

Tapti Education Society's



Bhusawal Arts, Science and P. O. Nahata Commerce College, Bhusawal

NAAC Reaccredited fourth cycle 'A' Grade with CGPA of 3.17
UGC Honoured College with Potential for Excellence

Department of Computer Science and Information Technology

LABORATORY

CERTIFICATE

This is to certify that

Mr/Miss _____

Class TYBCA Semester V, Roll No _____ has been satisfactorily carried out 12 experiments of 12 Subject: **BCA 506 Lab on Cloud Computing** in the year 2024-2025.

Batch Incharge

Date:

BCA Co-Ordinator

Date:

Internal Examiner

Date

External Examiner

Date

**Bhusawal Arts, Science and P O Nahata Commerce
College, Bhusawal**

BCA 506 Lab on Cloud Computing

INDEX

Practical No	Practical Title	Remark
1.	Working on Google Drive to make Spread sheets and Notes	
2.	Installation and Configuration of Justcloud	
3.	Implementing Virtual Machines with VirtualBox	
4.	Setting up a Cloud Environment with OpenStack	
5.	Setting Up a Simple Website on GitHub	
6.	Introduction to Cloud CRM (Salesforce)	
7.	Data Analytics on the Cloud (Salesforce)	
8.	Introduction to Amazon AWS S3	

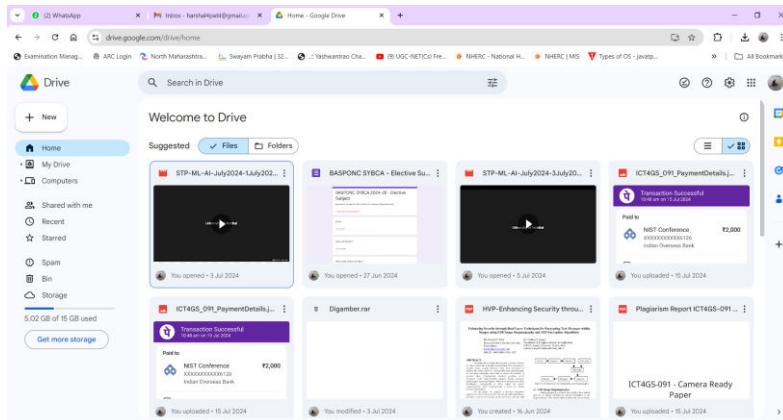
Assignment No. 1: Working on Google Drive to make Spreadsheets and Notes

1. Working on Google Drive to make Spreadsheets

- Step-by-Step Guide for Google Spreadsheets

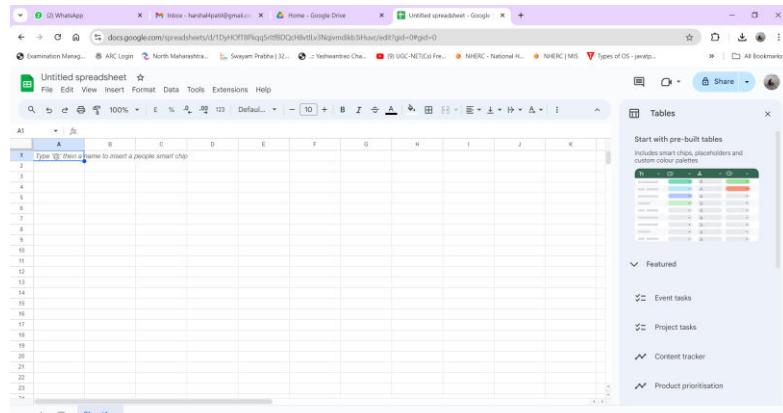
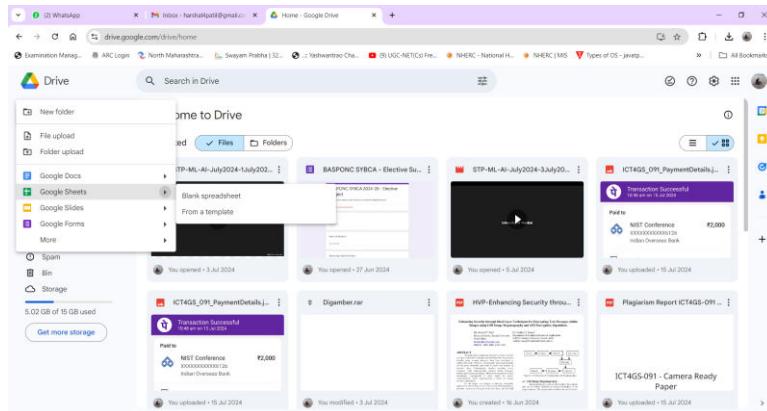
Step 1: Access Google Drive

- Open your browser and go to [Google Drive](<https://drive.google.com>).
- Sign in with your Google account if you're not already logged in.



Step 2: Create a New Spreadsheet

- Click on the "+ New" button on the left side of the screen.
- Select "Google Sheets" from the dropdown menu.



Step 3: Start Editing Your Spreadsheet

- **Name Your Spreadsheet:**

- Click on "Untitled spreadsheet" at the top-left corner and enter a name for your spreadsheet.

The screenshot shows a blank Google Sheets spreadsheet titled 'HVP Sheet'. The interface includes a toolbar with file operations like File, Edit, View, Insert, Format, Data, Tools, Extensions, and Help. A search bar and zoom controls are also present. The main area is a grid from A1 to K32, with the first row labeled 'Sr. No.', 'Student Name', 'Subject 1', 'Subject 2', 'Subject 3', 'Subject 4', and 'Total Marks'. A sidebar on the right titled 'Tables' offers pre-built table templates for various purposes like event tasks, project tasks, content tracker, and product prioritization.

- **Enter Data:**

- Click on any cell to start typing your data.
- Use the `Tab` key to move to the next cell on the right.
- Use the `Enter` key to move to the next cell below.

The screenshot shows the same Google Sheets spreadsheet after data has been entered. The data is as follows:

Sr. No.	Student Name	Subject 1	Subject 2	Subject 3	Subject 4	Total Marks
1	Harshal	80	75	68	85	308
2	Pune	65	69	59	90	283
3	Bhushan	78	87	56	84	315
4	Rishabh	58	77	82	47	274
5	Nilesh	69	58	65	62	254
6	Rahul	75	45	48	55	223
7	Tushar	88	86	88	87	359
8	Patel	82	75	35	85	287

- **Format Your Data:**

- Select cells you want to format.
- Use the toolbar to apply formatting options like bold, italics, text color, background color, borders, etc.

The screenshot shows the spreadsheet with some cells formatted. The first two rows (headers) have bolded text. The 'Total Marks' column has a yellow background color. The entire spreadsheet has a light gray background.

- **Use Formulas:**

- Click on a cell where you want to apply a formula.
- Start with an `=` sign followed by the formula, e.g., `=SUM(A1:A5)` to sum up the values from A1 to A5.

A screenshot of a Google Sheets spreadsheet titled 'HVP Sheet'. The spreadsheet contains a table of student marks. The columns are labeled 'Sr. No', 'Student Name', 'Subject 1', 'Subject 2', 'Subject 3', 'Subject 4', and 'Total Marks'. The 'Total Marks' column has a formula applied: `=SUM(C2:F2)`. The formula bar at the top also displays this formula. The sidebar on the right is open, showing 'Tables' and other features like 'Event tasks', 'Project tasks', 'Content tracker', and 'Product prioritisation'.

A screenshot of a Google Sheets spreadsheet titled 'HVP Sheet'. The spreadsheet contains a table of student marks. The columns are labeled 'Sr. No', 'Student Name', 'Subject 1', 'Subject 2', 'Subject 3', 'Subject 4', 'Total Marks', and 'Percentage'. The 'Percentage' column has a formula applied: `=((G2/400)*100)`. The formula bar at the top displays this formula. The sidebar on the right is open, showing 'Tables' and other features like 'Event tasks', 'Project tasks', 'Content tracker', and 'Product prioritisation'.

- **Insert Charts:**

- Highlight the data range you want to visualize.

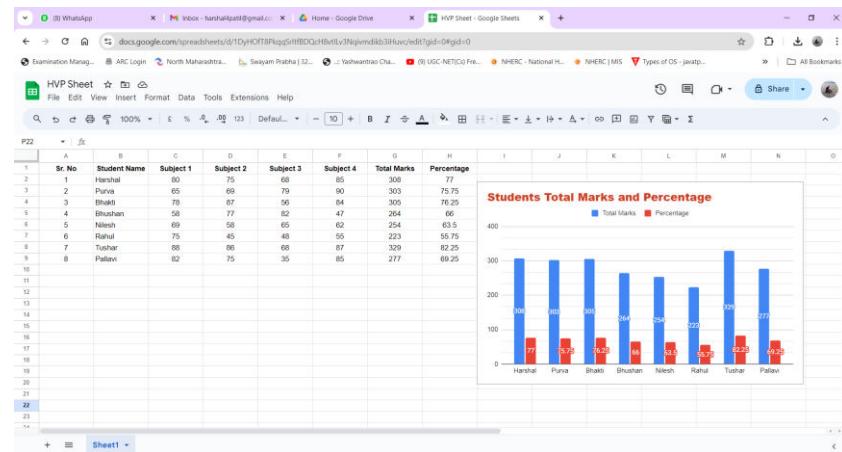
A screenshot of a Google Sheets spreadsheet titled 'HVP Sheet'. The spreadsheet contains a table of student marks. The entire table is selected, highlighted with a light blue background. The formula bar at the top shows the full range of the selected table. The sidebar on the right is open, showing 'Tables' and other features like 'Event tasks', 'Project tasks', 'Content tracker', and 'Product prioritisation'.

- Go to 'Insert > Chart' from the top menu.

A screenshot of a Google Sheets document titled "HVP Sheet". The sheet contains a table with columns for Subject 1 through Subject 4, Total Marks, and Percentage. A context menu is open, showing options like Insert, Format, Data, Tools, Extensions, and Help. The menu also includes various drawing and chart-related tools.

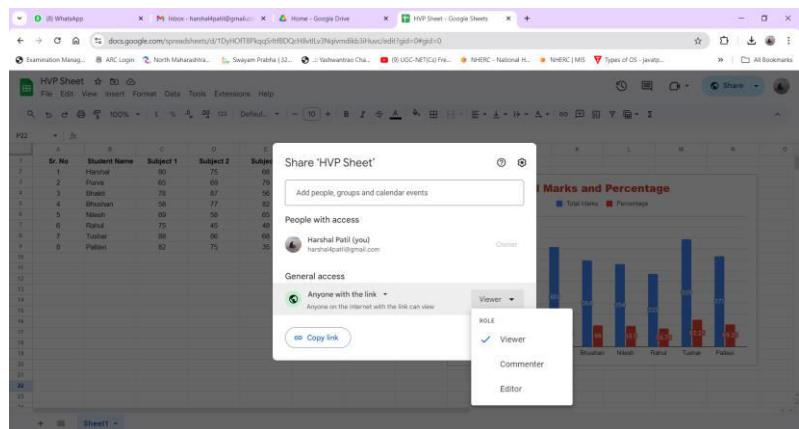
Sr. No.	Student Name	Subject 1	Subject 2	Subject 3	Subject 4	Total Marks	Percentage
1	Harshal	80	75	68	85	308	77
2	Purna	65	69	79	90	303	75.75
3	Puneet	78	87	50	84	309	74.25
4	Bhushan	58	77	82	47	264	66
5	Nilesh	69	58	65	62	254	63.5
6	Rahul	75	45	48	55	223	55.75
7	Tushar	88	86	68	87	329	82.25
8	Palevi	82	75	35	85	277	69.25

- Customize your chart using the Chart Editor.

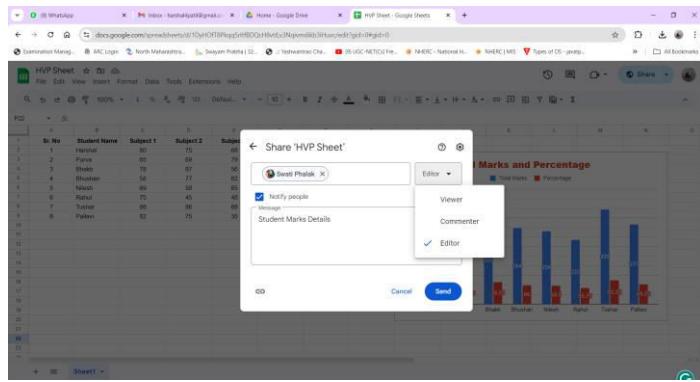


Share Your Spreadsheet:

- Click on the "Share" button at the top-right corner.



