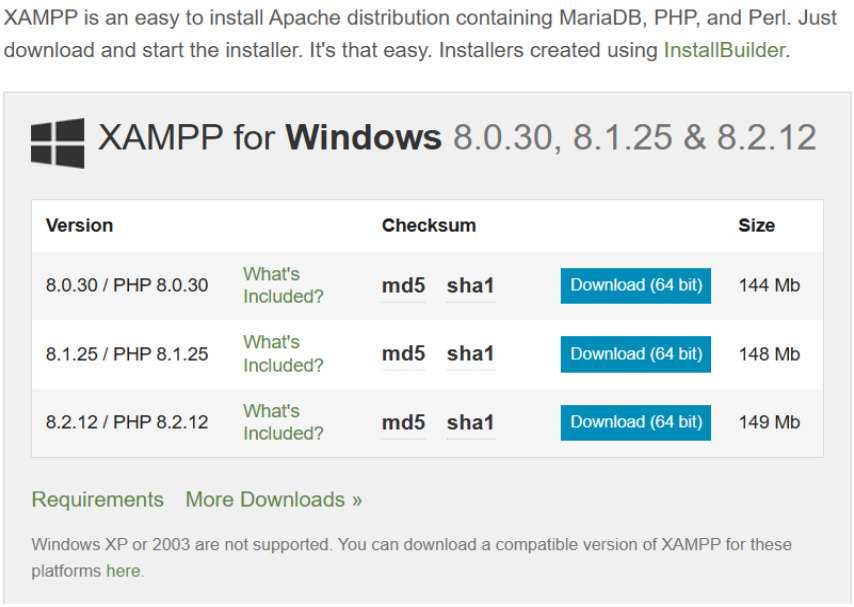
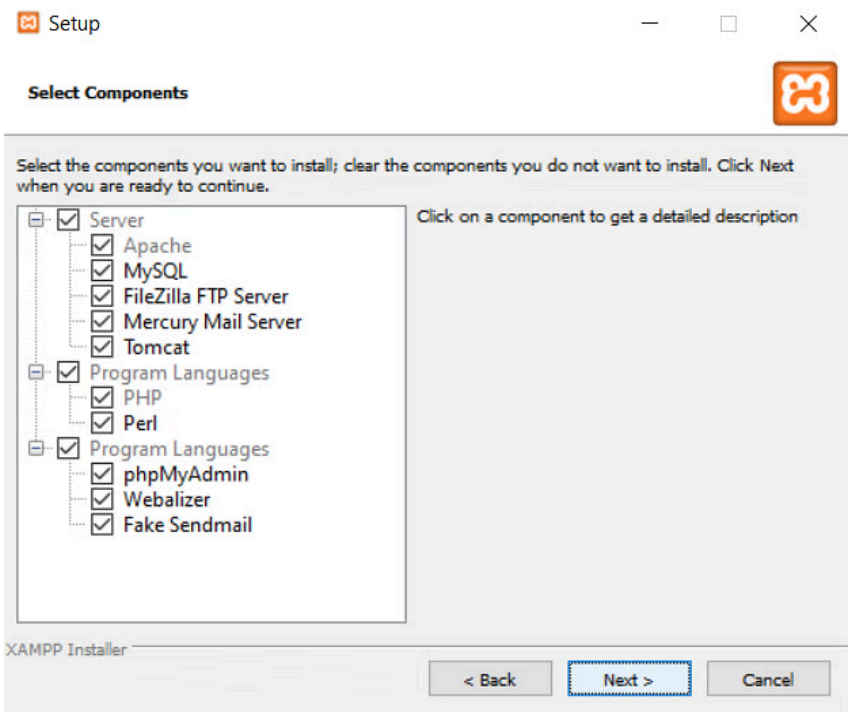
Aim : To develop a website and host it on your local machine on a VM

1. Find a web server that supports PHP and MYSQL

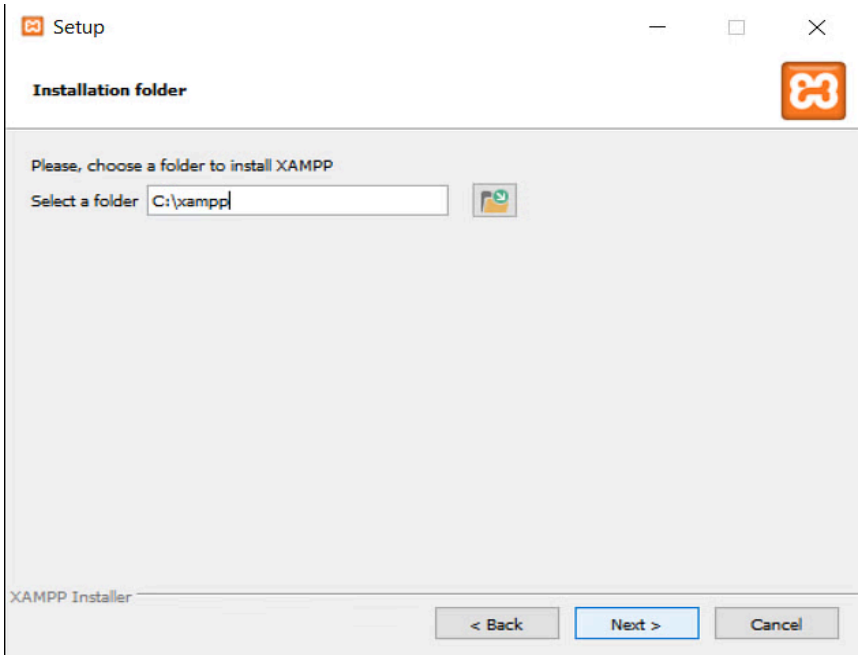


2. Download the latest version of Xampp and MYSQL DB

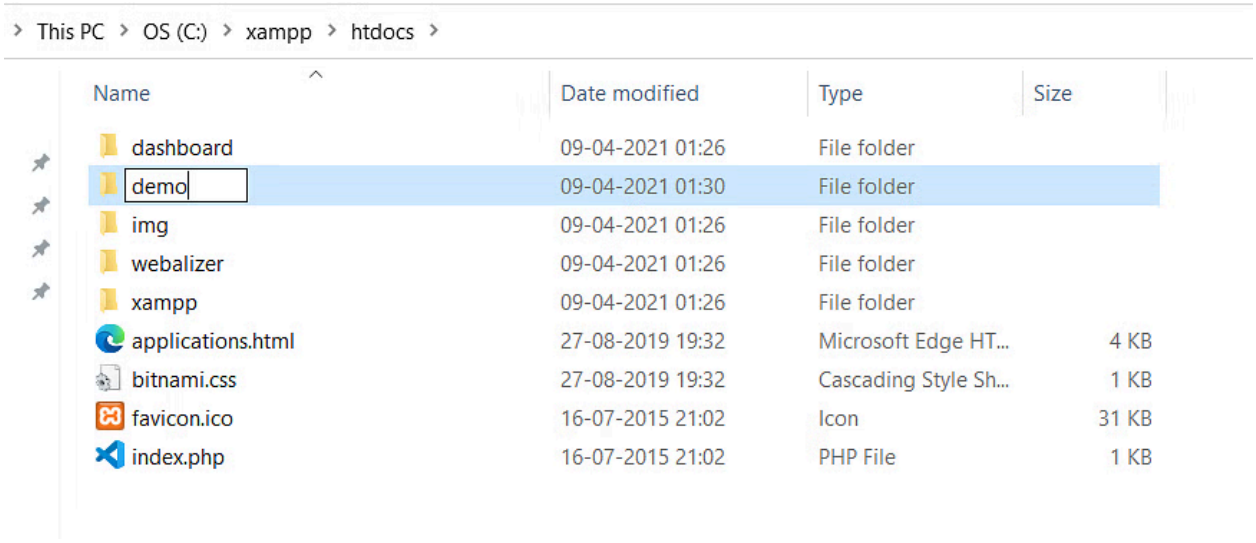
3.Once downloaded setup and begin the installation process and, in the “Select Components” section, select all the required components



