

Serverless A2X

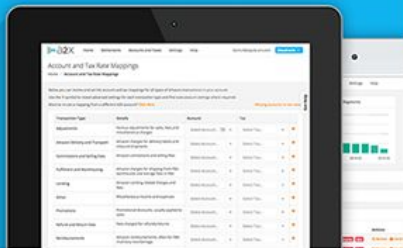
Google App Engine as a serverless platform for A2X

...



Automated Accounting
For Amazon Sales, Fees
Cost Of Goods Sold,
And Inventory

Try Now Free



Automated Accounting

A2X will automatically fetch your latest Amazon settlement transactions, and post summarized transactions to your accounting system. Reconcile Amazon settlements down to the cent every time you get paid.

Expand Internationally

A2X processes settlements from Amazon.com, Amazon.ca, Amazon.co.uk, Amazon.de, Amazon.fr, Amazon.es, Amazon.it, Amazon.in and Amazon.co.jp.

A2X Is Built By Experts

We're Amazon merchants with long FBA experience, and we're software engineers. We built A2X to support our own international merchant business. Now you can use it too. No more grappling with spreadsheets.

A2X Supports These Amazon Marketplaces

amazon.com	amazon.co.uk	amazon.ca
amazon.de	amazon.in	amazon.fr
amazon.es	amazon.it	amazon.co.jp

xero

CONNECTED
APP


A2X is a certified [Xero Connected Application](#). A2X gives Amazon merchants automated accounting by posting easy-to-reconcile summary invoices to Xero. Account for your Amazon revenue and expenses quickly and easily in a familiar, Xero-like way.

A2X

Easy accounting for Amazon sellers

- monthly subscription SaaS app
- millions of orders from Amazon
- summarize and match data

Scaling: 2 years on App Engine

- < 5 sellers
 - \$300,000/month
 - 1000's of orders
- 
- > 5000 sellers
 - > \$1 Billion/year
 - > Millions of orders

No Servers. No Databases.

Same architecture and platform from day one.

What is App Engine?

“If you write your app the way we tell you to, against our API’s, we promise it’ll scale really well on our platform”

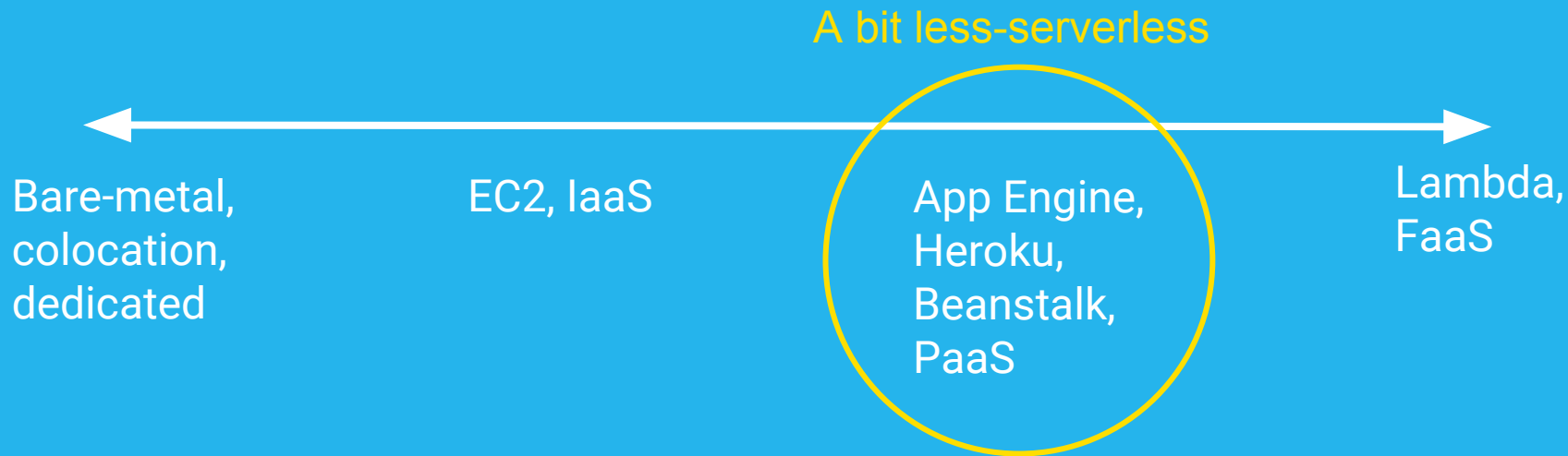
- Google *

What is App Engine?

