

Міністерство освіти і науки України
Карпатський національний університет
імені В.Стефаника

Факультет математики та інформатики
Кафедра інформаційних технологій

Інформатика і програмування

Лабораторна робота № 4

Тема: Implement Virtual Networking

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

Івано-Франківськ – 2025

Task 1: Create a virtual network with subnets using the portal

The organization plans a large amount of growth for core services. In this task, you create the virtual network and the associated subnets to accommodate the existing resources and planned growth. In this task, you will use the Azure portal.

The screenshot shows the 'CoreServicesVnet-1765485852970 | Overview' page in the Azure portal. The deployment status is marked as 'complete' with a green checkmark. Deployment details are listed: name (CoreServicesVnet-1765485852970), subscription (Azure subscription 1), and resource group (az104-rg4). Below the main message, there are two sections: 'Deployment details' (with a blue arrow icon) and 'Next steps' (with a blue downward arrow icon). A prominent blue button at the bottom center says 'Go to resource'. At the bottom of the page, there are links for 'Give feedback' and 'Tell us about your experience with deployment'.

Task 2: Create a virtual network and subnets using a template

In this task, you create the ManufacturingVnet virtual network and associated subnets. The organization anticipates growth for the manufacturing offices so the subnets are sized for the expected growth. For this task, you use a template to create the resources.

Microsoft.Template-20251212160742 | Overview

Your deployment is complete

Deployment name : Microsoft.Template-20251212160742
Subscription : Azure subscription 1
Resource group : az104-rg4

Start time : 12/12/2025, 16:07:55
Correlation ID : d0c832d6-453a-48b1-acb9-b026cfddd9e8

Deployment details
Next steps
Go to resource group

Give feedback
Tell us about your experience with deployment

CreateApplicationSecurityGroupBladeViewModel | Overview

Your deployment is complete

Deployment name : CreateApplicationSecurityGroupBladeViewModel
Subscription : Azure subscription 1
Resource group : az104-rg4

Start time : 12/12/2025, 16:11:07
Correlation ID : 2a7b6509-7327-44e9-aac2-351c1faa4e7e

Deployment details
Next steps
Go to resource

Give feedback
Tell us about your experience with deployment

Cost management
Get notified to stay within your budget and prevent unexpected charges on your bill.
Set up cost alerts >

Microsoft Defender for Cloud
Secure your apps and infrastructure
Go to Microsoft Defender for Cloud >

Free Microsoft tutorials
Start learning today >

Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.
Find an Azure expert >

Add or remove favorites by pressing Ctrl+Shift+F1

Bash

parameters.json

CoreServicesVNet

No Results

Search resources, services, and docs (G+)

Copilot

vladkeeks@gmail.com

myNSGSecure | Subnets

Network security group

Associate

Search subnets

Name Address range Virtual network

SharedServicesSubnet 10.20.0.0/24 CoreServicesVNet

Saving subnet
Successfully saved network security group for subnet 'SharedServicesSubnet'.

Give feedback

Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Resource visualizer
Settings
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Monitoring
Automation
Help

Add or remove favorites by pressing Ctrl+Shift+F1

Bash

parameters.json

CoreServicesVNet

No Results

vladkeeks ~ \$

Task 3: Create and configure communication between an Application Security Group and a Network Security Group

Name	Network interfaces count	Virtual network	Type	Resource Group	Location	Subscription
asg-web	0	-	Application security group	az104-rg4	East US	Azure subscription 1

Task 4: Configure public and private Azure DNS zones

In this task, you will create and configure public and private DNS zones.

```
vladkeeks [ ~ ]$ nslookup www.contososecondone.com ns1-07.azure-dns.com.
Server:      ns1-07.azure-dns.com.
Address:     13.107.236.7#53

Name:  www.contososecondone.com
Address: 10.1.1.4

vladkeeks [ ~ ]$
```

Home > private.contoso.com_1765549831876 | Overview >

private.contoso.com Private DNS zone

Search Import Export Move Refresh Delete Give feedback

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

Settings DNS Management Monitoring Automation Help

Essentials

Resource group (move)	: az104-rg4	Recordsets : 1
Location	: Global	Virtual Network Links : 0
Subscription (move)	: Azure subscription 1	Virtual Network Links With Registr... : 0
Subscription ID	: 9889ebc0-ca1f-4e0d-8116-0764f6dbd196	
Tags (edit)	: Add tags	

Monitoring **Capabilities** **Tutorials** **Tools + SDKs** **Recommendations (0)**

Azure Monitor Tools

Get alerted to issues
Create alerts to monitor resource health, usage, cost and more.

Get started with Log Analytics
Leverage the value of the data in Azure Monitoring Logs and perform complex operations with minimal code.

Monitor at scale with Insights
Get visibility into the resource's performance and health, accounting for different processes and interconnected dependencies.