4. Keep the default directory “C:\xampp” and click on “next” to complete the installation.

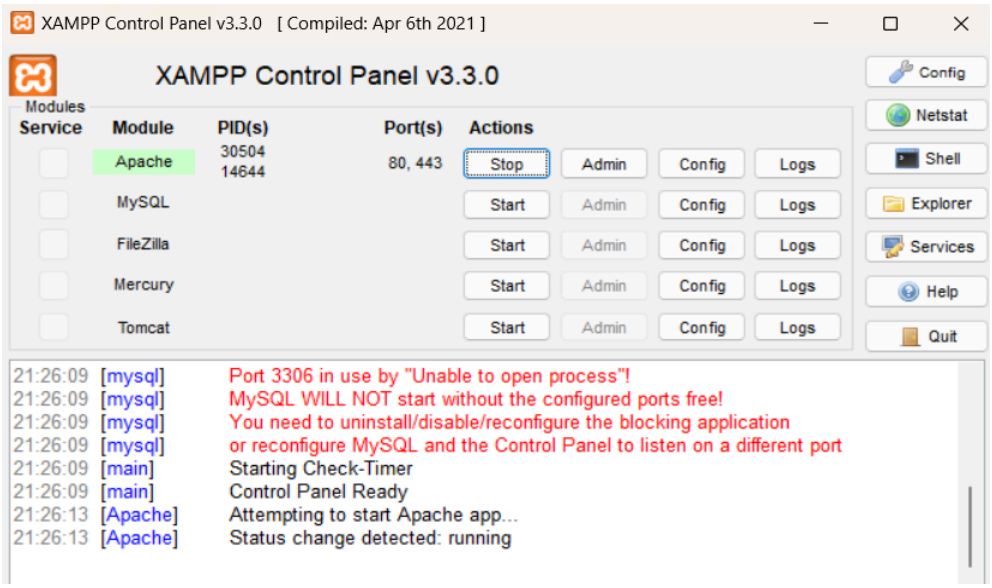


5. Go to “C:\xampp\htdocs” and inside it, create a folder called demo (or any name you want)

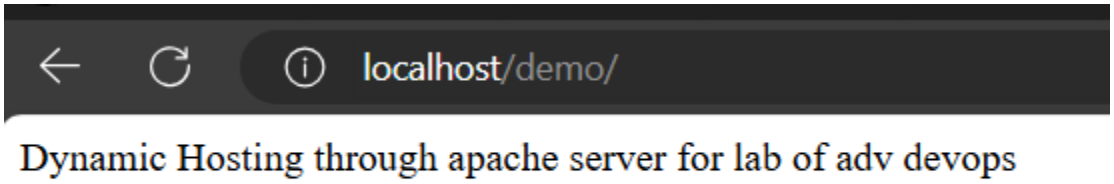


6.Open the folder and create a file name “index.php” and write the required script

7.To see the script output, open the XAMPP control panel and start Apache to host the local web server, where our script will be running.

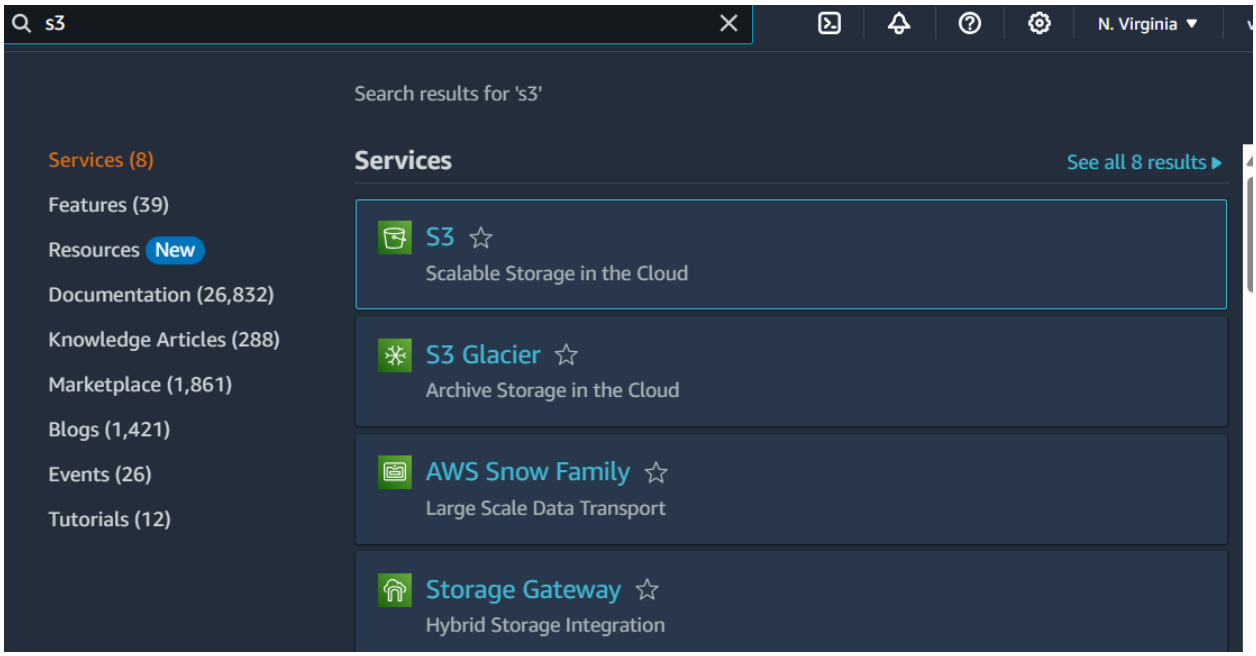


8. Navigate to your browser and type in “localhost/demo/” in the address bar to view the output.

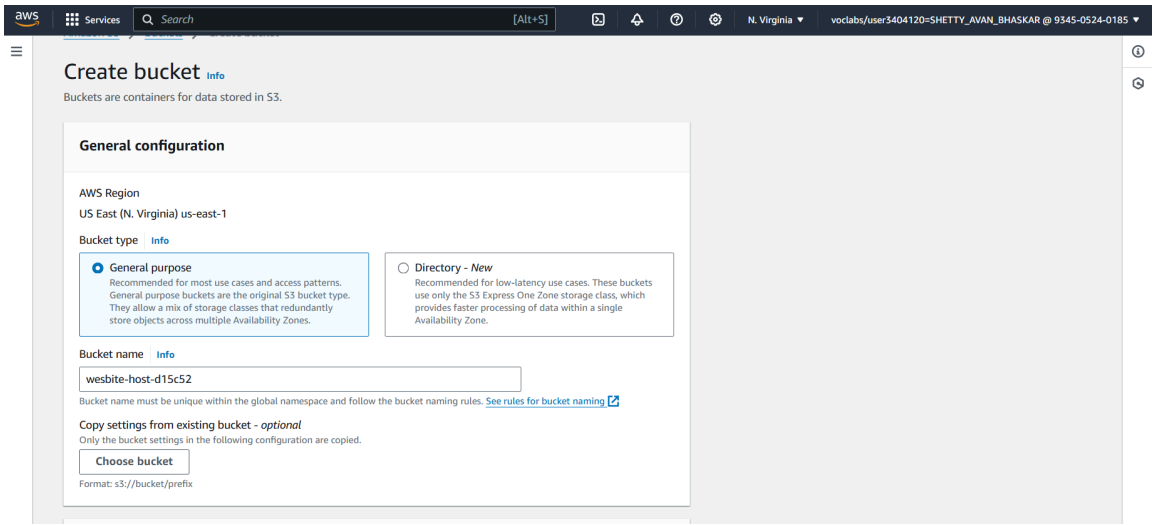


AWS S3 BUCKET:

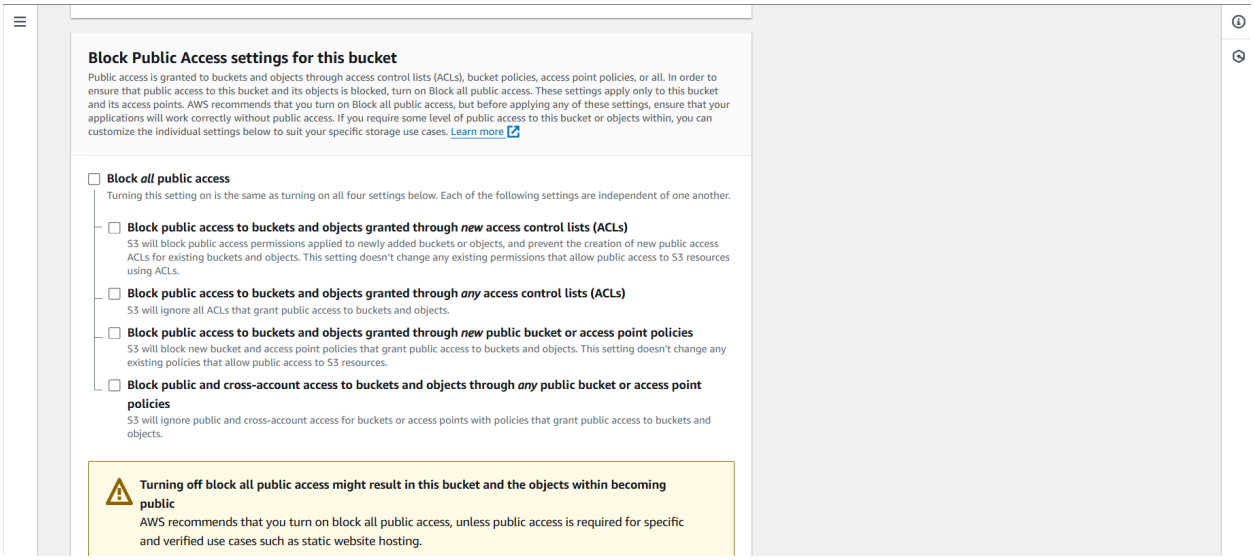
1. Open the aws Console and search for S3 bucket



