

# Severless PHP Case

Agile Dashboard via GitLab Board API



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» LeadBest Consulting Group 首席執行顧問

» TGO Networks 台北分會學籍委員

» 資安技術社群 CHROOT 成員

13 年互聯網研發經驗，4 年顧問資歷。

具備銀行安全交易系統、電子票證系統、清分清算系統、機載娛樂系統、數位廣告 (Adtech) 平台、古典樂線上平台及高效能電腦集群入口平台等開發經驗。

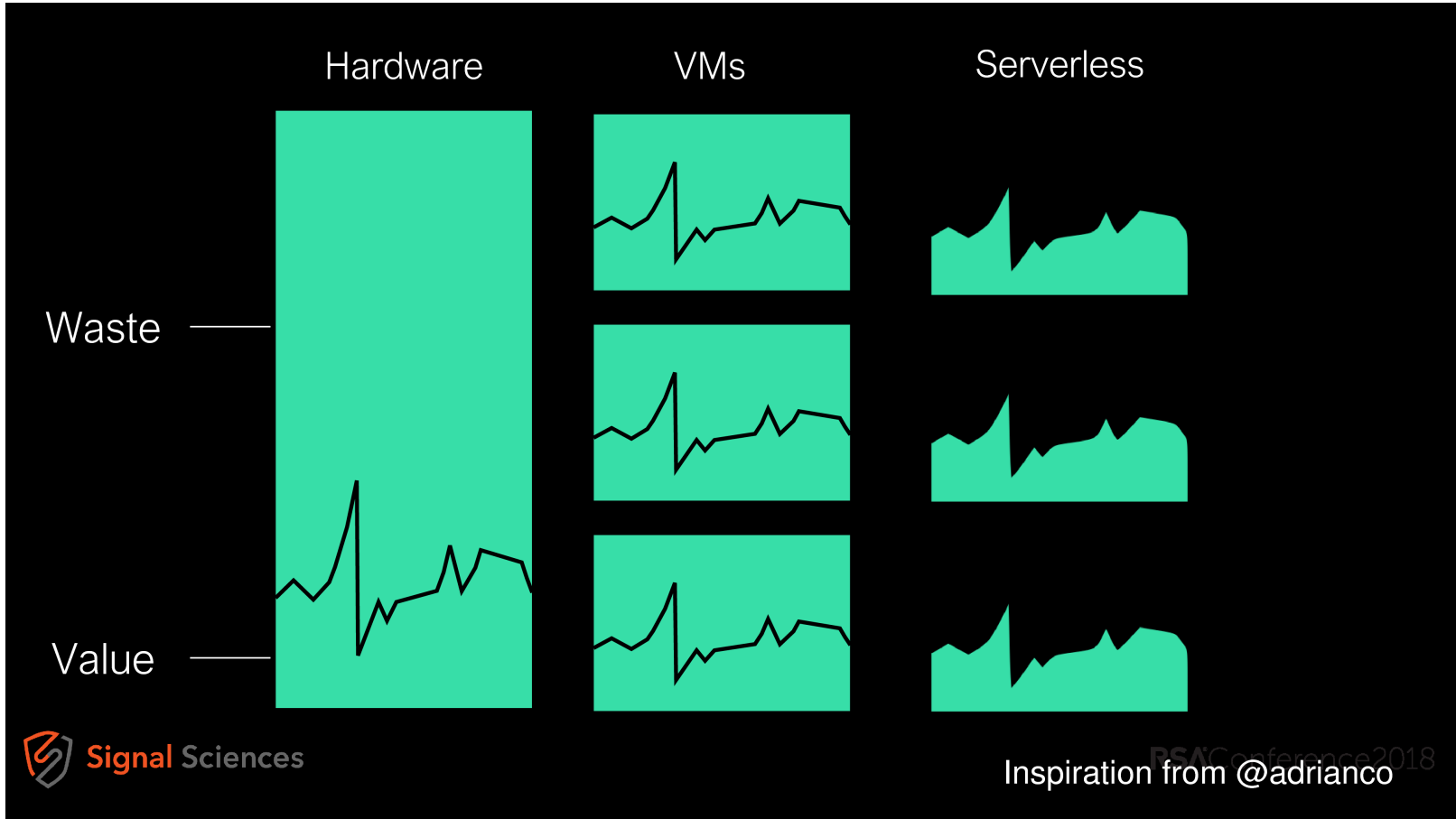


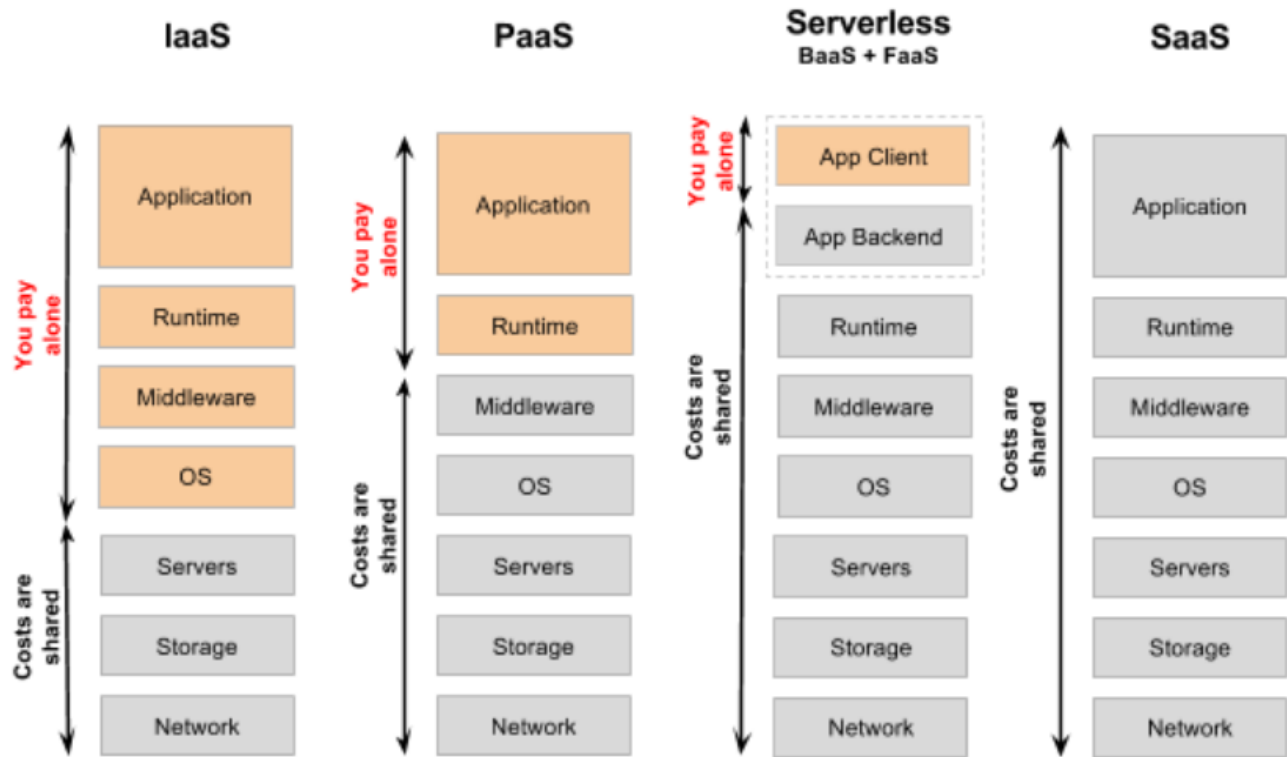
Pay for what I use (pay-as-you-go)

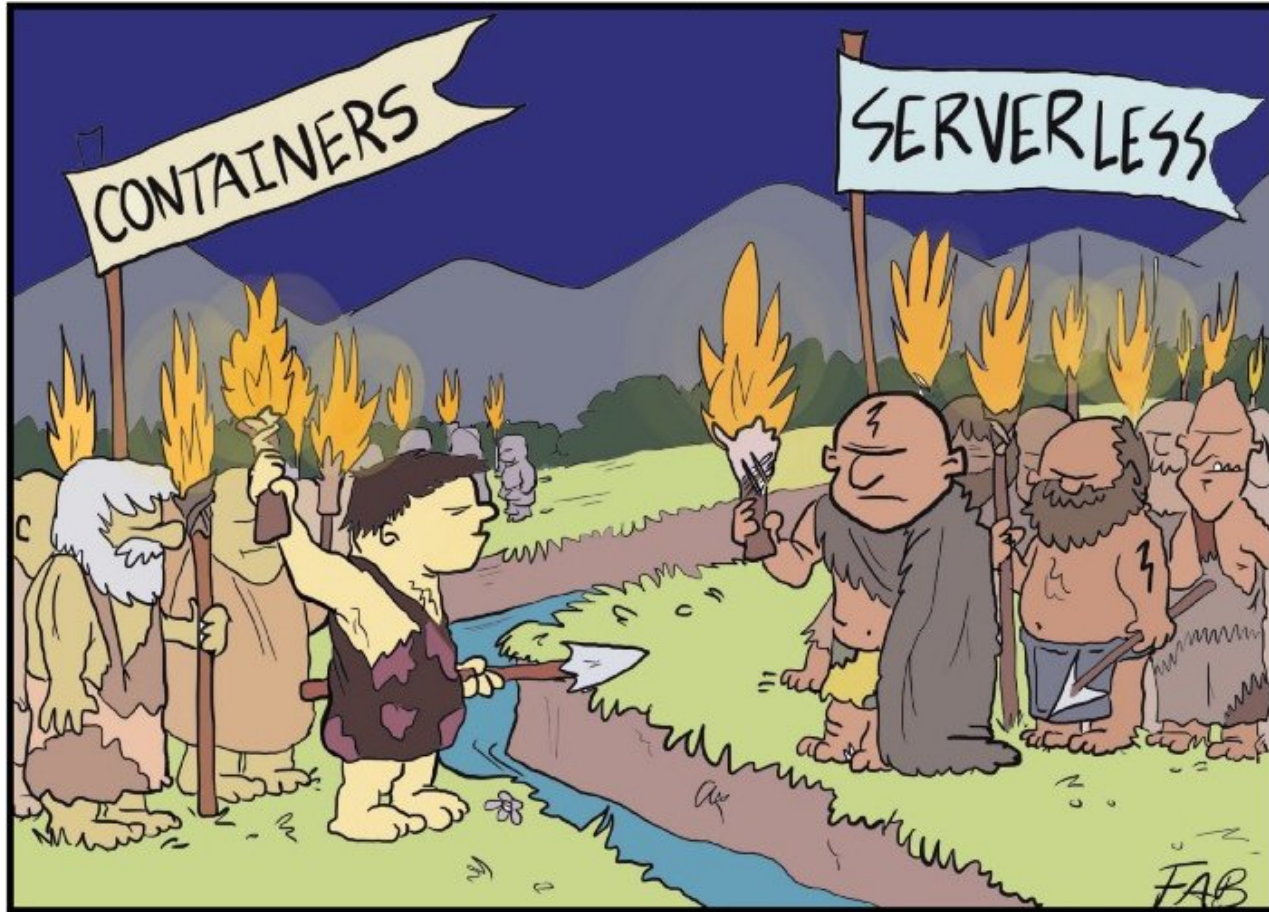
Granular scaling

Personalization (vs. SaaS)

Serverless







# Containers and serverless: similar, yet different

	containerized microservices (Kubernetes)	serverless (AWS Lambda)
unit of deployment	pod	function
build artifact	container image	ZIP, JAR file
artifact distribution	container registry	S3 buckets
event triggers	no built-ins, requires framework	built-in (API Gateway, S3 buckets, etc.)
state	can be stateful, requires some effort	stateless, but lots of integrations

Hit me up on Twitter: @mhausenblas



# Containers and serverless: similar, yet different

unit of deployment

build artifact

artifact distribution

event triggers no

state can't

Hit me up on Twitter: @mhausenblas

## Containers and serverless: similar, yet different

	containerized microservices (Kubernetes)	serverless (AWS Lambda)
latency	generally good	can be challenging
observability	not opinionated, integration points	AWS specific
billing	pay for resources, no matter if used or not	pay what you consume
lift and shift	possible	no
local development	doable	limited

