DEVOPS with MULTI-CLOUD
Practice Tasks

Institute Name : V Cube software solutions
Course : DevOps with Multi-Cloud
Batch : 30
Trainer : Krishna reddy sir

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(MCD-AZ30-024)

TASK-11 : Traffic Manager.

Date : 03/02/26

Objective :-

To distribute client requests across multiple endpoints located in different geographic regions using DNS-based routing. It ensures high availability, improved performance, and automatic failover of applications by directing traffic to the most appropriate or healthy endpoint.

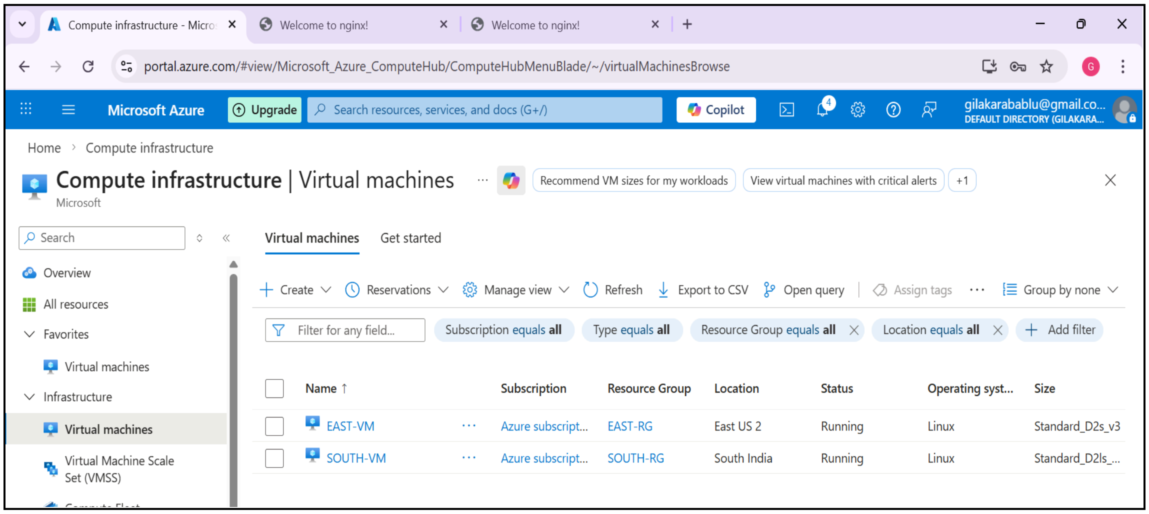
Traffic Manager :-

→ The traffic manager is a global load balancer, but it does not manage the traffic.
→ The traffic manager works on the DNS based principle.
→ When we create a traffic manager we get a domain name instead of frontend ip.
→ Provides automatic failover if an endpoint becomes unhealthy
→ The traffic manager routes the traffic based on the routing methods. There are four main routing methods…..

- Priority.
- Weightage.
- Latency.
- Geographic.

To implement the traffic manager :-

→ Create two vm's in different regions. And install nginx in both of them.



portal.azure.com/#view/Microsoft_Azure_ComputeHub/ComputeHubMenuBlade/~/virtualMachinesBrowse

