What is cloud computing

Cloud computing is the on-demand delivery of compute power, database storage, applications, and other IT resources through a cloud services platform via the internet with pay-as-you-go pricing.

what are the different models in cloud computing

Infrastructure of a service

Platform as a service

Software as a service

what is AWS

Amazon Web Services (AWS) is a secure [cloud](https://aws.amazon.com/what-is-cloud-computing/) services platform, offering compute power, database storage, content delivery and other functionality to help businesses scale and grow. Explore how millions of [customers](https://aws.amazon.com/solutions/case-studies/) are currently leveraging AWS cloud [products](https://aws.amazon.com/products/) and [solutions](https://aws.amazon.com/solutions/) to build sophisticated applications with increased flexibility, scalability and reliability.

What are the most commonly used AWS services in your environment

Compute Service  
Storage Services  
Network Services  
Database services  
Other Services  
IAM, SNS

What are differentinstancepurchaseoptions?

On-Demand Instances   
Reserved Instances   
Spot Instances

What are the different type of storages do you have  
  
S3, Glacier, EBS, EFS

What is user data in EC2?

user data that you supplied when launching your instance. For example, you can specify parameters for configuring your instance, or attach a simple script.

Difference between elasticity and scalabilityor difference between vertical scale up and horizontal scale out

**SCALABILITY** - ability of a system to increase the workload on its current hardware resources (scale up);

**ELASTICITY** - ability of a system to increase the workload on its current and additional (dynamically added on demand) hardware resources (scale out);

Can you explain me how to scale up/ scale down instance without bringing down?

What is ELB.What are different type of ELBs are there in AWS.

Elastic Load Balancing automatically distributes incoming application traffic across multiple Amazon EC2 instances. It enables you to achieve fault tolerance in your applications, seamlessly providing the required amount of load balancing capacity needed to route application traffic.

[Classic Load Balancer](https://aws.amazon.com/elasticloadbalancing/classicloadbalancer/)

[Application Load Balancer](https://aws.amazon.com/elasticloadbalancing/applicationloadbalancer/)

What is public subnet and private subnet?

Instances in Public subnet would be reachable from internet; which means traffic from internet can hit a machine in Public Subnet. You normally keep things like WEb Server in Public Subnet.

Instances in Private Subnet would not be reachable from internet. E.g. you can put Database Server in Private subnet and no one can access it from internet. It would be accessible only via Instances in Public subnet (Web server). There is a simple video, which explains how to set it up on AWS -

Do you know how subnetting works?

* **Address -**The unique number ID assigned to one host or interface in a network.
* **Subnet -**A portion of a network that shares a particular subnet address.
* **Subnet mask -**A 32-bit combination used to describe which portion of an address refers to the subnet and which part refers to the host.
* **Interface -**A network connection

What is NAT gateway and NAT instnace.What is the use with this? How do you configure this?

Different type of S3 storages

Amazon S3 offers a range of storage classes designed for different use cases. These include Amazon S3 Standard for general-purpose storage of frequently accessed data, Amazon S3 Standard - Infrequent Access for long-lived, but less frequently accessed data, and Amazon Glacier for long-term archive. Amazon S3 also offers configurable lifecycle policies for managing your data throughout its lifecycle. Once a policy is set, your data will automatically migrate to the most appropriate storage class without any changes to your application.

General Purpose

Amazon S3 Standard

## Infrequent Access

### Amazon S3 Standard - Infrequent Access

### Reduced redundancy storage

## Archive

### Amazon Glacier

Different type of EBS volumes

### Magnetic EBS Volumes

### General Purpose SSD EBS Volumes

### Provisioned IOPS Volumes

How to do you suggest to customer that which EC2 instance type is suitable for his requirement.

<https://aws.amazon.com/blogs/aws/choosing-the-right-ec2-instance-type-for-your-application/>

What is the critical issue you have faced recently in your office?

VPC submitting issue  
lambda function failed issue

Have do you deployed any web applications in AWS? What did u deployed?

How do you provide security in AWS?

AMI   
Infrastructure security : VPC  
Data encryption  
Security groups  
Network ACLs

What is CIDR?

CIDR (Classless Inter-Domain Routing, sometimes called *supernetting*) is a way to allow more flexible allocation of Internet Protocol ([IP](http://searchunifiedcommunications.techtarget.com/definition/Internet-Protocol)) addresses than was possible with the original system of [IP address](http://searchwindevelopment.techtarget.com/definition/IP-address) classes. As a result, the number of available Internet addresses was greatly increased, which along with widespread use of network address translation ([NAT](http://searchenterprisewan.techtarget.com/definition/Network-Address-Translation)), has significantly extended the useful life of IPv4.

Have u deployed any web applications in AWS? What did u deployed?