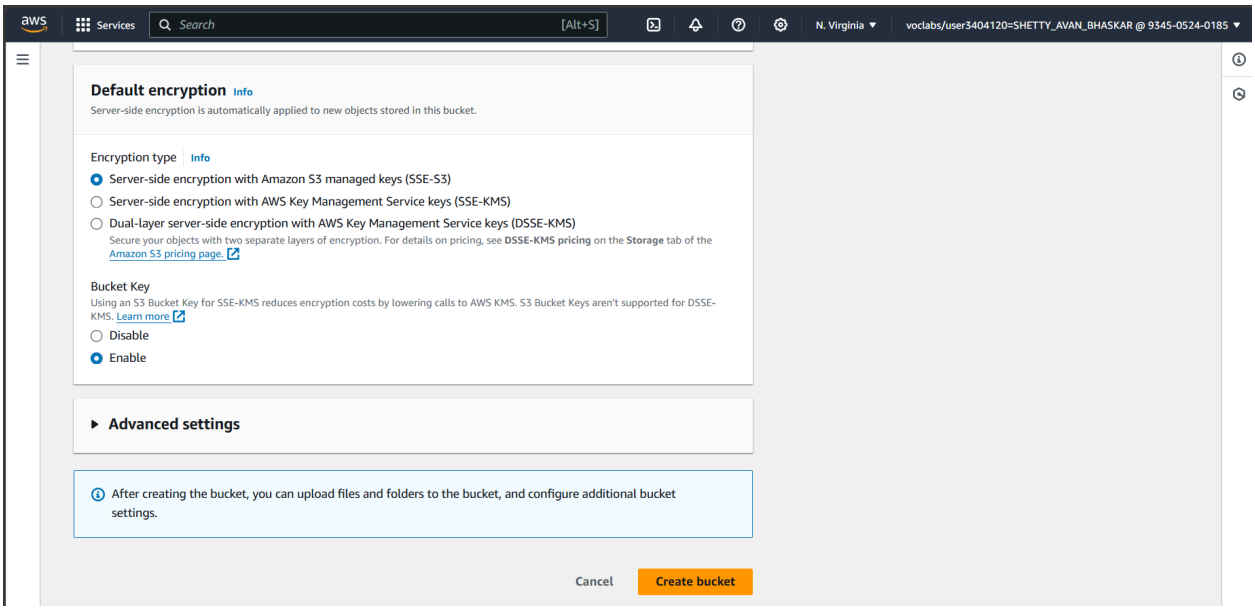
2. Now create a bucket of <-*your name*-> mine as 'website-host-d15c-52'



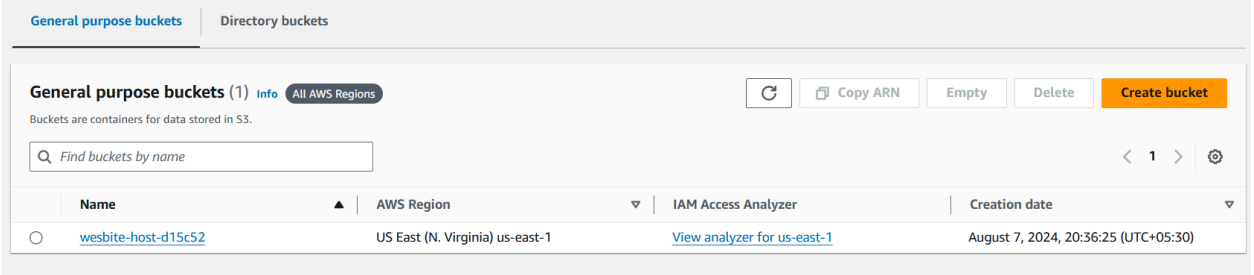
3. Scroll down and uncheck the Block of public access (*as we are making our static website available for all users in public domain*)



