

AZ104- Project

VMNET and VMs are created

The screenshot shows the 'Virtual machines' page in the Azure portal. The filter 'Virtual network == VNET1' is applied, resulting in two VMs: VM1 and VM2. Both are running Linux VMs in the Central US region, using the Standard_D2ads_v5 image.

Name	Type	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disks
VM1	Virtual machine	Azure Pass - Sponsorship	RG	Central US	Running	Linux	Standard_D2ads_v5	20.9.51.205	1
VM2	Virtual machine	Azure Pass - Sponsorship	RG	Central US	Running	Linux	Standard_D2ads_v5	20.9.11.89	1

The screenshot shows the 'Virtual machines' page in the Azure portal. The filter 'Virtual network == VNET2' is applied, resulting in two VMs: VM3 and VM4. Both are running Linux VMs in the West US region, using the Standard_D2ads_v5 image.

Name	Type	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disks
VM3	Virtual machine	Azure Pass - Sponsorship	RG	West US	Running	Linux	Standard_D2ads_v5	20.237.152.10	1
VM4	Virtual machine	Azure Pass - Sponsorship	RG	West US	Running	Linux	Standard_D2ads_v5	20.245.66.47	1

Storage account created and added the static website

The screenshot shows the 'storageproject1212' storage account page in the Azure portal. The 'Properties' tab is selected, displaying various settings for the storage account.

Resource group: RG
Location: Central US
Subscription: Azure Pass - Sponsorship
Subscription ID: b51d5486-93aa-4ad1-9c49-584ec72fc9f1
Disk state: Available
Tags: Click here to add tags

Performance: Standard
Replication: Locally-redundant storage (LRS)
Account kind: StorageV2 (general purpose v2)
Provisioning state: Succeeded
Created: 21/06/2022, 09:59:33

Properties | Monitoring | Capabilities (7) | Recommendations | Tutorials | Developer Tools

Blob service

Property	Value
Hierarchical namespace	Disabled
Default access tier	Hot
Blob public access	Enabled
Blob soft delete	Enabled (7 days)
Container soft delete	Enabled (7 days)
Versioning	Disabled
Change feed	Disabled
NFS v3	Disabled
Allow cross-tenant replication	Enabled

File service

Property	Value
Large file share	Disabled
Active Directory	Not configured
Soft delete	Enabled (7 days)
Share capacity	5 TiB

Security

Property	Value
Require secure transfer for REST API operations	Enabled
Storage account key access	Enabled
Minimum TLS version	Version 1.2
Infrastructure encryption	Disabled

Networking

Property	Value
Allow access from	All networks
Number of private endpoint connections	0
Network routing	Microsoft network routing
Access for trusted Microsoft services	Yes
Endpoint type	Standard

storageproject1212 | Containers

Storage account

Search (Cmd+J)

+ Container

Change access level

Restore containers

Refresh

Delete

Overview

Activity log

Tags

Diagnose and solve problems

Access Control (IAM)

Data migration

Events

Storage browser (preview)

Data storage

Containers

File shares

Queues

Search containers by prefix

Show deleted containers

Name	Last modified	Public access level	Lease state	
<input type="checkbox"/> \$logs	6/21/2022, 9:59:58 AM	Private	Available	...
<input type="checkbox"/> \$web	6/21/2022, 10:06:14 AM	Private	Available	...
<input type="checkbox"/> upload	6/21/2022, 10:08:55 AM	Private	Available	...

storageproject1212 | Static website

Storage account

stati

Save

Discard

Overview

Data management

Static website

Settings

Endpoints

Enabling static websites on the blob service allows you to host static content. Webpages may include static content and client-side scripts. Server-side scripting is not supported. As data is replicated asynchronously from primary to secondary regions, files at the secondary endpoint may not be immediately available or in sync with files at the primary endpoint. [Learn more](#)

Static website

Disabled

Enabled

An Azure Storage container has been created to host your static website.

[\\$web](#)

Primary endpoint

https://storageproject1212.z19.web.core.windows.net/

Index document name

Error document path

error.html

Github repository has been cloned and run the scripts in all the 4 VMs.

