## Department of Computer Engineering

**Academic Term: JAN-MAY 2022**

**Class:** ***BE COMPUTERS***

**Subject Name:** ***CLOUD COMPUTING LABORATORY***

**Subject Code: CSL803**

| | |
|---|---|
| **Practical No:** | **04** |
| **Title:** | **AWS S3** |
| **Date of Performance:** | **09/02/22** |
| **Date of Submission:** | **11/04/2022** |
| **Roll No:** | **8626** |
| **Name of the Student:** | **Divita Phadakale** |

**Evaluation:**

| Sr. No | Rubric | Grade |
|---|---|---|
| 1 | On time submission(2) | |
| 2 | Preparedness(2) | |
| 3 | Output(2) | |
| 4 | Post Lab Questions (4) | |
| | TOTAL | |

**Signature of the Teacher:**

**Experiment No 4**

**Topic: Hosting website using Amazon s3**

**Aim: Deploy a site on the web.**

**Theory:**

Static web pages can contain client-side technologies such as HTML, CSS, and JavaScript. They cannot contain dynamic content such as server-side scripts like PHP.Amazon Web Services offers cloud web hosting solutions that provide businesses, non-profits, and governmental organizations with low-cost ways to deliver their websites and web applications. Whether you're looking for a marketing, rich-media, or ecommerce website, AWS offers a wide-range of website hosting options. Amazon S3 is an easy-to-use object store and one of the oldest services on AWS platform. Amazon S3 is an acronym for Amazon via an API reachable over HTTPS . The service offers unlimited storage space and stores your data in a highly available and durable and secured way. AmazonS3 has a simple web services interface that you can use to store and retrieve any amount of data, at any time, from anywhere on the web. It gives any developer access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of websites. The service aims to maximize benefits of scale and to pass those benefits on to developers.

## Why use AWS for web hosting?

**Broad platform support**

With AWS, you can use whatever CMS you like, including WordPress, Drupal, Joomla, and more. AWS also supports and provides SDKs for popular platforms like Java, Ruby, PHP, Node.js, and .Net.

**Datacentres worldwide**

Your customers can be anywhere in the world. With AWS you can have a datacenter or CDN hosting your website in any geography you choose with just a few mouse clicks.

**Scalable from day one**

Website traffic can fluctuate a lot. From quiet times in the middle of the night, to campaign driven, social media sharing traffic spikes, AWS infrastructure that can grow and shrink to meet your needs.

