

# Subject - Cloud Computing

## Assignment : 1

1] EC2 :- Amazon Elastic Compute cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud.

It is designed to make web-scale cloud computing easier for developers. Amazon EC2 single web service introduces ability to configure capacity with minimal function.

2. Elastic Beanstalk :- AWS Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and source code stored with Java, .NET, PHP, Node.js, Python, Ruby, Go and Docker on familiar servers such as Apache, Nginx, Passenger and IIS.

3. IAM :- AWS Identity and Access management (IAM) enables you to manage access to AWS services and resources securely using IAM. You can create and manage up to AWS services users are groups and use permission to allow and deny their access to AWS resources.

4. ELB :- Elastic Load Balancing automatically distributes incoming application traffic across multiple targets.

Such as Amazon EC2, Instances, containers IP address, Lambda functions and virtual on layers

5) ES3 & Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry leading scalability, data availability, security and performance.  
customer of all size and Industries can use it to store and protect any amount of data.

6) EBS & Amazon Elastic Block Store (EBS) is an easy to use high performance, block storage service designed for use with Amazon elastic compute cloud (EC2) for both throughput and transaction intensive workloads at any scale.  
ex Big data analytic engines deployed on Amazon EBS.

7) FSx for Lustre & Amazon FSx for Lustre is a fully managed service that provides cost effective, high performance, scalable storage for compute workloads.  
It provide multiple deployment options storage types to optimise cost & performance for your workload requirement.

8) Glacier & Amazon S3 Glacier is a secure, durable and extremely low cost Amazon S3 Storage class for data archiving and long term backup with S3 Glacier, customers can store their data cost effectively for months, years or even decades.



9) Sage maker & Amazon SageMaker is fully managed machine learning service with Sage maker, data Scientists and developers can quickly and easily build and train machine learning models and then directly deploy them into production ready hosted environments.

10) Rekognition & Amazon Rekognition makes it easy to add image and video analysis to your Applications using proven, highly scalable, deep learning technology that requires no ML expertise to use with Amazon Rekognition.  
You can identify objects, people, scenes, Activities in image & videos.

11) SNS) Amazon Simple Notification Service (SNS) is a fully managed messaging service for both Application-to-Application (A2A) and Application-to-Person (A2P) communications.

12) SES) Amazon Simple email service is a cost effective flexible and scalable email service that enables developers to send mail from within any Applications.

With ses You can send email securely, globally and at scale.

13) Lambda & AWS Lambda is a serverless compute service that you can code without provisioning or managing servers, creating workload-aware cluster scaling, logic



maintaining event integrations with Lambda.

14. RDS & Amazon Relational Database Service (RDS) makes it easy to setup, operate and scale a relational database in the cloud.

It provides cost-efficient and resizable capacity with automating time-consuming administration tasks such as hardware provisioning, database setup, patching and backups.

15. Cloud9 & AWS Cloud9 is a cloud-based integrated development environment (IDE) that lets you write, run & debug your code with just a browser.

It includes a code editor, debugger, terminal. Cloud9 comes prepackaged with essential tools for popular programming languages including JS, Python, PHP etc. --

16. Cognito & Amazon Cognito lets you add user sign-up, sign-in and access control to your web & mobile app quickly and easily.

17. VPC & Amazon Virtual Private Cloud is a service that lets you launch AWS resources into a logically isolated virtual network.

18. Route 53 & Amazon Route 53 is a highly available and scalable cloud domain name system (DNS) service. It is designed to give development and business an extremely reliable and cost-effective way to route and direct users to Internet apps by translating names like `www.example.com`.

## Assignment - 4

\* Define

(1) Compute Engine &

- Secure and customizable compute service, that lets you create and run virtual machines, on Google's infrastructure.

(2) App engine &

- Build highly scalable Applications on a fully managed serverless platform.

(3) Cloud Function &

- Scalable pay-as-you-go Function as a machine service to run your code with zero server management.

(4) Google Kubernetes Engine

- A simple way to automatically deploy, scale and manage Kubernetes.

(5) Cloud Run

- Develop and deploy highly scalable containerized Application on a fully managed serverless platform.

(6) Container Registry

- Store, manage and secure your Docker container image.



### 7) Virtual private cloud &

- Global virtual network that spans all regions single VPC for an entire organization isolated within project increases IP space with no downtime.