VM1 and VM3 - upload page

VM2 and VM4 – Home page

```

appgateway1.com

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

[samohanraj@VM4:~]$ sudo apt-get update -y
Hit:1 http://azure.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://azure.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://azure.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:4 http://azure.archive.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:5 http://azure.archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8628 kB]
Get:6 http://azure.archive.ubuntu.com/ubuntu focal/universe Translation-en [5124 kB]
Get:7 http://azure.archive.ubuntu.com/ubuntu focal/universe amd64 c-n-f Metadata [265 kB]
Get:8 http://azure.archive.ubuntu.com/ubuntu focal/multiverse amd64 Packages [144 kB]
Get:9 http://azure.archive.ubuntu.com/ubuntu focal/multiverse Translation-en [104 kB]
Get:10 http://azure.archive.ubuntu.com/ubuntu focal/multiverse amd64 c-n-f Metadata [9136 B]
Get:11 http://azure.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1931 kB]
Get:12 http://azure.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [350 kB]
Get:13 http://azure.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [924 kB]
Get:14 http://azure.archive.ubuntu.com/ubuntu focal-updates/universe Translation-en [208 kB]
Get:15 http://azure.archive.ubuntu.com/ubuntu focal-updates/universe amd64 c-n-f Metadata [20.9 kB]
Get:16 http://azure.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 Packages [24.4 kB]
Get:17 http://azure.archive.ubuntu.com/ubuntu focal-updates/multiverse Translation-en [7336 B]
Get:18 http://azure.archive.ubuntu.com/ubuntu focal-updates/multiverse amd64 c-n-f Metadata [596 B]
Get:19 http://azure.archive.ubuntu.com/ubuntu focal-backports/main amd64 Packages [44.8 kB]
Get:20 http://azure.archive.ubuntu.com/ubuntu focal-backports/main Translation-en [11.3 kB]
Get:21 http://azure.archive.ubuntu.com/ubuntu focal-backports/main amd64 c-n-f Metadata [976 B]
Get:22 http://azure.archive.ubuntu.com/ubuntu focal-backports/restricted amd64 c-n-f Metadata [116 B]
Get:23 http://azure.archive.ubuntu.com/ubuntu focal-backports/universe amd64 Packages [23.7 kB]
Get:24 http://azure.archive.ubuntu.com/ubuntu focal-backports/universe Translation-en [15.9 kB]
Get:25 http://azure.archive.ubuntu.com/ubuntu focal-backports/universe amd64 c-n-f Metadata [860 B]
Get:26 http://azure.archive.ubuntu.com/ubuntu focal-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:27 http://azure.archive.ubuntu.com/ubuntu focal-security/main amd64 Packages [1579 kB]
Get:28 http://azure.archive.ubuntu.com/ubuntu focal-security/main Translation-en [268 kB]
Get:29 http://azure.archive.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [10.6 kB]
Get:30 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 Packages [708 kB]
Get:31 http://azure.archive.ubuntu.com/ubuntu focal-security/universe Translation-en [127 kB]
Get:32 http://azure.archive.ubuntu.com/ubuntu focal-security/universe amd64 c-n-f Metadata [14.6 kB]
Get:33 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 Packages [22.2 kB]
Get:34 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse Translation-en [5376 B]
Get:35 http://azure.archive.ubuntu.com/ubuntu focal-security/multiverse amd64 c-n-f Metadata [512 B]
Fetched 20.9 MB in 3s (8307 kB/s)
Reading package lists... Done
[samohanraj@VM4:~]$ git clone "https://github.com/yeshu4/azproject"
Cloning into 'azproject'...
remote: Enumerating objects: 158, done.
remote: Counting objects: 100% (158/158), done.
remote: Compressing objects: 100% (100/100), done.
remote: Total 158 (delta 72), reused 125 (delta 54), pack-reused 0
Receiving objects: 100% (158/158), 32.33 KiB | 517.00 KiB/s, done.
Resolving deltas: 100% (72/72), done.
[samohanraj@VM4:~]$ cd azproject
[samohanraj@VM4:~/azproject]$ ./vm2.sh
Hit:1 http://azure.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu focal-security InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap libjansson4 liblua5.2-0 ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser openssl-blacklist
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1 libaprutil1 libaprutil1-dbd-sqlite3 libaprutil1-ldap libjansson4 liblua5.2-0 ssl-cert

```

Now application gateway has been created and added the backend pool accordingly

Home > Load balancing > appgateway1

Load balancing | Application Gateway

Overview

Load Balancing Services

- Application Gateway
- Front Door and CDN profiles
- Load Balancer
- Traffic Manager

Filter by name...

