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Кафедра інформаційних технологій

Інформатика і програмування

Лабораторна робота № 6

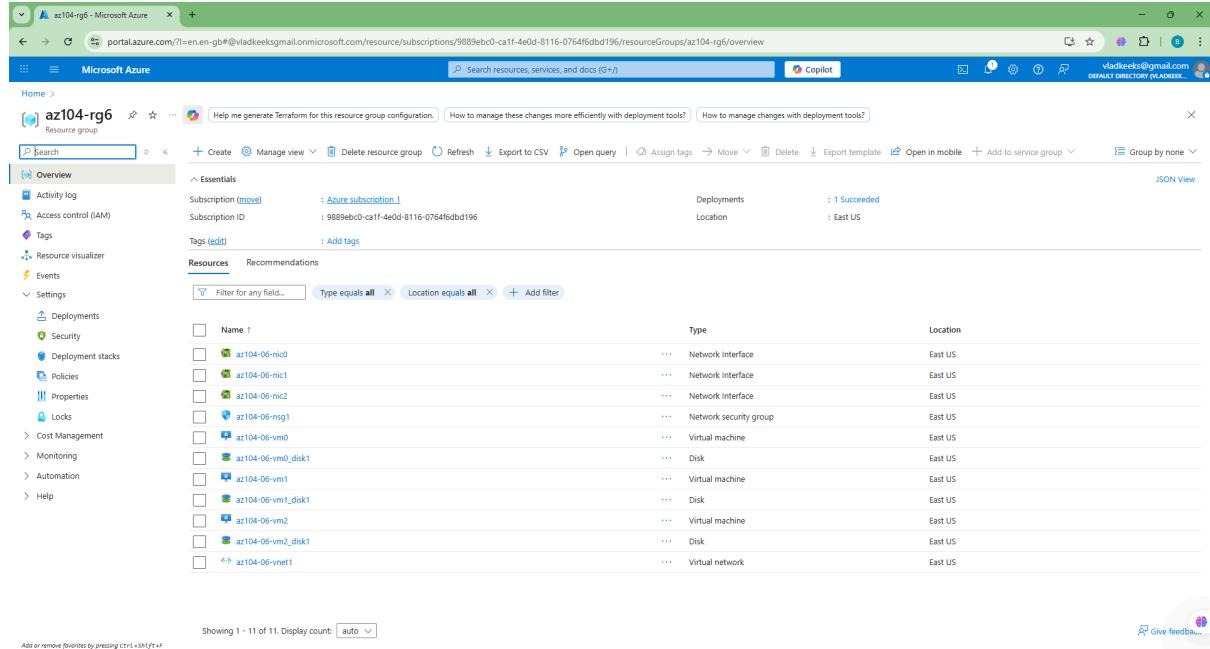
Тема: Implement Network Traffic Management

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Група ІПЗ-43  
Дата: 12 грудня 2025  
Викладач: Поварчук Д.Д

Івано-Франківськ – 2025

## Task 1: Use a template to provision an infrastructure

In this task, you will use a template to deploy one virtual network, one network security group, and three virtual machines.



The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the URL 'portal.azure.com', the Microsoft Azure logo, a search bar, and various navigation icons. The main content area is titled 'az104-rg6 - Microsoft Azure'. On the left, there's a sidebar with 'Overview' selected, followed by 'Essentials' (Subscription, Deployment, Tag), 'Resources' (Deployment, Security, Deployment stacks, Policies, Properties, Locks, Cost Management, Monitoring, Automation, Help), and a filter section ('Type equals all', 'Location equals all'). The main pane displays a table of resources:

Name	Type	Location
az104-06-mic0	Network Interface	East US
az104-06-mic1	Network Interface	East US
az104-06-mic2	Network Interface	East US
az104-06-msg1	Network security group	East US
az104-06-vm0	Virtual machine	East US
az104-06-vm0_disk1	Disk	East US
az104-06-vm1	Virtual machine	East US
az104-06-vm1_disk1	Disk	East US
az104-06-vm2	Virtual machine	East US
az104-06-vm2_disk1	Disk	East US
az104-06-vnet1	Virtual network	East US

At the bottom of the table, it says 'Showing 1 - 11 of 11. Display count: auto'. There's also a 'Give feedback...' button.