- Enter the email addresses of the people you want to share with.
- Set permissions (Viewer, Commenter, Editor) and click "Send".



Step 4: Save Your Spreadsheet

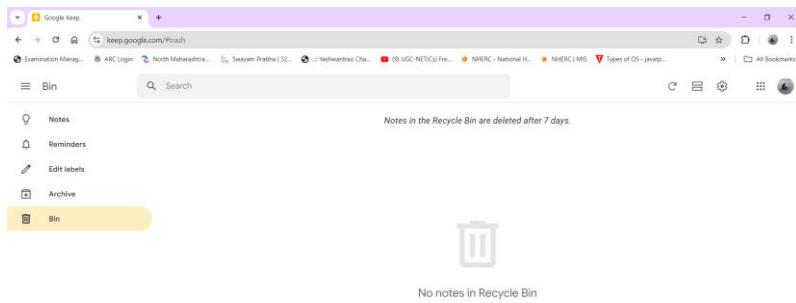
- Google Sheets automatically saves your changes as you make them, so there's no need to manually save.

2. Working on Google Drive to make Google Notes

Step-by-Step Guide for Google Notes (Google Keep)

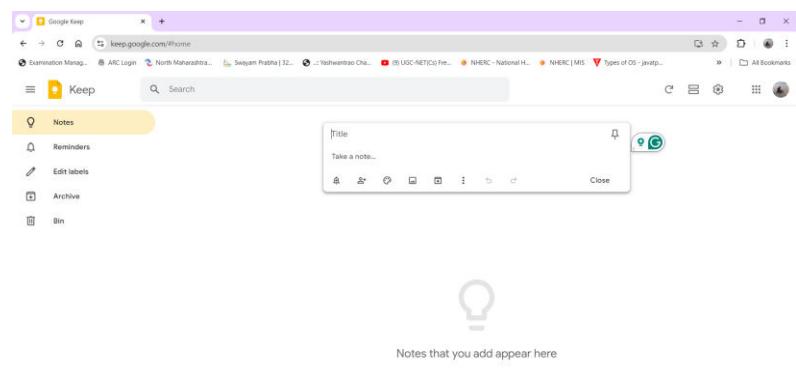
Step 1: Access Google Keep

- Open your browser and go to [Google Keep](<https://keep.google.com>).
- Sign in with your Google account if you're not already logged in.



Step 2: Create a New Note

- Click on "Take a note..." at the top of the page.

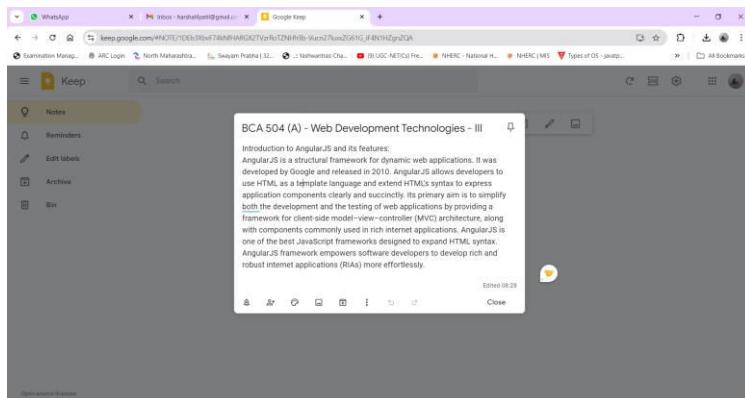


- Add a Title:

- Enter a title for your note in the "Title" field.

- Write Your Note:

- Type your content in the "Take a note..." field.



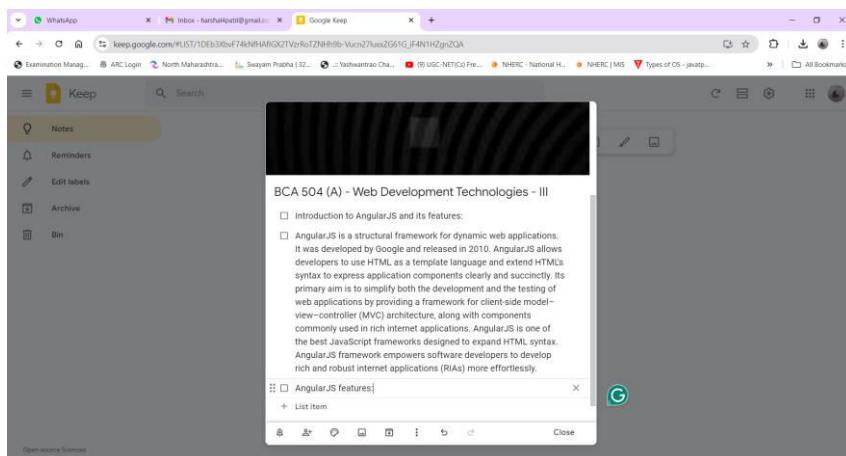
- Add Images:

- Click on the "Add image" icon to insert images into your note.



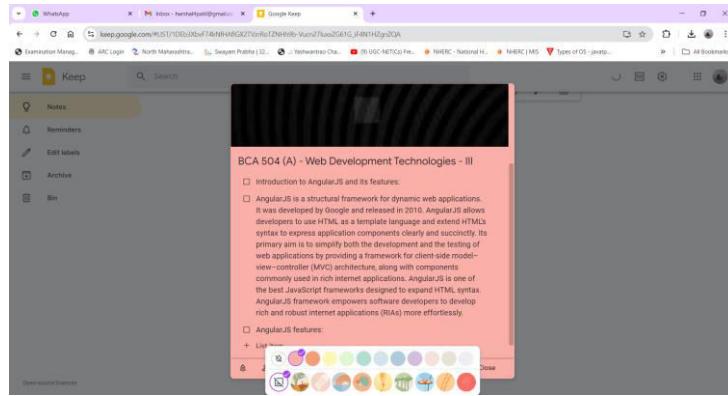
- Use Checkboxes (for task lists):

- Click on the "More" icon (three vertical dots) and select "Show checkboxes".

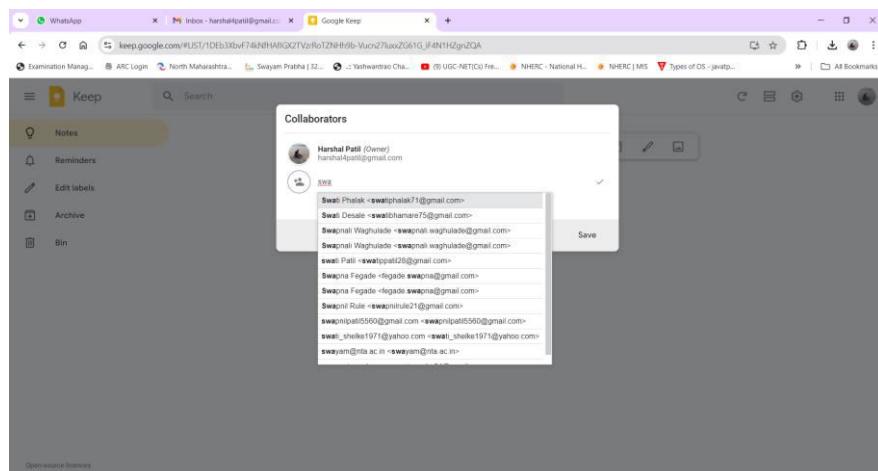


- Color Code Your Note:

- Click on the "Color palette" icon to choose a background color for your note.



- Label Your Note:
 - Click on the "Label" icon to add labels and organize your notes.
- Collaborate with Others:
 - Click on the "Collaborator" icon to add collaborators by entering their email addresses.

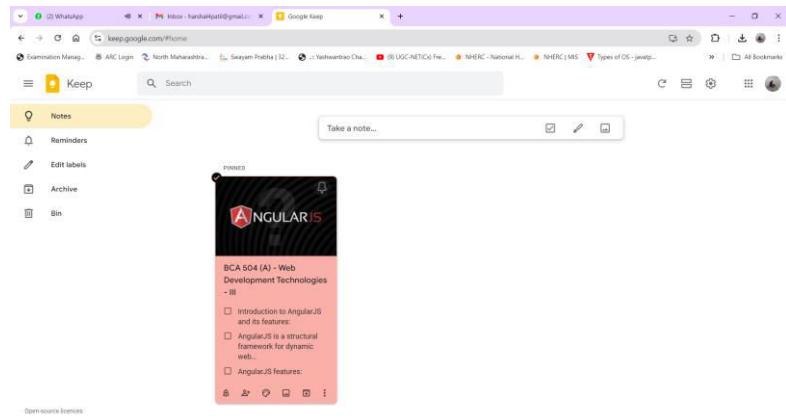


Step 3: Save Your Note

- Like Google Sheets, Google Keep automatically saves your notes as you make changes.

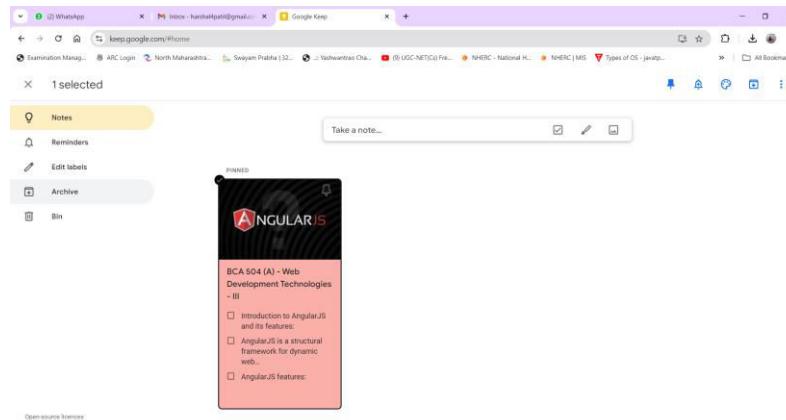
Step 4: Organize Your Notes

- Pin Important Notes:
 - Click on the "Pin" icon to keep important notes at the top.

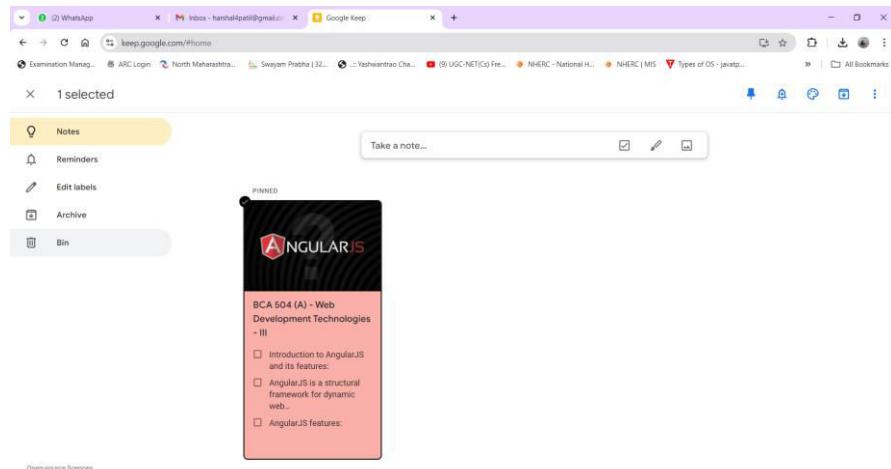


- Archive or Delete Notes:

- Use the "Archive" icon to move notes to the archive without deleting them.



