

Microsoft Azure Administrator: Create and Configure Azure App Service

Create an App Service



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Create an App Service

- Create an App Service plan
- Configure scaling settings in an App Service plan
- Create an App service
- Secure an App service

Configure App Services

- Configure custom domain names
- Configure backup for an App Service
- Configure networking settings
- Configure deployment settings

Slides
Code
Links to
resources

Exercise Files



The screenshot shows a course page for "Securing Microsoft Azure Networks" by Michael Teske. The page features a dark header with the course title and author's photo. Below the header, there's a large image of a person smiling. To the right of the image, there's a section titled "Forced Tunneling" with a description and a bulleted list. Further down, there's another section about "Unauthorized Internet access". On the far right, there's a "Course author" section with Michael Teske's profile picture and bio, and a "Course info" section with details like level (Beginner), rating (★★★★★), and release date (28 May 2019). At the bottom, there's a "Share course" section with social media icons. A prominent orange button at the bottom left says "Download exercise files", which is highlighted with a green rectangular box.

Forced Tunneling

Allow you to "force" Internet-bound traffic back through your on-prem location

- Connected via S2S
- Allows you to inspect your Azure internet bound traffic

Unauthorized Internet access can lead to accidental information disclosure or potential breaches

Course author

 Michael Teske

Michael Teske is an Author Evangelist with Pluralsight helping people build their skills toolkit. Michael has 20+ years of experience in the IT Ops industry including 17 of those years as an IT...

Course info

Level Beginner

Rating ★★★★☆

My rating ★★★★☆

Duration 1h 30m

Released 28 May 2019

Share course

f t in

Start Course

Bookmark Add to Channel Download Course

Table of contents Description Transcript Exercise files Discussion Learning Check Recommended

These exercise files are intended to provide you with the assets you need to create a video-based hands-on experience. With the exercise files, you can follow along with the author and re-create the same solution on your computer. We find this to be even more effective than written lab exercises.

Download exercise files

Create an App Service Plan

Azure App Service



Containerization and Docker



Web app and App Service Plan needs to be in the same region



App cloning is supported for Standard, Premium and Isolated app service plans

App Service Plans

	Linux	Windows				
	Free Try for free	Basic Dedicated environment for dev/test	Standard Run production workloads	Premium Enhanced performance and scale	Isolated High-Performance, Security and Isolation	
Web, mobile, or API apps	10	Unlimited	Unlimited	Unlimited	Unlimited	
Disk space	1 GB	10 GB	50 GB	250 GB	1 TB	
Maximum instances	–	Up to 3	Up to 10	Up to 30*	Up to 100	
Custom domain	–	Supported	Supported	Supported	Supported	
Auto Scale	–	–	Supported	Supported	Supported	
Hybrid Connectivity	–	Supported	Supported	Supported	Supported	
Virtual Network Connectivity	–	–	Supported	Supported	Supported	
Private Endpoints	–	–	–	Supported	Supported	
Compute Type	Shared	Dedicated	Dedicated	Dedicated	Isolated	
Pay as you go price	Free	\$0.018/hour	\$0.095/hour	\$0.111/hour	\$0.38/hour	

App Service Plans

Dev / Test
For less demanding workloads

Production
For most production workloads

Isolated
Advanced networking and scale

Recommended pricing tiers

F1 Shared infrastructure 1 GB memory 60 minutes/day compute Free	D1 Shared infrastructure 1 GB memory 240 minutes/day compute 9.49 USD/Month (Estimated)	B1 100 total ACU 1.75 GB memory A-Series compute equivalent 54.75 USD/Month (Estimated)
-------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------

[▼ See additional options](#)

Included hardware
Every instance of your App Service plan will include the following hardware configuration:

Memory Memory available to run applications deployed and running in the App Service plan.	Storage 1 GB disk storage shared by all apps deployed in the App Service plan.
-----------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------

Dev / Test
For less demanding workloads

Production
For most production workloads

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Advanced networking and scale

Recommended pricing tiers

F1 Shared infrastructure 1 GB memory 60 minutes/day compute Free	D1 Shared infrastructure 1 GB memory 240 minutes/day compute 9.49 USD/Month (Estimated)	B1 100 total ACU 1.75 GB memory A-Series compute equivalent 54.75 USD/Month (Estimated)
-------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------

[▼ See additional options](#)

Included features
Every app hosted on this App Service plan will have access to these features:

Custom domains Configure and purchase custom domain names.

