



Building and Deploying Applications on Google Cloud Platform

```
Lookup.KeyValue
f.constant(['en'])
= tf.constant([G
.lookup.StaticV
buckets=5)
```

Agenda

1. Introduction to Cloud Computing
 - a. Evolution of Cloud
2. Advantages of Cloud Computing
3. Available Cloud Service Providers
4. Google Cloud Platform (GCP)
5. Comparison of Services
6. Compute Engine
7. Google App Engine (GAE)
8. Deployment Demo
9. Cloud Run Deployment Demo
10. Other possibilities
11. Summary

#GoogleCloud

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Introduction

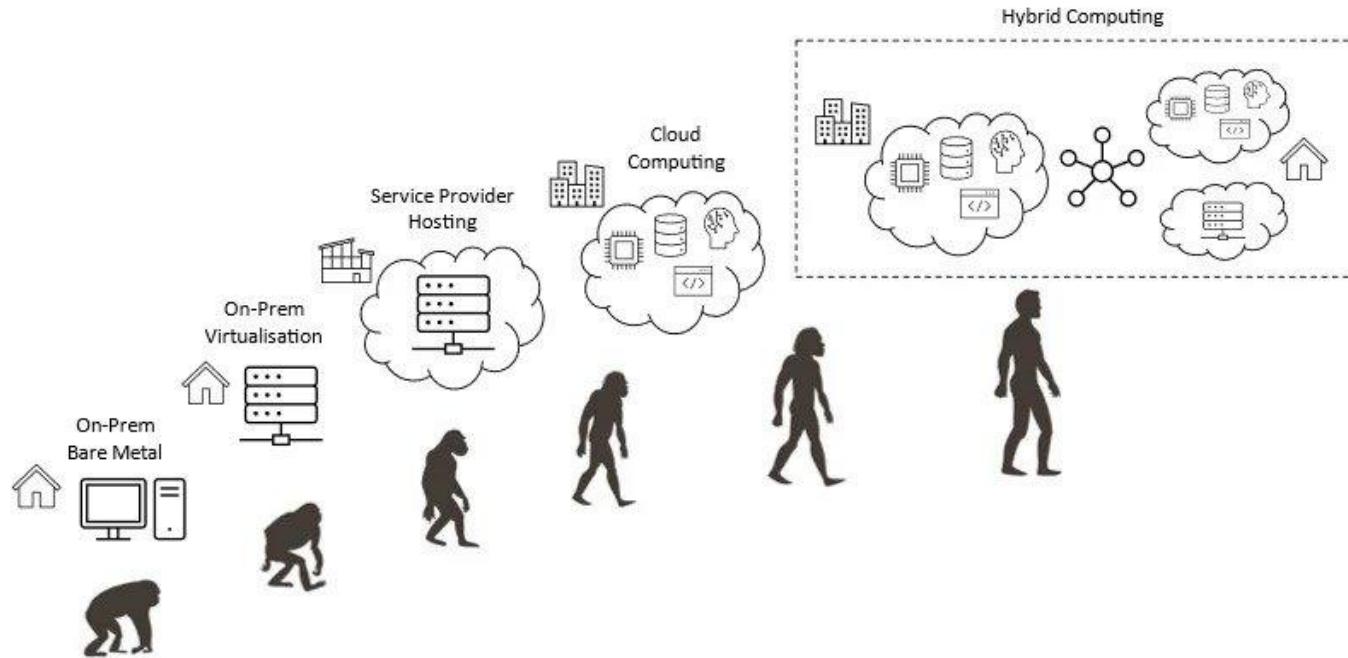
Cloud computing is the delivery of computing services over the internet (“the cloud”) to offer faster innovation, flexible resources, and economies of scale.



