Introduction to Cloud Computing

With **aws**

What is AWS?

Short for Amazon Web Services; AWS is a cloud service provider.

- This means that they provide services in the cloud (in their data centers) for you to use at cheaper prices.
- Those services can be: Virtual Private Servers, Database Servers, Load Balancers, Code Management (like Github), Machine Learning Services, …

Why would you use it?

- To host a website or a web app
- To host a backend for your Desktop, Mobile, or Web Apps
- To make it easier to scale based on your load
- To make it easier to deploy across multiple regions
- To avoid managing your own data center and infrastructure
- Saving money, since you only pay for what you use*

Self-Managed vs Serverless Services

Self-Managed Services are the ones where you rent a server (with certain os, database, software, …) on it, and then you take responsibility of maintaining it from that point forward.

- For example; a server with linux on it, a database server with postgres on it
- You usually pay based on the server's hardware (CPU, Memory, …)

Self-Managed vs Serverless Services

Serverless Services are the ones where you don't have to worry about the hardware (CPU, Memory, Storage, …), and you just ask for that specific thing.

- For example, a database table, a message queue, a storage bucket,
- You usually pay based on the number of calls/operations you do

Notable AWS Services

- Identity & Access Management (IAM) - The Most Important Service
- Virtual Private Cloud (VPC) - Think of it as a network you have in the cloud
- EC2 - Virtual Server in the Cloud
- S3 - Storing Files (objects) in the cloud very cheaply
- RDS - Database Servers; Postgres, MySQL, SQL Server
- Lambda - Running Code in the Cloud
- API Gateway - Think of it as a backend API for your App
- Elastic Container Registry (ECR) - Like DockerHub and can be Private

Pricing

- You usually pay for that service
  + Transfer Bandwidth (the amount of data you move in Gigabytes)

Free Tier

- https://aws.amazon.com/free/
- You can use certain services for free based on your usage or for a certain period of time.

How to interact with AWS?

- Console - Their Website/Webapp
- AWS CLI Tool - From the terminal/shell
- AWS SDK - Using your favourite programming language

AWS Certificates

FOUNDATIONAL

Six months of fundamental AWS Cloud and industry knowledge

aws certified
Cloud Practitioner
FOUNDATIONAL

PROFESSIONAL

Two years of experience designing, operating, and troubleshooting solutions using the AWS Cloud

aws certified
Solutions Architect
PROFESSIONAL

aws certified
DevOps Engineer
PROFESSIONAL

ASSOCIATE

One year of experience solving problems and implementing solutions using the AWS Cloud

aws certified
Solutions Architect
ASSOCIATE

aws certified
Developer
ASSOCIATE

aws certified
SysOps Administrator
ASSOCIATE

SPECIALTY

Technical AWS Cloud experience in the Specialty domain as specified in the exam guide

aws certified
Advanced Networking
SPECIALTY

aws certified
Data Analytics
SPECIALTY

aws certified
Database
SPECIALTY

aws certified
Machine Learning
SPECIALTY

aws certified
Security
SPECIALTY

aws certified
SAP on AWS
SPECIALTY