

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

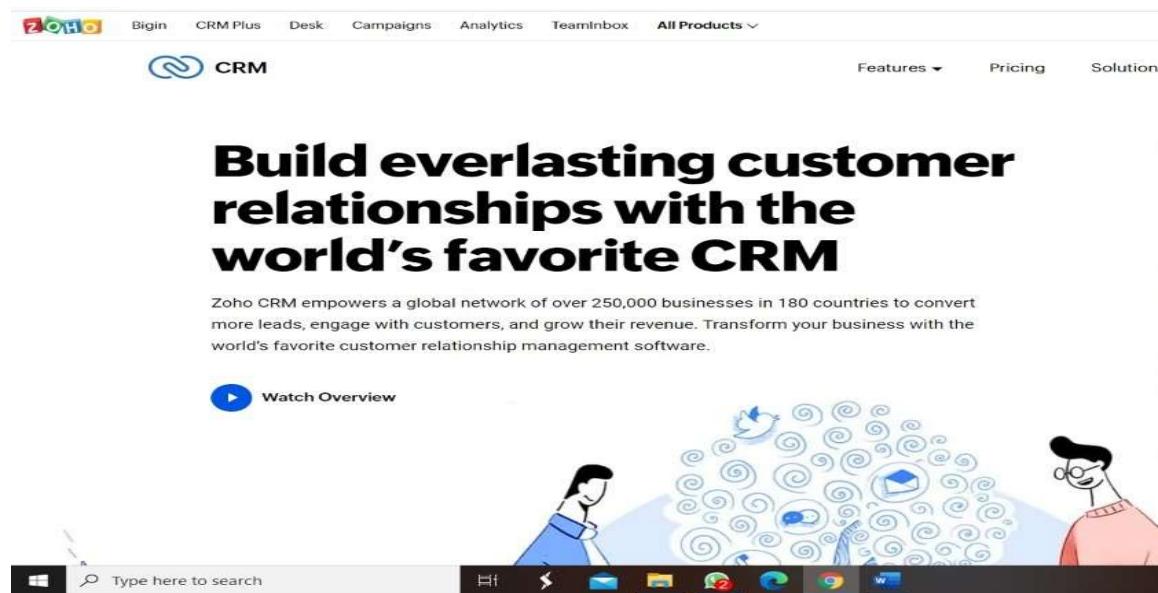
STEP 5: CREATED NEW APPLICATION

STEP 6: SELECT ONE FORM

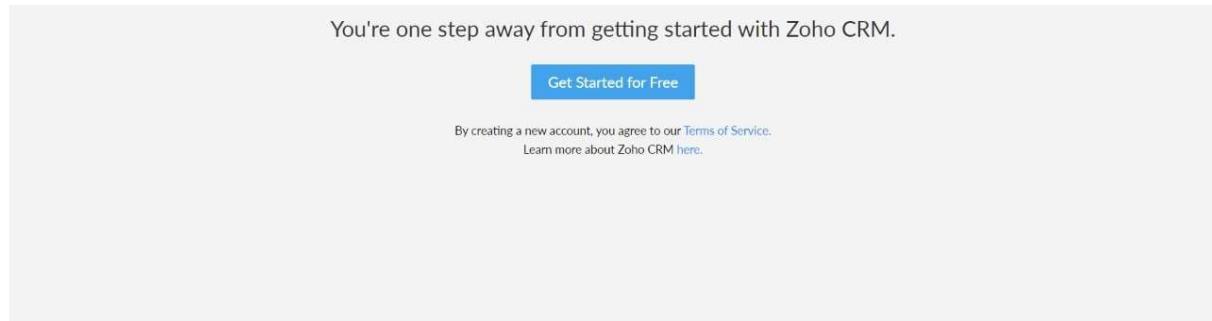
STEP 7: THE SOFTWARE HAS BEEN CREATED.

IMPLEMENTATION:

STEP1: GOTO ZOHO.COM



STEP 2: LOGINTO THE ZOHO.COM



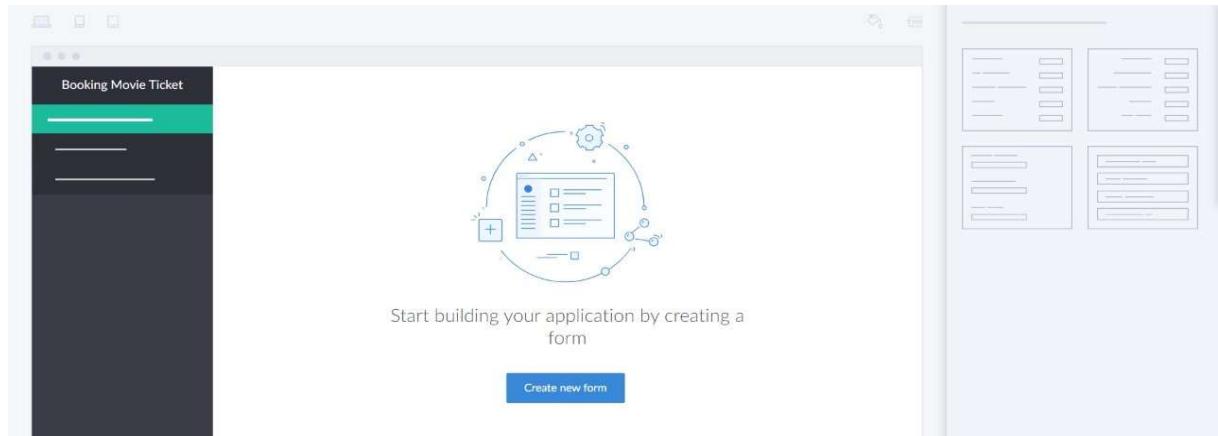
STEP 3: SELECT ONE APPLICATION

A screenshot of the Zoho Application Gallery. The top navigation bar includes a search bar, category filters (All, Information Technology, Business, Sales & Marketing, Education, More), and a "Cancel" button. The main content area displays a grid of application cards. The first card, "Create from scratch", is highlighted with a dashed border. Other cards include "Sales Management", "Order Management", "Employee Management", "IT Asset Tracker", "Event Management", "Course Planner", and "Expenses". Each card has a small description below it.

STEP 4: ENTER APPLICATION NAME

A screenshot of the Zoho Application Gallery, similar to the previous one but with a modal overlay. The modal is titled "Enter Application Name" and contains a text input field with the placeholder "Examples: Campaign Monitor, Order Management" and a "Create" button. The rest of the interface is identical to the previous screenshot, showing the application cards and navigation bar.

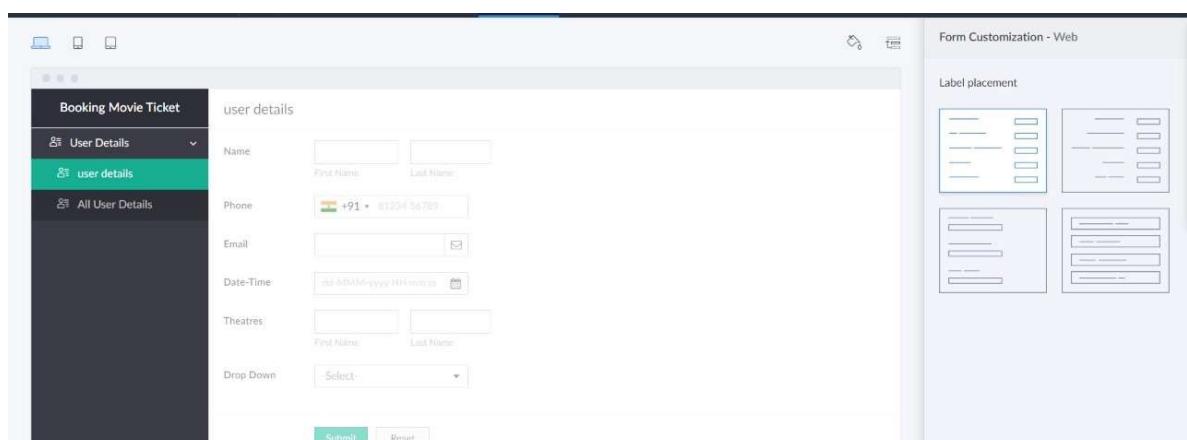
STEP 5: CREATED NEW APPLICATION



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

Field link 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.

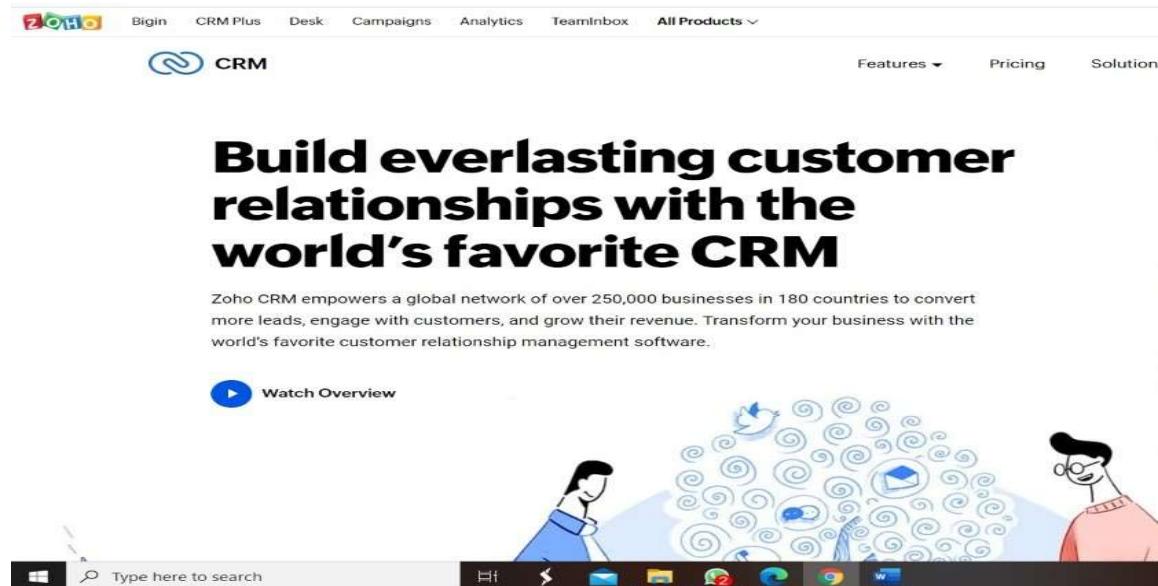
step 5: Created new application flight reservation system.

step 6: Select one form

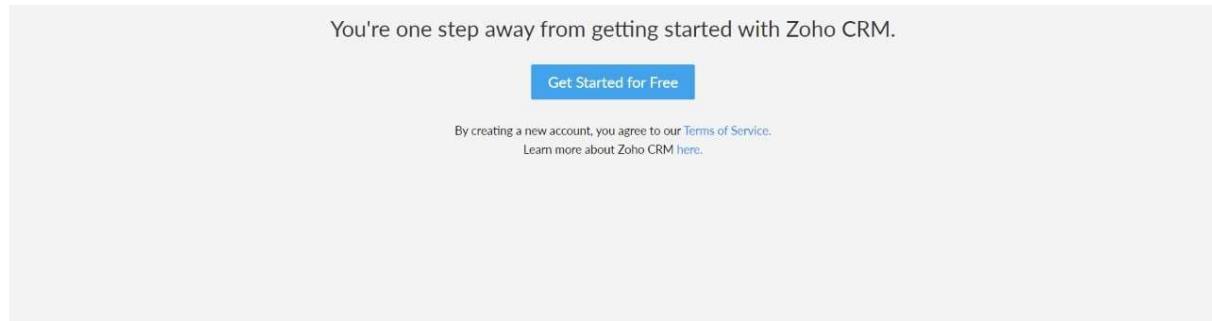
step 7: The software has been created.

IMPLEMENTATION:

STEP1: GOTO ZOHO.COM



STEP 2: LOGINTO THE ZOHO.COM



STEP 3: SELECT ONE APPLICATION

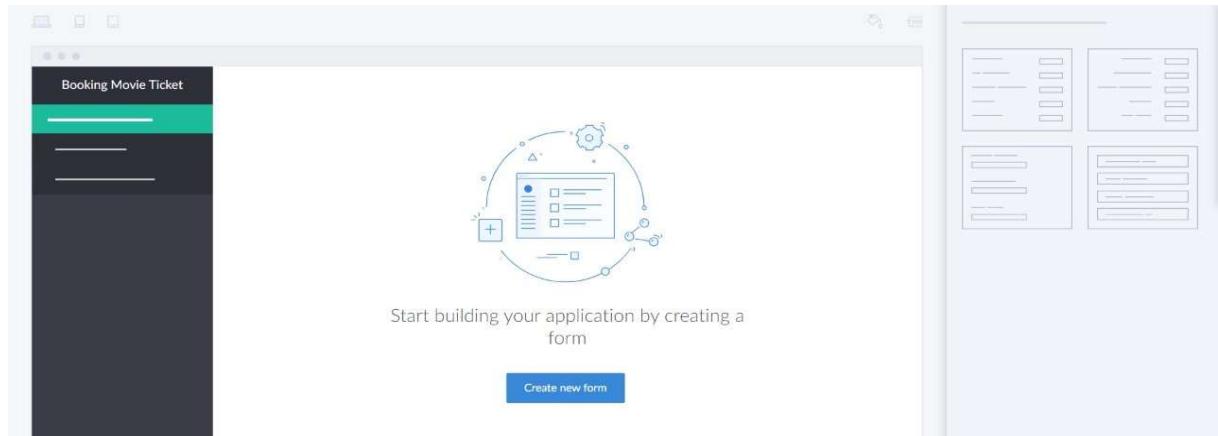
The screenshot shows the Zoho Application Gallery. At the top left is a search bar with placeholder text "Start typing to search for applications...". To the right are filter buttons: "All", "Information Technology", "Business", "Sales & Marketing", "Educ...", and "More". On the far right is a "Cancel" button. The main area displays a grid of application cards:

Category	Application	Description
Create from scratch	Sales Management	More Info Install this Application
	Order Management	Follow your orders
Information Technology	Employee Management	Handle your employees
	IT Asset Tracker	Track your technology
Business	Event Management	Organize your events
	Course Planner	Schedule your courses
Sales & Marketing	Expenses	Watch your expenses
	Employee Management	Handle your employees

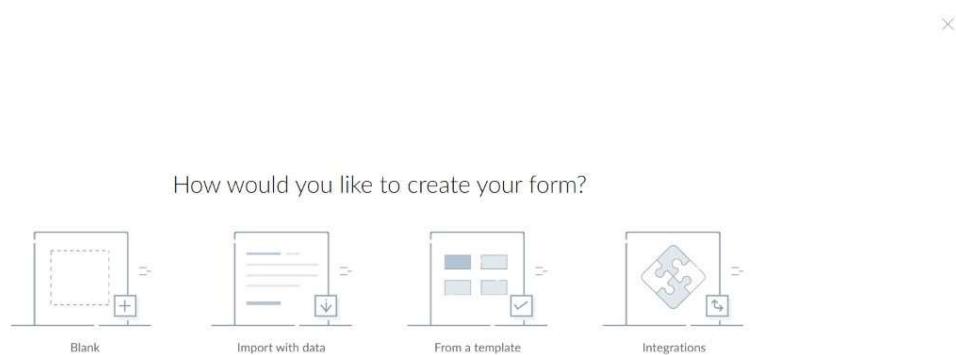
STEP 4: ENTER APPLICATION NAME

The screenshot shows the Zoho Application Gallery with an additional input field. A modal window titled "Enter Application Name" is open in the center. It contains a text input field with placeholder text "Examples: Campaign Monitor, Order Management" and a blue "Create" button below it. The rest of the interface is identical to the previous screenshot, showing the same application cards and filters.

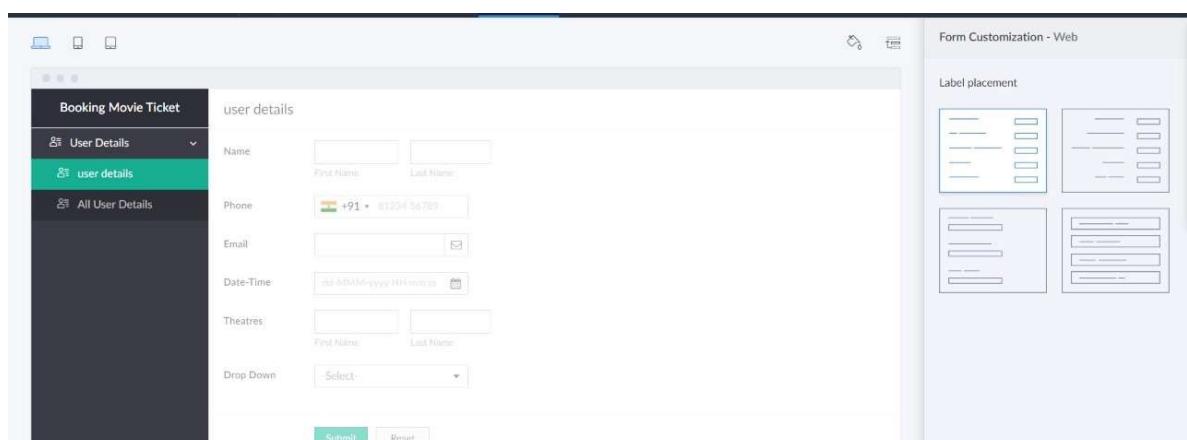
STEP 5: CREATED NEW APPLICATION



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

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields:

Prefix

First Name

Last Name

Suffix

Data Privacy

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.

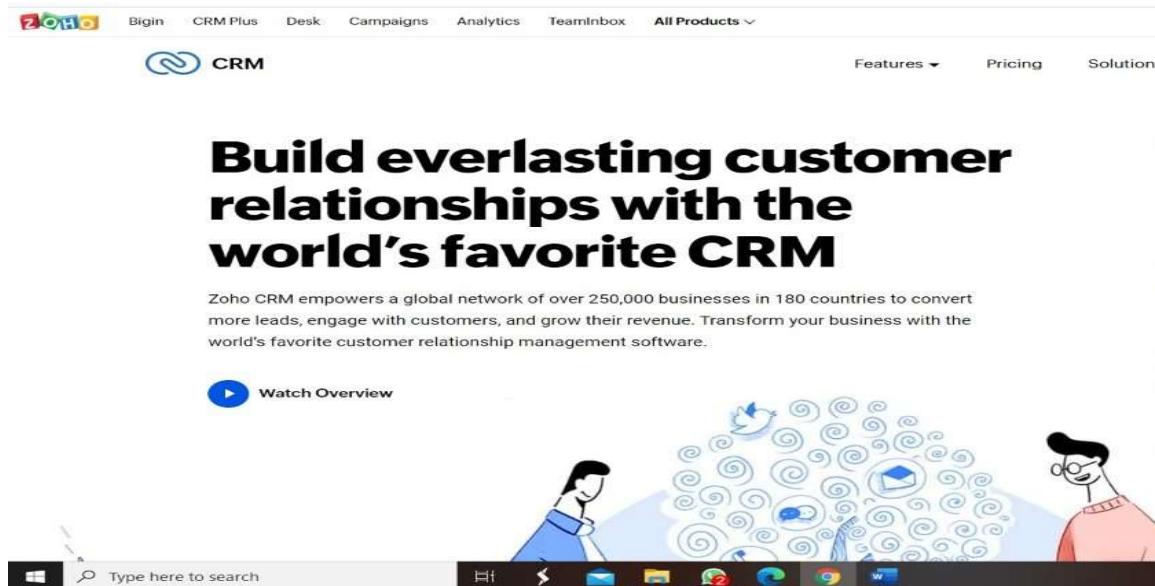
step 5: Created new application as property buying & rental.

step 6: Select one form

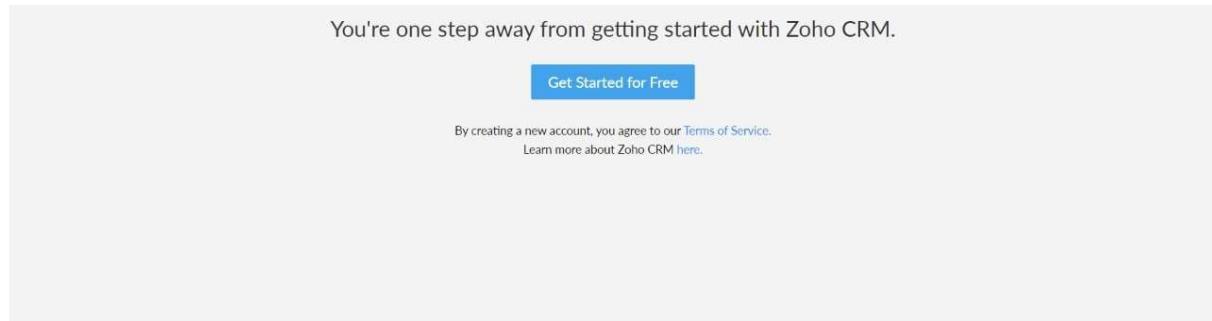
step 7: The software has been created.

IMPLEMENTATION:

STEP1: GOTO ZOHO.COM



STEP 2: LOGINTO THE ZOHO.COM



STEP 3: SELECT ONE APPLICATION

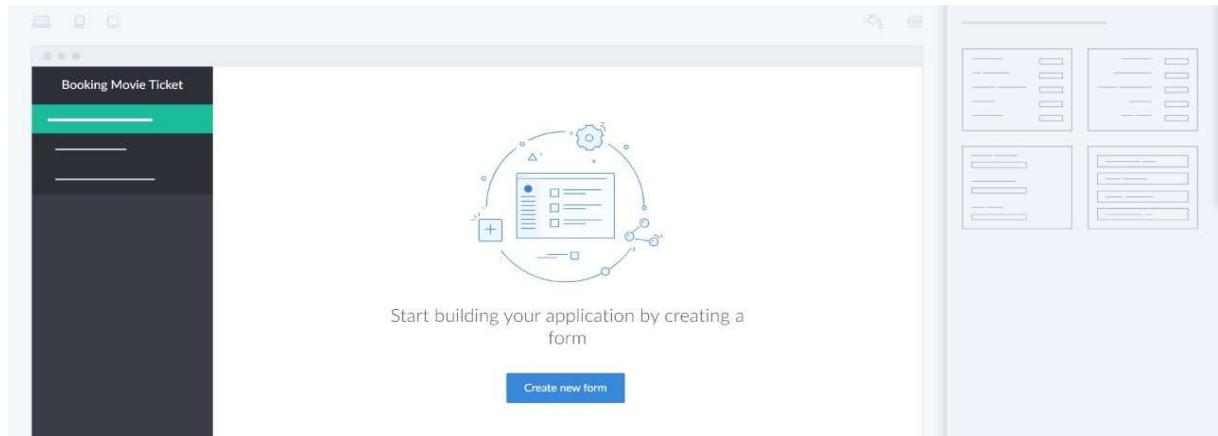
The screenshot shows the Zoho Application Gallery. At the top left is a search bar with placeholder text "Start typing to search for applications...". To the right are filter buttons: "All", "Information Technology", "Business", "Sales & Marketing", "Educ...", and "More". On the far right is a "Cancel" button. The main area displays a grid of application cards:

Category	Application	Description
Create from scratch	Sales Management	More Info Install this Application
	Order Management	Follow your orders
Information Technology	Employee Management	Handle your employees
	IT Asset Tracker	Track your technology
Business	Event Management	Organize your events
	Course Planner	Schedule your courses
Sales & Marketing	Expenses	Watch your expenses
	Employee Management	Handle your employees

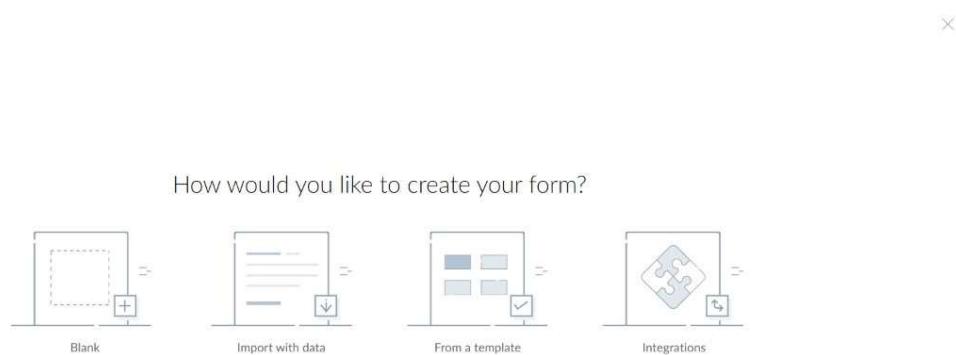
STEP 4: ENTER APPLICATION NAME

The screenshot shows the Zoho Application Gallery with an additional input field. A modal window titled "Enter Application Name" is open in the center. It contains a text input field with placeholder text "Examples: Campaign Monitor, Order Management" and a blue "Create" button below it. The rest of the interface is identical to the previous screenshot, showing the same application cards and filters.

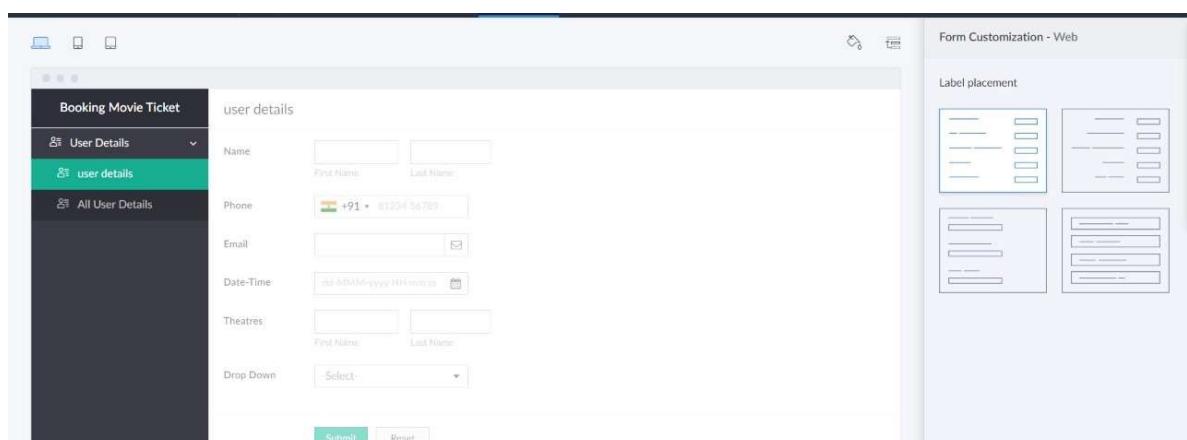
STEP 5: CREATED NEW APPLICATION



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

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields:

Prefix

First Name

Last Name

Suffix

Data Privacy

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.

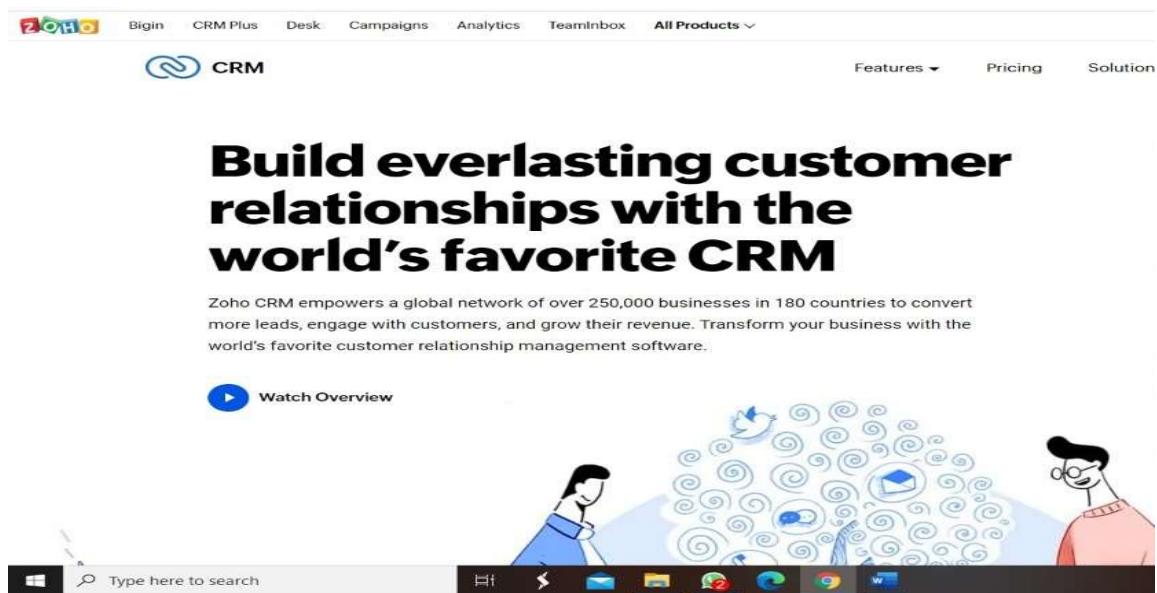
step 5: Created new application as Car Booking Reservation System.

step 6: Select one form

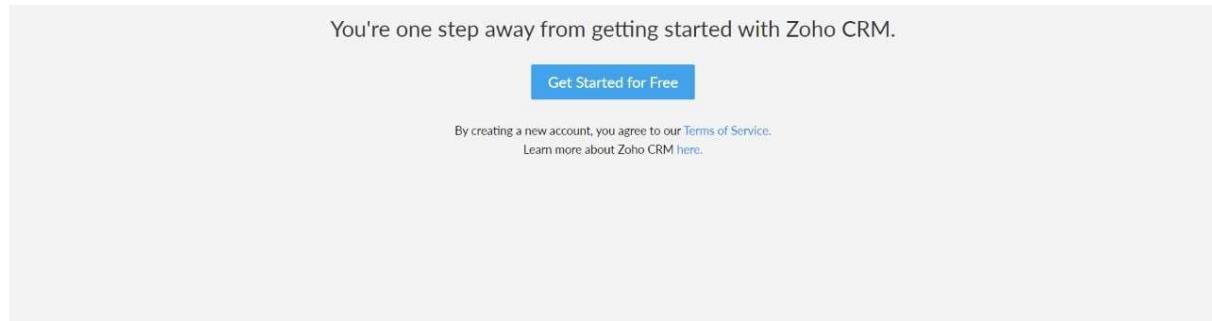
step 7: The software has been created.