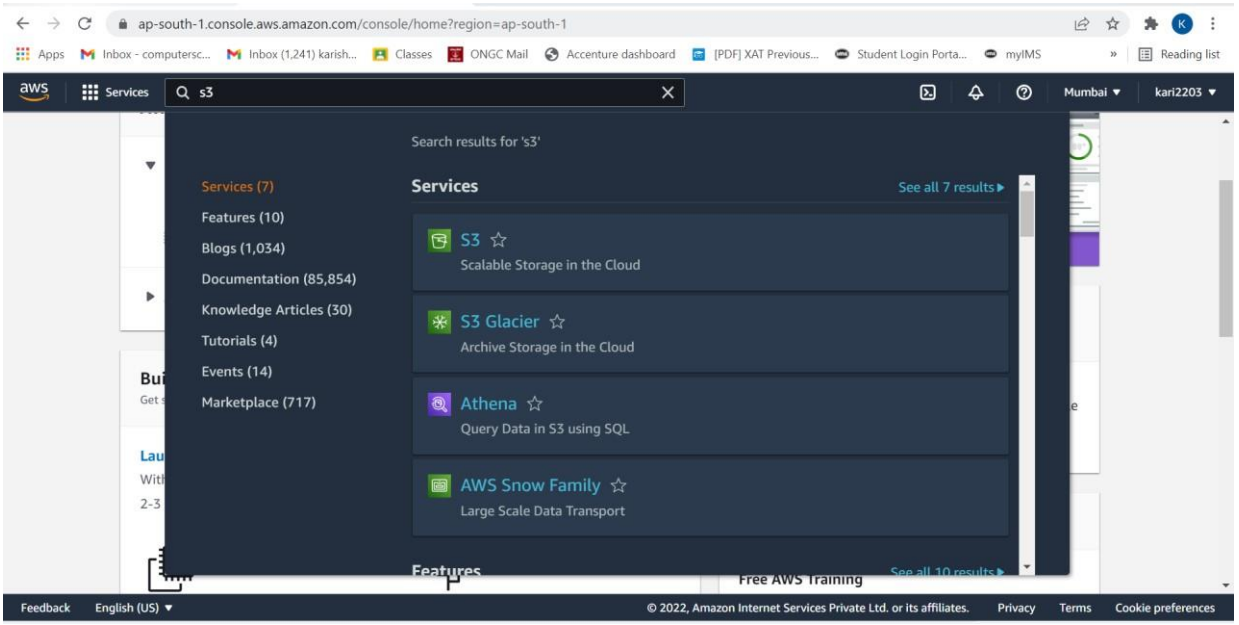
**Flexible pricing models**

AWS only charges you for the resources you use, with no up-front costs or long-term contracts. AWS has web hosting options that offer pay-as-you-go pricing or fixed monthly pricing.

## Amazon S3 setup

Step 1: Go to Amazon web service console here: https://aws.amazon.com/console/, then choose: **Sign In to the Console** button on the top right.

Step 2: After logging into your account, under the Find Services label, type s3 and select it.

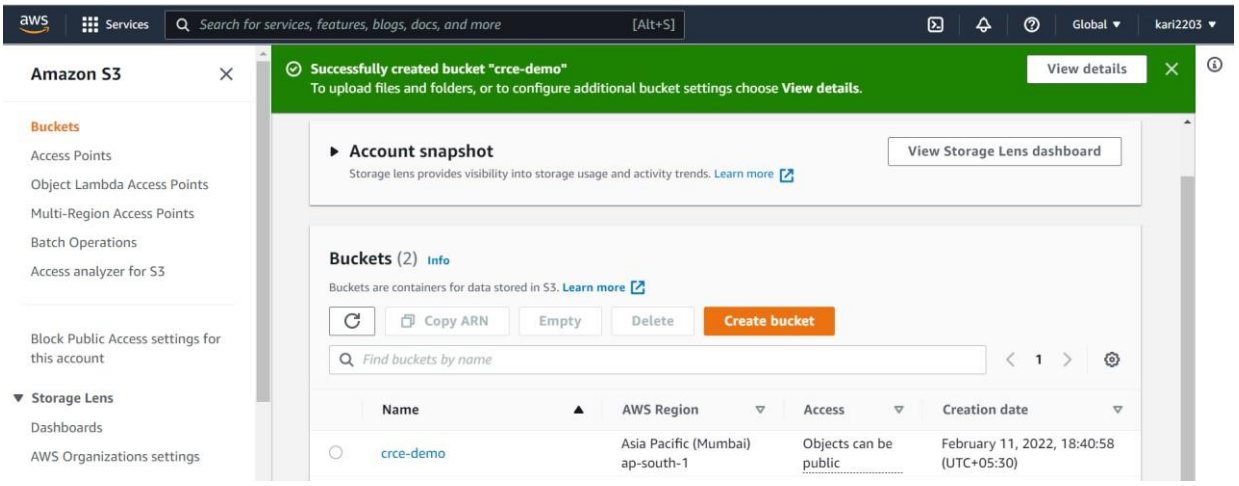



Step 3: Now click on the **Create bucket** Button to create a bucket for your site.

Step 4: Assign a unique name to your website (ex: crcedemo).

