

Google App Engine

GDG Guangzhou

Aaron 郑富成

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Google Cloud Platform

Aaron 郑富成

2015年2月，转为系统分析

2014年6月，高级软件工程师，负责带小团队

2013年，主工程师，获得R&R团队奖

2012年4月，校招实习，7月转正为软件工程师。



Agenda

- Cloud Computing Overview
- What is GAE (Google App Engine)
- GAE for Java
- GAE in China

Cloud Computing Overview

IaaS: Infrastructure as a Service

PaaS: Platform as a Service

SaaS: Software as a Service



CaaS: Container as a Service

BaaS: Backend as a Service

Cloud Computing Overview



Compute Engine

Run large-scale workloads on virtual machines hosted on Google's infrastructure. Choose a VM that fits your needs and gain the performance of Google's worldwide fiber network.



App Engine

Run your applications on a fully-managed Platform-as-a-Service (PaaS) using built-in services that make you more productive. Just download the SDK and start building immediately.

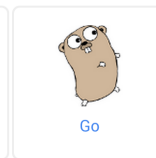
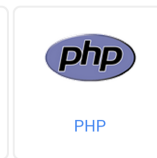
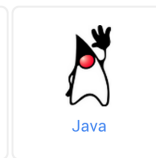


Container Engine **Beta**

Run Docker containers on Google Cloud Platform, powered by Kubernetes. Google Container Engine actively schedules your containers, based on declared needs, on a managed cluster of virtual machines.

What is GAE (Google App Engine)

- PaaS
- Support Python, Java, PHP, and Go
- Built in scalability of deployed software including load balancing and failover.
- Tools to handle billing and subscription management.



GAE for Java

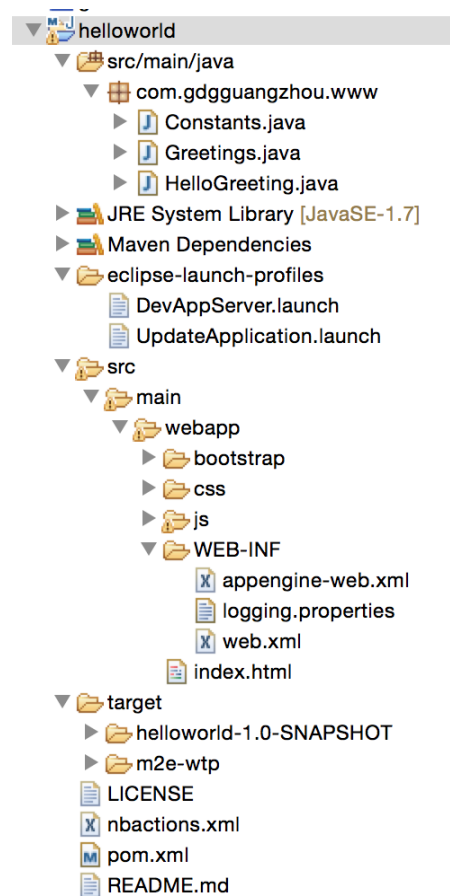
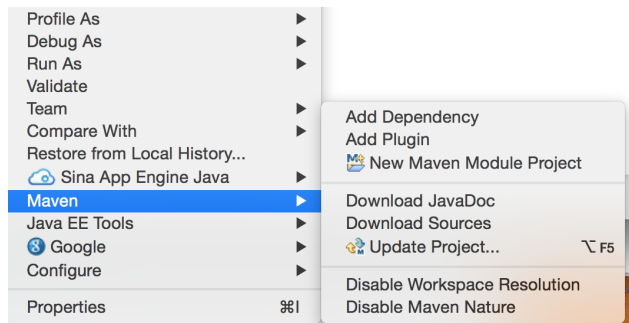
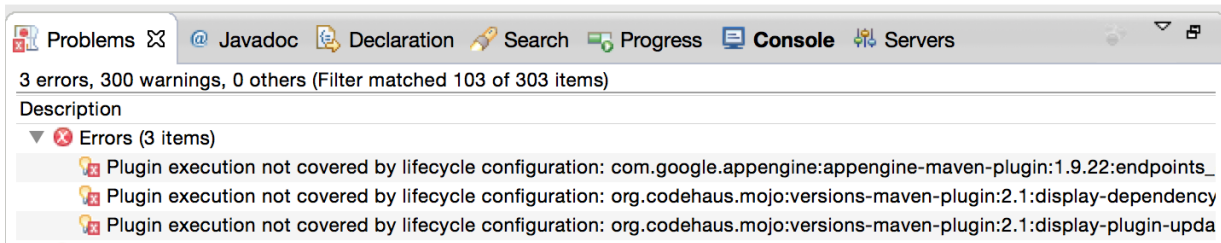
1. Create project