Design guidelines with App Engine

- Do all your work in the web layer
- Keep no state in the web layer
- Keep all the (user facing) requests short and lightweight
- Shift the heavy/slow work to the background (but still in the web layer)
- Keep result sets small

How does App Engine fit in?



Is App Engine 'Serverless'?

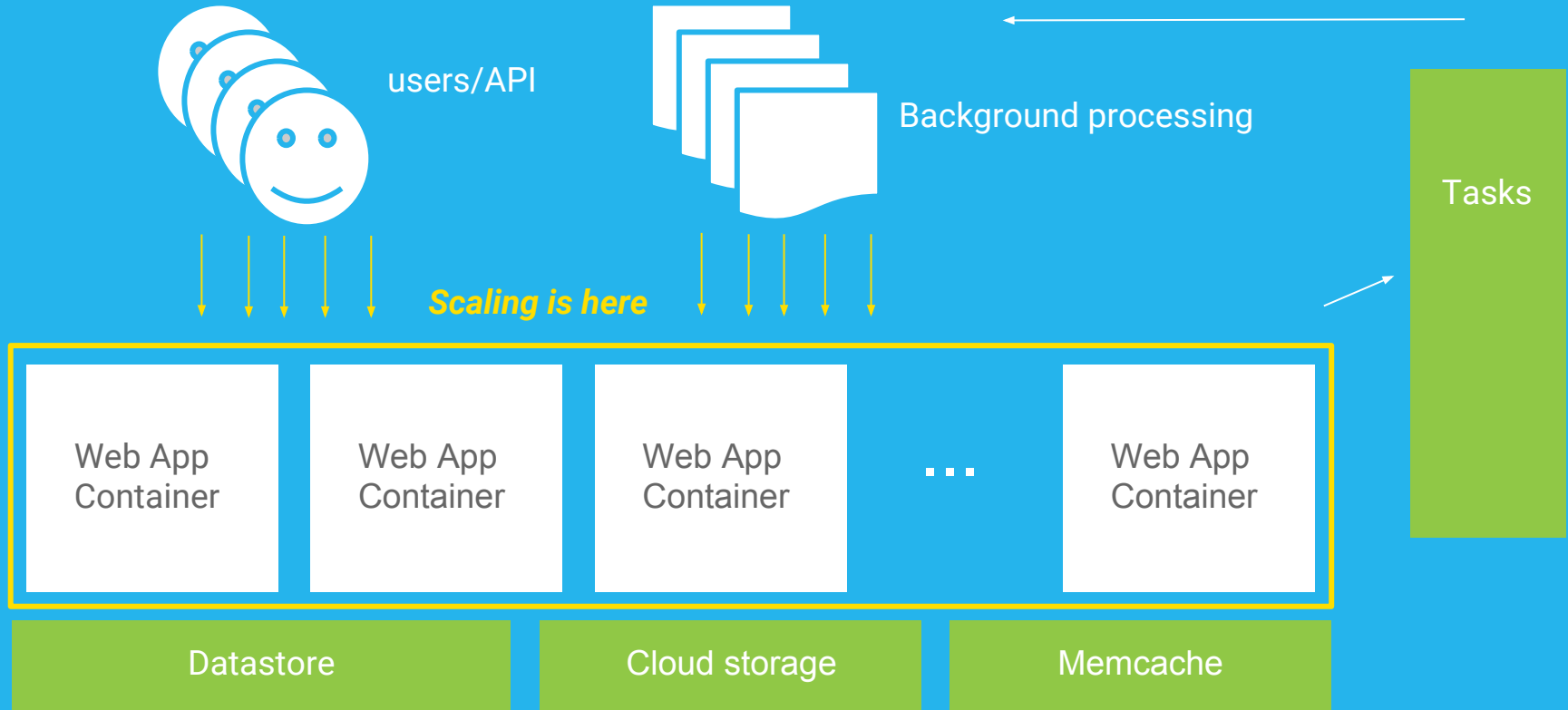


- JVM platform
- Call a method
- With some parameters
- Abstract everything else



- Web app platform
- Service a request
- With some parameters
- Abstract everything else

Web Request as the unit of work



What's cool about App Engine

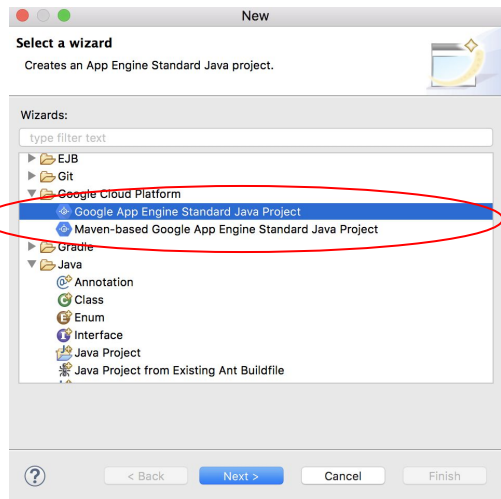
General Platform

- Java, Go, PHP, Python
- *+ other containers*
- Any GETs or POSTs
- *i.e APIs, web apps, services*
- Scales for you
- High throughput services:
Datastore, Task Queues

