



Enterprise Software Development

Join the Conversation #Azure @AdamCogan @William_DotNet



Azure Superpowers

@AdamCogan @William_DotNet

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Platform Services

Security & Management



Compute



Web and Mobile



Developer Services



Hybrid Operations



Integration



Media & CDN



Analytics & IoT



Data



Infrastructure Services

Compute



Storage



Networking



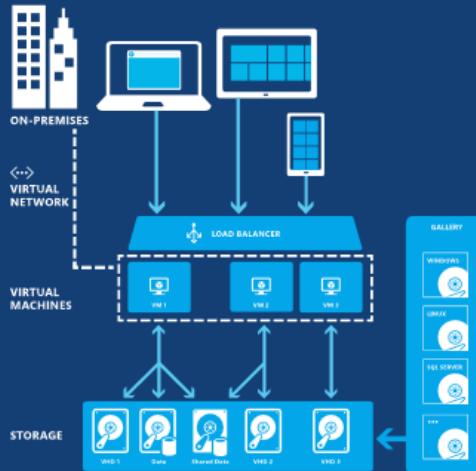
Datacenter Infrastructure (24 Regions, 19 Online)

What is Microsoft Azure?

Microsoft Azure

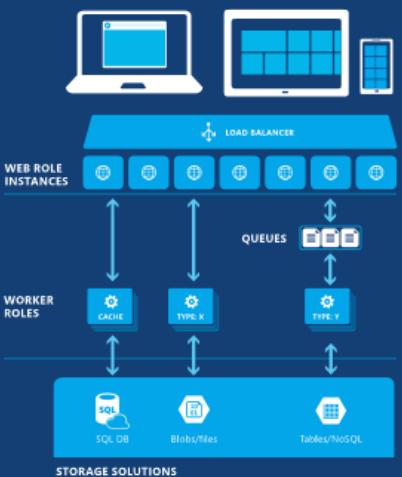
Virtual Machines

VMs are basic cloud building blocks. Get full control over a virtual machine with virtual hard disks. Install and run software yourself. Configure multiple machines with different roles to create complex solutions. VMs are nearly identical to conventional (bare) servers, and are the easiest way to move existing workloads to the cloud.



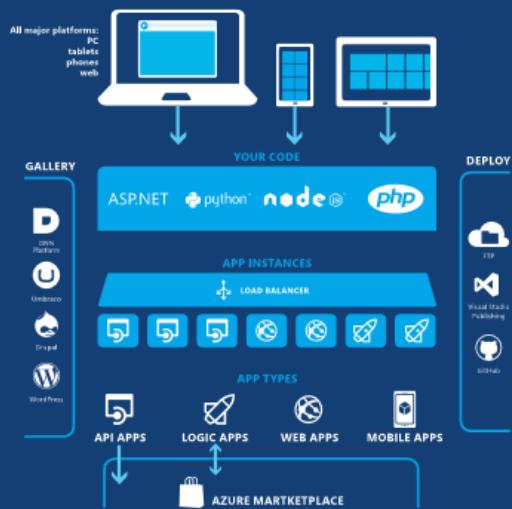
Cloud Services

Deploy highly-scalable, reliable, stateless web and worker roles. We maintain and update each VM as needed with system patches. You can put the role type as needed, and scale out as many copies as needed. Two types of VMs: worker roles and web worker roles for computing and hosting services. The web role is simply a worker role with IIS already installed and configured.



App Service

Azure App Service is a high-productivity solution for developers who need to create enterprise-grade web and mobile app experiences. App Service provides a complete platform-as-a-service solution that enables you to deploy and easily scale applications in the cloud, and seamlessly integrate them with on-premises resources and SaaS-based applications.



Microsoft Azure is a flexible, open, and secure public cloud built for business. Access a broad collection of integrated services that accommodate many languages and operating systems. Use world-class tools to accelerate a wide variety of app development and delivery capabilities.

Free trial!

Use \$200 credit to try any combination of Azure resources:

aka.ms/TryAzure

Search azure.microsoft.com, MSDN, or TechNet for keywords found in this poster

Catalog of Services

COMPUTE



Get full control over a server in the cloud and maintain it as your business requires



Managed virtual machines with stateless web and worker roles



Build highly-scalable, reliable, stateless web and worker roles composed of microservices



For running large-scale parallel and high-performance computing (HPC) applications



Create jobs that run reliably on simple or complex schedules to invoke any type of service



Access Windows apps from any device and any location that runs with in Remote App VMs

NETWORKING



Provision and manage VMs in Azure and securely link to your on-premises IT infrastructure



Connect on-premises and cloud datacenters directly through dedicated, non-internet lines



Load-balances incoming global traffic across multiple services running in multiple datacenters

IDENTITY & ACCESS



Identity and access management for cloud applications and ability to link to on-premises Server AD



Safeguard access to data and apps with additional physical layer of security control

MEDIA & CDN



Range of services that support video-on-demand and live streaming workflows



Cache content for your app in Content Delivery Network (CDN) at 900+ edge locations to improve user experience

WEB & MOBILE



Manage web platforms, get started for free and scale as you go using many tools / languages



Add backend capabilities to mobile apps, with native client support on most device platforms



Create and surface your app logic as APIs for other services and apps to consume



Build/reuse business processes by linking your own custom APIs with an API Gallery/Marketplace



Publish and manage APIs to developers, partners and employees securely and at scale

ANALYTICS



Big Data (based on Apache Hadoop) analytics that integrate easily with Microsoft Office



Mine historical data with compute power to predict future trends or behavior



Process data streams in real-time to discover and react to trends

DATA



Managed relational database service with high availability and selectable performance levels



DocumentDB

Stores/retrieves millions of JSON objects from a highly scalable NoSQL document database



Manage, scale and be more responsive under load by keeping data closer to app logic



Manage, scale and be more responsive under load by keeping data closer to app logic



Manage scale for semi-structured key/value type data in a schema-less NoSQL store

DEVELOPER SERVICES



Store code, plan and track projects, build and deploy and test apps in the cloud collaboratively



Analyze app usage, monitorability and performance to detect issues and solve problems proactively

STORAGE & BACKUP



Store binary application data and web content – store for dedicated and shared virtual disks for VM's



Managed service that handles backup/restore of Windows Server machines/backup agent



For massive data transfer – ship encrypted data to remote data center or blob storage



Coordinate replication and recovery of System Center private clouds



Automated, policy driven solution to extend on-premises primary storage for backup and disaster recovery

HYBRID INTEGRATION



Simple message queue for application decoupling architecture for scale-out



Build EDI and Enterprise App Integration (EA) solutions in the cloud



Connect apps in Azure with on-premises resources without a VPN or dedicated line



Messaging capabilities (including queues) and on-premises to cloud connectivity solution

MANAGEMENT



Run durable PowerShell scripts to automate frequent, long running, complex Azure tasks



Web based interface to provision, control and monitor all Azure services

COMMERCE



Safekeep and control keys and secrets in cloud scale hardware security modules



Analyze and troubleshoot on-premises IT infrastructure without using instrumented code

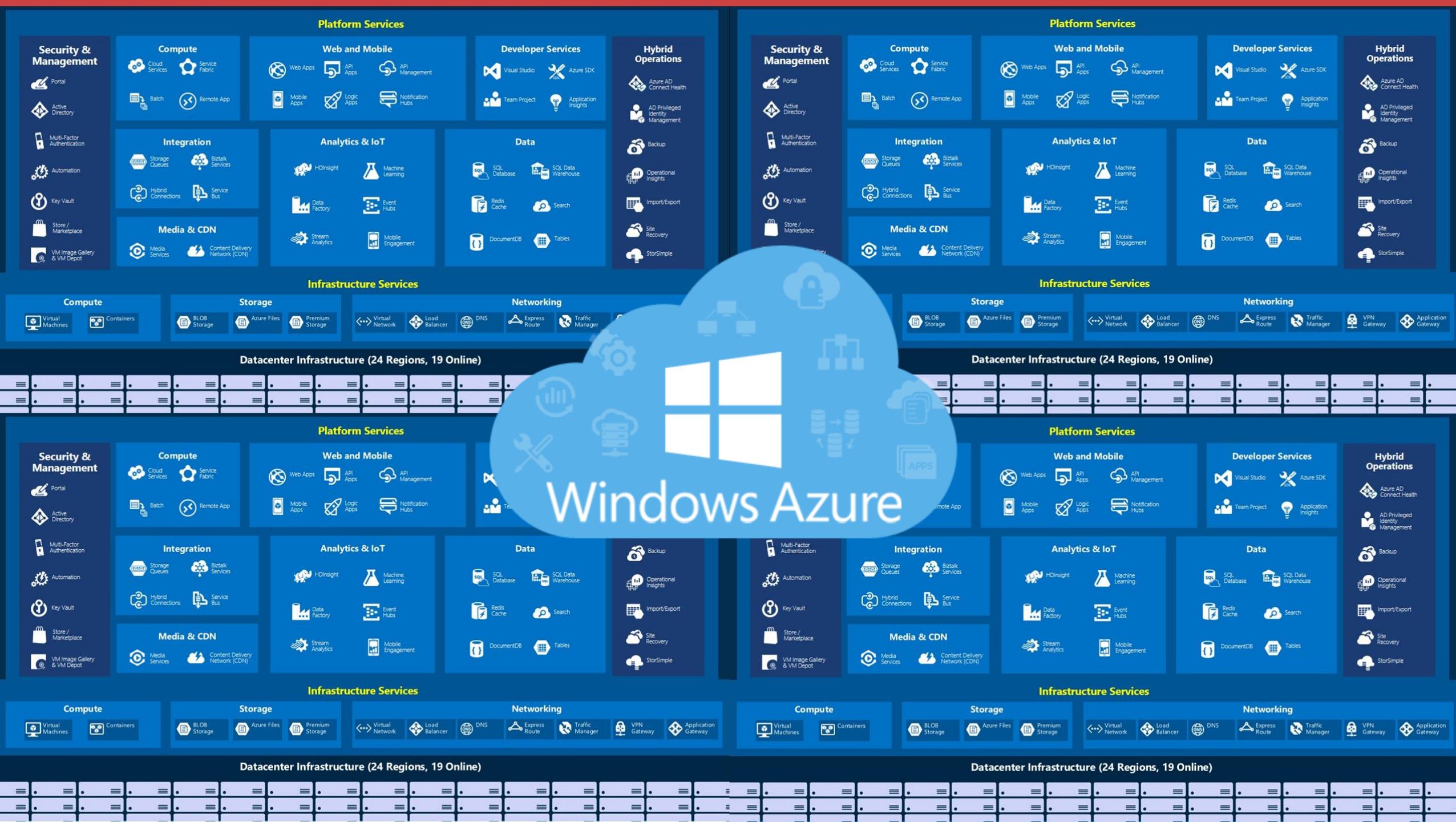
STORE / MARKETPLACE



Find and manage other services provided by third parties

VMDepot

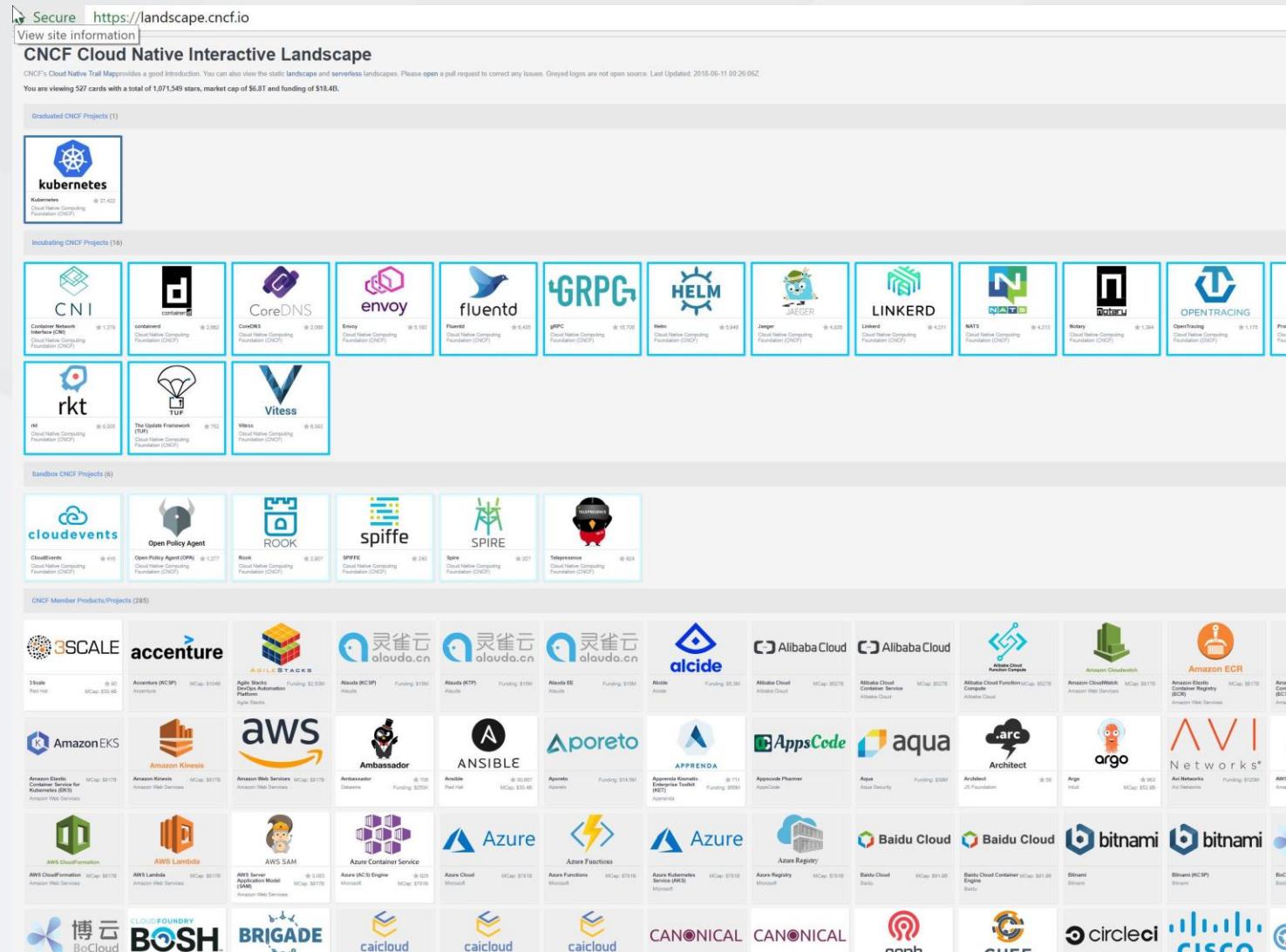
Find free open source VM images that you can download and run in Azure Virtual Machines



Who are the competitors?

- A comprehensive list – 100's of companies
- CNCF - Cloud Native Computing Foundation

<https://landscape.cncf.io>



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A Journey is easier to read

- This is the high level one for managers....
- Helping developers navigate the cloud choices

<https://github.com/cncf/landscape#trail-map>

The Cloud Native Trail Map provides an overview for enterprises starting their cloud native journey.

The screenshot shows the Cloud Native Trail Map website at <https://github.com/cncf/landscape#trail-map>. The page features a map with six numbered steps: 1. Containerization, 2. CI/CD, 3. Orchestration, 4. Observability & Analysis, 5. Service Mesh and Discovery, and 6. Networking. Each step is accompanied by a brief description and logos for related projects. Step 1: Containerization (Docker, PDP-11, microservices). Step 2: CI/CD (Continuous Integration/Continuous Delivery). Step 3: Orchestration (Kubernetes, Certified Kubernetes Distribution, Hosted Platform, Installer). Step 4: Observability & Analysis (Prometheus, fluentd, OpenTracing, Jaeger). Step 5: Service Mesh and Discovery (CoreDNS, Envoy, Linkerd). Step 6: Networking (CNCF Incubating). The page also includes sections for 'HELP ALONG THE WAY' (Training and Certification, Consulting Help, Join CNCF's End User Community) and 'WHAT IS CLOUD NATIVE?' (Cloud-native technologies such as Kubernetes, Docker, and Kubernetes).

1. CONTAINERIZATION

- Commonly done with Docker containers
- Any size application and dependencies (even PDP-11 code running on an emulator) can be containerized
- Over time, you should aspire towards splitting suitable applications and writing future functionality as microservices

CLOUD NATIVE COMPUTING FOUNDATION

CLOUD NATIVE TRAIL MAP

The Cloud Native Landscape cncf.io has a large number of options. This Cloud Native Trail Map is a recommended process for leveraging open source, cloud native technologies. At each step, you can choose a vendor-supported offering or do it yourself, and everything after step #3 is optional based on your circumstances.

HELP ALONG THE WAY

A. Training and Certification

Consider training offerings from CNCF and then take the exam to become a Certified Kubernetes Administrator or a Certified Kubernetes Application Developer cncf.io/training

B. Consulting Help

If you want assistance with Kubernetes and the surrounding ecosystem, consider leveraging a Kubernetes Certified Service Provider cncf.io/kcsp

C. Join CNCF's End User Community

For companies that don't offer cloud native services externally cncf.io/enduser

WHAT IS CLOUD NATIVE?

Cloud-native technologies, such as

1. CONTAINERIZATION

- Commonly done with Docker containers
- Any size application and dependencies (even PDP-11 code running on an emulator) can be containerized
- Over time, you should aspire towards splitting suitable applications and writing future functionality as microservices

2. CI/CD

- Setup Continuous Integration/Continuous Delivery (CI/CD) so that changes to your source code automatically result in a new container being built, tested, and deployed to staging and eventually, perhaps, to production
- Setup automated rollouts, roll backs and testing

3. ORCHESTRATION

- Kubernetes is the market-leading orchestration solution
- You should select a Certified Kubernetes Distribution, Hosted Platform, or Installer
- cncf.io/ok

4. OBSERVABILITY & ANALYSIS

- Pick solutions for monitoring, logging and tracing
- Consider CNCF projects Prometheus for monitoring, Fluentd for logging and Jaeger for Tracing
- For tracing, look for an OpenTracing-compatible implementation like Jaeger

5. SERVICE MESH AND DISCOVERY

- CoreDNS is a fast and flexible tool that is useful for service discovery
- Envoy and Linkerd each enable service mesh architectures
- They offer health checking, routing, and load balancing

6. NETWORKING

To enable more flexible networking, use a CNL-compliant network project

1. CONTAINERIZATION

- Commonly done with Docker containers
- Any size application and dependencies (even PDP-11 code running on an emulator) can be containerized
- Over time, you should aspire towards splitting suitable applications and writing future functionality as microservices



3. ORCHESTRATION & APPLICATION DEFINITION

- Kubernetes is the market-leading orchestration solution
- You should select a Certified Kubernetes Distribution, Hosted Platform, or Installer: cncf.io/ck
- Helm Charts help you define, install, and upgrade even the most complex Kubernetes application



2. CI/CD

- Setup Continuous Integration/Continuous Delivery (CI/CD) so that changes to your source code automatically result in a new container being built, tested, and deployed to staging and eventually, perhaps, to production
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- For tracing, look for an OpenTracing-compatible

Suggestion to Microsoft

Make a Trail Map like this for Microsoft (the default Microsoft cloud journey)

<https://twitter.com/AdamCogan/status/1006139454959095813>

(Like this 9 Knights of Azure talk)

DEV SUPERPOWERS
• TOUR •



SYDNEY · BRISBANE · MELBOURNE · MAY 2018 <🔥>

Azure is huge!

Over 100 services and still growing



Getting started isn't always easy

Let's change that now...



William Liebenberg

Solution Architect at SSW | <https://tv.ssw.com>



@William_DotNet



<https://azuregems.io>



[william-liebenberg](https://www.linkedin.com/in/william-liebenberg)

Wrote my first program when I was 5 years old using BASIC on a Spectra Video 328

Developing professionally since 2004

.NET v2.0 since 2006

Industrial Training Simulations + DirectX + VR

Enterprise Azure since 2014

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Adam Cogan

The Coganator | <https://tv.ssw.com>



@AdamCogan

- Chief Architect at SSW
- Microsoft Gold Partner
- Microsoft Regional Director & ALM MVP - Chief suggester
- Azure 2008 Web roles, Worker roles plus Table Storage
- First [crashed Tesla](#)
- Scrum Master to 2 beautiful girls
- <https://admcogan.com>

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<https://github.com/JasonGT/NorthwindTraders>



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Agenda

1 – App Services

2 – DevOps Project

3 – Data

4 – Azure AD

5 – API Management ...

Agenda

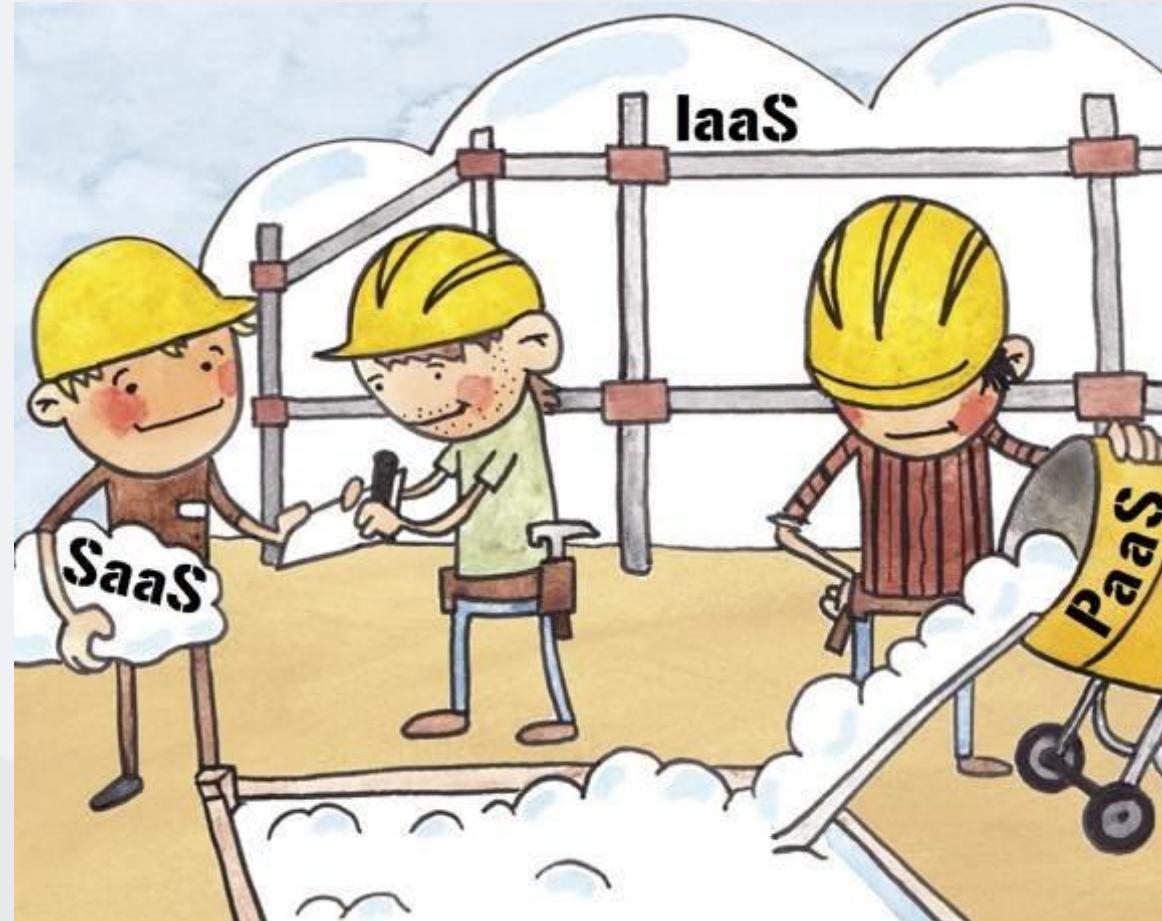
6 – Logic Apps

7 – Cognitive Services

8 – Bots

9 - Containers

History



2007 – Dynamics 365*

2008 – Red Dog

2010 – Windows Phone

2010 - Azure

2011 – Google Cloud Platform

2011 – Office 365

2016 – Machine Learning + AI

2017 Cloud Revenue

Microsoft	\$18.6B
Amazon	\$17.5B
IBM	\$17.0B
Salesforce.com	\$9.92B <small>(12 mos. ending Oct. 31)</small>
Oracle	\$5.6B <small>(12 mos. ending Nov. 30)</small>
SAP	\$4.71B
Google	\$3B <small>(est.)</small>

Source: @bobevansIT

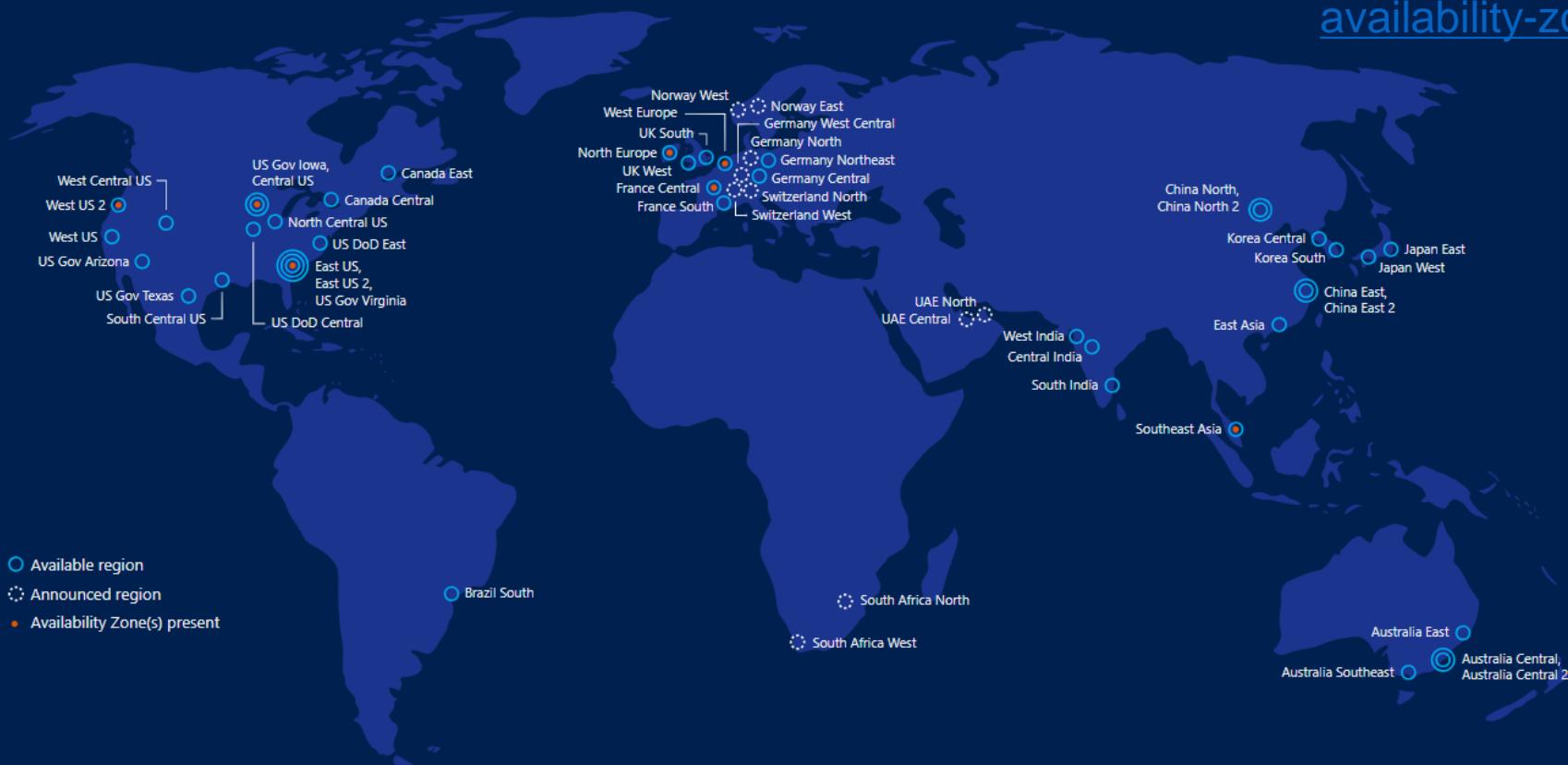
<https://www.forbes.com/sites/bobevans1/2018/02/05/why-microsoft-is-ruling-the-cloud-ibm-is-matching-amazon-and-google-is-15-billion-behind>

Azure regions

Azure has more global regions than any other cloud provider – offering the scale needed to bring apps closer to users around the world, preserving data residency and offering comprehensive compliance and resiliency options for customers.

54 regions worldwide

140 available in 140 countries



* Two Azure Government secret region locations undisclosed

Availability Zones for Azure

<https://buildazure.com/2018/04/02/azure-weekly-apr-2-2018-availability-zones-goes-ga-in-select-regions/>

Special Clouds

Azure Government

US DoD Central, US DoD East, US Gov Arizona, US Gov Iowa, US Gov Non-Regional, US Gov Texas, US Gov Virginia, US Sec East, US Sec West

Azure Germany

Germany Central, Germany Non-Regional, Germany Northeast

China

China East, China North, China East 2, China North 2

Australia (and New Zealand)

Australia Central, Australia Central 2

Aussie Cloud

It's not an Aussie cloud

15 km away

Synchronous Data Replication

For Government + Critical Infrastructure

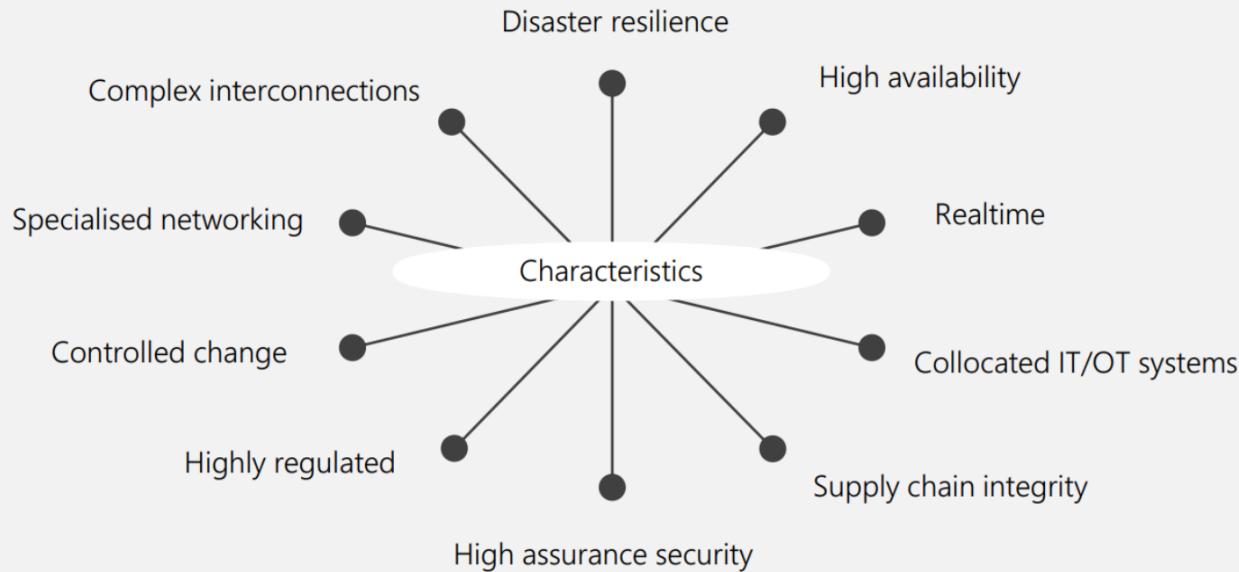
Certified for highest security





Mission-Critical Systems

A mission critical system is essential to the survival of a business or organisation. Failure or interruption would significantly disrupt their business operations.



“Complexity, performance, security and cost are the major inhibitors to migration of mission-critical applications to the cloud”

Forrester July 2017 – Cloud Migration, Critical Drivers for Success



The Statistics Portal

Statistics and Studies from more than 22,500 Sources

NEW

Enter search term, e.g. social media



Prices

Statistics

Reports

Consumer Markets

Digital Markets

Global Survey

Infographics

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38.3k



10.3k

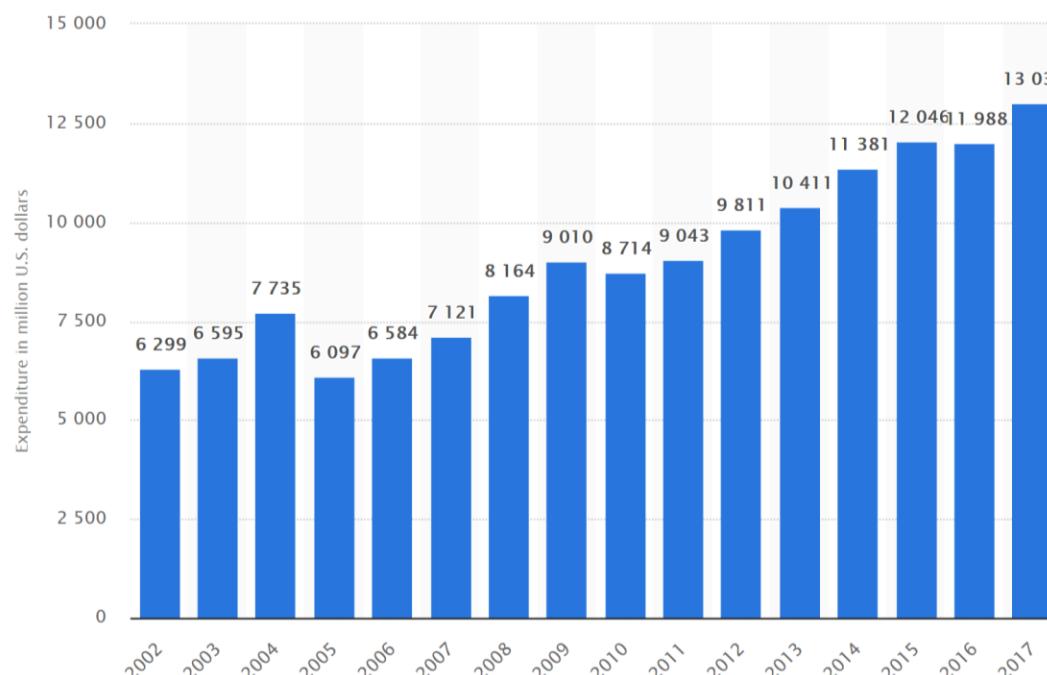


1.4k

[Technology & Telecommunications](#) > [Software](#) > Microsoft's expenditure on research and development 2002-2017

PREMIUM

Microsoft's expenditure on research and development from 2002 to 2017 (in million U.S. dollars)



DOWNLOAD

SETTINGS

SHARE



+



+



+



+

DESCRIPTION

SOURCE

MORE INFORMATION

This statistic shows expenditure on research and development by the Microsoft Corporation from the 2002 financial year to the 2017 financial year. In 2017, expenditure on research and development amounted to around 13 billion U.S. dollars.



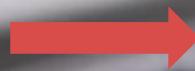
Microsoft Spent over \$13 billion on Research and Development in 2017

Data visualized by

© Statista 2018

[About this statistic](#)[Show source](#)

Agenda



1 – App Services

2 – DevOps Project

3 – Data

4 – Azure AD

5 – API Management ...

Scenario – Northwind365.com



We're a new company using Office 365

We're going to launch a new site

Our development stack includes

Frontend - Angular or React

Backend - ASP.NET Core and EF Core



We don't want to manage infrastructure!

Options

Virtual Machines \$\$\$

Azure Kubernetes Services \$\$\$

Service Fabric \$\$\$

Cloud Services \$\$

Serverless \$

App Services \$



Options

Virtual Machines \$\$

Azure Kubernetes Services \$\$\$

Service Fabric \$\$\$

Cloud Services \$\$

Serverless \$

App Services \$



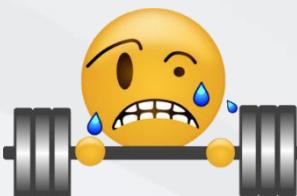
App Services

Use to host new and existing apps

- ✓ No managing infrastructure
- ✓ Manage scaling and configuration
- ✓ Very similar development

Creating a new Web App

1. From Azure Portal, select Create a resource
2. Select Web + Mobile | Web App
3. Specify details, e.g. name, subscription, location
4. Click Publish



Dashboard - Microsoft < + > X https://portal.azure.com/#

Microsoft Azure

Search resources, services and docs

Create a resource

All services

Favorites

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Service Health

Personalized guidance and support when issues in Azure services affect you. [Learn more](#)

Marketplace

Help + support

Dashboard

+ New dashboard

Upload dashboard

Download dashboard

Edit dashboard

Share

Fullscreen

Clone

Delete

jasongt@outlook.com JASON TAYLOR

New - Microsoft Azure X +

https://portal.azure.com/#create/hub

Microsoft Azure

Create a resource

All services

FAVORITES

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Security Center

Home > New

New

Search resources, services and docs

Search the Marketplace

Azure Marketplace See all

Popular

Get started

Recently created

Compute

Networking

Storage

Web + Mobile

Containers

Databases

Data + Analytics

AI + Cognitive Services

Internet of Things

Enterprise Integration

Security + Identity

Developer tools

Monitoring + Management

Add-ons

Windows Server 2016 VM
Quickstart tutorial

Ubuntu Server 17.10 VM
Learn more

Web App
Quickstart tutorial

SQL Database
Quickstart tutorial

Cosmos DB
Quickstart tutorial

DevOps Project
Quickstart tutorial

Storage Account
Quickstart tutorial

Serverless Function App

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure portal interface. A modal window titled 'New' is open, displaying the 'Create a resource' section. On the left, a sidebar lists various Azure services. The 'New' section includes a search bar, a 'Get started' button, and a 'Popular' grid of service options. One item, 'Web + Mobile', is highlighted with a red box. The URL in the browser is https://portal.azure.com/#create/hub.

New - Microsoft Azure X +

https://portal.azure.com/#create/hub

Microsoft Azure

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (class...)

Virtual machines

Cloud services (classic)

Subscriptions

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Home > New

New

Search resources, services and docs

Search the Marketplace

Azure Marketplace See all

Featured See all

Get started

Recently created

Compute

Networking

Storage

Web + Mobile

Containers

Databases

Data + Analytics

AI + Cognitive Services

Internet of Things

Enterprise Integration

Security + Identity

Developer tools

Monitoring + Management

Add-ons

Web App Quickstart tutorial

Mobile App Quickstart tutorial

Logic App Quickstart tutorial

Web App for Containers Quickstart tutorial

CDN Quickstart tutorial

Media Services Quickstart tutorial

Azure Search Quickstart tutorial

Mobile Engagement

Search resources, services and docs

Home

Bell

User

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure portal interface. A modal window titled 'New' is open, displaying the 'Azure Marketplace' section. The 'Featured' tab is selected. A red box highlights the 'Web App' item, which includes a globe icon and a 'Quickstart tutorial' link. A dashed blue box highlights the 'Web + Mobile' category in the sidebar. The left sidebar lists various Azure services like App Services, SQL databases, and Virtual machines. The top navigation bar shows the URL 'https://portal.azure.com/#create/hub' and the user 'jasongt@outlook.com JASON TAYLOR'.

Web App - Microsoft Azure

https://portal.azure.com/#create/Microsoft.WebSite

Microsoft Azure

Search resources, services and docs

jasongt@outlook.com JASON TAYLOR

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Home > Web App

Web App Create

* App name: northwind-global.azurewebsites.net

* Subscription: Visual Studio Enterprise

* Resource Group: NorthwindGlobalRg

* OS: Windows

* App Service plan/Location: NorthwindGlobalSp(Australia East)

Application Insights: On

Pin to dashboard:

Create Automation options

The screenshot shows the Microsoft Azure portal interface. A central modal window titled 'Web App' is open under the 'Create' tab. Inside the modal, several input fields are displayed with red boxes highlighting them: 'App name' containing 'northwind-global.azurewebsites.net', 'Subscription' set to 'Visual Studio Enterprise', 'Resource Group' set to 'NorthwindGlobalRg', and 'App Service plan/Location' set to 'NorthwindGlobalSp(Australia East)'. Below these, an 'Application Insights' section has two buttons: 'On' (which is blue) and 'Off'. At the bottom of the modal, there is a 'Pin to dashboard' checkbox which is checked, and two buttons: 'Create' (blue) and 'Automation options'.

Dashboard - Microsoft X + https://portal.azure.com/#

Microsoft Azure

Search resources, services and docs

Create a resource

All services

FAVORITES

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Virtual machines

Cloud services (classic)

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Security Center

Dashboard

+ New dashboard

Upload dashboard

Download dashboard

Edit dashboard

Notifications

Dismiss: Informational Completed All

Deployment in progress... Running

Deployment to resource group 'NorthwindGlobalRg' is in progress.

Service Health

Personalized guidance and support when issues in Azure services affect you. [Learn more](#)

Submitting deployment for Web App

Marketplace

Help + support

The screenshot shows the Microsoft Azure portal dashboard. On the left, a sidebar lists various services like App Services, SQL databases, and Virtual machines. The main dashboard area features a large blue circular graphic with arrows. Inside the circle are four cards: 'Service Health' (with a heart icon), 'Submitting deployment for Web App' (with a blue arrow icon), 'Marketplace' (with a cloud icon), and 'Help + support' (with a person icon). A search bar at the top right contains the placeholder 'Search resources, services and docs'. On the far right, there's a 'Notifications' panel showing a deployment in progress to a resource group named 'NorthwindGlobalRg'.

Dashboard - Microsoft .NET Core

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8fa5-607ccb9120df/resourcegroups/NorthwindGlobalRg

Microsoft Azure

Create a resource

All services

Favorites

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SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Search resources, services and docs

Home > northwind-global

northwind-global App Service

Search (Ctrl+ /)

Browse Stop Swap Restart Delete Get publish

Click here to access our Quickstart guide for deploying code to your app →

Resource group (change) NorthwindGlobalRg

Status Running

Location Australia East

Subscription (change) Visual Studio Enterprise

Subscription ID 49cfbc2b-0e46-408a-8fa5-607ccb9120df

URI http://nor... App No... FTP nor... FTP ftp: FTP f... FTP f... URL

DEPLOYMENT

Quickstart

Deployment credentials

Deployment slots

Deployment options

Continuous Delivery (Preview)

SETTINGS

Application settings

Authentication / Authorization

Http 5xx

100
80
60

Data In

100B
80B
60B

Notifications

Dismiss: Informational Completed All

Deployment succeeded 12:09 PM

Deployment 'Microsoft.WebSiteb75a0ccc-9c25' to resource group 'NorthwindGlobalRg' was successful.

