AWS Interview Questions

**1) Explain what is AWS?**

AWS stands for Amazon Web Service; it is a collection of remote computing services also known as cloud computing platform.  This new realm of cloud computing is also known as IaaS or Infrastructure as a Service.

**2) Mention what are the key components of AWS?**

The key components of AWS are

* **Route 53:** A DNS web service
* **Simple E-mail Service:** It allows sending e-mail using RESTFUL API call or via regular SMTP
* **Identity and Access Management:** It provides enhanced security and identity management for your AWS account
* **Simple Storage Device or (S3):** It is a storage device and the most widely used AWS service
* **Elastic Compute Cloud (EC2):**It provides on-demand computing resources for hosting applications. It is very useful in case of unpredictable workloads
* **Elastic Block Store (EBS):** It provides persistent storage volumes that attach to EC2 to allow you to persist data past the lifespan of a single EC2
* **CloudWatch:**To monitor AWS resources, It allows administrators to view and collect key Also, one can set a notification alarm in case of trouble.

**3) Explain what is S3?**

S3 stands for Simple Storage Service. You can use S3 interface to store and retrieve any amount of data, at any time and from anywhere on the web.  For S3, the payment model is “pay as you go”.

**4) Explain what is AMI?**

AMI stands for Amazon Machine Image.  It’s a template that provides the information (an operating system, an application server and applications) required to launch an instance, which is a copy of the AMI running as a virtual server in the cloud.  You can launch instances from as many different AMIs as you need.

**5) Mention what is the relation between an instance and AMI?**

From a single AMI, you can launch multiple types of instances.  An instance type defines the hardware of the host computer used for your instance. Each instance type provides different compute and memory capabilities.  Once you launch an instance, it looks like a traditional host, and we can interact with it as we would with any computer.

**6) What does an AMI include?**

An AMI includes the following things

* A template for the root volume for the instance
* Launch permissions decide which AWS accounts can avail the AMI to launch instances
* A block device mapping that determines the volumes to attach to the instance when it is launched

**7) How can you send request to Amazon S3?**

Amazon S3 is a REST service, you can send request by using the REST API or the AWS SDK wrapper libraries that wrap the underlying Amazon S3 REST API.

**8) Mention what is the difference between Amazon S3 and EC2?**  
The difference between EC2 and Amazon S3 is that

|  |  |
| --- | --- |
| **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 application like PHP, Python, Apache or any databases | * It has a REST interface and uses secure HMAC-SHA1 authentication keys |

**9) How many buckets can you create in AWS by default?**

By default, you can create upto 100 buckets in each of your AWS accounts.

**10) Explain can you vertically scale an Amazon instance? How?**

Yes, you can vertically scale on Amazon instance. For that

* Spin up a new larger instance than the one you are currently running
* Pause that instance and detach the root webs volume from the server and discard
* Then stop your live instance and detach its root volume
* Note the unique device ID and attach that root volume to your new server
* And start it again

**11) Explain what is T2 instances?**

T2 instances are designed to provide moderate baseline performance and the capability to burst to higher performance as required by workload.

**12) In VPC with private and public subnets, database servers should ideally be launched into which subnet?**

With private and public subnets in VPC, database servers should ideally launch into private subnets.

**13) Mention what are the security best practices for Amazon EC2?**

For secure Amazon EC2 best practices, follow the following steps

* Use AWS identity and access management to control access to your AWS resources
* Restrict access by allowing only trusted hosts or networks to access ports on your instance
* Review the rules in your security groups regularly
* Only open up permissions that your require
* Disable password-based login, for instance, launched from your AMI

**14) Explain how the buffer is used in Amazon web services?**

The buffer is used to make the system more robust to manage traffic or load by synchronizing different component.  Usually, components receive and process the requests in an unbalanced way, With the help of buffer, the components will be balanced and will work at the same speed to provide faster services.

**15) While connecting to your instance what are the possible connection issues one might face?**

The possible connection errors one might encounter while connecting instances are

* Connection timed out
* User key not recognized by the server
* Host key not found, permission denied
* Unprotected private key file
* Server refused our key or No supported authentication method available
* Error using MindTerm on Safari Browser
* Error using Mac OS X RDP Client

**16) What is Amazon EC2 service?**

Ans: EC2 uses Xen virtualization. Each virtual machine, called an “instance”. You can use Amazon EC2 to launch as many or as couple of virtual servers as you need, design security and networking, and manage storage. Amazon EC2 empowers you to scale up or down to handle changes in requirements.