Hit me up on Twitter: @mhausenblas



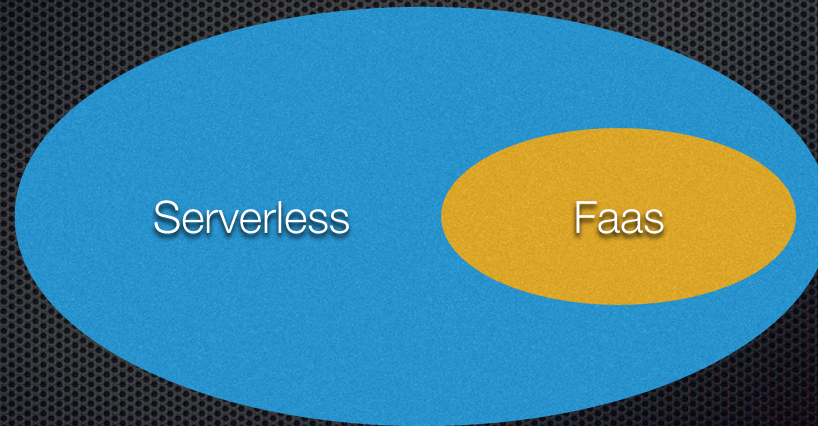
## 開大型拖板車來運送幾塊磚

建置 Kubernetes 來運行我的 Blog





# Serverless $\neq$ FaaS



@RafalGancarz

# Serverless != No Server

Serverless != No Server

Serverless != NoOps

"Serverless" 非指不再涉及伺服器。

"Serverless" 意味著開發人員不再需為 "Server" 煩惱太多。

# Serverless != No Server

Serverless != No Server

Serverless != NoOps

“Serverless”並非不手洗及不機器

Serverless == LessOps

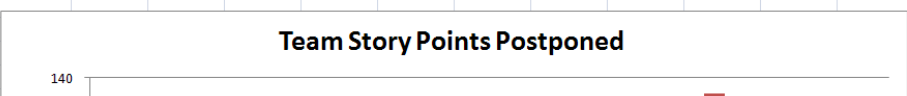
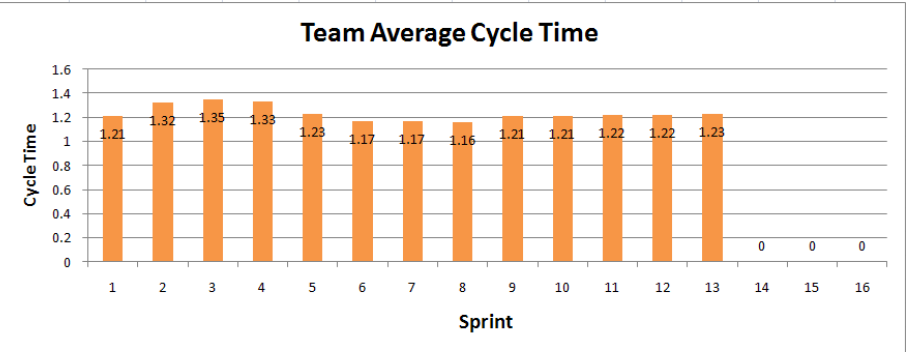
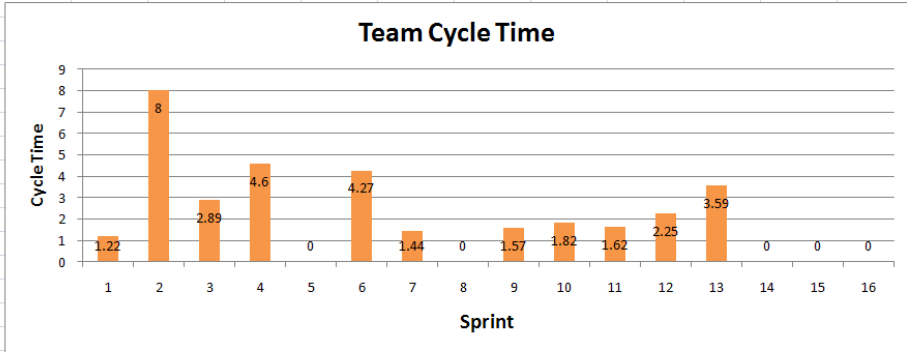
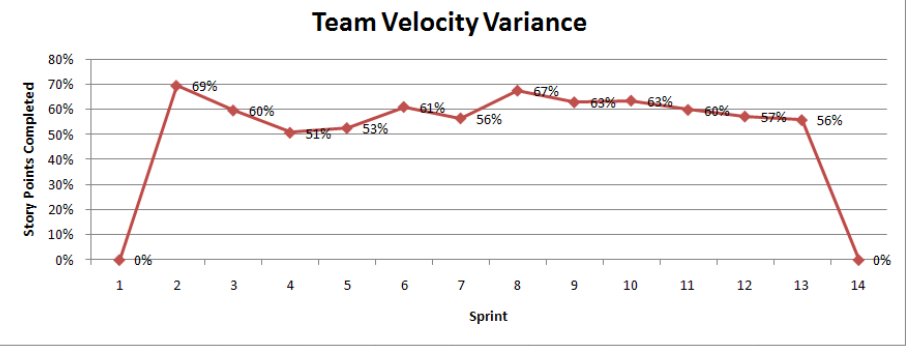
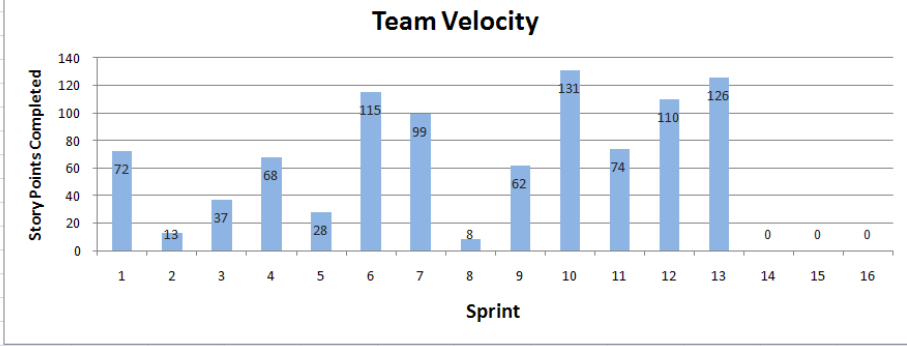
SERVERLESS 忘不了看開發人員不付而為 SERVER 煩惱太多。

如果說 Agile + IaaS 孵化了 DevOps ，

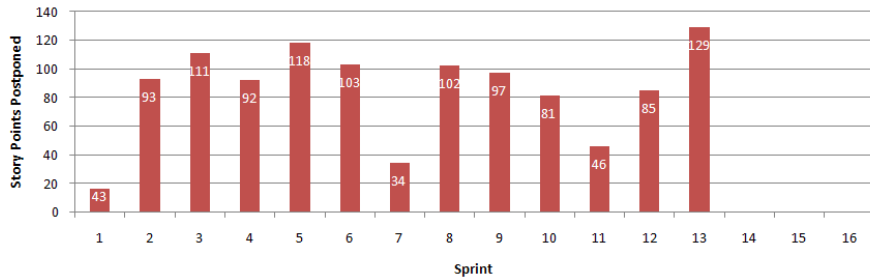
那麼， Agile + BaaS + FaaS 則孕育了 Serverless 。

# Agile Dashboard

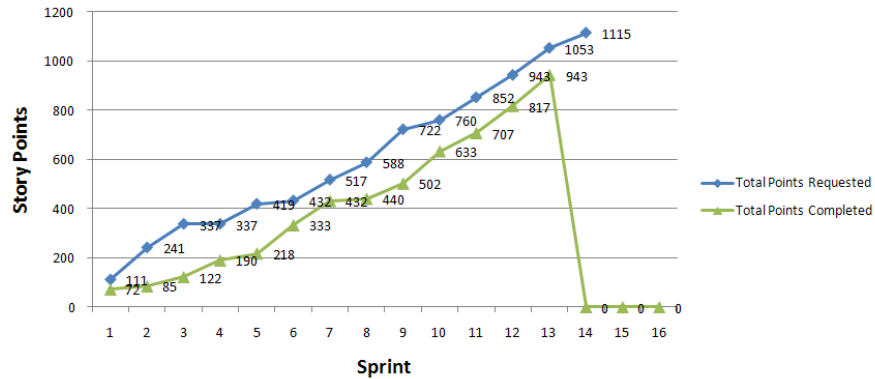




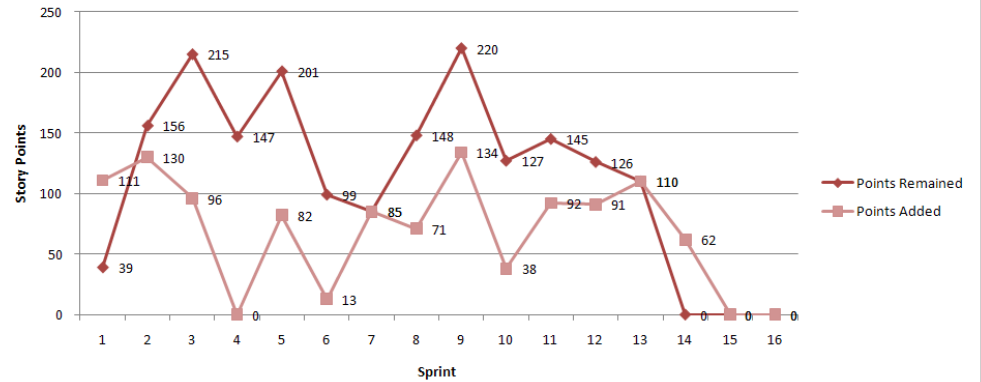
### Team Story Points Postponed

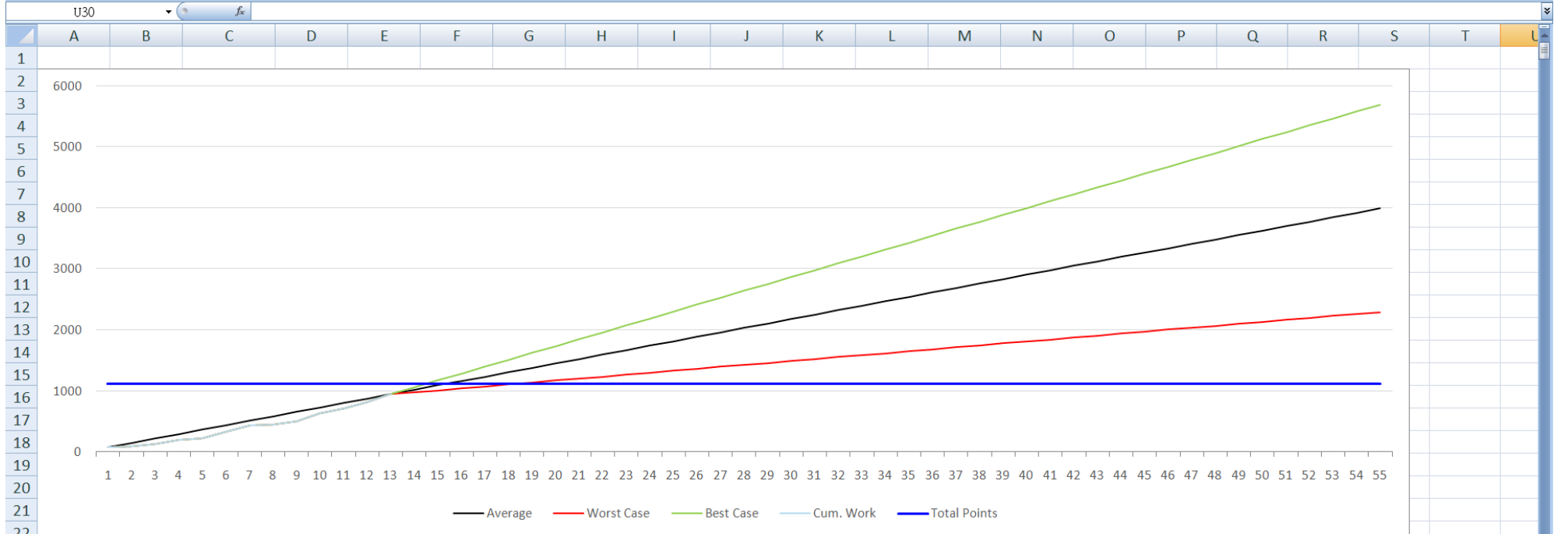


### Project Burnup Chart



### Project Burndown Chart





Analysis Lines		Current Info	
<b>Total Points</b>	1115	<b>Average</b>	72.54
<b>Finished Date</b>	2019-08-06	<b>Variance %ge</b>	56%
<b>Worst Finished</b>	2019-08-27	Work items per week.	
<b>Best Finished</b>	2019-07-30	The lower the better... <= 25% is good	

SprintMetrics-MUZYK-2019-07-23-v14.xlsx - Microsoft Excel																										
N48																										
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
2												244	63	93	206					138	33	68	88			
3	Day	Sprint	Assign	Doing	Done	Accpet	Delivery	Deploy	Postponed	T.Accept	Doing	%	Done	Accept	Pos.	T.Accept	%	Doing	%	Done	Accept	Pos.	T.Accept	%		
4	2019-04-23	1	20	88	2	72			16	72	31	35%	0	18	13	18	25%	13	15%	0	10	3	10	14%		
5	2019-04-30	2	0	104	45	13			93	85	13	13%	13	13	0	31	36%	6	6%	6	0	6	10	12%		
6	2019-05-07	3	43	101	20	35			111	122	13	13%	0	13	13	44	36%	22	22%	4	3	25	13	11%		
7	2019-05-14	4	43	92	58	20			92	190	13	14%	13	0	13	57	30%	24	26%	0	20	8	41	22%		
8	2019-05-21	5	91	60	54	0			118	218	0	0%	0	0	13	70	32%	1	2%	0	0	1	42	19%		
9	2019-05-28	6	73	64	8	15			103	333	21	33%	0	13	8	91	27%	0	0%	0	0	0	42	13%		
10	2019-06-04	7	97	85	21	59			34	432	21	25%	8	13	8	104	24%	0	0%	0	0	0	42	10%		
11	2019-06-11	8	60	81	56	0			102	440	31	38%	13	0	39	117	27%	0	0%	0	0	0	42	10%		
12	2019-06-18	9	49	113	41	72			97	502	21	19%	0	8	26	135	27%	0	0%	0	0	0	42	8%		
13	2019-06-25	10	42	89	8	49			81	633	20	22%	8	0	20	151	24%	13	15%	0	8	5	50	8%		
14	2019-07-02	11	46	99	35	61			46	707	19	19%	3	10	17	174	25%	13	13%	5	8	5	58	8%		
15	2019-07-09	12	47	90	59	40			85	817	20	22%	5	5	18	200	24%	13	14%	18	0	18	58	7%		
16	2019-07-16	13	13	97	0	27			129	943	13	13%	0	0	18	210	22%	18	19%	0	19	17	92	10%		
17	2019-07-23	14	0	85	0				0	0	8	9%			0			15	18%				0			
18				0	0				0	0					0								0			
19				0	0				0	0					0								0			
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21				0	0				0	0					0								0			
22				0	0				0	0					0								0			
23				0	0				0	0					0								0			
24				0	0				0	0					0								0			
25				0	0				0	0					0								0			
26				0	0				0	0					0								0			
27				0	0				0	0					0								0			
28				0	0				0	0					0								0			
29				0	0				0	0					0								0			

