

# ASSIGNMENT 1

## AIM:

To develop a website and host it on your local machine using a VM, with a reference to hosting a static website on Amazon S3 (AWS).

## THEORY:

### Introduction:

In DevOps, this experiment involves developing a website using a tech stack that includes **HTML**, **CSS**, **JavaScript**, and frameworks like **React** or **Angular**, with backend technologies such as **Node.js** or **Python**. The website is first hosted on a local development environment and then transitioned to **Amazon S3** for scalable, cloud-based hosting. This approach highlights the advantages of both local and cloud environments.

### Hosting on a Local Machine Using XAMPP

#### Setting Up a Local Development Environment with XAMPP:

**XAMPP** is an open-source, cross-platform web server solution stack package developed by **Apache Friends**. It includes:

- **Apache**: A widely-used web server software.
- **MySQL/MariaDB**: Database management systems.
- **PHP**: A server-side scripting language.
- **Perl**: A high-level programming language.

#### Pros:

- Complete control over the development environment.
- Useful for development and testing phases.

#### Cons:

- Limited scalability.
- Requires manual management of infrastructure and updates.

### Hosting a Static Website on Amazon S3 (AWS)

A static website consists of fixed content with HTML files and does not require server-side processing. This type of website is typically faster and easier to host.

#### Introduction to AWS S3:

**Amazon S3 (Simple Storage Service)** is a scalable object storage service that provides a simple web services interface to store and retrieve any amount of data at any time from anywhere on the web.

**Pros:**

- Highly scalable and cost-effective.
- Minimal management required.
- High availability and durability of data.

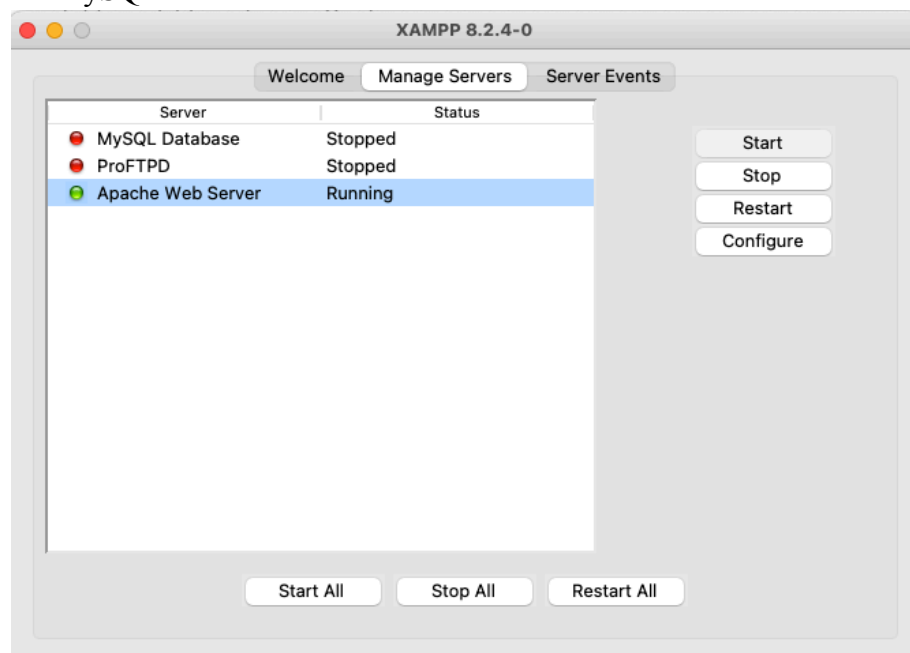
**Cons:**

- Limited to static content.
- Less control over the hosting environment compared to a VM.