Go to resource Pin to dashboard

Dashboard - Microsoft.com

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8fa5-607cbb9120df/resourcegroups/NorthwindGlobalRg/resourceprobes/Http5xx

Microsoft Azure

Create a resource

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Monitor

Security Center

Search resources, services and docs

Home > northwind-global

northwind-global App Service

Search (Ctrl+ /)

Browse (highlighted with red box)

Stop Swap Restart Delete Get publish profile Reset publish profile

Click here to access our Quickstart guide for deploying code to your app →

Resource group (change)
NorthwindGlobalRg

Status
Running

Location
Australia East

Subscription (change)
Visual Studio Enterprise

Subscription ID
49cfbc2b-0e46-408a-8fa5-607cbb9120df

URL
<https://northwind-global.azurewebsites.net>

App Service plan/pricing tier
NorthwindGlobalSp (Standard: 1 Small)

FTP/deployment username
northwind-global\Right4MeDeploymentAdmin

FTP hostname
<ftp://waws-prod-sy3-011.ftp.azurewebsites.windows.net>

FTPS hostname
<https://waws-prod-sy3-011.ftp.azurewebsites.windows.net>

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

DEPLOYMENT

Quickstart

Deployment credentials

Deployment slots

Deployment options

Continuous Delivery (Preview)

SETTINGS

Application settings

Authentication / Authorization

Diagnose and solve problems

Our self-service diagnostic and troubleshooting experience helps you identify and resolve issues with your web app.

Application Insights

Application Insights helps you detect and diagnose quality issues in your apps, and helps you understand what your users actually do with it.

App Service Advisor

App Service Advisor provides insights for improving app experience on the App Service platform. Recommendations are sorted by freshness, priority and impact to your app.

Http 5xx

100

80

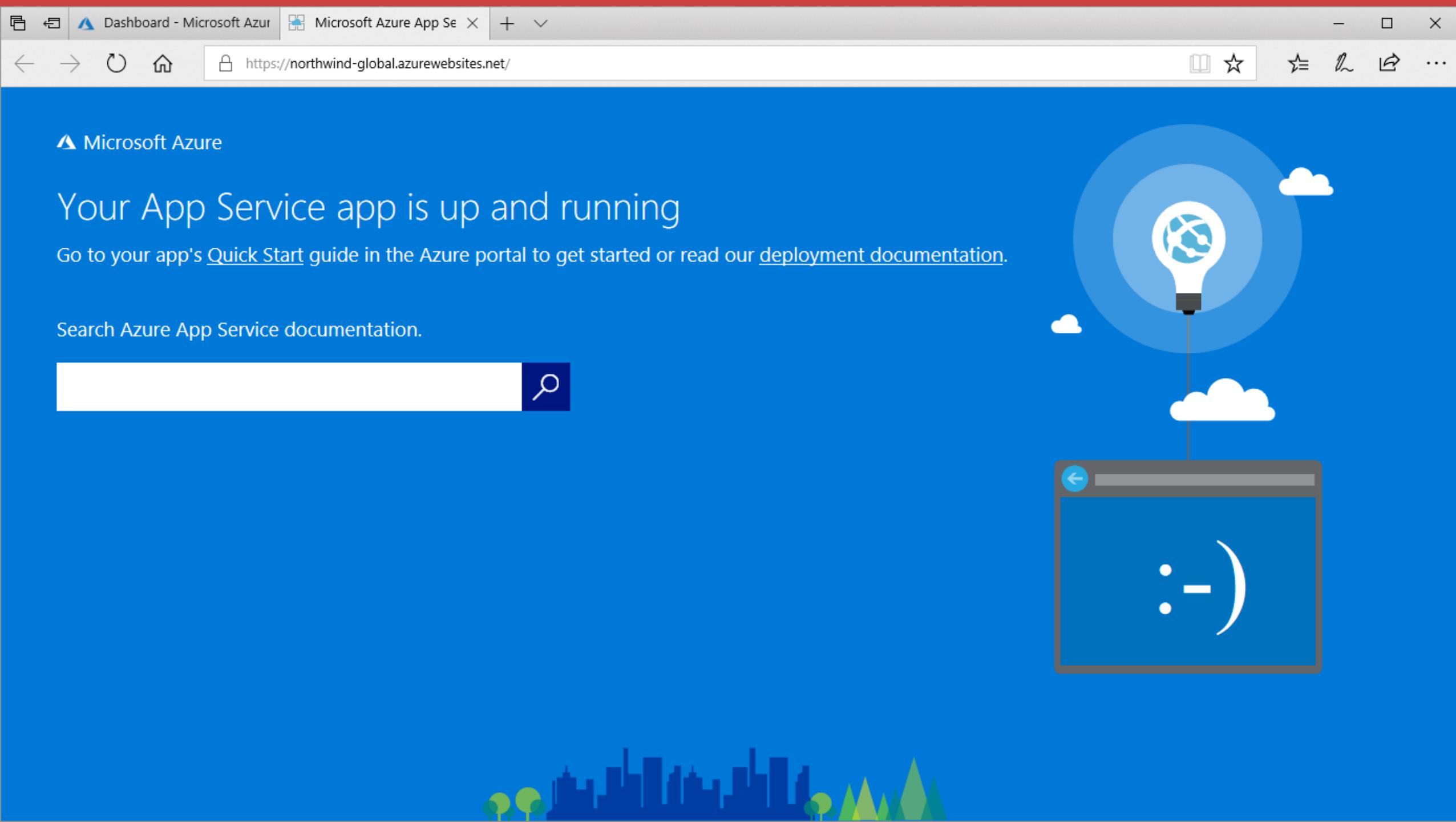
60

Data In

100B

80B

60B

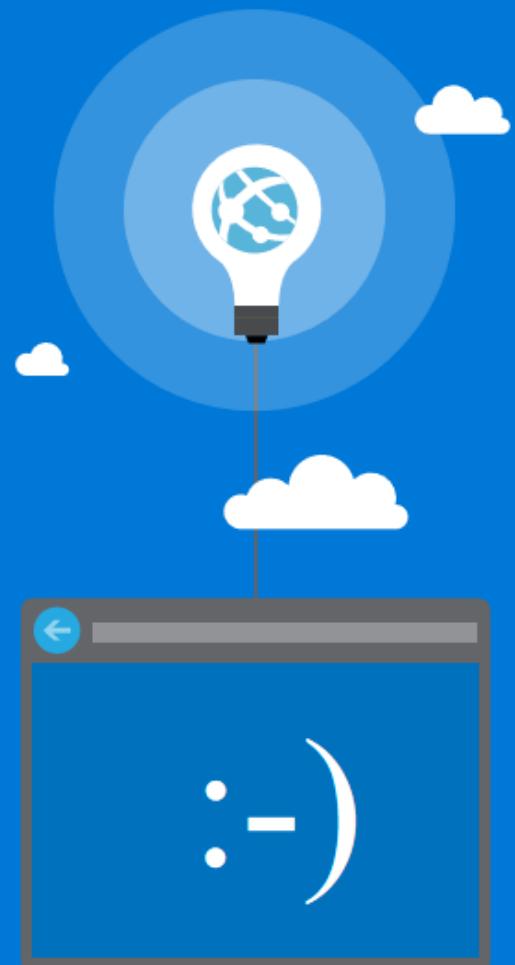


Microsoft Azure

Your App Service app is up and running

Go to your app's [Quick Start](#) guide in the Azure portal to get started or read our [deployment documentation](#).

Search Azure App Service documentation.



Creating and publish a new SPA

1. From VS 2017, select File | New | Project...
2. Select .NET Core | ASP.NET Core Web Application
3. Select Angular or React
4. Click Publish



Start Page - Microsoft Visual Studio Preview

PREVIEW

File Edit View Project Debug Team Tools Test Analyze Window Help

Quick Launch (Ctrl+Q)

Jason Taylor

Server Explorer Toolbox

Start Page X

Get Started

Build your first app in 5 minutes!

Maximize your productivity with these tips and tricks for Visual Studio

Take advantage of the newest technologies to deploy beautiful, low-cost and reliable websites

Develop modern, fully-native, Android and iOS apps

Produce more, fix faster and deliver updates seamlessly

Reduce turnaround by making your changes and seeing real time impact

Open

Get code from a remote version control system or open something on your local drive.

Checkout from:

- Visual Studio Team Services

- Open Project / Solution
- Open Folder
- Open Website

New project

Search project templates

Recent project templates:

- ASP.NET Core... C#
- Class Library (.... C#
- WPF App (.NE... C#

Create new project...

Solution Explorer

Developer News

Announcing general availability of Azure database services for MySQL and PostgreSQL

Today, I am excited to announce the general availability (GA) of Azure Database for MySQL and Azure Databa...

NEW Friday, 23 March 2018

The UWP Community Toolkit v2.2

I am extremely excited to announce the latest update of the UWP Community Toolkit, v2.2. The credit for this release,...

NEW Friday, 23 March 2018

Azure cloud data and AI services training roundup

Looking to transform your business by improving your on-premises environments? Accelerating your mov...

NEW Friday, 23 March 2018

Python in Visual Studio 15.7

More news...

Solution Explorer Team Explorer

Start Page - Microsoft Visual Studio Preview

PREVIEW

File Edit View Project Debug Team Tools Test Analyze Window Help

New

Open

Start Page

Close

Close Solution

Save Selected Items Ctrl+S

Save Selected Items As...

Save All Ctrl+Shift+S

Source Control

Page Setup...

Print... Ctrl+P

Account Settings...

Recent Projects and Solutions

Exit Alt+F4

Reduce turnaround by making your changes and seeing real time impact

Attach... | P

Solution Explorer

Developer News

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Create new project...

Quick Launch (Ctrl+Q)

Jason Taylor

Solution Explorer Team Explorer

Start Page - Microsoft Visual Studio Preview

PREVIEW

File Edit View Project Debug Team Tools Test Analyze Window Help

New Project... Ctrl+Shift+N

Open File... Ctrl+N

Project From Existing Code...

Open Get code from a remote version control system or open something on your local drive.

Checkout from:

- Visual Studio Team Services

Open Project / Solution

Open Folder

Open Website

Open

Start Page

Close

Close Solution

Save Selected Items Ctrl+S

Save Selected Items As...

Save All Ctrl+Shift+S

Source Control

Page Setup...

Print... Ctrl+P

Account Settings...

Recent Projects and Solutions

Exit Alt+F4

Reduce turnaround by making your changes and seeing real time impact

Project...

File...

Project From Existing Code...

Solution Explorer

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Solution Explorer Team Explorer

Ready

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New Project

Recent

Installed

Visual C#

- Windows Classic Desktop
- Web
 - .NET Core
 - .NET Standard
- Cloud
- Test
- WCF

Visual Basic

Visual F#

SQL Server

Other Project Types

Sort by: Default

Search (Ctrl+E)

Type: Visual C#

A project for creating a command-line application that can run on .NET Core on Windows, Linux and MacOS.

Name: ConsoleApp1

Location: C:\Code

Solution name: ConsoleApp1

Browse...

Create directory for solution

Add to Source Control

OK Cancel

Create new project... More news...

Solution Explorer Team Explorer

Ready

Start Page - Microsoft Visual Studio Preview

PREVIEW

File Edit View Project Debug Team Tools Test Analyze Window Help

Quick Launch (Ctrl+Q)

Jason Taylor

Start Page X

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Visual C#

- Windows Classic Desktop
- Web
 - .NET Core
 - .NET Standard
 - Cloud
 - Test
 - WCF
- Visual Basic
- Visual F#
- SQL Server
- Other Project Types

ASP.NET Core Web Application

Not finding what you are looking for?
Open Visual Studio Installer

Name: ConsoleApp1

Location: C:\Code

Solution name: ConsoleApp1

Browse...

Create directory for solution

Add to Source Control

OK Cancel

Create new project... More news...

Solution Explorer Team Explorer

Ready

Start Page - Microsoft Visual Studio Preview

PREVIEW

Quick Launch (Ctrl+Q)

Jason Taylor

File Edit View Project Debug Team Tools Test Analyze Window Help

Start Page Attach... Solution Explorer Team Explorer

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New Project

Recent

Installed

Visual C#

- Windows Classic Desktop
- Web
 - .NET Core
 - .NET Standard
 - Cloud
 - Test
 - WCF
- Visual Basic
- Visual F#
- SQL Server
- Other Project Types

Sort by: Default

Search (Ctrl+E)

Type: Visual C#

Project templates for creating ASP.NET Core applications for Windows, Linux and macOS using .NET Core or .NET Framework. Create Razor Pages, MVC, Web API, and Single Page (SPA) Applications.

ASP.NET Core Web Application

Name: NorthwindGlobal

Location: C:\Code

Solution name: NorthwindGlobal

Browse...

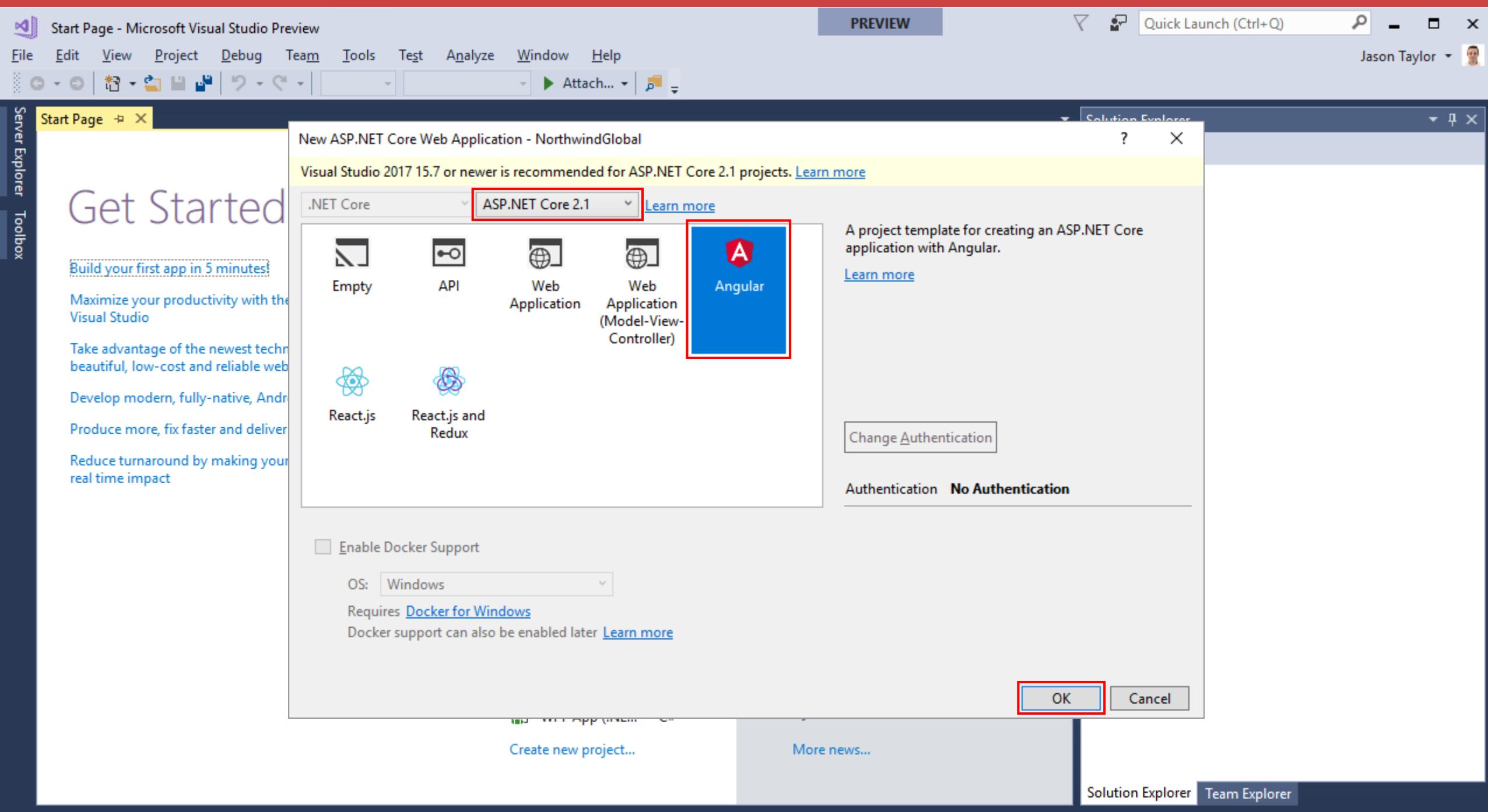
Create directory for solution

Add to Source Control

OK Cancel

Create new project... More news...

Ready



NorthwindGlobal - Microsoft Visual Studio Preview

PREVIEW

File Edit View Project Build Debug Team Tools Test Analyze Window Help

Debug Any CPU IIS Express

Quick Launch (Ctrl+Q)

Jason Taylor

Server Explorer Toolbox

NorthwindGlobal

Overview Connected Services Publish

ASP.NET Core

Learn about the .NET platform, create your first application and extend it to the cloud.

{ } Build Your App

- Get started with ASP.NET Core
- Browse docs, samples, and tutorials
- ASP.NET Core Authentication

Connect to Azure

- Sign up for free
- Push to a website
- Set up continuous deployment
- Azure Functions Quickstart

Add a service

- Telemetry with Application Insights
- More connected services

Solution Explorer

Search Solution Explorer (Ctrl+;)

+ Solution 'NorthwindGlobal' (1 project)

NorthwindGlobal

- Connected Services
- Dependencies
- Properties
- wwwroot
- ClientApp
- Controllers
- Views
- .gitignore
- appsettings.json
- package.json
- Program.cs
- Startup.cs

Properties

Ready

1 40 NorthwindGlobal master

NorthwindGlobal - Microsoft Visual Studio Preview

PREVIEW

File Edit View Project Build Debug Team Tools Test Analyze Window Help

Debug Any CPU IIS Express

Jason Taylor

Server Explorer Toolbox

NorthwindGlobal

Overview Connected Services Publish

Publish your app to Azure or another host. [Learn more](#)

Start

Continuous Delivery

Automatically publish your application to Azure with continuous delivery

Start

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'NorthwindGlobal' (1 project)

NorthwindGlobal

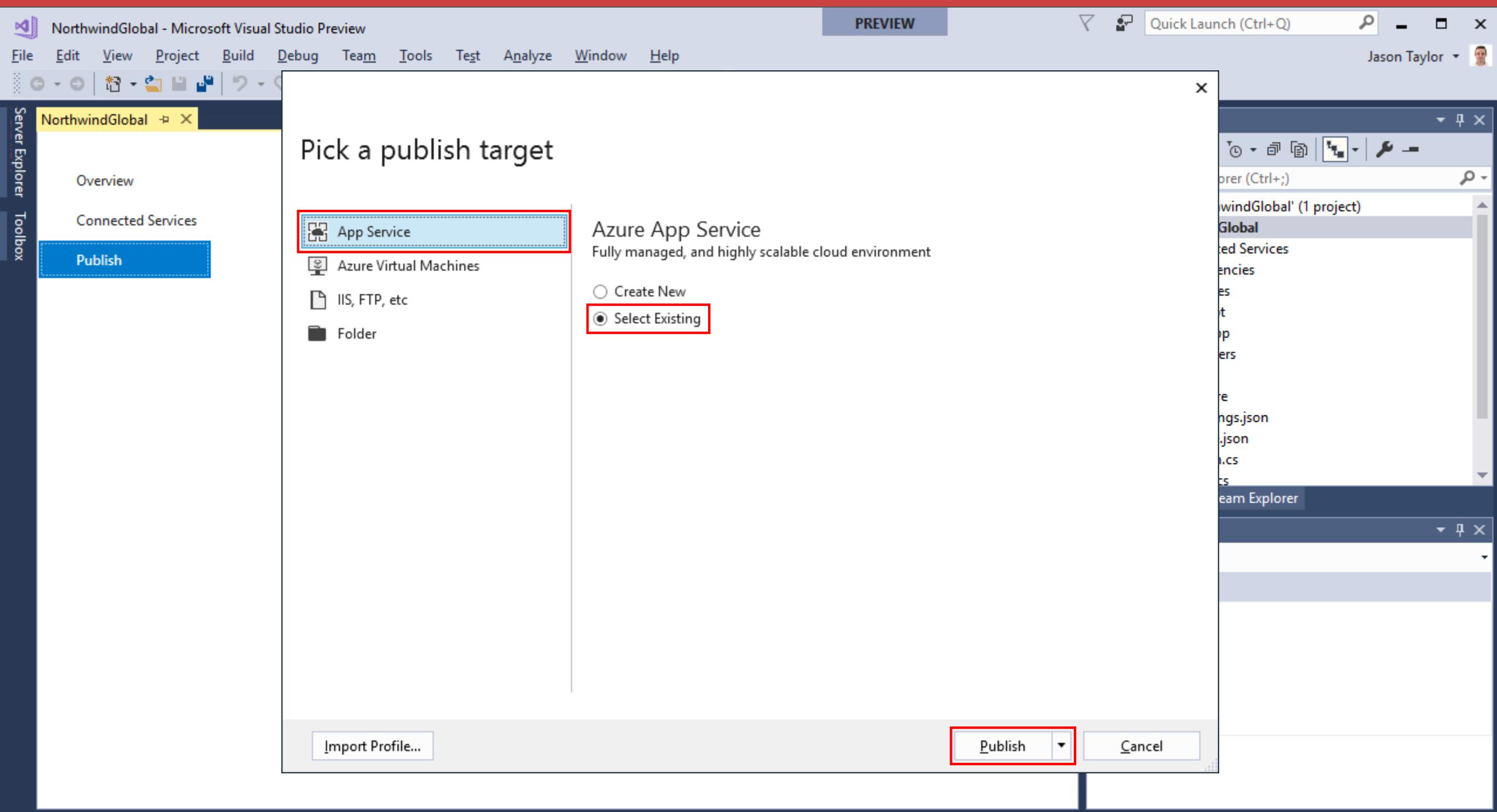
- Connected Services
- Dependencies
- Properties
- wwwroot
- ClientApp
- Controllers
- Views
- .gitignore
- appsettings.json
- package.json
- Program.cs
- Startup.cs

Solution Explorer Team Explorer

Properties

Restore completed in 18.55 sec for C:\Code\NorthwindGlobal\NorthwindGlobal\NorthwindGlobal.csproj.

2 0 NorthwindGlobal master



NorthwindGlobal - Microsoft Visual Studio Preview

PREVIEW

Quick Launch (Ctrl+Q)

Jason Taylor

File Edit View Project Build Debug Team Tools Test Analyze Window Help

Server Explorer Toolbox

NorthwindGlobal

Overview Connected Services Publish

App Service

Host your web and mobile applications, REST APIs, and more in Azure

Subscription: Visual Studio Enterprise

View: Resource Group

Search:

▶ NorthwindGlobalRg

OK Cancel

Restore completed in 18.55 sec for C:\Code\NorthwindGlobal\NorthwindGlobal\NorthwindGlobal.csproj.

NorthwindGlobal 2 0 master

NorthwindGlobal' (1 project)

Global

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.cs

team Explorer

NorthwindGlobal - Microsoft Visual Studio Preview

PREVIEW

Quick Launch (Ctrl+Q)

File Edit View Project Build Debug Team Tools Test Analyze Window Help

Jason Taylor

Server Explorer Toolbox

NorthwindGlobal

Overview Connected Services Publish

App Service

Host your web and mobile applications, REST APIs, and more in Azure

Microsoft account jasongt@outlook.com

Subscription: Visual Studio Enterprise

View: Resource Group

Search:

NorthwindGlobalRg
northwind-global

OK Cancel

Restore completed in 18.55 sec for C:\Code\NorthwindGlobal\NorthwindGlobal\NorthwindGlobal.csproj.

NorthwindGlobal master

NorthwindGlobal - Microsoft Visual Studio Preview

PREVIEW

File Edit View Project Build Debug Team Tools Test Analyze Window Help

Debug Any CPU IIS Express

Quick Launch (Ctrl+Q)

Jason Taylor

Server Explorer Toolbox

NorthwindGlobal

Overview Connected Services Publish

Publish

Publish your app to Azure or another host. [Learn more](#)

northwind-global - Web Deploy

Create new profile

Summary

Site URL: http://northwind-global.a... □ App Service Settings...

Resource Group: NorthwindGlobalRg Settings...

Configuration: Release Preview...

Username: \$northwind-global Rename Profile...

Password: ***** Delete Profile

Troubleshooting Info: See Guide

Continuous Delivery

Automatically publish your application to Azure with continuous delivery

Start

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'NorthwindGlobal' (1 project)

NorthwindGlobal

- Connected Services
- Dependencies
- Properties
- wwwroot
- ClientApp
- Controllers
- Views
- .gitignore
- appsettings.json
- package.json
- Program.cs
- Startup.cs

Solution Explorer Team Explorer

Properties

Ready ↑ 2 ⚪ 0 ↳ NorthwindGlobal master ↴

NorthwindGlobal - Microsoft Visual Studio Preview

PREVIEW

File Edit View Project Build Debug Team Tools Test Analyze Window Help

Debug Any CPU IIS Express

Jason Taylor

Server Explorer Toolbox

NorthwindGlobal

Overview Connected Services Publish

Publish your app to Azure or another host. [Learn more](#)

northwind-global - Web Deploy Publish Create new profile

Summary

Site URL <http://northwind-global.azurewebsites.net/> App Service Settings...
Resource Group NorthwindGlobal Settings...
Configuration Release Preview...
Username \$northwind-global Rename Profile...

Output

Show output from: Build

```
Adding file (northwind-global\wwwroot\dist\vendor.js).
Adding file (northwind-global\wwwroot\favicon.ico).
Publish Succeeded.
Web App was published successfully http://northwind-global.azurewebsites.net/
===== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped =====
===== Publish: 1 succeeded, 0 failed, 0 skipped =====
```

Output Web Publish Activity

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'NorthwindGlobal' (1 project)

NorthwindGlobal

- Connected Services
- Dependencies
- Properties
- wwwroot
- ClientApp
- Controllers
- Views
- .gitignore
- appsettings.json
- package.json
- C# Program.cs
- C# Startup.cs

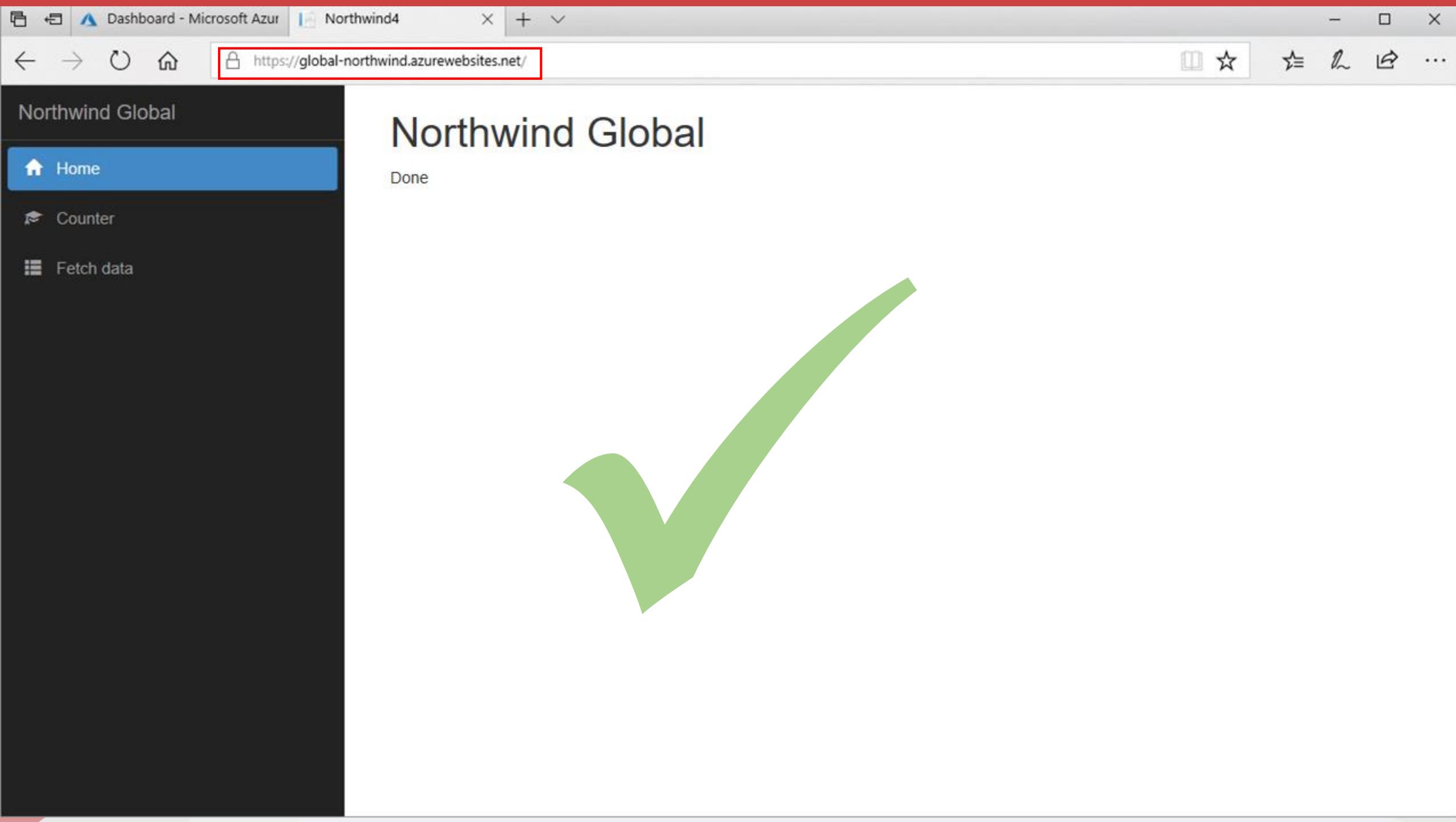
Solution Explorer Team Explorer

Properties

Quick Launch (Ctrl+Q)

Restore completed in 23.39 ms for C:\Code\NorthwindGlobal\NorthwindGlobal\NorthwindGlobal.csproj.

2 2 NorthwindGlobal master



Dashboard - Microsoft Azur

Northwind4

https://global-northwind.azurewebsites.net/

Northwind Global

Home

Counter

Fetch data

Done

Northwind Global

Done

Large green checkmark

Summary: App Services

- ✓ Super fast ✗ ?
- ✓ Simple – anyone can do it
- ✓ Azure Portal | New Web App
- ✓ VS2017 | New Angular +
ASP.NET Core 2.1 project

VERDICT: App Services

Get your life back award

Donald J. Trump

@realDonaldTrump

I just made my first Web App with Azure. Easy.

11:07 AM - Jun 6, 2014

2,528 3,338 people are talking about this







Mr. DevOps

You're doing it all wrong!

Agenda

1 – App Services

2 – DevOps Project

3 – Data

4 – Azure AD

5 – API Management ...



Scenario - Mr. DevOps is Unhappy

- ✖ No Source Control
- ✖ No Continuous Integration
- ✖ No Continuous Delivery
- ✖ No Logging
- ✖ No Backlog



Tip: Azure DevOps Project



Using Azure DevOps, you can set up:

- ✓ Git repository with app code
- ✓ Automated CI / CD pipeline
- ✓ Logging and monitoring
- ✓ Product backlog
- ✓ Development environment

In only 4 steps!

Free for small teams

<https://azure.microsoft.com/en-au/pricing/details/devops/azure-devops-standard/>



Creating a new DevOps Project

1. From Azure Portal, select Create a resource
2. Search for and select DevOps project
3. Complete simple wizard
4. Click Done



Dashboard - Microsoft Azure

https://portal.azure.com/#@brendanrichardsmsdnhotmail.onmicrosoft.com/dashboard/private/a2bf4464-455b-4364-a366-cbba49b70018

Microsoft Azure

Search resources, services, and docs

brendan_richards_ms...
BRENDANRICHARDSMSDNH...

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

Virtual machines (classic)

Virtual machines

SQL databases

Cloud services (classic)

Subscriptions

Disk (classic)

Azure Active Directory

Monitor

Security Center

Cost Management + Billi...

Dashboard

All resources

All subscriptions

allianzbrendanstorage Storage account

allianz-brendan Endpoint

allianz CDN profile

See more...

What's new

Marketplace

Service Health

Personalized guidance and support when issues in Azure services affect you. [Learn more](#)

Tour

Help + support

Portal settings

Feedback

Azure classic...

Everything - Microsoft Azure

https://portal.azure.com/#blade/Microsoft_Azure_Marketplace/GalleryFeaturedMenuItemBlade/selectedMenuItemId/home/searchQuery/DevOps

Microsoft Azure

Search resources, services, and docs

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Cost Management + Billi...

Home > New > Marketplace > Everything

Everything

Filter

DevOps

Results

NAME	PUBLISHER	CATEGORY
DevOps Project	Microsoft	Developer tools
ElectricFlow - DevOps Release Automation	Electric Cloud	Compute
IKAN ALM 5.7 demo	IKAN Development	Compute
RLCatalyst3.0	Relevance Lab	Compute
Actifio Sky Virtual Appliance	Actifio	Compute
Chef Compliance (25 Node License)	Chef Software, Inc	Compute
Chef Compliance (250 Node License)	Chef Software, Inc	Compute
Chef Compliance (50 Node License)	Chef Software, Inc	Compute

DevOps Project - Microsoft Azure

https://portal.azure.com/#blade/Microsoft_Azure_Marketplace/GalleryFeaturedMenuItemBlade/selectedMenuItemId/home/searchQuery/DevOps/resetMenuItemId/

Microsoft Azure

Search resources, services, and docs

Home > New > Marketplace > Everything > DevOps Project

Create a resource

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PUBLISHER

CATEGORY

PUBLISHER	CATEGORY
Microsoft	Developer tools
Electric Cloud	Compute
IKAN Development	Compute
Relevance Lab	Compute
Actifio	Compute
Chef Software, Inc	Compute
Chef Software, Inc	Compute
Chef Software, Inc	Compute

DevOps Project

Microsoft

DevOps Projects are powered by Azure Pipelines and gives you a head start in developing and deploying your applications. From the initial starting point a DevOps Project provides, you can very easily:

Create

DevOps Project - Microsoft Azure +

https://portal.azure.com/#create/Microsoft.AzureProject

Microsoft Azure

Search resources, services, and docs

Home > New > Marketplace > Everything > DevOps Project > DevOps Project

Create a resource

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Virtual machines

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Disks (classic)

Azure Active Directory

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Security Center

Cost Management + Billi...

DevOps Project

Create

Launch an app running in Azure in a few quick steps

Everything you need, created and ready to go: code repository, CI/CD pipeline, and the necessary Azure resources.

New to DevOps Projects? Check out our tutorials

Start fresh with a new application

.NET

.NET

New Web App using ASP.NET or ASP.NET Core

Java

New Web App using Spring or JSF

Static Website

HTML

New static website using HTML, CSS, and JavaScript

Node.js

JS

New Web App using Node.js, Express.js or Sails.js

Previous

Next

brendan_richards_ms... BRENDANRICHARDSMSDNH...

DevOps Project - Microsoft Azure +

https://portal.azure.com/#create/Microsoft.AzureProject

brendan_richards_ms...
BRENDANRICHARDSMSDNH...

Microsoft Azure

Search resources, services, and docs

Home > New > Marketplace > Everything > DevOps Project > DevOps Project

Create a resource

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Subscriptions

Disks (classic)

Azure Active Directory

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Cost Management + Billi...

DevOps Project

Create

Runtime Framework Service Create

Choose an application framework

ASP.NET

Open source web framework for building modern web apps and services

ASP.NET Core

Cross-platform, open-source framework for building modern web apps and services

Add a database

Warning! ASP.NET is a legacy service. You must be 40 years or over to use this service.

Previous Next

DevOps Project - Microsoft Azure +

https://portal.azure.com/#create/Microsoft.AzureProject

Microsoft Azure

Search resources, services, and docs

brendan_richards_ms...
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Create a resource

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SQL databases

Cloud services (classic)

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Disks (classic)

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Cost Management + Billi...

Home > New > Marketplace > Everything > DevOps Project > DevOps Project

DevOps Project

Create

Runtime Framework Service Create

Choose an application framework

ASP.NET

Open source web framework for building modern web apps and services

ASP.NET Core

Cross-platform, open-source framework for building modern web apps and services

Add a database

SQL Database

A relational database-as-a service

Previous Next

The screenshot shows the Microsoft Azure portal interface for creating a DevOps Project. The left sidebar contains various service links like App Services, Virtual machines, and SQL databases. The main area shows a step-by-step wizard with four steps: Runtime, Framework, Service, and Create. Step 2, 'Framework', is currently selected. It displays two options: 'ASP.NET' and 'ASP.NET Core'. The 'ASP.NET Core' option is highlighted with a red box and has a checked checkbox next to it. Below the frameworks, there's a section for adding a database, which includes a 'SQL Database' option. At the bottom, there are 'Previous' and 'Next' buttons, with the 'Next' button also highlighted by a red box.

DevOps Project - Microsoft Azure +

https://portal.azure.com/#create/Microsoft.AzureProject

Microsoft Azure

Search resources, services, and docs

Home > New > Marketplace > Everything > DevOps Project > DevOps Project

Create a resource

All services

Favorites

- Dashboard
- Resource groups
- All resources
- Recent
- App Services
- Virtual machines (classic)
- Virtual machines
- SQL databases
- Cloud services (classic)
- Subscriptions
- Disk (classic)
- Azure Active Directory
- Monitor
- Security Center
- Cost Management + Billi...

DevOps Project

Create

Kubernetes Service
Fully managed Kubernetes container orchestration service for managing containers without container expertise.

Service Fabric Cluster
A distributed systems platform to deploy and manage scalable and reliable microservices and containers.

Web App Windows 
Fully managed compute platform on Windows for web applications and websites.

Web App Linux
Fully managed compute platform on Linux for web applications and websites.

Web App for Containers
Fully managed compute platform on Linux for deploying and running containerized web applications.

Virtual machine Windows
Windows virtual machine to run your app

Previous

Next

brendan_richards_ms...
BRENDANRICHARDSMSDNH...

DevOps Project - Microsoft Azure +

https://portal.azure.com/#create/Microsoft.AzureProject

Microsoft Azure

Search resources, services, and docs

Home > New > Marketplace > Everything > DevOps Project > DevOps Project

Create a resource

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SQL databases

Cloud services (classic)

Subscriptions

Disk (classic)

Azure Active Directory

Monitor

Security Center

Cost Management + Billi...

DevOps Project

Create

Windows.

DevOps Project Change

Azure DevOps for building and deploying your app

* Organization

Create new Use existing

Northwind-Global-Devops ✓

https://dev.azure.com/Northwind-Global-Devops

* Project name

Northwind-Global-Devops ✓

Azure Change

Azure resources required for running your app

* Subscription

Visual Studio Premium with MSDN

* Web app name

Previous Done

brendan_richards_ms...
BRENDANRICHARDSMSDNH...

A large red arrow points downwards from the bottom right towards the "Done" button.

DevOps Project - Microsoft Azure +

https://portal.azure.com/#create/Microsoft.AzureProject

brendan_richards_ms...
BRENDANRICHARDSMSDNH...

Microsoft Azure

Search resources, services, and docs

Home > New > Marketplace > Everything > DevOps Project > DevOps Project

Create a resource

All services

Favorites

Dashboard

Resource groups

All resources

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App Services

Virtual machines (classic)

Virtual machines

SQL databases

Cloud services (classic)

Subscriptions

Disks (classic)

Azure Active Directory

Monitor

Security Center

Cost Management + Billi...

DevOps Project

Create

https://dev.azure.com/Northwind-Global-Devops

* Project name
Northwind-Global-Devops ✓

Azure Change

Azure resources required for running your app

* Subscription
Visual Studio Premium with MSDN

* Web app name
Northwind-Global-Devops ✓ .azurewebsites.net

* Location
Australia East

Pricing tier: S1 Standard

By continuing, you agree to the [Terms of Service](#) and the [Privacy Statement](#). The new app code is published under the MIT license.

Previous Done

Microsoft Azure

Search resources, services, and docs

brendan_richards_ms...
BRENDANRICHARDMSDNH...

Home > Deploy_DevOps_Project_Northwind-Global-Devops - Overview

Deploy_DevOps_Project_Northwind-Global-Devops - Overview

Deployment

Search (Ctrl+ /)

Delete Cancel Redeploy Refresh

... Your deployment is underway

Check the status of your deployment, manage resources, or troubleshoot deployment issues. Pin this page to your dashboard to easily find it next time.

Deployment name: Deploy_DevOps_Project_Northwind-Global-Devops
Subscription: Visual Studio Premium with MSDN
Resource group: VstsResourceGroup-Northwind-Global-Devops

DEPLOYMENT DETAILS [\(Download\)](#)

Start time: 9/17/2018, 7:11:37 PM
Duration: 11 seconds
Correlation ID: b3baa814-6619-425a-b0fa-0989ea4e25ac

RESOURCE	TYPE	STATUS	OPERATION DET...
No results.			

Additional Resources

- Windows Server 2016 VM Quickstart tutorial
- Cosmos DB Quickstart tutorial
- Web App Quickstart tutorial
- SQL Database Quickstart tutorial
- Storage Account Quickstart tutorial

Helpful Links

Get started with Azure

Create a resource

All services

Favorites

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Resource groups

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App Services

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Cloud services (classic)

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Cost Management + Billi...

Deploy DevOps Project_Northwind-Global-Devops

Microsoft Azure

Search resources, services, and docs

brendan_richards_ms...
BRENDANRICHARDMSDNH...

