

LAB OUTPUTS FOR CLOUD COMPUTING AND BIG ANALYTICS .

**SUBJECT CODE & NAME:
CSA1592-CLOUD COMPUTING AND BIG
ANALYTICS FOR WEB SERVICES**

SERIAL NUMBER :01

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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).

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

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.

The screenshot shows the Zoho Creator interface for creating a form. The left sidebar lists 'Basic Fields' with icons for Name, Email, Address, Phone, Single Line, Multi Line, Number, Date, Time, and Drop Down. The main area contains several input fields: 'Name *' (with a person icon), 'Employee ID *' (with a clipboard icon), 'Email Id *' (with an envelope icon), 'Mobile Number *' (with a phone icon), 'Gender *' (radio button icon), 'Booking Date *' (calendar icon), 'Travel Date *' (calendar icon), 'Pickup Time *' (clock icon), and 'Pickup Address *' (location pin icon). To the right is the 'Field Properties' panel, which includes sections for 'Field name' (set to 'Name'), 'Field link name' (set to 'Name'), 'Validation' (with a checked 'Mandatory' checkbox), and 'Display Fields' (checkboxes for Prefix, First Name, Last Name, and Suffix, with 'First Name' checked). The bottom status bar shows a trial period until 19-07-2024.

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

This screenshot shows the Zoho Creator interface for a 'Flight booking' application titled 'fligting booking'. It features a similar layout to the previous screenshot, with a 'Basic Fields' sidebar and a main form area with fields for Name, Email, Address, Phone, Single Line, Multi Line, Number, Date, Time, and Drop Down. The main form includes fields for 'Name *', 'Mobile Number *', 'Email *', 'Date *', and 'Seats *'. Below these is a note field with the placeholder 'Your notes content will be shown here'. The 'Field Properties' panel on the right is identical to the one in the first screenshot, showing 'Name' for both field and link names, mandatory validation, and display options for First Name, Last Name, and Suffix. The status bar indicates a trial period until 15 days from now.

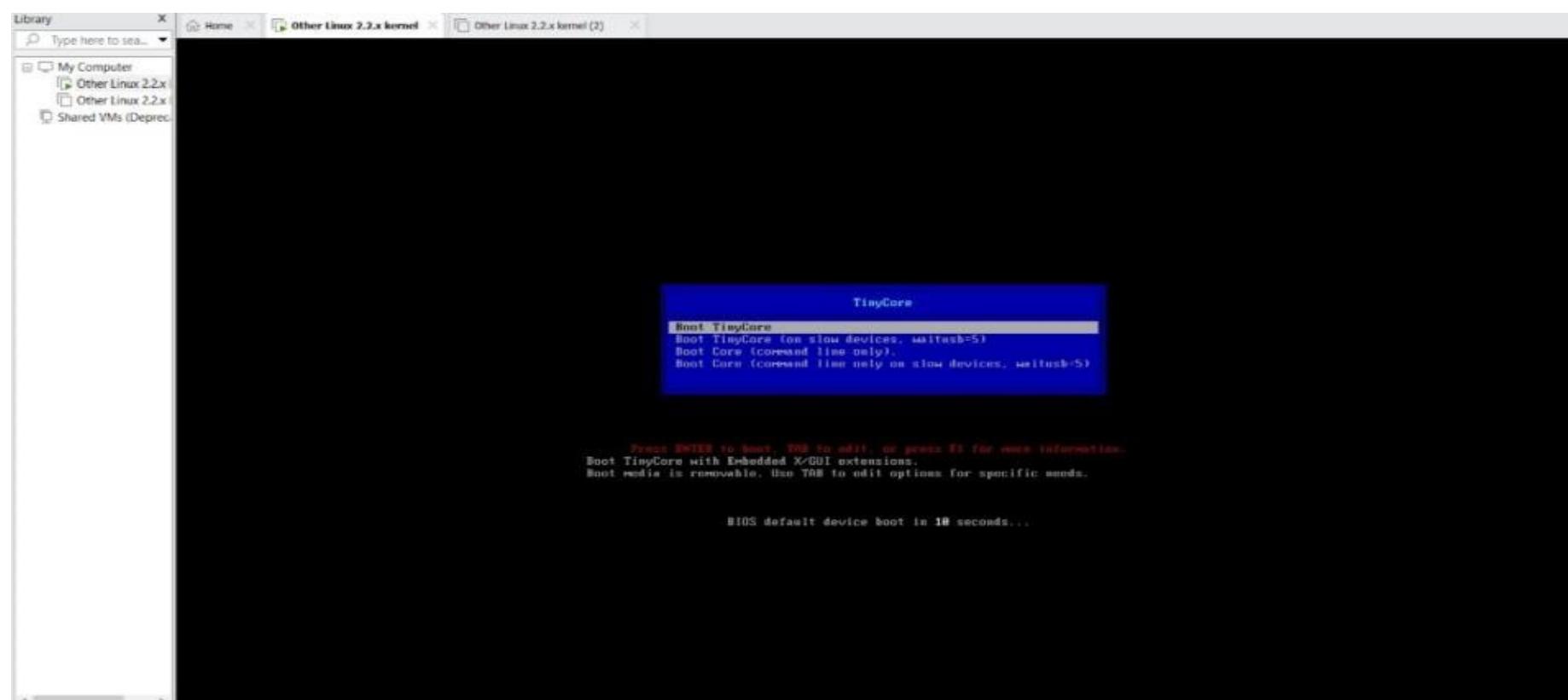
EXP NO 5: CREATE A SIMPLE CLOUD SOFTWARE APPLICATION FOR LIBRARY BOOK RESERVATION SYSTEM FOR SIMATS LIBRARY USING ANY CLOUD SERVICE PROVIDER TO DEMONSTRATE SAAS

The screenshot shows the Zoho Creator interface for building a form. The left sidebar lists 'Basic Fields' with icons for Name, Email, Address, Phone, Single Line, Multi Line, Number, Date, Time, and Drop Down. The main workspace contains several input fields: 'Name' (with 'Employee ID' as a sub-field), 'Email Id' (with 'Mobile Number' as a sub-field), 'Gender' (radio button), 'Booking Date', 'Travel Date', 'Pickup Time', and 'Pickup Address'. To the right is the 'Field Properties' panel, which includes sections for 'Field name' (set to 'Name'), 'Field link name' (set to 'Name'), 'Validation' (checkbox for 'Mandatory' checked), 'Display Fields' (checkboxes for 'Prefix', 'First Name' checked, 'Last Name' checked, and 'Suffix'), and a note about a trial expiring in 13 days. The bottom status bar shows system information like battery level, network, and date.