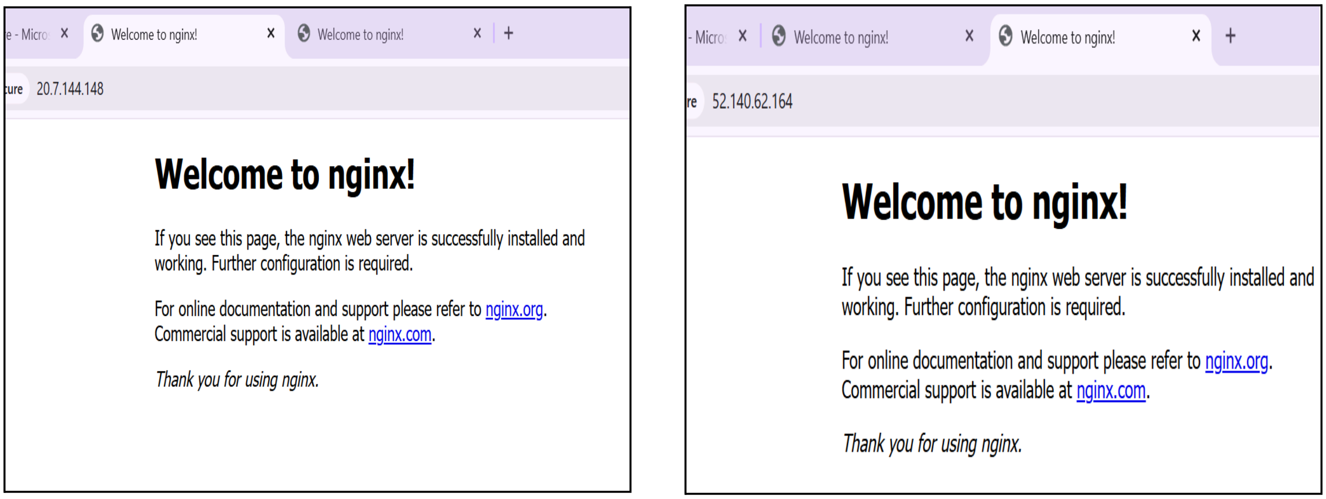
Compute infrastructure | Virtual machines

Microsoft

Subscription equals **all** · Type equals **all** · Resource Group equals **all** · Location equals **all**

Name ↑	Subscription	Resource Group	Location	Status	Operating syst...	Size
EAST-VM	Azure subscript...	EAST-RG	East US 2	Running	Linux	Standard_D2s_v3
SOUTH-VM	Azure subscript...	SOUTH-RG	South India	Running	Linux	Standard_D2ls_...

fig(1) Created two web servers in different regions.



20.7.144.148

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

52.140.62.164

Welcome to nginx!

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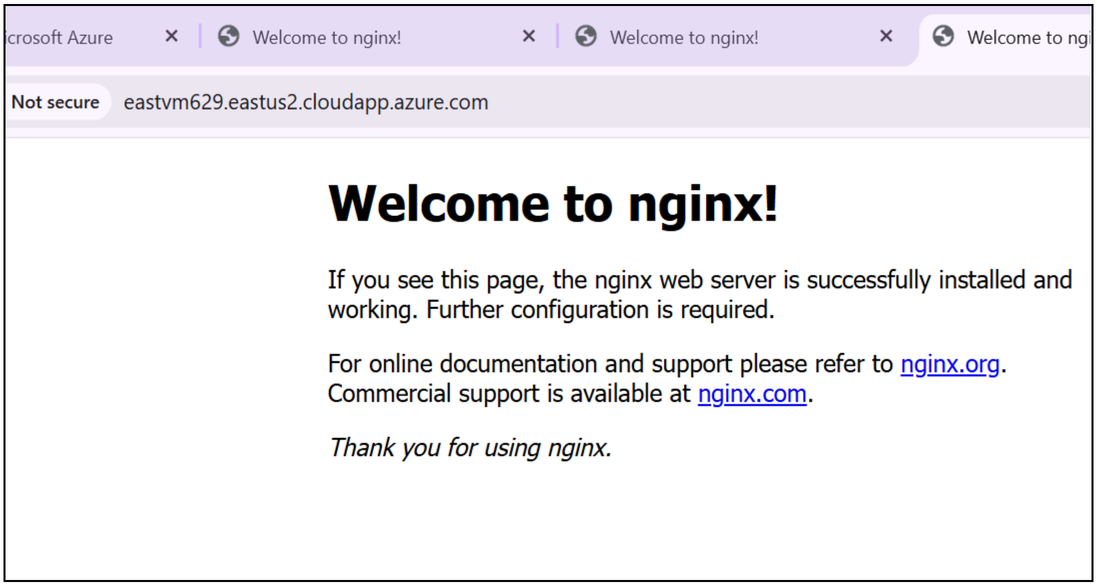
Commercial support is available at nginx.com.

Thank you for using nginx.

fig(2) installed nginx in both the machines successfully.

→ As the Traffic Manager works on the DNS principle, we need to configure the dns for the virtual machines.

→ After configuring the dns we can browse through the dns name instead of the ip address.



eastvm629.eastus2.cloudapp.azure.com

Welcome to nginx!

