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III - ACSAD

ELEC 3 ASSIGNMENT #2 - Create a How-To document guide based on the AWS Tutorial video for Beginners Guide.

What AWS is and its key benefits

- Amazon Web Services (AWS) is the world's most popular cloud platform that lets you host websites and applications. It offers scalability (scale servers up or down), cost efficiency (pay only for what you use), high performance, reliability, security, and global reach. AWS also provides access to many services, including AI and Machine Learning.

Signing up for AWS for free

These are the steps included in signing up for AWS for free

- Go to aws.amazon.com and click Create a Free Account.
- Enter your email, choose an account name, and verify your email.
- Create a strong password and complete your personal information.
- Add your credit card details (only used for verification).
- Verify your phone number with the SMS code sent by AWS.
- Select Basic Free Support, then complete the signup.

Setting a goal: Hosting a website on AWS

For the tutorial, the goal of the video is to host a website called Mike's Macaroon Market. It requires:

- EC2 for compute resources (web server)
- S3 for storing product images
- RDS for managing inventory and orders in a database

Exploring the AWS Management Console

- Log in to the AWS Management Console.
- Choose the correct region (e.g., US East 1 – North Virginia or whatever the region is closest to you) to control pricing and availability.
- Use the dashboard to view cost usage, AWS health updates, and access services via the search bar or services menu.

EC2 - Launching a virtual server

These are the steps included in launching a virtual server according to the video:

- Go to EC2 and click Launch Instance.
- Name the instance "Mike's Macaroon Market Website."
- Choose Amazon Linux (Free Tier eligible).
- Select t2.micro as the instance type.
- Proceed without a key pair (tutorial simplification).
- Configure security: later allow HTTP traffic on port 8080.
- Keep default storage (8GB) and click Launch Instance.

S3 - Configuring file storage

These are the steps included in the video in configuring file storage
Search for S3 and click Create Bucket.

- Name the bucket (e.g., mikes-macaroon-market).
- Allow public access so website images can be served.
- Add tags to organize resources.
- Create the bucket, then edit its Bucket Policy to allow public read access.
- Upload images manually if needed or let the website auto-upload.
- Create an Access Key + Secret Key for the website to connect to S3.

RDS - Creating a database instance

These are the steps included in the video in creating a database instance

- Go to RDS and click Create Database (Easy Mode).
- Choose Postgres as the database engine.
- Select the smallest size to stay in Free Tier.
- Name the database mikes-macaroon-market.
- Generate credentials (username & password) and copy them.
- Enable EC2 connectivity so the web server can connect.
- Click Create Database and copy the endpoint when ready.

Connecting to an EC2 instance and running commands

These are the steps included in the video in connecting to an EC2 instance and running commands

- Open EC2 Instance Connect in the AWS console.
- Use the built-in SSH terminal in your browser.
- Install dependencies (Git, Node.js, npm).
- Clone the website's GitHub repository.
- Configure environment variables (S3 bucket, keys, DB endpoint, DB password).
- Install Node.js packages with npm install.
- Run the website with npm start & disown so it stays live.
- Access the website using the public IP of the EC2 instance on port 8080.

Tips for cost savings on AWS

- Use Free Tier eligible services whenever possible.
- Shut down or terminate instances when not needed.
- Choose regions with lower pricing (avoid US West 1 for higher costs).
- Set billing alerts and spending limits to prevent surprises.
- Consider prepaying or spot instances for discounts.

Continuing your AWS journey with AI, Machine Learning, and AWS Certifications

The video helped me realize that learning AWS doesn't stop at just hosting a website. Once I understood the basics of EC2, S3, and RDS, I saw how AWS also provides opportunities to explore advanced fields like Artificial Intelligence and Machine Learning. It made me reflect on how gaining AWS Certifications can not only deepen my technical skills but also open doors for future career growth in cloud computing