Included hardware
Every instance of your App Service plan will include the following hardware configuration:

Memory Memory available to run applications deployed and running in the App Service plan.	Storage 1 GB disk storage shared by all apps deployed in the App Service plan.
-----------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------

App Service Plans

Dev / Test
For less demanding workloads

Production
For most production workloads

Isolated
Advanced networking and scale

Recommended pricing tiers

Tier	Type	Memory	Compute	Cost
F1	Shared infrastructure	1 GB memory	60 minutes/day compute	Free
D1	Shared infrastructure	1 GB memory	240 minutes/day compute	9.49 USD/Month (Estimated)
B1	100 total ACU A-Series compute equivalent	1.75 GB memory	54.75 USD/Month (Estimated)	

▼ See additional options

Included features
Every app hosted on this App Service plan will have access to these features:

- Custom domains / SSL**
Configure and purchase custom domains with SNI SSL bindings
- Manual scale**
Up to 3 instances. Subject to availability.

Included hardware
Every instance of your App Service plan will include the following hardware configuration:

- Azure Compute Units (ACU)**
Dedicated compute resources used to run applications deployed in the App Service Plan. [Learn more](#)
- Memory**
Memory per instance available to run applications deployed and running in the App Service plan.
- Storage**
10 GB disk storage shared by all apps deployed in the App Service plan.

App Service Plans

 **Dev / Test**
For less demanding workloads

 **Production**
For most production workloads

 **Isolated**
Advanced networking and scale

Recommended pricing tiers

S1 100 total ACU 1.75 GB memory A-Series compute equivalent 73.00 USD/Month (Estimated)	P1V2 210 total ACU 3.5 GB memory Dv2-Series compute equivalent 146.00 USD/Month (Estimated)	P2V2 420 total ACU 7 GB memory Dv2-Series compute equivalent 292.00 USD/Month (Estimated)
------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------

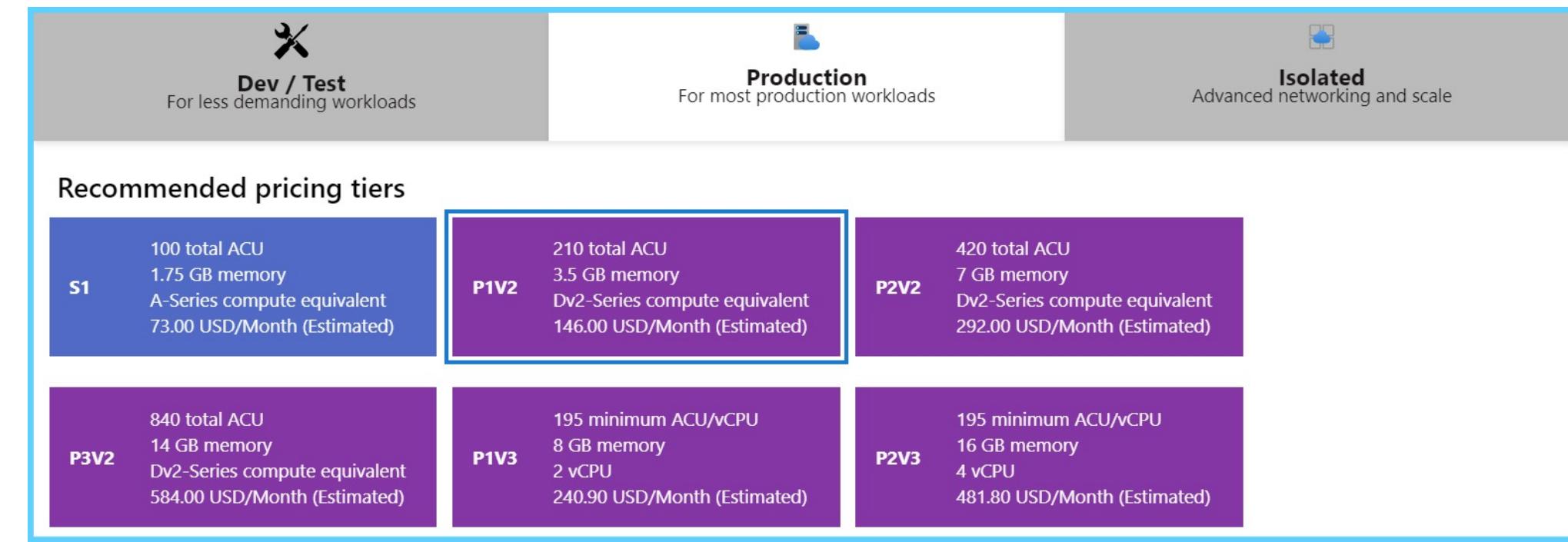
Included features
Every app hosted on this App Service plan will have access to these features:

-  **Custom domains / SSL**
Configure and purchase custom domains with SNI and IP SSL bindings
-  **Auto scale**
Up to 10 instances. Subject to availability.
-  **Staging slots**
Up to 5 staging slots to use for testing and deployments before swapping them into production.
-  **Daily backups**
Backup your app 10 times daily.
-  **Traffic manager**
Improve performance and availability by routing traffic between multiple instances of your app.

Included hardware
Every instance of your App Service plan will include the following hardware configuration:

-  **Azure Compute Units (ACU)**
Dedicated compute resources used to run applications deployed in the App Service Plan. [Learn more](#)
-  **Memory**
Memory per instance available to run applications deployed and running in the App Service plan.
-  **Storage**
50 GB disk storage shared by all apps deployed in the App Service plan.

App Service Plans



Included features

Every app hosted on this App Service plan will have access to these features:

- Custom domains / SSL**
Configure and purchase custom domains with SNI and IP SSL bindings
- Auto scale**
Up to 20 instances. Subject to availability.
- Staging slots**
Up to 20 staging slots to use for testing and deployments before swapping them into production.
- Daily backups**
Backup your app 50 times daily.
- Traffic manager**
Improve performance and availability by routing traffic between multiple instances of your app.

Included hardware

Every instance of your App Service plan will include the following hardware configuration:

- Azure Compute Units (ACU)**
Dedicated compute resources used to run applications deployed in the App Service Plan. [Learn more](#)
- Memory**
Memory per instance available to run applications deployed and running in the App Service plan.
- Storage**
250 GB disk storage shared by all apps deployed in the App Service plan.

Create an App Service Plan

Create App Service Plan

App Service plans give you the flexibility to allocate specific apps to a given set of resources and further optimize your Azure resource utilization. This way, if you want to save money on your testing environment you can share a plan across multiple apps. [Learn more](#)

Project Details

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

Subscription * ⓘ ps-course-development

Resource Group * ⓘ (New) webapp-rg

Create new

App Service Plan details

Name * az104plan

Operating System * Linux Windows

Region * Central US

Pricing Tier

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Sku and size * Standard S1

100 total ACU, 1.75 GB memory

[Change size](#)

[Review + create](#) [< Previous](#) [Next : Tags >](#)

```
# Create resource group
```

```
az group create --name webapp-rg --location centralus
```

```
# Create app service plan
```

```
az appservice plan create --name az104plan --resource-group webapp-rg --location centralus --sku S1 --is-linux
```