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
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6	2019-05-07	3	43	101	20	35			111	122		13	13%	0	13	13	44	36%	22	22%	4	3	25	13	11%	
7	2019-05-14	4	43	92	58	20			92	190		13	14%	13	0	13	57	30%	24	26%	0	20	8	41	22%	
8	2019-05-21	5	91	60	54	0			118	218		0	0%	0	0	13	70	32%	1	2%	0	0	1	42	19%	

## Why Excel ?

13	2019-06-25	10	42	89	8	49			81	633		20	22%	8	0	20	151	24%	13	15%	0	8	5	50	8%
14	2019-07-02	11	46	99	35	61			46	707		19	19%	3	10	17	174	25%	13	13%	5	8	5	58	8%
15	2019-07-09	12	47	90	59	40			85	817		20	22%	5	5	18	200	24%	13	14%	18	0	18	58	7%
16	2019-07-16	13	13	97	0	27			129	943		13	13%	0	0	18	210	22%	18	19%	0	19	17	92	10%
17	2019-07-23	14	0	85	0				0	0		8	9%			0			15	18%			0		
18				0	0				0	0						0							0		
19				0	0				0	0						0							0		
20				0	0				0	0						0							0		
21				0	0				0	0						0							0		
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23				0	0				0	0						0							0		
24				0	0				0	0						0							0		
25				0	0				0	0						0							0		
26				0	0				0	0						0							0		
27				0	0				0	0						0							0		
28				0	0				0	0						0							0		
29				0	0				0	0						0							0		

SprintMetrics-MUZIK-2019-07-23-v14.xlsx - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
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6	2019-05-07	3	43	101	20	35			111	122		13	13%	0	13	13	44	36%	22	22%	4	3	25	13	11%	
7	2019-05-14	4	43	92	58	20			92	190		13	14%	13	0	13	57	30%	24	26%	0	20	8	41	22%	
8	2019-05-21	5	91	60	54	0			118	218		0	0%	0	0	13	70	32%	1	2%	0	0	1	42	19%	

## Why Excel ?

Stakeholders & MVP (GUI friendly)

13	2019-06-25	10	42	89	8	49												24%	13	15%	0	8	5	50	8%
14	2019-07-02	11	46	99	35	61												25%	13	13%	5	8	5	58	8%
15	2019-07-09	12	47	90	59	40			85	817		20	22%	5	5	18	200	24%	13	14%	18	0	18	58	7%
16	2019-07-16	13	13	97	0	27			129	943		13	13%	0	0	18	210	22%	18	19%	0	19	17	92	10%
17	2019-07-23	14	0	85	0				0	0		8	9%			0			15	18%			0		
18				0	0				0	0						0							0		
19				0	0				0	0						0							0		
20				0	0				0	0						0							0		
21				0	0				0	0						0							0		
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23				0	0				0	0						0							0		
24				0	0				0	0						0							0		
25				0	0				0	0						0							0		
26				0	0				0	0						0							0		
27				0	0				0	0						0							0		
28				0	0				0	0						0							0		
29				0	0				0	0						0							0		

Tasks

Paganini Plus Tasks Issue Boards

Project overview

Development Search or filter results...

Show labels Edit board Add list Add issues

Issues 55

- List
- Boards
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Board: Spec 17

- China Version (CN) (Group: Backend) (Priority: 5) (Project: ISP) (Type: Feature) #161
- [Spec] 開票規格 - 開票規格說明 (Group: Backend) (Group: Frontend) (Project: ISP) #202
- [Spec] 廣告管理 - 直式圖片素材格式 (Group: Backend) (Priority: 5) (Project: ISP) #191
- [Spec] 消費者欲退費時, 需查詢的相關資料 #130
- 每日投放金額與各國匯率匯兌規格 #98
- 理解目前渠道的 TYPE 所指意義及影響為何 (Project: ISP) (Type: Spike) #71
- 廣告每日預算規格 (Priority: 5) (Project: ISP) (Type: Feature) #43
- 帳戶餘額低於每日預算時, 後台如何判斷廣告投放設定 #122

Board: Assignment 4

- 工程部分優化: Facebook & Google 綁定簡化 (Group: Backend) (Group: Frontend) (Priority: 5) (Project: ISP) (Type: Feature) #357
- 工程部分優化: Facebook 在地商家廣告投遞優化 (Group: Backend) (Group: Frontend) (Priority: 4) (Project: ISP) (Type: Feature) #358
- 工程部分優化: TSP 與 TMP 合併 (Group: Backend) (Group: Frontend) (Priority: 4) (Project: IMP) (Project: ISP) (Type: Refactor) #359
- [Frontend] SDK - 15 秒呼叫一次新廣告 (Group: Frontend) (Project: ISP) (Type: Feature) #353

Board: Doing 5

- [Backend] 儲值金額 - 線上儲值成功但仍 TSP 帳戶未顯示於餘額中 (Group: Backend) (Group: Data) (Project: ISP) (Type: Bug) #304
- [Backend] 廣告管理 - 整理 REST API 權限表 (Group: Backend) (Project: ISP) #291
- [Backend] 執行環境、部署流程的修復及優化 (Group: Backend) (Project: ISP) #319
- [Backend] 記錄追蹤 - 調整廣告、渠道商、經銷商報表為四捨五入 (9 月起生效) (Group: Backend) (Project: ISP) (Type: Bug) #331
- [Frontend] [Backend] 記錄追蹤 - 改變每日預算呈現方式 (Group: Backend) (Group: Frontend) (Project: ISP) (Type: Feature) #352

Board: Impeded 3

- [Frontend] TSP 取得 Facebook 使用者權限並綁定 TSP 帳號 (Group: Frontend) (Project: ISP) (Score: 2) (Type: Feature) #188
- [Backend] TSP 取得 Facebook 使用者管理權限 (粉專、廣告帳戶、像素) (Group: Backend) (Priority: 4) (Project: ISP) (Score: 3) (Type: Feature) #45
- [Frontend] 廣告管理 - 預設廣告 - 編輯就會當掉 (Group: Backend) (Project: ISP) (Type: Bug) #300

Board: Done 0

Board: Pooling

- [Backend] 廣告 (China Version) (Project: ISP) #288
- [Frontend] 功能 (Group: Frontend) (Score: 2) (Type: Feature) #185
- OVO - 記錄追蹤 (Group: Frontend) (Type: Feature) #171
- OVO - 計價方式 (Group: Backend) (Type: Feature) #170
- OVO - 計價方式 (Group: Backend) (Type: Feature) #160

Collapse sidebar

Tasks

Paganini Plus Tasks Issue Boards

Project overview

Development

Search or filter results...

Show labels

Edit board

Add list

Add issues

Issues 55

List

Boards

Labels

Milestones

Merge Requests 0

CI / CD

Operations

Packages & Registries

Analytics

Wiki

Snippets

Members

Settings

Collapse sidebar

Board: Pooling 5

Board: Acceptance 0

Board: Deployment 0

Board: Release 0

Closed 304

- [Backend] 廣告管理 - [China Version (CN)] [Group: Frontend] [Project: ISP] #288
- [Frontend] 功能開發 - 我要直播按鈕 [Group: Frontend] [Project: ISP] [Score: 2] [Type: Feature] #185
- OVO - 紀錄追蹤新增欄位 - 觀看數 [Group: Frontend] [Project: ISP] [Type: Feature] #171
- OVO - 計價方式改為觀看 10 秒後才計費 [Group: Backend] [Prio: 5] [Project: ISP] #170
- OVO - 計價方式改為觀看 10 秒後才計費 [Group: Backend] [Prio: 5] [Project: ISP] #160

- 投放臉書廣告時，持續投放時間不得超過一年 [Group: Backend] [Project: ISP] [Type: Spike] #166
- 自動部署 - Jenkins 研究 [Project: ISP] #80
- [Backend] [Frontend] tsp-admin 停用商店 / 帳號的 廣告投放記錄輸出 [Group: Backend] [Project: ISP] #361
- [Backend] tsp-admin Laravel 5.8 升級 6.x [Group: Backend] [Project: ISP] #360
- [Frontend] SDK 重構 [Group: Backend] [Project: ISP] #351
- [Backend] TSP 小型重構紀錄列表 [Group: Backend] [Project: ISP] #350
- [Backend] 紀錄追蹤 - 廣告被 Adblock 等套件阻擋無法送出點擊數 / 觀看數 [Group: Backend] [Project: ISP] [Type: Bug] #317
- [Backend] 紀錄追蹤 - 版本改變後不能拿到舊版本的版位 [Group: Backend] [Project: ISP]



- Tasks
- Project overview
- Repository
- Issues 139**
  - List
  - Boards
  - Labels**
  - Service Desk
  - Milestones
- Merge Requests 0
- CI / CD
- Operations
- Packages & Registries
- Analytics
- Wiki
- Snippets
- Members
- Settings
- Collapse sidebar

All Subscribed

Filter



Name



New label

Labels can be applied to issues and merge requests. Star a label to make it a priority label. Order the prioritized labels to change their relative priority, by dragging.

Prioritized Labels

Prio: 5	Issues · Merge requests · Prioritized label	Group label	★	✎	⋮	Subscribe
Prio: 4	Issues · Merge requests · Prioritized label	Group label	★	✎	⋮	Subscribe
Prio: 3	Issues · Merge requests · Prioritized label	Group label	★	✎	⋮	Subscribe
Prio: 2	Issues · Merge requests · Prioritized label	Group label	★	✎	⋮	Subscribe
Prio: 1	Issues · Merge requests · Prioritized label	Group label	★	✎	⋮	Subscribe

Other Labels

Board: Acceptance	Issues · Merge requests	Project label	★	✎	⋮	Subscribe
Board: Assignment	Issues · Merge requests	Project label	★	✎	⋮	Subscribe
Board: Deployment	Issues · Merge requests	Project label	★	✎	⋮	Subscribe

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- Collapse sidebar

Other Labels

Board: Acceptance	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Board: Assignment	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Board: Deployment	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Board: Doing	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Board: Done	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Board: Impeded	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Board: Release	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Board: Spec	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Group: Backend	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Group: Data	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Group: Frontend	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe

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- Settings
- Collapse sidebar

Group: Backend	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Group: Data	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Group: Frontend	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Project: Air	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Project: Android	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Project: CMS	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Project: CSS	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Project: Concert	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Project: Listen	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Project: Read	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Project: Watch	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe

- Tasks
- Project overview
- Repository
- Issues 139**
  - List
  - Boards
  - Labels**
  - Service Desk
  - Milestones
- Merge Requests 0
- CI / CD
- Operations
- Packages & Registries
- Analytics
- Wiki
- Snippets
- Members
- Settings
- Collapse sidebar

Muzik Online > Tasks > Labels

All Subscribed

Filter

Name

New label

Labels can be applied to issues and merge requests.  
Star a label to make it a priority label. Order the prioritized labels to change their relative priority, by dragging.

Score: 1	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Score: 100	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Score: 13	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Score: 2	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Score: 20	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Score: 3	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Score: 40	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Score: 5	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Score: 8	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe

- Tasks
- Project overview
- Repository
- Issues 139**
  - List
  - Boards
  - Labels**
  - Service Desk
  - Milestones
- Merge Requests 0
- CI / CD
- Operations
- Packages & Registries
- Analytics
- Wiki
- Snippets
- Members
- Settings
- Collapse sidebar

Size: S	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Size: ?	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Size: L	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Size: M	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Size: S	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Size: XL	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Type: Bug	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Type: Chore	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Type: Feature	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Type: Refactor	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe
Type: Spike	Issues · Merge requests	Project label	☆	✎	⋮	Subscribe

- Tasks
- Project overview
- Repository
- Issues 139
  - List
  - Boards
  - Labels
  - Service Desk
  - Milestones
- Merge Requests 0
- CI / CD
- Operations
- Packages & Registries
- Analytics
- Wiki
- Snippets
- Members
- Settings
- Collapse sidebar

Muzik Online Tasks Issue Boards

Development Search or filter results...

Show labels Edit board Add list Add issues

Board: Release

Board: Deployment

Closed 663

[Backend] 特定 Genre 類型 (ex. 彌賽亞) 曲目需以專輯資料排序, 並顯示在同一個 group #144  
 Group: Backend Prio: 5 Project: CSS  
 Score: 20 Type: Feature

[Backend] 聽樂 position 排序 #221  
 Group: Backend Prio: 4 Project: Listen  
 Type: Feature

#170  
 Group: Backend Prio: 3 Project: Read  
 Type: Feature

後台 position 不限制四種語系都要有才能儲存 #233  
 Group: Frontend Prio: 3 Project: CMS  
 Type: Bug

Watch 全部時期顯示的作品量應和其他時期顯示量一樣 #270  
 Prio: 5 Project: Watch Score: 1 Type: Feature

[Backend] 特定 Genre 類型 (ex. 彌賽亞) 曲目需以專輯資料排序, 並顯示在同一個 group #144

Assignee Edit

Milestone Edit  
None

Time tracking ?  
No estimate or time spent

Due date Edit  
None

Labels Edit  
 Group: Backend Prio: 5  
 Project: CSS Score: 20  
 Type: Feature

Notifications

<https://github.com/m4tthumphrey/php-gitlab-api>

>>

<https://github.com/GitLabPHP/Client>

The screenshot shows the GitHub repository page for **GitLabPHP / Client**. At the top, there are navigation links for **Code**, **Issues** (24), **Pull requests** (2), **Actions**, **Security**, and **Insights**. The repository statistics show **31** Watchers, **700** Stars, and **342** Forks. The current branch is **9.18**. A recent commit by **GrahamCampbell** is highlighted, titled "Update composer.json" from 23 hours ago with 1,029 likes. Below the commit list, a table of files and folders is shown, including `.github`, `lib/Gitlab`, `test/Gitlab/Tests`, `vendor-bin`, `.gitattributes`, `.gitignore`, `.styleci.yml`, `CHANGELOG.md`, `LICENSE`, `Makefile`, `README.md`, `composer.json`, `phpstan-baseline.neon`, `phpstan.neon.dist`, and `phpunit.xml.dist`. On the right side, the **About** section describes the project as "GitLab API v4 client for PHP" and lists tags like `gitlab`, `gitlab-api`, `php`, `httplug`, `api-client`, and `api`. The **Releases** section shows the latest release **9.18.0 (11/07/2020)** from 10 days ago. The **Sponsor this project** section lists sponsors **GrahamCampbell** and **m1guelpf Miguel**. The **Used by** section shows **167** users.

