

Azure App Service Platform

The cloud platform for app development , hosting and monitoring



Vadim Kacherov,
vakacher@microsoft.com
MTC Solution Architect

Microsoft

Agenda

Azure Platform Overview

IaaS, PaaS, Web apps, Mobile apps, API apps, Logic apps, Functions

App Service

Application Service Environment, Scaling, Staging Slots, Cert & Custom Domains, Authentication (AAD)

Visual Studio Team Services

Source control, build plans, deployments, load testing

Monitoring

Azure Portal, App Insights and OMS

Build apps faster and easier - IAAS



App innovation



VM



Containers



Service Fabric



Other

Legacy applications,
no change

Lift and shift

Efficiency and speed

Improved
DevOps

Always-on, scalable,
distributed
applications

Hyperscale
(e.g. IOT)

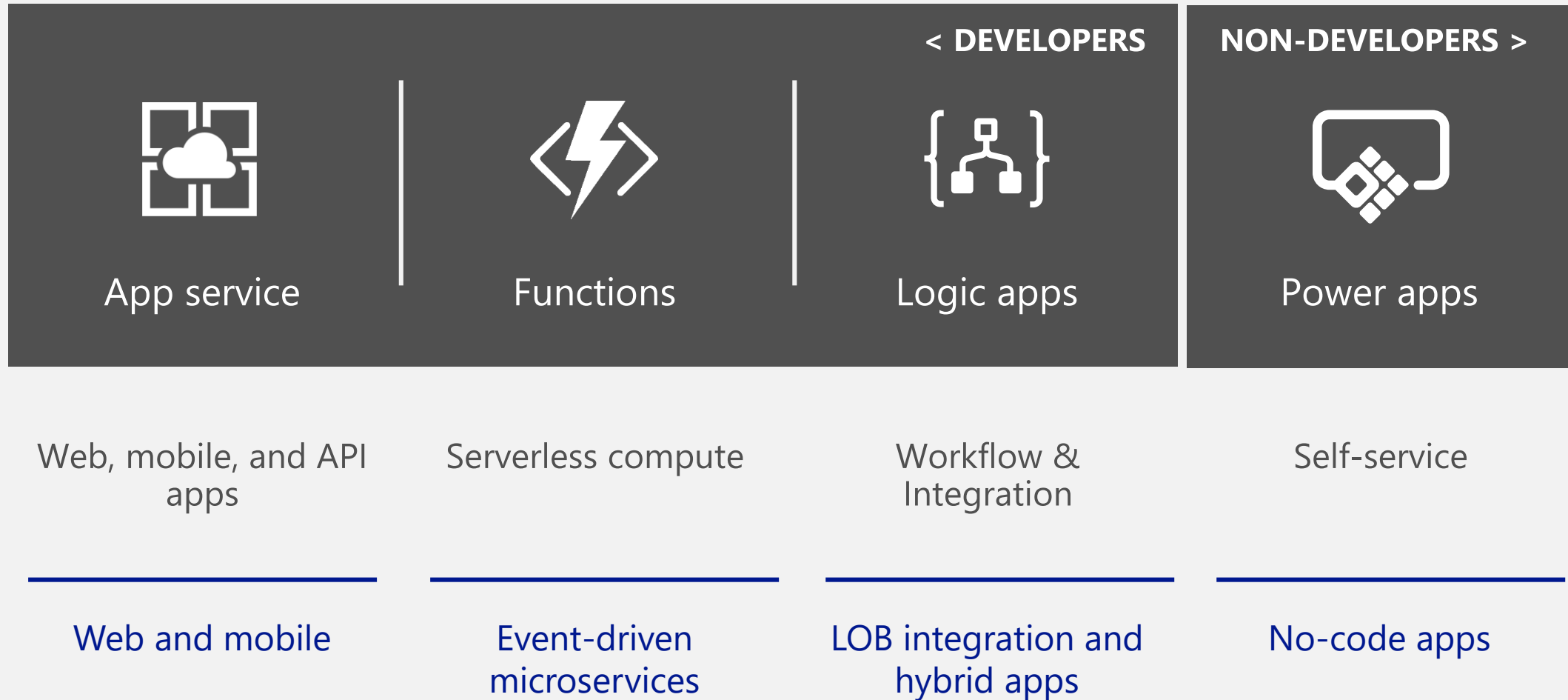
Cloud Foundry,
OpenShift, Apprenda,
Jelastic, etc.

Third-party
frameworks

Build apps faster and easier - PAAS



App innovation



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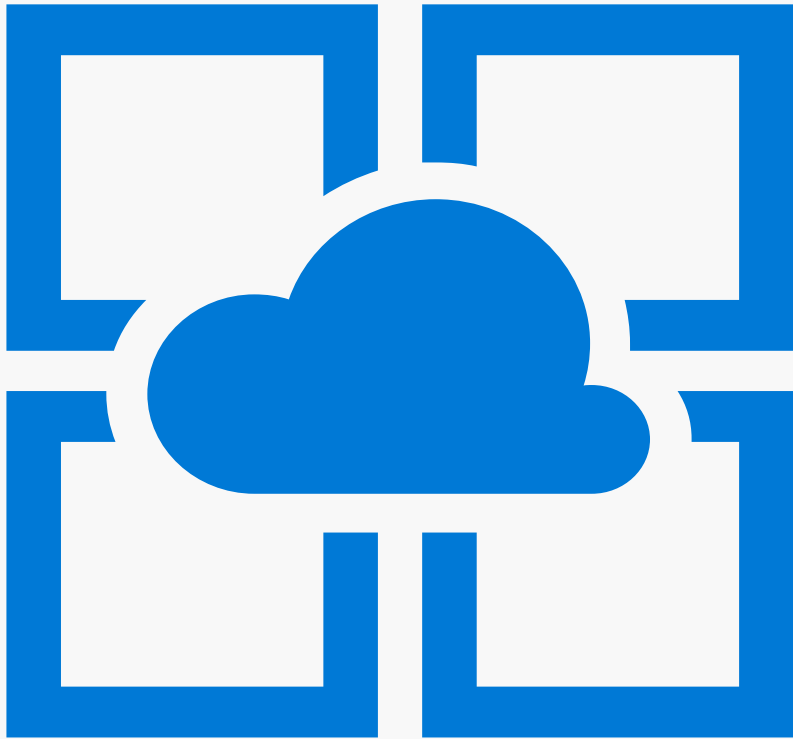
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Azure App Service



A cloud app platform for delivering modern enterprise apps across cloud and mobile devices.

