



# Assignment - 4

Q-1) Discuss Google Cloud Services

| <u>Service Category</u> | <u>Service</u> | <u>AWS</u>   | <u>Google Cloud</u>   |
|-------------------------|----------------|--|---|
| 1. Compute              | IaaS           | Amazon Elastic Compute Cloud.  | <u>Compute Engine</u> :- Secure and customizable compute service run on virtual Machine.                            |
|                         | PaaS           | AWS Elastic Beanstalk  | <u>App Engine</u> :- Build highly scalable application on a fully managed serverless platform.                      |
|                         | FaaS           | AWS Lambda   | <u>Cloud Functions</u> :- Scalable. Pay as you go function as service to run your code with zero server management. |
| 2. Containers           | PaaS           | Amazon Elastic Kubernetes Service,<br>Amazon Elastic Container Service | <u>Google Kubernetes Engine</u> :- Simple way to automate deploy, scale and manage Kubernetes.                      |





3. Networking

Containers  
without  
infrastructureAWS  
FargateCloud Run:- deploy highly  
scalable containered  
application on a fully  
managed services platform.Container  
RegistryAmazon Elastic  
Container  
RegistryContainer Registry:- Store,  
manage and secure your  
Docker container image.Virtual  
networksAmazon virtual  
Private cloudVirtual Private cloud:-  
Global virtual network that  
spans all regions single  
VPC for an entire org.

Load Balancer

Elastic Load  
BalancingCloud Load Balancing:-  
High Performance Scalable  
load balancing on google  
cloud platform.Dedicated  
interconnectedAWS Direct  
ConnectCloud Interconnect - connect  
your infrastructure to google  
cloud on your term for  
anywhere.Domains  
and DNSAmazon  
Route 53Google Domains, Cloud  
DNS:- Reliable, low latency.  
DNS serving from google  
world wide network.  
manage and serve  
your domain.



|            |                                |                                |  |
|------------|--------------------------------|--------------------------------|--|
|            | CDN                            | Amazon CloudFront              | Cloud CDN:- Fast, Reliable. web and video content delivery with global scale and reach.                  |
|            | DDoS firewall                  | AWS Shield, AWS WAF            | Google Cloud Armor:- Protect your application and website against denial of service and web attacks.     |
| 4. Storage | Object Storage                 | Amazon Simple Storage Services | Cloud Storage:- Stores any amount of data. Retrieve it also.   |
|            | Block Storage                  | Amazon Elastic Block Store     | Persistent Disk:- Reliable, High Performance block storage for virtual Machine instance.                 |
|            | Reduced - availability Storage | Amazon Glacier                 | Cloud Storage Archive:- Highly available, affordable solution for backup, archive and disaster recovery. |
|            | File Storage                   | Amazon Elastic File System     | File Store:- High performance, fully managed file storage.   |





|    |                |                      |   |  |
|----|----------------|----------------------|---|--|
|    |                | In-memory data store | Amazon ElastiCache for Redis                      | <u>MemoryStore</u> - Reduce latency with highly available in-memory service for Redis and RedisCache.                  |
| 5. | Database       | RDBMS                | Amazon Relational Database Service, Amazon Aurora | <u>Cloud SQL</u> - fully managed relational database service for MySQL, PostgreSQL, and SQL Server.                    |
|    |                | NOSQL: key-value     | Amazon DynamoDB                                   | <u>Cloud Bigtable</u> - A fully managed scalable NoSQL database service for large analytical and operational workload. |
| 6. | Data analytics | Data warehouse       | Amazon Redshift                                   | <u>BigQuery</u> - Serverless high scalable and cost effective Multidimensional data warehouse design business ability. |
|    |                | Messaging Service    | Amazon Simple Queue Service                       | <u>Pub Sub</u> - Target event for streaming into Big query data lakes or operational database.                         |





