

Who tests their cloud code anyway?



Hi I'm Lars



A CLOUD GURU

Training ~~Architect~~



ON THE FARM WITH LLAMA LARS

**AZURE SENTINEL,
INTELLIGENT
SECURITY**



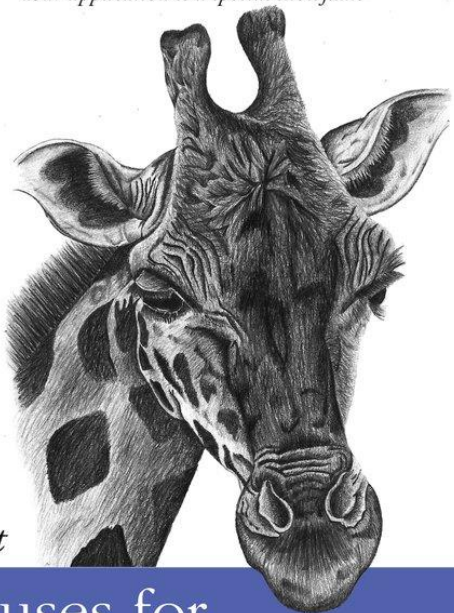
@larsklint







Your application is a special snowflake



Expert

Excuses for Not Writing Unit Tests

O RLY?

@ThePracticalDev

Solutions that might fix the problem without breaking anything



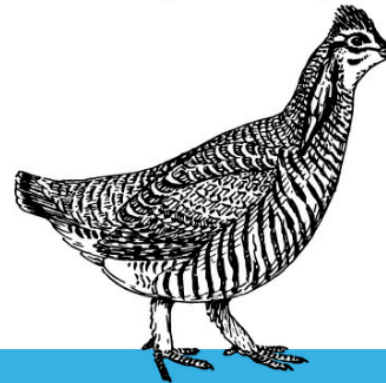
Essential

Hoping This Works

O RLY?

@ThePracticalDev

It worked fine three months ago



Practical Testing

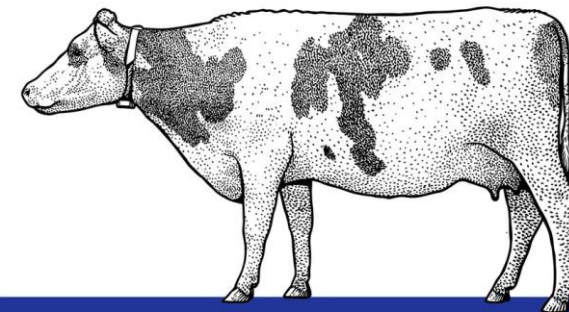
Just click around and see if anything breaks