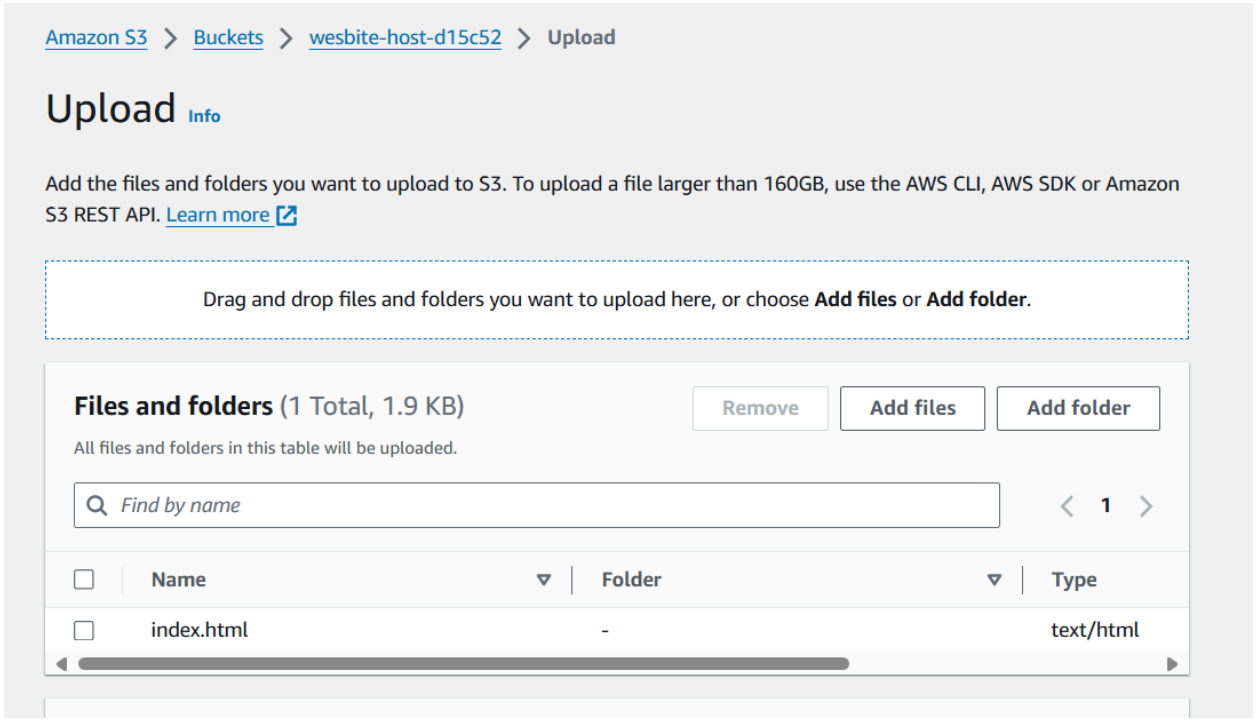
4. Click on Create bucket option

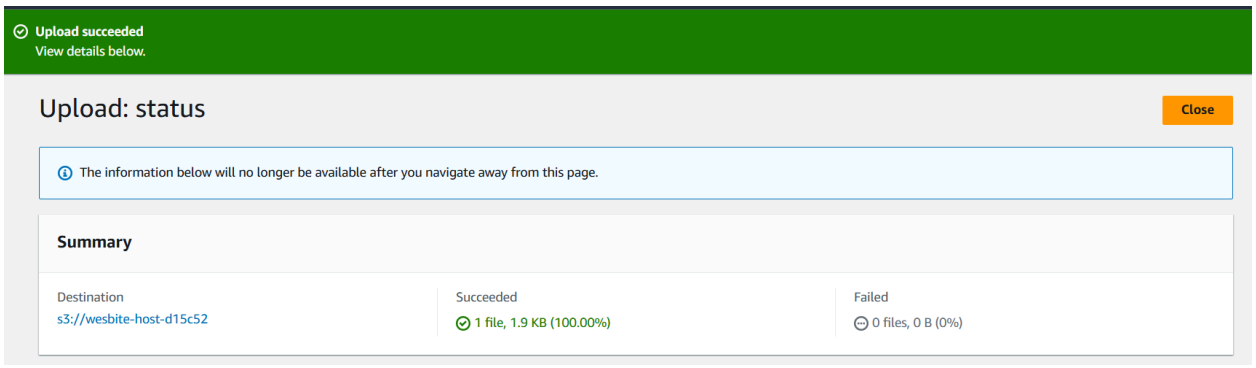


5. You go back to your buckets page and see the bucket has been created

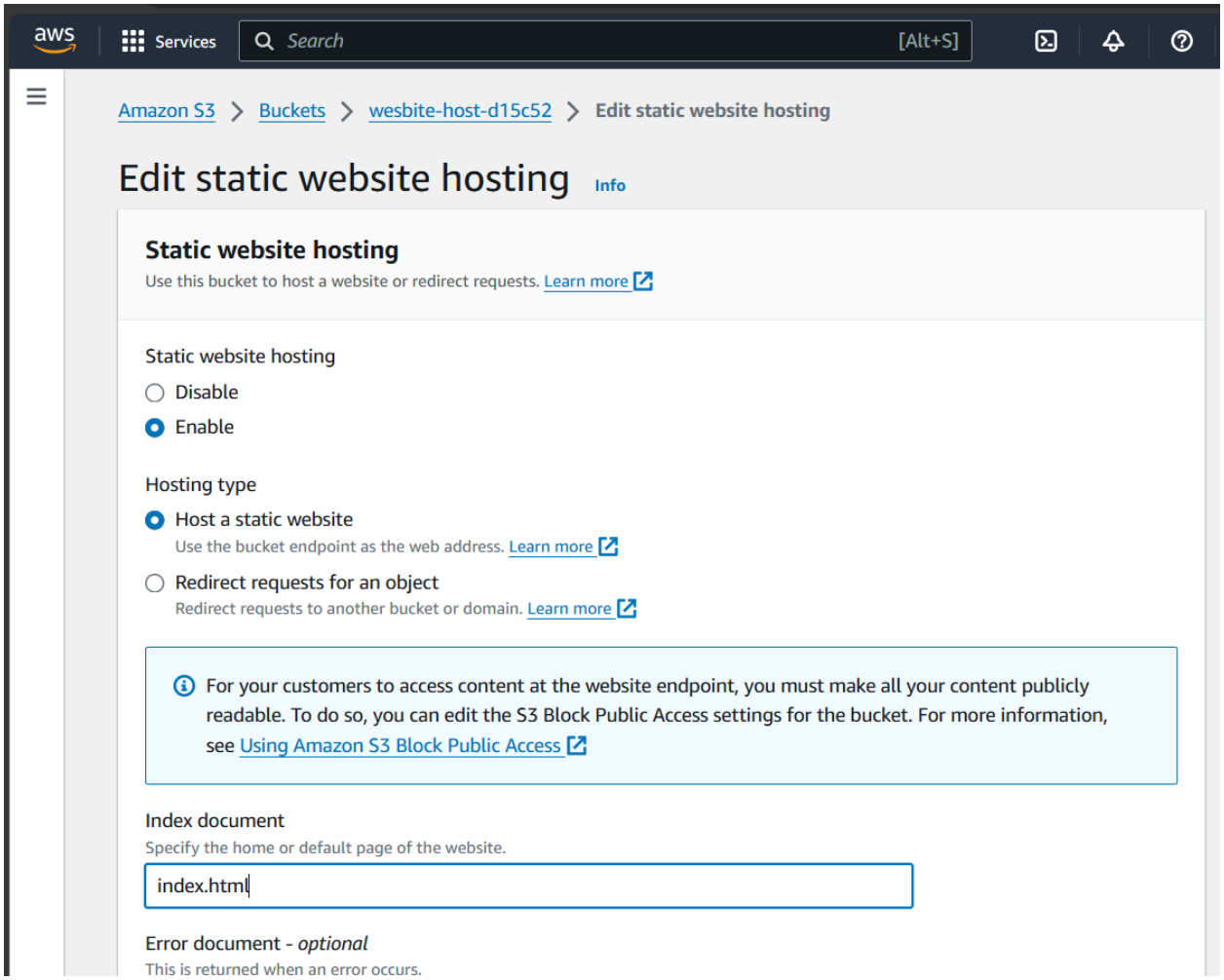


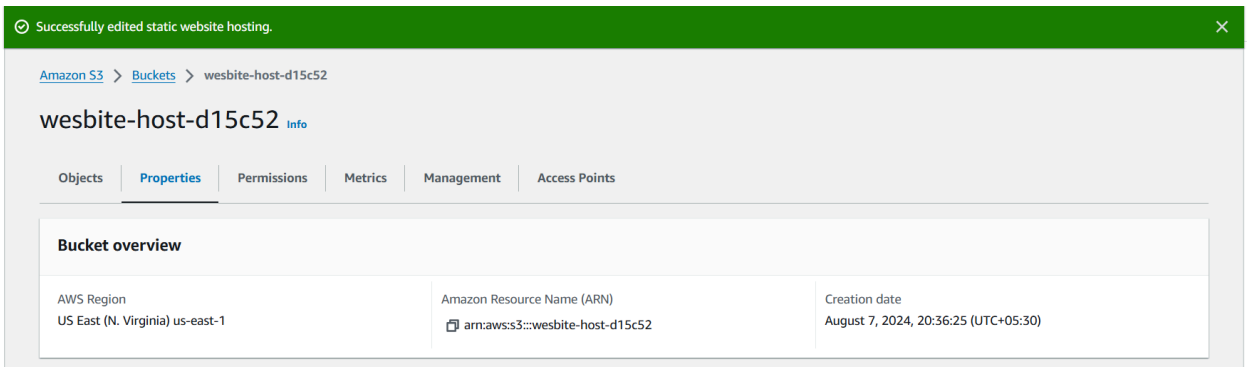
6. Now upload your static website folder or files, including any images if available. Once uploaded, you will see the message 'Upload successful'



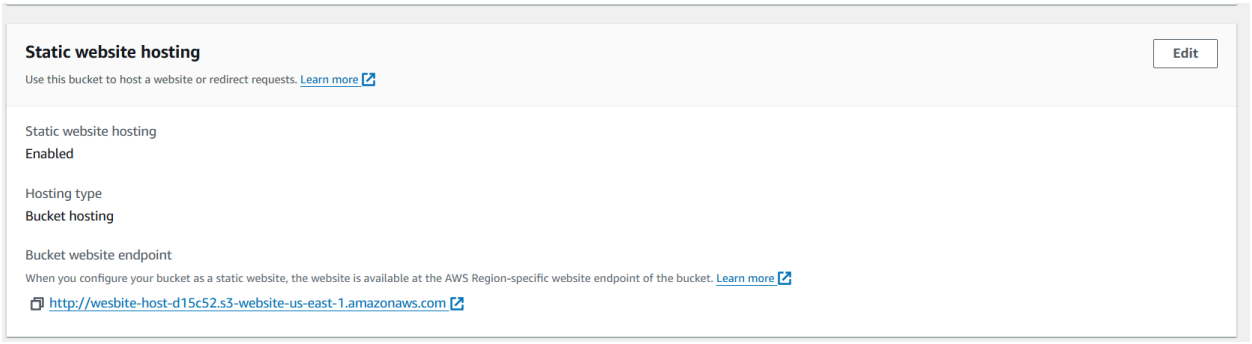


7. Go to Properties and when you scroll at the bottom click edit static website hosting
Enable -> host a static website -> input the name of your file uploaded and click save





8. With this your link for the static website through S3 bucket will be generated

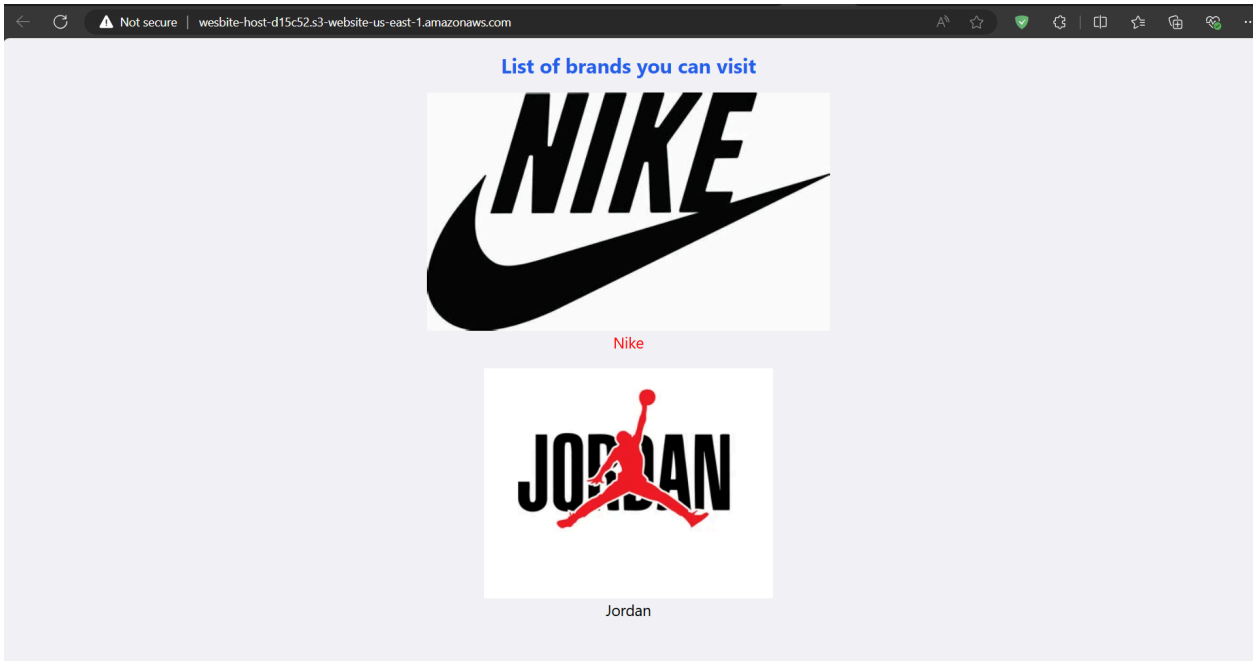


9. Now go to the Permissions and edit the bucket policy by adding this

```
{
   "Version": "2012-10-17",
   "Statement": [
      {
         "Sid": "PublicReadGetObject",
         "Effect": "Allow",
         "Principal": {
            "AWS": "*"
         },
         "Action": "s3:GetObject",
         "Resource": "arn:aws:s3:::wesbite-host-d15c52/*"
      }
   ]
}
```

Just change the arn according to your bucket name and click save

10. Once edited the bucket policy click on the link in the generated back in step 8 and your website is hosted through aws S3 bucket