File/Folder	Description	Time Ago
<code>.github</code>	Tweaked CI	9 days ago
<code>lib/Gitlab</code>	Fixed incorrect param type doc	3 days ago
<code>test/Gitlab/Tests</code>	Update QueryStringBuilderTest.php	10 days ago
<code>vendor-bin</code>	Update composer.json	23 hours ago
<code>.gitattributes</code>	Update .gitattributes	10 days ago
<code>.gitignore</code>	Tweaked test config	12 days ago
<code>.styleci.yml</code>	Enabled more fixers	17 days ago
<code>CHANGELOG.md</code>	Fixed incorrect param type doc	3 days ago
<code>LICENSE</code>	Improved documentation (#525)	18 days ago
<code>Makefile</code>	Tweaked test config	12 days ago
<code>README.md</code>	Removed extra line	10 days ago
<code>composer.json</code>	Synced description	12 days ago
<code>phpstan-baseline.neon</code>	Get the stream and uri factories from the http builder	11 days ago
<code>phpstan.neon.dist</code>	Enabled more static analysis rules	12 days ago
<code>phpunit.xml.dist</code>	Tweaked test config	12 days ago

## GitLab Docs

## Install

## Analytics

## Clusters

## Groups

## Projects

## Operations

## CI/CD

## Packages

## API

## Resources

[.gitignore \(templates\)](#)[.gitlab-ci.yml \(templates\)](#)[Access requests](#)[Appearance \(application\)](#)[Applications](#)[Audit events](#)[Avatar](#)[Award emoji](#)[Badges \(project\)](#)[Badges \(group\)](#)[Collapse sidebar](#)

Resource	Available endpoints
<a href="#">Access requests</a>	<code>/projects/:id/access_requests</code> (also available for groups)
<a href="#">Award emoji</a>	<code>/projects/:id/issues/.../award_emoji</code> , <code>/projects/:id/merge_requests/.../award_emoji</code> , <code>/projects/:id/snippets/.../award_emoji</code>
<a href="#">Branches</a>	<code>/projects/:id/repository/branches/</code> , <code>/projects/:id/repository/merged_branches</code>
<a href="#">Commits</a>	<code>/projects/:id/repository/commits</code> , <code>/projects/:id/statuses</code>
<a href="#">Container Registry</a>	<code>/projects/:id/registry/repositories</code>
<a href="#">Custom attributes</a>	<code>/projects/:id/custom_attributes</code> (also available for groups and users)
<a href="#">Dependencies</a>	<code>/projects/:id/dependencies</code>
<a href="#">Deploy keys</a>	<code>/projects/:id/deploy_keys</code> (also available standalone)
<a href="#">Freeze Periods</a>	<code>/projects/:id/freeze_periods</code>
<a href="#">Deployments</a>	<code>/projects/:id/deployments</code>
<a href="#">Discussions (threaded comments)</a>	<code>/projects/:id/issues/.../discussions</code> , <code>/projects/:id/snippets/.../discussions</code> , <code>/projects/:id/merge_requests/.../discussions</code> , <code>/projects/:id/commits/.../discussions</code> (also available for groups)
<a href="#">Environments</a>	<code>/projects/:id/environments</code>
<a href="#">Error Tracking</a>	<code>/projects/:id/error_tracking/settings</code>
<a href="#">Events</a>	<code>/projects/:id/events</code> (also available for users and standalone)
<a href="#">Feature Flags</a>	<code>/projects/:id/feature_flags</code>
<a href="#">Feature Flag User Lists</a>	<code>/projects/:id/feature_flags_user_lists</code>
<a href="#">Issues</a>	<code>/projects/:id/issues</code> (also available for groups and standalone)
<a href="#">Issues Statistics</a>	<code>/projects/:id/issues_statistics</code> (also available for groups and standalone)





- Dockerfile (templates)
  - Environments
  - Epics 1
  - Events
  - Features flags
  - Feature flag user lists
  - Freeze periods
  - Geo nodes 1
  - Group activity analytics
  - Groups
  - Import
  - Issue boards (project)
  - Issue boards (group)
  - Issues**
  - Issues (epic) 1
  - Issues statistics
  - Jobs
  - Keys
  - Labels (project)
  - Labels (group)
  - License
  - Licenses (templates)
  - Links (issue) 1
  - Links (epic) 1
  - Managed licenses 1
  - ...
- ⏪ Collapse sidebar

## List issues

Get all issues the authenticated user has access to. By default it returns only issues created by the current user. To get all issues, use parameter `scope=all`.

```
GET /issues
GET /issues?state=opened
GET /issues?state=closed
GET /issues?labels=foo
GET /issues?labels=foo,bar
GET /issues?labels=foo,bar&state=opened
GET /issues?milestone=1.0.0
GET /issues?milestone=1.0.0&state=opened
GET /issues?iids[]=42&iids[]=43
GET /issues?author_id=5
GET /issues?assignee_id=5
GET /issues?my_reaction_emoji=star
GET /issues?search=foo&in=title
GET /issues?confidential=true
```

Attribute	Type	Required	Description
<code>state</code>	string	no	Return <code>all</code> issues or just those that are <code>opened</code> or <code>closed</code>
<code>labels</code>	string	no	Comma-separated list of label names, issues must have all labels to be returned. <code>None</code> lists all issues with no labels. <code>Any</code> lists all issues with at least one label. <code>No+Label</code> (Deprecated) lists all issues with no labels. Predefined names are case-insensitive.
<code>with_labels_details</code>	boolean	no	If <code>true</code> , response will return more details for each label in labels field: <code>:name</code> , <code>:color</code> , <code>:description</code> , <code>:description_html</code> , <code>:text_color</code> . Default is <code>false</code> . The <code>description_html</code> attribute was introduced in GitLab 12.7
<code>milestone</code>	string	no	The milestone title. <code>None</code> lists all issues with no milestone. <code>Any</code> lists all issues that have an assigned milestone.
			Return issues for the given scope: <code>created_by_me</code> , <code>assigned_to_me</code> or <code>all</code> . Defaults to <code>created_by_me</code>

Read and write  
spreadsheets  
quickly and at scale



## Supported Spreadsheet Types

Spout supports 3 types of spreadsheets: XLSX, ODS and CSV.

Spout provides a simple and unified API to read or create these different types of spreadsheets.

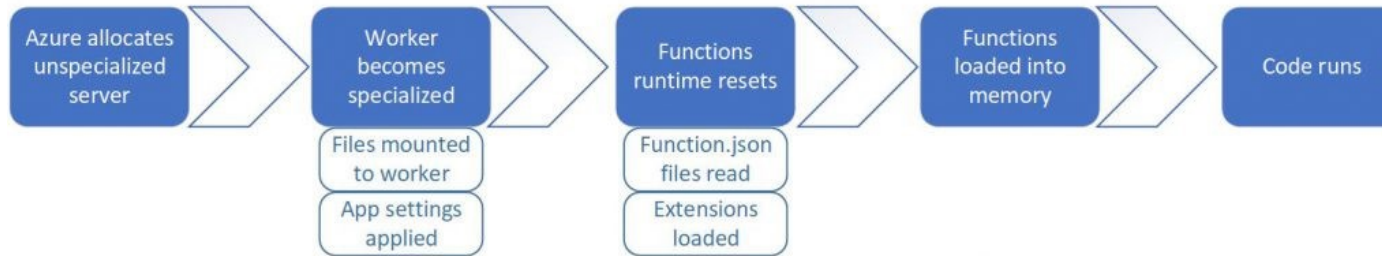
Switching from one type to another is ridiculously easy!



Cold Start

# Cold Start (冷啟動)

## When App is Cold



## When App is Warm



# Containers and serverless: similar, yet different

unit of deployment

build artifact

artifact distribution

event triggers no

state can

Hit me up on Twitter: @mhausenblas

## Containers and serverless: similar, yet different

	containerized microservices (Kubernetes)	serverless (AWS Lambda)
latency	generally good	can be challenging
observability	not opinionated, integration points	AWS specific
billing	pay for resources, no matter if used or not	pay what you consume
lift and shift	possible	no
local development	doable	limited

Hit me up on Twitter: @mhausenblas

# Containers and serverless: similar, yet different

## Containers and serverless: similar, yet different

containerized microservices  
(Kubernetes)

serverless  
(AWS Lambda)



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unit of deployment

build artifact

artifact distribution

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state can

Hit me up on Twitter: @mhausenblas

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	Advantages	Disadvantages
<b>Containers (CaaS)</b>	<ul style="list-style-type: none"> <li>▪ portability (can run everywhere)</li> <li>▪ flexibility in environment and language</li> <li>▪ no vendor lock-in</li> <li>▪ no cold starts, if you keep the containers running</li> <li>▪ does not suffer from the typical FaaS memory/payload/execution limits</li> </ul>	<ul style="list-style-type: none"> <li>▪ pay for what you don't use.</li> <li>▪ scaling is slower</li> <li>▪ scaling configuration required</li> <li>▪ need to install your environment</li> <li>▪ your process can still go down since containers are meant to keep running</li> </ul>
<b>Functions (FaaS)</b>	<ul style="list-style-type: none"> <li>▪ granular scaling</li> <li>▪ no need to install software</li> <li>▪ functions don't go down, a new function will run anyway when one crashes</li> <li>▪ no scaling configuration</li> <li>▪ faster scaling</li> <li>▪ pay-as-you-go</li> </ul>	<ul style="list-style-type: none"> <li>▪ cold starts</li> <li>▪ high granularity, the orchestration of many functions can result in more configuration than needed</li> <li>▪ memory, payload, and execution limits</li> </ul>

