

# Managing Microsoft Azure App Services

---

## CONFIGURING APPLICATION SETTINGS



**Neil Morrissey**

SOLUTIONS ARCHITECT

@morsesolutions [www.neilmorrissey.net](http://www.neilmorrissey.net)



# Module Overview



**Understand App Service features**

**App Service Plan**

**Individual App Services**

Web Apps, API Apps, Mobile Apps,  
Function Apps, WebJobs

**Create an App Service in the Azure Portal**

**Configuring application settings**

**App Service deployment options**

**Deploy a Web App**

**Azure App Service authentication**



# Understanding Azure App Service

---



# Azure App Services

Web Apps

API Apps

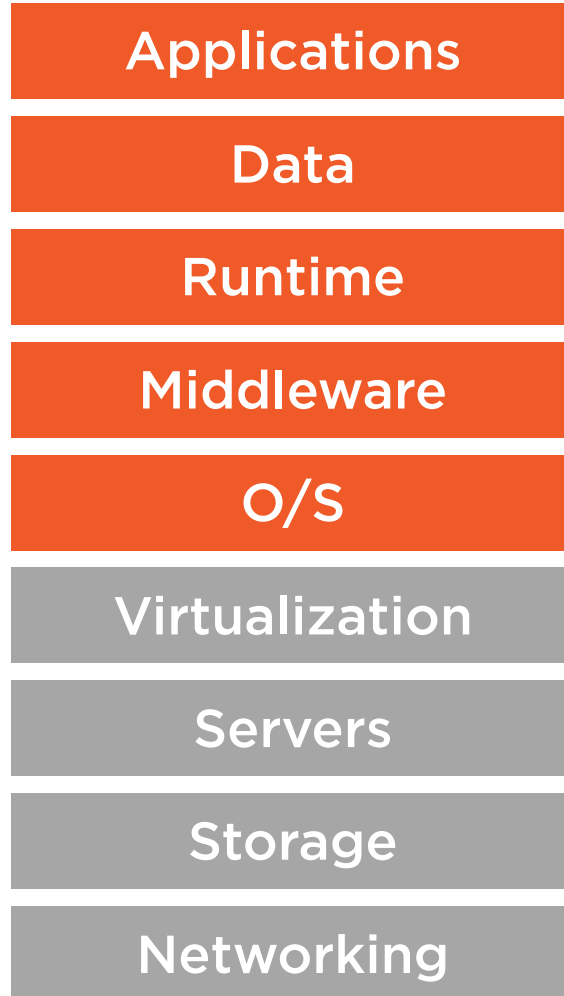
Mobile Apps

