Google App Engine

tu primera vez

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Python Valencia,
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tu primera vez

- Introducción a Google App Engine
- Demo / Taller
  - descargar GAE SDK (Python)
  - github.com/pythonvlc/workshop-gae-dumbboard

Nuevo proyecto, ¿qué infraestructura uso?

- hosting CMS, e-commerce, servidor dedicado, …

limitaciones: escalabilidad, mantenimiento, seguridad, agilidad, rendimiento

Nuevo proyecto, ¿qué infraestructura uso?

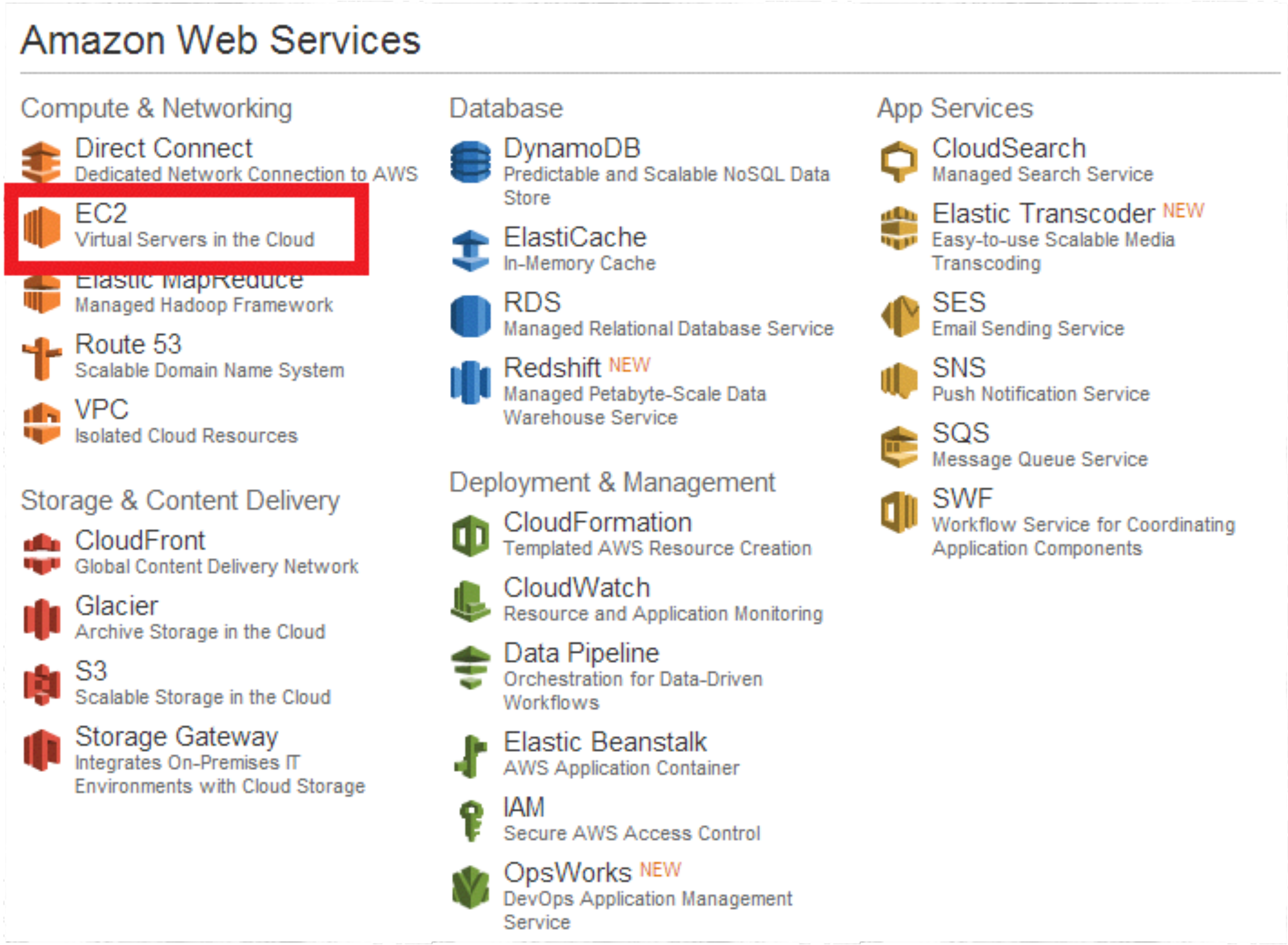
Cloud Computing services

Cloud Computing

- gestión: coste y complejidad
- ¿desarrollo y despliegue ágil?

load balancers
CDNs
DNS
Cloud databases
virtual servers
elasticity
scalability
developer