O' RLY

Noah Tomation

:P orly.coloncapitalp.com

Nuisance-free software development



Commenting Out Failed Tests

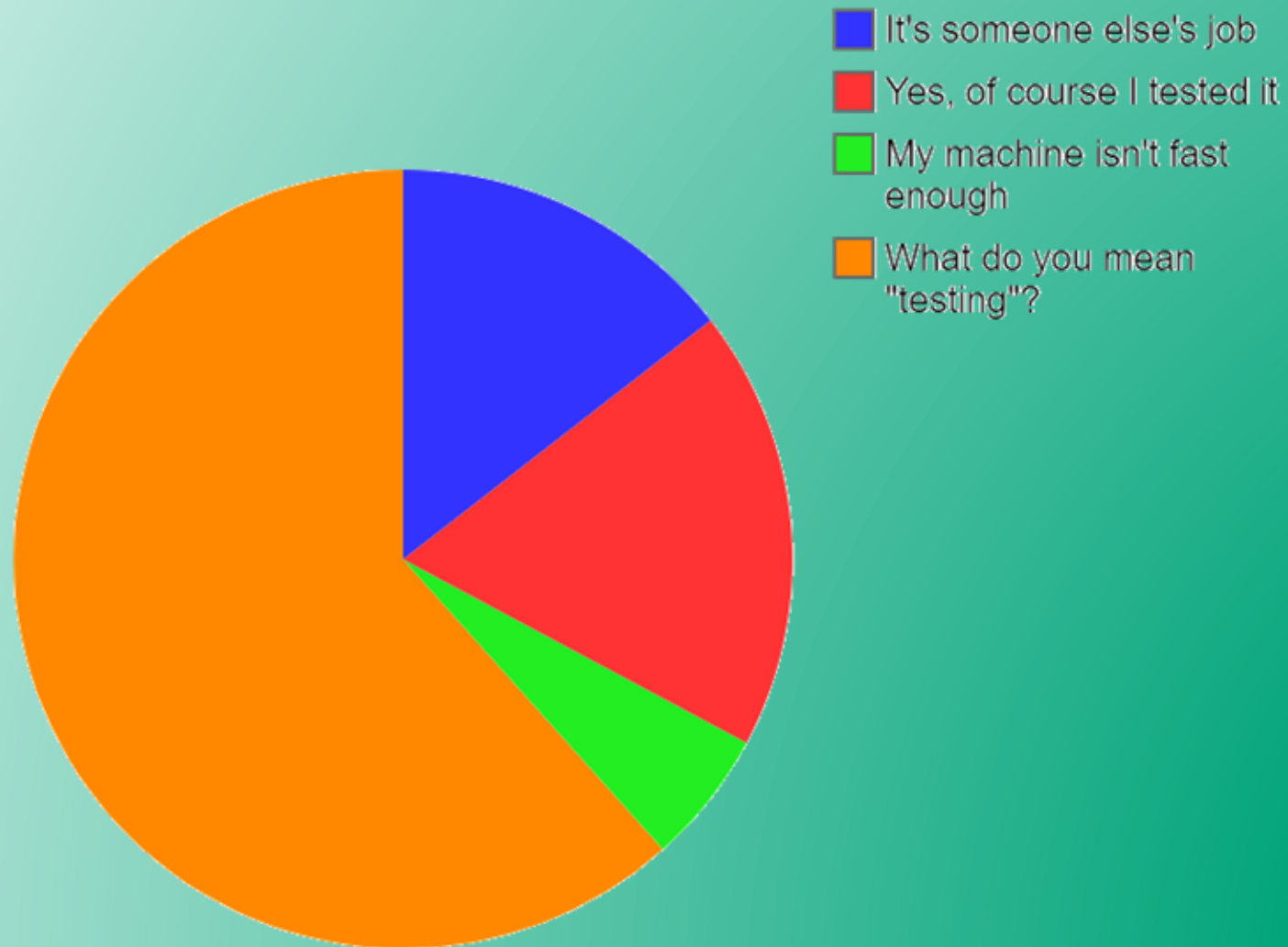
A Fragile Primer

O RLY?

@ThePracticalDev

YOW!

Developer Testing Approach



@larsklint



Who tests PaaS anyway?



App Services

Staging

A/B Testing

Azure services

Buttons for Azure services: Create a resource, DevTest Labs, Resource groups, Azure Cosmos DB, App Services, All resources, Azure Active Directory, IoT Central Applications, IoT Hub, More services.

Recent resources

Name	Type	Last Viewed
azConfDevTest	DevTest Lab	13 hours ago
azConf	Resource group	13 hours ago
cloud-shell-storage-southeastasia	Resource group	2 weeks ago
ms-ignite-2020 (larsklint/ms-ignite-2020)	App Service (Slot)	2 months ago
Default1	App Service plan	2 months ago
larsklint	Application Insights	2 months ago
larsklint	App Service	2 months ago
llamacamwp	App Service	3 months ago
teamthrive4lifeinfo	App Service	4 months ago
Default-Web-NorthEurope	Resource group	6 months ago
SendGrid	SendGrid Account	10 months ago
cs1a56098fe3baex4f0ax94e	Storage account	a year ago

Navigate

Navigation buttons: Subscriptions, Resource groups, All resources, Dashboard.

Tools

Tool cards: Microsoft Learn (Learn Azure with free online training from Microsoft), Azure Monitor (Monitor your apps and infrastructure), Security Center (Secure your apps and infrastructure), Cost Management (Analyze and optimize your cloud spend for free).

