

Azure Serverless for Developers

Julie Lerman

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Yes, there's a server ... somewhere



Serverless Functions

Single Purpose

Event-driven

Hosted infrastructure

Focus on your code

Serverless Functions

Single Purpose

Short lead time, simple deployment

Event-driven

Built-in triggers

Hosted infrastructure

Don't worry about implementation details

Focus on your code

Focus on your code

What Your Boss Wants to Know

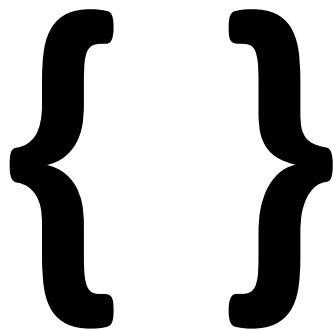
Autonomous ► Quick to build

Deploy with minimal side-effects

Pay only for execution time

Scaling

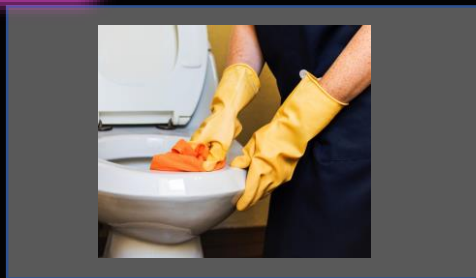
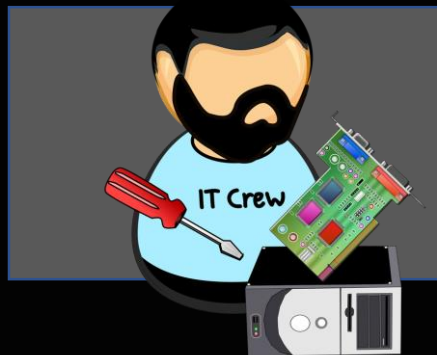
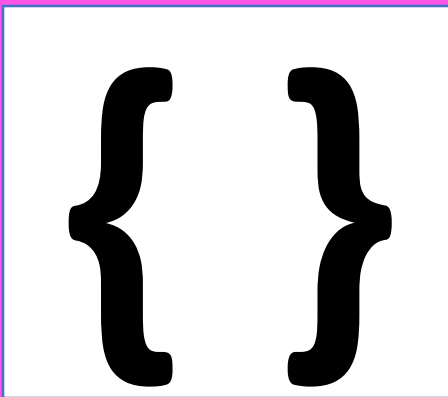
DevOps



