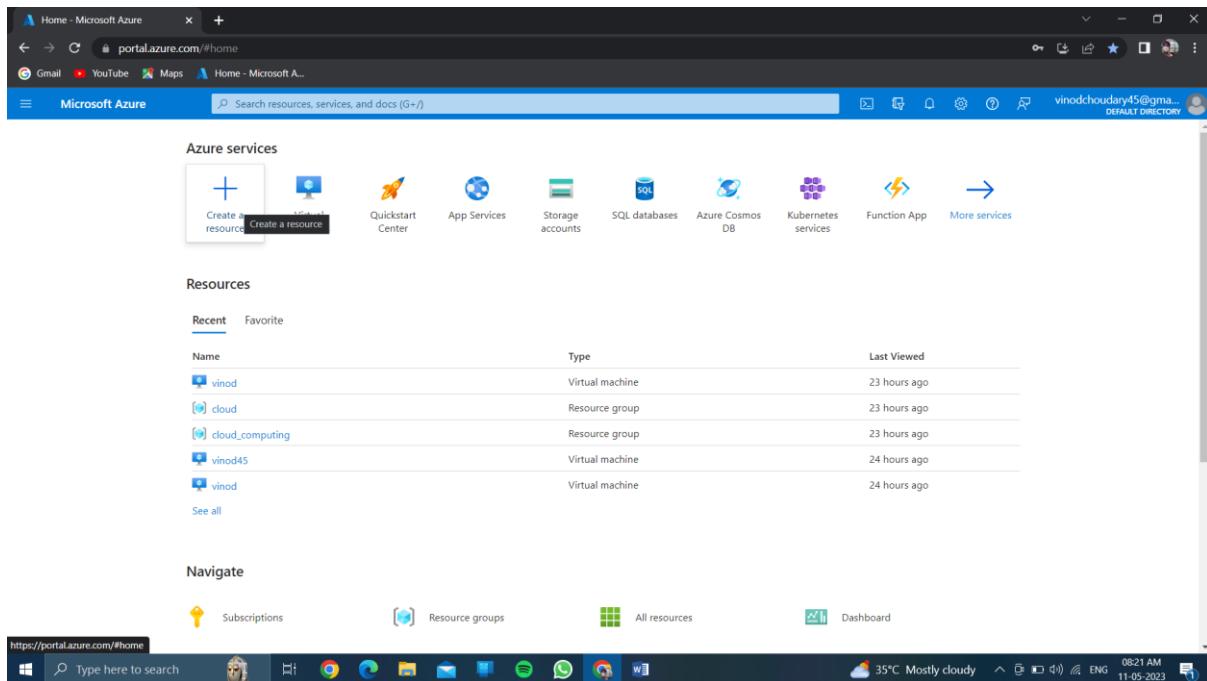
STEP 13: click on name of the virtual machine and see your name of your virtual machine

STEP 14: click on <<connect>> and wait for few minutes for checking the network security of client ip –address in ssh

STEP 15: click on rdp <<download>>rdp file after then open the rdp file and you will get the interface

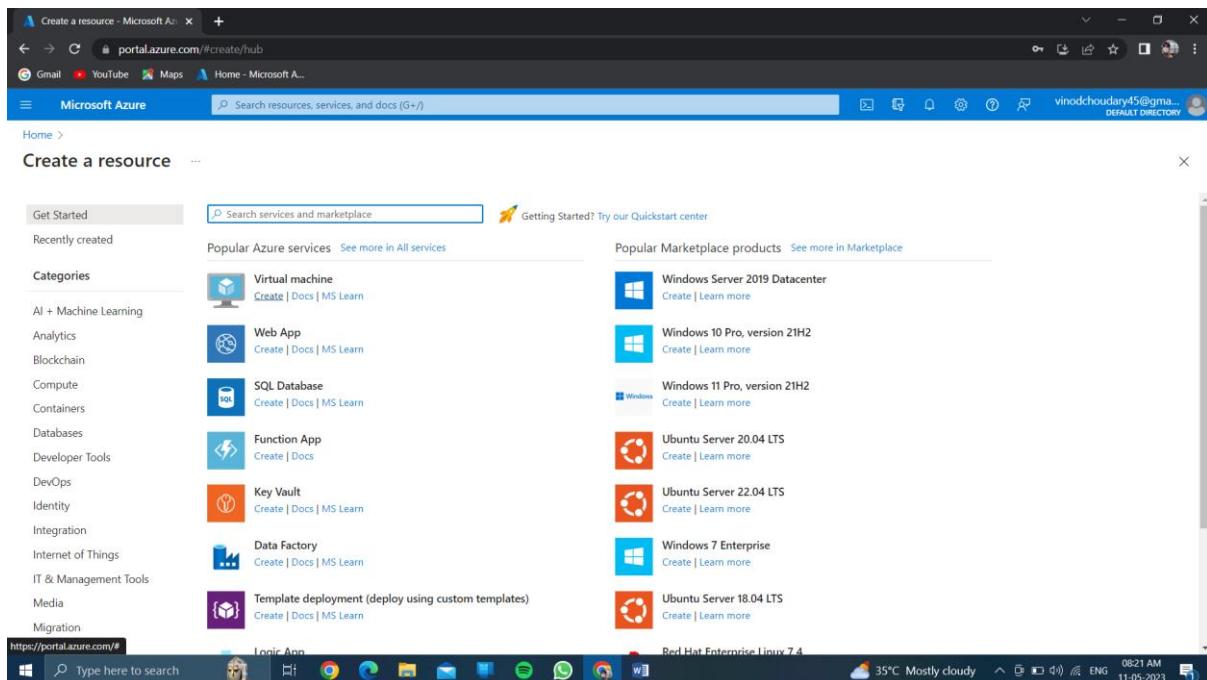
STEP 16: then after you will get output or otherwise you will get the remote connect desktop...

AT FIRST YOU NEED TO CREATE AN ACCOUNT OF MICROSOFT AZURE....



The screenshot shows the Microsoft Azure portal homepage. At the top, there's a search bar and a navigation bar with links like 'Home - Microsoft Azure', 'Gmail', 'YouTube', 'Maps', and 'Home - Microsoft A...'. Below the search bar, the 'Microsoft Azure' logo is visible. The main content area is divided into sections: 'Azure services' (with a 'Create a resource' button highlighted), 'Resources' (listing recent resources like 'vinod', 'cloud', 'cloud_computing', 'vinod45', and 'vinod'), and 'Navigate' (with links to 'Subscriptions', 'Resource groups', 'All resources', and 'Dashboard'). The bottom of the screen shows a Windows taskbar with various pinned icons and system status.

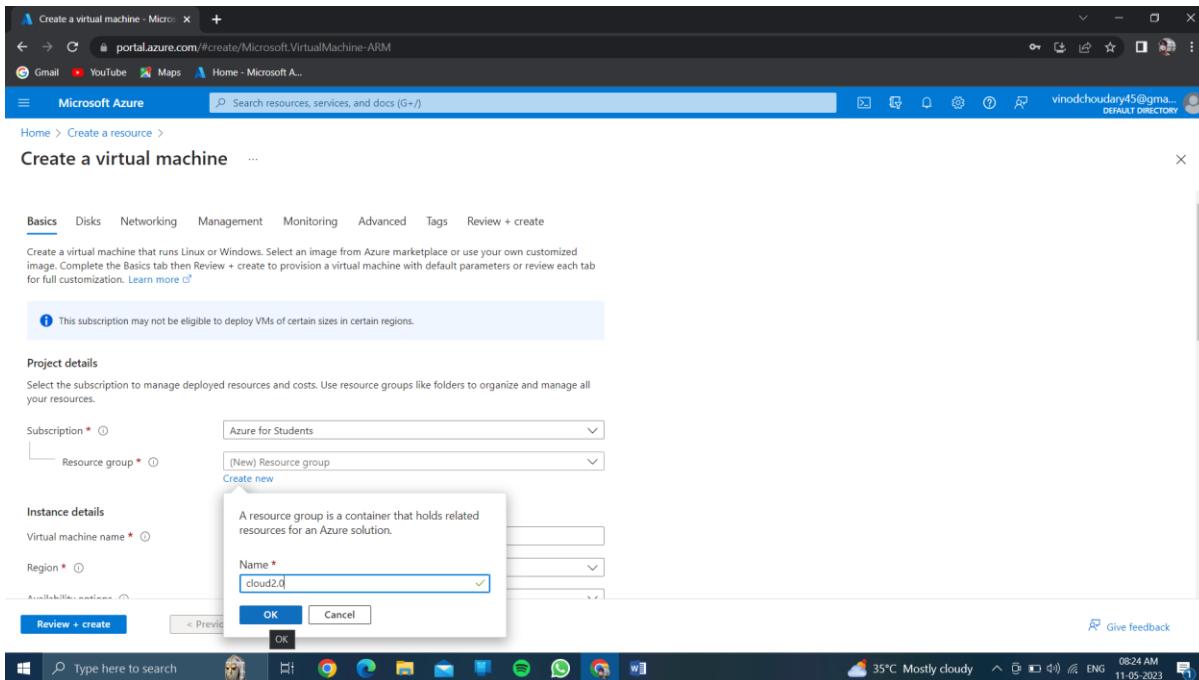
CLICK ON CREATE A RESOURCE.....



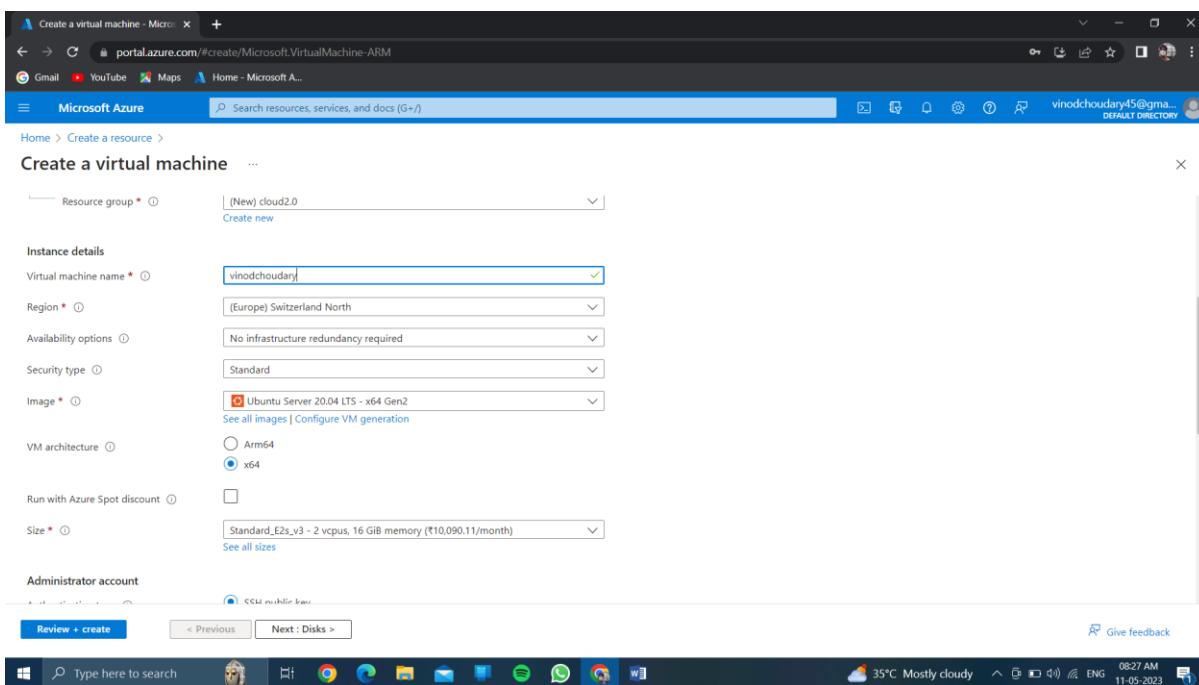
The screenshot shows the 'Create a resource' hub page. At the top, there's a search bar and a navigation bar with links like 'Home - Microsoft Azure', 'Gmail', 'YouTube', 'Maps', and 'Home - Microsoft A...'. Below the search bar, the 'Microsoft Azure' logo is visible. The main content area is titled 'Create a resource' and includes sections for 'Get Started' (with a 'Search services and marketplace' input field) and 'Popular Azure services' (listing 'Virtual machine', 'Web App', 'SQL Database', 'Function App', 'Key Vault', 'Data Factory', and 'Template deployment (deploy using custom templates)'). To the right, there's a section for 'Popular Marketplace products' (listing 'Windows Server 2019 Datacenter', 'Windows 10 Pro, version 21H2', 'Windows 11 Pro, version 21H2', 'Ubuntu Server 20.04 LTS', 'Ubuntu Server 22.04 LTS', 'Windows 7 Enterprise', and 'Ubuntu Server 18.04 LTS'). The bottom of the screen shows a Windows taskbar with various pinned icons and system status.

CLICK ON CREATE OF VIRTUAL MACHINE....

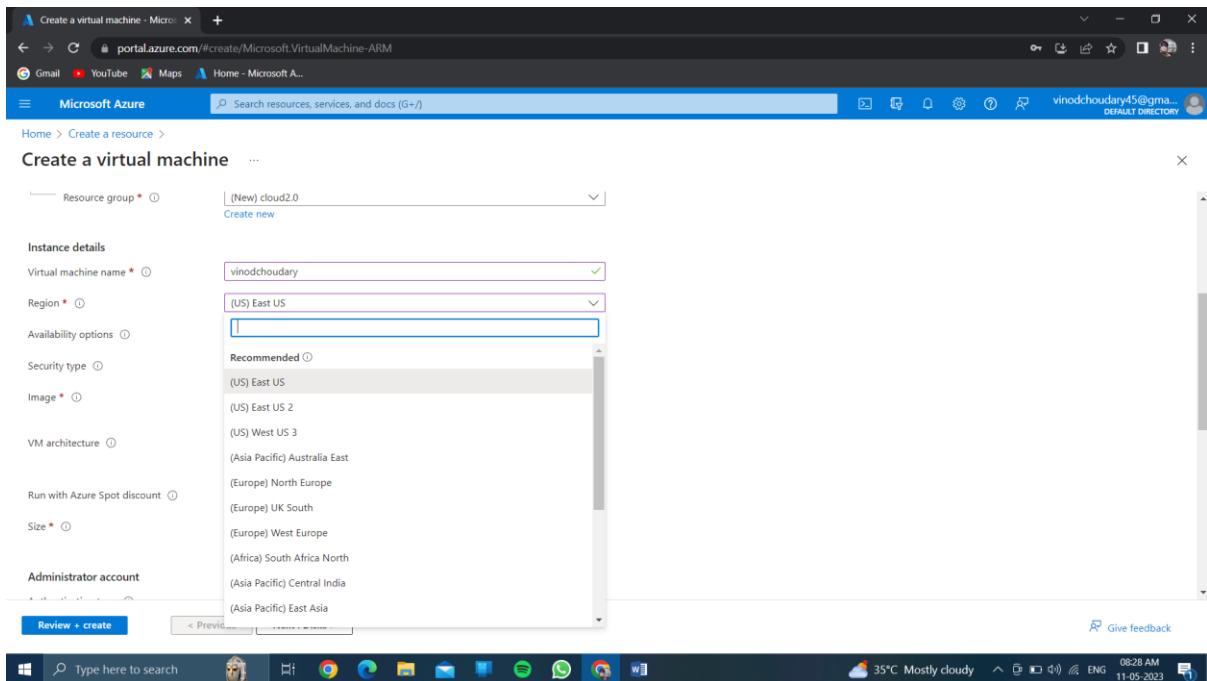
CREATE A RESOURCE GROUP.....