mvn archetype:generate -
Dappengine-version=1.9.22 -
Dapplication-id=your-app-id -
Dfilter=com.google.appengine.
archetypes:

```
[INFO] --- maven-archetype-plugin:2.2:generate (default-cli) @ standalone-pom ---
[INFO] Generating project in Interactive mode
[INFO] No archetype defined. Using maven-archetype-quickstart (org.apache.maven.archetypes:maven-archetype-quickstart:1.0)
Choose archetype:
1: remote -> com.google.appengine.archetypes:appengine-skeleton-archetype (A skeleton application with Google App Engine)
2: remote -> com.google.appengine.archetypes:endpoints-skeleton-archetype (A skeleton project using Cloud Endpoints with Google App Engine Java)
3: remote -> com.google.appengine.archetypes:guestbook-archetype (A guestbook application with Google App Engine)
4: remote -> com.google.appengine.archetypes:hello-endpoints-archetype (A simple starter application using Cloud Endpoints with Google App Engine Java)
5: remote -> com.google.appengine.archetypes:skeleton-archetype (-)
Choose a number or apply filter (format: [groupId:]artifactId, case sensitive contains): : 4
Choose com.google.appengine.archetypes:hello-endpoints-archetype version:
1: 1.0
2: 1.1
3: 1.1.1-1.9.4
4: 1.1.2-1.9.20
5: 1.1.3-1.9.20
6: 1.1.4-1.9.21
Choose a number: 6: 6
Define value for property 'groupId': : com.gdgguangzhou.www
Define value for property 'artifactId': : helloworld
Define value for property 'version': 1.0-SNAPSHOT: :
Define value for property 'package': com.gdgguangzhou.www: :
[INFO] Using property: android-client-id = replace this with your Android client ID
[INFO] Using property: appengine-version = 1.9.22
[INFO] Using property: application-id = test-aaron
[INFO] Using property: gcloud-version = 0.9.58.v20150505
[INFO] Using property: ios-client-id = replace this with your iOS client ID
[INFO] Using property: web-client-id = replace this with your web client ID
Confirm properties configuration:
groupId: com.gdgguangzhou.www
artifactId: helloworld
version: 1.0-SNAPSHOT
package: com.gdgguangzhou.www
android-client-id: replace this with your Android client ID
appengine-version: 1.9.22
application-id: test-aaron
gcloud-version: 0.9.58.v20150505
ios-client-id: replace this with your iOS client ID
web-client-id: replace this with your web client ID
Y: :
```

GAE for Java

2. Import project



GAE for Java

3. Revise Java code and Page

GAE for Java

3. Run in local

- mvn appengine:devserver
- Server->Add App->Start

<http://localhost:8888/>

http://localhost:8888/_ah/admin/

The screenshot displays the Google App Engine development console. At the top, a toolbar includes icons for Problems, Javadoc, Declaration, Search, Progress, Console, and Servers. Below this, a list of applications is shown: 'Google App Engine at localhost' (status: [Stopped, Synchronized]) and 'helloworld' (status: [Synchronized]). The main content area features a 'Hello Endpoints!' header with a 'Sign In' button. Below the header are four sections: 'Get Greeting' with a 'Greeting ID' input field and a 'Submit' button; 'List Greetings' with a 'Submit' button; 'Multiply Greetings' with 'Greeting' and 'Count' input fields and a 'Submit' button; and 'Authenticated Greeting' with a 'Submit' button. The bottom of the console shows the 'Google App Engine' logo, the 'SDK v1.8.8' version, and the '\$\${app.id} Development Console' header. On the left, a sidebar lists links: Datastore Viewer, Task Queues, XMPP, Inbound Mail, Backends, Capabilities Status, and Full Text Search. The main content area of the console shows the 'Datastore Viewer' section with 'Entity Kind' set to 'List Entities' and buttons for 'Select different namespace' and 'Show indexes'. A message states: 'Datastore has no entities in the Empty namespace. You need to add data programmatically before you can use this tool to view and edit it.'

