



Google App Engine

Google Cloud Platform



Google Cloud Platform

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App Engine Overview and Features

2

Comparing Compute Options on Google Cloud Platform

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Managed VMs

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Lab

App Engine

- **Managed** runtimes for specific versions of Java, Python, PHP & Go
- **Autoscale** your **web** workloads to meet demand
- **Free** daily quota, usage based [pricing](#)
- Local **SDK** for development, testing and deployment
- Need to conform to sandbox constraints:
 - No writing to the local file system
 - Request timeouts at 60 seconds
 - Limit on 3rd-party software installations



App Engine Workflow - Web Applications

1

Develop & test the web application locally



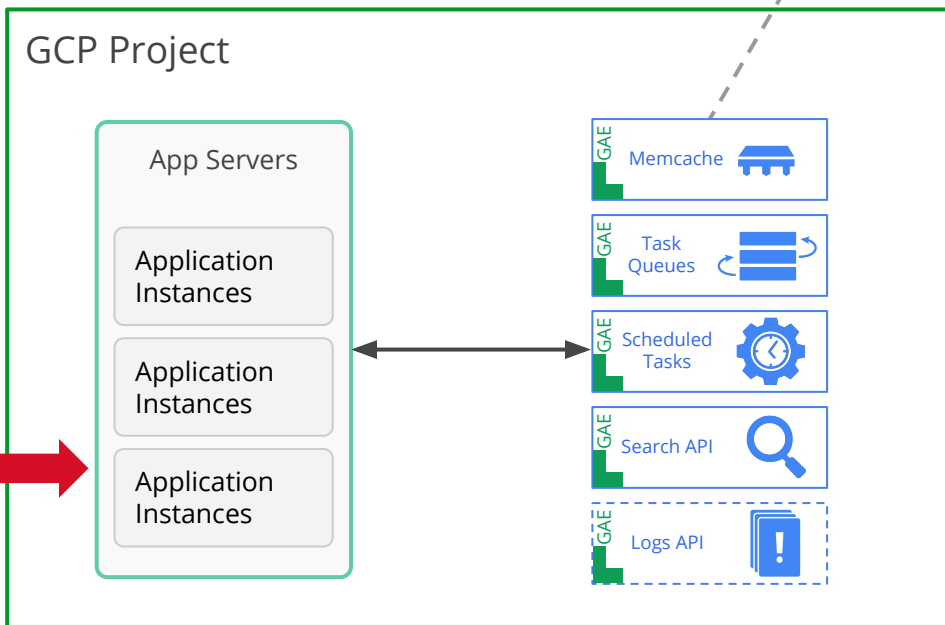
2

Use the SDK to **upload** to App Engine



3

App Engine automatically **scales & reliably** serves your web application



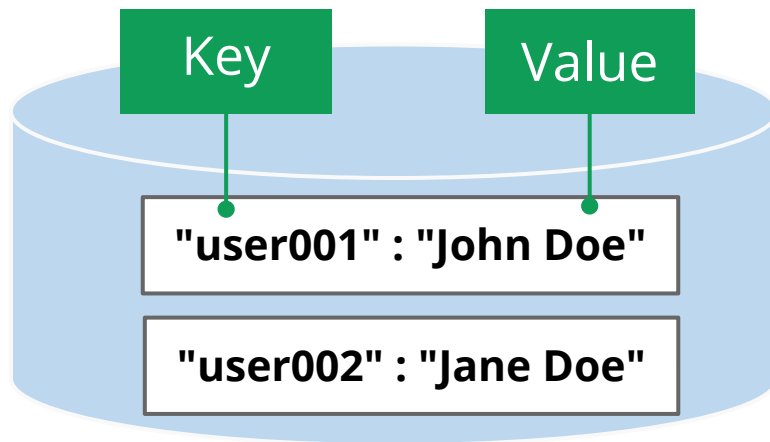
App Engine can access a variety of services using dedicated APIs

App Engine Services

- Users API** Allows applications to sign in users with Google Accounts (OAuth 2.0)
- Modules API** Factor applications into logical components that can securely communicate and share stateful services
- Task Queue** Manage and perform work using small tasks that are executed outside of the scope of a user request
- Sockets** Supports outbound sockets from within your application
- Search** Perform Google-like searches over structured data such as HTML, dates, and geographic locations
- Logs** API access to application and request logs from your application
- Mail** Send and receive email from your application

App Engine Supports Memcache

- Used to cache read-heavy operations
 - Database values
 - Tokens
 - API calls
- Key / value pair, **in-memory** datastore
- Improves performance and reduces costs



Note: Memcache is not a durable storage.
Plan for your application to function without Memcache.