Create an App Service Plan

Creates a standard tier 1 App Service Plan in Central US

Configuring scaling settings in App Service plan

Scale settings



Scale up/down



Scale in/out

Create a Web App in the App Service Plan

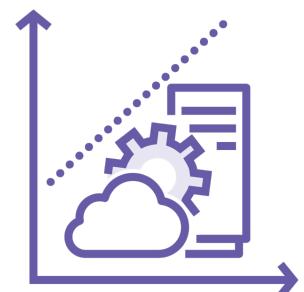
```
New-AzWebApp -Name testapp -ResourceGroupName webapp-rg -Location centralus -AppServicePlan az104plan
```

Scale Web App to 2 Workers

```
Set-AzAppServicePlan -NumberofWorkers 2 -Name az104plan -ResourceGroupName webapp-rg
```

Manually scaling an App Service Plan using PowerShell

Autoscaling



Run the right number of resources to handle various loads



Add resources to handle increased load



Remove idle resources and save money



Scale based on a schedule

Autoscaling

Save Discard Refresh Logs Feedback

Custom autoscale

Autoscale setting name	mjtappautoscale
Resource group	michael.teske_rg_Windows_centralus
Instance count	1

Default* Auto created scale condition [Edit](#) [Delete](#)

Delete warning (i) The very last or default recurrence rule cannot be deleted. Instead, you can disable autoscale to turn off autoscale.

Scale mode Scale based on a metric Scale to a specific instance count

Rules (i) It is recommended to have at least one scale in rule. To create new rules, click [Add a rule](#).

Scale out

When	michael.teske_asp_Wi...	(Average) CpuPercentage > 30	Increase count by 1
------	-------------------------	------------------------------	---------------------

+ Add a rule

Instance limits

Minimum (i)	1	✓
Maximum (i)	5	✓
Default (i)	1	✓

Schedule (i) This scale condition is executed when none of the other scale condition(s) match