IMPLEMENTATION:

STEP1: GOTO ZOHO.COM



STEP 2: LOGINTO THE ZOHO.COM



STEP 3: SELECT ONE APPLICATION

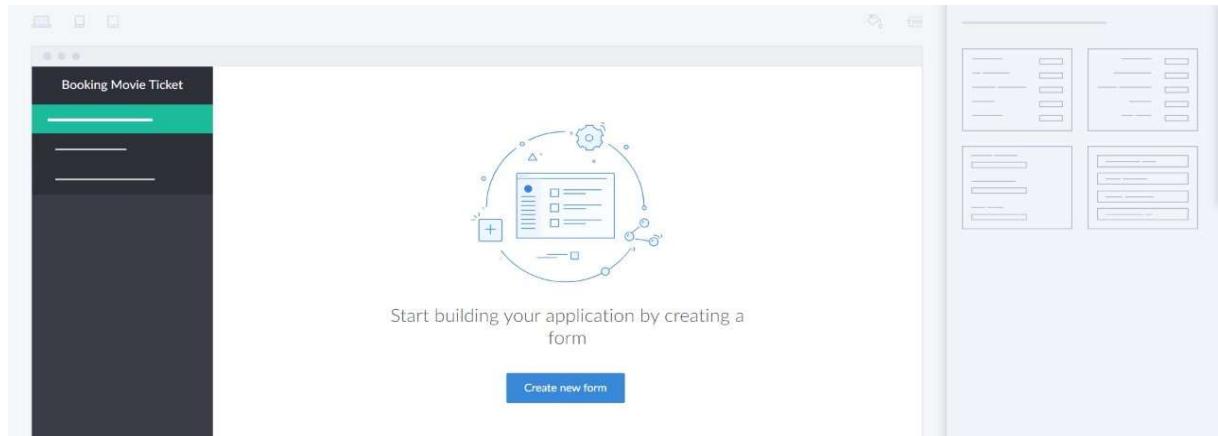
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	Order Management	Follow your orders
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	IT Asset Tracker	Track your technology
Business	Event Management	Organize your events
	Course Planner	Schedule your courses
Sales & Marketing	Expenses	Watch your expenses
	Employee Management	Handle your employees

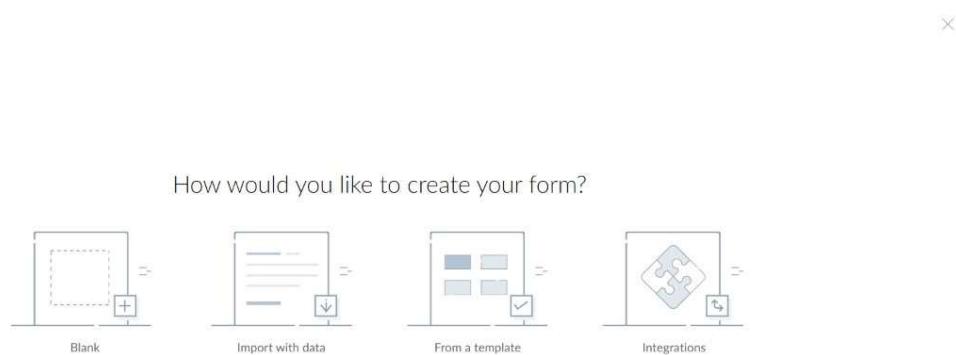
STEP 4: ENTER APPLICATION NAME

The screenshot shows the Zoho Application Gallery with an additional input field. A modal window titled "Enter Application Name" is open in the center. It contains a text input field with placeholder text "Examples: Campaign Monitor, Order Management" and a blue "Create" button below it. The rest of the interface is identical to the previous screenshot, showing the same application cards and filters.

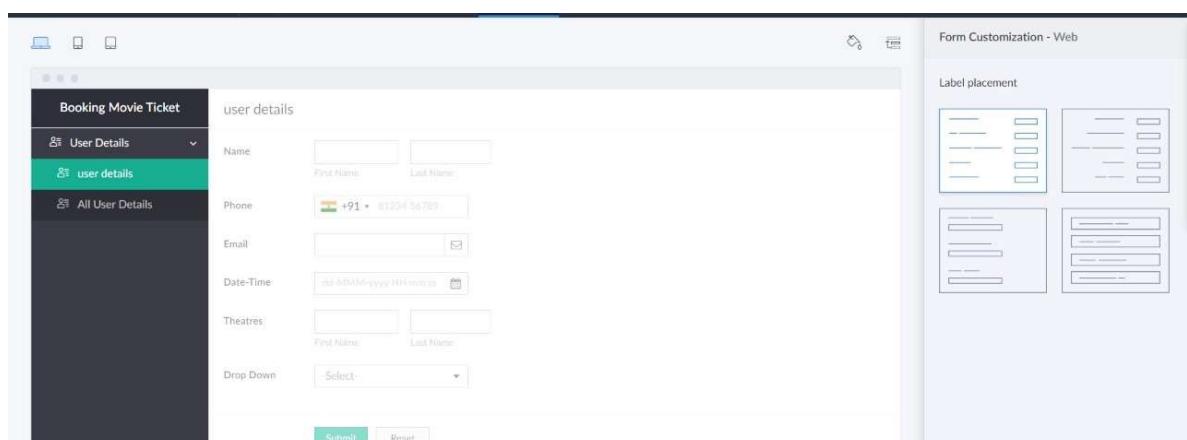
STEP 5: CREATED NEW APPLICATION



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

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields:

Prefix

First Name

Last Name

Suffix

Data Privacy

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.

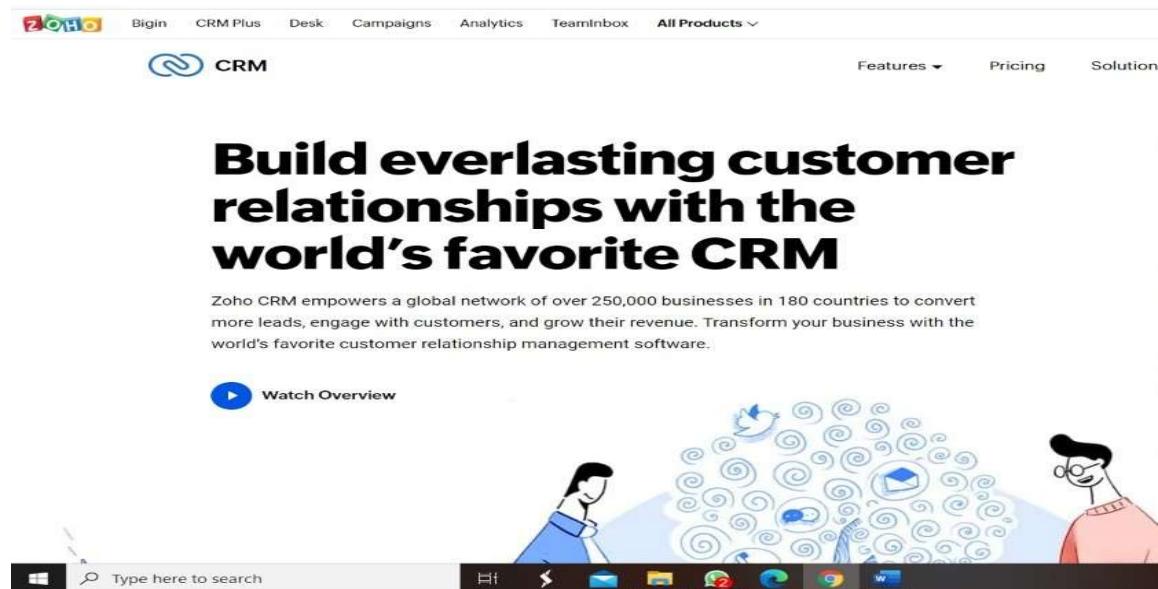
step 5: Created new application as library book reservation system.

step 6: Select one form

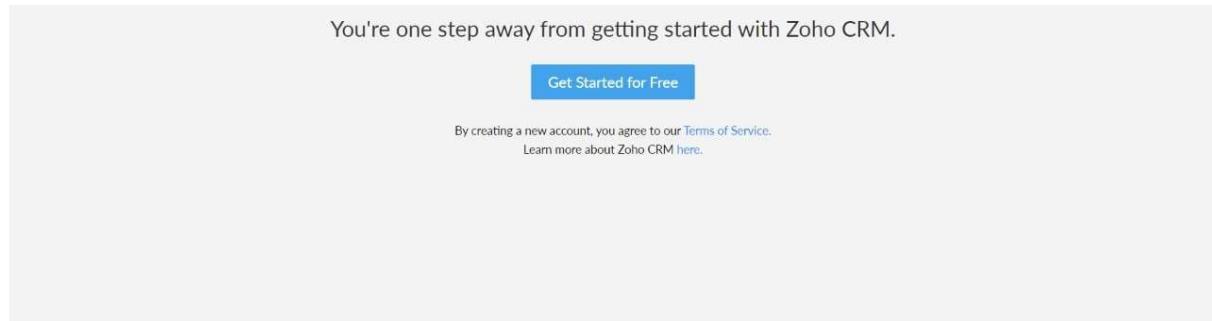
step 7: The software has been created.

IMPLEMENTATION:

STEP1: GOTO ZOHO.COM



STEP 2: LOGIN TO THE ZOHO.COM



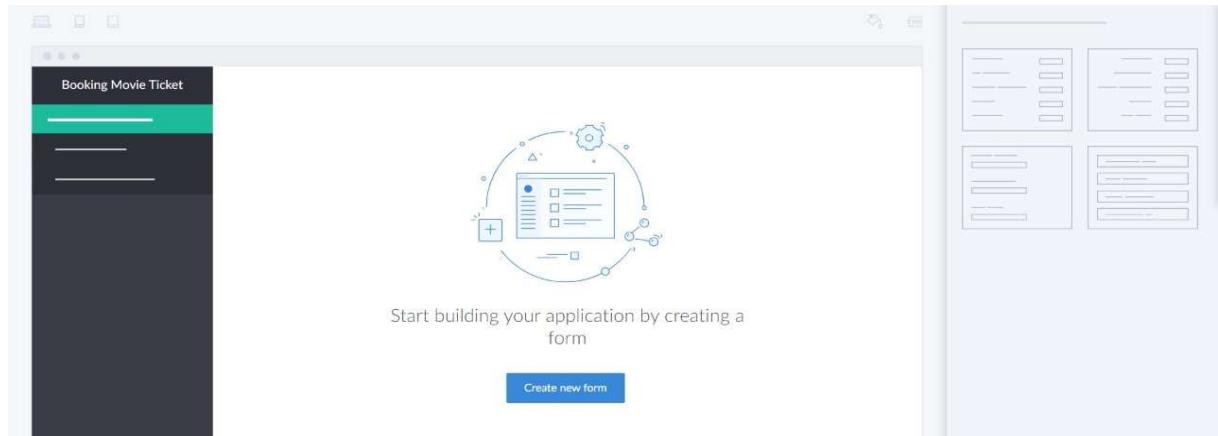
STEP 3: SELECT ONE APPLICATION

A screenshot of the Zoho Create Application interface. The top navigation bar includes a search bar, category filters (All, Information Technology, Business, Sales & Marketing, Education, More), and a "Cancel" button. The main area displays a grid of application cards. The first card, "Create from scratch", is highlighted with a dashed border. Other cards include "Sales Management", "Order Management", "Employee Management", "IT Asset Tracker", "Event Management", "Course Planner", and "Expenses". Each card has a small description below it.

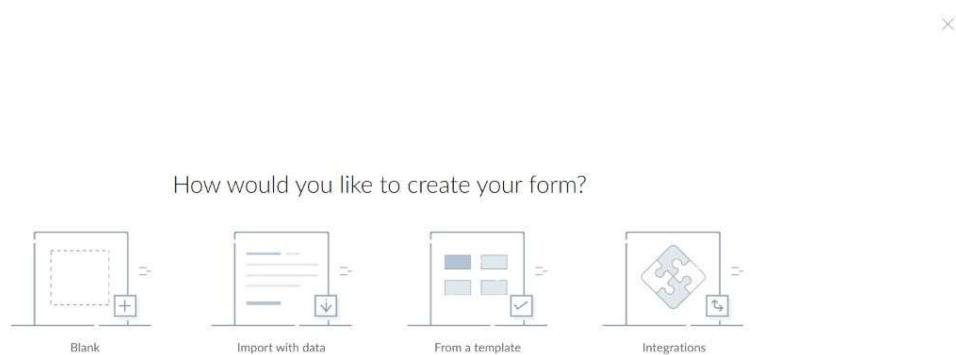
STEP 4: ENTER APPLICATION NAME

A screenshot of the Zoho Create Application interface, similar to the previous one but with a modal window open. The modal is titled "Enter Application Name" and contains a text input field with the placeholder "Examples: Campaign Monitor, Order Management" and a "Create" button. The rest of the interface, including the application cards, remains the same as in Step 3.

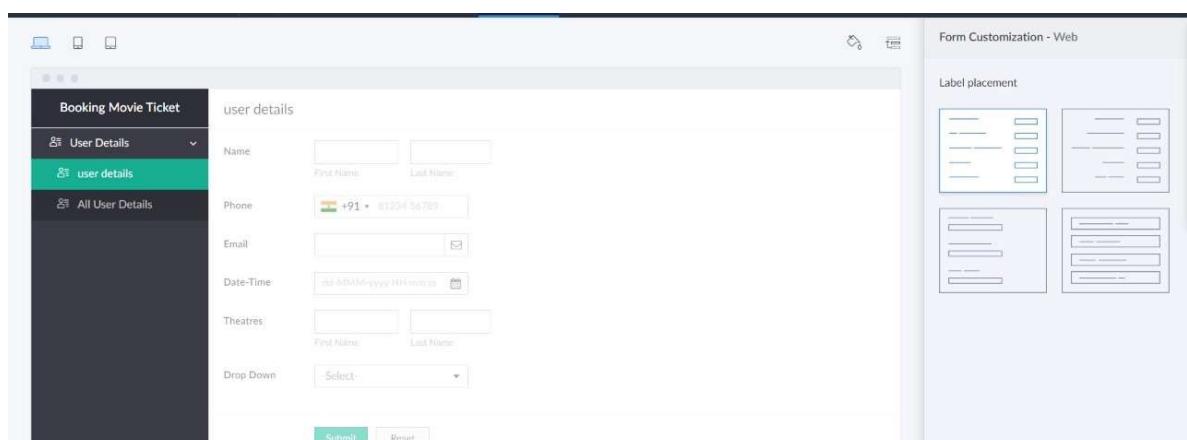
STEP 5: CREATED NEW APPLICATION



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

Field Properties

Field name: Name

Field link name: Name

Validation: Mandatory

Display Fields:

Prefix

First Name

Last Name

Suffix

Data Privacy

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.

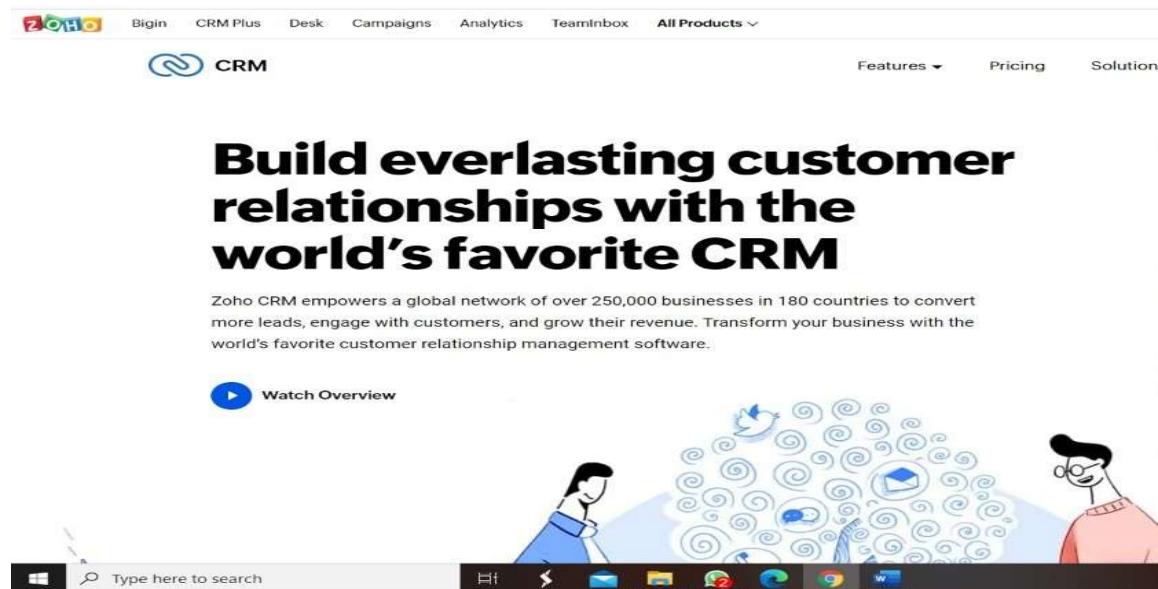
step 5: Created new application as product selling.

step 6: Select one form

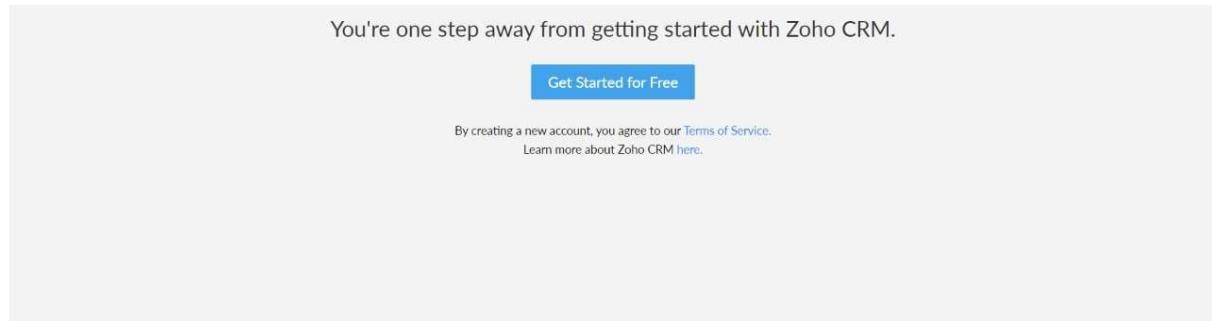
step 7: The software has been created.

IMPLEMENTATION:

STEP1: GOTO ZOHO.COM



STEP 2: LOGIN TO THE ZOHO.COM



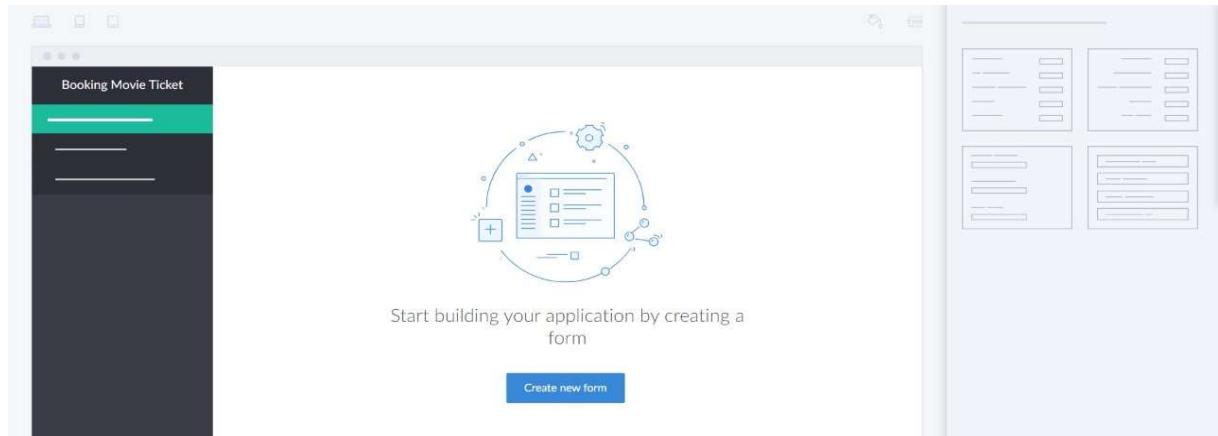
STEP 3: SELECT ONE APPLICATION

A screenshot of the Zoho Create Application interface. The top navigation bar includes a search bar, category filters (All, Information Technology, Business, Sales & Marketing, Education, More), and a "Cancel" button. The main area displays a grid of application cards. The first card, "Create from scratch", is highlighted with a dashed border. Other cards include "Sales Management", "Order Management", "Employee Management", "IT Asset Tracker", "Event Management", "Course Planner", and "Expenses". Each card has a small description below it.

STEP 4: ENTER APPLICATION NAME

A screenshot of the Zoho Create Application interface, similar to the previous one but with a modal window open. The modal is titled "Enter Application Name" and contains a text input field with the placeholder "Examples: Campaign Monitor, Order Management" and a "Create" button. The rest of the interface, including the application cards, remains the same as in Step 3.

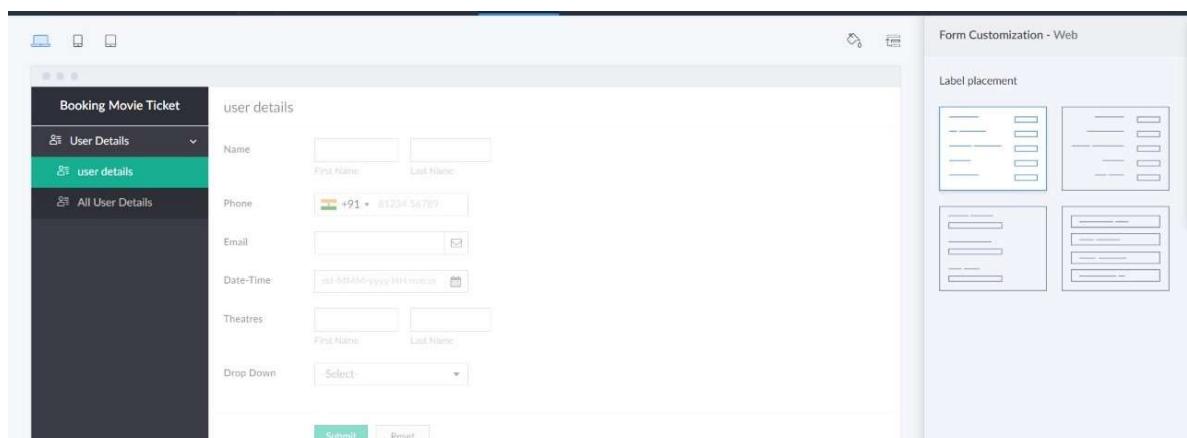
STEP 5: CREATED NEW APPLICATION



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

Field link name

Validation Mandatory

Display Fields

Prefix

First Name

Last Name

Suffix

Data Privacy

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.

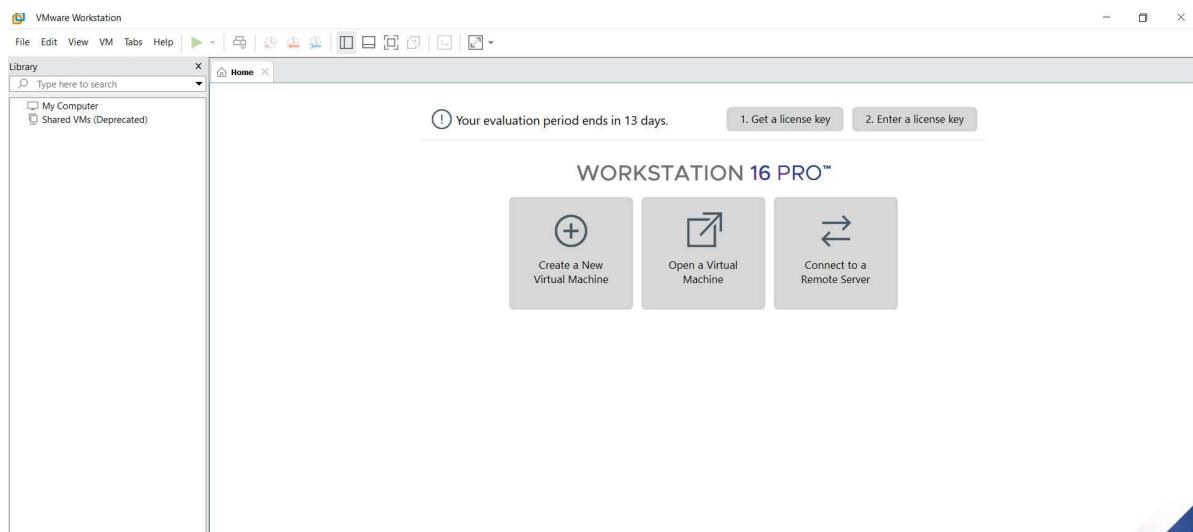
STEP 4: Do the basic configuration settings.

STEP 5: Created tiny OS virtual machine.

STEP 6: Launch the VM.

IMPLEMENTATION:

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

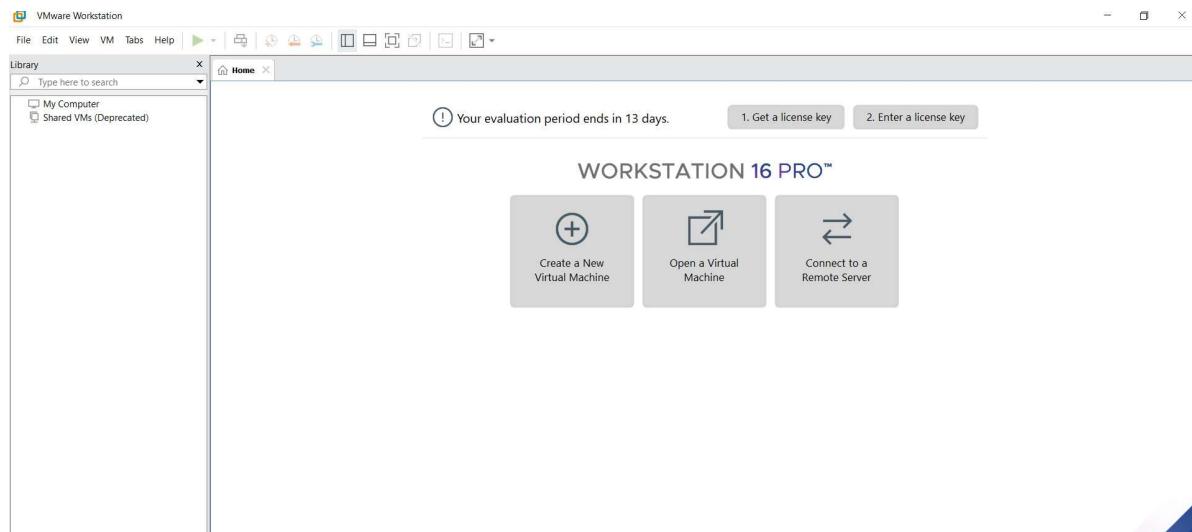


STEP2: DOWNLOAD UBUNTU OR TINY OS AS ISO IMAGE FILE

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	01-Apr-2020 07:49	14757888
Core-current.iso	01-Apr-2020 07:49	48
CorePlus-11.1.iso	01-Apr-2020 07:49	50639
CorePlus-11.1.iso.md5.txt	01-Apr-2020 07:50	14757888
CorePlus-11.1.iso.zsync	01-Apr-2020 07:50	216006656
CorePlus-current.iso	01-Apr-2020 07:50	52
TinyCore-11.1.iso	01-Apr-2020 07:50	369358
TinyCore-11.1.iso.md5.txt	01-Apr-2020 07:50	216006656
TinyCore-11.1.iso.zsync	01-Apr-2020 07:50	19922944
TinyCore-current.iso	01-Apr-2020 07:50	68301
		19922944

STEP 3: IN VMWARE WORKSTATION->CREATE NEW VM



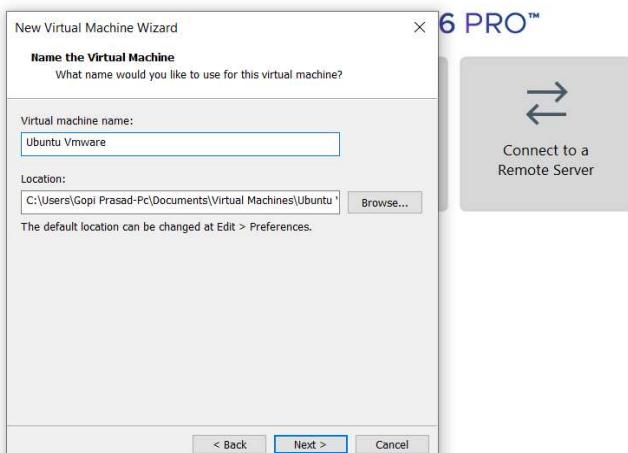
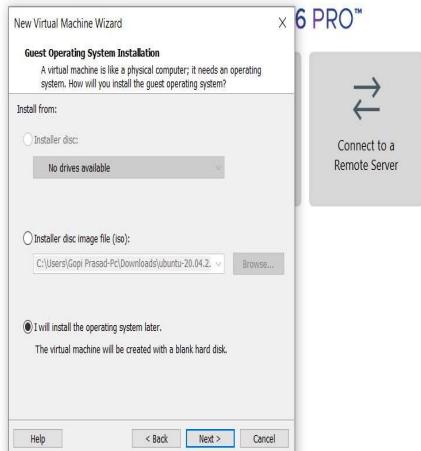
STEP 4: DO THE BASIC CONFIGURATION SETTINGS.