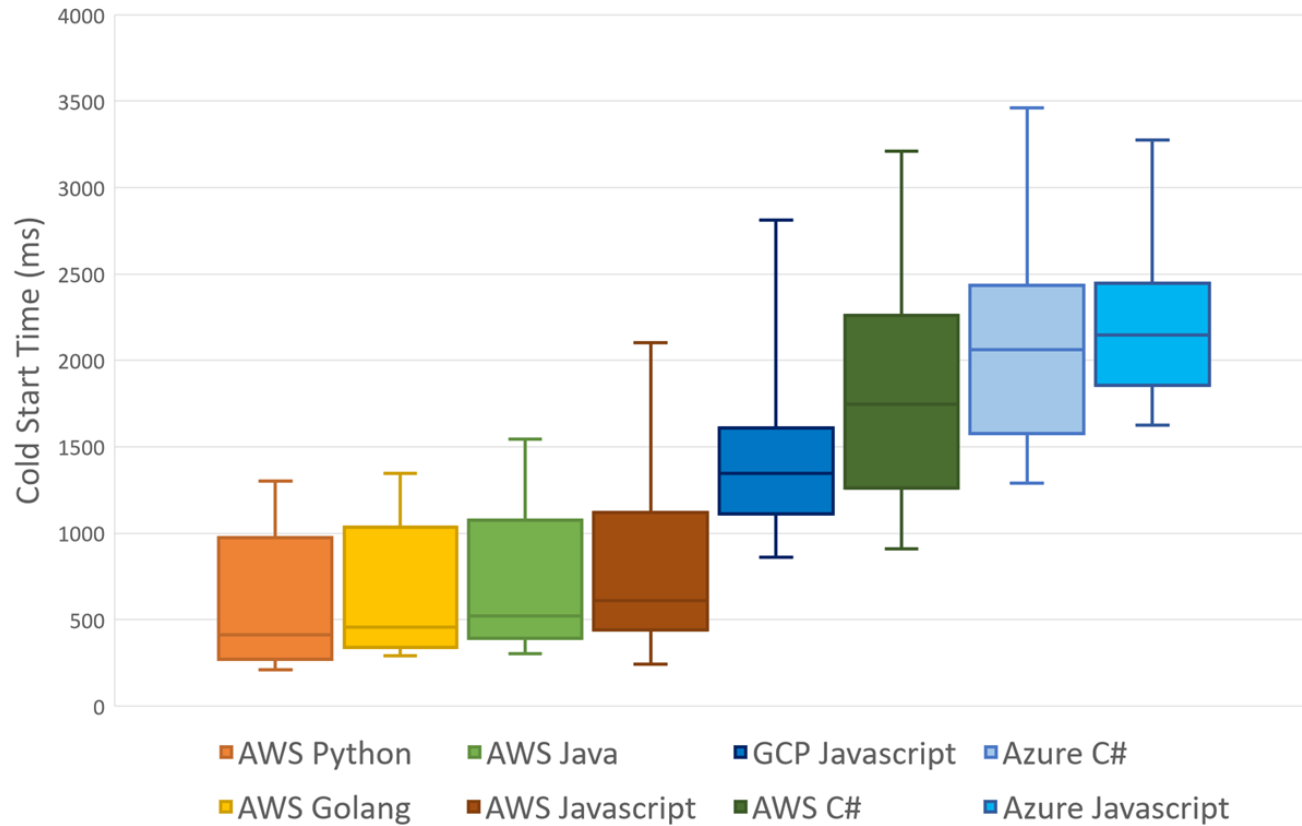
	Advantages	Disadvantages
<b>Containers (CaaS)</b>	<ul style="list-style-type: none"><li>▪ portability (can run everywhere)</li><li>▪ flexibility in environment and language</li><li>▪ no vendor lock-in</li><li>▪ no cold starts, if you keep the containers running</li><li>▪ does not suffer from the typical FaaS memory/payload/execution limits</li></ul>	<ul style="list-style-type: none"><li>▪ pay for what you don't use.</li><li>▪ scaling is slower</li><li>▪ scaling configuration required</li><li>▪ need to install your environment</li><li>▪ your process can still go down since containers are meant to keep running</li></ul>
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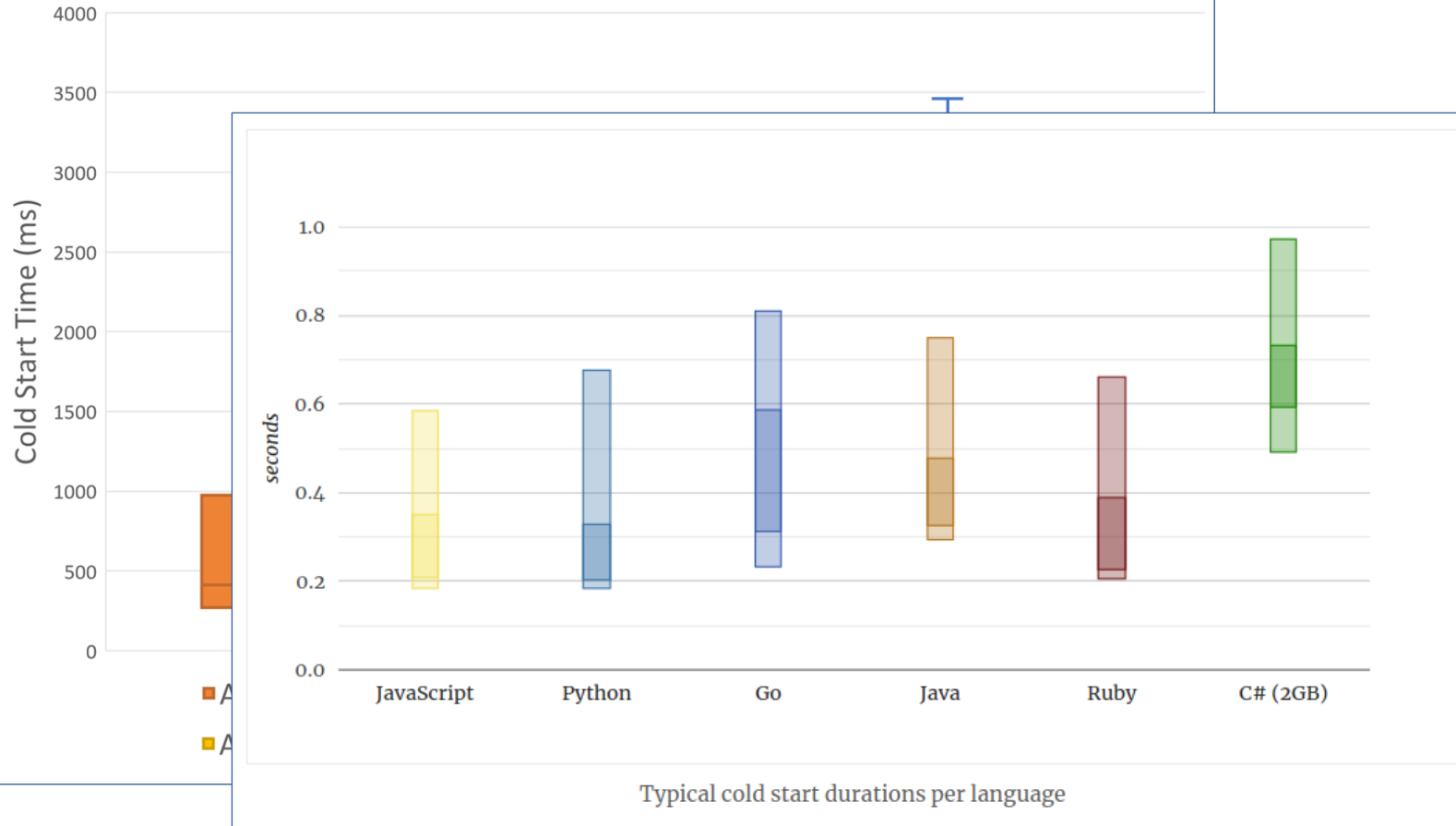
cold starts



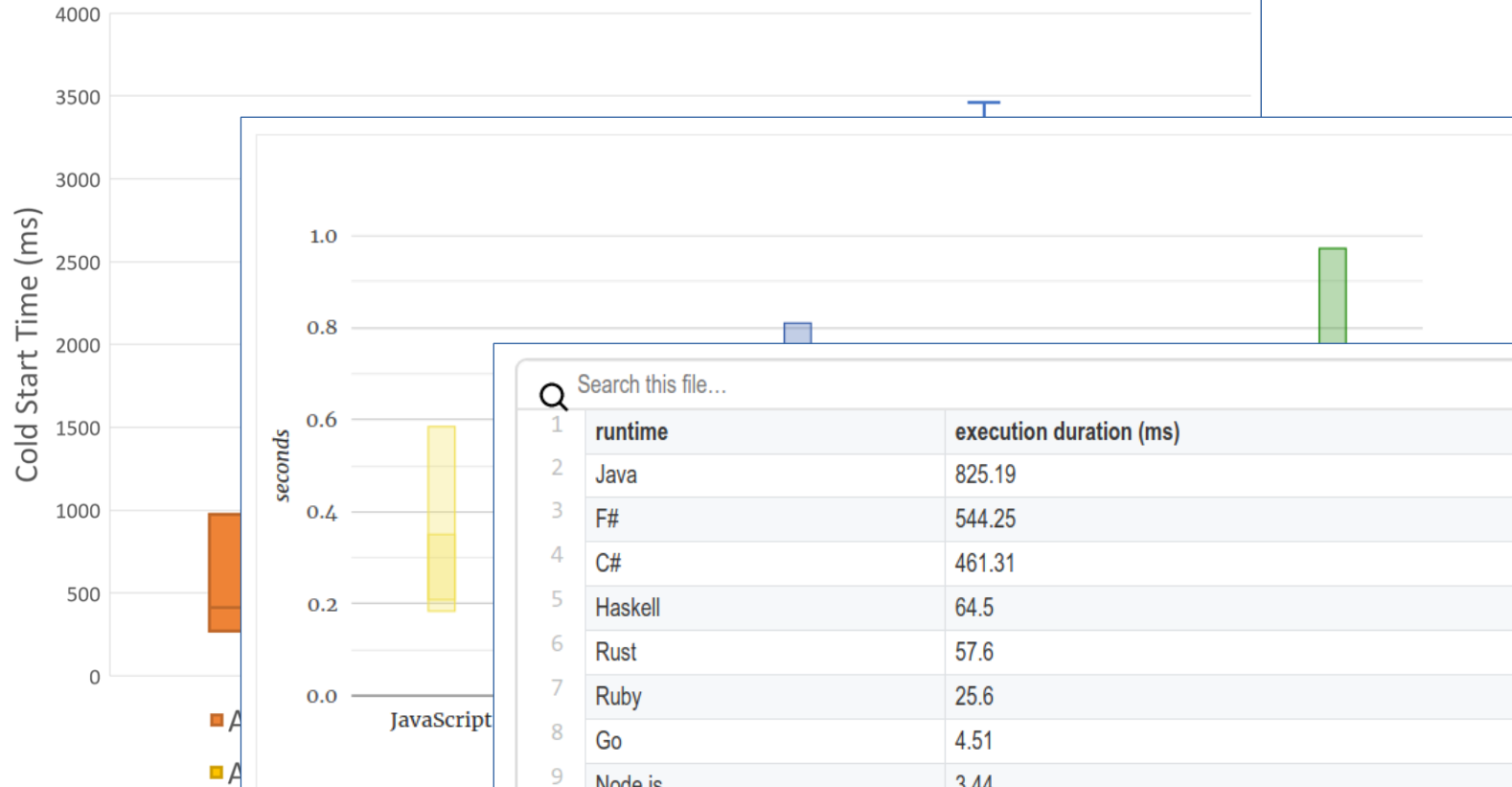
## Languages / Cloud Vendors Comparison



# Languages / Cloud Vendors Comparison



## Languages / Cloud Vendors Comparison



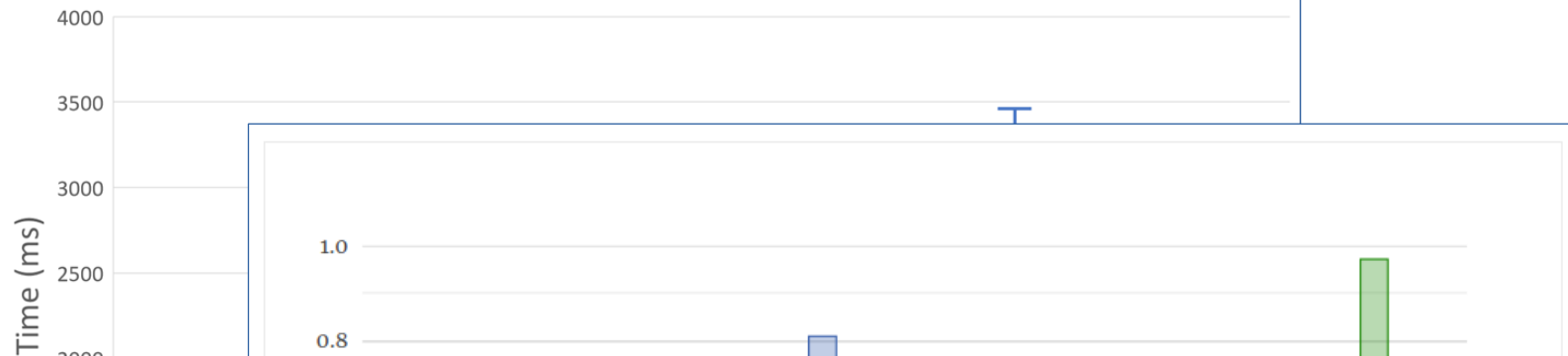
Search this file...

	runtime	execution duration (ms)
1		
2	Java	825.19
3	F#	544.25
4	C#	461.31
5	Haskell	64.5
6	Rust	57.6
7	Ruby	25.6
8	Go	4.51
9	Node.js	3.44
10	Python	1.93

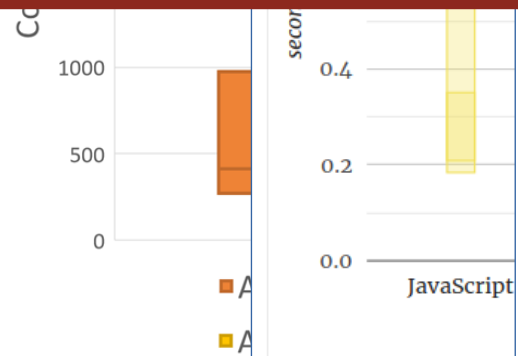
aws-lambda-benchmark-cold-start.csv hosted with ❤ by GitHub

[view raw](#)

## Languages / Cloud Vendors Comparison



有沒有發現，清單中都沒有今日的主角，PHP 去哪了！



2	Java	825.19
3	F#	544.25
4	C#	461.31
5	Haskell	64.5
6	Rust	57.6
7	Ruby	25.6
8	Go	4.51
9	Node.js	3.44
10	Python	1.93

aws-lambda-benchmark-cold-start.csv hosted with ❤ by GitHub

[view raw](#)

# PHP runtime for Serverless

### Q: What languages does AWS Lambda support?

AWS Lambda natively supports **Java, Go, PowerShell, Node.js, C#, Python, and Ruby** code, and provides a Runtime API which allows you to use any additional programming languages to author your functions. Please read our documentation on using [Node.js](#), [Python](#), [Java](#), [Ruby](#), [C#](#), [Go](#) and [PowerShell](#).

## Preparing to Write Some Code

Next, let's set up a working directory to package up and deploy our example:

```
mkdir -p ~/php-example/{bin,src}/
cd ~/php-example
touch ./src/{hello,goodbye}.php
touch ./bootstrap && chmod +x ./bootstrap
cp ~/php-7-bin/bin/php ./bin
```

Which gives us this initial directory structure:

```
/home/ec2-user/php-example/
+-- bin/
|   +-- php*
|-- bootstrap*
+-- src/
    +-- goodbye.php
    +-- hello.php

2 directories, 4 files
```

We now have some empty PHP script files where our function code will live, as well as an empty, executable `bootstrap` file. Let's talk about `bootstrap` first.

Documentation

Enterprise



# bref

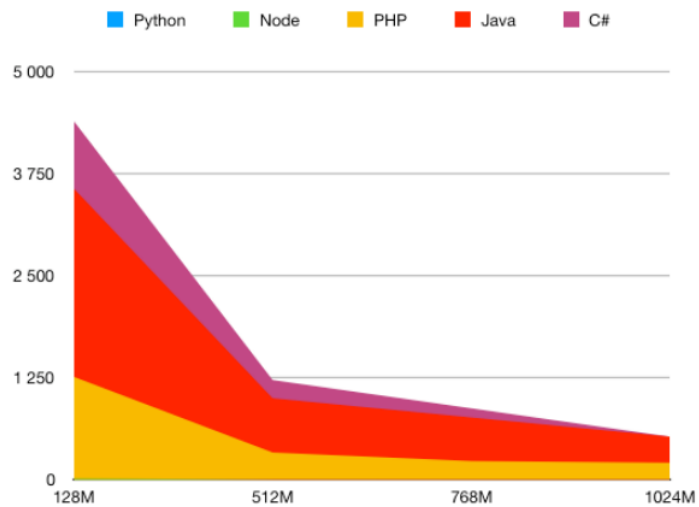
running PHP made simple

Everything you need to easily  
deploy and run serverless PHP applications.