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Comparing Compute Options

	Compute Engine	Container Engine	App Engine
Language support	Any	Any	Java, Python, Go & PHP
Availability	Generally available	Beta	Generally available
Service model	IaaS	Hybrid	PaaS
Primary use case	General computing	Container-based workloads	Web and mobile applications

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Managed VMs

- Standard runtimes for Python, Java, and Go with **no sandbox constraints**
- Custom runtime support for **any language** that supports HTTP requests
- Currently in **beta (US region only)**
- Pricing based on underlying **GCE usage**
- Local development relies on **Docker**
- Standard runtimes can access **GAE services**: Datastore, Memcache, task queues, logging and users



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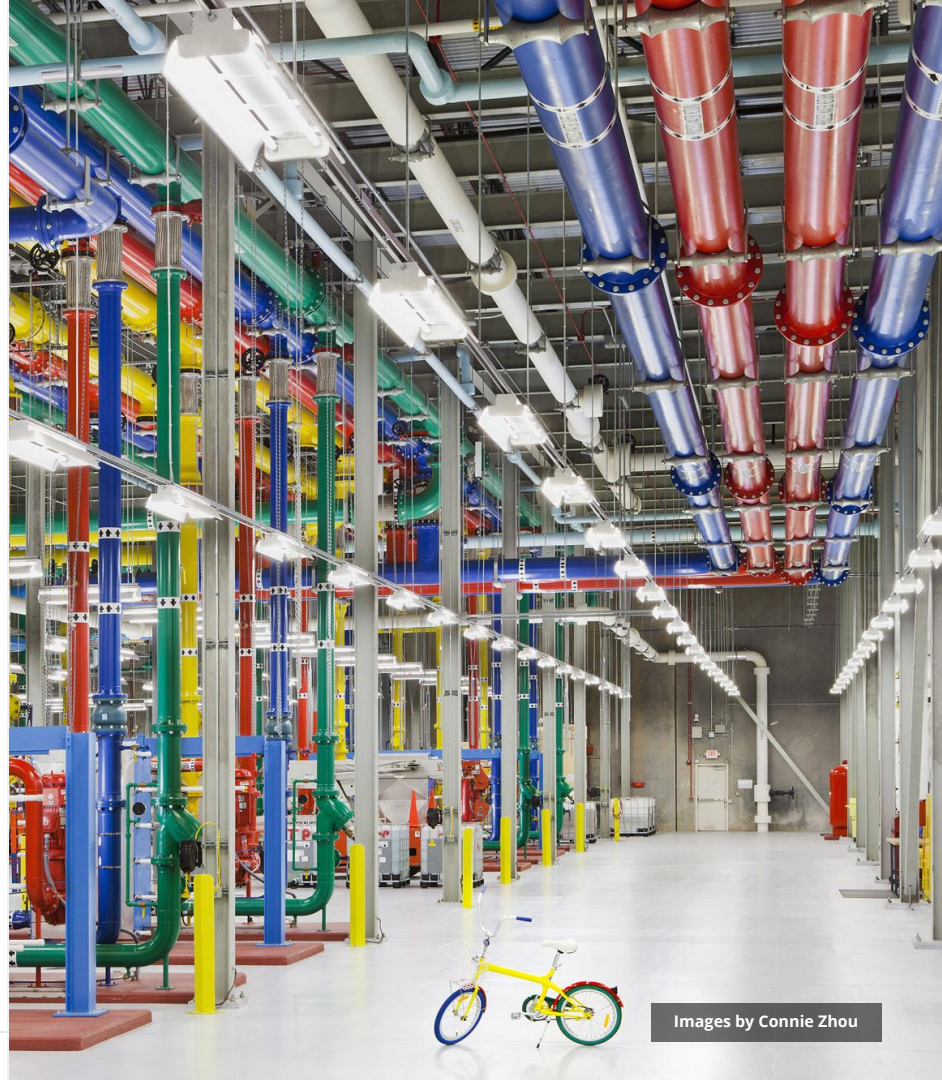
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Lab