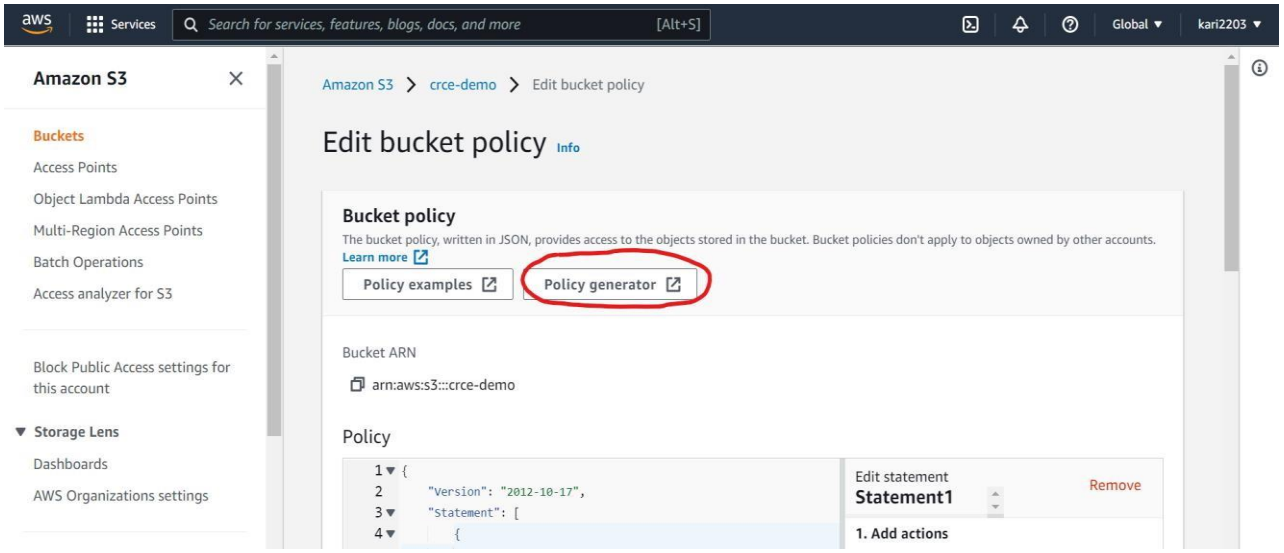
Under the **Bucket settings for Block Public Access.** Uncheck block all public access and do the necessary changes according to picture. Click on create bucket button located at the bottom.

Step 5: Click on the newly created bucket.




Go to the Permissions tab and under it select the Bucket policy.

Choose the policy generator.