Cloud Computing



Amazon Web Services

Compute & Networking

Direct Connect
Dedicated Network Connection to AWS

EC2
Virtual Servers in the Cloud

Elastic MapReduce
Managed Hadoop Framework

Route 53
Scalable Domain Name System

VPC
Isolated Cloud Resources

Storage & Content Delivery

CloudFront
Global Content Delivery Network

Glacier
Archive Storage in the Cloud

S3
Scalable Storage in the Cloud

Storage Gateway
Integrates On-Premises IT Environments with Cloud Storage

Database

DynamoDB
Predictable and Scalable NoSQL Data Store

ElastiCache
In-Memory Cache

RDS
Managed Relational Database Service

Redshift NEW
Managed Petabyte-Scale Data Warehouse Service

Deployment & Management

CloudFormation
Templated AWS Resource Creation

CloudWatch
Resource and Application Monitoring

Data Pipeline
Orchestration for Data-Driven Workflows

Elastic Beanstalk
AWS Application Container

IAM
Secure AWS Access Control

OpsWorks NEW
DevOps Application Management Service

App Services

CloudSearch
Managed Search Service

Elastic Transcoder NEW
Easy-to-use Scalable Media Transcoding

SES
Email Sending Service

SNS
Push Notification Service

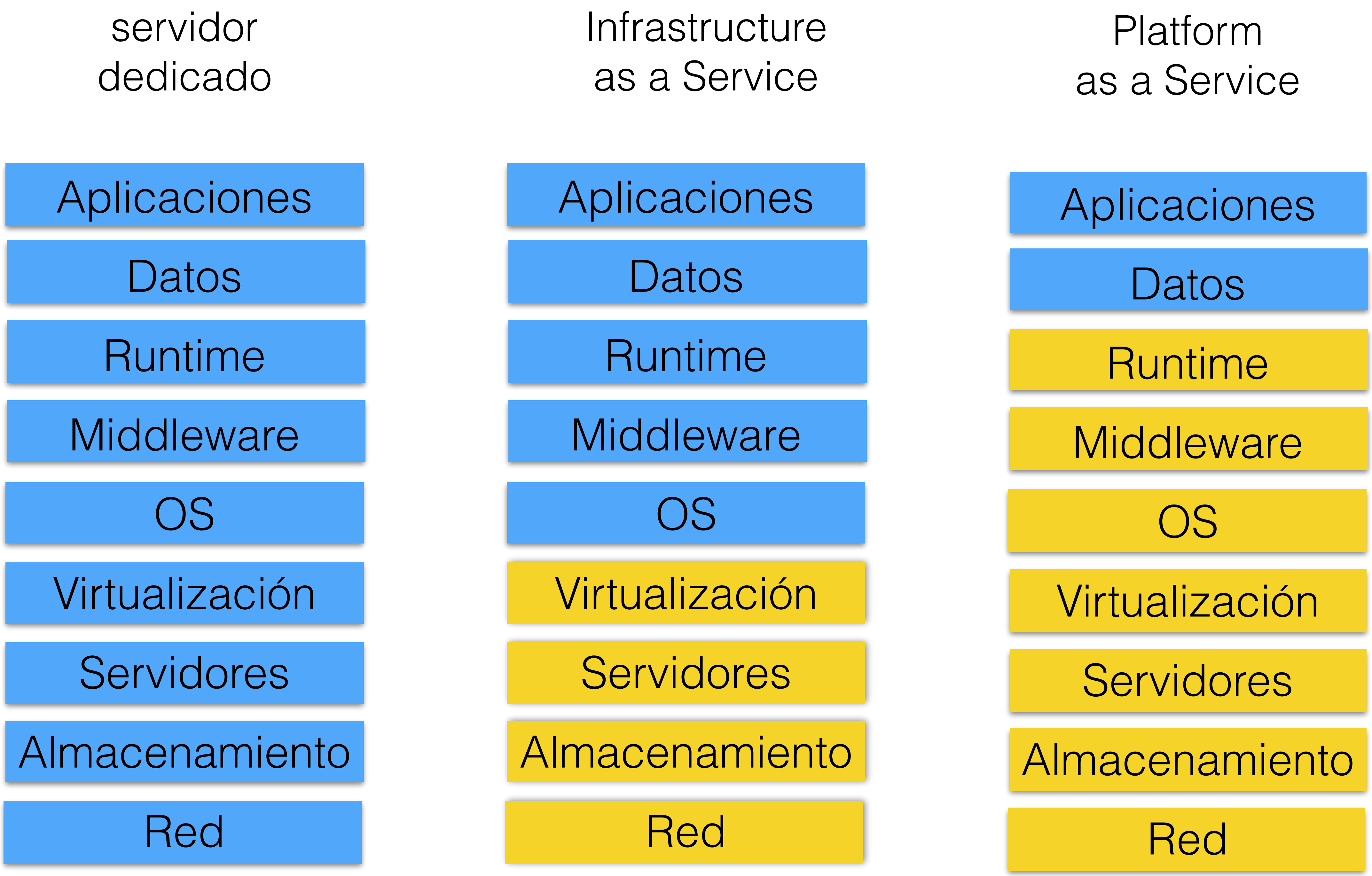
SQS
Message Queue Service

SWF
Workflow Service for Coordinating Application Components

Platform as a Service (PaaS)

- cloud computing solution stack
- consumidor: software + ajustes de configuración
- proveedor: infraestructura automatizada y transparente

resumiendo…



servidor dedicado	Infrastructure as a Service	Platform as a Service
🟦 Aplicaciones	🟦 Aplicaciones	🟦 Aplicaciones
🟦 Datos	🟦 Datos	🟦 Datos
🟦 Runtime	🟦 Runtime	🟨 Runtime
🟦 Middleware	🟦 Middleware	🟨 Middleware
🟦 OS	🟦 OS	🟨 OS
🟦 Virtualización	🟨 Virtualización	🟨 Virtualización
🟦 Servidores	🟨 Servidores	🟨 Servidores
🟦 Almacenamiento	🟨 Almacenamiento	🟨 Almacenamiento
🟦 Red	🟨 Red	🟨 Red

Google App Engine

- aplicaciones web en la infraestructura Google
- fácil de crear, mantener y actualizar
- runtime/sandbox + servicios

Python 2.7

Java 7

PHP
(preview)

Go
(experimental)

Almacenamiento

NDB Datastore

- Schemaless
- strongly consistent
- automatic caching
- Polymodel: herencia de modelos