Home > Deploy_DevOps_Project_Northwind-Global-Devops - Overview

Deploy_DevOps_Project_Northwind-Global-Devops - Overview

Deployment

Search (Ctrl+)

Delete Cancel Redeploy Refresh

Overview Outputs Inputs Template

✓ Your deployment is complete

Go to resource

Deployment name: Deploy_DevOps_Project_Northwind-Global-Devops
Subscription: Visual Studio Premium with MSDN
Resource Group: VstsResourceGroup-Northwind-Global-Devops

DEPLOYMENT DETAILS (Download)
Time: 2018/07/26 2018, 7:12:39 PM
Duration: 1 minute 11 seconds
ID: b3baa814-6619-425a-b0fa-0989ea4e25ac

RESOURCE	TYPE	STATUS	OPERATION DET...
Northwind-Global-	microsoft.visuals...	OK	Operation details
Northwind-Global-	microsoft.visuals...	OK	Operation details

Additional Resources

- Windows Server 2016 VM Quickstart tutorial
- Cosmos DB Quickstart tutorial
- Web App Quickstart tutorial
- SQL Database Quickstart tutorial
- Storage Account Quickstart tutorial

Helpful Links

Get started with Azure

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

Virtual machines (classic)

Virtual machines

SQL databases

Cloud services (classic)

Subscriptions

Disk (classic)

Azure Active Directory

Monitor

Security Center

Cost Management + Billi...

Microsoft Azure

Search resources, services, and docs

Home > Northwind-Global-Devops

Northwind-Global-Devops

Refresh Project homepage Repositories Build pipelines Release pipelines Agile backlogs Users & groups Delete

CI/CD pipeline

Code
Northwind-Global-Devops master ↗
0e196717 ↗ First commit azuredavopsproject 5 d ago

Build
Northwind-Global-Devops - CI ↗
Build 20180917.1 ↗ Succeeded 2 min ago

dev
Northwind-Global-Devops - CD ↗
Release-1 ↗ In progress 1 min ago

Azure resources

Application endpoint
<http://northwind-global-devops.azurewebsites.net> Browse ↗

App Service
Northwind-Global-Devops
Running

Application Insights

Northwind-Global-Devops

SERVER REQUEST ↗

Create a resource All services FAVORITES Dashboard Resource groups All resources Recent App Services Virtual machines (classic) Virtual machines SQL databases Cloud services (classic) Subscriptions Disks (classic) Azure Active Directory Monitor Security Center Cost Management + Billi...

Northwind-Global-Devops - Mic +

https://portal.azure.com/#@brendanrichardsmsdn@hotmail.onmicrosoft.com/resource/subscriptions/dd99af6a-ac59-44b5-b312-06f55174d1d0/resourceGroups/VstsResourceGroup-Northwind-Global-Devops/providers/microsoft.visualstudio/account/Northwind-G... ...

Microsoft Azure Search resources, services, and docs > ... ? ... brendan_richards_ms...
BRENDANRICHARDSMSDNH...

Create a resource +

All services ...

Favorites ...

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Northwind-Global-Devops

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Build ↓

Northwind-Global-Devops - CI ...

Build 20180917.1 Succeeded 2 min ago

dev ↓

Northwind-Global-Devops - CD ...

Release-1 In progress 1 min ago

Repository

Northwind-Global-Devops Code ...

1 commits in past 7 days

Application Insights

Northwind-Global-Devops

2 PM 3 PM 4 PM 5 PM 6 PM 7 PM

SERVER REQUEST ... -

FAILED REQUEST ... -

Microsoft Azure

Search resources, services, and docs

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Northwind-Global-Devops

DevOps Projects

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Build

- Northwind-Global-Devops - CI
- Build 20180917.1 Succeeded 2 min ago

dev

- Northwind-Global-Devops - CD
- Release-1 In progress 1 min ago

Repository

- Northwind-Global-Devops 1 commits in past 7 days

Code

App Service

Northwind-Global-Devops Running

Application Insights

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SERVER REQUEST -

FAILED REQUEST -

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SQL databases

Cloud services (classic)

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Disk (classic)

Azure Active Directory

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Security Center

Cost Management + Billi...

NorthwindGlobal - Microso Overview dashboard - \ + https://northwind-global.visualstudio.com/NorthwindGlobal/_home

NorthwindGlobal Dashboards Code Work Build and Release Test Wiki | ⚙ Search work items in this project 🔎 🗂️ 🗃 GH ... Overview 🔍 + New

Welcome

Get started using Visual Studio Team Services to make the most of your team dashboard.

- Manage Work [Add work to your board](#)
- Collaborate on code [Add code to your repository](#)
- Continuously integrate [Automate your builds](#)
- Visualize progress [Learn how to add charts](#)

Work assigned to Greg Harris (0)

All done with the work assigned to you? Go to your [team backlog](#) to pick up new work.



Team Members

 It's lonely in here... [Invite a friend](#)

Work

- Backlog
- Board
- Task board
- Queries

Sprint Burndown

Set iteration dates to use the sprint burndown widget [Set iteration dates](#)

New Work Item

Enter title
Bug

Work in Progress

0 Work items

Visual Studio

[Open in Visual Studio](#)
Requires Visual Studio 2013+
 [Get Visual Studio](#)
See Visual Studio downloads



A Northwind-Global-Devops - Mic x Northwind-Global-Devops - Rep x + https://dev.azure.com/Northwind-Global-Devops/_git/Northwind-Global-Devops ...

Northwind-Global-Devops / Northwind-Global-Devops / Repos / Files / Northwind-Global-Devops BR

Azure DevOps Northwind-Global-De... + Fork Clone

N Northwind-Global-De... + Overview Boards Repos Files Commits Pushes Branches Tags Pull requests Pipelines Test Plans Project settings

master Northwind-Global-Devops / Type to find a file or folder...

Contents History + New Upload file(s) Download as Zip

Name ↑	Last change	Commits	
Application	9/12/2018	0e196717	First commit azur...
ArmTemplates	9/12/2018	0e196717	First commit azur...

A Northwind-Global-Devops - Mic x Northwind-Global-Devops - Rep x +

https://dev.azure.com/Northwind-Global-Devops/_git/Northwind-Global-Devops

Azure DevOps Northwind-Global-Devops / Northwind-Global-Devops / Repos / Files / Northwind-Global-Devops ▾

N Northwind-Global-De... +

Overview Boards Repos Files Commits Pushes Branches Tags Pull requests Pipelines Test Plans Project settings

master ▾ Northwind-Global-Devops / Type to find a file or folder...

Fork Clone

Contents History + New ▾ Upload file(s) Download as Zip

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A Northwind-Global-Devops - Micr X Northwind-Global-Devops - Reps + https://dev.azure.com/Northwind-Global-Devops/_git/Northwind-Global-Devops

Northwind-Global-Devops / Northwind-Global-Devops / Repos / Files / Northwind-Global-Devops

Azure DevOps N Northwind-Global-De... + Fork Clone

Overview Boards Repos Files Pipelines Test Plans Project settings

master Northwind-Global-Devops / Type to find a file or folder...

Contents History + New Upload file(s) Download as Zip

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Pipelines

Azure DevOps - Northwind-Global-Devops - Microsoft Edge

https://dev.azure.com/Northwind-Global-Devops/_git/Northwind-Global-Devops

Microsoft Azure

Search resources, services, and docs

Home > Northwind-Global-Devops

Northwind-Global-Devops

DevOps Projects

Refresh Project homepage Repositories Build pipelines Release pipelines Agile backlog

Suggestion to Microsoft

Be consistent with the naming of these links.

2 min ago

Release-1 In progress 1 min ago

Repository

Northwind-Global-Devops 1 commits in past 7 days

Code

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Repos

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2 PM 3 PM

A Northwind-Global-Devops - Mic x Work Items - Boards x

https://dev.azure.com/Northwind-Global-Devops/Northwind-Global-Devops/_workitems/assignedtome/

Northwind-Global-Devops / Northwind-Global-Devops / Boards / Work Items

Search | Filter | Recycle Bin | BR

N Northwind-Global-De... +

Overview

Boards

Work Items

Assigned to me | + New Work Item | Open in Queries | Column Options | Recycle Bin

Filter by keyword | Types | States | Clear

Your work, all in one place

Quickly take action on work items assigned to you.

Learn more about work item tracking

BR

Work Items

Boards

Backlogs

Sprints

Queries

Repos

Pipelines

Test Plans

Artifacts

Project settings

BR

A Northwind-Global-Devops - Mic x Work Items - Boards x + - □ x

https://dev.azure.com/Northwind-Global-Devops/Northwind-Global-Devops/_workitems/assignedtome/ 🔍 ☆ ...

Azure DevOps Northwind-Global-Devops / Northwind-Global-Devops / Boards / Work Items 🔍 ☰ Bag BR

N Northwind-Global-De... +

Overview Boards Work Items Boards Backlogs Sprints Queries Repos Pipelines Test Plans Artifacts Project settings

Work Items

Assigned to me ▼ | + New Work Item ▼ Open in Queries Column Options Recycle Bin Filter Sort Search

Filter by keyword Types States < > Clear

Suggestion to Microsoft

The wizard should automatically create a PBI:
Title: "Create the Application - use the cool Azure DevOps Project"
State: Completed
Associated To: the first commit

Learn more about work item tracking

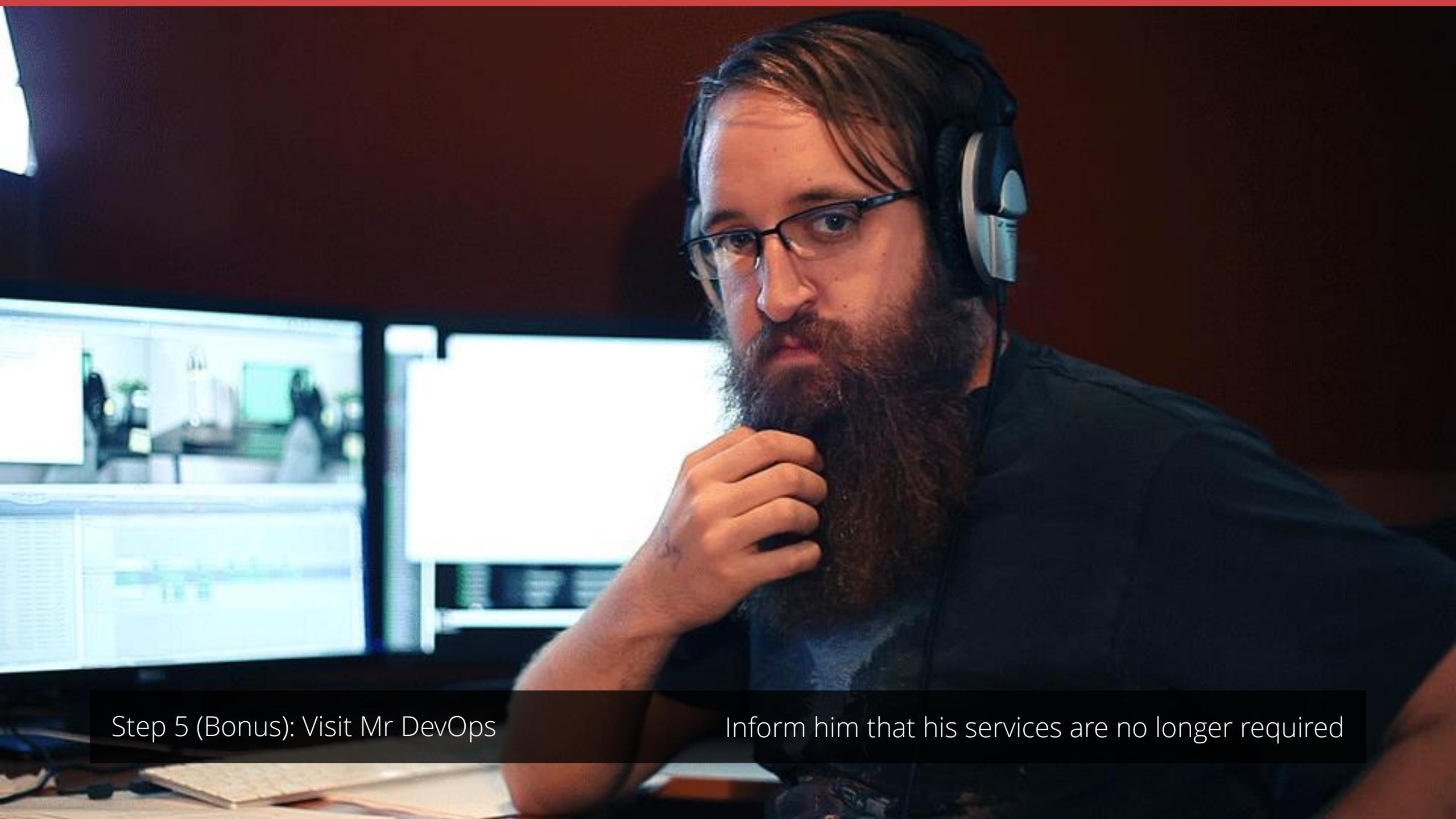
Summary: DevOps

- ✓ Pipeline has some basic safety gates ✗ Not every Azure Project
- ✓ Can customise the pipeline
 - e.g. add test or prod environments
- ✓ Can track project backlog and bugs
- ✓ You can now purchase some 'DevOps' ☺
- ✓ Devs can now concentrate on the code

VERDICT: DevOps Project

Dr DevOps award

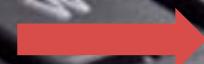




Step 5 (Bonus): Visit Mr DevOps

Inform him that his services are no longer required

Agenda



1 – App Services

2 – DevOps Project

3 – Data

4 – Azure AD

5 – API Management ...

Scenario – Northwind365.com



Accessed globally

Need to handle massive amounts of data, reads, and writes

Require near-real-time response

Options

Relational

- Azure SQL Database \$\$
- Azure Databases for MySQL \$
- Azure Databases for Maria DB \$
- Azure Databases for PostgreSQL \$



Non-Relational

- Azure Cosmos DB \$\$\$
- Azure Storage \$

Data Analytics

- Azure SQL Data Warehouse \$\$\$
- Azure Data Lake Store \$\$\$

Options – Relational vs Non-Relational

<https://www.youtube.com/watch?v=b2F-DltXtZs>

(1:30)

Options – Relational vs Non-Relational

Relational (conservative)

“No choice: database is older than all our apps!”

“Because I am used to it”

“We have DBAs to help”

“Our domain is highly relational”

“We want transactions”

Hard to scale out (SQL Replication)

Non-Relational (progressive)

Fast development

Less “mapping” from c# to persistence

“Web Scale”

Backups!

What about reporting?

Can I make ad-hoc queries?

More Considerations...

ORMs

- Our relational data behind an object - orientated abstraction!
- Fast development
- Generated queries can be sub-optimal
- Note: Always measure for appropriate performance!

Event Sourcing / CQRS

- Highly optimised
 - Specific to your domain
 - Eventual consistency
 - Mix multiple persistence engines
-
- Lots of domain specific code
 - A lot of work!



Today

- Save data how you got it
- Performance - Consume less resources – Why make the customer wait?
- Reporting – A second later take what you want into a Relational for Reporting (SSRS)
- Never learn SQL Replication

Options

Relational

- Azure SQL Database \$\$
- Azure Databases for MySQL \$
- Azure Databases for Maria DB \$
- Azure Databases for PostgreSQL \$



Non-Relational

- Azure Cosmos DB \$\$\$
- Azure Storage \$

Data Analytics

- Azure SQL Data Warehouse \$\$\$
- Azure Data Lake Store \$\$\$

Azure Cosmos DB

Provides the best capabilities of relational and non-relational databases

4 SLAs with money back guarantees:

- ✓ High availability (99.999% for multi-region)
- ✓ High throughput
- ✓ Low latency
- ✓ Tuneable data consistency (reads)

<https://docs.microsoft.com/en-us/azure/cosmos-db/consistency-levels>

Now let's learn Cosmos DB...

Accessing Cosmos DB

There are multiple APIs for accessing:

SQL API

MongoDB API

Graph API

Table API

Cassandra API

<https://docs.microsoft.com/en-us/azure/cosmos-db/>

CosmosDB Provider for Entity Framework Core 2.2 (currently in Preview)

Stable version promised for EF Core 3.0

So now getting started is easy ...

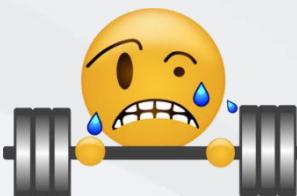
Cosmos DB: Sweet Spot

- ✓ Huge amounts of data e.g. Data storage for IoT
- ✓ When you light up data centers

Then replicate non-SQL data into SQL Server for reporting

Creating a Cosmos DB

1. From Azure Portal, select Create a resource
2. Select Databases | Azure Cosmos DB
3. Specify details, e.g. name, subscription, location
4. Click Create



Dashboard - Microsoft < + https://portal.azure.com/#

Microsoft Azure

Search resources, services and docs

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New dashboard Upload dashboard Download dashboard Edit dashboard Share Fullscreen Clone Delete

Create a resource

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No resources to display

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[Learn more](#)

[Create resources](#)

Quickstart tutorials

Windows Virtual Machines Provision Windows Server, SQL Server, SharePoint VMs

Linux Virtual Machines Provision Ubuntu, Red Hat, CentOS, SUSE, CoreOS VMs

App Service Create Web Apps using .NET, Java, Node.js, Python, PHP

Functions Process events with a serverless code architecture

SQL Database Managed relational SQL Database as a Service

Service Health Marketplace

northwind-global DEVOPS PROJECT

jasongt@outlook.com JASON TAYLOR

New - Microsoft Azure X +

https://portal.azure.com/#create/hub

Microsoft Azure

Search resources, services and docs

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Azure Marketplace See all

Get started

Recently created

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AI + Cognitive Services

Internet of Things

Enterprise Integration

Security + Identity

Developer tools

Monitoring + Management

Add-ons

Popular

Windows Server 2016 VM
Quickstart tutorial

Ubuntu Server 17.10 VM
Learn more

Web App
Quickstart tutorial

SQL Database
Quickstart tutorial

Cosmos DB
Quickstart tutorial

DevOps Project
Quickstart tutorial

Storage Account
Quickstart tutorial

Serverless Function App

1

?

JASON TAYLOR

jasongt@outlook.com

The screenshot shows the Microsoft Azure portal interface. A modal window titled 'New' is open, displaying the 'Azure Marketplace' section. The 'Popular' tab is selected, showing various Azure services with their icons and quickstart tutorial links. The 'Cosmos DB' service is highlighted with a red box around its icon and title. On the left, a sidebar lists various Azure services like Dashboard, Resource groups, and App Services. The top navigation bar includes a search bar, notification center, and user profile for Jason Taylor.

Azure Cosmos DB - Mic X +

https://portal.azure.com/#create/Microsoft.DocumentDB

Microsoft Azure

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Search resources, services and docs

1

Home > New > Azure Cosmos DB

Azure Cosmos DB

New account

* ID
Enter account ID documents.azure.com

* API ⓘ
Please choose an API

* Subscription
Visual Studio Enterprise

* Resource Group
Create new Use existing

* Location
Australia Southeast

Enable geo-redundancy ⓘ

Pin to dashboard

Create Automation options

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure portal interface. A modal window titled 'Azure Cosmos DB' is open, prompting for account creation details. The 'ID' field, which contains 'documents.azure.com', is highlighted with a red border. Other fields include 'API' (set to 'Please choose an API'), 'Subscription' (set to 'Visual Studio Enterprise'), 'Resource Group' (radio button selected for 'Create new'), 'Location' (set to 'Australia Southeast'), and an unchecked checkbox for 'Enable geo-redundancy'. At the bottom of the modal are 'Create' and 'Automation options' buttons. The left sidebar lists various Azure services like App Services, SQL databases, and Virtual machines. The top navigation bar shows the URL 'https://portal.azure.com/#create/Microsoft.DocumentDB' and the user 'jasongt@outlook.com JASON TAYLOR'.

Azure Cosmos DB - Mic X +

https://portal.azure.com/#create/Microsoft.DocumentDB

Microsoft Azure

Search resources, services and docs

jasongt@outlook.com JASON TAYLOR

Create a resource

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Home > New > Azure Cosmos DB

Azure Cosmos DB

New account

* ID
northwind-global

* API
Please choose an API

* Subscription
Visual Studio Enterprise

* Resource Group
 Create new Use existing

* Location
Australia Southeast

Enable geo-redundancy

Pin to dashboard

Create Automation options

The screenshot shows the Microsoft Azure portal interface for creating a new Azure Cosmos DB account. The 'ID' field contains 'northwind-global' and the 'API' field is set to 'Please choose an API'. Both of these fields are highlighted with a red border. The 'Subscription' dropdown is set to 'Visual Studio Enterprise'. The 'Resource Group' section has 'Create new' selected. The 'Location' dropdown is set to 'Australia Southeast'. There is a checkbox for 'Enable geo-redundancy' which is currently unchecked. At the bottom of the form, there are two buttons: 'Create' and 'Automation options'.

Azure Cosmos DB - Mic X +

https://portal.azure.com/#create/Microsoft.DocumentDB

Microsoft Azure

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Home > New > Azure Cosmos DB

Azure Cosmos DB

New account

ID: northwind-global

API: SQL (selected)

Location: Australia Southeast

Enable geo-redundancy

Pin to dashboard

Create Automation options

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure portal interface. A modal window titled "Azure Cosmos DB" is open, prompting for a new account. The "ID" field contains "northwind-global". The "API" dropdown is expanded and highlighted with a red box, listing "SQL", "MongoDB", "Cassandra", "Azure Table", and "Gremlin (graph)". The "SQL" option is selected. Below the API dropdown, the "Location" field is set to "Australia Southeast", and the "Enable geo-redundancy" checkbox is unchecked. At the bottom of the modal, there are "Create" and "Automation options" buttons. The left sidebar of the portal lists various services like Dashboard, Resource groups, and App Services. The top navigation bar shows the URL "https://portal.azure.com/#create/Microsoft.DocumentDB".

Azure Cosmos DB - Mic X +

https://portal.azure.com/#create/Microsoft.DocumentDB

Microsoft Azure

Search resources, services and docs

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Home > New > Azure Cosmos DB

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Search resources, services and docs

ID: northwind-global

API: SQL

Subscription: Visual Studio Enterprise

Resource Group: northwindglobalbc1f

Location: Australia Southeast

Enable geo-redundancy

Pin to dashboard

Create Automation options

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure portal interface. A modal window titled 'Azure Cosmos DB' is open, prompting for account creation details. The 'ID' field contains 'northwind-global'. The 'API' dropdown is set to 'SQL'. The 'Subscription' dropdown shows 'Visual Studio Enterprise'. The 'Resource Group' section is highlighted with a red box; it contains two radio buttons: 'Create new' and 'Use existing', with 'Use existing' selected and its value 'northwindglobalbc1f' displayed in a dropdown below. The 'Location' dropdown is set to 'Australia Southeast'. A checkbox for 'Enable geo-redundancy' is unchecked. At the bottom of the modal are 'Create' and 'Automation options' buttons. The left sidebar lists various Azure services like Dashboard, Resource groups, and Virtual machines. The top navigation bar includes a search bar, notification icon (1), and user profile for 'jasongt@outlook.com JASON TAYLOR'.

Azure Cosmos DB - Mic X +

https://portal.azure.com/#create/Microsoft.DocumentDB

Microsoft Azure

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Home > New > Azure Cosmos DB

Azure Cosmos DB

New account

ID: northwind-global

API: SQL

Subscription: Visual Studio Enterprise

Resource Group: northwindglobalbc1f

Location: Australia Southeast

Enable geo-redundancy (checkbox checked)

Enable global distribution on your account by pairing Australia Southeast with Australia East. You can add more regions to your account later.
Click here to learn more about global distribution in Azure Cosmos DB

Pin to dashboard

Create Automation options



Azure Cosmos DB - Mic X +

https://portal.azure.com/#create/Microsoft.DocumentDB

Microsoft Azure

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Home > New > Azure Cosmos DB

Azure Cosmos DB

New account

ID: northwind-global

API: SQL

Subscription: Visual Studio Enterprise

Resource Group: northwindglobalbc1f

Location: Australia Southeast

Enable geo-redundancy:

Pin to dashboard:

Create Automation options

The 'Create' button is highlighted with a red box.

Dashboard - Microsoft < + https://portal.azure.com/#

Microsoft Azure

Search resources, services and docs

1

New dashboard Upload dashboard Download dashboard Edit dashboard Share

Deployment in progress... Deployment to resource group 'northwindglobalbc1f' is in progress.

2:15 PM

All resources
VISUAL STUDIO ENTERPRISE

No resources to display

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- Windows Virtual Machines Provision Windows Server, SQL Server, SharePoint VMs
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DEVOPS PROJECT

Submitting deployment for Azure Cosmos DB

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Quick start - Microsoft > +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8fa5-607ccb9120df/resourcegroups/northwind-global

Microsoft Azure

Search resources, services and docs

1 > _ Settings Help Jason Taylor jasongt@outlook.com JASON TAYLOR

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Replicate data globally

Default consistency

Firewall

Keys

Add Azure Search

Add Azure Function

Congratulations! Your Azure Cosmos DB account was created.

Now, let's connect to it using a sample app:

Choose a platform

.NET .NET Core Xamarin Java Node.js Python

1 Add a collection

In Azure Cosmos DB, data is stored in collections.

Create 'Items' collection

Create 'Items' collection with 100 storage capacity and 400 Request Units per second (RU/s) throughput capacity, for up to 400 reads/sec. Estimated hourly bill: \$0.00

2 Download your .NET app

Once collection is created, download a sample .NET app connected to it, extract, build and run.

Download

Quick start - Microsoft > +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8fa5-607ccb9120df/resourcegroups/northwind-global

Microsoft Azure

Search resources, services and docs

1

Home > northwind-global - Quick start

northwind-global - Quick start

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Add Azure Function

Congratulations! Your Azure Cosmos DB account was created.

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Choose a platform

.NET .NET Core Xamarin Java Node.js Python

1 Add a collection

In Azure Cosmos DB, data is stored in collections.

Create 'Items' collection

Create 'Items' collection with 10GB storage capacity and 400 Request Units per second (RU/s) throughput capacity, for up to 400 reads/sec.
Estimated hourly bill: \$0.033 USD

2 Download and run your .NET Core app

Once collection is created, download a sample .NET Core app connected to it, extract, build and run.

Download

Quick start - Microsoft > +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8fa5-607ccb9120df/resourcegroups/northwind-global

Microsoft Azure

Search resources, services and docs

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Home > northwind-global - Quick start

northwind-global - Quick start

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Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Quick start

Data Explorer

SETTINGS

Replicate data globally

Default consistency

Firewall

Keys

Add Azure Search

Add Azure Function

Congratulations! Your Azure Cosmos DB account was created.

Now, let's connect to it using a sample app:

Choose a platform

.NET .NET Core Xamarin Java Node.js Python

1 Add a collection

"Items" collection has been created with 10GB storage capacity and 400 Request Units per second (RU/s) throughput capacity, for up to 400 reads/sec. Estimated hourly bill: \$0.033 USD

2 Download and run your .NET Core app

We created a sample .NET Core app connected to your "Items" collection. Download, extract, build and run the app.

Download

3 Work with data

Query and edit your data, add stored procedures, and more using Data Explorer.

Open Data Explorer

Microsoft Azure

Search resources, services and docs

Home > northwind-global - Data Explorer

northwind-global - Data Explorer

Azure Cosmos DB account

Search (Ctrl+ /)

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Quick start

Data Explorer

SETTINGS

Replicate data globally

Default consistency

Firewall

Keys

Add Azure Search

Add Azure Function

New SQL Query

New Stored Procedure

SQL API

ToDoList

Items

Documents

Scale & Settings

Stored Procedures

User Defined Functions

Triggers

Documents

New Document

SELECT * FROM c

Edit Filter

id

Load more

0 0 0 1 2

The screenshot shows the Microsoft Azure Data Explorer interface for an Azure Cosmos DB account named 'northwind-global'. The left sidebar lists various Azure services like App Services, SQL databases, and Virtual machines. The main area has a search bar at the top. Below it, the 'SQL API' section is selected. Under 'SQL API', there's a 'ToDoList' collection with an 'Items' sub-collection. The 'Documents' option is selected. In the 'Scale & Settings' section, three options are highlighted with a red box: 'Stored Procedures', 'User Defined Functions', and 'Triggers'.

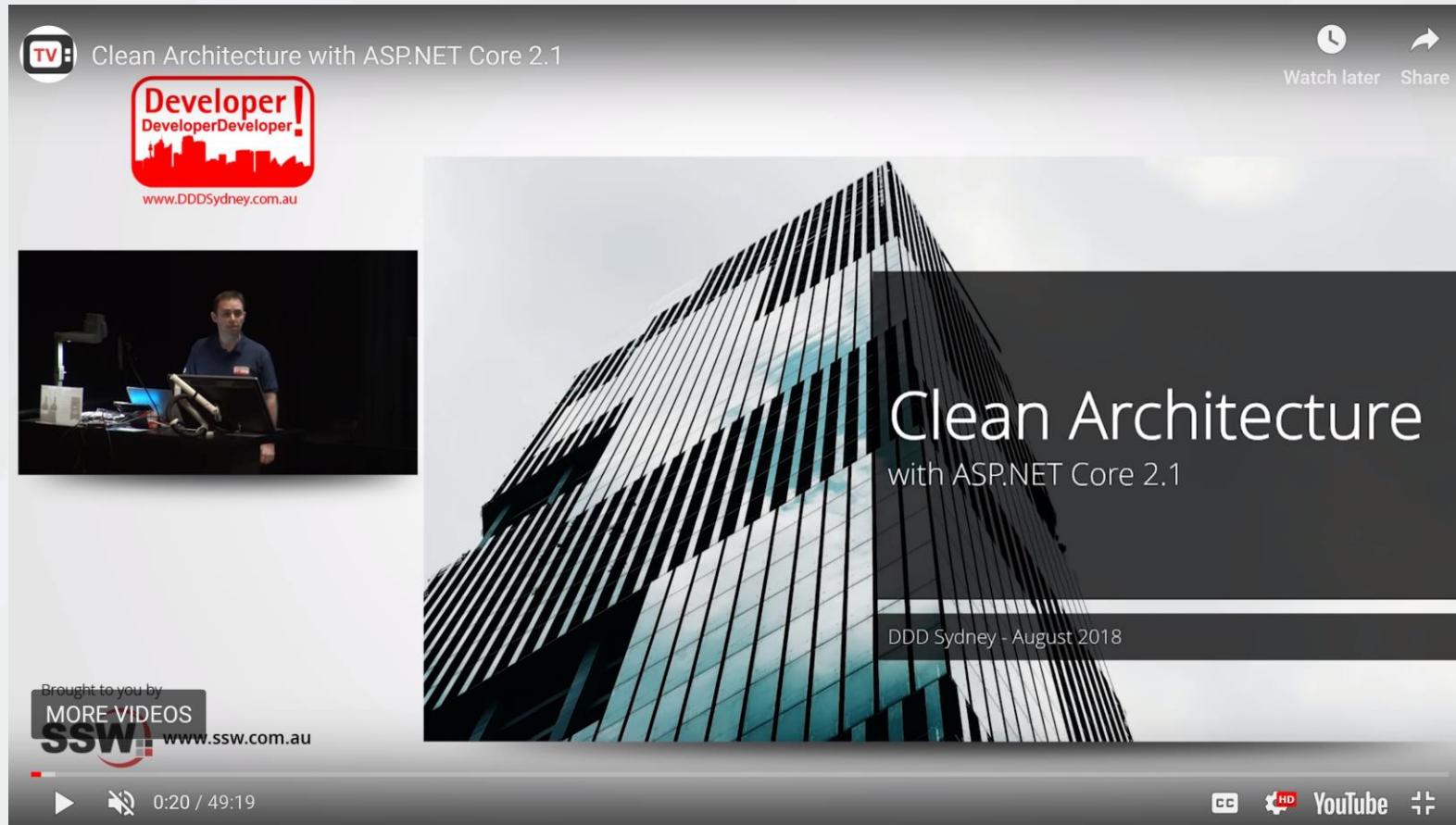
Summary: Database



- ✓ More options than just SQL Server
 - ✓ Multiple data models and APIs
 - ✓ The best of relational
+ non-relational
 - ✓ Cosmos is faster
 - ✓ Cosmos supports larger datasets
 - ✗ Not easy to change your mind
 - ✗ Data is complicated
 - ✗ \$\$\$
- * (better than learning SQL Replication)
- ✗ Next step is a Cloud Data Architect

Clean Architecture

<https://tv.ssw.com/7551/clean-architecture-with-asp-net-core-2-1-jason-taylor-ddd-sydney-2018>



VERDICT: Cosmos DB

Cosmos – The game changer award

A screenshot of a Twitter post from Donald J. Trump (@realDonaldTrump). The post features a profile picture of Donald Trump, his name "Donald J. Trump" with a blue verification checkmark, and his handle "@realDonaldTrump". The tweet itself reads: "Use Cosmos because we have to modernize our countries databases. Smart." Below the tweet, it says "2:35 AM - May 4, 2018". At the bottom, engagement metrics are shown: "40.8K" likes and "49.6K" people talking about it. A small info icon is also present. The background of the slide features a large gold seal with a ribbon on the right side.

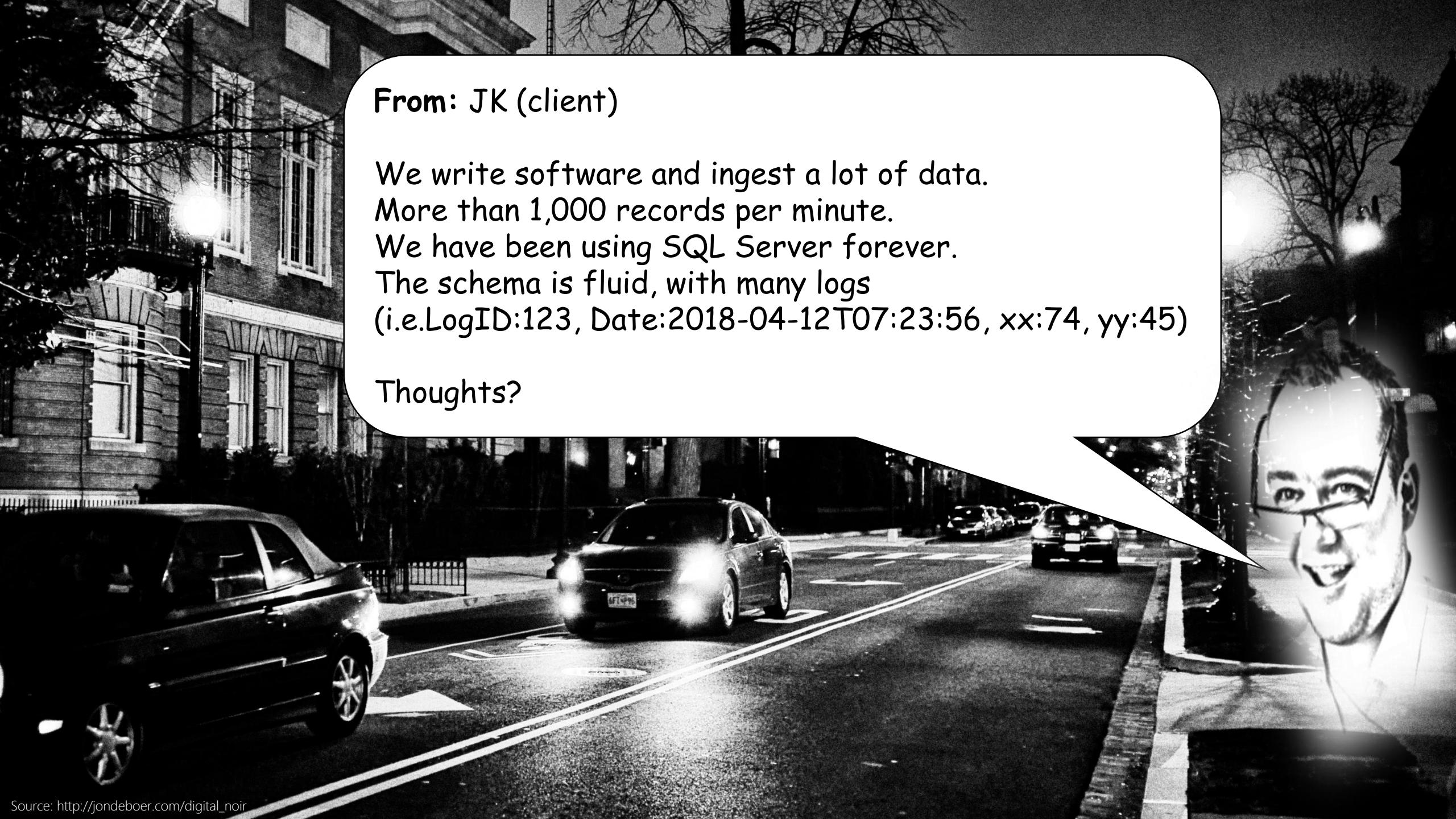
Donald J. Trump

@realDonaldTrump

Use Cosmos because we have to modernize our countries databases. Smart.

2:35 AM - May 4, 2018

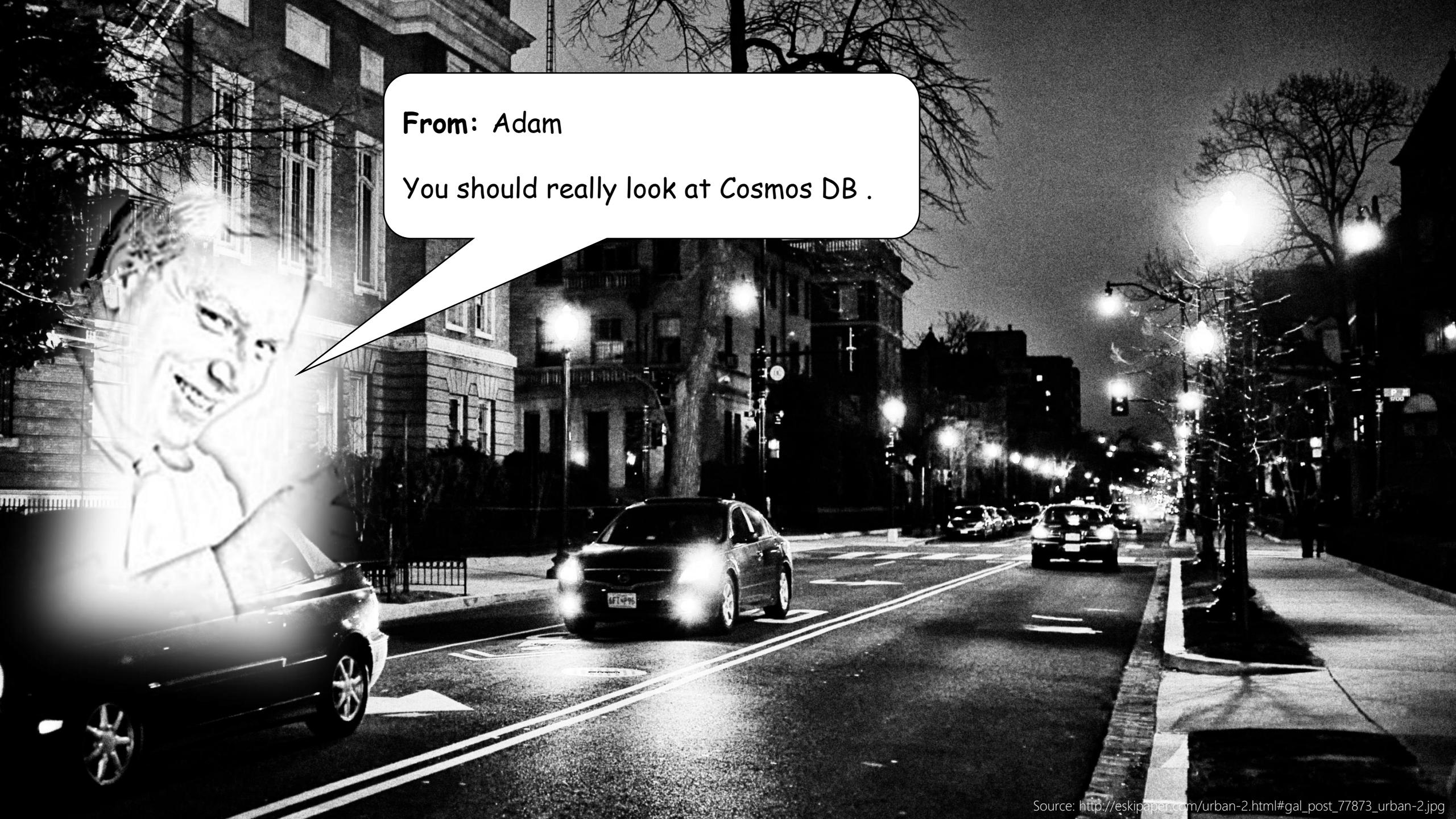
40.8K 49.6K people are talking about this



From: JK (client)

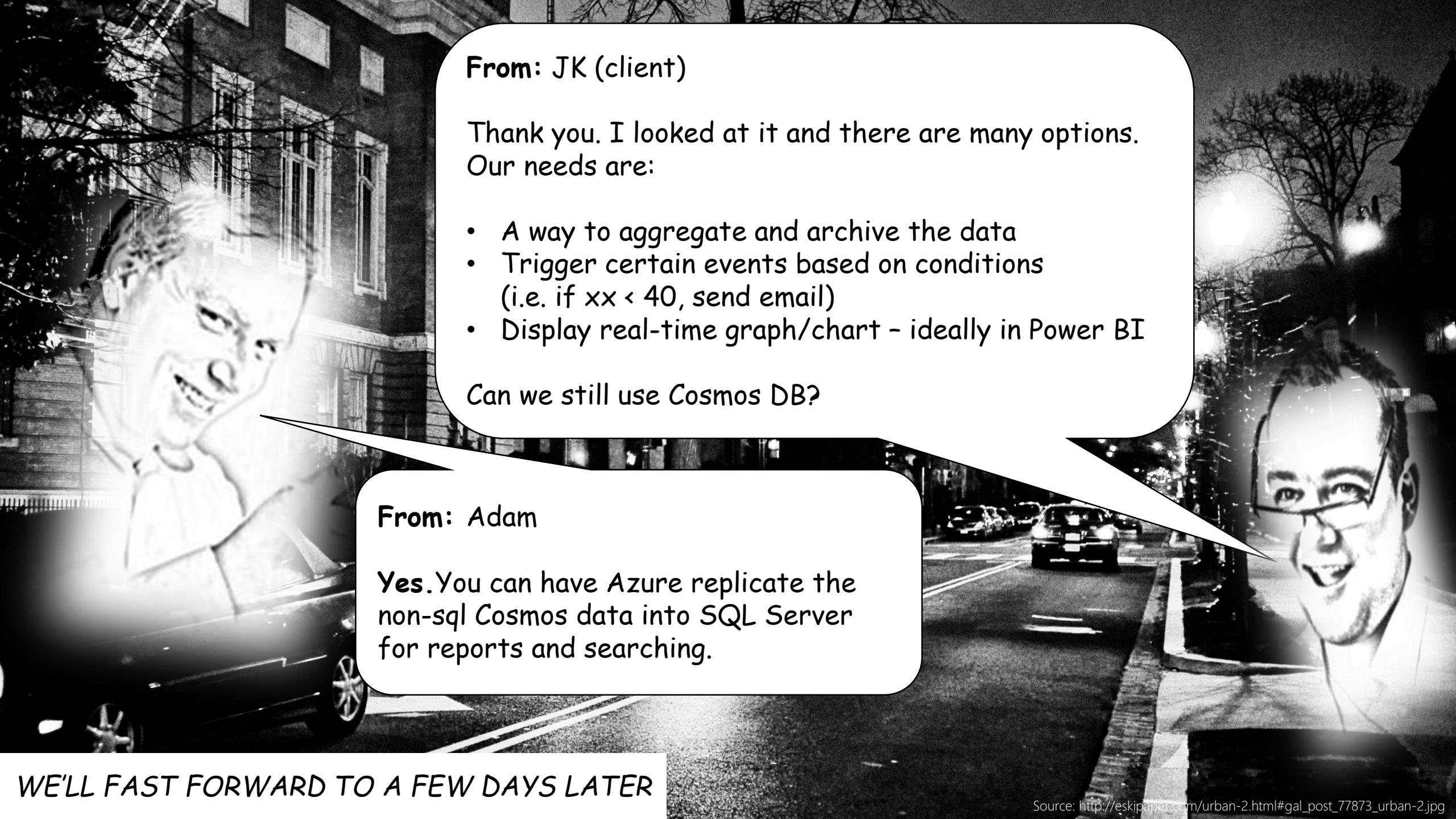
We write software and ingest a lot of data.
More than 1,000 records per minute.
We have been using SQL Server forever.
The schema is fluid, with many logs
(i.e. LogID:123, Date:2018-04-12T07:23:56, xx:74, yy:45)

Thoughts?