Name	
appgateway1	...
appgateway2	...

appgateway1 | Rules

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

- Configuration
- Web application firewall
- Backend pools
- Backend settings
- Frontend IP configurations
- Private link
- SSL settings
- Listeners
- Rules
- Rewrites
- Health probes
- Properties
- Locks
- Monitoring

Rule1

appgateway1

Configure a routing rule to send traffic from a given frontend IP address to one or more backend targets. A routing rule must contain a listener and at least one backend target.

Rule name: Rule1

Priority: 1

* Listener * Backend targets

Choose a backend pool to which this routing rule will send traffic. You will also need to specify a set of Backend settings that define the behavior of the routing rule.

Target type: Backend pool (selected) Redirection

Backend target: pool2

Backend settings: default

Path-based routing

You can route traffic from this rule's listener to different backend targets based on the URL path of the request. You can also apply a different set of Backend settings based on the URL path.

Path	Target name	Backend setting name	Backend pool
/upload	upload	default	pool1

Add multiple targets to create a path-based rule

Home > Load balancing > appgateway2

Load balancing | Application Gateway

Search (Cmd+/) < + Create Edit columns ...

Overview

Load Balancing Services

- Application Gateway
- Front Door and CDN profiles
- Load Balancer
- Traffic Manager

Filter by name...

Name ↑↓

- appgateway1
- appgateway2

appgateway2 | Rules

Search (Cmd+/) < + Routing

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

- Configuration
- Web application firewall
- Backend pools
- Backend settings
- Frontend IP configurations
- Private link
- SSL settings
- Listeners
- Rules
- Rewrites
- Health probes
- Properties

Rule2

Configure a routing rule to send traffic from a given frontend IP address to one or more backend targets. A routing rule must contain a listener and at least one backend target.

Rule name Rule2

Priority 2

* Listener * Backend targets

Choose a backend pool to which this routing rule will send traffic. You will also need to specify a set of Backend settings that define the behavior of the routing rule.

Target type ☒ Backend pool ☐ Redirection

Backend target * pool4

Backend settings * default1

Path-based routing

You can route traffic from this rule's listener to different backend targets based on the URL path of the request. You can also apply a different set of Backend settings based on the URL path.

Path based rules

Path	Target name	Backend setting name	Backend pool
/upload	upload	default1	pool3

Add multiple targets to create a path-based rule

Home > Load balancing

Load balancing | Application Gateway

Search (Cmd+/) < + Create Edit columns Refresh Feedback Assign tags

Overview

Load Balancing Services

- Application Gateway
- Front Door and CDN profiles
- Load Balancer
- Traffic Manager

Subscriptions: Azure Pass - Sponsorship

Filter by name... All resource groups All locations All tags No grouping

2 items

Name ↑↓	Public IP address	Private IP address	Resource group ↑↓	Location ↑↓	Subscription ↑↓
appgateway1	13.67.198.159	-	RG	Central US	Azure Pass - Sponsorship
appgateway2	20.228.71.80	-	RG	West US	Azure Pass - Sponsorship

Gateway 1 – DNS added

Home > Load balancing > appgateway1 > gatewayip1

gatewayip1 | Configuration

Public IP address

Search (Cmd+/) < Save Discard Refresh

Overview

Activity log

Access control (IAM)

Tags

Settings

- Configuration
- Properties
- Locks

Monitoring

- Insights
- Alerts
- Metrics
- Diagnostic settings

Automation

- Tasks (preview)

The assignment type of this public IP address must be Dynamic because it is associated to the IP configuration 'appGwPublicFrontendIp1', in the application gateway 'appgateway1'.