How do you recover password

Can I change my keypair after launching instances

What is the diff between Elastic IP and Public IP

An Elastic IP is essentially tied to your AWS account in that AZ. You can freely associate it with any AWS instance.  The public IP you get when an instance is created (and you opt to give it a public IP) is ephemeral - if you stop that instance, when you start it up you'll get another random public IP.  It might be the same one you got before, but that would just be coincidence.  Elastic IP is "permanent" in the sense that you own it and you associate it to a specific AWS instance ID.

difference between Availability zone and Region

Amazon cloud computing resources are hosted in multiple locations world-wide. These locations are composed of regions and Availability Zones. Each region is a separate geographic area. Each region has multiple, isolated locations known as Availability Zones.

Different type of backups available for EC2

AMI, Snapshot

What is the difference between using the local instance store and Amazon Elastic Block storage (Amazon EBS) for the root device?

When you launch your Amazon EC2 instances you have the ability to store your root device data on Amazon EBS or the local instance store. By using Amazon EBS, data on the root device will persist independently from the lifetime of the instance. This enables you to stop and restart the instance at a subsequent time, which is similar to shutting down your laptop and restarting it when you need it again.

Alternatively, the local instance store only persists during the life of the instance. This is an inexpensive way to launch instances where data is not stored to the root device. For example, some customers use this option to run large web sites where each instance is a clone to handle web traffic.

Is Amazon EC2 used in conjunction with Amazon S3?

Yes, Amazon EC2 is used jointly with Amazon Simple Storage Service (Amazon S3) for instances with root devices backed by local instance storage. By using Amazon S3, developers have access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of web sites. In order to execute systems in the Amazon EC2 environment, developers use the tools provided to load their Amazon Machine Images (AMIs) into Amazon S3 and to move them between Amazon S3 and Amazon EC2. See [How do I load and store my systems with Amazon EC2?](https://aws.amazon.com/ec2/faqs/#How_do_I_load_and_store_my_systems_with_Amazon_EC2) for more information about AMIs.

We expect developers to find the combination of Amazon EC2 and Amazon S3 to be very useful. Amazon EC2 provides cheap, scalable compute in the cloud while Amazon S3 allows users to store their data reliably.

How quickly can I scale my capacity both up and down?

Amazon EC2 provides a truly elastic computing environment. Amazon EC2 enables you to increase or decrease capacity within minutes, not hours or days. You can commission one, hundreds or even thousands of server instances simultaneously. When you need more instances, you simply call RunInstances, and Amazon EC2 will typically set up your new instances in a matter of minutes. Of course, because this is all controlled with web service APIs, your application can automatically scale itself up and down depending on its needs.

How do I select the right instance type?

Amazon EC2 instances are grouped into 5 families: General Purpose, Compute Optimized, Memory Optimized, GPU, and Storage Optimized instances. General Purpose Instances have memory to CPU ratios suitable for most general purpose applications and come with fixed performance (M4 and M3 instances) or burstable performance (T2); Compute Optimized instances (C4 and C3 instances) have proportionally more CPU resources than memory (RAM) and are well suited for scale out compute-intensive applications and High Performance Computing (HPC) workloads; Memory Optimized Instances (R3 and R4 instances) offer larger memory sizes for memory-intensive applications, including database and memory caching applications; GPU Compute instances (P2) take advantage of the parallel processing capabilities of NVIDIA Tesla GPUs for high performance parallel computing; GPU Graphics instances (G2) offer high-performance 3D graphics capabilities for applications using OpenGL and DirectX; Storage Optimized Instances include I3 and I2 instances that provide very high, low latency, I/O capacity using SSD-based local instance storage for I/O-intensive applications and D2, Dense-storage instances, that provide high storage density and sequential I/O performance for data warehousing, Hadoop and other data-intensive applications. When choosing instance types, you should consider the characteristics of your application with regards to resource utilization (i.e. CPU, Memory, Storage) and select the optimal instance family and instance size.

Why am I charged when my Elastic IP address is not associated with a running instance?

In order to help ensure our customers are efficiently using the Elastic IP addresses, we impose a small hourly charge for each address when it is not associated to a running instance.

Do I need one Elastic IP address for every instance that I have running?

No. You do not need an Elastic IP address for all your instances. By default, every instance comes with a private IP address and an internet routable public IP address. The private address is associated exclusively with the instance and is only returned to Amazon EC2 when the instance is stopped or terminated. The public address is associated exclusively with the instance until it is stopped, terminated or replaced with an Elastic IP address. These IP addresses should be adequate for many applications where you do not need a long lived internet routable end point. Compute clusters, web crawling, and backend services are all examples of applications that typically do not require Elastic IP addresses.

Which volume type should I choose?