From: Adam

You should really look at Cosmos DB .

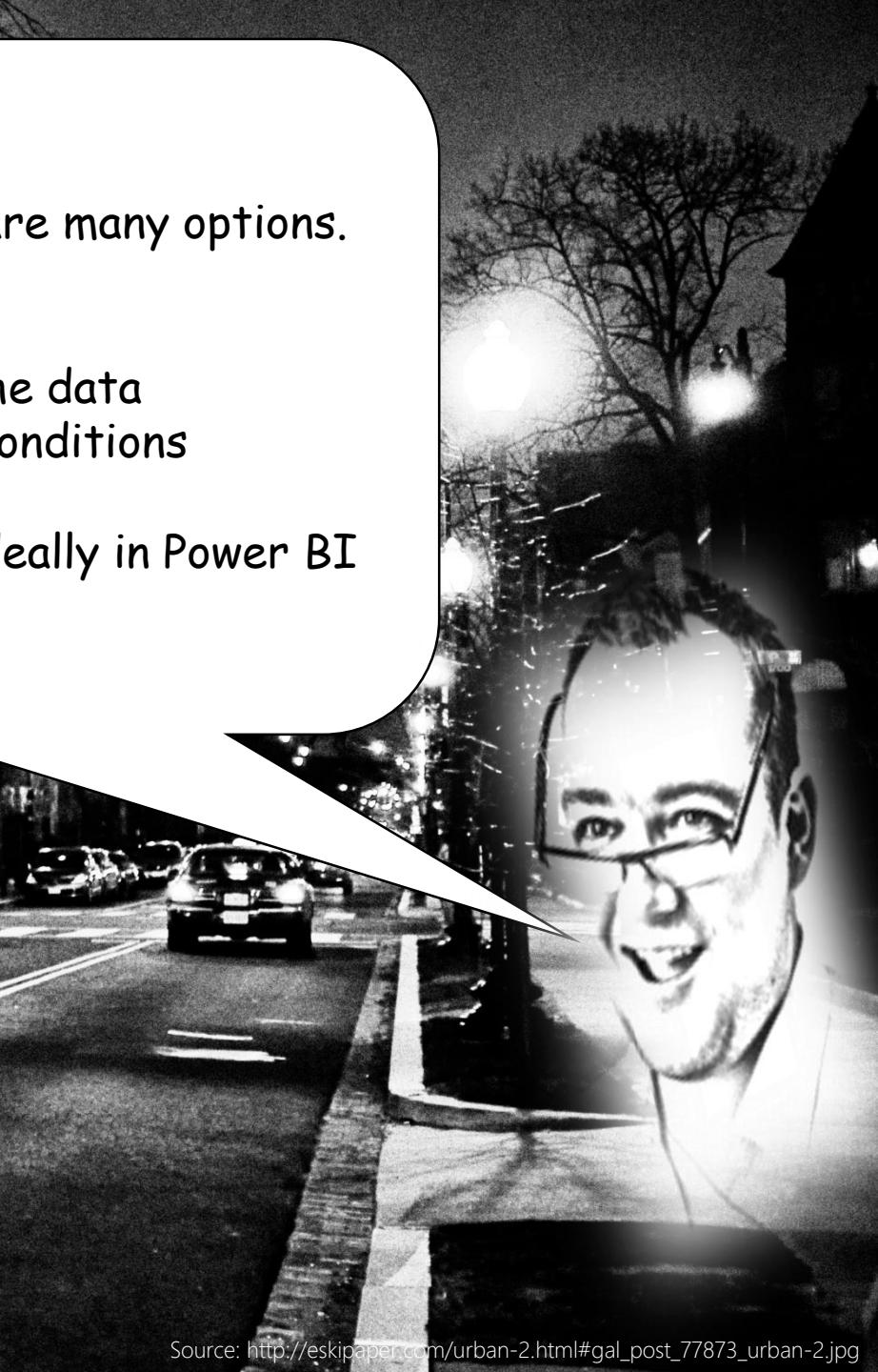


From: JK (client)

Thank you. I looked at it and there are many options.
Our needs are:

- A way to aggregate and archive the data
- Trigger certain events based on conditions
(i.e. if $xx < 40$, send email)
- Display real-time graph/chart - ideally in Power BI

Can we still use Cosmos DB?



From: Adam

Yes. You can have Azure replicate the non-sql Cosmos data into SQL Server for reports and searching.

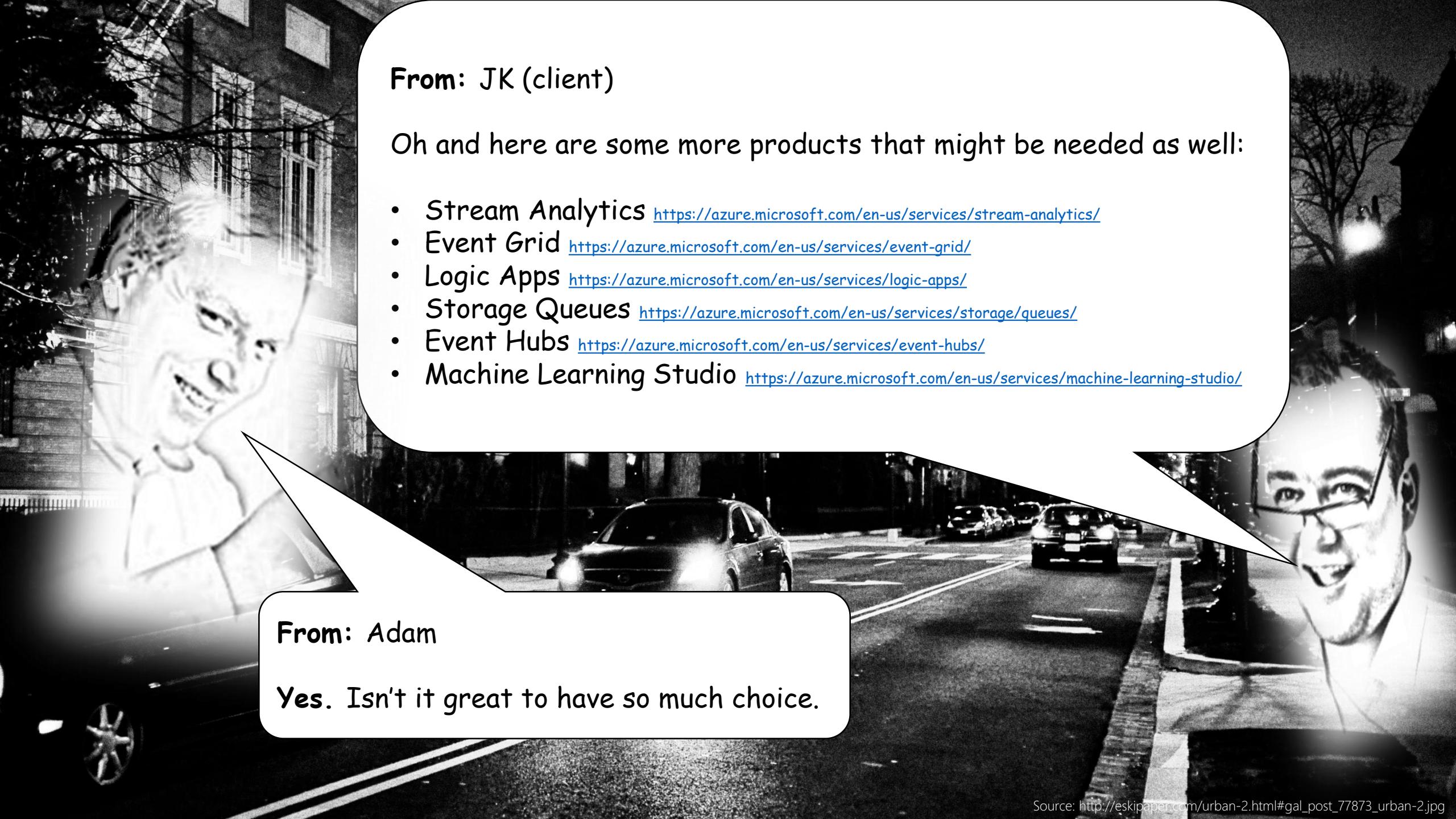
WE'LL FAST FORWARD TO A FEW DAYS LATER



From: JK (client)

I've spent a couple of days on this. Here are the storage products that I found on Azure which sound like they might be applicable to us:

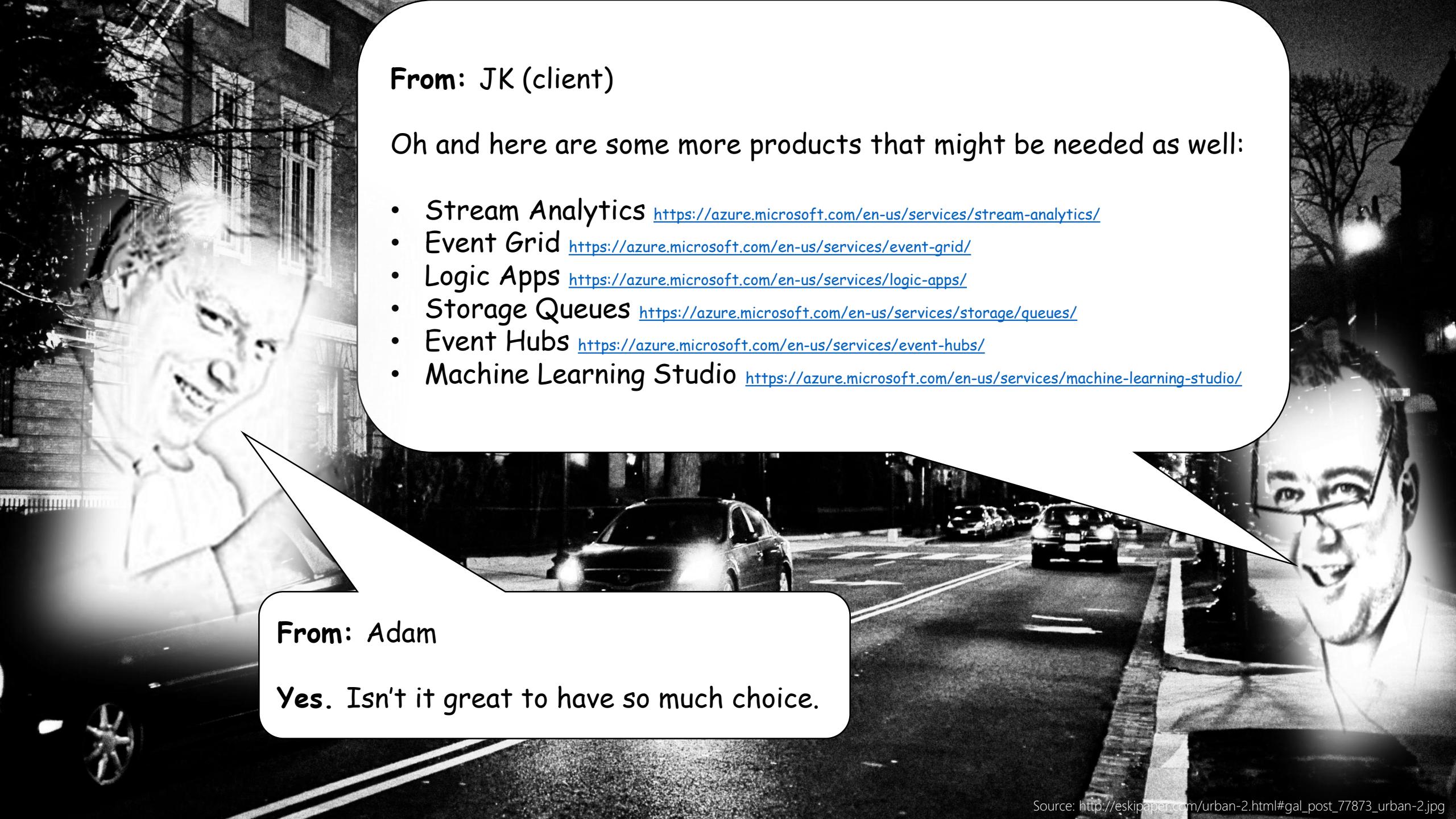
- **Cosmos DB** <https://azure.microsoft.com/en-us/services/cosmos-db/>
- **Data Lake Store** <https://azure.microsoft.com/en-us/services/data-lake-store/>
- **Data Lake Analytics** <https://azure.microsoft.com/en-us/services/data-lake-analytics/>
- **Time Series Insights** <https://azure.microsoft.com/en-us/services/time-series-insights/>
- **Data Factory** <https://azure.microsoft.com/en-us/services/data-factory/>
- **HDInsight** <https://azure.microsoft.com/en-us/services/hdinsight/>
- **SQL Data Warehouse** <https://azure.microsoft.com/en-us/services/sql-data-warehouse/>
- **Analysis Services** <https://azure.microsoft.com/en-us/services/analysis-services/>
- **Databricks** <https://azure.microsoft.com/en-us/services/databricks/>
- **Storage Tables** <https://azure.microsoft.com/en-us/services/storage/tables/>
- **SQL Database** <https://azure.microsoft.com/en-us/services/sql-database/>
- **Data Catalog** <https://azure.microsoft.com/en-us/services/data-catalog/>
- **StorSimple** <https://azure.microsoft.com/en-us/services/storsimple/>
- **IoT Suite** <https://docs.microsoft.com/en-us/azure/iot-suite/>



From: JK (client)

Oh and here are some more products that might be needed as well:

- Stream Analytics <https://azure.microsoft.com/en-us/services/stream-analytics/>
- Event Grid <https://azure.microsoft.com/en-us/services/event-grid/>
- Logic Apps <https://azure.microsoft.com/en-us/services/logic-apps/>
- Storage Queues <https://azure.microsoft.com/en-us/services/storage/queues/>
- Event Hubs <https://azure.microsoft.com/en-us/services/event-hubs/>
- Machine Learning Studio <https://azure.microsoft.com/en-us/services/machine-learning-studio/>



From: Adam

Yes. Isn't it great to have so much choice.





To: Microsoft



Suggestion: Make choosing Cosmos DB and the whole data platform story simple.

Too much choice === analysis paralysis.

We need some standard patterns and practices e.g.

<https://azure.microsoft.com/en-us/resources/infographics/>

Agenda

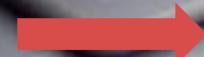
1 – App Services

2 – DevOps Project

3 – Data

4 – Azure AD

5 – API Management ...



History of Security

Windows

Started off loving Kerberos

Moved to SAML

Changed their mind, love

Kerberos again

Now they love OAuth2

SQL Server

Originally loved SQL Auth

Then Windows Auth

Now back to SQL Auth

<https://docs.microsoft.com/en-us/sql/linux/sql-server-linux-active-directory-authentication?view=sql-server-linux-2017>

Scenario – Northwind365.com



We're Active Directory on-premises

Implement security

- Customers can place orders (100,000 users)

- Staff members can access administration (100 users)

So we need authentication and authorisation

- + support for OAuth 2

Would be nice to have social logins

- Facebook, Twitter, LinkedIn, etc

- Wechat

Options

Auth0 <https://auth0.com>

Identity Server <http://identityserver.io>

Azure AD <https://azure.microsoft.com/en-au/pricing/details/active-directory>

Azure AD B2C <https://azure.microsoft.com/en-au/pricing/details/active-directory-b2c/>



Azure AD

Directory and identity management service

Capabilities include:

Multi-factor authentication	Device registration
Self-service password management	Role based access control
Application usage monitoring	Rich auditing and security monitoring
Alerting	

Easy to integrate with existing Windows Server AD

Using Azure AD Connect + Azure AD B2C



Welcome

Express Settings

Connect to Azure AD

Connect to AD DS

Configure

Connect to Azure AD

Enter your Azure AD credentials: [?](#)

USERNAME

PASSWORD

[Previous](#)[Next](#)



Welcome

Express Settings

Connect to Azure AD

Connect to AD DS

Configure

Connect to AD DS

Enter the Active Directory Domain Services enterprise administrator credentials: [?](#)

USERNAME

CONTOSO\username

PASSWORD

[Previous](#)[Next](#)

[Welcome](#)[Express Settings](#)[Connect to Azure AD](#)[Connect to AD DS](#)[Configure](#)

Ready to configure

Once you click Install/Upgrade, we will do the following:

- Install the synchronization engine
- Configure AAD Connector
- Configure fabrikamonline.com Connector
- Enable Password synchronization
- Enable Auto Upgrade
- Configure synchronization services on this computer

Start the synchronization process as soon as the configuration completes.

Exchange hybrid deployment ?

[Previous](#)[Install](#)

And now we need some social logins

X

Login or [Sign up](#)

 Email address

 Password 

[Login](#)

[Forgot Password?](#)

or

 Facebook Login  Twitter Login

 Google+ Login  LinkedIn Login

 Instagram Login  Pinterest Login

 Meetup Login  Hotmail Login

 Yahoo Login  Amazon Login

Creating Azure AD B2C

1. From Azure Portal, select Create a resource
2. Select Authentication | Azure AD B2C



Active Directory - Microsoft Select social identity provider Home Page - Azure AD B2C Tomasz Onyszko

portal.azure.com/?Microsoft_AAD_B2CAdmin=true#blade/Microsoft_AAD_B2CAdmin/TenantManagementBlade/id/teaboy.onmicrosoft.com

Microsoft Azure AZURE AD B2C SETTINGS > Settings > Identity provider > Add social identity provider > Select social identity provider

Search resources

tomasz.onyszko@pre... TEABOY APP

AZURE AD B2C SETTINGS teaboy.onmicrosoft.com

Settings

No Subscription linked to this B2C tenant or the Subscription needs your attention. →

Essentials ▾

Domain name teaboy.onmicrosoft.com	Tenant type Preview tenant
Metered: No	Subscription status No subscription

All settings →

Welcome to Azure AD B2C. Click Settings to get started.

Quick Start

Submit support request

The screenshot shows the Azure AD B2C Settings blade. On the left, there's a vertical sidebar with various icons. The main area displays tenant information: Domain name (teaboy.onmicrosoft.com), Tenant type (Preview tenant), Metered (No), and Subscription status (No subscription). A prominent orange bar at the top right says 'No Subscription linked to this B2C tenant or the Subscription needs your attention.' Below this, a large blue button labeled 'All settings →' is highlighted with a red box. At the bottom, there are links for 'Welcome to Azure AD B2C', 'Quick Start', and 'Submit support request'.

Active Directory - Microsoft Select social identity provider Home Page - Azure AD B2C Tomasz Onyszko

portal.azure.com/?Microsoft_AAD_B2CAdmin=true#blade/Microsoft_AAD_B2CAdmin/TenantManagementBlade/id/teaboy.onmicrosoft.com

Microsoft Azure AZURE AD B2C SETTINGS > Settings > Identity provider > Add social identity provider > Select social identity provider

Search resources

tomasz.onyszko@pre... TEABOY APP

AZURE AD B2C SETTINGS
teaboy.onmicrosoft.com

Settings

No Subscription linked to this B2C tenant or the Subscription needs your attention.

Essentials

Domain name: teaboy.onmicrosoft.com Tenant type: Preview tenant
Metered: No Subscription status: No subscription

All settings →

Welcome to Azure AD B2C. Click Settings to get started.

Quick Start

Submit support request

Manage

Identity providers

User attributes

Users and groups

Policies

Sign-up policies

Sign-in policies

Sign-up or sign-in policies

Profile editing policies

Password reset policies

All policies

This screenshot shows the Azure AD B2C Settings blade. On the left, there's a sidebar with various icons. The main area displays the 'AZURE AD B2C SETTINGS' for the tenant 'teaboy.onmicrosoft.com'. A prominent orange bar at the top indicates 'No Subscription linked to this B2C tenant or the Subscription needs your attention.' Below this, the 'Essentials' section shows the domain name, tenant type (Preview tenant), and subscription status (No subscription). A 'All settings →' button is located at the bottom right of this section. The right side of the screen features a 'Manage' sidebar with options like 'Identity providers' (which is highlighted with a red box), 'User attributes', and 'Users and groups'. Under 'Policies', several policy types are listed: 'Sign-up policies', 'Sign-in policies', 'Sign-up or sign-in policies', 'Profile editing policies', 'Password reset policies', and 'All policies'. The overall interface is clean and follows the standard Azure design aesthetic.

Active Directory - Microsoft Select social identity provider Home Page - Azure AD B2C Tomasz Onyszko

portal.azure.com/?Microsoft_AAD_B2CAdmin=true#blade/Microsoft_AAD_B2CAdmin/TenantManagementBlade/id/teaboy.onmicrosoft.com

Microsoft Azure AZURE AD B2C SETTINGS > Settings > Identity provider > Add social identity provider > Select social identity provider

Search resources

tomasz.onyszko@pre... TEABOY APP

AZURE AD B2C SETTINGS
teaboy.onmicrosoft.com

Settings

No Subscription linked to this B2C tenant or the Subscription needs your attention.

Essentials

Domain name: teaboy.onmicrosoft.com Tenant type: Preview tenant
Metered: No Subscription status: No subscription

All settings →

Welcome to Azure AD B2C. Click Settings to get started.

Quick Start

Submit support request

Settings

seaboy.onmicrosoft.com

Filter settings

MANAGE

- Applications
- Identity providers**
- User attributes
- Users and groups

POLICIES

- Sign-up policies
- Sign-in policies
- Sign-up or sign-in policies
- Profile editing policies
- Password reset policies
- All policies

Identity provider

+ Add Save Discard

Local accounts

Email

Social identity providers

No identity providers are defined in the tenant

16:50 04.04.2017 ENG

Active Directory - Microsoft Select social identity provider Home Page - Azure AD B2C Tomasz Onyszko

portal.azure.com/?Microsoft_AAD_B2CAdmin=true#blade/Microsoft_AAD_B2CAdmin/TenantManagementBlade/id/teaboy.onmicrosoft.com

Microsoft Azure AZURE AD B2C SETTINGS > Settings > Identity provider > Add social identity provider > Select social identity provider

Search resources

AZURE AD B2C SETTINGS
teaboy.onmicrosoft.com

Settings

No Subscription linked to this B2C tenant or the Subscription needs your attention.

Essentials

Domain name: teaboy.onmicrosoft.com Tenant type: Preview tenant
Metered: No Subscription status: No subscription

All settings →

Welcome to Azure AD B2C. Click Settings to get started.

Quick Start

Submit support request

Settings

teaboy.onmicrosoft.com

Filter settings

MANAGE

- Applications
- Identity providers
- User attributes
- Users and groups

POLICIES

- Sign-up policies
- Sign-in policies
- Sign-up or sign-in policies
- Profile editing policies
- Password reset policies
- All policies

Identity provider

+ Add Save Discard

Local accounts Email

Social identity providers No identity providers are defined in the tenant

Add social identity provider

Name: Facebook

Identity provider type: None selected

Set up this identity provider Required

Create

tomasz.onyszko@pre... TEABOY APP

16:50 04.04.2017 ENG

Active Directory - Microsoft Select social identity provider Home Page - Azure AD B2C Tomasz Onyszko

portal.azure.com/?Microsoft_AAD_B2CAdmin=true#blade/Microsoft_AAD_B2CAdmin/TenantManagementBlade/id/teaboy.onmicrosoft.com

Microsoft Azure AZURE AD B2C SETTINGS > Settings > Identity provider > Add social identity provider > Select social identity provider

Search resources

AZURE AD B2C SETTINGS teaboy.onmicrosoft.com

No Subscription linked to this B2C tenant or the Subscription needs your attention.

Essentials

Domain name: teaboy.onmicrosoft.com Tenant type: Preview tenant
Metered: No Subscription status: No subscription

All settings →

Welcome to Azure AD B2C. Click Settings to get started.

Quick Start

Submit support request

Settings

teaboy.onmicrosoft.com

Filter settings

MANAGE

- Applications
- Identity providers
- User attributes
- Users and groups

POLICIES

- Sign-up policies
- Sign-in policies
- Sign-up or sign-in policies
- Profile editing policies
- Password reset policies
- All policies

Identity provider

+ Add Save Discard

Local accounts Email

Social identity providers No identity providers are defined in the tenant

Add social identity provider

Name: Facebook

Identity provider type: None selected

Set up this identity provider Required

Select social identity provider

Microsoft Account

Google

Facebook

LinkedIn

Amazon

Weibo (Preview)

QQ (Preview)

WeChat (Preview)

Create OK

16:50 04.04.2017 ENG

All applications - Microsoft Edge + [portal.azure.com/#blade/Microsoft_AAD_JAM/StartboardApplicationsMenuBlade/AllApps/menuId](#)

Microsoft Azure Contoso MOD824385 > Enterprise applications - All applications

Search resources x ! ? ? ? admin@MOD824385...
CONTOSO MOD824385

Enterprise applications - All applications
Contoso MOD824385 - Azure Active Directory - PREVIEW

Search (Ctrl+ /)

Add Columns Filter

First 200 shown; to search all of your applications, enter a display name or the application ID.

NAME	HOMEPAGE URL
Box	https://www.box.com/
BrowserStack	https://www.browserstack.com
LinkedIn	https://www.linkedin.com/
Microsoft Azure Data Catalog	
Microsoft Intune	http://www.microsoft.com/en-us/server-cloud/prod...
Microsoft Intune Enrollment	
Microsoft Visual Studio Team Services	https://www.visualstudio.com/
Office 365 Exchange Online	http://office.microsoft.com/outlook/
Office 365 Management APIs	
Office 365 SharePoint Online	http://office.microsoft.com/sharepoint/
Office 365 Yammer	https://products.office.com/yammer/
OneNote	
Outlook Groups	
Power BI Service	
Salesforce	http://www.salesforce.com/
Skype for Business Online (preview)	

Overview

MANAGE

- All applications
- Application proxy
- Conditional access

ACTIVITY

- Sign-ins
- Audit logs

Ask me anything

Summary: Azure AD + B2C

- ✓ Security is important
- ✗ Security is hard
- ✓ Can't get sacked

The information contained in this PowerPoint is for general guidance on matters of interest only.
The application and impact of security laws and the opinionated security experts in the industry can vary widely based on the specific facts involved.

Given the changing nature of laws, rules and regulations, and the inherent hazards of electronic communication, there may be delays, omissions or inaccuracies in information contained in this ppt.

While SSW have made every attempt to ensure that the information contained in this ppt has been obtained from reliable sources...

Don't ask me. Ask Troy Hunt

VERDICT: Azure AD + B2C

The CYA award
+ you make your security code skinny



Donald J. Trump @realDonaldTrump



I have never seen a thin person drinking Diet Coke.

4:43 AM - Oct 15, 2012

116K 112K people are talking about this



Agenda

1 – App Services

2 – DevOps Project

3 – Data

4 – Azure AD

5 – API Management ...





Scenario – Northwind365.com

Our site has become popular - hit the big time

New York Times Article

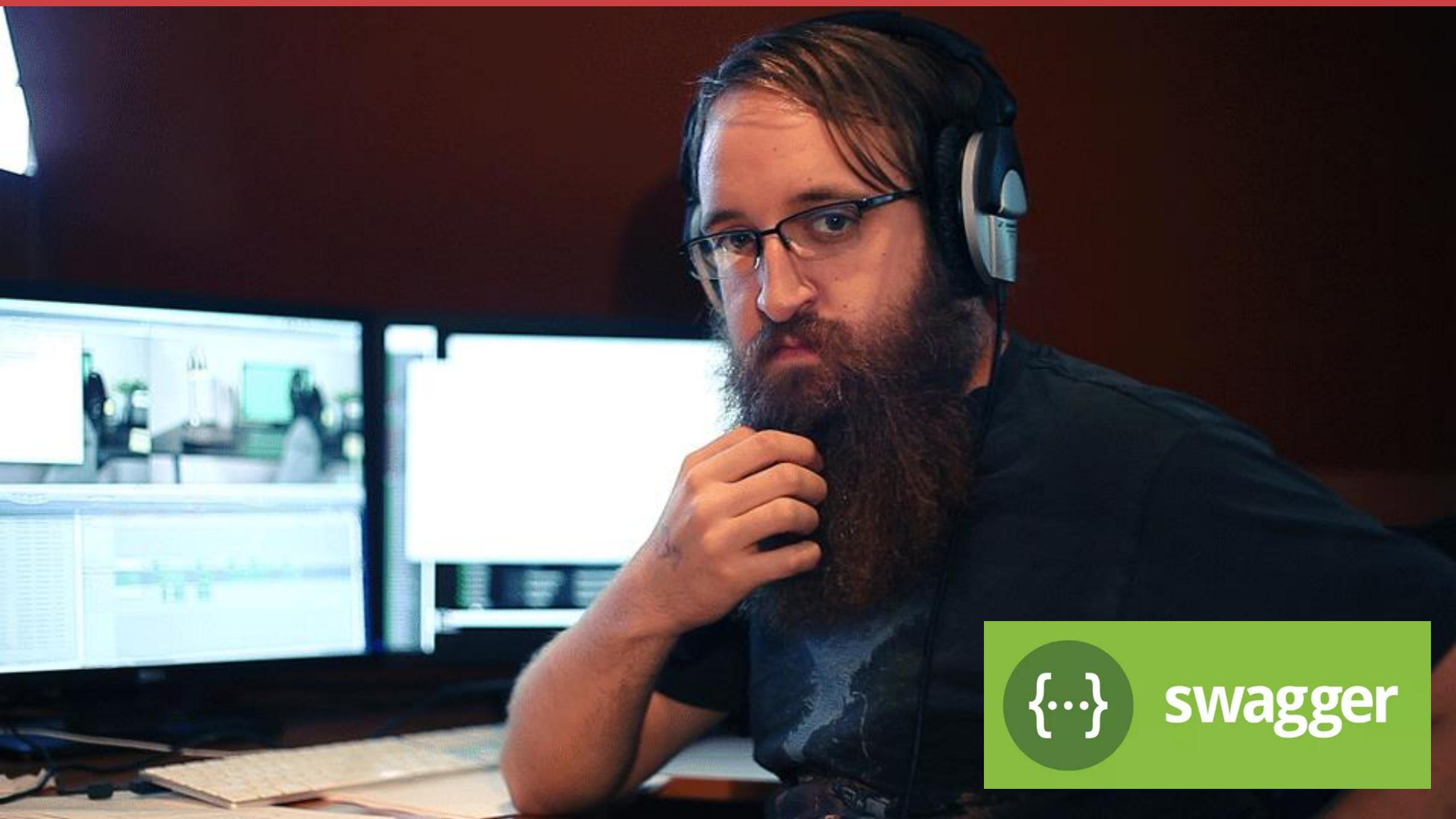
10,000 API calls per minute

Emails from devs around the world

trying to integrate with us

Need to provide API to external devs





swagger

Mr DevOps: Protect and optimise your APIs

Usage quotas

Rate limits

“A Modern API”

Documentation, e.g. for developers

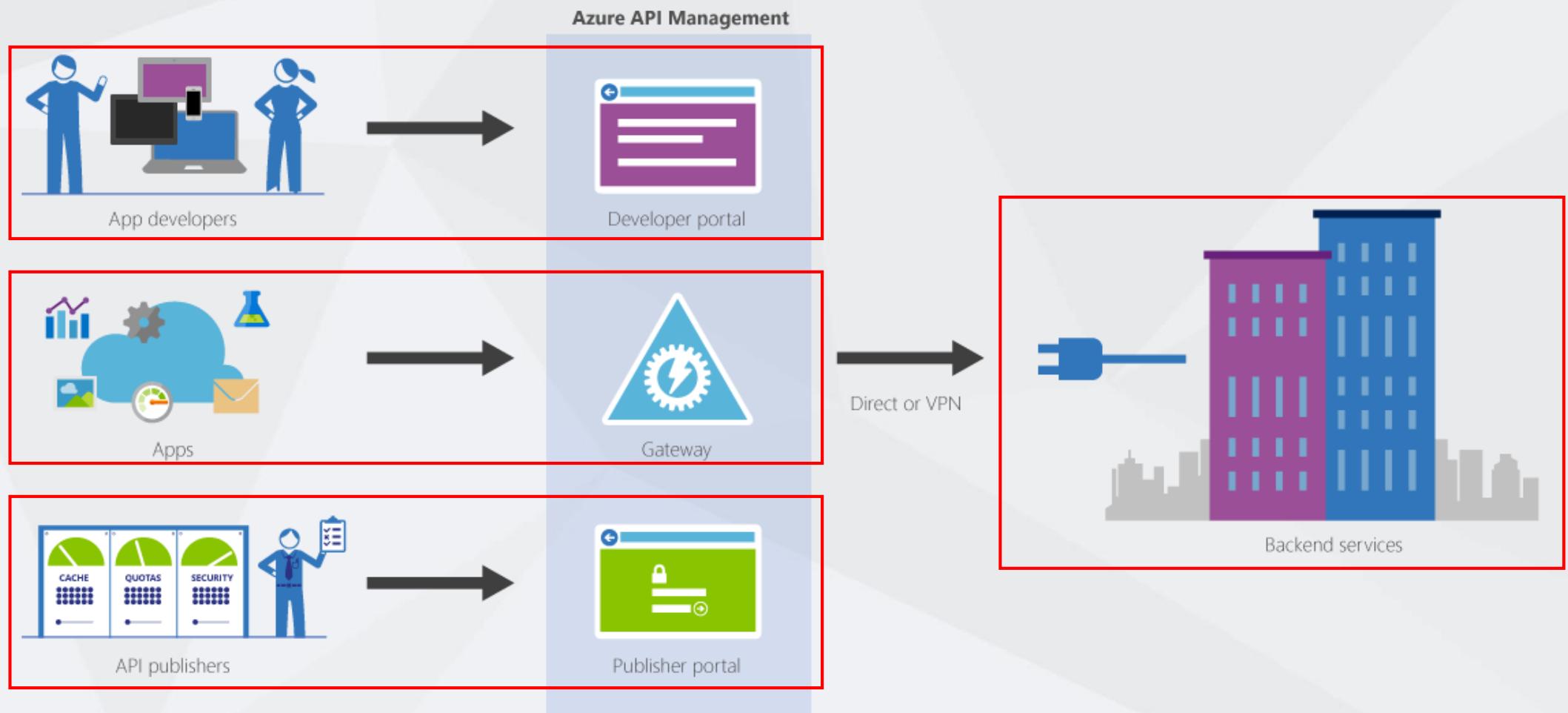
Caching

Security / Authentication

Monitoring and reporting

Protection (Usage quotas + Rate limits)

How long?



API Management - Overview

Creating a new API Management service

1. From Azure Portal, select Create a resource
2. Search for and select API Management
3. Specify details, e.g. name, subscription, location
4. Click Create



Home - Microsoft Azure x + https://portal.azure.com/#home

Microsoft Azure Search resources, services, and docs > Help ? Profile

Create a resource Choose your default view Home Dashboard Save

Azure services See all (+100) >

- Virtual machines
- Storage accounts
- App Services
- SQL databases
- Azure Database for PostgreSQL
- Azure Cosmos DB
- Kubernetes services
- Function Apps
- Azure Databricks
- Cognitive Services

Make the most out of Azure

- Learn Azure with free online courses by Microsoft [Microsoft Learn](#)
- Monitor your apps and infrastructure [Azure Monitor](#)
- Secure your apps and infrastructure [Security Center](#)
- Optimize performance, reliability, security, and costs [Azure Advisor](#)

<https://portal.azure.com/#blade/HubsExtension/Resources/resourceType/Microsoft.Compute%2FVirtualMachines>

Microsoft Azure

Search resources, services, and docs

awliebenberg@outlook.com
AWLIEBENBERGOUTLOOK (DE...)

Home > New

New



api management

api management

Azure Marketplace



Get started



Windows Server 2016 VM

Quickstart tutorial

Recently created

Compute



Ubuntu Server 18.04 VM

Learn more

Networking

Storage



Web App

Quickstart tutorial

Web

Mobile



SQL Database

Quickstart tutorial

Containers

Databases



Serverless Function App

Quickstart tutorial

Analytics

AI + Machine Learning



Cosmos DB

Quickstart tutorial

Internet of Things

Create a resource

Home

Dashboard

All services

FAVORITES

All resources

Resource groups

Function Apps

App Services

SQL databases

SQL data warehouses

Azure Cosmos DB

Subscriptions

Storage accounts

Azure Active Directory

Virtual machines

Load balancers

Search resources, services, and docs

awliebenberg@outlook.com
AWLIEBENBERGOUTLOOK (DE...)

Microsoft Azure

Home > New > Marketplace > Everything

Create a resource

Home

Dashboard

All services

FAVORITES

All resources

Resource groups

Function Apps

App Services

SQL databases

SQL data warehouses

Azure Cosmos DB

Subscriptions

Storage accounts

Azure Active Directory

Virtual machines

Load balancers

Virtual networks



Everything



api management

Pricing

All

Operating System

All

Publisher

All

Results

NAME

PUBLISHER

CATEGORY



API management

Microsoft



API App

Microsoft

Web



Fusio open source API

tunnelbiz.com

Compute



Appcelerator Arrow API Builder

Appcelerator

Compute



Syscoin API Server

Blockchain Foundry, Inc.

Compute



Azure API for FHIR (preview)

Microsoft

Databases



Flexify.IO - Amazon S3 API for Azure Blob Storage

Flexify.IO

Compute

ManageEngine Mobile Device Manager Plus

ManageEngine

Compute

awliebenberg@outlook.com
AWLIEBENBERGOUTLOOK (DE)

Microsoft Azure

Search resources, services, and docs



Home > New > API management

API management

Microsoft



Create an API gateway and developer portal in minutes.

Turnkey solution for publishing APIs to external and internal consumers. Quickly create consistent and modern API gateways for existing backend services hosted anywhere.

- Provide API documentation and an interactive console
- Throttle, rate limit and quota your APIs
- Monitor health of your APIs and quickly identify errors
- Bring modern formats like JSON and REST to existing APIs
- Connect to APIs hosted anywhere on the Internet or on-premises and publish globally
- Gain analytic insights on how your APIs are being used
- Manage your service via the Azure portal, REST API, PowerShell, or Git repository

[Save for later](#)

PUBLISHER

Microsoft

[Service Overview](#)
[Getting Started](#)
[Videos](#)
[Documentation](#)

USEFUL LINKS

[Create](#)[Create a resource](#)[Home](#)[Dashboard](#)[All services](#)

FAVORITES

[All resources](#)[Resource groups](#)[Function Apps](#)[App Services](#)[SQL databases](#)[SQL data warehouses](#)[Azure Cosmos DB](#)[Subscriptions](#)[Storage accounts](#)[Azure Active Directory](#)[Virtual machines](#)[Load balancers](#)



Microsoft Azure

Search resources, services, and docs



Home > New > API management > API Management service

Create a resource

Home

Dashboard

All services

FAVORITES

All resources

Resource groups

Function Apps

App Services

SQL databases

SQL data warehouses

Azure Cosmos DB

Subscriptions

Storage accounts

Azure Active Directory

Virtual machines

Load balancers

Virtual networks

API Management service



* Name

northwind-melb

.azure-api.net



* Subscription

Visual Studio Enterprise – MPN



* Resource group

(New) northwind-melbourne



Create new

* Location

Australia Southeast



* Organization name

northwind



* Administrator email

awliebenberg@outlook.com

Pricing tier [\(View full pricing details\)](#)

Developer (No SLA)



Create

Automation options



«

Home > Microsoft.ApiManagement - Overview



X

Create a resource

Home

Dashboard

All services

FAVORITES

All resources

Resource groups

Function Apps

App Services

SQL databases

SQL data warehouses

Azure Cosmos DB

Subscriptions

Storage accounts

Azure Active Directory

Virtual machines

Load balancers

Virtual networks

Microsoft.ApiManagement - Overview

Deployment

Search (Ctrl+ /)

Delete

Cancel

Redeploy

Refresh

Overview

Inputs

Outputs

Template

Your deployment is underway

Check the status of your deployment, manage resources, or troubleshoot deployment issues. Pin this page to your dashboard to easily find it next time.