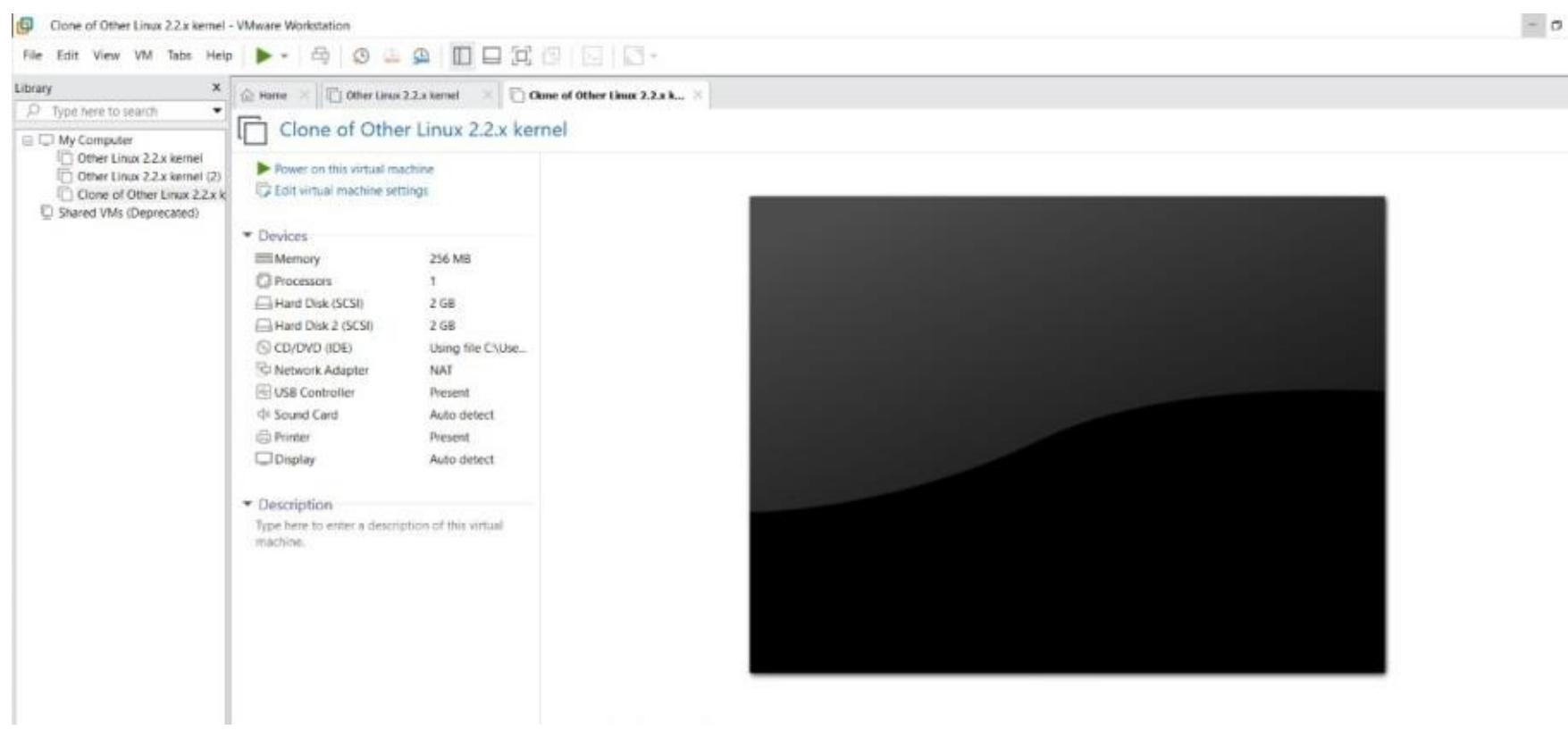
EXP NO 6: CREATE A SIMPLE CLOUD SOFTWARE APPLICATION FOR PRODUCT SELLING USING ANY CLOUD SERVICE PROVIDER TO DEMONSTRATE SAAS.

This screenshot shows the Zoho Creator interface for a 'Booking Movie Ticket' application. The left sidebar shows 'Basic Fields' with icons for Name, Email, Address, Phone, Single Line, Multi Line, Number, Date, Time, and Drop Down. The main workspace contains input fields for 'Name' (with 'Phone' as a sub-field), 'Email', 'Date-Time', 'Theatres' (with 'Drop Down' as a sub-field), and other related fields. The 'Field Properties' panel on the right includes sections for 'Field name' (set to 'Name'), 'Field link name' (set to 'Name'), 'Validation' (checkbox for 'Mandatory' unchecked), 'Display Fields' (checkboxes for 'Prefix', 'First Name' checked, 'Last Name' checked, and 'Suffix'), and a 'Data Privacy' section. The bottom status bar shows system information.