Monitoring

Security

Deployment



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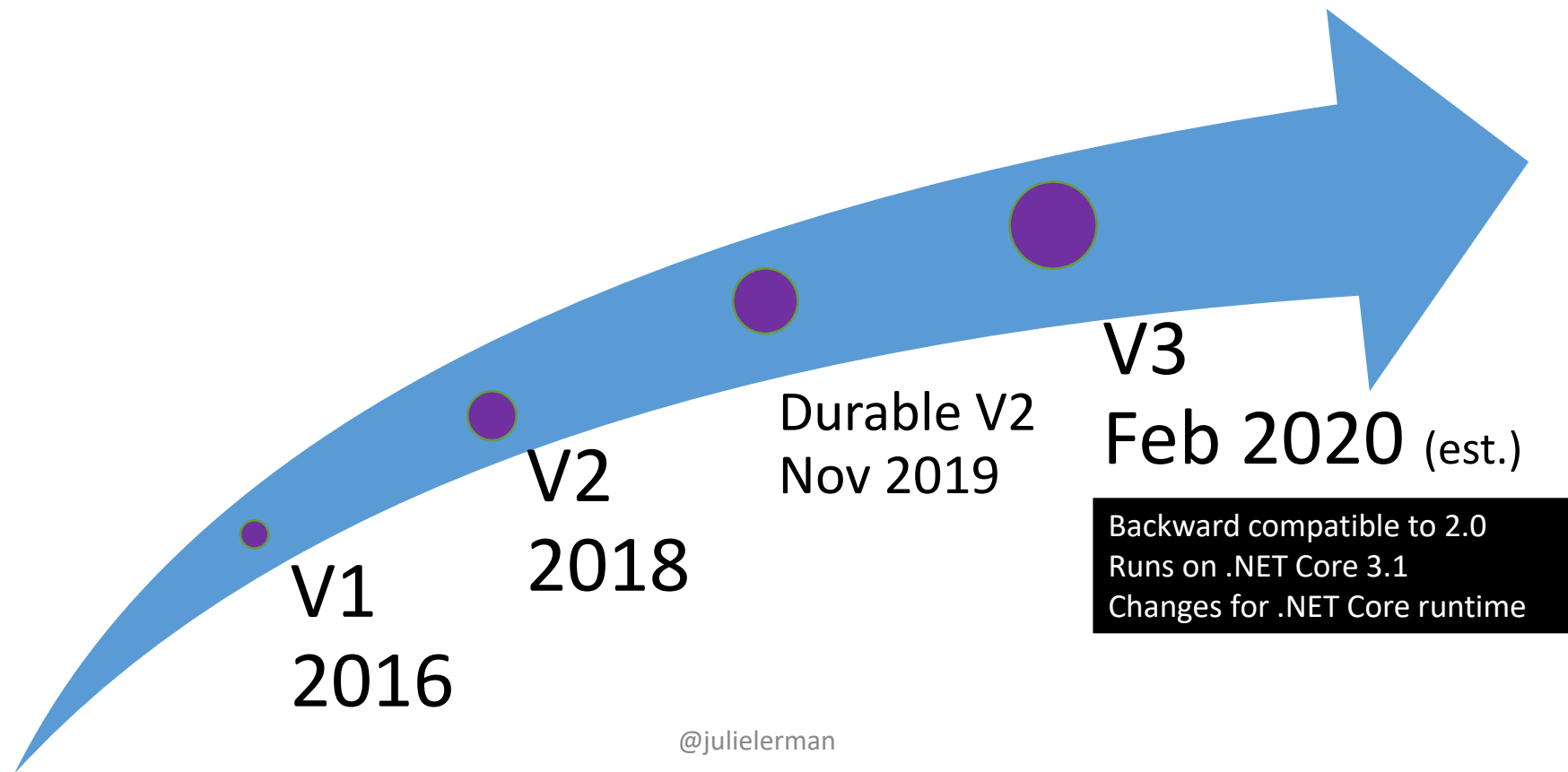


Google Cloud Functions

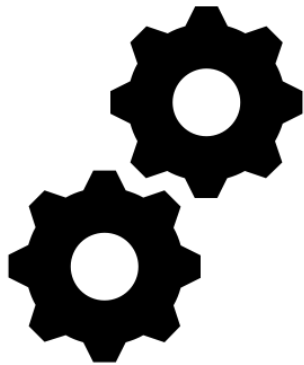


IBM Cloud Functions, Alibaba Function Compute, Iron Functions,
Auth0 WebTask, Oracle Fn, Kubeless (Kubernetes)

Azure Functions Has Traction

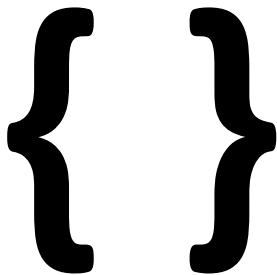


Infrastructure



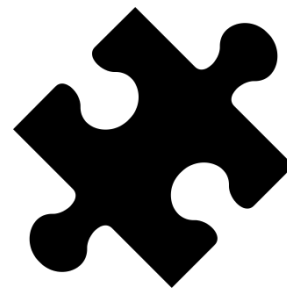
Convention + config

**Your
business
logic**



Your only real effort

External APIs



Convention + config

C#

C#
Script

JavaScript

Java

Bring your own language

F#

Python

Powershell

Typescript

Experimental:

