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Факультет математики та інформатики  
Кафедра інформаційних технологій

Інформатика і програмування

Лабораторна робота No 4

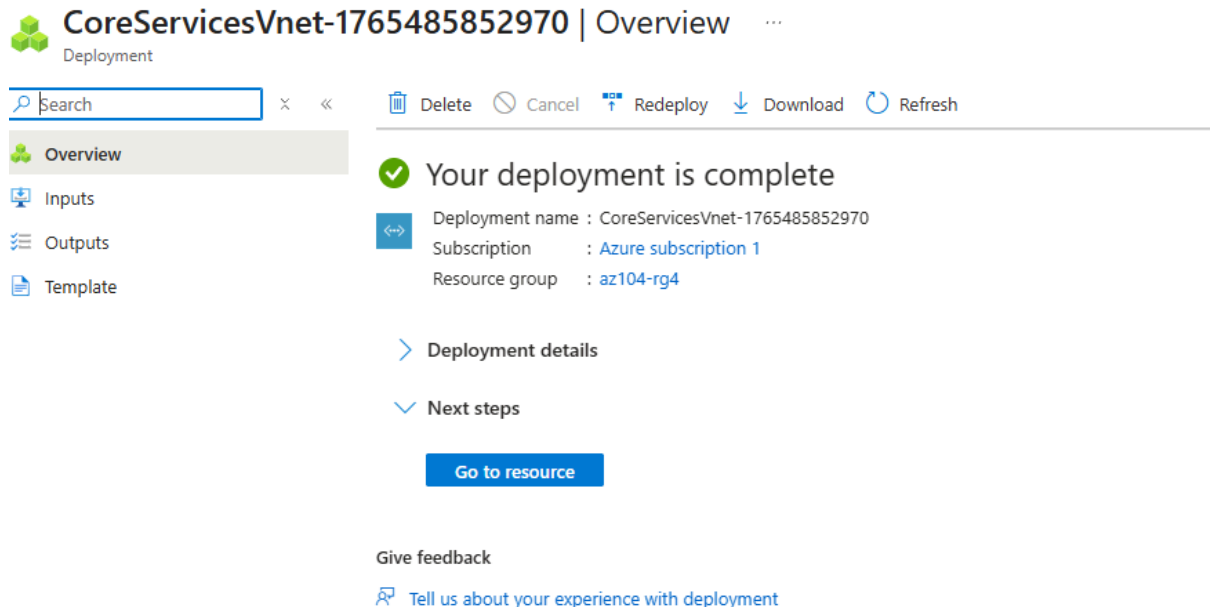
Тема: Implement Virtual Networking

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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 displays the Azure portal interface for a deployment named **CoreServicesVnet-1765485852970**. The page title is "CoreServicesVnet-1765485852970 | Overview". Below the title, there is a search bar and a set of action buttons: Delete, Cancel, Redeploy, Download, and Refresh. The left sidebar contains a navigation menu with "Overview" (selected), Inputs, Outputs, and Template. The main content area shows a green checkmark icon and the text "Your deployment is complete". Below this, the deployment details are listed: Deployment name : CoreServicesVnet-1765485852970, Subscription : Azure subscription 1, and Resource group : az104-rg4. There are expandable sections for "Deployment details" and "Next steps". A blue button labeled "Go to resource" is located below the "Next steps" section. At the bottom, there is a "Give feedback" link and a "Tell us about your experience with deployment" link.

## 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

Deployment

Search Delete Cancel Redeploy Download Refresh

### Overview

- Inputs
- Outputs
- Template

### 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-b026cfdd9e8

#### > Deployment details

#### > Next steps

[Go to resource group](#)

#### Give feedback

[Tell us about your experience with deployment](#)

Home >

## CreateApplicationSecurityGroupBladeViewModel | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

### Overview

- Inputs
- Outputs
- Template

### 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 : 2a7b8509-7327-44e9-aac2-351c1fa4e7e

#### > Deployment details

#### > Next steps

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#### Give feedback

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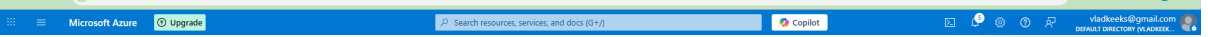
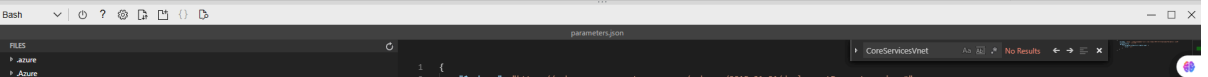
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## myNSGSecure | Subnets

Network security group

Search Associate

- 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

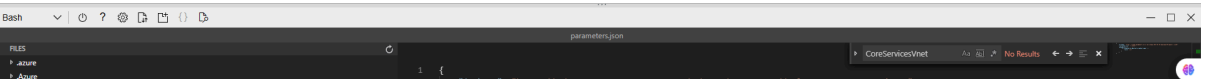
#### > Automation

#### > Help

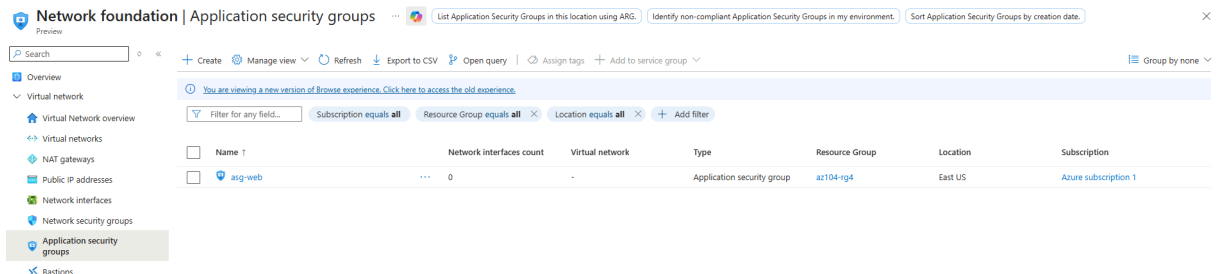
Name	Address range	Virtual network	
SharedServicesSubnet	10.20.0.0/24	CoreServicesVnet	...

[Give feedback](#)

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



## 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 [ ~ ]$
```

🔍 ⌵ ⌵

[↑ 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 <a href="#">(move)</a>	: <a href="#">az104-rg4</a>	Recordsets	: 1
Location	: Global	Virtual Network Links	: 0
Subscription <a href="#">(move)</a>	: <a href="#">Azure subscription 1</a>	Virtual Network Links With Regist...	: 0
Subscription ID	: 9889ebc0-ca1f-4e0d-8116-0764f6dbd196		
Tags <a href="#">(edit)</a>	: <a href="#">Add tags</a>		

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

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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.