1. Relationship between instance and AMI ?

AMI – amazon machine image is the configuration for the instance.

Instances are launched using the AMI configuration template.

Similar to docker images and the containers.

1. What does an AMI include?

* Ebs snapshots, instance store backed ami’s, a template for root volume of the instance
* Launch permissions to control aws accounts who can access the launch instances.
* Volumes to attach to the instance

1. Difference btw Amazon S3 and EC2?

EC2 is a hosted cloud-based server where we can host application

S3 is a storage service for storing data.

1. By default how many buckets can be created?

By default 100 buckets.

1. Buffer in AWS,?

It helps in synchronizing different components and makes the arrangement additional elastic to the burst of load and traffic.

1. Storage classes available?

* Standard, intelligent-tiering, standard-IA, one zone-IA, Glacier, Glacier Deep Archive, Outposts.

1. what is the importance of Buffer?

The components arrangement is prone to work in an unstable way of receiving and processing requests. Buffer will create equilibrium and distribute load thus providing rapid service.

1. When to use Classic Load balancer and Application load balancer?

Classic load balancer should be used with Classic EC2 instance and when there is no host and path based routing. Else you have to use Application load balancer.

1. Can you change the instance type of the instances running in your application tier and are also using autoscaling?

Create a new launch config with new instance type. Associate new launch config with the autoscaling group and remove the current launch config. Once the auto scaling group scales out, the previous instance type ec2’s will terminate and new type ec2’s will be launched

1. Advantages and disadvantages when autoscaling done on running instances especially production?

Advantages:

* Fault tolerance
* Availability
* Cost management

Disadvantages:

* Autoscaling failure – subject to failures in software, networking and hardware aspects.

1. Secure your data in cloud

Need to follow security perspective of AWS cloud adoption framework. 5 key measures

* IAM – identity and access management
* Detective control
* Infrastructure security
* Data protection
* Incident response

1. Explain Stopping, starting, and Terminating an EC2 instance

When running instance is stopped,

* Status change to stopped
* EBS volumes remain attached to the instance
* Data in ram is lost
* Instances retain private ipv4 and ipv6 , but the public ipv4 is released when stopped and assigned when started.
* If instance is in Auto scaling group, auto scaling marks the stopped instance as unhealthy
* When instance is stopped instance type, user data, kernel, ram disk can be changed

When instance is terminated

* Data on instance store volumes associated is deleted.
* Default allocated EBS volumes are deleted automatically, and additional volumes persist even after termination of instance. This persistence depends on volume’s DeleteOnTermination attribute.

1. Define regions and availability zones in EC2

Region is the physical location where aws cluster data centers. Each region has Availability zones which is group of logical data centers. Each region consist of multiple, isolated, and physically separated AZ’s. Each AZ has independent power, cooling, physical security and are connected to each other. This infrastructure provides hightest level of security compliance and data protection.

1. Importance of selecting suitable zones for AWS services and Benefits.

Selecting AZ’s gives customer ability to operate applications which are highly available, fault tolerant, and scalable.

1. Challenges in microservices debugging and troubleshooting?

Microservices are not bundled like the monolithic. In this distributed design, effective logging provides visibility of the application behavior.

Each microservice will use a unique id while logging.

Instead of searching multiple files and databases for logs, all logging from different microservices should be kept at single location.

In Aws X-Ray is a service to collect data about the request to the application, and provide insights into the issues and opportunities for optimization.

Outside AWS, we can use ELK to collect all the logging and gain insights.