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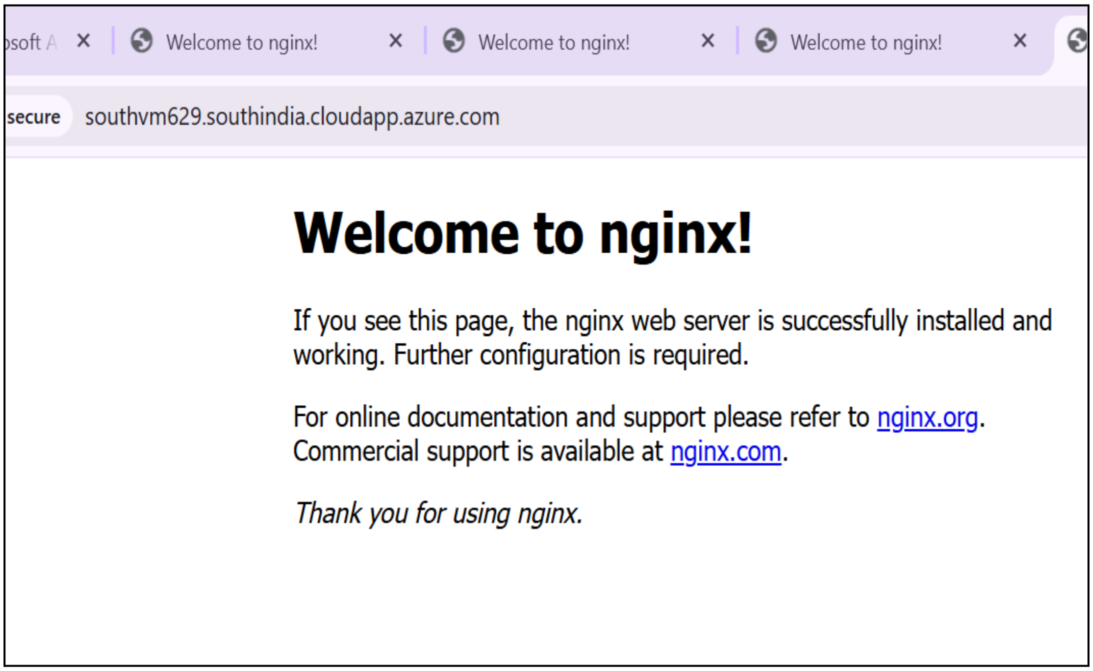
Commercial support is available at nginx.com.

Thank you for using nginx.

fig(3) east webserver with dns name.



southvm629.southindia.cloudapp.azure.com

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

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Thank you for using nginx.

fig(4) south webserver with the dns name.

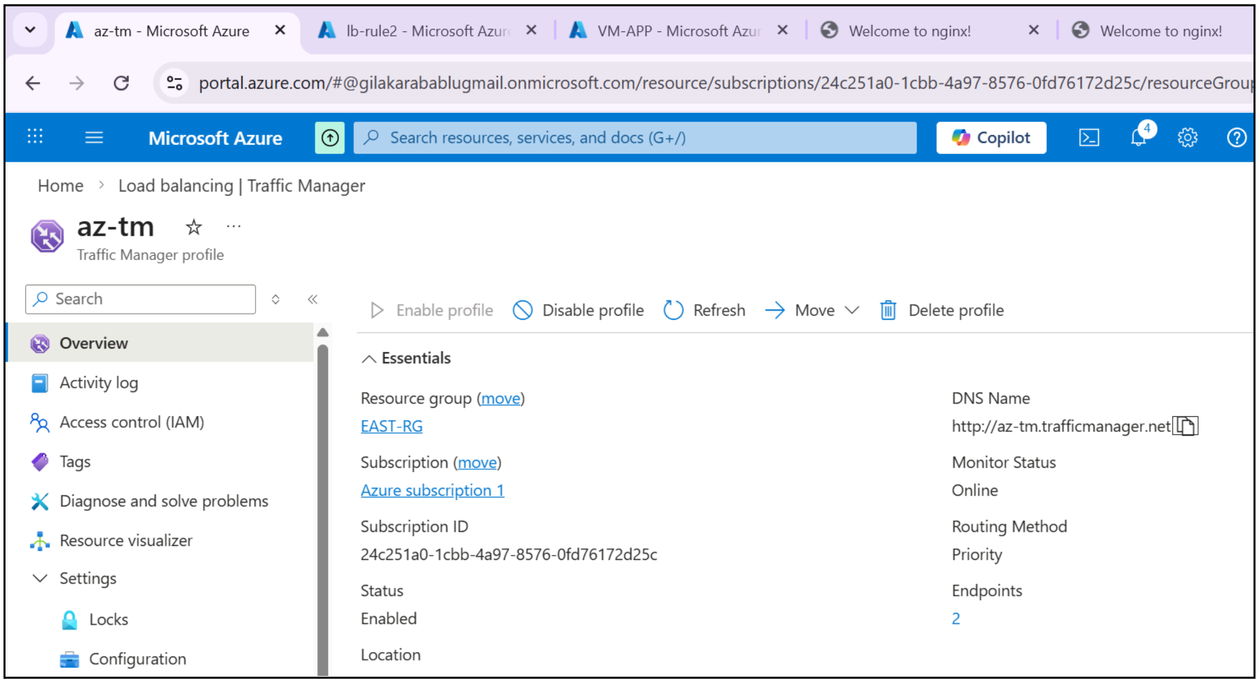
→ Now create a traffic manager in west europe rg . After the deployment of traffic manager, add the endpoints, endpoints are like backend pools.