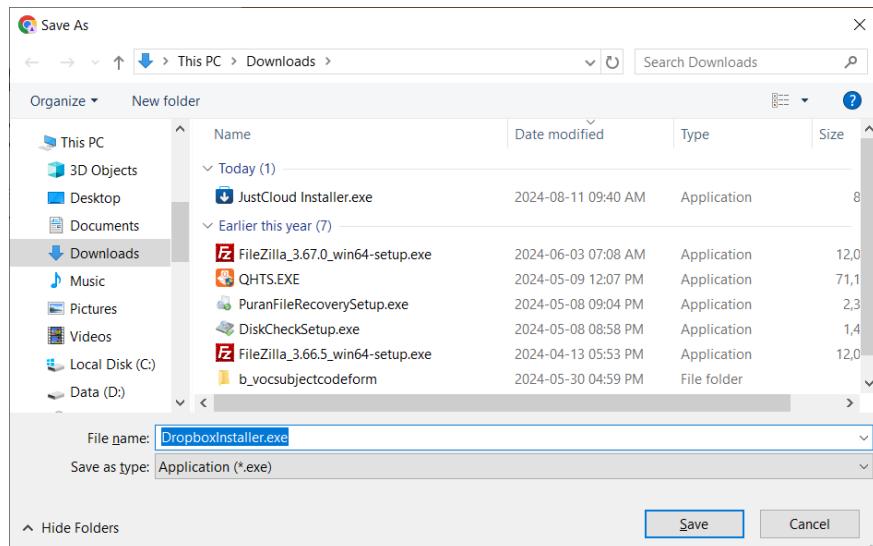
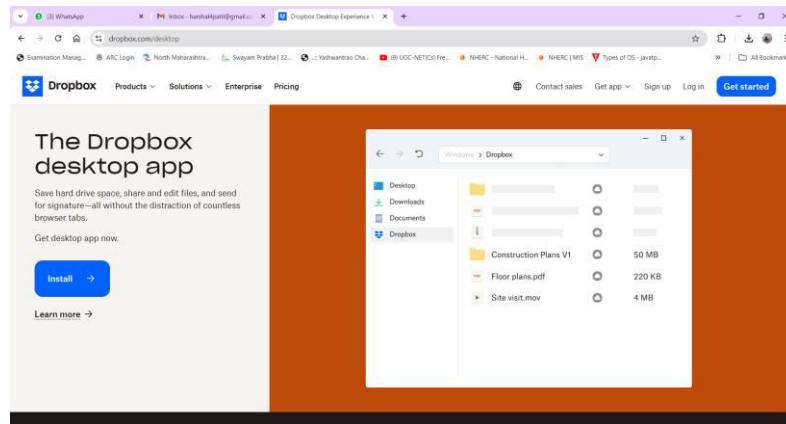
- Click on the "Delete" icon to remove a note permanently.



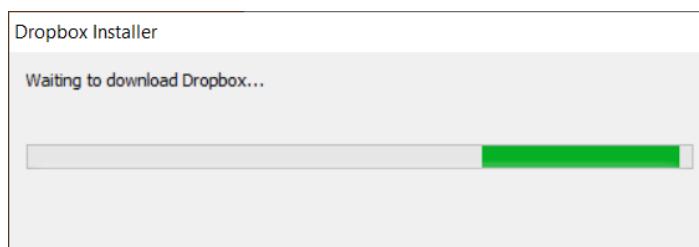
Assignment No. 2: Installation and Configuration of Dropbox

To install and configure Dropbox, follow these steps:

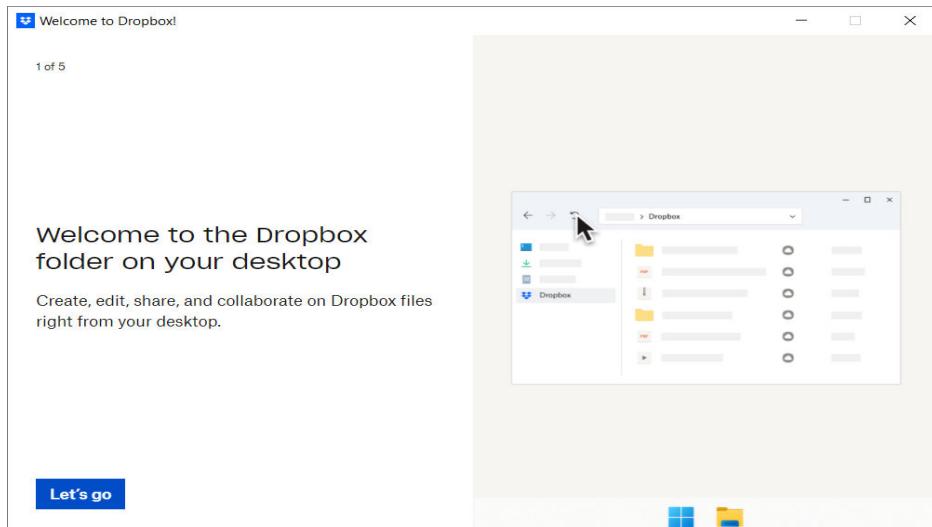
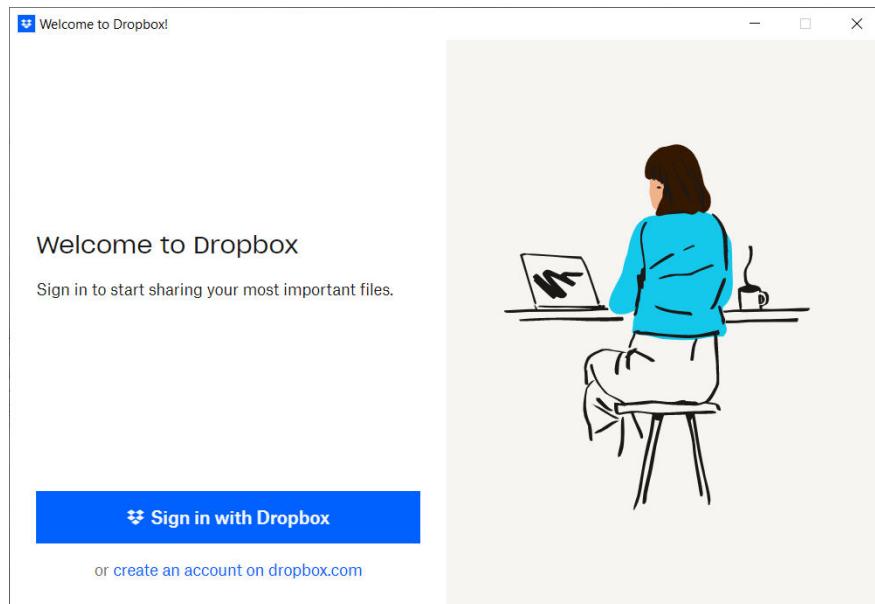
- Step - 1 Installation
- Download the Dropbox Application
 - Visit the official Dropbox website and download the installer for your operating system (Windows or macOS).



- Once the download is complete, locate the installer file (usually in your "Downloads" folder) and double-click it to start the installation process.

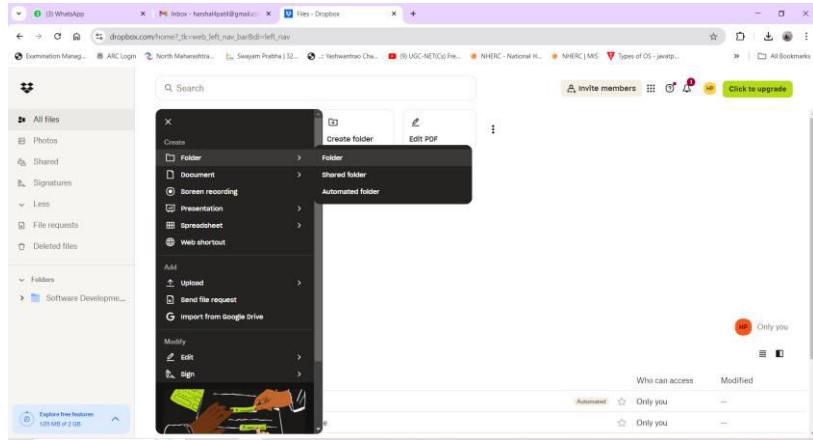


- **Run the Installer**
 - Follow the on-screen instructions to install Dropbox on your computer.
- **Step – 2 Configuration**
 - **Create or Log in to Your Dropbox Account**
 - After installation, launch the Dropbox application.
 - If you already have an account, log in using your credentials. If not, you'll need to create a new account.

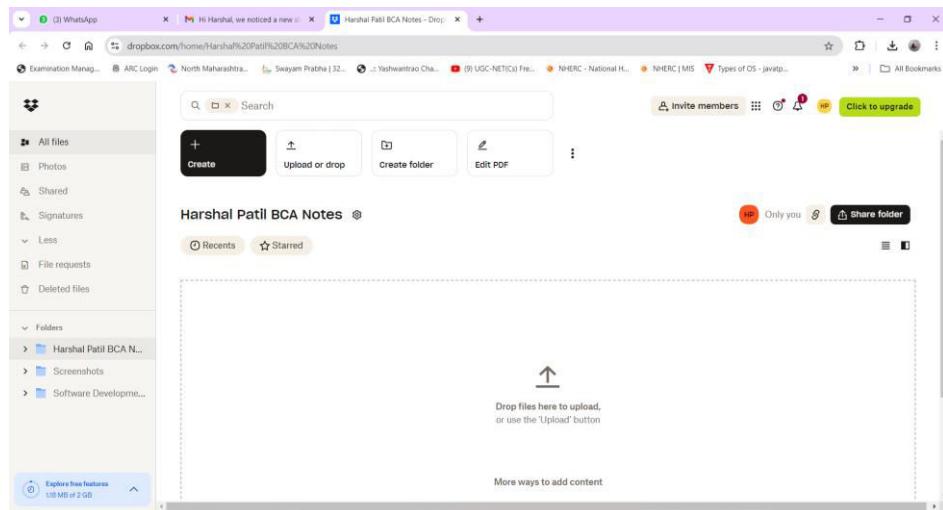


- **Initial Setup:**

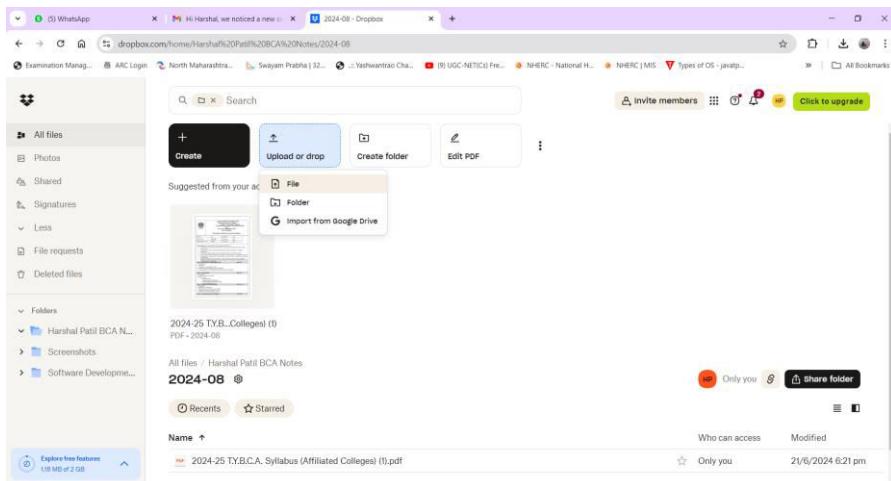
- After signing in, Dropbox will guide you through some initial setup steps.
- Choose the Dropbox folder location on your computer.

