**Cloud Praticioner**

**Whats is Cloud Computing**

Is the on-demand delivery of compute, database storage, applications, and other IT resources through a cloud services plarform via the internet with pay-as-yoy-go pricing.

Think of it as simply reting someone elses computer!

**Cloud Computing Types**

1 – **Infrastructure As A Service (IAAS)**

You manage the server which can be physical or virtual, as well as the operating system. Usually the data centre provider will have no access to your server.

2 – **Platform As A Service (PAAS)**

Someone else manages the underlying hardware and opertating systems. You just focus on your aplications. Someone else worries about security patching, update, maintenance etc.

3 – **Software As A Service (SAAS)**

Thing of Gmail. All you manage is your inbox(of the software provided to you by Google). Google take care of the data centers, servers, networks, storage, maintenances, patching etc.. All you worry about is the software itself and how you want to use it.

**3 Types of Cloud Computing Deployments**

* **Public Cloud – Aws, Azure, GCP**
* **Hybrid – Mixture of public and private**
* **Private Cloud ( Or On Premise) – You mange ir, in you datacenter. Openstack or Vmware.**

**Know the 6 Advantages of Cloud**

* Trade Capital Expense for variable Expense
* Benefit from massive economiesof sacele
* Stop guenssing about capacity
* Increase speed and agility
* Stop spending money running and maintaining data centers
* Go global in minutes

**Global Infrastructure**

19 Regions

57 Availability Zones

**Data Center**

Is just a building filled with Servers

Availability Zone consist in two or more AZ.

So an AZ is basic a data center, a region is going to be two or more az.

**Edge Locations)**

Are endpoints for AWS which are userd for caching content. Typically this consist of CloudFront, Amazon’s Content Delivery Netword. (CDN)

There area many more Edge Locations than Regions. Currently are over 150 Edge Locations.

**Choosing the right AWS Region?**

* Data Sovereignty Laws
* Latency to end users
* AWS Service

**Identity Access Management (IAM)**

Create user

Groups

Roles

Create diferente groups and users.

**North Virginia is recommended**

Create is Authenticathor

Create individual user.

Create a user group for user – ADM, Developer etc

Regras de criacao de senhas

**Exam Tips**

IAM stand for IAM, It is Global, you do not specify a region when dealing with IAM. When you create a user or group, this is creadted **Globally**.

**You can access the AWS platform in 3 ways**

* Via the Console
* Programmatically (Using the command line)
* Using the software developers kit (SDK)

Your root account is the email address you used to set up your AWS account. The root account always has full administrator access. You should not give these account credentials away to anyone. Instead create a user for each individual within your organization. You should always secure this root account using multi-factor authentication.

A group is simply a place to store your users. Your users will inherit all permissions that the group has. Examples of groups might be developers, system administrators, human resources, finance etc.

**S3 101**

**Simple Storage Service**

Old project this 2006,2007

S3 provides developers and IT teams with secure, durable, highly-scalable object storage. Amazon S3 is easy to use, with a simple web services interface to store and retrieve any amount of data from anywhere on the web.

* Install operation system, database etc.
* S3 is a safe place to store your files.
* It is Object-based storage
* The data is spread across multiple devices and facilities

**The basics of S3 are as follows**

* S3 is Object-based – i.e allows you to upload files.
* Files can be from 0 bytes to 5 TB
* There is unlimited storage
* Files are stored in Buckets

**S3 Name Space**

* Is a universal namespace. That is, names must be unique globally.
* <https://s3-eu-west-1.amazonaws.com/acloudguru>
* When you upload a file to S3, you will receive a
* HTTP 200 code if the upload was successful

S3 **Think of objects just as files**.

Objects consist of the following:

* Key( This is simply the name of the object)
* Value ( This is simply the data and is made up of a sequence of bytes
* Version ID (Important for versioning)
* Metadata (Data about data you ar storing)
* Subresources;

Access Control list

Torrent

**S3** has the following guarantees from amazom;

Built for 99.99% availability for the S3 platform

Amazon Guarantee 99.9% availability

Amazon Guarantee 99.99999999% durability for S3 information.

S3 has features

Tiered Storage Available

Lifecycle Management

Versioning

Encryption

Secure your data using Acess Controll list and bucket policies

**S3 Storage Classes**

**S3 Standard –** 99.99% availability 99.99999% durability, stored redundantly across multiple devices in multiple facilities, and is designed to sustain the loss of 2 facilities.

**S3 One Zone – IA** – For where you want a lower-cost option for infrequently accessed data, but do not require the multiple AZ data resilience.

**S3 – IA** – ( Infrequently Accessed):

For data that is accessed less frequently, but requires rapid access when needed. Lower fee than S#, but you are charged a retrieval fee.

**S3 – Intelligent Tiering**

Designed to optimize cost by automatically moving data to the most cost-effective access tier, without performance impact or operational overhead.

**S3 Glacier**

S3 Glacier is a secure, durable, and low-cost storage class for data archiving. You can reliably store any amount of data at cost that are competitive with or cheaper than on-premises solution. Retrieval times configurable from minutes to hhours.

**S3 Glacier Deep Archive**

S3 Glacier Deep Archive is Amazon S3 lowest-cost storage class where a retrieval time of 12 hours is acceptable.

**S3 Transfer Acceleration**

Enables, fast, easy, and secure transfer of files ober long distances between your end users and an S3 bucket

Transfer Acceleration takes advantage of Amazon CloudFront’s globally distributed edge locations. As the data arrives at an edge location, data is routed to amazon S3 over and optimized network path.

**Exam Tips**

Remember that S3 is Object-based: i.e. allows you to upload files.

Files can be from 0 Bytes to 5 TB.

The is unilimited storage

Files are stored in buckets

S3 is universal namespace

Bot suitable to install an operating system on.

Sucessful uploads will generate a HTTP 200 status code.

The Key Fundamentals of S3 are;

Key ( This is simply the name of the object)

Value ( This is simply the data and is made up of sequence of bytes).

Read after write consistency for Puts of new objects

Eventual Consistency for overwrite puts and deletes ( can take some time to propagate)

Types S3 – Standat, IA, One zone IA, Inteligent tierring, glacier, glacier deep archive.

serverless config credentials --provider aws –key AKIA247KUD2WIKQ7A54J --secret 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