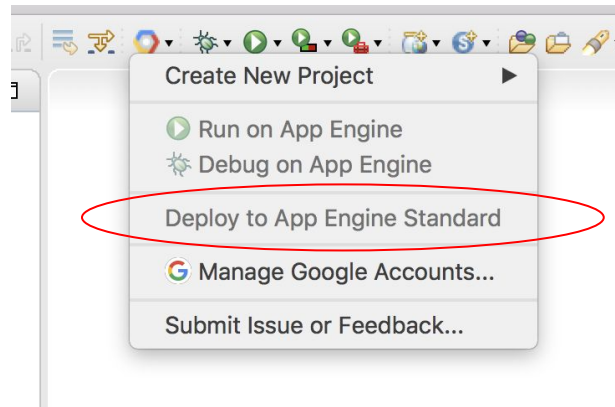
Developer Friendly

- Fast prototyping
- Local dev environment
- Versions, deployment
- traffic splitting
- Unit testing tools
- Environment monitoring,
logging, dashboard, billing

Engineering: Fast Prototyping



...write some code...



Engineering: versions, deployment

Migrate traffic to version 24

Migration takes a few minutes as new instances are created to match the current traffic load. Your application's service won't be interrupted during this time.

Do you want to migrate all traffic to this version?

[Show advanced options](#)

CANCEL **MIGRATE**

← Split traffic

You can split incoming traffic to different versions of your app. Traffic splitting is useful for slowly rolling out new versions or A/B testing different designs and features [Learn more](#)

Split traffic by

- IP address ?
- Cookie ?
- Random ?

