1. Define and explain the three basic types of cloud services and the AWS products that are built based on them?

The three basic types of cloud services are:

* Computing - These include EC2, Elastic Beanstalk, Lambda, Auto-Scaling, and light sat.
* Storage - These include S3, Glacier, Elastic Block Storage, and Elastic File System.
* Networking - These include VPC, [Amazon Cloud Front](https://www.simplilearn.com/tutorials/aws-tutorial/aws-cloudfront), Route53

### What is the relation between the Availability Zone and Region?

AWS regions are separate geographical areas, like the US-West 1 (North California) and Asia South (Mumbai). On the other hand, availability zones are the areas that are present inside the regions. These are generally isolated zones that can replicate themselves whenever required.

### What is auto-scaling?

[Auto-scaling](https://www.simplilearn.com/tutorials/aws-tutorial/aws-auto-scaling) is a function that allows you to provision and launch new instances whenever there is a demand. It allows you to automatically increase or decrease resource capacity in relation to the demand.

### 4. What are the different types of virtualization in AWS, and what are the differences between them?

The three major types of virtualization in AWS are:

#### **Hardware Virtual Machine (HVM)**

It is a fully virtualized hardware, where all the virtual machines act separate from each other. These virtual machines boot by executing a master boot record in the root block device of your image.

#### **Para virtualization (PV)**

Para virtualization-GRUB is the boot loader that boots the PV AMIs. The PV-GRUB chain loads the kernel specified in the menu.

#### **Para virtualization on HVM**

PV on HVM helps operating systems take advantage of storage and network I/O available through the host.

### Name some of the AWS services that are not region-specific

### AWS services that are not region-specific are:

* [IAM](https://www.simplilearn.com/tutorials/aws-tutorial/aws-iam)
* Route 53
* Web Application Firewall
* Cloud Front

### What is Cloud Watch?

* Depending on multiple metrics, it participates in triggering alarms.
* Helps in monitoring the AWS environments like CPU utilization, EC2, Amazon RDS instances, Amazon SQS, S3, Load Balancer, SNS, etc.

### Describe PaaS.

PaaS supports the operation of multiple cloud platforms, primarily for the development, testing, and oversight of the operation of the program.

### 7 .How many S3 buckets can be created?

Up to 100 buckets can be created by default.

### 8.What is Amazon EC2?

EC2 is short for Elastic Compute Cloud, and it provides scalable computing capacity. Using Amazon EC2 eliminates the need to invest in hardware, leading to faster development and deployment of applications. You can use [Amazon EC2](https://aws.amazon.com/ec2/) to launch as many or as few virtual servers as needed, configure security and networking, and manage storage. It can scale up or down to handle changes in requirements, reducing the need to forecast traffic. EC2 provides virtual computing environments called “instances.

### 9. What is Amazon S3?

S3 is short for Simple Storage Service, and Amazon S3 is the most supported storage platform available. S3 is object storage that can store and retrieve any amount of data from anywhere. Despite that versatility, it is practically unlimited as well as cost-effective because it is storage available on demand. In addition to these benefits, it offers unprecedented levels of durability and availability. Amazon S3 helps to manage data for cost optimization, access control, and compliance.

### 10.What Are Some of the Security Best Practices for Amazon EC2?

Security best practices for Amazon EC2 include using Identity and Access Management (IAM) to control access to AWS resources; restricting access by only allowing trusted hosts or networks to access ports on an instance; only opening up those permissions you require, and disabling password-based logins for instances launched from your AMI.

### 11.What are Key-Pairs in AWS?

The Key-Pairs are password-protected login credentials for the Virtual Machines that are used to prove our identity while connecting the Amazon EC2 instances. The Key-Pairs are made up of a Private Key and a Public Key which lets us connect to the instances.

12.What are the Storage Classes available in Amazon S3?

The Storage Classes that are available in the Amazon S3 are the following:

* Amazon S3 Glacier Instant Retrieval storage class
* Amazon S3 Glacier Flexible Retrieval (Formerly S3 Glacier) storage class
* Amazon S3 Glacier Deep Archive (S3 Glacier Deep Archive)
* S3 Outposts storage class
* Amazon S3 Standard-Infrequent Access (S3 Standard-IA)
* Amazon S3 One Zone-Infrequent Access (S3 One Zone-IA)
* Amazon S3 Standard (S3 Standard)
* Amazon S3 Intelligent-Tiering (S3 Intelligent-Tiering)

### 13.What is Snow Ball?

To transfer terabytes of data outside and inside of the AWS environment, a small application called Snow Ball is used.

### 14.What are some critical differences between AWS S3 and EBS?

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| --- | --- | --- |
| Parameters | AWS S3 | EBS |
| Performance | Fast | Superfast |
| Security | Using public or private key | Can be used only with EC2 |
| Redundancy | Across data centres | Within a data centres |
| Paradigm | Object store | Filestore |