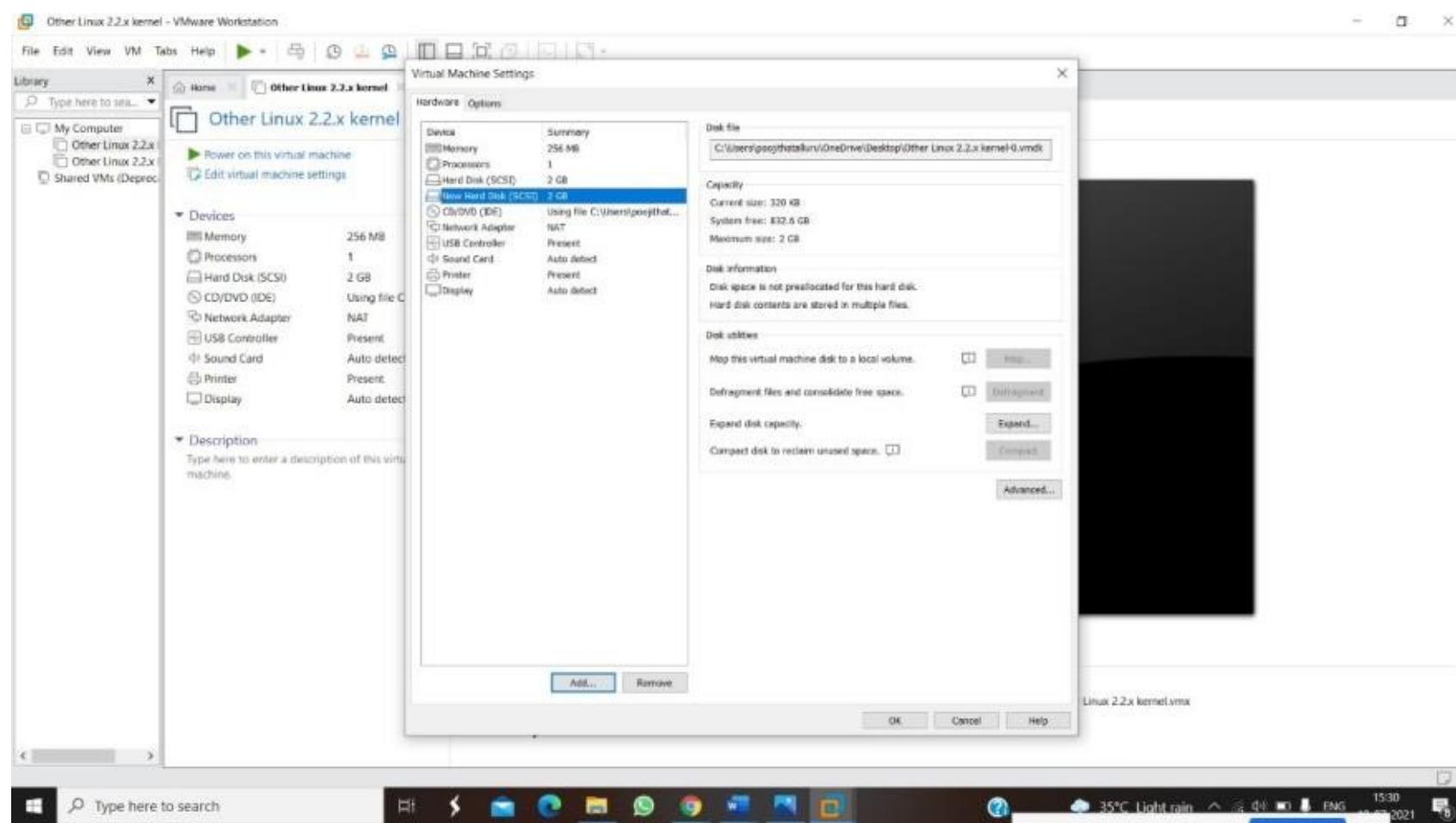
EXP NO 7: DEMONSTRATE VIRTUALIZATION BY INSTALLING TYPE-2 HYPERVISOR IN YOUR DEVICE, CREATE AND CONFIGURE VM IMAGE WITH A HOST OPERATING SYSTEM (EITHER WINDOWS/LINUX).



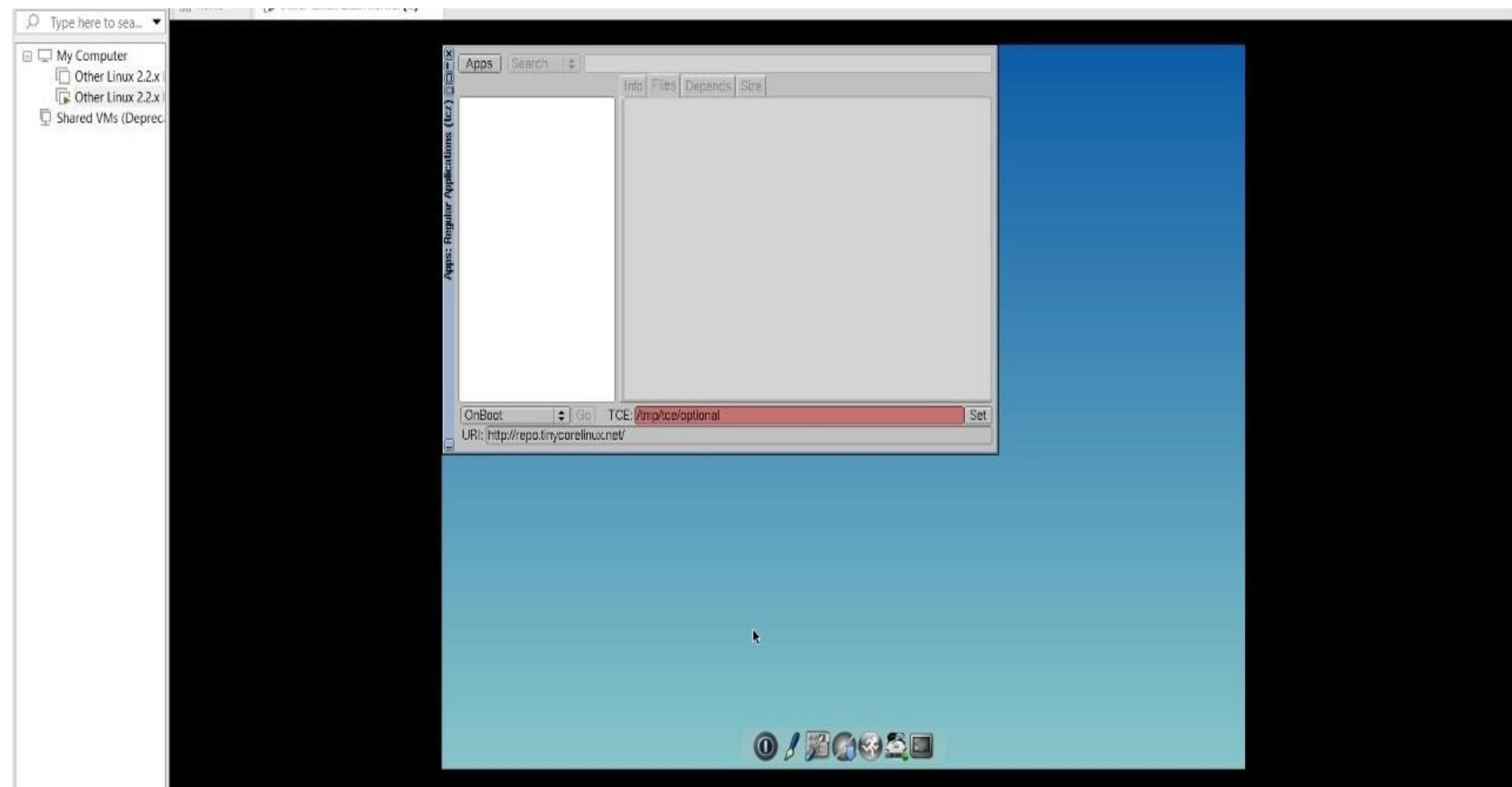
EXPNO 8: CREATE A VIRTUAL MACHINE WITH 1 CPU, 2GB RAM AND 15GB STORAGE DISK USING A TYPE 2 VIRTUALIZATION SOFTWARE.