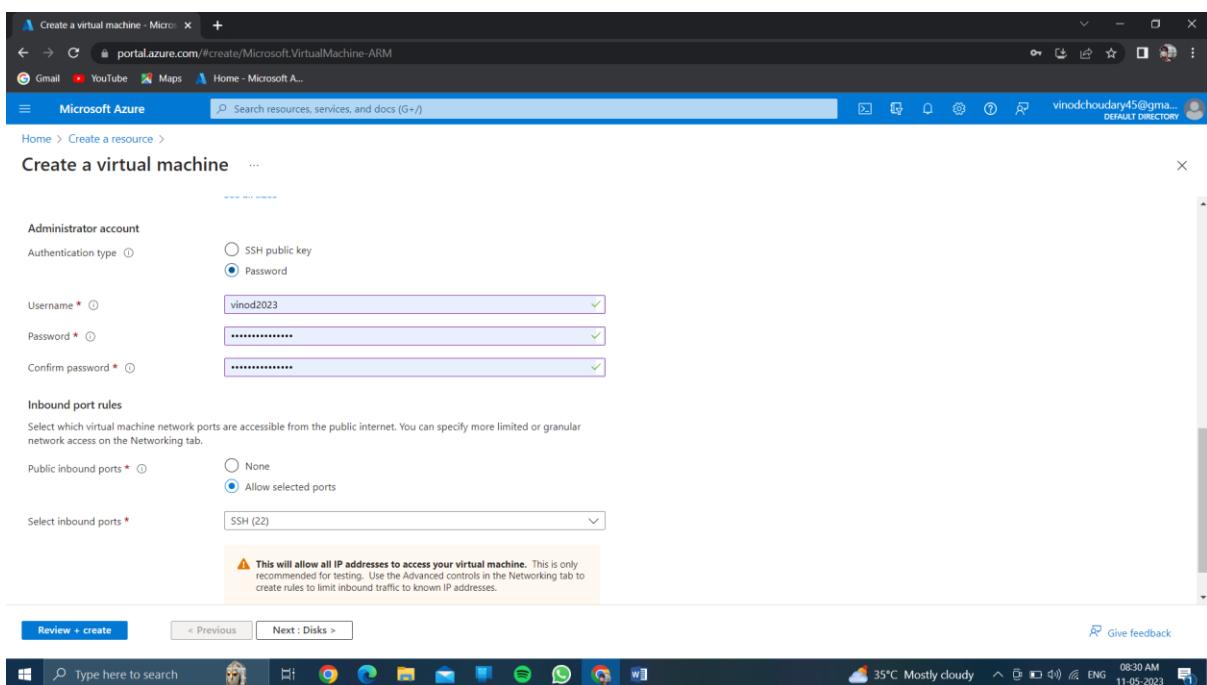
GIVE THE NAME OF VIRTUAL MACHINE....



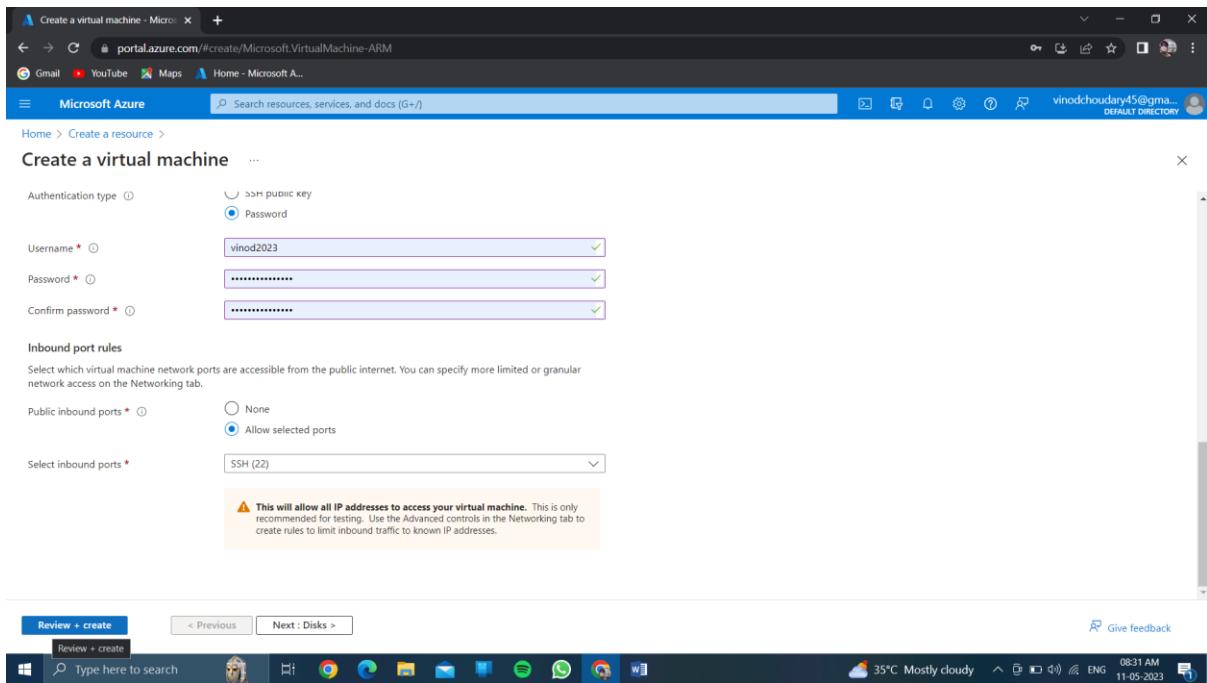
CHOOSE ANY REGION.....BASED ON CPU & RAM CONFIGURATION OF SIZE....



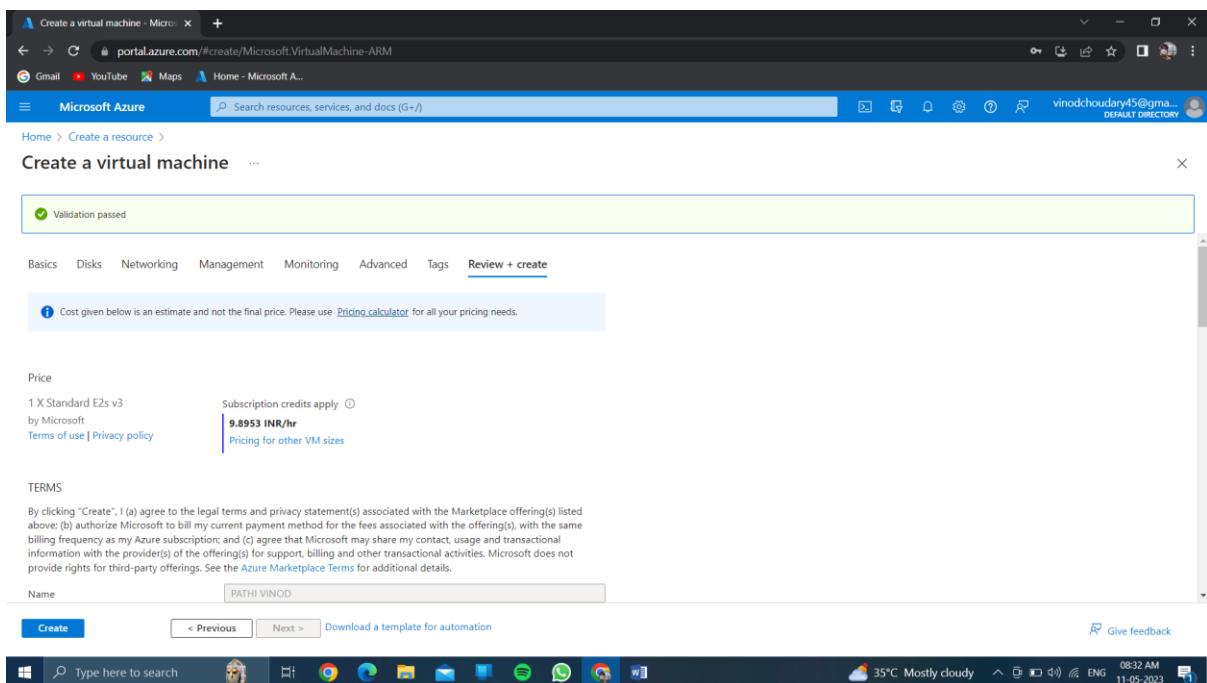
**CLICK ON AUTHENTICATED TYPE //AND CHOOSE >>PASSWORD<<
AND CREATE YOUR OWN USERNAME AND PASSWORD.....**



CLICK ON <<REVIEW AND CREATE>>



AND WAIT FEW MINUTES FOR GETTING THE VALIDATION PASSED.....



CLICK ON CREATE.....

Validation passed

Delete OS disk with VM Enabled
Ephemeral OS disk No

Networking

Virtual network	(new) vinodchoudary-vnet
Subnet	(new) default (10.2.0.0/24)
Public IP	(new) vinodchoudary-ip
Accelerated networking	On
Place this virtual machine behind an existing load balancing solution?	No
Delete public IP and NIC when VM is deleted	Disabled

Management

Microsoft Defender for Cloud	None
System assigned managed identity	Off
Login with Azure AD	Off
Auto-shutdown	Off
Enable hotpatch	Off

< Previous Next > Download a template for automation Give feedback

AND WAIT FOR FEW MINUTES FOR COMPLITATION OF DEPLOYMENT PROCESS>>

Your deployment is complete

Resource	Type	Status	Operation details
vinodchoudary	Microsoft.Compute/virtualMachi...	OK	Operation details
vinodchoudary173	Microsoft.Network/networkInterf...	Created	Operation details
vinodchoudary-ip	Microsoft.Network/publicIpAddre...	OK	Operation details
vinodchoudary-vnet	Microsoft.Network/virtualNetworks	OK	Operation details
vinodchoudary-nsg	Microsoft.Network/networkSecur...	OK	Operation details

Cost Management
Get notified to stay within your budget and prevent unexpected charges on your bill.
Set up cost alerts >

Microsoft Defender for Cloud
Secure your apps and infrastructure
Go to Microsoft Defender for Cloud >

Free Microsoft tutorials
Start learning today >

Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.
Find an Azure expert >

Go to resource Create another VM

AFTER CLICK ON <<RESOURCE>>....

THEN AFTER CLICK ON <<CREATE>> THEN SEE YOUR RESOURCE GROUP IS CREATED AND VIRTUAL MACHINE ALSO.....

vinodchoudary - Microsoft Azure

Search resources, services, and docs (G+)

Microsoft Azure

Home > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230511082149 | Overview >

vinodchoudary Virtual machine

Search

Connect Start Restart Stop Capture Delete Refresh Open in mobile Feedback CLI / PS

Overview Activity log Access control (IAM) Tags Diagnose and solve problems

Networking Connect Disks Size

Microsoft Defender for Cloud Advisor recommendations Extensions + applications Availability + scaling Configuration Identity

Essentials

Resource group (move) : cloud2.0 Status : Running Location : East US Subscription (move) : Azure for Students Subscription ID : 3b4fb3b-ccc6-4257-8f12-75b8d7b2a1b9 Tags (edit) : Click here to add tags

Operating system : Linux (ubuntu 20.04)
Size : Standard E2s v3 (2 vcpus, 16 GiB memory)
Public IP address : 74.235.175.2
Virtual network/subnet : vinodchoudary-vnet/default
DNS name : Not configured
Health state : -

Properties Monitoring Capabilities (7) Recommendations Tutorials

Virtual machine

Computer name : vinodchoudary
Operating system : Linux (ubuntu 20.04)
Publisher : canonical
Offer : 0001-com-ubuntu-server-focal
Plan : 20_04-lts-gen2
VM generation : V2
VM architecture : x64

Networking

Public IP address : 74.235.175.2 (Network interface vinodchoudary173)
Public IP address (IPv6) : -
Private IP address : 10.2.0.4
Private IP address (IPv6) : -
Virtual network/subnet : vinodchoudary-vnet/default
DNS name : Configure

https://portal.azure.com/#@vinodchoudary45@gmail.onmicrosoft.com/resource/subscriptions/3b4fb3b-ccc6-4257-8f12-75b8d7b2a1b9/resourceGroups/cloud2.0

Type here to search

35°C Mostly cloudy 08:40 AM 11-05-2023

AND CLICK ON << BACK TO HOME >>

vinodchoudary - Microsoft Azure

Search resources, services, and docs (G+)

Microsoft Azure

Home >

vinodchoudary Virtual machine

Search

Connect Start Restart Stop Capture Delete Refresh Open in mobile Feedback CLI / PS

Overview Activity log Access control (IAM) Tags Diagnose and solve problems

Networking Connect Disks Size

Microsoft Defender for Cloud Advisor recommendations Extensions + applications Availability + scaling Configuration Identity

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Operating system : Linux (ubuntu 20.04)
Size : Standard E2s v3 (2 vcpus, 16 GiB memory)
Public IP address : 74.235.175.2
Virtual network/subnet : vinodchoudary-vnet/default
DNS name : Not configured
Health state : -

Properties Monitoring Capabilities (7) Recommendations Tutorials

Virtual machine

Computer name : vinodchoudary
Operating system : Linux (ubuntu 20.04)
Publisher : canonical
Offer : 0001-com-ubuntu-server-focal
Plan : 20_04-lts-gen2
VM generation : V2
VM architecture : x64

Networking

Public IP address : 74.235.175.2 (Network interface vinodchoudary173)
Public IP address (IPv6) : -
Private IP address : 10.2.0.4
Private IP address (IPv6) : -
Virtual network/subnet : vinodchoudary-vnet/default
DNS name : Configure

https://portal.azure.com/#home

Type here to search

35°C Mostly cloudy 08:43 AM 11-05-2023

NOW SEE YOUR RESOURCE GROUP AND VIRTUAL MACHINE IS CREATED....

Azure services

Create a resource Virtual machines Quickstart Center App Services Storage accounts SQL databases Azure Cosmos DB Kubernetes services Function App More services

Resources

Recent Favorite

Name	Type	Last Viewed
vinodchoudary	Virtual machine	a minute ago
cloud2.0	Resource group	9 minutes ago
vinod	Virtual machine	24 hours ago
cloud	Resource group	24 hours ago
cloud_computing	Resource group	24 hours ago
vinod45	Virtual machine	a day ago
vinod	Virtual machine	a day ago

See all

Navigate

https://portal.azure.com/#@vinodchoudary4@gmail.onmicrosoft.com/asset/HubsExtension/ResourceGroups/subscriptions/3b4fb3b-cc6-4257-8f12-75b8d7b2a1b9/resourceGroups/cloud2.0

35°C Mostly cloudy 08:44 AM ENG 11-05-2023

CLICK ON NAME OF THE VIRTUAL MACHINE.....

Azure services

Create a resource Virtual machines Quickstart Center App Services Storage accounts SQL databases Azure Cosmos DB Kubernetes services Function App More services

Resources

Recent Favorite

Name	Type	Last Viewed
vinodchoudary	Virtual machine	3 minutes ago
cloud2.0	Resource group	19 minutes ago
vinod	Virtual machine	24 hours ago
cloud	Resource group	24 hours ago
cloud_computing	Resource group	24 hours ago
vinod45	Virtual machine	a day ago
vinod	Virtual machine	a day ago

See all

Navigate

https://portal.azure.com/#@vinodchoudary4@gmail.onmicrosoft.com/asset/Microsoft_Azure_Compute/VirtualMachine/subscriptions/3b4fb3b-cc6-4257-8f12-75b8d7b2a1b9/resourceGroups/cloud2.0/providers/Microsoft.Compute/virtualMachines/vinodchoudary

35°C Mostly cloudy 08:53 AM ENG 11-05-2023

NOW YOU CAN SEE YOUR NAME OF YOUR VIRTUAL MACHINE....

Properties

Virtual machine	Networking
Computer name: vinodchoudary	Public IP address: 74.235.175.2 (Network interface vinodchoudary173)
Operating system: Linux (ubuntu 20.04)	Public IP address (IPv6): -
Publisher: canonical	Private IP address: 10.2.0.4
Offer: 0001-com-ubuntu-server-focal	Private IP address (IPv6): -
Plan: 20_04-lts-gen2	Virtual network/subnet: vinodchoudary-vnet/default
VM generation: V2	DNS name: Configure
VM architecture: x64	
Agent status: Ready	
Agent version: 2.9.0.4	
Host group: None	
Host: -	
Proximity placement group: -	
Colocation status: N/A	
Capacity reservation group: -	
Disk controller type: SCSI	

Size

OS disk
Size: Standard E2s v3
vCPUs: 2
RAM: 16 GB

Disk

OS disk
OS disk: vinodchoudary_disk1_9064116f9fb4e44b1071d9abfdb6bfe
Encryption at host: Disabled
Azure disk encryption: Not enabled

CLICK ON <<CONNECT>>

Connect

Resource group (move) : cloud2.0
Status : Running
Location : East US
Subscription (move) : Azure for Students
Subscription ID : 3b4ffb3b-ccc6-4257-8f12-75b8d7b2a1b9

Properties

Virtual machine	Networking
Computer name: vinodchoudary	Public IP address: 74.235.175.2 (Network interface vinodchoudary173)
Operating system: Linux (ubuntu 20.04)	Public IP address (IPv6): -
Publisher: canonical	Private IP address: 10.2.0.4
Offer: 0001-com-ubuntu-server-focal	Private IP address (IPv6): -
Plan: 20_04-lts-gen2	Virtual network/subnet: vinodchoudary-vnet/default
VM generation: V2	DNS name: Configure
VM architecture: x64	

AND WAIT FOR FEW MINUTES FOR CHECKING THE NETWORK SECURITY OF CLIENT IP - ADDRESS IN SSH....

