

App Engine, Services, APIs, Github

**PAAS**

# Quotas

Inbox (8) - toddmcleod@... x Golang (Go Language) - x 41 app engine continued x video descriptions GOLA x Go Day 10 Part 1 - Build x App Engine Quotas - Wh... x Quotas - App Engine - x https://cloud.google.com/appengine/docs/quotas?hl=en\_US Apps Bookmarks M G D CNN 5 F Y digg PM Hawk J Android GO JS web python java \$ mark Other Bookmarks

## Instance hours

Instance usage is billed by instance uptime, at a given hourly rate. Billable time starts when an instance starts, and ends fifteen minutes after it shuts down. There is no billing for idle instances above the maximum number of idle instances set in the Performance Settings tab of the Admin Console.

There are separate free daily quotas for frontend and backend instances. Note that when you use the [Modules API](#), the module's instance class determines which quota applies.

Resource or API Call	Free Quota
Frontend Instances (Automatic Scaling Modules)	28 free instance-hours per day
Backend Instances (Basic and Manual Scaling Modules)	8 free instance-hours per day

## Logs

The Logs API is metered when log data is retrieved, and is available for both paid and free apps.

Logs storage contains request logs and application logs for an application, and is available for both paid and free apps. For paid apps, you can increase total logs storage size and/or log data retention time, using the [Log Retention setting](#) in the [Admin Console](#).

Resource	Free Default Limit	Billing Enabled Default Limit
Logs data retrieval	100 megabytes	No maximum for paid app.
Logs data	1 gigabyte	Log data kept for a maximum of 365 days if paid, 90 days if free.

# Allows Growth

- Datastore
- GCS
- Compute Engine
- Managed VM's (IAAS++)
- Cloud SQL
- memcache

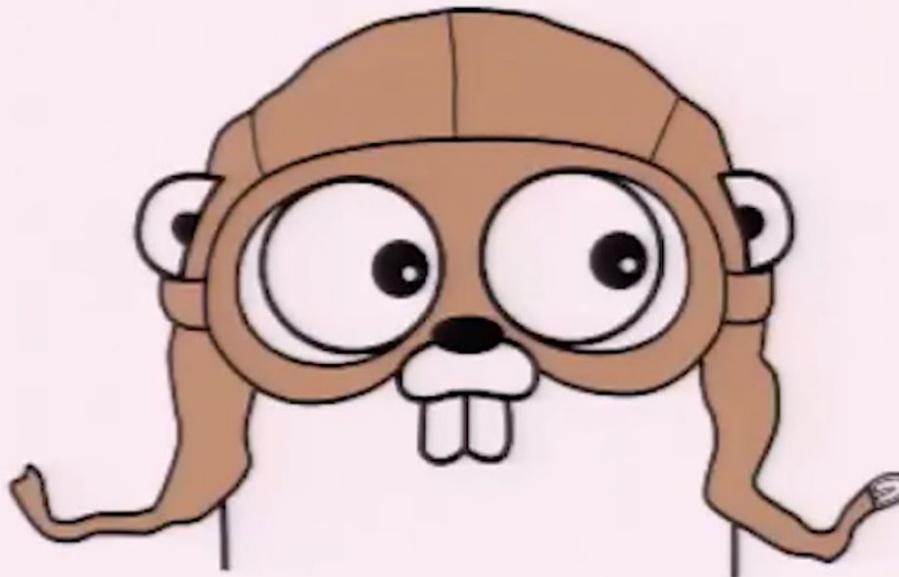
sandbox environment

# Sandbox

- Can't use the “unsafe” package
- can't write files
  - use cloud storage instead
- outbound http requests
  - use the services they provide to make outbound http requests

## Go + App Engine

- Go is awesome
- App Engine is an auto-scaling low-maintenance Platform-as-a-Service (give us your app's code, we'll run it on Google's servers), provides a bunch of services
- Most efficient runtime on App Engine: starts fast, runs fast, uses minimal RAM



## Go + App Engine

- Go was open sourced in November 2009
- Go + App Engine development started in January 2011
- Go 1 arrived in March 2012
- Stable releases did not exist (`release.r56` was later)
- Makefiles and direct `6g` and `6l` invocation was the standard
- The `go` tool didn't exist, and package layout was not understood

## Interesting differences to other runtimes

- Two runtimes before Go: Python (2.5) and Java
- Several interesting things we did differently for Go

## Difference 1: Explicit Context

API calls (e.g. memcache, mail, logging) require a "security ticket"

- A security ticket is an opaque string, unique for every running request
- Used for quotas, some auth restrictions, associating logging
- Python has no concurrency, so security ticket is in global state
- Java uses thread-local storage
- Go is concurrent and avoids TLS → explicit context

`appengine.Context` is an interface; different concrete types in prod and dev

## Difference 1: Explicit Context

An explicit `Context` interface had some unanticipated benefits:

- Overriding default timeouts was easy: a function returning a new `Context` that wraps a provided `Context`
- Namespace support ("multitenancy": partitioned datastore, etc.) was the same
- Transaction support was the same
- ... all without having to change N APIs to support these features
- Interface design supported *orthogonality*