Cloud SQL

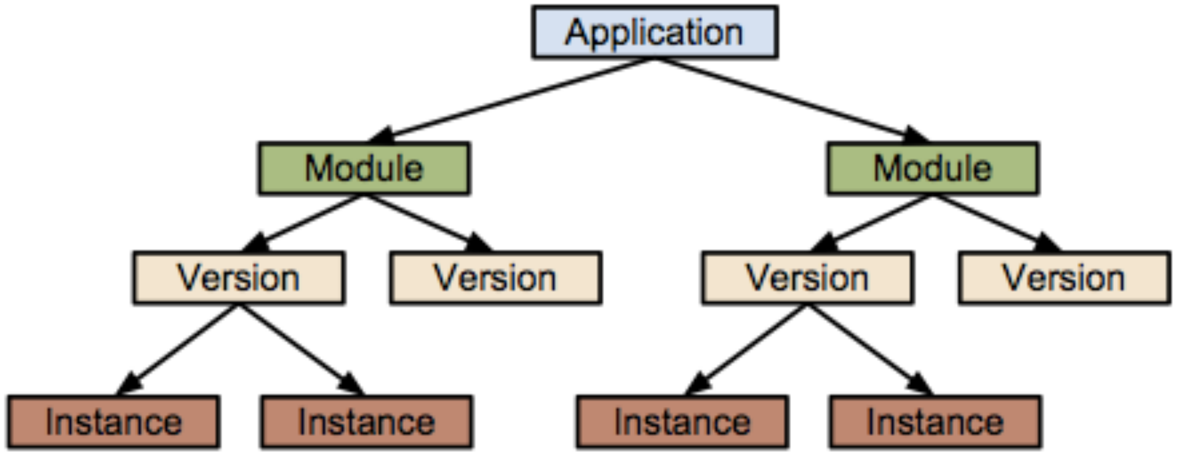
Cloud Storage

Blobstore

```
from google.appengine.ext import ndb

class Greeting(ndb.Model):
  content = ndb.StringProperty()
  date = ndb.DateTimeProperty(auto_now_add=True)
```

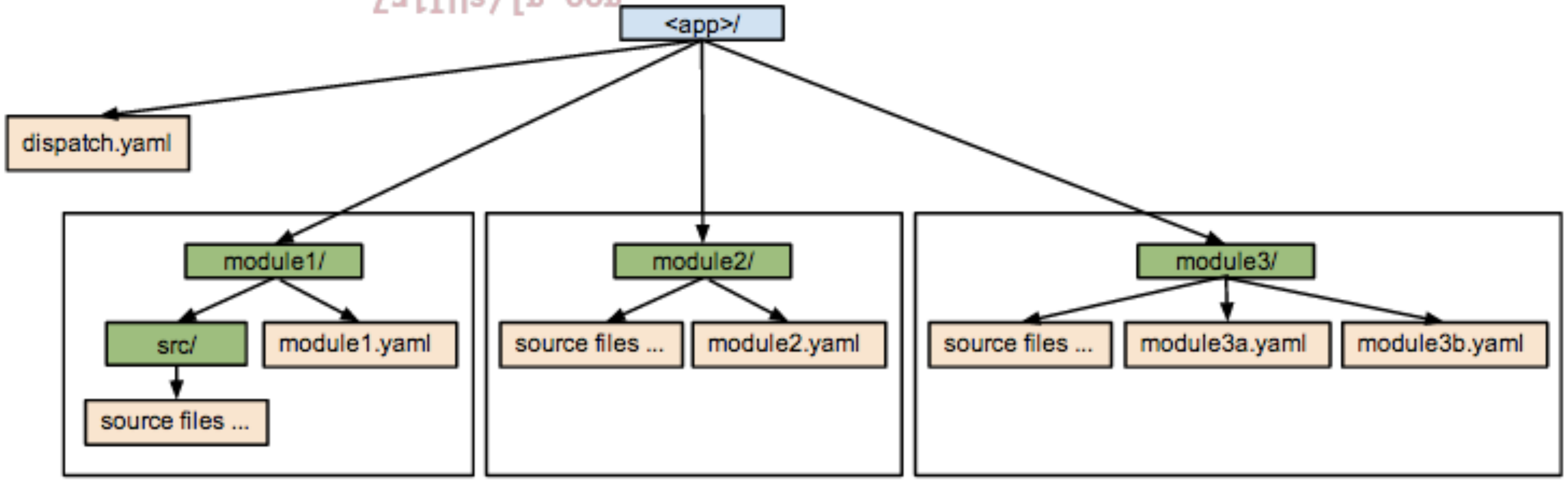
modules

Componentes lógicos de la aplicación



- módulo default
- 1 o más instancias por módulo
- logging independiente
- comunicación: NDB, memcache, tareas, …
- escalado básico, manual y automático