If it fails,
rebuild it





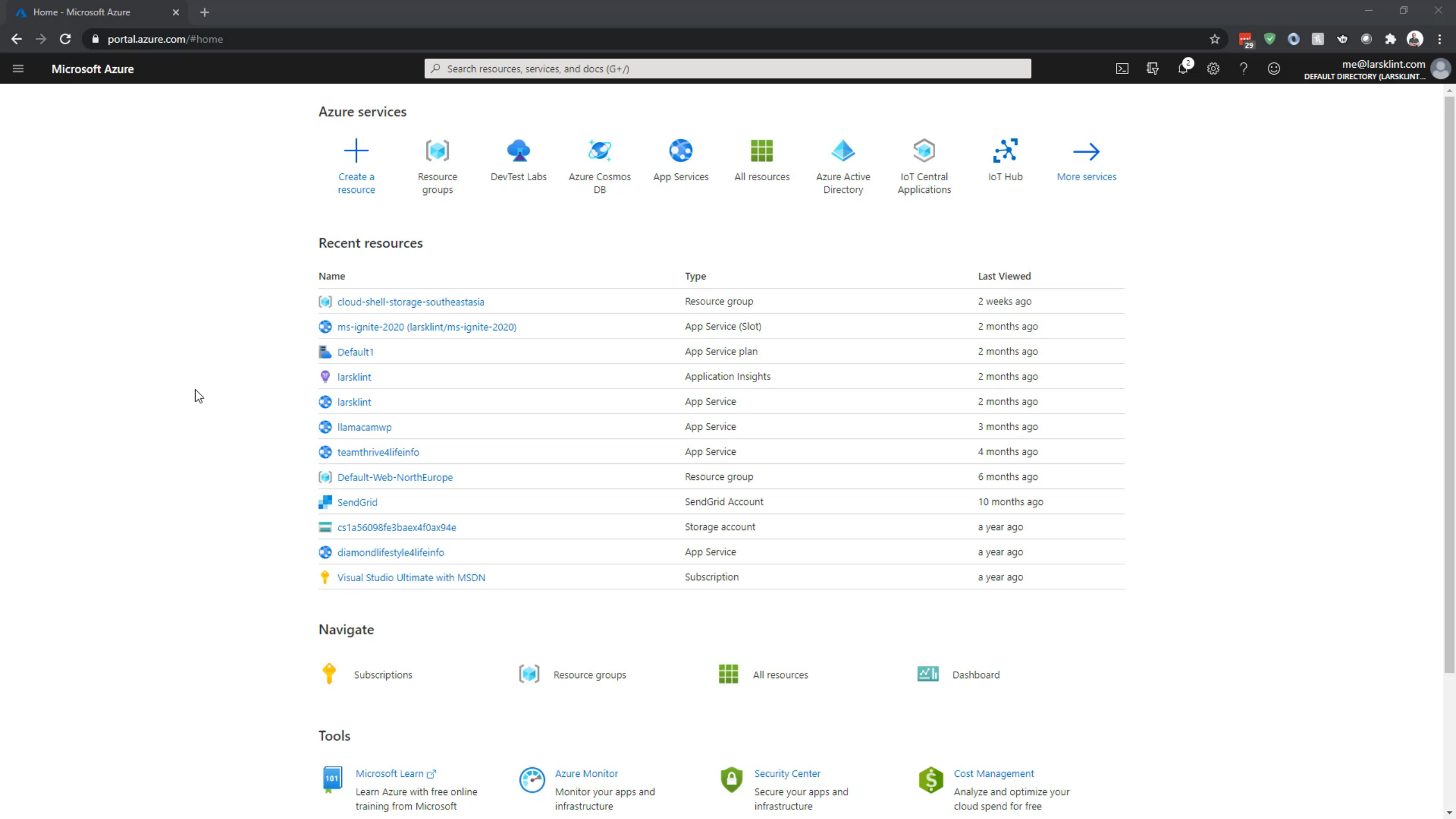
DevTest Labs

Quickly provision of environments

Quotas and policies

Automate shutdown

Windows and Linux



Azure services



Create a resource



Resource groups



DevTest Labs



Azure Cosmos DB



App Services



All resources



Azure Active Directory



IoT Central Applications



IoT Hub



More services

Recent resources

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cloud-shell-storage-southeastasia	Resource group	2 weeks ago
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teamthrive4lifeinfo	App Service	4 months ago
Default-Web-NorthEurope	Resource group	6 months ago
SendGrid	SendGrid Account	10 months ago
cs1a56098fe3baex4f0ax94e	Storage account	a year ago
diamondlifestyle4lifeinfo	App Service	a year ago
Visual Studio Ultimate with MSDN	Subscription	a year ago