# Go on App Engine

- Much easier than other languages
  - Python
  - Java
  - Php
- Go
  - Just the net/http package with go

vendor lock-in

# app layout

GolangTraining > 51\_appengine > 01 >

Project    |    hello.go

W Z: Structure

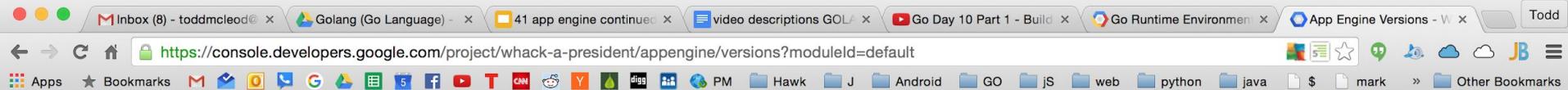
```
1 package hello
2
3 import (
4     "fmt"
5     "net/http"
6 )
7
8 func init() {
9     http.HandleFunc("/", handler)
10}
11
12 func handler(w http.ResponseWriter, r *http.Request) {
13     fmt.Fprintf(w, "Hello, worldxxxxxxxxxxxx!")
14}
```

Package name can be anything you want

Put your code in init instead of main

Don't use func main(){}

01 app.yaml hello.go



## Google Developers Console

Whack A President ▾



Home

Permissions

APIs &amp; auth

Monitoring

Source Code

Cloud Launcher

Deployments

Compute

App Engine

Dashboard

Instances

Versions ←

Task queues

Security scans

Quota details

Memcache

Search

Settings

Compute Engine

Container Engine

Networking

Storage

[Make default](#)[Delete](#)

Version	Size	Runtime	Instances	Deployed
1 (default) ↗	1.4 MB	go	0	Jun 19, 2015 by toddmcleod@gmail.com

### Traffic Splitting

Traffic splitting allows you to route a portion of traffic to non-default versions of your application, which can be useful for slow roll-out of a new version, or A/B testing different designs or features. [Learn more](#)

[Enable traffic splitting](#)

logs



deploy

- instead of `goapp deploy`
  - appcfg.py update --oauth2 ./

github

# Typical process

- create a github branch
- make a change
- commit it
- push it
- code review
- merge it to master
- redeploy

← → C GitHub, Inc. [US] https://github.com/golang-book/bootcamp-examples

74°

U 4

Apps Bookmarks ReCSS Tabs Go Web Util Theology Leithart.com | The D Ace of Spades HQ Simple Made Easy Reset Other Bookmark

# golang-book / bootcamp-examples

Description Website

Short description of this repository Website for this repository (optional) Save or Cancel

7 commits 1 branch 0 releases 1 contributor

branch: master bootcamp-examples / + Issues Pull request Wiki Pulse Graphs Settings

added app engine example

calebdoxsey authored 15 hours ago latest commit e94c9e915e

commit	author	date
week1	calebdoxsey	added examples 2 days ago
week2	calebdoxsey	added app engine example 15 hours ago
LICENSE	calebdoxsey	Initial commit 2 days ago
cert.pem	calebdoxsey	make secure a day ago
key.pem	calebdoxsey	make secure a day ago

SSH clone URL git@github.com:calebdoxsey/bootcamp-examples.git



This repository Search

Pull requests Issues Gist



golang-book / bootcamp-examples

Unwatch 1

Star 0

Fork 0

Issues

Pull requests

Labels

Milestones

Filters

is:issue is:open



New issue



## Welcome to Issues!

Issues are used to track todos, bugs, feature requests, and more. As issues are created, they'll appear here in a searchable and filterable list. To get started, you should [create an issue](#).



bash /Users/caleb (bash)

x bash /Users/caleb (file-upload-exam)



```
new file: assets/img/IMG_20150714_191905.jpg
new file: assets/templates/index.gohtml
new file: hello.go
```

issue number

Changes not staged for commit:

(use "git add <file>..." to update what will be committed)

(use "git checkout -- <file>..." to discard changes in working directory)

modified: ../../day4/hello-world/app.yaml

doing this automatically connects  
commit to issue in github

```
bash-3.2$ git commit -m "fixed 500 error (issue #1)"
```



x bash /Users/caleb

```
bash-3.2$ go get code.google.com/p/go-uuid/uuid
go: missing Mercurial command. See http://golang.org/s/gogetcmd
package code.google.com/p/go-uuid/uuid: exec: "hg": executable file not found in $PATH
bash-3.2$ go get github.com/nu7hatch/gouuid
bash-3.2$ go get github.com/gorilla/sessions
bash-3.2$
```

# API's

Google Developers Console Whack A President

Home  
Permissions  
**APIs & auth**  
**APIs**   
Credentials  
Push  
Monitoring  
Source Code  
Cloud Launcher  
Deployments  
Compute  
Networking  
Storage  
Big Data

API Library Enabled APIs (6)

Search all 100+ APIs

Popular APIs

 Google Cloud APIs  
Compute Engine API  
BigQuery API  
Cloud Storage API  
Cloud Datastore API  
Cloud Deployment Manager API  
Cloud DNS API  
More