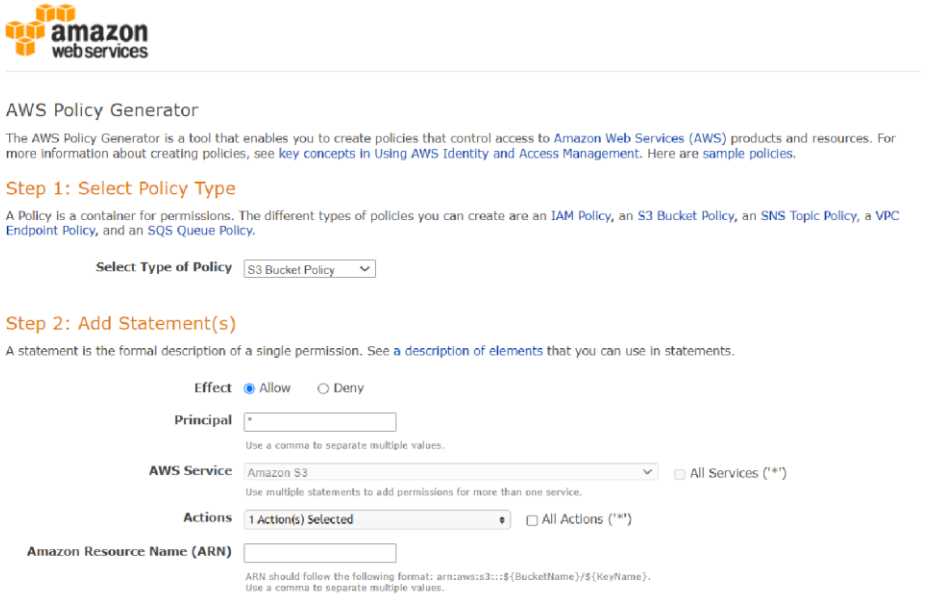



Step 6: Fill policy generator page

1. in Select Type of Policy, choose **S3 Bucket Policy**
2. In effect chose **Allow**
3. In Principal enter ***** (* = anything ).
4. In Action select **s3:GetObject**(Files uploaded to s3 are considered as objects, thus GetObject here means allow to read files )
5. In ARN (Amazon Resource Name) enter your bucket name. In my case [www.mydemowebsite.com/*](http://www.mydemowebsite.com/*).
6. Click on **Add Statement** and then it will show a result summary of the policy.

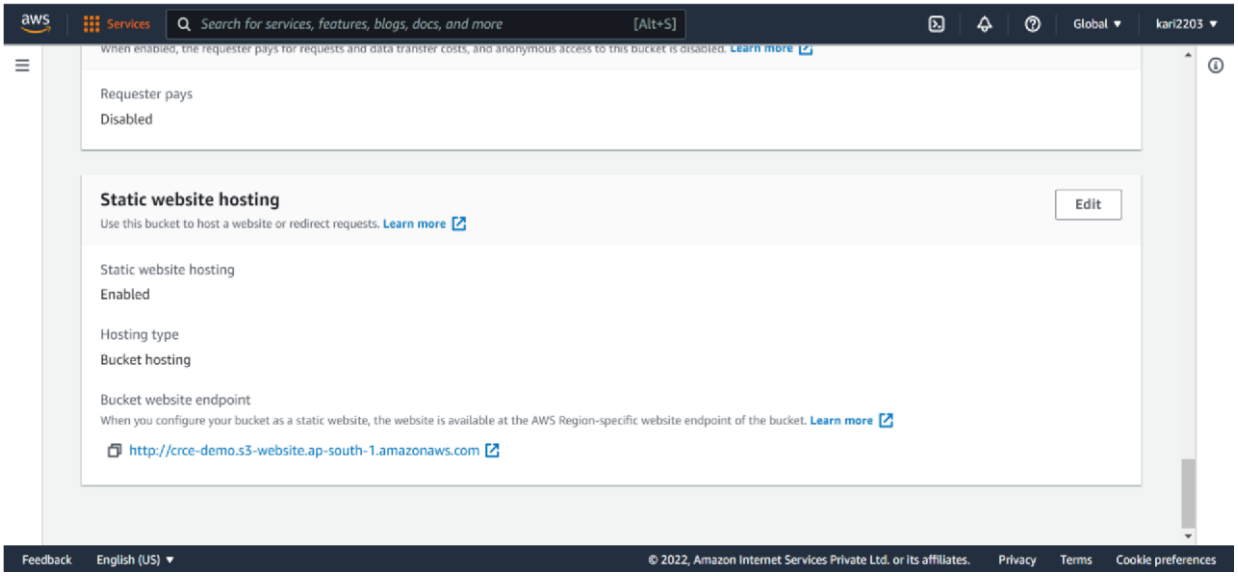
Step 7: If everything is ok then **Click Generate Policy** button and then it pops up the policy like this:

Step 8: Copy the JSON generated policy then go back to the S3 permission tab in the previous window and paste it in the **Bucket Policy** Subsection and click on the **Save** button.