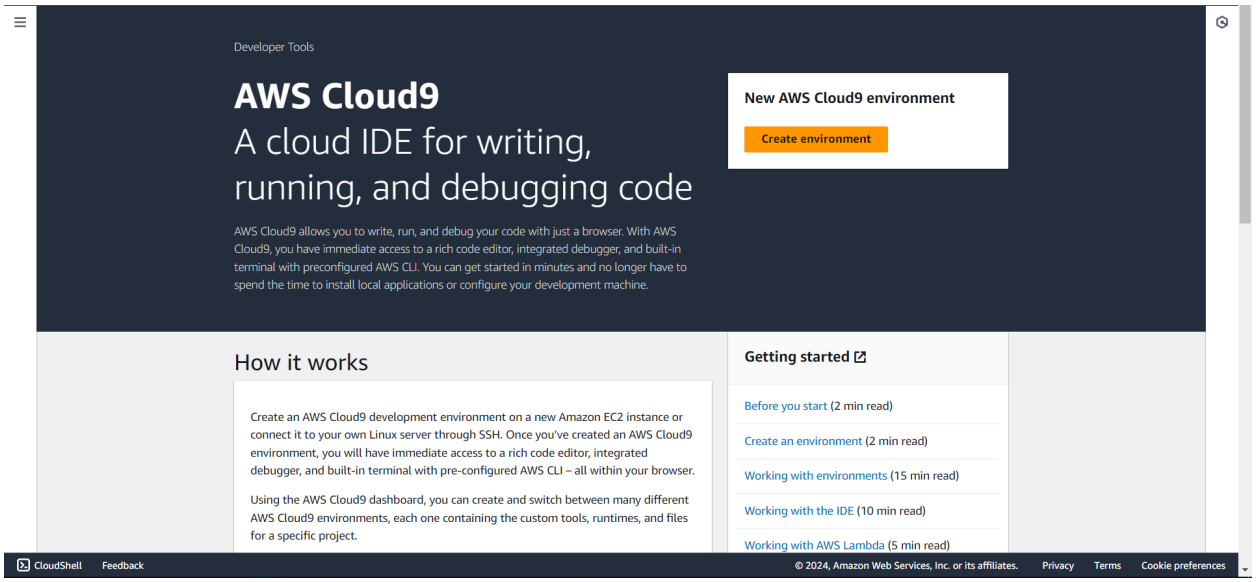
Conclusion :

Developing and hosting a website on a local VM provides full control over the environment but requires manual setup and maintenance. In contrast, hosting the website on an S3 bucket is simpler and more efficient, leveraging the cloud's auto-scaling, durability, and cost-effectiveness. With S3, there is no need for server management, and the website becomes globally accessible with built-in redundancy. This experiment demonstrated the flexibility of local development alongside the benefits of using cloud services like S3 for hosting, making cloud a more scalable and reliable solution for web hosting.

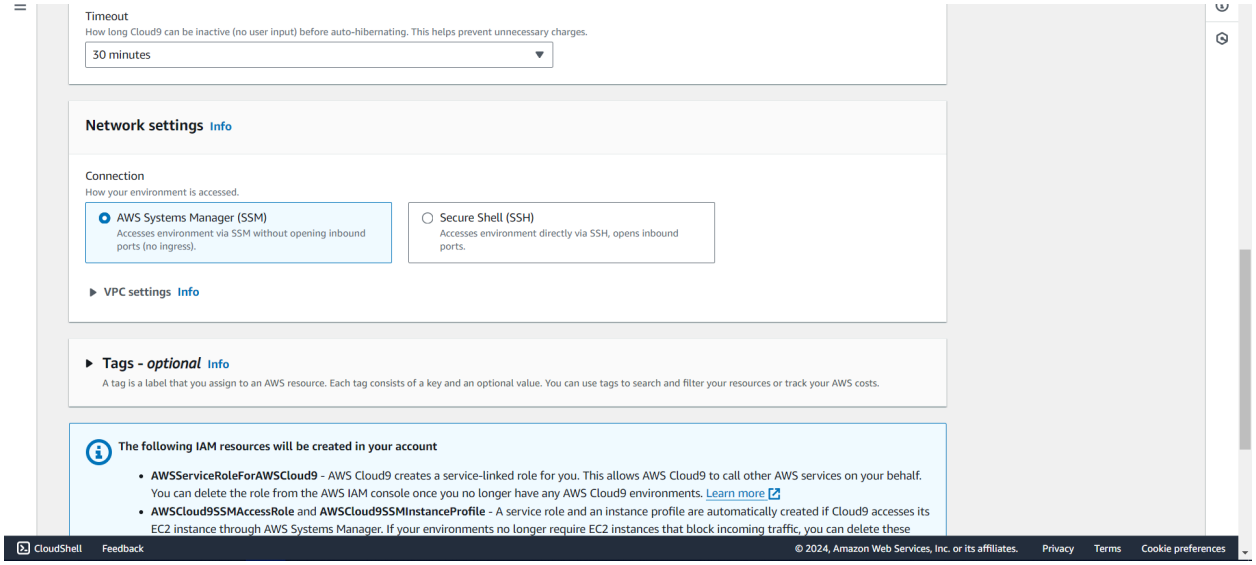
Cloud9 Infrastructure:

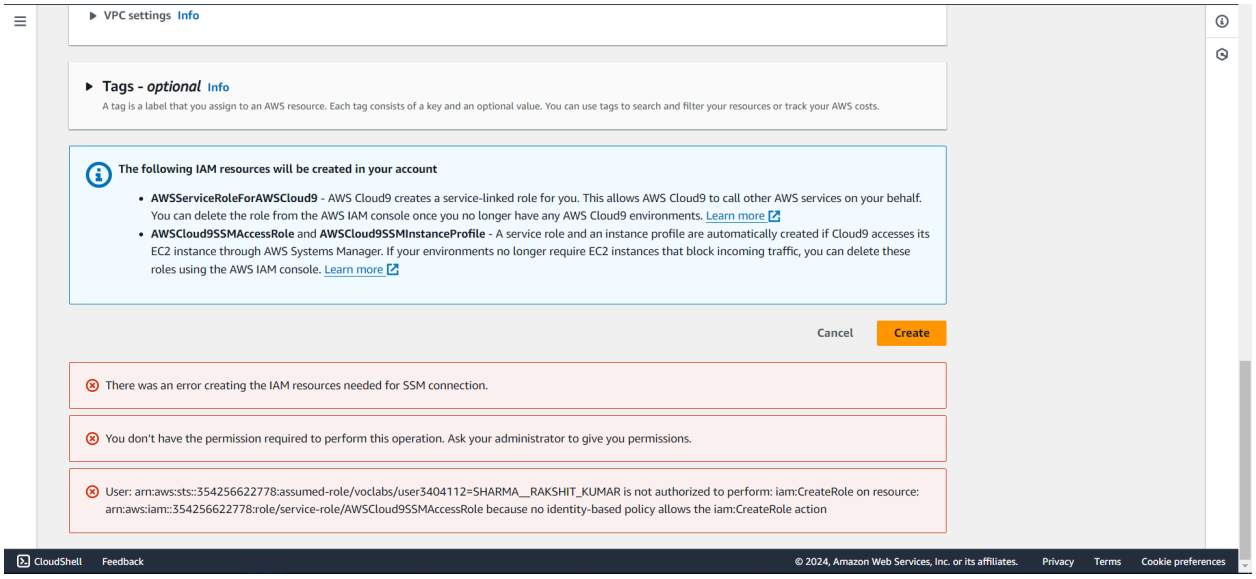
Aim : To understand the benefits of Cloud Infrastructure and Setup AWS Cloud9 IDE, Launch AWS Cloud9 IDE and Perform Collaboration Demonstration.

1. Open the AWS account and search for Cloud9. Click on create environment.

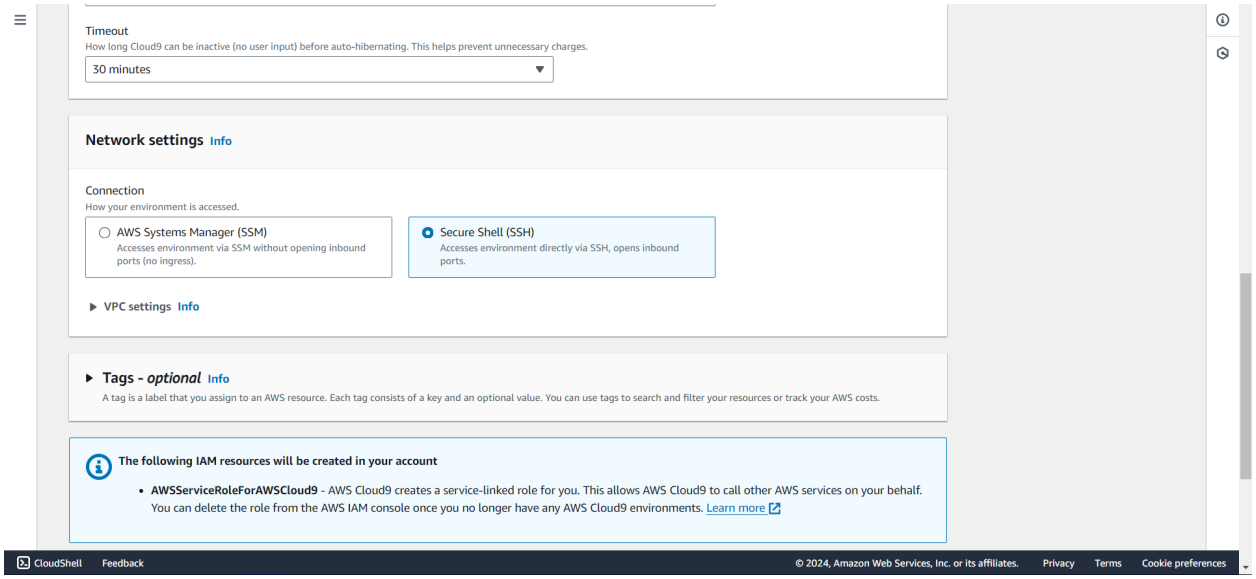


2. Enter the name and other required configuration for creating an environment. In network settings, using the AWS system manager gives an error while creating the environment