To improve security, enable just-in-time access on this VM.

Suggested method for connecting

An inbound network security group rule has been created and your client IP address can access port 22.

The VM's network interface has a Public IP address.

The VM is running.

- Open the client of your choice, for example WSL on Windows, Terminal on Mac or Shell on Linux.
- Ensure you have read-only access to the private key. Chmod is only supported on Linux subsystems (e.g. WSL on Windows or Terminal on Mac).
- Provide a path to your SSH private key file. Replace/reset your SSH private key.
- Run the example command below to connect to your VM.
ssh -i <private key path> vinod2023@74.235.175.2

CLICK ON RDP<<DOWNLOAD>>RDP FILE.....

AFTER THEN OPEN THE RDP FILE AND YOU WILL GET THE INTERFACE...

The publisher of this remote connection can't be identified. Do you want to connect anyway?

This remote connection could harm your local or remote computer. Do not connect unless you know where this connection came from or have used it before.

Publisher: Unknown publisher
Type: Remote Desktop Connection
Remote computer: 74.235.175.2

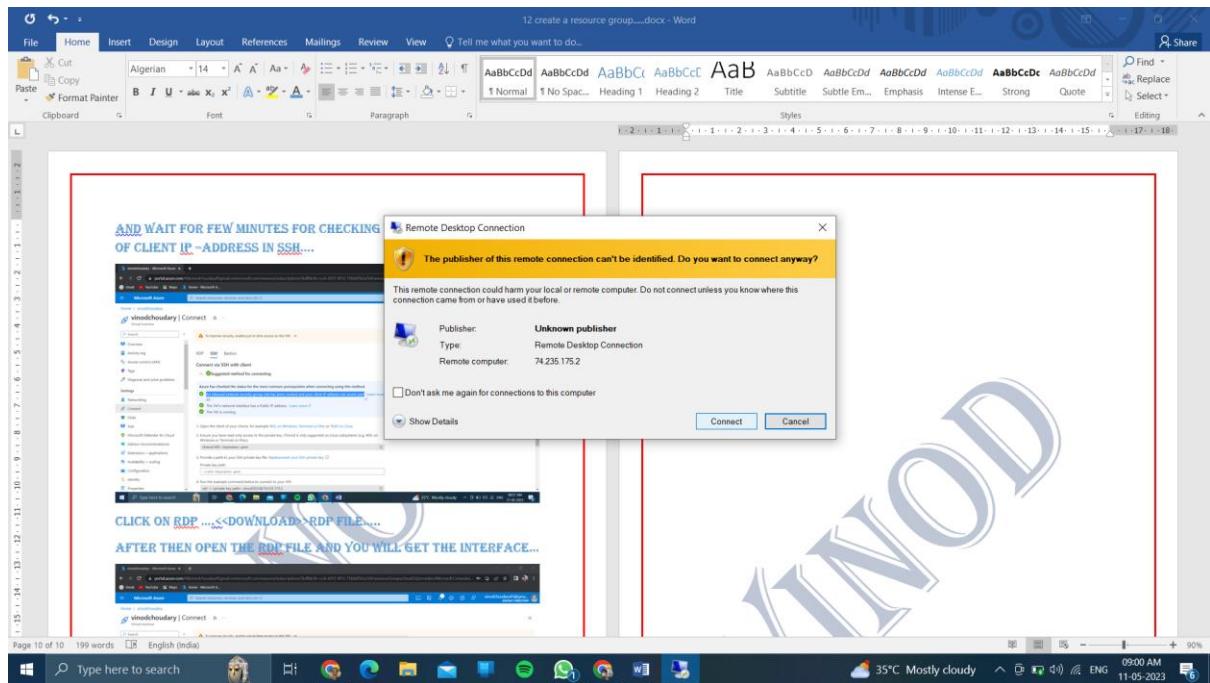
Don't ask me again for connections to this computer

Show Details

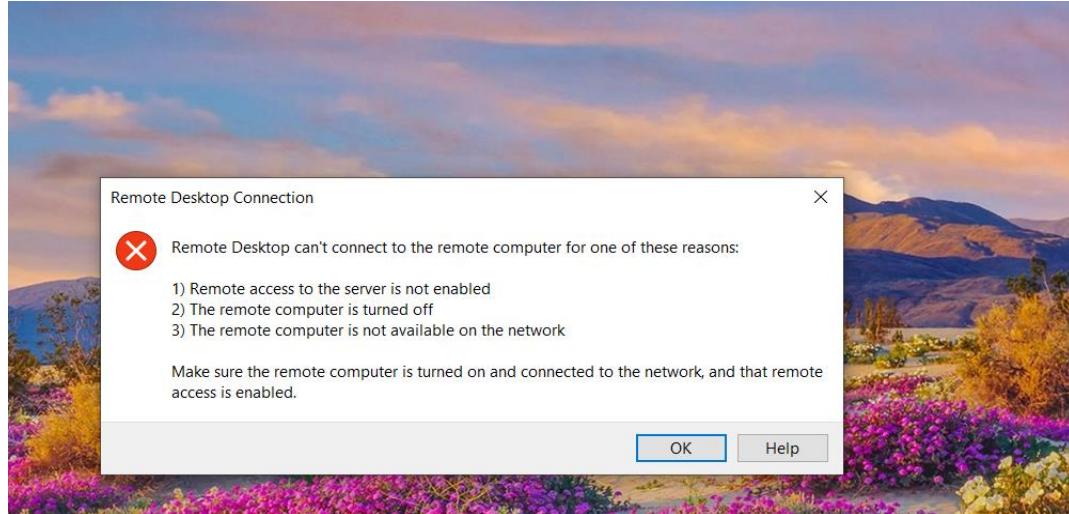
Connect Cancel

Download RDP File

THEN CLICK ON CONNECT....



THEN AFTER YOU WILL GET OUTPUTOR OTHERWISE YOU WILL GET THE REMOTE CONNECT DESKTOP...



EXP 16: DEMONSTRATE PLATFORM AS A SERVICE (PAAS) CREATE AND CONFIGURE A NEW VM IMAGE IN ANY PUBLIC CLOUD SERVICE PROVIDER

AIM:

To demonstrate platform as a service (paas) create and configure a new vm image in any public cloud service provider

Procedure:

STEP1: FIRSTLY, GO TO APPSERVICE TO CREATE AN WEBAPP.

STEP2: ENTER THE RESOURCE GROUP AND WEBAPP NAME AND REGION AND SELECT THE LINUX OS.

STEP3: AFTER ENTER THE ALL THE NECESSARY THINGS CLICK THE REVIEW AND CREATE AND CLICK THE CREATE THE WEB APP.

STEP4: AND OUR DEPLOYMENT IS COMPLETED.

OUTPUT:

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes 'Microsoft Azure', a search bar, and user information. Below the header, the URL 'Microsoft.Web-WebApp-Portal-1b6a401b-9ae6 | Overview' is displayed. On the left, a sidebar menu lists 'Overview', 'Inputs', 'Outputs', and 'Template'. The main content area displays a green checkmark icon and the message 'Your deployment is complete'. It provides deployment details: Deployment name: Microsoft.Web-WebApp-Portal-1b6a401b-9ae6, Subscription: Azure for Students, Start time: 7/21/2021, 12:49:54 PM, Correlation ID: 76653cd2-c090-4d97-a1e5-21033aa42efc, and Resource group: Record. There are also links for 'Deployment details (Download)', 'Next steps', 'Manage deployments for your app. Recommended', and 'Protect your app with authentication. Recommended'. A blue 'Go to resource' button is at the bottom. To the right, there are promotional links for 'Security Center', 'Free Microsoft tutorials', and 'Work with an expert'.

EXP17. CREATE A SIMPLE WEB APPLICATION USING JAVA OR PYTHON AND HOST IT IN ANY PUBLIC CLOUD SERVICE PROVIDER (AZURE/GCP/AWS) TO DEMONSTRATE PLATFORM AS A SERVICE (PAAS)

AIM: CREATE A SIMPLE WEB SITE USING ANY PUBLIC CLOUD SERVICE PROVIDER (AZURE/GCP/AWS) AND CHECK THE PUBLIC ACCESSIBILITY OFTHE STORED FILE TO DEMONSTRATE STORAGE AS A SERVICE.

Procedure:

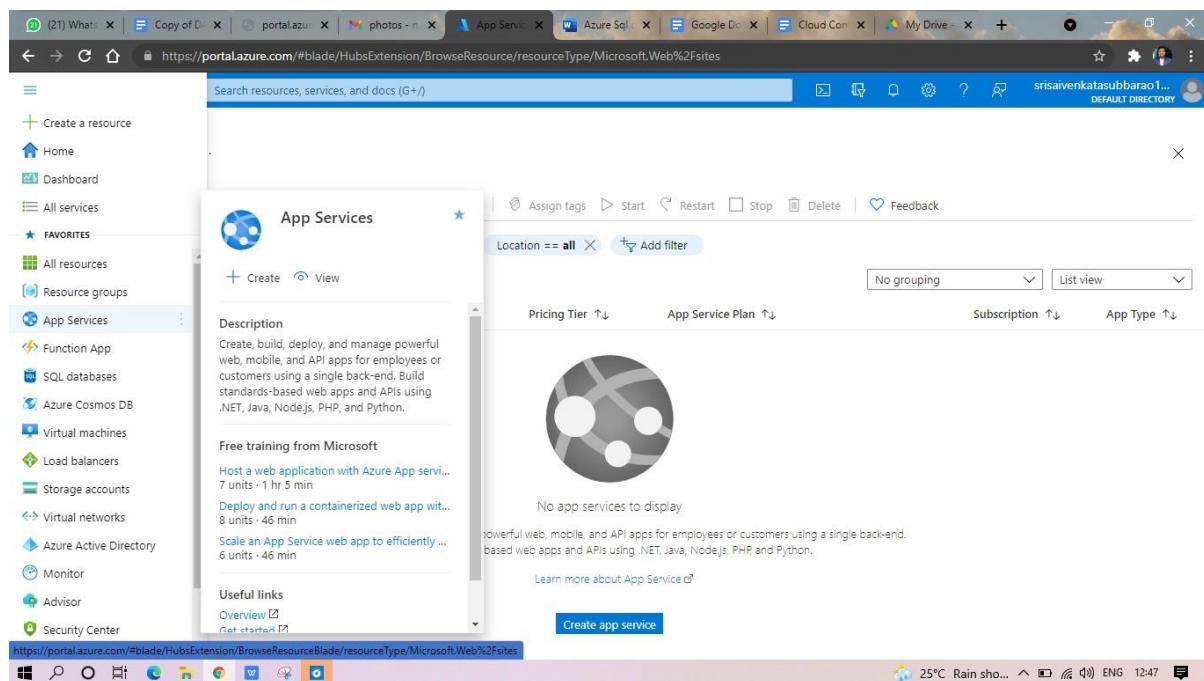
STEP1: FIRSTLY, GO TO APPSERVICE TO CREATE AN WEBAPP.

STEP2: ENTER THE RESOURCE GROUP AND WEBAPP NAME AND REGIONAND SELECT THE LINUX OS.

STEP3: AFTER ENTER THE ALL THE NECESSARY THINGS CLICK THEREVIEW AND CREATE AND CLICK THE CREATE THE WEB APP.

IMPLEMENTATION:

STEP1: FIRSTLY, GO TO APPSERVICE TO CREATE AN WEBAPP.



STEP2: ENTER THE RESOURCE GROUP AND WEBAPP NAME AND REGIONAND SELECT THE LINUX OS.

App Service Web Apps lets you quickly build, deploy, and scale enterprise-grade web, mobile, and API apps running on any platform. Meet rigorous performance, scalability, security and compliance requirements while using a fully managed platform to perform infrastructure maintenance. [Learn more](#)

Project Details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * Resource Group * Create new

Instance Details

Name * .azurewebsites.net

Publish * Code Docker Container

Runtime stack *

Operating System * Linux Windows

Review + create < Previous Next : Deployment (Preview) >

STEP3: AFTER ENTER THE ALL THE NECESSARY THINGS CLICK THEREVIEW AND CREATE AND CLICK THE CREATE THE WEB APP.

Basics Deployment (Preview) Monitoring Tags **Review + create**

Summary

Web App by Microsoft

Basic (B1) sku
Estimated price - loading ...

Details

Subscription db4eee0b-1e34-4be0-9c9c-65cc8d398405
Resource Group Record
Name Record-app
Publish Code
Runtime stack Node 14 LTS

App Service Plan (New)

Name ASP-Record-92e3
Operating System Linux
Region Australia Central

Create < Previous Next > Download a template for automation

The screenshot shows the Microsoft Azure Web App Overview page for 'Microsoft.Web-WebApp-Portal-1b6a401b-9ae6'. The main message is 'Your deployment is complete' with a green checkmark. Deployment details include: Deployment name: Microsoft.Web-WebApp-Portal-1b6a401b-9ae6, Start time: 7/21/2021, 12:49:54 PM, Subscription: Azure for Students, Resource group: Record. Below this, there are sections for 'Deployment details (Download)' and 'Next steps' (Manage deployments for your app, Recommended; Protect your app with authentication, Recommended). A 'Go to resource' button is at the bottom. On the right, there are links to Security Center, Free Microsoft tutorials, and Work with an expert.

STEP4: AND OUR DEPLOYMENT IS COMPLETED.

STEP5: GOTO WEBSITE URL LINK.

The screenshot shows the Microsoft Azure App Service Overview page for 'Record-app'. The main table provides details: Resource group (change) : Record, Status : Running, Location : Australia Central, Subscription (change) : Azure for Students, Subscription ID : db4eee0b-1e34-4be0-9c9c-65cc8d398405, Tags (change) : Click here to add tags. Columns include URL, App Service Plan, FTP/deployment username, FTP hostname, and FTPS hostname. Below the table are sections for 'Diagnose and solve problems', 'Application Insights', and 'App Service Advisor'.

STEP6: THIS IS OUR WEBAPP SERVICE.

The screenshot shows a Microsoft Edge browser window displaying the deployed application at https://record-app.azurewebsites.net. The page content includes: 'Hey, Node developers!', 'Your app service is up and running.', 'Time to take the next step and deploy your code.', 'Have your code ready? Use deployment center to get code published from your client or setup continuous deployment.', 'Don't have your code yet? Follow our quickstart guide and you'll be full app ready in 5 minutes or less.', 'Deployment Center' and 'Quickstart' buttons, and a cartoon illustration of a person working on a laptop with a 'node' logo.

EXP 18: DEMONSTRATE STORAGE AS A SERVICE (SAAS) CREATE AND CONFIGURE A NEW VM IMAGE IN ANY PUBLIC CLOUD SERVICE PROVIDER

AIM:

To DEMONSTRATE STORAGE AS A SERVICE (SAAS) CREATE AND CONFIGURE A NEW VM IMAGE IN ANY PUBLIC CLOUD SERVICE PROVIDER.

PROCEDURE:

PROCEDURE:

STEP1: OPEN AZURE AND GOTO STORAGE ACCOUNTS AND CREATESTOROAGE ACCOUNT

STEP2: ENTER THE RESOURC GROUP AND AND STORAGE ACCOUNT NAMEAND REVIEW AND CREATE AND CLICK TH CREATE AND YOUR STORAGE ACCOUNT WILL BE DEPLOYED SUCESSFULLY.