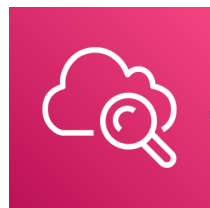


# brief

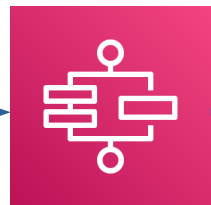
Memory	Python	Node	PHP	Java	C#
128M	1ms	21ms	1261ms	3562ms	4387ms
512M	0ms	3ms	336ms	999ms	1223ms
768M		2ms	231ms		
1024M	0ms	2ms	210ms	530ms	524ms



# 雲架構



CloudWatch



Step Functions



Lambda

bref



Lambda

bref

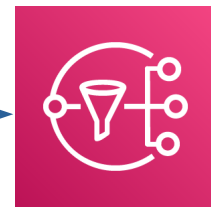


Lambda

bref



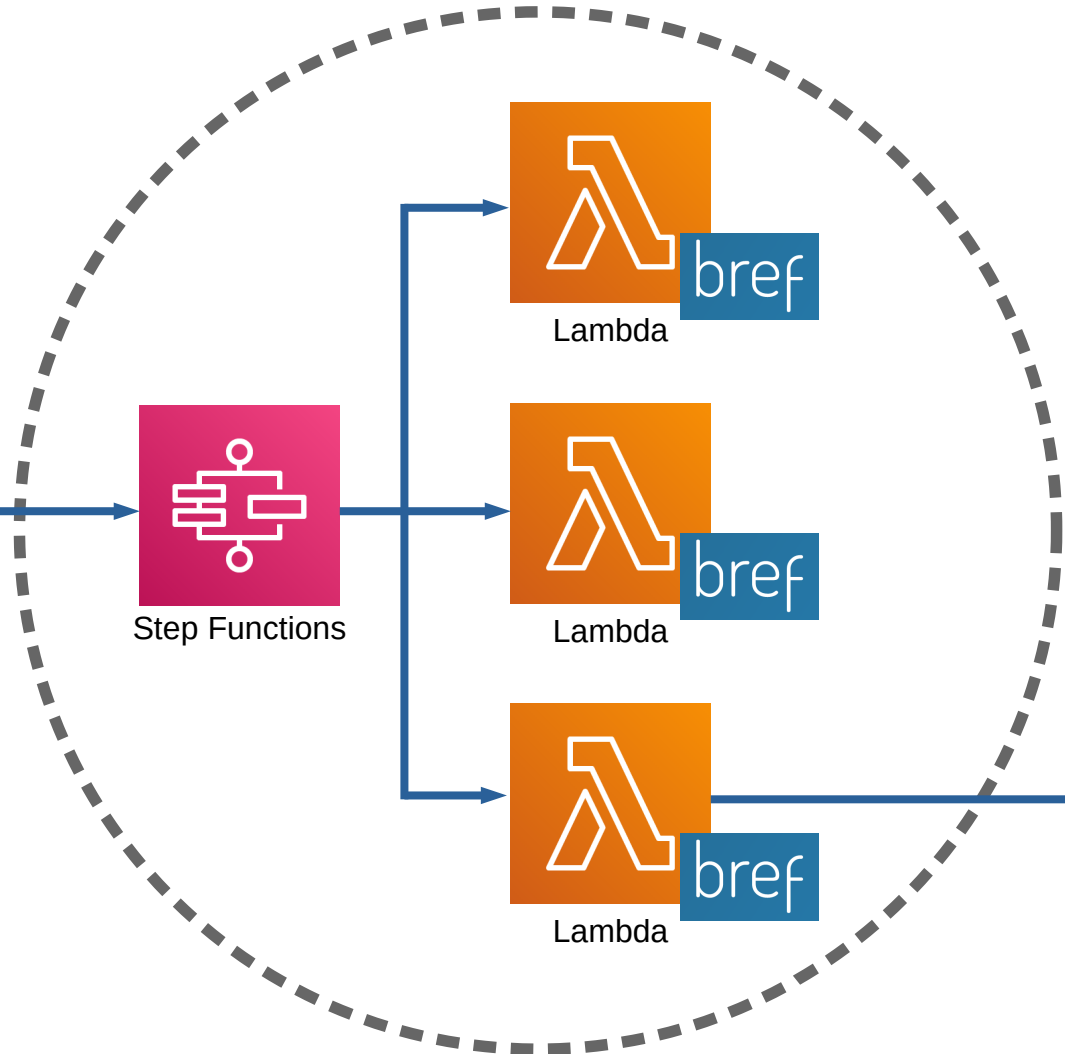
Simple Email Service



Simple Notification Service



Simple Storage Service





CloudWatch



Step Functions



Lambda

bref

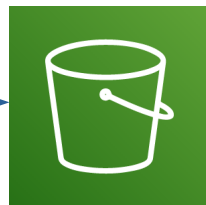


Lambda

bref



Simple Notification Service



Simple Storage Service



Lambda

bref

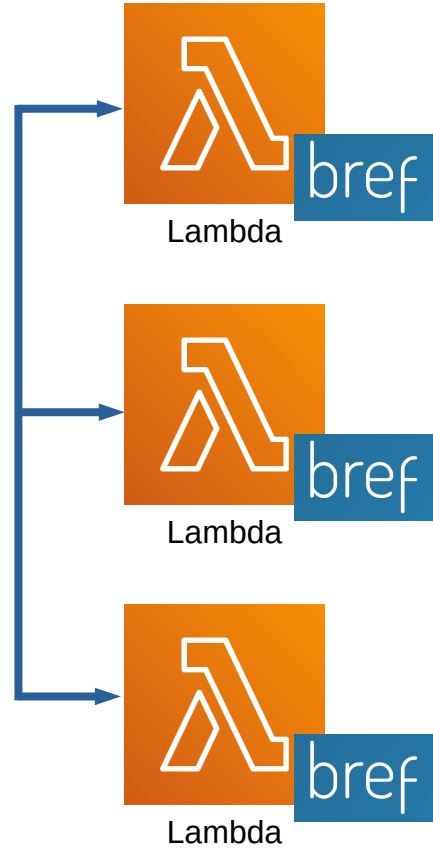


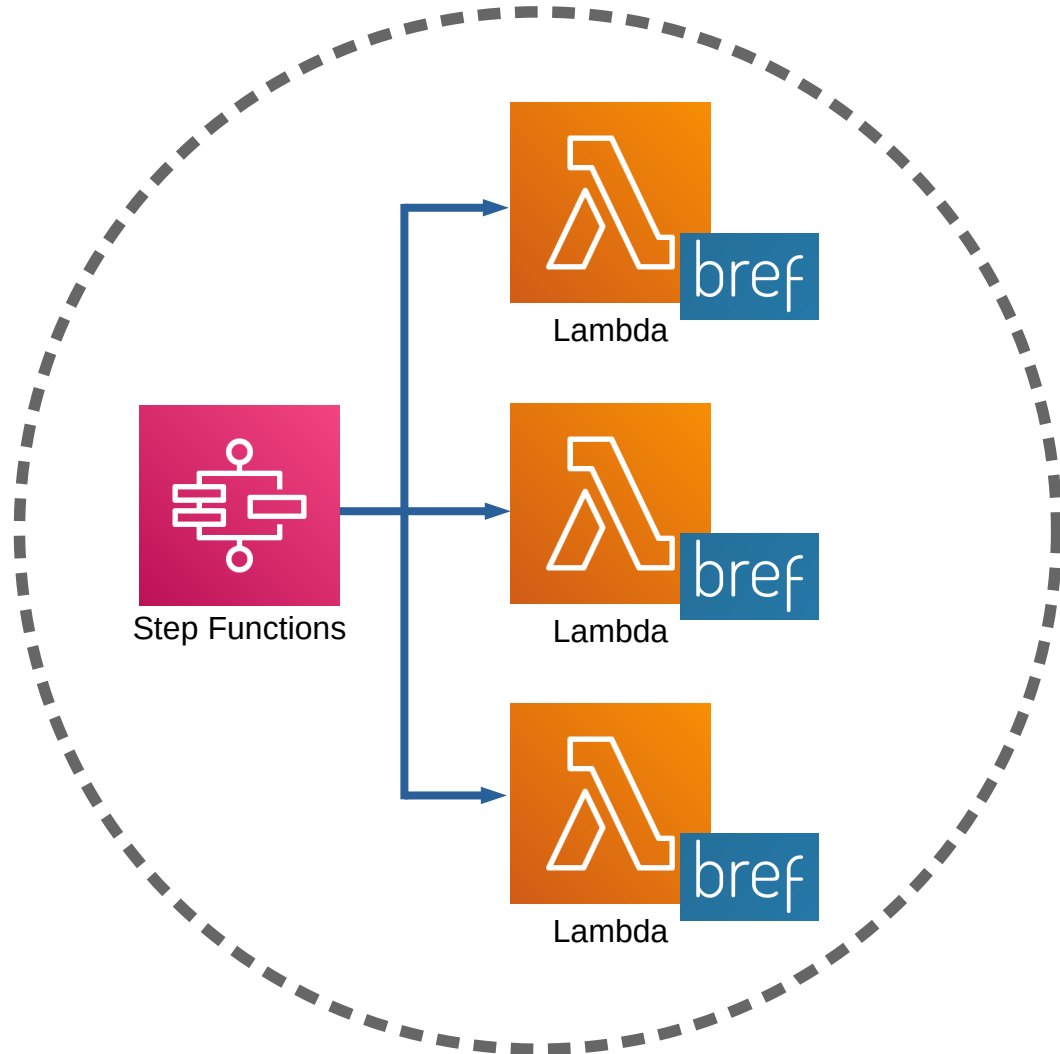
Simple Email Service

解析



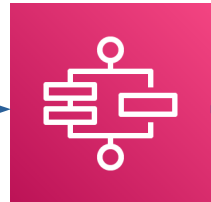
Lambda







CloudWatch



Step Functions



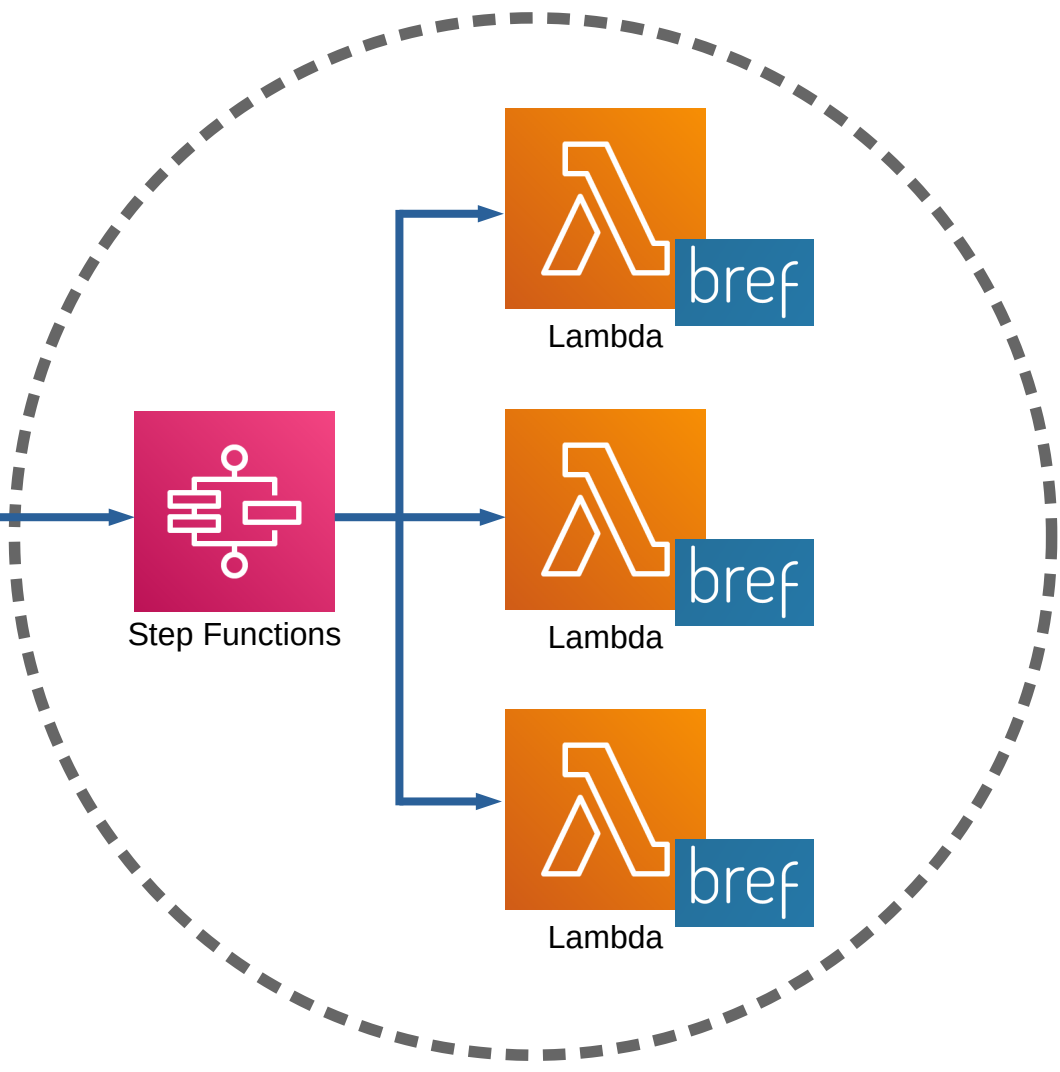
Lambda