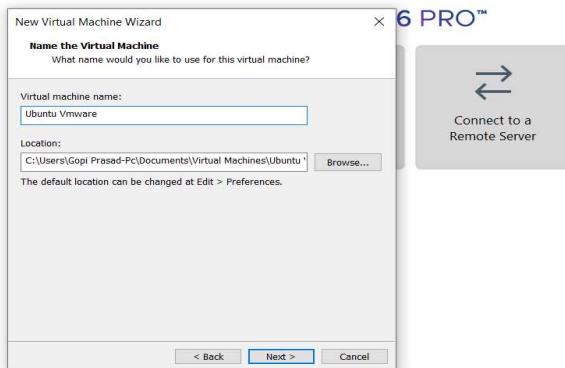


! Your evaluation period ends in 12 days.

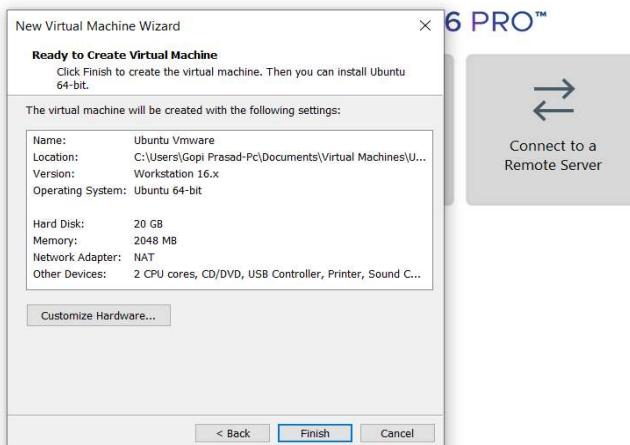
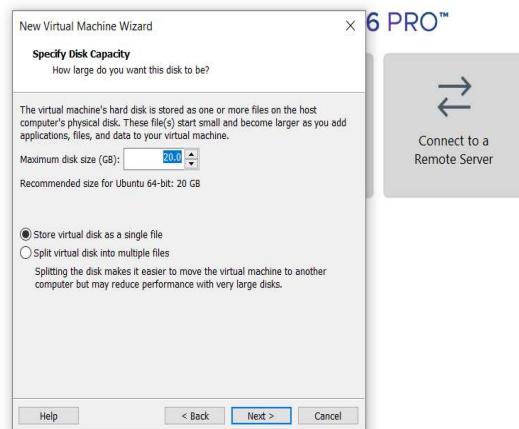
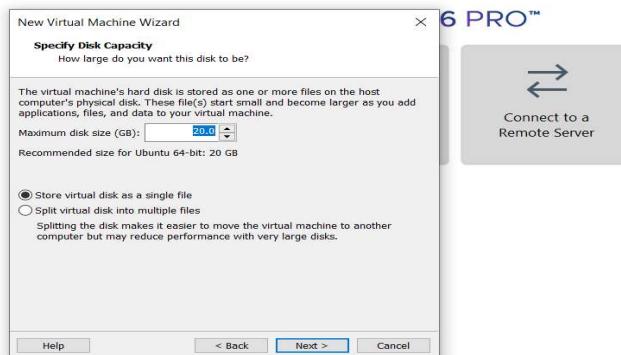
1. Get a license key

2. Enter a license key

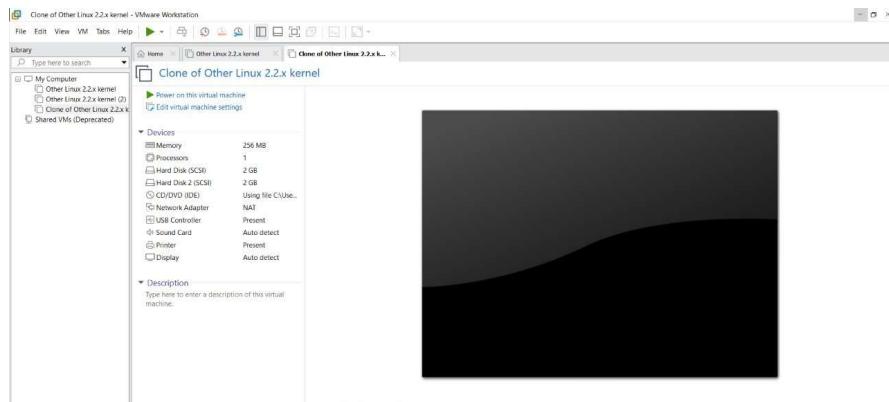




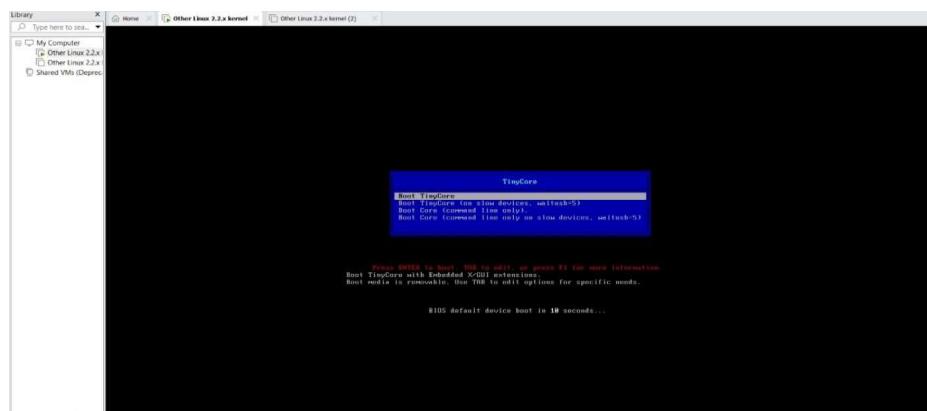
! Your evaluation period ends in 12 days. 1. Get a license key 2. Enter a license key ! Your evaluation period ends in 12 days. 1. Get a license key 2. Enter a license key



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.

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

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

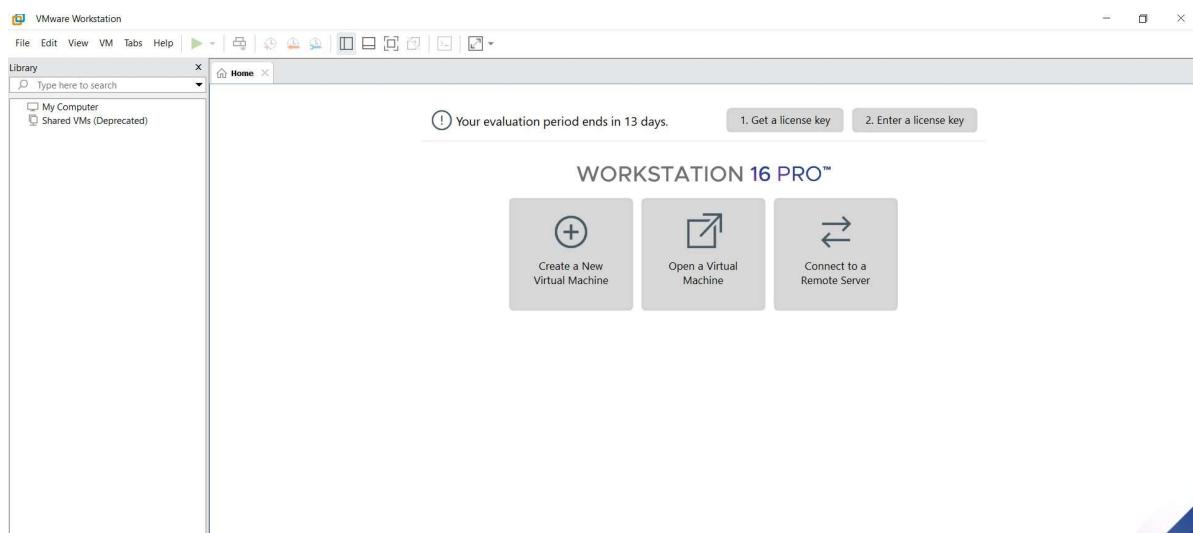
STEP 4: Do the basic configuration settings.

STEP 5: Created tiny OS virtual machine.

STEP 6: Launch the VM.

IMPLEMENTATION:

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

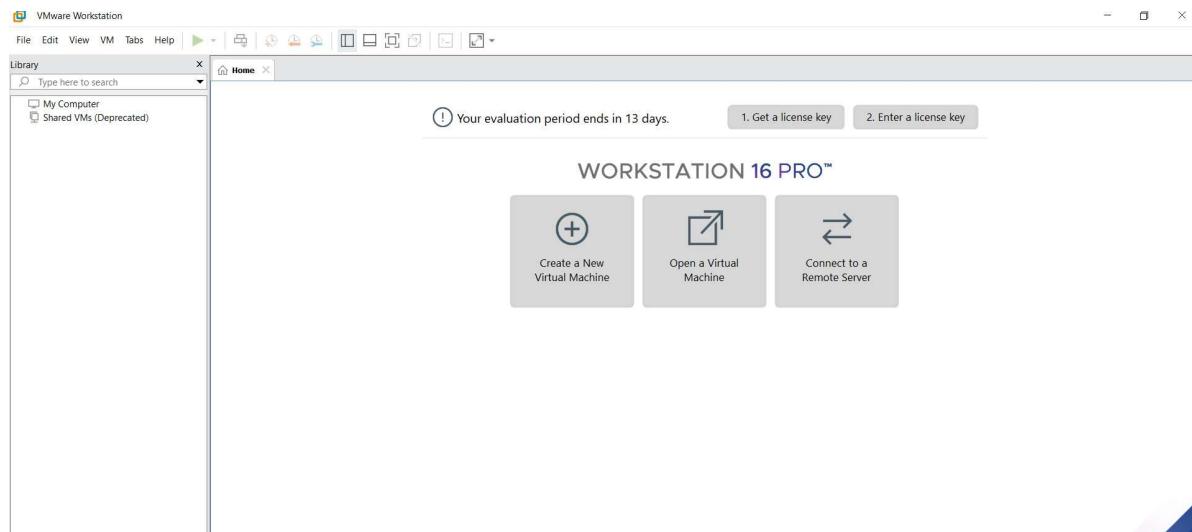


STEP2: DOWNLOAD UBUNTU OR TINY OS AS ISO IMAGE FILE

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	01-Apr-2020 07:49	14757888
Core-current.iso	01-Apr-2020 07:49	48
CorePlus-11.1.iso	01-Apr-2020 07:49	50639
CorePlus-11.1.iso.md5.txt	01-Apr-2020 07:50	14757888
CorePlus-11.1.iso.zsync	01-Apr-2020 07:50	216006656
CorePlus-current.iso	01-Apr-2020 07:50	52
TinyCore-11.1.iso	01-Apr-2020 07:50	369358
TinyCore-11.1.iso.md5.txt	01-Apr-2020 07:50	216006656
TinyCore-11.1.iso.zsync	01-Apr-2020 07:50	19922944
TinyCore-current.iso	01-Apr-2020 07:50	68301
		19922944

STEP 3: IN VMWARE WORKSTATION->CREATE NEW VM



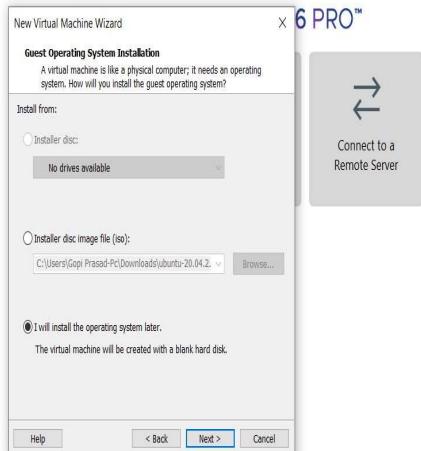
STEP 4: DO THE BASIC CONFIGURATION SETTINGS.



! Your evaluation period ends in 12 days.

1. Get a license key

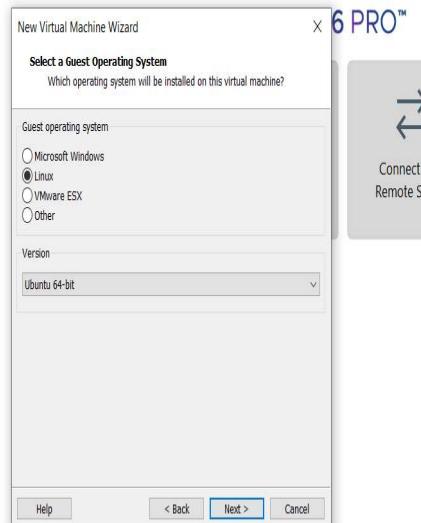
2. Enter a license key



6 PRO™



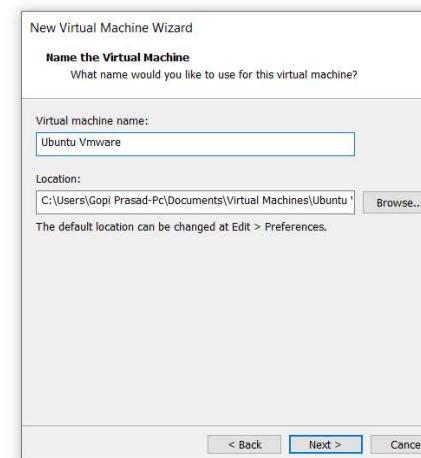
Connect to a
Remote Server



6 PRO™



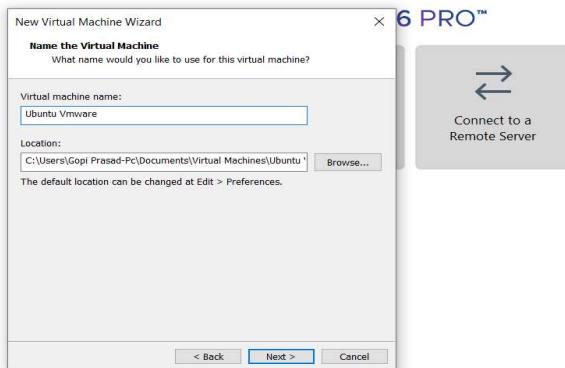
Connect to a
Remote Server



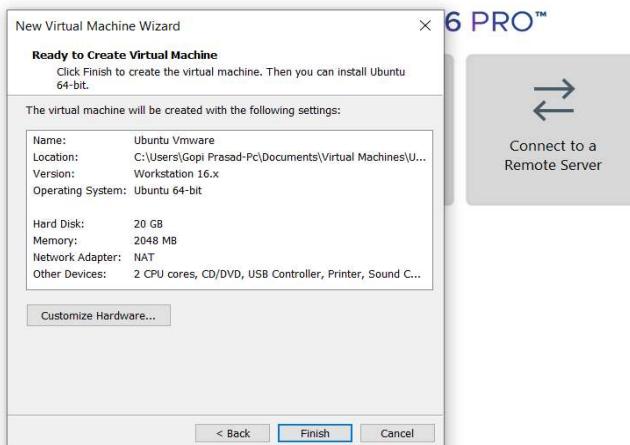
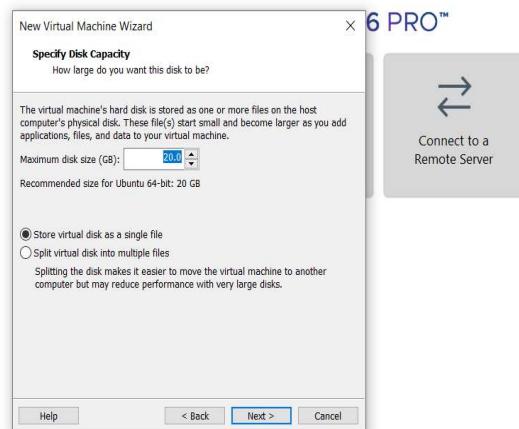
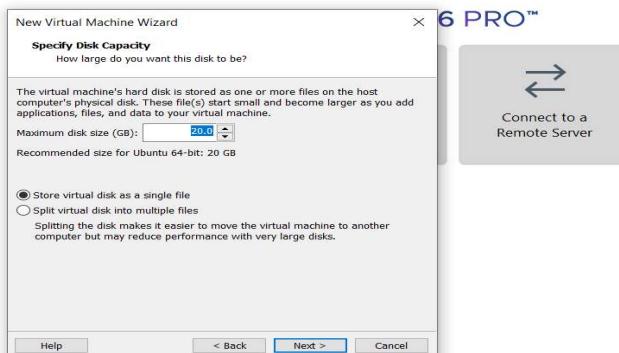
6 PRO™



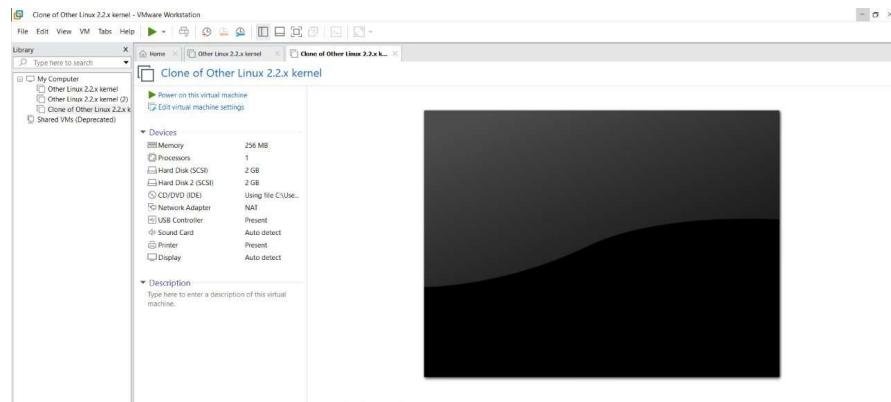
Connect to a
Remote Server



! 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.

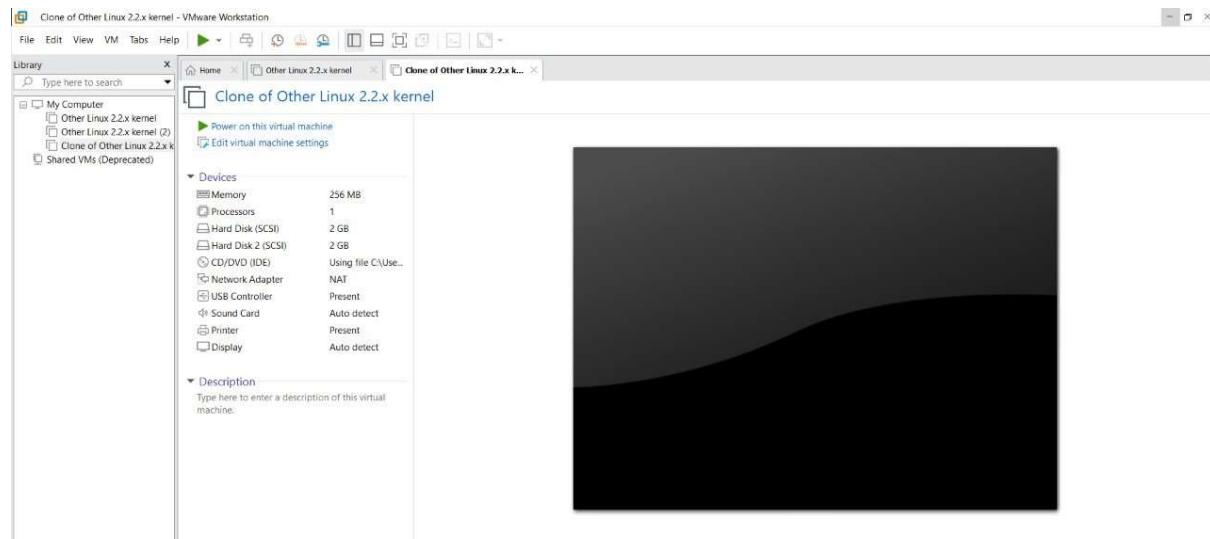
STEP 4: CREATE NEW VIRTUAL DISK.

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

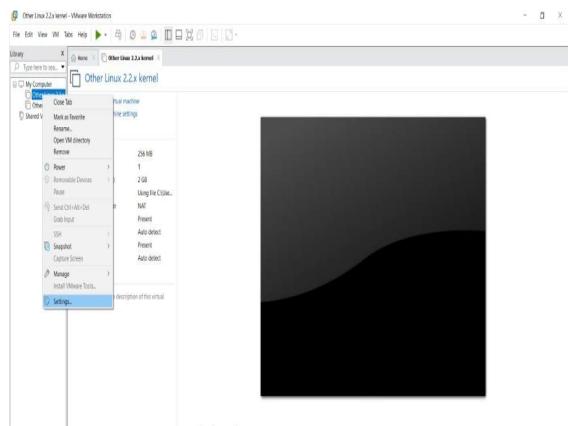
STEP 6: GIVE NAME AND CLICK THE FINISH.

IMPLEMENTATION:

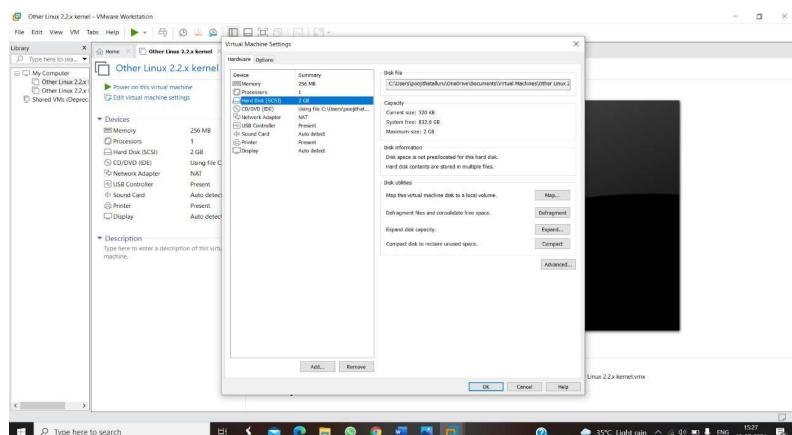
STEP 1: GOTO VM WARE WORKSTATION



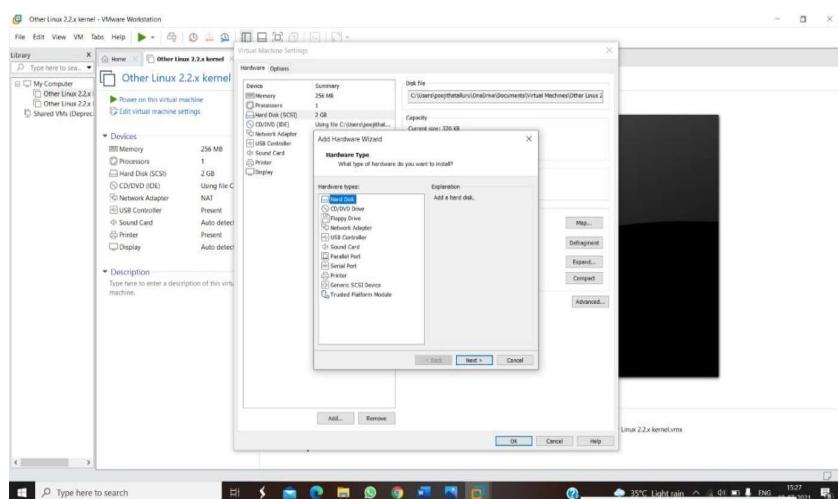
STEP2: RIGHT CLICK THE VM AND GOTO THE SETTINGS

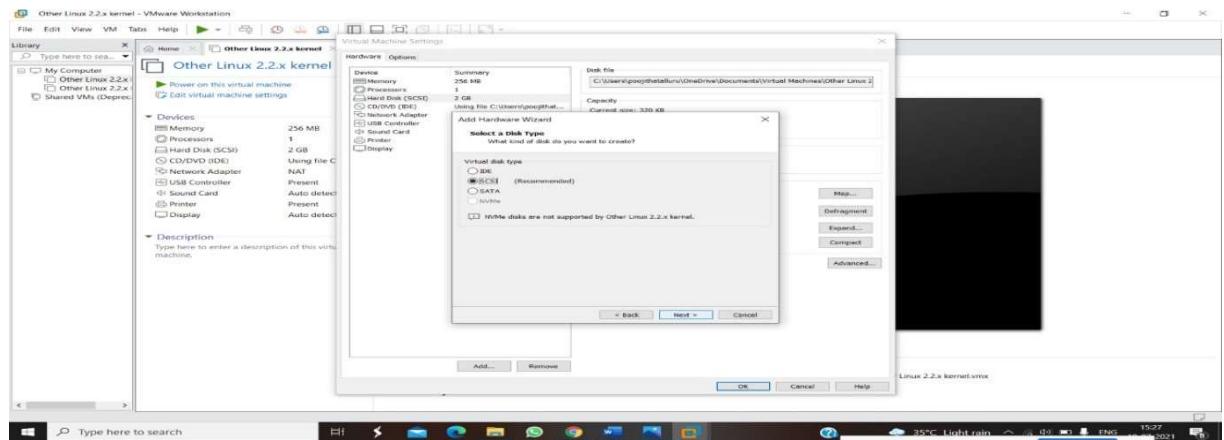


STEP 3: ADD HARDWARE WIZARD AND SELECT SCSI AND CLICK NEXT

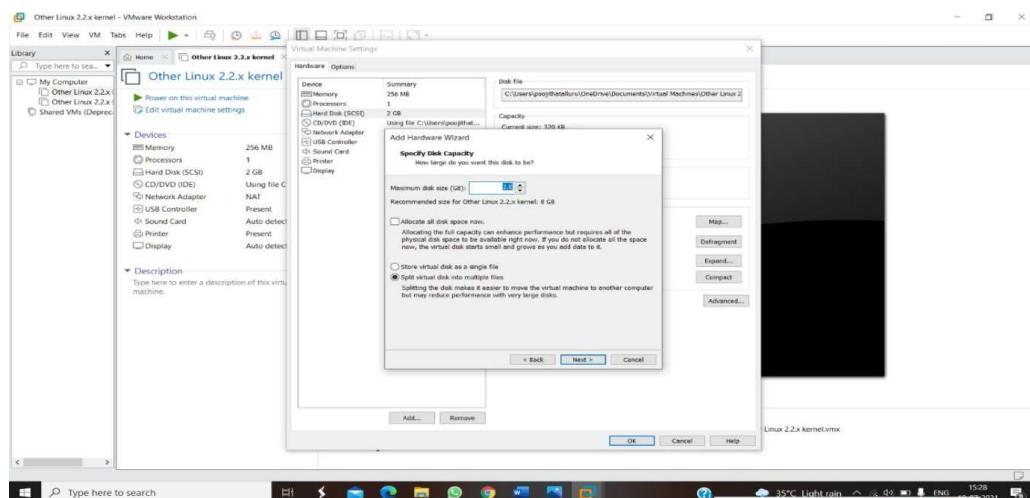


STEP 4: CREATE NEW VIRTUAL DISK

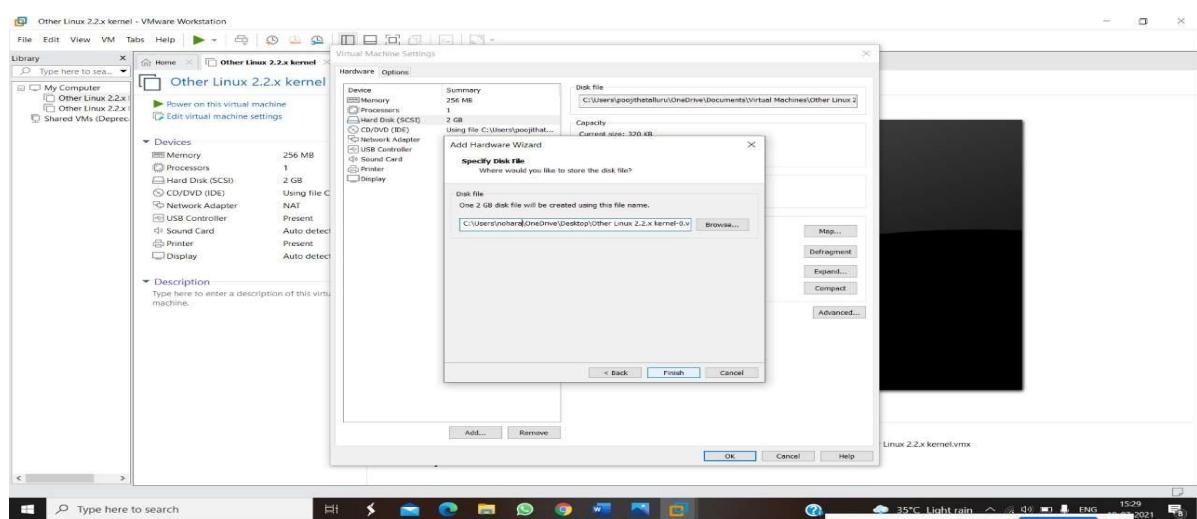


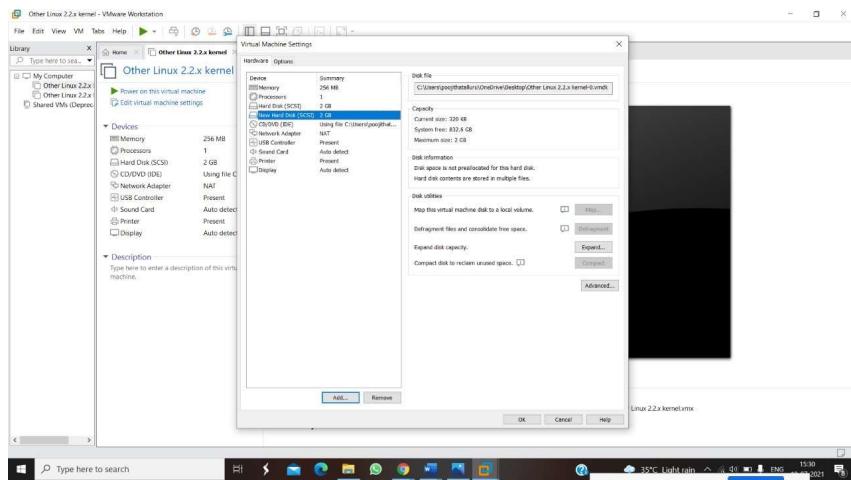


STEP 5: SELECT THE DISK SIZE AS 2.0. AND SELECT SPLIT VIRTUAL DISK INTO MULTIFILES.