OUTPUT:

The screenshot displays two Azure service pages side-by-side.

Top Page (Storage Account Overview):

- Header:** Microsoft Azure, Search resources, services, and docs (G+), srisaivenkatasubbarao1... DEFAULT DIRECTORY.
- Breadcrumbs:** Home > recordstoragesubbarao
- Left Sidebar:**
 - Search (Ctrl+)
 - Overview
 - Activity log
 - Tags
 - Diagnose and solve problems
 - Access Control (IAM)
 - Data migration
 - Events
 - Storage Explorer (preview)
- Right Content:**
 - Essentials:**

Resource group (change)	:	Record	Performance/Access tier	:	Standard/Hot
Location	:	East US	Replication	:	Read-access geo-redundant storage (RA-GRS)
Primary/Secondary Location	:	Primary: East US, Secondary: West US	Account kind	:	StorageV2 (general purpose v2)
Subscription (change)	:	Azure for Students	Provisioning state	:	Succeeded
Subscription ID	:	db4eee0b-1e34-4be0-9c9c-65cc8d398405	Created	:	7/21/2021, 1:01:05 PM
Disk state	:	Primary: Available, Secondary: Available			
 - Properties:** Monitoring, Capabilities (7), Recommendations, Tutorials, Developer Tools.
 - Blob service:**

Hierarchical namespace	Disabled	Require secure transfer for REST API operations	Enabled
Default access tier	Hot	Storage account key access	Enabled
Blob public access	Enabled	Minimum TLS version	Version 1.2
blob soft delete	Enabled (7 days)		
 - Security:** (Icon) Lock, Require secure transfer for REST API operations, Enabled.

Bottom Page (Deployment Overview):

- Header:** Microsoft Azure, Search resources, services, and docs (G+), srisaivenkatasubbarao1... DEFAULT DIRECTORY.
- Breadcrumbs:** Home > recordstoragesubbarao_1626852653220 | Overview
- Left Sidebar:**
 - Search (Ctrl+)
 - Overview
 - Inputs
 - Outputs
 - Template
- Right Content:**
 - Deployment status:** Deployment succeeded. Deployment 'recordstoragesubbarao_1626852653220' to resource group 'Record' was successful.
 - Buttons:** Go to resource, Pin to dashboard.
 - Deployment details:**
 - Deployment name: recordstoragesubbarao_1626852653220
 - Subscription: Azure for Students
 - Resource group: Record
 - Start time: 7/21/2021, 1:00:57 PM
 - Correlation ID: 49a91964-e371-4019-ae37-954bf26dd89f
 - Next steps:** Go to resource.
 - Side Panel:**
 - Security Center:** Secure your apps and infrastructure, Go to Azure security center >
 - Free Microsoft tutorials:** Start learning today >
 - Work with an expert:** Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support, Find an Azure expert >

EXP19.CREATE A STORAGE SERVICE USING ANY PUBLIC CLOUD SERVICE PROVIDER (AZURE/GCP/AWS) AND CHECK THE PUBLIC ACCESSIBILITY OFTHE STORED FILE TO DEMONSTRATE STORAGE AS A SERVICE.

AIM:

To create a storage service using any public cloud service provider (azure/gcp/aws) and check the public accessibility of the stored file to demonstrate storage as a service.

PROCEDURE:

STEP1: OPEN AZURE AND GOTO STORAGE ACCOUNTS AND CREATE STORAGE ACCOUNT

STEP2: ENTER THE RESOURCE GROUP AND AND STORAGE ACCOUNT NAME AND REVIEW AND CREATE AND CLICK THE CREATE AND YOUR STORAGE ACCOUNT WILL BE DEPLOYED SUCESSFULLY.

STEP3: OUR STORAGE ACCOUNT IS CREATED.

STEP4: GOTO STATIC WEBSITE

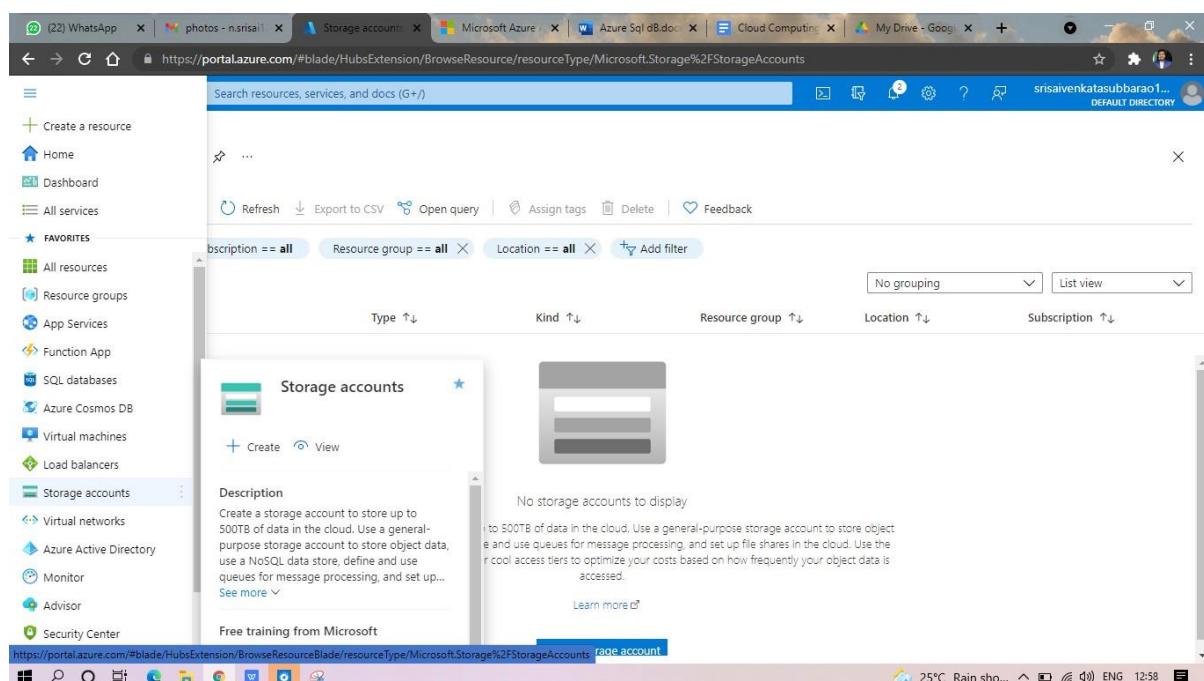
STEP5: AND ENABLE AND ENTER YOUR INDEX AND ERROR HTML FILES NAMES.

STEP6: AND GOTO STORAGE EXPLORER (REVIEW) AND AND GOTO BLOBCONTAINERS AND WEB AND UPLOAD THE TWO HTML FILES INIT

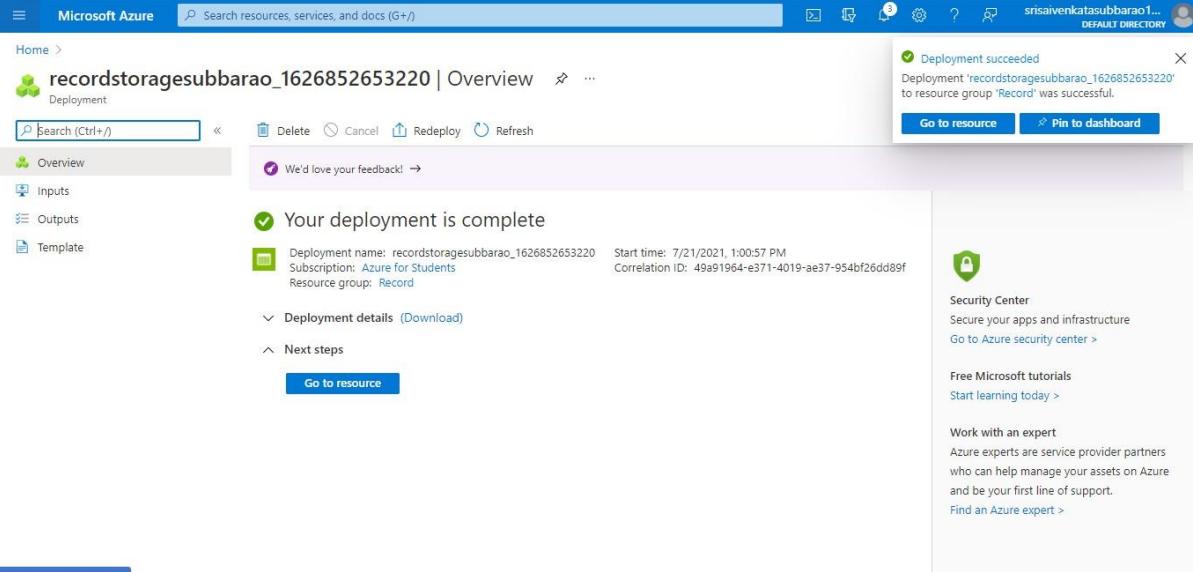
STEP7: AND AGAIN RETURN TO STATIC WEBSITE AND OPEN THE PRIMARYLINK AND YOUR WEB PAGE IS CREATED

IMPLEMENTATION:

STEP1: OPEN AZURE AND GOTO STORAGE ACCOUNTS AND CREATE STORAGE ACCOUNT

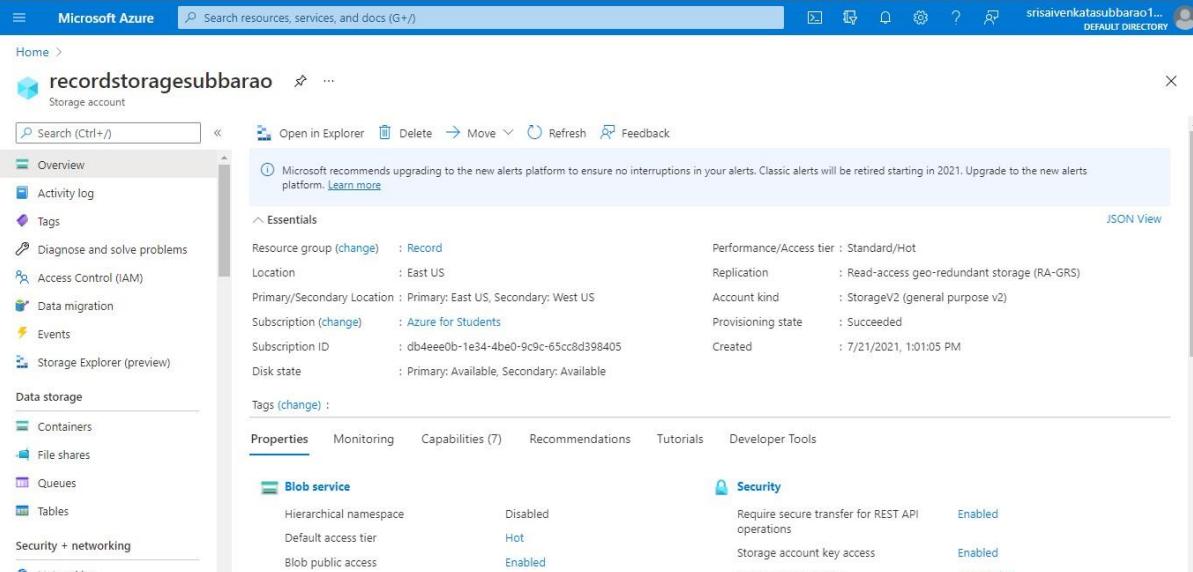


STEP2: ENTER THE RESOURCE GROUP AND AND STORAGE ACCOUNT NAMEAND REVIEW AND CREATE AND CLICK TH CREATE AND YOUR STORAGE ACCOUNT WILL BE DEPLOYED SUCESSFULLY.



The screenshot shows the Microsoft Azure Deployment Overview page for a deployment named 'recordstoragesubbarao_1626852653220'. The status is 'Deployment succeeded' with the message: 'Deployment 'recordstoragesubbarao_1626852653220' to resource group 'Record' was successful.' Below this, it shows deployment details: Deployment name: recordstoragesubbarao_1626852653220, Subscription: Azure for Students, Resource group: Record. The deployment started at 7/21/2021, 1:00:57 PM with a Correlation ID: 49e91964-e371-4019-ae37-954bf26dd89f. There are links for 'Deployment details (Download)', 'Next steps', and 'Go to resource'. On the right side, there are links to 'Security Center', 'Free Microsoft tutorials', 'Work with an expert', and 'Find an Azure expert'.

STEP3: AND OUR STORAGE ACCOUNT IS CREATED.



The screenshot shows the Microsoft Azure Storage account overview page for 'recordstoragesubbarao'. The left sidebar lists navigation options: Home, Overview, Activity log, Tags, Diagnose and solve problems, Access Control (IAM), Data migration, Events, Storage Explorer (preview), Data storage (Containers, File shares, Queues, Tables), Security + networking (Networking). The main content area displays the storage account's properties: Resource group (Record), Location (East US), Primary/Secondary Location (Primary: East US, Secondary: West US), Subscription (Azure for Students), Subscription ID (db4eee0b-1e34-4be0-9c9c-65cc8d398405), Disk state (Primary: Available, Secondary: Available). It also shows the Blob service configuration (Hierarchical namespace: Disabled, Default access tier: Hot, Blob public access: Enabled, Blob soft delete: Enabled (7 days)) and Security settings (Require secure transfer for REST API operations: Enabled, Storage account key access: Enabled, Minimum TLS version: Version 1.2).

STEP4: GOTO STATIC WEBSITE

Microsoft Azure

Search resources, services, and docs (G+)

deeksha - Storage account

Open in Explorer Delete Move Refresh Feedback

Microsoft recommends upgrading to the new alerts platform to ensure no interruptions in your alerts. Classic alerts will be retired starting in 2021. Upgrade to the new alerts platform. [Learn more](#)

Essentials

Resource group (change) : Gopi

Location : East US

Primary/Secondary Location : Primary: East US, Secondary: West US

Subscription (change) : Azure for Students

Subscription ID : 88bd0e11-e431-4a2a-8040-bdf7d22901aa

Disk state : Primary: Available, Secondary: Available

Tags (change) :

Properties Monitoring Capabilities (?) Recommendations Tutorials Developer Tools

Blob service Security

Hierarchical namespace : Disabled

Default access tier : Hot

Require secure transfer for REST API operations : Enabled

Blob public access : Enabled

Storage account key access : Enabled

Blob soft delete : Enabled (7 days)

Minimum TLS version : Version 1.2

Container soft delete : Enabled (7 days)

Infrastructure encryption : Disabled

Container soft delete : Enabled (7 days)

Versioning : Disabled

Networking

Type here to search

STEP5: AND ENABLE AND ENTER YOUR INDEX AND ERROR HTMLFILESNAMES.