→ Add the webservers in the backend pools of the traffic manager.

→ To know where our traffic is going lets change the content of south webserver

From “welcome to nginx” to “welcome to south india”.

→ We configured everything, now lets check the traffic flow using different routing methods.



Resource group (move)
EAST-RG

Subscription (move)
Azure subscription 1

Subscription ID
24c251a0-1cbb-4a97-8576-0fd76172d25c

Status
Enabled

Location

DNS Name
http://az-tm.trafficmanager.net

Monitor Status
Online

Routing Method
Priority

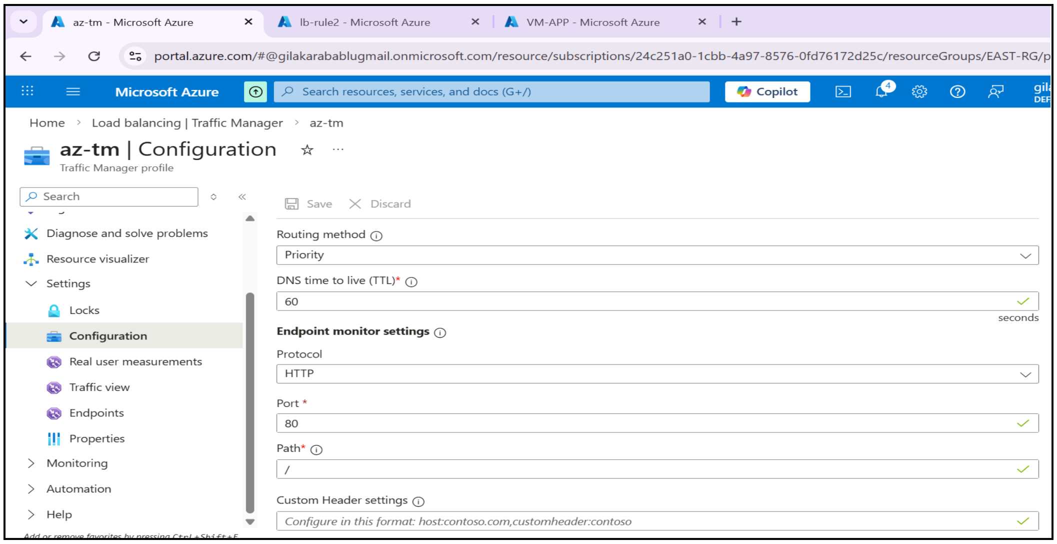
Endpoints
2

fig(5) created a traffic manager.

→ We can browse the traffic manager DNS name since we have added the vm’s in the endpoints (backend pools).