Function Apps

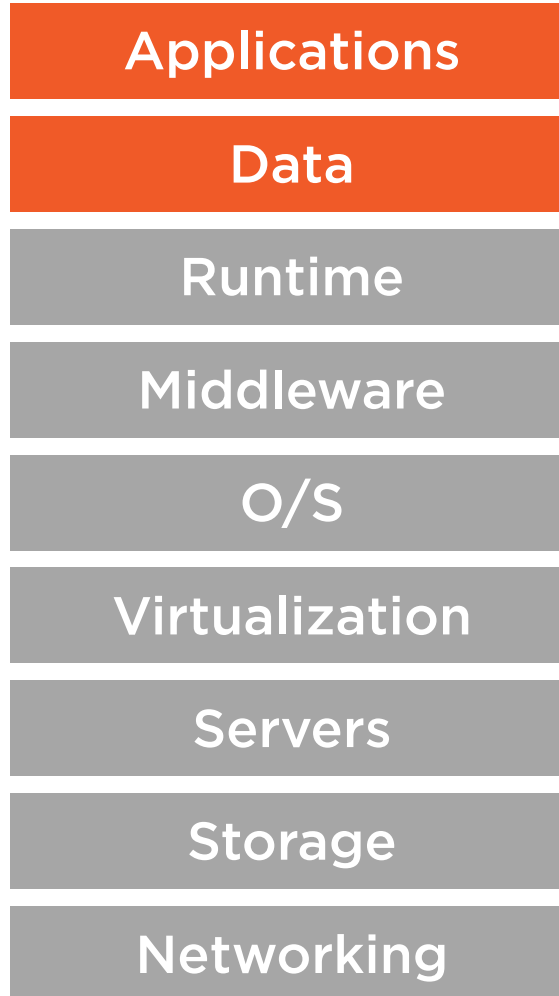




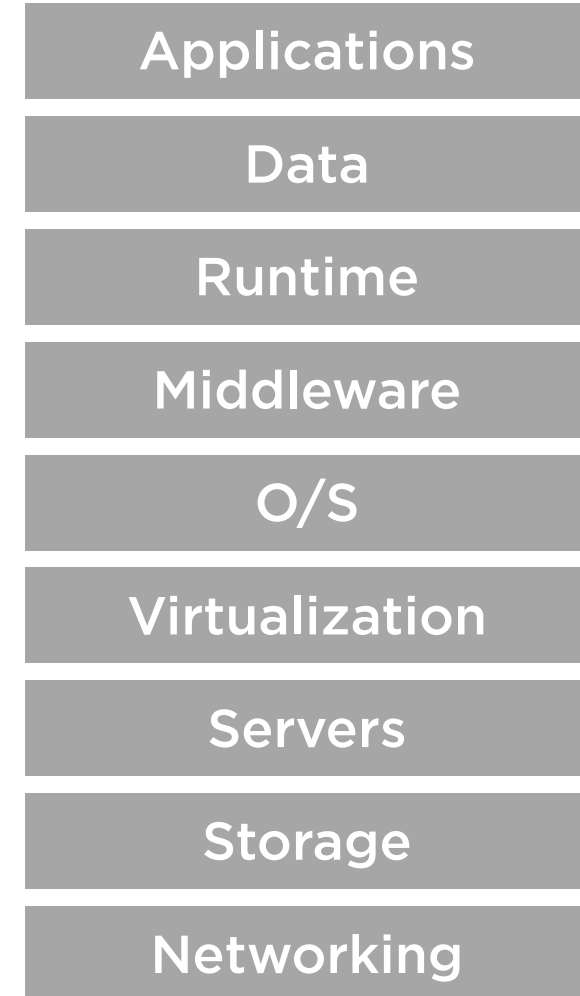
### Infrastructure-as-a-Service



### Platform-as-a-Service



### Software-as-a-Service



# Azure App Service Features

**Windows or Linux**

**Development  
Frameworks**

**WebJobs**

**Continuous  
Integration**

**Deployment Slots**

**Backup and  
Restore**



# Azure App Service Features

**Hybrid Data  
Connections**

**Virtual Network  
Endpoints**

**Restrict Access to  
IP Addresses**

**Custom Domains**

**SSL Certificates**

**Auto-scaling**



# Azure App Service - Mobile App Features

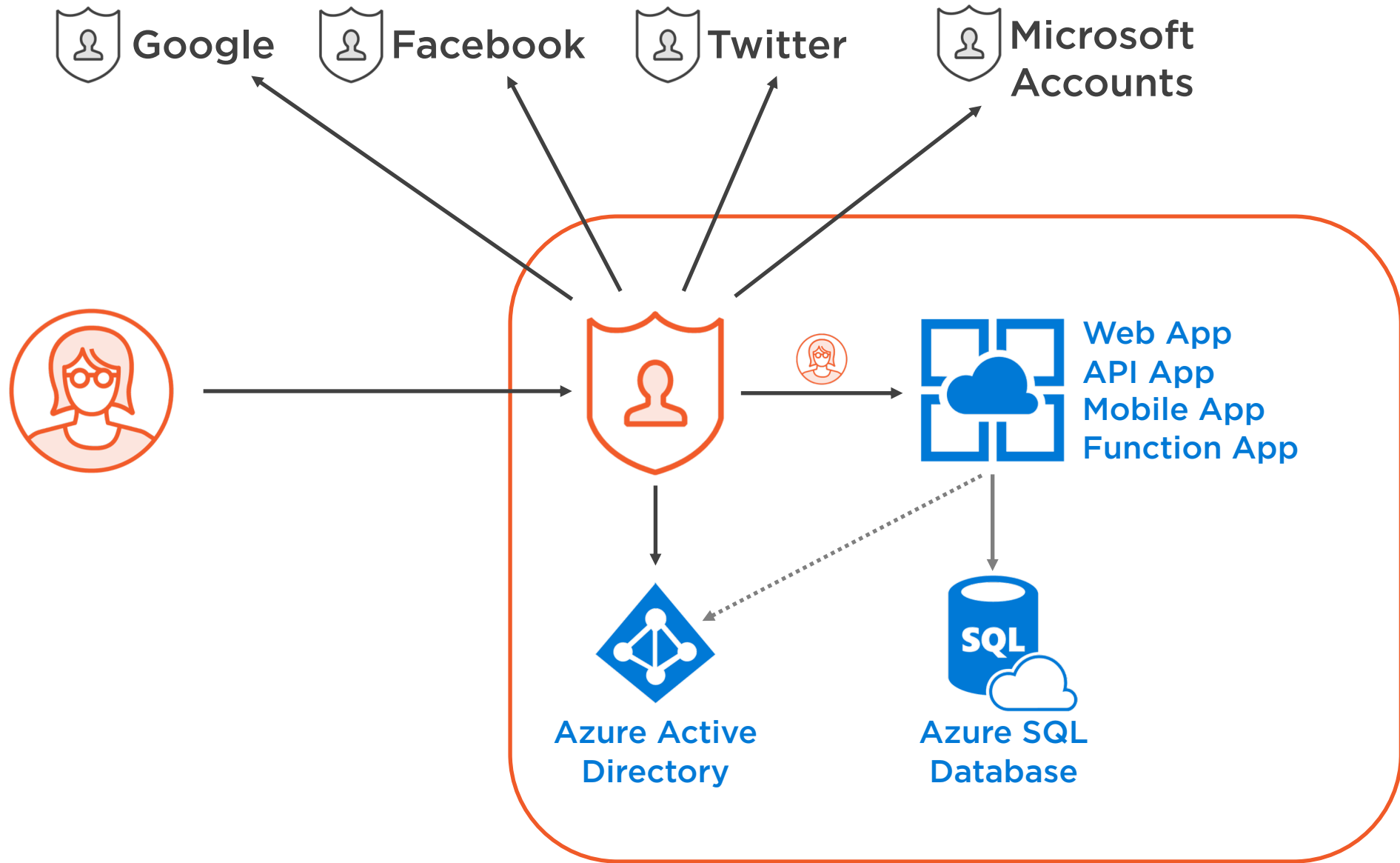
**Azure Notification  
Hubs Integration**