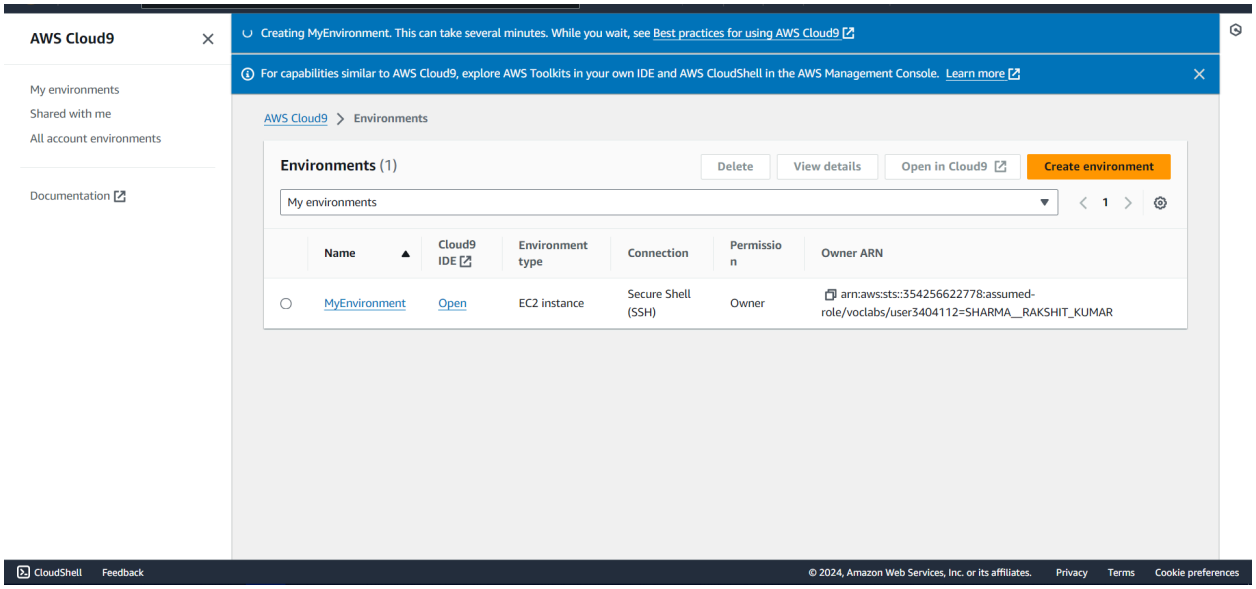




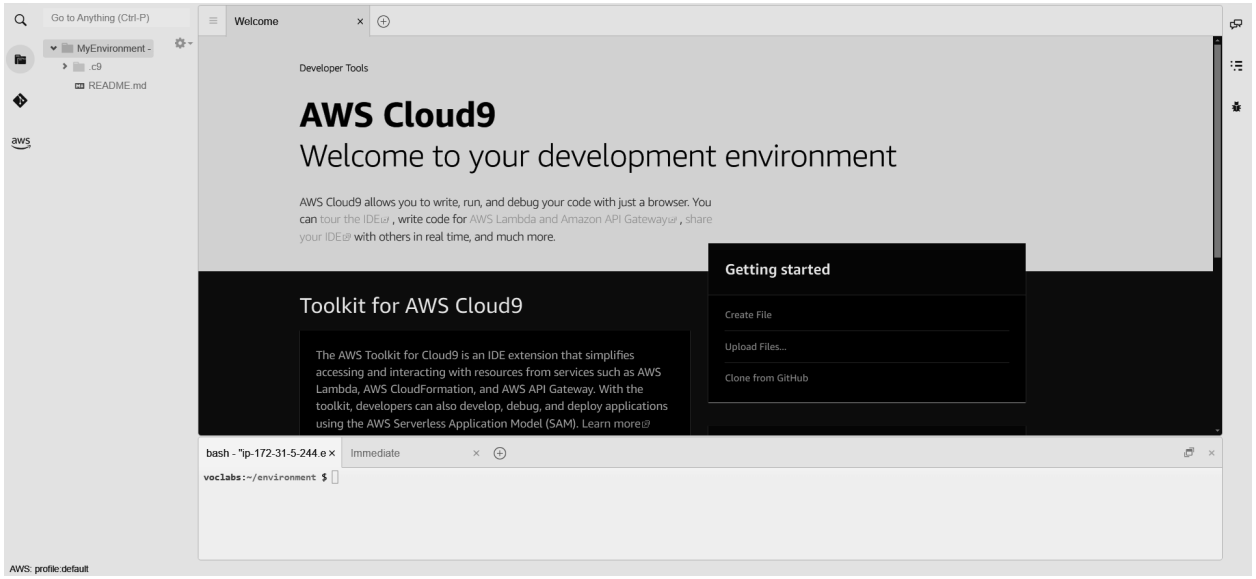
3. Use the Secure Shell option in Network settings.