goo.gl/sUJlr7



memcache

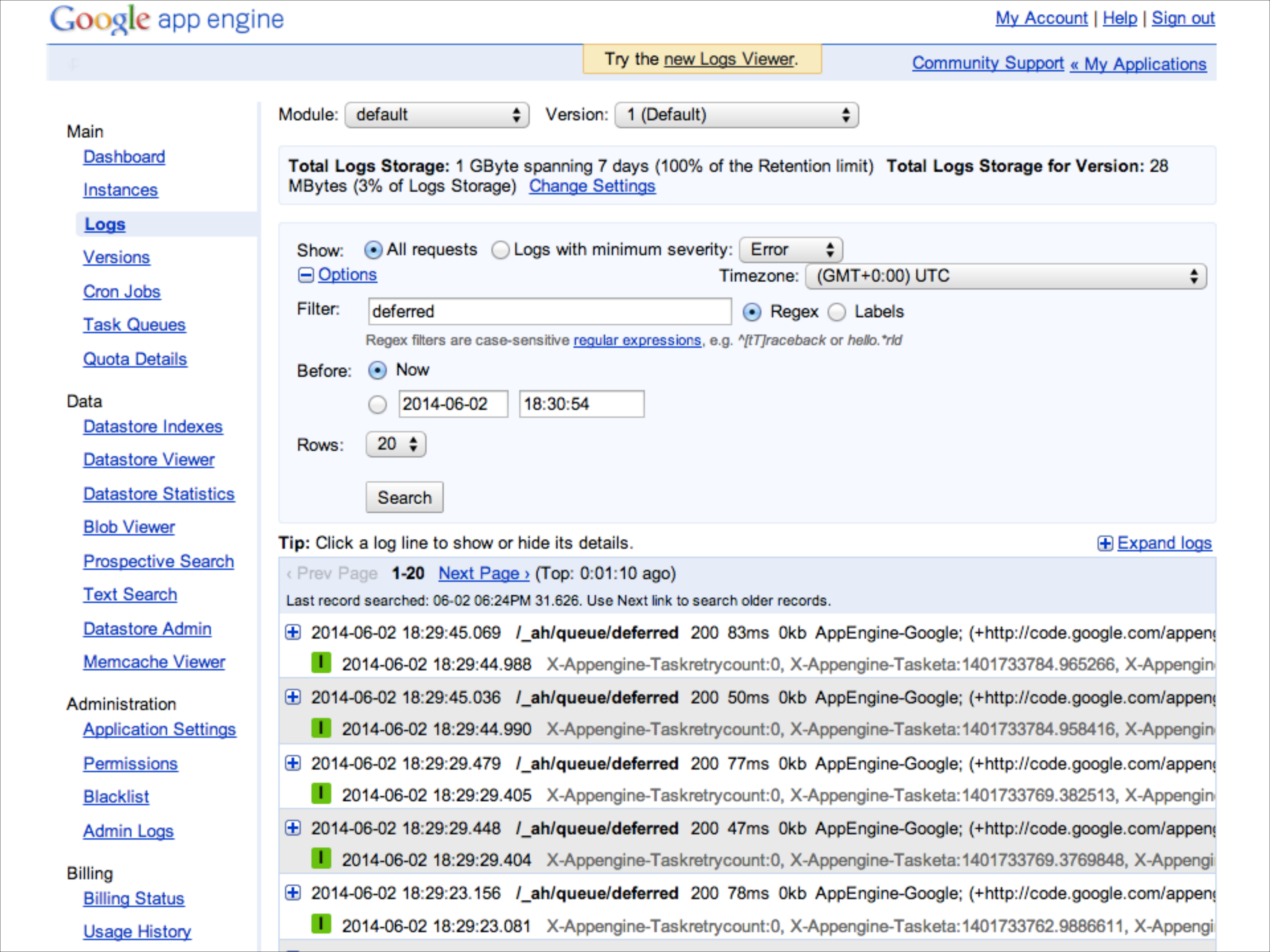
- caché en memoria distribuida de alto rendimiento
- global, compartida entre módulos, frontends y backends

```
from google.appengine.api import memcache

…
my_value = memcache.get(‘some_cool_key’)

if my_value is None:
    my_value = get_value()
    memcache.set(‘some_cool_key’, my_value, 3600)

return my_value
```