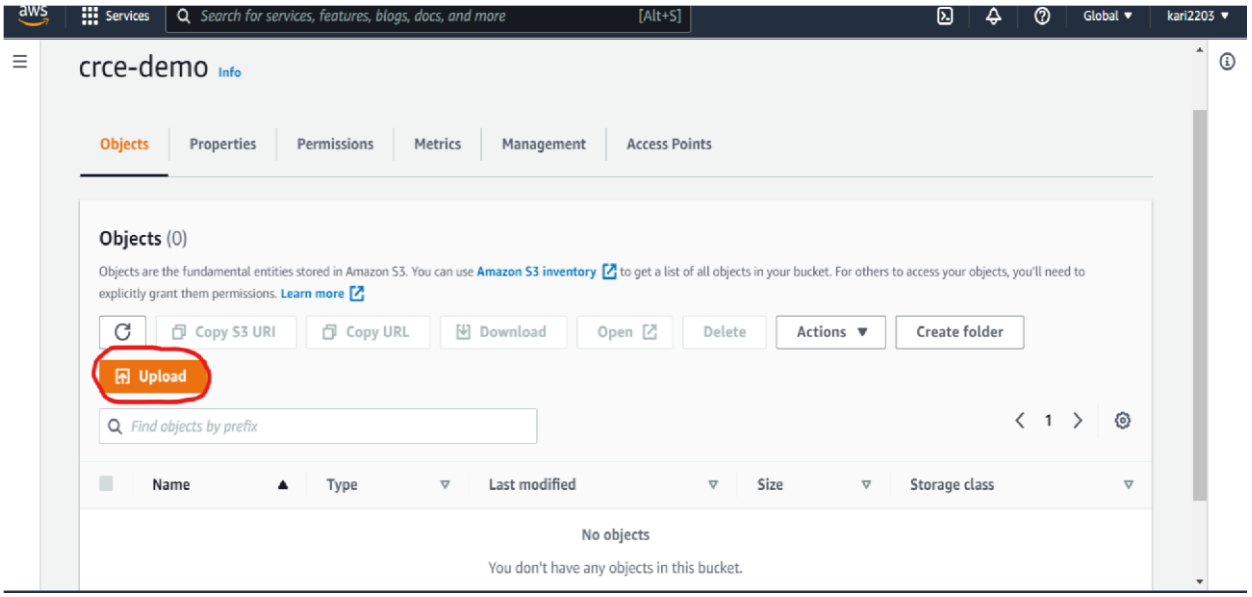


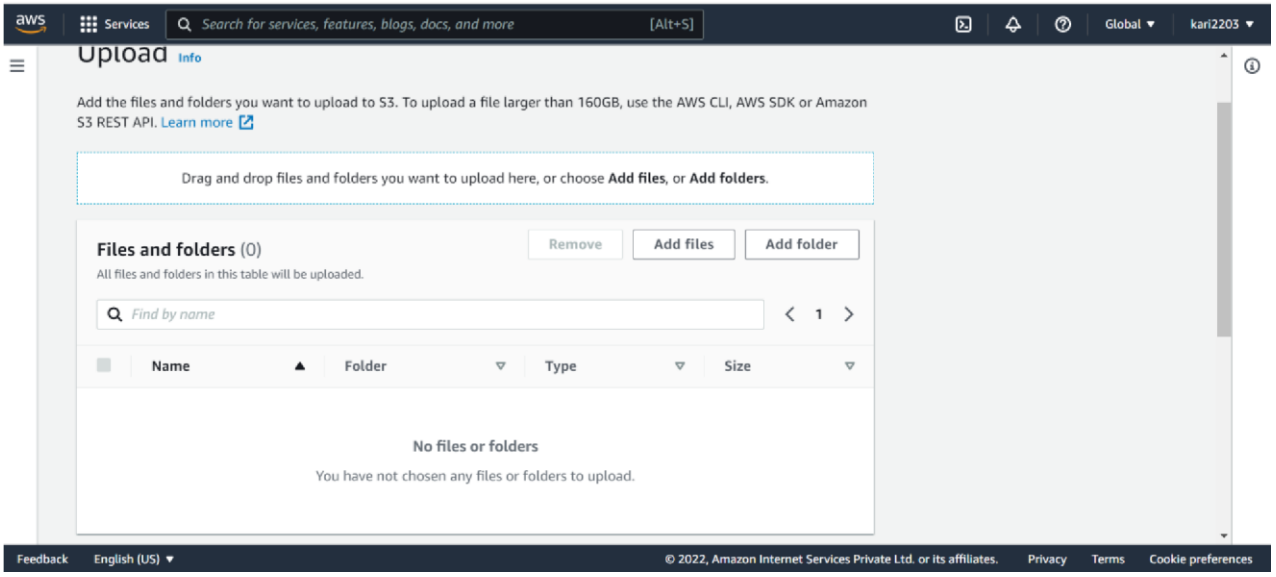

Step 9: Now click on the **Properties** tab on the left of the **Permissions** tab and then choose the **Static website hosting** tab.

- Select Use this bucket to host a website option.
- Enter the root document of your website (entry point). By convention it is named index.html.
- If you want to handle the error document, enter your HTML file.