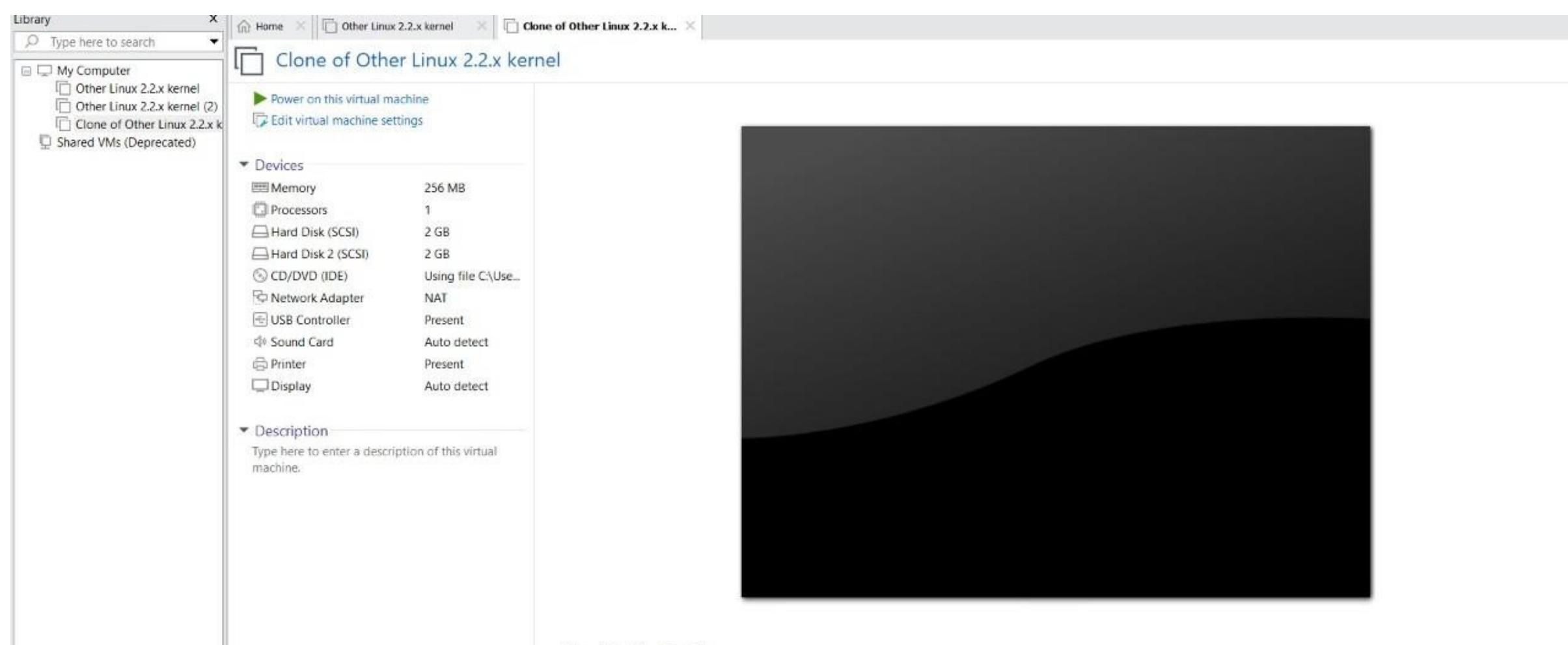
EXP 9: CREATE A VIRTUAL HARD DISK AND ALLOCATE THE STORAGE USING VM WARE WORKSTATION.



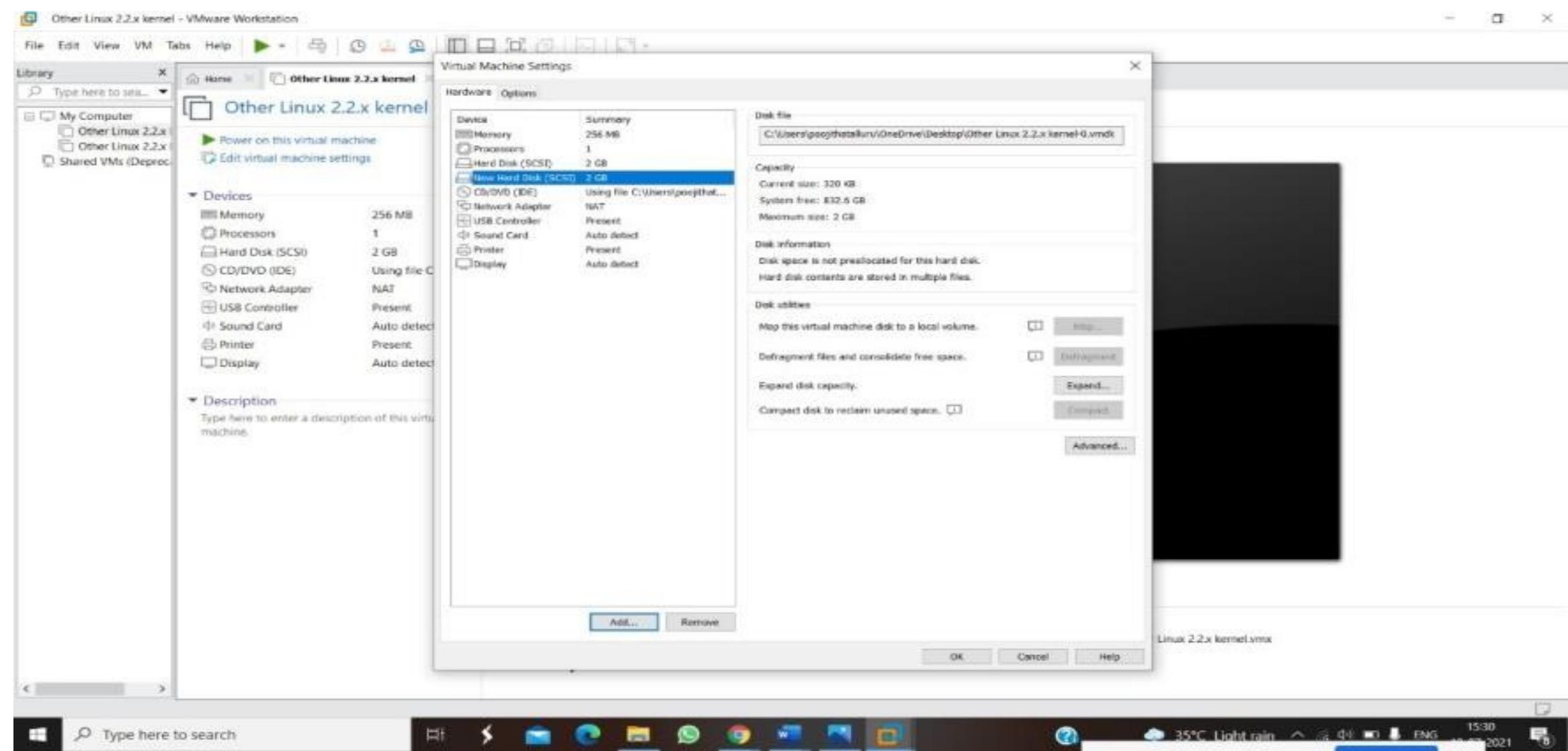
EXPNO 10: CREATE A SNAPSHOT OF A VM AND TEST IT BY LOADING THE PREVIOUS VERSION/CLONED VM