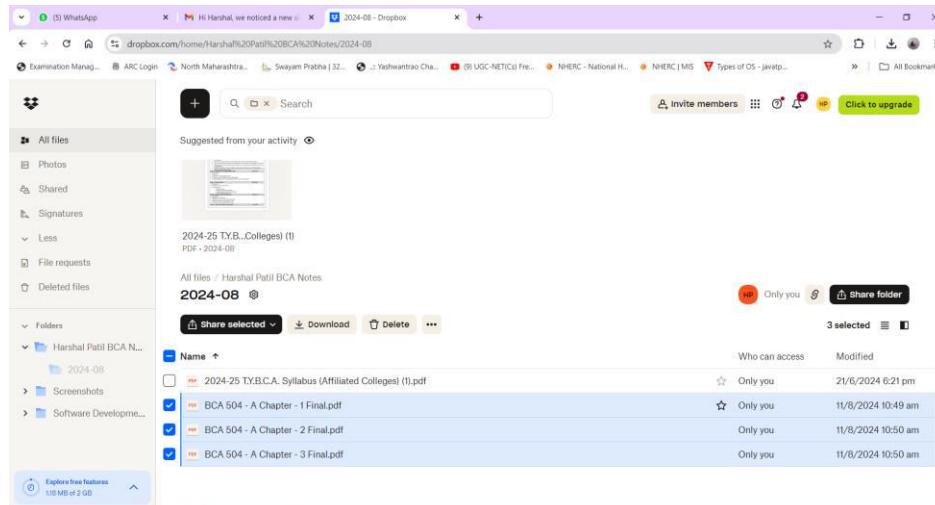
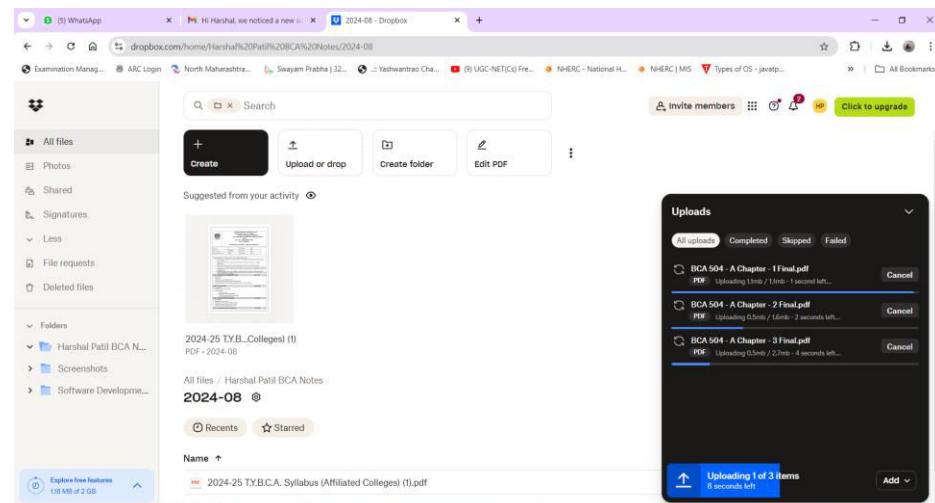
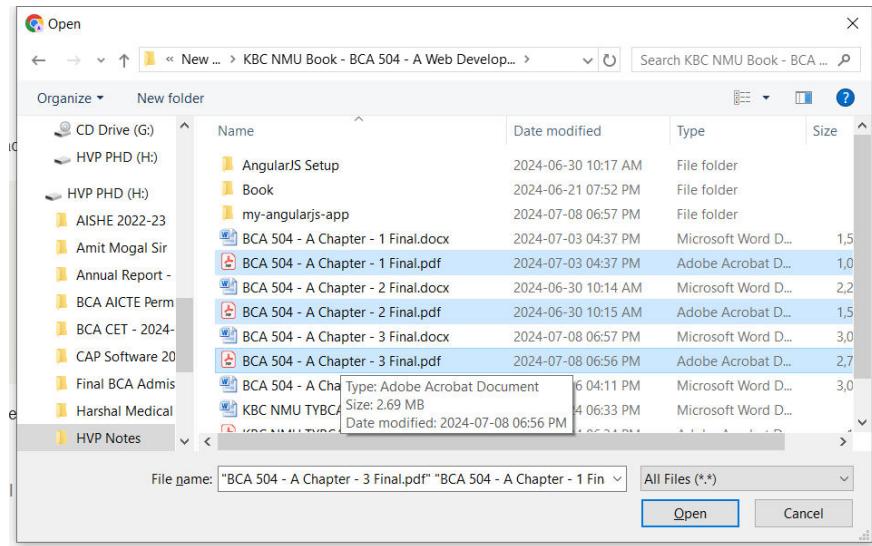


- Select which folders you want to sync (you can change this later).

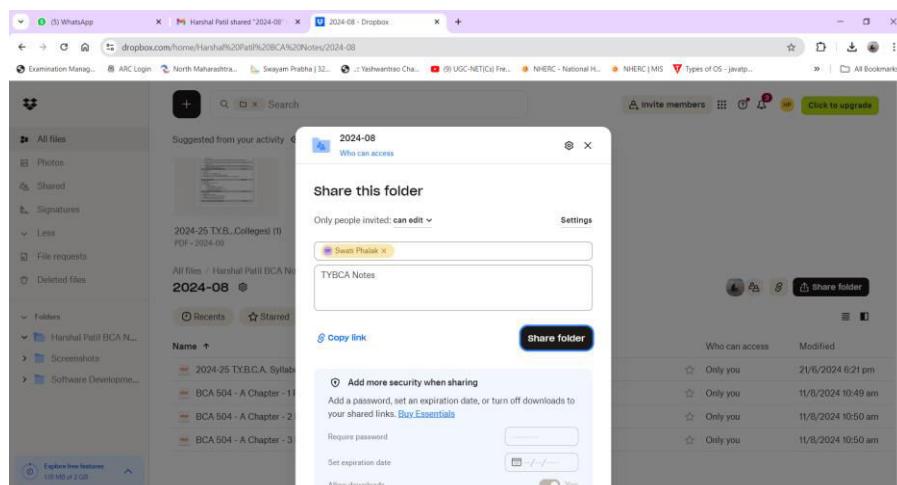
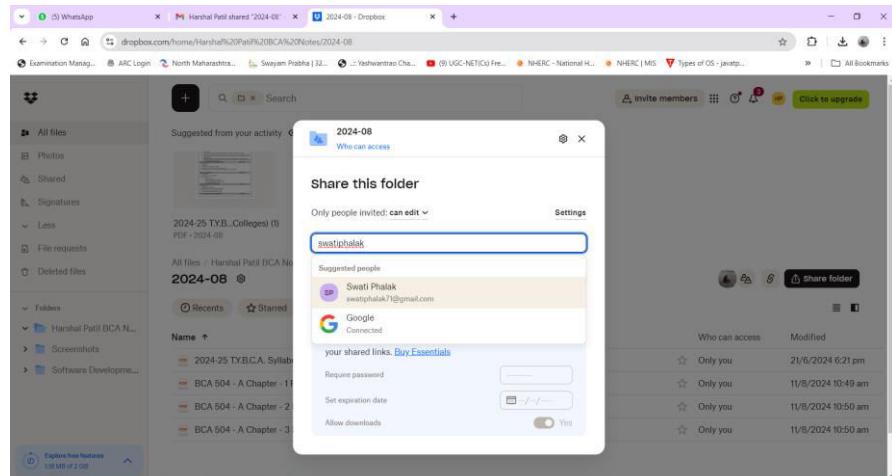
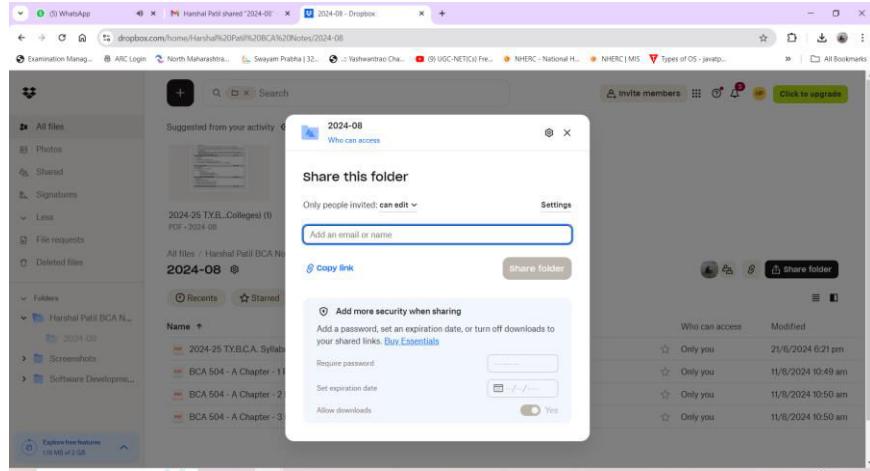


- Upload any file (documents, photos, videos, and more) in your folder on Dropbox.





- Shared Upload file or folder on Dropbox.



Assignment No. 2: Installation and Configuration of Justcloud

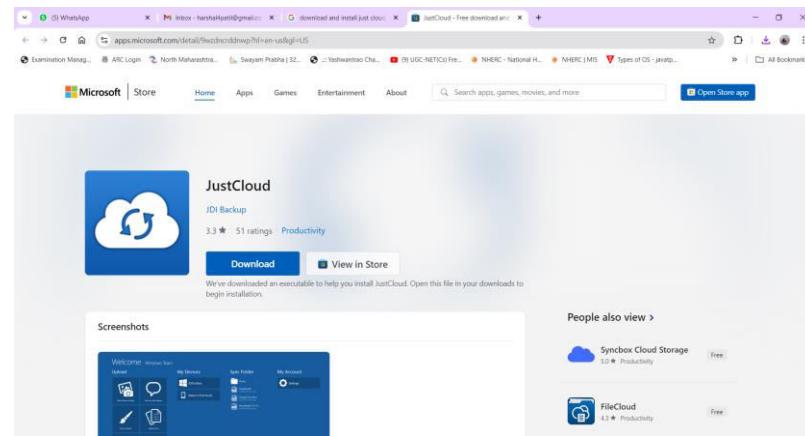
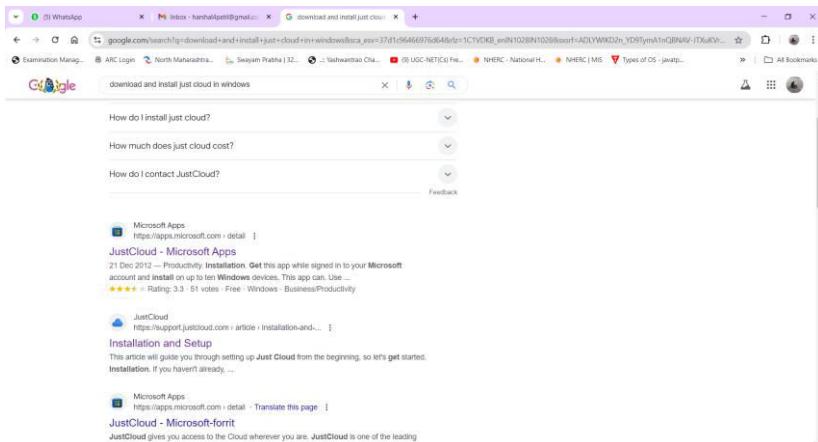
(Professional Cloud Storage from JustCloud is Simple, Fast and secure. Just Cloud will automatically backup the documents, photos, music and videos stored on your computer, to the cloud so you are never without files again.)

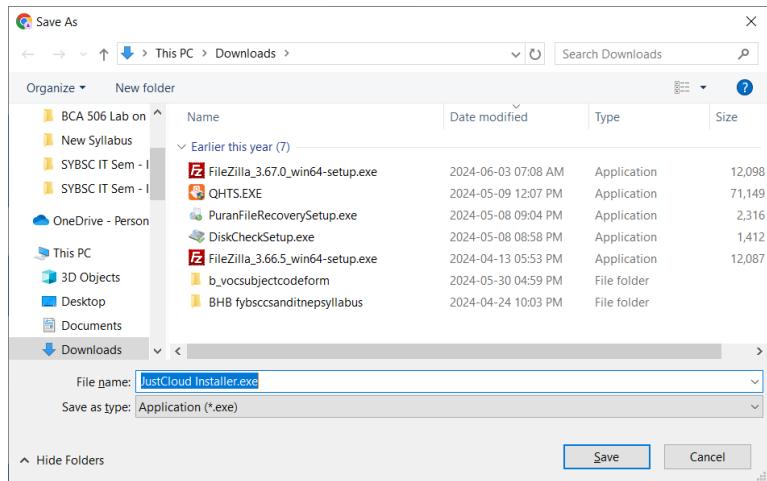
To install and configure JustCloud, follow these steps:

- **Step - 1 Installation**

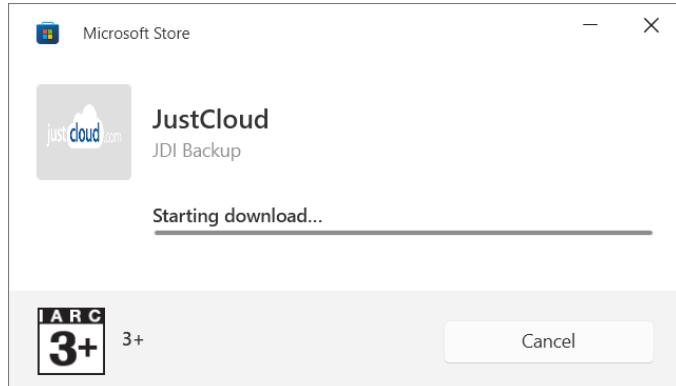
- **Download the JustCloud Application**

- Visit the official JustCloud website and download the installer for your operating system (Windows or macOS).



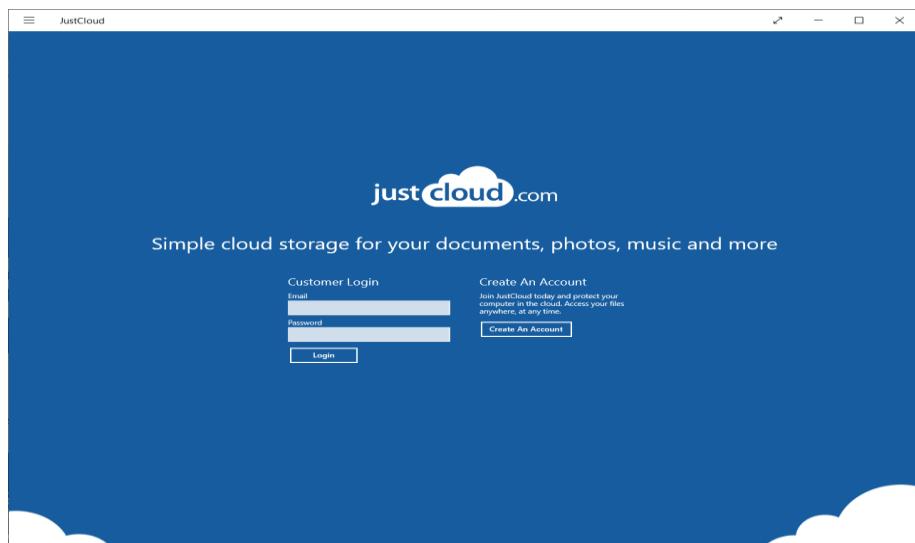


- Once the download is complete, locate the installer file (usually in your "Downloads" folder) and double-click it to start the installation process.