GAE for Java

5. Deploy

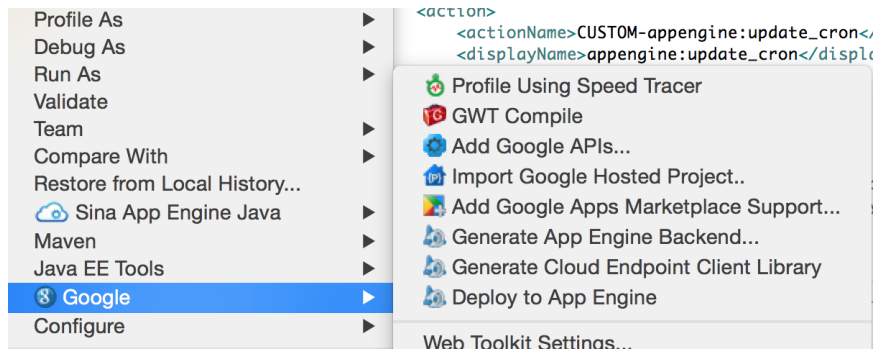
5.1 Update appengine-web.xml

5.2 Upload to server

- Google->Deploy to App Engine
- mvn appengine:update

```
<?xml version="1.0" encoding="utf-8"?>
<appengine-web-app xmlns="http://appengine.google.com/ns/1.0">
  <application>${app.id}</application>
  <version>${app.version}</version>
  <threadsafe>true</threadsafe>

  <system-properties>
    <property name="java.util.logging.config.file" value="WEB-INF/logging.properties"/>
  </system-properties>
</appengine-web-app>
```



GAE for Java

6. GAE Console

Google app engine

fucheng.zheng@gmail.com | [My Account](#) | [Help](#) | [Sign out](#)

My Applications

◀ Prev 20 1-6 of 6 Next 20 ▶

Application	Title	Storage Scheme	Status
bitcoininfoserver	bitcoinmap	High Replication	Running
chafta-995	chafta	High Replication	Running
luffy-cat	LuffyCat	High Replication	Running
si-earth	Social Innovation Earth	High Replication	Running
sightcorner	SightCorner	High Replication	Running
zhku-edu	zhku-edu	High Replication	Running

You can create your new cloud project in the [Google Developers Console](#).

◀ Prev 20 1-6 of 6 Next 20 ▶

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Google Developers Console

Select a project ▼

Create Project

Filter by label, name or id

Columns ▼

Edit labels

<input type="checkbox"/>	Project Name	Project ID	Requests ?	Errors ?	Charges ?		
<input type="checkbox"/>	bitcoininfoserver	bitcoininfoserver	232	11	—		
<input type="checkbox"/>	chafta	chafta-995	109	3	—		
<input type="checkbox"/>	gltc-forum	gltc-forum	0	0	—		
<input type="checkbox"/>	lam-2von	lam-2von	0	0	—		
<input type="checkbox"/>	luffy-cat	luffy-cat	0	0	—		
<input type="checkbox"/>	si-earth	si-earth	0	0	—		
<input type="checkbox"/>	sightcorner	sightcorner	243	33	—		
<input type="checkbox"/>	zhku-edu	zhku-edu	0	0	—		

Projects pending deletion

GAE for Java

Google Developers Console

sightcorner ▾

[Sign up for a free trial.](#) ⓘ ? ⚙️ 👤

Overview

Permissions

APIs & auth

APIs

Credentials

Consent screen

Push

Monitoring

Traces

Logs

Dashboards & alerts

Source Code

Browse

Deploy & Manage

Click to Deploy

Deployments

Compute

App Engine

Dashboard

Instances

Versions

Task queues

Security scans

Quota details

Memcache

Search

Settings

Compute Engine

Container Engine

Networking

Cloud DNS

VPN

Version 1 (default) ▾

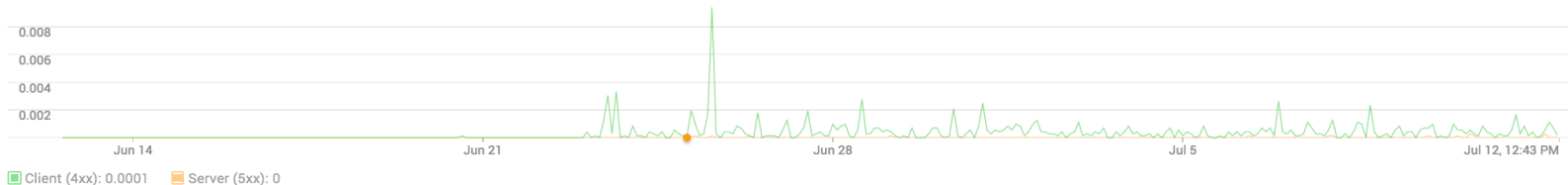
[sightcorner.appspot.com](#) ↗

Summary ▾

1 hour 6 hours 12 hours 1 day 2 days 4 days 7 days 14 days **30 days**

Summary

Count/sec



Instances ⓘ

[App Engine Release ▾](#)