 Google Maps APIs  
Google Maps Android API  
Google Maps SDK for iOS  
Google Maps JavaScript API  
Google Places API for iOS  
Google Places API for Android  
Google Maps Roads API  
More

 Google Apps APIs  
Drive API  
Calendar API  
Gmail API  
Google Apps Marketplace SDK  
Admin SDK  
Contacts API  
CalDAV API

 Mobile APIs  
Cloud Messaging for Android  
Google Play Game Services  
Google Play Developer API  
Google Places API for Android

 Social APIs  
Google+ API  
Blogger API  
Google+ Pages API  
Google+ Domains API

 YouTube APIs  
YouTube Data API  
YouTube Analytics API

 Advertising APIs  
AdSense Management API  
DCM/DFA Reporting And Trafficking API  
Ad Exchange Seller API  
Ad Exchange Buyer API  
DoubleClick Search API  
Analytics API  
DoubleClick Bid Manager API

 Other popular APIs  
Translate API  
Custom Search API  
URL Shortener API  
PageSpeed Insights API  
Fusion Tables API  
Web Fonts Developer API

google maps API

Google Developers Console    Hello World

Overview  
Permissions  
**APIs & auth**  
[APIs](#)    [Credentials](#)  
[Consent screen](#)  
[Push](#)  
**Monitoring**  
[Traces](#)  
[Logs](#)  
[Dashboards & alerts](#) ▾  
[Source Code](#)

[←](#) [Enabling \\*\\*\\*](#)

Enabling Google Maps Embed API... [Dismiss](#)

**Google Maps Embed API**

The Google Maps Embed API lets you embed Google Maps in your own web pages with a simple HTML fragment.

[Learn more](#)

Chrome File Edit View History Bookmarks People Window Help 3.3KB/s 96% Fri Jul 17 8:45 AM

Go Class Go Bootcamp Scratch Handling F Credential Go unsafe - Go astute-curve - localhost

https://console.developers.google.com/project/astute-curve-100822/apiui/credential

Apps Bookmarks ReCSS Tabs Go Web Util Theology Leithart.com | The D Ace of Spades HQ Simple

Google Developers Console Hello World ▾

Overview OAuth No client IDs found.

Permissions OAuth 2.0 allows users to share specific data with you (for example, contact lists) while keeping their usernames, passwords, and other information private.

APIs & auth Learn more

APIs

Credentials Create new Client ID

Consent screen

Push

Monitoring Public API access No keys found.

Traces

Logs

Dashboards & alerts

Source Code

Deploy & Manage

Compute

App Engine

Dashboard

Instances

View  
Sessions  
OAuth  
Credentials  
Sent screen  
Sharing  
Issues  
Dashboards & alerts

Code

& Manage

Cloud

Engine

Dashboard

Instances

Regions

## OAuth

No client IDs found.

OAuth 2.0 allows users to share specific data with your application (e.g. contact lists) without giving you their full usernames, passwords or other sensitive information privately.

[Learn more](#)

[Create new Client ID](#)

## Create a new key

X

The APIs represented in the Google Developers Console require that requests include a unique project identifier. This enables the Console to tie a request to a specific project in order to monitor traffic, enforce quotas, and handle billing.

Server key

Browser key

Android key

iOS key

## Public API access

No keys found.

Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization.

[Learn more](#)

[Create new Key](#)

Create a browser key and configure allowed referrers

This key can be deployed in your clients' applications.

API requests are sent directly to Google from your clients' browsers. [Learn more](#)

**Accept requests from these HTTP referrers (web sites) (Optional)**

One URL or pattern per line. Example: \*.example.com/\*

Or if you leave this blank, requests will be accepted from any referer. Be sure to add referrers before using this key in production.

astute-curve-100822.appspot.com

 Create

Cancel

Google Developers Console Hello World

Overview Permissions APIs & auth APIs Credentials Consent screen Push Monitoring Traces Logs Dashboards & alerts ↗ Source Code Deploy & Manage Compute App Engine Dashboard Instances Versions Task queues

https://console.developers.google.com/project/astute-curve-100822/apiui/credential#

OAuth No client IDs found.

OAuth 2.0 allows users to share specific data with you (for example, contact lists) while keeping their usernames, passwords, and other information private.

Learn more

Create new Client ID

Public API access Use of this key does not require any user action or consent, does not grant access to any account information, and is not used for authorization.

Learn more

Create new Key

Key for browser applications

API key AlzaSyAP-36sC6VmL8jHrAuGO\_tuIAFgIBErTQA

Referrers astute-curve-100822.appspot.com

Activation date Jul 17, 2015, 1:37:00 AM

Activated by caleb@doxsey.net (you)

Edit allowed referrers Regenerate key Delete



The screenshot shows a file structure on the left and two code files in the main window.