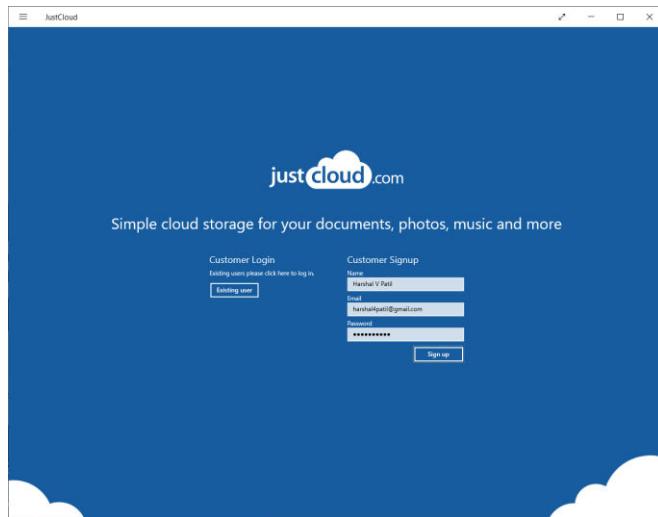


- Run the Installer**

- Follow the on-screen instructions to install JustCloud on your computer. The process is straightforward: accept the license agreement, choose the installation directory, and wait for the installation to complete.



- **Step – 2 Configuration**
- **Create or Log in to Your JustCloud Account**
 - After installation, launch the JustCloud application.
 - If you already have an account, log in using your credentials. If not, you'll need to create a new account.



- **Select Folders for Backup**
 - Once logged in, JustCloud will prompt you to select the folders you want to back up to the cloud. You can choose specific folders (like Documents, Photos, Music) or the entire system.
 - JustCloud may also offer default folders for backup. You can accept these or customize the selection according to your needs.
- **Set Up Backup Schedule**
 - JustCloud allows you to set up a backup schedule. You can choose how frequently your files are backed up: daily, weekly, or in real-time.
 - You may also adjust the time of day when backups occur if you prefer it to run during off-peak hours.
- **Configure Bandwidth Usage**
 - To ensure that JustCloud doesn't consume too much of your internet bandwidth, you can set limits on how much bandwidth it uses. This is particularly useful if you have a slow or limited internet connection.
- **Enable File Syncing Across Devices**
 - JustCloud offers file syncing across multiple devices. If you want to access your files from other computers or mobile devices, make sure to enable this feature.

- You'll need to install JustCloud on those devices as well and log in with the same account.
- **Set Up File Sharing (Optional)**
 - If you need to share files or folders with others, JustCloud allows you to do this directly from the application. You can generate shareable links or invite users via email.
- **Review Security Settings**
 - JustCloud provides encryption for your files to ensure they are secure. Review the security settings and enable features like two-factor authentication for added protection.
- **Step – 3 Start Using JustCloud**
 - After configuring all the settings, your JustCloud is ready to start backing up your files.
 - You can monitor the backup progress from the application's dashboard.
- **Step – 4 Access Your Files from the Cloud**
 - To access your files from the cloud, log in to your JustCloud account from any device or use the JustCloud web interface.
 - You can download, share, or manage your files directly from the cloud.
- **Step – 5 Regular Maintenance**
 - Regularly check the JustCloud dashboard to ensure your backups are running smoothly.
 - Update the software when new versions are available to take advantage of the latest features and security improvements.

Assignment No. 3: Implementing Virtual Machines with VirtualBox:

(Cloud providers use virtualization technologies to offer scalable and flexible computing resources. Understanding VM creation and configuration is essential for working with cloud-based infrastructure.)

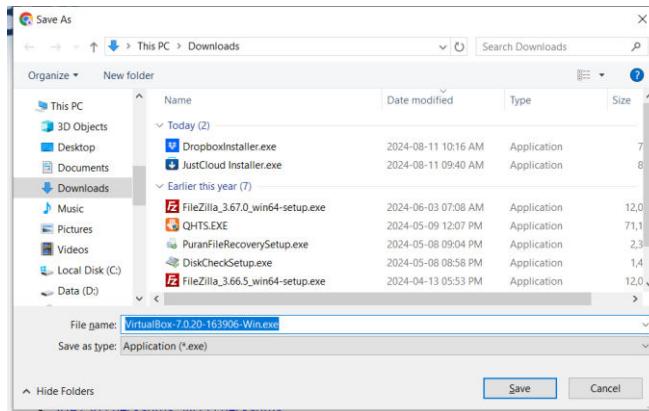
Implementing virtual machines (VMs) with VirtualBox is a great way to run multiple operating systems on a single physical machine.

Here's a step-by-step guide to help you get started:

Step - 1 Download and Install VirtualBox

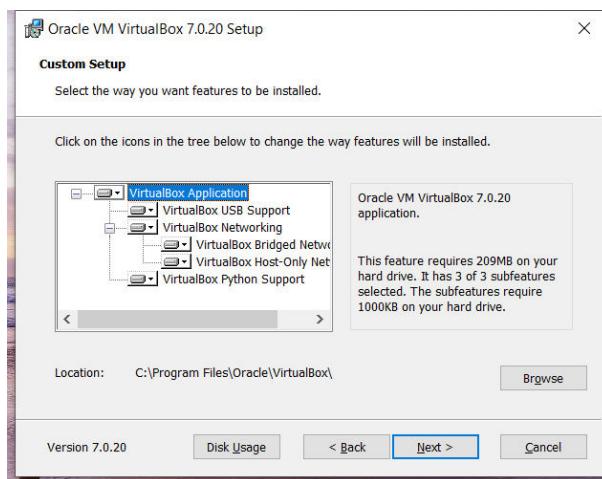
1. Download VirtualBox:

- Go to the [VirtualBox website](<https://www.virtualbox.org/>).
- Click on Download VirtualBox and choose the installer for your operating system (Windows, macOS, Linux).



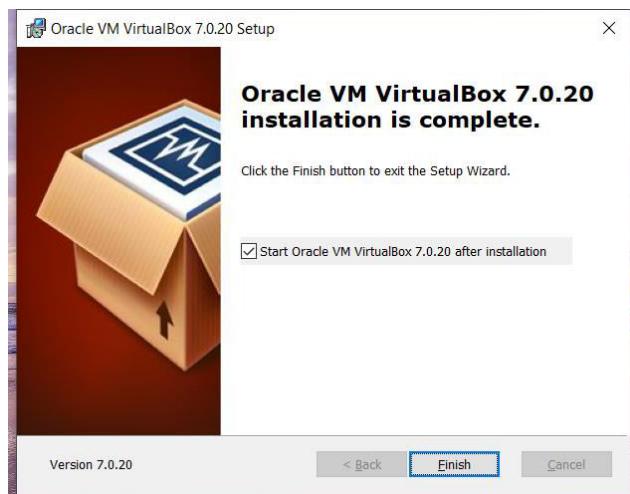
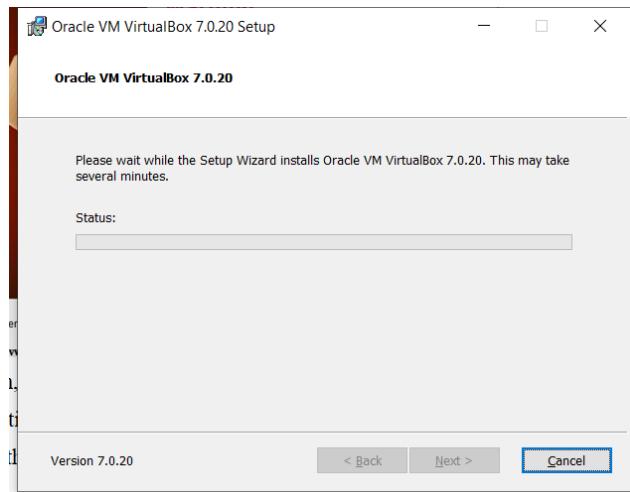
2. Install VirtualBox:

- Run the downloaded installer and follow the on-screen instructions.



- On Windows, you might be asked to install network adapters—accept these.



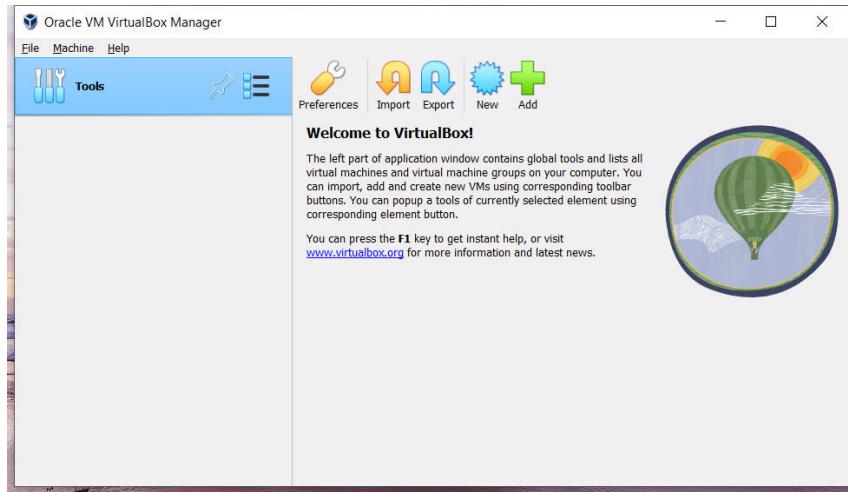


- After installation, you might also be prompted to install VirtualBox Extension Pack, which adds additional features. Download it from the same website and install it by double-clicking the downloaded file.

Step - 2 Setting Up a New Virtual Machine

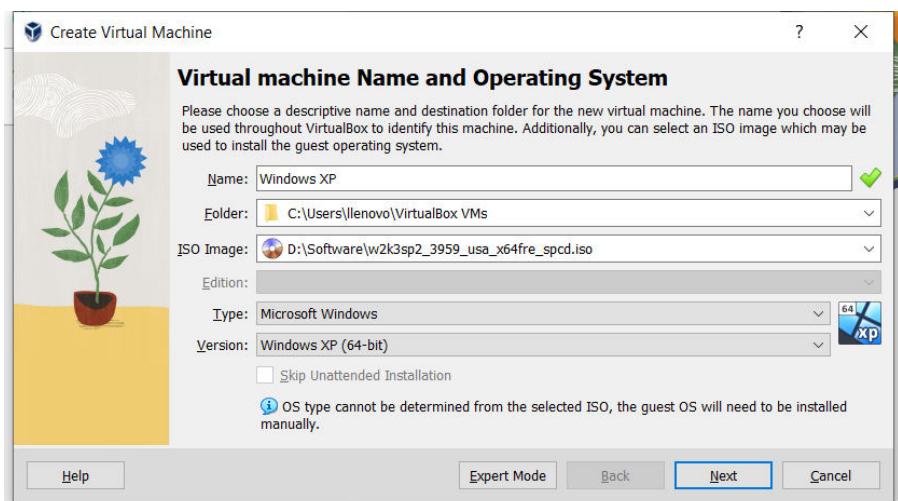
1. Open VirtualBox:

- Launch VirtualBox from your applications or start menu.