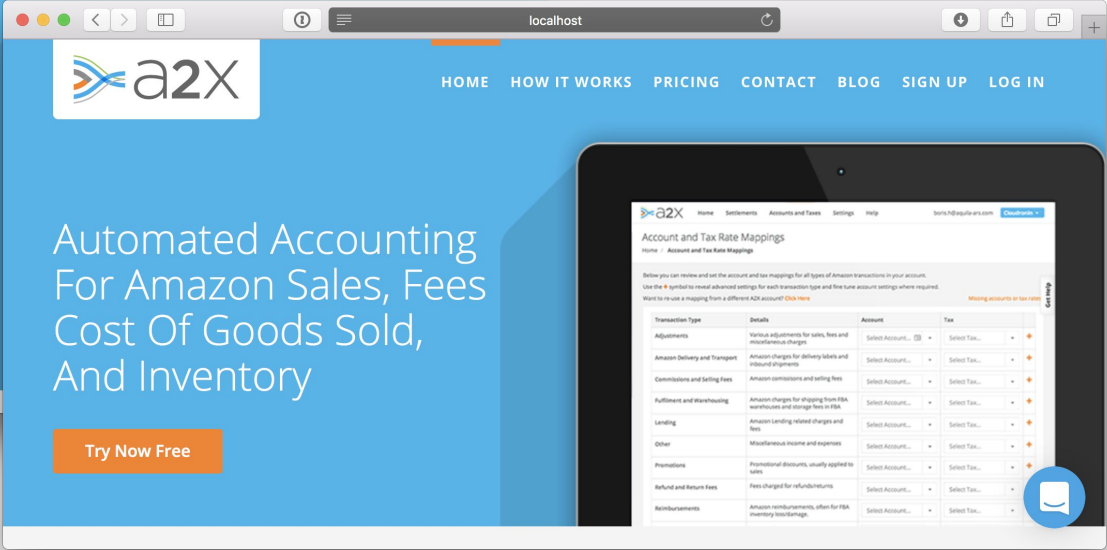
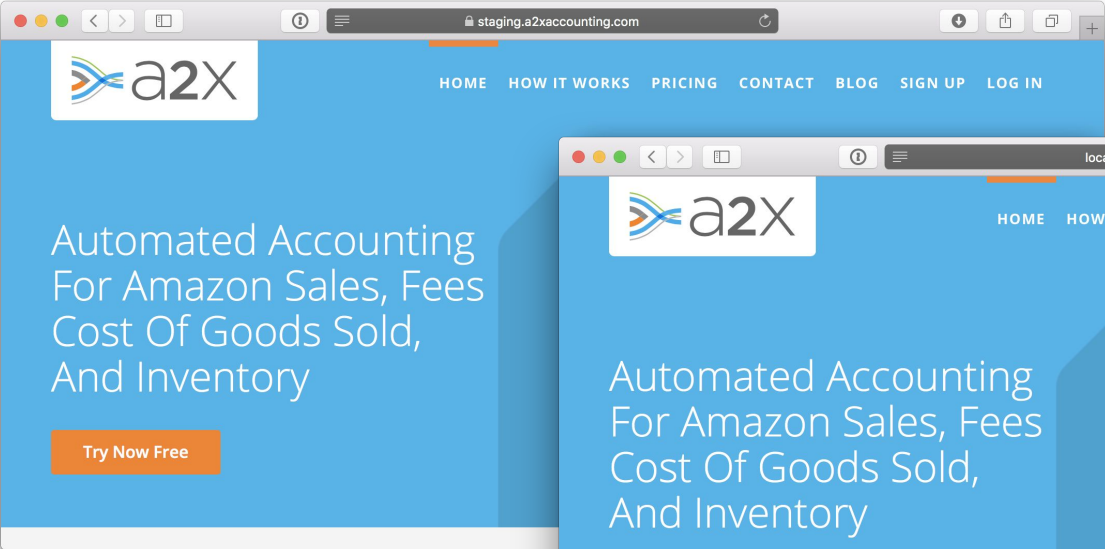
Traffic allocation

25	will receive the remaining	100 %	×
24	<input type="range"/>	0 %	×
+ Add version			