➢ Priority :-

Priority routing directs all traffic to the primary endpoint. If the primary endpoint becomes unavailable, traffic is automatically redirected to the next priority endpoint. It is mainly used for disaster recovery and failover scenarios.



portal.azure.com/#@gilakarabablugmail.onmicrosoft.com/resource/subscriptions/24c251a0-1cbb-4a97-8576-0fd76172d25c/resourceGroups/EAST-RG/p

az-tm | Configuration

Traffic Manager profile

Routing method: Priority

DNS time to live (TTL)*: 60 seconds

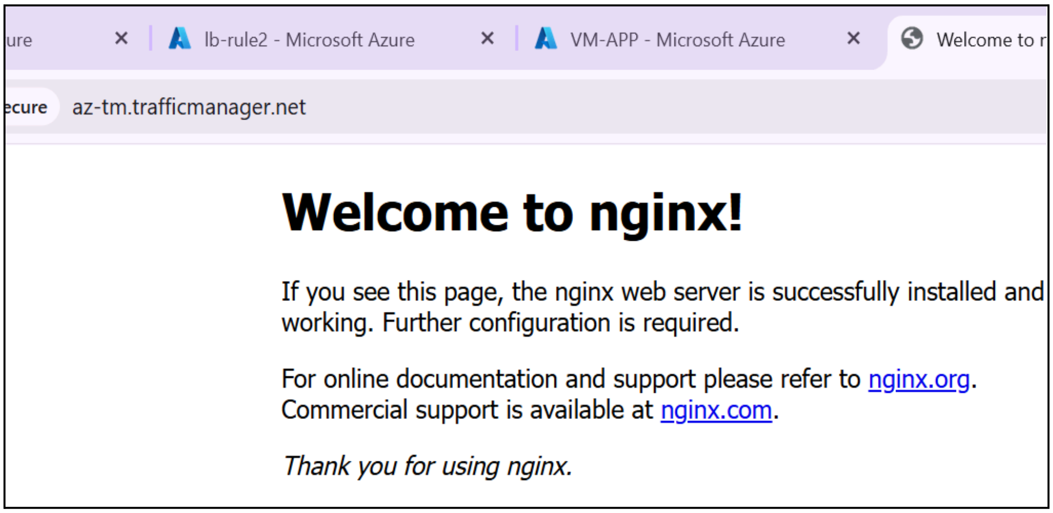
Endpoint monitor settings

Protocol: HTTP

Port *: 80

Path*: /

Custom Header settings: Configure in this format: host:contoso.com,customheader:contoso



az-tm.trafficmanager.net

Welcome to nginx!

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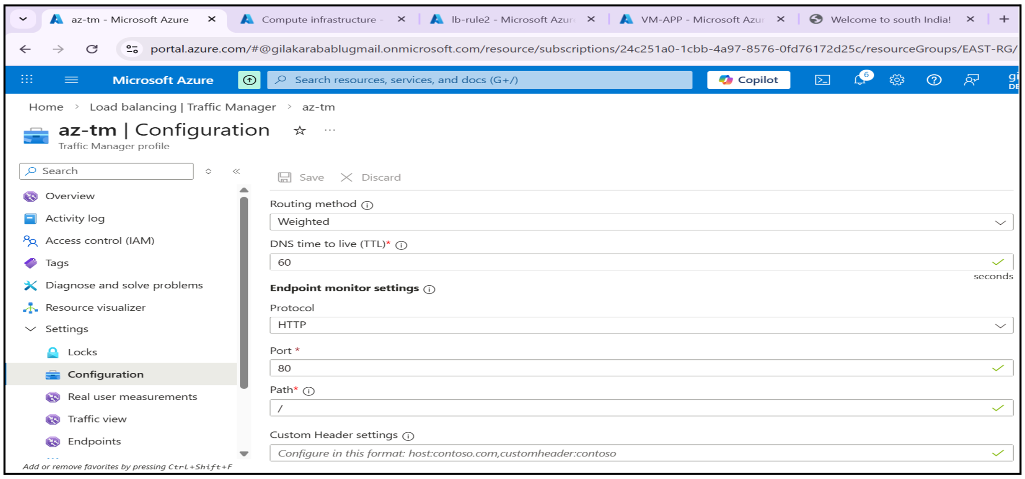
Thank you for using nginx.

→ Here, the priority is 1 for the east-us webserver, so we only get nginx page since the traffic will go to the highest priority. If we change the priority the o/p will also change.
→ “lower the number higher the priority”.