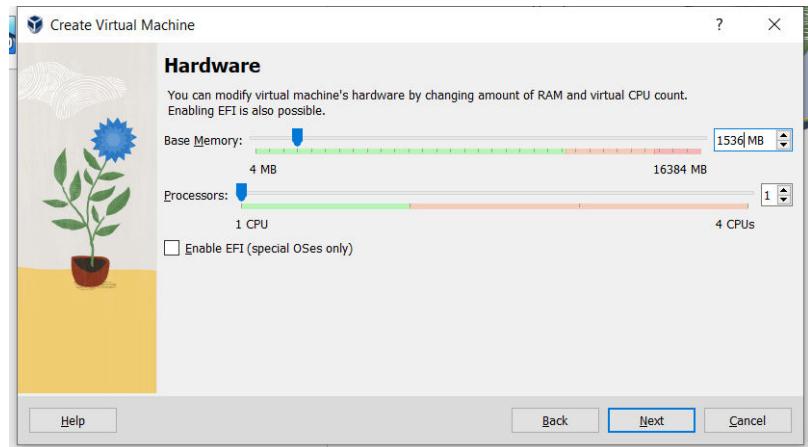


2. Create a New Virtual Machine:

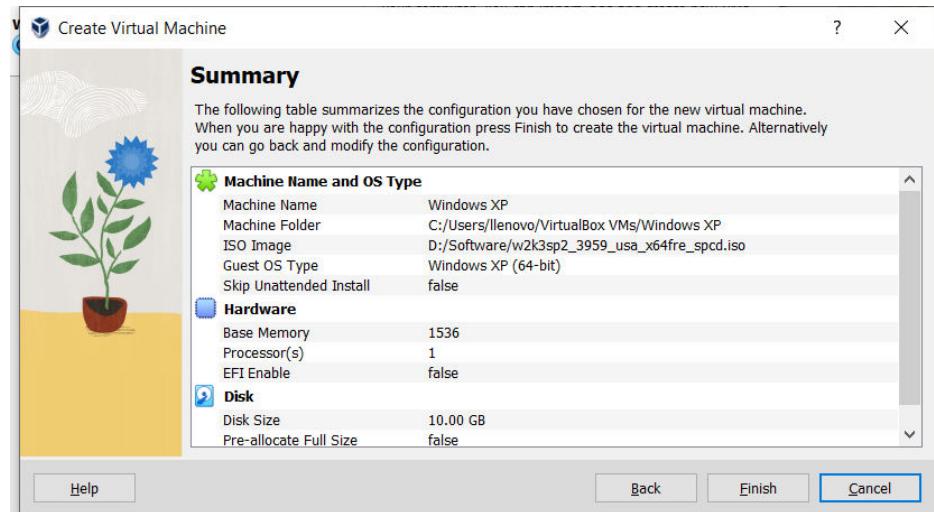
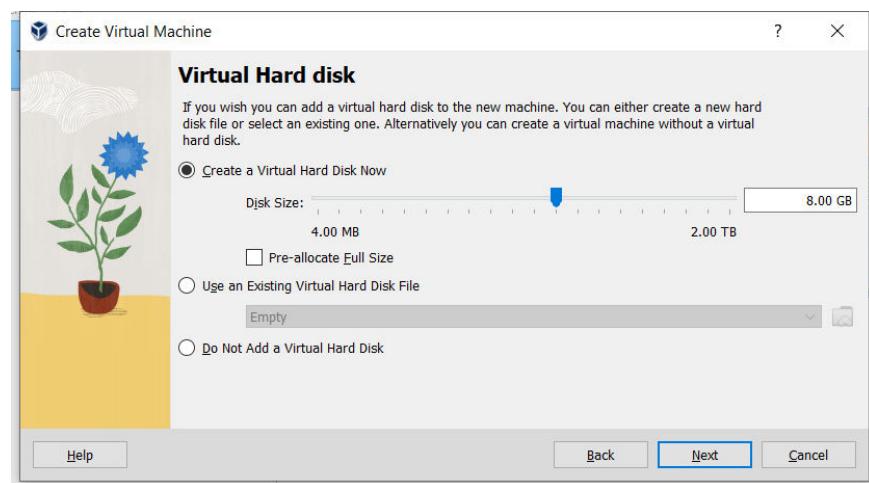
- Click the New button in the VirtualBox Manager.
 - Name and Operating System:
 - Give your VM a name. Choose the type and version of the operating system (OS) you plan to install. VirtualBox might automatically detect the type based on the name you provide. Also Select ISO file.

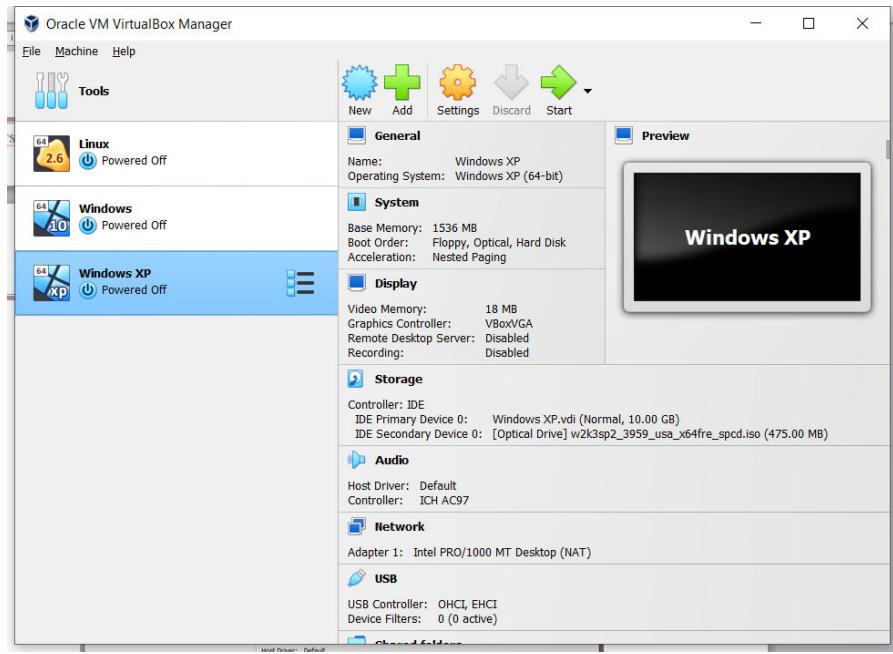


- Memory Size:
 - Allocate RAM for the VM. The amount depends on your physical system's RAM and the OS requirements. For example, 2 GB (2048 MB) is often sufficient for many Linux distributions, while 4 GB or more might be needed for newer Windows versions.



- Hard Disk:
 - Select Create a virtual hard disk now and click Create.

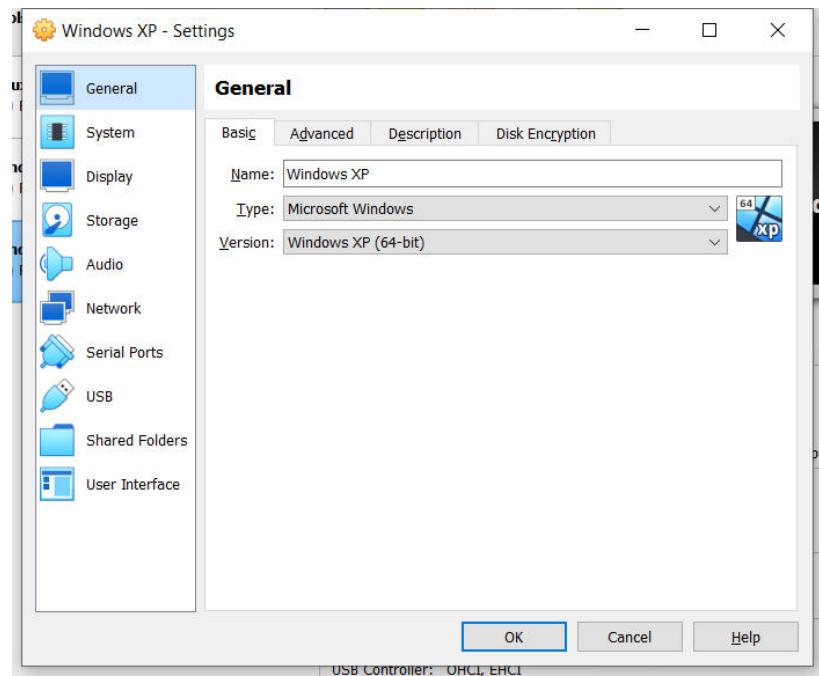




3. Configure the Virtual Machine:

Once the VM is created, select it in the VirtualBox Manager and click Settings.

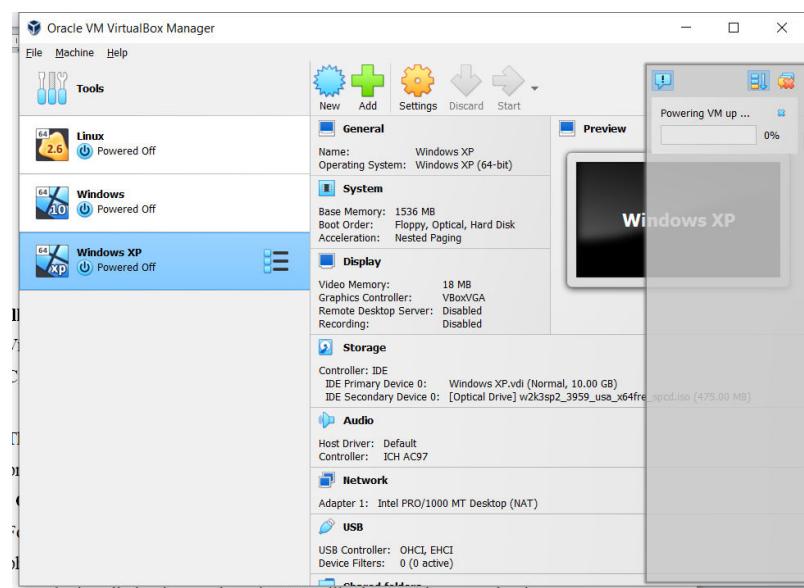
- **System:** Adjust the boot order, and allocate additional CPUs if your host system has multiple cores.
- **Display:** Increase the video memory if needed, especially for graphically intensive operating systems.
- **Storage:** Attach an ISO file (the installer for your OS). Click on the Empty under the Controller: IDE, then click on the CD icon next to Optical Drive, and choose Choose a disk file to select your ISO.
- **Network:** By default, VirtualBox sets the network to NAT, which is suitable for most purposes. You can adjust this if you need more advanced networking options.



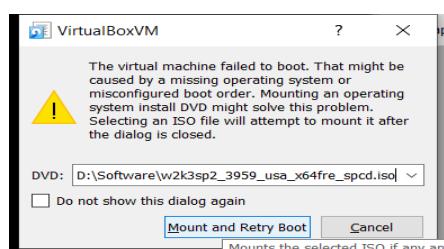
Step - 3 Installing the Operating System

1. Start the Virtual Machine:

- Click Start to boot up your VM.



- The VM will start from the attached ISO file, launching the OS installation process.



2. Install the Operating System:

- Follow the installation instructions for your chosen OS, just as you would on a physical machine.
- Once the installation is complete, the VM will reboot, and you can log into your new virtual machine.

Step - 4 Post-Installation Configuration

1. Install Guest Additions:

- Once the OS is installed, it's recommended to install VirtualBox Guest Additions. This will improve performance and enable additional features like shared folders, clipboard sharing, and better display resolutions.
- In the VM window, go to Devices > Insert Guest Additions CD Image.
- Inside the VM, open the CD drive and run the Guest Additions installer.
- Restart the VM after installation.

2. Set Up Shared Folders (Optional):

- To share files between your host and the VM, go to Settings > Shared Folders.
- Add a new shared folder, set the path on your host, and choose whether it should be read-only or auto-mounted.

3. Configure Network Settings (Optional):

- You can change the network mode to Bridged Adapter for the VM to appear as a separate device on your network, or keep it as NAT for internet access without exposing the VM to the local network.

Step - 5 Managing Virtual Machines

1. Snapshots:

- Take snapshots to save the current state of your VM. This allows you to revert to a previous state if something goes wrong.
- Click on Snapshots in the VirtualBox Manager and then Take Snapshot.

2. Cloning VMs:

- You can clone VMs if you need identical setups for multiple projects or tests. Right-click the VM and choose Clone.

3. Backing Up VMs:

- Export your VM for backup purposes. Go to File > Export Appliance, select the VM, and save it as an OVA file.

4. Updating VirtualBox:

- Periodically check for updates to VirtualBox and the Extension Pack to ensure compatibility with newer operating systems and features.

Step - 6 Advanced Usage

1. Running Multiple VMs:

- You can run multiple VMs simultaneously if your hardware supports it. Ensure you allocate sufficient resources (CPU, RAM) without overcommitting your host system.

2. Network Configurations:

- Set up complex network configurations with multiple network adapters, internal networks, and port forwarding for advanced testing and development scenarios.

3. Remote Access:

- Use the built-in VirtualBox Remote Desktop Protocol (VRDP) to remotely access your VMs from another machine.

4. Command-Line Interface (CLI):

- VirtualBox also provides a powerful CLI called `VBoxManage`, which allows you to manage VMs, configure settings, and automate tasks via scripts.

Step - 7 Deleting and Cleaning Up VMs

1. Deleting VMs:

- To remove a VM, right-click it in the VirtualBox Manager and choose Remove. You can either keep the files or delete them entirely from your disk.