IP address assignment

Static

IP address 13.67.198.159

Idle timeout (minutes)

DNS name label (optional) gatewaydns11

You can use the IP address as your 'A' DNS record or DNS label as your 'CNAME' record. [Learn more about adding a custom domain to this IP address](#)

Alias record sets

Create an alias record in Azure DNS. [Learn more](#)

+ Create alias record

Subscription	DNS zone	Name	Type
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Gateway 2- DNS added

Home > Load balancing > appgateway2 > gatewayip2

gatewayip2 | Configuration

Public IP address

Search (Cmd+/) Save Discard Refresh

- Overview
- Activity log
- Access control (IAM)
- Tags

Settings

- Configuration
- Properties
- Locks

Monitoring

- Insights
- Alerts
- Metrics
- Diagnostic settings

Automation

The assignment type of this public IP address must be Dynamic because it is associated to the IP configuration 'appGwPublicFrontendip', in the application gateway 'appgateway2'.

IP address assignment
Static

IP address
20.228.71.80

Idle timeout (minutes)
0

DNS name label (optional)
gatewaydns12

You can use the IP address as your 'A' DNS record or DNS label as your 'CNAME' record. [Learn more about adding a custom domain to this IP address](#)

Alias record sets
Create an alias record in Azure DNS. [Learn more](#)
[+ Create alias record](#)

Traffic manager profile created

Home > Load balancing > trafficproject

Load balancing | Traffic Manager

Search (Cmd+/) Create Manage view

Filter for any field...

Name ↑

trafficproject

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

- Configuration
- Real user measurements
- Traffic view
- Endpoints
- Properties
- Locks

Monitoring

- Alerts
- Metrics
- Diagnostic settings

trafficproject Traffic Manager profile

Search (Cmd+/) Enable profile Disable profile Refresh Move Delete profile

Essentials

Resource group (move) DNS name
RG http://trafficproject.trafficmanager.net

Status Monitor status
Enabled Inactive

Subscription (move) Routing method
Azure Pass - Sponsorship Performance

Subscription ID
b51d5486-93aa-4ad1-9c49-584ec72fc9f1

Tags (edit)
[Click here to add tags](#)

Search endpoints

Name	Status	Monitor status	Type	Location
No results.				

Endpoint added in Traffic manager

Home > Load balancing > trafficproject

Load balancing | Traffic Manager

Search (Cmd+/) Create Manage view

Filter for any field...

Name ↑

trafficproject

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

- Configuration
- Real user measurements
- Traffic view
- Endpoints
- Properties

trafficproject | Endpoints Traffic Manager profile

Search (Cmd+/) Add Refresh

Search endpoints

Name	Status	Monitor status	Type	Location
endpoint1	Enabled	Checking endpoint	Azure endpoint	Central US
endpoint2	Enabled	Checking endpoint	Azure endpoint	West US

Monitor status updated to 'Online' for the endpoint created

Home >

trafficproject Traffic Manager profile

Search (Cmd+/) < > Enable profile Disable profile Refresh → Move Delete profile

Overview

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Access control (IAM)

Tags

Diagnose and solve problems

Settings

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Real user measurements

Traffic view

Endpoints

Properties

Locks

Monitoring

Alerts

Essentials

Resource group (move) : RG

Status : Enabled

Subscription (move) : Azure Pass - Sponsorship

Subscription ID : b51d5486-93aa-4ad1-9c49-584ec72fc9f1

Tags (edit) : Click here to add tags

DNS name : http://trafficproject.trafficmanager.net

Monitor status : Online

Routing method : Performance

Search endpoints

Name	↑↓ Status	↑↓ Monitor status	↑↓ Type	↑↓ Location
endpoint1	Enabled	Online	Azure endpoint	Central US
endpoint2	Enabled	Online	Azure endpoint	West US

Verify the traffic manager url

<http://trafficproject.trafficmanager.net>

← → ↻ ⚠ Not Secure | trafficproject.trafficmanager.net

Welcome to the Home Page. This is VM2

Error page displaying

<http://trafficproject.trafficmanager.net/upload/>

← → ↻ ⚠ Not Secure | trafficproject.trafficmanager.net/upload

Application Gateway errors!

This is a static page