**Easy Tables**

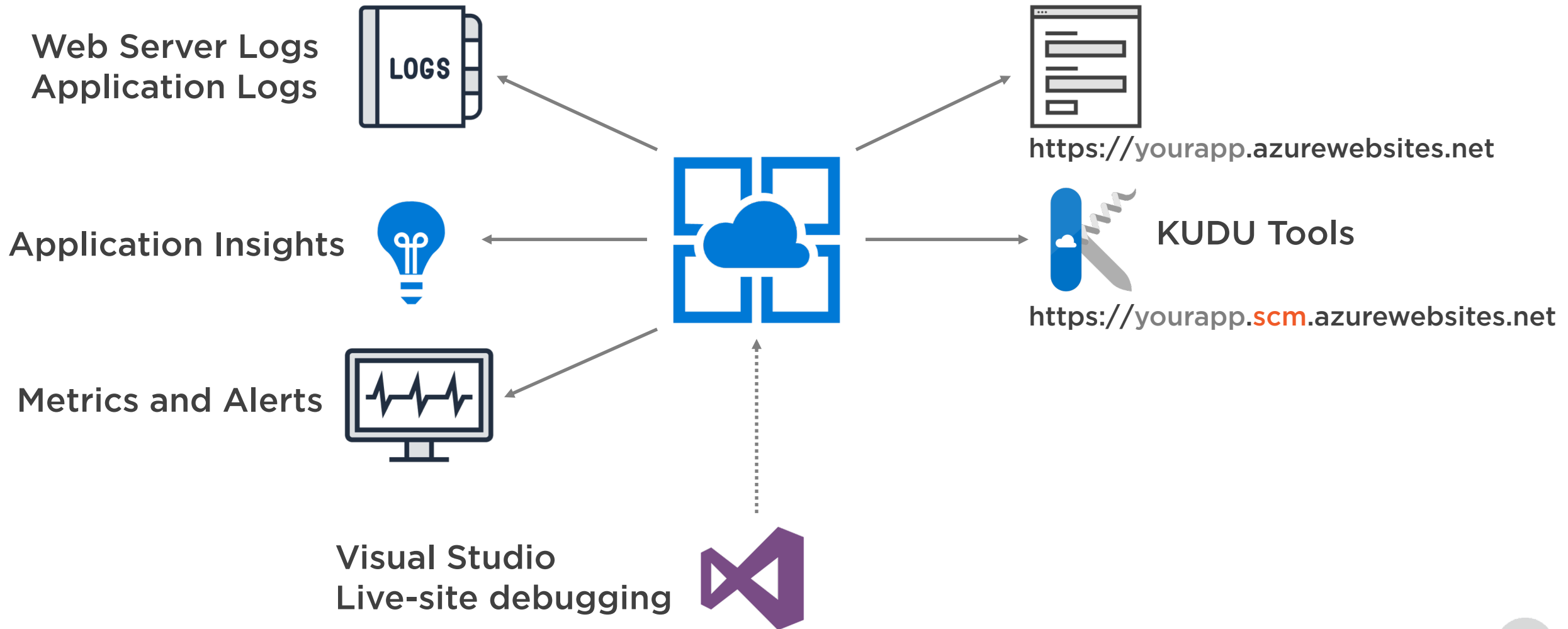
**Easy APIs**







# Monitoring and Troubleshooting Azure App Service



# Demo



## KUDU

## Azure Marketplace





App Service Plan



# App Service Plan Overview

---





## Azure App Service Plan

Azure region

Number of VM instances (scale-out)

Size of VM instances (CPU/RAM/Storage)

Pricing Tier



# Demo



<https://azure.microsoft.com/pricing/details/app-service/plans>





## App Service Environment (ASE)

### Compute isolation (dedicated infrastructure)

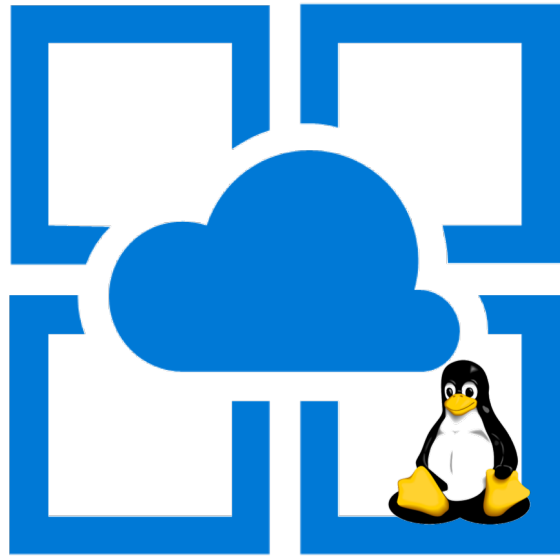
- Windows and Linux Web/API Apps
- Docker Containers
- Mobile Apps and Function Apps