Lab (1 of 2)

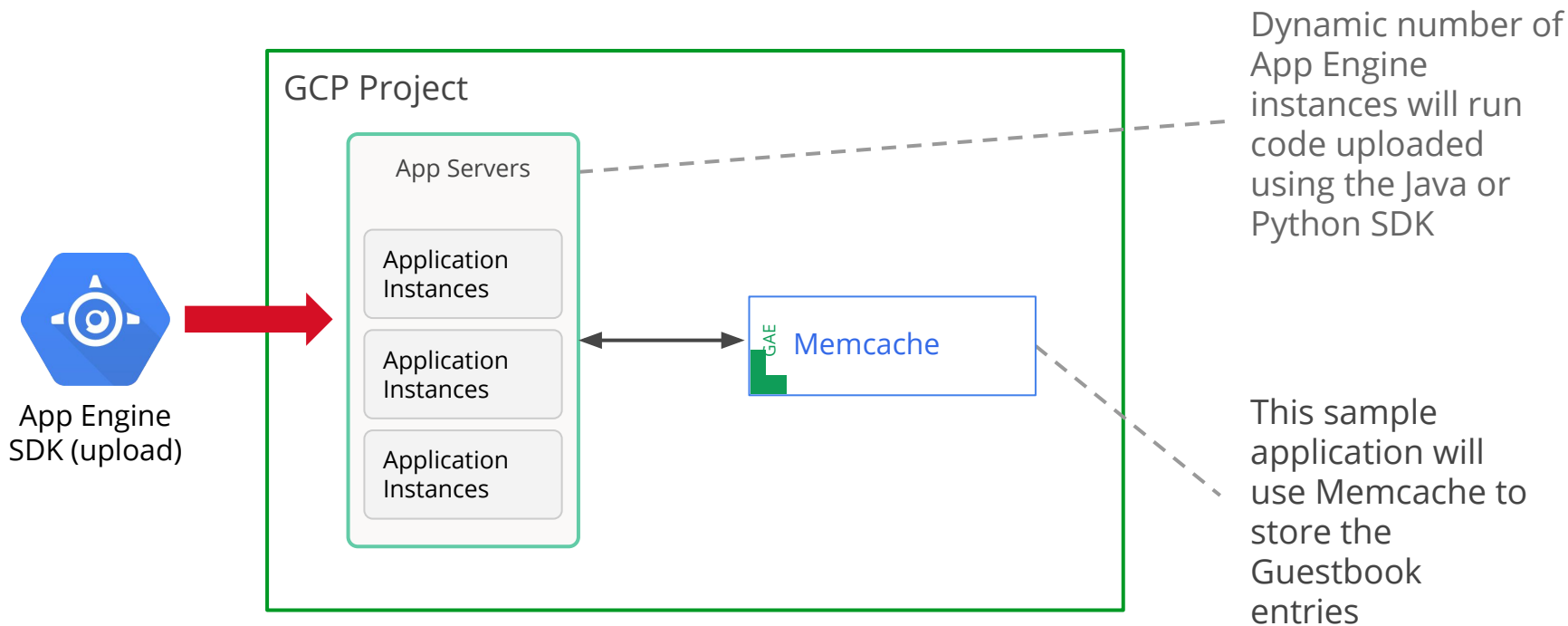
Deploy the Guestbook application on App Engine.

1. Deploy a Python frontend
2. Test the application on the development server
3. Upload the application to App Engine
4. Test the application in your browser



Images by Connie Zhou

Lab (2 of 2)



Resources

- App Engine: features, case studies pricing, & documentation
<https://cloud.google.com/appengine/>
- DevBytes - Your App, At Scale with Google App Engine
<https://www.youtube.com/watch?v=ytT2-kL9v2o>
- Java Guestbook Tutorial
<https://cloud.google.com/appengine/docs/java/gettingstarted/introduction>
- Python Guestbook tutorial
<https://cloud.google.com/appengine/docs/python/gettingstartedpython27/introduction>



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