➢ Weightage :-

Weighted routing distributes traffic based on assigned weights to endpoints. Endpoints with higher weight receive more traffic compared to others. It is useful for load distribution or testing new deployments gradually.



az-tm - Microsoft Azure
Compute infrastructure -
lb-rule2 - Microsoft Azur
VM-APP - Microsoft Azur
Welcome to south India!
portal.azure.com/#@gilakarababIugmail.onmicrosoft.com/resource/subscriptions/24c251a0-1cbb-4a97-8576-0fd76172d25c/resourceGroups/EAST-RG/
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Load balancing | Traffic Manager > az-tm
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Resource visualizer
Settings
Locks
Configuration
Real user measurements
Traffic view
Endpoints
Add or remove favorites by pressing Ctrl+Shift+F
Save
Discard

az-tm | Configuration

Traffic Manager profile

Routing method: Weighted

DNS time to live (TTL)*: 60 seconds

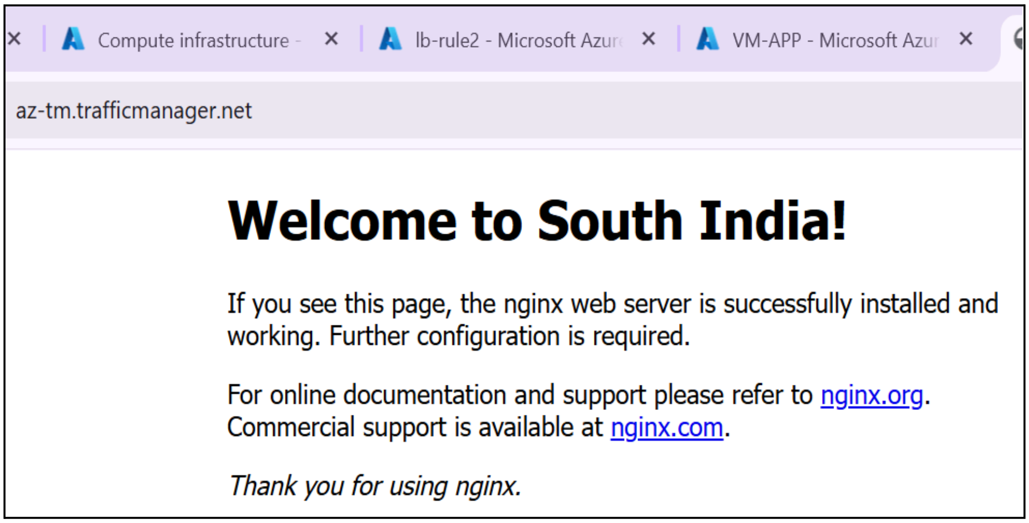
Endpoint monitor settings

Protocol: HTTP

Port *: 80

Path*: /

Custom Header settings: Configure in this format: host:contoso.com,customheader:contoso



az-tm.trafficmanager.net

Welcome to South India!

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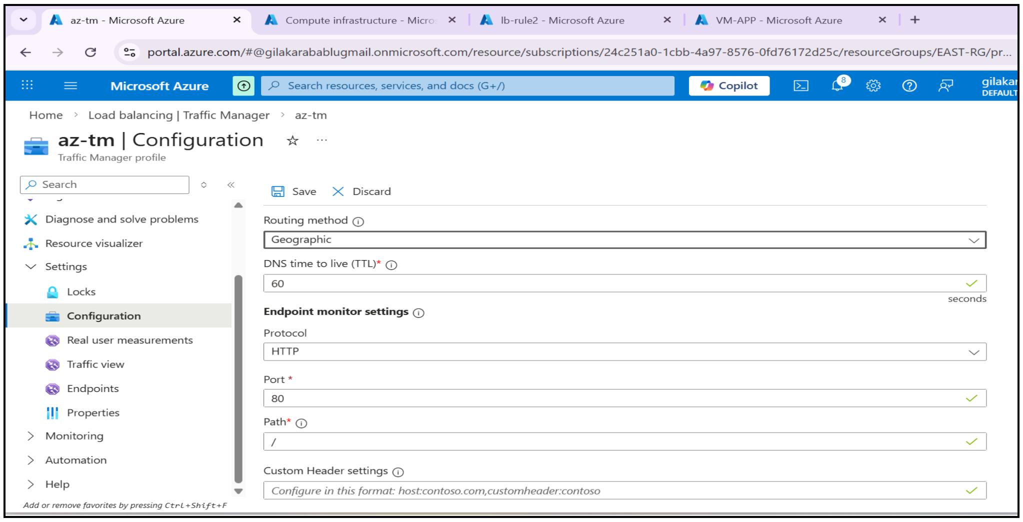
Thank you for using nginx.