**17) What is Amazon Machine Image (AMI)?**

Ans: An Amazon Machine Image (AMI) is a template that contains a software configuration (for example, an operating system, an application server, and applications). From an AMI, we launch an instance, which is a copy of the AMI running as a virtual server in the cloud. We can launch multiple instances of an AMI.

**18) What is the relation between Instance and AMI?**

Ans: We can launch different types of instances from a single AMI. An instance type essentially determines the hardware of the host computer used for your instance. Each instance type offers different compute and memory capabilities.

After we launch an instance, it looks like a traditional host, and we can interact with it as we would any computer. We have complete control of our instances; we can use sudo to run commands that require root privileges.

**19) What are the Security Best Practices for Amazon EC2?**

Ans: There are several best practices for secure Amazon EC2. Following are few of them.

Use AWS Identity and Access Management (IAM) to control access to your AWS resources.

Restrict access by only allowing trusted hosts or networks to access ports on your instance.

Review the rules in your security groups regularly, and ensure that you apply the principle of least

Privilege — only open up permissions that you require.

Disable password-based logins for instances launched from your AMI. Passwords can be found or cracked, and are a security risk.

**20) Explain Stopping, Starting, and Terminating an Amazon EC2 instance?**

Ans:

Stopping and Starting an instance: When an instance is stopped, the instance performs a normal shutdown and then transitions to a stopped state. All of its Amazon EBS volumes remain attached, and you can start the instance again at a later time. You are not charged for additional instance hours while the instance is in a stopped state.

Terminating an instance: When an instance is terminated, the instance performs a normal shutdown, then the attached Amazon EBS volumes are deleted unless the volume’s deleteOnTermination attribute is set to false. The instance itself is also deleted, and you can’t start the instance again at a later time.

**21) How to use Amazon SQS?**

Ans: Amazon SQS is a message passing mechanism that is used for communication between different connectors that are connected with each other. It also acts as a communicator between various components of Amazon. It keeps all the different functional components together. This functionality helps different components to be loosely coupled, and provide an architecture that is more failure resilient system.

**22) How buffer is used in Amazon web services?**

Ans: Buffer is used to make the system more resilient to burst of traffic or load by synchronizing different component. The components always receive and process the requests in unbalanced way. Buffer keeps the balance between different components and makes them work at the same speed to provide faster services.

**23) How does cloud computing provides on-demand functionality?**

Ans: Cloud computing is a metaphor used for internet. It provides on-demand access to virtualized IT resources that can be shared by others or subscribed by you. It provides an easy way to provide configurable resources by taking it from a shared pool. The pool consists of networks, servers, storage, applications and services.

**24) What is the difference between scalability and elasticity?**

Ans: Scalability is a characteristic of cloud computing through which increasing workload can be handled by increasing in proportion the amount of resource capacity. It allows the architecture to provide on demand resources if the requirement is being raised by the traffic. Whereas, elasticity is being one of the characteristic provide the concept of commissioning and decommissioning of large amount of resource capacity dynamically. It is measured by the speed by which the resources are coming on demand and the usage of the resources.

**25) What are the different layers of cloud computing?**

Ans: Cloud computing consists of 3 layers in the hierarchy and these are as follows:

1. Infrastructure as a Service (IaaS) provides cloud infrastructure in terms of hardware like memory, processor speed etc.

2. Platform as a Service (PaaS) provides cloud application platform for the developers.

3. Software as a Service (SaaS) provides cloud applications which are used by the user directly without installing anything on the system. The application remains on the cloud and it can be saved and edited in there only.

**26) How to secure your data for transport in cloud?**

Ans: Cloud computing provides very good and easy to use feature to an organization, but at the same time it brings lots of question that how secure is the data, which has to be transported from one place to another in cloud. So, to make sure it remains secure when it moves from point A to point B in cloud, check that there is no data leak with the encryption key implemented with the data you sending.

Enjoy it!