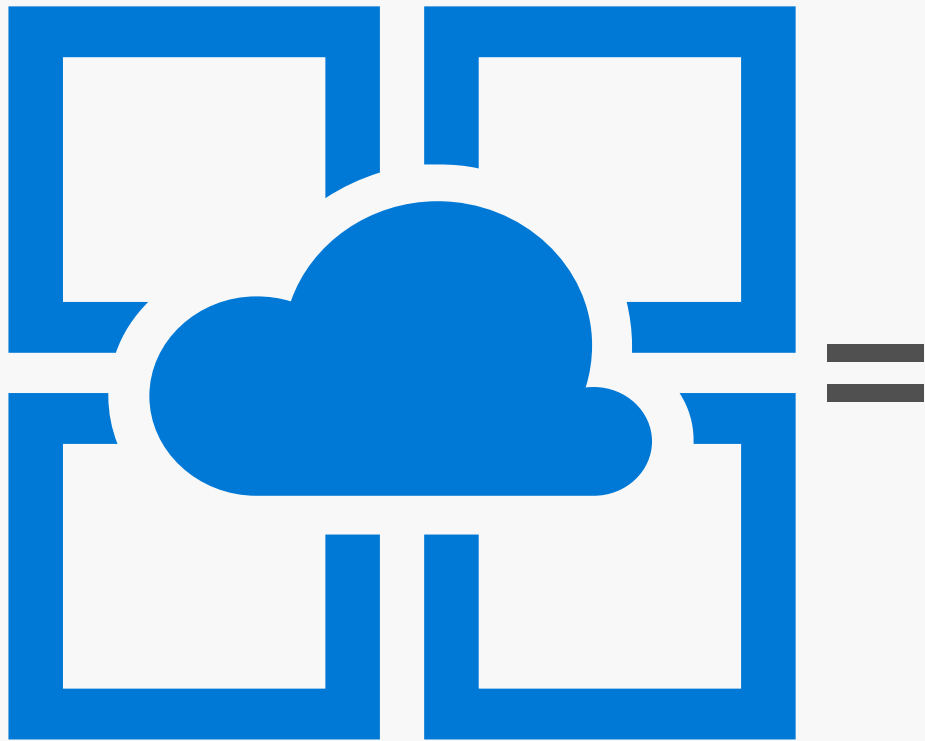
An integrated offering that delivers features and capabilities from a number of existing Azure services

Enterprise
Grade Apps

Fully
Managed
Platform

High
Productivity
Development

Azure App Service



Web apps

Web apps that scale with your business



API apps

Easily build and consume APIs in the cloud



Mobile apps

Build mobile apps for any device



Functions

Serverless event based development accelerator



Logic apps

Automate business processes across SaaS and on-premises

Why use App Service?



- ✓ Multiple languages and frameworks
- ✓ DevOps optimization
- ✓ Global scale with high availability
- ✓ Connections to SaaS platforms and on-premises data
- ✓ Security and compliance
- ✓ Application templates
- ✓ Visual Studio integration

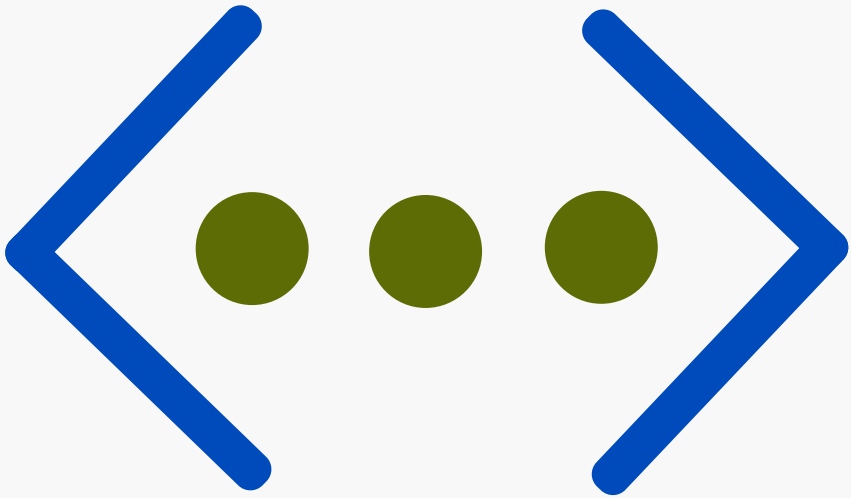
App Service Plans



App Service Plan Defines:

- **Region** (West US, East US, etc.)
- **Scale count** (one, two, three instances, etc.)
- **Instance size** (Small, Medium, Large)
- **SKU** (Free, Shared, Basic, Standard, Premium)

Azure Virtual Network (VNet)

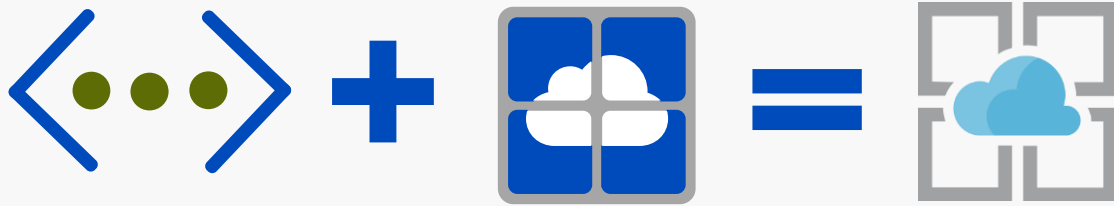


Private network in the Azure cloud

Enables network based security and isolation

Can be used with VPNs to create hybrid cloud apps

App Service Environment (ASE)