**Steps:**

Hosting on a Local Machine Using Xampp

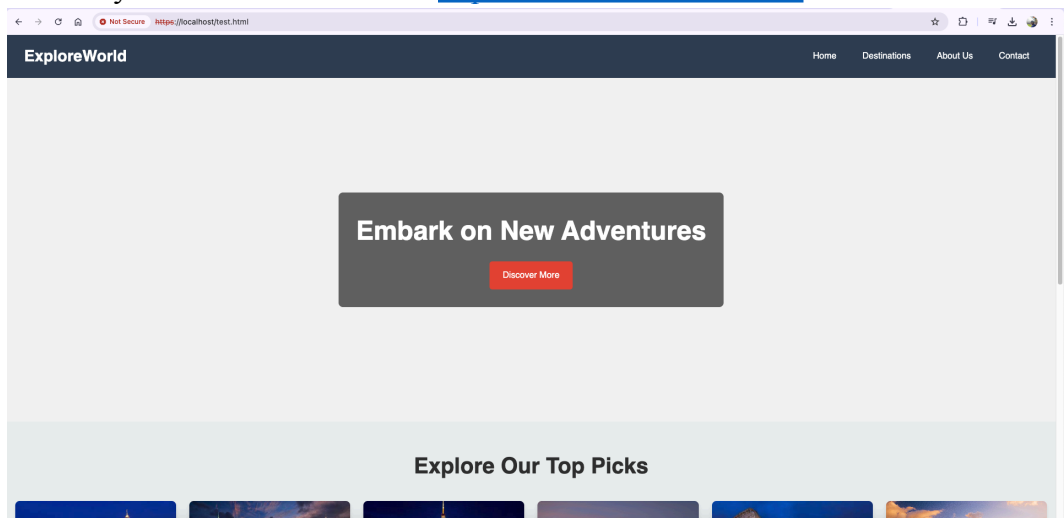
1. Download, Install and Launch Xampp. Start the actions of Apache and MySQL



2. Create an index.html and its corresponding css file. Save both files in an appropriate folder as xampp => htdocs => random.html.

Name	Date Modified	Size	Kind
applications.html	15 Jun 2022 at 9:37 PM	4 KB	HTML text
bitnami.css	15 Jun 2022 at 9:37 PM	177 bytes	Text Document
dashboard	Today at 7:24 PM	--	Folder
favicon.ico	11 May 2009 at 6:10 PM	31 KB	Windows Image
img	Today at 7:24 PM	--	Folder
index.php	9 Jul 2015 at 5:30 PM	260 bytes	PHP script
styles.css	27 Aug 2024 at 11:25 PM	3 KB	Text Document
test.html	27 Aug 2024 at 11:22 PM	5 KB	HTML text
webalizer	Today at 7:19 PM	--	Folder

- Go to any browser and search for <http://localhost/random.html>



### Hosting a Static Website on Amazon S3 (AWS)

Go to AWS academy website. Solve the Module Knowledge Check. Launch AWS Academy Learner Lab and click on AWS beside the green logo. (logo will become green once the start lab is clicked.)

Search for S3 and create a bucket.

**Create bucket** [Info](#)

Buckets are containers for data stored in S3.

**General configuration**

AWS Region  
Asia Pacific (Mumbai) ap-south-1

Bucket name [Info](#)  
Assignment1

Bucket name must be unique within the global namespace and follow the bucket naming rules. [See rules for bucket naming](#)

**Copy settings from existing bucket - optional**  
Only the bucket settings in the following configuration are copied.

Format: s3://bucket/prefix

**Object Ownership** [Info](#)

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

☒ **ACLs disabled (recommended)**  
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

☐ **ACLs enabled**  
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

Object Ownership  
Bucket owner enforced

1. Click on the created bucket and upload the index.html and its corresponding CSS

**Upload: status** [Close](#)

The information below will no longer be available after you navigate away from this page.

**Summary**

Destination: s3://assignment111

Succeeded: 2 files, 7.2 KB (100.00%)

Failed: 0 files, 0 B (0%)

**Files and folders** [Configuration](#)

Files and folders (2 Total, 7.2 KB)

Find by name

Name	Folder	Type	Size	Status	Error
<a href="#">styles.css</a>	-	text/css	2.5 KB	Succeeded	-
<a href="#">test.html</a>	-	text/html	4.7 KB	Succeeded	-

2. Go to the Properties section and enable the static website hosting.

**Edit static website hosting** [Info](#)

Use this bucket to host a website or redirect requests. [Learn more](#)