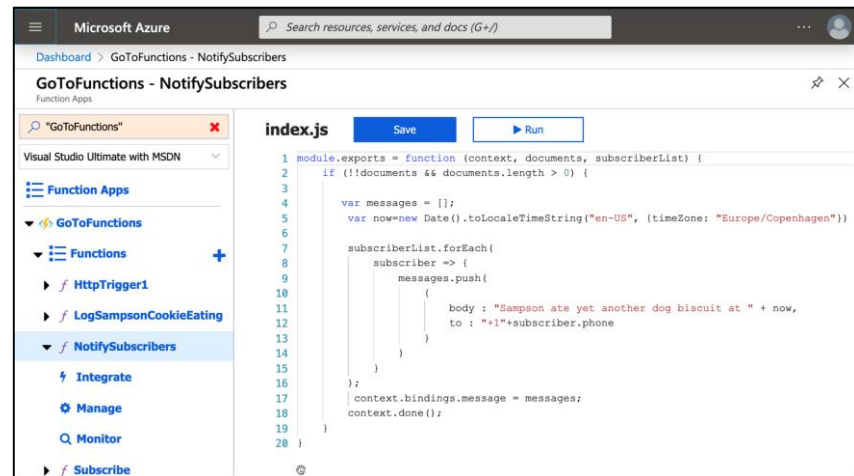
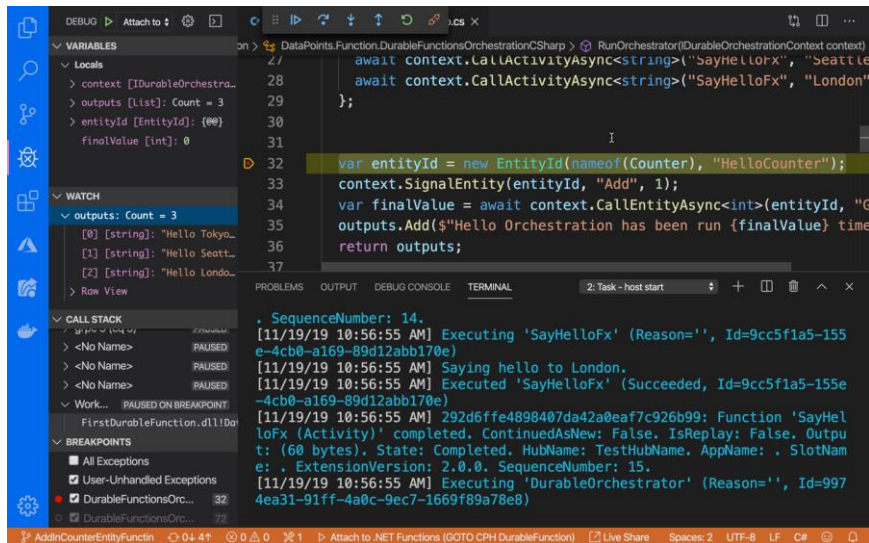
PHP

Bash

batch cmd

Build, debug & deploy

Required: .NET Core SDK, Azure Functions Core Tools, storage emulator or Azure storage access



Azure Portal

```
func new --name MyHttpTrigger --template "HttpTrigger"
```

```
func start
```

```
az functionapp create --resource-group myResourceGroup --consumption-plan-local  
--name <APP_NAME> --storage-account <STORAGE_NAME> --runtime <language>
```