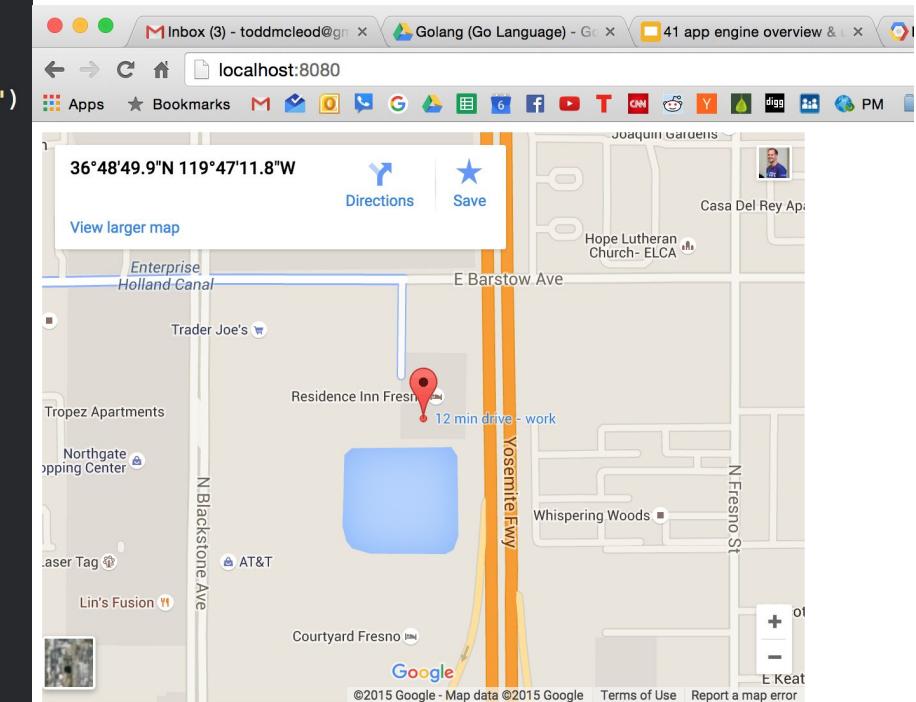
**File Structure:**

- hello-world
  - assets
  - app.yaml
  - hello.go
  - http-examples
  - photo-blog
    - assets
    - templates
    - index.go
  - main.go
  - routes.go
- day5
  - hello-world
    - assets
    - app.yaml
    - hello.go
- week3
- week4
  - cert.pem
  - key.pem
  - LICENSE
- www
- golang-id
- gorilla
- hashicorp

hello.go - /mnt/shared/go/src - Atom

```
1 package main
2
3 import (
4     "log"
5     "net/http"
6     "os"
7
8     "github.com/alecthomas/template"
9     "github.com/rwcarlsen/goexif/exif"
10 )
11
12 const GoogleAPIKey = "AIzaSyA8-36sC6VmL8jHrAuGO_tulAFglBERTQA"
13
14 var tpls *template.Template
15
16 func init() {
17     var err error
18     tpls, err = template.ParseFiles("assets/templates/index.gohtml")
19     if err != nil {
```

```
hello.go x
3 import (
4     "log"
5     "net/http"
6     "os"
7     "github.com/rwcarlsen/goexif/exif"
8     "html/template"
9 )
10
11 const GoogleAPIKey = "AIzaSyDpMNCWNz2UENVGQ0S6zMFnLsXn0zMBf4"
12
13 vartpls *template.Template
14
15 func init() {
16     var err error
17     tpls, err = template.ParseFiles("assets/templates/index.gohtml")
18     if err != nil {
19         log.Fatalln(err)
20     }
21     http.HandleFunc("/", handleIndex)
22 }
23
24 func handleIndex(res http.ResponseWriter, req *http.Request) {
25
26     src, _ := os.Open("assets/img/IMG_20150714_191905.jpg")
27     defer src.Close()
28     x, _ := exif.Decode(src)
29     lat, lon, _ := x.LatLong()
30
31     var model struct {
32         Latitude, Longitude float64
33         Key                  string
34     }
35     model.Latitude = lat
36     model.Longitude = lon
37     model.Key = GoogleAPIKey
38     err := tpls.ExecuteTemplate(res, "index.gohtml", model)
39     if err != nil {
40         http.Error(res, err.Error(), 500)
41     }
42 }
```



index.gohtml - GolangTraining - [~/Documents/go/src/github.com/goestoeleven/GolangTraining]

Project    hello.go    index.gohtml

W 1: Project Z: Structure

24\_embedded-types  
25\_interfaces  
26\_package-os  
27\_package-strings  
28\_package-bufio  
29\_package-io  
30\_package-ioutil  
31\_package-encoding-csv  
32\_package-path/filepath  
33\_package-time  
34\_hash  
35\_packagefilepath  
36\_concurrency  
37\_review-exercises  
38\_JSON  
39\_packages  
40\_testing  
41\_TCP  
42\_HTTP  
43\_HTTP-server  
44\_MUX\_routing  
45\_serving-files  
46\_errata  
47\_templates  
48\_passing-data  
49\_cookies-sessions  
50\_exif  
51\_appengine  
  01\_hello-world  
  02\_photo-blog  
  3 Google-maps-api  
    assets  
      img  
         
    templates  
      index.gohtml  
      app.yaml  
      hello.go  
    98\_in-progress

1 <!DOCTYPE html>  
2 <html>  
3 <body>  
4   <iframe  
5     width="600"  
6     height="450"  
7     frameborder="0"  
8     style="border:0"  
9     src="https://www.google.com/maps/embed/v1/place?q={{.Latitude}}%20{{.Longitude}}&key={{.Key}}"  
10    allowfullscreen></iframe>  
11 </body>  
12 </html>

Event Log

# App Engine Services

# App engine is made up of a lot of services

The screenshot shows a browser window with multiple tabs open at the top. The active tab is titled "41 app engine continued" and displays the URL <https://cloud.google.com/appengine/docs/go/>. The page content is a navigation sidebar on the left and a main article on the right.