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.

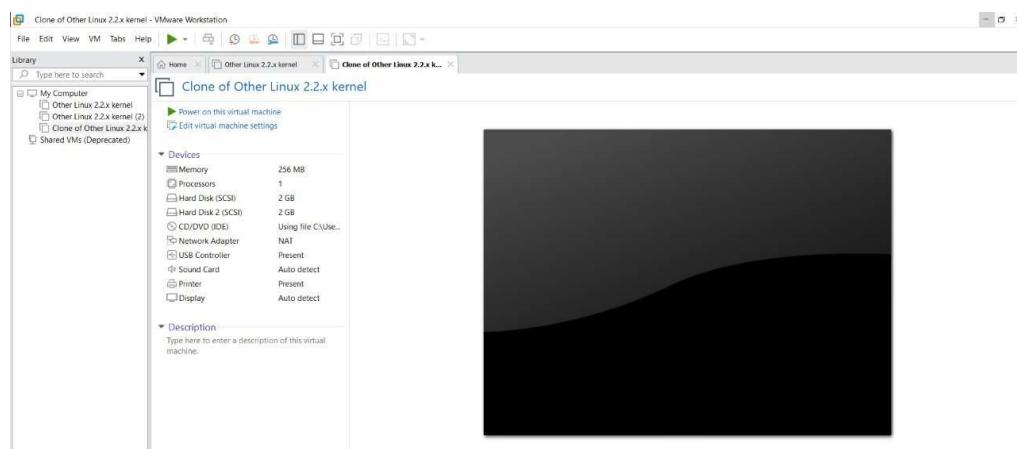
STEP 2: CREATE FILES ON DESKTOP.

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

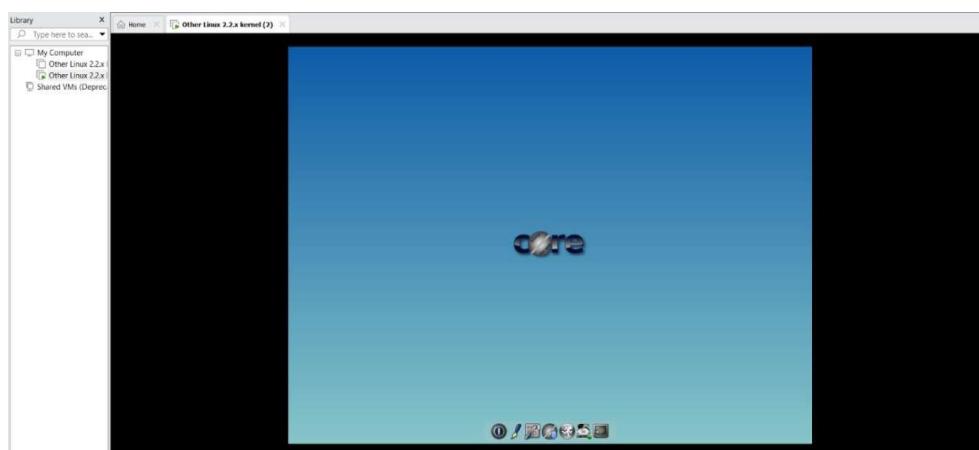
STEP 4: SNAPSHOT IS BEING DONE

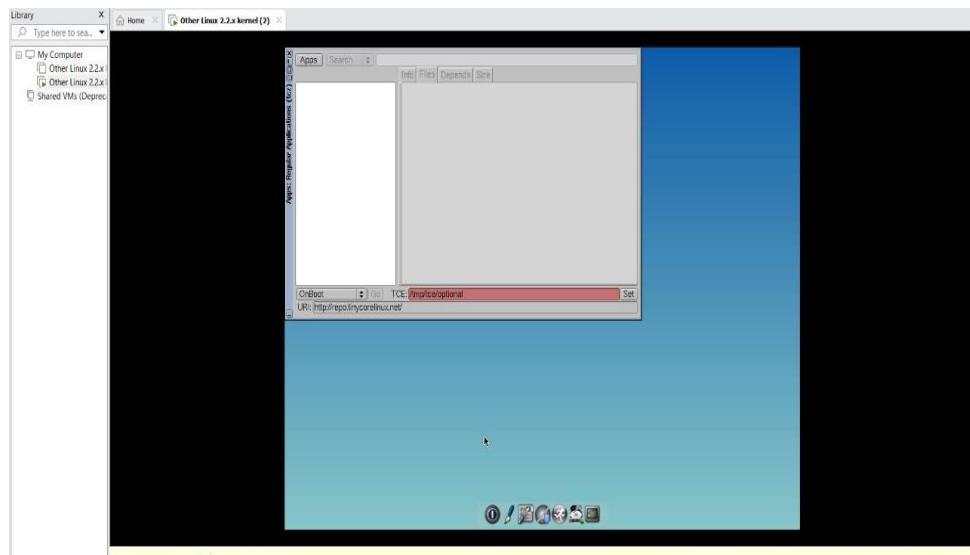
IMPLEMENTATION:

STEP 1: GOTO VMWARE WORKSTATION

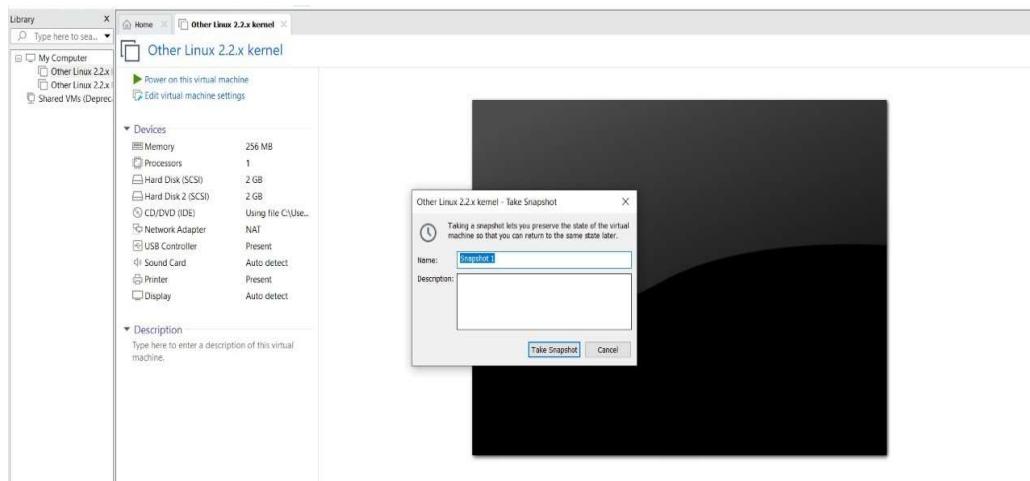
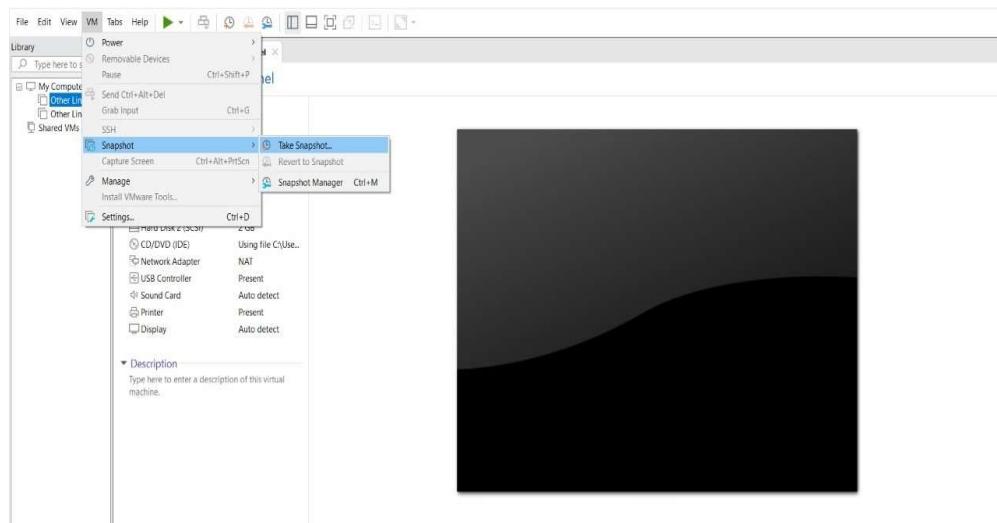


STEP 2: CREATE FILES ON DESKTOP

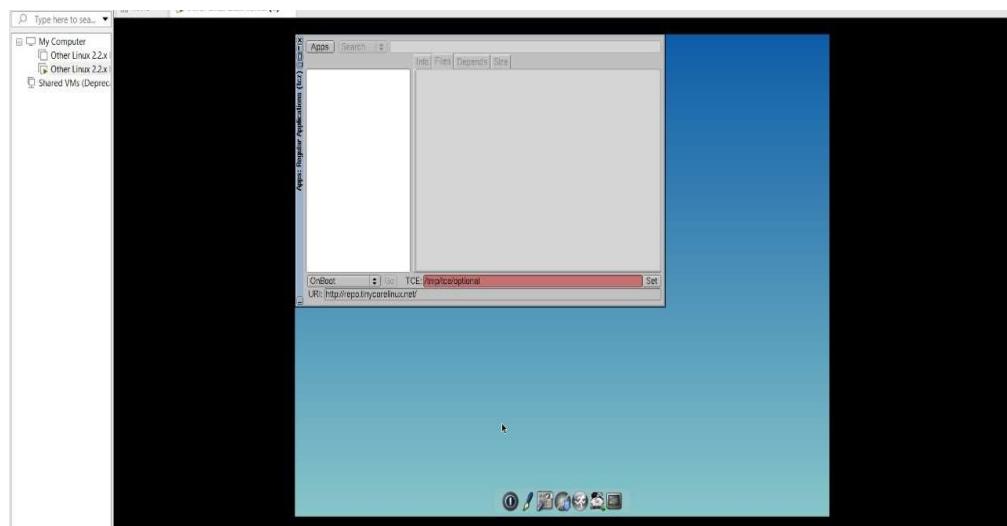




STEP 3: CLICK ON VM AND SELECTS SNAPSHOT-> TAKE SNAPSHOT.



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

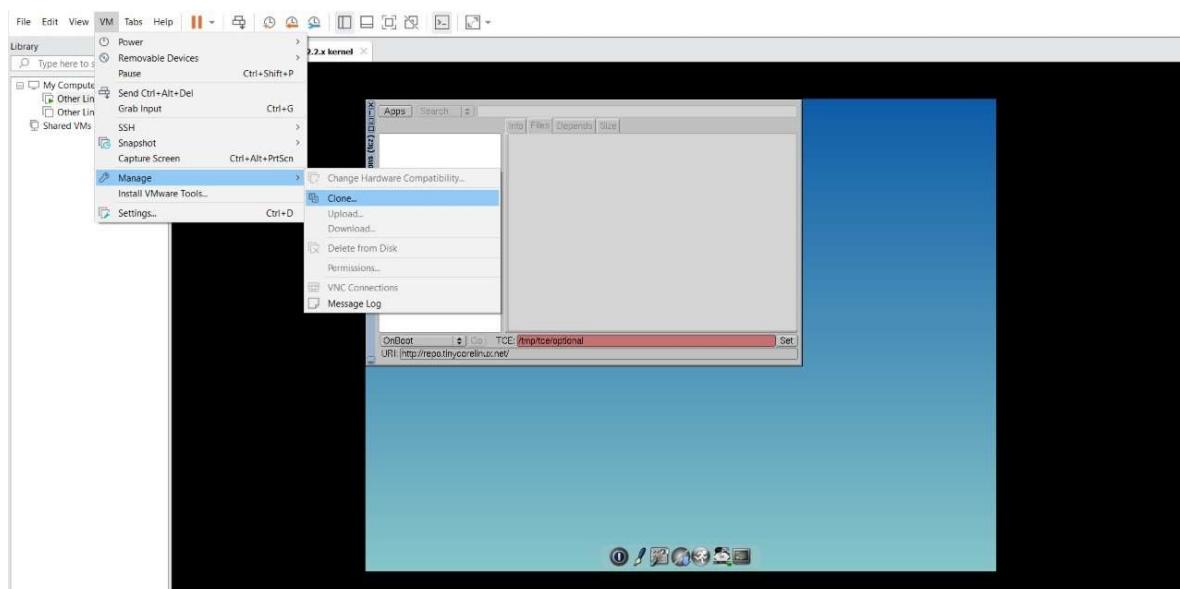
STEP 3: SELECT THE FULL CLONE

STEP 4: AFTER CLONE AGAIN OR VM IS OPENED.

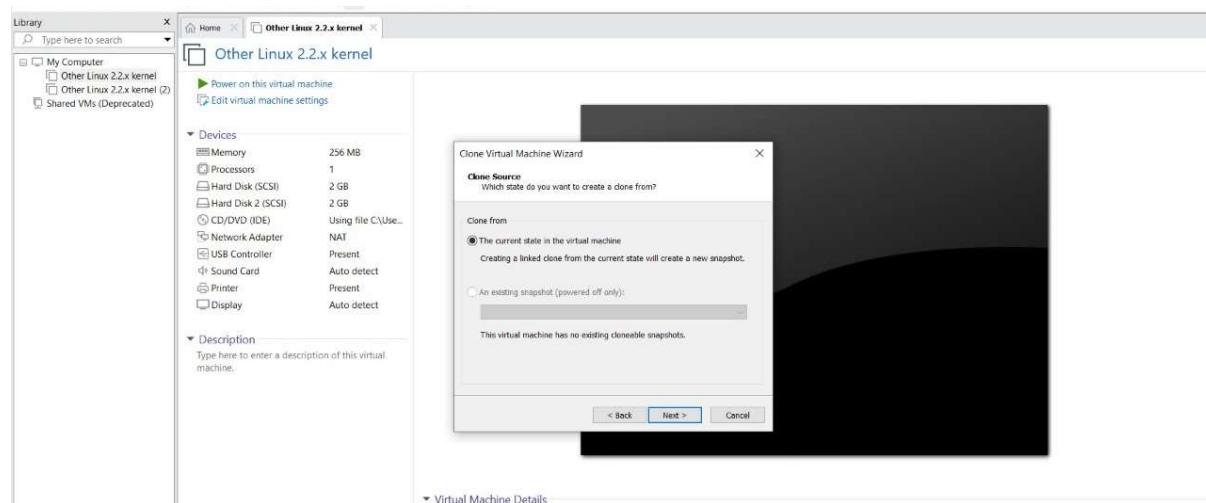
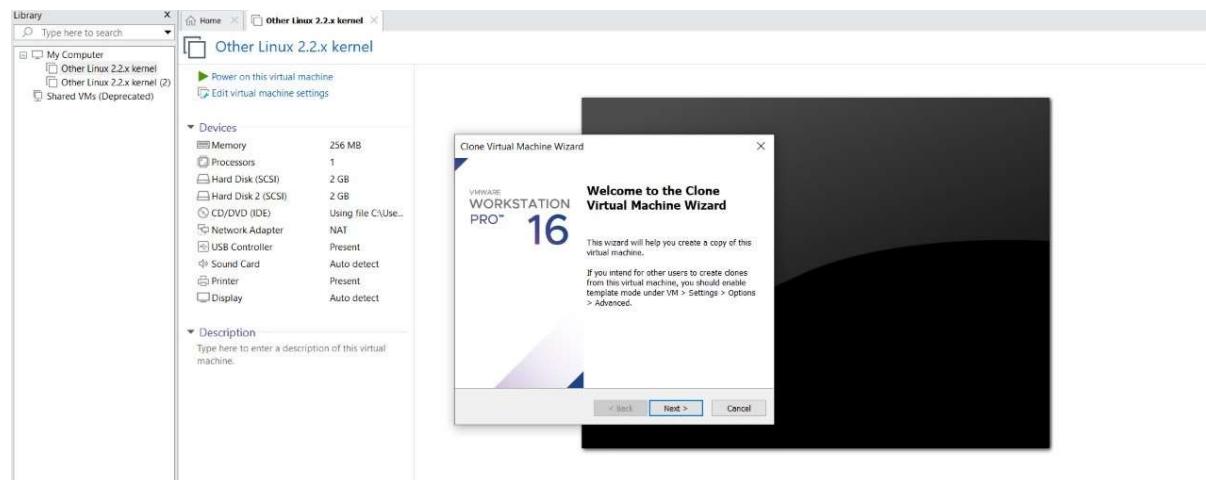
IMPLEMENTATION:

CLONING OF A VM

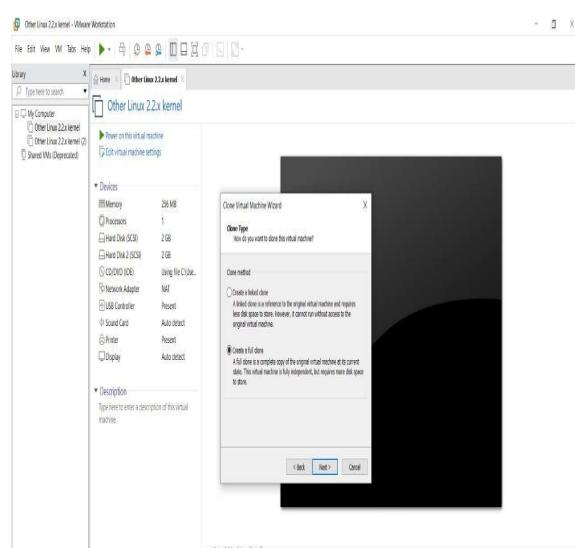
STEP 1: GO TO VM AND GOTO MANAGE AND CLICK CLONE

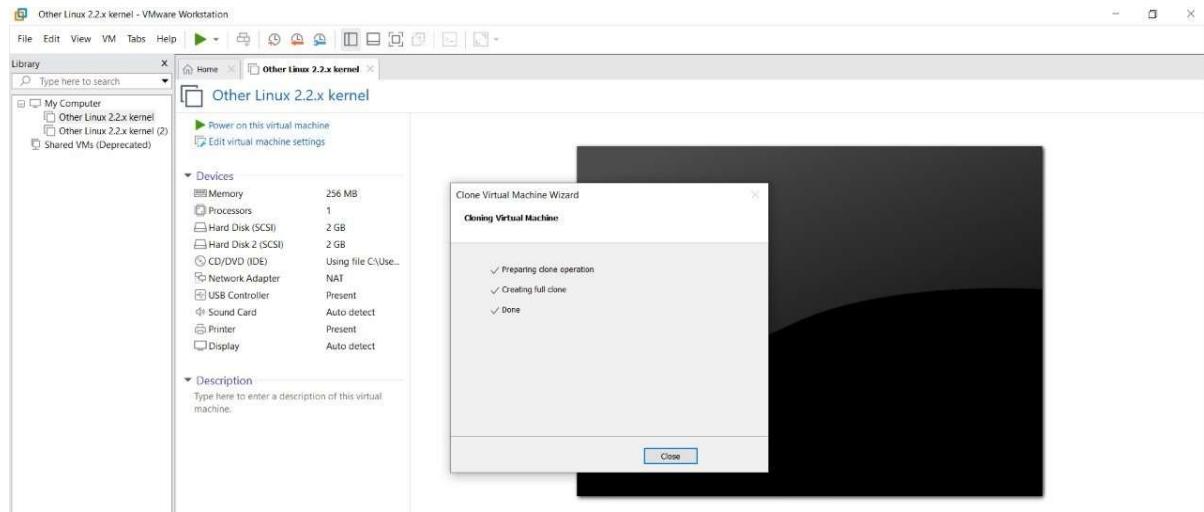


STEP 2: CLICK CLONE

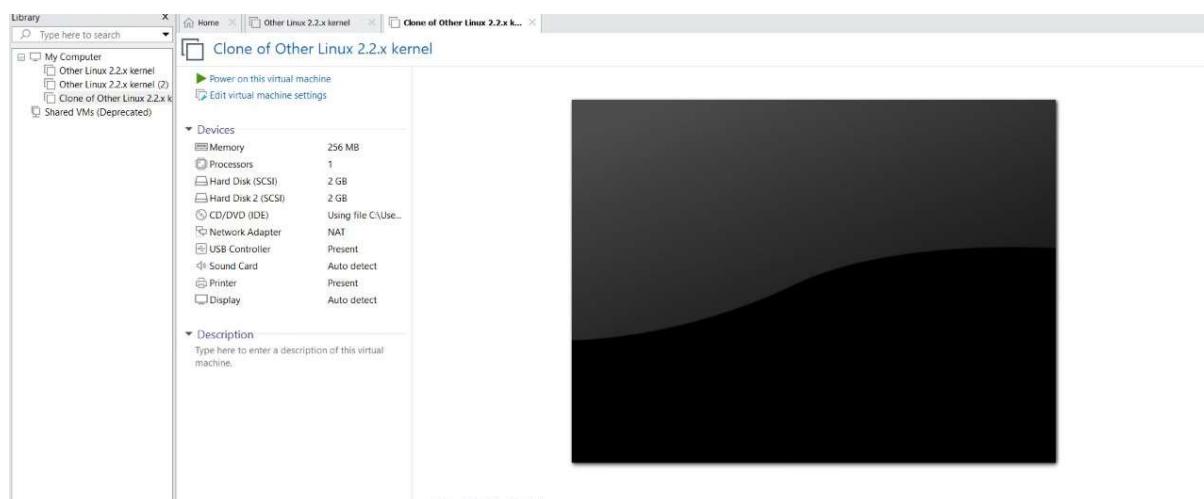


STEP 3: SELECT THE FULL CLONE





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.

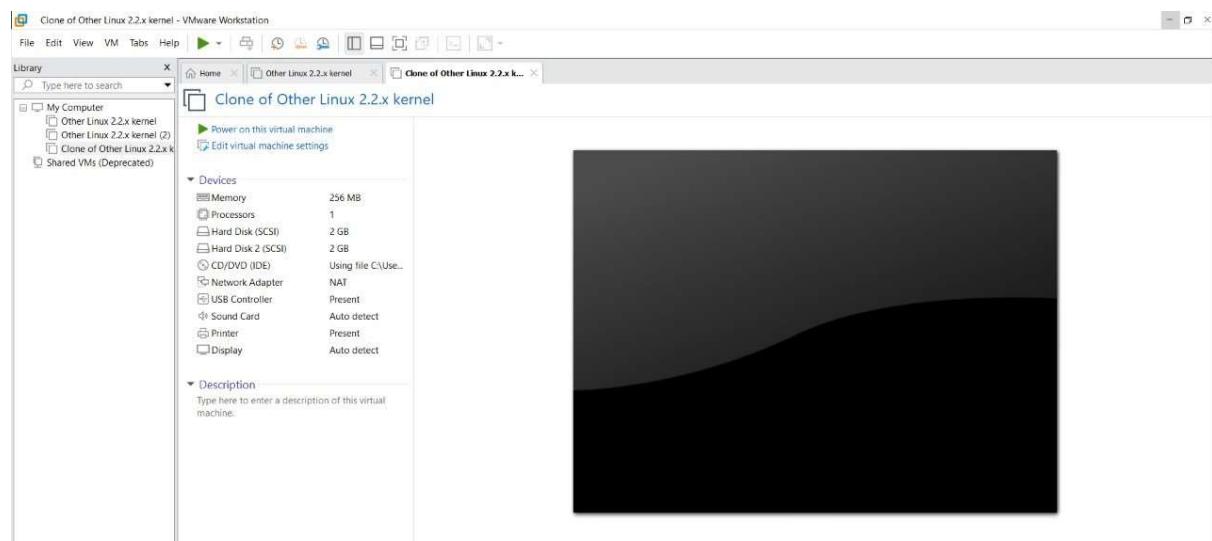
STEP 4: CREATE NEW VIRTUAL DISK.

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

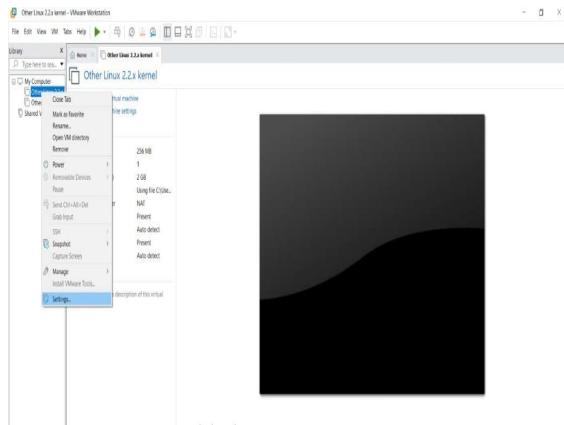
STEP 6: GIVE NAME AND CLICK THE FINISH.

