AWS S3 (Simple storage service)

It is simple storage service for the internet

It has simple web services interface that you can use to store and retrieve any amount of data at any time, from anywhere on the web

IAM -: Identity Access Management

Enables you to manage access to AWS services and resources securely

Using IAM, you can create and manage AWS users and groups, and use permissions to allow and deny their access to AWS resources.

Create user

Set user details -: Give username

Select aws access type 🡪 programmatic access

* Aws management console access

Next: Set permission

* Add user to group
* Copy permission from existing user
* Attach existing policy directly --🡪 select policy

Next: Tag

* Key

Next: Received

Next: create user

Next : download key

elastic IP

Elastic Ip is persistent .

Elastic IP address is a static IPv4 address designed for dynamic cloud computing

It’ll be associated with your AWS account until you terminate it

Anyhow, you can detach elastic IP from one instance and attach the same IP to a different instance. Elastic IP is also accessible over the internet.

If your instance does not have a public IPv4 address, you can associate an Elastic IP address with your instance to enable communication with the internet. For example, this allows you to connect to your instance from your local computer.

Cloud watch

Amazon CloudWatch is a monitoring service for AWS cloud resources and the applications you run on AWS

you can use Amazon CloudWatch to collect and track metrics, collect and monitor log files, set alarms, and automatically react to changes in your AWS resources

**Use cases**

**Monitor Amazon EC2**

View metrics for CPU utilization, data transfer, and disk usage activity from Amazon EC2 instances (Basic Monitoring) for no additional charge. For an additional charge, CloudWatch provides Detailed Monitoring for EC2 instances with higher resolution and metric aggregation. No additional software needs to be installed.  [Learn more »](http://docs.aws.amazon.com/AmazonCloudWatch/latest/DeveloperGuide/ec2-metricscollected.html)

**Monitor Other AWS Resources**

Monitor metrics on Amazon DynamoDB tables, Amazon EBS volumes, Amazon RDS DB instances, Amazon Elastic MapReduce job flows, Elastic Load Balancers, Amazon SQS queues, Amazon SNS topics, and more for no additional charge. No additional software needs to be installed.  [Learn more »](https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/aws-services-cloudwatch-metrics.html)

**Monitor Custom Metrics**

Submit Custom Metrics generated by your own applications via a simple API request and have them monitored by Amazon CloudWatch. You can send and store metrics that are important to your application’s operational performance to help you troubleshoot and spot trends.  [Learn more »](https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/publishingMetrics.html)

**Monitor and Store Logs**

You can use CloudWatch Logs to monitor and troubleshoot your systems and applications using your existing system, application, and custom log files. You can send your existing system, application, and custom log files to CloudWatch Logs and monitor these logs in near real-time. This can help you better understand and operate your systems and applications, and you can store your logs using highly durable, low-cost storage for later access.  [Learn more »](https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/WhatIsCloudWatchLogs.html)

**Set Alarms**

Set alarms on any of your metrics to send you notifications or take other automated actions. For example, when a specific Amazon EC2 metric crosses your alarm threshold, you can use Auto Scaling to dynamically add or remove EC2 instances or send you a notification.  [Learn more »](https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/AlarmThatSendsEmail.html)

**Monitor and React to Resource Changes**

CloudWatch Events provides a stream of events describing changes to your AWS resources. You can easily build workflows that automatically take actions you define, such as stopping an Amazon EC2 instance, sending an Amazon SNS message, or adding a message to the Amazon SQS Queue, when an event of interest occurs.

# EBS

Amazon Elastic Block Store (Amazon EBS) is a service that provides persistent block-level storage for Amazon Elastic Compute Cloud (Amazon EC2) instances.(**EBS provides persistent block level storage for ec2 instance**)

Simply speaking, the service allocates reliable hard drives (aka volumes) to cloud servers

Block storage stores files in multiple volumes called blocks, which act as separate hard drives; block storage devices are more flexible and offer higher performance than regular file storage.

You need to mount EBS onto an Amazon EC2 instance.

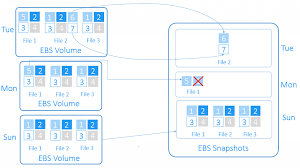
EBS snapshots

EBS snapshots are backups of EBS volumes.

EBS snapshot is a point-in-time copy of your Amazon EBS volume, which is lazily copied to Amazon Simple Storage Service (Amazon S3).

EBS snapshots are incremental copies of data .

This means that only unique blocks of EBS volume data that have changed since the last EBS snapshot are stored in the next EBS snapshot.



**AWS EFS** is a shared, elastic file storage system that grows and shrinks as you add and remove files. It offers a traditional file storage paradigm, with data organized into directories and subdirectories. EFS is useful for SaaS applications and content management systems. You can mount EFS onto several EC2 instances at the same time.