+ Add a scale condition

Create an App service

Creating an App Service



You can't mix Windows and Linux apps in the same App Service plan



Supports most languages



.Net Core is supported on both Windows and Linux



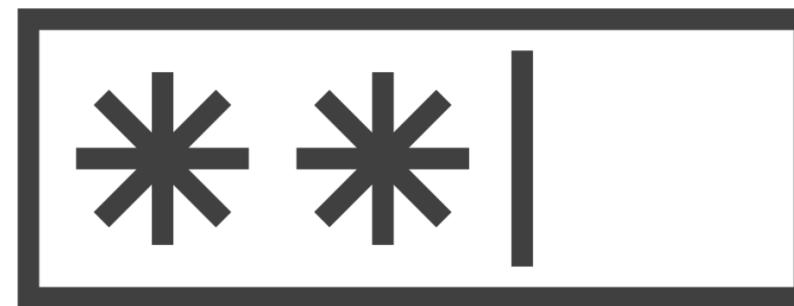
Optimized for DevOps

Secure an App Service

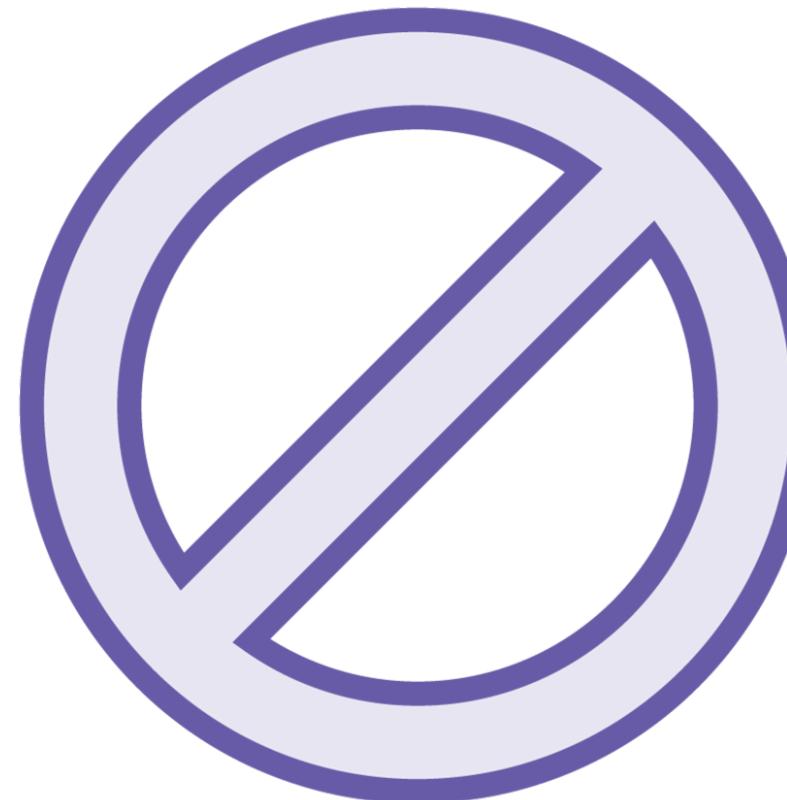
Secure App Service



Add SSL
certificate



Authentication



Access
restriction



Encryption using
managed keys

Certificate requirements

SSL

App Service managed cert and App Service cert meet requirements

SSL

Must be exported as a password protected PFX file

SSL

Contain private key at least 2048 bits long

SSL

Contains all intermediate certificates in the cert chain

Add SSL cert

mjtwebapp | TLS/SSL settings ... X

App Service

Search (Ctrl+/«) Refresh Delete bindings Buy Certificate Troubleshoot FAQs

Deployment slots Deployment Center

Settings

- Configuration
- Authentication
- Authentication (classic)
- Application Insights
- Identity
- Backups
- Custom domains
- TLS/SSL settings (selected)
- Networking
- Networking (preview)
- Scale up (App Service plan)
- Scale out (App Service plan)

Bindings Private Key Certificates (.pfx) Public Key Certificates (.cer)

 **Protocol Settings**

Protocol settings are global and apply to all bindings defined by your app.

HTTPS Only: Off On

Minimum TLS Version: 1.0 1.1 1.2

 **TLS/SSL bindings**

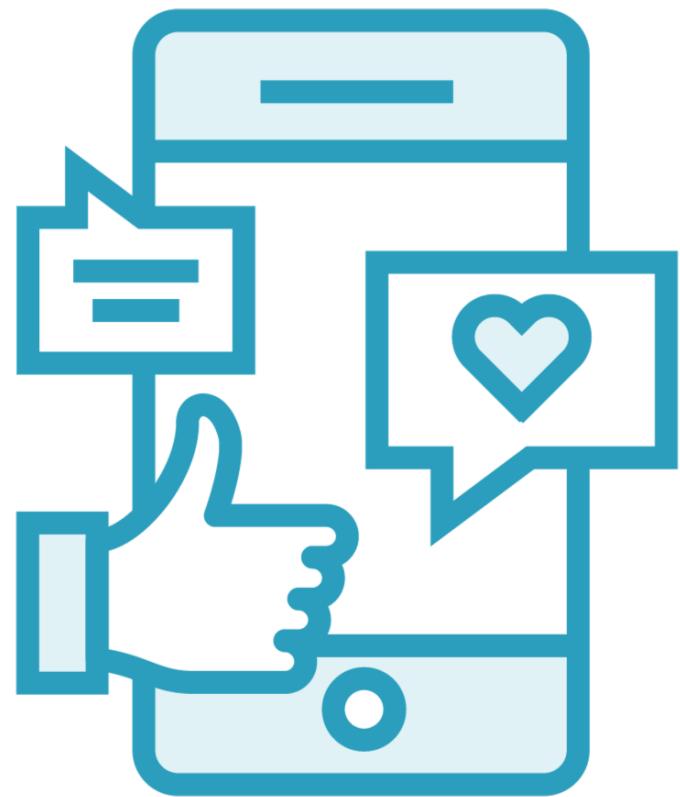
Bindings let you specify which certificate to use when responding to requests to a specific hostname over HTTPS. TLS/SSL Binding requires valid private certificate (.pfx) issued for the specific hostname.