**Static website hosting**

☐ Disable

☒ **Enable**

**Hosting type**

☒ **Host a static website**  
Use the bucket endpoint as the web address. [Learn more](#)

☐ Redirect requests for an object  
Redirect requests to another bucket or domain. [Learn more](#)

For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see [Using Amazon S3 Block Public Access](#)

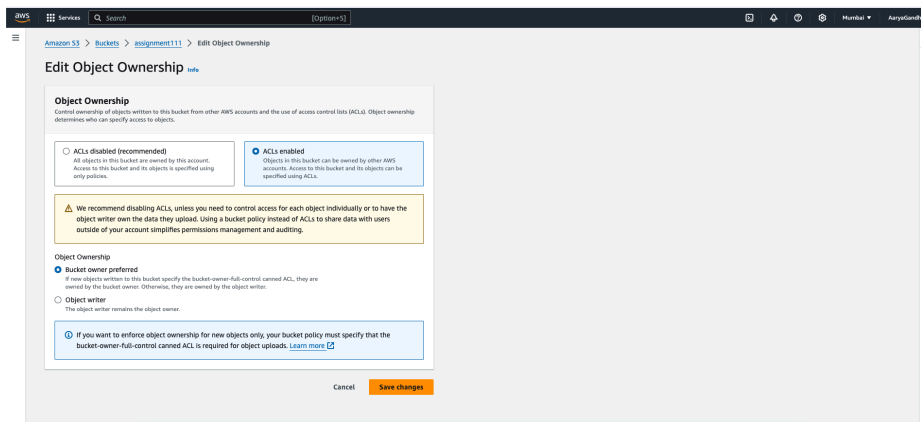
**Index document**  
Specify the home or default page of the website.

test.html

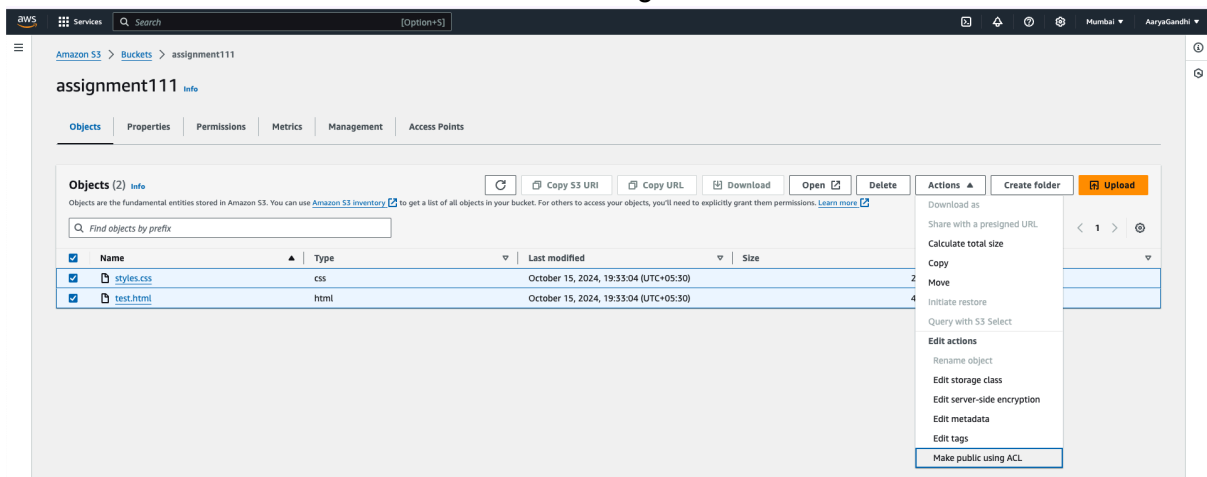
**Error document - optional**  
This is returned when an error occurs.

error.html

3. Unselect the (main) option of Block public access. (By default, it is selected while creating the bucket). It gives public access to use our website.
4. Go the permission section of the bucket and go to “object ownership” and enable ACL’s Enable



5. After saving th changes go to Objects section and then select all items->actions->Make Public Using ACL



6. Go to the Objects section and select the index.html file. Then the Copy URL option will get activated. Click on it and paste it on the new tab.