Navigate



Subscriptions



Resource groups



All resources



Dashboard

Tools



Microsoft Learn [🔗](#)

Learn Azure with free online training from Microsoft



Azure Monitor

Monitor your apps and infrastructure



Security Center

Secure your apps and infrastructure



Cost Management

Analyze and optimize your cloud spend for free

It is just a YAML file





Azure Test Plans

Planned and Exploratory Testing

Capture Rich Data

Web and Desktop

End-to-end Traceability

staging (llamacamwp/staging) - | x Test plans - Test Plans x +

dev.azure.com/klint/azConf-test/_testPlans/define?planId=352&suiteId=353

Azure DevOps

klint / azConf-test / Test Plans / azConf Test Plan

Search

azConf-test

azConf Test Plan

Nov 13 - Nov 20 Current

Test Suites


azConf Test Plan

azConf Test Plan (ID: 353)

Define Execute Chart

Help

↓ ↑ Grid Copy Share Filter



Add a test case

Use this tab to collate, add and manage test cases

New Test Case

Project settings

Azure DevOps / Contoso / AdventureWorks Mobile / Test Plans / Web Team

Test Plan: Web Team

Test | Charts

Overall Execution State

State	Count
Not run	80
Failed	11
In progress	10
Blocked	6
Not applicable	3

Tests by Suite

Suite	Not run	Failed	In progress	Blocked	Not applicable
1361: Serv...	1	0	0	0	0
Browser rem...	1	0	0	0	0
Bugs fixed...	1	0	0	0	0
Create and ...	30	0	0	0	0
E2E Tests	45	1	0	0	0
Escalate a ...	1	0	0	0	0
Regression ...	1	0	0	0	0
Schedule te...	1	0	0	0	0
Track shipp...	1	0	0	0	0

Test Automation Status

Status	Count
Ready	39
Testing	7
Development	4
Idea	2

Configurations Coverage

Configuration	Not run	Failed	In progress	Blocked	Not applicable
Chrome	35	2	1	1	1
Edge	35	1	0	0	0
Firefox	15	0	0	0	0
Safari	5	0	0	0	0
IE	2	1	0	0	0

Execution

	Not run	Failed	Passed	Other	Total
Harish Agar...	51	7	2	0	60
RaviShan - ...	19	1	2	6	28
Jamal Hartn...	4	1	3	1	9
Dennis Habl...	2	1	2	0	5
Not availab...	2	0	1	1	4
Kanchan Ver...	2	1	0	1	4
Total	51	51	51	51	51

Testing Ownership

Owner	E2E Tests	Create and ...	Escalate a ...	Bugs fixed ...	Track shipp...	1361 : Serv...
Cecil Folk	10	10	10	10	10	10
Robin Counts	5	5	5	5	5	5
Celeste Burton	2	2	2	2	2	2
Kat Larsson	1	1	1	1	1	1
Collin Ballinger	1	1	1	1	1	1
Carlos Slattery	1	1	1	1	1	1

<https://azuredevopsdemogenerator.azurewebsites.net/>

There is no
server in
serverless





Azure Functions

Serverless

Rapid Development

What the Cool Kids are Doing

File Edit View Project Build Debug Test Analyze Search...
 Tools Extensions Window Help

Debug Any CPU

Test Explorer

5 5 0 Search Test E

Test

- Functions.Tests (5)
 - FunctionsTests (5)
 - Http_trigger_shoul
 - Http_trigger_shoul
 - Http_trigger_shc
 - Http_trigger_shc
 - Http_trigger_shc
 - Timer_should_log_

Group Summary

Functions.Tests

Tests in group: 5

Total Duration: 66 ms

Outcomes

5 Passed

Solution Explorer

Search Solution Explorer (C)

Solution 'Functions' (2 of 2 p)

- Functions
 - Dependencies
 - .gitignore
 - host.json
 - local.settings.json
 - MyHttpTrigger.cs
 - MyTimerTrigger.cs
 - Functions.Tests
 - Dependencies
 - FunctionsTests.cs
 - ListLogger.cs
 - LoggerTypes.cs
 - NullScope.cs
 - TestFactory.cs

Solutio... Propert... Team E...

