

# AWS V/S Google Cloud Platform (GCP)

## Serverless Technologies

### AWS:

1. AWS Lambda: Offers a robust Function-as-a-Service (FaaS) platform for running code in response to events without provisioning servers. It has 1 million invocation free per month and 0.02\$ for next 1 million invocations
2. AWS Fargate: Manages containers without needing to manage servers.
3. AWS App Runner: Automatically deploys and scales web applications and APIs from code or a container image.

### GCP:

1. Google Cloud Functions: Provides a similar FaaS environment to AWS Lambda, enabling the execution of code in response to events. It gives 2 million free invocation per month and 0.04\$ for next million requests after that
2. Google Cloud Run: Runs stateless containers that are invocable via HTTP requests, combining the ease of serverless with container flexibility.
3. Google App Engine: A Platform-as-a-Service (PaaS) offering that automatically scales applications based on demand.  
Cost and Free Tier

### AWS Free Tier:

1. AWS Lambda: 1 million free requests and 400,000 GB-seconds of compute time per month.
2. Amazon S3: 5 GB of standard storage and 2000 put request and 10000 get request.
3. Amazon EC2: 750 hours of t2.micro or t3.micro instances per month for one year.

### GCP Free Tier:

1. Google Cloud Functions: 2 million invocations per month.
2. Google Cloud Storage: 5 GB of regional storage and 50,000 put and get requests.
3. Google Compute Engine: One f1-micro instance per month.

## Pricing Models

### AWS:

1. On-Demand Pricing: Pay for what you use with no long-term commitments.
2. Can be done using debit card so you have a choice to pay the bill or ditch your account

### GCP:

1. On-Demand Pricing: Similar to AWS, pay for what you use. After 90 days you need to upgrade your account and enter credit card details so the bill will be automatically deducted from your bank.

## **Performance and Scalability**

### **AWS:**

1. Global Reach: Offers the largest number of data centers and availability zones worldwide, ensuring low latency and high redundancy.
2. Auto Scaling: Automatically adjusts capacity to maintain steady and predictable performance.

### **GCP:**

1. High-Performance Compute: Known for its high-performance computing and network capabilities, suitable for compute-heavy applications.
2. Global Load Balancing: Efficiently distributes traffic across multiple regions to minimize latency.

## **Security and Compliance**

### **AWS:**

1. AWS Identity and Access Management (IAM): Provides fine-grained access control and integrates with many AWS services for enhanced security.
2. Compliance: Extensive list of certifications and compliance attestations.

### **GCP:**

1. Google Cloud IAM: Offers similar capabilities for managing access to resources securely.
2. Security Innovations: Includes features like live migration of VMs for zero-downtime maintenance.

## **Ecosystem and Developer Tools**

### **AWS:**

1. AWS CloudFormation: Enables the provisioning of infrastructure using code, supporting Infrastructure as Code (IaC) practices.
2. AWS Cloud9: A cloud-based integrated development environment (IDE) for coding, running, and debugging. Also can use aws-sdk too in vs code.

### **GCP:**

1. Google Cloud Deployment Manager: Allows the creation and management of resources using templates, supporting IaC.
2. IDE Support: Integration with popular IDEs like Visual Studio Code and IntelliJ IDEA.

## **MY OPINION :**

I would choose AWS over GCP because it's easier to get started. AWS doesn't require a credit card, so there's no worry about automatic charges. It offers a free tier with enough resources to try out different services without paying. AWS also scales automatically, meaning it adjusts to your needs if your project grows, keeping everything running smoothly. Plus, AWS has a wide range of tools for building all kinds of projects. Overall, AWS provides a stress-free, flexible, and powerful environment.