Project: Cloud Infrastructure Deployment (Azure)

Role: Junior Systems Administrator

Goal: Deploy a secure, scalable Windows Server environment in a virtualised cloud network.

1. The Business Scenario

A small business needs a cloud-based server to host an internal application. My task was to architect and deploy the base infrastructure, ensuring proper resource organisation and network isolation.

2. Technical Architecture & Tools

- **Platform:** Microsoft Azure
- **Operating System:** Windows Server 2022 DataCenter Azure Edition (Gen2)
- **Networking:** Azure Virtual Network (VNet) with Default Subnet (10.0.0.0/24)
- **Storage:** Standard SSD Managed Disk
- **Governance:** Resource Groups for lifecycle management

3. Implementation Steps

Step A: Resource Governance

I initiated the project by creating a Resource Group. This allows for logical grouping, making it easier to monitor costs and delete all related project assets at once when they are no longer needed. I learnt that Resource groups are essential for the "Least Privilege" security model.

Step B: Virtual Networking The Backbone

I deployed a Virtual Network (VNet) to provide a private environment for the server. The VNet ensures that the server can communicate securely and is isolated from the public internet unless otherwise configured.

Configuration: 10.0.0.0/16 address space.

Subnet: Default 10.0.0.0/24.

Step C: Compute Deployment

I provisioned a Windows Server 2022 VM. I used a Standard SSD for a balance of cost-efficiency and performance. After that, I attached the VM to the previously created VNet and assigned a Public IP to allow for remote management (RDP).

4. Key Achievements & Skills Gained

- **Cloud Governance:** Applied naming conventions (e.g., rg-mvelah) to maintain professional standards.
- **Infrastructure as a Service (IaaS):** Gained hands-on experience spinning up compute resources in a live cloud environment.
- **Network Security:** Understand the relationship between VNets, Subnets, and Public IP addressing.

NB I have attached a screenshot of all VM settings below