Error List Output

Ready

Add to Source Control

It is someone else's computer





Performance Tuning

Database
Application Insights

mySampleDatabase (mynewserver20190926/mySampleDatabase) - Performance overview

Search (Ctrl+)

Refresh Feedback

- Locks
- Export template
- Integrations
 - Stream analytics (preview)
- Security
 - Advanced data security
 - Auditing
 - Dynamic Data Masking
 - Transparent data encryption
- Intelligent Performance
 - Performance overview**
 - Performance recommendati...
 - Query Performance Insight
 - Automatic tuning
- Monitoring
 - Alerts

Recommendations

Top 1 out of 1 total

- Parameterize queries ! High

Tuning activity

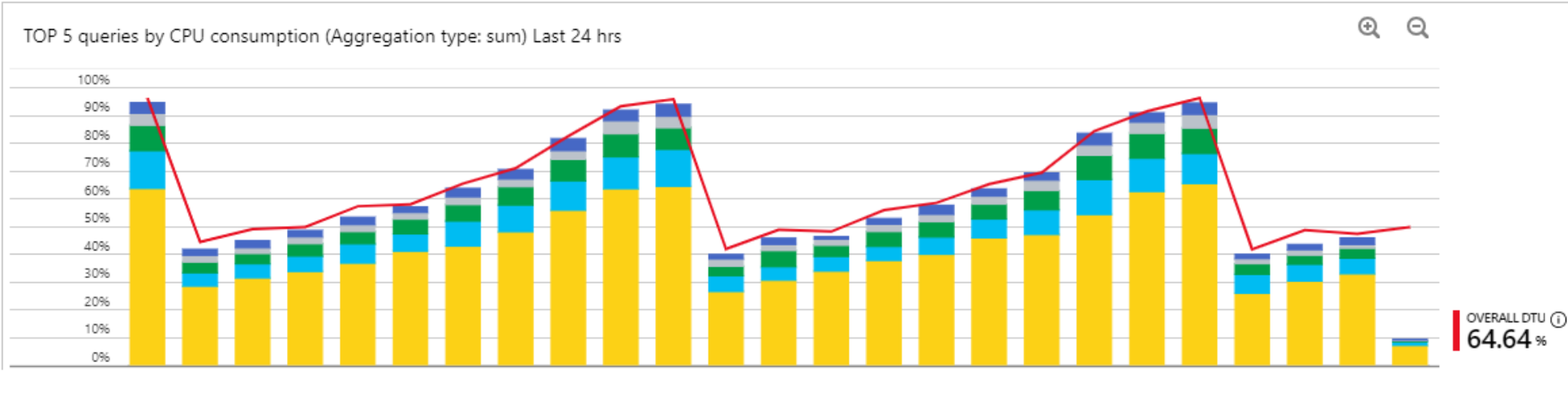
0 actions in progress

No completed actions in the last 7 days

Automatic tuning

2 out of 3 enabled

Tuning mode: Server



GET Home/Index

6/25/2020 10:40 AM to 6/27/2020 10:40 AM - ch-retailappai-dev | Directory: Unknown directory

Help Send Feedback Configure Profiler

Examples

Slowest wall clock time

10099638 ms	05:55:55 AM, 2020-06-27
90923.97 ms	05:56:01 AM, 2020-06-27
12023.98 ms	07:44:57 AM, 2020-06-26
7632.17 ms	05:55:58 AM, 2020-06-27
7182.33 ms	11:44:00 PM, 2020-06-26
6699.27 ms	11:44:00 PM, 2020-06-26
6012.32 ms	11:44:00 PM, 2020-06-26
5495.32 ms	11:44:00 PM, 2020-06-26
4844.52 ms	11:44:01 PM, 2020-06-26
4522.19 ms	11:44:01 PM, 2020-06-26
4067.03 ms	11:44:01 PM, 2020-06-26
3421.96 ms	11:44:01 PM, 2020-06-26
3015.63 ms	11:44:01 PM, 2020-06-26
2755.45 ms	11:44:00 PM, 2020-06-26
2483.43 ms	11:44:00 PM, 2020-06-26
2260.45 ms	11:44:00 PM, 2020-06-26
2210.12 ms	11:44:00 PM, 2020-06-26
2017.07 ms	11:44:02 PM, 2020-06-26
1727.51 ms	11:44:00 PM, 2020-06-26

Profiler now has CPU and Memory Triggers. [Click here to configure your trigger settings.](#) Dismiss.