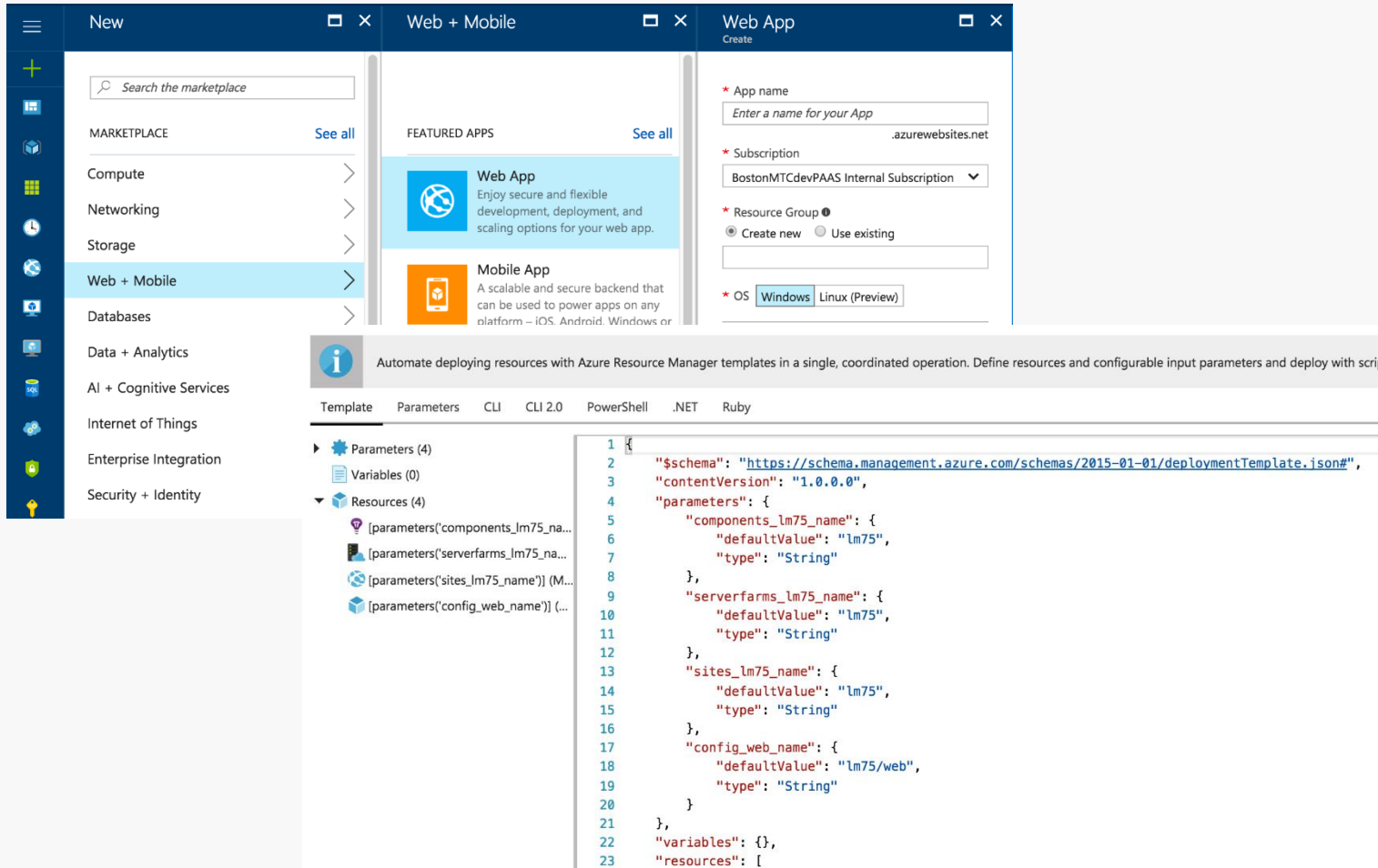
Network isolation for apps

Larger scale than multi-tenant

Ability to work with all VPN types

More powerful hosts

Azure Resource Provisioning



Azure Portal
GUI experience & wizards

CLI / PowerShell
Command line tool & scripting

.NET / Ruby
SDK based

Demo 1

Azure App Service: Web App (Windows/Linux)

- <http://tryAppService.azure.com>
- <http://portal.azure.com>

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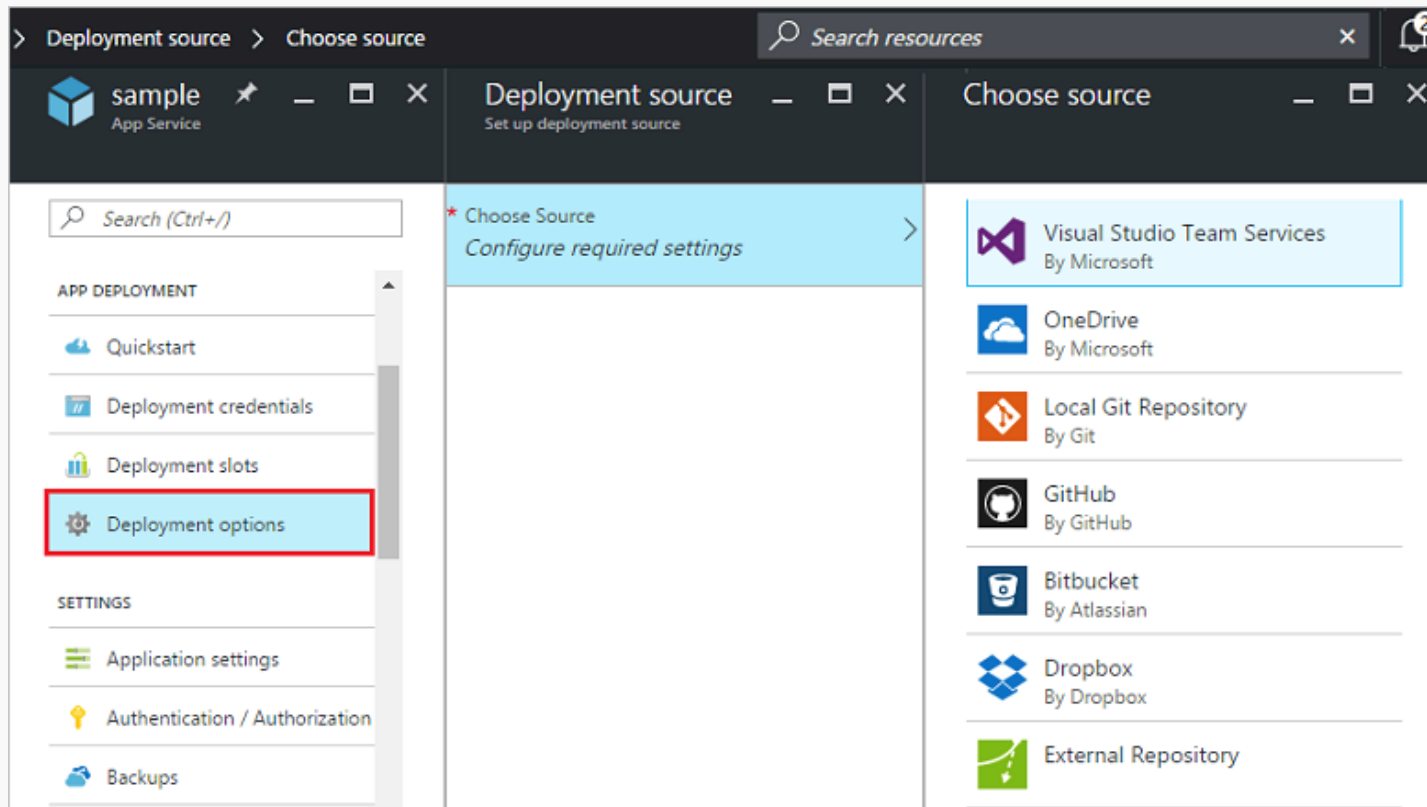
Visual Studio Team Services