Microsoft Azure

Search resources, services, and docs (G+)

deeksha | Static website

Home > deeksha

Static website

Save Discard

Enabling static websites on the blob service allows you to host static content. Webpages may include static content and client-side scripts. Server-side scripting is not supported. As data is replicated asynchronously from primary to secondary regions, files at the secondary endpoint may not be immediately available or in sync with files at the primary endpoint. [Learn more](#)

Static website

Disabled Enabled

An Azure Storage container has been created to host your static website. \$web

Primary endpoint ⓘ

https://deeksha.z13.web.core.windows.net/

Secondary endpoint ⓘ

https://deeksha-secondary.z13.web.core.windows.net/

Index document name ⓘ

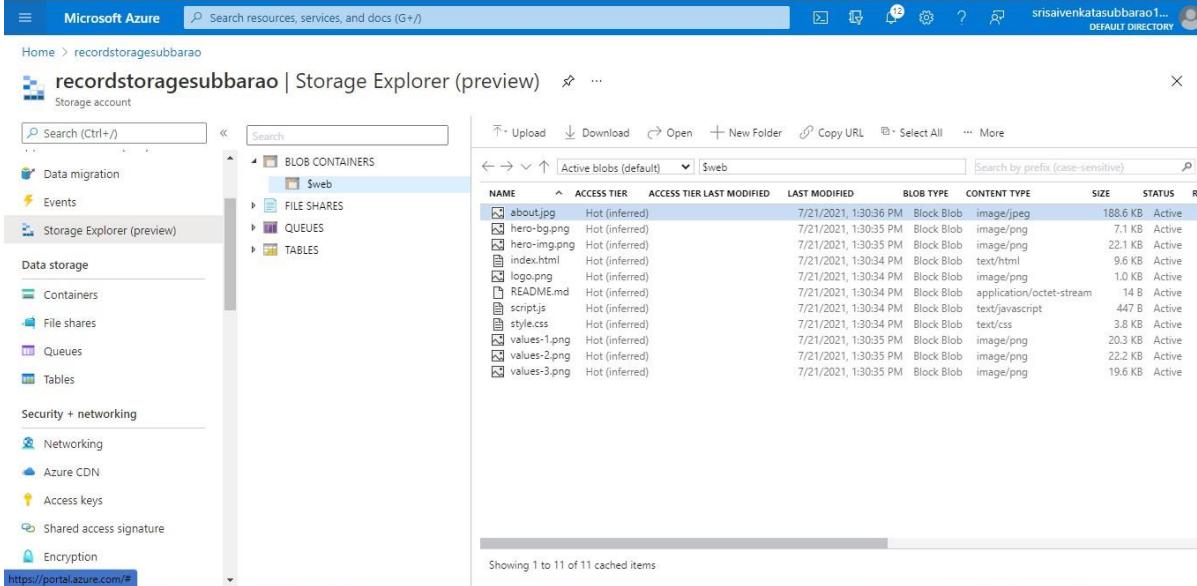
index.html

Error document path ⓘ

404.html

Type here to search

STEP6: AND GOTO STORAGE EXPLORER (REVIEW) AND AND GOTO BLOBCONTAINERS AND



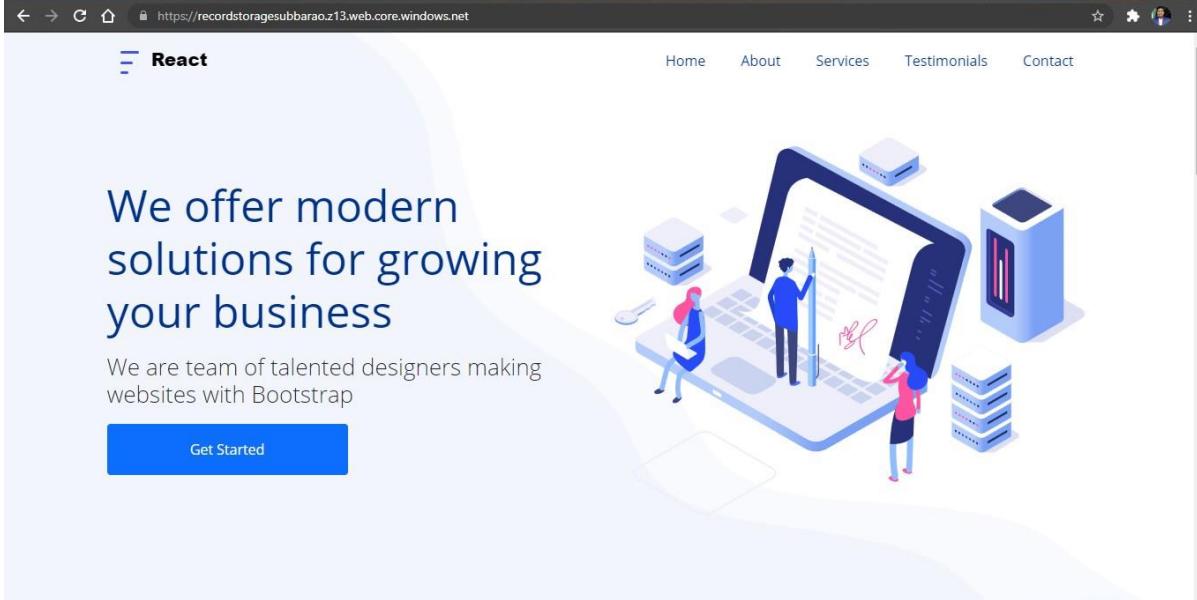
The screenshot shows the Microsoft Azure Storage Explorer interface. On the left, there's a sidebar with various options like Data migration, Events, Storage Explorer (preview), Data storage (Containers, File shares, Queues, Tables), Security + networking (Networking, Azure CDN, Access keys, Shared access signature, Encryption), and a link to the portal (<http://portal.azure.com/>). The main area is titled "recordstoragesubbarao | Storage Explorer (preview)" and shows a tree view with "BLOB CONTAINERS" expanded, revealing "\$web". Under "\$web", there are "FILE SHARES", "QUEUES", and "TABLES". The "FILE SHARES" node is expanded, showing a list of files. The table below lists 11 items:

NAME	ACCESS TIER	ACCESS TIER LAST MODIFIED	LAST MODIFIED	BLOB TYPE	CONTENT TYPE	SIZE	STATUS	RI
about.jpg	Hot (inferred)	7/21/2021, 1:30:36 PM	7/21/2021, 1:30:36 PM	Block Blob	image/jpeg	188.6 KB	Active	
hero-bg.png	Hot (inferred)	7/21/2021, 1:30:35 PM	7/21/2021, 1:30:35 PM	Block Blob	image/png	7.1 KB	Active	
hero-img.png	Hot (inferred)	7/21/2021, 1:30:35 PM	7/21/2021, 1:30:35 PM	Block Blob	image/png	22.1 KB	Active	
index.html	Hot (inferred)	7/21/2021, 1:30:34 PM	7/21/2021, 1:30:34 PM	Block Blob	text/html	9.6 KB	Active	
logo.png	Hot (inferred)	7/21/2021, 1:30:34 PM	7/21/2021, 1:30:34 PM	Block Blob	image/png	1.0 KB	Active	
README.md	Hot (inferred)	7/21/2021, 1:30:34 PM	7/21/2021, 1:30:34 PM	Block Blob	application/octet-stream	14 B	Active	
script.js	Hot (inferred)	7/21/2021, 1:30:34 PM	7/21/2021, 1:30:34 PM	Block Blob	text/javascript	447 B	Active	
style.css	Hot (inferred)	7/21/2021, 1:30:34 PM	7/21/2021, 1:30:34 PM	Block Blob	text/css	3.8 KB	Active	
values-1.png	Hot (inferred)	7/21/2021, 1:30:35 PM	7/21/2021, 1:30:35 PM	Block Blob	image/png	203 KB	Active	
values-2.png	Hot (inferred)	7/21/2021, 1:30:35 PM	7/21/2021, 1:30:35 PM	Block Blob	image/png	22.2 KB	Active	
values-3.png	Hot (inferred)	7/21/2021, 1:30:35 PM	7/21/2021, 1:30:35 PM	Block Blob	image/png	19.6 KB	Active	

Showing 1 to 11 of 11 cached items

WEB AND UPLOAD THE TWO HTML FILES INIT

STEP7: AND AGAIN RETURN TO STATIC WEBSITE AND OPEN THE PRIMARYLINK AND YOUR WEB PAGE IS CREATED



The screenshot shows a static website page. At the top, it says "React" and has a navigation bar with links to Home, About, Services, Testimonials, and Contact. The main content area features a large blue header with the text "We offer modern solutions for growing your business". Below this, there's a subtext "We are team of talented designers making websites with Bootstrap" and a blue "Get Started" button. To the right of the text, there's a 3D isometric illustration of three people working on a large smartphone screen, which is displaying a document with a red signature. The background of the page is white with some subtle blue and white patterns.

EXP 20: DATABASE AS A SERVICE (DAAS) CREATE AND CONFIGURE A NEW VM IMAGE IN ANY PUBLIC CLOUD SERVICE PROVIDER

AIM:

TO CREATE DATABASE AS A SERVICE (DAAS) CREATE AND CONFIGURE A NEW VM IMAGE IN ANY PUBLIC CLOUD SERVICE PROVIDER.

PROCEDURE:

STEP1: GOTO AZURE AND GOTO SQLDATABASE.

STEP 02: NOW CREATE A SQL DATABASE

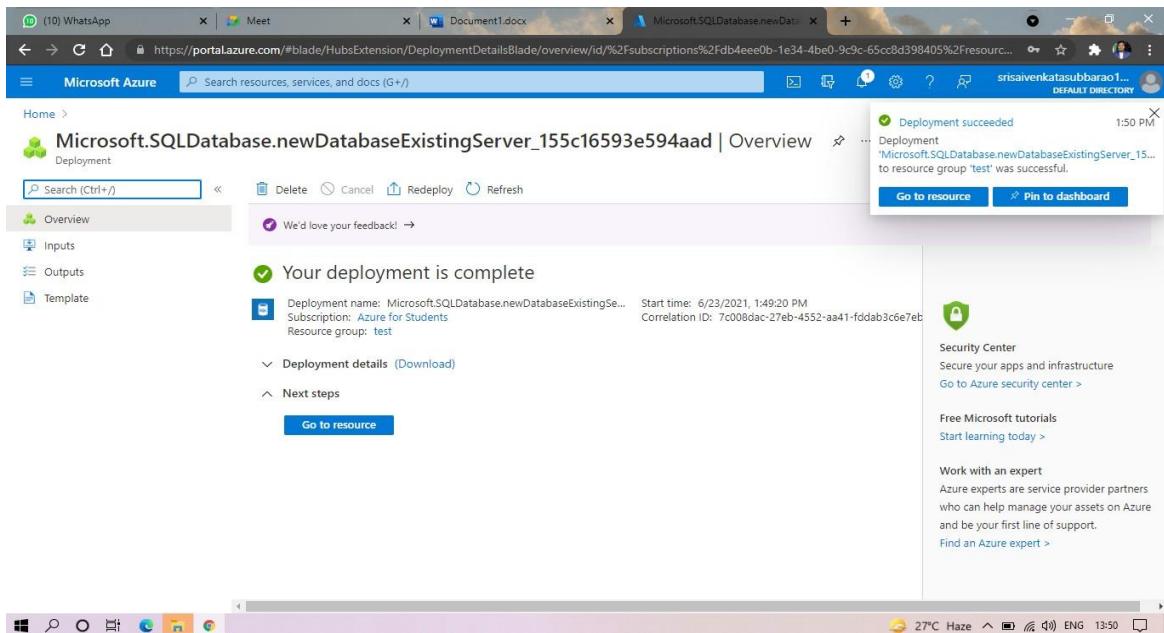
STEP3: SELECT THE RESOURCE GROUP AND ENTER THE SERVERNAME THAT APPLICABLE.

STEP4: IN NETWORKING SELECT ALLOW AZURE SERVICES AND RESOURCES TO ACCESS THIS SERVER.

STEP5: IN ADDITIONAL SETTINGS SELECT SAMPLE.

STEP6: AND THE SQL DATABASE IS DEPLOYED

OUTPUT:



EXP21.CREATE A SQL STORAGE SERVICE AND PERFORM A BASIC QUERY USING ANY PUBLIC CLOUD SERVICE PROVIDER (AZURE/GCP/AWS) TO DEMONSTRATE DATABASE AS A SERVICE (DAAS)

AIM: CREATE A SQL STORAGE SERVICE AND PERFORM A BASIC QUERY USING ANY PUBLIC CLOUD SERVICE PROVIDER (AZURE/GCP/AWS) TO DEMONSTRATE DATABASE AS A SERVICE (DAAS)

PROCEDURE:

STEP1: GOTO AZURE AND GOTO SQLDATABASE.

STEP 02: Now Create a Sql Database

STEP3: SELECT THE RESOURCE GROUP AND ENTER THE SERVERNAME THAT APPLICABLE.

STEP4: IN NETWORKING SELECT ALLOW AZURE SERVICES AND RESOURCES TO ACCESS THIS SERVER.

STEP5: IN ADDITIONAL SETTINGS SELECT SAMPLE.

STEP6: AND THE SQL DATABASE IS DEPLOYED

TEP7: NOW GOTO QUERY EDITOR.

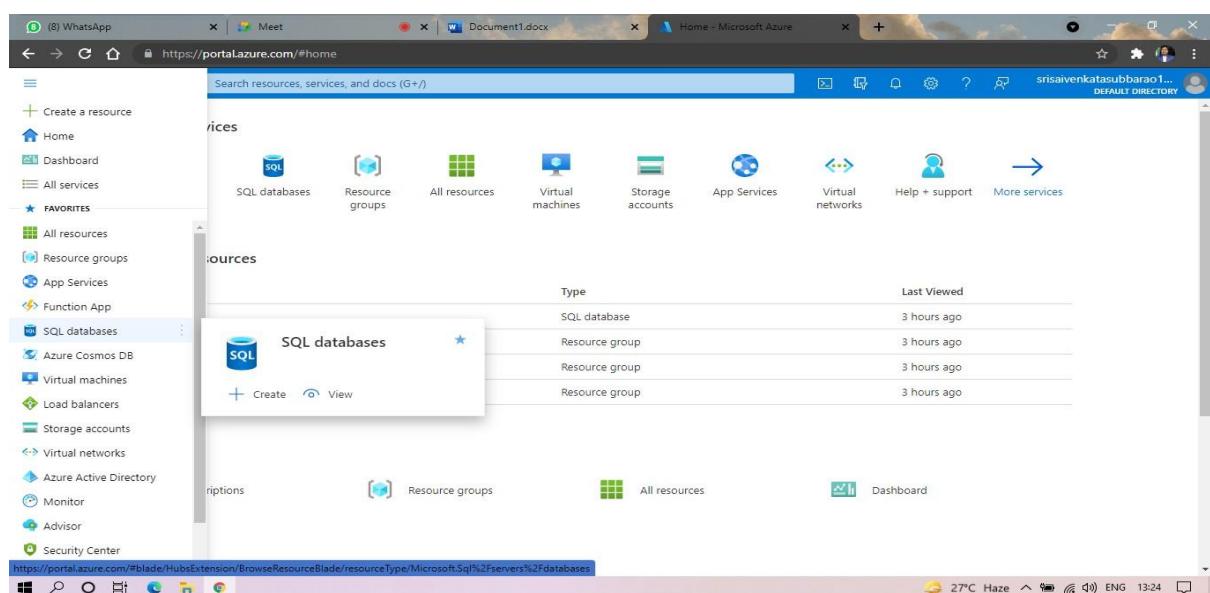
STEP8: NOW AGAIN LOGIN TO THE SQLDATADATABASE

STEP9: OUR TABLES WILL SHOWN AND TYPE THE QUERY TO EXECUTE

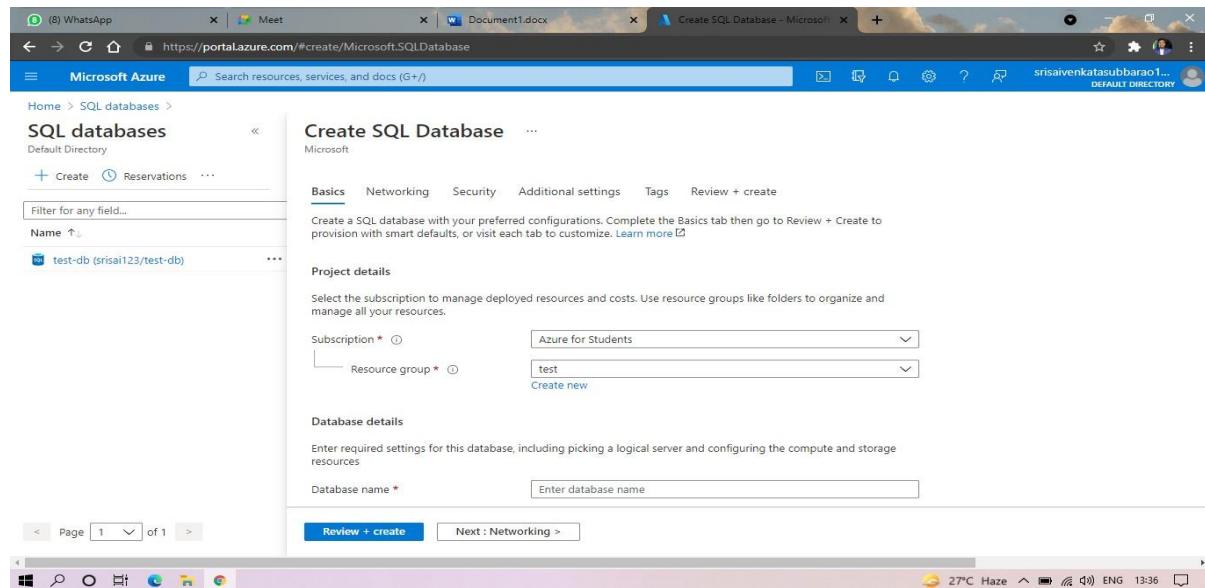
IMPLEMENTATION:

STEP1: GOTO AZURE AND GOTO SQLDATABASE.