2. Cleaning Up:

- Regularly clean up old snapshots and unused VMs to save disk space.

Assignment No. 4: Setting up a Cloud Environment with OpenStack:

(To Gain proficiency in cloud infrastructure development and management, a fundamental skills in cloud computing, through the implementation of OpenStack for creating a customized cloud environment.)

OpenStack is a popular open-source cloud computing platform that provides a comprehensive set of services for building and operating private and public clouds. This guide will walk you through the basic steps of setting up a cloud environment using OpenStack.

Prerequisites

- **Hardware:** Sufficient RAM, CPU, and storage to accommodate your cloud's needs.
- **Operating System:** A Linux distribution like Ubuntu or CentOS.
- **Networking:** A network with at least one public IP address and a private network for your cloud.

Installation

1. **Update System:** Ensure your system is up-to-date with the latest packages:

Bash

```
sudo apt update && sudo apt upgrade
```

2. **Install Required Packages:** Install essential packages for OpenStack installation:

Bash

```
sudo apt install python3-pip python3-dev libssl-dev libffi-dev
```

3. **Install OpenStack:** Download and install OpenStack using the appropriate installer for your distribution. For Ubuntu, use the openstack-installer:

Bash

```
sudo curl -sL https://raw.githubusercontent.com/openstack/openstack-install/master/install.sh | sudo bash -s -- -u https://raw.githubusercontent.com/openstack/openstack-install/master/install.yaml
```

4. **Configure OpenStack:** After installation, configure OpenStack using the openstack-config tool. This involves setting up networks, security groups, and user credentials.

Creating a Cloud Instance

1. **Create a Network:** Use the OpenStack CLI to create a new network:

Bash

```
openstack network create my-network
```

2. **Create a Subnet:** Create a subnet within the network:

Bash

```
openstack subnet create my-subnet --network-id my-network --gateway-ip-address 192.168.0.1 --subnet-range 192.168.0.0/24
```

3. **Create a Security Group:** Define security rules for the instance:

Bash

```
openstack security group create my-security-group --description "My security group"
```

Add rules to allow SSH and other necessary protocols.

4. **Create an Instance:** Launch a virtual machine instance:

Bash

```
openstack server create my-instance --image <image-name> --flavor <flavor-name> --security-group my-security-group --network my-network
```

Replace <image-name> and <flavor-name> with appropriate values.

Accessing the Instance

- **Obtain Public IP:** Find the public IP address of the instance:

Bash

```
openstack server list
```

- **Connect:** Use an SSH client to connect to the instance using the public IP and your credentials.

Additional Considerations

- **Storage:** Create volumes for persistent storage.
- **Networking:** Configure floating IPs for public access to instances.
- **Monitoring:** Implement monitoring tools to track resource usage.
- **Automation:** Use tools like Ansible or Terraform for automated deployment.

Note: This is a basic overview. OpenStack offers many more features and customization options. Refer to the official OpenStack documentation for detailed instructions.

By following these steps, you can successfully set up a cloud environment using OpenStack and leverage its capabilities for your projects.

Assignment No. 5: Setting Up a Simple Website on GitHub:

(To deploy a static website on GitHub Pages, demonstrating the use of cloud-based hosting for web content. Software: GitHub (<https://github.com/>)

GitHub Pages is a static website hosting service that lets you build, publish, and maintain personal, project, or organization websites directly from your GitHub repository. Here's a basic guide to set up a simple website using GitHub Pages:

1. Create a GitHub Repository

- Go to github.com.
- Log in to your account.
- Click on the **New** button and create a new repository.
- Give your repository a name, preferably your username (e.g., `your-username.github.io`).
- Initialize the repository with a README file.
- Click **Create repository**.

2. Create Your Website Files

- Create HTML, CSS, and JavaScript files as needed for your website.
- Place these files in the root directory of your repository.

Example Structure:

```
your-username.github.io/
  └── index.html
  └── style.css
  └── script.js
```

3. Publish Your Website

- **Option 1: Using the Master Branch (Deprecated)**
 - This method is deprecated. It's recommended to use the `gh-pages` branch instead.
- **Option 2: Using the `gh-pages` Branch**
 - Create a new branch named `gh-pages`:
Bash
`git checkout -b gh-pages`
 - Copy your website files to this branch:
Bash
`git add .`
`git commit -m "Add website files"`
`git push origin gh-pages`

4. Access Your Website

- Once you've pushed your website files to the `gh-pages` branch, your website will be available at the following URL:
- <https://your-username.github.io/>

Assignment No. 6: Introduction to Cloud CRM (Salesforce):
(Understand Customer Relationship Management (CRM) on Salesforse)

Introduction to Cloud CRM (Salesforce)

Customer Relationship Management (CRM) systems are vital tools that help organizations manage interactions with current and potential customers. Salesforce is one of the leading cloud-based CRM platforms, providing a suite of tools for sales, service, marketing, and more.

What is Salesforce?

Salesforce is a cloud-based CRM platform that enables businesses to manage customer data, track customer interactions, and automate various business processes. It offers a comprehensive suite of applications to support sales, customer service, marketing, and other business needs.

Key Components of Salesforce CRM

1. Sales Cloud:

- Manages customer information and interactions.
- Tracks sales leads, opportunities, and performance.
- Provides tools for contact management, sales forecasting, and workflow automation.

2. Service Cloud:

- Supports customer service operations.
- Includes case management, knowledge base, and customer support automation.
- Facilitates multi-channel support (phone, email, chat, social media).

3. Marketing Cloud:

- Helps in creating and managing marketing campaigns.
- Provides tools for email marketing, social media marketing, and customer journey mapping.
- Enables personalized customer engagement and marketing automation.

4. Commerce Cloud:

- Facilitates e-commerce operations.
- Integrates with online storefronts and provides tools for managing products, orders, and customer experiences.

5. Community Cloud:

- Creates branded online communities for customers, partners, and employees.
- Enhances collaboration and information sharing.

6. Analytics Cloud:

- Provides data analytics and business intelligence capabilities.
- Allows users to create custom reports and dashboards.

7. AppExchange:

- An online marketplace for third-party applications and integrations.
- Extends Salesforce functionality with additional tools and features.

Benefits of Using Salesforce CRM

1. Centralized Customer Data:

- Consolidates all customer information in a single platform, enabling better data management and accessibility.

2. Improved Customer Relationships:

- Enhances understanding of customer needs and behaviors.
- Facilitates personalized interactions and improved customer service.

3. Sales Productivity:

- Automates repetitive tasks, freeing up time for sales representatives to focus on selling.
- Provides insights and analytics to help close deals faster.

4. Scalability:

- Adapts to the needs of businesses of all sizes, from small startups to large enterprises.
- Scalable infrastructure supports business growth without significant additional investment.

5. Mobility:

- Cloud-based platform accessible from anywhere with an internet connection.
- Mobile apps allow on-the-go access to CRM features.

6. Integration Capabilities:

- Seamlessly integrates with other business applications and third-party services.
- Ensures data consistency and streamlines business processes.

Getting Started with Salesforce

1. Sign Up:

- Create an account on the Salesforce website (<https://www.salesforce.com>) and choose a suitable plan.

2. Customize Your CRM:

- Tailor the platform to your business needs by customizing objects, fields, and workflows.
- Use drag-and-drop tools to build custom applications without coding.

3. Data Migration:

- Import existing customer data into Salesforce using data import tools or APIs.

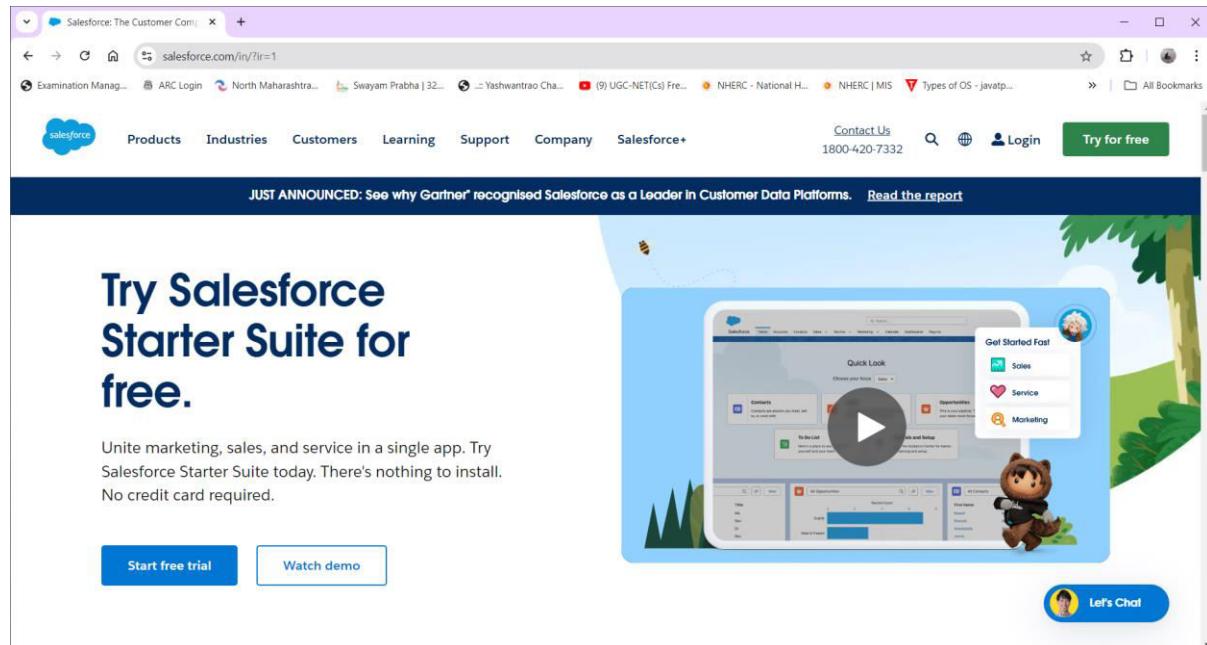
4. Training and Adoption:

- Provide training for your team to ensure effective use of the platform.
- Utilize Salesforce's extensive documentation, tutorials, and support resources.

5. Ongoing Management:

- Regularly update and maintain your Salesforce instance.
- Continuously evaluate and optimize workflows and processes for better efficiency.

Salesforce CRM provides a powerful, flexible, and scalable solution for managing customer relationships and driving business growth. By leveraging its wide range of features and integration capabilities, organizations can enhance their customer engagement, streamline their sales processes, and make data-driven decisions.



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salesforce

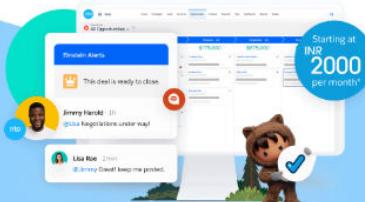
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First name: Harshal ✓ Last name: Patil ✓
Job title: Student / Job Seeker ✓ Work Email: harshal4patil@gmail.com ✓
Company: BASPONC ✓ Employees: 26 - 100 employees ✓
Phone: 8975114205 ✓ Country/Region: India ✓
Choose your trial: I'd like to try customer support features ✓
 I agree to the Main Services Agreement.

Your free trial may be provisioned on or migrated to Hyperforce, Salesforce's public cloud infrastructure.
By registering, you confirm that you agree to the storing and processing of your personal data by Salesforce as described in the Privacy Statement.

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Salesforce: The Customer Comp... Welcome To Salesforce

momentum-efficiency-3758.lightning.force.com/welcome_to_salesforce/onboarding

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What brings you to Salesforce?

Your choice won't limit what you can do in Salesforce.

Sales
Service
A bit of everything

Next

Salesforce: The Customer Comp... X Home | Salesforce +

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Check your email to verify your account. Just so you know, you can only log back in once you confirm your email.

Days left in Starter trial: 30 Buy Now

Home Contacts Accounts Sales Service Outreach Commerce Your Acco...

Home Home

Welcome, Harshal Patil

Check out these suggestions to kick off your day.

[View All Cards](#)

Create your first contact
Growing your sales starts with contacts. Let's walk through it.

Create your first lead
Let us show you how easy it is to convert your leads into contacts, accounts, and opportunities.

Create your first deal
Add an opportunity and see how easy it is to track stages as your deals move forward.

To Do List

This screenshot shows the Salesforce Home page. It features a sidebar with various icons for Home, Contacts, Accounts, Sales, Service, Outreach, Commerce, and Your Account. The main area displays a welcome message for 'Harshal Patil' and three initial tasks: 'Create your first contact', 'Create your first lead', and 'Create your first deal'. A 'To Do List' button is also present.