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App Service Deployment



FTP or FTPs
File upload only

Kudu
App Service Deployment Engine

Web Deploy
Deploy from VS

Staging Environments: Slots and Swap

The screenshot displays the Microsoft Azure portal interface for managing deployment slots. The main view is 'stage - Deployment slots' for a 'Web App'. A 'Swap' dialog is open, showing the 'Choose which slots to swap' section. The 'Swap type' is set to 'Swap', the 'Source' slot is 'stage', and the 'Destination' slot is 'production'. A 'Preview Changes' pane is also visible, showing a summary of changes and a table of settings that will be modified in the destination slot.

Swap Dialog Details:

- Swap type: Swap
- Source: stage
- Destination: production
- Preview Changes: 1 warnings, 2 other messages

Preview Changes Summary:

- 1 Warnings: Some settings currently present in the destination are not present in the source.
- 2 Informative Messages: These settings will be modified in the destination slot.

SETTING	TYPE	OLD VALUE	NEW VALUE
AlwaysOn	General	False	True

Validate app changes

Eliminate application downtime

Rollback capability

App Scaling

The screenshot displays the Microsoft Azure portal interface for configuring App Service scaling. On the left, a sidebar lists various pricing tiers (P1, P2, P3, S1, S2, B1, B2) with their respective specifications like cores, RAM, and storage. The main pane shows the 'expPortal - Scale out (App Service plan)' configuration page. The 'Configure' tab is active, displaying autoscale settings for 'If high CPU'. It shows a resource group 'expPortal' with an instance count of 1. The 'Scale out' rule is configured with a condition '(Average) CpuPercentage > 70' and an action 'Increase instance count by 1'. The 'Instance limits' section shows minimum, maximum, and default values all set to 1. The 'Schedule' section indicates the scale condition is executed when none of the other scale condition(s) match.

Scale up

More CPU, memory, disk, etc...