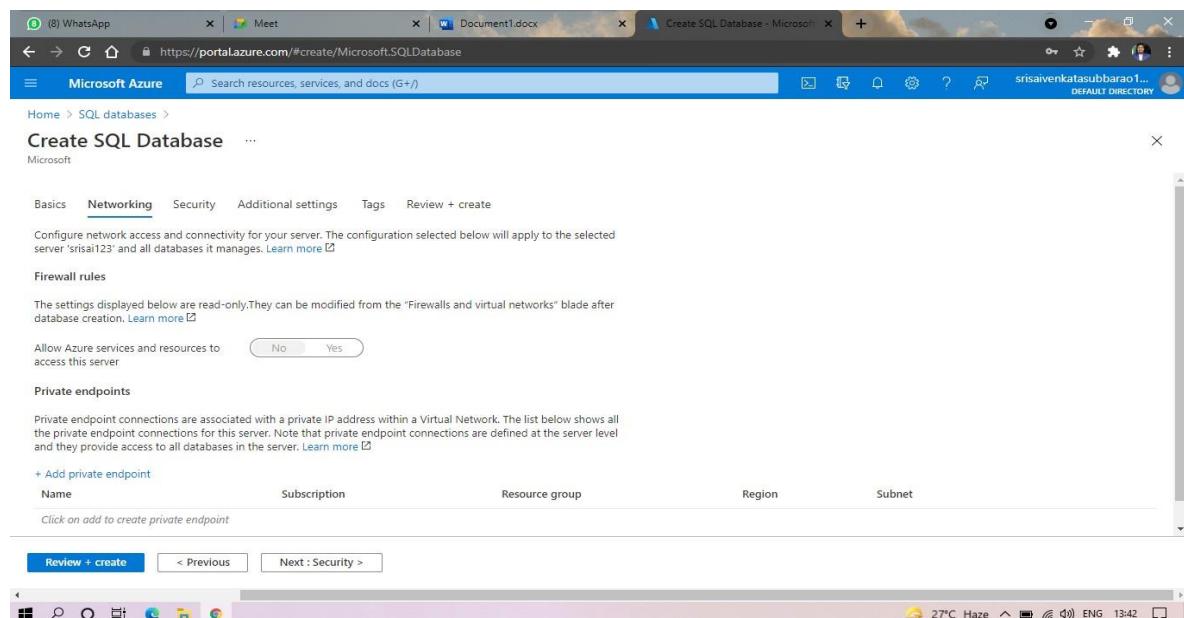
STEP 02:- Now Create a Sql Database



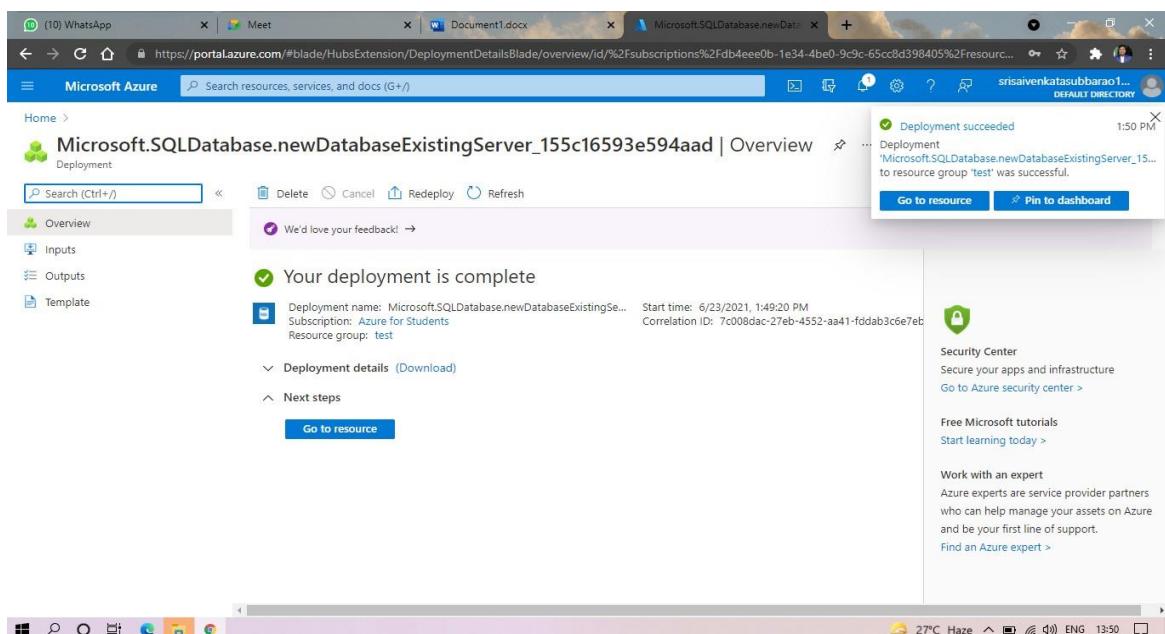
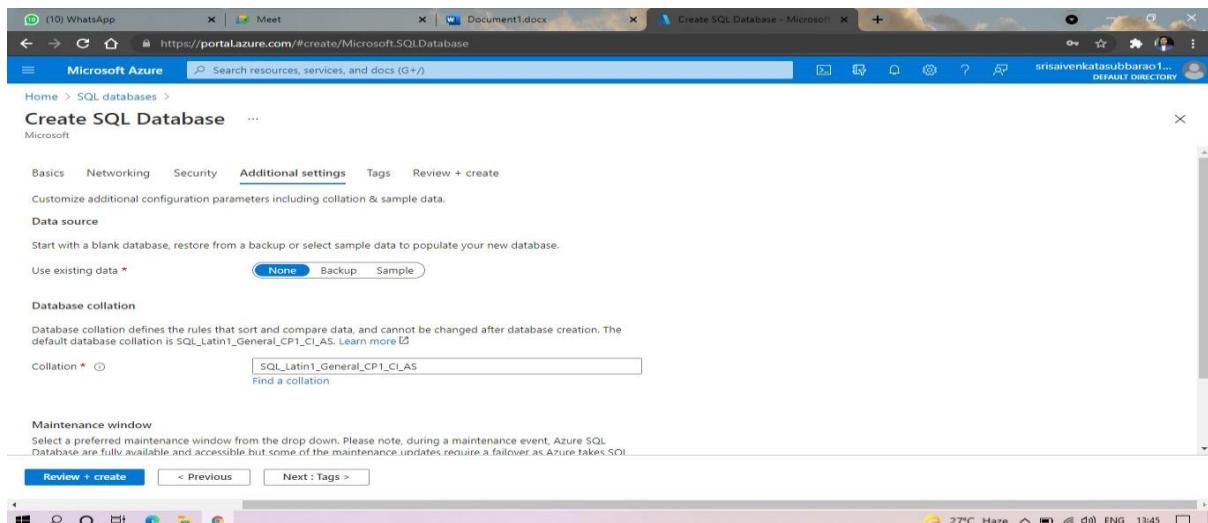
STEP3: SELECT THE RESOURCE GROUP AND ENTER THE SERVERNAME THAT APPLICABLE.



STEP4: IN NETWORKING SELECT ALLOW AZURE SERVICES AND RESOURCES TO ACCESS THIS SERVER.



STEP5: IN ADDITIONAL SETTINGS SELECT SAMPLE.



STEP6:AND THE SQL DATABASE IS DEPLOYED.

STEP7:AND NOW GOTO QUERY EDITOR.

The screenshot shows the Microsoft Azure portal interface. The left sidebar navigation includes Home, Overview, Activity log, Tags, Diagnose and solve problems, Quick start, Query editor (preview), Power Platform (Power BI (preview), Power Apps (preview), Power Automate (preview)), Settings (Compute + storage, Connection strings, Properties, Locks), and a search bar. The main content area displays the 'test-db (srisai123/test-db)' resource group details under the 'Essentials' tab. Key information shown includes:

- Resource group (change) : test
- Status : Paused
- Location : West US 3
- Subscription (change) : Azure for Students
- Subscription ID : db4eee0b-1e34-4be0-9c9c-65cc8d398405
- Tags (change) : Click here to add tags
- Server name : srisai123.database.windows.net
- Connection strings : Show database connection strings
- Pricing tier : General Purpose: Serverless, Gen5, 1 vCore
- Auto-pause delay : 1 hour
- Earliest restore point : 2021-06-23 05:19 UTC

Below the essentials section, there is a 'Compute utilization' chart and a 'Show data for last:' dropdown with options for 1 hour, 24 hours, and 7 days. An 'Aggregation type:' dropdown is set to 'Max'. The bottom right corner of the screen shows system status: 27°C Haze, ENG, 13:52.

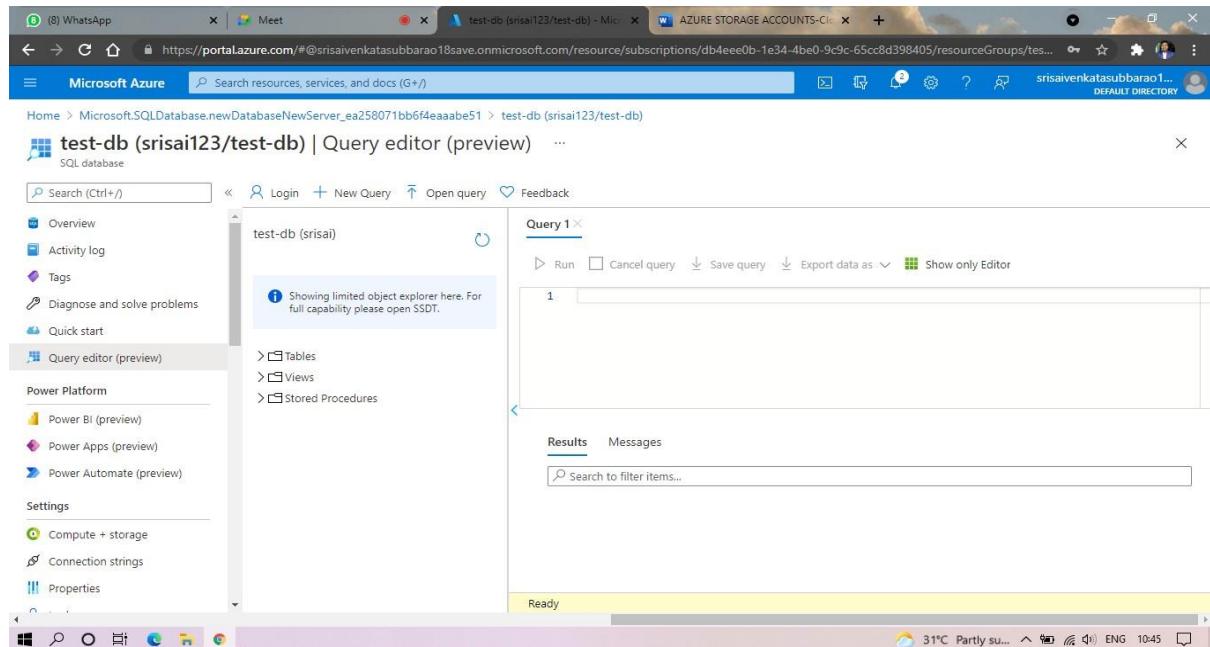
STEP8:AND NOW AGAIN LOGIN TO THE SQLDATADBATABASE

The screenshot shows the Microsoft Azure portal interface, specifically the 'Query editor (preview)' page for the 'test-db (srisai123/test-db)' resource group. The left sidebar navigation is identical to the previous screenshot. The main content area displays the 'Welcome to SQL Database Query Editor' page. It features two authentication methods:

- SQL server authentication:** A 'Login *' field containing 'srisai' and a 'Password *' field containing '*****'. Below these fields is an 'OK' button.
- Active Directory authentication:** A 'Continue as srisaivenkatasubbarao18@...' button.

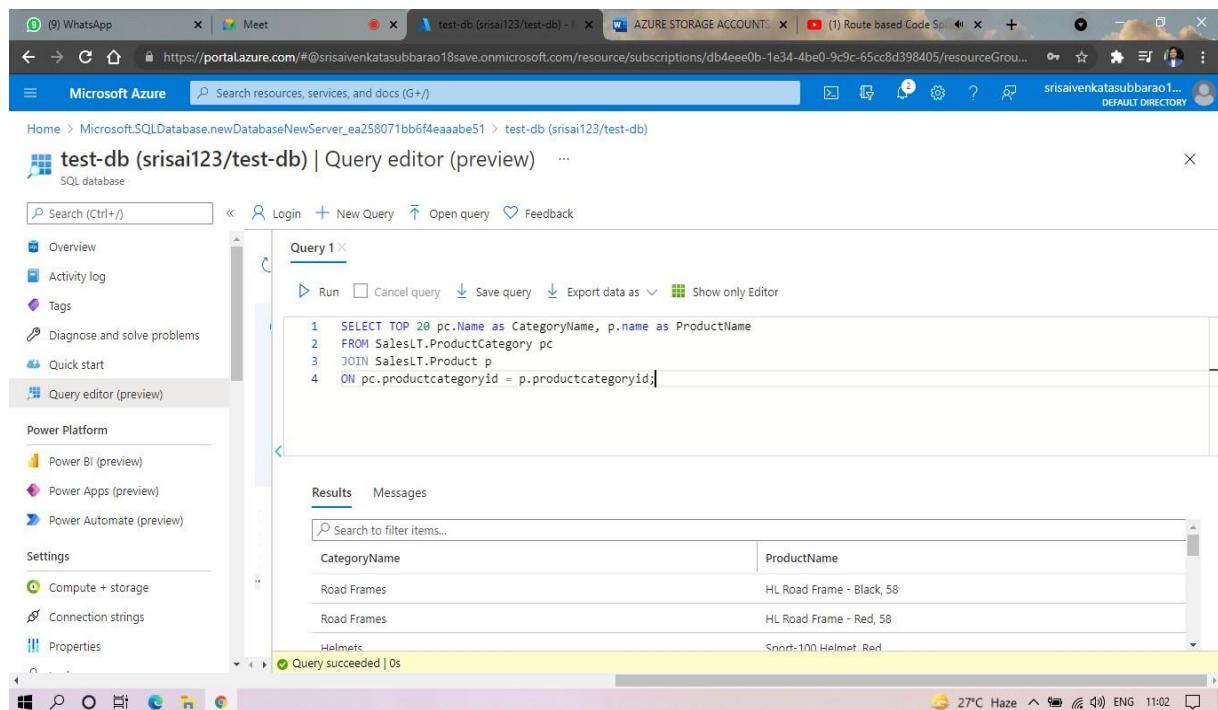
The bottom right corner of the screen shows system status: 27°C Haze, ENG, 13:58.

STEP9: AND OUR TABLES WILL SHOWN AND TYPE THE QUERY TOEXECUTED.



The screenshot shows the Microsoft Azure portal interface. The main title bar reads "test-db (srисai123/test-db) - Microsoft Azure". Below it, the URL is https://portal.azure.com/#@srисaivenkatasubbarao18save.onmicrosoft.com/resource/subscriptions/db4eee0b-1e34-4be0-9c9c-65cc8d398405/resourceGroups/test-db. The left sidebar is titled "test-db (srисai123)" and includes sections for Overview, Activity log, Tags, Diagnose and solve problems, Quick start, and Query editor (preview). The "Query editor (preview)" section is currently selected. The main content area is titled "Query 1" and contains a text input field with the number "1" and a dropdown menu with options Run, Cancel query, Save query, Export data as, and Show only Editor. Below the input field is a "Results" tab and a search bar. At the bottom of the main area, there is a yellow bar with the word "Ready".

