**Benefits of AWS Lambda**

* No need for managing servers. Run code without provisioning or managing infrastructure. ...
* Automatic scaling. Automatically respond to code execution requests at any scale, from a dozen events per day to hundreds of thousands per second.
* Pay-as-you-go pricing. ...
* Performance optimization
* **Pros** Quicker Development, Optimized Costs, Better Scalability, Seamless Management
* **Crons-** Limited Control, Complex Orchestration, Latency Issues
  + - * + **Main Key Component**

**Route 53?**

* Amazon Route 53 is a highly available and scalable Domain Name System (DNS) web service.
* You can use Route 53 to perform three main functions in any combination:

**domain registration, DNS routing, and health checking**

**Simple E-mail Service**

* It allows sending e-mail using RESTFUL [API](https://career.guru99.com/top-20-questions-on-api-testing/) call or via regular SMTP.
* Provides an easy, cost-effective way for you to send and receive email using your own email addresses and domains.

**Identity and Access Management (IAM)**

* helps you securely control access to AWS resources.
* With IAM, you can centrally manage permissions that control which AWS resources users can access.
* You use IAM to control who is authenticated (signed in) and authorized (has permissions) to use resources.(Multi-factor authentication)

**Simple Storage Device or (S3) -**5 GB of S3 standard storage

* It is a storage device and the most widely used AWS service.
* Highly available and durable. Highly cost-effective, Widely, and easily accessible. Unlimited storage capabilities, Integrates with many other AWS services.

**Elastic Compute Cloud (EC2):** on-demand computing resources for hosting app

* Enables you to increase or decrease capacity within minutes.
* Amazon EC2 changes the economics of computing by allowing you to pay only for capacity that you actually use.
* **Benefits**: Completely Controlled, Flexible Cloud Hosting Services, Integrated, Reliable, Secure.

**Elastic Block Store (EBS):** It offers persistent storage volumes that attach to EC2 to allow you to persist data past the lifespan of a single Amazon EC2 instance.

* easy to create, use, encrypt, and protect. Elastic Volumes capability allows you to increase storage, tune performance up and down, and change volume types without any disruption to your workloads.

**CloudWatch:**To monitor AWS resources, it allows administrators to view and collect keys. Also, one can set a notification alarm in case of trouble.

**CloudTrail:** enables auditing, security monitoring, and operational troubleshooting by tracking user activity and API usage. CloudTrail logs, continuously monitors, and retains account activity related to actions across your AWS infrastructure, giving you control over storage, analysis, and remediation actions.

**Default number of buckets created in S3? -> 100**

**What is the purpose of T2 instances?**

* Providing moderate baseline performance
* Higher performance as required by workload.

**What do you mean by AMI? What does it include?**

* AMI stands for the term Amazon Machine Image. It’s an AWS template which provides the information (an application server, and operating system, and applications) required to perform the launch of an instance.
* This AMI is the copy of the AMI that is running in the cloud as a virtual server. You can launch instances from as many different AMIs as you need. AMI consists of the:
  + A root volume template for an existing instance
  + Launch permissions to determine which AWS accounts will get the AMI in order to launch the instances.
  + Mapping for block device to calculate the total volume that will be attached to the instance at the time of launch.

**What is the connection between AMI and Instance?**

* AMI is used to create virtual servers (Amazon Elastic Compute Cloud or EC2 instances) AWS environment.
* Different types of instances can be launched from a single AMI to support the hardware of the host computer used for the instance.

**What is geo-targeting in CloudFront?** CloudFront identifies the user's country and sends this information to your server.

**What is VPC?(** **200 Subnets per Amazon Virtual Private Cloud (VPC).**

* VPC stands for Virtual Private Cloud. It allows you to customize your networking configuration.
* It is a network which is logically isolated from another network in the cloud.
* It allows you to have your IP address range, internet gateways, subnet, and security groups. \*\*\*\*A VPC is the best way of connecting to your cloud resources from your own data center.

**What is a DDoS attack, and what services can minimize them? ->** distributed denial of service (DDoS).  
 This is a cyber-attack in which the perpetrator accesses a website and creates multiple sessions. so that the other legitimate users cannot access the service.  
AWS Shield is protection service that safeguards applications running on AWS

**What are the benefits of WAF in AWS? (Web application firewall)**AWS WAF lets you create rules to filter web traffic based on conditions that include IP addresses, HTTP headers and body, or custom URIs.  
This gives you an additional layer of protection from web attacks that attempt to exploit vulnerabilities in custom or third-party web applications.

**AWS services that are not region-specific** -> IAM, Route 53, Web Application Firewall, CloudFront

**Different types of instances in Amazon EC2 ->** General Purpose Instances, Compute Optimized Instances, Memory Optimized, Storage Optimized**.**

**What is Snowball? ->** To transfer terabytes of data outside and inside of the AWS environment, a small application called Snowball is used.  
  
**Security best Practices->** IAM(Identity access Management,)  
  
The **buffer** is used to make the system more robust to manage traffic or load by synchronizing different components.  
  
**Different types of instances -** General purpose ,Computer Optimized ,Memory Optimized ,Storage Optimized, Accelerated Computing

**Key-pairs** are secure login information for your virtual machines. To connect to the instances, you can use key-pairs which contain a public-key and private-key

**Subnets**- A large section of IP Addresses divided into chunks is known as subnets.

**Simple Queue Service is also known as SQS**. It is distributed queuing service which acts as a mediator for two controllers.

|  |  |
| --- | --- |
| **EC2** | **S3** |
| It is a cloud web service used for hosting your application | It is a data storage system where any amount of data can be stored |
| It is like a huge computer machine which can run either Linux or Windows and can handle applications like PHP, Python, Apache, or any databases | It has a REST interface and uses secure HMAC-SHA1 authentication keys |

**Edge location** is the area where the contents will be cached. So, when a user is trying to access any content, the content will automatically be searched in the edge location.