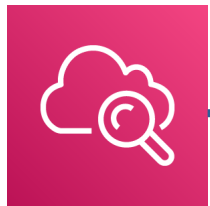
Lambda



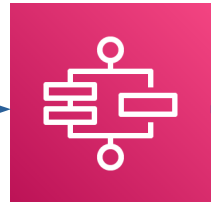
Lambda







CloudWatch



Step Functions



Lambda

bref



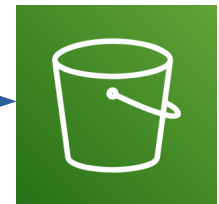
Lambda

bref

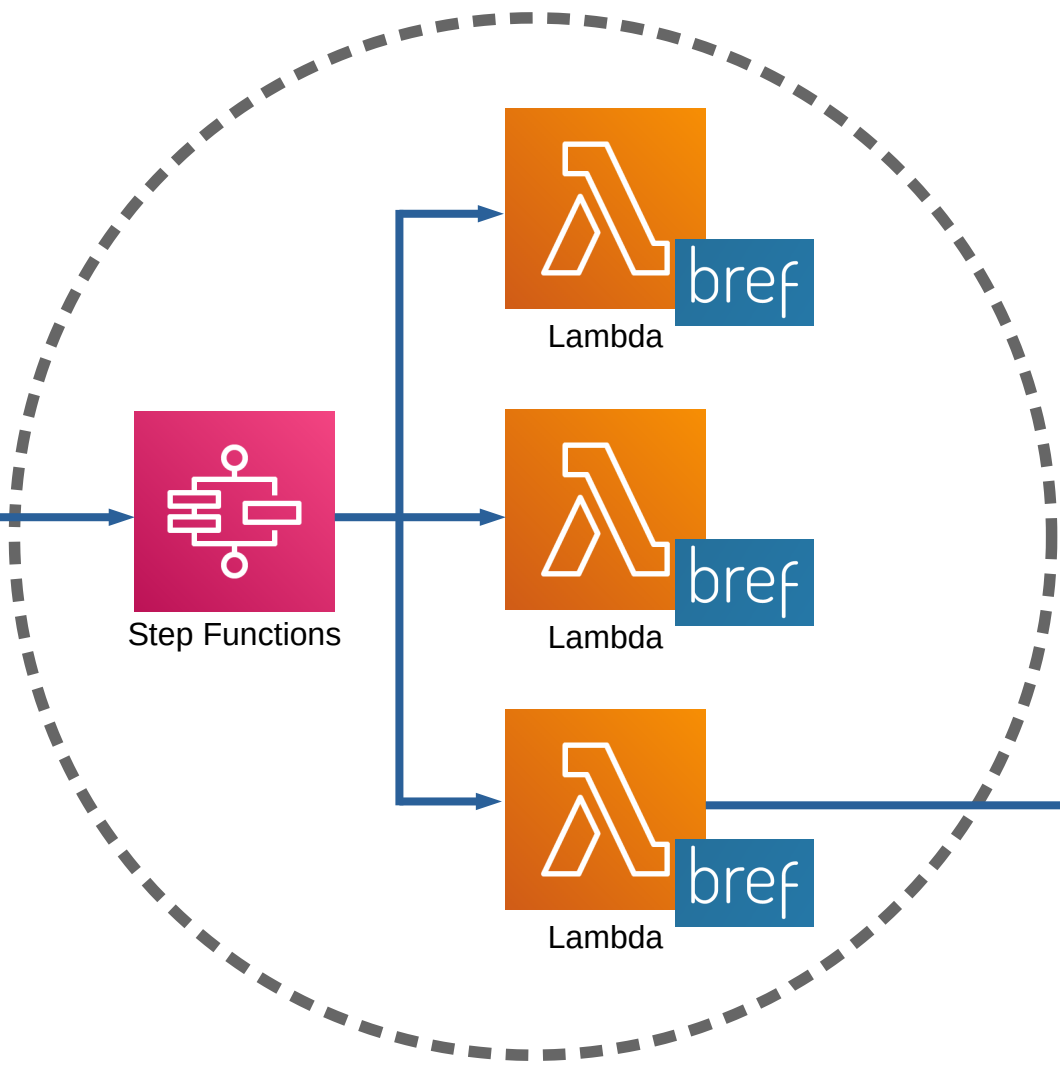


Lambda

bref

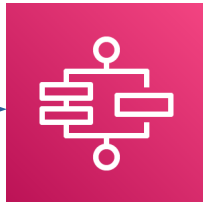


Simple Storage Service





CloudWatch



Step Functions



Lambda



Lambda



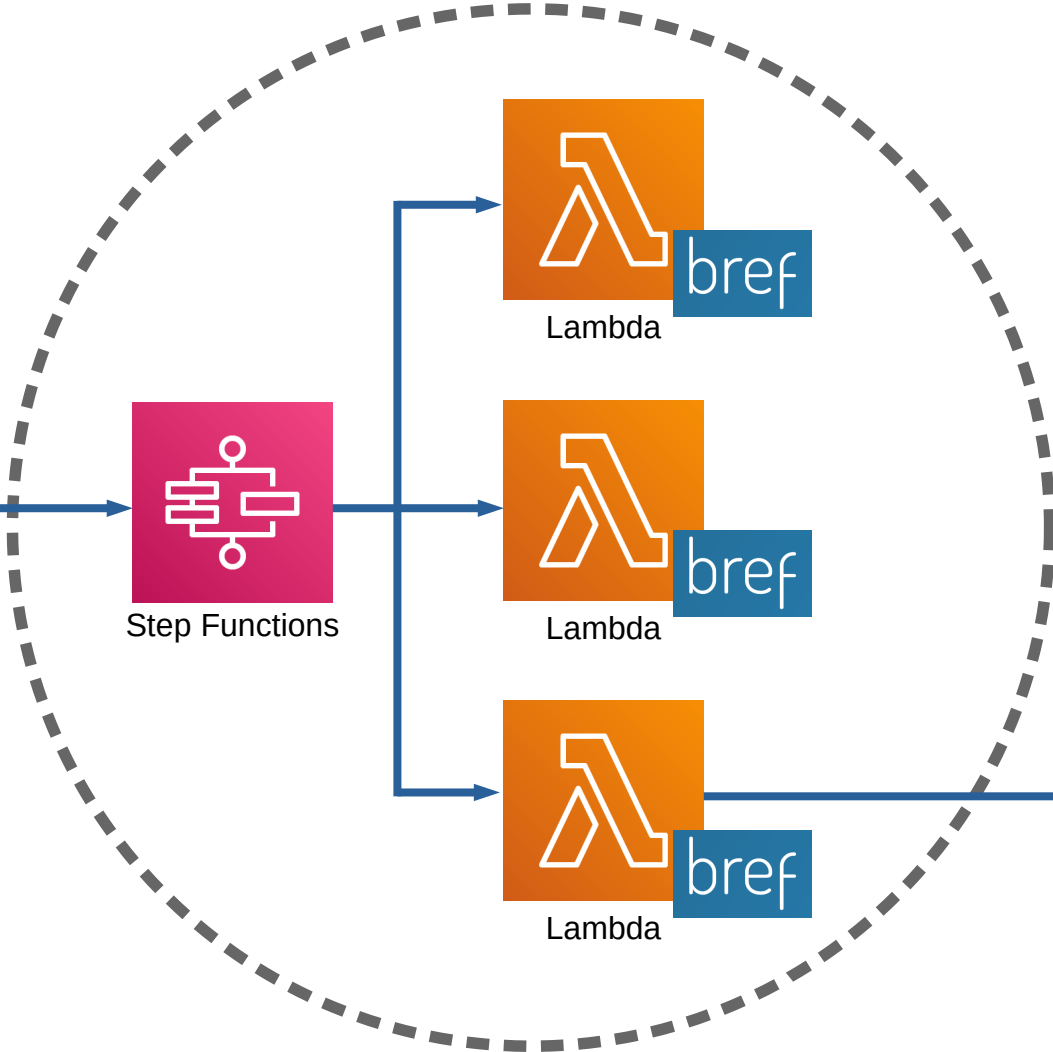
Lambda

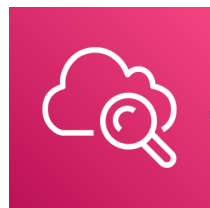


Simple Email Service

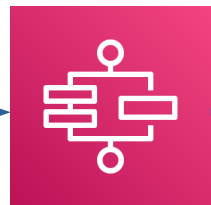


Simple Storage Service





CloudWatch



Step Functions



Lambda

bref



Lambda

bref

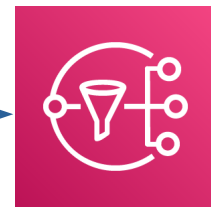


Lambda

bref



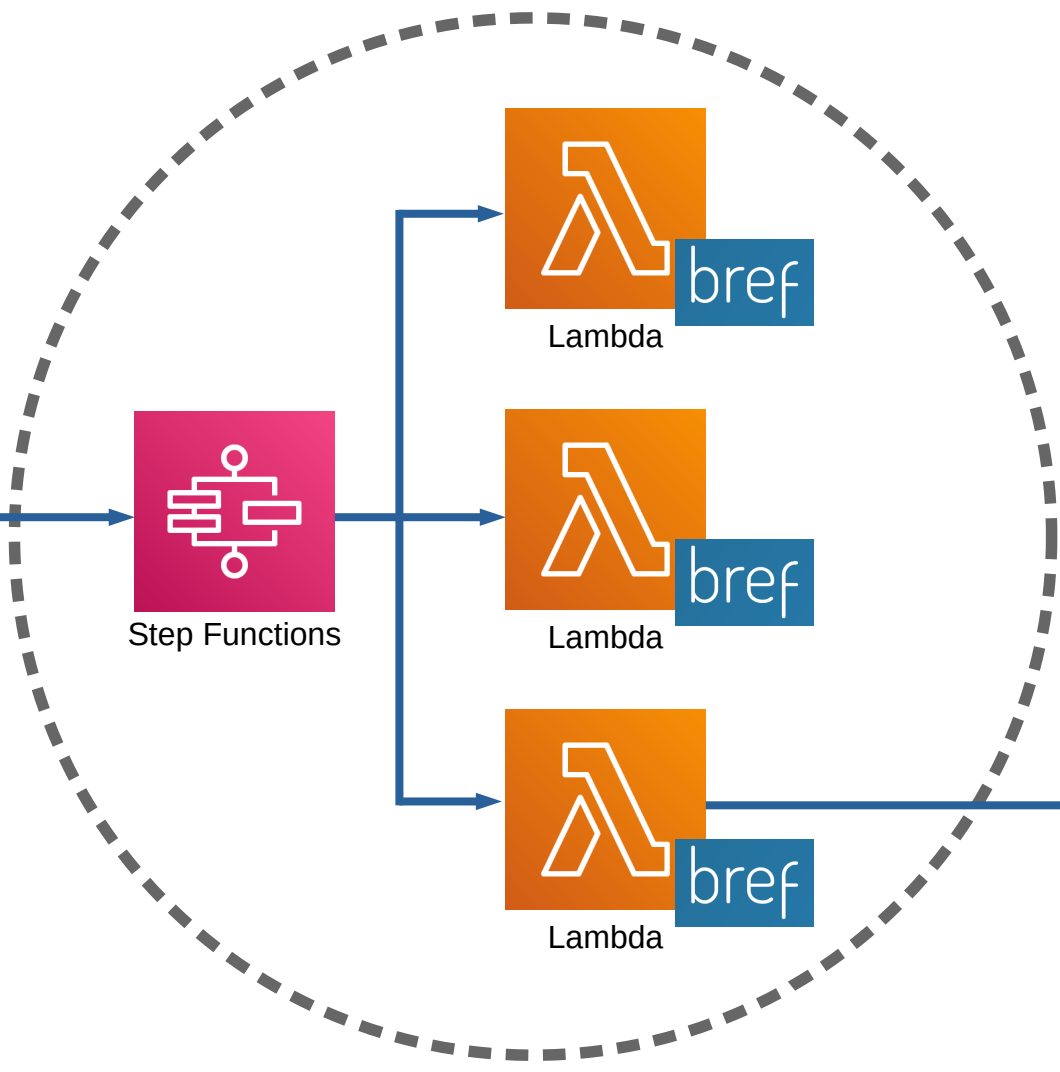
Simple Email Service



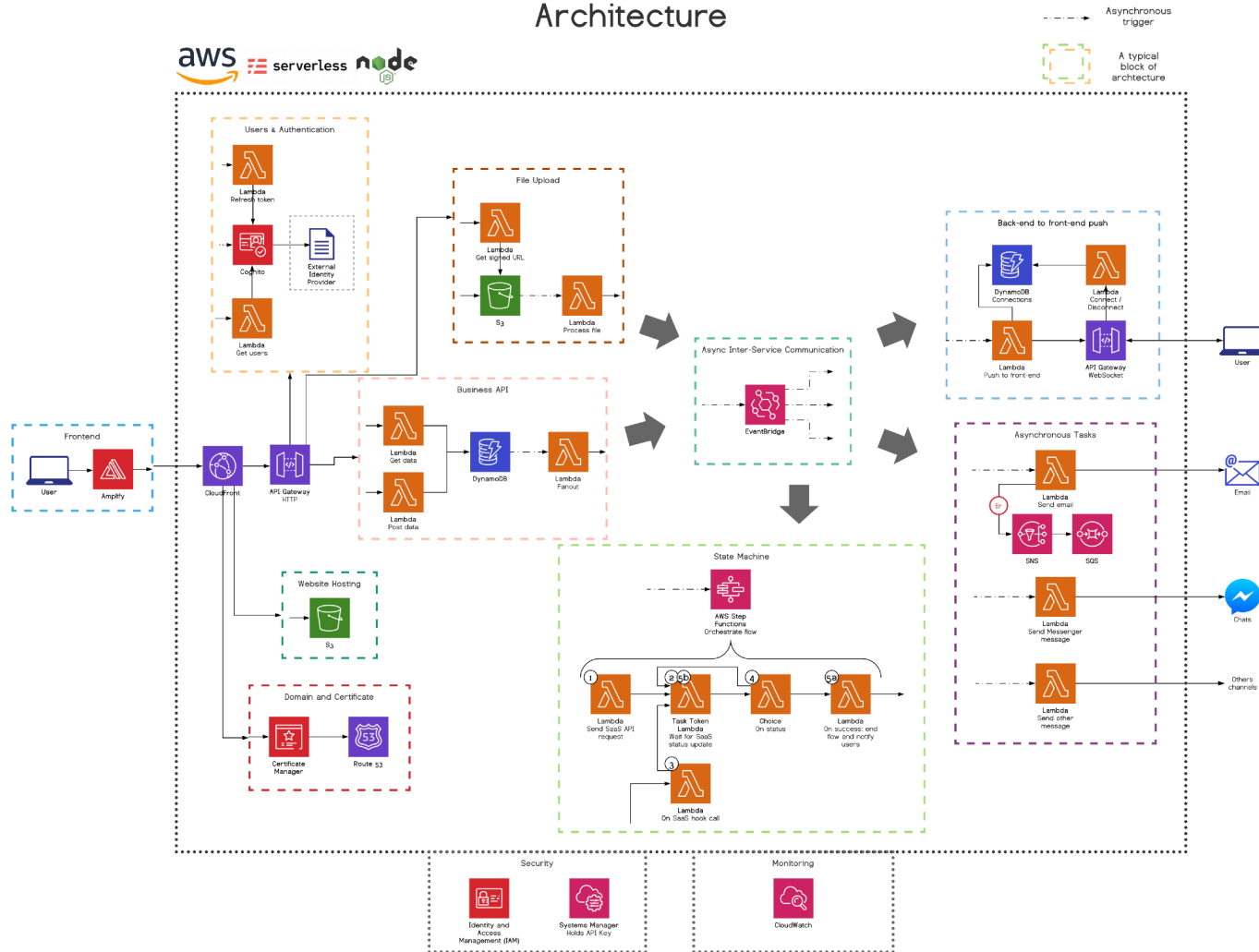
Simple Notification Service



Simple Storage Service



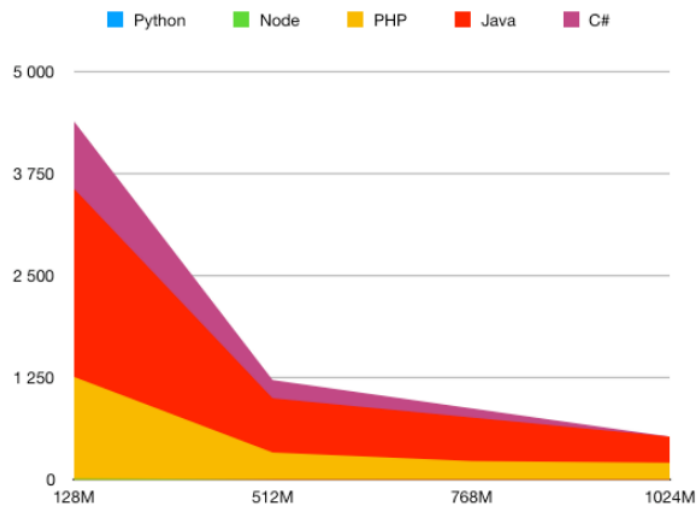
# Typical Serverless Architecture



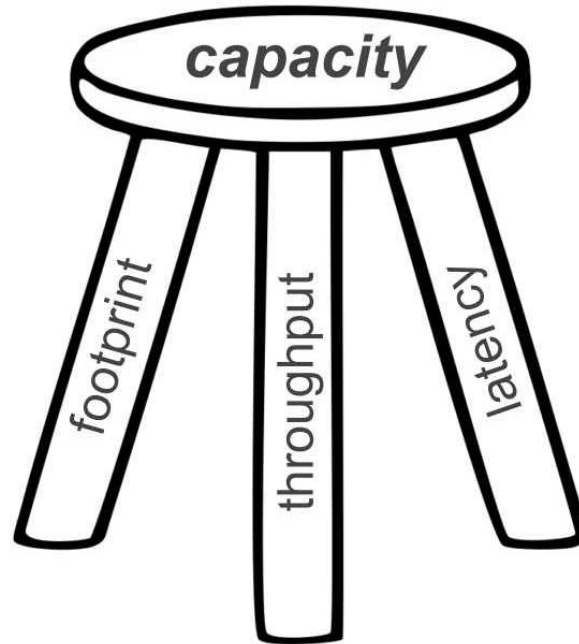