STEP10: AND OUR OUTPUT IS READY.



This screenshot shows the same Microsoft Azure portal setup as the previous one, but with a query executed. The "Query 1" text input field now contains the following SQL code:

```
1 SELECT TOP 20 pc.Name as CategoryName, p.name as ProductName
2 FROM SalesLT.ProductCategory pc
3 JOIN SalesLT.Product p
4 ON pc.productcategoryid = p.productcategoryid;
```

The "Results" tab is active, and the output shows a table with two columns: "CategoryName" and "ProductName". The data is as follows:

CategoryName	ProductName
Road Frames	HL Road Frame - Black, 58
Road Frames	HL Road Frame - Red, 58
Helmets	Smart-100 Helmet, Red

At the bottom of the results pane, a green status bar indicates "Query succeeded | 0s".

EXP. 22: PERFORM THE BASIC CONFIGURATION SETUP FOR INSTALLINGHADOOP 2.X LIKE CREATING THE HDUSER AND SSH LOCALHOST

AIM: PERFORM THE BASIC CONFIGURATION SETUP FOR INSTALLINGHADOOP 2.X LIKE CREATING THE HDUSER AND SSH LOCALHOST

PROCEDURE:

Step 1 – System Update

```
$ sudo apt-get update
```

Step 2 – Install Java and Set JAVA_HOME

//This first thing to do is to setup the webupd8 ppa on your system. Run the following command and proceed.

```
$ sudo apt-add-repository ppa:webupd8team/java
```

```
$ sudo apt-get update
```

//After setting up the ppa repository, update the package cache as well.

//Install the Java 8 installer

```
$ sudo apt-get install oracle-java8-installer
```

// After the installation is finished, Oracle Java is setup. Run the java command again to check the version and vendor.

[or]

```
$ sudo apt-get install default-jdk
```

```
$ java -version
```

Step 3 – Add a dedicated Hadoop user

```
$ sudo addgroup hadoop
```

```
$ sudo adduser --ingroup hadoop hduser
```

// Add hduser to sudo user group

```
$ sudo adduser hduser sudo
```

Step 4 – Install SSH and Create Certificates

```
$ sudo apt-get install ssh
```

```
$ su hduser
```

```
$ ssh-keygen -t rsa -P ""  
  
// Set Environmental variables  
$ cat $HOME/.ssh/id_rsa.pub >> $HOME/.ssh/authorized_keys
```

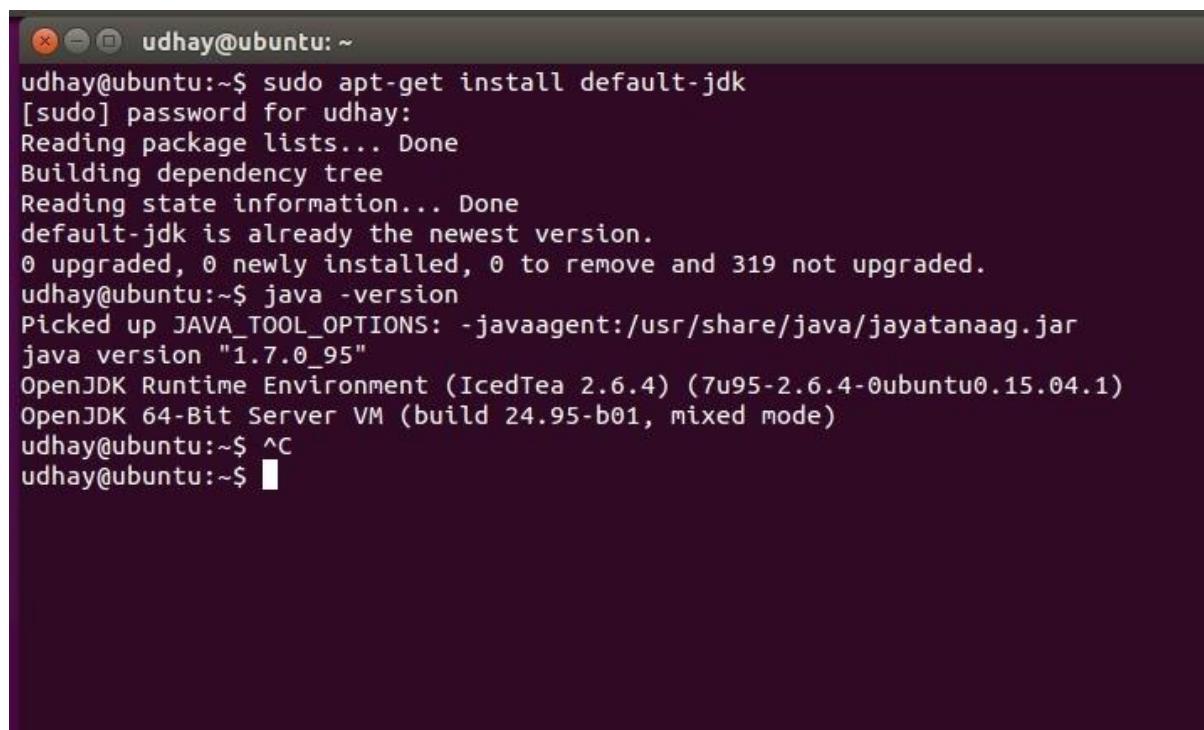
Step 5 – Check if SSH works

```
$ ssh localhost
```

Step 6 – Install Hadoop

```
// Extract Hadoop-2.7.2  
$ sudo tar xvzf hadoop-2.7.2.tar.gz  
  
// Create a folder ‘hadoop’ in /usr/local  
$ sudo mkdir -p /usr/local/hadoop  
  
// Move the Hadoop folder to /usr/local/hadoop  
$ sudo mv hadoop-2.7.2 /usr/local/hadoop  
  
// Assigning read and write access to Hadoop folder  
$ sudo chown -R hduser:hadoop /usr/local/hadoop
```

Implementation:



The screenshot shows a terminal window titled 'udhay@ubuntu: ~'. The user runs 'sudo apt-get install default-jdk' and is prompted for a password. The output shows that default-jdk is already the newest version, with 0 upgraded, 0 newly installed, and 319 not upgraded. The user then runs 'java -version' and sees the Java version is 1.7.0_95, along with details about the OpenJDK Runtime Environment and Server VM. Finally, the user presses ^C to exit.

```
udhay@ubuntu:~$ sudo apt-get install default-jdk  
[sudo] password for udhay:  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
default-jdk is already the newest version.  
0 upgraded, 0 newly installed, 0 to remove and 319 not upgraded.  
udhay@ubuntu:~$ java -version  
Picked up JAVA_TOOL_OPTIONS: -javaagent:/usr/share/java/jayatanaag.jar  
java version "1.7.0_95"  
OpenJDK Runtime Environment (IcedTea 2.6.4) (7u95-2.6.4-0ubuntu0.15.04.1)  
OpenJDK 64-Bit Server VM (build 24.95-b01, mixed mode)  
udhay@ubuntu:~$ ^C  
udhay@ubuntu:~$
```

```
udhay@ubuntu:~$ sudo apt-get install ssh
Reading package lists... Done
Building dependency tree
Reading state information... Done
ssh is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 319 not upgraded.
udhay@ubuntu:~$ su hduser
Password:
hduser@ubuntu:/home/udhay$
```

```
udhay@ubuntu:~$ su hduser
Password:
hduser@ubuntu:/home/udhay$ ssh-keygen -t rsa -P ""
Generating public/private rsa key pair.
Enter file in which to save the key (/home/hduser/.ssh/id_rsa):
/home/hduser/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Your identification has been saved in /home/hduser/.ssh/id_rsa.
Your public key has been saved in /home/hduser/.ssh/id_rsa.pub.
The key fingerprint is:
09:0f:15:f2:b2:b7:5e:11:1a:6c:d3:2f:c3:09:02:15 hduser@ubuntu
The key's randomart image is:
+---[RSA 2048]---+
| ..E.o. |
| . = . |
| = B o |
| O B + |
| . S * . |
| . . + |
| . . |
| . . |
+-----+
hduser@ubuntu:/home/udhay$ cat $HOME/.ssh/id_rsa.pub >> $HOME/.ssh/authorized_keys
hduser@ubuntu:/home/udhay$ ssh localhost
Welcome to Ubuntu 15.04 (GNU/Linux 3.19.0-84-generic x86_64)
```

* Documentation: <https://help.ubuntu.com/>

```
Last login: Thu Jul 15 22:00:14 2021 from localhost
hduser@ubuntu:~$
```

Home Clone of Ubuntu 64-bit

About the Cluster - Mozilla Firefox

Restore Session About the Cluster Namenode information +

localhost:8088/cluster/cluster

Search

hadoop

About the Cluster

Cluster Metrics

	Apps Submitted	Apps Pending	Apps Running	Apps Completed	Containers Running	Memory Used	Memory Total	Memory Reserved	Vcores Used	Vcores Total	Vcores Reserved	Active Nodes	Nodes
Nodes	0	0	0	0	0	0 B	8 GB	0 B	0	8	0	1	0

Scheduler Metrics

Scheduler Type	Scheduling Resource Type	Minimum Allocation
Capacity Scheduler	[MEMORY]	<memory:1024, vCores:1>

Cluster ID: 1626414170591
ResourceManager state: STARTED
ResourceManager HA state: active
ResourceManager HA zookeeper connection state: ResourceManager HA is not enabled.
ResourceManager RMStateStore: org.apache.hadoop.yarn.server.resourcemanager.recovery.NullRMStateStore
ResourceManager started on: Thu Jul 15 22:42:50 -0700 2021
ResourceManager version: 2.7.2 from b165c4fe8a74265c792ce23f546c64604acf0e41 by jenkins source checksum 2016-01-26T00:16Z
Hadoop version: 2.7.2 from b165c4fe8a74265c792ce23f546c64604acf0e41 by jenkins source checksum 2016-01-26T00:08Z

Activate Windows

EXP. 23: INSTALL HADOOP 2.X AND CONFIGURE THE NAME NODE AND DATANODE.

AIM: INSTALL HADOOP 2.X AND CONFIGURE THE NAME NODE AND DATANODE.

PROCEDURE:

Step 7 - Modify Hadoop config files

//Hadoop Environmental variable setting – The following files will be modified

1. `~/.bashrc`
2. `/usr/local/hadoop/hadoop-2.7.2/etc/hadoop/hadoop-env.sh`
3. `/usr/local/hadoop/hadoop-2.7.2/etc/hadoop/core-site.xml`
4. `/usr/local/hadoop/hadoop-2.7.2/etc/hadoop/hdfs-site.xml`
5. `/usr/local/hadoop/hadoop-2.7.2/etc/hadoop/yarn-site.xml`
6. `/usr/local/hadoop/hadoop-2.7.2/etc/hadoop/mapred-site.xml.template`

```
$ sudo nano ~/.bashrc
```

// Add the following lines at the end of the file

```
export JAVA_HOME=/usr/lib/jvm/java-8-oracle
export HADOOP_HOME=/usr/local/hadoop/hadoop-2.7.2
export PATH=$PATH:$HADOOP_HOME/bin
export PATH=$PATH:$HADOOP_HOME/sbin
export HADOOP_MAPRED_HOME=$HADOOP_HOME
export HADOOP_COMMON_HOME=$HADOOP_HOME
export HADOOP_HDFS_HOME=$HADOOP_HOME
export YARN_HOME=$HADOOP_HOME
HADOOP_COMMON_LIB_NATIVE_DIR=$HADOOP_HOME/lib/native
export HADOOP_OPTS="-Djava.library.path=$HADOOP_HOME/lib"
export PATH=$PATH:/usr/local/hadoop-2.7.2/bin
```

// Configure Hadoop Files

```
$ cd /usr/local/hadoop/hadoop-2.7.2/etc/hadoop/
```

```
$ sudo nano hadoop-env.sh
```

// Add following line in hadoop-env.sh – Set JAVA variable in Hadoop

```
# The java implementation to use.
export JAVA_HOME=/usr/lib/jvm/java-8-oracle
```

// Create datanode and namenode

```
$ sudo mkdir -p /usr/local/hadoop_tmp/hdfs/namenode  
$ sudo mkdir -p /usr/local/hadoop_tmp/hdfs/datanode  
// Changing ownership to hadoop_tmp  
$ sudo chown -R hduser:hadoop /usr/local/hadoop_tmp  
// Edit hdfs-site.xml  
$ sudo nano hdfs-site.xml
```

// Add the following lines between <configuration> </configuration>

```
<configuration>  
<property>  
<name>dfs.replication</name>  
<value>1</value>  
</property>  
<property>  
<name>dfs.namenode.name.dir</name>  
<value>file:/usr/local/hadoop_tmp/hdfs/namenode</value>  
</property>  
<property>  
<name>dfs.datanode.data.dir</name>  
<value>file:/usr/local/hadoop_tmp/hdfs/datanode</value>  
</property>  
</configuration>
```

// Edit core-site.xml

```
$ sudo nano core-site.xml
```

// Add the following lines between <configuration> </configuration>

```
<configuration>  
<property>  
<name>fs.default.name</name>  
<value>hdfs://localhost:9000</value>  
</property>  
</configuration>
```

// Edit yarn-site.xml

```
$ sudo nano yarn-site.xml
```

// Add the following lines between <configuration> </configuration>

```
<configuration>  
<property>  
<name>yarn.nodemanager.aux-services</name>  
<value>mapreduce_shuffle</value>  
</property>  
<property>
```

```
<name>yarn.nodemanager.aux-services.mapreduce.shuffle.class</name>
<value>org.apache.hadoop.mapred.Shuffle-Handler</value>
</property>
</configuration>
```

// Edit mapred-site.xmsudo

```
$ cp /usr/local/hadoop/hadoop-2.7.2/etc/hadoop/mapred-site.xml.template
/usr/local/hadoop/hadoop-2.7.2/etc/hadoop/mapred-site.xml
```

```
$ sudo nano mapred-site.xml
```

// Add the following lines between <configuration> </configuration>

```
<configuration>
<property>
<name>mapreduce.framework.name</name>
<value>yarn</value>
</property>
</configuration>
```

Step-8 – Format Hadoop File System

```
$ cd /usr/local/hadoop/hadoop-2.7.2/bin
$ hadoop namenode -format
```

Step 9 - Start Hadoop

```
$ cd /usr/local/hadoop/hadoop-2.7.2/sbin
// Starting dfs services
$ start-dfs.sh
// Starting mapreduce services
$ start-yarn.sh
$ jps
```