Tasks & cron jobs

- Proceso fuera de una petición HTTP
- Colas (queue.yaml)
- clase deferred
- Tareas programadas (cron.yaml)

```
from google.appengine.api import taskqueue

…
taskqueue.add(url='/worker', params={'key': key})
```



Module: default Version: 1 (Default)

Total Logs Storage: 1 GByte spanning 7 days (100% of the Retention limit) **Total Logs Storage for Version:** 28 MBytes (3% of Logs Storage) Change Settings

Show: ● All requests ○ Logs with minimum severity: Error

⊟ Options Timezone: (GMT+0:00) UTC

Filter: deferred ● Regex ○ Labels

Regex filters are case-sensitive regular expressions, e.g. *^[tT]raceback* or *hello.*rld*

Before: ● Now

○ 2014-06-02 18:30:54

Rows: 20

Search

Tip: Click a log line to show or hide its details. ⊞ Expand logs

‹ Prev Page **1-20** Next Page › (Top: 0:01:10 ago)

Last record searched: 06-02 06:24PM 31.626. Use Next link to search older records.

```
⊞ 2014-06-02 18:29:45.069 /_ah/queue/deferred 200 83ms 0kb AppEngine-Google; (+http://code.google.com/appen
    I 2014-06-02 18:29:44.988 X-Appengine-Taskretrycount:0, X-Appengine-Tasketa:1401733784.965266, X-Appengin
⊞ 2014-06-02 18:29:45.036 /_ah/queue/deferred 200 50ms 0kb AppEngine-Google; (+http://code.google.com/appen
    I 2014-06-02 18:29:44.990 X-Appengine-Taskretrycount:0, X-Appengine-Tasketa:1401733784.958416, X-Appengin
⊞ 2014-06-02 18:29:29.479 /_ah/queue/deferred 200 77ms 0kb AppEngine-Google; (+http://code.google.com/appen
    I 2014-06-02 18:29:29.405 X-Appengine-Taskretrycount:0, X-Appengine-Tasketa:1401733769.382513, X-Appengin
⊞ 2014-06-02 18:29:29.448 /_ah/queue/deferred 200 47ms 0kb AppEngine-Google; (+http://code.google.com/appen
    I 2014-06-02 18:29:29.404 X-Appengine-Taskretrycount:0, X-Appengine-Tasketa:1401733769.3769848, X-Appengi
⊞ 2014-06-02 18:29:23.156 /_ah/queue/deferred 200 78ms 0kb AppEngine-Google; (+http://code.google.com/appen
    I 2014-06-02 18:29:23.081 X-Appengine-Taskretrycount:0, X-Appengine-Tasketa:1401733762.9886611, X-Appengi
```

more features

- Webapp2
- Unit Testing
- Google CDN
- Pagespeed
- Django
- Mail service
- Cloud Endpoints (API)
- Images
- OAuth

Pros

- Escalabilidad automática, sin límites
- fácil y barato (a corto plazo), cuota gratis
- ágil, ideal para startups
- PaaS: mínima gestión
- Infraestructura y servicios de Google
- CDN automático

Cons

- Sandbox: Python puro + librerías de terceros
- dependencia de las librerías GAE
- PaaS: falta de control de las máquinas, OS, ssh, sistema de archivos, customización, …
- Pago por uso de cada servicio
- Caro* (a largo plazo)

Demo - Taller

github.com/pythonvlc/workshop-gae-dumbboard

GEEKSHUBS

¡Gracias por escuchar!

Any thoughts?

Colaboradores

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1935