### Network isolation

- Can be accessible only from VMs
- Can be accessible only from ExpressRoute







## App Service on Linux

### Web Apps

#### Docker images

- Node.js
- Java
- PHP
- .NET Core
- Ruby
- Go
- Apache Tomcat

#### Custom Docker Images

Basic, Standard, Premium, Isolated pricing tiers





**App Service  
Web Apps**

**Formerly “Azure Websites”**

**Deploy apps written in**

- ASP.NET
- ASP.NET Core
- Java
- Ruby
- Node.js
- PHP
- Python

**Web Apps and/or REST APIs**



# Web Apps – Benefits for Developers

**Continuous  
Integration**

**Deployment Slots**

**Remote  
Debugging**

**Logging**

**Application  
Insights**

**Authentication**



# Web Apps – Benefits for Administrators

O/S and  
Middleware  
Patching

Auto-scale

Auto-heal

Metrics and Logs

Custom Domains  
and SSL

Availability SLA





App Service  
API Apps

Same features as Web Apps

Deploy existing APIs without code changes

Features of App Services for APIs



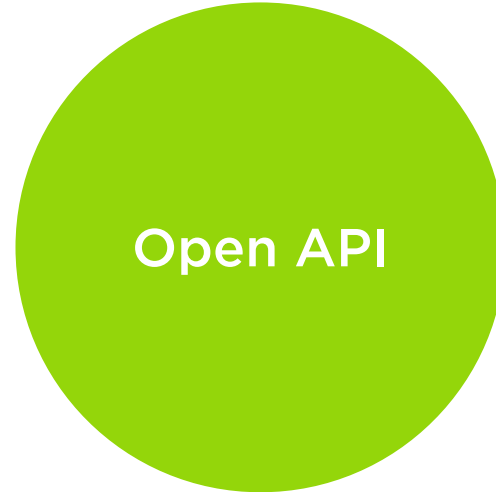
# App Service - API Features



## **CORS Settings**

Browser security  
restrictions

Server sends header  
to indicate allowed  
source domains



## **Open API (Swagger)**

Interactive documentation  
and help pages

Exposed as json endpoint  
Helps with integration



## **Azure API Management**

Monitor and throttle  
usage

Manipulate input/output  
Portal for developers





**App Service  
Mobile Apps**

**Formerly “Mobile Services”**

**Mobile Services are still supported**

**Existing apps can be migrated or upgraded**



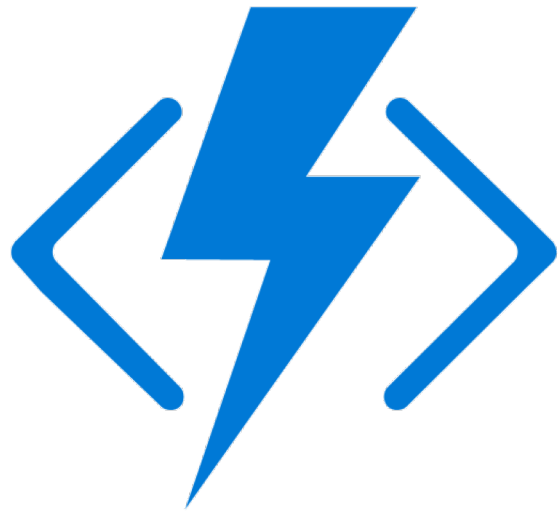
# Demo



## Mobile Apps – Portal demo







**App Service  
Function Apps**

**Run code without host application**

**Event-driven model**

- Function can be called directly
- Listen for events from Azure services and services outside Azure

# Azure Function Apps - Triggers

**HTTP Request**

**Timer events**

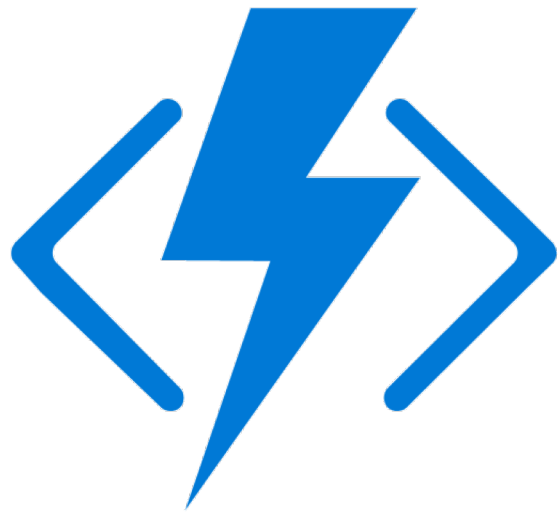
**Storage Account  
events**

