**BRAINWAVE MATRIX SOLUTION**

**CLOUD COMPUTING INTERNSHIP**

**TASK-2**

**Hosting an E-Commerce or Static Website on Google Cloud Storage**

**1. Introduction**

In today's digital era, businesses and individuals require fast, scalable, and cost-effective website hosting solutions. Google Cloud Storage (GCS) provides an ideal platform for hosting **static websites**, such as an E-commerce site , without the need for a dedicated web server.

This project focuses on **deploying a simple HTML/CSS-based website** using **Google Cloud Storage (GCS)**. The objective is to ensure **high availability, security, and cost optimization** while making the website accessible globally.

**2. Project Scope**

This project covers the following aspects:

✔ **Website Hosting:** Deploying a static website using **HTML, CSS, JavaScript**.  
✔ **Cloud Storage Configuration:** Setting up **Google Cloud Storage** for file hosting.  
✔ **Public Access & Security:** Managing access permissions while preventing unnecessary costs.  
✔ **Scalability & Performance:** Utilizing Google Cloud’s infrastructure for fast content delivery.  
✔ **Proof of Deployment:** Screenshots and project files stored in **Google Drive**.

**3. Technology Stack**

* **Frontend:** HTML, CSS, JavaScript
* **Cloud Platform:** Google Cloud Storage (GCS)
* **Storage Class:** Standard Multi-Region
* **File Types:** HTML, CSS, JavaScript, Images, PDF

**4. Deployment Process**

**Step 1: Google Cloud Setup**

1. Created a **Google Cloud account** (Free Tier with $300 credits).
2. Enabled **Billing** to access free-tier services.
3. Activated the **Cloud Storage API** for hosting.

**Step 2: Creating a Cloud Storage Bucket**

1. Opened **Google Cloud Console** → Navigated to **Storage**.
2. Clicked **Create Bucket** and entered a **unique bucket name** (e.g., ecommerce-static-site).
3. Selected **Storage Class** as Standard for optimized performance.
4. Chose **Multi-Region** for global accessibility.
5. Set **Access Control** to Fine-grained for customized security settings.

**Step 3: Uploading Website Files**

The following files were uploaded to the **Google Cloud Storage bucket**:

📂 **index.html** → Homepage layout  
📂 **style.css** → Styling and UI design  
📂 **script.js** → JavaScript functionalities  
📂 **images/** → Product images, banners, icons  
📂 **downloads/** → Any downloadable resources (e.g., PDFs)

**Step 4: Configuring Public Access**

By default, Google Cloud Storage **restricts public access** to prevent unauthorized usage. Since this is a website, temporary public access was enabled for testing.

1. Opened the **Bucket Settings** → Clicked on **Permissions**.
2. Added a new principal:
   * **Principal:** allUsers
   * **Role:** Storage Object Viewer
3. Saved changes to **allow public read access** for website files.

**Step 5: Enabling Website Hosting**

1. Opened **Bucket Settings** → Clicked **Edit Website Configuration**.
2. Set:
   * **Main Page (index.html)** → index.html
   * **Error Page** (Optional) → 404.html
3. Clicked **Save** to apply settings.

**Step 6: Testing the Deployment**

1. Copied the **Public URL** from the **index.html file**.
2. Opened the URL in a web browser to verify:  
   ✅ Correct **loading of HTML, CSS, and JavaScript**.  
   ✅ **Navigation** between sections/pages.  
   ✅ **Images and icons** displayed properly.  
   ✅ **Product details and banners** rendered correctly.  
   ✅ (For E-commerce sites) Downloadable resources (PDFs) were accessible.