|    |                        |                                      |  |
|----|------------------------|--------------------------------------|--|
|    | Batch data Processing  | Amazon Elastic Map Reduce, AWS Batch | <u>DataProc</u> :- It is fully managed and highly scalable service for running Apache, Hadoop.   |
|    | Stream data Processing | Amazon Kinesis                       | <u>Dataflow</u> :- Unified stream and batch data processing tool. Serverless, Fast and cost effective.   |
|    | Workflow orchestration | Amazon Data Pipeline, AWS Glue       | <u>Cloud Composer</u> :- A fully managed workflow orchestration service built on Apache Airflow.   |
| 7. | Management tools       | AWS CloudFormation                   | <u>Cloud Deployment manager</u> :- It is infrastructure deployment service that automates the creation and management of Google Cloud resources. |
|    | Cost Management        | AWS Budgets                          | <u>Cost Management</u> :- Tools for monitoring, controlling and optimizing your cost.  |
| 8. | Operations             | Amazon CloudWatch                    | <u>Cloud Monitoring</u> :- Gain visibility into the performance, availability and health of your application and infrastructure.                 |



|    |                     |                        |  |
|----|---------------------|------------------------|--|
|    | Logging             | Amazon CloudWatch Logs | Cloud Logging:- fully managed, realtime log management with storage, select analysis and alerting at exabyte scale.      |
|    | Audit logging       | AWS Cloud Trails       | 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:- Investigate your code behaviour in production.  |
|    | Performance tuning  | AWS X-Ray              | Cloud Trace:- Find performance bottle neck in production   |
| 9. | Security & Identity | IAM                    | Cloud Identity and Access Management:- Fine grained access control and visibility for securely Managing cloud resources. |





|     |                  |                        |                             |  |
|-----|------------------|------------------------|-----------------------------|--|
|     |                  | Secret Management      | AWS Secrets Manager         | <u>Secret Manager</u> :- Store API Key Password, Certificate and other sensitive data.   |
|     |                  | Resource monitoring    | AWS Config                  | <u>Cloud Asset Inventory</u> :- A new data inventory service that allow to view monitor and analysis SCP and Autos config across Project and services. |
|     |                  | Encrypted keys         | AWS Key Management Services | <u>Cloud Key Management Service</u> :- Manage encryption key on google cloud.  |
|     |                  | Threat detection       | AWS GuardDuty               | <u>Event Threat Detection</u> :- Security and Risk Management Platform for google cloud.   |
|     |                  | Vulnerability Scanning | AWS Inspector               | <u>Web Security Scanner</u> :- Security Command Center google cloud's centralize and threat reporting service  |
| 10. | Machine Learning | Speech                 | AWS Transcribe              | <u>Speech-to-Text</u> :- Automatically convert speech into text using an API Powered by google AI technology.  |



|     |                       |                                  |                                |  |
|-----|-----------------------|----------------------------------|--------------------------------|--|
|     |                       | Vision                           | Amazon<br>Recognition          | <u>Cloud vision</u> :- It derive insight from image in the cloud at the edge with Auto ML vision.  |
|     |                       | Neural<br>Language<br>Processing | Amazon<br>Comprehend           | <u>Cloud Neural Language API</u> :-<br>Derive insight from unstructured text using google ML.  |
|     |                       | Translation                      | Amazon<br>Translation          | <u>Cloud Translation</u> :-<br>Make content and app Multilingual with fast dynamic ML.   |
|     |                       | Video<br>intelligence            | Amazon<br>Recognition<br>video | <u>Video AI</u> :- Provides powerful content discovery and engaged video experience.   |
|     |                       | Fully managed<br>ML              | Amazon<br>SageMaker            | <u>AI Platform</u> :- Build, develop and scale ML model faster   |
| 11. | Internet of<br>Things | IoT<br>Services                  | Amazon<br>IoT                  | <u>Cloud IoT</u> :- Extract insight from your global device network with an intelligent IoT Platform whose scalable fully managed integration. |