[Learn more](#)

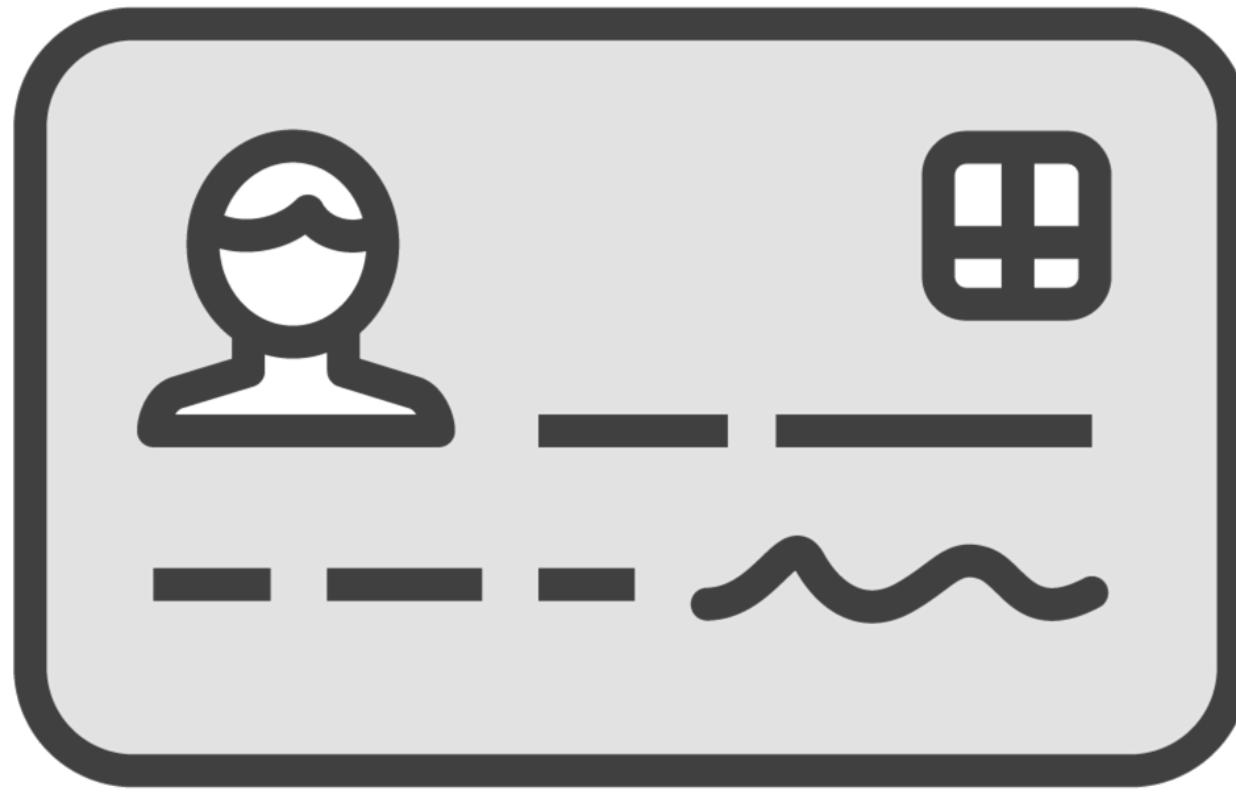
+ Add TLS/SSL Binding

<input type="checkbox"/> Host name	Private Certificate Thumbprint	TLS/SSL Type
No TLS/SSL bindings configured for the app.		