IMPLEMENTATION:

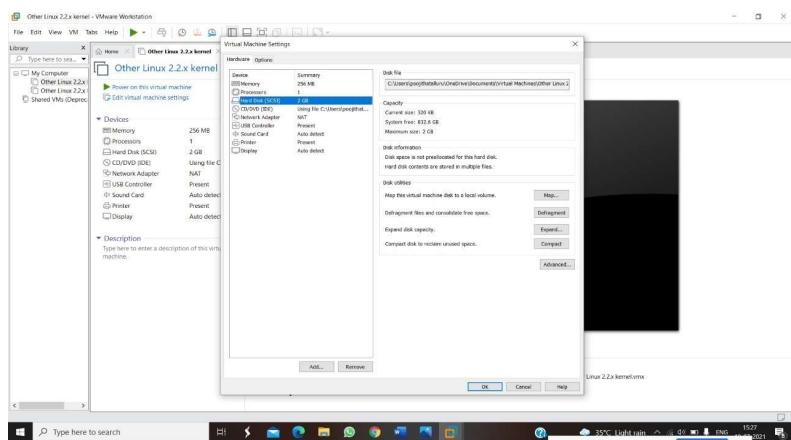
STEP 1:GOTO VM WARE WORKSTATION



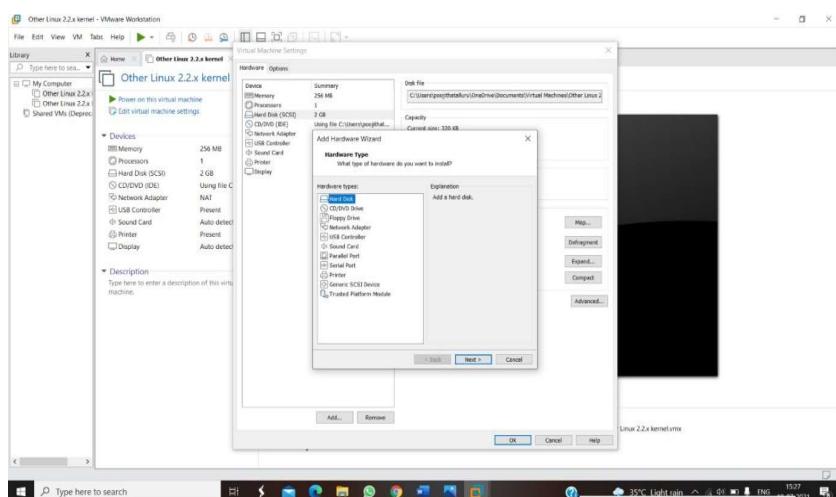
STEP2: RIGHT CLICK THE VM AND GOTO THE SETTINGS

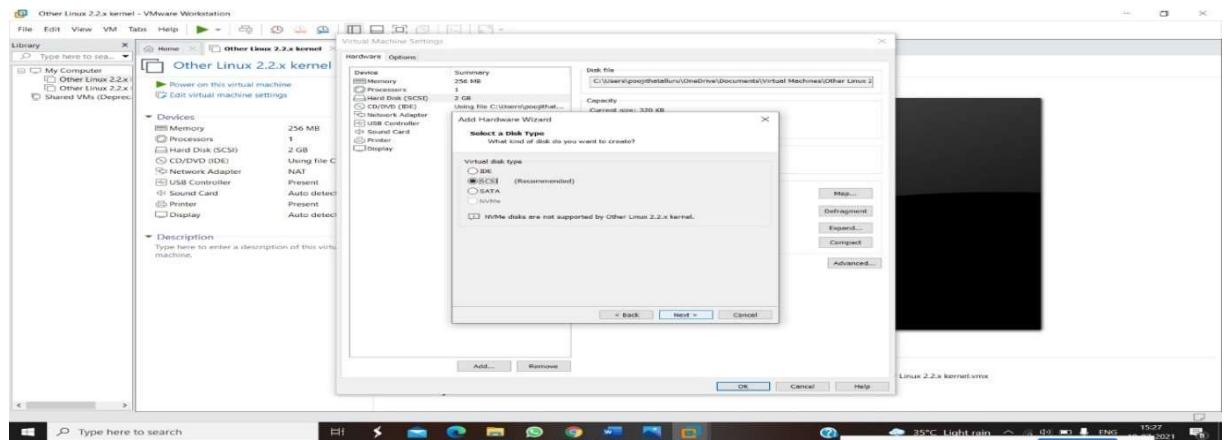


STEP 3: ADD HARDWARE WIZARD AND SELECT SCSI AND CLICK NEXT

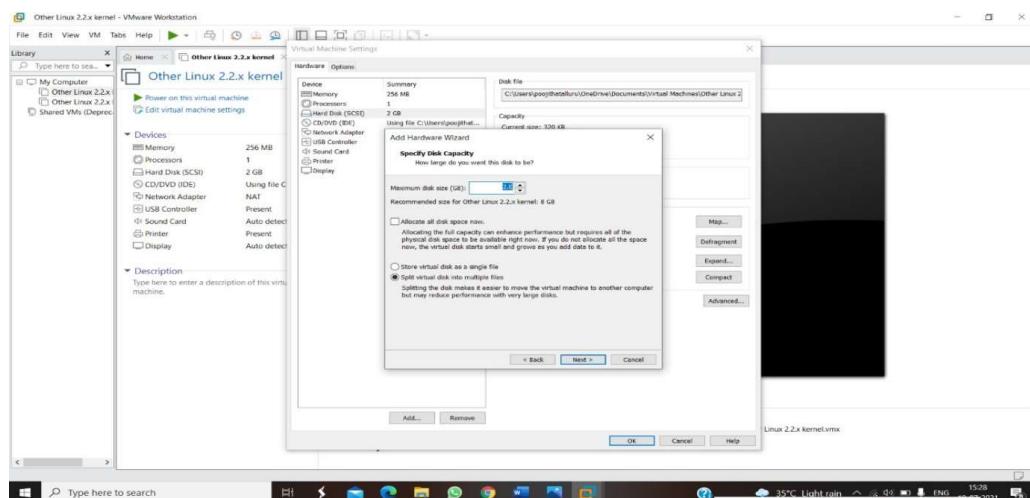


STEP 4: CREATE NEW VIRTUAL DISK

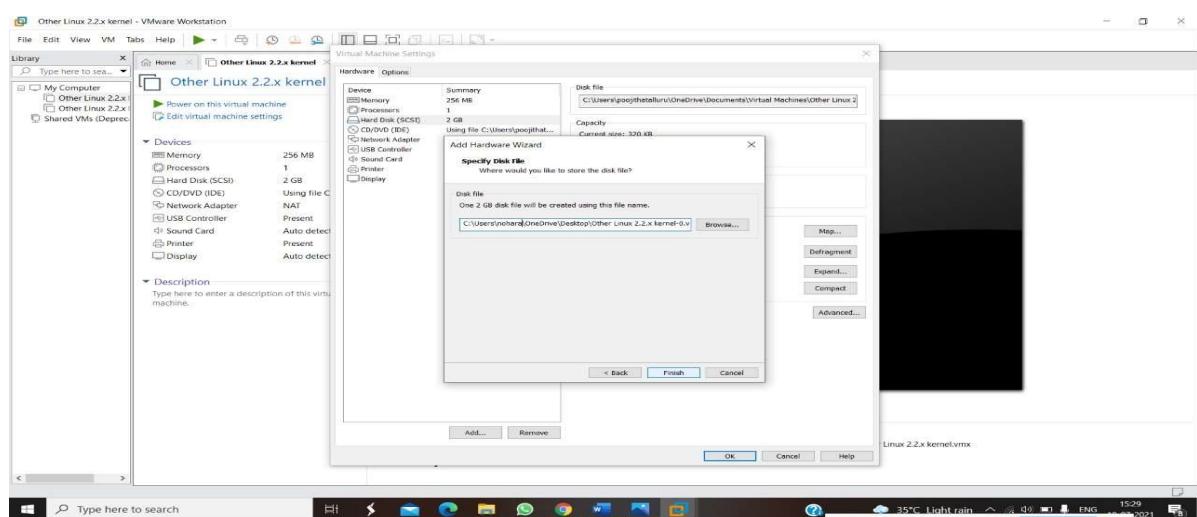


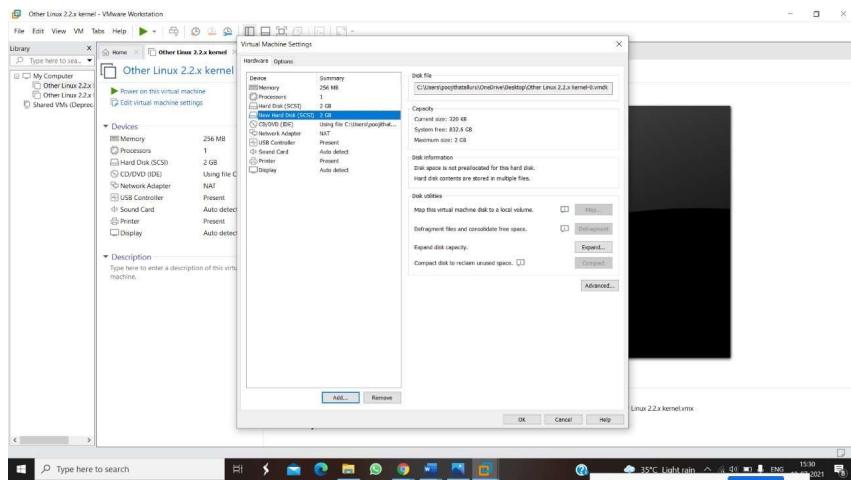


STEP 5: SELECT THE DISK SIZE AS 2.0. AND SELECT SPLIT VIRTUAL DISK INTO MULTIFILES.



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 AND USERNAME AND PASSWORD FOR YOUR VIRTUAL MACINE.

STEP6: AND YOUR VIRTUAL MACHINE IS DEPLOYED.

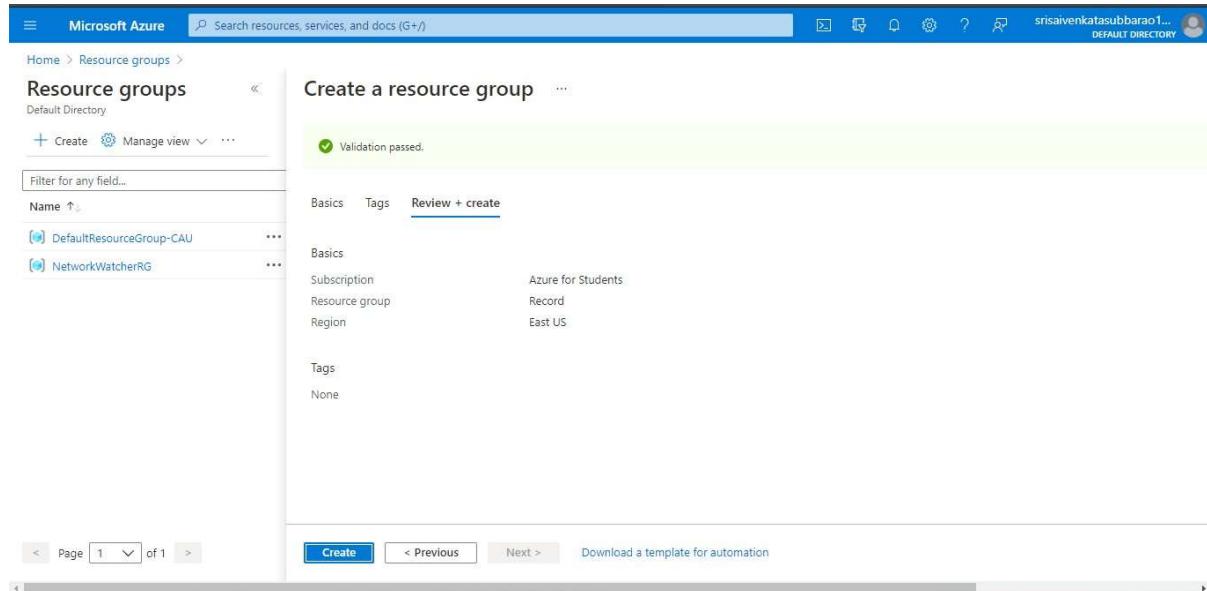
STEP7: NOW CONNECT THE VIRTUAL MACHINE AND DOWNLOAD THE RDP FILE TO OPEN YOUR WINDOWS VIRTUAL MACHINE.

STEP8: CREATED A NEW WINDOWS VIRTUAL MACHINE

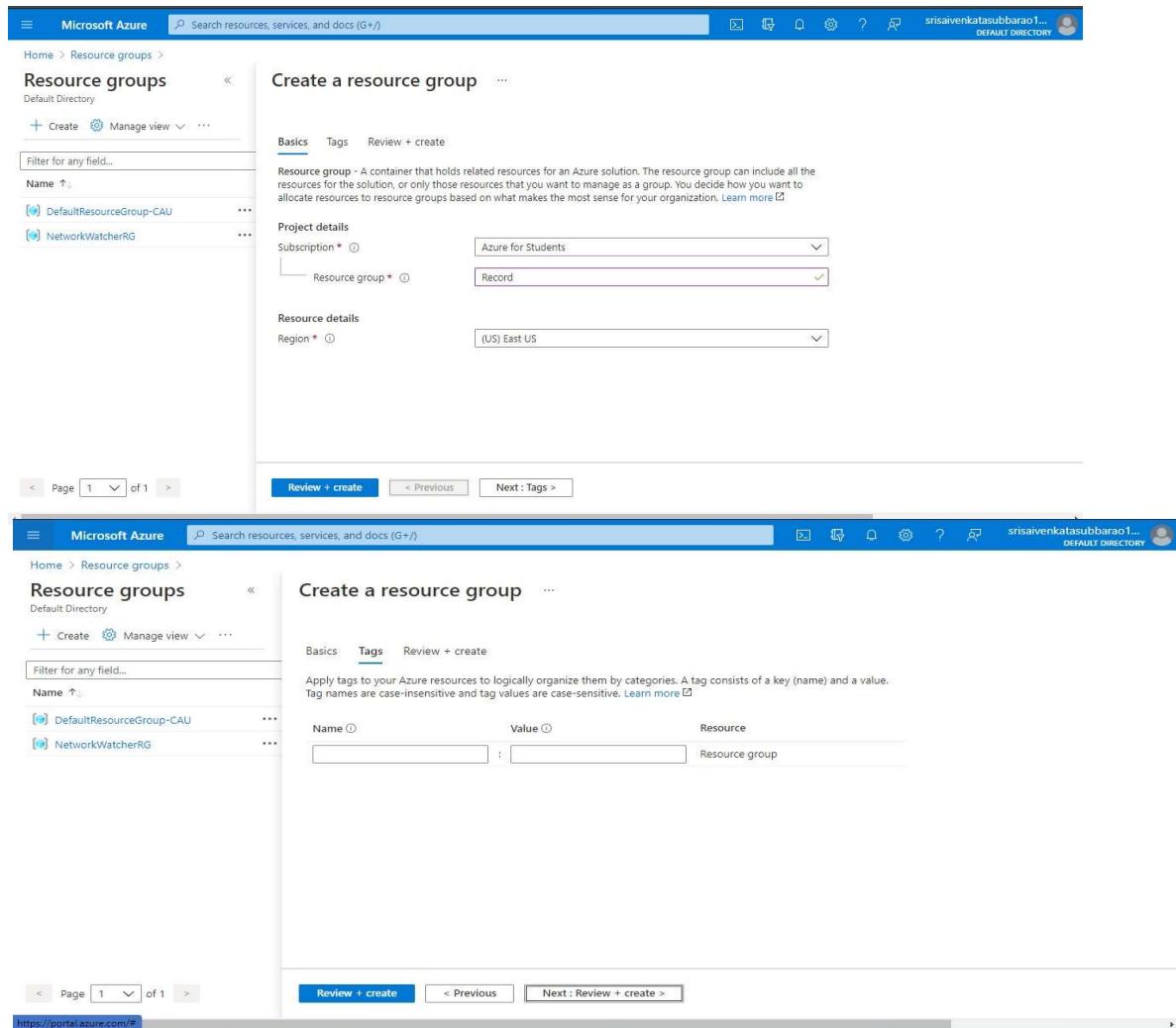
IMPLEMENTATION:

STEP1: CREATE AN ACCOUNT IN MICROSOFT AZURE.

STEP2: GOTO RESOURCE GROUP AND CREATE A RESOURCE GROUP.

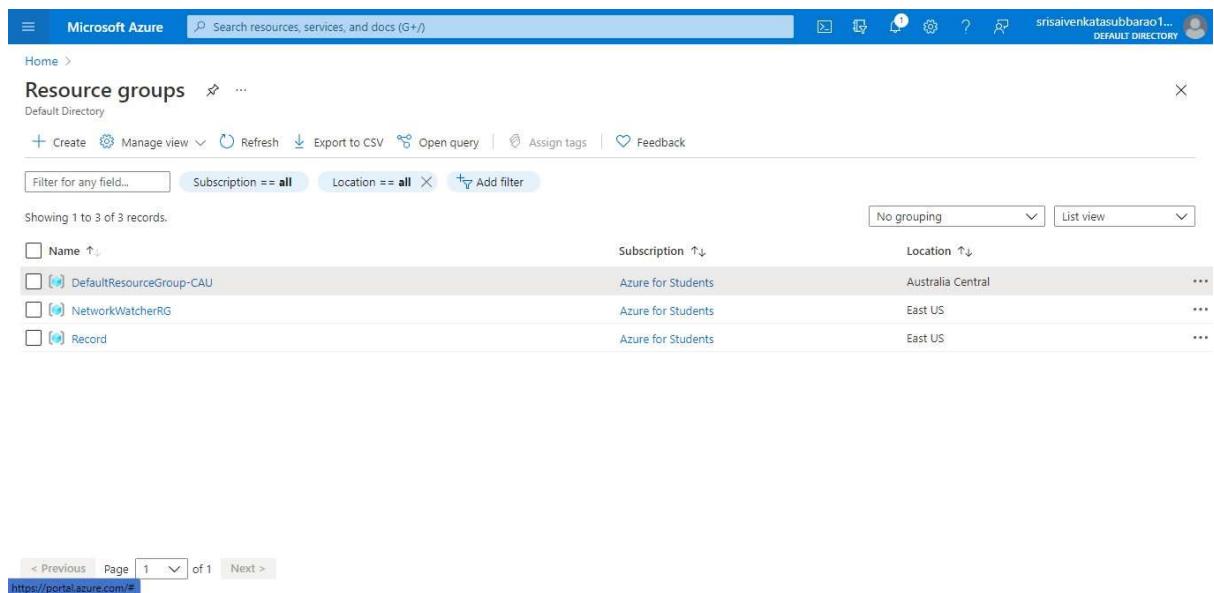


STEP3: GIVE NECESSARY THINGS FOR RESOURCE GROUP.



The screenshot shows the 'Create a resource group' wizard in the Microsoft Azure portal. The 'Basics' tab is active. The 'Subscription' dropdown is set to 'Azure for Students'. The 'Resource group' dropdown is set to 'Record'. The 'Region' dropdown is set to '(US) East US'. The URL in the address bar is <https://portal.azure.com/#create/resource-group/Record>.

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



Name	Subscription	Location
DefaultResourceGroup-CAU	Azure for Students	Australia Central
NetworkWatcherRG	Azure for Students	East US
Record	Azure for Students	East US

The screenshot shows the 'Resource groups' list page in the Microsoft Azure portal. The table displays three resource groups: DefaultResourceGroup-CAU, NetworkWatcherRG, and Record. Each group is associated with 'Azure for Students' subscription and different locations: Australia Central, East US, and East US respectively. The URL in the address bar is <https://portal.azure.com/#list/resource-groups>.

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

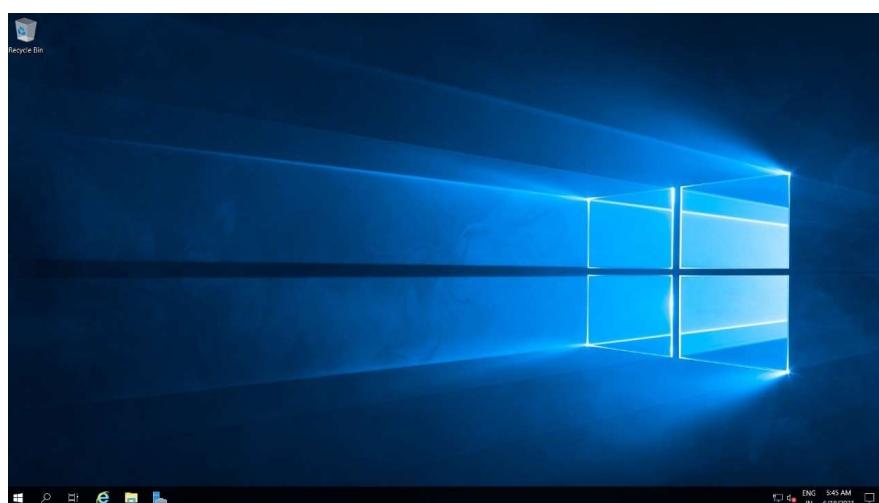
STEP6: AND YOUR VIRTUAL MACHINE IS DEPLOYED.

The screenshot shows the Microsoft Azure portal interface for a virtual machine named 'CreateVm-MicrosoftWindowsServer.WindowsServer-201-20210721104828'. The 'Overview' tab is selected. A prominent green checkmark indicates 'Your deployment is complete'. Deployment details include a name, subscription, start time, and correlation ID. Below this, 'Deployment details' and 'Next steps' sections are visible, along with 'Go to resource' and 'Create another VM' buttons. A sidebar on the right provides links to Security Center, Free Microsoft tutorials, and Work with an expert.

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

The screenshot shows the 'Record-virtual' virtual machine properties page. The 'Virtual machine' section displays details like computer name, operating system, publisher, offer, plan, and agent status. The 'Networking' section shows network interface details. On the left, a sidebar lists various management options such as Activity log, Access control (IAM), Tags, Diagnose and solve problems, Networking, Connect, Windows Admin Center (preview), Disks, Size, Security, Advisor recommendations, and Extensions.

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 IP ADDRESS 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.

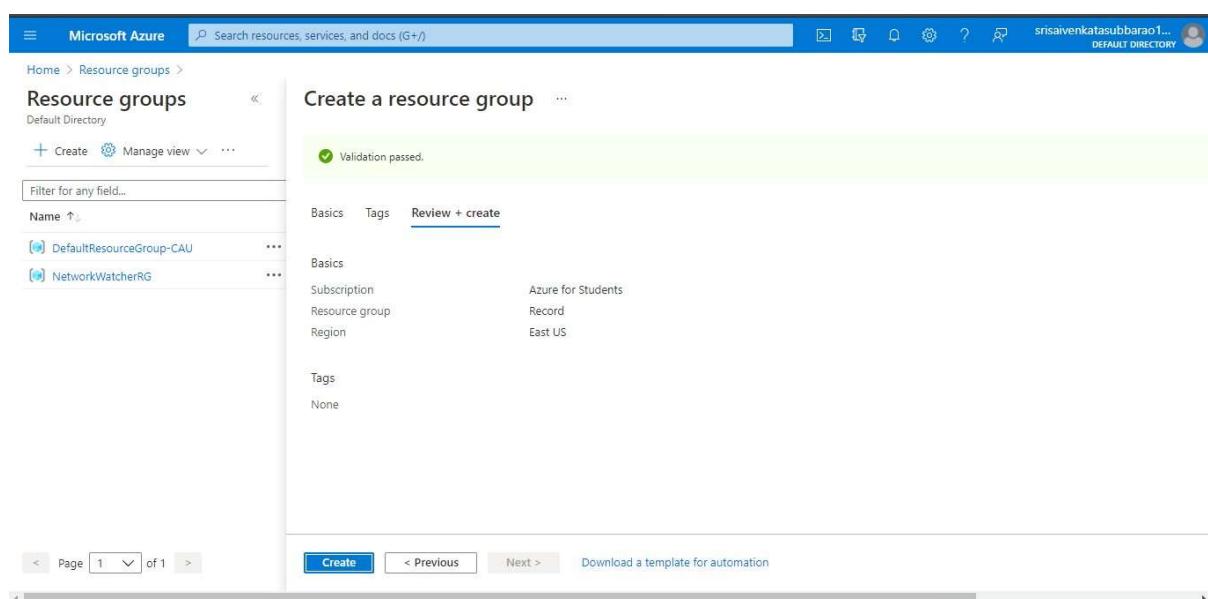
STEP8: NOW RESIZE THE VIRTUAL MACHINE SIZE.

STEP9: CREATED A NEW WINDOWS VIRTUAL MACHINE

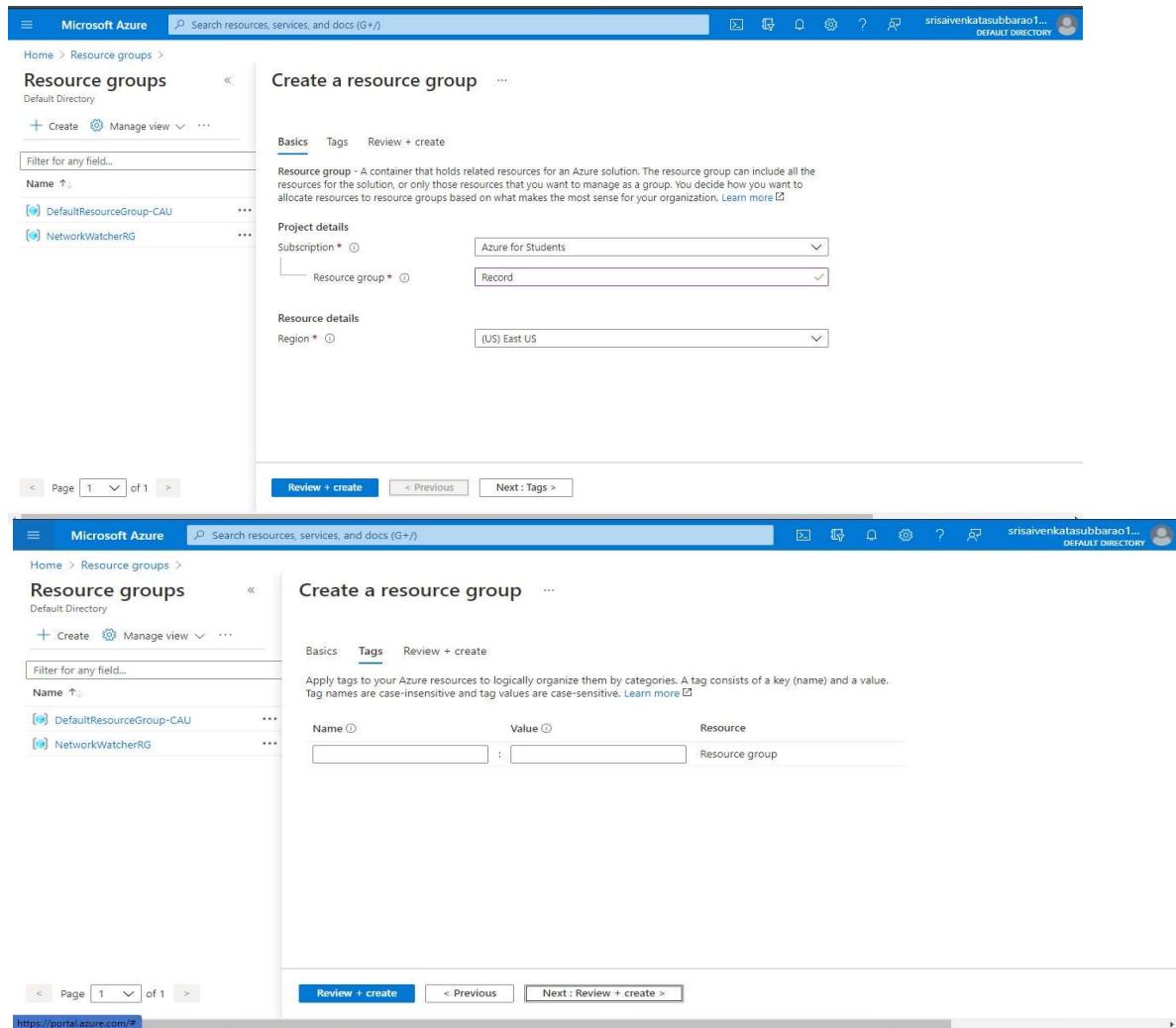
IMPLEMENTATION:

STEP1:CREATE AN ACCOUNT IN MICROSOFT AZURE.

STEP2: GOTO RESOURCE GROUP AND CREATE A RESOURCE GROUP.

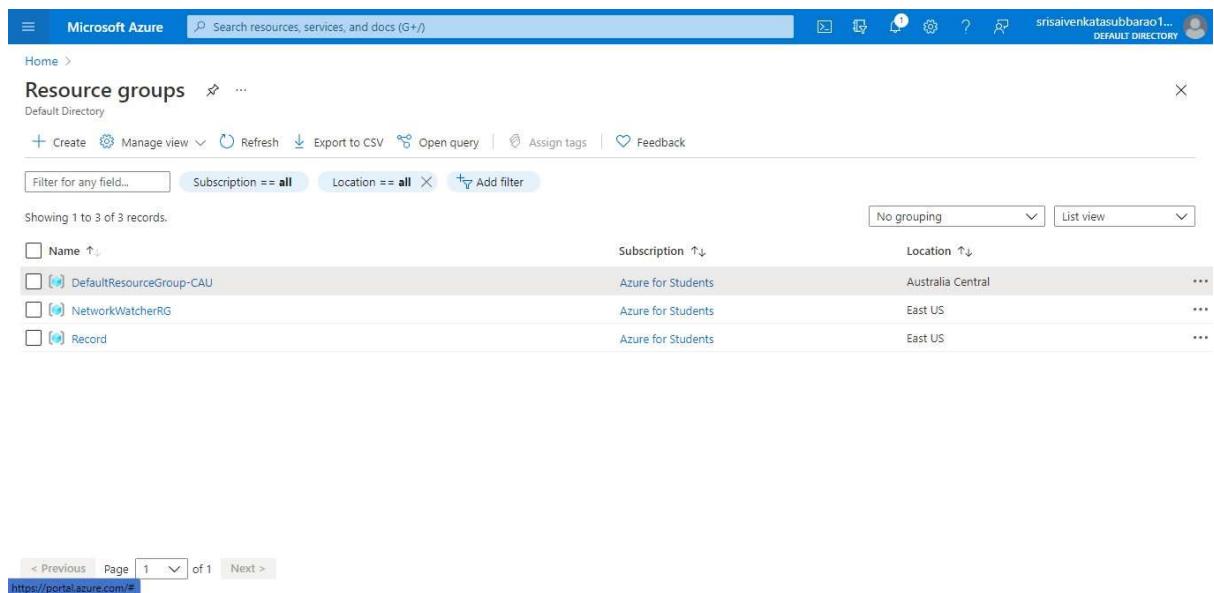


STEP3: GIVE NECESSARY THINGS FOR RESOURCE GROUP.



The screenshot shows the 'Create a resource group' wizard in the Microsoft Azure portal. The 'Basics' tab is active. The 'Subscription' dropdown is set to 'Azure for Students'. The 'Resource group' dropdown is set to 'Record'. The 'Region' dropdown is set to '(US) East US'. The URL in the address bar is <https://portal.azure.com/#create/resource-group/Record>.