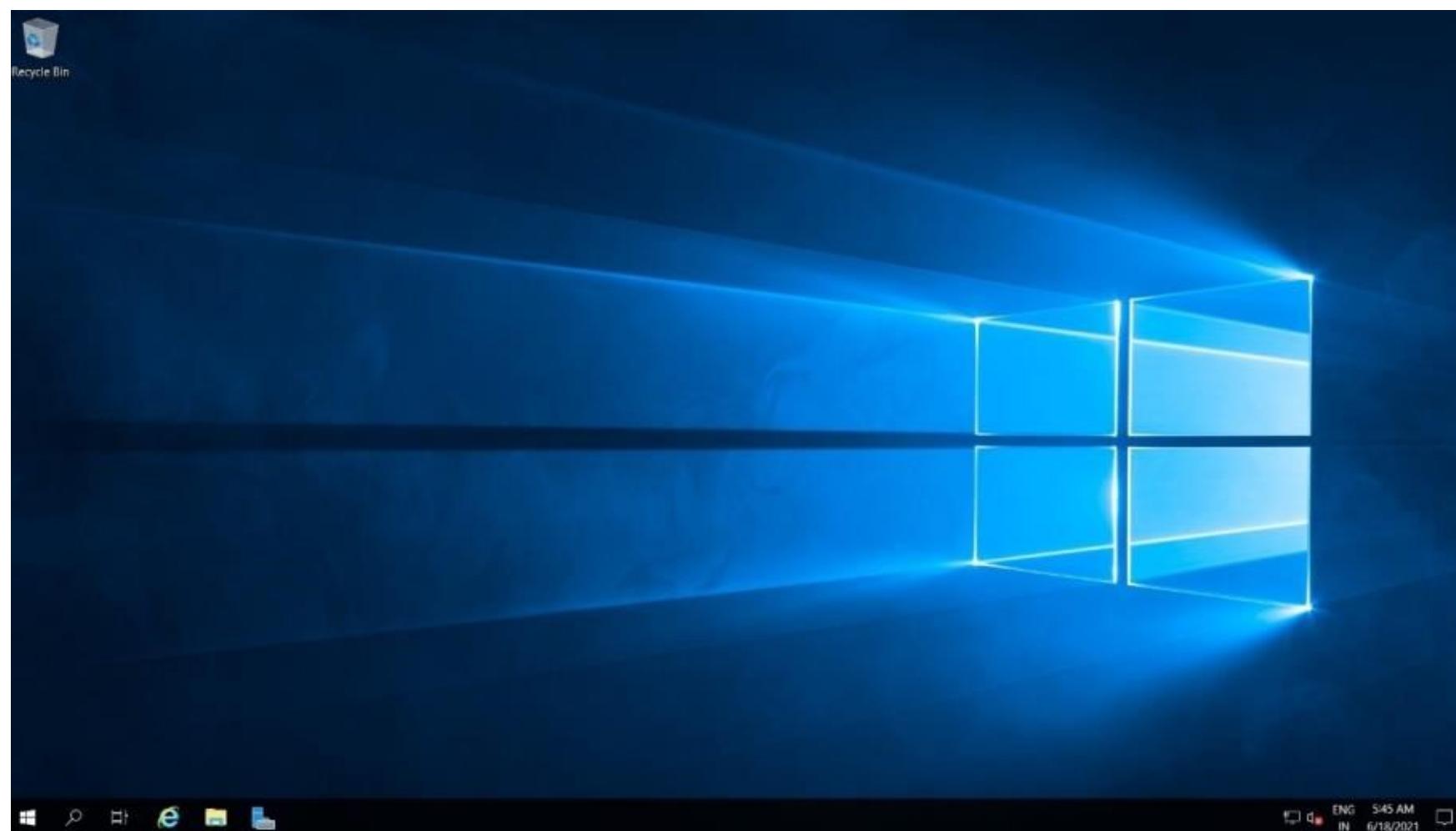
EXPNO 11: CREATE A CLONING OF A VM AND TEST IT BY LOADING THE PREVIOUS VERSION/CLONED VM.



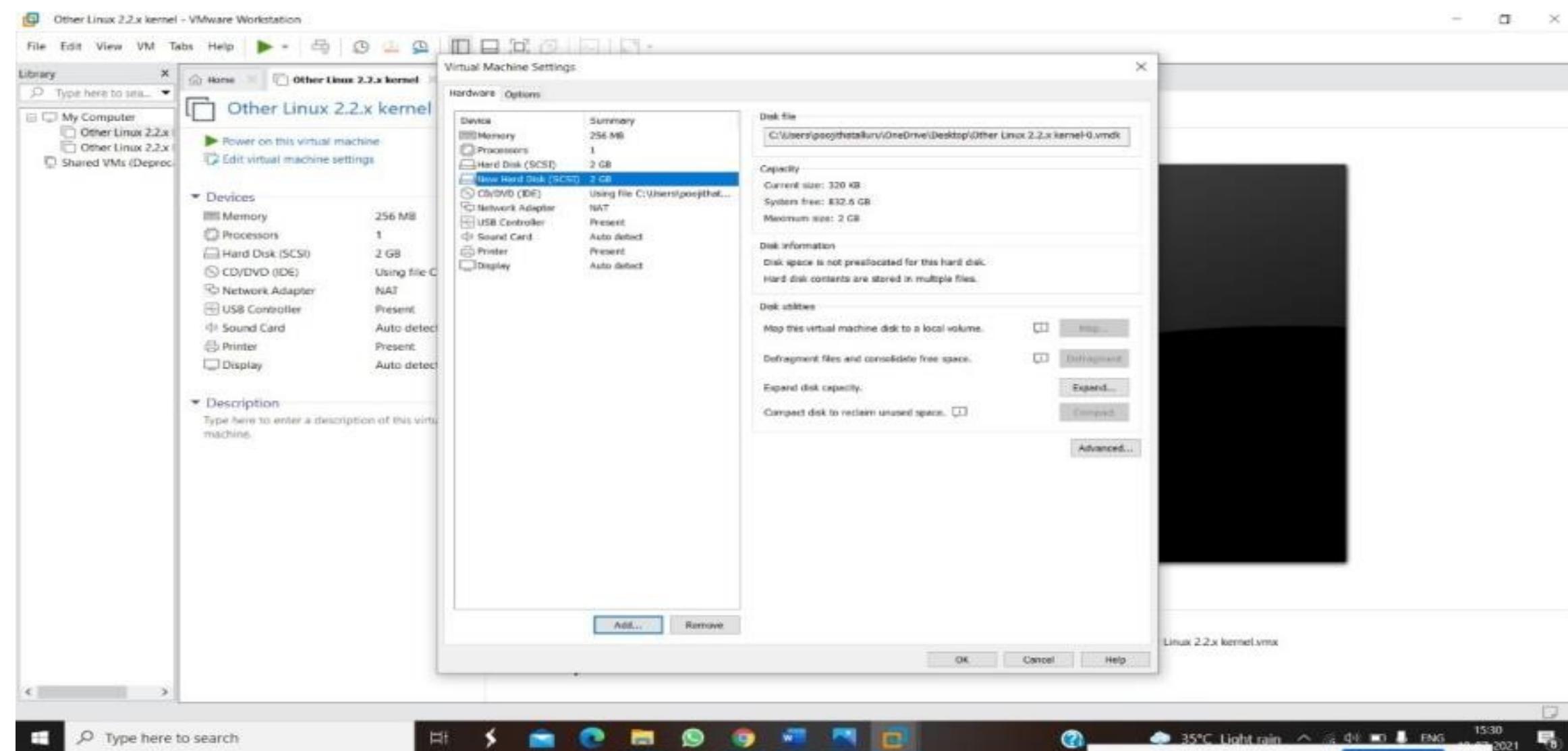
EXP 12: CHANGE HARDWARE COMPATIBILITY OF A VM (EITHER BY CLONE/CREATE NEW ONE) WHICH IS ALREADY CREATED AND CONFIGURED.