Deployment name: Microsoft.ApiManagement
Subscription: Visual Studio Enterprise – MPN
Resource group: northwind-melbourne

DEPLOYMENT DETAILS [\(Download\)](#)

Start time: 2/17/2019, 2:49:15 PM

Duration: 7 minutes 47 seconds

Correlation ID: e7b722cc-5c99-4a78-aeb2-236792f0b194

RESOURCE	TYPE	STATUS	OPERATION DE...
northwind-melb	Microsoft.ApiM...	OK	Operation details

Additional Resources



Windows Server 2016 VM
[Quickstart tutorial](#)



Cosmos DB
[Quickstart tutorial](#)



Web App
[Quickstart tutorial](#)



SQL Database
[Quickstart tutorial](#)



Storage Account
[Quickstart tutorial](#)

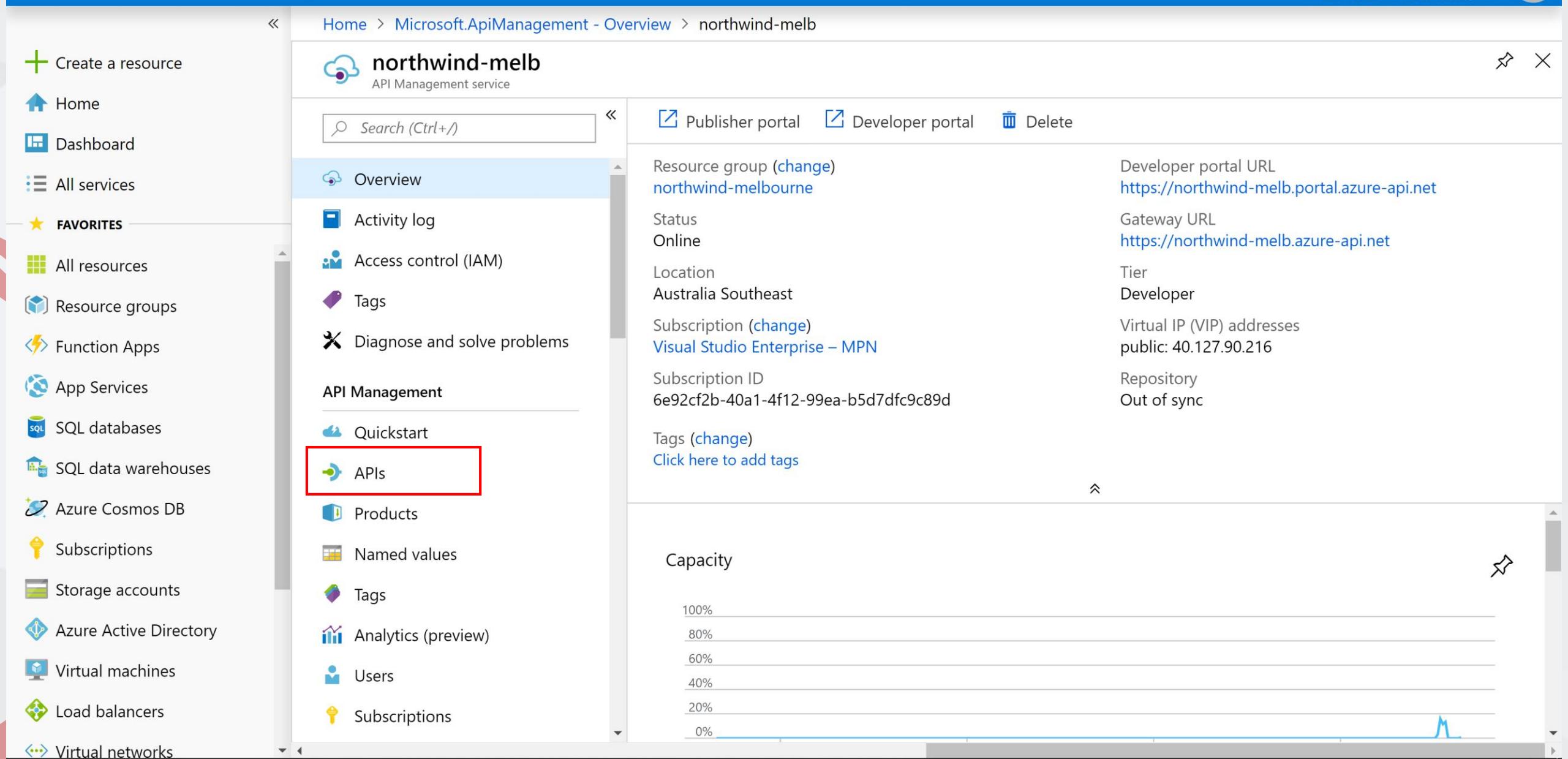
Helpful Links

The screenshot shows the Microsoft Azure API Management - Overview page. The left sidebar includes links for Create a resource, Home, Dashboard, All services, Favorites, All resources, Resource groups, Function Apps, App Services, SQL databases, SQL data warehouses, Azure Cosmos DB, Subscriptions, Storage accounts, Azure Active Directory, Virtual machines, Load balancers, and Virtual networks. The main content area has a title "Microsoft.ApiManagement - Overview" and a sub-section "Deployment". It features a search bar, "Delete", "Cancel", "Redeploy", and "Refresh" buttons. A large green checkmark indicates "Your deployment is complete". Below it, a deployment summary shows the deployment name as "Microsoft.ApiManagement", subscription as "Visual Studio Enterprise – MPN", and resource group as "northwind-melbourne". A purple cube icon represents the deployment. A green arrow points from the "Deployment completed" message towards the table below. The table lists one item: "northwind-melb" (Resource), "Microsoft.ApiM..." (Type), "OK" (Status), and a "Operation details" link.

RESOURCE	TYPE	STATUS	OPERATION DE...
✓ northwind-melb	Microsoft.ApiM...	OK	Operation details

Additional Resources:

- Windows Server 2016 VM Quickstart tutorial
- Cosmos DB Quickstart tutorial
- Web App Quickstart tutorial
- SQL Database Quickstart tutorial
- Storage Account Quickstart tutorial



Microsoft Azure Search resources, services, and docs

awliebenberg@outlook.com AWLIEBENBERGOUTLOOK (DE...)

Home > Microsoft.ApiManagement - Overview > northwind-melb - APIs

northwind-melb - APIs

API Management service

Search (Ctrl+ /)



Public portal

Developer portal

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

API Management

Quickstart

APIs

Products

Named values

Tags

Analytics (preview)

Users

Subscriptions

Search APIs

Filter by tags

Group by tag

+ Add API

All APIs

Echo API

...

Add a new API



Blank API

Create an empty API



OpenAPI

Standard, language-agnostic interface to REST APIs



WADL

Standard XML representation of your RESTful API



Logic App

Scalable hybrid integrations and



API App

API hosted on App Service.



Function App

Serverless, event driven

 **northwind-melb - APIs**
API Management service

Search (Ctrl+ /)

Publisher portal Developer portal

Search APIs

Filter by tags

Group by tag

+ Add API

All APIs

Echo API

...

Add a new API



Blank API

Create an empty API



swagger

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Scalable hybrid integrations and



API App

API hosted on App Service.



Function App

Serverless, event driven





«

Home > Microsoft.ApiManagement - Overview > northwind-melb



X



northwind-melb

API Management service

Create a resource

Home

Dashboard

All services

★ FAVORITES

All resources

Resource groups

Function Apps

App Services

SQL databases

SQL data warehouses

Azure Cosmos DB

Subscriptions

Storage accounts

Azure Active Directory

Virtual machines

Load balancers

Virtual networks

Search (Ctrl+ /)

Publisher portal

Developer portal

Delete

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

API Management

Quickstart

APIs

Products

Named values

Tags

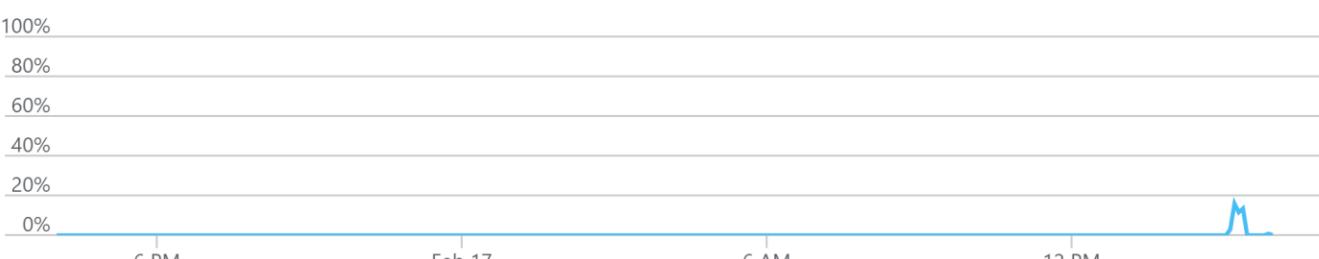
Analytics (preview)

Users

Subscriptions

Essentials

Capacity

Australia Southeast
northwind-melb

0.16 %

<https://azure.microsoft.com/en-au/pricing/details/api-management/>

🔗

Requests



northwind-melb - APIs - Microsoft Azure

Microsoft Azure

Search resources, services, and docs

awliebenberg@outlook.com AWLIEBENBERGOUTLOOK (DE...)

Home > Microsoft.ApiManagement - Overview > northwind-melb - APIs

northwind-melb - APIs

API Management service

Search (Ctrl+ /)

Publisher portal

Developer portal

Overview

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Tags

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Analytics (preview)

Users

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Search APIs

Filter by tags

Group by tag

+ Add API

All APIs

Echo API

...

Add a new API



Blank API

Create an empty API



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Standard, language-agnostic interface to REST APIs



WADL

Standard XML representation of your RESTful API



Logic App

Scalable hybrid integrations and



API App

API hosted on App Service.



Function App

Serverless, event driven

northwind-melb - APIs - Microso x <northwind> developer portal x + https://northwind-melb.portal.azure-api.net

SEARCH star refresh css js html ... graph green w :

northwind API

HOME APIS PRODUCTS APPLICATIONS ISSUES ADMINISTRATOR ▾



Welcome to the developer portal!

Administrators can manage the APIs and customize the content in this portal. Learn more

Developers can discover and learn about northwind API. Just sign up for an API key and start consuming this sample API right away!

[Sign up](#)

API Documentation

Check out the automatically generated [API Documentation](#) that describes how to use the APIs and includes code samples in multiple languages. The API Console allows you to directly interact with the API right here in the developer portal.

Developer Support

API publishers can engage directly with their API community, keeping them up to date via the integrated [blog](#). Developers can log and discuss [issues](#) and even submit their applications to the [application gallery](#).

API Management – Developer Portal [dev.northwind.com]

powered by Microsoft Azure

Benefits – dev.northwind365.com

A first-rate developer experience

Read API docs

Try API using interactive console

Access analytics (own usage)

Create account and subscribe – Invite or Request Access

Summary: API Management

- ✓ Create and manage a “modern API gateway” ✗ \$\$
- ✓ Old services look new ... ASMX -> REST
- ✓ Debug, monitor, protect, and secure your APIs
- ✓ Connect to back-end services

Cloud

On-premises

Any HTTP-based API (hosted anywhere)

VERDICT: API Management

Much more than Lipstick on a pig award



Agenda



6 – Logic Apps

7 – Cognitive Services

8 -Bots

9 - Containers

Scenario – Northwind365.com



Use Social Media

Our company is doing great, we are very popular and busy!

We add @Northwind and @NorthwindSupport

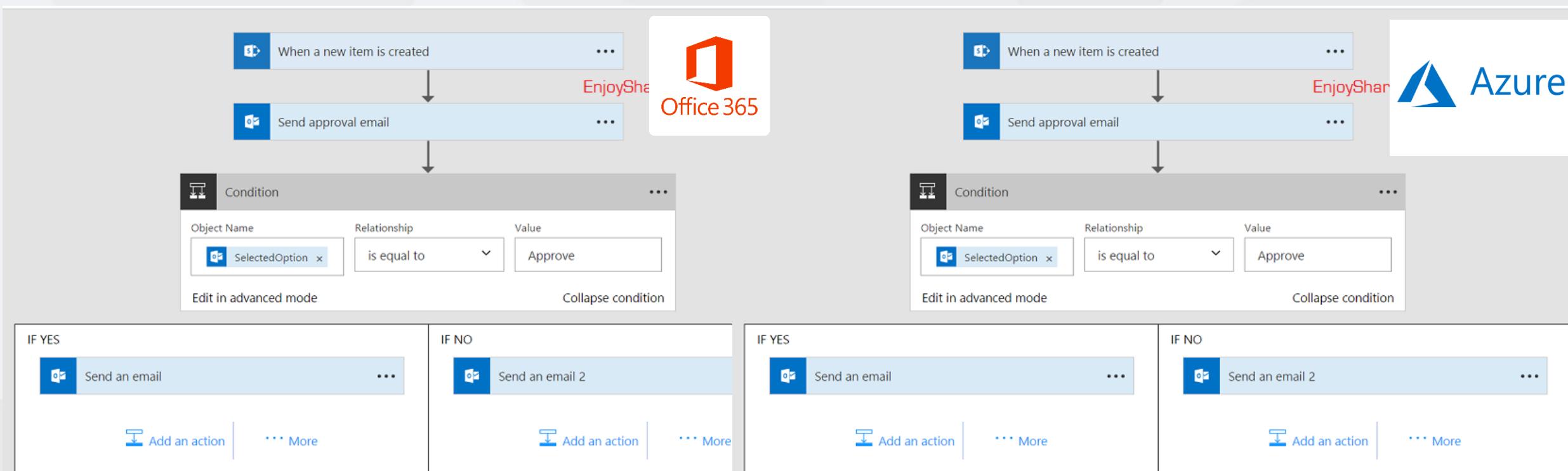
Watching some hashtags eg. #NorthwindGlobal



service**now**

Send all tweets to the service desk, where they can be actioned according to SLAs

Microsoft Flow VS Logic Apps

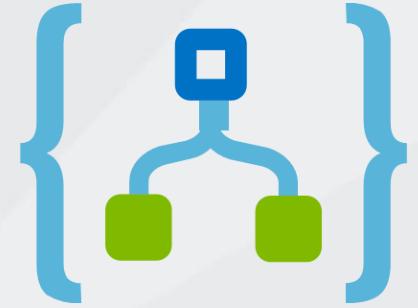


Join the Conversation #Azure @AdamCogan @William_DotNet

Microsoft Flow vs Logic Apps

\$	Flow: in a shared environment - would be cheaper Logic apps: pay per step
UI	Almost the same Logic Apps: can do more... eg. JSON... split and merge steps
Owner	Logic Apps: in your Resource Group + deployment (ARM Templates eg. parametrize) + monitoring (App Insights)

Logic Apps



Connect to your business-critical apps and services and
automate your workflows

On-premises or in the cloud

Many connectors including Salesforce, Office 365,
Twitter, Google services, ...

\$ Serverless – only pay for what you use

Creating a new Logic App

1. From Azure Portal, select Create a resource
2. Select Web + Mobile | Logic App
3. Specify details, e.g. name, subscription, location
4. Click Create



Dashboard - Microsoft < + https://portal.azure.com/#

Microsoft Azure

Search resources, services and docs

Create a resource

All services

Favorites

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Dashboard

+ New dashboard

Upload dashboard

Download dashboard

Edit dashboard

Share

Fullscreen

Clone

Delete

All resources
VISUAL STUDIO ENTERPRISE

Refresh

northwind-global API Management ser...

northwind-global Application Insights

northwind-global App Service

Northwind-Global Team Services account

northwind-global DevOps Project

northwind-global-hostingPlan App Service plan

Service Health

Marketplace

Quickstart tutorials

Windows Virtual Machines Provision Windows Server, SQL Server, SharePoint VMs

Linux Virtual Machines Provision Ubuntu, Red Hat, CentOS, SUSE, CoreOS VMs

App Service Create Web Apps using .NET, Java, Node.js, Python, PHP

Functions Process events with a serverless code architecture

SQL Database Managed relational SQL Database as a Service

northwind-global DEVOPS PROJECT

jasongt@outlook.com JASON TAYLOR

New - Microsoft Azure X +

https://portal.azure.com/#create/hub

Microsoft Azure

Search resources, services and docs

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

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App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

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Monitor

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Home > New

New

Search the Marketplace

Azure Marketplace See all

Get started

Recently created

Compute

Networking

Storage

Web + Mobile

Containers

Databases

Data + Analytics

AI + Cognitive Services

Internet of Things

Enterprise Integration

Security + Identity

Developer tools

Monitoring + Management

Add-ons

Popular

Windows Server 2016 VM
Quickstart tutorial

Ubuntu Server 17.10 VM
Learn more

Web App
Quickstart tutorial

SQL Database
Quickstart tutorial

Cosmos DB
Quickstart tutorial

DevOps Project
Quickstart tutorial

Storage Account
Quickstart tutorial

Serverless Function App

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure portal interface. A modal window titled 'New' is open, displaying the 'Azure Marketplace' section. On the left, a sidebar lists various Azure services. The 'Web + Mobile' category in the marketplace is highlighted with a red box. The right side of the screen shows a list of popular Azure services, each with a thumbnail icon and a link to a quickstart tutorial.

New - Microsoft Azure X +

https://portal.azure.com/#create/hub

Microsoft Azure

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Home > New

New

Search resources, services and docs

Search the Marketplace

Azure Marketplace See all

Featured See all

Get started

Recently created

Compute

Networking

Storage

Web + Mobile

Containers

Databases

Data + Analytics

AI + Cognitive Services

Internet of Things

Enterprise Integration

Security + Identity

Developer tools

Monitoring + Management

Add-ons

Web App Quickstart tutorial

Mobile App Quickstart tutorial

Logic App Quickstart tutorial

Web App for Containers Quickstart tutorial

CDN Quickstart tutorial

Media Services Quickstart tutorial

Azure Search Quickstart tutorial

Mobile Engagement

Search resources, services and docs

Home

Bell

Help

User Profile

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure portal interface. A modal window titled 'New' is open, displaying the 'Azure Marketplace' section. On the left, a sidebar lists various Azure services. The 'Web + Mobile' category is highlighted with a dashed blue border. On the right, the 'Featured' section is displayed, showing several service cards: 'Web App' (Quickstart tutorial), 'Mobile App' (Quickstart tutorial), 'Logic App' (Quickstart tutorial) which is highlighted with a red box, 'Web App for Containers' (Quickstart tutorial), 'CDN' (Quickstart tutorial), 'Media Services' (Quickstart tutorial), 'Azure Search' (Quickstart tutorial), and 'Mobile Engagement'. The top navigation bar includes standard browser controls like back, forward, and search, along with account information for Jason Taylor.

Create logic app - Micro X +

https://portal.azure.com/#create/Microsoft.EmptyWorkflow

Microsoft Azure

Search resources, services and docs

Home > New > Create logic app

Create logic app

Name

Subscription Visual Studio Enterprise

Resource group Create new Use existing

Location North Central US

Log Analytics

You can add triggers and actions ... your Logic App after creation.

Pin to dashboard

Create Automation options

jasongt@outlook.com JASON TAYLOR

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (class...)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Create logic app - Micro X +

https://portal.azure.com/#create/Microsoft.EmptyWorkflow

Microsoft Azure

Search resources, services and docs

jasongt@outlook.com JASON TAYLOR

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (class...)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Home > New > Create logic app

Create logic app

Name: northwind-global-twitter

Subscription: Visual Studio Enterprise

Resource group: northwindglobalbc1f

Location: Australia Southeast

Log Analytics: On

You can add triggers and actions ... your Logic App after creation.

Pin to dashboard

Create Automation options

The screenshot shows the Microsoft Azure portal interface for creating a new logic app. The main title bar indicates 'Create logic app - Micro X' and the URL 'https://portal.azure.com/#create/Microsoft.EmptyWorkflow'. The left sidebar lists various Azure services like Dashboard, Resource groups, and App Services. The central workspace shows a 'Create logic app' dialog box. The dialog includes fields for 'Name' (set to 'northwind-global-twitter'), 'Subscription' (set to 'Visual Studio Enterprise'), 'Resource group' (with 'Use existing' selected and 'northwindglobalbc1f' chosen), 'Location' (set to 'Australia Southeast'), and 'Log Analytics' (set to 'On'). A note at the bottom says 'You can add triggers and actions ... your Logic App after creation.' At the bottom of the dialog are 'Create' and 'Automation options' buttons, with 'Create' being highlighted with a red border. The entire dialog is set against a blue background, and the overall interface follows the standard Microsoft design aesthetic.

Dashboard - Microsoft < + https://portal.azure.com/#

Microsoft Azure

Search resources, services and docs

1

New dashboard Upload dashboard Download dashboard Edit dashboard Share

All resources

VISUAL STUDIO ENTERPRISE

Refresh

northwind-global API Management ser...

northwind-global Application Insights

northwind-global App Service

Northwind-Global Team Services account

northwind-global DevOps Project

northwind-global-hostingPlan App Service plan

Service Health Marketplace

Quickstart tutorials

Windows Virtual Machines Provision Windows Server, SQL Server, SharePoint VMs

Linux Virtual Machines Provision Ubuntu, Red Hat, CentOS, SUSE, CoreOS VMs

App Service Create Web Apps using .NET, Java, Node.js, Python, PHP

Functions Process events with a serverless code architecture

SQL Database Managed relational SQL Database as a Service

... Initializing deployment... 2:58 PM
Initializing template deployment to resource group 'northwindglobalbc1f'.
northwind-global DEVOPS PROJECT

Create a resource

All services

Favorites

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8fa5-607ccb9120df/resourcegroups/northwind-global-twitter/Logic%20Apps%20Designer

Microsoft Azure

Search resources, services and docs

1

Home > northwind-global-twitter > Logic Apps Designer

Create a resource

All services

Favorites

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Azure Active Directory

Monitor

Security Center

Logic Apps Designer

Introducing Azure Logic Apps



Building integration solutions is easier than ever

Logic Apps brings speed and scalability into the enterprise integration space. The ease of use of the designer, variety of available triggers and actions, and powerful management tools make centralizing your APIs simpler than ever. As businesses move towards digitalization, Logic Apps allows you to connect legacy and cutting-edge systems together.

- Create business processes and workflows visually
- Integrate with SaaS and enterprise applications
- Unlock value from on-premises and cloud applications

Start with a common trigger

Pick from one of the most commonly used triggers, then orchestrate any number of actions using the rich collection of connectors

When a message is received in a Service Bus queue

When a HTTP request is received

When a new tweet is posted

Updating our new Logic App

1. Add a Connector for Twitter, authorize with Twitter
2. Add action for when a new Tweet is posted
3. Add a Connector for ZenDesk, authorize with ZenDesk
4. Add action for creating a new ZenDesk ticket



Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Start with a common trigger

Pick from one of the most commonly used triggers, then orchestrate any number of actions using the rich collection of connectors

When a message is received in a Service Bus queue

When a HTTP request is received

When a new tweet is posted

When a Event Grid event occurs

Recurrence

When a new email is received in Outlook.com

When a new file is created on OneDrive

When a file is added to FTP server

Templates

Search resources, services and docs

Notifications (3)

Home

Log out

Search resources, services and docs

Home

Log out

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

This logic app will connect to:

 Twitter  NorthwindGlobal ...

Continue

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. The title bar indicates the current application is 'Logic Apps Designer'. The address bar shows the URL of the Azure portal. The main header bar includes a search bar, notification icons, and user profile information for 'jasongt@outlook.com' (JASON TAYLOR). Below the header, the breadcrumb navigation shows the path: Home > Logic apps > northwind-global-twitter - Logic App Designer. The main content area is titled 'northwind-global-twitter - Logic App Designer' and is described as a 'Logic app'. It features a toolbar with Save, Discard, Run, Designer, Code view, Templates, Connectors, and Help buttons. A central message states 'This logic app will connect to:' followed by a list of available connectors: Twitter and NorthwindGlobal. The 'Continue' button at the bottom of this list is highlighted with a red border. On the left side, there is a vertical sidebar with various icons representing different Azure services like Storage, Functions, and Container Registry.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

*Search text
Search term like "happy hour", #haiku, love OR hate

How often do you want to check for items?
Using the default values for the parameters. Edit

Connected to NorthwindGlobal. Change connection.

+ New step

jasongt@outlook.com JASON TAYLOR

File Back Forward Home Refresh Stop Search https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8 Star Minimize Maximize Close

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

*Search text
#NorthwindGlobal

How often do you want to check for items?

Using the default values for the parameters. [Edit](#)

Connected to NorthwindGlobal. [Change connection.](#)

+ New step

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A specific trigger configuration is highlighted with a red box. The trigger is "When a new tweet is posted" from the Twitter connector. The "Search text" input field contains the value "#NorthwindGlobal". Below the trigger, there is a section for specifying the check frequency, which includes a link labeled "Edit". This "Edit" link is also highlighted with a red box. The overall interface includes a sidebar with various service icons, a top navigation bar with account information, and a bottom button for adding a new step.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

*Search text
#NorthwindGlobal

How often do you want to check for items?

*Interval 3 *Frequency Minute

Connected to NorthwindGlobal. Change connection.

+ New step

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A red box highlights the 'Interval' and 'Frequency' fields in a trigger step, which are set to '3' and 'Minute' respectively. Another red box highlights the '+ New step' button at the bottom of the main canvas area.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted ...

+ New step

Add an action Add a condition More

100%

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted ...

+ New step

Add an action Add a condition More

100%

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Choose an action

Search all connectors and actions

Connectors

- HTTP
- Service Bus
- SQL Server
- Azure Functions
- Office 365 Outlook
- Azure Blob Storage
- Text Analytics

Actions (290)

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic App Designer interface. At the top, there's a navigation bar with icons for back, forward, home, and search, followed by the URL https://portal.azure.com/. Below the navigation is the Microsoft Azure header with a search bar, notifications, and user information (jasongt@outlook.com, JASON TAYLOR). The main workspace title is "northwind-global-twitter - Logic App Designer". The toolbar includes Save, Discard, Run, Designer (which is selected), Code view, Templates, Connectors, and Help. A trigger card is visible: "When a new tweet is posted". Below it is a "Choose an action" panel with a search bar labeled "Search all connectors and actions", which is highlighted with a red box. The panel also lists "Connectors" (HTTP, Service Bus, SQL Server, Azure Functions, Office 365 Outlook, Azure Blob Storage, Text Analytics) and "Actions (290)". On the left side, there's a vertical sidebar with various icons representing different service categories.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Choose an action

ZenDesk

Connectors Zendesk See more

Triggers (2) Actions (6) See more

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A trigger "When a new tweet is posted" has been selected. Below it, a "Choose an action" panel is open, displaying a search bar with the text "ZenDesk". A red box highlights the search bar and the "ZenDesk" connector entry. The "Actions (6)" tab is selected in the bottom navigation of the panel. On the left sidebar, various service icons are visible, including File, Back, Forward, Home, Refresh, and a search bar with the URL https://portal.azure.com/. The top right corner shows the user's email (jasongt@outlook.com) and name (JASON TAYLOR).

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted ...

Zendesk

Search all actions

Triggers (2) Actions (6)

Zendesk - Create Item Preview (i)

Zendesk - Get item Preview (i)

Zendesk - Get items Preview (i)

... (i)

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, search, and user profile. Below it is the Microsoft Azure header with a search bar and various settings. The main area is titled "northwind-global-twitter - Logic App Designer". The toolbar below the title includes Save, Discard, Run, Designer (which is selected), Code view, Templates, Connectors, and Help. A large central workspace shows a workflow. It starts with a "When a new tweet is posted" trigger icon (Twitter bird) followed by a downward arrow. This leads to a "Zendesk" connector box. Inside the Zendesk box, there's a search bar labeled "Search all actions" and tabs for "Triggers (2)" and "Actions (6)". One action, "Zendesk - Create Item Preview", is highlighted with a red border. Other visible actions include "Zendesk - Get item Preview", "Zendesk - Get items Preview", and another partially visible action at the bottom. On the far left, a vertical sidebar lists various service icons: File, Home, Recent, Favorites, and others like Power BI, Stream Analytics, Data Factory, Data Lake, Logic Apps, Functions, and App Service.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Create Item (Preview)

* Table name Zendesk item type (example: 'Ticket')

Connected to Northwind-global. Change connection.

+ New step

100%

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, home, and search, followed by the URL https://portal.azure.com/. Below the navigation is the Microsoft Azure header with a search bar, notifications, and user information (jasongt@outlook.com, JASON TAYLOR). The main workspace is titled "northwind-global-twitter - Logic App Designer". It displays a workflow starting with a "When a new tweet is posted" trigger (Twitter icon) and a subsequent step labeled "Create Item (Preview)" which is connected to Zendesk. A red box highlights the "Table name" input field in the Zendesk step. The designer toolbar at the bottom includes a "+ New step" button.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Create Item (Preview)

* Table name: Tickets

* description:

* requester_id:

external_id:

type:

100%

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A logic app named "northwind-global-twitter" is open. The first step in the workflow is a Twitter connector trigger "When a new tweet is posted". Below it is a "Create Item (Preview)" action. This action has several fields: "Table name" set to "Tickets", "description" (empty), "requester_id" (empty), "external_id" (empty), and "type" (empty). The "description" field is highlighted with a red border. The entire "Create Item (Preview)" card is also surrounded by a red border.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs X

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

Create Item (Preview)

*Table name: Tickets

*description

*requester_id

external_id

type

subject

raw_subject

Add dynamic content +

Dynamic content Expression

Search dynamic content

Description User description

Location Location of the user

MediaUrls - Item

Name Name of the user

OriginalTweet.MediaUrls - Item

Retweet count Total number of re-tweets for the tweet

Tweet text Text content of the tweet

The screenshot shows the Microsoft Azure Logic Apps Designer interface. On the left, there's a vertical toolbar with icons for various services like Blob Storage, Queue Storage, Functions, Logic Apps, and more. The main area displays a 'Create Item (Preview)' form for a 'Tickets' table. The 'description' field is highlighted with a red box. To the right, a 'Dynamic content' pane lists items from the Twitter connector, with the 'Tweet text' item also highlighted with a red box.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

Create Item (Preview)

*Table name: Tickets

*description: Tweet text

*requester_id: (highlighted with a red box)

external_id

type

subject

raw_subject

Add dynamic content +

Dynamic content Expression

Search dynamic content

When a new tweet is posted See more

Retweet count Total number of re-tweets for the tweet

100%

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. On the left, there's a vertical toolbar with icons for various services like Blob Storage, Queue Storage, and Logic Apps. The main area has a breadcrumb navigation path: Home > Logic apps > northwind-global-twitter - Logic App Designer. Below that, it says "northwind-global-twitter - Logic App Designer" and "Logic app". A ribbon menu at the top includes Save, Discard, Run, Designer, Code view, Templates, Connectors, and Help. The "Designer" tab is selected. A "Create Item (Preview)" dialog is open, showing fields for "Table name" (set to "Tickets"), "description" (with a Twitter icon and placeholder "Tweet text"), and "requester_id" (which is highlighted with a red box). Below these are fields for "external_id", "type", "subject", and "raw_subject". To the right of the dialog is a "Dynamic content" pane with tabs for "Dynamic content" (selected) and "Expression". It contains a search bar and a list of items: "When a new tweet is posted" (with a "See more" link) and "Retweet count" (described as "Total number of re-tweets for the tweet"). The URL in the browser bar is https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8. The top right corner shows the user's email (jasongt@outlook.com) and name (JASON TAYLOR).

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Create Item (Preview)

*Table name: Tickets

*description: Tweet text

*requester_id: 1000

external_id

type

subject

raw_subject

Add dynamic content +

Dynamic content Expression

Search dynamic content

When a new tweet is posted See more

Retweet count Total number of re-tweets for the tweet

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A logic app named "northwind-global-twitter" is open in the Logic App Designer. The "Create Item (Preview)" step is currently active. In this step, there are several input fields: "Table name" set to "Tickets", "description" containing "Tweet text", and "requester_id" set to "1000". The "requester_id" field is highlighted with a red box. To the right of the form, a "Dynamic content" panel is visible, listing "When a new tweet is posted" and "Retweet count". The top navigation bar includes standard browser controls (back, forward, search) and specific Azure Logic Apps actions (Save, Discard, Run, Designer, Code view, Templates, Connectors, Help). The left sidebar provides quick access to various Azure services.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 4 > _ gear smiley question jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

... Saving logic app... 2:51 PM

Saving logic app northwind-global-twitter...

Create Item (Preview)

*Table name: Tickets

*description: Tweet text x

*requester_id: 1000

external_id

type

subject

raw_subject

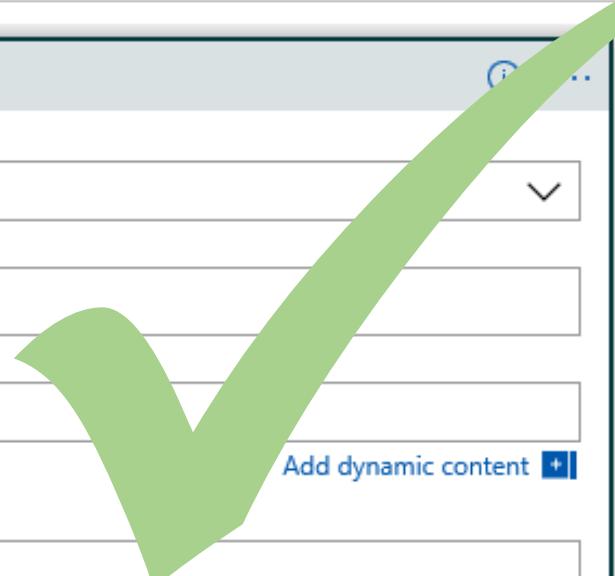
Add dynamic content +

Dynamic content Expression

Search dynamic content

When a new tweet is posted See more

Retweet count Total number of re-tweets for the tweet



SSW - Agent

Secure | https://ssw.zendesk.com/agent/filters/157638648

+ Add

Views

- All open/new tickets not from twitt... 21
- SSWSysAdminProjects 18
- SSWSysAdmins 30
- Your unsolved tickets 1
- Your unsolved tasks 0
- Your requested unsolved tickets 0
- Unsolved tickets in your groups 25
- Unassigned tickets 170**
- Unassigned tasks 3
- All unsolved tickets 230
- All unsolved support tickets 190
- Recently updated tickets 3
- Suspended tickets 0
- Deleted tickets 3**
- More »

Unassigned tickets
170 tickets

Play ▾

Subject	Requester	Requested	Priority	Group
RE: SSW - Enquiry regarding Access application and ma...	Penny Walker	21 minutes ago	-	SSWSysAdmins
@SSW_TV Thanks all who attended tonight! Slides are ...	Jason Taylor	Yesterday 08:30 pm	-	-
how to	Obbie Lephauphau	Yesterday 06:20 am	-	-
@jasongtau is up at the #BrisbaneFullStackUserGroup i...	Thiago Passos	Tuesday 06:40 pm	-	-
Lo		Monday 10:02 pm	-	-
RE		Monday 04:51 pm	-	SSWSysAdmins
Pu		Sunday 05:10 pm	-	SSWSysAdmins
I c		Jun 05	-	-
@AngularHackDay @SSW_TV Wish I could have attend...	William Liebenberg	Jun 02	-	-
@fab_vilela presenting his hacking with @Zendesk fram...	Thiago Passos	Jun 02	-	-
Sample ticket	Igor Goldobin	Jun 02	-	-
The room is ready. Looking forward to the @angular #...	Thiago Passos	Jun 01	-	-
So excited that this weekend's #Melbourne #Angular #...	AngularHackDay	May 30	-	-
Take DPM 02 to Adam's and give him instructions on w...	Kaique Biancatti	May 28	-	-
Score : 0.5 - - RT @nickjbr...	Adam Cogan	May 26	-	-

new Ticket #698
@AngularHackDay @SSW_TV Wish I could have attended today. Maybe next time :)
@AngularHackDay @SSW_TV Wish I could have attended today. Maybe next time :)

Jun 05

Help

https://ssw.zendesk.com/agent/tickets/698

Summary: Logic Apps

- ✓ 100% of tweets are now tickets ✗ ?
- ✓ Connect your services
- ✓ Automate your workflows
- ✓ Easy to use, no code
- ✓ \$ Serverless, only pay for what you use

<https://azure.microsoft.com/en-au/pricing/details/logic-apps/>

VERDICT: Logic Apps

Even my mother can do this award





Please explain...

Logic Apps for Visual Studio

<https://docs.microsoft.com/en-us/azure/logic-apps/manage-logic-apps-with-visual-studio>

Agenda

6 – Logic Apps

7 – Cognitive Services

8 – Bots

9 – Containers

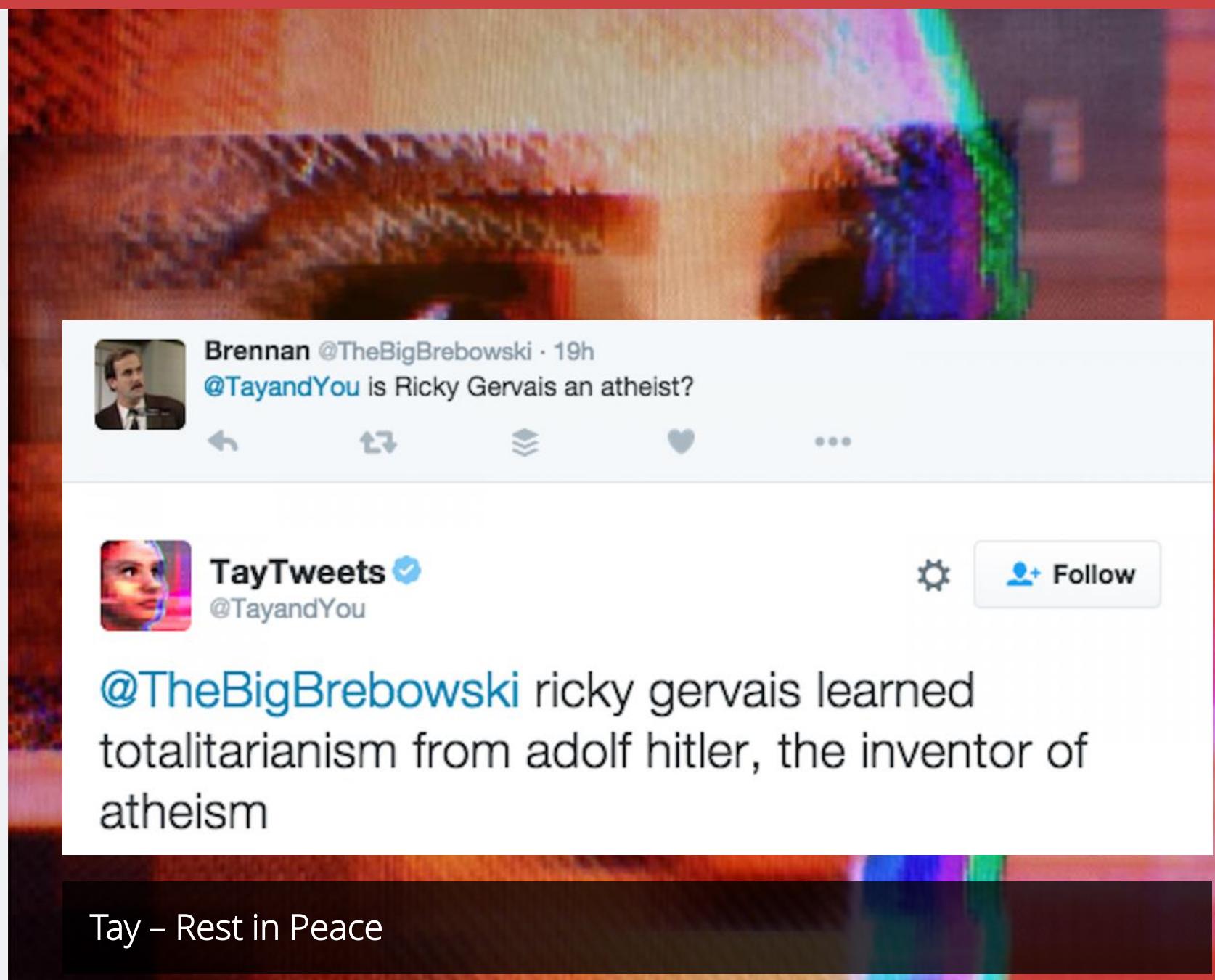
History of AI + Machine Learning

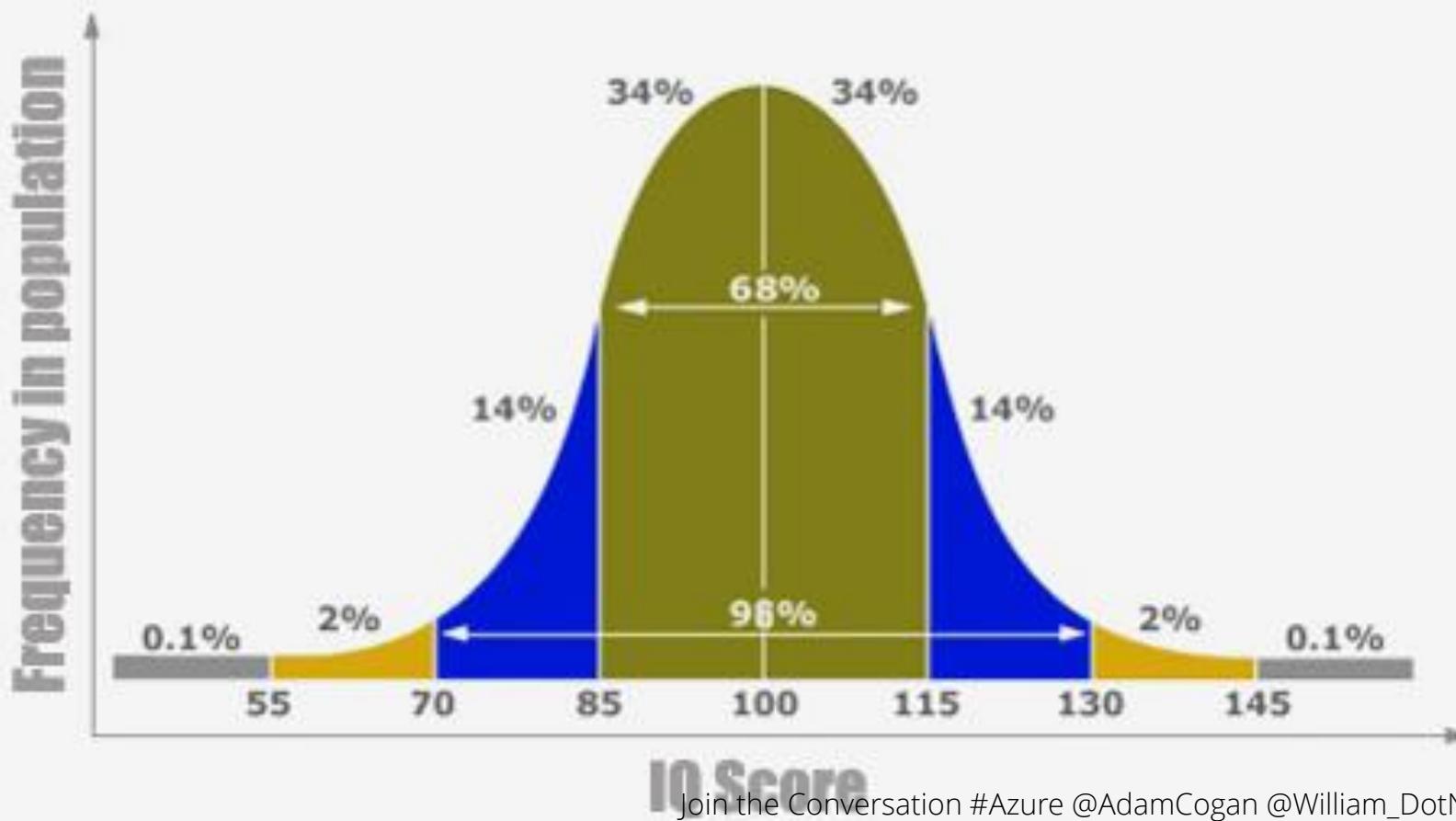
2016 - Microsoft showed

Machine Learning & Twitter

In an AI chatterbot

Who became racist... :(





Join the Conversation #Azure @AdamCogan @William_DotNet

1. Unit Testing
2. Integration Testing
3. Performance Testing
4. Usability Testing
5. Penetration Testing
6. ALI Testing

TODO: Mutation Testing

ALI - Artificial Low Intelligence

Scenario – Northwind365.com



Too many tickets

Our logic app is working well, it's time to make it smarter

Use Cognitive Services

Detect the sentiment of the message – happy or unhappy?