Authentication



Authenticate Users



Managed Identity

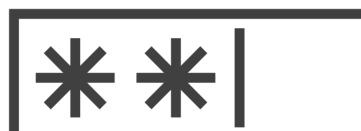
Authentication



App Service provides built-in authentication and authorization



Built-in ensures your solution stays up to date



Built-in integrates with multiple login providers. ie, Azure AD, Facebook

Authentication

Dashboard > mjtwebapp >

Add an identity provider

Basics Permissions

Choose an identity provider from the dropdown below to start.

Identity provider *

Select identity provider ^

-  Microsoft
Sign in Microsoft and Azure AD identities and call Microsoft APIs
-  Facebook
Sign in Facebook users and call Facebook APIs
-  Google
Sign in Google users and call Google APIs
-  Twitter
Sign in Twitter users and call Twitter APIs

Authentication

The screenshot illustrates the configuration of authentication for an Azure App Service named 'mjtwebapp'. It shows two main interface sections:

- Top Section (Dialog):** A modal window titled 'Add an identity provider' is open. The URL in the browser bar is 'Dashboard > mjtwapp > Add an identity provider'. The content area contains the heading 'Add an identity provider' followed by a ellipsis (...).
- Bottom Section (Blade):** The main page for 'mjtwebapp | Identity' is displayed. The URL in the browser bar is 'Dashboard > mjtwapp'. The page includes:
 - A left sidebar with navigation links: Deployment slots, Deployment Center, Configuration, Authentication, Authentication (classic), Application Insights, and Identity (which is highlighted).
 - A search bar at the top.
 - A header with tabs: 'System assigned' (selected) and 'User assigned'.
 - A descriptive text about system assigned identities.
 - Action buttons: Save, Discard, Refresh, and Got feedback?
 - A status section with a toggle switch set to 'On'.
 - A callout bubble with the text 'Sign in Twitter users and call Twitter APIs'.

