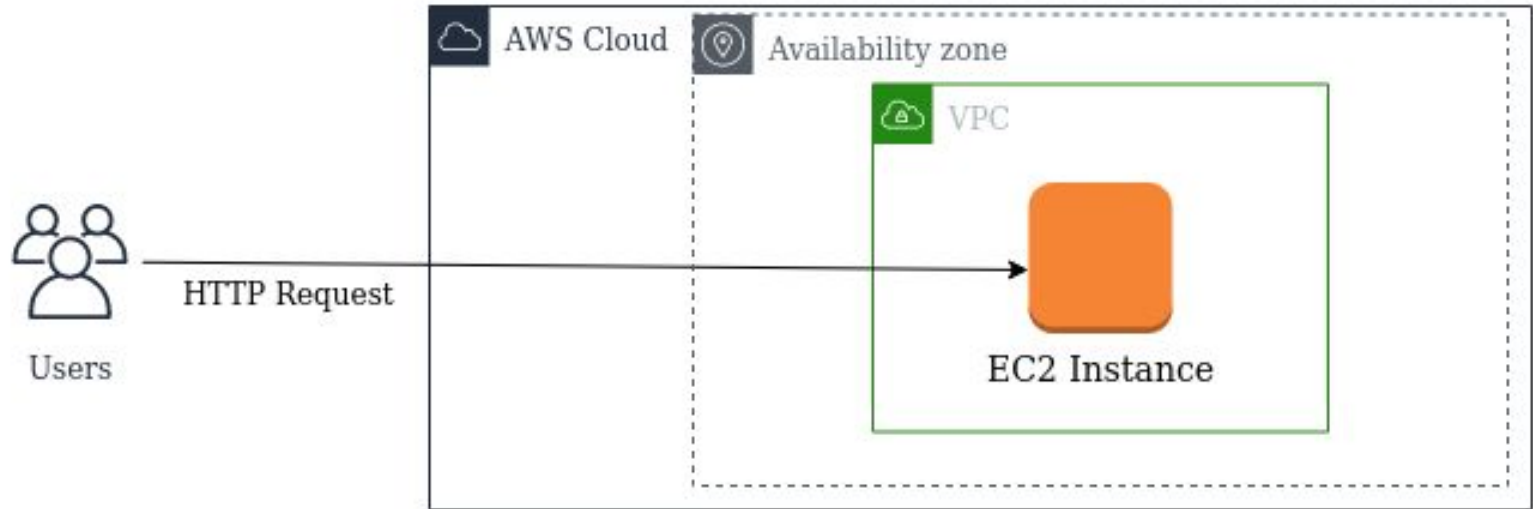# AWS Hands On : ELB and S3

Our previous Web Application

-- Everything fails all the time

-- Dr. Werner Vogels

(VP and CTO of Amazon.com)