Total Instances

Average QPS ⓘ

Average Latency ⓘ

Average Memory

1.9.23

2

0

0 ms

98.83 MB

Billing status Free (Daily budget: \$0.00) [Settings](#)

Quotas reset every 24 hours. Next reset: 3 hrs ⓘ

Resource

Usage

Frontend Instance Hours

10.91 of 28 Instance Hours

Datastore Stored Data

0.01 of 1 GB

Logs Stored Data

0.0012 of 1 GB

Code and Static File Storage

0.02 of 1 GB

Outgoing Bandwidth

0.0048 of 1 GB

Current load ⓘ

URI

Requests/Minute
Current

Requests
Last 24 hours

Runtime MCycles
Last hour


Average latency
Last hour



Google Cloud Platform

GAE for Java

<https://status.cloud.google.com/>

 Google Cloud Platform

July 11, 2015 All services normal

Cloud Status > Incidents > Google Cloud Storage

Google Cloud Status

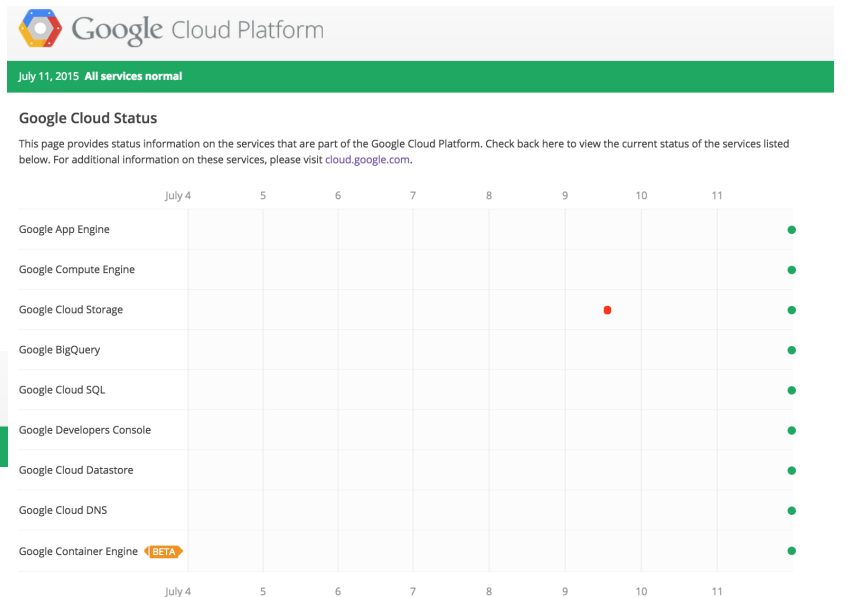
This page provides status information on the services that are part of the Google Cloud Platform. Check back here to view the current status of the services listed below. For additional information on these services, please visit cloud.google.com.

Google Cloud Storage Incident #16026

Google Cloud Storage Web Browser Is Inaccessible

Incident began at **2015-07-09 12:00** and ended at **2015-07-09 12:45** (all times are **US/Pacific**).

DATE	TIME	DESCRIPTION
● Jul 09, 2015	12:51	The issue with the Google Cloud Storage Browser in the Developer's Console has been resolved. We apologize for any inconvenience this may have caused.
● Jul 09, 2015	12:29	We are investigating an issue with the Google Cloud Storage Browser in the Developer's Console. If you need to access the contents of your buckets in the meantime, please use the Google Cloud Storage gsutil command line tool[1]. We will provide another update by 13:30 PDT. [1] https://cloud.google.com/storage/docs/gsutil



GAE in China

● Domain

1. GHS是Google所有可以绑定域名服务 (Blogger、Google Apps)等的服务域名 ghs.google.com / ghs.googlehosted.com , 以及 Google "CDN" : PageSpeed Service的服务域名。使用方法:将你需要绑定的域名 CNAME 到: ghs.goofan.net.g.xgslb.net
2. 裸域名指向www方法, Point your "naked domain" to IP address 174.129.25.170

● ICP备案

Overview
Permissions
APIs & auth
APIs
Credentials
Consent screen
Push
Monitoring
Traces
Logs
Dashboards & alerts
Source Code
Browse
Deploy & Manage
Click to Deploy
Deployments
Compute
App Engine
Dashboard
Instances
Versions
Task queues
Security scans
Quota details
Memcache
Search
Settings
Compute Engine
Container Engine
Networking
Cloud DNS
VPN
Storage

Application settings [Custom domains](#)



Add a new custom domain

To point your own domain names to your App Engine app, follow these steps.

SSL support for custom domains is currently only supported via Google Apps.