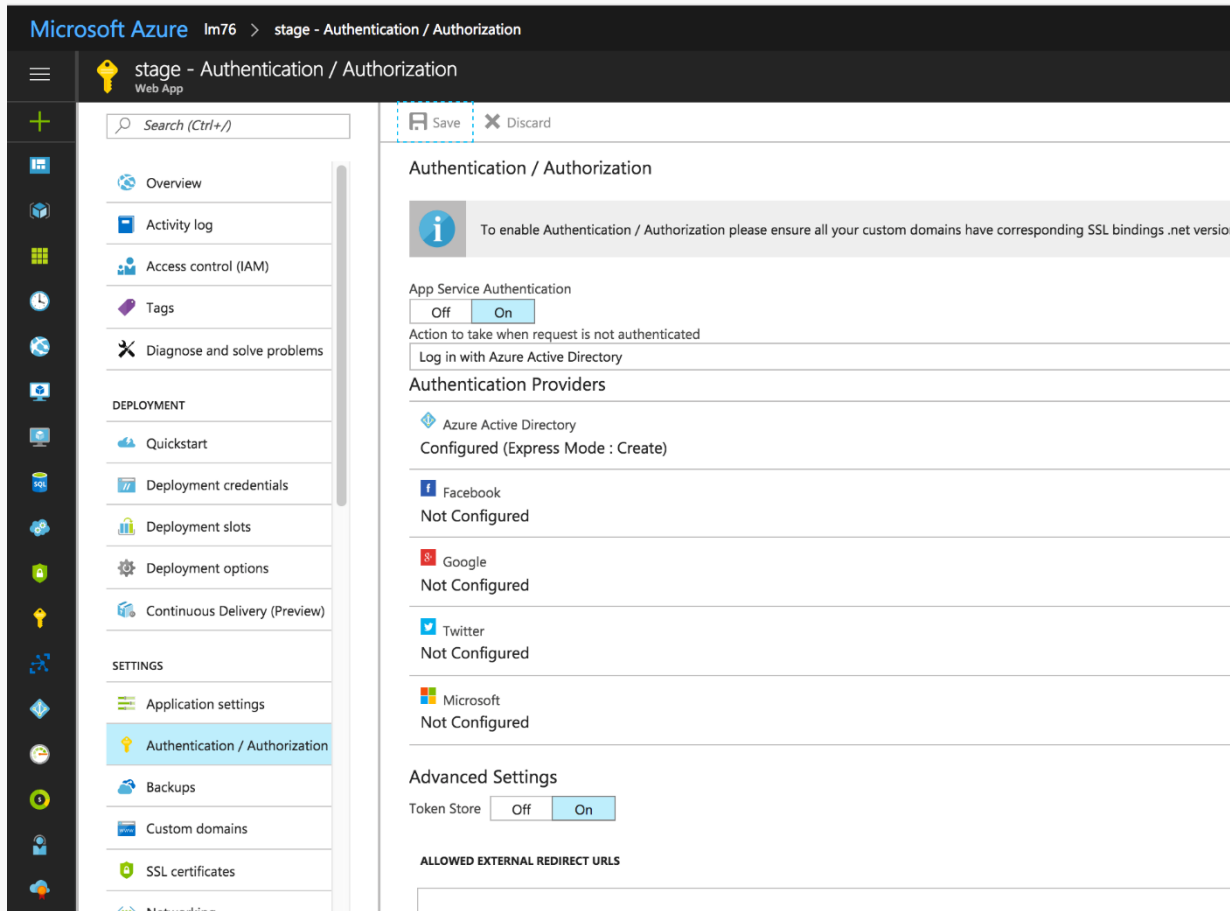
Scale out

Increase number of VM instances

Load Balancing

Failover, Round Robin, Performance

Authentication / Authorization



Enable Social Login

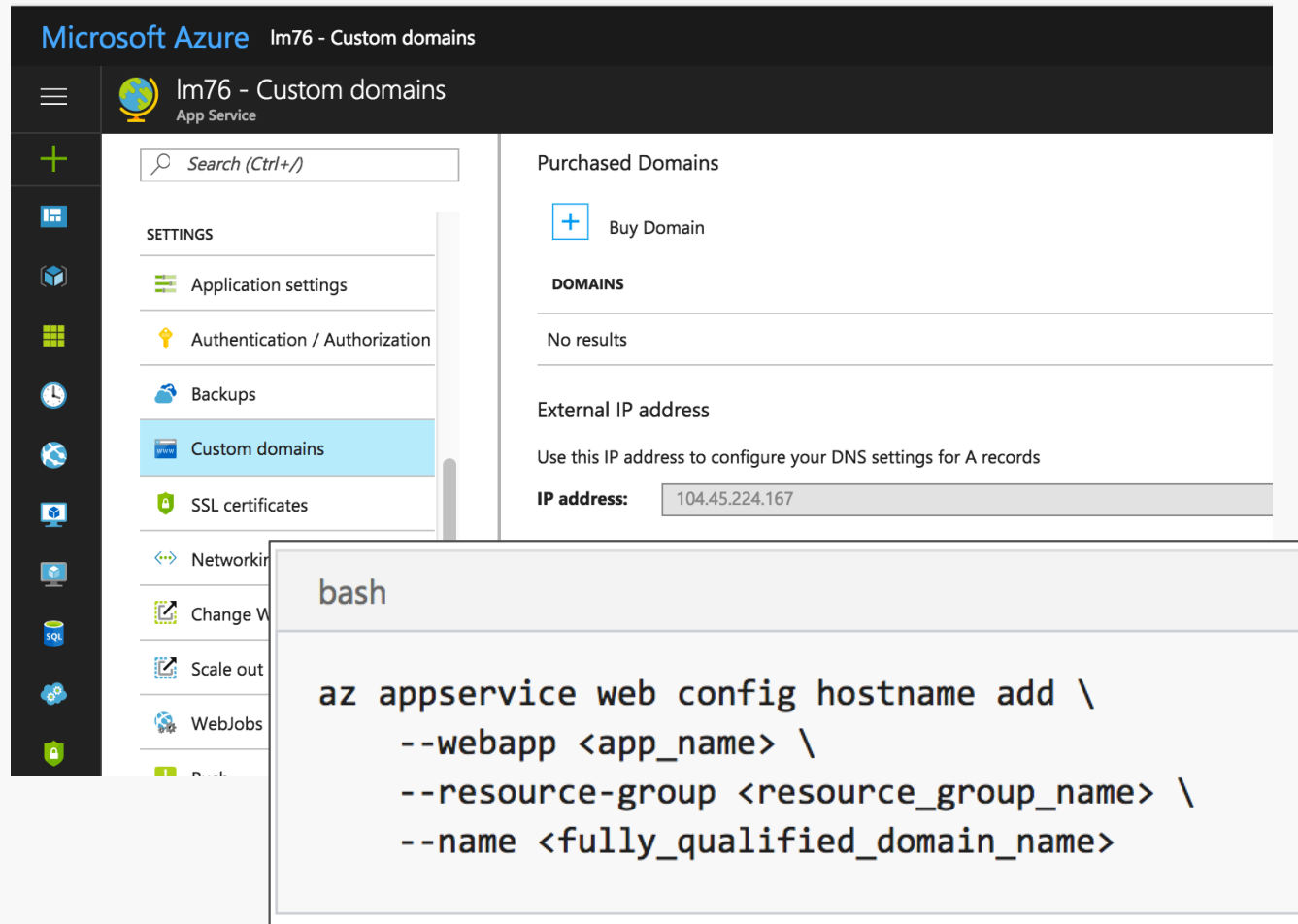
Enable multiple login options

No code changes

Demo 2

Azure App Service Deployment

Custom Domains



Microsoft Azure Im76 - Custom domains

Im76 - Custom domains
App Service

Search (Ctrl+)

SETTINGS

- Application settings
- Authentication / Authorization
- Backups
- Custom domains
- SSL certificates
- Network
- Change W
- Scale out
- WebJobs
- Push

Purchased Domains

+ Buy Domain

DOMAINS

No results

External IP address

Use this IP address to configure your DNS settings for A records

IP address: 104.45.224.167

```
bash

az appservice web config hostname add \
  --webapp <app_name> \
  --resource-group <resource_group_name> \
  --name <fully_qualified_domain_name>
```

