

Azure Traffic Manager

Azure Traffic Manager is a **DNS-based traffic load balancer** that helps distribute incoming network traffic across multiple services hosted in different Azure regions or external locations. It improves application availability, performance, and resilience by directing users to the most appropriate endpoint based on different routing methods.

Key Features of Azure Traffic Manager:

1. **Global Load Balancing:** Distributes traffic across multiple Azure regions or external endpoints.
2. **Routing Methods:** Supports multiple traffic routing methods, including:
 - **Priority Routing:** Sends traffic to a primary endpoint and fails over to backups if needed.
 - **Weighted Routing:** Distributes traffic based on predefined weight values.
 - **Performance Routing:** Directs users to the closest and fastest available endpoint.
 - **Geographic Routing:** Routes traffic based on the user's geographic location.
 - **Multivalue Routing:** Returns multiple healthy endpoints to DNS queries.
 - **Subnet Routing:** Routes traffic based on the user's IP address range.
3. **Health Monitoring:** Continuously checks endpoint health and automatically redirects traffic if an endpoint is down.
4. **Azure and Non-Azure Support:** Works with both Azure and external (on-premises or other cloud) endpoints.
5. **Failover and High Availability:** Ensures application availability by redirecting traffic when an endpoint fails.
6. **Integration with Azure Services:** Works seamlessly with Azure App Services, Virtual Machines, and other cloud services.

Use Cases:

- Disaster recovery by automatically failing over to backup regions.
- Improving performance by directing users to the nearest available region.
- Distributing traffic efficiently among multiple cloud resources.
- Supporting multi-cloud or hybrid cloud architectures.

Since it's **DNS-based**, it does not handle traffic directly but instead resolves the best endpoint at the DNS level. For real-time traffic management, you might need **Azure Front Door** or **Azure Load Balancer**.

The process involves creating two Azure Web Apps in North Europe and UK South, both running .NET 8 with a Standard S1 pricing plan. After deploying them, we edit their default.html files. Then, we create an Azure Traffic Manager profile using the Priority routing method. We add both web apps as endpoints, configuring HTTPS and custom headers. Traffic initially flows to North Europe, but if it goes offline, Traffic Manager redirects users to UK South. The end goal is to implement high availability and failover using Azure Traffic Manager. Finally, we delete all resources after testing.

😊 To begin with the Lab

1. In this lab, we will start by creating two web apps in two different regions.
2. From the marketplace place create a web app, choose your resource group, give it a name then choose dot net 8 as your runtimes stack. For region choose North Europe.

Subscription * ⓘ

MSDN Platforms Subscription

Resource Group * ⓘ

NewRG

Create new

Instance Details

Name

northeuropeapp ✓

-h9g5cugsayfxefd0.northeurope-01.azurewebsites.net

Secure unique default hostname on. [More about this update](#)

Code Container

Runtime stack *

.NET 8 (LTS)

Operating System *

Linux Windows

Region *

North Europe

ⓘ Not finding your App Service Plan? Try a different region or select your App Service Environment.

3. Then for the pricing plan you have to choose Standard S1 to use the traffic manager.

Pricing plans

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

Windows Plan (North Europe) * ⓘ

(New) ASP-NewRG-9dc1

Create new

Pricing plan

Standard S1 (100 total ACU, 1.75 GB memory, 1 vCPU)

[Explore pricing plans](#)

- Now move to the review page and create your first web app. Since our web app is deploying, we can go ahead and create another web app in the UK South location with the same configurations.

Instance Details

Name ✓
-gsezb7bdcqapdef0.uksouth-01.azurewebsites.net

Secure unique default hostname on. [More about this update ↗](#)

Code Container

Runtime stack *

Operating System * Windows Linux

Region *

i Not finding your App Service Plan? Try a different region or select your App Service Environment.

Pricing plans

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

Windows Plan (UK South) * ① ✓
[Create new](#)

Pricing plan ✓
[Explore pricing plans](#)

- Our web app from the North Europe location has been created. Open it and look for App Service Editor. Click on Open Editor.


Web App

⏴ ⏵

- Console
- Advanced Tools
- App Service Editor (Preview) ★
- Extensions


App Service Editor provides an in-browser editing experience for your App code. [Learn more](#)
[Open Editor ↗](#)

- Here in the WWWROOT we created a file with the name default.html and then we wrote this text message. We did the same thing for the other web app.

The screenshot shows the Azure Storage Explorer interface with two separate configurations side-by-side.