4. Once the configuration is complete, click on create environment to create a Cloud9 environment.

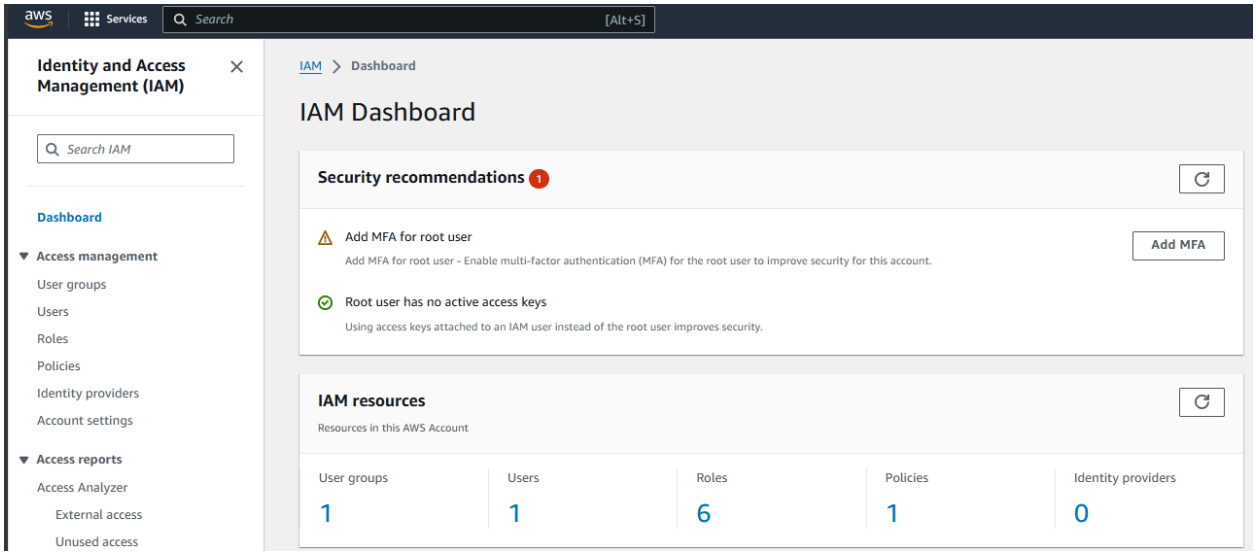


5. Cloud9 Environment.is opened when u click on the environment name

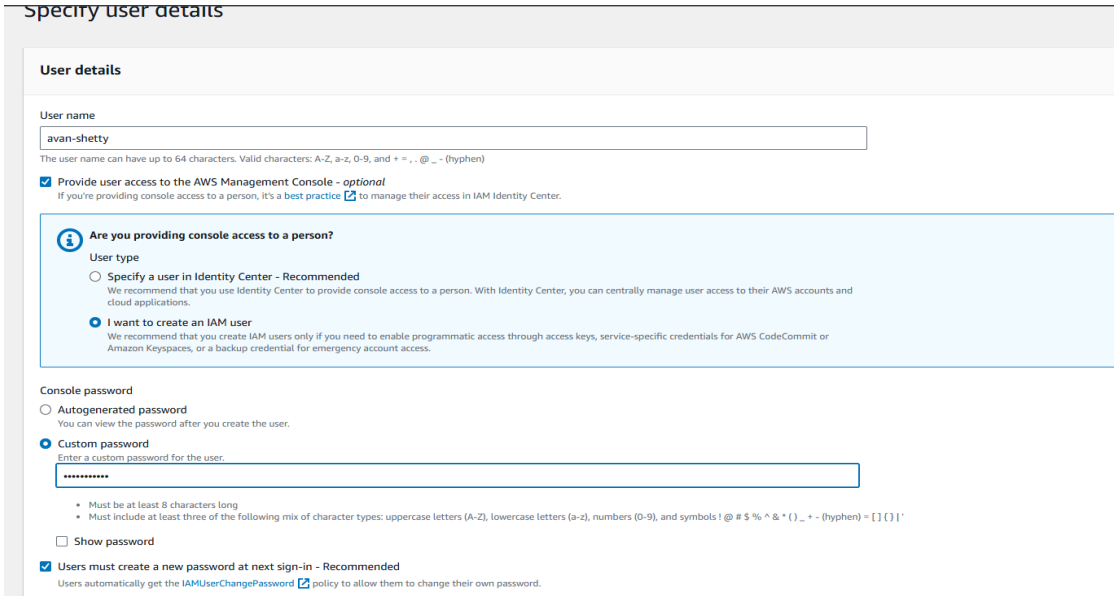


IAM user creation steps

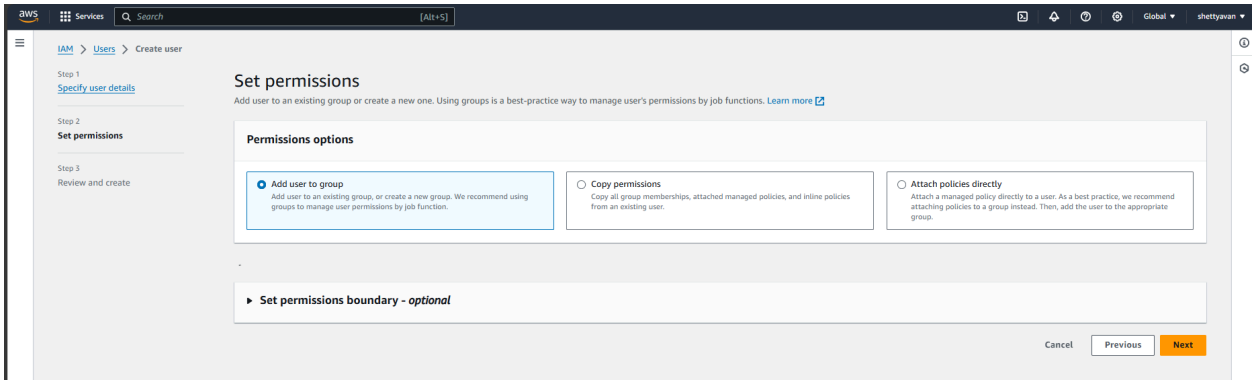
1. Open the aws account and search for IAM service.



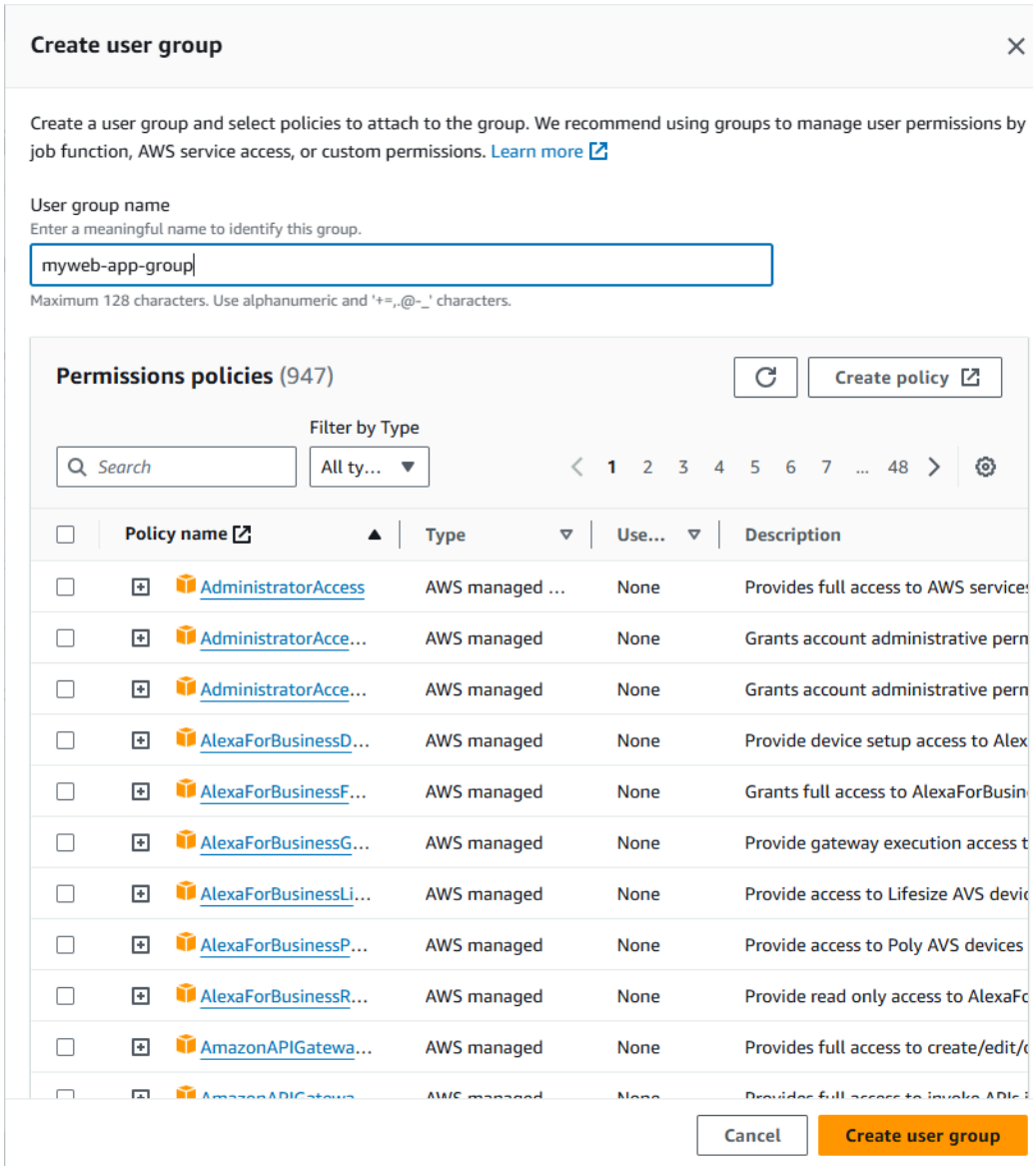
2. Select the users option from the left panel and click on create user button.Give the user name, select the “provide user access” checkbox. Also select the option “I want to create an IAM user”. Otherwise we will have to enable the Identity center and specify a user there.
Add your custom password



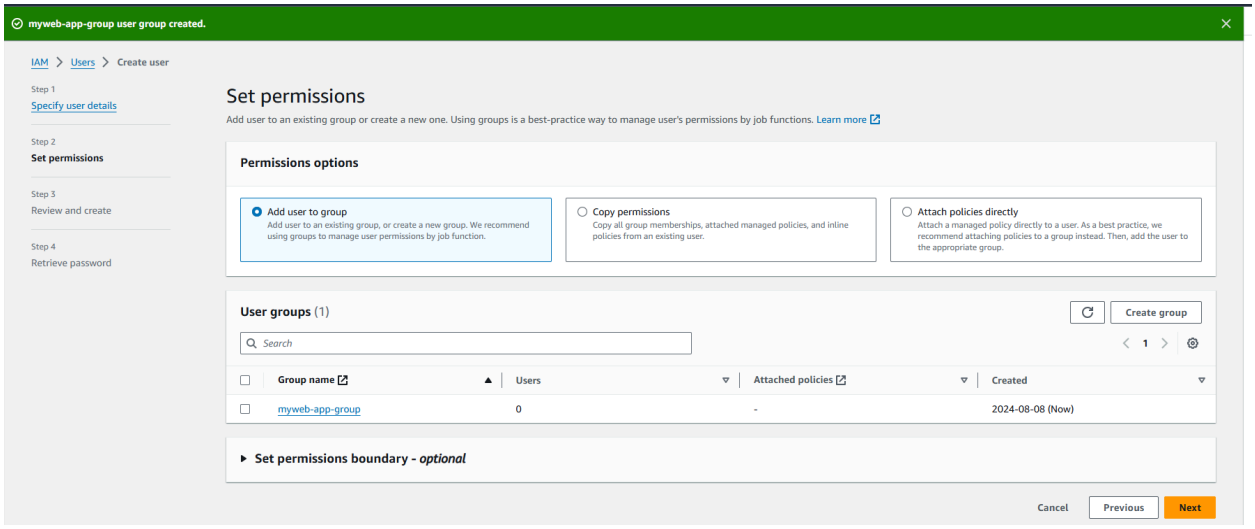
3. Click the add user option if you don't have an existing user group