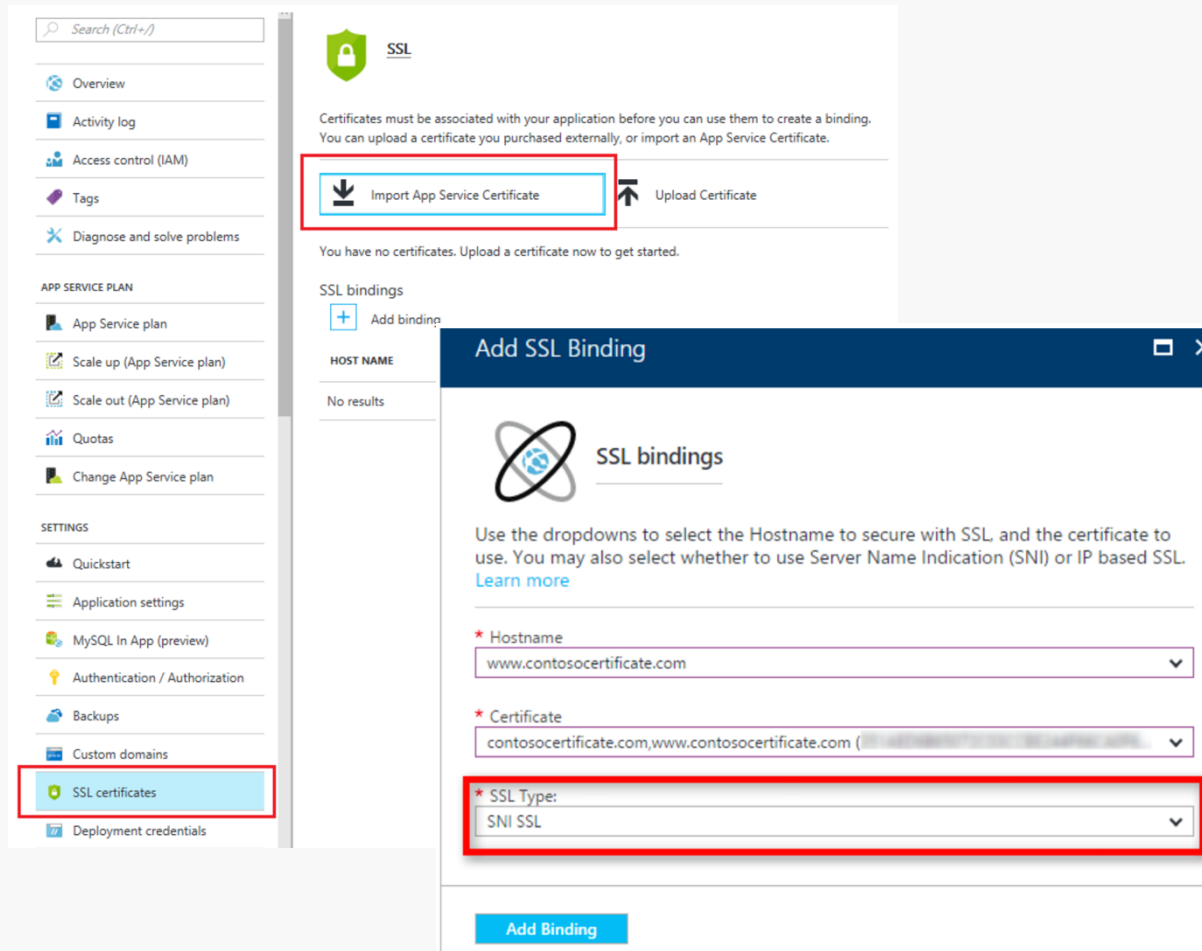
Map a subdomain
using CNAME record

Map a root domain
using A record

Map a wildcard domain
using CNAME record

Automate mapping
using a script

SSL Certificate



App Service Certificate

Order the certificate in the Azure portal

Azure Key Vault

Store the certificate

Verify Domain Ownership

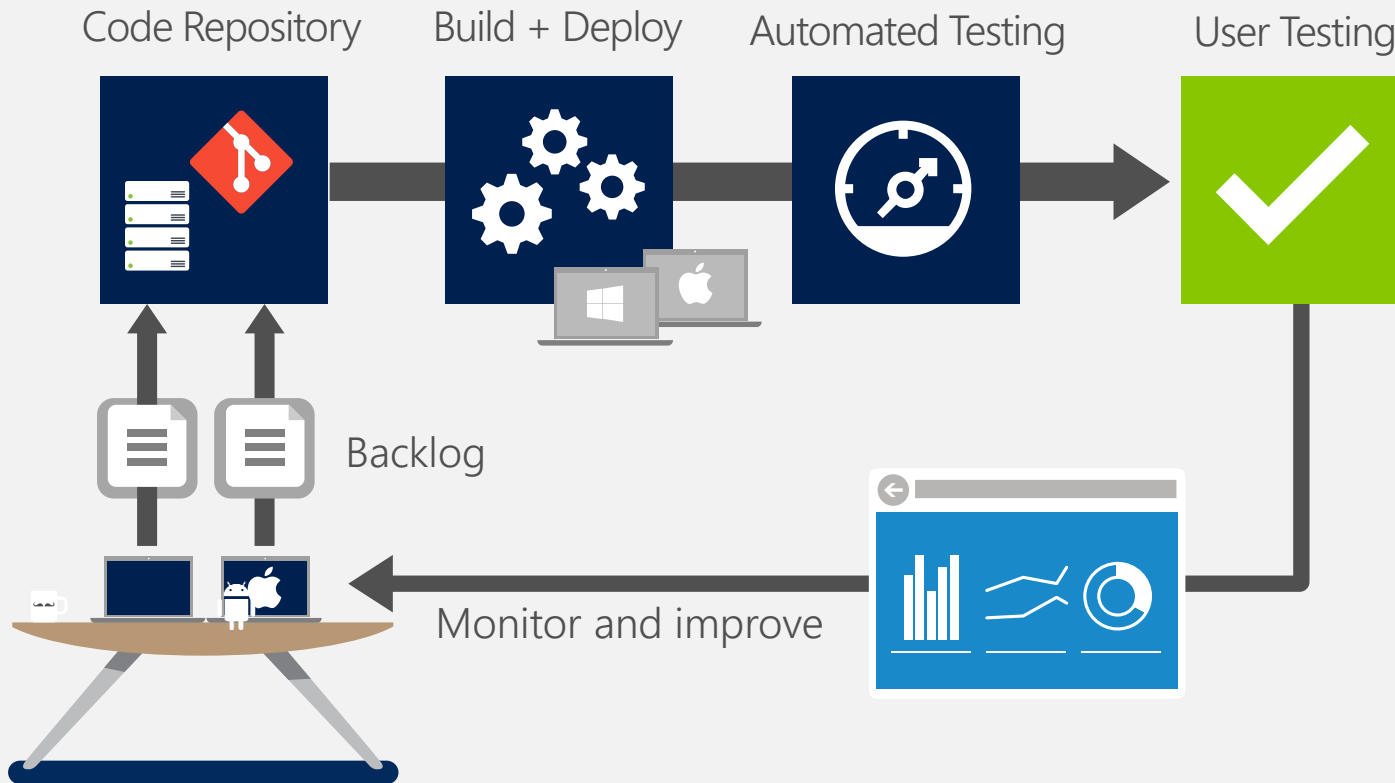
Domain, Mail, Manual Verification

Certificate Assignment

Import and Assign certificate in App Service

Deliver apps seamlessly

DevOps Workflow



Web Back-end Services

Auto Scale,
Load Balancing

User
Authentication

Windows or
Linux

Demo 3

VSTS CI/CD Pipeline

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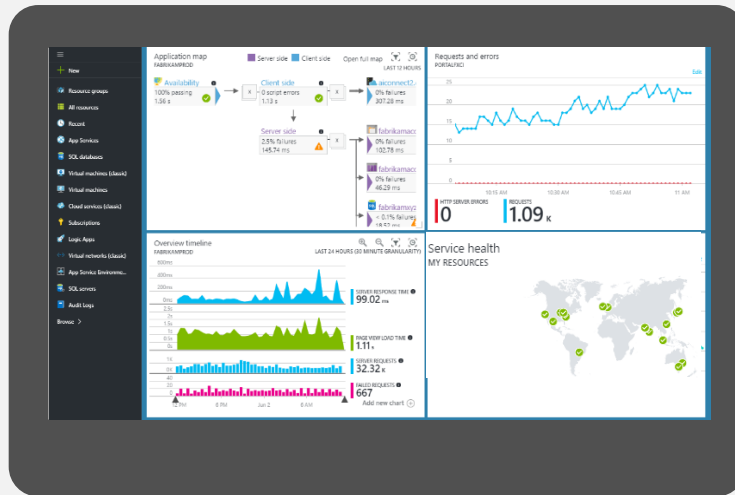
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Monitoring