**Left Sidebar (Navigation Tree):**

- ▶ Modules
- ▶ Storing Data
- ▼ Services
  - Overview
  - App Identity
  - ▶ Capabilities
  - ▶ Channel
  - ▶ Images
  - ▶ Log
  - ▶ Mail
  - ▶ Memcache
  - ▶ Multitenancy
  - ▶ OAuth
  - ▶ Search
  - ▶ Sockets
  - ▶ Task Queues
  - ▶ URL Fetch
  - ▶ Users
  - ▶ XMPP
- ▶ Configuration

**Right Article Content:**

## Introduction

App Engine builds and executes Go application code using a safe "sandboxed" environment. Your app receives well-formed requests from the Internet, works with a database, and sends responses by interacting with this environment.

The Go SDK provides an interface similar to the standard Go `http` package; writing Go App Engine apps is akin to writing Go web servers.

The Go runtime environment uses Go [version 1.4](#). The SDK includes the Go compiler and standard library, so it has no dependencies. As with the other runtimes, not all the standard library's functionality is available inside the sandbox. For example, attempting to open a socket or write to a file will return an `os.ErrPermission` error.

The SDK includes an automated build service to compile your app, so you'll never need to invoke the compiler yourself. In fact, the Python SDK—your app will be automatically re-built whenever you change the source.

The Go runtime environment for App Engine provides full support for goroutines, but not for parallel execution: goroutines are scheduled onto a single operating system thread. This single-thread restriction may be lifted in future versions. Multiple goroutines may be handled concurrently by a given instance; that means that if one request is, say, waiting for a datastore API call, another may be processed by the same instance.

Go apps run inside a secure "sandbox" environment with a reduced set of libraries. For instance, an app cannot write to the file system or make arbitrary network connections. Instead, apps use scalable services provided by App Engine to communicate over the Internet.

# Data Storage

Inbox (4) - toddmcleod@... x Golang (Go Language) - x 41 app engine continued x video descriptions GOLA x Summer We

https://cloud.google.com/appengine/docs/go/

Apps Bookmarks PM Hawk J Android

Modules

- ▶ Storing Data
  - Overview
  - ▶ Datastore
  - ▶ Google Cloud SQL
  - ▶ Google Cloud Storage Client Library
  - ▶ Blobstore
- ▶ Services
- ▶ Configuration
- ▶ Tools

API Reference

Introduction  
Selecting the Go runtime  
Organizing Go apps  
The sandbox  
The Go SDK and tools

## Introduction

App Engine builds and executes work, and sends responses by using the Go runtime environment. The Go SDK provides an interface to the App Engine services, such as blob storage and Google Cloud SQL, and includes a set of tools for developing and deploying Go web servers.

The Go runtime environment uses the Go language's built-in support for concurrency and parallelism to handle multiple requests simultaneously.

# most of your app is

- go code
- html, css, javascript
- using the datastore
  - storing things in the datastore
  - retrieving things from the datastore