## Task 2: Configure an Azure Load Balancer

In this task, you implement an Azure Load Balancer in front of the two Azure virtual machines in the virtual network. Load Balancers in Azure provide layer 4 connectivity across resources, such as virtual machines. Load Balancer configuration includes a front-end IP address to accept connections, a backend pool, and rules that define how connections should traverse the load balancer.

az104-lb - Microsoft Azure

portal.azure.com/?l=en.en-gb#@vladkeeksgmail.onmicrosoft.com/resource/subscriptio... Copilot

Microsoft Azure Search resources, services, and docs (G+)

Home > az104-lb Load balancer

Check performance for my Load Balancer Analyze traffic flow through this load balancer +1

Search Move Delete Refresh Give feedback

Overview JSON View

Activity log Resource group (move) Backend pool  
az104-rg6 az104-be (2 virtual machines)  
Access control (IAM) Location (move) Load balancing rule  
Tags East US -  
Diagnose and solve problems Subscription (move) Health probe  
Azure subscription 1 -  
Resource visualizer Subscription ID Inbound NAT rules  
9889ebc0-ca1f-4e0d-8116-0764f6dbd196 -  
Settings SKU Outbound rules  
Monitoring Standard -  
Automation Tier Frontend IP address  
Help Regional 4.157.227.243 (az104-lbpip)

Tags (edit) Add tags

Configure high availability and scalability for your applications

Create highly-available and scalable applications in minutes by using built-in load balancing for cloud services and virtual machines. Azure Load Balancer supports TCP/UDP-based protocols and protocols used for real-time voice and video messaging applications. [Learn more](#)