→ Here, the weightage is same for both the webservers but since the south ind is nearest server, the traffic will go to south ind server.

→ if we change the weightage and use another browser the result will change.

➢ Geographic :-

Geographic routing directs users to specific endpoints based on their geographic location (country/region). It is useful for data compliance, localization, or region-based content delivery.



az-tm - Microsoft Azure
Compute infrastructure - Micro
lb-rule2 - Microsoft Azure
VM-APP - Microsoft Azure
portal.azure.com/#@gilakarabablugmail.onmicrosoft.com/resource/subscriptions/24c251a0-1cbb-4a97-8576-0fd76172d25c/resourceGroups/EAST-RG/pr...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
gilakar
DEFAULT
Home > Load balancing | Traffic Manager > az-tm

az-tm | Configuration

Traffic Manager profile

Search
Diagnose and solve problems
Resource visualizer
Settings
Locks
Configuration
Real user measurements
Traffic view
Endpoints
Properties
Monitoring
Automation
Help
Add or remove favorites by pressing Ctrl+Shift+F
Save
Discard

Routing method: Geographic

DNS time to live (TTL)*: 60 seconds

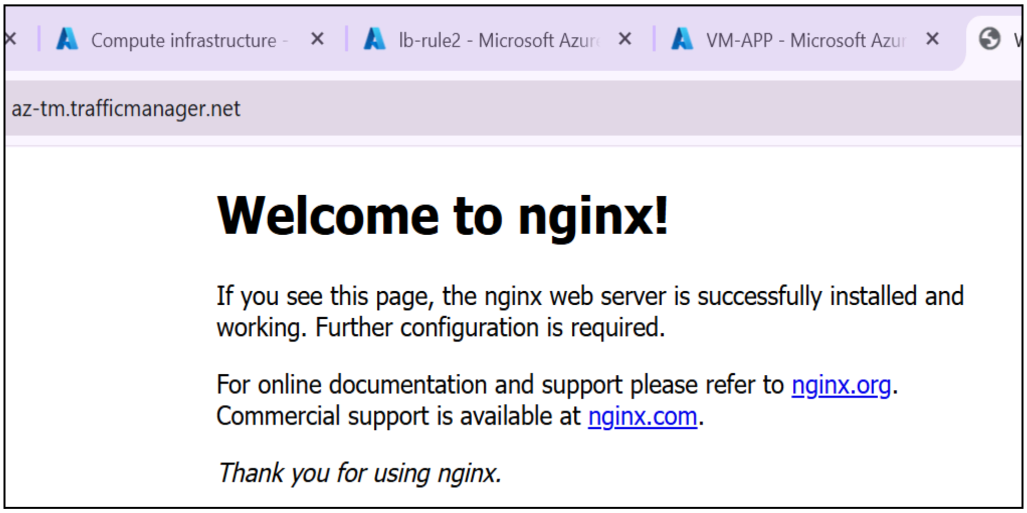
Endpoint monitor settings

Protocol: HTTP

Port *: 80

Path*: /

Custom Header settings: *Configure in this format: host:contoso.com,customheader:contoso*



az-tm.trafficmanager.net

Welcome to nginx!

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Commercial support is available at nginx.com.

Thank you for using nginx.

→ First we need to delete end points and later configure by adding new ones.

→ Here I assigned India country traffic should go to only eastus webservers , so the result will always be nginx only.

➢ **Latency :-**

Latency routing sends user traffic to the endpoint with the lowest network latency. This improves application response time by connecting users to the nearest or fastest region.

Conclusion:-

Azure Traffic Manager is a DNS-based global load balancing service that ensures high availability, performance, and reliability of applications deployed across multiple regions. By intelligently routing traffic using different routing methods, it provides seamless failover and optimized user experience worldwide.