

## Cloud Computing

### Assignment - 1

1) ECS :-

It is designed to make web-scale cloud computing easier for developers. Amazon ECS Simple Web Service interface allows you to configure capacity with minimal friction.

2) Elastic Beanstalk:- AWS Elastic Beanstalk is an easy-to-use service for developing and scaling web-application and sources developed with Java, .NET, PHP, Python and Docker on familiar servers such as Apache, Passenger and IIS.

3) IAM :- AWS Identity and Access management enables you to manage access to AWS services and resources security using IAM.

You can create and manage users, 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.

5) S3 :-

Amazon Simple Storage Service is an object storage service that offers industry leading scalability, data availability, security and performance.

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 work loads at any scale.

## 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 provides multiple deployment options and storage types to optimize cost and performance for your workload requirement.

## 8) Glacier :-

Amazon S3 Glacier is a secure, durable and extremely low cost Amazon S3 storage close for data archiving and long term backup with S3. Glacier customers can store their data cost effectively for months, years or decades.

## 9) SageMaker :-

Amazon SageMaker is a fully managed machine learning service with Sage maker, data scientists and developers can quickly and easily build and train machine learning modules and then directly deploy them in a production ready hosted environment.

### 10) Recognition :-

- Amazon recognition makes it easy to add image and video analysis to your application using proven highly scalable, deep learning technology that requires no machine learning expertise to use with Amazon recognition.

### 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 (SES) is a cost effective, flexible and scalable email service that enables developers to send email from within their application.

### 13) Lambda:-

Aws Lambda is a serverless compute service that lets you run code without provisioning or managing servers. Creating, scaling, workload, logic, maintaining event regulation with Lambda.

### 14) RDS :-

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

### 15) Cloud9 :-

Aws Cloud9 is a cloud based integrated development environment IDE that lets you write, run and debug your code with just a browser.

It include a code editor, debugger and terminal.

16) Cognito :

Amazon Cognito lets you add user signup, sign-in and access control to your web and mobile app.

17) VPC ..

Amazon Virtual Private Cloud is a service that lets you launch AWS resources into logically isolated virtual networks.

18) Route 53 →

Amazon Route 53 is a highly available and scalable cloud domain name system web service. It is designed to give development and business an extremely flexible and fast effective way to route end users to Internet applications by translating names.

## Assignment

Source category	Service	Aws	google cloud.
1) Compute	IaaS	Amazon Elastic Compute Cloud - Secure compute cloud, customizable compute service on virtual machine	
	PaaS	Aws elastic Beanstalk - highly scalable application on a fully managed servlets platform.	App Engine - Build App Engine - Build
	FaaS	Aws Lambda - cloud functions : - Scalable by as you go function as serve to run your code with zero service management	Cloud Functions -
2) Containers	CaaS	Amazon Elastic Kubernetes Service - Simple way to automatically deploy, scale and manage Kubernetes	Google Container Engine -

Containers without infrastructure	Aws Fargate	Cloud Run :- deploy highly scalable containerized application on a fully managed service platform
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Container Registry	American Elastic Container Registry	Container Registry :- store manage and secure your container image
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3) Networking	Virtual network	American virtual Private cloud	Virtual private cloud :- global virtual network that spans all regions single up to an entire organization.
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- Load Balancing	Cloud Load Balancer	Cloud Load Balancing
		High performance scalable load balancing on google cloud platform

Dedicated Internet Connection	Aws Direct Connect	Cloud Interconnect :- connect your infrastructure to google cloud platform on your term from anywhere.
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Domain and DNS	American Route 53	Google Domain Cloud DNS :- definitive low-latency DNS service from google worldwide network with manage and server your domain
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CDN	American	Cloud CDN :- fast reliable web and video content delivery with global scale and speed.
DDoS	Amazon AWS shield, firewall	Google Cloud Armor :- protect your application and website against denial of service and web attack.
w) Storage	Object Storage	Cloud Storage :- stores tiny amount of data. Refers to
Block Storage	American Electric Block storage	Persistent Disk :- Reliable high performance block storage for virtual machine instance.
Reduced Availability Storage	Amazon Amazon Elastic file System	Cloud Storage Gateway :- highly available affordable system for backup archive and data recovery.
file storage	American Elastic file System	Filestier :- high performance fully managed file storage.
In-memory data store	American Glacier Cache for Redis	Memory store :- reduce latency with speed and highly available in-memory service.

5) Database	RDBMS	Amazon Relational Database Service	Cloud SQL - fully managed RDBMS service for MySQL, PostgreSQL and SQL Server.
	NoSQL	Amazon DynamoDB	Cloud BigTable :- A fully managed service. NoSQL database service for large analytical and operational workload.
6) Data Analytics	Data Warehouse	Amazon Redshift	BigQuery :- Serverless high scalable and cost effective multi-table warehouse designed for business analytics.
	Messaging	Amazon Simple Queue Service	Pub/Sub :- Highest efficient streaming into Big query data or operational databases.
Batch Job Processing	Amazon EMR	Amazon Kinesis	Docker :- It is fully managed and highly scalable service for running Apache.

Stream data Processing	Amazon Kinesis		Dataflow:- unified stream and log file processing that serverless, fast and cost effective
Workflow orchestration	Amazon Data Pipeline, AWS Lambda		Cloud Composer:- A fully managed workflow orchestration service build on Apache Airflow.
Deployment tools	Deployment As code through Terraform		Cloud Deployment tools:- manager IT as infrastructure deployment script that automate the creation and management of scope cloud resources.
Cost management	Avg Budget		Cost management tools to monitor, analyze and optimizing your cost.
Operations	Monitoring Amazon CloudWatch		Cloud monitoring:- Gain visibility into the performance, availability and health of application and infrastructure.

Logging Amazon CloudWatch logs  
Cloud log: fully managed log management with storage and analysis and altering at ex. <sup>sub</sup>system level

Audit logging AWS CloudTrail  
Cloud Audit logs - gain visibility into who did what, when and where for all users on Google Cloud platform

Debugging AWS X-Ray, Cloud Debugger :- Insures your behavior in product

Performance Monitoring AWS X-Ray  
Cloud trace: find performance bottle neck in product

Identity & IAM AWS Cloud Identity and Access Management - fine grained access control, role based managing cloud resources.

Secret Manager	Ans Secrets Manager	Secret manager :- Use API key password certificate and other sensitive data.
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Resource monitoring	Ans Cloud	Cloud Asset Inventory :- A meta data inventory service that allows to view monitor and analysis, help and asset across project and services.
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Encrypted Ans key keys, management Services	Cloud key management service managing encryption keys on google cloud.
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Attack detector	Amazon guard duty	Event threat detector :- Security and management platform for google cloud.
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Vulnerability Scanner	Web Security Scanners: Security Command Center Google Cloud's centralized and threat reporting service.
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to Machine learning	Speech	Amazon transcript	Speech-to-text Accuracy Convert speech into text using an API provided by Google AI technology
Natural language processing	Amazon comprehend	Cloud Natural Language API	Give insight from unstructured text using Google ML
Translation	Amazon translation	Cloud Translation API	Make content and app multilingual with fast dynamic ML
Video intelligence	Amazon Rekognition	Video AI: Analytics	powerful content discovery and engaging video experiences
Fully managed ML	DynamoDB	AI Platform	- Build develop and scale ML model faster.
Internet of things	IoT	Amazon IoT	Cloud IoT API Get insight from your global device networks with an intelligent IoT platform for your vehicle fully managed