Step 10 - Check Hadoop through web UI

Go to browser type <http://localhost:8088> – All Applications Hadoop Cluster

Go to browser type <http://localhost:50070> – Hadoop Namenode

Step 11 - Stop Hadoop

```
$ stop-dfs.sh
$ stop-yarn.sh
```

IMPLEMENTATION:

```
Clone of Ubuntu 64-bit
GNU nano 2.2.6                               File: /home/hduser/.bashrc

# See /usr/share/doc/bash-doc/examples in the bash-doc package.

if [ -f ~/.bash_aliases ]; then
    . ~/.bash_aliases
fi

# enable programmable completion features (you don't need to enable
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile
# sources /etc/bash.bashrc).
if ! shopt -oq posix; then
    if [ -f /usr/share/bash-completion/bash_completion ]; then
        . /usr/share/bash-completion/bash_completion
    elif [ -f /etc/bash_completion ]; then
        . /etc/bash_completion
    fi
fi

#HADOOP VARIABLES START
export JAVA_HOME=/usr/lib/jvm/java-7-openjdk-amd64
export HADOOP_INSTALL=/usr/local/hadoop
export PATH=$PATH:$HADOOP_INSTALL/bin
export PATH=$PATH:$HADOOP_INSTALL/sbin
export HADOOP_MAPRED_HOME=$HADOOP_INSTALL
export HADOOP_COMMON_HOME=$HADOOP_INSTALL
export HADOOP_HDFS_HOME=$HADOOP_INSTALL
export YARN_HOME=$HADOOP_INSTALL
export HADOOP_COMMON_LIB_NATIVE_DIR=$HADOOP_INSTALL/lib/native
export HADOOP_OPTS="-Djava.library.path=$HADOOP_INSTALL/lib"
#HADOOP VARIABLES END
```

```
hduser@ubuntu:/home$ cd ..
hduser@ubuntu:$ cd usr
hduser@ubuntu:/usr$ cd local
hduser@ubuntu:/usr/local$ cd hadoop
hduser@ubuntu:/usr/local/hadoop$ cd etc
hduser@ubuntu:/usr/local/hadoop/etc$ cd hadoop
hduser@ubuntu:/usr/local/hadoop/etc/hadoop$ ls
capacity-scheduler.xml      httpfs-env.sh          mapred-env.sh
configuration.xsl           httpfs-log4j.properties  mapred-queues.xml.template
container-executor.cfg       httpfs-signature.secret mapred-site.xml
core-site.xml                httpfs-site.xml        mapred-site.xml.template
hadoop-env.cmd               kms-acls.xml         slaves
hadoop-env.sh                kms-env.sh          ssl-client.xml.example
hadoop-metrics2.properties   kms-log4j.properties  ssl-server.xml.example
hadoop-metrics.properties    kms-site.xml         yarn-env.cmd
hadoop-policy.xml            log4j.properties     yarn-env.sh
hdfs-site.xml                mapred-env.cmd       yarn-site.xml
hduser@ubuntu:/usr/local/hadoop/etc/hadoop$
```

```
hduser@ubuntu: /usr/local/hadoop/etc/hadoop
GNU nano 2.2.6          File: hadoop-env.sh

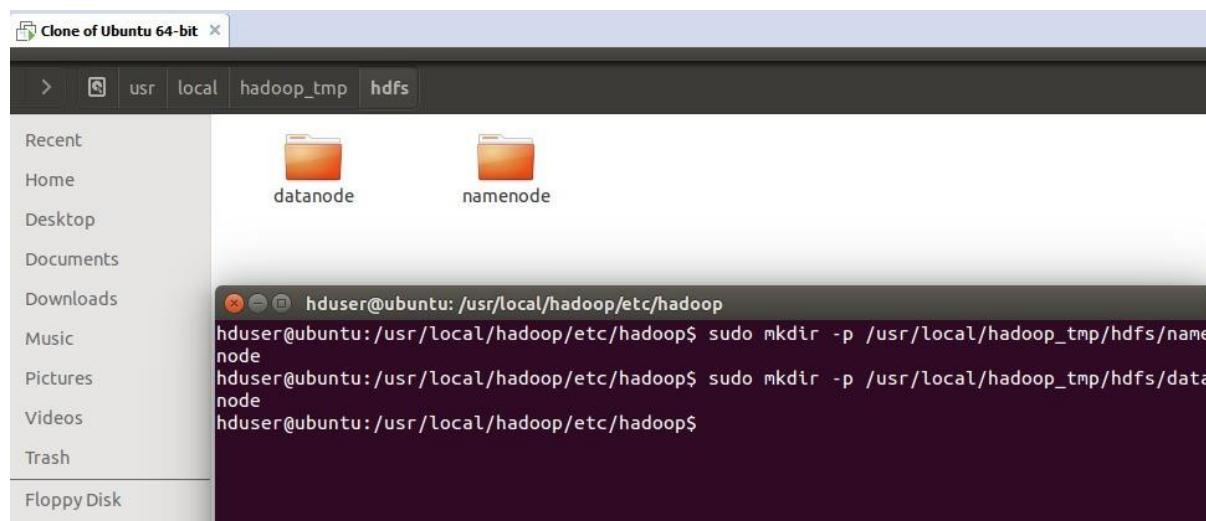
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
# See the License for the specific language governing permissions and
# limitations under the License.

# Set Hadoop-specific environment variables here.

# The only required environment variable is JAVA_HOME. All others are
# optional. When running a distributed configuration it is best to
# set JAVA_HOME in this file, so that it is correctly defined on
# remote nodes.

# The java implementation to use.
export JAVA_HOME=/usr/lib/jvm/java-7-openjdk-amd64
export JAVA_HOME=${JAVA_HOME}

# The jsvc implementation to use. Jsvc is required to run secure datanodes
# that bind to privileged ports to provide authentication of data transfer
# protocol. Jsvc is not required if SASL is configured for authentication of
# data transfer protocol using non-privileged ports.
```



EXP 24: LAUNCH THE HADOOP 2.X AND TEST THE MAP-REDUCE PLATFORM WITH HADOOP

AIM:

TO CREATE THE HADOOP 2.X AND TEST THE MAP-REDUCE PLATFORM WITH HADOOP

PROCEDURE:

Step 1 - Open Terminal

```
$ su  
hduser  
Password:
```

Step 2 - Start dfs and mapreduce services

```
$ cd /usr/local/hadoop/hadoop-2.7.2/sbin  
$ start-dfs.sh  
$ start-yarn.sh  
$ jps
```

Step 3 - Check Hadoop through web UI

```
// Go to browser type http://localhost:8088 – All Applications Hadoop Cluster  
// Go to browser type http://localhost:50070 – Hadoop Namenode
```

Step 4 – Open New Terminal

```
$ cd Desktop/  
$ mkdir inputdata  
$ cd inputdata/  
$ echo "Hai, Hello, How are you? How is your health?" >> hello.txt  
$ cat >> hello.txt
```

Step 5 – Go back to old Terminal

```
$ hadoop fs –copyFromLocal /home/hduser/Desktop/inputdata/hello.txt /folder/hduser  
// Check in hello.txt in Namenode using Web UI
```

Step 6 – Download and open eclipse by creating workspace

Create a new java project.

Step 7 – Add jar to the project

You need to remove dependencies by adding jar files in the hadoop source folder. Now Click on **Project** tab and go to Properties.Under Libraries tab, click Add External JARs and select all the jars in the folder (click on 1st jar, and Press Shift and Click on last jar to select all jars in between and click ok)

/usr/local/hadoop/hadoop-2.7.2/share/hadoop/commonand

/usr/local/hadoop/hadoop-2.7.2/share/hadoop/mapreduce folders.

OUTPUT:

Browsing HDFS - Mozilla Firefox							
Browsing HDFS							
Path		User	Group	Size	Last Modified	Replication	Name
drwxr-xr-x	hduser	supergroup	0 B	8/12/2016, 12:20:50 AM	0	0 B	cloud
drwxr-xr-x	hduser	supergroup	0 B	8/11/2016, 1:47:41 AM	0	0 B	cse
drwxr-xr-x	hduser	supergroup	0 B	8/4/2016, 11:37:37 PM	0	0 B	folder
drwxr-xr-x	hduser	supergroup	0 B	8/11/2016, 9:52:15 PM	0	0 B	grid
drwxr-xr-x	hduser	supergroup	0 B	8/11/2016, 9:54:38 PM	0	0 B	output
drwxr-xr-x	hduser	supergroup	0 B	8/11/2016, 11:54:23 PM	0	0 B	project
drwx-----	hduser	supergroup	0 B	8/4/2016, 11:40:37 PM	0	0 B	tmp

EXP. 25: LAUNCH THE HADOOP 2.X AND PERFORM MAPREDUCE PROGRAM FOR A WORD COUNT PROBLEM

AIM: LAUNCH THE HADOOP 2.X AND PERFORM MAPREDUCE PROGRAMFOR A WORD COUNT PROBLEM

PROCEDURE:

Step 1 - Open Terminal

```
$ su  
hduser  
Password:
```

Step 2 - Start dfs and mapreduce services

```
$ cd /usr/local/hadoop/hadoop-2.7.2/sbin  
$ start-dfs.sh  
$ start-yarn.sh  
$ jps
```

Step 3 - Check Hadoop through web UI

```
// Go to browser type http://localhost:8088 – All Applications Hadoop Cluster  
// Go to browser type http://localhost:50070 – Hadoop Namenode
```

Step 4 – Open New Terminal

```
$ cd Desktop/  
$ mkdir inputdata  
$ cd inputdata/  
$ echo "Hai, Hello, How are you? How is your health?" >> hello.txt  
$ cat >> hello.txt
```

Step 5 – Go back to old Terminal

```
$ hadoop fs –copyFromLocal /home/hduser/Desktop/inputdata/hello.txt /folder/hduser  
// Check in hello.txt in Namenode using Web UI
```

Step 6 – Download and open eclipse by creating workspace

Create a new java project.

Step 7 – Add jar to the project

You need to remove dependencies by adding jar files in the hadoop source folder. Now Click on **Project** tab and go to Properties.Under Libraries tab, click Add External JARs and select all the jars in the folder (click on 1st jar, and Press Shift and Click on last jar to select all jars in between and click ok)

`/usr/local/hadoop/hadoop-2.7.2/share/hadoop/commonand`

`/usr/local/hadoop/hadoop-2.7.2/share/hadoop/mapreduce` folders.

Step -8 – WordCount Program

Create 3 java files named

- **WordCount.java**
- **WordCountMapper.java**
- **WordCountReducer.java**

WordCount.java

```
import org.apache.hadoop.conf.Configured;
import org.apache.hadoop.fs.Path;

import org.apache.hadoop.io.IntWritable;
import org.apache.hadoop.mapred.FileInputFormat;
import org.apache.hadoop.mapred.FileOutputFormat;import
org.apache.hadoop.mapred.JobClient;
import org.apache.hadoop.mapred.JobConf;

import org.apache.hadoop.util.Tool;
import org.apache.hadoop.util.ToolRunner;
import org.apache.hadoop.io.Text;

public class WordCount extends Configured implements Tool {@Override

    public int run(String[] args) throws Exception {
        // TODO Auto-generated method
        stubIf(args.length<2)
        {
            System.out.println("check the command line arguments");
        }

        JobConf conf=new JobConf(WordCount.class);
        FileInputFormat.setInputPaths(conf, new Path(args[0]));
        FileOutputFormat.setOutputPath(conf, new Path(args[1]));
        conf.setMapperClass(WordMapper.class);
        conf.setReducerClass(WordReducer.class);
        conf.setOutputKeyClass(Text.class);
        conf.setOutputValueClass(IntWritable.class);
```

```
    }  
}
```

WordCountMapper.java

```
import java.io.IOException;  
  
import org.apache.hadoop.io.IntWritable;  
import org.apache.hadoop.io.LongWritable;  
  
import org.apache.hadoop.mapred.MapReduceBase;  
import org.apache.hadoop.mapred.OutputCollector;  
import org.apache.hadoop.mapred.Reporter;  
  
import org.apache.hadoop.io.Text;  
  
import org.apache.hadoop.mapred.Mapper;  
  
public class WordCountMapper extends MapReduceBase implements  
Mapper<LongWritable,Text,Text,IntWritable>  
{  
    @Override  
    public void map(LongWritable arg0, Text arg1, OutputCollector<Text, IntWritable> arg2,  
    Reporter arg3)
```

WordCountReducer.java

```
import java.io.IOException;import  
java.util.Iterator;  
  
import org.apache.hadoop.io.IntWritable;  
import org.apache.hadoop.mapred.JobConf;  
  
import org.apache.hadoop.mapred.OutputCollector;  
import org.apache.hadoop.mapred.Reducer;  
  
import org.apache.hadoop.mapred.Reporter;  
import org.apache.hadoop.io.Text;  
  
public class WordCountReducer implements Reducer<Text,IntWritable,Text,IntWritable> {  
    @Override  
    public void configure(JobConf arg0) {
```

```

    }

    @Override

    public void reduce(Text arg0, Iterator<IntWritable> arg1, OutputCollector<Text, IntWritable>
arg2, Reporter arg3)

        throws IOException {

        // TODO Auto-generated method
        stubint count=0;

        while(arg1.hasNext())

        {

            IntWritable i=arg1.next();
            count+=i.get();
        }
    }
}

```

Step 9 - Create JAR file

Now Click on the Run tab and click Run-Configurations. Click on New Configuration button on the left-top side and Apply after filling the following properties.

Step 10 - Export JAR file

Now click on File tab and select Export. under Java, select Runnable Jar.

In Launch Config – select the config file you created in **Step 9** (WordCountConfig).

Select an export destination (lets say desktop.)

Under Library handling, select Extract Required Libraries into generated JAR and click Finish.

Right-Click the jar file, go to Properties and under **Permission** tab, Check Allow executingfile as a program. and give Read and Write access to all the users

Step 11 – Go back to old Terminal for Execution of WordCount Program

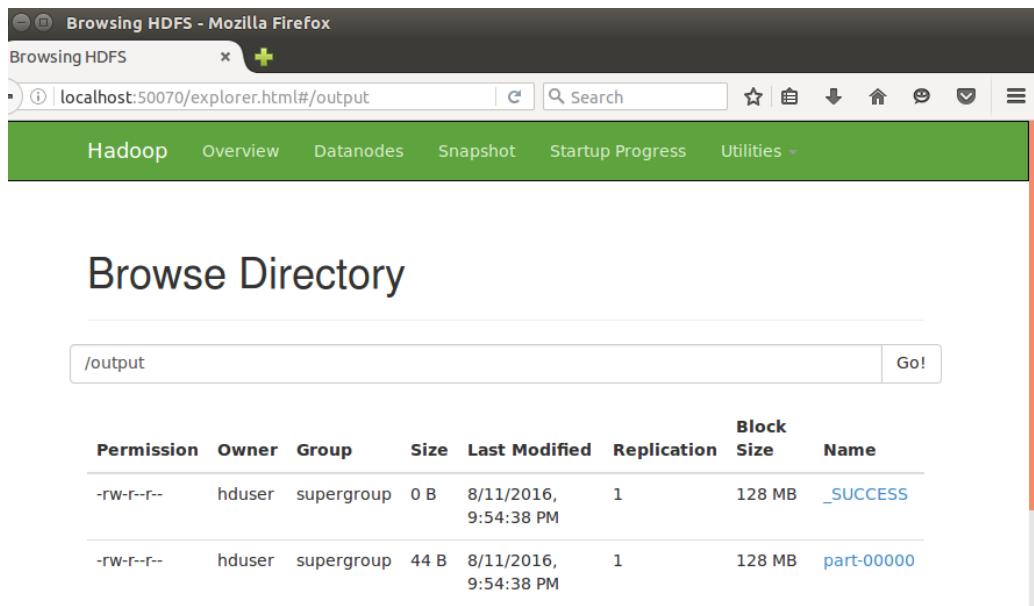
\$hadoop jar wordcount.jar/usr/local/hadoop/input/usr/local/hadoop/output

Name	Type	Last Modified	Size	Replication	Permissions
cloud	directory	8/12/2016, 12:20:50 AM	0 B	0	drwxr-xr-x hduser supergroup 0 B
cse	directory	8/11/2016, 1:47:41 AM	0 B	0	drwxr-xr-x hduser supergroup 0 B
folder	directory	8/4/2016, 11:37:37 PM	0 B	0	drwxr-xr-x hduser supergroup 0 B
grid	directory	8/11/2016, 9:52:15 PM	0 B	0	drwxr-xr-x hduser supergroup 0 B
output	directory	8/11/2016, 9:54:38 PM	0 B	0	drwxr-xr-x hduser supergroup 0 B
project	directory	8/11/2016, 11:54:23 PM	0 B	0	drwxr-xr-x hduser supergroup 0 B
tmp	directory	8/4/2016, 11:40:37 PM	0 B	0	drwx----- hduser supergroup 0 B

Step 12 – To view results in old Terminal

```
$hdfs dfs -cat /usr/local/hadoop/output/part-r-00000
```

```
hadoop1@ubuntu-1:~/project$ hadoop fs -cat /output/wordcount4/part-r-00000
.
a 1
and 1
as 1
count 1
counts 1
file 2
for 1
input 1
is 1
job 1
job. 1
map 1
returns 1
sample 1
takes 1
```



Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
-rw-r--r--	hduser	supergroup	0 B	8/11/2016, 9:54:38 PM	1	128 MB	_SUCCESS
-rw-r--r--	hduser	supergroup	44 B	8/11/2016, 9:54:38 PM	1	128 MB	part-00000

Step 13 - To Remove folders created using hdfs

```
$ hdfs dfs -rm -R /usr/local/hadoop/output
```

CO-PO ATTAINMENT

CO7	Able to show resource provisioning in the cloud services using VMware workstation and CSP	PO5	Class Practical
CO8	Ability to use the Hadoop Distributed File Systems using Hadoop.	PO5	University Practical Exam