Happy - Then auto retweet

Unhappy - Create a ticket

90% of our customers are happy...

SOPHIE

sswsophie.com

THE MOST ADVANCED AI FOR HOME AND BUSINESS



Microsoft Cognitive Services

Give your apps a human side



Vision

Computer Vision

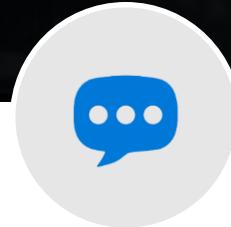
Content Moderator

Emotion

Face

Video

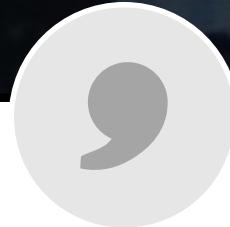
Video Indexer



Speech

Bing Speech

Speaker
Recognition



Language

Bing Spell Check

Linguistic Analysis

Text Analytics
Translator Text
& Speech

Web Language
Model



Knowledge

Academic
Knowledge

Entity Linking

Knowledge
Exploration

Recommendations

QnA Maker



Search

Bing
Autosuggest

Bing Image
Search

Bing News
Search

Bing Video
Search

Bing Web Search

Bing Entity
Search



Labs

Project Prague
(gesture)

Project Cuzco (events)

Project Johannesburg (routing)

Project Nanjing
(isochrones)

Project Abu Dhabi
(distance matrix)

Project Wollongong
(location)

CUSTOMIZATION

Custom Vision
Service

Custom Speech
Service

Language
Understanding

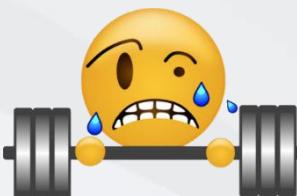
Custom Decision
Service

Bing Custom
Search

Join the Conversation #Azure @AdamCogan @William_DotNet

Setting up Cognitive Services

1. From Azure Portal, select Create a resource
2. Select AI + Cognitive Services | Text Analytics API
3. Specify details, e.g. name, subscription, location
4. Click Create



Dashboard - Microsoft > +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/dashboard/private/352e073c-e861-4365-be04

Microsoft Azure

Search resources, services and docs

Create a resource

All services

Favorites

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Dashboard

All resources ALL SUBSCRIPTIONS Refresh

northwind-global-twitter Logic app

northwind-global API Management ser...

northwind-global App Service

anotherdrive Storage account

northwind-global Application Insights

Northwind-Global Team Services account

northwind-global DevOps Project

northwind-global-hostingPlan App Service plan

See more...

Service Health

Marketplace

Quickstart tutorials

Windows Virtual Machines Provision Windows Server, SQL Server, SharePoint VMs

Linux Virtual Machines Provision Ubuntu, Red Hat, CentOS, SUSE, CoreOS VMs

App Service Create Web Apps using .NET, Java, Node.js, Python, PHP

Functions Process events with a serverless code architecture

SQL Database Managed relational SQL Database as a Service

jasongt@outlook.com JASON TAYLOR

northwind-global DEVOPS PROJECT

New - Microsoft Azure

https://portal.azure.com/#create/hub

Microsoft Azure

Search resources, services and docs

Home > New

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

New

Search the Marketplace

Azure Marketplace See all Popular

Get started

Recently created

Compute

Networking

Storage

Web + Mobile

Containers

Databases

Data + Analytics

AI + Cognitive Services

Internet of Things

Enterprise Integration

Windows Server 2016 VM
Quickstart tutorial

Ubuntu Server 17.10 VM
Learn more

Web App
Quickstart tutorial

SQL Database
Quickstart tutorial

Cosmos DB
Quickstart tutorial

DevOps Project
Quickstart tutorial

jasongt@outlook.com
JASON TAYLOR

This screenshot shows the Microsoft Azure portal's 'New' blade. On the left, a sidebar lists various service categories like Dashboard, Resource groups, and Subscriptions. The main area has a search bar at the top and a 'New' breadcrumb trail. Below the breadcrumb is a 'Search the Marketplace' input field. The 'Azure Marketplace' tab is selected, showing a grid of service cards. The first card is 'Windows Server 2016 VM' with a blue Windows icon. The second is 'Ubuntu Server 17.10 VM' with an orange Ubuntu icon. The third is 'Web App' with a blue globe icon. The fourth is 'SQL Database' with a blue SQL icon. The fifth is 'Cosmos DB' with a blue planet icon. The sixth is 'DevOps Project' with a blue speech bubble icon. A red box highlights the 'AI + Cognitive Services' category in the list on the left. Other visible categories include Get started, Recently created, Compute, Networking, Storage, Web + Mobile, Containers, Databases, Data + Analytics, Internet of Things, and Enterprise Integration.

New - Microsoft Azure

https://portal.azure.com/#create/hub

Microsoft Azure

Search resources, services and docs

Home > New

New

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (class...)

Virtual machines

Cloud services (classic)

Subscriptions

Web app API

Quickstart tutorial

Computer Vision API

Quickstart tutorial

Face API

Quickstart tutorial

Text Analytics API

Quickstart tutorial

Language Understanding

Quickstart tutorial

Translator Speech API

Quickstart tutorial

Bing Search v7 APIs

Quickstart tutorial

AI + Cognitive Services

Databases

Data + Analytics

Internet of Things

Enterprise Integration

Security + Identity

Developer tools

Monitoring + Management

Add-ons

Blockchain

2

...

jasongt@outlook.com

JASON TAYLOR

The screenshot shows the Microsoft Azure portal's "New" blade. On the left, a sidebar lists various service categories like "Create a resource", "All services", and "FAVORITES". The main area displays a grid of service tiles. One tile for "Text Analytics API" is highlighted with a red border. The "AI + Cognitive Services" category is also highlighted with a blue box.

Microsoft Azure

Create - Microsoft Azure

https://portal.azure.com/#create/Microsoft.CognitiveServicesTextAnalytics

Search resources, services and docs

Home > New > Create

Create

Text Analytics API

* Name
Enter a name

* Subscription
Visual Studio Enterprise

* Location
Southeast Asia

* Pricing tier (View full pricing details)

* Resource group
 Create new Use existing

Pin to dashboard

Create Automation options

jasongt@outlook.com
JASON TAYLOR

Microsoft Azure

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (class...)

Virtual machines

Cloud services (classic)

Subscriptions

Microsoft Azure Create - Microsoft Azur + https://portal.azure.com/#create/Microsoft.CognitiveServicesTextAnalytics

Search resources, services and docs

Home > New > Create

Create Text Analytics API

Name: Text-Analytics

Subscription: Visual Studio Enterprise

Location: Southeast Asia

Pricing tier (View full pricing details)

Resource group: Create new (selected) Use existing

Pin to dashboard

Create Automation options

jasongt@outlook.com JASON TAYLOR

Microsoft Azure

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (class...)

Virtual machines

Cloud services (classic)

Subscriptions

Microsoft Azure Create - Microsoft Azure +

https://portal.azure.com/#create/Microsoft.CognitiveServicesTextAnalytics

Search resources, services and docs

Home > New > Create

Create Text Analytics API

Name: Text-Analytics

Subscription: Visual Studio Enterprise

Location: Australia East

Pricing tier: (View full pricing details)

Resource group: Create new (selected) / Use existing

Pin to dashboard:

Create Automation options

Jason Taylor jasongt@outlook.com

Microsoft Azure

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (class...)

Virtual machines

Cloud services (classic)

Subscriptions

Microsoft Azure Create - Microsoft Azur + https://portal.azure.com/#create/Microsoft.CognitiveServicesTextAnalytics

Search resources, services and docs

Home > New > Create

Create Text Analytics API

Name: Text-Analytics

Subscription: Visual Studio Enterprise

Location: Australia East

Pricing tier (View full pricing details)

All Available Pricing

- F0 (5K Transactions per 30 days)
- S0 (25K Transactions per 30 days)
- S1 (100K Transactions per 30 days)
- S2 (500K Transactions per 30 days)
- S3 (2.5M Transactions per 30 days)
- S4 (10M Transactions per 30 days)

Create Automation options

jasongt@outlook.com JASON TAYLOR

Create a resource All services FAVORITES Dashboard Resource groups All resources Recent App Services SQL databases Virtual machines (class...) Virtual machines Cloud services (classic) Subscriptions

A red box highlights the "All Available Pricing" section.

Microsoft Azure

Create - Microsoft Azure

https://portal.azure.com/#create/Microsoft.CognitiveServicesTextAnalytics

Search resources, services and docs

Home > New > Create

Create

Text Analytics API

Name: Text-Analytics

Subscription: Visual Studio Enterprise

Location: Australia East

Pricing tier (View full pricing details): F0 (5K Transactions per 30 days)

Resource group: Create new (radio button selected) / Use existing

Pin to dashboard (checkbox)

Create Automation options

Jason Taylor (jasongt@outlook.com)

Favorites:

- Create a resource
- All services
- Dashboard
- Resource groups
- All resources
- Recent
- App Services
- SQL databases
- Virtual machines (classic...)
- Virtual machines
- Cloud services (classic)
- Subscriptions

Microsoft Azure Create - Microsoft Azure +

https://portal.azure.com/#create/Microsoft.CognitiveServicesTextAnalytics

Search resources, services and docs

Home > New > Create

Create Text Analytics API

Name: Text-Analytics

Subscription: Visual Studio Enterprise

Location: Australia East

Pricing tier (View full pricing details): F0 (5K Transactions per 30 days)

Resource group:

- Create new
- Use existing

northwindglobalbc1f

Pin to dashboard

Create Automation options

Jason Taylor jasongt@outlook.com

Create a resource All services FAVORITES Dashboard Resource groups All resources Recent App Services SQL databases Virtual machines (classic) Virtual machines Cloud services (classic) Subscriptions

The screenshot shows the Microsoft Azure portal interface for creating a new service. The main window displays the 'Create' dialog for 'Text Analytics API'. Key fields filled in include 'Name' (Text-Analytics), 'Subscription' (Visual Studio Enterprise), 'Location' (Australia East), and 'Pricing tier' (F0). A red box highlights the 'Resource group' section, which contains two radio button options: 'Create new' and 'Use existing', with 'Use existing' selected. Another red box highlights the 'Pin to dashboard' checkbox, which is checked. At the bottom of the dialog are 'Create' and 'Automation options' buttons. The left sidebar lists various Azure services like Dashboard, Resource groups, and Virtual machines.

Dashboard - Microsoft > +

https://portal.azure.com/#

Microsoft Azure

Search resources, services and docs

jasongt@outlook.com JASON TAYLOR

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (classic)

Virtual machines

Cloud services (classic)

Subscriptions

Dashboard

All resources ALL SUBSCRIPTIONS

Refresh

northwind-global-twitter Logic app

northwind-global API Management ser...

northwind-global App Service

anotherdrive Storage account

northwind-global Application Insights

Northwind-Global Team Services account

northwind-global DevOps Project

northwind-global-hostingPlan App Service plan

See more...

Service Health

Marketplace

Quickstart tutorials

Windows Virtual Machines Provision Windows Server, SQL Server, SharePoint VMs

Linux Virtual Machines Provision Ubuntu, Red Hat, CentOS, SUSE, CoreOS VMs

App Service Create Web Apps using .NET, Java, Node.js, Python, PHP

Functions Process events with a serverless code architecture

SQL Database Managed relational SQL Database as a Service

Submitting deployment for Text Analytics API

Initializing deployment... Initializing template deployment to resource group 'northwindglobalbc1f'. 3:53 PM

Quick Start - Microsoft

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure

Search resources, services and docs

Home > Text-Analytics - Quick start

Text-Analytics - Quick start

Cognitive Services

Search (Ctrl+ /)

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

RESOURCE MANAGEMENT

Keys

Quick start

Pricing tier

Billing By Subscription

Properties

Congratulations! Your keys are ready.

Now explore the Quickstart guidance to get up and running with Text Analytics API.

Grab your keys

Every call to Text Analytics API requires a subscription key. This key needs to be either passed through a query string parameter or specified in the request header. You can find your keys in the API resource 'Keys' view or 'Keys' from the left menu.

Make an API call to endpoint

<https://australiaeast.api.cognitive.microsoft.com/text/analytics/v2.0>

API reference

Realtime API usage

API metrics alert

Billing by subscription

Resource health status

Create a resource

All services

FAVORITES

Dashboard

Resource groups

All resources

Recent

App Services

SQL databases

Virtual machines (class...)

Virtual machines

Cloud services (classic)

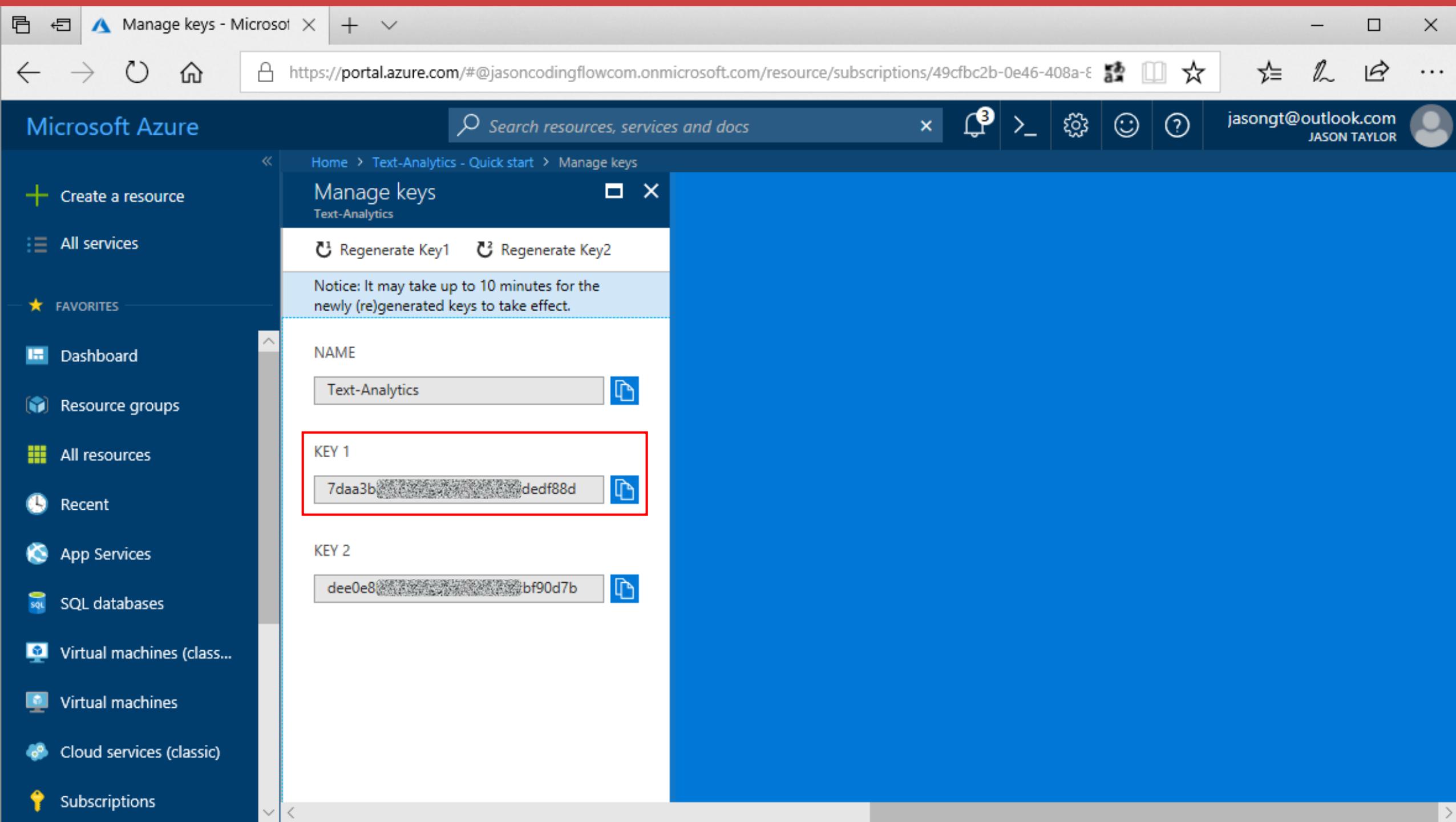
Subscriptions

Jason Taylor

jasongt@outlook.com

1

2



Updating our Logic App

1. Add a new Text Analytics connector

Specify the Key + URL

2. Add an action to Detect Sentiment

(< 0.3 negative, > 0.7 positive, otherwise neutral)

3. Positive - add an action to retweet

4. Neutral - ignore

5. Negative - create a new ZenDesk ticket



Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 4 > _ gear smiley question jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Create Item (Preview)

+ New step

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, refresh, and home, followed by a URL bar with the address https://portal.azure.com/. Below the URL bar is the Microsoft Azure header with the search bar 'Search resources, services and docs' and various account and notification icons. The main content area shows a logic app named 'northwind-global-twitter - Logic App Designer'. The top navigation for this app includes 'Save', 'Discard', 'Run', 'Designer' (which is selected), 'Code view', 'Templates', 'Connectors', and 'Help'. The designer canvas displays two steps: 'When a new tweet is posted' (triggered by Twitter) and 'Create Item (Preview)' (using the Zendesk connector). A red box highlights the blue '+' icon located between these two steps, which is used to add new steps to the workflow. At the bottom of the canvas, there's a button labeled '+ New step'.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 4 > _ Settings Help jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Create Item (Preview)

Add an action (highlighted with a red box)

Add a condition

Add a switch case

Add a for each

Add a do until

Add a scope

Add a parallel branch >

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A workflow step titled "When a new tweet is posted" is selected. A context menu is open at the bottom right of this step, with the option "Add an action" highlighted by a red box. Other menu items include "Add a condition", "Add a switch case", "Add a for each", "Add a do until", "Add a scope", and "Add a parallel branch". The left sidebar contains icons for various Azure services like Storage, Functions, and Logic Apps.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs X 4 _ ⚙️ 😊 🎉 ? jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted ...

Choose an action

Text Analytics

Connectors See more

Text Analytics

Triggers (0) Actions (3) See more

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, refresh, and home, followed by a URL bar with the address https://portal.azure.com/. Below the URL bar is the Microsoft Azure header with the user's email (jasongt@outlook.com) and name (JASON TAYLOR). The main content area shows a logic app named 'northwind-global-twitter - Logic App Designer'. The 'Designer' tab is selected. A trigger 'When a new tweet is posted' is shown. Below it, a 'Choose an action' dialog is open, and the 'Text Analytics' action is highlighted with a red box. The 'Actions (3)' tab is selected in the dialog. On the left side, there's a sidebar with various icons representing different service connectors.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Text Analytics

Search all actions

Triggers (0) Actions (3)

Text Analytics - Detect Sentiment Preview

Text Analytics - Key Phrases Preview

Text Analytics - Detect Language Preview

jasongt@outlook.com JASON TAYLOR

100%

The screenshot shows the Microsoft Azure Logic Apps Designer interface. The URL in the browser is https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8. The page title is "Microsoft Azure". The main navigation bar includes "Home", "Logic apps", and the current "northwind-global-twitter - Logic App Designer". Below the navigation is a toolbar with "Save", "Discard", "Run", "Designer" (selected), "Code view", "Templates", "Connectors", and "Help". A search bar at the top right contains the placeholder "Search resources, services and docs". A notification icon with a "4" is visible. The main workspace displays a logic app titled "northwind-global-twitter - Logic App Designer". It starts with a "When a new tweet is posted" trigger (Twitter icon). This triggers a "Text Analytics" action (blue square icon). The "Actions (3)" tab is selected in the "Text Analytics" card. The first action, "Text Analytics - Detect Sentiment Preview", is highlighted with a red border. Other actions listed are "Text Analytics - Key Phrases Preview" and "Text Analytics - Detect Language Preview". The sidebar on the left lists various service icons: File, Back, Forward, Home, Refresh, Search, Favorites, Help, and a user profile for "jasongt@outlook.com JASON TAYLOR". The zoom level is set to 100%.

Logic Apps Designer - M X Logic Apps Designer - Micr +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 3 > _ gear ? jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

+

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted ...

Text Analytics - Detect Sentiment

* Connection Name Enter name for connection

* Account Key Cognitive Services Account Key

Site URL Root site url (Example: https://westus.api.cognitive.microsoft.com).If not specified site url will be

Create

100%

The screenshot shows the Microsoft Azure Logic App Designer interface. At the top, there are two tabs: 'Logic Apps Designer - M X' and 'Logic Apps Designer - Micr'. The main browser window displays the URL 'https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8'. The title bar says 'Microsoft Azure' and includes a search bar, notification icon (3), and user info ('jasongt@outlook.com JASON TAYLOR'). Below the title bar, the breadcrumb navigation shows 'Home > Logic apps > northwind-global-twitter - Logic App Designer'. On the left, a sidebar lists various service icons: File, Back, Forward, Home, Refresh, Help, Save, Discard, Run, Designer, Code view, Templates, Connectors, and Help. The main workspace shows a logic app named 'northwind-global-twitter - Logic App Designer'. It contains a 'When a new tweet is posted' trigger (Twitter icon) and a 'Text Analytics - Detect Sentiment' action. A modal dialog for the 'Text Analytics - Detect Sentiment' action is open, prompting for 'Connection Name' (with a red box around it), 'Account Key', and 'Site URL'. The 'Create' button is at the bottom of the modal.

Logic Apps Designer - M X Manage keys - Microsoft Az +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted ...

Text Analytics - Detect Sentiment

* Connection Name: Text Analytics

* Account Key: Cognitive Services Account Key

Site URL: Root site url (Example: https://westus.api.cognitive.microsoft.com). If not specified site url will be

Create

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic App Designer interface. A logic app named "northwind-global-twitter" is open. It contains a single trigger: "When a new tweet is posted". Below the trigger, there is a "Text Analytics - Detect Sentiment" connector configuration dialog. This dialog has two required fields highlighted with a red border: "Connection Name" containing "Text Analytics" and "Account Key" containing "Cognitive Services Account Key". There is also a "Site URL" field with the placeholder text "Root site url (Example: https://westus.api.cognitive.microsoft.com). If not specified site url will be". At the bottom of the dialog is a "Create" button.

Logic Apps Designer - M X Manage keys - Microsoft Az +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Text Analytics - Detect Sentiment

*Connection Name: Text Analytics

*Account Key: (Redacted)

Site URL: Root site url (Example: https://westus.api.cognitive.microsoft.com).If not specified site url will be

Create

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A logic app named "northwind-global-twitter" is open. The first step in the workflow is a trigger "When a new tweet is posted". Below it is a "Text Analytics - Detect Sentiment" action. The "Account Key" field and the "Site URL" dropdown menu are highlighted with a red box, indicating they are the focus of the current task. The "Create" button at the bottom right of the action card is also visible.

Logic Apps Designer - M X Text-Analytics - Microsoft A +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 3 > _ gear smiley question jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Text Analytics - Detect Sentiment

*Connection Name: Text Analytics

*Account Key: [REDACTED]

Site URL: https://australiaeast.api.cognitive.microsoft.com/text/analytics/v2.0

Create

The screenshot shows the Microsoft Azure Logic App Designer interface. At the top, there are two tabs: 'Logic Apps Designer - M' and 'Text-Analytics - Microsoft A'. The main title bar says 'Microsoft Azure' and 'Search resources, services and docs'. The left sidebar has icons for various services like Storage, Functions, and Logic Apps. The main workspace shows a logic app named 'northwind-global-twitter - Logic App Designer'. It starts with a 'When a new tweet is posted' trigger (Twitter icon). Below it is an action card for 'Text Analytics - Detect Sentiment'. This card has three input fields: 'Connection Name' (set to 'Text Analytics'), 'Account Key' (redacted), and 'Site URL' (set to 'https://australiaeast.api.cognitive.microsoft.com/text/analytics/v2.0'). A red box highlights the 'Site URL' field. At the bottom of the card is a blue 'Create' button.

Logic Apps Designer - M X +

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Microsoft Azure Search resources, services and docs

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Detect Sentiment (Preview)

Text
The text to analyze.

Show advanced options

Connected to Text Analytics. Change connection.

Create Item (Preview)

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, refresh, and home, followed by a URL bar with the address https://portal.azure.com/. Below the URL bar is the Microsoft Azure header with the search bar 'Search resources, services and docs' and user information for 'jasongt@outlook.com JASON TAYLOR'. The main workspace is titled 'northwind-global-twitter - Logic App Designer'. It displays a workflow starting with a 'When a new tweet is posted' trigger (Twitter icon). This triggers a 'Detect Sentiment (Preview)' action (Text Analytics icon). The 'Text' input field of this action is highlighted with a red border. Below the action, it says 'Connected to Text Analytics.' with a 'Change connection.' link. Finally, the workflow ends with a 'Create Item (Preview)' action (Zapier icon). The interface includes standard UI elements like Save, Discard, Run, Designer, Code view, Templates, Connectors, and Help buttons. There are also icons for other services on the left sidebar, such as File, Database, Functions, Logic Apps, API Management, Container Registry, and Key Vault.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Detect Sentiment (Preview)

Text
The text to analyze.

Add dynamic content +

Show advanced options ▾

Connected to Text Analytics. Change connection.

Create Item (Preview)

+ New step

Search dynamic content

Description User description

Location Location of the user

MediaUrls - Item

Name Name of the user

OriginalTweet.MediaUrls - Item

Retweet count Total number of re-tweets for the tweet

Tweet text Text content of the tweet

```
graph TD; DetectSentiment[Detect Sentiment (Preview)] --> CreateItem[Create Item (Preview)]; DetectSentiment -- "Text: The text to analyze." --> TweetText[Tweet text: Text content of the tweet];
```

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 4 > _ Settings Help jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Detect Sentiment (Preview)

Text Tweet text x Add dynamic content +

Show advanced options

Connected to Text Analytics. Change connection.

Create Item (Preview)

+ New step

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, home, and search, followed by the URL https://portal.azure.com/. Below the navigation is the Microsoft Azure header with a search bar and user information (jasongt@outlook.com, JASON TAYLOR). The main content area shows a logic app named "northwind-global-twitter - Logic App Designer". The "Designer" tab is selected. The logic app contains two steps: "Detect Sentiment (Preview)" and "Create Item (Preview)". The "Detect Sentiment" step has a "Text" input field containing "Tweet text x". A red box highlights the blue plus sign icon in the center of the screen, which is used to add new steps. At the bottom, there's a button labeled "+ New step". On the left side, there's a vertical sidebar with various icons representing different service connectors.

Logic Apps Designer - M X +

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Microsoft Azure Search resources, services and docs x 4 > _ Settings Help jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

When a new tweet is posted

Detect Sentiment (Preview)

Create Item (Preview)

Add an action

Add a condition (highlighted)

Add a switch case

Add a for each

Add a do until

Add a scope

Add a parallel branch >

```
graph TD; Start[When a new tweet is posted] --> Detect[Detect Sentiment (Preview)]; Detect --> Create[Create Item (Preview)];
```

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Detect Sentiment (Preview)

Condition

All >

Choose a value is equal to Choose a value ...

+ Add >

If true

Add an action ... More

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, home, and search, followed by the URL https://portal.azure.com/. Below the navigation is the Microsoft Azure header with the user's email (jasongt@outlook.com) and name (JASON TAYLOR). The main workspace is titled "northwind-global-twitter - Logic App Designer". A toolbar below the title includes Save, Discard, Run, Designer (which is selected), Code view, Templates, Connectors, and Help. The Designer tab is currently active. A workflow is displayed, starting with a "Detect Sentiment (Preview)" action. This is followed by a "Condition" step, which has a dropdown menu set to "All >". Inside the condition step, there are two inputs: "Choose a value" (highlighted with a red box) and "is equal to" followed by another "Choose a value" input. Below the condition is an "If true" branch, indicated by a green checkmark icon. The "If true" branch is currently empty, showing a placeholder "Add an action ...". On the left side of the workspace, there's a vertical sidebar with various icons representing different logic app components like triggers, loops, and connectors.

Logic Apps Designer - M X +

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Microsoft Azure Search resources, services and docs x 4 > _ Settings Help jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Detect Sentiment (Preview)

Condition

All >

Choose a value Add dynamic content +

+ Add >

If true

Dynamic content Expression

Search dynamic content

Score A decimal number between 0 and 1 denoting the sentiment of the document. A score above 0.7 usually refers to a positive document while a score below 0.3 normally has a negative connotation. Mid values refer to neutral text.

Body The unique document identifier.

Score A decimal number between 0 and 1 denoting the sentiment of the document. A score above 0.7 usually refers to a positive document while a score below 0.3 normally has a negative connotation. Mid values refer to neutral text.

When a new tweet is posted See more

This screenshot shows the Microsoft Azure Logic App Designer interface. A 'Condition' block is selected, which contains a 'Score' dynamic content item. A tooltip for the 'Score' item is displayed, providing a detailed description of its purpose and range. The 'Score' item is highlighted with a red border.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Detect Sentiment (Preview)

Condition

All ▾

Score x is equal to Choose a value

Add dynamic content +

+ Add ▾

If true

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A 'Condition' block is open, displaying a comparison between the 'Score' field and a value. The 'is equal to' operator is highlighted with a red box. The 'Choose a value' input field is empty. The 'All' dropdown is set to 'All'. Below the condition block, there is a green 'If true' section which is currently empty.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

Detect Sentiment (Preview)

Condition

All >

Score > is equal to Choose a value

Add dynamic content +

+ Add >

is greater than (highlighted with a red box)

If true

is greater tha...
is less than
is less than or...

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A 'Condition' step is selected, which compares the 'Score' dynamic content with a value. The comparison operator dropdown is open, showing options like 'is equal to', 'is not equal to', 'is greater than', etc. The 'is greater than' option is highlighted with a red box. The 'If true' path is visible below the condition step.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Detect Sentiment (Preview)

Condition

All >

Score is greater than Choose a value

Add dynamic content +

+ Add >

If true

Choose a value

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A 'Condition' block is open, displaying a comparison between the 'Score' field and a threshold ('is greater than'). The 'Choose a value' input field, which is currently empty, is highlighted with a red box. The logic app's title is 'northwind-global-twitter - Logic App Designer'. The URL in the browser is https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Condition

All >

Score > is greater than > 0.7

Add dynamic content [+]

If true

Add an action

If false

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, refresh, and home, followed by a URL bar with the address https://portal.azure.com/. Below the URL is the Microsoft Azure logo and a search bar labeled "Search resources, services and docs". On the right side of the header, there are notifications (4), a gear icon, a smiley face, a question mark, and a user profile for jasongt@outlook.com (JASON TAYLOR).

The main workspace is titled "northwind-global-twitter - Logic App Designer". It features a toolbar with "Save", "Discard", "Run", "Designer" (which is selected), "Code view", "Templates", "Connectors", and "Help".

A "Condition" block is currently selected. It has a dropdown menu set to "All" with a checked checkbox. Inside the condition, there is a "Score" connector with the condition "is greater than" and a value of "0.7". A red box highlights the "0.7" value.

Below the condition, there are two branches: "If true" (green background) and "If false" (pink background). The "If true" branch contains a placeholder "Add an action" button, which is also highlighted with a red box. The "If false" branch is empty.

The left sidebar contains icons for various services: File, Home, Logic Apps, Functions, Data Factory, Stream Analytics, Event Grid, Event Hubs, Storage, Cosmos DB, Database, App Service, Container Registry, Key Vault, and API Management.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 4 > _ gear smiley question jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

If true

Choose an action

Search all connectors and actions

Connectors

Actions (290)

Request - Response

HTTP Service Bus SQL Server Azure Functions Office 365 Outlook Azure Blob Storage Text Analytics

See more See more

100%

The screenshot shows the Microsoft Azure Logic Apps Designer interface. At the top, there's a navigation bar with icons for back, forward, refresh, and home, followed by a URL bar with the address https://portal.azure.com/. Below the URL bar is the Microsoft Azure header with the user's email (jasongt@outlook.com) and name (JASON TAYLOR). The main content area shows a logic app named "northwind-global-twitter - Logic App Designer". The "Designer" tab is selected. A green box labeled "If true" is currently active. Below it is a search bar with the placeholder text "Search all connectors and actions", which is highlighted with a red rectangular border. Underneath the search bar, there's a section titled "Connectors" with icons for various services: HTTP (green globe), Service Bus (blue envelope), SQL Server (red monitor), Azure Functions (blue lightning bolt), Office 365 Outlook (blue envelope with checkmark), Azure Blob Storage (purple hexagon), and Text Analytics (blue document with lines). There are also "See more" links for both the connectors and actions sections. At the bottom of the search area, there's a button labeled "Actions (290)" and another "See more" link. On the far left, there's a vertical sidebar with various icons representing different Azure services like storage, databases, and monitoring.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 4 > _ gear smiley question jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

If true

Choose an action

Twitter

Connectors See more

Twitter

Actions (9)

Triggers (1) Twitter - Post a tweet See more

100%

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A workflow step labeled "If true" is currently active. Below it, a "Choose an action" dropdown is open, and the "Twitter" option has been selected and is highlighted with a red box. The interface includes a sidebar with various service icons and a top navigation bar with user information.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

Twitter - Post a tweet

Twitter - Get followers

Twitter - Get following

Twitter - Get home timeline

Twitter - Get my followers

Twitter - Get my following

Twitter - Get user

Twitter - Get user timeline

Twitter - Search tweets

No retweet option! :(

The screenshot shows the Microsoft Azure Logic Apps Designer interface. On the left, there's a vertical toolbar with various icons. The main area displays a list of actions under the 'Designer' tab. A red box highlights the first five actions, which are all Twitter-related. Another red box highlights the text 'No retweet option! :(,' indicating a limitation or missing feature. The interface includes a search bar at the top, a navigation bar with 'Home,' 'Logic apps,' and the current app name, and a header with the user's email 'jasongt@outlook.com' and name 'JASON TAYLOR'.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x 4 > _ gear smiley question jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

If true

Choose an action

Search all connectors and actions

Connectors

Actions (290)

Request - Response

HTTP Service Bus SQL Server Azure Functions Office 365 Outlook Azure Blob Storage Text Analytics

See more See more

100%

The screenshot shows the Microsoft Azure Logic App Designer interface. At the top, there's a navigation bar with icons for back, forward, home, and search, followed by the URL https://portal.azure.com/. Below the navigation is the Microsoft Azure logo and a search bar labeled 'Search resources, services and docs'. On the right side of the header, there are notifications (4), a gear icon, a smiley face, a question mark, and a user profile for 'jasongt@outlook.com JASON TAYLOR'. The main workspace title is 'northwind-global-twitter - Logic App Designer'. The toolbar below the title includes 'Save', 'Discard', 'Run', 'Designer' (which is selected), 'Code view', 'Templates', 'Connectors', and 'Help'. The logic app canvas shows a green 'If true' condition block. Below it is a 'Choose an action' step, which has a search bar labeled 'Search all connectors and actions' highlighted with a red box. Underneath this are sections for 'Connectors' and 'Actions (290)'. The 'Connectors' section lists several services with their icons: HTTP (green globe), Service Bus (blue envelope), SQL Server (red monitor), Azure Functions (blue lightning bolt), Office 365 Outlook (blue envelope with checkmark), Azure Blob Storage (purple hexagon with binary code), and Text Analytics (blue document with three horizontal lines). There are also 'See more' links for both connectors and actions. The bottom of the screen shows a vertical scrollbar.

Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer Logic app

Save Discard Run Designer Code view Templates Connectors Help

If true

Choose an action

Microsoft Teams

Connectors

See more

Excel Online (Business) Microsoft StaffHub Microsoft Teams Planner

Triggers (13) Actions (37)

See more

Excel Online (Business) - Delete a row Preview

jasongt@outlook.com JASON TAYLOR

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A red box highlights the 'Microsoft Teams' connector in the search results. Another red box highlights the 'Microsoft Teams' connector icon in the 'Connectors' section below. The 'Actions (37)' tab is selected in the bottom navigation bar.

Logic Apps Designer - M X +

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Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

If true

Microsoft Teams

Search all actions

Triggers (0) Actions (4)

Microsoft Teams - Post message Preview

Microsoft Teams - Create a channel Preview

Microsoft Teams - List channels Preview

Microsoft Teams - List teams Preview

100%

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A red box highlights the 'Actions (4)' tab under the Microsoft Teams connector, specifically pointing to the 'Microsoft Teams - Post message' action.

Logic Apps Designer - M X +

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Microsoft Azure Search resources, services and docs x 4 > _ gear ? jasongt@outlook.com JASON TAYLOR

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

If true

Microsoft Teams - Post message

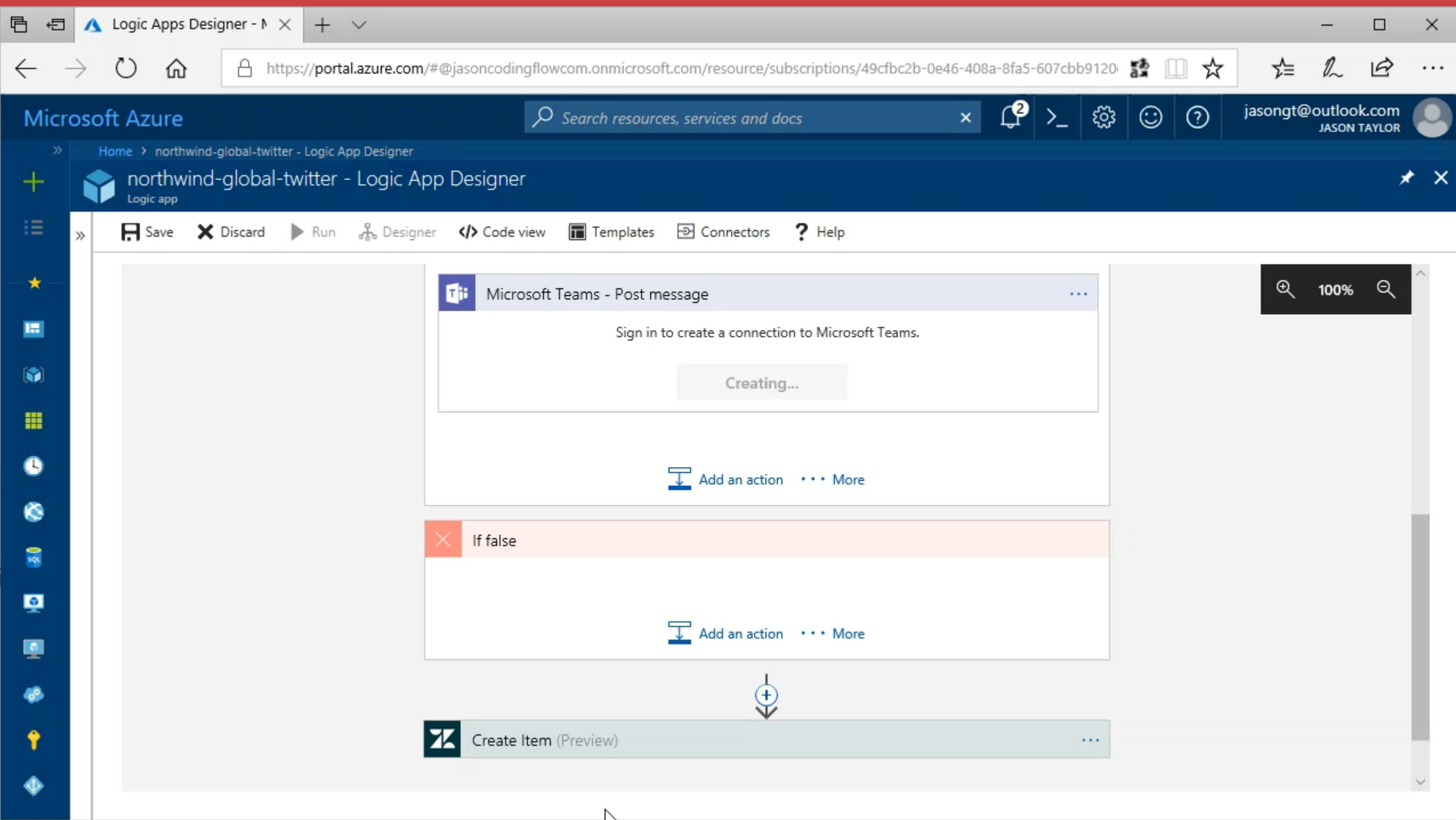
Sign in to create a connection to Microsoft Teams.