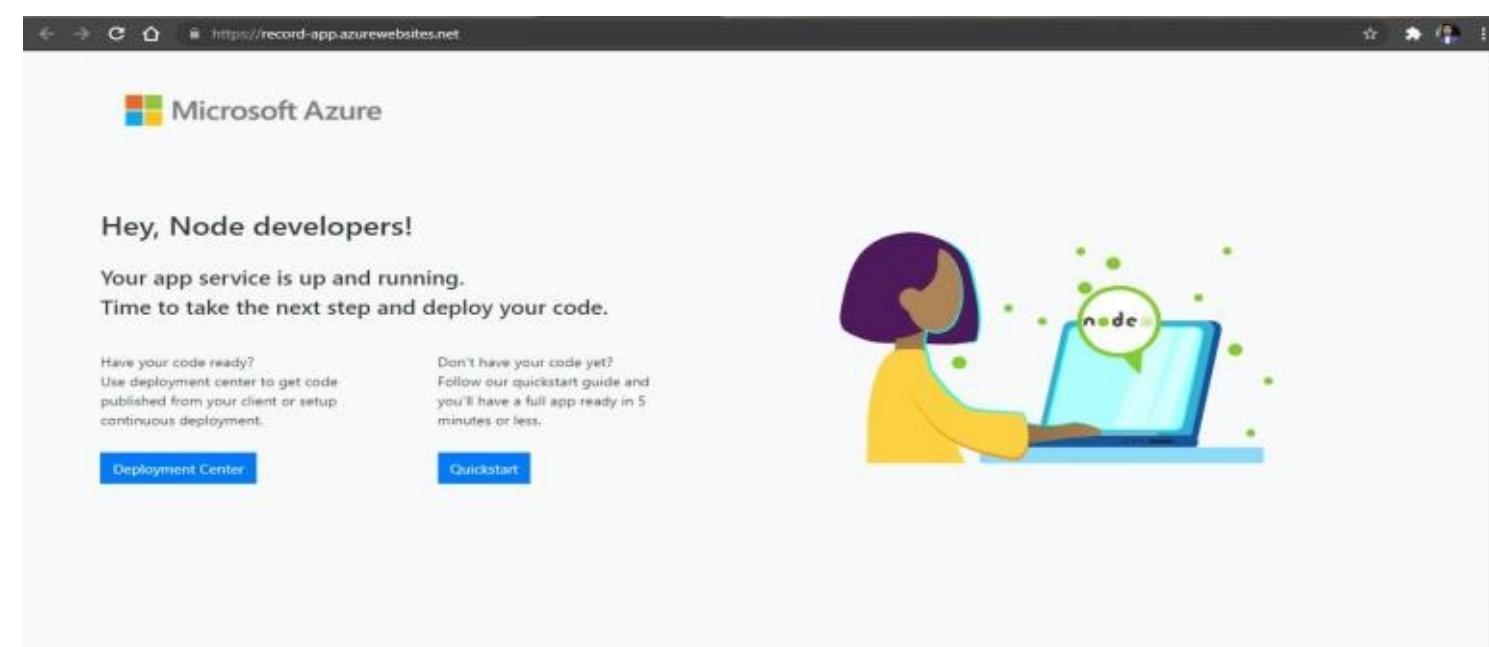
EXP13. DEMONSTRATE INFRASTRUCTURE AS A SERVICE (IAAS) BY CREATING A VIRTUAL MACHINE USING A PUBLIC CLOUD SERVICE PROVIDER (AZURE), CONFIGURE WITH REQUIRED MEMORY AND CPU.