# 經驗與分享

# brief

Memory	Python	Node	PHP	Java	C#
128M	1ms	21ms	1261ms	3562ms	4387ms
512M	0ms	3ms	336ms	999ms	1223ms
768M		2ms	231ms		
1024M	0ms	2ms	210ms	530ms	524ms



## Performance Triangle



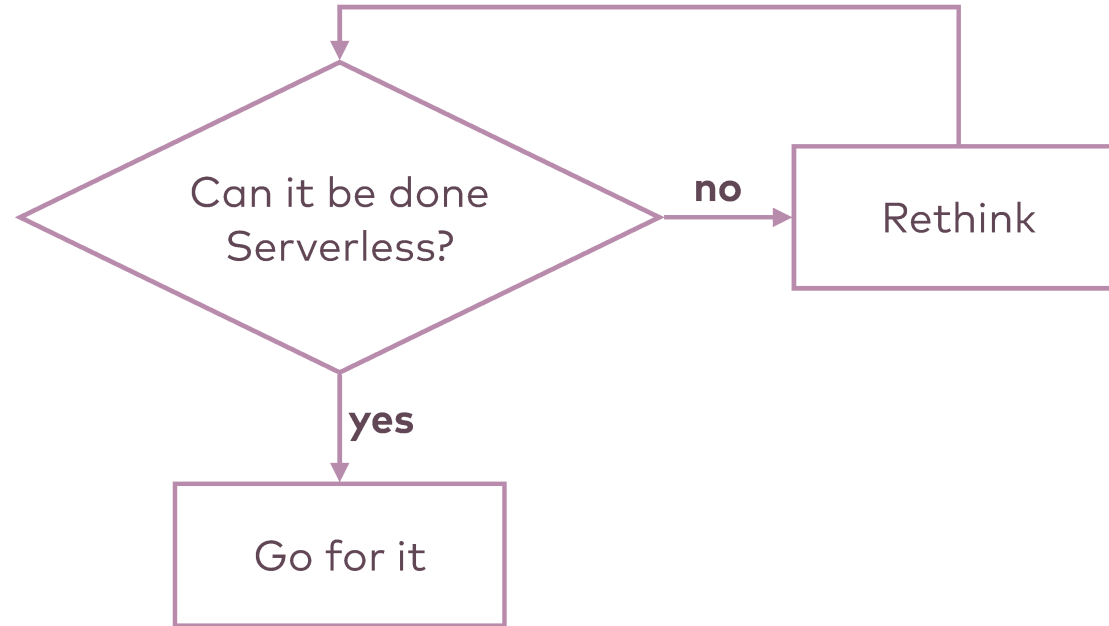
Lower latency ?

嘗試移除沒利用到的 PHP Extensions ◦

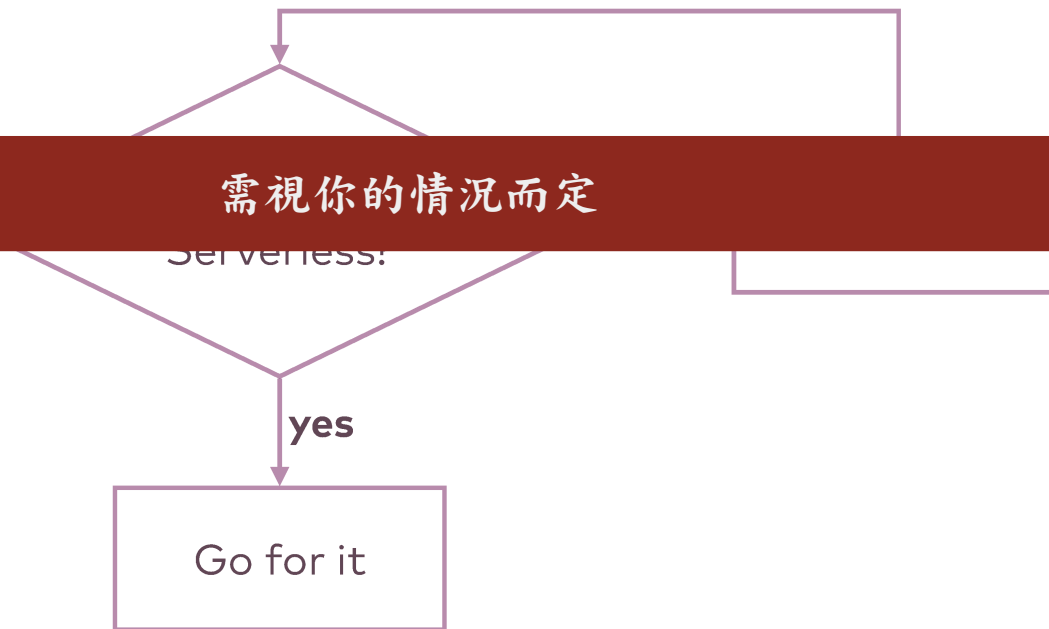
```
$ php -m
[PHP Modules]
bcmath
calendar
Core
ctype
curl
date
dom
exif
FFI
fileinfo
filter
ftp
gettext
gmp
hash
iconv
json
libxml
mbstring
mysqli
mysqlnd
openssl
pcntl
pcre
PDO
pdo_mysql
pdo_sqlite
Phar
posix
readline
Reflection
session
shmop
SimpleXML
```



## Serverless first



Serverless first

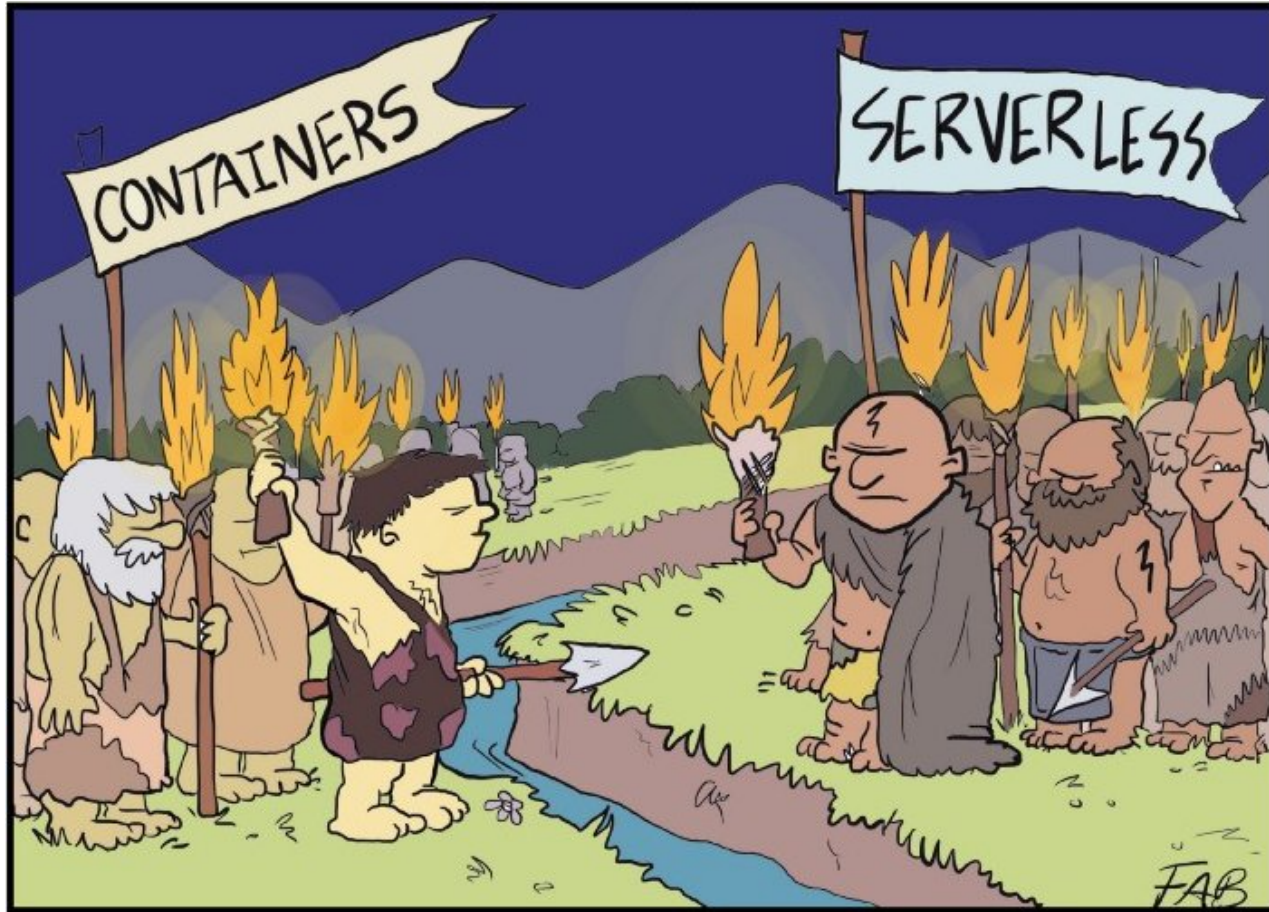


需視你的情況而定

Serverless?

yes

Go for it







Lower Cost

Granular scaling

LessOps

Observability



Pay for what I use (pay-as-you-go)

Granular scaling

Personalization (vs. SaaS)

## 曾義峰 (Ant)



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