Left Configuration (North Europe Location):

- EXPLORE
- WORKING FILES:
 - default.html
- WWWROOT:
 - default.html
 - hostingstart.html

Right Configuration (UK South Location):

- EXPLORE
- WORKING FILES:
 - default.html
- WWWROOT:
 - default.html
 - hostingstart.html

In both configurations, the default.html file contains the following code:

```
1 <h1>This is the Web App in North Europe Location</h1>
```

```
1 <h1>This is the Web App in UK South Location</h1>
```

7. Below you can see that both of our web apps are online now.

A screenshot of a browser window showing the URL: `northeuropeapp-h9g5cugsayfxefd0.northeurope-01.azurewebsites.net`. The page content is:

This is the Web App in North Europe Location

This is the Web App in North Europe Location

A screenshot of a browser window showing the URL: `uksouthapp-gsezb7bdcqapdef0.uksouth-01.azurewebsites.net`. The page content is:

This is the Web App in UK South Location

8. Now from the marketplace search for the traffic manager profile and click on create.

Traffic Manager profile

Microsoft



Traffic Manager profile

Add to Favorites

Microsoft | Azure Service

★ 4.3 (15 ratings)

Plan

Traffic Manager profile

Create

Traffic Manager profile

9. Here you need to choose your resource group and then give a unique to your traffic manager. Then choose Priority for your Routing Method and create your traffic manager.

Basics Tags Review + Create

quick responsiveness. [Learn more](#)

Project details

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

Subscription * ⓘ

MSDN Platforms Subscription

Resource group * ⓘ

NewRG

[Create new](#)

Instance details

Name *

webservice12112



.trafficmanager.net

Routing method *

Priority

Resource group location * ⓘ

(Europe) North Europe

10. Now we are going to the endpoints to create them. Click on Add.

webservice12112 | Endpoints ☆ ...

Traffic Manager profile

X << + Add ⟳ Refresh trash Delete

🔍 Search endpoints

No results.

🔒 Locks

📁 Configuration

🌐 Real user measurements

🌐 Traffic view

🌐 Endpoints

☰ Properties

11. To add an endpoint, we have to choose type as azure endpoint and then give it a name. In the Target resource type choose App Service and in the target, resource choose your first web app.
12. In the custom header settings, we need to specify the host, so here we are just writing the default domain name of our web app. We will do the same thing for other web app as well.

host:northeuropeapp-h9g5cugsayfxefd0.northeurope-01.azurewebsites.net

Add endpoint

X

webservice12112

Type * ⓘ

Azure endpoint

Name *

north-eu-endpoint

Enable Endpoint *



Target resource type *

App Service

Target resource *

northeuropeapp (North Europe)

Priority *

1

Custom Header settings ⓘ

host:northeuropeapp-
h9g5cugsayfxefd0.northeurope-
01.azurewebsites.net



ⓘ Do NOT input sensitive customer
data in this field (i.e. APIKeys, Secrets,
and Auth tokens etc.).

Health Checks * ⓘ

Enable

Health check will determine if traffic
can be served to the endpoint

Add

Cancel

Add endpoint

X

webservice12112

Type * ⓘ

Azure endpoint

Name *

uk-south-endpoint

Enable Endpoint *



Target resource type *

App Service

Target resource *

uksouthapp (UK South)

Priority *

2

Custom Header settings ⓘ

host:uksouthapp-gsezb7bdcqapdef0.uksouth-01.azurewebsites.net

ⓘ Do NOT input sensitive customer data in this field (i.e. APIKeys, Secrets, and Auth tokens etc.).

Health Checks * ⓘ

Enable

Health check will determine if traffic can be served to the endpoint

Add

Cancel

13. After adding them both move to the configuration tab and change the protocol to HTTPS because traffic manager listens on HTTPS save the changes.

Save Discard

Routing method ⓘ

Priority

DNS time to live (TTL)* ⓘ

60

Endpoint monitor settings ⓘ

Protocol

HTTPS

Port *

443

Path* ⓘ

/

14. Below you can see that both of the endpoints are added successfully and they are showing online.

Name	Status	Monitor Status	Type	Priority
north-eu-endpoint	Enabled	Online	Azure endpoint	1
uk-south-endpoint	Enabled	Online	Azure endpoint	2

15. Now from the overview we need to copy the DNS name of traffic manager.

Enable profile Disable profile Refresh Move Delete profile

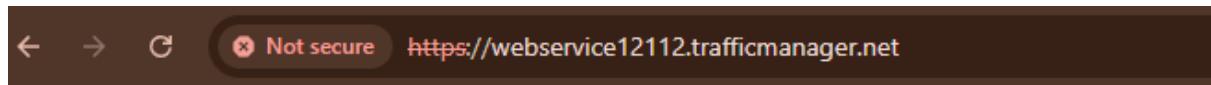
Essentials

Resource group (move)	: NewRG
Subscription (move)	: MSDN Platforms Subscription
Subscription ID	: d6549a66-c45c-4979-840c-3b356da446b0
Status	: Enabled
Location	: global
Tags (edit)	: Add tags

DNS Name	: http://webservice12112.trafficmanager.net
Monitor Status	: Online
Routing Method	: Priority
Endpoints	: 2

Copied

16. Here you can see that our traffic manager is up and running but it will only show the North Europe web app because it is set to first priority.