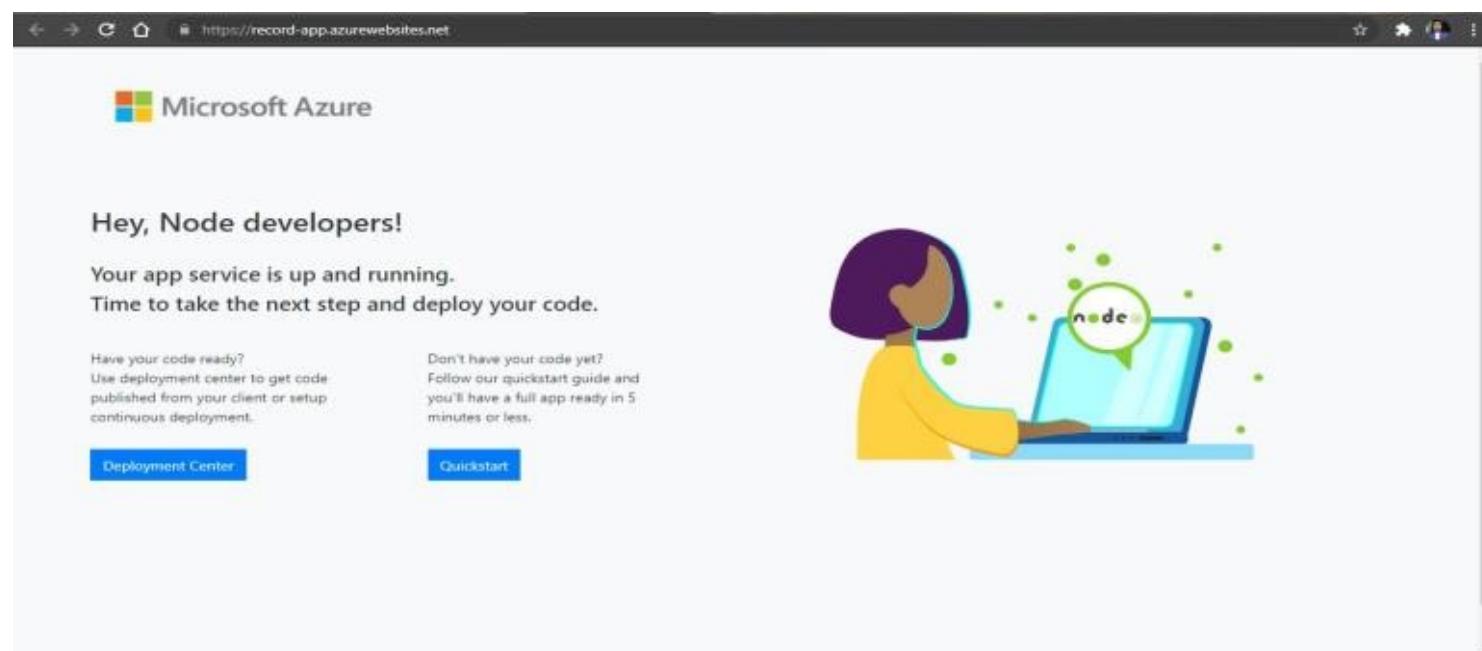
EXP14 Demonstrate Infrastructure as a Service (IaaS) by creating a Virtual Machine using a Public Cloud Service Provider (Azure), configure with required memory and CPU.



EXP15.CREATE A SIMPLE WEB SITE USING ANY PUBLIC CLOUD SERVICE PROVIDER (AZURE/GCP/AWS) AND CHECK THE PUBLIC ACCESSIBILITY OF THE STORED FILE TO DEMONSTRATE STORAGE AS A SERVICE



EXP 16 .Demonstrate Platform as a Service (PaaS) create and configure a new VM Image in any Public Cloud Service Provider



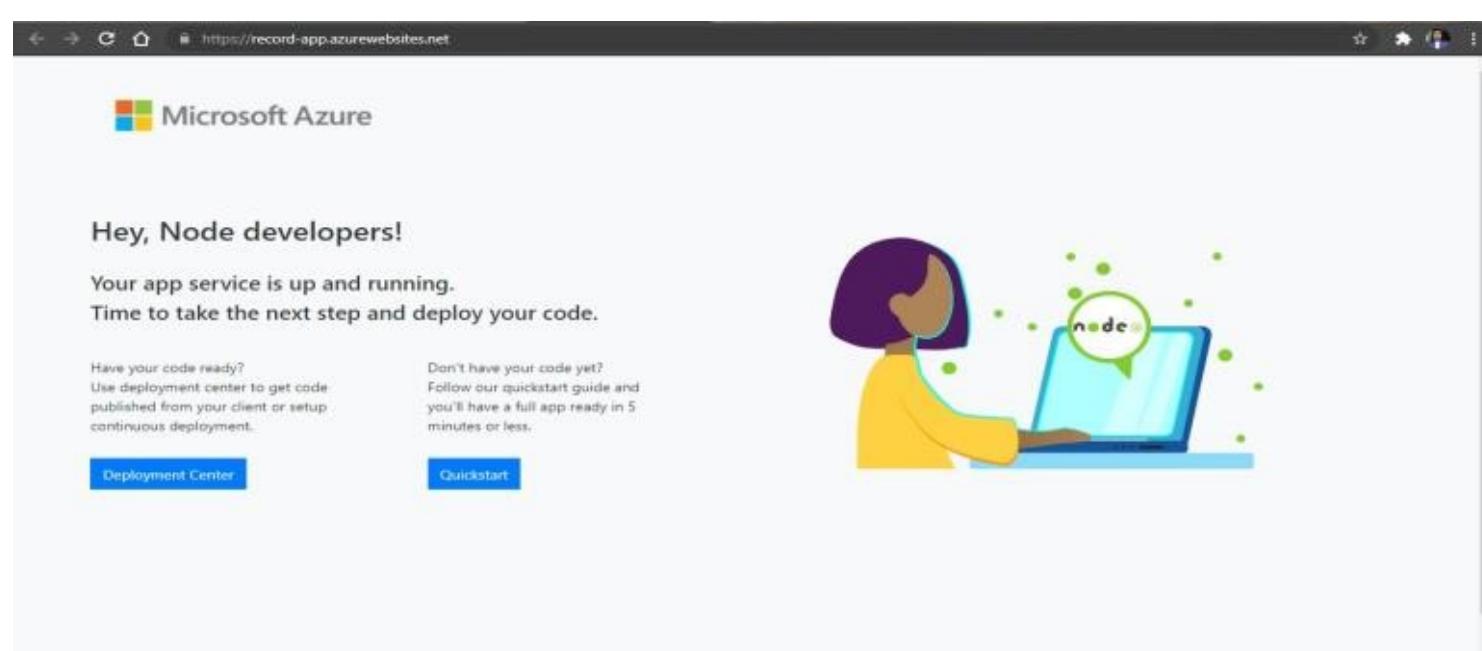
EXP 17 .DEMONSTRATE INFRASTRUCTURE AS A SERVICE(IAAS) BY CREATING A VIRTUAL MACHINE USING A PUBLIC CLOUD SERVICE PROVIDER(AZURE/GCP/AWS) CONFIGURE WITH MINIMUM CPU, RAM AND STORAGE AND LAUNCH THE VM IMAGE.

A screenshot of the Microsoft Azure portal showing the details of a virtual machine named "Record-virtual". The URL in the address bar is https://portal.azure.com/#/virtualmachines/Record-virtual. The main pane shows the "Essentials" tab with the following details:

Resource group (change)	: Record	Operating system	: Windows (Windows Server 2019 Datacenter)
Status	: Running	Size	: Standard DS1 v2 (1 vcpus, 3.5 GiB memory)
Location	: East US	Public IP address	: 23.96.9.147
Subscription (change)	: Azure for Students	Virtual network/subnet	: Record-vnet/default
Subscription ID	: db4eee0b-1e34-4be0-9c9c-65cc8d398405	DNS name	: Not configured
Tags (change)	: Click here to add tags		

The left sidebar shows navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Networking, Connect, Windows Admin Center (preview), Disks, Size, Security, Advisor recommendations, and Extensions. The bottom status bar shows the URL https://portal.azure.com/#/.