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



The screenshot shows the 'Resource groups' list in the Microsoft Azure portal. The 'Record' resource group is listed under 'Default Directory'. It contains three resources:

Name	Subscription	Location
DefaultResourceGroup-CAU	Azure for Students	Australia Central
NetworkWatcherRG	Azure for Students	East US
Record	Azure for Students	East US

The URL in the address bar is <https://portal.azure.com/#list/resource-groups>.

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

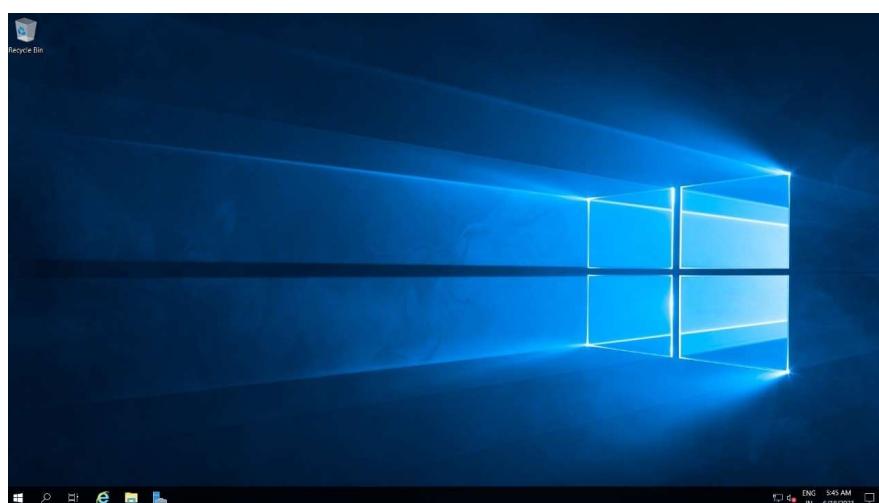
STEP6: AND YOUR VIRTUAL MACHINE IS DEPLOYED.

The screenshot shows the Microsoft Azure portal interface for a virtual machine named 'CreateVm-MicrosoftWindowsServer.WindowsServer-201-20210721104828'. The 'Overview' tab is selected. A prominent green checkmark indicates 'Your deployment is complete'. Deployment details include a deployment name, subscription information (Azure for Students), and a correlation ID. Below this, 'Deployment details' and 'Next steps' sections are visible, along with 'Go to resource' and 'Create another VM' buttons. A sidebar on the right provides links to Security Center, Free Microsoft tutorials, and Work with an expert.

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

The screenshot shows the 'Record-virtual' virtual machine properties page. The 'Virtual machine' section displays basic information like computer name, operating system, publisher, offer, plan, and VM generation. The 'Networking' section shows network configuration with a public IP address of 23.96.9.147. A 'Connect' button is visible on the left sidebar.

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

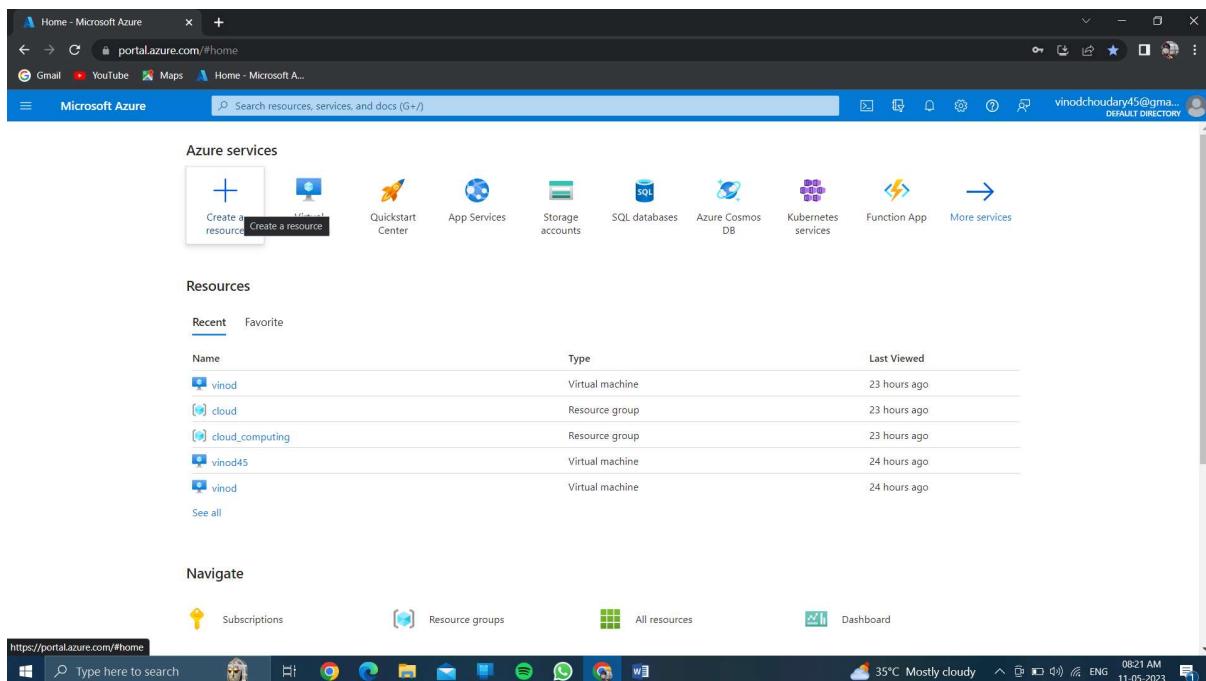
STEP 13: click on name of the virtual machine and see your name of your virtual machine

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

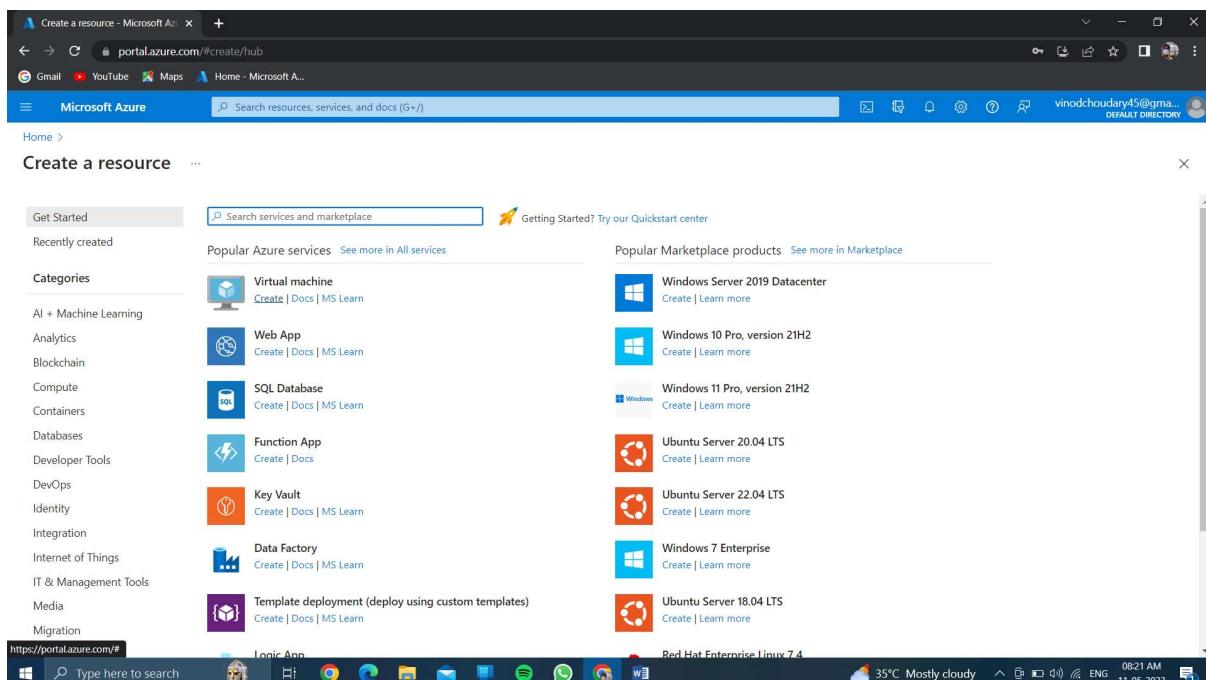
STEP 16: then after you will get output or otherwise you will get the remote connect desktop...

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



The screenshot shows the Microsoft Azure portal's home page. At the top, there's a search bar and a user profile. Below it, the 'Azure services' section features a 'Create a resource' button, which is highlighted with a red box. Other service icons include Quickstart Center, App Services, Storage accounts, SQL databases, Azure Cosmos DB, Kubernetes services, Function App, and More services. The 'Resources' section displays a table of recent resources, including 'vinod' (Virtual machine), 'cloud' (Resource group), 'cloud_computing' (Resource group), 'vinod45' (Virtual machine), and another 'vinod' entry. The 'Navigate' section includes links for Subscriptions, Resource groups, All resources, and Dashboard. The bottom of the screen shows a Windows taskbar with various pinned apps and system status.

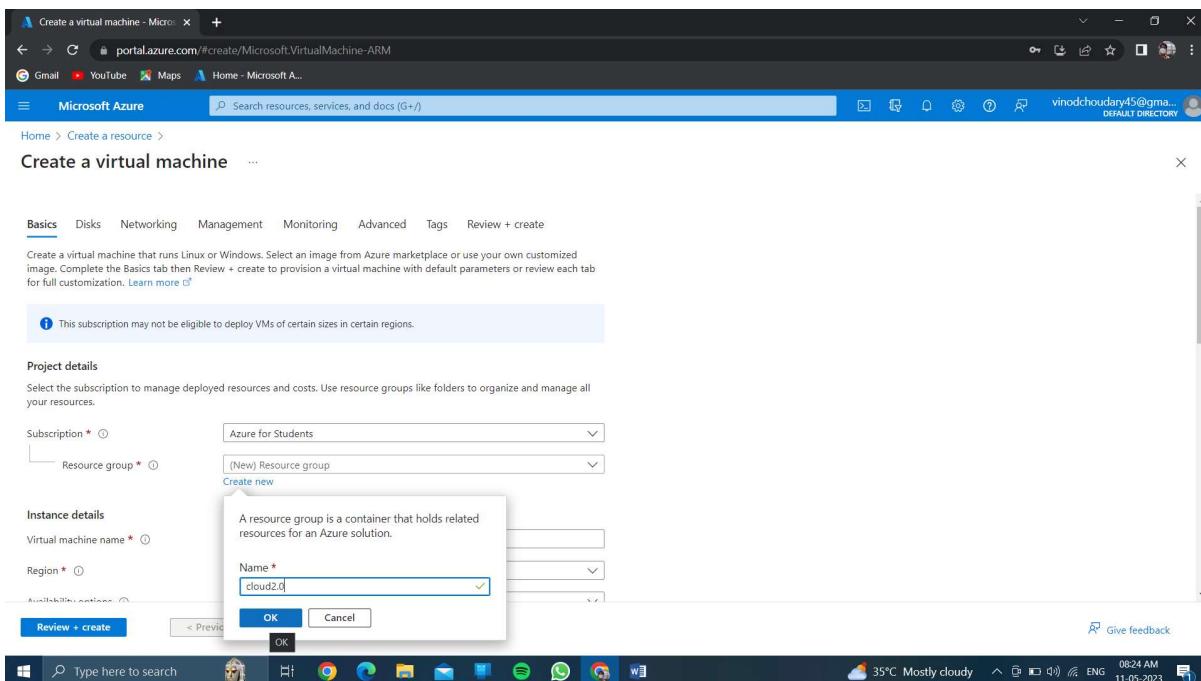
CLICK ON CREATE A RESOURCE.....



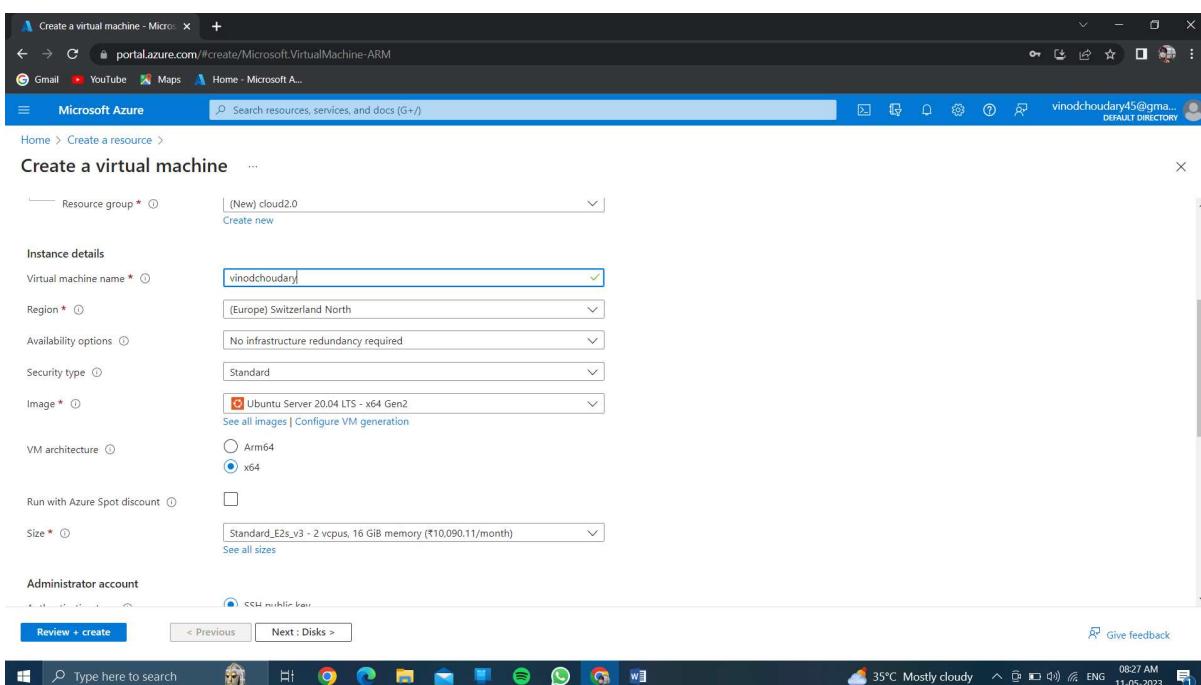
The screenshot shows the 'Create a resource' hub page. It has a 'Get Started' section with a search bar and a 'Popular Azure services' section listing Virtual machine, Web App, SQL Database, Function App, Key Vault, Data Factory, and Template deployment. To the right, there's a 'Popular Marketplace products' section listing Windows Server 2019 Datacenter, Windows 10 Pro, Windows 11 Pro, Ubuntu Server 20.04 LTS, Ubuntu Server 22.04 LTS, Windows 7 Enterprise, Ubuntu Server 18.04 LTS, and Red Hat Enterprise Linux 7.4. The bottom of the screen shows a Windows taskbar with various pinned apps and system status.

CLICK ON CREATE OF VIRTUAL MACHINE....

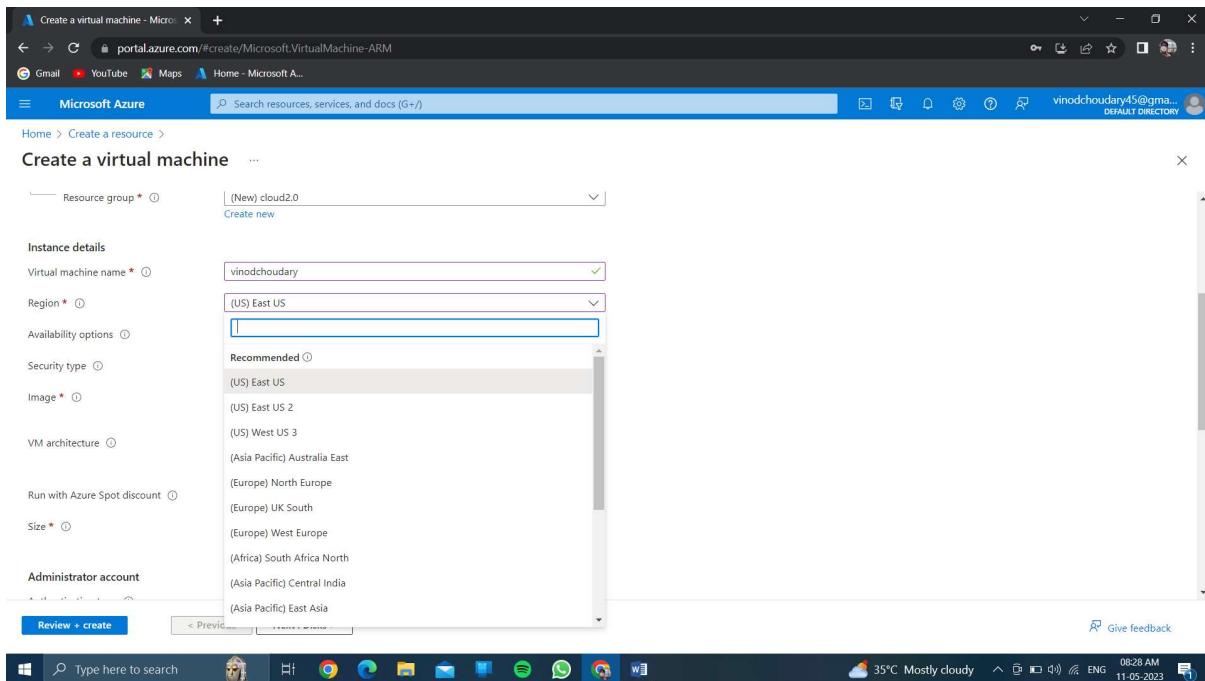
CREATE A RESOURCE GROUP.....



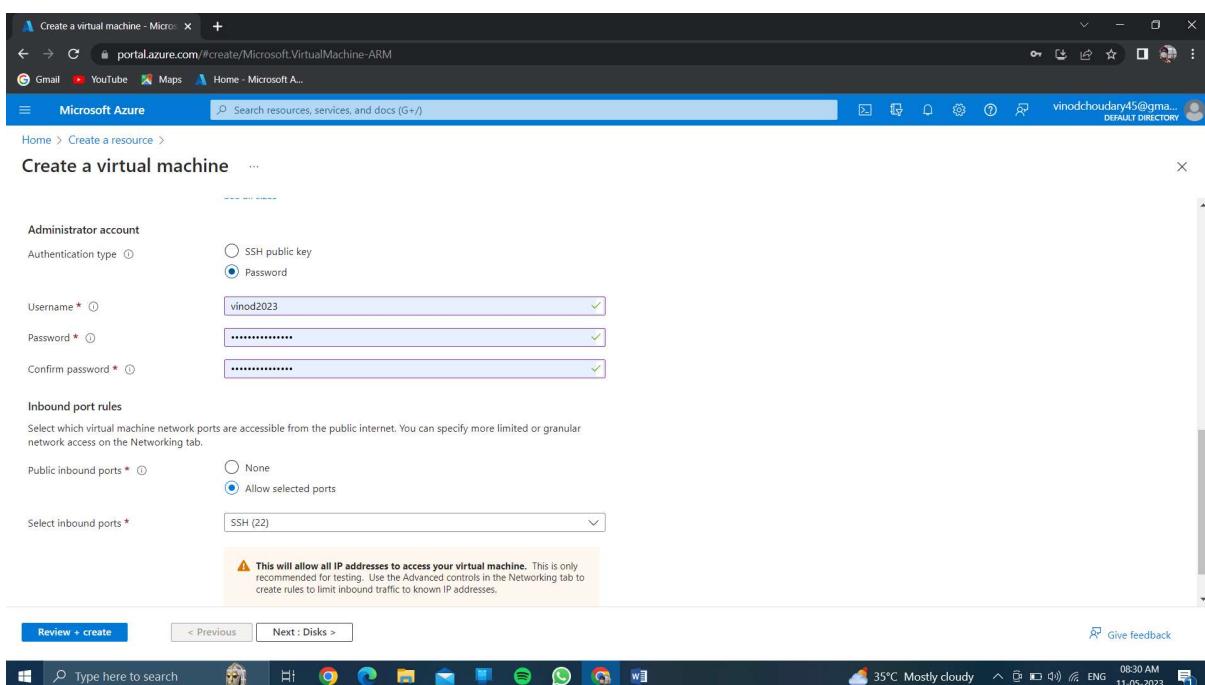
GIVE THE NAME OF VIRTUAL MACHINE....



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>>

Create a virtual machine - Microsoft Azure

Search resources, services, and docs (G+/)

vinodchoudary45@gmail.com DEFAULT DIRECTORY

Home > Create a resource >

Create a virtual machine

Authentication type: Password

Username *: vinod2023

Password *:

Confirm password *:

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports *:

- None
- Allow selected ports

Select inbound ports *: SSH (22)

⚠️ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Review + create < Previous Next : Disks > Give feedback

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

Create a virtual machine - Microsoft Azure

Search resources, services, and docs (G+/)

vinodchoudary45@gmail.com DEFAULT DIRECTORY

Home > Create a resource >

Create a virtual machine

Validation passed

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs.

Price

1 X Standard E2s v3 by Microsoft

Subscription credits apply: 9.8953 INR/hr

[Terms of use](#) | [Privacy policy](#)

Pricing for other VM sizes

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

Name: PATHI VINOD

Create < Previous Next > Download a template for automation Give feedback

CLICK ON CREATE.....

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

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

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

The screenshot shows the Microsoft Azure portal interface. The main title bar says "vinodchoudary - Microsoft Azure". The URL in the address bar is "portal.azure.com/#@vinodchoudary45@gmail.onmicrosoft.com/resource/subscriptions/3b4fb3b-ccc6-4257-8f12-75b8d7b2a1b9/resourceGroups/cloud2.0/providers/Microsoft.Compute/...". The user's email "vinodchoudary45@gmail.onmicrosoft.com" is at the top right. The page title is "CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230511082149 | Overview >". On the left, there's a sidebar with "vinodchoudary" under "Virtual machine" and various settings like Networking, Disks, Size, and Configuration. The main content area shows the "Essentials" tab for the VM. It lists the Resource group as "cloud2.0", Status as "Running", Location as "East US", Subscription as "Azure for Students", and Subscription ID as "3b4fb3b-ccc6-4257-8f12-75b8d7b2a1b9". It also shows Tags (none), Properties (Virtual machine and Networking details), and Monitoring, Capabilities (7), Recommendations, and Tutorials tabs. The Networking section shows a Public IP address of "74.235.175.2" and a Private IP address of "10.2.0.4". The status bar at the bottom shows "35°C Mostly cloudy" and the date "11-05-2023".

AND CLICK ON << BACK TO HOME >>

This screenshot shows the Microsoft Azure portal home page. The title bar says "vinodchoudary - Microsoft Azure". The URL in the address bar is "https://portal.azure.com/#home". The user's email "vinodchoudary45@gmail.onmicrosoft.com" is at the top right. The main content area shows the "Essentials" tab for the VM "vinodchoudary". It lists the Resource group as "cloud2.0", Status as "Running", Location as "East US", Subscription as "Azure for Students", and Subscription ID as "3b4fb3b-ccc6-4257-8f12-75b8d7b2a1b9". It also shows Tags (none), Properties (Virtual machine and Networking details), and Monitoring, Capabilities (7), Recommendations, and Tutorials tabs. The Networking section shows a Public IP address of "74.235.175.2" and a Private IP address of "10.2.0.4". The status bar at the bottom shows "35°C Mostly cloudy" and the date "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/#@vinodchoudary45@gmail.onmicrosoft.com/asset/hubsExtension/ResourceGroups/subscriptions/3b4fb3b-ccc6-4257-8f12-75b8d7b2a1b9/resourceGroups/cloud2.0

35°C Mostly cloudy 08:44 AM 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/#@vinodchoudary45@gmail.onmicrosoft.com/asset/Microsoft_Azure_Compute/VirtualMachine/subscriptions/3b4fb3b-ccc6-4257-8f12-75b8d7b2a1b9/resourceGroups/cloud2.0/providers/Microsoft.Compute/virtualMachines/vinodchoudary

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

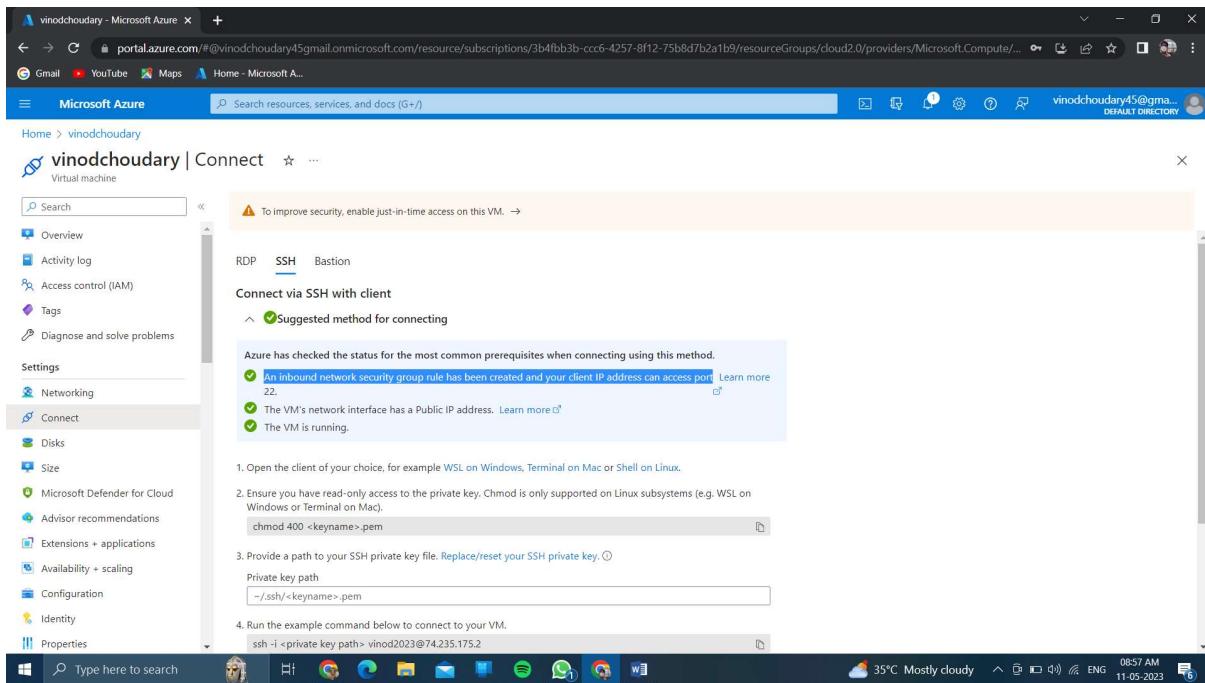
NOW YOU CAN SEE YOUR NAME OF YOUR VIRTUAL MACHINE....

The screenshot shows the Microsoft Azure portal interface. The main title bar says "vinodchoudary - Microsoft Azure". The address bar shows the URL "portal.azure.com/#@vinodchoudary45@gmail.onmicrosoft.com/resource/subscriptions/3b4fb3b-ccc6-4257-8f12-75b8d7b2a1b9/resourceGroups/cloud2.0/providers/Microsoft.Compute/...". The user's email "vinodchoudary45@gmail.com" is at the top right. The left sidebar has sections like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings (Networking, Connect, Disks, Size, Microsoft Defender for Cloud, Advisor recommendations, Extensions + applications, Availability + scaling, Configuration, Identity, Properties), and a search bar. The main content area shows the properties of a virtual machine named "vinodchoudary". The "Connect" button is highlighted in blue. Other tabs include Monitoring, Capabilities (7), Recommendations, and Tutorials. The "Virtual machine" section shows details like 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), Agent status (Ready), Agent version (2.9.0.4), Host group (None), Host (-), Proximity placement group (-), Colocation status (N/A), Capacity reservation group (-), and Disk controller type (SCSI). The "Networking" section shows Public IP address (74.235.175.2), Private IP address (10.2.0.4), Virtual network/subnet (vinodchoudary-vnet/default), and DNS name (Configure). The "Size" section shows Standard E2s v3, 2 vCPUs, and 16 GB RAM. The "Disk" section shows OS disk (vinodchoudary_disk1_9064116f9bf4e44b1071d9abfdb6bfe), Encryption at host (Disabled), and Azure disk encryption (Not enabled). The bottom status bar shows the date and time (11-05-2023, 08:54 AM) and weather (35°C, Mostly cloudy).