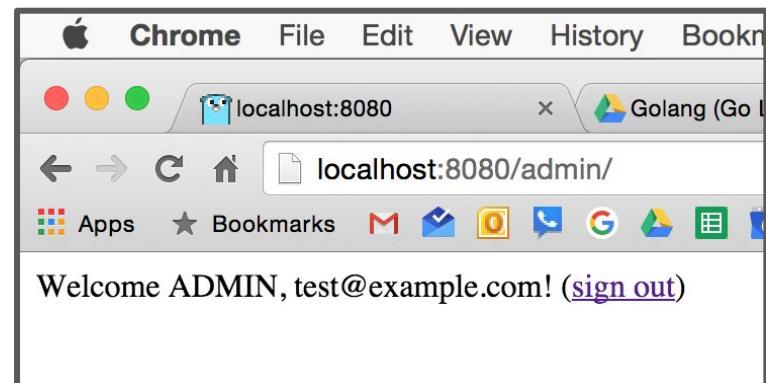
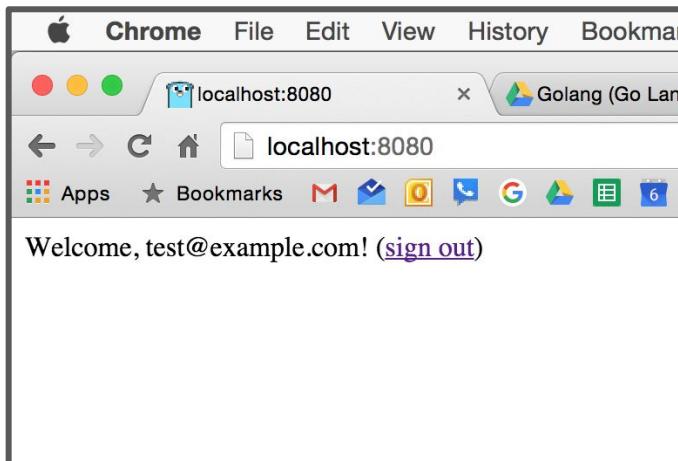
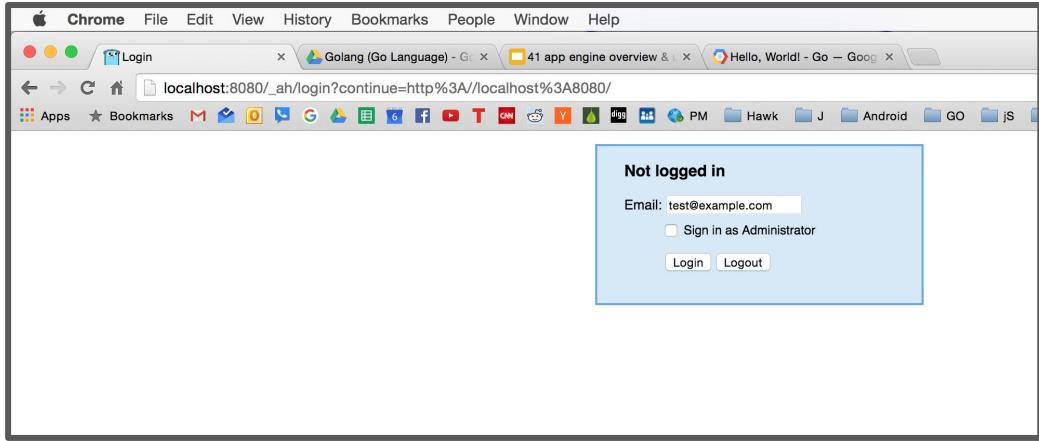
“Your go code is like the plumbing, connecting your html / css / javascript and the datastore”

USERS  
app engine service

logs users in  
using their google account

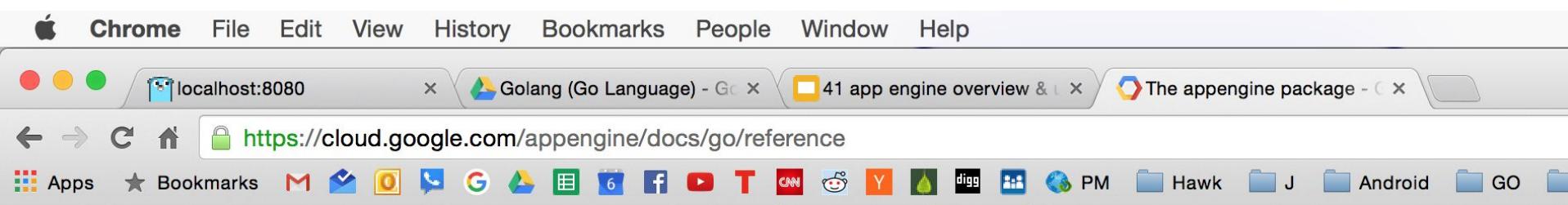
```
main.go x
1 package main
2
3 import (
4     "fmt"
5     "net/http"
6
7     "google.golang.org/appengine"
8     "google.golang.org/appengine/user"
9 )
10
11 func index(res http.ResponseWriter, req *http.Request) {
12     ctx := appengine.NewContext(req)
13     u := user.Current(ctx)
14     url, _ := user.LogoutURL(ctx, "/")
15     res.Header().Set("Content-Type", "text/html")
16     fmt.Fprintf(res, `Welcome %s! (<a href="%s">sign out</a>)`, u, url)
17 }
18
19
20 func admin(res http.ResponseWriter, req *http.Request) {
21     ctx := appengine.NewContext(req)
22     u := user.Current(ctx)
23     url, _ := user.LogoutURL(ctx, "/")
24     res.Header().Set("Content-Type", "text/html")
25     fmt.Fprintf(res, `Welcome ADMIN, %s! (<a href="%s">sign out</a>)`, u, url)
26 }
27
28
29 func init() {
30     http.HandleFunc("/", index)
31     http.HandleFunc("/admin/", admin)
32 }
```

```
main.go x app.yaml x
1 application: astute-curve-100822
2 version: 1
3 runtime: go
4 api_version: go1
5
6 handlers:
7 - url: /admin/.*
8   script: _go_app
9   login: admin
10 - url: /.*
11   script: _go_app
12   login: required
13
```



# Context

- a piece of information that travels along with all of the API requests



```
func VersionID(c Context) string
type BlobKey
type Certificate
type Context
    func Namespace(c Context, namespace string) (Context, error)
    func NewContext(req *http.Request) Context
    func Timeout(c Context, d time.Duration) Context
type GeoPoint
    func (g GeoPoint) Valid() bool
type MultiError
    func (m MultiError) Error() string
```

Google Cloud Platform Go Search this site My console

Why Google Products Solutions Launcher Pricing Customers Documentation Support Partners Contact Sales

Products > Documentation > App Engine > Go Send feedback

## Go

App Engine Home  
Runtime Environment  
Managed VMs Beta  
Handling Requests  
▶ Go Tutorial  
▶ Modules  
▶ Storing Data  
▶ Services  
▶ Configuration  
▶ Tools  
**API Reference**  
Release Notes

# The appengine package

```
import "appengine"
```

## Introduction

Package appengine provides basic functionality for Google App Engine.