CLI: [dotnet or maven] + Azure CLI + AF CLI

Visual Studio, VS Code, Eclipse

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Azure Function App

Application Settings

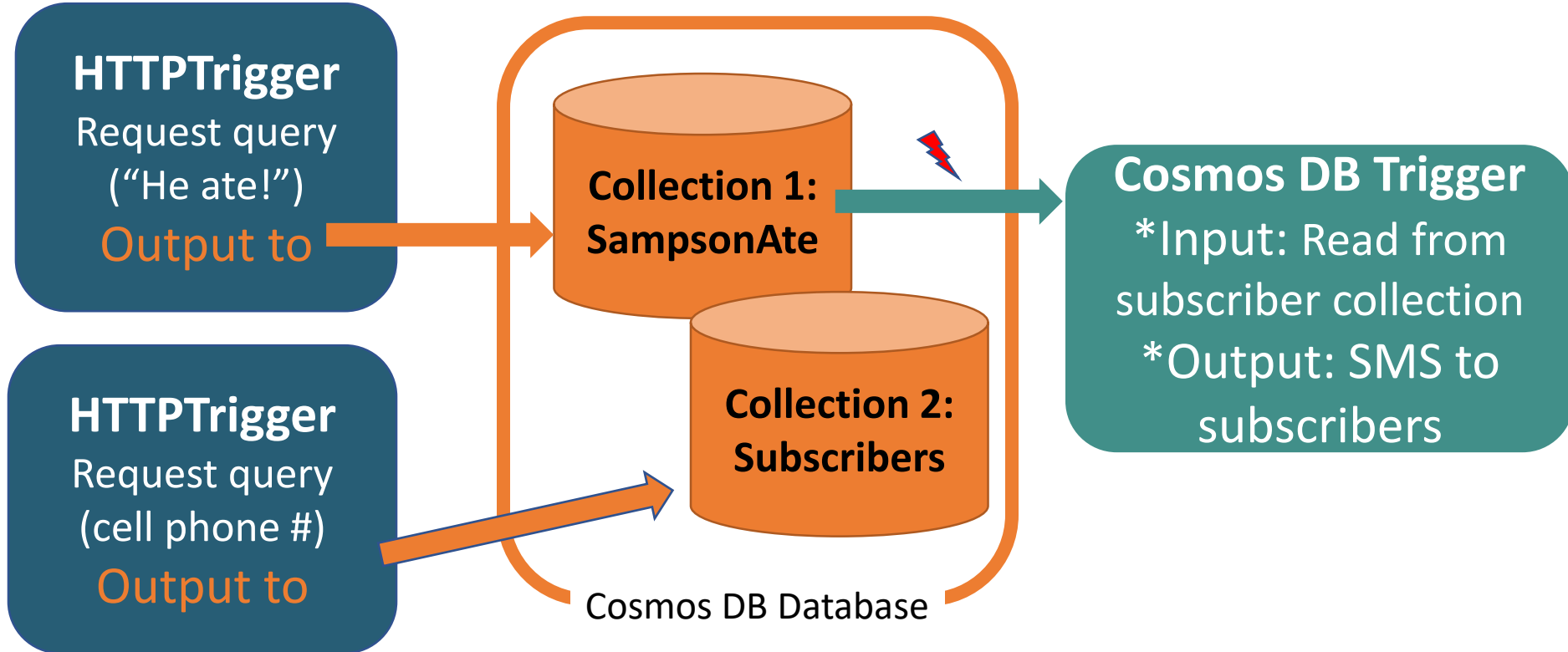
Azure Function

Trigger Binding

Configuration

- HTTP
- Azure Cosmos DB
- Azure Queue Storage
- Azure Table Storage
- Azure Blob Storage
- Azure Service Bus
- Azure Event Hub
- SendGrid
- Twilio SMS
- Excel table
- Outlook message

A Trio of Azure Functions



bit.ly/afjulie

Include your country code
DO NOT INCLUDE + SIGN

GDPR concerns? I swear to delete the database after the session!

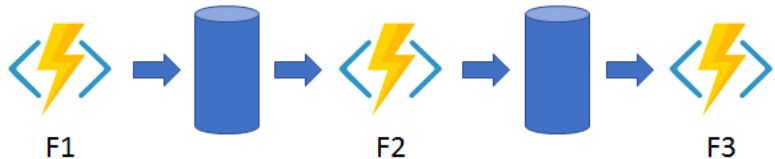
Durable Functions Durable Entities

State is auto-magically persisted (default: in Azure Web Storage)

An extension on top of Azure Functions

- Orchestrate stateful functions

E.g., chained functions:



- Define stateful entities
- Use in functions or durable functions

Exploring the Azure Functions Durable Entities Preview

November 2019 MSDN Magazine

msdn.microsoft.com/magazine/mt833553

VS/VS Code Azure Functions Extension

Templates

IDE benefits e.g. debugging, source control, etc.

Runtime local hosting

Browse Portal functions (w some interaction)

Easy (zip file) deployment

Another Tool in Your Toolbelt

Hosting/deployment implementation is handled

Focus on your logic

Quick "to market"

Pay for minimal compute time

Stateless but durable extensions allow for orchestration, etc

Integrates easily with many Azure services & external, too

Great tooling for build/debug/deploy

Resources

The code from these demos are at github.com/julielerman/ServerlessFall2018

Julie's Pluralsight Author Page bit.ly/2t6m83w

Creating Azure Functions to Interact with Cosmos DB (Jan 2018 MSDN Mag)
msdn.microsoft.com/magazine/mt846723

Replacing a Bulky API with Azure Functions (May 2018 MSDN Mag)
msdn.microsoft.com/magazine/mt846723

Azure CosmosDb: aka.ms/CosmosDb

Azure Functions: aka.ms/Azure/Functions

Exploring the Azure Functions Durable Entities (Nov 2019 MSDN Mag)
msdn.microsoft.com/magazine/mt833553

What is Serverless Architecture? What are its Pros and Cons?, Faizan Bashir
hackernoon.com/what-is-serverless-architecture-what-are-its-pros-and-cons-cc4b804022e9



Please

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Thank you!