CLICK ON <<CONNECT>>

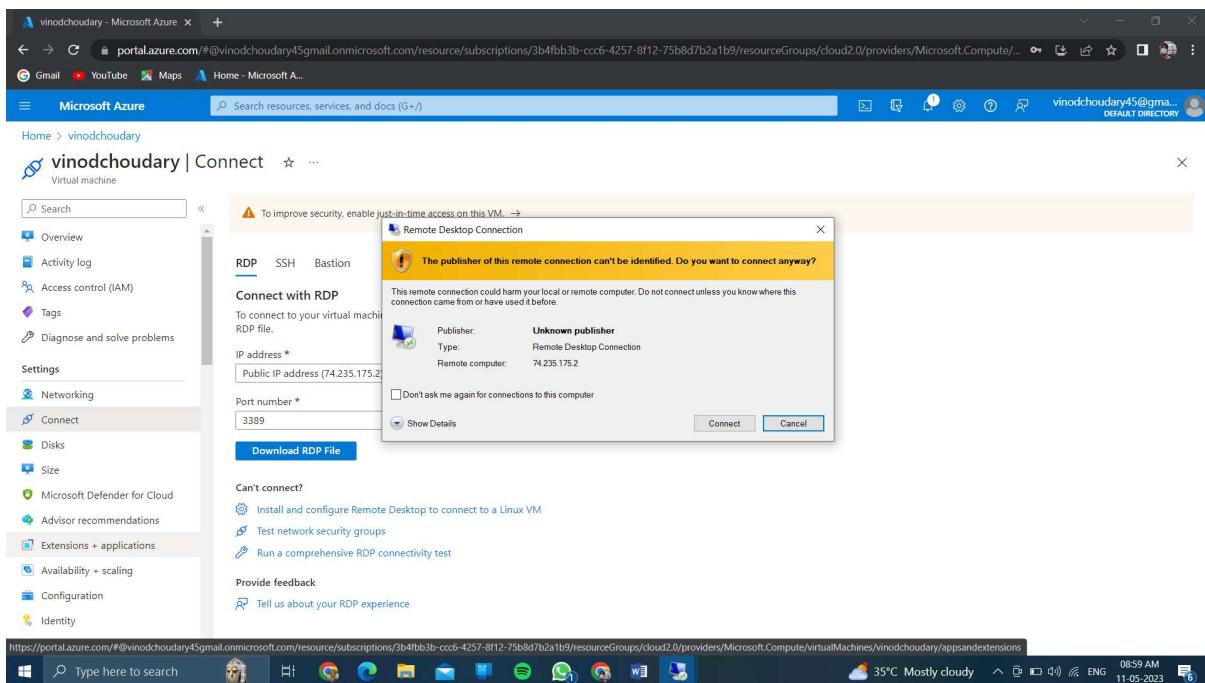
This screenshot is identical to the one above, showing the Azure portal with the virtual machine properties. The "Connect" button is now grayed out, indicating it has been clicked or is disabled. The rest of the interface, including the sidebar, tabs, and status bar, remains the same.

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

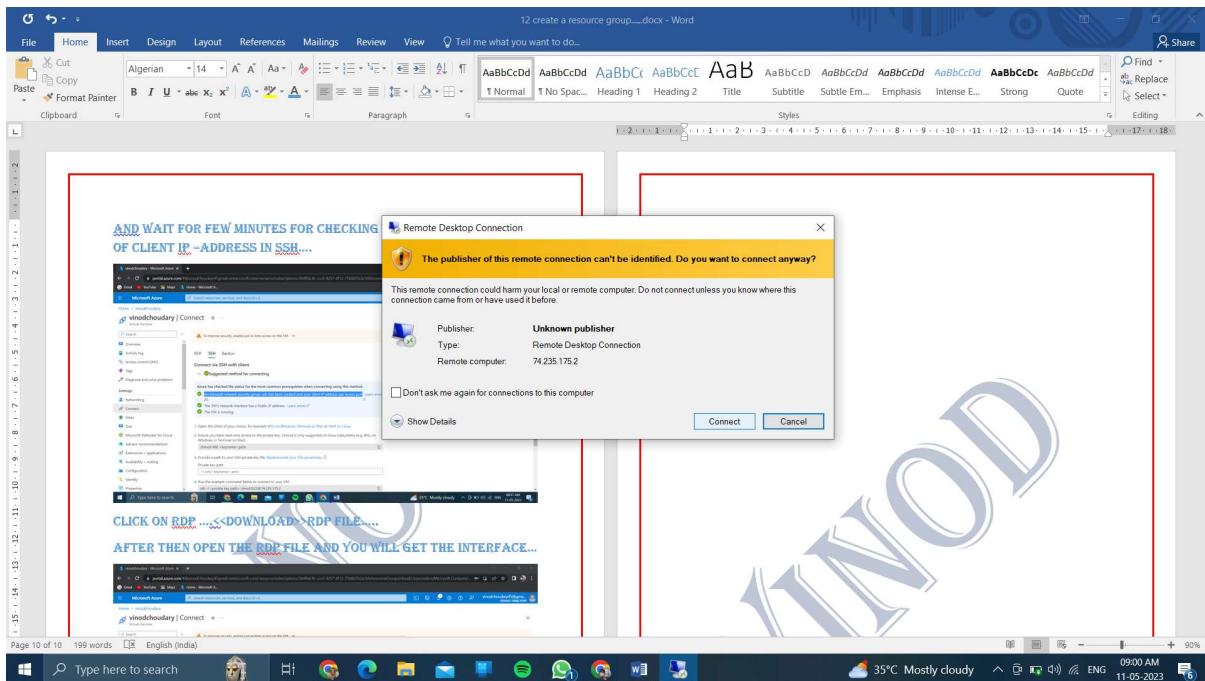


CLICK ON RDP<<DOWNLOAD>>RDP FILE.....

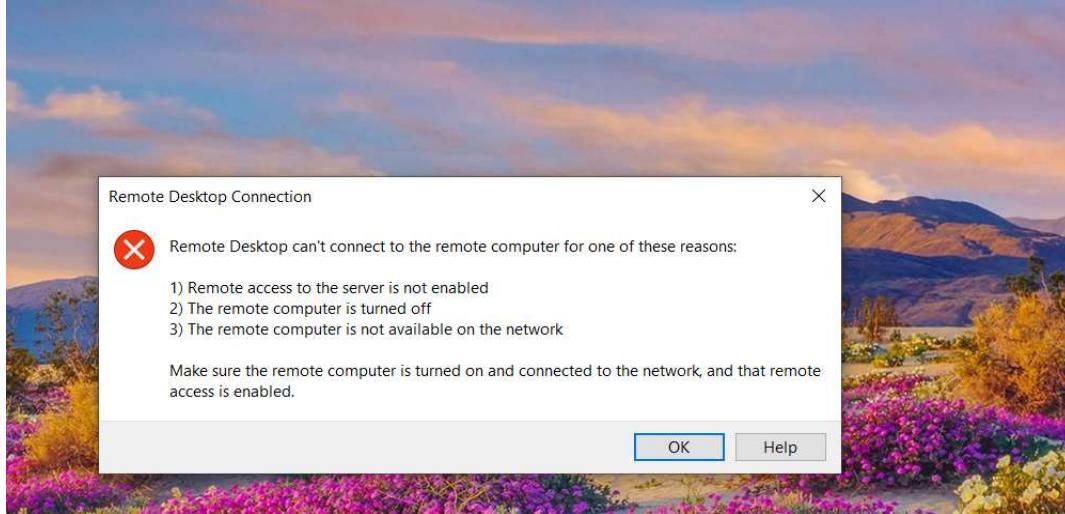
AFTER THEN OPEN THE RDP FILE AND YOU WILL GET THE INTERFACE...



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 REGIONAND 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. The main content area shows a deployment status message: 'Your deployment is complete'. It provides details: Deployment name: Microsoft.Web-WebApp-Portal-1b6a401b-9ae6, Start time: 7/21/2021, 12:49:54 PM, Subscription: Azure for Students, Resource group: Record. There are links for 'Deployment details (Download)', 'Manage deployments for your app. Recommended', and 'Protect your app with authentication. Recommended'. At the bottom left is a 'Go to resource' button. On the right side, 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:

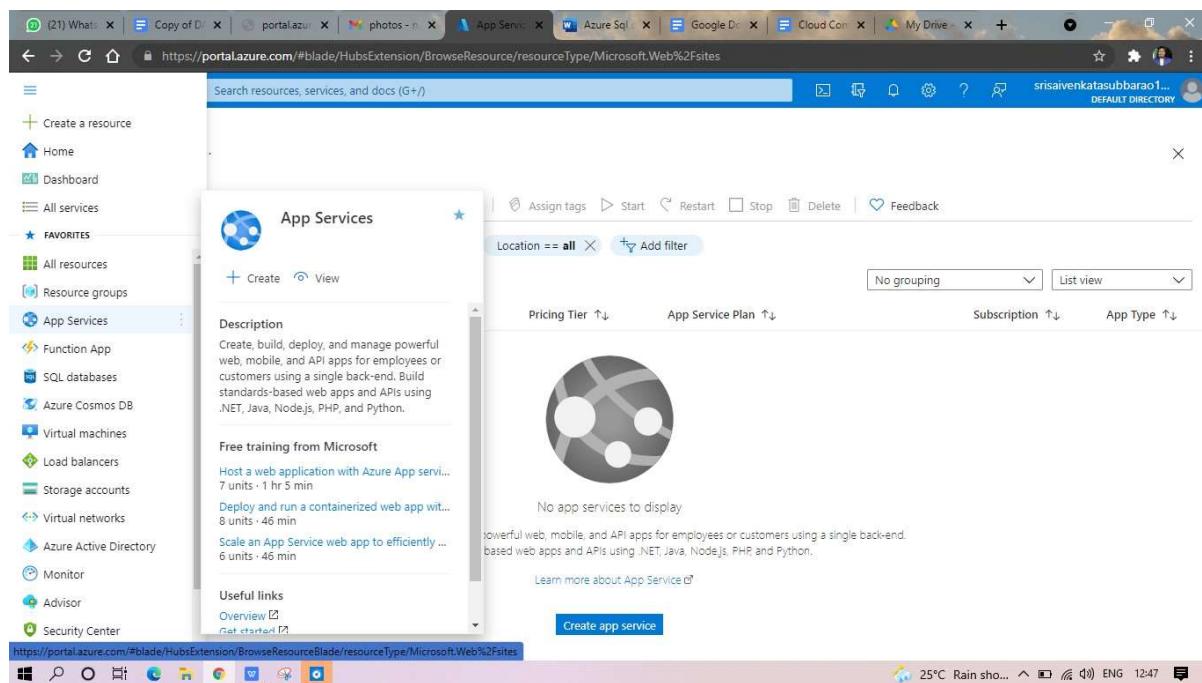
STEP1: FIRSTLY, GO TO APPSERVICE TO CREATE AN WEBAPP.

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 *

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 Deployment Overview page for a web app named "Microsoft.Web-WebApp-Portal-1b6a401b-9ae6". The main message is "Your deployment is complete". Deployment details include: Deployment name: Microsoft.Web-WebApp-Portal-1b6a401b-9ae6, Subscription: Azure for Students, Resource group: Record. The deployment started at 7/21/2021, 12:49:54 PM. A Correlation ID is also provided. Below this, there are sections for "Deployment details" (with a download link) and "Next steps" (links for managing deployments and protecting the app with authentication). A "Go to resource" button is at the bottom. On the right side, there are links to Security Center, Microsoft tutorials, and work with experts.

STEP4: AND OUR DEPLOYMENT IS COMPLETED.

STEP5: GOTO WEBSITE URL LINK.

The screenshot shows the Microsoft Azure App Service Overview page for an app named "Record-app". The main table provides details about the app's configuration:

Resource group (change)	: Record	URL	: https://record-app.azurewebsites.net
Status	: Running	App Service Plan	: ASP-Record-92e3 (B1: 1)
Location	: Australia Central	FTP/deployment username	: No FTP/deployment user set
Subscription (change)	: Azure for Students	FTP hostname	: ftp://waws-prod-cbr20-003.ftp.azurewebsites.wind...
Subscription ID	: db4eee0b-1e34-4be0-9c9c-65cc8d398405	FTPS hostname	: https://waws-prod-cbr20-003.ftp.azurewebsites.win...
Tags (change)	: Click here to add tags		

Below the table are three callout boxes: "Diagnose and solve problems", "Application Insights", and "App Service Advisor". The URL "https://portal.azure.com/#" is visible at the bottom of the browser window.

STEP6: THIS IS OUR WEBAPP SERVICE.

The screenshot shows the Microsoft Azure web app service landing page for "record-app.azurewebsites.net". The page features a message to Node developers, a cartoon illustration of a person working on a laptop, and two buttons: "Deployment Center" and "Quickstart".

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.

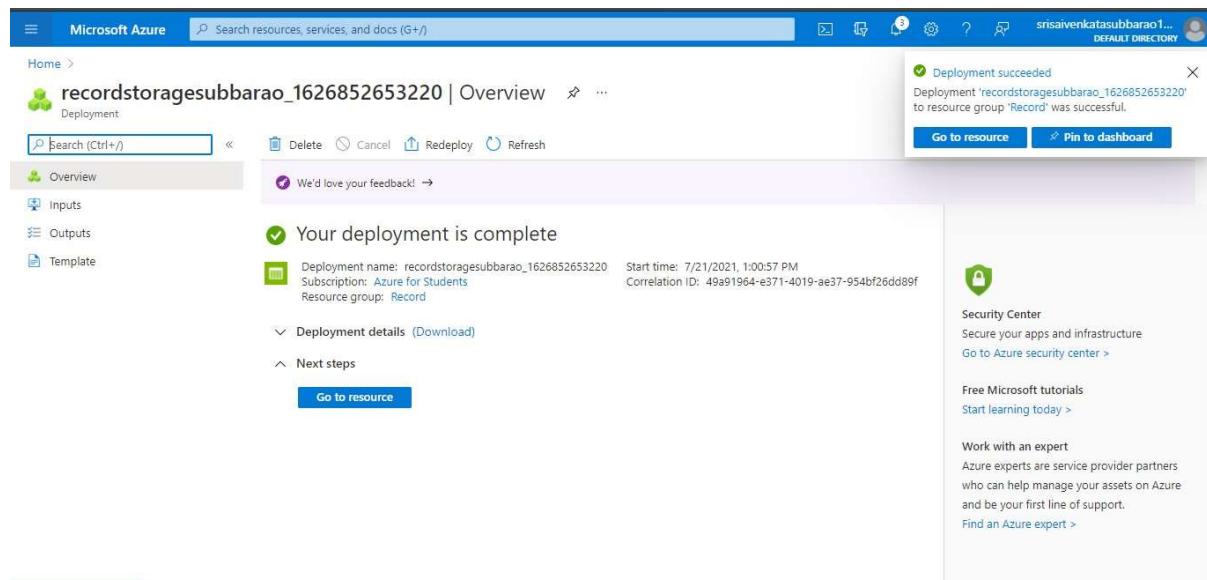
PROCEDURE:

PROCEDURE:

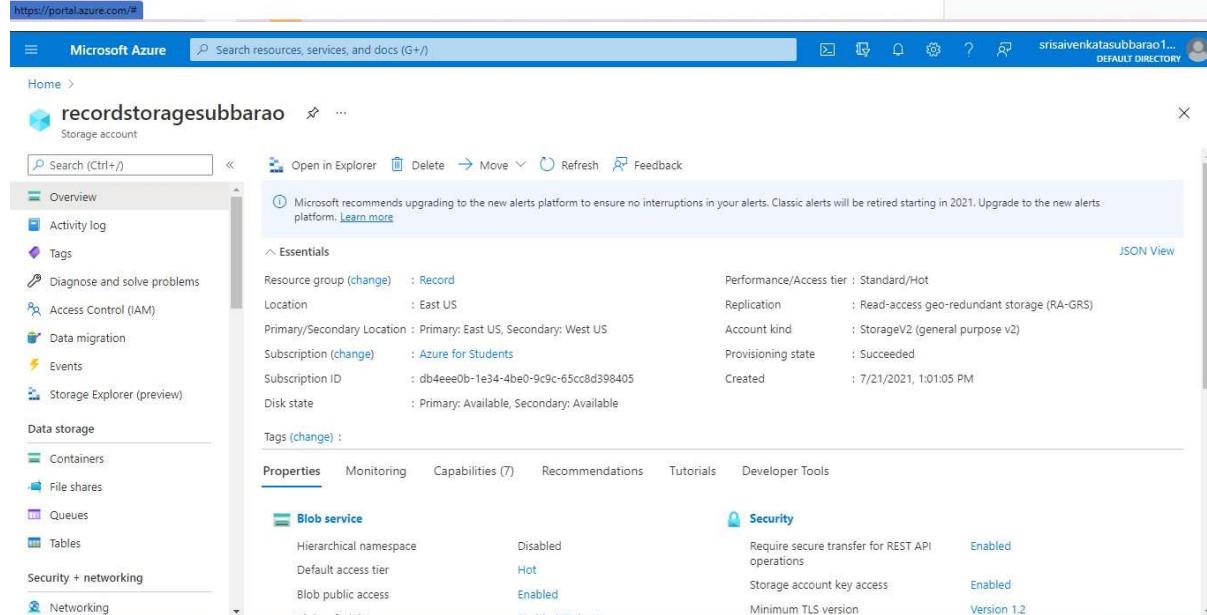
STEP1: OPEN AZURE AND GOTO STORAGE ACCOUNTS AND CREATESTOROAGE ACCOUNT

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 shows the Microsoft Azure portal. The top navigation bar has 'Microsoft Azure' and a search bar. The user is signed in as 'srisaivenkatasubbarao...'. Below the navigation is a breadcrumb trail: Home > recordstoragesubbarao_1626852653220 | Overview. The main content area shows a deployment status: 'Deployment succeeded' with a green checkmark. It details a deployment named 'recordstoragesubbarao_1626852653220' for 'Azure for Students' in the 'Record' resource group, starting at 7/21/2021, 1:00:57 PM. To the left is a sidebar with 'Overview', 'Inputs', 'Outputs', and 'Template' options. On the right, there are links to 'Security Center', 'Free Microsoft tutorials', and 'Work with an expert'.



The screenshot shows the 'recordstoragesubbarao' storage account settings page. The left sidebar includes 'Overview', 'Activity log', 'Tags', 'Diagnose and solve problems', 'Access Control (IAM)', 'Data migration', 'Events', 'Storage Explorer (preview)', 'Data storage' (with 'Containers', 'File shares', 'Queues', 'Tables'), 'Security + networking', and 'Networking'. The main content area displays 'Essentials' information: Resource group (change) to 'Record', Location to 'East US', Primary/Secondary Location to 'Primary: East US, Secondary: West US', Subscription (change) to 'Azure for Students', Subscription ID to 'db4eee0b-1e34-4be0-9c9c-65cc8d398405', Disk state to 'Primary: Available, Secondary: Available', and Tags (change). Below this are sections for 'Properties', 'Monitoring', 'Capabilities (7)', 'Recommendations', 'Tutorials', and 'Developer Tools'. Under 'Blob service', it shows Hierarchical namespace as 'Disabled', Default access tier as 'Hot', Blob public access as 'Enabled', and Disk quota deleted as 'Enabled (7 days)'. Under 'Security', it shows Require secure transfer for REST API operations as 'Enabled', Storage account key access as 'Enabled', and Minimum TLS version as 'Version 1.2'.

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 ofthe stored file to demonstrate storage as a service.

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.

STEP3: OUR STORAGE ACCOUNT IS CREATED.

STEP4: GOTO STATIC WEBSITE

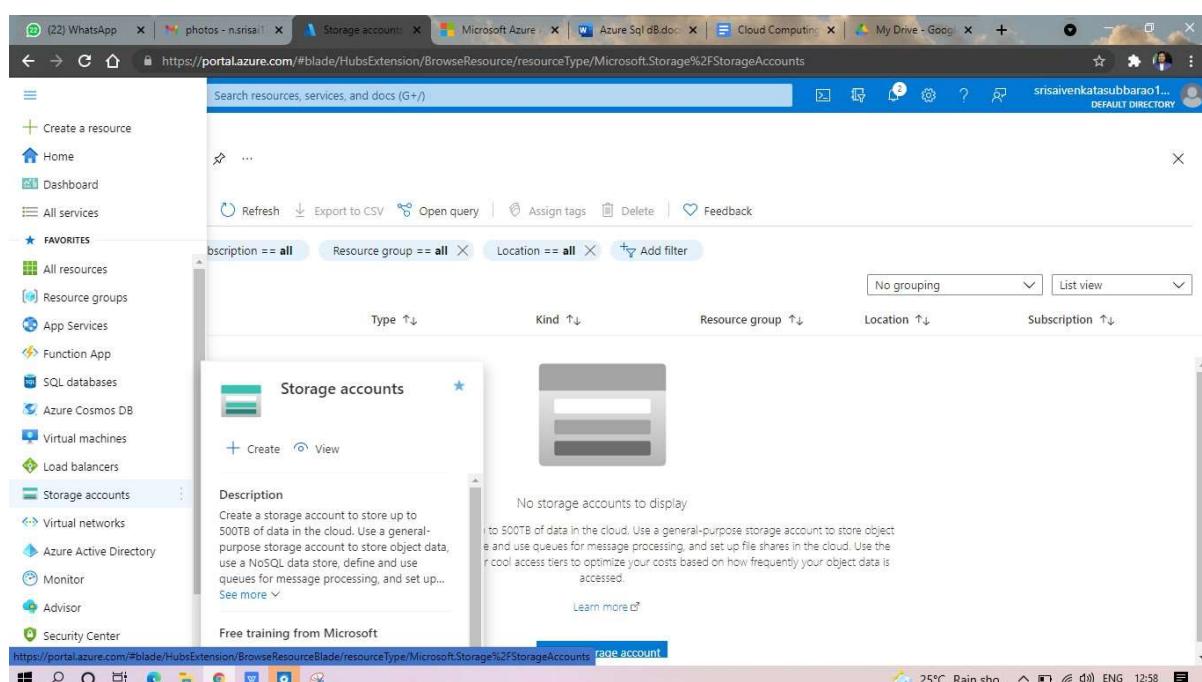
STEP5: AND ENABLE AND ENTER YOUR INDEX AND ERROR HTML FILES NAMES.

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

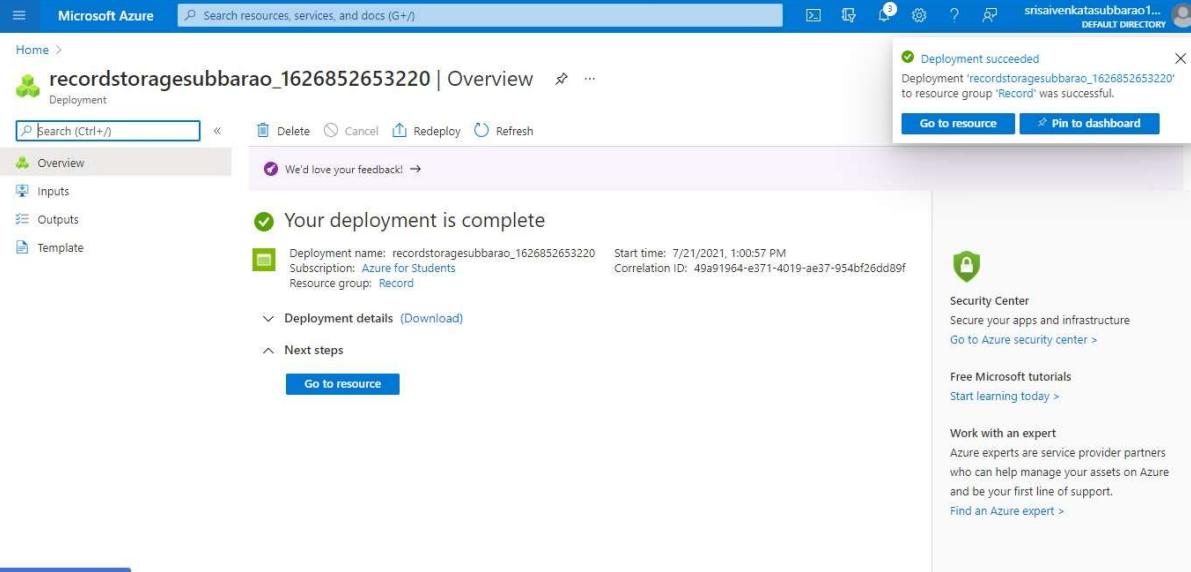
STEP7: AND AGAIN RETURN TO STATIC WEBSITE AND OPEN THE PRIMARYLINK AND YOUR WEB PAGE IS CREATED

IMPLEMENTATION:

STEP1: OPEN AZURE AND GOTO STORAGE ACCOUNTS AND CREATESTOROAGE ACCOUNT

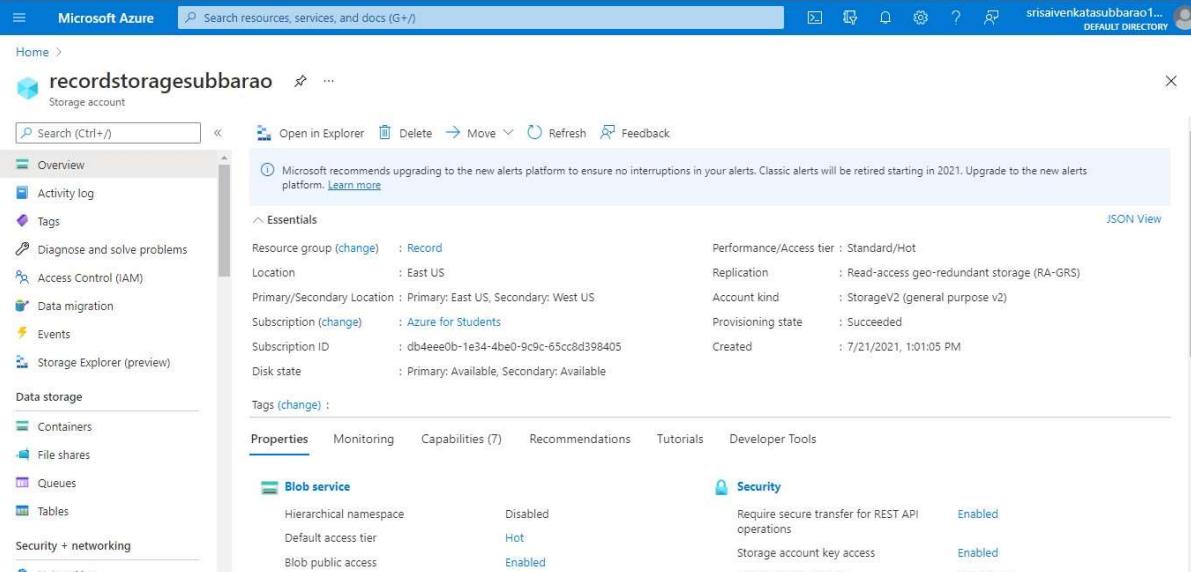


STEP2: ENTER THE RESOURCE GROUP AND AND STORAGE ACCOUNT NAMEAND REVIEW AND CREATE AND CLICK TH CREATE AND YOUR STORAGE ACCOUNT WILL BE DEPLOYED SUCESSFULLY.



The screenshot shows the Microsoft Azure portal's deployment overview for a deployment named "recordstoragesubbarao_1626852653220". The status bar at the top indicates "Deployment succeeded". The main content area displays deployment details: Deployment name: recordstoragesubbarao_1626852653220, Subscription: Azure for Students, Resource group: Record. The deployment started at 7/21/2021, 1:00:57 PM. A "Go to resource" button is present. The right sidebar includes links to Security Center, Free Microsoft tutorials, and Work with an expert.

STEP3: AND OUR STORAGE ACCOUNT IS CREATED.



The screenshot shows the Microsoft Azure portal's storage account overview for "recordstoragesubbarao". The left sidebar lists various storage services like Containers, File shares, Queues, Tables, and Networking. The main content area displays account details: 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. The "Properties" tab is selected. The right sidebar includes a "JSON View" link and a "Security" section with options like "Require secure transfer for REST API operations" and "Storage account key access".

STEP4: GOTO STATIC WEBSITE

The screenshot shows the Microsoft Azure portal interface. The main title bar says "Microsoft Azure". The left sidebar shows "deeksha" under "Storage account". The main content area displays the properties of the storage account "deeksha". Key details include:

- Resource group (change) : Gopi
- Location : East US
- Primary/Secondary Location : Primary: East US, Secondary: West US
- Subscription (change) : Azure for Students
- Subscription ID : 88bd0e11-e421-4a2a-8040-bdf7d22901aa
- Disk state : Primary: Available, Secondary: Available

Below this, there are sections for "Tags (change)" and "Properties". The "Properties" tab is selected, showing settings for "Blob service" and "Security".