Machine: retailvm01 Process ID: 6880 Activity ID: 24d54312-639d-4303-85a5-beed1fd6c6ea

Was this trace helpful?

[Download Trace](#)

Performance Tip:

99.59% of this request was spent in **waiting**.

Wait for a resource to be available.

[Show me](#)

Hot path Framework dependencies

HIDE EVENTS

Type in string to hide from the call tree and press ENTER

Add events

[Suggested events](#)

No hidden events.

EVENTS	MODULE	THREAD TIME	TIMELINE
▼ RecHttp(http://ch-retailvm01qsvtpk-dev.eastus.cloudapp.azure.com:80/)		101100.90 ms	
▼ Framework/Library RtlUserThreadStart	ntdll	101032.40 ms	
▼ MvcApplication.Application_BeginRequest	fabrikamfiber.web	101010.50 ms	
▼ Framework/Library TracelInternal.WriteLine	system	101010.50 ms	
Waiting		100584.90 ms	
▶ TelemetryClient.Flush	microsoft.applicationinsights	387.32 ms	

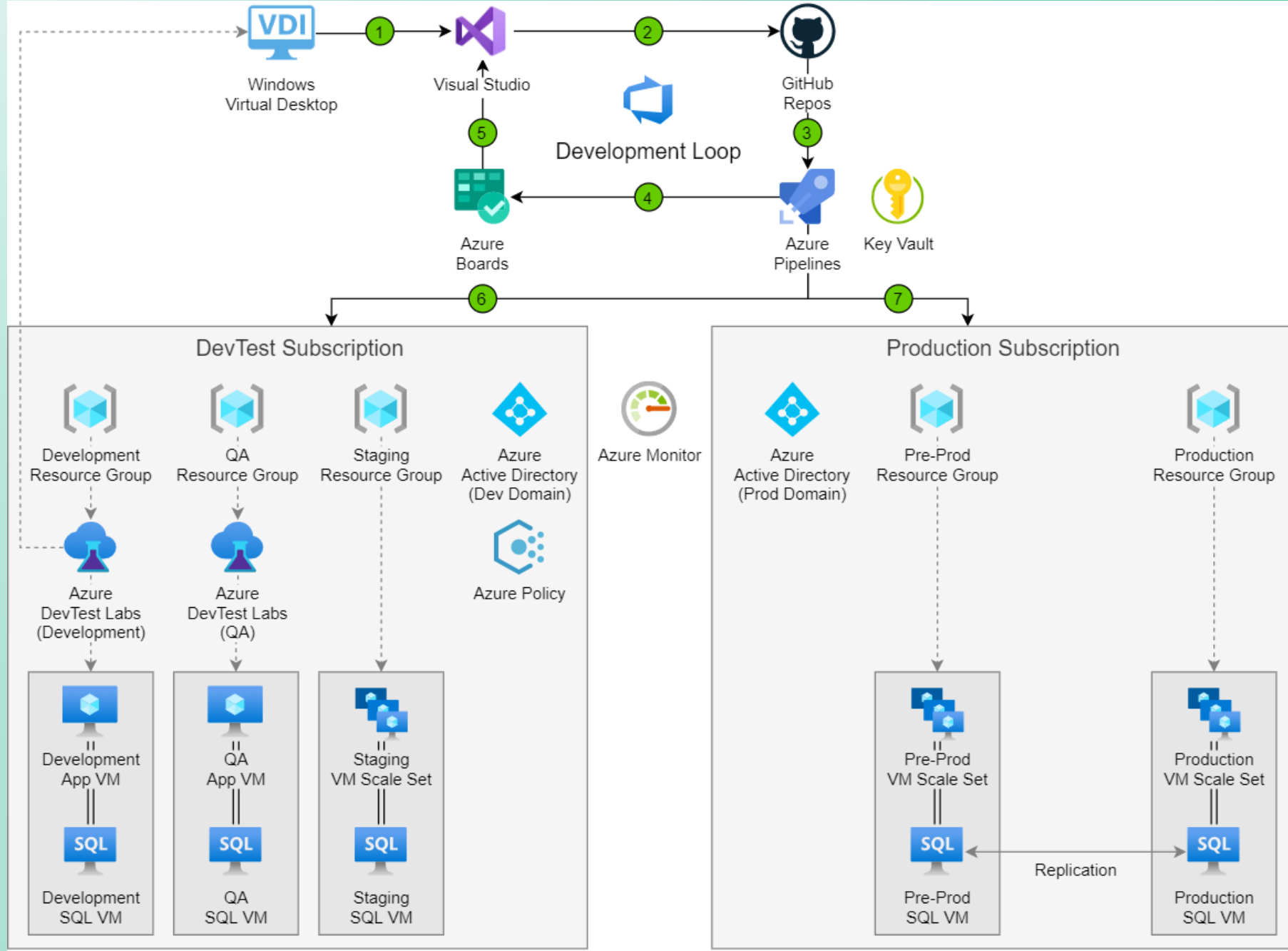


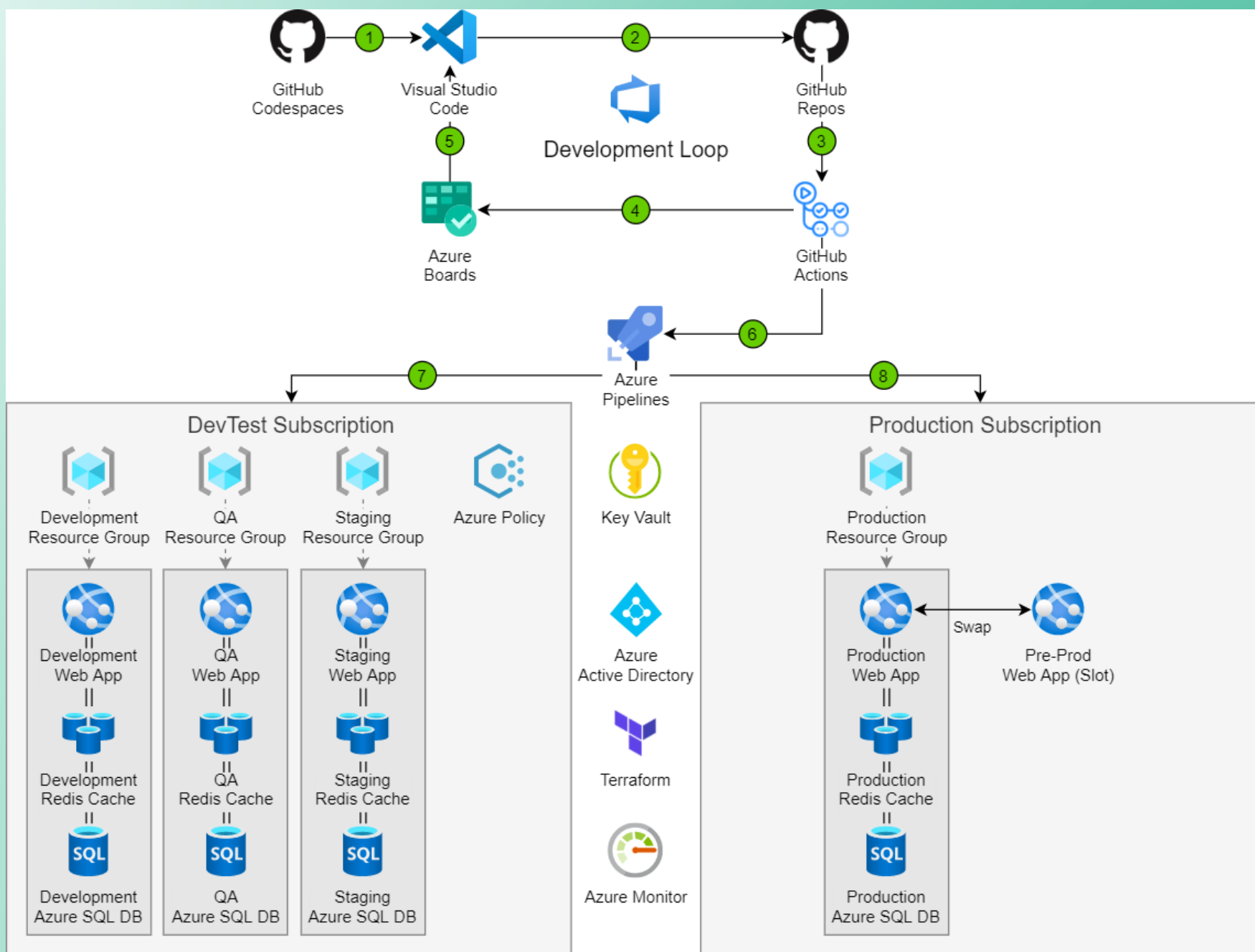
Microsoft Does the Testing

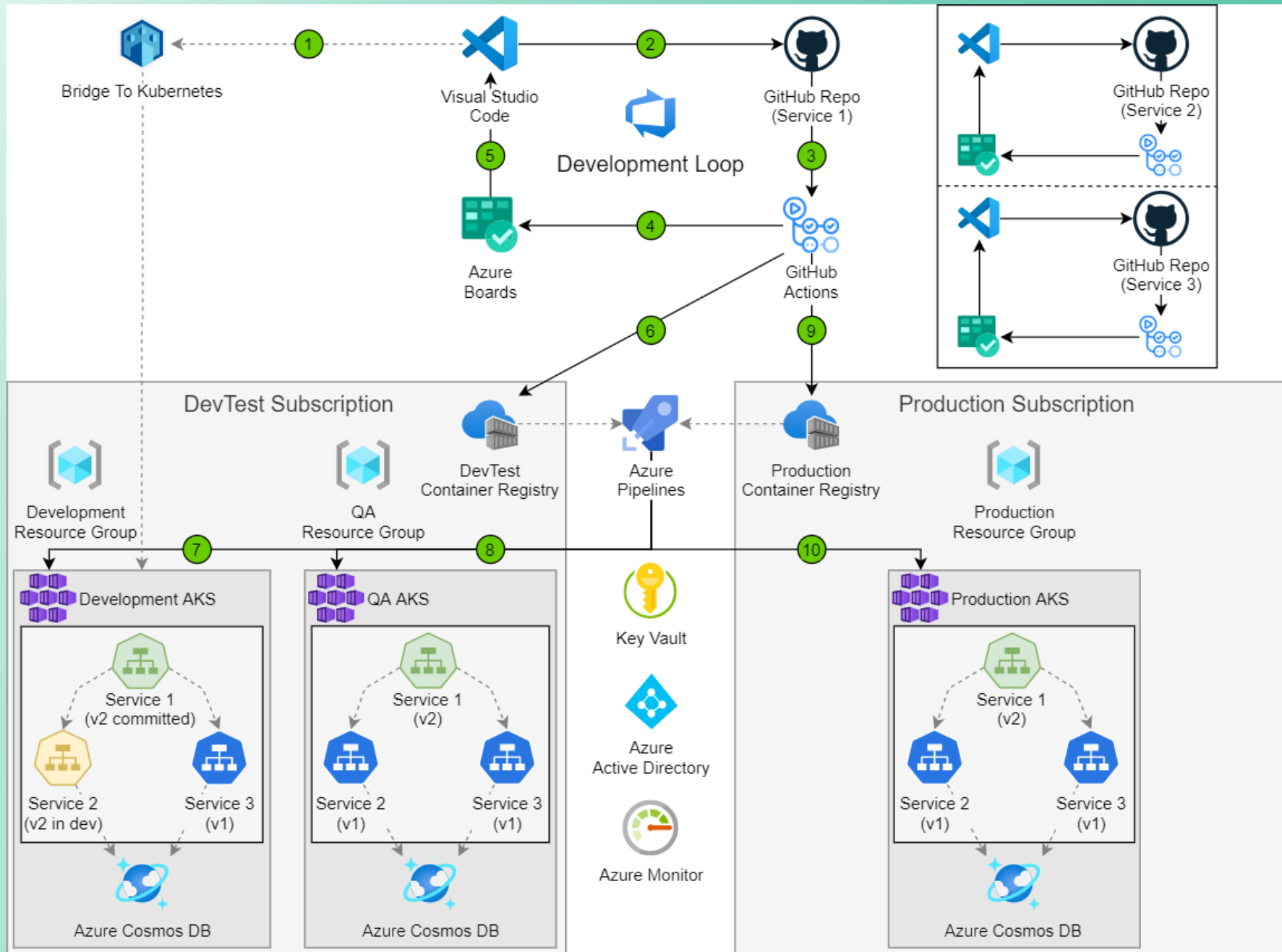


Testing Architecture

Recommended Dev/Test Approach







Stop with the excuses...seriously

Thank You