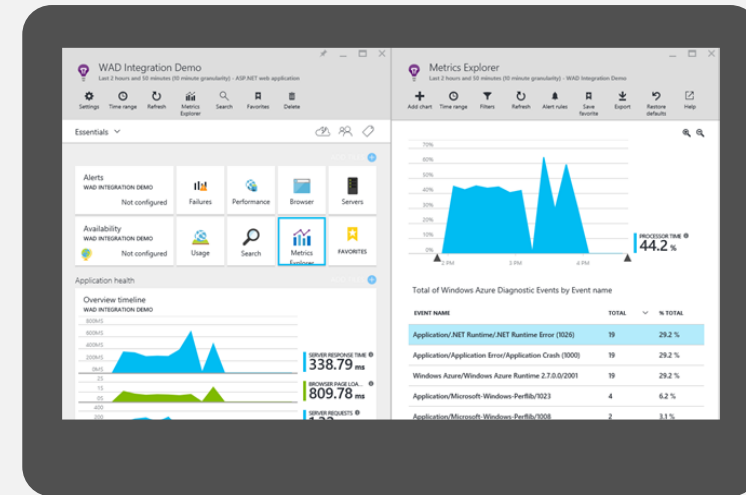
Azure Portal, App Insights and OMS

Application monitoring

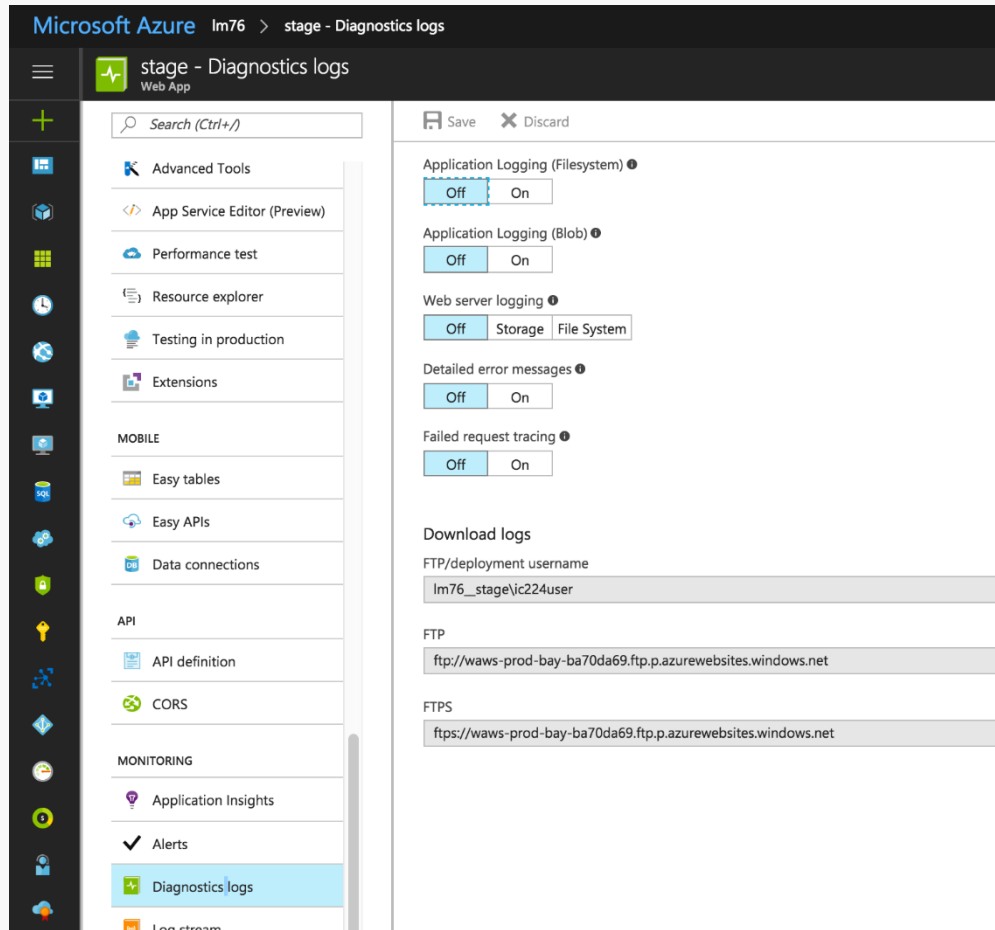
Azure Portal



Application Insights



Diagnostics Logs



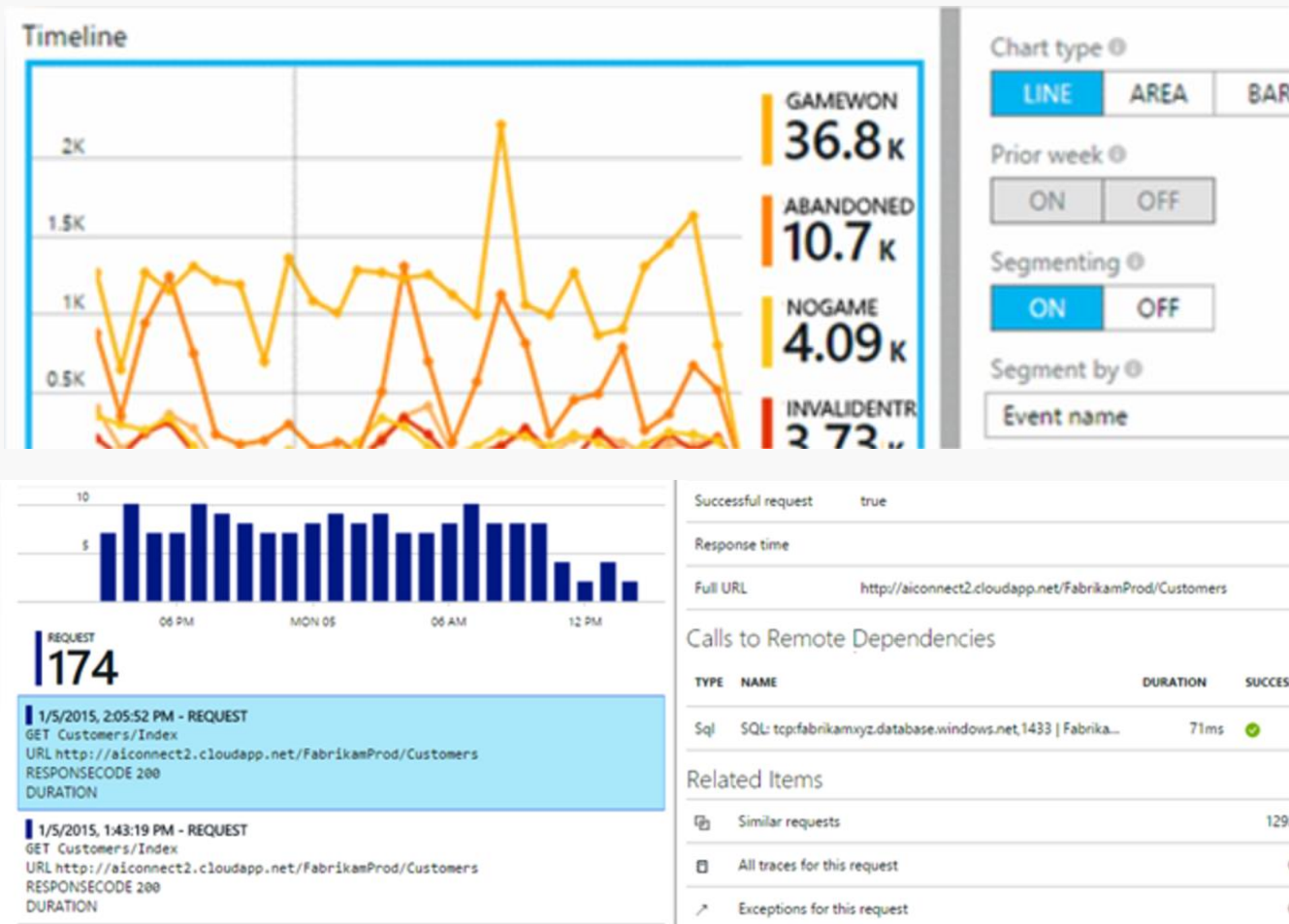
Web Server Logs:

- ✓ Detail Error Logging
- ✓ Failed Request Tracking
- ✓ Web Server Logging

Application Diagnostics:

- ✓ App produced logging
- ✓ Specific Level (Info, Warn, Error, etc)

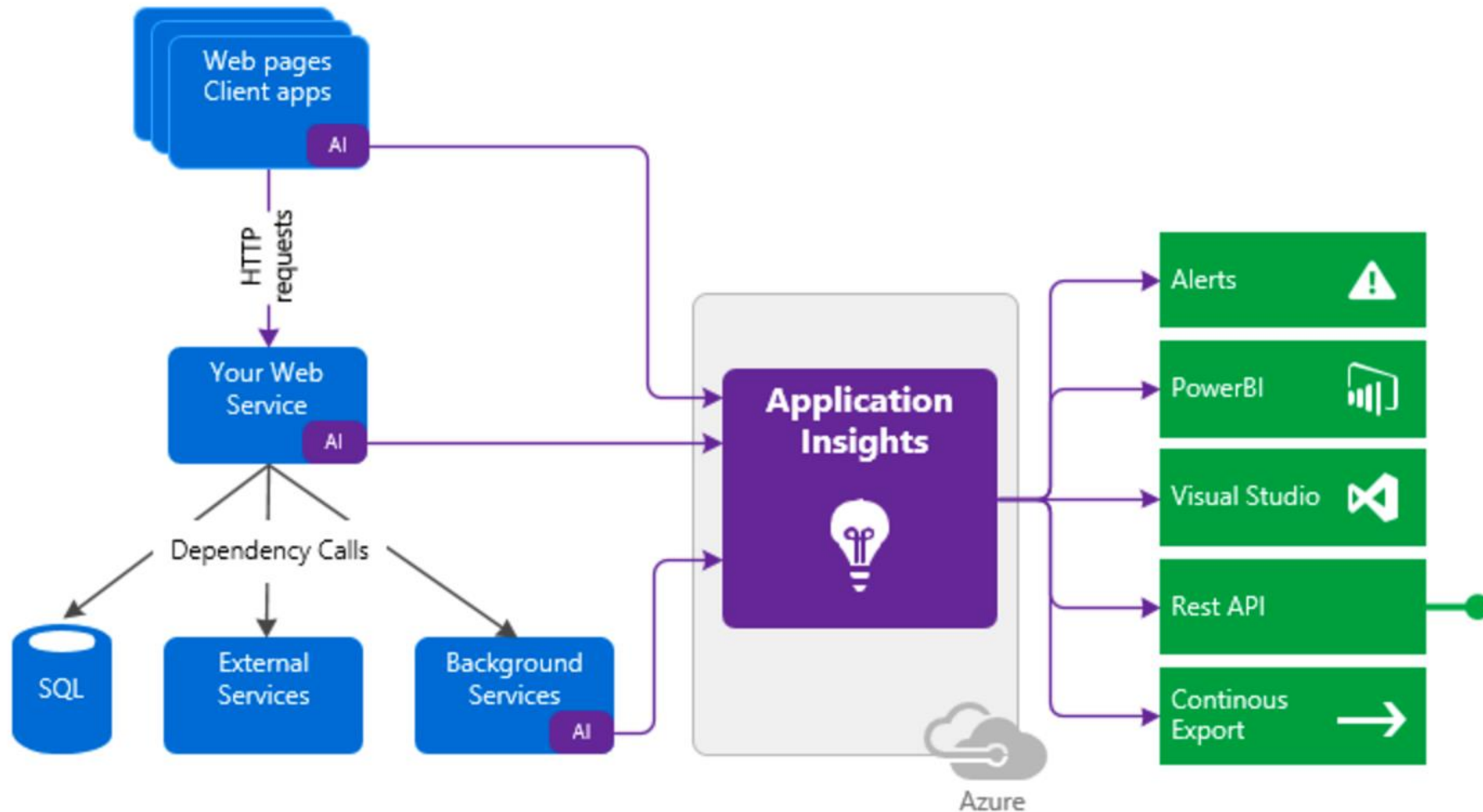
Application Insights (APM)



Monitor:

- ✓ Request rates, response times, failure rates
- ✓ Exceptions
- ✓ Page views & load performance
- ✓ User & session counts
- ✓ Performance counters
- ✓ Host diagnostics
- ✓ Diagnostic trace logs
- ✓ Custom events and metrics

How App Insights work?



Demo 4

App Insights

Azure platform cheat sheet:

<http://aka.ms/azure-platform>

Azure news blog:

<http://aka.ms/azure-blog>

Azure roadmap:

<http://aka.ms/azure-platform-roadmap>