Blob service

Setting	Value
Hierarchical namespace	Disabled
Default access tier	Hot
Blob public access	Enabled
Blob soft delete	Enabled (7 days)
Container soft delete	Enabled (7 days)
Versioning	Disabled

Security

Setting	Value
Require secure transfer for REST API operations	Enabled
Storage account key access	Enabled
Minimum TLS version	Version 1.2
Infrastructure encryption	Disabled

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

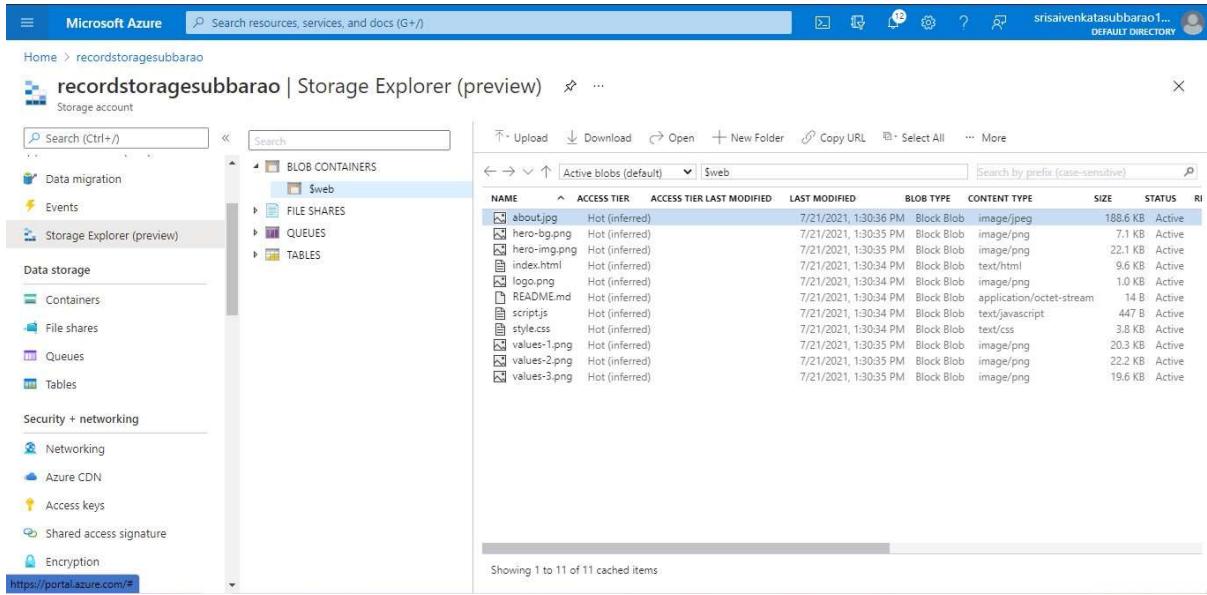
The screenshot shows the Microsoft Azure portal interface. The main title bar says "Microsoft Azure". The left sidebar shows "deeksha" under "Static website". The main content area displays the configuration for the static website.

An informational message states: "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".

The configuration fields are as follows:

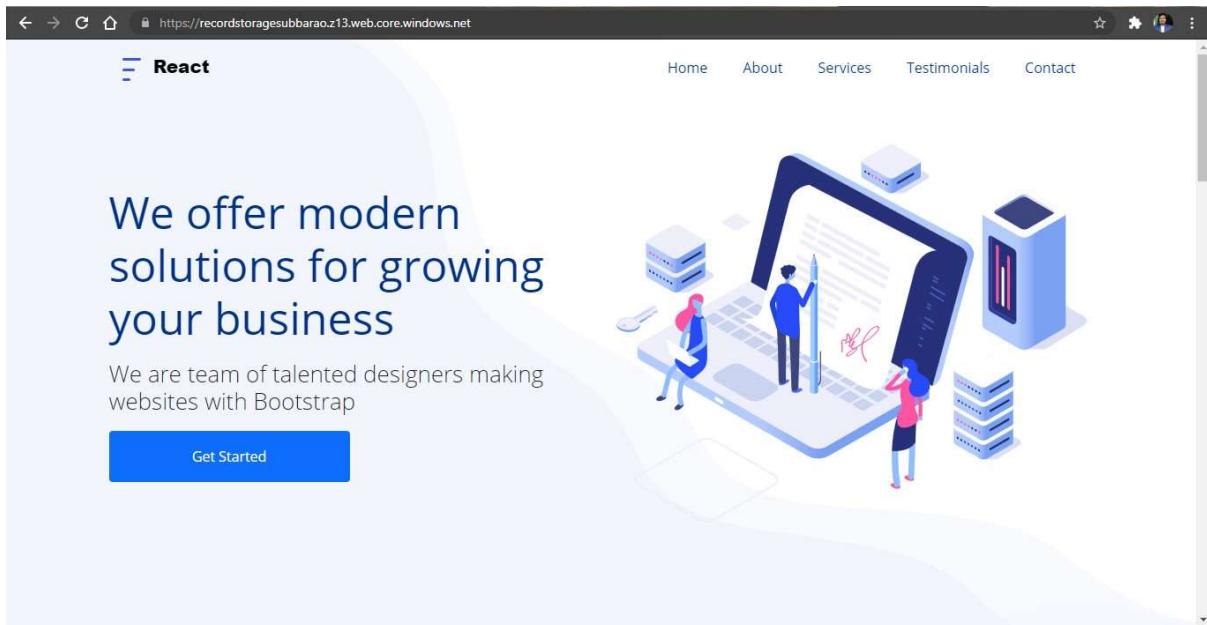
- Static website status: Enabled (radio button selected)
- Primary endpoint: https://deeksha-z13.web.core.windows.net/
- Secondary endpoint: https://deeksha-secondary-z13.web.core.windows.net/
- Index document name: index.html
- Error document path: 404.html

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



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 (<https://portal.azure.com/>). The main area is titled "recordstoragesubbarao | Storage Explorer (preview)" and shows a "Storage account". It lists "BLOB CONTAINERS" with one entry "\$web". Under "\$web", there are "FILE SHARES", "QUEUES", and "TABLES". The "FILE SHARES" section is expanded, showing a list of files with columns: NAME, ACCESS TIER, ACCESS TIER LAST MODIFIED, LAST MODIFIED, BLOB TYPE, CONTENT TYPE, SIZE, and STATUS. The files listed are: about.jpg, hero-bg.png, hero-img.png, index.html, logo.png, README.md, script.js, style.css, values-1.png, values-2.png, and values-3.png. All files are marked as "Hot (inferred)" and have a status of "Active". The "LAST MODIFIED" column shows dates from July 21, 2021, at 1:30:35 PM to 1:30:34 PM. The "SIZE" column shows file sizes ranging from 14 B to 188.6 KB.

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



The screenshot shows a web browser window with the URL <https://recordstoragesubbarao.z13.web.core.windows.net>. The page has a header with a React logo and navigation links for Home, About, Services, Testimonials, and Contact. The main content features a large blue heading: "We offer modern solutions for growing your business". Below it, a subtext says: "We are team of talented designers making websites with Bootstrap". A blue "Get Started" button is visible. To the right, there's a 3D isometric illustration of three people (two men and one woman) working together on a large laptop screen. The laptop screen displays a document with some handwritten-style text. The background of the page is white with some light blue and grey accents.

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 DATABSE

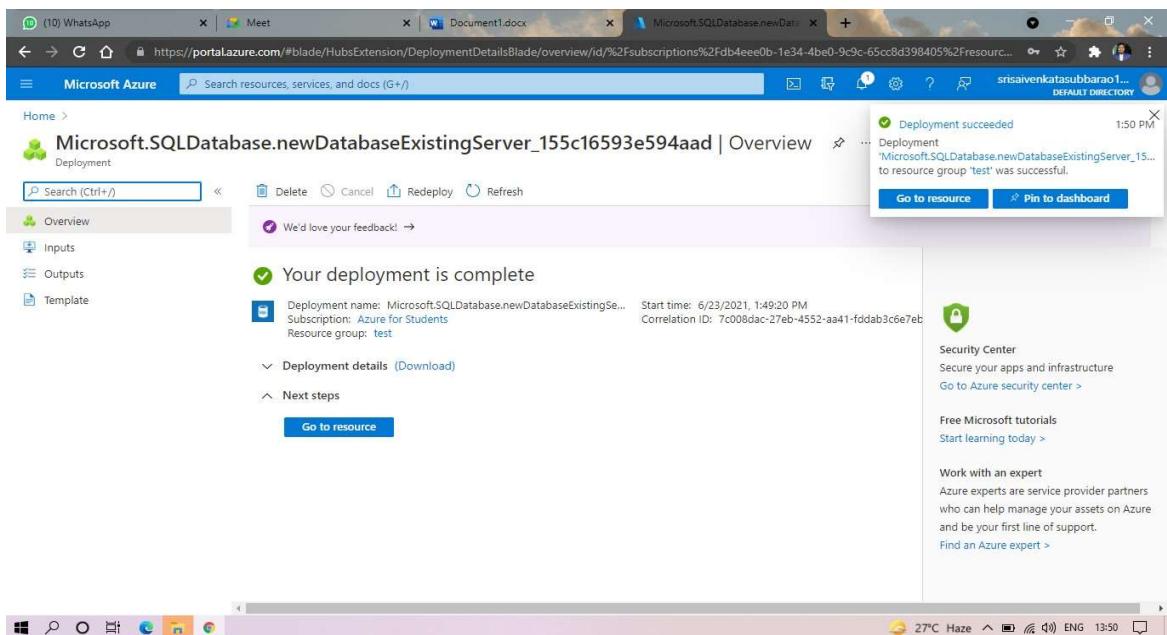
STEP3: SELECT THE RESOURCE GROUP AND ENTER THE SERVERNAME THAT APPLICABLE.

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.

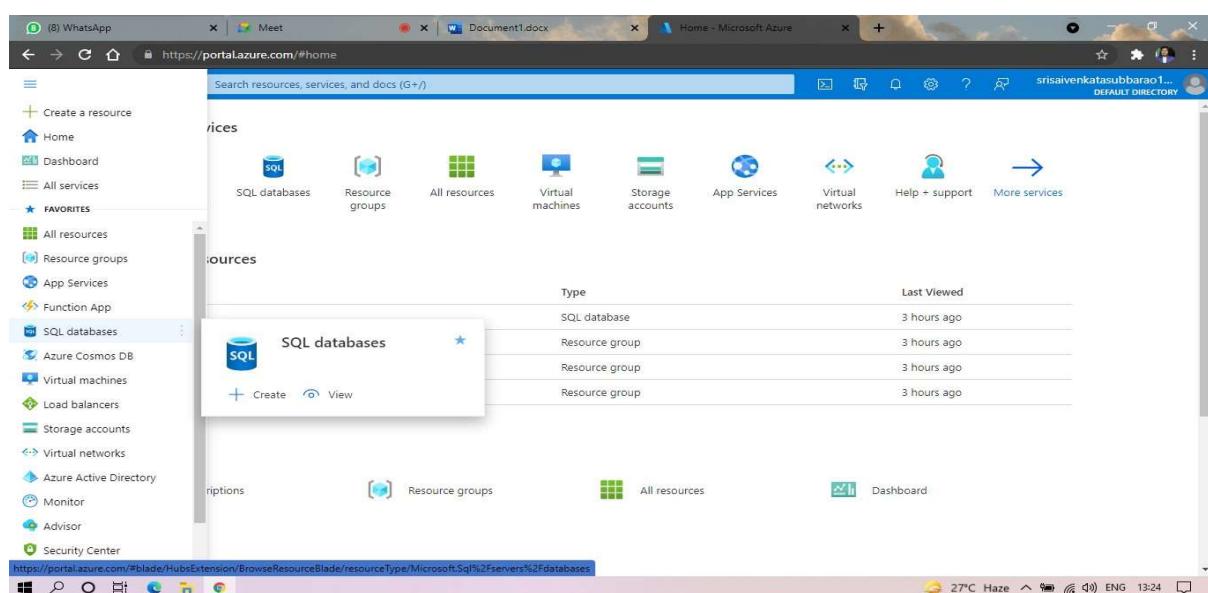
STEP8: NOW AGAIN LOGIN TO THE SQLDATADATABASE

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

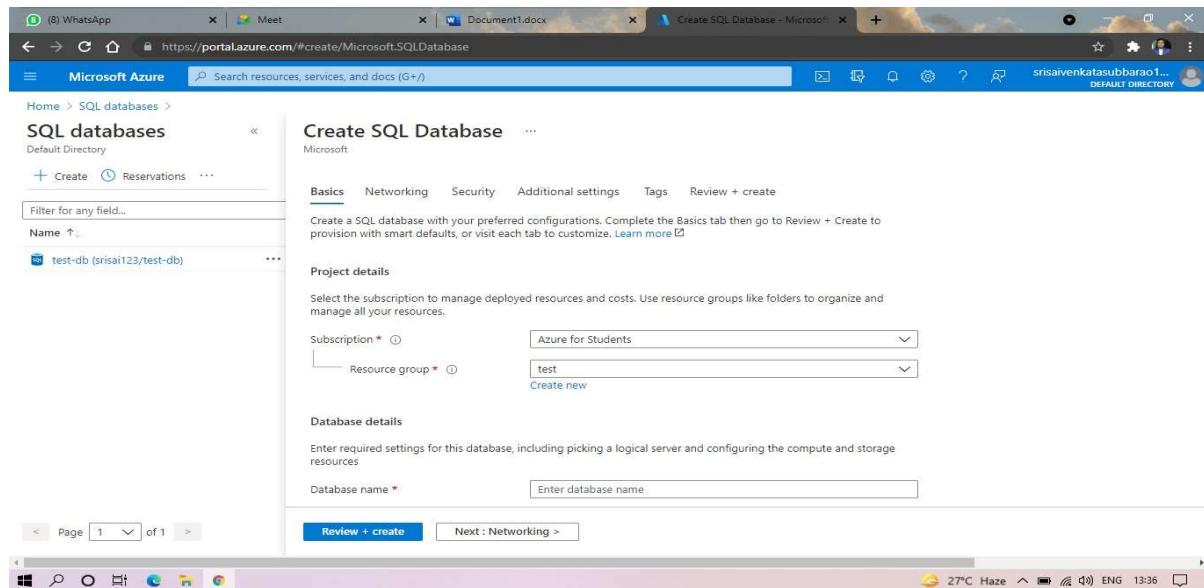
IMPLEMENTATION:

STEP1: GOTO AZURE AND GOTO SQLDATABASE.

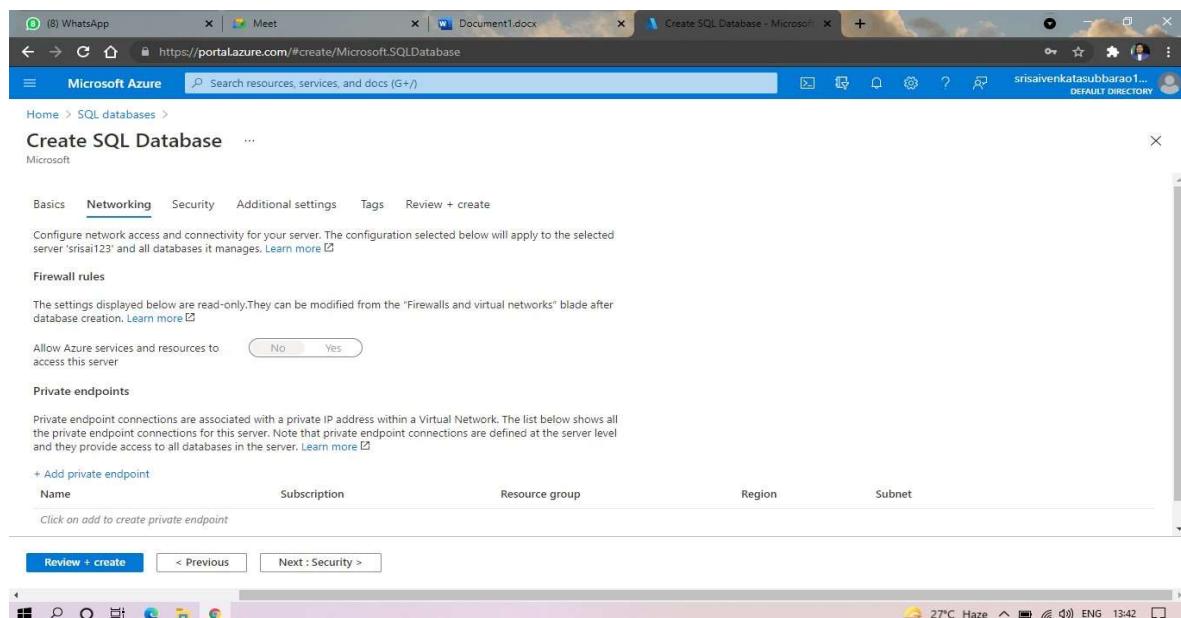
STEP 02:- Now Create a Sql Database



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.

The screenshot shows the Microsoft Azure 'Create SQL Database' wizard. The current step is 'Additional settings'. The 'Collation' dropdown is set to 'SQL_Latin1_General_CI_AS'. The 'Maintenance window' section is visible at the bottom.

STEP6:AND THE SQL DATABASE IS DEPLOYED.

The screenshot shows the Microsoft Azure 'Deployment Details' blade for a deployment named 'Microsoft.SQLDatabase.newDatabaseExistingServer_155c16593e594aad'. The status is 'Deployment succeeded'. The deployment was made to resource group 'test'. The deployment details include the deployment name, subscription information, start time, and correlation ID. A 'Deployment details' section is expanded, showing deployment logs. A 'Next steps' section is also present.

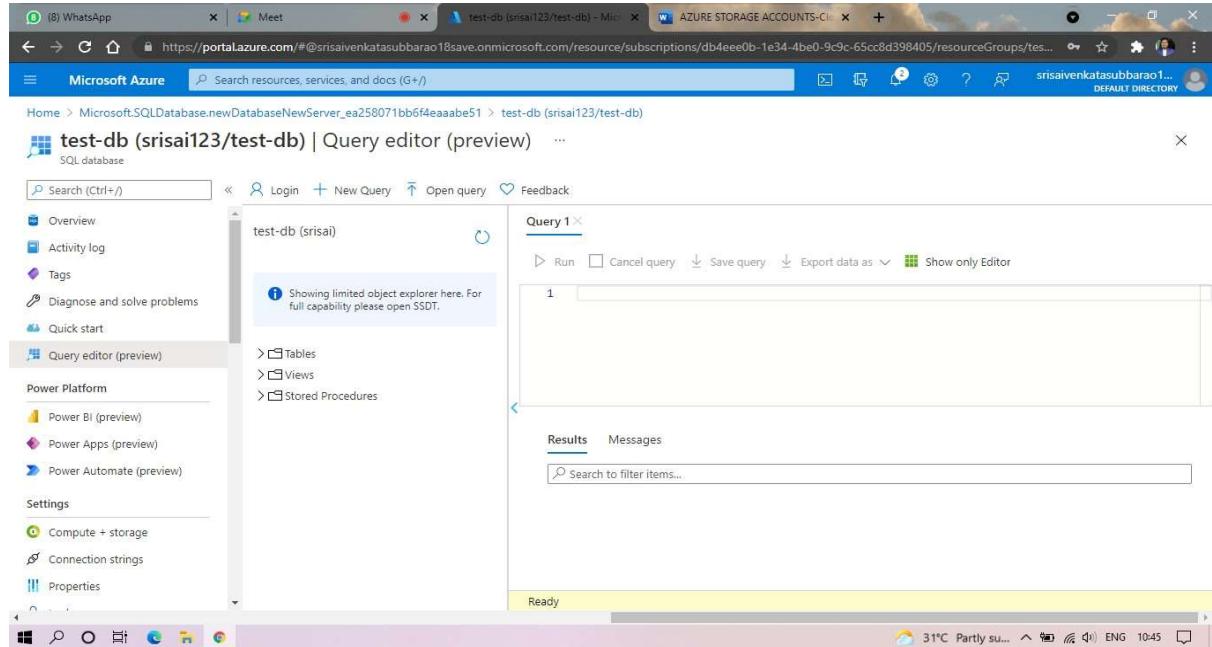
STEP7:AND NOW GOTO QUERY EDITOR.

The screenshot shows the Microsoft Azure portal interface. The main title bar says "test-db (srисai123/test-db)". The left sidebar has a "Query editor (preview)" section selected. The main content area displays "Essentials" information for the database, including 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: srисai123.database.windows.net, Connection strings: Show database connection strings, Pricing tier: General Purpose: Serverless, Gen5, 1 vCore, Auto-pause delay: 1 hour, and Earliest restore point: 2021-06-23 05:19 UTC. There is also a "Compute utilization" chart and a "Show data for last:" dropdown set to "1 hour".

STEP8:AND NOW AGAIN LOGIN TO THE SQLDATADBATABASE

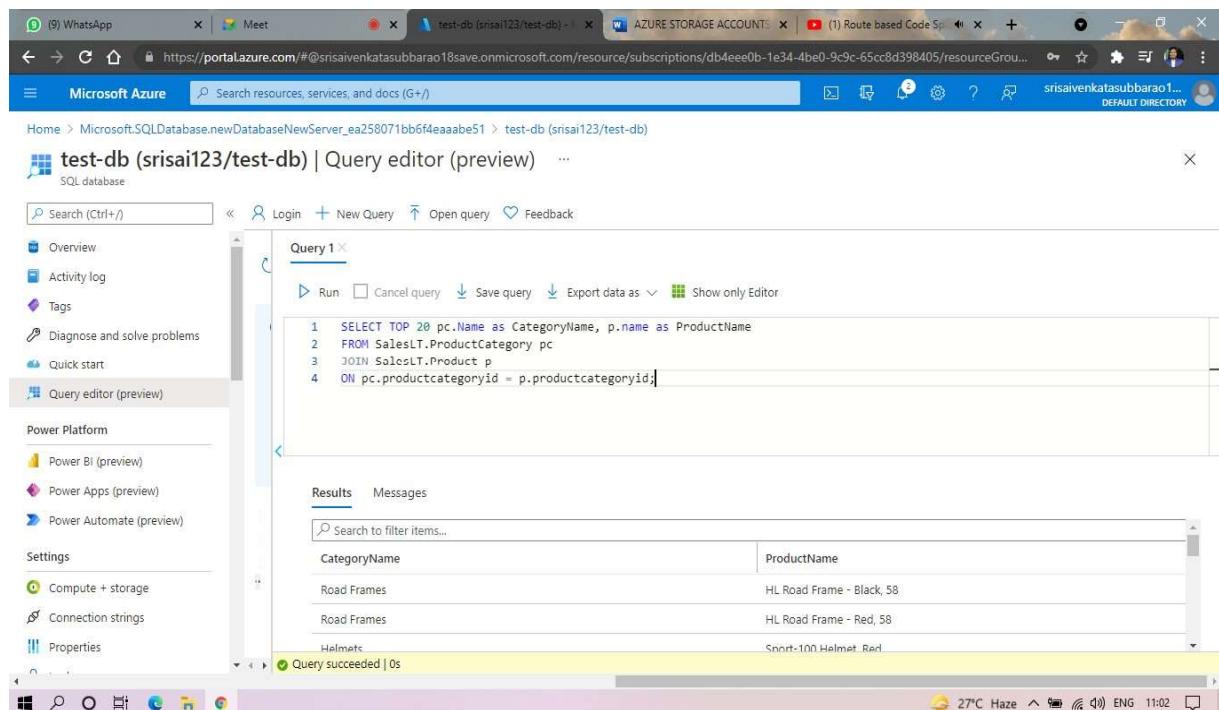
The screenshot shows the Microsoft Azure portal interface. The main title bar says "test-db (srисai123/test-db) | Query editor (preview)". The left sidebar has a "Query editor (preview)" section selected. The main content area displays a "Welcome to SQL Database Query Editor" dialog. It shows two authentication options: "SQL server authentication" (Login: srисai, Password: [redacted]) and "Active Directory authentication" (Continue as srисaivenkatasubbarao18@...). There is an "OK" button at the bottom of the dialog.

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



The screenshot shows the Microsoft Azure portal interface. The URL in the address bar is <https://portal.azure.com/#@srisaivenkatasubbarao18save.onmicrosoft.com/resource/subscriptions/db4eee0b-1e34-4be0-9c9c-65cc8d398405/resourceGroups/test-db>. The page title is "test-db (srisia123/test-db) | Query editor (preview)". The left sidebar shows the database structure: Overview, Activity log, Tags, Diagnose and solve problems, Quick start, and Query editor (preview). The Query editor (preview) section is selected. The main area is titled "Query 1" and contains a text input field with a placeholder "1". Below the input field are buttons for Run, Cancel query, Save query, Export data as, and Show only Editor. At the bottom of the editor area, there are "Results" and "Messages" tabs, and a search bar. The status bar at the bottom right shows the date and time as "Ready".

STEP10: AND OUR OUTPUT IS READY.



The screenshot shows the Microsoft Azure portal interface, identical to the previous one but with a query executed. The URL is the same: <https://portal.azure.com/#@srisaivenkatasubbarao18save.onmicrosoft.com/resource/subscriptions/db4eee0b-1e34-4be0-9c9c-65cc8d398405/resourceGroups/test-db>. The page title is "test-db (srisia123/test-db) | Query editor (preview)". The left sidebar is the same. The Query editor (preview) section is selected. 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 selected, showing 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

The status bar at the bottom right shows the date and time as "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
```

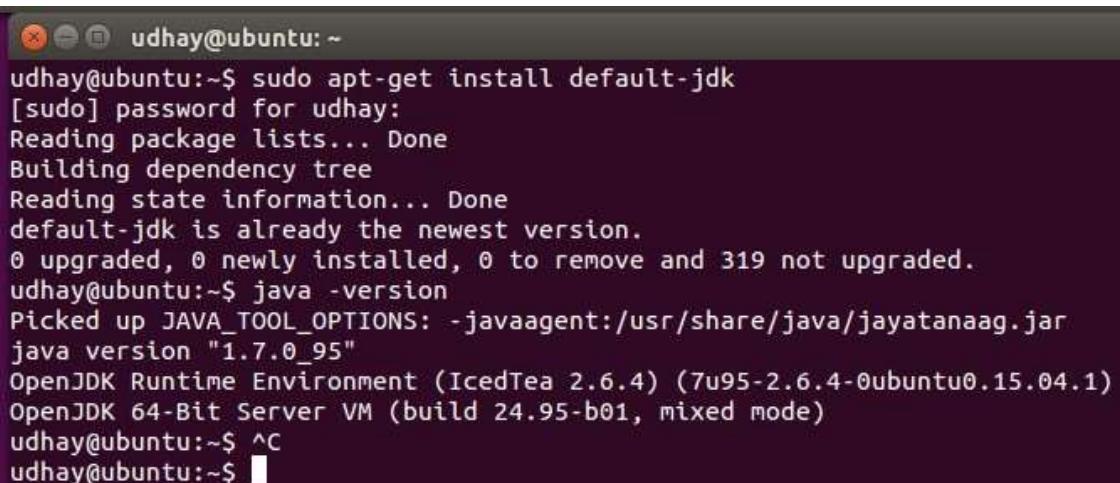
Step 5 – Check if SSH works

```
$ 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 on an Ubuntu system. The user 'udhay' is logged in at the prompt. The terminal displays the output of several commands related to Java and OpenJDK installation.

```
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

 **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
	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 x
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

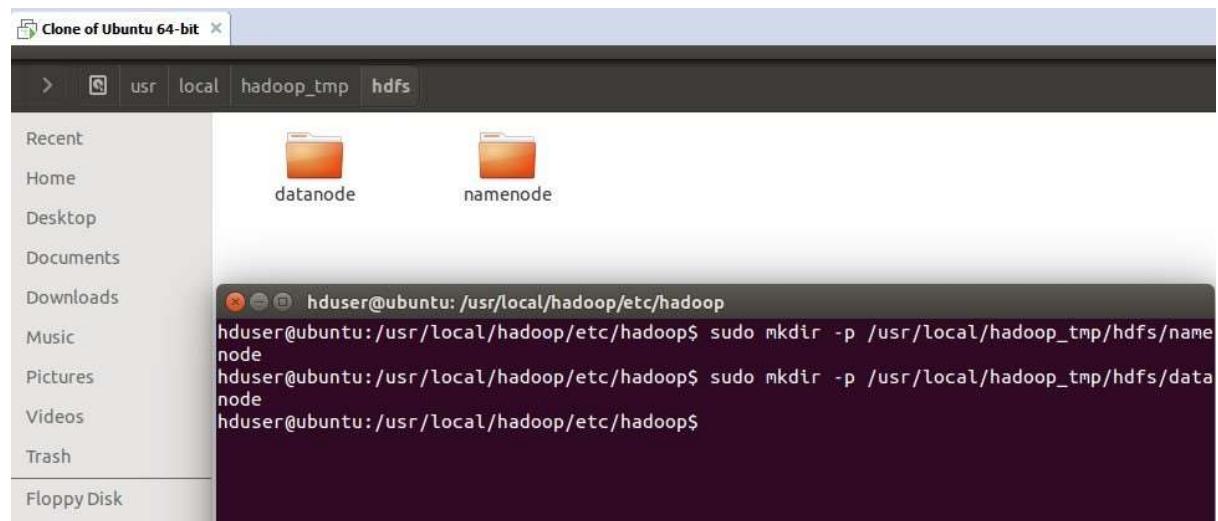
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
# See the License for the specific language governing permissions and
# limitations under the License.

# 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:

File	Length	Owner	Group	Size	Last Modified	Replication	Block Size	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[] arg0) throws Exception {
        // TODO Auto-generated method
        stubif(arg0.length<2)
        {
            System.out.println("check the command line arguments");
        }
        JobConf conf=new JobConf(WordCount.class);
        FileInputFormat.setInputPaths(conf, new Path(arg0[0]));
        FileOutputFormat.setOutputPath(conf, new Path(arg0[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)  
        throws IOException
```

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 - Creatr 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 fie 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**stab, 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

Permission	Owner	Group	Size	Last Modified	Replication	Block Size	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

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
.
1
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
```

Browsing HDFS - Mozilla Firefox

Browsing HDFS

localhost:50070/explorer.html#/output

Hadoop Overview Datanodes Snapshot Startup Progress Utilities -

Browse Directory

/output Go!

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
```