- Before you click on button **Save**, **don't forget** to copy the Endpoint for your website. It is the URL you will use to access your website.

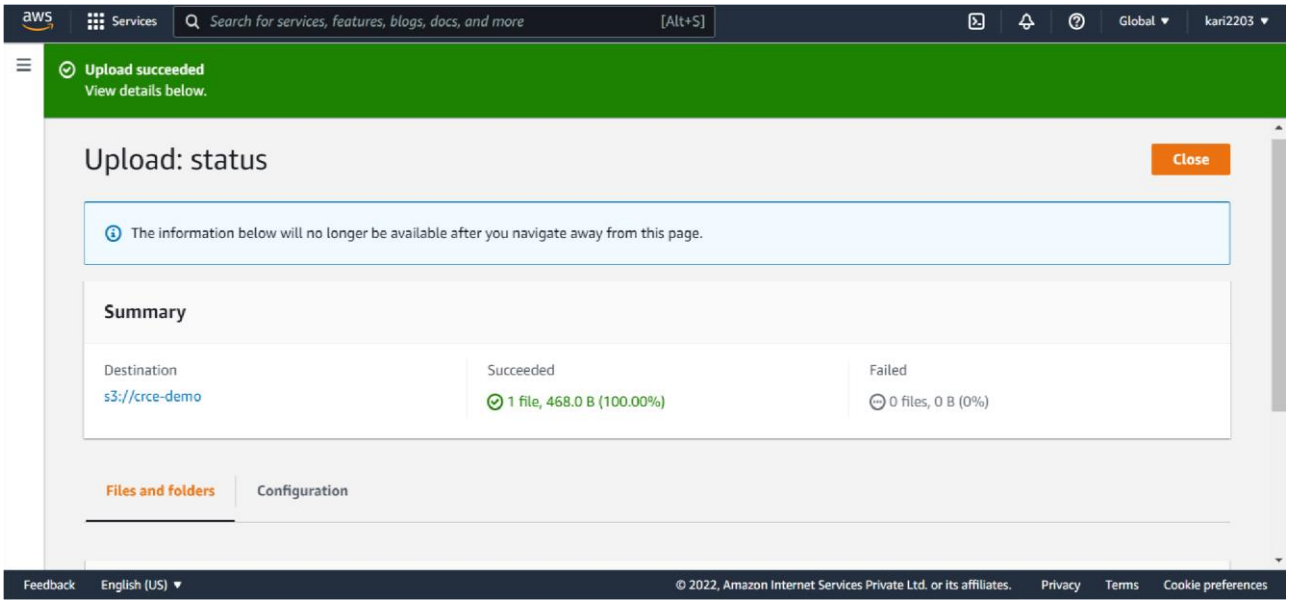



Step 10: After setting all the permission, it is time to upload your content. Go to the overview tab and click on **Upload** button to upload the files. Upload your html, css, js files here.