1. If you haven't already, verify that you own the domain. It will then be added to the list in step 2.

[Verify](#)

2. Select the domain you want to point to sightcorner:

☐ http:// ☒ http:// .

This domain points to another app. If you point it to this app, the other app will stop working.

[Add](#)

3. Create a resource record for the sightcorner.co

Type: CNAME

Alias: www

Canonical name: ghs.googlehosted.com

It may take up to 24 hours for DNS changes to

[SETTINGS](#)[DNS ZONE FILE](#)[CONTACTS](#)

ZONE FILE ⓘ

Last updated 5/07/2015 4:24:24 PM MST

11 records in this zone

[Add Record](#)[Delete](#)[Bulk Actions](#)[Templates](#)[More](#)[Filter List](#)

A (Host) ⓘ

2 Records (0 Selected)

✓ Host	Points To	TTL	Actions
<input type="checkbox"/> 3e5bc09b1f	91.134.241.209	1 Hour	✎ ✕
<input type="checkbox"/> @	174.129.25.170	1/2 Hour	✎ ✕

AAAA (IPv6 Host) ⓘ

0 Records (0 Selected)

[Add Record](#)

CName (Alias) ⓘ

[Restore Defaults](#)

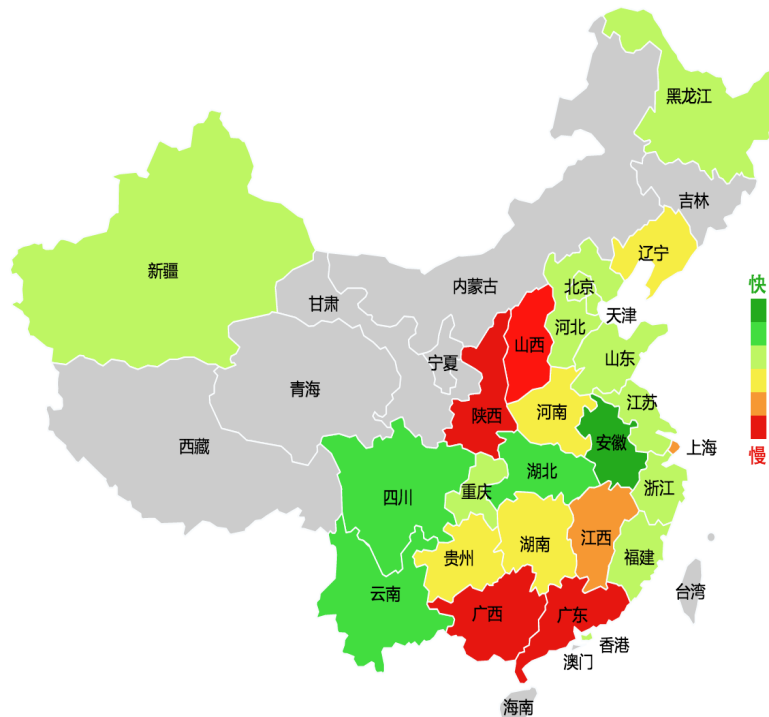
3 Records (0 Selected)

✓ Host	Points To	TTL	Actions
<input type="checkbox"/> email	email.securereserver.net	1 Hour	✎ ✕



Google Cloud Platform

GAE in China



平均速度排行		
名次	省份	平均速度(KB/s)
1	江西	7.87
2	浙江	7.41
3	湖北	7.41

北京					
监测点	运营商	总耗时/ms	解析时间/ms	连接时间/ms	下载时间/ms
北京市	鹏博士	2097.43	488.26	853.07	756.1
	电信	1454.9	452.76	199.79	802.34
	电信	1513.84	453.24	389.51	671.08
	电信	1548.94	453.18	187.95	907.81
	联通	8058.74	5490.1	1894.37	674.28
	移动	1373.93	328.64	237.86	807.43
	联通	1861.49	532.88	641.21	687.41
	教育网	1750.57	36.05	966.73	747.78
	联通	0	0	0	0
	电信	5793.41	2328	2771.97	693.44
	电信	6588.79	5019.88	728.02	840.9
	电信通	暂无数据	暂无数据	暂无数据	暂无数据
	电信	3429.35	294.72	703.55	2431.08



may the force of geeks be with you

1. **fucheng.zheng@gmail.com**
2. **广州GDG微信号:gdg_gz**
3. **广州GDG的Google Groups**
发空邮件到:guangzhou-gtug+subscribe@googlegroups.com 完成订阅
4. **广州GDG G+上搜索:GDG Guangzhou Discuss**



Google Cloud Platform