Salesforce: The Customer Comp... X All Contacts | Contacts | Salesfo +

momentum-efficiency-3758.lightning.force.com/lightning/o/Contact/list?filterName=AllContacts

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Check your email to verify your account. Just so you know, you can only log back in once you confirm your email.

Import from File
Upload contacts using a CSV file. [CSV](#)

Start with Contacts

Get organized and make the most of your relationships by adding contacts to Salesforce.

Sync with Google or Microsoft
Bring your contacts into Salesforce and keep them [Sync](#)

Next

This screenshot shows the Salesforce Contacts page. It features a sidebar with various icons for Home, Contacts, Accounts, Sales, Service, Outreach, Commerce, and Your Account. The main area displays two options: 'Import from File' (using a CSV file) and 'Sync with Google or Microsoft' (bringing contacts from Google or Microsoft into Salesforce). A 'Next' button is located at the bottom right.

Assignment No. 7: Data Analytics on the Cloud (Salesforce):

(The objective of this practical is to familiarize students with Salesforce's reporting tools and dashboards, enabling them to analyze and visualize data effectively.)

Understanding Salesforce's Reporting Tools and Dashboards

Salesforce provides a robust suite of reporting and analytics tools that allow users to:

- **Create custom reports:** Tailor reports to specific business needs and data requirements.
- **Build dashboards:** Visualize data in a clear and concise manner using charts, graphs, and other interactive elements.
- **Analyze data:** Gain insights into sales performance, customer behavior, and other key metrics.

Practical Steps:

1. Create a Custom Report:

- **Navigate:** Go to **Reports** in the Salesforce navigation menu.
- **Create:** Click on **New Report**.
- **Select Object:** Choose the object you want to report on (e.g., Leads, Opportunities, Accounts).
- **Add Fields:** Drag and drop the desired fields into the report builder.
- **Filter:** Apply filters to narrow down the data.
- **Group:** Group data by specific fields.
- **Summary Fields:** Add summary fields (e.g., SUM, AVERAGE) to aggregate data.
- **Run Report:** Click **Run Report** to view the results.

2. Build a Dashboard:

- **Navigate:** Go to **Dashboards** in the Salesforce navigation menu.
- **Create:** Click on **New Dashboard**.
- **Add Components:** Drag and drop report components (e.g., tables, charts) onto the dashboard.
- **Customize:** Adjust the size, layout, and appearance of components.
- **Save:** Save the dashboard.

Example: Analyzing Sales Performance

Goal: Analyze sales performance over the past quarter.

Steps:

1. Create a Report:

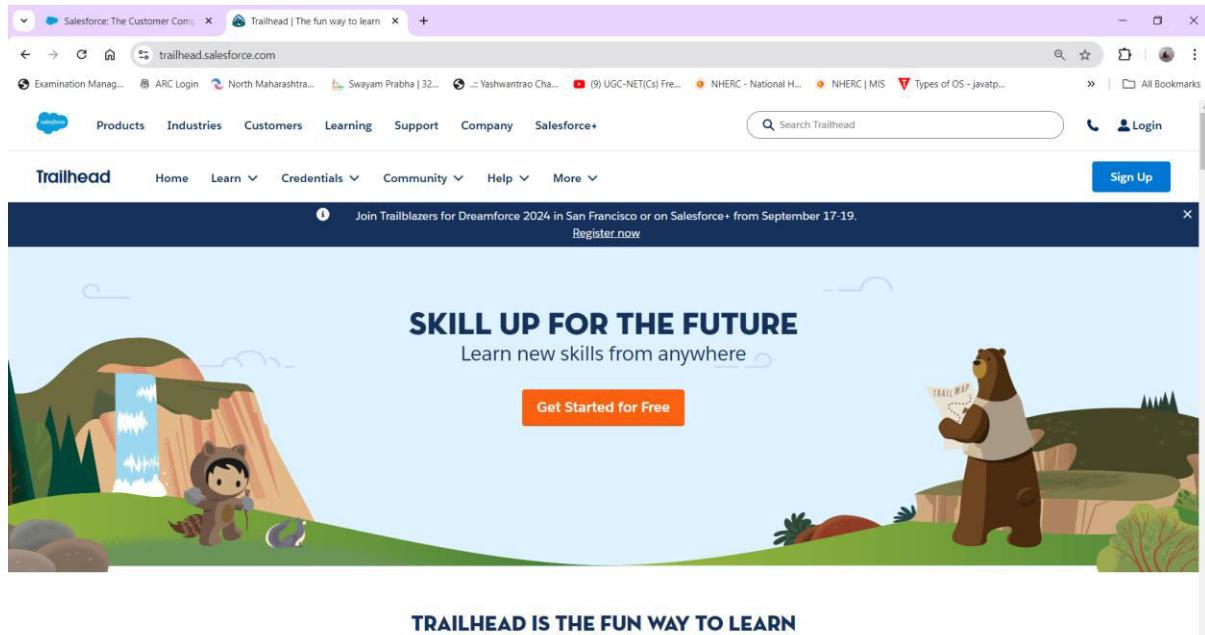
- Select the **Opportunities** object.

- Add fields: **Close Date**, **Amount**, **Stage**.
- Filter by **Close Date** to include the desired quarter.
- Group by **Stage**.
- Add summary fields: **SUM(Amount)**.

2. Build a Dashboard:

- Add a **Bar Chart** to visualize sales by stage.
- Add a **Table** to display detailed sales data.
- Customize the dashboard's appearance.

For further learning, explore the [Salesforce Trailhead modules](#) on reports and dashboards, which offer interactive, hands-on training.



Assignment No. 8: Introduction to Amazon AWS S3:

(The objective of this practical is to learn about Amazon AWS and how to host a simple static website using Amazon S3.)

Introduction to Amazon AWS S3

Amazon Simple Storage Service (S3) is a scalable object storage service provided by Amazon Web Services (AWS). S3 is commonly used for storing and retrieving any amount of data, at any time, from anywhere on the web. One of its popular use cases is hosting static websites.

Objectives

- Understand the basics of Amazon S3.
- Learn how to create an S3 bucket.
- Learn how to upload files to an S3 bucket.
- Configure the S3 bucket to host a static website.
- Access the hosted static website.

Prerequisites

- An AWS account. If you don't have one, you can [sign up for free](<https://aws.amazon.com/free/>).

Key Concepts

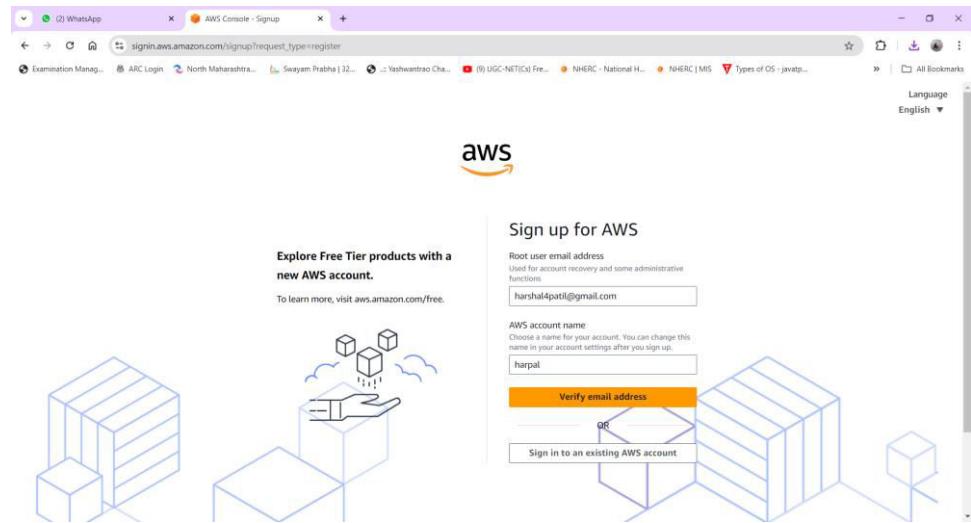
- Bucket: A container for storing objects (files) in S3. Each bucket must have a unique name across all of AWS.
- Object: Any file stored in an S3 bucket. Each object is identified by a unique key within the bucket.
- Static Website Hosting: Serving static content (HTML, CSS, JavaScript, images) directly from an S3 bucket.

Step-by-Step Guide

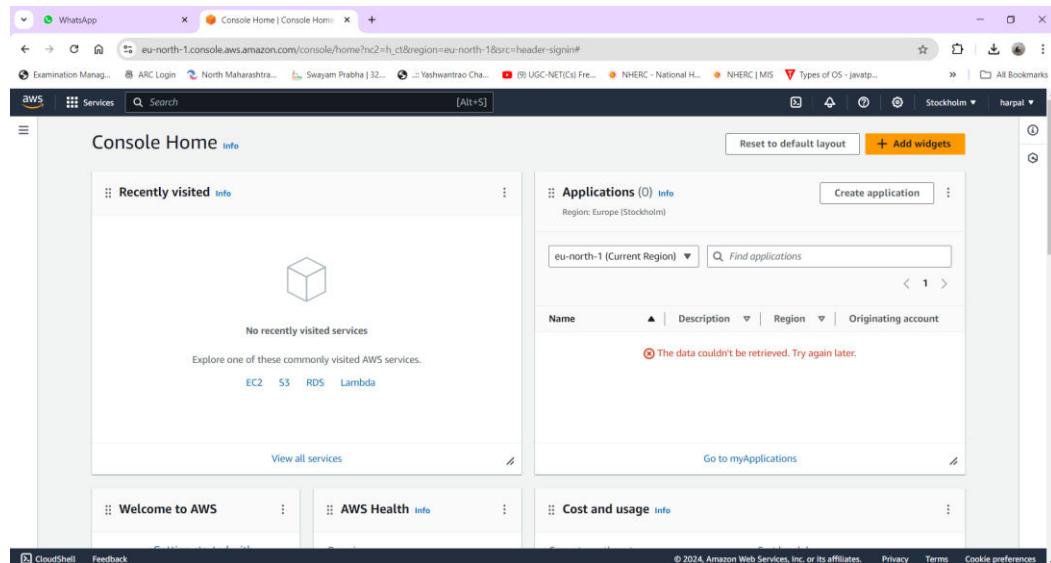
Step 1: Create an S3 Bucket

1. Log in to AWS Management Console:

- Go to the [AWS Management Console](<https://aws.amazon.com/console/>).



- Log in with your AWS credentials.



2. Navigate to S3:

- In the Services menu, under Storage, click on S3.

3. Create a New Bucket:

- Click the Create bucket button.
- Enter a unique Bucket name (e.g., `my-static-website-bucket`).
- Select a region for your bucket.
- Click Create bucket at the bottom of the page, keeping the default settings.

Step 2: Upload Files to the S3 Bucket

1. Upload Files:

- Click on the name of the newly created bucket.
- Click the Upload button.
- Drag and drop your website files (e.g., `index.html`, `style.css`, `script.js`) into the upload area.
- Click Upload to start the upload process.

Step 3: Configure the Bucket for Static Website Hosting

1. Enable Static Website Hosting:

- In the S3 bucket, click on the Properties tab.
- Scroll down to the Static website hosting section.
- Click Edit.
- Select Enable.
- Enter the name of the index document (e.g., `index.html`).
- Enter the name of the error document (optional).
- Click Save changes.

2. Make the Bucket Public:

- In the S3 bucket, click on the Permissions tab.
- Click on Bucket policy.
- Copy and paste the following bucket policy, replacing `your-bucket-name` with the name of your bucket:

```
{  
    "Version": "2012-10-17",  
    "Statement": [  
        {  
            "Sid": "PublicReadGetObject",  
            "Effect": "Allow",  
            "Principal": "*",  
            "Action": "s3:GetObject",  
            "Resource": "arn:aws:s3:::your-bucket-name/*"  
        }  
    ]  
}
```

- Click Save changes.

Step 4: Access Your Static Website

1. Get the Website URL:

- Go back to the Properties tab.
- In the Static website hosting section, note the Endpoint URL. This is the URL of your hosted static website.

2. Visit Your Website:

- Open a web browser and navigate to the Endpoint URL to see your static website live.

Practical Exercises

1. Host a Simple HTML Page:

- Create a basic `index.html` file with some content.
- Upload it to your S3 bucket and enable static website hosting.
- Access your hosted HTML page using the Endpoint URL.

2. Add CSS and JavaScript:

- Create `style.css` and `script.js` files.
- Link them in your `index.html` file.
- Upload all files to your S3 bucket.
- Ensure they are accessible and properly linked when you visit your website.

3. Error Document Handling:

- Create a custom error page (e.g., `404.html`).
- Configure the error document in the static website hosting settings.
- Test accessing a non-existent page to see your custom error page.