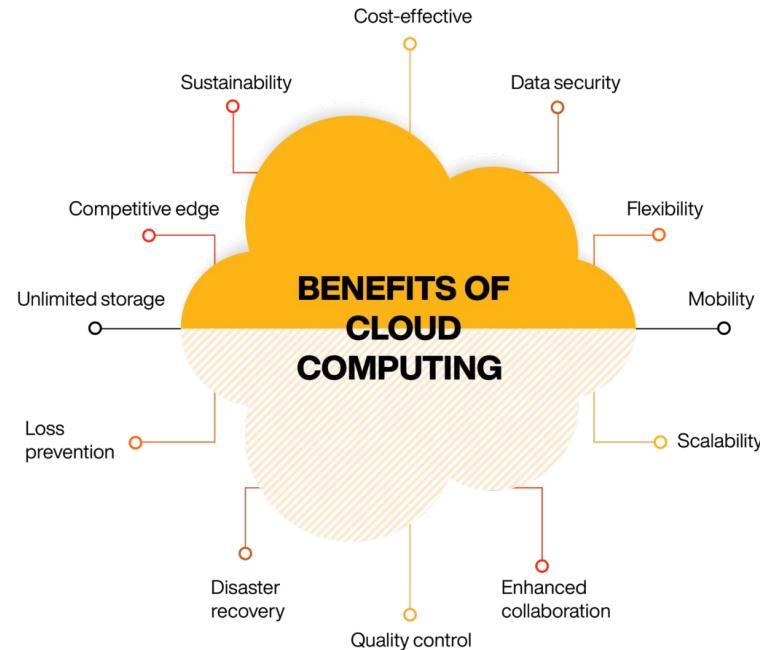
**“It’s someone else’s
computer”**



Evolution of Cloud Computing



Benefits of Cloud Computing



Terminologies

1. Infrastructure as a Service (IaaS)
2. Platform as a Service (PaaS)
3. Software as a Service (SaaS)
4. Load Balancing
5. Virtual Machine
6. Application Programming Interface (API)
7. DevOps
8. Public Cloud / Private Cloud
9. Cloud Backup
10. Cloud Migration
11. Cloud Native
12. Container
13. Scalability
14. Serverless
15. Microservices
16. Container Orchestrator

Available Cloud Service Providers



Google Cloud



Azure



IBM Cloud



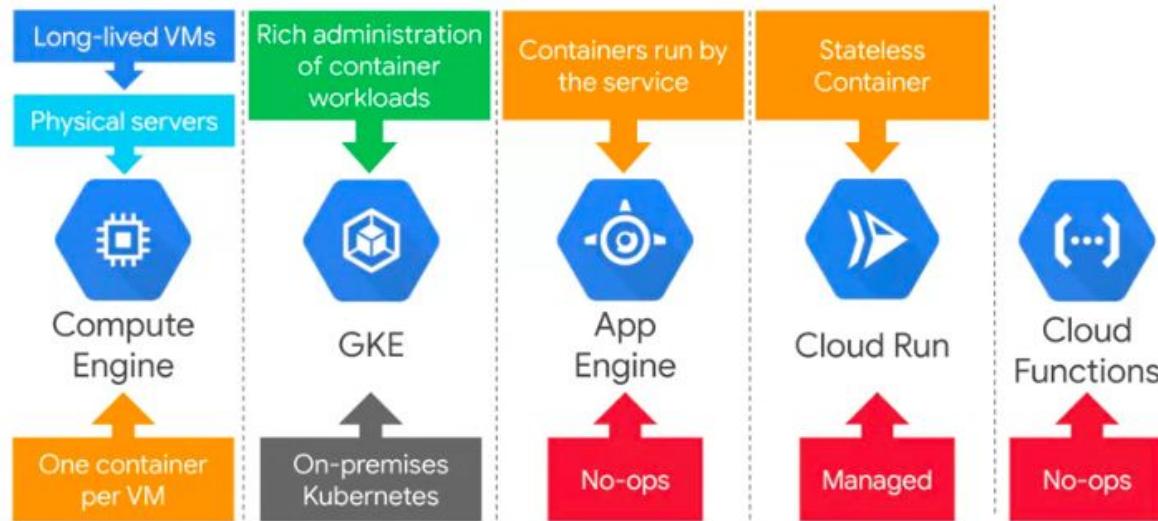
DigitalOcean

Google Cloud Platform (GCP)

Google Cloud offers services for compute, storage, networking, big data, machine learning and IoT, as well as cloud management, security and developer tools.

