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IV – ACSAD **ELECTIVE 3**

ASSIGNMENT 2

How -To Guide: Getting Started with AWS and Hosting a Website

1. What AWS Is and Its Key Benefits

- **AWS (Amazon Web Services)** is a cloud platform that provides on-demand services like servers, storage, and databases.
- **Key benefits**:
  - **Scalability –** grow or shrink resources as needed.
  - **Cost-effective –** pay only for what you use.
  - **Global reach –** data centers across the world.
  - **Security –** built-in tools for encryption and access control.
  - **Wide service options –** from simple hosting to advanced AI/ML.

2. Signing Up for AWS (Free Tier)

1. Go to **aws.amazon.com**.
2. Click **[Create an AWS Account]** (top right).
3. Enter **email, password, and account name** → click **Continue**.
4. Enter **contact information** (choose *Personal* for individual).
5. Add **payment method** (credit/debit card; required for verification but free tier won't charge if you stay within limits).
6. Complete **identity verification** (SMS/phone).
7. Choose the **Basic Support Plan (Free)** → click **Sign up**.
8. Once verified, click **[Sign in to the Console]**.

3. Setting a Goal: Hosting a Website on AWS

- Define your purpose: *Host a simple website (static or dynamic)*.
- This helps focus on the main services:
    - **EC2** → to run a server.
    - **S3** → to store website files.
    - **RDS** → to store database data.

4. Exploring the AWS Management Console

1. After signing in, you'll see the **AWS Console Dashboard**.
2. Key areas:
    - **Search bar** (top) → quickly find services (EC2, S3, RDS).
    - **Region selector** (top right) → pick a region close to you.
    - **Services menu** → list of all AWS tools.
    - **Billing Dashboard** → monitor free tier usage.

5. EC2 – Launching a Virtual Server

1. Search **EC2** in the console → click **[Instances]** → **[Launch Instances]**.
2. Choose an **Amazon Machine Image (AMI)** (e.g., Amazon Linux 2).
3. Select **t2.micro or t3.micro** (free tier eligible).
4. Configure details → click **Next** until Security Group.
5. Add inbound rules:
    - **SSH (22)** → Your IP.
    - **HTTP (80)** → Anywhere.
6. Create or select a **Key Pair (.pem file)** → download it.
7. Click **[Launch Instance]** → wait until status is *running*.

6. S3 – Configuring File Storage

1. Search **S3** → click **[Create bucket]**.

2. Enter a **unique bucket name** and region → click **[Create bucket]**.
3. Open the bucket → click **[Upload]** → add files (HTML, CSS, images).
4. To host as a static website:
    - Go to **[Properties]** → **Static Website Hosting** → enable → set index.html.
    - Adjust **Permissions** to allow public read access (careful with security).

7. RDS – Creating a Database Instance

1. Search **RDS** → click **[Create database]**.
2. Choose an engine (e.g., MySQL).
3. Pick **Free Tier** template → instance type **db.t3.micro**.
4. Set **DB name, master username, and password**.
5. In Connectivity: select same VPC as EC2.
6. Enable connection via security group → allow port 3306 for MySQL.
7. Click **[Create database]** → wait until status is *available*.

8. Connecting to an EC2 Instance and Running Commands

1. From EC2 console → select instance → click **[Connect]**.
2. In your terminal (Linux/Mac/WSL):