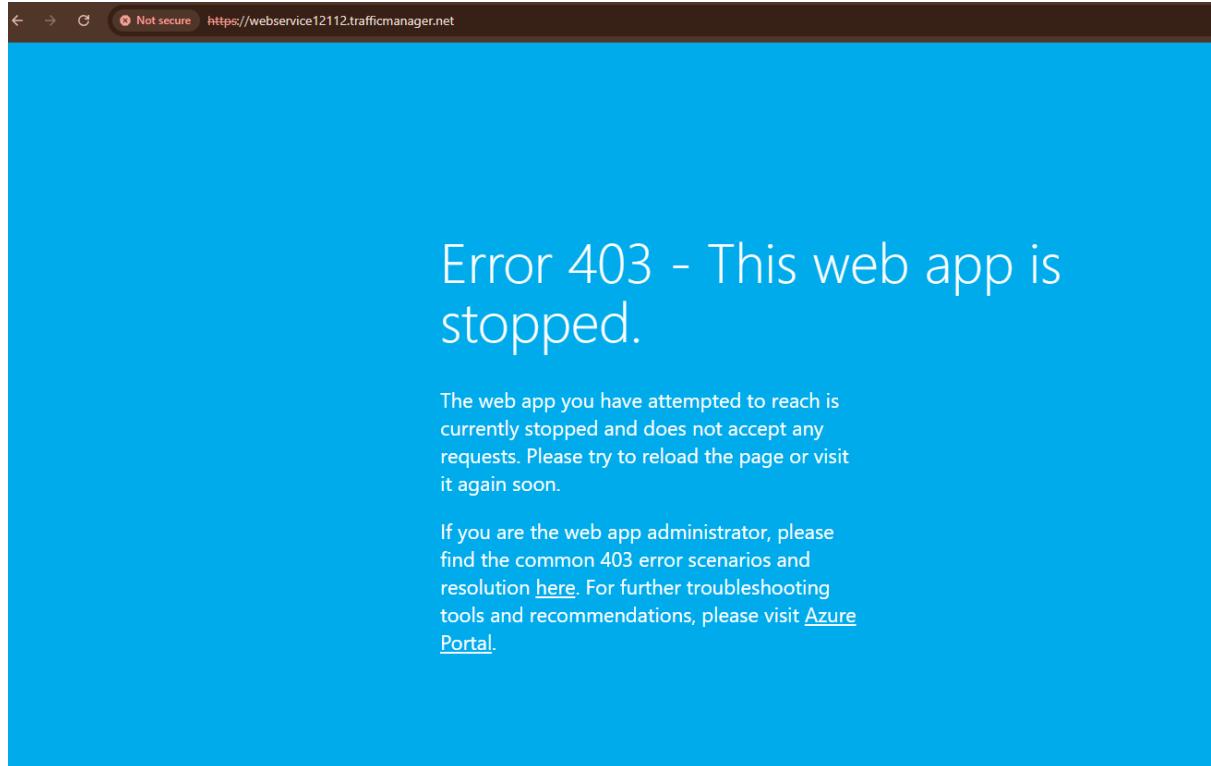
This is the Web App in North Europe Location

17. Now we will stop the web app in North Europe region and wait for couple of minutes.

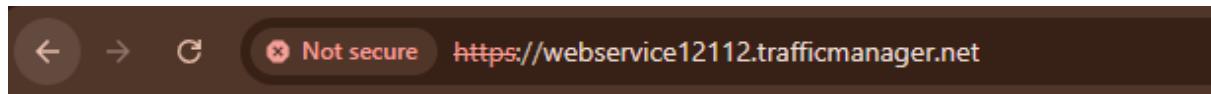
The screenshot shows the Azure portal interface for a 'Web App'. The left sidebar has a tree view with items like 'Overview', 'Activity log', 'Access control (IAM)', etc. The main content area is titled 'Overview' and contains the following details:

Essentials	JSON View
Resource group (move) newrg	Default domain northeuropeapp-h9g5cugsayfxed0.northeurope-01.azurewebsites...
Status Stopped	App Service Plan ASP-NewRG-9dc1 (S1: 1)
Location (move) North Europe	Operating System Windows
Subscription (move) MSDN Platforms Subscription	Health Check Cannot determine health check status while app is in a "Stopped" sta
Subscription ID d6549a66-c45c-4979-840c-3b356da446b0	

18. As you can see, it takes some time to reflect the other web app



19. After a couple of minutes, you can see that we have another web app online in Traffic Manager.



This is the Web App in UK South Location

20. After completing the lab delete all the resources.