Image Attribution : Raysonho @ Open Grid Scheduler / Grid Engine / CC0

Elastic Load Balancer

- Allows you to distribute load among multiple instances/servers
- Gives users single point of access
- Prevents single points of failure
- AWS guarantees that it will be working
- They also handle software patches, upgrades and maintenance
- Integrated health checks and system failures
- Three types of load balancers :
  - ➢ Classic Load Balancer (Older Generation - NOT Recommended)
  - ➢ Application Load Balancer (Works on Layer 7) - HTTP, HTTPS, WebSocket
  - ➢ Network Load Balancer (Works on Layer 4) - TCP/IP, UDP
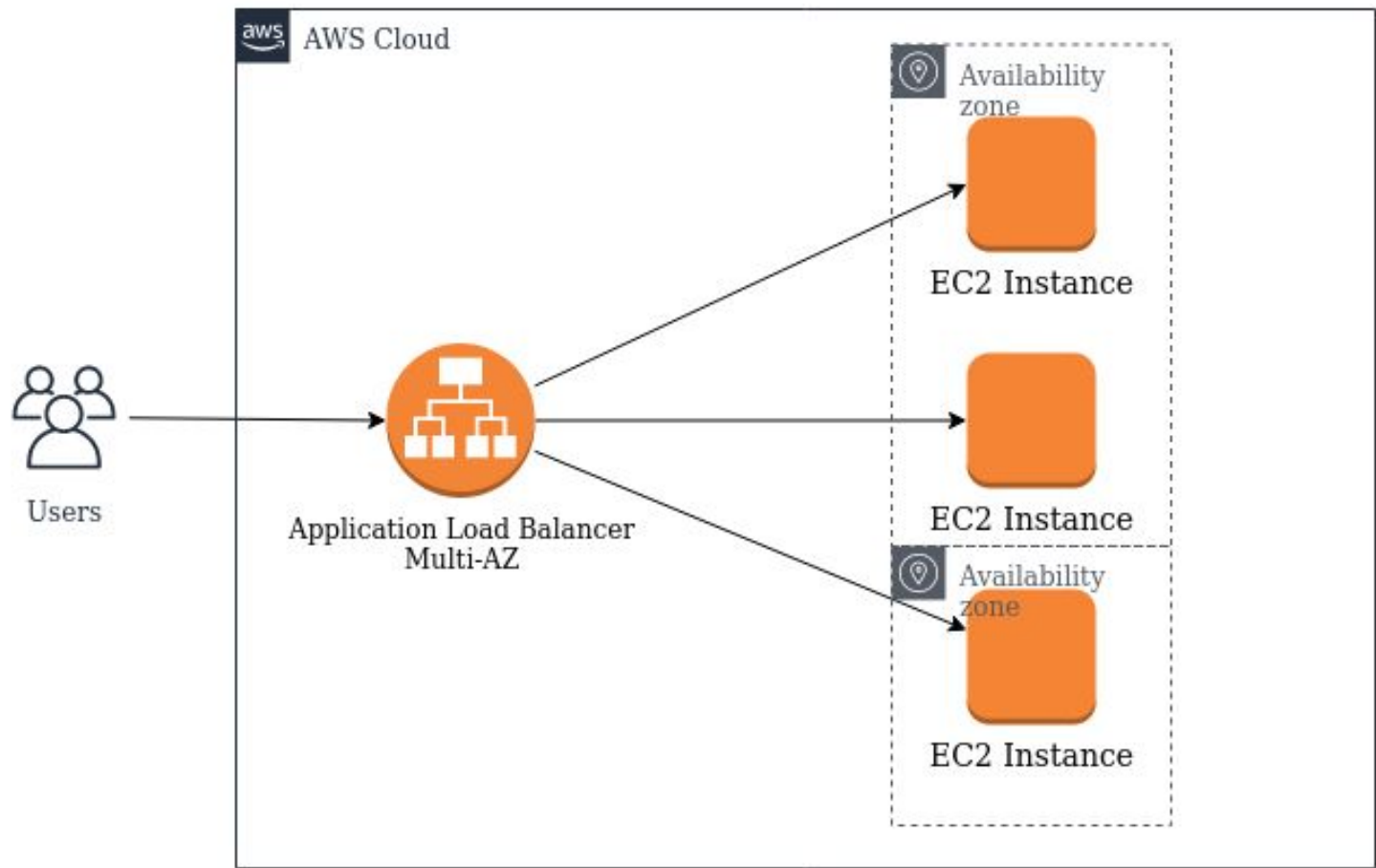
What is S3?

- S3 stands for Simple Storage Service
- Safe place to store files
- Object based Store
- Data is spread across multiple devices and facilities to ensure durability
- 99.9% SLA for availability of files

- Files are stored in **buckets**
- Files can by 0 Bytes to 5 TB in size
- S3 uses a **universal namespace**. Names are unique globally.
- Every bucket name has to be **DNS complaint**
- Virtually **unlimited storage**
- Supports **versioning** and **encryption**

Objects consists of:

- Key → Name of the object (File name)
- Value → The data itself (Sequence of bytes)
- Version ID
- Metadata

S3 storage tiers

- S3 Standard - GETS, PUTS, DELETES take milliseconds
- S3 Infrequent Access - Cheaper to store but costly to retrieve
- S3 infrequent Access One Zone - Durability reduces
- S3 Glacier Storage - Very cheap to store but retrieval can take 3-5 hours

S3 requests

- **GET** operation retrieves objects from Amazon S3
- **PUT/POST** operations adds an object to a bucket
- **DELETE** operation deletes object or specific version of the object
- Multiple other forms of requests

S3 billing (Standard storage - **N. Virginia**)

- You pay for the storage on a per-GB basis - $0.023 per GB
- You pay for the GET, SELECT requests - $0.0004 per 1,000 requests
- You pay for the PUT, POST, or LIST Requests - $0.005 per 1,000 requests
- DELETE and CANCEL requests are free

P.S. - You also pay for the bandwidth to transfer the data to the internet :)

https://aws.amazon.com/s3/pricing/

Demo

Connect with me!

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