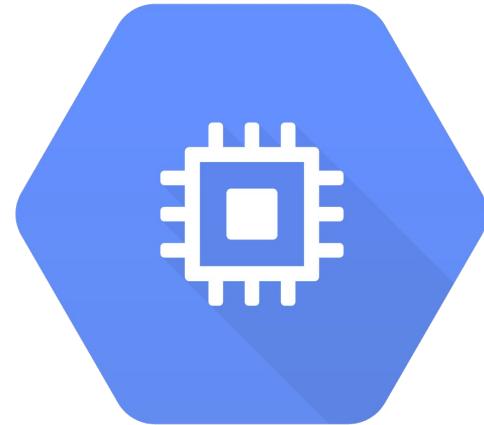
Compute	 Compute Engine	 Kubernetes Engine	 App Engine	 Cloud Functions		
Management	 Cloud Console	 Stackdriver	 Trace	 Logging	 Debugger	 Monitoring
Networking	 Cloud Load Balancing	 Cloud CDN	 Cloud DNS	 Firewall Rules	 Cloud Interconnect	 Cloud VPN
Storage & Databases	 Cloud Bigtable	 Cloud Datastore	 Cloud Spanner	 Cloud SQL	 Cloud Storage	
Big Data	 BigQuery	 Cloud Dataflow	 Cloud Dataprep	 Cloud Dataproc	 Cloud IoT Core	 Cloud Pub/Sub
Identity & Security	 Cloud IAM	 Cloud Endpoints	 VPC	 Identity Aware Proxy	 KMS	 Data Loss Prevention
Machine Learning	 Cloud ML	 Natural Language API	 Cloud Speech API	 Cloud Vision API	 Cloud Translate API	

Comparison



Google Compute Engine

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



Demo Time [Compute Engine]



Google App Engine

Build monolithic server-side rendered websites. App Engine supports popular development languages with a range of developer tools.



Demo Time [App Engine]



Google Cloud Run

Build and deploy scalable containerized apps written in any language (including Go, Python, Java, Node.js, .NET, and Ruby) on a fully managed platform.



Demo Time [Cloud Run]



What's containerization ??





```
# Use an official Go runtime as a parent image
FROM golang:1.16-alpine3.14

# Set the working directory to /app
WORKDIR /app

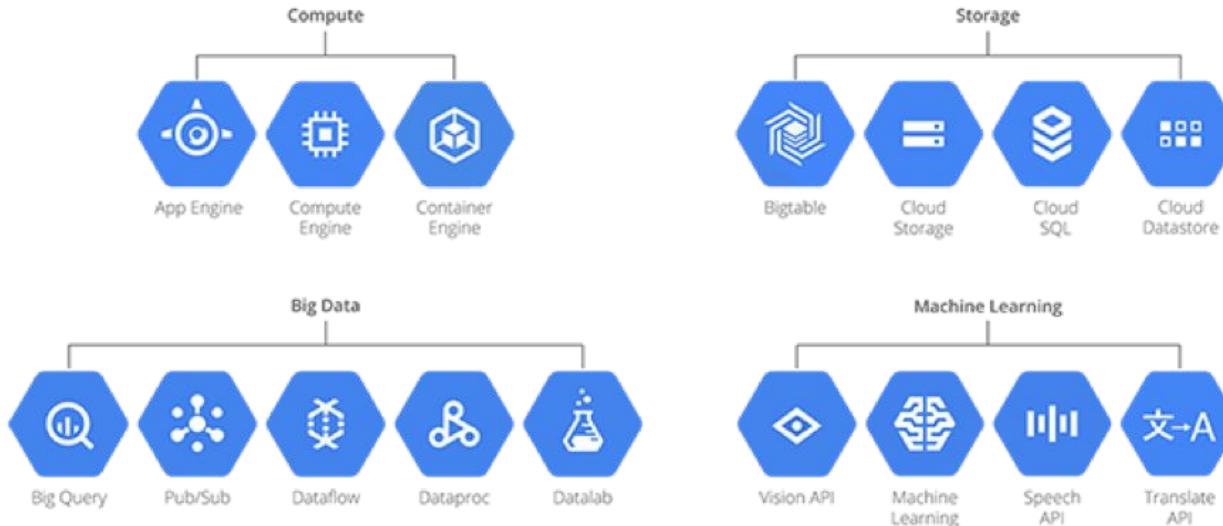
# Copy the current directory contents into the container at /app
COPY . /app

# Build the Go application
RUN go build -o main .

# Expose port 8080 to the outside world
EXPOSE 8080

# Run the Go application when the container starts
CMD [ "/app/main" ]
```

Other possibilities



Where to next.....?

- \$300 in free credits are available to try out Google Cloud
- Tryout Google Codelabs (<https://codelabs.developers.google.com/>)
- Redeem GitHub Student Developer Pack (<https://bit.ly/GitHubSDP>)
- Play with Docker (<https://labs.play-with-docker.com/>)
- Google I/O Extended Sri Lanka and DevFest
- KCD Sri Lanka 2023
- Cloud Kasthiram v2.0 coming soon



Questions and Answers



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Google Developer Groups