EXP 18.Demonstrate Storage as a Service (SaaS) create and configure a new VM Image in any Public Cloud Service Provider



EXP19.CREATE A STORAGE SERVICE USING ANY PUBLIC CLOUD SERVICE PROVIDER (AZURE/GCP/AWS)

AND CHECK THE PUBLIC ACCESSIBILITY OF THE STORED FILE TO DEMONSTRATE STORAGE AS A SERVICE.

The screenshot shows the Microsoft Azure Storage Explorer (preview) interface. On the left, there's a navigation sidebar with sections like Data migration, Events, Storage Explorer (preview), Data storage (Containers, File shares, Queues, Tables), and Security + networking (Networking, Azure CDN, Access keys, Shared access signature, Encryption). The main area displays a list of files in a blob container named '\$web'. The table has columns for Name, Access Tier, Access Tier Last Modified, Last Modified, Blob Type, Content Type, Size, Status, and RI. The files listed include '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'. Most files are 'Hot (inferred)' and have a size between 7.1 KB and 188.6 KB. The status for all files is 'Active'.

EXP20.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)

The screenshot shows the Microsoft Azure Query editor (preview) interface. The left sidebar includes Overview, Activity log, Tags, Diagnose and solve problems, Quick start, and Query editor (preview). The main area features a 'Query 1' editor with 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;
```

Below the editor, the 'Results' tab is selected, showing a table with two columns: CategoryName and ProductName. The data returned is:

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

EXP-21.Create a SQL storage service and perform a basic query using any Public Cloud Service Provider (Azure/GCP/AWS) to demonstrate Database as a Service (DaaS)

The screenshot shows the Microsoft Azure portal interface. The user is in the 'Query editor (preview)' section of a database named 'test-db'. The left sidebar shows various database management options like Overview, Activity log, Tags, Diagnose and solve problems, Quick start, and Query editor (preview). The main area has a search bar and navigation buttons for Login, New Query, Open query, and Feedback. A query titled 'Query 1' is displayed:

```
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 the output of the query:

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

A message at the bottom indicates 'Query succeeded | 0s'.

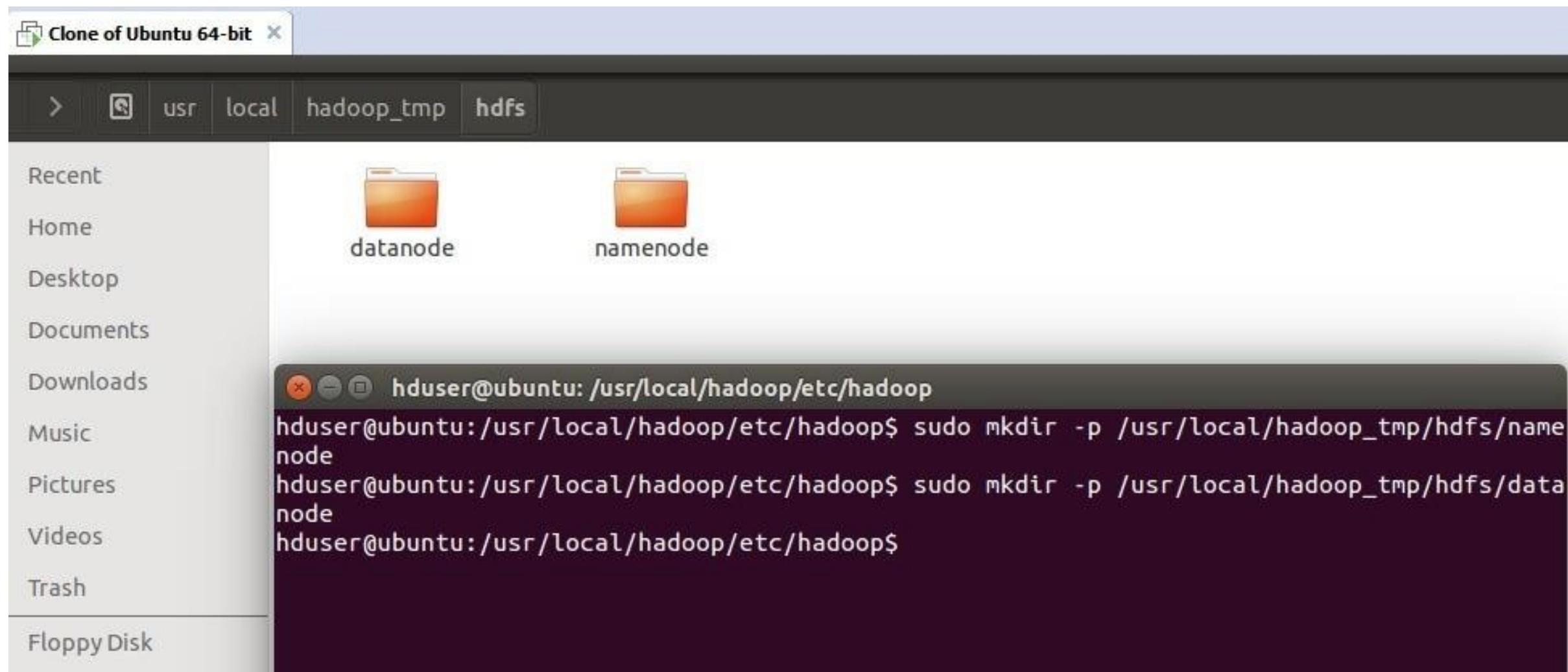
EXP-22.Perform the basic configuration setup for installing HADOOP 2.x like creating the HDUSER and SSH localhost

```
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: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:~$ cat $HOME/.ssh/id_rsa.pub >> $HOME/.ssh/authorized_keys
hduser@ubuntu:~$ 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:~$
```

EXP-23. Install Hadoop 2.x and configure the Name Node and Data Node.



EXP-24. Launch the Hadoop 2.x and test the Map-Reduce Platform with Hadoop.

A screenshot of a Firefox browser window titled "Browsing HDFS - Mozilla Firefox". The address bar shows "localhost:50070/explorer.html#/output". The page header includes "Hadoop", "Overview", "Datanodes", "Snapshot", "Startup Progress", and "Utilities".

Browse Directory

/output

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

EXP-25. Launch the Hadoop 2.x and perform Map-Reduce program For a word count problem

The screenshot shows a Mozilla Firefox browser window with the title "Browsing HDFS - Mozilla Firefox". The address bar displays "localhost:50070/explorer.html#/". The main content area is a table listing files and folders in the HDFS root directory. The columns are labeled: Permission, Owner, Group, Size, Last Modified, Replication, Size, and Name. The table contains the following data:

Permission	Owner	Group	Size	Last Modified	Replication	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