Save

Cancel

Engineering: environments



Engineering: Easy Profiling

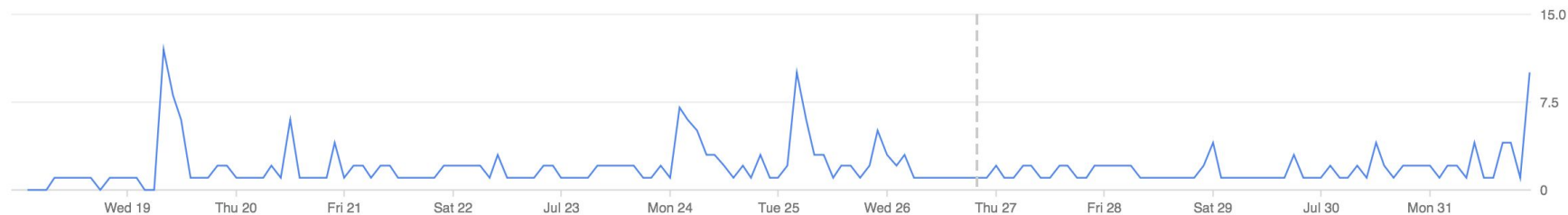


Monitoring: health

Instances

Total instances

Jul 26, 2017 7:47 PM



Created: 10.00

[Push Queues](#) [Pull Queues](#) [Cron Jobs](#)

Queue Name	Tasks In Queue	Completed In Last Min.	Oldest Task ETA [?]
<u>default</u>	726	13	2017-07-31 (22:12:05) (2 sec ago)

Application Errors [?]

Occurrences	Count	Error
	414	MarketplaceWebServiceException: The seller does not have an eligible Amazon account to call Amazon com.amazonaws.mws.MarketplaceWebServiceClient.invoke (MarketplaceWebServiceClient.java)
	144	MarketplaceWebServiceException: Request is throttled com.amazonaws.mws.MarketplaceWebServiceClient.invoke (MarketplaceWebServiceClient.java)

Monitoring: budgets & costs

Billing status

Enabled (Daily spending limit: \$200.00) [Settings](#)
Quotas reset every 24 hours. Next reset: 24 hrs ?

Resource	Usage	Billable
Frontend Instance Hours	3.51 Instance Hours	0.00
Logs Stored Data	1.00 GB	0.00
---	---	---

← Create budget

Set budget

Your budget can be a specified amount or based on previous spend. Budget spend resets the first day of each month to \$0.00.

Budget name

Example Budget

Project or billing account

Select a project or billing account for your budget to track

A2X Accounting

Budget amount

Set a budget by entering a specified amount or by selecting last month's spend

Specified amount \$ 1000

Include credit as a budget expense ?

Set budget alerts

Send email alerts to billing admins after spend exceeds a percent of the budget or a specified amount. Alerts are based on estimated expenses, so actual expenses may be greater.

Percent of budget	Amount	
50	%	\$ 500.00 ✕
90	%	\$ 900.00 ✕
100	%	\$ 1000.00 ✕
+ Add item		

[Save](#) [Cancel](#)

The 'catch'?

- No state on the app server
- Request time/resource limits
- No threads (*well, limited threads*)
- Sandbox with whitelisted libraries - no low level APIs
- No filesystem (use cloud storage)

And... Selling your soul to Google

```
7 import com.amazontoxero.shared.DateUtils;
8 import com.google.appengine.api.datastore.Key;
9 import com.google.appengine.api.datastore.KeyFactory;
10 import com.google.appengine.api.datastore.ShortBlob;
11 import com.google.appengine.api.datastore.Text;
12 import com.google.appengine.api.taskqueue.DeferredTask;
13 import com.google.appengine.api.taskqueue.Queue;
14 import com.google.appengine.api.taskqueue.QueueFactory;
15 import com.google.appengine.api.taskqueue.TaskOptions;
16
17 import java.io.Serializable;
18 import java.util.ArrayList;
19 import java.util.Date;
20 import java.util.HashMap;
21 import java.util.List;
```

What's next for App Engine?

- Google has made a long term commitment to App Engine
- Java 8 is in beta on App Engine
- BigQuery to analyze 100's of GB of raw source

App Engine; fast start, easy scale up

- + A fast easy way to get started
- + A smooth transition to growth, no need to re-architect
- + Clear path to scale up further within the same platform
- - Limits on what you can do on the platform
- - Tight lock-in to Google's infrastructure

Thank You!

Questions, comments?

(ps: we're hiring)

Contact:

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