Access Restrictions



Define priority ordered allow/deny list



Lists can include IP's or Azure Virtual Network subnets



Works with all Azure App Service hosted workloads

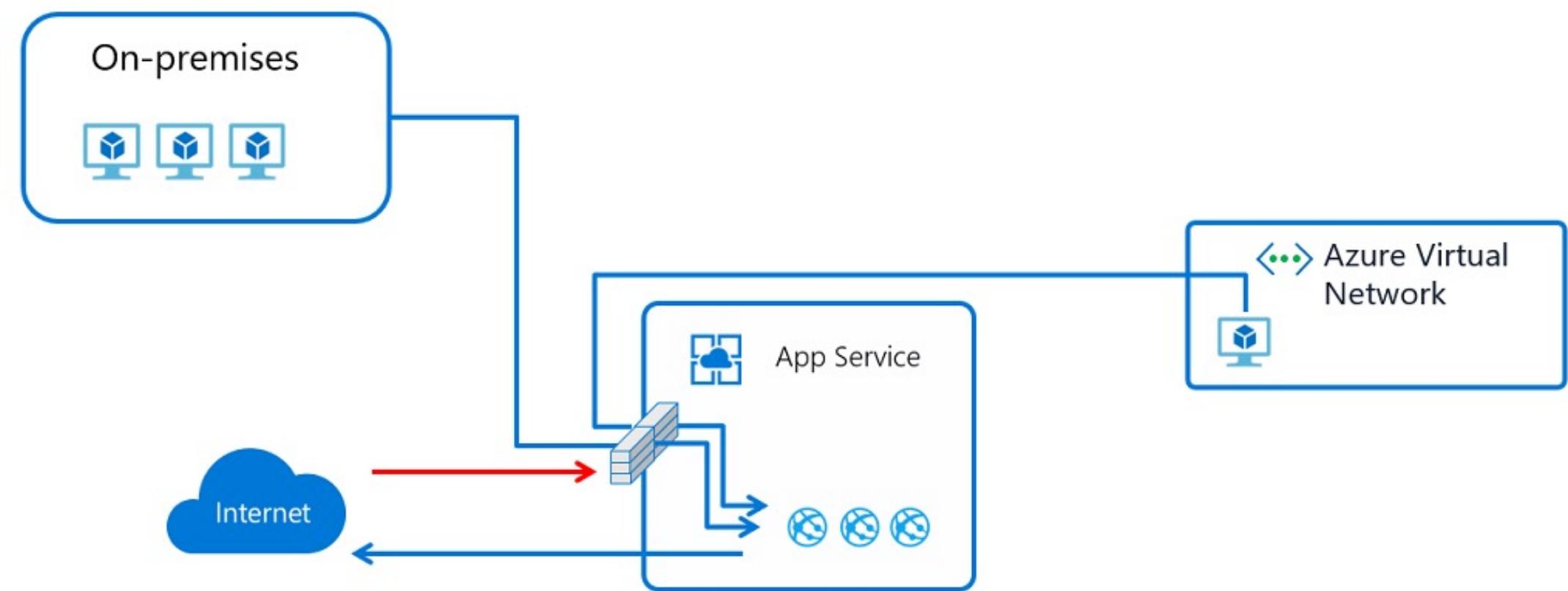


Service endpoints must be enabled on network and service side

Access restriction on Azure V-nets is enabled by service endpoints

Service endpoints allow you to restrict access to a multi-tenant service

It doesn't work to restrict traffic to apps that are hosted in an App Service Environment



Access Restrictions

Dashboard > mjtwebapp

mjtwebapp | Networking

App Service

Search (Ctrl+ /)

Deployment slots

Deployment Center

Settings

- Configuration
- Authentication
- Authentication (classic)
- Application Insights
- Identity
- Backups
- Custom domains
- TLS/SSL settings
- Networking
- Networking (preview)
- Scale up (App Service plan)
- Scale out (App Service plan)
- WebJobs
- Push
- MySQL In App
- Properties
- Locks

VNet Integration

Securely access resources available in or through your Azure VNet.
[Learn More](#)

Click here to configure

Hybrid connections

Securely access applications in private networks
[Learn More](#)

Configure your hybrid connection endpoints

Azure Front Door with Web Application Firewall

Scalable and secure entry point for accelerated delivery of your web applications
[Learn More](#)

Configure Azure Front Door with WAF for your app

Azure CDN

Secure, reliable content delivery with broad global reach and rich feature set
[Learn More](#)

Configure Azure CDN for your app

Access Restrictions

Define and manage rules that control access to your application.
[Learn More](#)

Configure Access Restrictions

Access Restrictions

Dashboard > mjtwebapp

 **mjtwebapp** | Networking ...

App Service

Dashboard > mjtwebapp >

Access Restrictions ...

 Remove  Refresh

Access Restrictions

 Access Restrictions

Access restrictions allow you to define lists of allow/deny rules to control traffic to your app. Rules are evaluated in priority order. If there are no rules defined then your app will accept traffic from any address. [Learn more](#)

<input type="checkbox"/> Priority	Name	Source	Endpoint status	HTTP headers	Action
<input type="checkbox"/> 300		24.123.11.236/32	Not configured		 Allow
<input type="checkbox"/> 2147483647	Deny all	Any	Not configured		 Deny

 WebJobs
 Push
 MySQL In App
 Properties
 Locks

Configure Azure CDN for your app

 Access Restrictions

Define and manage rules that control access to your application.
[Learn More](#)

[Configure Access Restrictions](#)

Encrypting Using Managed Keys



Encrypting a web apps data requires a storage account and Key Vault



App Service can securely access secrets through a managed identity



Revoke web app data access by rotating SAS key or removing apps access to Key Vault

Configure App Services