

# **DEVOPS with MULTI-CLOUD**

## **Practice Tasks**

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**Course** : DevOps with Multi-Cloud  
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## **TASK-8 : Azure Load Balancer.**

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### **Objective :-**

To configure Azure Load Balancer to distribute incoming network traffic across multiple virtual machines, ensuring high availability, scalability, and improved application reliability.

### **Azure Load Balancer :-**

Azure Load Balancer is a Layer 4 load-balancing service that distributes inbound and outbound traffic across multiple virtual machines to improve availability and performance of applications.

→ To maintain the application servers without crashing due to huge traffic from outside we use load balancer, so that it distributes the traffic equally to the virtual machines.

### **To Implement the Load Balancer :-**

- Create two virtual machines vm01 and vm02 in resource group rg01 and virtual network vn01 with subnet sn01.
- While creating vm's only allow the ports 22 and 80 for installation and validation of the nginx.

The screenshot shows the Microsoft Azure portal interface. The left sidebar is titled 'Compute infrastructure | Virtual machines' and lists various options like Overview, All resources, Favorites, Infrastructure, and Virtual machines. Under 'Virtual machines', it shows two entries:

Subscription	Resource Group	Location	Status	Operating syst...	Size	Public IP addre...	Disk
Azure subscript...	RG01	Central India	Running	Linux	Standard_D2ls_...	20.204.60.95	1
Azure subscript...	RG01	Central India	Running	Linux	Standard_D2ls_...	20.198.86.26	1

The main content area displays the 'Virtual machines' tab with a search bar and filter options. The status bar at the bottom indicates 'Showing 1 - 2 of 2. Display count: auto'.

fig(1) successfully created two virtual machines.

The screenshot shows a web browser window with the URL 'Not secure 20.204.60.95'. The page content is:

**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](http://nginx.org).  
Commercial support is available at [nginx.com](http://nginx.com).

Thank you for using nginx.

fig(2) successfully installed nginx in vm01.

The screenshot shows a web browser window with the URL 'Not secure 20.198.86.26'. The page content is:

**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](http://nginx.org).  
Commercial support is available at [nginx.com](http://nginx.com).

Thank you for using nginx.

fig(3) successfully installed nginx in vm02.

→ Now create the Load Balancer and configure everything about it, ft-ip > be-pool > hp-lb > lb-rules.

→ Now after configuring everything , we can browse the load balancer pub-ip and we get the nginx webserver page.

The screenshot shows the Microsoft Azure portal interface. The main title bar has three tabs: "azure-lb - Microsoft Azure", "Welcome to nginx!", and another "Welcome to nginx!". Below the title bar, there's a search bar and a Copilot button. The main content area is titled "Microsoft Azure" and "Search resources, services, and docs (G+)" with a "Copilot" button. The user is signed in as "gilakarabablu@gmail.com". The main content is the "Load balancing and content delivery | Load balancers" section, specifically for the "azure-lb" load balancer. On the left, there's a sidebar with links like "Overview", "Activity log", "Access control (IAM)", "Tags", "Diagnose and solve problems", "Resource visualizer", "Settings", "Monitoring", "Automation", and "Help". The "Overview" tab is selected. The main pane shows the "Essentials" section with the following details:

Setting	Value
Resource group (move)	RG01
Location	Central India
Subscription (move)	Azure subscription 1
Subscription ID	24c251a0-1ccb-4a97-8576-0fd76172d25c
SKU	Standard
Tags (edit)	Add tags

On the right side of the essentials section, there are additional details:

Setting	Value
Backend pool	be-pool (2 virtual machines)
Load balancing rule	lb-rule (Tcp/80)
Health probe	az-hp (Tcp/80)
Inbound NAT rules	None
Outbound rules	None

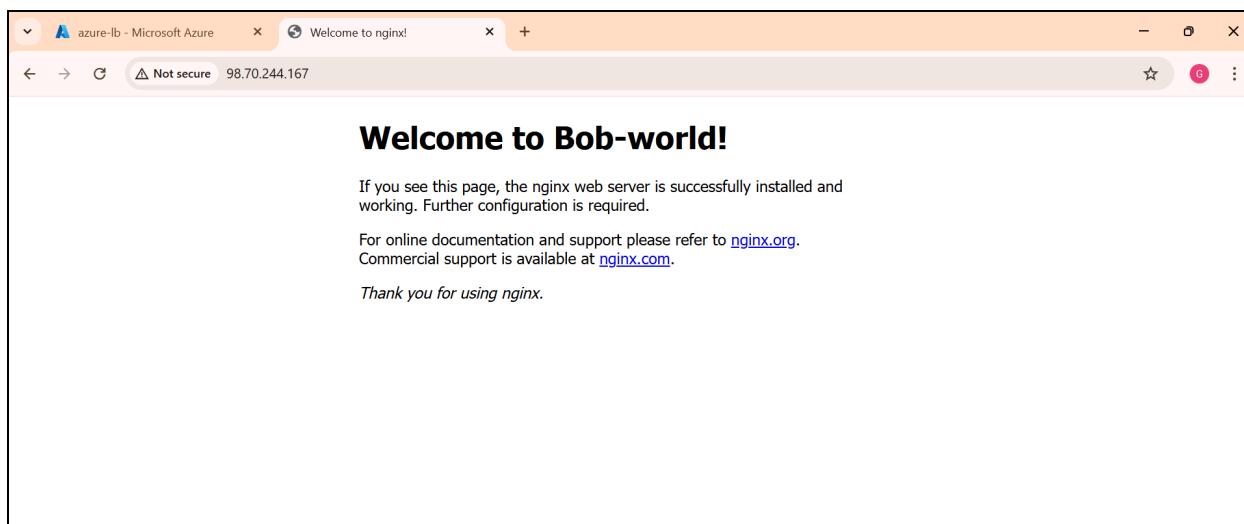
At the bottom of the essentials section, there's a link "See more". Below the essentials section, there's a banner with the text "Configure high availability and scalability for your applications" and a note "Create highly-available and scalable applications in minutes by using built-in load balancing for cloud services and virtual machines".

fig(4) successfully created a load balancer.

→ Before browsing the load balancer ip address, first login to the vm02 and change the content so that we can know which server our request is hitting.

- Vm01 = welcome to nginx!
- Vm02 = welcome to Bob world!

→ Now we know from which server we are getting response either normal or the edited one.



fig(5) got a response from the edited server.