For more information on how to write Go apps for Google App Engine, see: <https://cloud.google.com/appengine/docs/go/>

## Index

```
func AccessToken(c Context, scopes ...string) (token string, expiry time.Time, err error)
func AppID(c Context) string
func BackendHostname(c Context, name string, index int) string
func BackendInstance(c Context) (name string, index int)
func Datacenter() string
func DefaultVersionHostname(c Context) string
func InstanceID() string
func IsCapabilityDisabled(err error) bool
func IsDevAppServer() bool
```

# type Context

```
type Context interface {
    // Debugf formats its arguments according to the format, analogous to fmt.Printf,
    // and records the text as a log message at Debug level.
    Debugf(format string, args ...interface{})

    // Infof is like Debugf, but at Info level.
    Infof(format string, args ...interface{})

    // Warningf is like Debugf, but at Warning level.
    Warningf(format string, args ...interface{})

    // Errorf is like Debugf, but at Error level.
    Errorf(format string, args ...interface{})

    // Criticalf is like Debugf, but at Critical level.
    Criticalf(format string, args ...interface{})

    // Internal use only.
    Call(service, method string, in, out appengine_internal.ProtoMessage, opts *appengine_internal
        // Internal use only. Use AppID instead.
        FullyQualifiedAppID() string
        // Internal use only.
        Request() interface{}
}
```

doesn't provide me with much  
insight into context

Context represents the context of an in-flight HTTP request.

localhost:8080 x Golang (Go Language) - G x 41 app engine overview & x The user package - Go - x Todd

https://cloud.google.com/appengine/docs/go/users/reference

Apps Bookmarks M G D F Y digg PM Hawk J Android GO JS web python java \$ mark Other Bookmarks

Introduction

Modules

Storing Data

Services

- Overview
- App Identity
- Capabilities
- Channel
- Images
- Log
- Mail
- Memcache
- Multitenancy
- OAuth
- Search
- Sockets
- Task Queues
- URL Fetch
- Users

Reference

Overview

XMPP

Configuration

Tools

API Reference

Index

Package user provides a client for App Engine's user authentication service.

func Current(c appengine.Context) \*User

func CurrentOAuth(c appengine.Context, scope string) (\*User, error)

func IsAdmin(c appengine.Context) bool

func LoginURL(c appengine.Context, dest string) (string, error)

func LoginURLFederated(c appengine.Context, dest, identity string) (string, error)

func LogoutURL(c appengine.Context, dest string) (string, error)

func OAuthConsumerKey(c appengine.Context) (string, error)

type User

func (u \*User) String() string

## func Current

```
func Current(c appengine.Context) *User
```

Current returns the currently logged-in user, or nil if the user is not signed in.

## func CurrentOAuth

```
func CurrentOAuth(c appengine.Context, scope string) (*User, error)
```

CurrentOAuth returns the user associated with the OAuth consumer making this request. If the OAuth consumer did not make a valid OAuth request, or the scope is non-empty and the current user does not have this scope, this method will return an error.

## func IsAdmin

localhost:8080 x Golang (Go Language) - Go x 41 app engine overview & x The user package - Go - x Todd

← → C ⌂ https://cloud.google.com/appengine/docs/go/users/reference

Apps Bookmarks M G D F Y PM Hawk J Android GO JS web python java \$ mark > Other Bookmarks

GO Tutorial

Modules

Storing Data

Services

Overview

App Identity

Capabilities

Channel

Images

Log

Mail

Memcache

Multitenancy

OAuth

Search

Sockets

Task Queues

URL Fetch

Users

Overview

Reference

XMPP

Configuration

Tools

API Reference

## Introduction

Package user provides a client for App Engine users.

## Index

```
func Index(res http.ResponseWriter, req *http.Request) {
    ctx := appengine.NewContext(req)
    u := user.Current(ctx)
    url, _ := user.LogoutURL(ctx, "/")
    res.Header().Set("Content-Type", "text/html")
    fmt.Fprintf(res, `Welcome, %s! <a href="%s">sign out</a>`, u, url)
```

```
func Current(c appengine.Context) *User
func CurrentOAuth(c appengine.Context, scope string) (*User, error)
func IsAdmin(c appengine.Context) bool
func LoginURL(c appengine.Context, dest string) (string, error)
func LoginURLFederated(c appengine.Context, dest, identity string) (string, error)
func LogoutURL(c appengine.Context, dest string) (string, error)
func OAuthConsumerKey(c appengine.Context) (string, error)
type User
func (u *User) String() string
```

## func Current

```
func Current(c appengine.Context) *User
```

Current returns the currently logged-in user, or nil if the user is not signed in.