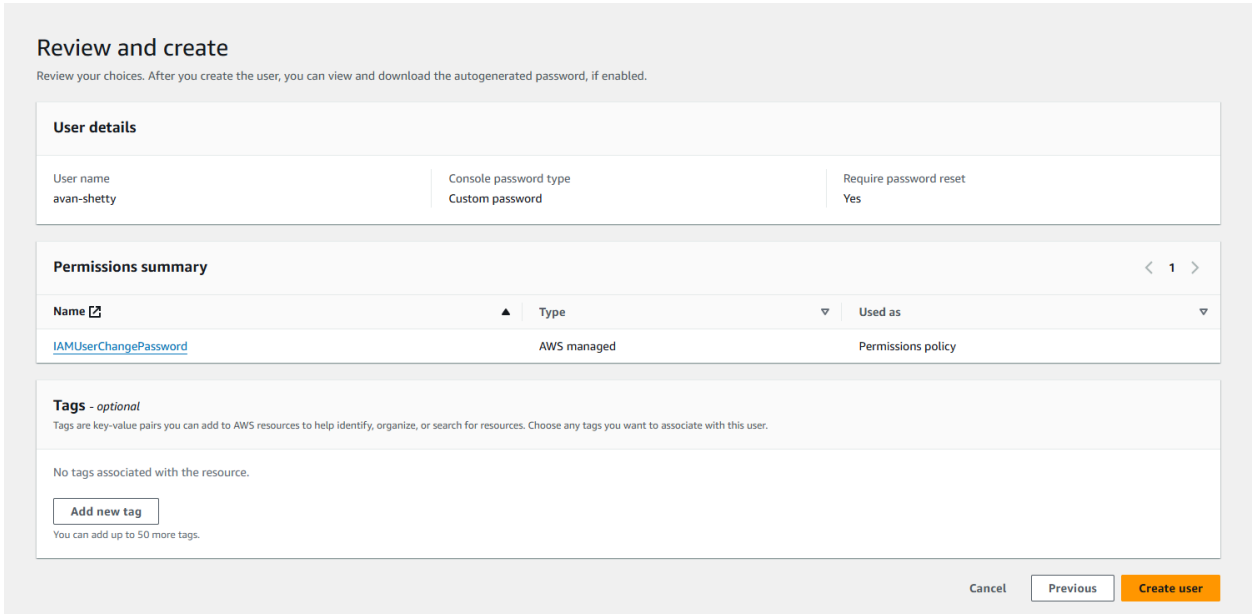
4. Give a name to your user group and check the policies if required any



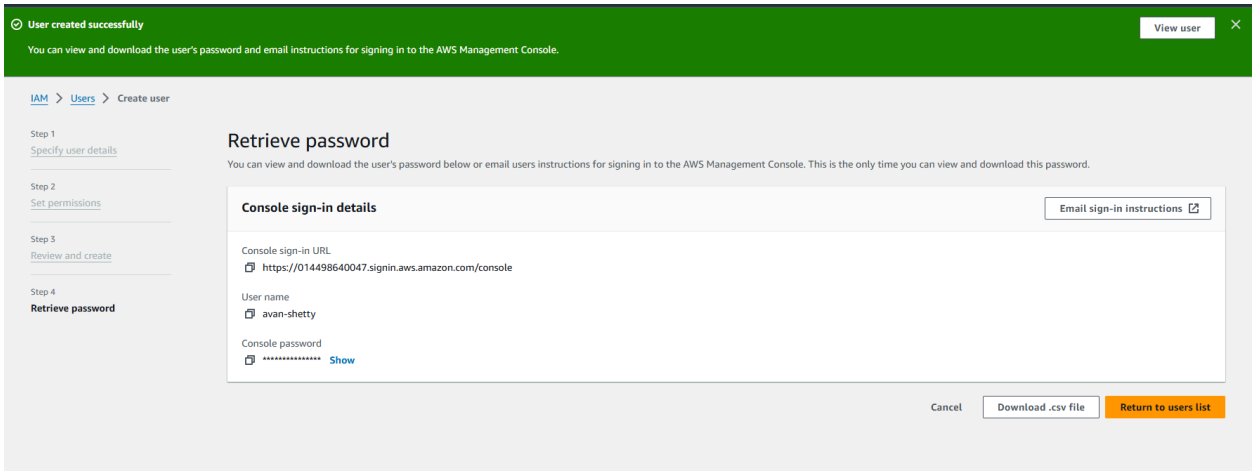
5. Once the user group is created select the name and click next to create your user



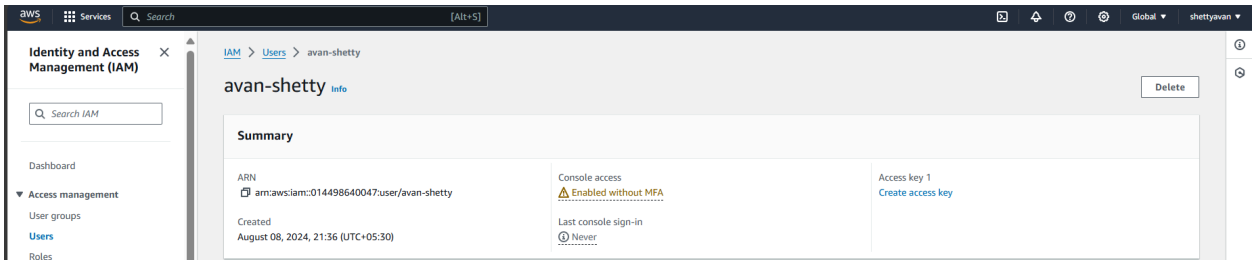
6. Review the configuration details and check if you have missed any steps and then click on 'Create user' button



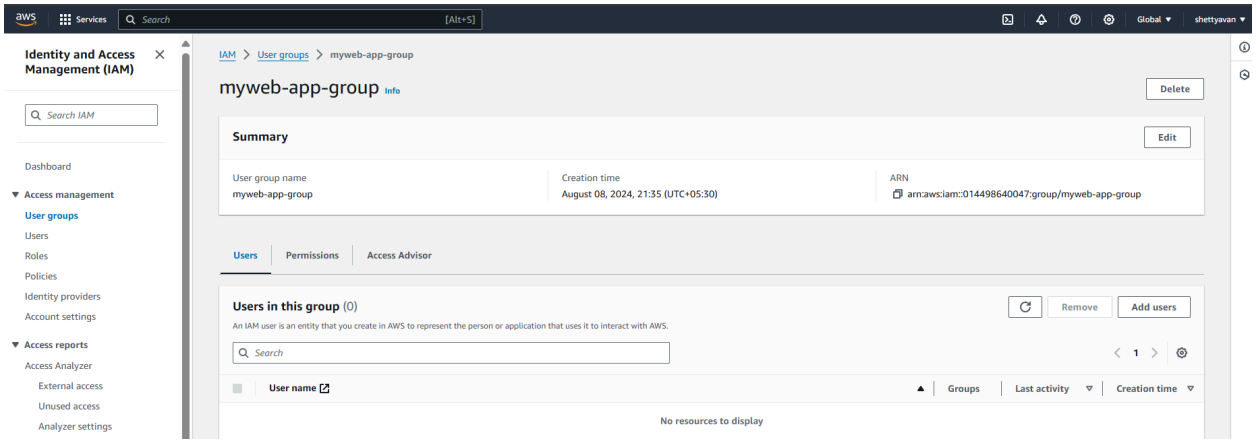
7. You will see the “user created successfully” message and incase you need then store your password by downloading the csv file



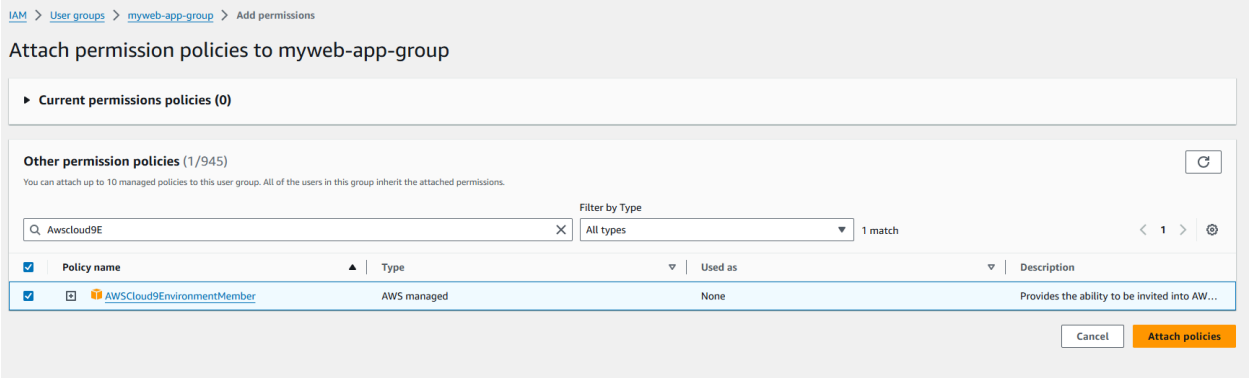
8. Click the users tab and you will see the user is created under IAM service. Also this service does not charge any price but this feature is not available in academy lab



9. After creation of the user, go to the user groups tab and select the group in which the user has been added. Navigate to the permissions tab. Click on add permissions and attach policy.



10. Search for the “AWSCloud9EnvironmentMember” policy and attach it.



Conclusion:

I explored the advantages of cloud infrastructure, particularly focusing on AWS Cloud9. Also set up the Cloud9 IDE and performed a collaboration demonstration to highlight the real-time coding and teamwork benefits.By performing a collaboration demonstration, I saw how multiple developers can work on the same project in real-time, improving teamwork, speed, and productivity. This IDE simplifies cloud-based development, making collaboration seamless and efficient without needing local setups