### (8) Cloud load balancing &

- High performance, scalable, load balancing on Google cloud platform.

### (9) Cloud Hybrid connectivity

- connect your infrastructure to Google cloud on your team from anywhere.

### (10) Google cloud domain cloud DNS

- Reliable, resilient, low-latency, DNS serving from Google's worldwide network with everything you need to register, manage and serve your domain.

### (11) Cloud CDN

- Fast, reliable web and video content delivery with global scale and reach.

### (12) Google cloud Armor &

- Help protect your application and website against denial of service and web attacks.

### (13) Cloud Storage

- Cloud Storage for companies of all sizes. Store any amount of data, retrieve it all as often as you'd like.

(14) persistent disk  
- Reliable high performance block storage for virtual machine instances.

(15) cloud storage and data archiving  
- Highly available affordable solution for backup cloning and disaster recovery

(16) File store :-  
- High performance, fully managed file storage

(17) memory store :-  
- Reduce latency with scalable secure and highly available in memory service for Redis and memcached

(18) cloud SQL  
- Fully managed relation database service for MySQL, PostgreSQL, and SQL Server

(19) cloud spanner  
- Fully manage, relation database with unlimited .Scale, Strong consistency and upto 99.99% Availability

(20) cloud big table  
- A Fully manage .Scalable NoSQL database service for large analytical and operational work. load with upto 99.99 availability



(21) BigQuery  
- Serverless, highly scalable and cost effective multicloud data warehouse designed business agility

(22) pub/sub  
- Ingest events for streaming into BigQuery data loader or operational database.

(23) DataProc  
- DataProc is a fully managed and highly scalable service for running Apache, Spark, Apache Hadoop, Presto and so on open source tools and frameworks.

(24) DataFlow  
- Unified stream and batch data processing that's serverless, fast and cost-effective

(25) cloud composer  
- A fully managed workflow orchestration service built on Apache Airflow

(26) cloud deployment manager  
- Google Cloud deployment manager is an Infrastructure deployment service that automates the creation and management of Google Cloud resources

(27) cost management  
- Tools for monitoring, controlling and optimizing your costs.



(28) cost monitoring ✓  
- gain visibility into the performance availability and health of your application or infrastructure

(29) Cloud logging  
- Fully managed, real-time, log management with storage, secure analysis and alerting at exabyte scale

(30) Cloud Audit logs  
- gain visible into who did what, when and where for all users on google cloud platform

(31) Cloud & debugger  
- Investigating your code's behaviour in production

(32) Cloud trace  
- Find performance bottlenecks in production

(33) Cloud Identity and Access management  
- Fine grained Access control and visibility for securely managing cloud resource

(34) Secret manager ✓  
- Store API key password, certificate and other kind sensitive data ✓

(35) Cloud key  
- manage encryption key on google cloud

(36) Cloud Asset inventory

- A metadata inventory service that allows you to view, monitor and analyse all your GCP and AWS Asset across Project and security

(37) web service - security

- Security Command Center Google Cloud centralized vulnerability and threat reporting Service

(38) Event Threat Detection

- Security and risk management platform for Google Cloud

(39) manage service for Microsoft Active Directory

- managed service for Microsoft Directory AD high availability hybrid Microsoft Active-Directory domain hosted by Google Cloud

(40) Speech to text

- Accurately convert speech into text using an API powered by Google's AI technologies

(50) Cloud Vision

- derive insight from your image in the cloud or at the edge with AutoML Vision or use Pretrained Vision API model to detect, monitor, understand text and more

(51) Cloud natural language AI

- Derive insights from unstructured text using Google ML



### (52) Cloud translation

- make your context and apps multilingual with fast, dynamic machine translation.

### (53) Dialogflow

- life like, conversational AI with state of the art virtual agents.

### (54) Video AI

- Enable powerful content discovery and engaging video experience

### (55) Auto ML

- Train high quality custom machine learning model with minimal effort and ML expertise

### (56) AI Platform :-

- Build, deploy and scale ML models faster with pre trained and custom training within a unified AI platform.

### (57) Cloud IoT

- on click insight from your global device network with an intelligent IoT, platform whose scalable fully managed integration lets you connect store and analysis data at the edge and in the cloud.