## func CurrentOAuth

```
func CurrentOAuth(c appengine.Context, scope string) (*User, error)
```

CurrentOAuth returns the user associated with the OAuth consumer making this request. If the OAuth consumer did not make a valid OAuth request, or the scope is non-empty and the current user does not have this scope, this method will return an error.

## func IsAdmin

**user.Current(ctx)**  
package.Function(param)



# type User

```
type User struct {
    Email      string
    AuthDomain string
    Admin      bool

    // ID is the unique permanent ID of the user.
    // It is populated if the Email is associated
    // with a Google account, or empty otherwise.
    ID        string

    FederatedIdentity string
    FederatedProvider string
}
```

```
func (*User) String
```

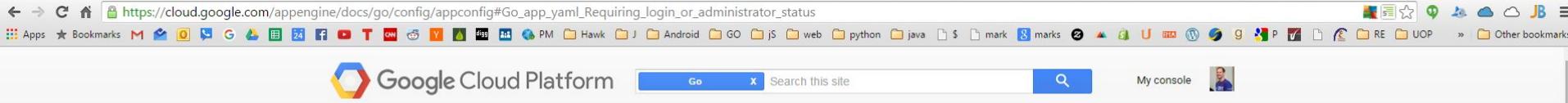
```
func (u *User) String() string
```

String returns a displayable name for the user.

## func LogoutURL

```
func LogoutURL(c appengine.Context, dest string) (string, error)
```

LogoutURL returns a URL that, when visited, signs the user out, then redirects the user to the URL specified by dest.



Google Cloud Platform

Go

Search this site



My console



Why Google Products Solutions Launcher Pricing Customers Documentation Support Partners

Contact Sales

Products &gt; Documentation &gt; App Engine &gt; Go



Send feedback

## Go

[App Engine Home](#)[Runtime Environment](#)[Managed VMs Beta](#)[Handling Requests](#)► [Go Tutorial](#)► [Modules](#)► [Storing Data](#)► [Services](#)▼ [Configuration](#)**App Config**[Index Config](#)[Scheduled Tasks](#)[Task Queue Config](#)[DoS Protection Config](#)► [Tools](#)[API Reference](#)[Release Notes](#)

# Configuring with app.yaml

[Python](#) | [Java](#) | [PHP](#) | **Go**

A Go App Engine application can be configured by a file named `app.yaml` that specifies how URL paths correspond to request handlers and static files. It also contains information about the application code, such as the application ID and the latest version identifier.

**Note:** If you created your project using the [Google Developers Console](#), your project has a title and an ID. In the instructions that follow, the project title and ID can be used wherever an *application title* and *ID* are mentioned. They are the same thing.

[About app.yaml](#)[Required elements](#)[Optional elements](#)[Script handlers](#)[Static file handlers](#)[Static directory handlers](#)[Static file pattern handlers](#)[Static cache expiration](#)[Including handlers](#)[Secure URLs](#)[Requiring login or administrator status](#)[Skipping files](#)[Defining environment variables](#)[Reserved URLs](#)[Inbound services](#)[Warmup requests](#)[Custom error responses](#)[Custom PageSpeed configuration \(Deprecated\)](#)[Auto ID policy](#)

## About app.yaml

A Go app specifies runtime configuration, including versions and URLs, in a file named `app.yaml`. The following is an example of an

The following example requires a login for the `/profile/` directory and an administrator login for the `/admin/` directory:

```
handlers:  
  
- url: /profile/.*  
  script: _go_app  
  login: required  
  
- url: /admin/.*  
  script: _go_app  
  login: admin  
  
- url: /.*  
  script: _go_app
```

You can configure a handler to refuse access to protected URLs when the user is not signed in, instead of redirecting the user to the sign-in page, by adding `auth_fail_action: unauthorized` to the handler's configuration:

```
handlers:  
- url: /secure_api/.*  
  script: _go_app  
  login: required  
  auth_fail_action: unauthorized
```

Google Developers Console Hello World

Overview

Permissions 

APIs & auth

APIs

Credentials

Consent screen

Push

Monitoring

Traces

Logs

Dashboards & alerts 

Source Code

Deploy & Manage

Compute

App Engine

Dashboard

Instances

Versions

Task queues

Security scans

Your project has only one owner. If the owner account is deleted or can't log in, you won't be able to change your project. Adding other owners ensures that someone will always be able to manage the project.

Add member Remove

Account	Permission
<input type="checkbox"/> caleb@doxsey.net (you)	Is owner

**This is where you add/remove people with "admin" credentials**

Service accounts

Service accounts authenticate the project to other Google services and APIs.

Account	Permission
<input type="checkbox"/> 491336106354-nkpqjo5ci69v9gtd65upsrn18sn26auv@developer.gserviceaccount.com Stackdriver service account 	Can view 
<input type="checkbox"/> astute-curve-100822@appspot.gserviceaccount.com App Engine service account 	Can edit 
<input type="checkbox"/> 451030639726-compute@developer.gserviceaccount.com Google APIs service account 	Can edit 
<input type="checkbox"/> 451030639726@cloudservices.gserviceaccount.com Google APIs service account 	Can edit 

What do you do  
if you don't want to use google logins?

roll your own session management

What do you do  
if you don't want to use google logins?