# BRAINWAVE MATRIX SOLUTION

# CLOUD COMPUTING INTERNSHIP

# TASK-1

# Deploying a Web Application using AWS EC2 and S3

## Introduction

This report outlines the steps taken to deploy a web application on an AWS EC2 instance using an S3 bucket for storage. The deployment process includes instance setup, Apache web server installation, S3 bucket configuration, file transfer, and final setup to serve web content.

## Objectives

* Launch and configure an EC2 instance
* Install and start an Apache web server
* Create an S3 bucket and upload files
* Configure AWS CLI for file transfer
* Set permissions and restart the web server

## Step 1: EC2 Instance Setup

* An Amazon Linux EC2 instance was launched from the AWS console.
* A security group was configured to allow **SSH (port 22)** and **HTTP (port 80)**.
* The instance was connected via SSH using the following command:

ssh -i your-key.pem ec2-user@your-ec2-instance-ip

## Step 2: Apache Web Server Installation

* The instance was updated:
* sudo su -

yum update -y

* Apache was installed and started:
* yum install -y httpd
* systemctl enable httpd

systemctl start httpd

## Step 3: S3 Bucket Creation and File Upload

* A new S3 bucket was created in the AWS S3 console.
* The bucket was named uniquely and configured to allow public access.
* Required web application files were uploaded to the bucket.

## Step 4: AWS CLI Configuration and File Transfer

* AWS credentials were created via IAM (Access Key and Secret Access Key).
* AWS CLI was installed and configured on the EC2 instance:
* yum install aws-cli -y

aws configure

* Files were copied from S3 to the EC2 web server directory:

aws s3 cp s3://your-bucket-name/ /var/www/html/ --recursive

## Step 5: File Permissions and Server Restart

* File ownership and permissions were adjusted:
* sudo chown -R apache /var/www/html

sudo chmod -R 755 /var/www/html

* Apache was restarted to serve the web application:
* sudo systemctl restart httpd

sudo systemctl enable httpd

* Files were moved to the correct directory if necessary:
* sudo mv "/var/www/html/aws demo/finexo-html/"\* /var/www/html/

sudo systemctl restart httpd

## Conclusion

The web application was successfully deployed on an AWS EC2 instance using an S3 bucket for storage. The website is accessible via the EC2 public IP address, and proper security measures were considered to ensure safe access and management.