Customers can now choose between three EBS volume types to best meet the needs of their workloads: General Purpose (SSD), Provisioned IOPS (SSD), and Magnetic. General Purpose (SSD) is the new, SSD-backed, general purpose EBS volume type that we recommend as the default choice for customers. General Purpose (SSD) volumes are suitable for a broad range of workloads, including small to medium sized databases, development and test environments, and boot volumes. Provisioned IOPS (SSD) volumes offer storage with consistent and low-latency performance, and are designed for I/O intensive applications such as large relational or [NoSQL databases](https://aws.amazon.com/nosql/). Magnetic volumes provide the lowest cost per gigabyte of all EBS volume types. Magnetic volumes are ideal for workloads where data is accessed infrequently, and applications where the lowest storage cost is important.

Can I access the metrics data for a terminated Amazon EC2 instance or a deleted Elastic Load Balancer?

Yes. Amazon CloudWatch stores metrics for terminated Amazon EC2 instances or deleted Elastic Load Balancers for 2 weeks.

What happens to my Amazon EC2 instances if I delete my Auto Scaling Group?

If you have an Auto Scaling group with running instances and you choose to delete the Auto Scaling group, the instances will be terminated and the Auto Scaling group will be deleted.

What load balancing options does the Elastic Load Balancing service offer?

Elastic Load Balancing offers two types of load balancers that both feature high availability, automatic scaling, and robust security. These include the [Classic Load Balancer](https://aws.amazon.com/elasticloadbalancing/classicloadbalancer/) that routes traffic based on either application or network level information, and the [Application Load Balancer](https://aws.amazon.com/elasticloadbalancing/applicationloadbalancer/) that routes traffic based on advanced application level information that includes the content of the request.

[What is a Domain Name System (DNS) Service?](https://aws.amazon.com/route53/what-is-dns/)

[DNS](https://aws.amazon.com/route53/what-is-dns/) is a globally distributed service that translates human readable names like *www.example.com*into the numeric IP addresses like *192.0.2.1* that computers use to connect to each other. The Internet’s DNS system works much like a phone book by managing the mapping between names and numbers. For DNS, the names are domain names *(www.example.com)* that are easy for people to remember and the numbers are IP addresses *(192.0.2.1)* that specify the location of computers on the Internet. DNS servers translate requests for names into IP addresses, controlling which server an end user will reach when they type a domain name into their web browser. These requests are called "queries."

What is the difference between a Domain and a Hosted Zone?

A domain is a general DNS concept. Domain names are easily recognizable names for numerically addressed Internet resources. For example, *amazon.com*is a domain. A hosted zone is an Amazon Route 53 concept. A hosted zone is analogous to a traditional DNS zone file; it represents a collection of records that can be managed together, belonging to a single parent domain name. All resource record sets within a hosted zone must have the hosted zone’s domain name as a suffix. For example, the *amazon.com*hosted zone may contain records named *www.amazon.com*, and *www.aws.amazon.com*, but not a record named *www.amazon.ca*. You can use the Route 53 Management Console or API to create, inspect, modify, and delete hosted zones. You can also use the Management Console or API to register new domain names and transfer in existing domain names into Route 53’s management.

Which DNS record types does Amazon Route 53 support?

Amazon Route 53 currently supports the following DNS record types:

* A (address record)
* AAAA (IPv6 address record)
* CNAME (canonical name record)
* MX (mail exchange record)
* NAPTR (name authority pointer record)
* NS (name server record)
* PTR (pointer record)
* SOA (start of authority record)
* SPF (sender policy framework)
* SRV (service locator)
* TXT (text record)
* Additionally, Amazon Route 53 offers ‘Alias’ records (an Amazon Route 53-specific virtual record). Alias records are used to map resource record sets in your hosted zone to Amazon Elastic Load Balancing load balancers, Amazon CloudFront distributions, AWS Elastic Beanstalk environments, or Amazon S3 buckets that are configured as websites. Alias records work like a CNAME record in that you can map one DNS name (example.com) to another ‘target’ DNS name (elb1234.elb.amazonaws.com). They differ from a CNAME record in that they are not visible to resolvers. Resolvers only see the A record and the resulting IP address of the target record.

What are the Route53 Routing policies

Weighted Round Robin (WRR)

Latency Based Routing (LBR)   
Geo location Routing Policy

Failover routing polices

What is Private DNS?

Private DNS is a Route 53 feature that lets you have authoritative DNS within your VPCs without exposing your DNS records (including the name of the resource and its IP address(es) to the Internet.

**Name the several layers of Cloud Computing.**

Here is the list of layers of the cloud computing

* **PaaS** – Platform as a Service
* **IaaS** – Infrastructure as a Service
* **SaaS** – Software as a Service

**What is the relation between an instance and AMI?**

AMI can be elaborated as Amazon Machine Image, basically, a template consisting software configuration part. For example an OS, applications, application server. If you start an instance, a duplicate of the AMI in a row as an unspoken attendant in the cloud.

**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.

What are the Security Best Practices for Amazon EC2?

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.

What is the difference between scalability and elasticity?

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.