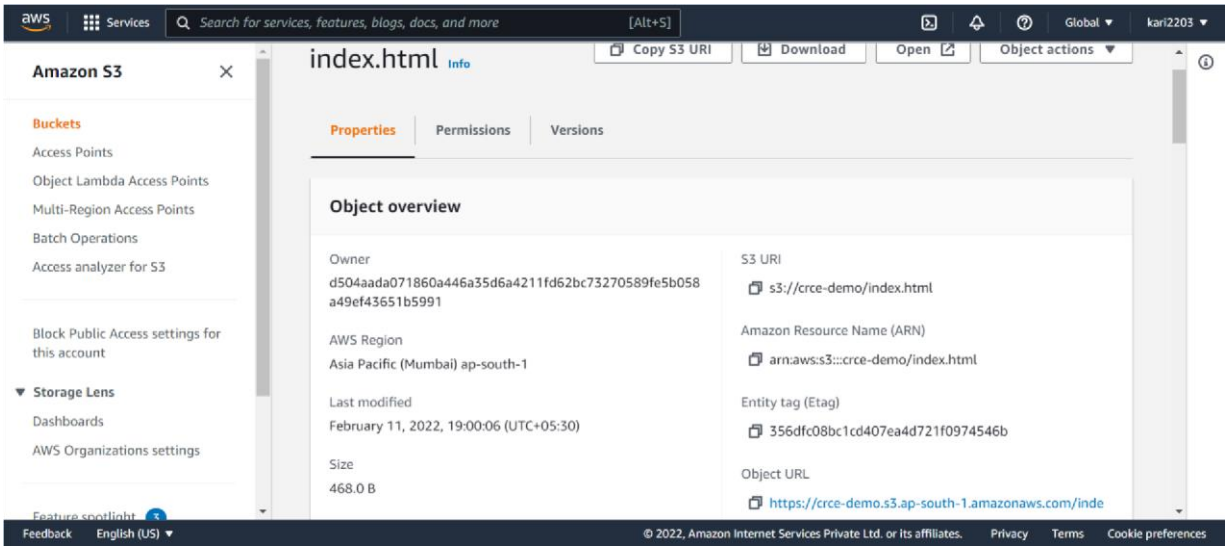



File uploaded sucessfully.