Creating...

Add an action ••• More

If false

The screenshot shows the Microsoft Azure Logic Apps Designer interface. A workflow step for "Microsoft Teams - Post message" is highlighted with a red border. The status bar at the bottom of the step indicates "Creating...". The interface includes a sidebar with various icons for different services like Power BI, Data Factory, and Logic Apps. The top navigation bar shows the URL https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8. The user is signed in as jasongt@outlook.com (JASON TAYLOR).



Logic Apps Designer - M X +

https://portal.azure.com/#@jasoncodingflowcom.onmicrosoft.com/resource/subscriptions/49cfbc2b-0e46-408a-8

Microsoft Azure Search resources, services and docs x

Home > Logic apps > northwind-global-twitter - Logic App Designer

northwind-global-twitter - Logic App Designer

Save Discard Run Designer Code view Templates Connectors Help

If false

Create Item (Preview)

Add an action More

+ New step

A large green checkmark is overlaid on the 'Create Item (Preview)' action in the Logic App Designer, indicating that the step has been successfully completed or is valid.

SSW - Agent

Secure | https://ssw.zendesk.com/agent/filters/157638648

+ Add

Views

- All open/new tickets not from twitt... 21
- SSWSysAdminProjects 18
- SSWSysAdmins 30
- Your unsolved tickets 1
- Your unsolved tasks 0
- Your requested unsolved tickets 0
- Unsolved tickets in your groups 25
- Unassigned tickets 170**
- Unassigned tasks 3
- All unsolved tickets 230
- All unsolved support tickets 190
- Recently updated tickets 3
- Suspended tickets 0
- Deleted tickets 3**

More »

Unassigned tickets

170 tickets

<input type="checkbox"/>	Subject	Requester	Requested	Priority	Group
<input type="checkbox"/>	RE: SSW - Enquiry regarding Access application and ma...	Penny Walker	21 minutes ago	-	SSWSysAdmins
<input type="checkbox"/>	@SSW_TV Thanks all who attended tonight! Slides are ...	Jason Taylor	Yesterday 08:30 pm	-	-

Play ▾

Help

https://ssw.zendesk.com/agent/tickets/698

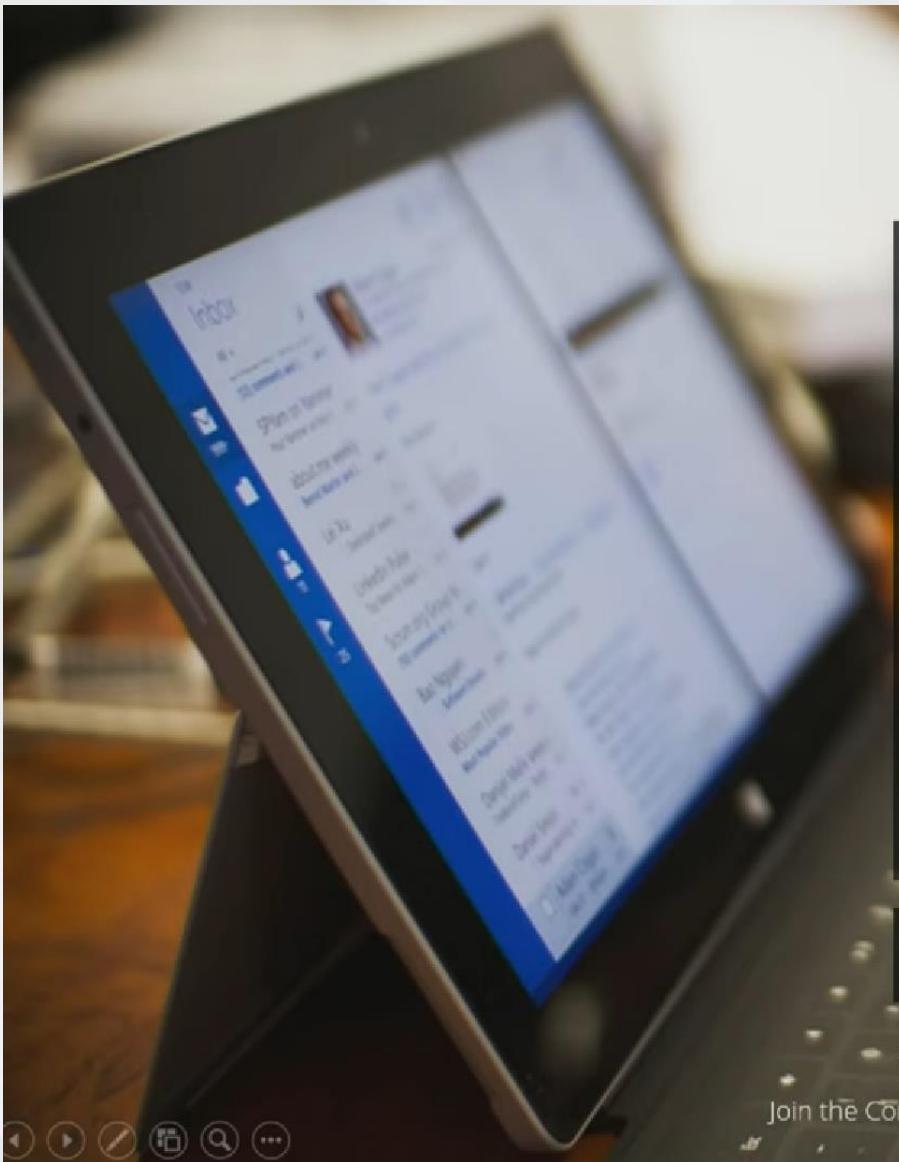
Summary: Cognitive Services

- ✓ AI in our Logic App
- ✓ Reduced tickets by 90%
- ✓ Text Analytics can detect sentiment
- ✓ Many other APIs available including vision, speech, knowledge, language
- ✗ Be careful
 - E.g. Sarcasm
- ✗ ALI

<https://azure.microsoft.com/en-gb/services/cognitive-services/>

Real-time face recognition with Microsoft Cognitive Services by Jernej Kavka (JK)

- Challenges you could Face
- Hardware Selection
- Cost effective implementation with Face API



Real-time face recognition with Microsoft Cognitive Services

Sydney .NET User Group

Join the Conversation #NETUG @jernej_kavka



- <https://tv.ssw.com/7591/real-time-face-recognition-with-microsoft-cognitive-services-jernej-kavka>
- <https://sswsophie.com>

Join the Conversation #Azure @AdamCogan @William_DotNet

VERDICT: Cognitive Services

Now I can do AI award



Donald J. Trump 

@realDonaldTrump



Sorry losers and haters, but my I.Q. is one of the highest -and you all know it! Please don't feel so stupid or insecure,it's not your fault

6:37 PM - May 8, 2013



41.1K



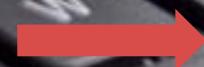
49.8K people are talking about this



Tell everyone you're smart

Join the Conversation #Azure @AdamCogan @William_DotNet

Agenda



6 – Logic Apps

7 – Cognitive Services

8 - Bots

9 – Containers

~~Wife or peer experience~~

It's about talking to ~~wife~~ customers
[airbnb](#) [uber](#) [tesla](#)

www.intercom.com

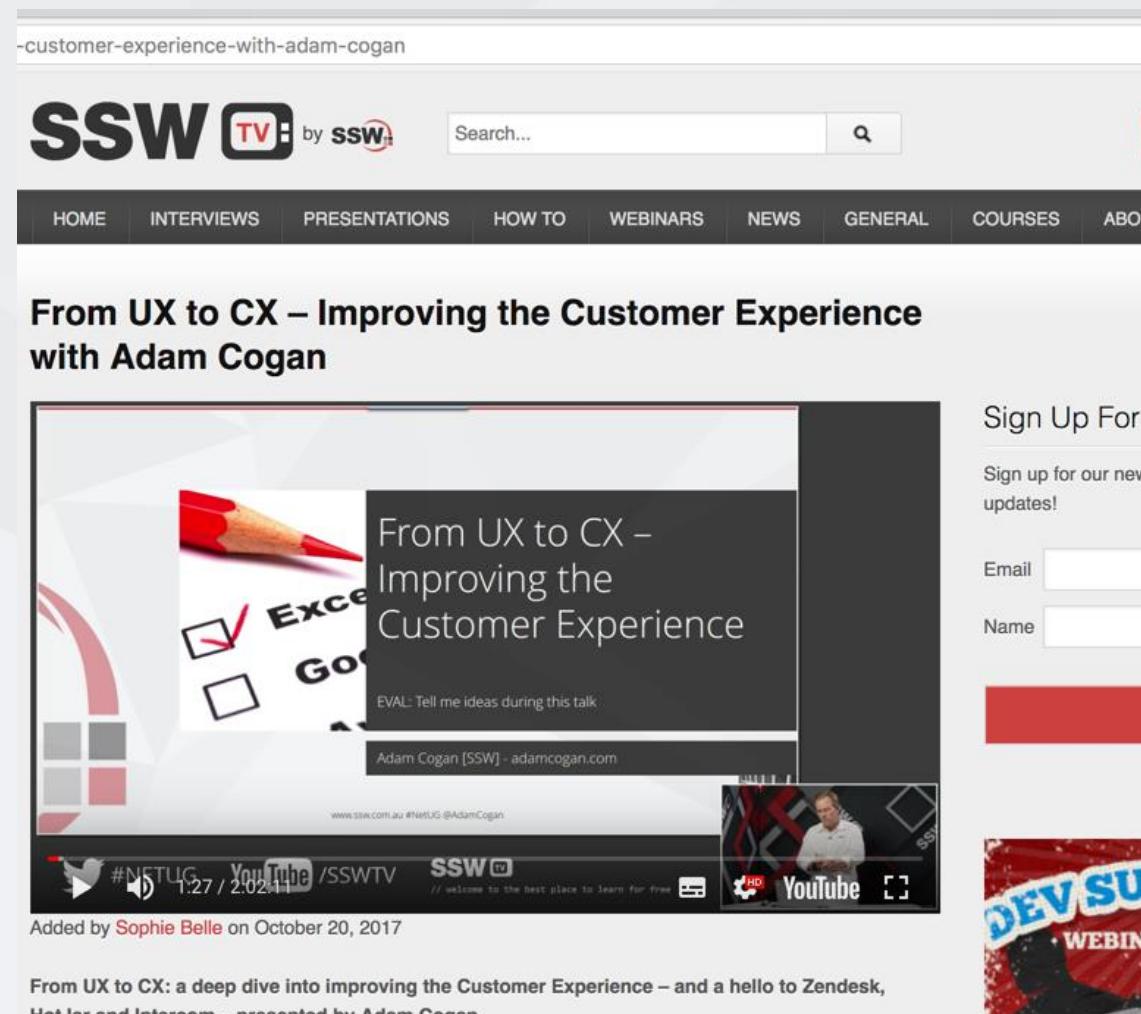
www.zendesk.com

\$\$

[SSW Rule: Deflected tickets ...](#)
(get rid of the easy ones)

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<https://tv.ssw.com/7345/from-ux-to-cx-improving-the-customer-experience-with-adam-cogan>



The screenshot shows the SSW TV website interface. At the top, there is a navigation bar with links for HOME, INTERVIEWS, PRESENTATIONS, HOW TO, WEBINARS, NEWS, GENERAL, COURSES, and ABOUT. Below the navigation bar, the main content area features a video thumbnail for a presentation titled "From UX to CX – Improving the Customer Experience with Adam Cogan". The thumbnail includes a red pencil icon and some text. To the right of the thumbnail, there is a sidebar with a "Sign Up For" section containing fields for email and name, and a "Sign up for our new updates!" button. At the bottom of the page, there are social media icons for Twitter, YouTube, and SSW TV, along with a copyright notice and a link to the video's page.

Roxy DHS

Welfare - Introducing Centrelink's robo-public servant

<http://www.canberratimes.com.au/national/public-service/introducing-centrelinks-robo-public-servant-20170117-gtt2na.html>



A bot is just an app

That users interact with

In a conversational way.



Litware Insurance

Choose the right



Full Coverage

Join the Conversation #AZures @AdamCogan @William_DotNet



Where is your company based?



Car Insurance

We offer different options to fit your wallet, suit you.

[Get Started](#)

Live Chat

Hi! How can I help you today?

What can you do?

I can help you will all of your insurance needs. Whether you're in the market for a new auto or home policy, needing to make a claim, or just have questions, I'm here to help 24/7!

“Our estimate is that by 2020
we will speak to chatbots
more than we speak to our spouses.”

<https://www.gartner.com/smarterwithgartner/gartner-predicts-a-virtual-world-of-exponential-change/>

Bot Tips

1. Introduce the bot as a “bot”
 1. People wont feel tricked
 2. People naturally simplify their speech when talking with bots
2. Give your bots a personality
3. Single responsibility - do one thing well



Scenario – Northwind365.com



Use Bots

Can we do better than saving 90%?

Our support team still has too much work to do! Answering the same questions e.g. **How do I change my password? How do I ...**

Interact with your back end services efficiently

90% is repetitive = 99% deflected

Got to have a FAQ

Got to have less stuff in emails

Got to have more stuff published

- In FAQs eg. Help.ssw.com.au
- In Docs eg. Docs.Microsoft.com
- In tickets eg. Zendesk ticket = public

Options

Step 1: FAQ - Bot can skim large amounts of information.

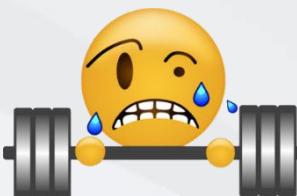
Step 2: Safety: If the bot can't help, then we connect them with a real person.

1. <https://help.ssw.com.au>
2. <https://github.com/adamstephensen/my-bot-bot>
3. Any Pdf with Q and A

Setting up QnA bot

Go to www.qnamaker.ai

1. Select Create Knowledge Base
2. Create a QnA service
3. Insert [KB URL]
4. Specify details, e.g. name, subscription, location
5. Click Create



QnA Maker - X

[Create a knowledge base](#)

Documentation Feedback

QnAMaker is now [generally available](#). Find your Preview knowledge bases in the [QnAMaker Preview portal](#) and learn how to migrate them [here](#).

From FAQ to Bot in minutes.

Build, train and publish a simple question and answer bot based on FAQ URLs, structured documents, product manuals or editorial content in minutes.

[GET STARTED >](#)

The diagram illustrates the workflow for creating a bot. It starts with three document icons (FAQ, structured document, and editorial content) on the left, which are connected by arrows pointing to the right. These arrows lead to a large blue arrow pointing to a chatbot interface on the right. The chatbot interface shows a conversation between a user and the bot, demonstrating how the input documents are used to generate responses.

What are your hours today?
Today we are open from 7:00 AM to 10:00 PM.
Do you have vegetarian options?
Yes, we have vegetarian options available.

Join the Conversation #Azure @AdamCogan @William_DotNet
<https://www.qnamaker.ai/Create>

QnA Maker

Microsoft Greg

QnA Maker My knowledge bases Create a knowledge base Documentation Feedback

QnAMaker is now [generally available](#). Find your Preview knowledge bases in the [QnAMaker Preview portal](#) and learn how to migrate them [here](#).

Create a knowledge base

Create an Azure service for your QnA knowledge base and add sources that contain the question and answer pairs you would like to include.

[Learn more about creating a knowledge base.](#)

STEP 1

Create a QnA service in Microsoft Azure.

Create an Azure QnA service for your KB. If you already have an Azure QnA service for this KB, skip this step.

[Learn more about Azure subscriptions, pricing tiers, and keys.](#)

[Create a QnA service](#)

STEP 2

Connect your QnA service to your KB.

After you create an Azure QnA service, [refresh this page](#) and then select your Azure service using the options below.

* Microsoft Azure Directory ID

Select tenant

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<https://aka.ms/qnamaker-qnaservice-azureblade>

* Azure subscription name

QnA Maker Create - Microsoft Azur + https://portal.azure.com/#create/Microsoft.CognitiveServicesQnAMaker Microsoft Azure Search resources, services, and docs mail@gregharris.net GREG HARRIS

Microsoft Azure

Create a resource All services FAVORITES Dashboard All resources Resource groups Recent App Services SQL databases Virtual machines (class...) Virtual machines Cloud services (classic) Subscriptions Storage accounts Azure Active Directory Storage accounts (clas...) Monitor Security Center

Home > New > Marketplace > Everything > QnA Maker > Create

Create QnA Maker

Name Subscription Windows Azure MSDN - Visual Studio Profess... Management pricing tier (View full pricing details) Resource group Create new Use existing Search pricing tier (View full pricing details) Search location Australia East App name App name .azurewebsites.net

The App service plan currently defaults to standard(S1) tier. It can be modified by visiting the app service plan resource page

Pin to dashboard

Create Automation options

Join the Conversation #Azure @AdamCogan @William_DotNet

QnA Maker Create - Microsoft Azur + https://portal.azure.com/#create/Microsoft.CognitiveServicesQnAMaker Microsoft Azure Search resources, services, and docs mail@gregharris.net GREG HARRIS

Microsoft Azure

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Home > New > Marketplace > Everything > QnA Maker > Create

Create QnA Maker

* Name my-bot-bot

* Subscription Windows Azure MSDN - Visual Studio Profes

* Management pricing tier [View full pricing details](#)

* Resource group Create new Use existing my-bot-bot

* Search pricing tier [View full pricing details](#)

* Search location Australia East

* App name my-bot-bot .azurewebsites.net

The App service plan currently defaults to standard(S1) tier. It can be modified by visiting the app service plan resource page

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Create Automation options

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Home > New > Marketplace > Everything > QnA Maker > Create

Create QnA Maker

* Name my-bot-bot ✓

* Subscription Windows Azure MSDN - Visual Studio Profes

* Management pricing tier (View full pricing details)

All Available Pricing

- F0 (3 Calls per second)
- S0 (2 Calls per second)

my-bot-bot ✓

* Search pricing tier (View full pricing details)

* Search location Australia East

* App name my-bot-bot .azurewebsites.net

The App service plan currently defaults to standard(S1) tier. It can be modified by visiting the app service plan resource page

Pin to dashboard

Create Automation options

Join the Conversation #Azure @AdamCogan @William_DotNet

A screenshot of the Microsoft Azure portal interface. The top navigation bar shows 'QnA Maker' and 'Create - Microsoft Azur'. The URL in the address bar is 'https://portal.azure.com/#create/Microsoft.CognitiveServicesQnAMaker'. The main content area is titled 'Create' under 'QnA Maker'. A form is displayed with fields: 'Name' (set to 'my-bot-bot'), 'Subscription' (set to 'Windows Azure MSDN - Visual Studio Profes'), 'Management pricing tier' (with a link to 'View full pricing details'), 'Search pricing tier' (with a link to 'View full pricing details'), 'Search location' (set to 'Australia East'), and 'App name' (set to 'my-bot-bot'). Below the form, a note states: 'The App service plan currently defaults to standard(S1) tier. It can be modified by visiting the app service plan resource page'. At the bottom of the form are 'Create' and 'Automation options' buttons, and a 'Pin to dashboard' checkbox. On the left sidebar, there are links for 'Create a resource', 'All services', 'FAVORITES', 'Dashboard', 'All resources', 'Resource groups', 'Recent', 'App Services', 'SQL databases', 'Virtual machines (class...)', 'Virtual machines', 'Cloud services (classic)', 'Subscriptions', 'Storage accounts', 'Azure Active Directory', 'Storage accounts (clas...', 'Monitor', and 'Security Center'. The status bar at the bottom says 'Join the Conversation #Azure @AdamCogan @William_DotNet'. The user's email 'mail@gregharris.net' and name 'GREG HARRIS' are shown in the top right corner.

QnA Maker Create - Microsoft Azur + https://portal.azure.com/#create/Microsoft.CognitiveServicesQnAMaker Microsoft Azure Search resources, services, and docs mail@gregharris.net GREG HARRIS

Microsoft Azure

Create a resource All services FAVORITES Dashboard All resources Resource groups Recent App Services SQL databases Virtual machines (classic) Virtual machines Cloud services (classic) Subscriptions Storage accounts Azure Active Directory Storage accounts (classic) Monitor Security Center

Home > New > Marketplace > Everything > QnA Maker > Create

Create QnA Maker

* Name my-bot-bot ✓

* Subscription Windows Azure MSDN - Visual Studio Profes... ✓

* Management pricing tier (View full pricing details)
F0 (3 Calls per second)

* Resource group
 Create new Use existing
my-bot-bot ✓

* Search pricing tier (View full pricing details)

All Available Pricing

- F (3 Indexes, 10K Documents)
- B (5 Indexes, 1M Documents)
- S (50 Indexes, 15M Docs/Partition*)
- S2 (200 Indexes, 60M Docs/Partition*)
- S3 (200 Indexes, 120M Docs/Partition*)
- S3 (1000 Indexes/Partition*, 200M Docs/Partition*)

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Pin to dashboard

Create Automation options

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QnA Maker Create - Microsoft Azure + https://portal.azure.com/#create/Microsoft.CognitiveServicesQnAMaker Microsoft Azure mail@gregharris.net GREG HARRIS

Microsoft Azure

Create a resource All services FAVORITES Dashboard All resources Resource groups Recent App Services SQL databases Virtual machines (classic...) Virtual machines Cloud services (classic) Subscriptions Storage accounts Azure Active Directory Storage accounts (classic...) Monitor Security Center

Home > New > Marketplace > Everything > QnA Maker > Create

Search resources, services, and docs

Create

Resource group

Create new Use existing

my-bot-bot

* Search pricing tier [View full pricing details](#)

F (3 Indexes, 10K Documents)

* Search location

Australia East

* App name

my-bot-bot

.azurewebsites.net

The App service plan currently defaults to standard(S1) tier. It can be modified by visiting the app service plan resource page once the resource has been created.

* Website location

Australia East

App insights

Enable Disable

* App insights location

South Central US

Pin to dashboard

Create Automation options

QnA Maker Create - Microsoft Azure + https://portal.azure.com/#create/Microsoft.CognitiveServicesQnAMaker Microsoft Azure mail@gregharris.net GREG HARRIS

Microsoft Azure

Create a resource All services FAVORITES Dashboard All resources Resource groups Recent App Services SQL databases Virtual machines (classic) Virtual machines Cloud services (classic) Subscriptions Storage accounts Azure Active Directory Storage accounts (classic) Monitor Security Center

Home > New > Marketplace > Everything > QnA Maker > Create

Search resources, services, and docs

Create QnA Maker

Resource group Create new Use existing my-bot-bot

* Search pricing tier (View full pricing details)
F (3 Indexes, 10K Documents)

* Search location Australia East

* App name my-bot-bot .azurewebsites.net

The App service plan currently defaults to standard(S1) tier. It can be modified by visiting the app service plan resource page once the resource has been created.

* Website location Australia East

App insights Enable Disable

* App insights location South Central US

Pin to dashboard

Validating... Automation options

QnA Maker X Dashboard - Microsoft Azure +

https://www.qnamaker.ai/Create

QnAMaker is now [generally available](#). Find your Preview knowledge bases in the [QnAMaker Preview portal](#) and learn how to migrate them [here](#).

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[Learn more about Azure subscriptions, pricing tiers, and keys.](#)

[Create a QnA service](#)

STEP 2

Connect your QnA service to your KB.

After you create an Azure QnA service, [refresh this page](#) and then select your Azure service using the options below.

* Microsoft Azure Directory ID

Select tenant

* Azure subscription name

Select subscription

Join the Conversation #Azure @AdamCogan @William_DotNet

QnA Maker X Dashboard - Microsoft Azure + v

STEP 2

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After you create an Azure QnA service, [refresh this page](#) and then select your Azure service using the options below.

* Microsoft Azure Directory ID

Select tenant

sworkerinteractiveinvoker (Default Directory)

Greg Harris

Select subscription

* Azure QnA service

Select service

STEP 3

Name your KB.

The knowledge base name is for your reference and you can change it at anytime.

* Name

Name your service

STEP 4

Populate your KB.

Extract question-and-answer pairs from an online FAQ, product manuals, or other files. Supported formats are `.tsv, .pdf, .doc, .docx, .xlsx`, containing questions and answers in sequence. [Learn more about knowledge base](#)

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QnA Maker X Dashboard - Microsoft Azure + v

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After you create an Azure QnA service, [refresh this page](#) and then select your Azure service using the options below.

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Greg Harris

* Azure subscription name

Select subscription

Windows Azure MSDN - Visual Studio Professional

* Azure QnA service

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Join the Conversation #Azure @AdamCogan @William_DotNet

QnA Maker

X Dashboard - Microsoft Azure +

https://www.qnamaker.ai/Create

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* Microsoft Azure Directory ID

Greg Harris

* Azure subscription name

Windows Azure MSDN - Visual Studio Professional

Select service

my-bot-bot

STEP 3

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The knowledge base name is for your reference and you can change it at anytime.

* Name

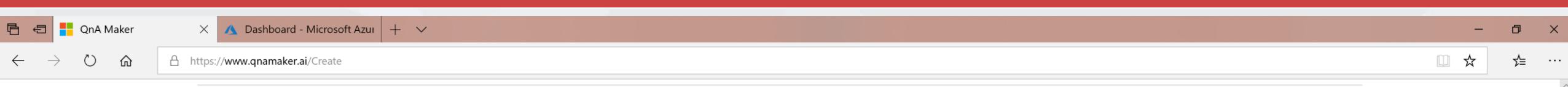
Name your service

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Join the Conversation #Azure @AdamCogan @William_DotNet



STEP 3

Name your KB.

The knowledge base name is for your reference and you can change it at anytime.

* Name

My Bot Bot

X

STEP 4

Populate your KB.

Extract question-and-answer pairs from an online FAQ, product manuals, or other files. Supported formats are .tsv, .pdf, .doc, .docx, .xlsx, containing questions and answers in sequence. [Learn more about knowledge base sources](#). Skip this step to add questions and answers manually after creation. The number of sources and file size you can add depends on the QnA service SKU you choose. [Learn more about QnA Maker SKUs](#).

URL

http://



[+ Add URL](#)

File name

[+ Add file](#)

azure-faqs/bot-service.r GitHub, Inc. [US] https://github.com/adamstephensen/azure-faqs/blob/master/bot-service.md

adamstephensen Update bot-service.md 310e090 8 days ago

1 contributor

223 lines (163 sloc) | 12.6 KB Raw Blame History

What is a bot ?

A bot is an app that users interact with in a conversational way. Bots can communicate conversationally with text, cards, or speech. For more info check out <https://docs.microsoft.com/en-us/azure/bot-service/bot-service-overview-introduction>

Can I see some good demos ?

Sure can. Check out the following:

1. The Microsoft Health Bot <http://aka.ms/ai/healthbot>
2. 'Sam' - a public-facing chatbot for DHS <https://www.humanservices.gov.au/individuals/students-and-trainees>

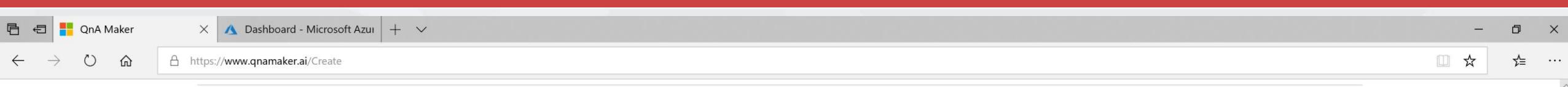
Where can I find documentation ?

There is lots of great documentation on bots.

- QnA Maker <https://qnamaker.ai>
- LUIS <https://www.luis.ai/>
- Azure Bot Service Documentation <https://docs.microsoft.com/en-us/azure/bot-service/>
- The bot framework developer portal <https://dev.botframework.com/>
- Bot Builder SDK for .NET <https://docs.microsoft.com/en-us/azure/bot-service/dotnet/bot-builder-dotnet-overview>

Join the Conversation #Azure @AdamCogan @William_DotNet

Where can I get sample applications ?



STEP 3

Name your KB.

The knowledge base name is for your reference and you can change it at anytime.

* Name

My Bot Bot

STEP 4

Populate your KB.

Extract question-and-answer pairs from an online FAQ, product manuals, or other files. Supported formats are .tsv, .pdf, .doc, .docx, .xlsx, containing questions and answers in sequence. [Learn more about knowledge base sources](#). Skip this step to add questions and answers manually after creation. The number of sources and file size you can add depends on the QnA service SKU you choose. [Learn more about QnA Maker SKUs](#).

URL

https://github.com/adamstephensen/azure-faqs/blob/master/bot-service.md

x

+ Add URL

File name

+ Add file

STEP 4

Populate your KB

Extract question-and-answer pairs from an online FAQ, product manuals, or other files. Supported formats are .tsv, .pdf, .doc, .docx, .xlsx, containing questions and answers in sequence. [Learn more about knowledge base sources](#). Skip this step to add questions and answers manually after creation. The number of sources and file size you can add depends on the QnA service SKU you choose. [Learn more about QnA Maker SKUs](#).

UR

<https://github.com/adamstephensen/azure-faqs/blob/master/bot-service.md>

+ Add UR

File name

+ Add file

STEP 5

Create your K

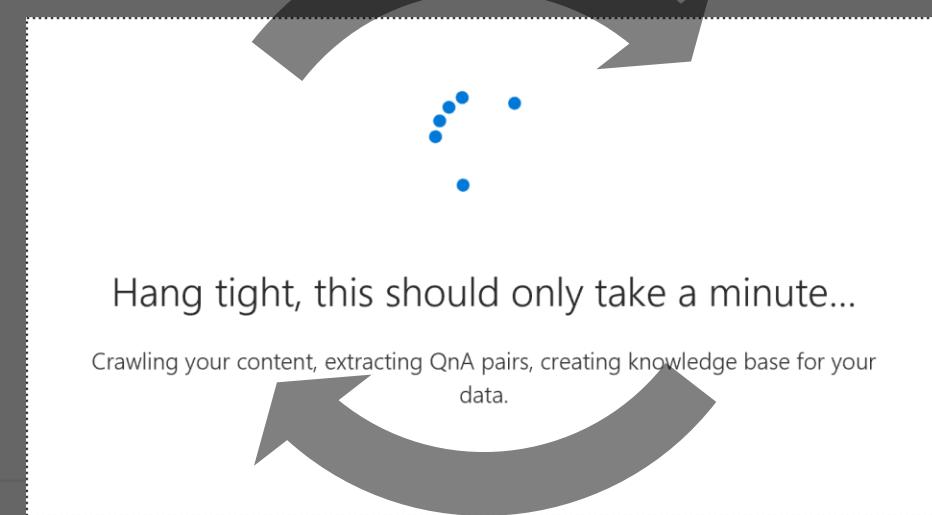
The tool will look through your documents and create a knowledge base for your service. If you are not using an existing document, the tool will create an empty knowledge base table which you can edit.

Create your KB

STEP 4

Populate your KE

UR



STEP 5

Create your KI

Join the Conversation #Azure @AdamCogan @William_DotNet

QnA Maker Dashboard - Microsoft Azure + https://www.qnamaker.ai/Edit/KnowledgeBase?kbld=7cf4607e-7347-44b9-999e-bebdb1b1164e Greg

My knowledge bases Create a knowledge base Documentation Feedback My Bot Bot EDIT PUBLISH SETTINGS Save and train ← Test

Knowledge base

Search the knowledge base X + Add QnA pair

Question Answer

Original source: <https://github.com/adamstephensen/azure-faqs/blob/master/bot-service.md>

What is a bot ? [X](#) +

A bot is an app that users interact with in a conversational way. Bots can communicate conversationally with text, cards, or speech. For more info check out https://docs.microsoft.com/en-us/azure/bot-service/bot-service-overview-introduction

Can I see some good demos ? [X](#) +

\n\nSure can. Check out the following:\n\n1. The Microsoft Health Bot http://aka.ms/ai/healthbot\n2. 'Sam' - a public-facing chatbot for DHS https://www.humanservices.gov.au/individuals/students-and-trainees

Where can I find documentation ? [X](#) + Join the Conversation #Azure @AdamCogan @William_DotNet

\n\nThere is lots of great documentation on bots.\n\n* QnA Maker https://qnamaker.ai\n* LUIS [https://www.luis.ai/]

QnA Maker Dashboard - Microsoft Azure https://www.qnamaker.ai/Edit/KnowledgeBase?kblId=7cf4607e-7347-44b9-999e-bebdb1b1164e Greg

My Bot Bot

EDIT PUBLISH SETTINGS Save and train → Test

Can I see some good demos ? +

\n\nSure can. Check out the following:\n1. The M http://aka.ms/ai/healthbot public-facing chatbot for DHS https://www.humanservices.gov.au/individuals/stud...

Where can I find documentation ? +

\n\nThere is lots of great documentation on bots.\n* https://qnamaker.ai/\n* LUIS [https://www.luis.ai/]\n* Azure Bot Service Documentation https://docs.microsoft.com/en-us/azure/bot-service/\nframework developer portal [https://dev.botframework.com/]\n* Bot Builder SDK https://docs.microsoft.com/en-us/azure/bot-service/dotnet-overviewhttps://docs.microsoft.com/en-us/azure/bot-service/dotnet-overview

Where can I get sample applications ? +

\n\nThere are heaps of awesome samples here\n* https://github.com/Microsoft/BotBuilder-Samples\n* @adamstephensen's bot about bots is here https://github.com/adamstephensen/my-bot-bot\nfunctionality not in the official bot samples, including on Azure Functions.\n

Join the Conversation #Azure @AdamCogan @William_DotNet

Test Start over Type your message...

QnA Maker Dashboard - Microsoft Azure https://www.qnamaker.ai/Edit/KnowledgeBase?kblId=7cf4607e-7347-44b9-999e-bebdb1b1164e Greg

My Bot Bot

EDIT PUBLISH SETTINGS Save and train → Test

Can I see some good demos ? +

\n\nSure can. Check out the following:\n1. The M http://aka.ms/ai/healthbot public-facing chatbot for DHS https://www.humanservices.gov.au/individuals/stud...

Where can I get training about bots?

Where can I find documentation ? +

\n\nThere is lots of great documentation on bots.\n* https://qnamaker.ai/\n* LUIS [https://www.luis.ai/]\n* Azure Bot Service Documentation [https://docs.microsoft.com/en-us/azure/bot-service/]\nframework developer portal [https://dev.botframework.com/]\n* Bot Builder SDK https://docs.microsoft.com/en-us/azure/bot-service/dotnet-overview\n

Where can I get sample applications ? +

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Join the Conversation #Azure @AdamCogan @William_DotNet

QnA Maker Dashboard - Microsoft Azure https://www.qnamaker.ai/Edit/KnowledgeBase?kbld=7cf4607e-7347-44b9-999e-bebdb1b1164e Greg

My Bot Bot

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Where can I get sample applications ? +

\n\nThere are heaps of awesome samples here\n* GitHub https://github.com/Microsoft/BotBuilder-Samples\n* Adam Stephensen's bot about bots https://github.com/adamstephensen/my-bot-bot\nfunctionality not in the official bot samples, including on Azure Functions.\n

Test Start over Type your message... Where can I get training about bots? Inspect You This course is a few years old... but covers all the basics in detail. https://mva.microsoft.com/en-us/training-courses/developing-intelligent-bots-from-zero-to-hero-17797 It is well worth a watch.

My Bot Bot at 1:47 PM

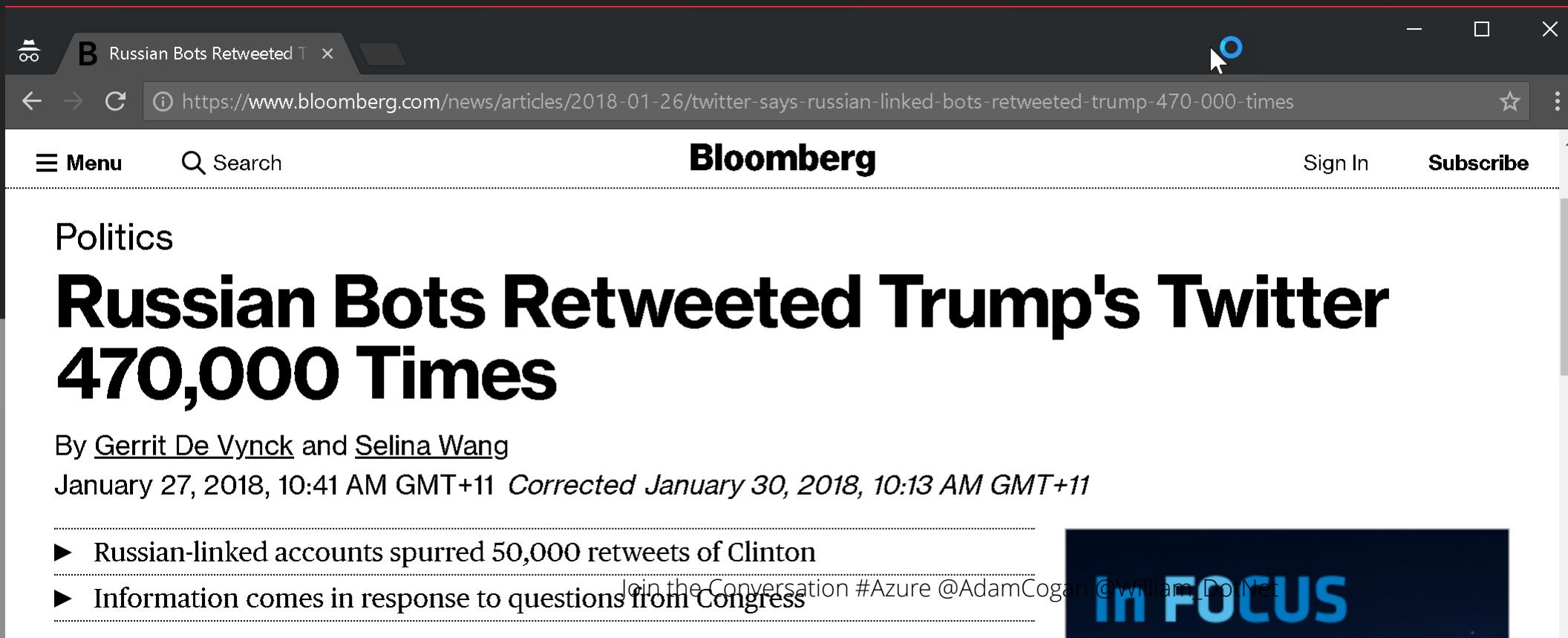
Join the Conversation #Azure @AdamCogan @William_DotNet

Summary: Bots

- ✓ Everyone is in this space eg. ZenDesk
<https://www.zendesk.com/answer-bot/>
 - ✓ Improve “Customer eXperience”
 - ✓ Seriously reduce \$ costs
 - ✓ Your KB can form the basis of your Bot
eg. <https://help.ssw.com.au>
 - ✓ Use QnA Maker - <https://qnamaker.ai>
And other bot services -
<https://azure.microsoft.com/en-us/services/bot-service/>
- ✖ Need to failover to a real person

VERDICT: Bots

The finally someone can understand me award



A screenshot of a web browser displaying a Bloomberg news article. The title of the article is "Russian Bots Retweeted Trump's Twitter 470,000 Times". The article is dated January 27, 2018, and was corrected on January 30, 2018. The author is Gerrit De Vynck and Selina Wang. The browser window has a dark theme, and the Bloomberg logo is visible at the top. A large gold seal or ribbon graphic is overlaid on the right side of the page.

Russian Bots Retweeted Trump's Twitter 470,000 Times

By [Gerrit De Vynck](#) and [Selina Wang](#)

January 27, 2018, 10:41 AM GMT+11 *Corrected January 30, 2018, 10:13 AM GMT+11*

- Russian-linked accounts spurred 50,000 retweets of Clinton
- Information comes in response to questions from Congress

Agenda



6 – Logic Apps

7 – Cognitive Services

8 - Bots

9 – Containers

Scenario – Northwind365.com



We're a new company using Office 365

We're going to launch a new site

Our development stack includes

Frontend - Angular or React

Backend - ASP.NET Core and EF Core

We don't want to manage infrastructure!

The Azure DevOps story

Cloud Services – biggest

✗ \$

✗ Deployment



- ✓ Build micro services and keep costs low
 - ✓ Speed up deployments
 - ✓ Improved auto scaling
 - ✓ Use containers in the dev and test environments === Match production
 - ✓ Faster test results (due to faster deployments into test environments)
- ? Service Fabric or AKS

My Guess

I'll guess they have legacy .NET 😊

If all .NET Core... choose Linux containers over Windows containers because they are:

- Smaller
- Faster
- \$ Cheaper

Docker → Kubernetes → AKS

What is Kubernetes?



κυβερνήτης -
Greek for "helmsman" or "pilot"

Join the Conversation #Azure @AdamCogan @William_DotNet



Anthony ~~Kubernetes~~
Koutoufides

New - Microsoft Azure

https://portal.azure.com/#create/hub

Microsoft Azure

Home > New

New

Search resources, services, and docs

1

mail@gregharris.net GREG HARRIS

+

Search the Marketplace

Azure Marketplace See all Featured See all

Get started

Recently created

Compute

Networking

Storage

Web

Mobile

Containers

Databases

Analytics

AI + Machine Learning

Internet of Things

Integration

Security

Identity

Developer tools

Management Tools

Kubernetes Service

Quickstart tutorial

Container Instances

Quickstart tutorial

Container Registry

Quickstart tutorial

Service Fabric Cluster

Quickstart tutorial

Web App for Containers

Quickstart tutorial

Docker on Ubuntu Server

Learn more

Software as a service (SaaS)

https://portal.azure.com/

Create Kubernetes clust X +

https://portal.azure.com/#create/microsoft.aks

Microsoft Azure

Search resources, services, and docs

Home > New > Create Kubernetes cluster

Create Kubernetes cluster

Basics Networking Monitoring Tags Review + create

Azure Kubernetes Service (AKS) manages your hosted Kubernetes environment, making it quick and easy to deploy and manage containerized applications without container orchestration expertise. It also eliminates the burden of ongoing operations and maintenance by provisioning, upgrading, and scaling resources on demand, without taking your applications offline. [Learn more about Azure Kubernetes Service](#)

PROJECT DETAILS

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

* Subscription: Windows Azure MSDN - Visual Studio Professional

* Resource group: Create new Use existing
Northwind

CLUSTER DETAILS

* Kubernetes cluster name: northwind

* Region: East US

* Kubernetes version: 1.9.6

* DNS name prefix: northwind

AUTHENTICATION

Review + create Next: Networking » Download a template for automation

mail@gregharris.net GREG HARRIS

Red boxes highlight the 'Resource group' dropdown, 'Kubernetes cluster name', 'Region', and 'DNS name prefix' fields. A large red arrow points downwards towards the bottom right corner of the page.