**CosmosDb events**

**Azure Event Grid  
Azure Event Hubs**

**WebHook events**





## App Service Function Apps

### Version 2

- C#, JavaScript, F# and Java

### Consumption-based plan

- Execution time and resources used

### Existing App Service plan

- No additional cost for Function Apps
- Leverage App Service Plan features
- “Always On” setting so functions are always ready to respond



## WebJobs

### WebJobs run within an App Service

#### Run program or script in the background

- .exe, .bat, .cmd (Windows cmd)
- .ps1 (PowerShell)
- .sh (Bash)
- .php (PHP)
- .py (Python)
- .js (Node.js)
- .jar (Java)



## WebJobs

### Execution models

- Run continuously
- Run on a schedule
- Run when triggered

### View history and logs for WebJobs

### WebJobs SDK

- For custom development
- Azure Functions built on WebJobs SDK

### No additional cost



# App Services and WebJobs are subject to PaaS restrictions.

## No access to:



Registry



Windows  
Event Logs

# GDI+

Graphics  
subsystem





## Code Deployment to Azure App Service

### Visual Studio

- Publish dialog - connect to Azure
- Import publish profile

### Continuous deployment

- Visual Studio Team Services
- Bitbucket
- GitHub

### Local Git deployment

### OneDrive/Dropbox deployment

### FTP Deployment

### Zip/War file deployment

# Demo



## Azure App Service Authentication

Users log in to Azure Active Directory

App Service passes user identity to app

### Server-directed authentication flow

- HTTP redirects user to authenticate

### Client-directed authentication flow

- Client applications pass authentication token to App Service





# Module Summary



Azure App Service features

App Service Plan

Web Apps, API Apps, Mobile Apps,  
Function Apps, WebJobs

Created an App Service

Configured application settings

Deployment options

Zip deploy to KUDU interface

Azure Active Directory Authentication



# Creating Deployment Slots