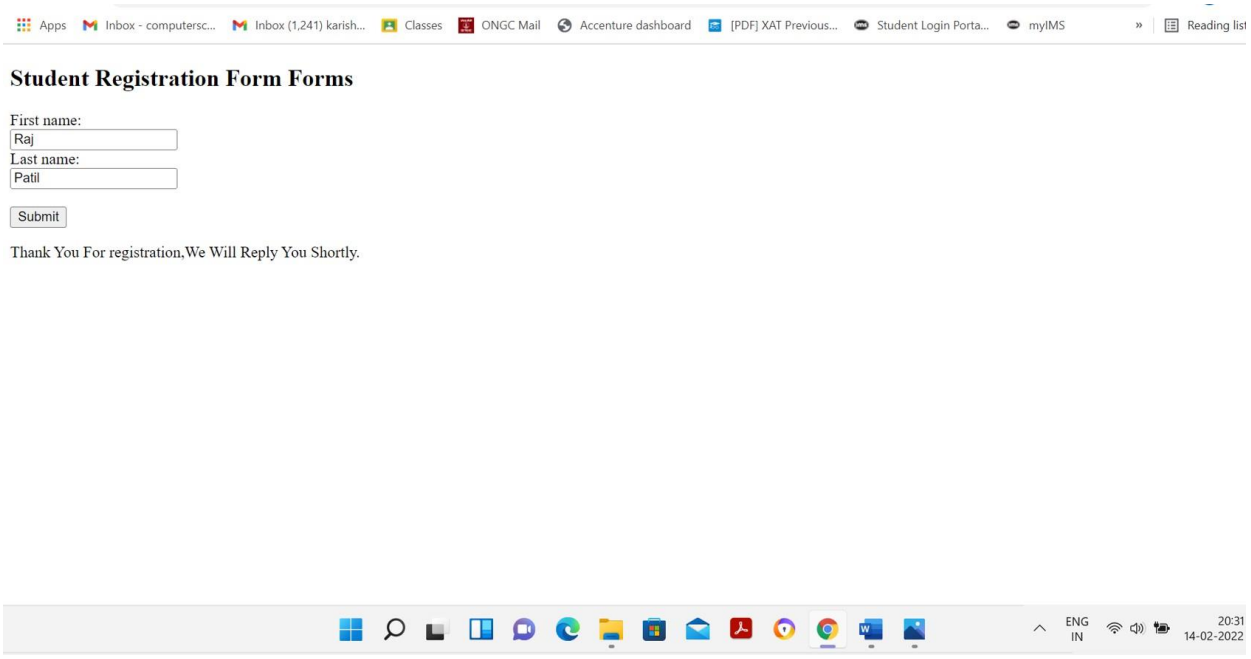



The object inside bucket looks like:




For visiting your website, click on the object url.

Step 11: Your website is hosted and you can check it by visiting the website endpoint.




**Conclusion:** With this experiment, we are successfully able to understand, implement and host our website using AWS S3.

## Post Lab Questions:

1. **What is the Difference Between Domain Name and Web Hosting?**

| Domain | Hosting |
| --- | --- |
| A domain is an address where Internet users can access your website. | Web hosting is a service that allows your website to be accessible to the World Wide Web. |
| It's a name registered in the DNS universally identified by web servers and online organizations. | Web hosting is having a space online to house your website and serve visitors who come looking. |
| A domain represents an Internet Protocol address, an URL to find a website on the Internet. | It makes sure the computer keeps working and the Internet connection stays alive all the time. |

2. **What is Amazon s3 and the benefits of using it?**

   Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry-leading scalability, data availability, security, and performance. Customers of all sizes and industries can use Amazon S3 to store and protect any amount of data for a range of use cases, such as data lakes, websites, mobile applications, backup and restore, archive, enterprise applications, IoT devices, and big data analytics. Amazon S3 provides management features so that we can optimize, organize, and configure access to your data to meet your specific business, organizational, and compliance requirements.

   Advantages:

   **Scalability** - Storage providers often offer predetermined amounts of storage and network transfer capacity, similar to how some cell phone or cable providers bundle data and bandwidth usage.

   **Cost-Effective Storage -** When you use Amazon S3, you can store your data in a range of "storage classes" based on the frequency and immediacy you need to access your files. Storage classes range from the most expensive cost level for immediate access to your mission-critical files to the lowest level for files you rarely touch, but need to have available for regulatory or other long-term needs.

   **Versioning** - While not enabled by default, versioning is a setting that allows for multiple variants of a file or object to exist in the same bucket. This provides an opportunity to roll back or recover a deleted object.

   **Powerful Security** - Thanks to encryption features and access management tools, data stored in your AWS S3 environment is protected from unauthorized access. This includes blocking all public access from all of your objects — at both the bucket and account levels

3. **What are bucket policies in the Amazon s3?**

   A bucket policy is a resource-based policy that you can use to grant access permissions to your bucket and the objects in it. Only the bucket owner can associate a policy with a bucket. The permissions attached to the bucket apply to all of the objects in the bucket that are owned by the bucket owner. These permissions do not apply to objects owned by other AWS accounts.

4. **Explain the core concepts of Amazon s3**

   Amazon AWS provides S3 or Simple Storage Service that can be used for sharing large files or small files to large audiences online. Depending on the web server type that you are using, you can quickly run out of resources as sharing huge volumes of data online is very expensive. AWS provides cloud storage for your use that offers scalability for file sharing.