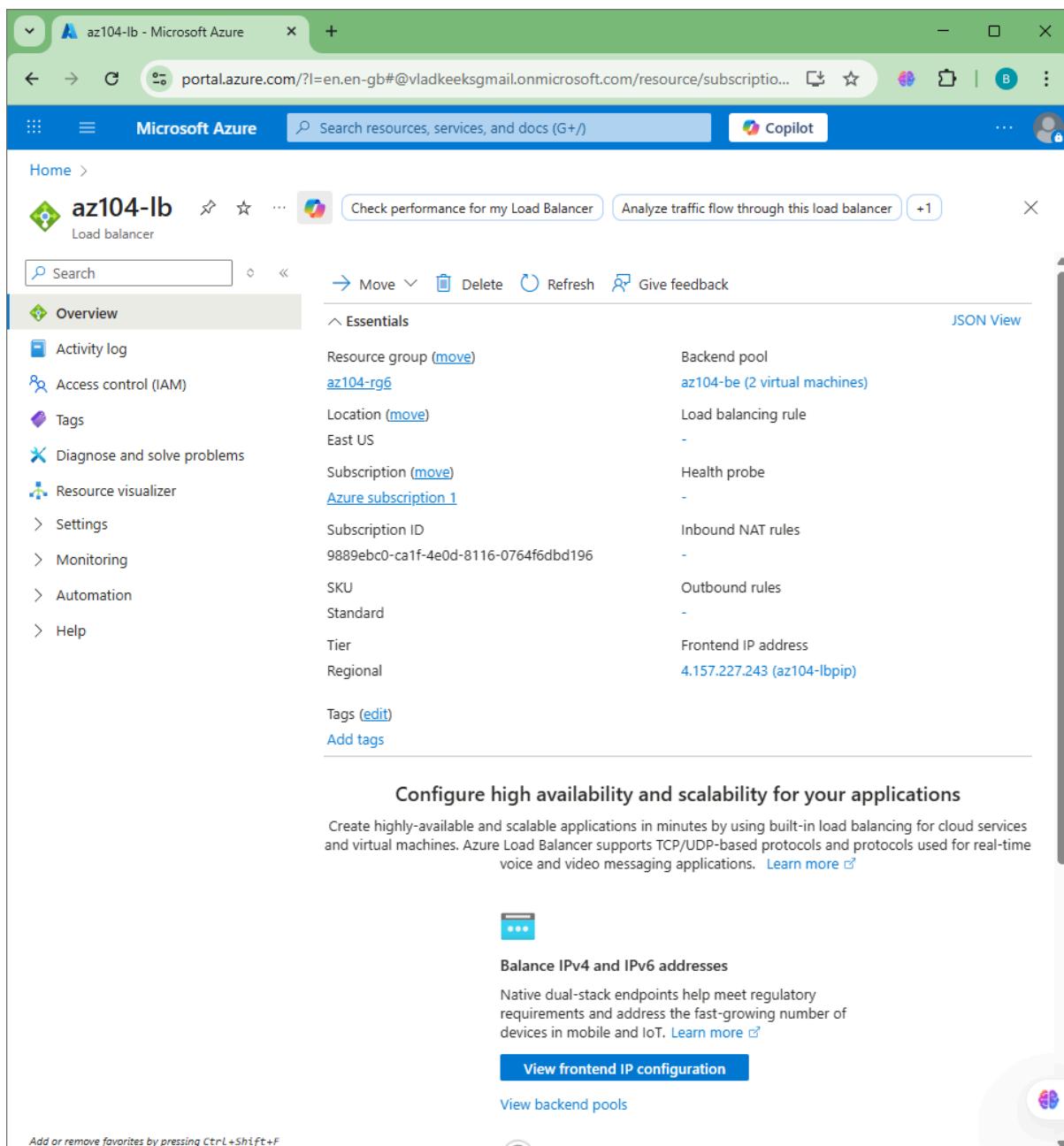
Balance IPv4 and IPv6 addresses

Native dual-stack endpoints help meet regulatory requirements and address the fast-growing number of devices in mobile and IoT. [Learn more](#)

[View frontend IP configuration](#)

[View backend pools](#)

Add or remove favorites by pressing [Ctrl+Shift+F](#)

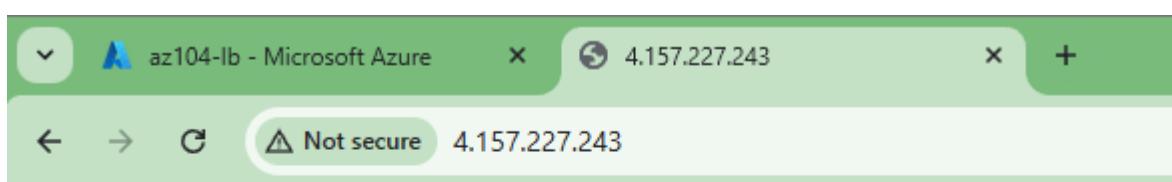


az104-lb - Microsoft Azure

4.157.227.243

Not secure 4.157.227.243

Hello World from az104-06-vm1



## Task 3: Configure an Azure Application Gateway

Az104-appgw - Microsoft Azure x 4.157.227.243 x | +

portal.azure.com/?l=en-en-gb#@vladkeeksgmail.onmicrosoft.com/resource/subscriptio... Copilot

Microsoft Azure Search resources, services, and docs (G+) ...

Home > Microsoft.ApplicationGateway-20251212183940 | Overview > az104-rg6 > az104-appgw

## az104-appgw | Backend health

Application gateway

Search Refresh Feedback

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Resource visualizer

Settings Monitoring

Alerts Metrics Diagnostic settings Logs Advisor recommendations Insights

Backend health Connection troubleshoot Automation Help

**Backend health**

By default, Azure Application Gateway probes backend servers to check their health and whether they're ready to serve requests. You can also create custom [Health Probes](#) to mention a specific hostname and path to be probed or a response code to be accepted as Healthy.

The Backend health report is updated based on the respective probe's refresh interval and doesn't depend on the page refresh.

All	Healthy
Heart 4 out of 4	Checkmark 4 out of 4

Search backend health

Server (backend...	Status	Port (Backend s...	Protocol	Details
10.60.2.4 (az104-app...	Healthy	80 (az104-http)	Http	Success, Reciev...
10.60.1.4 (az104-app...	Healthy	80 (az104-http)	Http	Success, Reciev...
10.60.2.4 (az104-vid...	Healthy	80 (az104-http)	Http	Success, Reciev...
10.60.1.4 (az104-ima...	Healthy	80 (az104-http)	Http	Success, Reciev...

Add or remove favorites by pressing **Ctrl+Shift+F**