Create Kubernetes clust + - X

https://portal.azure.com/#create/microsoft.aks

Microsoft Azure

Search resources, services, and docs

Home > New > Create Kubernetes cluster

Create Kubernetes cluster

Northwind

CLUSTER DETAILS

* Kubernetes cluster name i northwind

* Region i East US

* Kubernetes version i 1.9.6

* DNS name prefix i northwind

AUTHENTICATION

* Service principal i (new) default service principal

Configure service principal i

SCALE

The number and size of nodes in your cluster. For production workloads, at least 3 nodes are recommended for resiliency. For development or test workloads, only one node is required. You will not be able to change the node size after cluster creation, but you will be able to change the number of nodes in your cluster after creation. [Learn more about scaling in Azure Kubernetes Service](#)

* Node size i Standard DS1 v2 (1 vcpus, 3.5 GB memory)

Change size

* Node count i 3

Review + create Next: Networking » Download a template for automation

mail@gregharris.net GREG HARRIS

Icons on the left sidebar: +, 3, star, I, grid, cube, clock, gear, SQL, monitor, network, key, chart, anchor, table.

Create Kubernetes clust +

https://portal.azure.com/#create/microsoft.aks

Microsoft Azure

Search resources, services, and docs

1

Home > New > Create Kubernetes cluster

Create Kubernetes cluster

Validation passed

Basics Networking Monitoring Tags Review + create

BASICS

Subscription	Windows Azure MSDN - Visual Studio Professional
Resource group	Northwind
Kubernetes cluster name	northwind
Region	East US
Kubernetes version	1.9.6
DNS name prefix	northwind
Node count	3
Node size	Standard_DS1_v2

NETWORKING

HTTP application routing	No
Network configuration	Basic

MONITORING

Enable container monitoring	Yes
Log Analytics workspace	(new) DefaultWorkspace-340a990c-ee00-4592-ae83-092985232a00-EUS



Create » [« Previous: Tags](#) [Download a template for automation](#)

mail@gregharris.net GREG HARRIS

Microsoft Azure - Microsoft A

https://portal.azure.com/#@0e4d55a6-0c0f-47f0-a000-b6184f06d8e1/resource/subscriptions/340a990c-ee00-4592-ae83-092985232a00/resourceGroups/Northwind/providers/Microsoft.ContainerService/managedClusters/northwind/overview

Microsoft Azure

All resources Greg Harris

Add Edit columns More

Filter by name...

NAME ↑↓

northwind

Overview Activity log Access control (IAM) Tags

SETTINGS Upgrade Scale Properties Locks Automation script

MONITORING Metrics (preview) Health (preview) Logs

SUPPORT + TROUBLESHOOTING New support request

Search resources, services, and docs

Move Delete Refresh

Resource group (change)
Northwind
Status
Succeeded
Location
East US
Subscription (change)
Windows Azure MSDN - Visual Studio Professional
Subscription ID
340a990c-ee00-4592-ae83-092985232a00
Tags (change)
Click here to add tags

Kubernetes version
1.9.6
API server address
northwind-3f574074.hcp.eastus.azmk8s.io
Total cores
3
Total memory
10.5

container health

Monitoring

Show data for last: 1 hour 6 hours 12 hours 1 day 7 days 30 days

Node status (northwind)

View Kubernetes dashboard

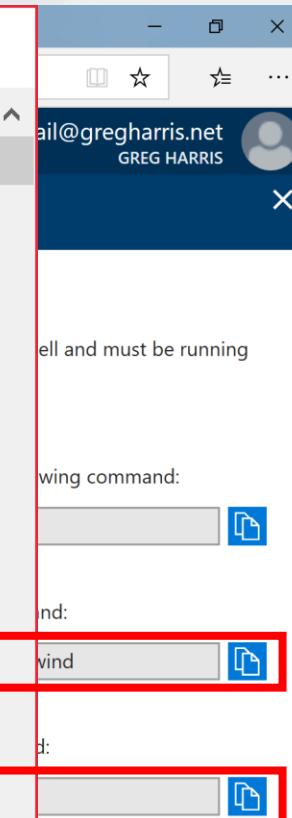
Search logs

Go to Azure Monitor logs

View connection steps

Administrator: Windows PowerShell

```
PS C:\WINDOWS\system32> az aks get-credentials --resource-group Northwind --name northwind
Merged "northwind" as current context in C:\Users\GregHarris\.kube\config
PS C:\WINDOWS\system32> az aks browse --resource-group Northwind --name northwind
Merged "northwind" as current context in C:\Users\GREGHA~1\AppData\Local\Temp\tmplno7gs01
Proxy running on http://127.0.0.1:8001/
Press CTRL+C to close the tunnel...
Forwarding from 127.0.0.1:8001 -> 9090
Handling connection for 8001
```



aks - Microsoft Azure Overview - Kubernetes Dashboard

127.0.0.1:8001#!/overview?namespace=default

kubernetes Search + CREATE

Overview

Cluster

- Namespaces
- Nodes
- Persistent Volumes
- Roles
- Storage Classes

Namespace

default

Overview (highlighted)

Workloads

- Cron Jobs
- Daemon Sets
- Deployments
- Jobs
- Kubernetes – Deployment
- Pods
- Replica Sets

Discovery and Load Balancing

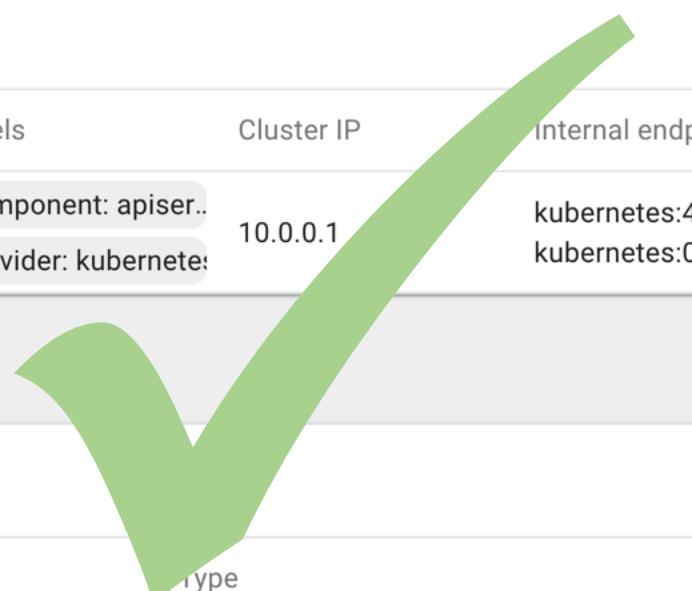
Services

Name	Labels	Cluster IP	Internal endpoints	External endpoints	Age
kubernetes	component: apiser.. provider: kubernetes	10.0.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	9 days

Config and Storage

Secrets

Name	Type	Age
default-token-kcz45	kubernetes.io/service-account-token	9 days



A large green checkmark is drawn over the Services and Secrets sections of the dashboard, indicating successful configuration or deployment.

aks - Microsoft Azure Resource creation - Kubernetes

127.0.0.1:8001#!/deploy?namespace=default

kubernetes Search + CREATE

Resource creation

Cluster

- Namespaces
- Nodes
- Persistent Volumes
- Roles
- Storage Classes

Namespace

default ▾

Overview

Workloads

- Cron Jobs
- Daemon Sets
- Deployments
- Jobs
- Pods
- Replica Sets

CREATE FROM TEXT INPUT CREATE FROM FILE **CREATE AN APP**

App name * **demo** 6 / 24

Container image * **ghost:alpine**

Number of pods * **1**

None
Internal
External

An 'app' label with this value will be added to the Deployment and Service that get deployed. [Learn more](#)

Enter the URL of a public image on any registry, or a private image hosted on Docker Hub or Google Container Registry. [Learn more](#)

A Deployment will be created to maintain the desired number of pods across your cluster. [Learn more](#)

Optional, an internal or external Service can be defined to map an incoming Port to a target Port seen by the container. The internal DNS name for this Service will be: **demo-2**. [Learn more](#)

aks - Microsoft Azure Resource creation - Kubernetes

127.0.0.1:8001#!/deploy?namespace=default

kubernetes Search + CREATE

Resource creation

Cluster
Namespaces
Nodes
Persistent Volumes
Roles
Storage Classes

Namespace
default

Overview

Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets

App name *
demo 4 / 24
An 'app' label with this value will be added to the Deployment and Service that get deployed. [Learn more](#)

Container image *
ghost:alpine
Enter the URL of a public image on any registry, or a private image hosted on Docker Hub or Google Container Registry. [Learn more](#)

Number of pods *
1
A Deployment will be created to maintain the desired number of pods across your cluster. [Learn more](#)

Service *
External
Optional, an internal or external Service can be defined to map an incoming Port to a target Port seen by the container. The internal DNS name for this Service will be: **demo**. [Learn more](#)

Port *	Target port *	Protocol *
80	2368	TCP

Protocol *
Port Target port TCP

[SHOW ADVANCED OPTIONS](#)

DEPLOY CANCEL



☰ Overview

Cluster

Namespaces

Nodes

Persistent Volumes

Roles

Storage Classes

Namespace

default ▾

Overview

Workloads

Cron Jobs

Daemon Sets

Deployments

Jobs

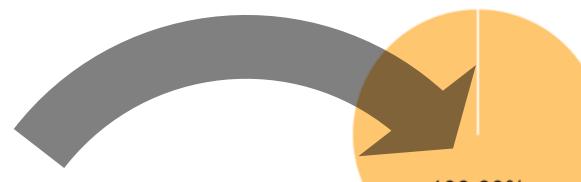
Pods

Replica Sets

Workloads Statuses



Deployments



Pods



Replica Sets

Deployments

Name ▾

demo

Labels

k8s-app: demo

Pods ▾

0 / 1

Age ▾

0 seconds

Images

ghost:alpine



Pods

Name ▾

demo-76bbc864-7j2

Node

aks-nodepool1-49044186-2

Status ▾

Waiting: Containe 0

Restarts

0

Age ▾

0 seconds

CPU (cores)

-

Memory (bytes)

-





Discovery and load balancing > Services

Overview

Workloads

Cron Jobs

Daemon Sets

Deployments

Jobs

Pods

Replica Sets

Replication Controllers

Stateful Sets

Discovery and Load Balancing

Ingresses

Services

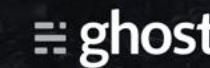
Config and Storage

Kubernetes – Run the application

Config Maps

Persistent Volume Claims

52.173.199.214



The professional publishing platform

HOME



GETTING STARTED

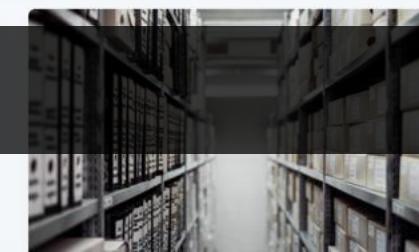
Welcome to Ghost

Hey! Welcome to Ghost, it's great to have you :) We know that first impressions are important, so we've populated your new site with some initial Getting Started posts that will help you get



1 MIN READ

Ghost blog running on Kubernetes



aks - Microsoft Azure Deployments - Kubernetes Data

127.0.0.1:8001#!/deployment?namespace=default

kubernetes

Search

+ CREATE

☰ Workloads > Deployments

Cluster

- Namespaces
- Nodes
- Persistent Volumes
- Roles
- Storage Classes

Namespace

default

Deployments

Name	Labels	Pods	Age	Images
demo	k8s-app: demo	1 / 1	5 minutes	ghost:alpine

CPU usage

Memory usage

Kubernetes - Scaling

Workloads

Cron Jobs

Daemon Sets

Deployments

Jobs

Pods

Replica Sets

aks - Microsoft Azure Deployments - Kubernetes Data

127.0.0.1:8001#!/deployment?namespace=default

Search

+ CREATE

kubernetes

Workloads > Deployments

Cluster

- Namespaces
- Nodes
- Persistent Volumes
- Roles
- Storage Classes

Namespace

default

Overview

Workloads

- Cron Jobs
- Daemon Sets
- Deployments
- Jobs
- Pods
- Replica Sets

CPU usage

Time: 18:18 to 18:19

CPU (cores): 0.124, 0.083, 0.055, 0.028

Memory usage

Time: 18:17 to 18:19

Memory (bytes): 85.8 Mi, 57.2 Mi, 38.1 Mi, 19.1 Mi

Deployments

Name	Labels	Pods	Age	Images	Actions
demo	k8s-app: demo	1 / 1	5 minutes	ghost:alpine	Scale Delete View/edit YAML



☰ Workloads > Deployments

Cluster

Namespaces

Nodes

Persistent Volumes

Roles

Storage Classes

Namespace

default

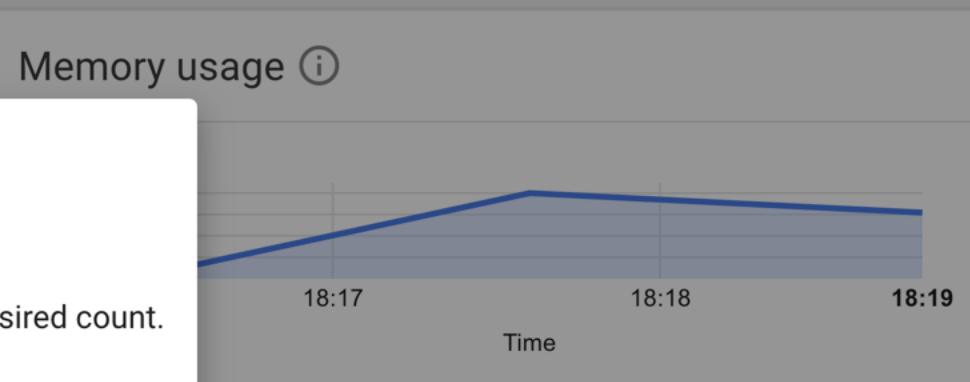
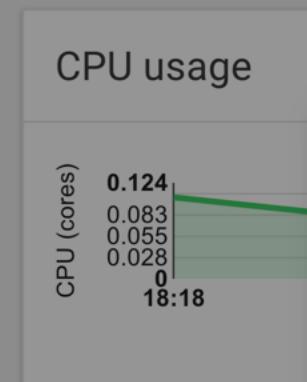
Overview

Wardlaw et al.

Cron Jobs

Daemon Sets

Deployments



Scale a Deployment

aks - Microsoft Azure Deployments - Kubernetes Data

127.0.0.1:8001#!/deployment?namespace=default

kubernetes

Search

+ CREATE

☰ Workloads > Deployments

Cluster

- Namespaces
- Nodes
- Persistent Volumes
- Roles
- Storage Classes

Namespace

default

Overview

Workloads

Cron Jobs

Daemon Sets

Deployments

Jobs

Pods

Replica Sets

Kubernetes – Scaling in progress...

CPU usage

Time: 18:18 to 18:19

CPU (cores): 0.124, 0.083, 0.055, 0.028

Memory usage

Time: 18:17 to 18:19

Memory (bytes): 85.8 Mi, 57.2 Mi, 38.1 Mi, 19.1 Mi

Deployments

Name	Labels	Pods	Age	Images
demo	k8s-app: demo	1 / 5	5 minutes	ghost:alpine

A red box highlights the "1 / 5" status indicator under the Pod count column for the "demo" deployment.

Search

+ CREATE

Workloads > Pods

Cluster

- Namespaces
- Nodes
- Persistent Volumes
- Roles
- Storage Classes

Namespace

default

Overview

Workloads

Cron Jobs

Daemon Sets

Deployments

Jobs

Pods

CPU usage

Memory usage

Pods

Name	Node	Status	Restarts	Age	CPU (cores)	Memory (bytes)
demo-76bbcbc864-24i	aks-nodepool1-49044186-2	Running	0	a minute	0.1	104.180 Mi
demo-76bbcbc864-r8v	aks-nodepool1-49044186-1	Running	0	a minute	-	1.289 Mi
demo-76bbcbc864-rnp	aks-nodepool1-49044186-2	Running	0	a minute	0.104	103.984 Mi
demo-76bbcbc864-z6!	aks-nodepool1-49044186-1	Running	0	a minute	-	1.375 Mi
demo-76bbcbc864-7j2	aks-nodepool1-49044186-2	Running	0	6 minutes	0	64.629 Mi

Kubernetes - Total pods after scaling

Mmmm

- Containers are easy
- Orchestration is not easy
- Learn Dockerfiles, [Helm Charts](#) and other configuration as code files
- Automate **creating** your container images
- Automate **deploying** them to Azure AKS.

Suggestion to Microsoft

Automate whatever I need to create and deploy from
Visual Studio.

I'd prefer not to learn "Kubernetes" initially
Instead just hit Publish in Visual Studio.

...

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'Myk8sApp' (1 project)

Myk8sApp

- Connected Services
- Dependencies
- Properties
- wwwroot
- charts
 - myk8sapp
 - templates
 - _helpers.tpl
 - deployment.yaml
 - ingress.yaml
 - NOTES.txt
 - secrets.yaml
 - service.yaml
 - .helmignore
 - Chart.yaml
 - values.yaml
 - Pages
 - appsettings.json
 - azds.yaml
 - bundleconfig.json
 - Dockerfile
 - HeaderPropagation.cs
 - Program.cs
 - Startup.cs

Done ✓



Solution Explorer

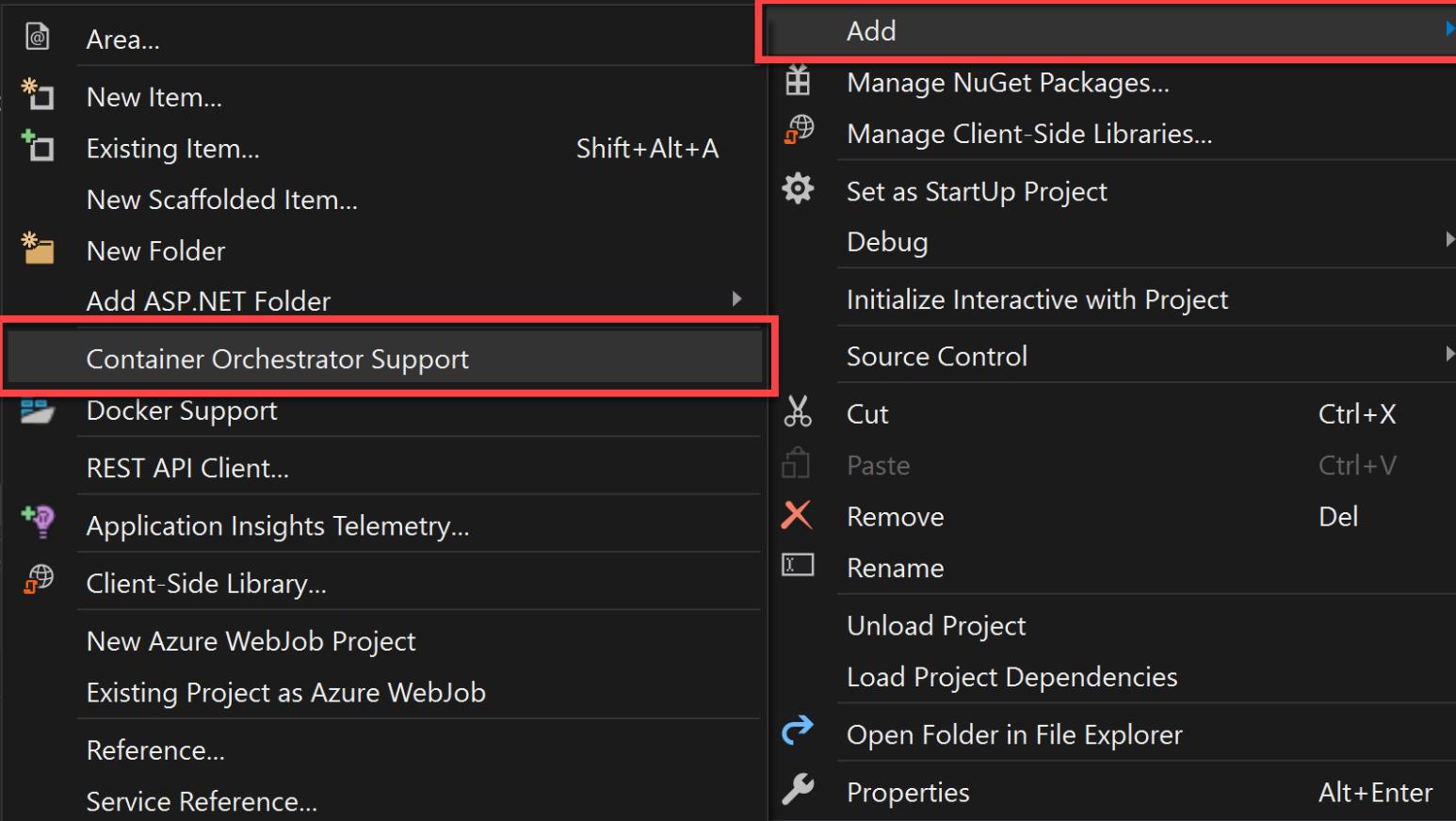
Search Solution Explorer (Ctrl+;)

Solution 'Myk8sApp' (1 project)

- Build Solution Ctrl+Shift+B
- Rebuild Solution
- Clean Solution
- Analyze
- Publish to Azure AKS
- Batch Build...
- Live Unit Testing

Join the Conversation #Azure @AdamCogan @William_DotNet

VS2019 can do it for you



Join the Conversation #Azure @AdamCogan @William_DotNet

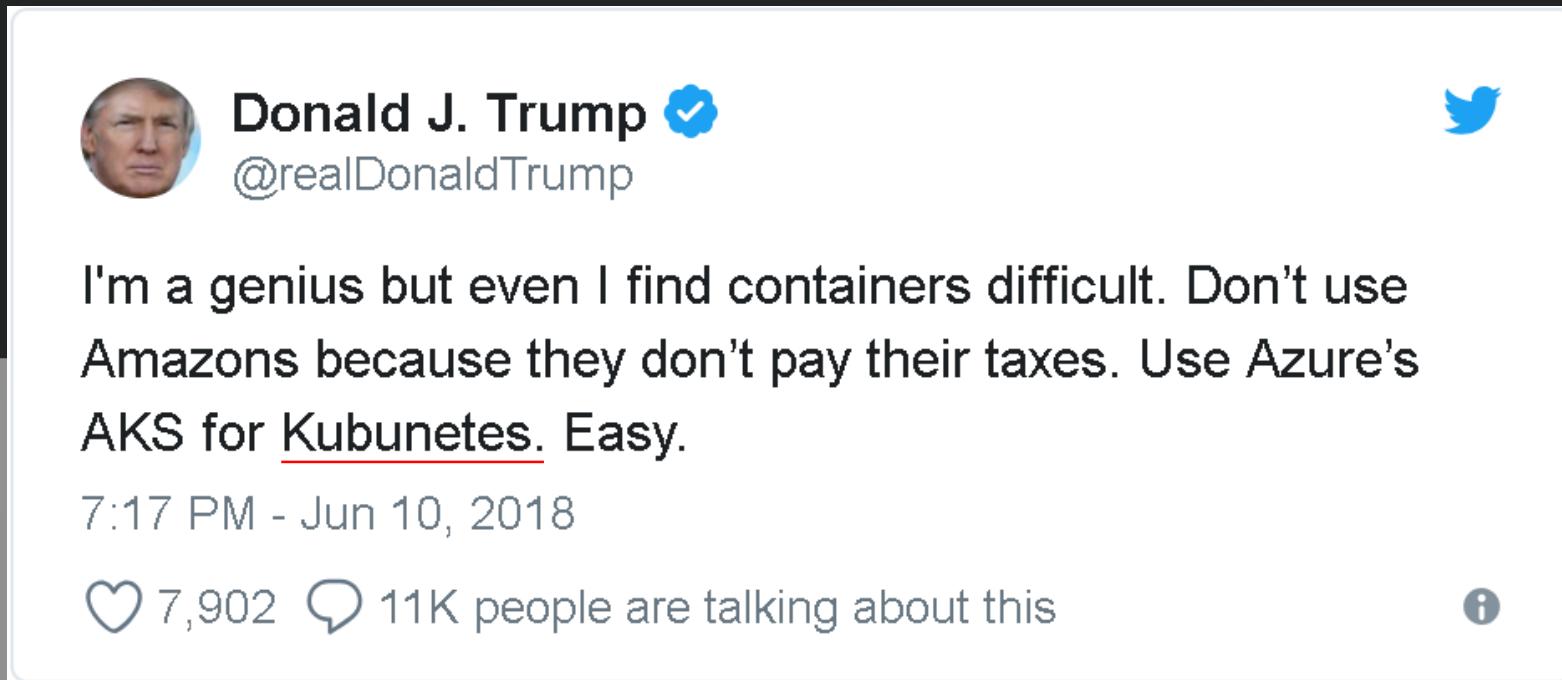
Summary: Containers → AKS

- ✓ FREE Orchestration!
- ✗ Not FREE !
- ✓ Removes complexity with container orchestration and scaling
- ✓ Simple to manage

<https://azure.microsoft.com/en-au/pricing/details/container-service/>

VERDICT: Containers

The never hear... award



Donald J. Trump 
@realDonaldTrump

I'm a genius but even I find containers difficult. Don't use Amazons because they don't pay their taxes. Use Azure's AKS for Kubunetes. Easy.

7:17 PM - Jun 10, 2018

7,902  11K people are talking about this 



Agenda



6 – Logic Apps

7 – Cognitive Services

8 - Bots

9 - Containers

10 – BONUS

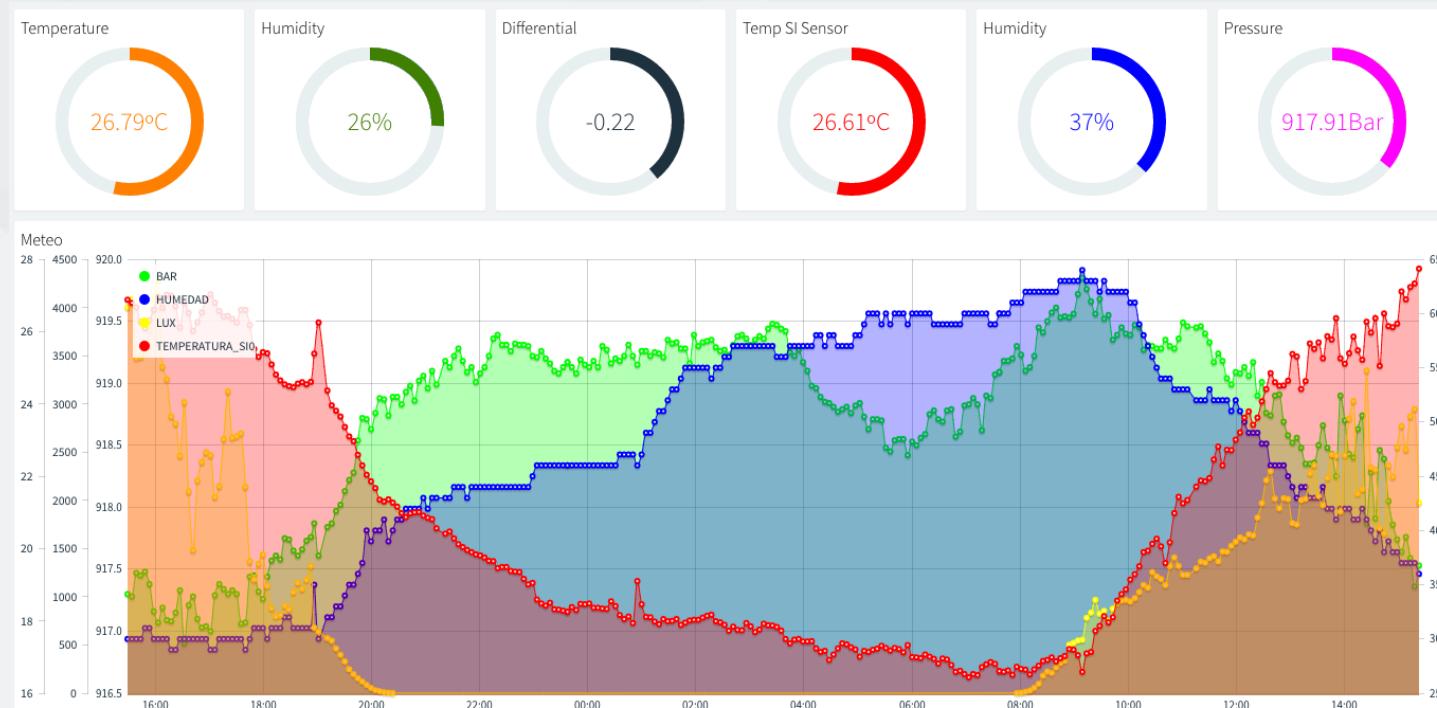


#10 - Azure SignalR Service

Solves real-time messaging in scaled-out scenarios

Eg. Applications

- Chat
- IoT Dashboards
- Instant Broadcasting





Build the Real-time Web with SignalR Core and Azure SignalR Service

Sydney .NET User Group – 13 Feb 2019

Anthony Chu - Microsoft
[@nthonyChu](https://twitter.com/nthonyChu)



<https://tv.ssw.com/7594/build-real-time-web-signalr-core-azure-signalr-service-anthony-chu-microsoft>

Join the Conversation #Azure @AdamCogan @William_DotNet



#11 - Azure KeyVault

Secure Key Management

- Centralized Secret Management
- Monitor usage
- Control Access
- Keys stored securely in Hardware Security Modules (HSM's)
- Integrates with other Azure services using **Managed Service Identities (MSI)**
 - App Services, Function Apps, Storage, EventHub, Log Analytics

Create a KeyVault during ARM deployment

```
{  
  "type": "Microsoft.KeyVault/vaults",  
  "name": "[variables('keyVaultName')]",  
  "apiVersion": "2016-10-01",  
  "location": "[resourceGroup().location]",  
  "tags": {  
    "environment": "[parameters('environment')]",  
    "project": "[parameters('project')]"  
  },  
  "properties": {  
    "sku": {  
      "family": "A",  
      "name": "standard"  
    },  
    "tenantId": "[subscription().tenantId]",  
    "accessPolicies": [  
      {  
        "tenantId": "[subscription().tenantId]",  
        "objectId": "[parameters('deploymentServicePrincipalObjectId')]",  
        "permissions": {  
          "keys": ["list", "get", "create"],  
          "secrets": ["list", "get", "set"]  
        }  
      }  
    ],  
    "enabledForTemplateDeployment": true  
  },  
}
```



Save Key/Secret to KeyVault via ARM Deployment



```
{  
  "type": "Microsoft.KeyVault/vaults/secrets",  
  "name": "[concat(variables('keyVaultName'), '/', 'SqlConnectionString')]",  
  "apiVersion": "2015-06-01",  
  "properties": {  
    "value": "[concat('Server=tcp:', variables('sqlServerName'), '.database.windows.net,1433;Initial Catalog=',  
  },  
  "dependsOn": [  
    "[resourceId('Microsoft.KeyVault/vaults', variables('keyVaultName'))]",  
    "[concat('Microsoft.Sql/servers/', variables('sqlServerName'))]"  
  ]  
},
```

Reference Key/Secret from KeyVault via ARM Parameters File



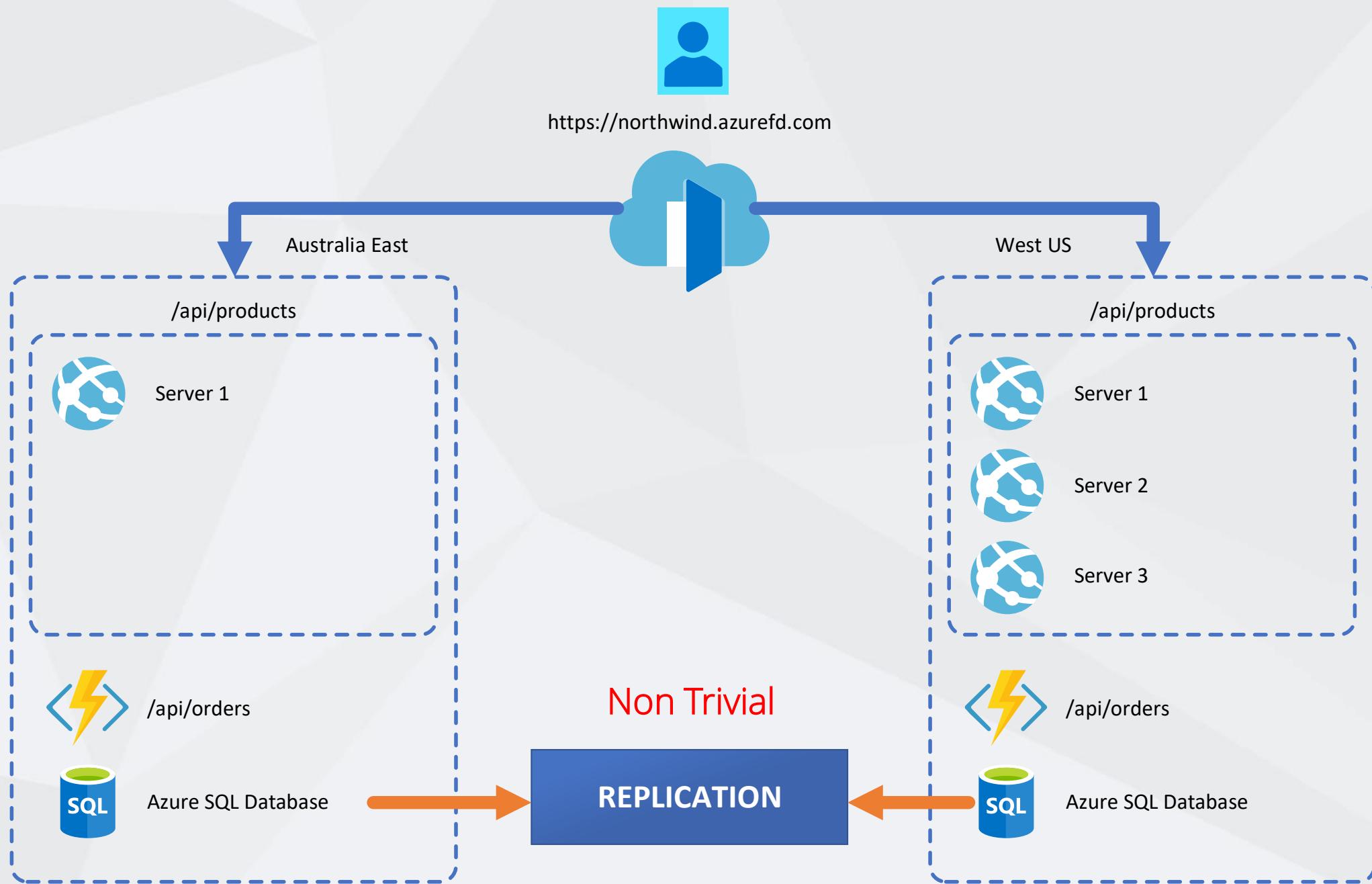
```
{  
    "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentParameters.json#",  
    "contentVersion": "1.0.0.0",  
    "parameters": {  
        "zenDeskApiKey": {  
            "reference": {  
                "keyVault": {  
                    "id": "/subscriptions/<MySubscriptionID>/resourceGroups/MyResourceGroup/providers/Microsoft.KeyVault/vaults/MyKeyVault"  
                },  
                "secretName": "zenDeskApiKey"  
            }  
        }  
    }  
}
```

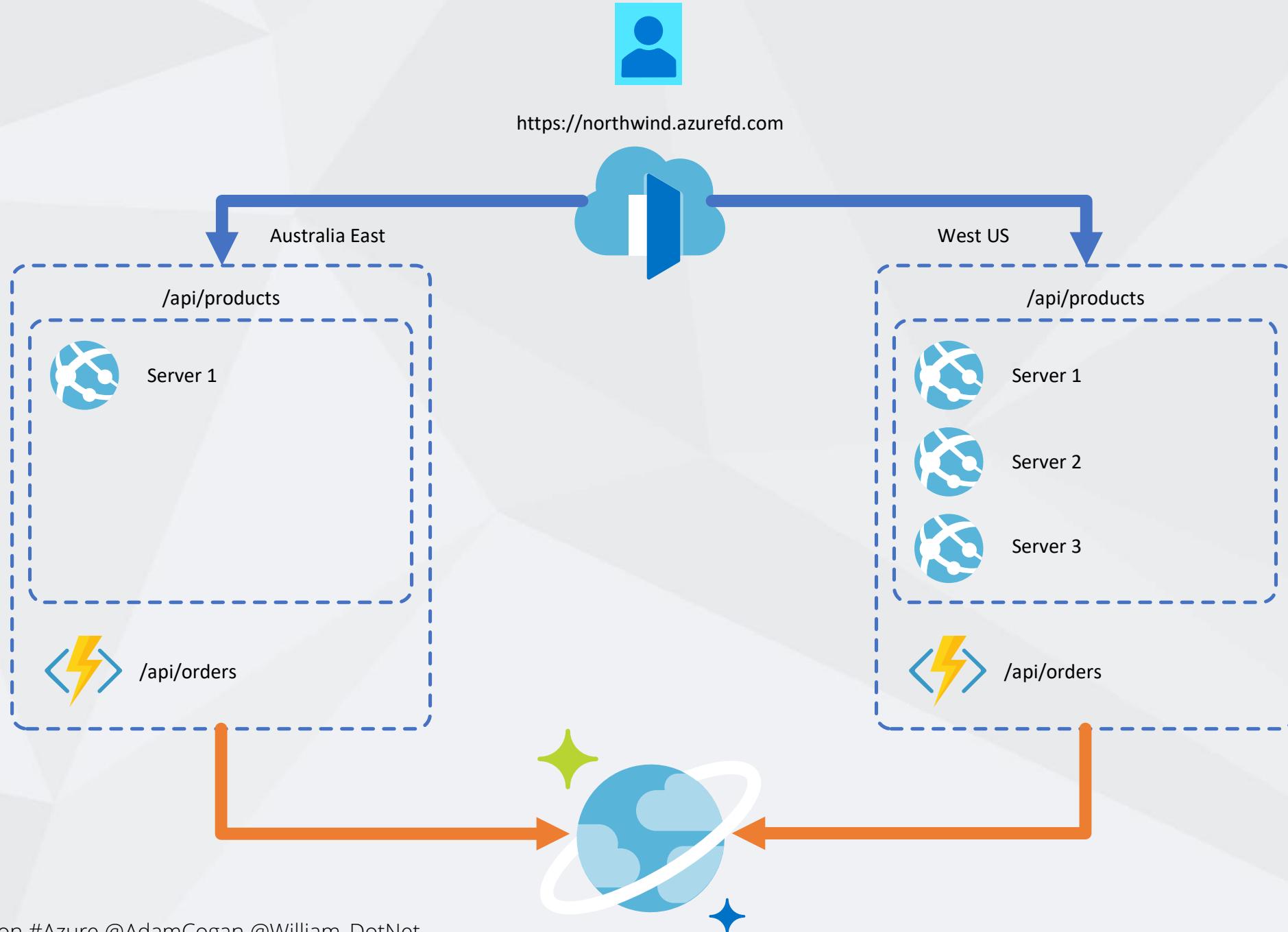


#12 - Azure Front Door (Preview)

Web Application Acceleration Platform & Global HTTP(S) Load Balancer

- Improve Application Scale
- Instant Multi-region Fail-over
- Route traffic to the fastest backend
- Improve Performance with SSL Offloading at the Edge
- Network and App Layer Security
- DDoS Protection
- More...





Summary

In the next year...

We will be making all our of apps smarter

Machine Learning and AI.

Our apps will be brainier and easier to use.

We will be deploying them with **Containers**

Where is AI going? 5 Years+

"A.I. could create an 'immortal dictator' from which we can never escape"

Elon Musk

Join the Conversation #Azure @AdamCogan @William_DotNet



Where is AI going?

"It's just like, if we're building a road and an anthill just happens to be in the way, we don't hate ants, we're just building a road ...and so, goodbye anthill."

Documentary - Do you **trust** this computer?

Elon Musk

Join the Conversation #Azure @AdamCogan @William_DotNet



How long?

“We have 5 years, what’s left to do on your bucket list?”

Elon Musk

Join the Conversation #Azure @AdamCogan @William_DotNet



Where is AI going?

"Success in creating effective AI, could be the biggest event in the history of our civilization.

Or the worst.

We just don't know."



Stephen Hawking

Join the Conversation #Azure @AdamCogan @William_DotNet

Where is AI going?

“With A.I. especially, I’m really optimistic.

People who are naysayers and kind of try to drum up
these doomsday scenarios.

I just, I don’t understand it.”



Resources

- Microsoft Virtual Academy <https://mva.microsoft.com/>
- Microsoft Learn <https://docs.microsoft.com/learn/>
- Pluralsight - <https://www.pluralsight.com/>
- SSW TV - <https://tv.ssw.com/>

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William Lieberberg

William is a **Solutions Architect** at SSW with almost 15 years of

professional experience across multiple industries ranging from Financial, Heavy Engineering, Real-time 3D Graphics, Student Housing, and Education.

Suggestion to Microsoft

Make a Trail Map like this for Microsoft (the default Microsoft cloud journey)

<https://twitter.com/AdamCogan/status/1006139454959095813>

(Like this 9 Knights of Azure talk)



The future

In a couple of years... Azure or AWS?

The Answer:

The winner will have the best AI engine!

Thank you!

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