SBA- Azure Fundamentals Final Project

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Introduction

I am an IT professional with a Bachelor's degree in Computer Science and Entrepreneurship, experienced in software development and project management. I hold a CompTIA A+ certification and graduated in IT Support from Per Scholas. I have worked as an IT Help Desk at PCA Companies and as a Technical Support Engineer II at Tek Experts. I am passionate about networking, learning new things, and sharing my expertise, and I am focused on advancing my career.

Project Overview

Background / Scenario-

AZFK-Tech, a newly founded business, has asked you, a contractor, to help them build up their cloud infrastructure. But before you can install your infrastructure in their production environment, you must first demonstrate your ability to do so in a virtual lab environment. Note that Azure only allows 3 public IPs per region.

Objectives-

- Using the skills learned throughout the course, complete the following Skills-Based assessment (SBA).
- **Part 1: Set up Department Group Resources.**
- **Part 2: Set up the VNets for each department.**
- **Part 3: Set up VMs for each department.**
- **Part 4: Create and Apply Security Group Policies to each department.**
- **Part 5: Set up a Database.**
- **Part 6: Set up a Web App for the Marketing and Sales (MAS) department.**
- **Part 7: Deploy a shared storage between all departments.**
- **Part 8: Deploy Monitoring resources.**
- **Part 9: Questions.**
- **Part 10: Presentation/Submission.**

Azure Fundamentals: Key services and concepts

Azure is Microsoft's cloud platform, providing a variety of services such as computing, analytics, storage, and networking.

Key services:
- **Compute**: VMs, App Services, AKS
- **Storage**: Blob, File, Disk
- **Networking**: VNet, Load Balancer, VPN Gateway
- **Database**: SQL Database, Cosmos DB, MySQL/PostgreSQL
- **Identity**: Active Directory, AD B2C

Compute services:
- **Cloud Computing Models**: IaaS, PaaS, SaaS
- **Architecture**: Regions, Availability Zones, Resource Groups
- **Management**: ARM, Azure Policy, Azure Monitor
- **Security**: Security Center, Key Vault

Implementation
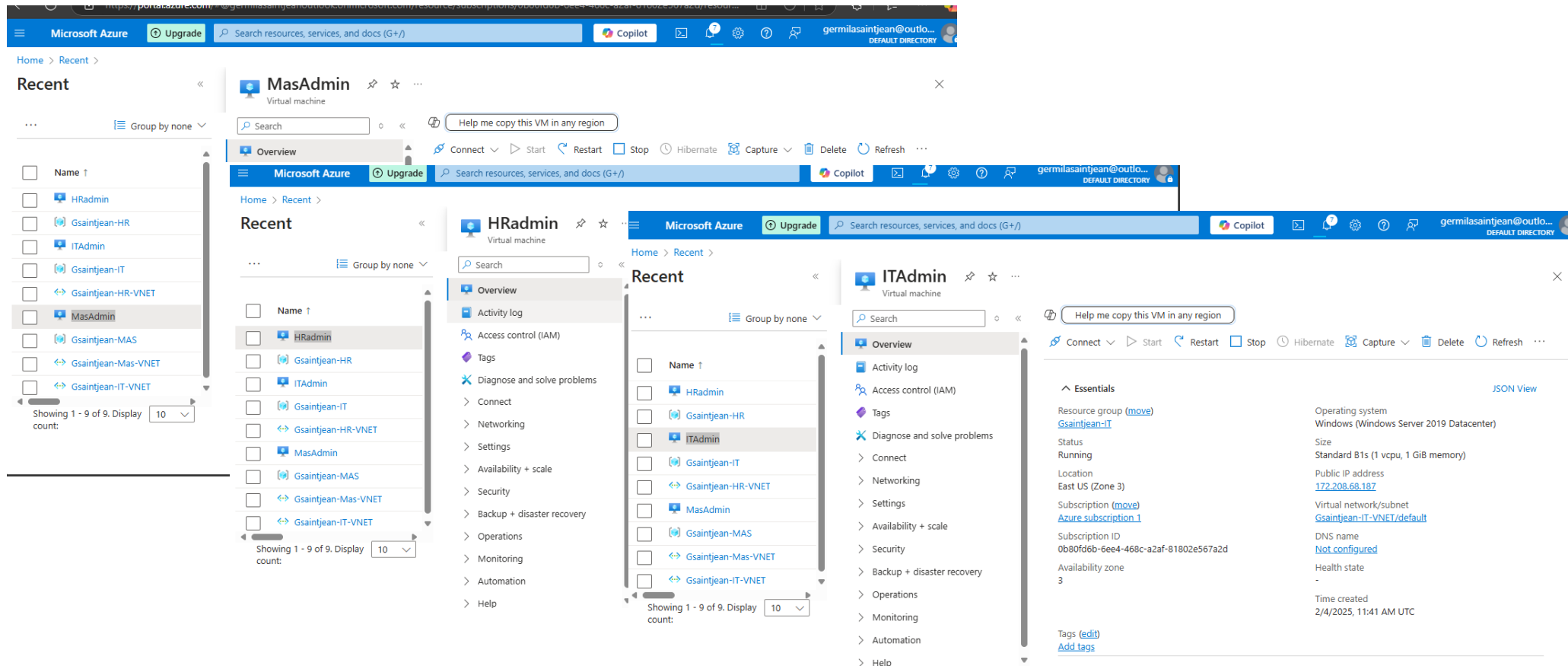
- Set up Department Group Resources: MAS-HR-IT

Implementation

- Set up VNets for each department
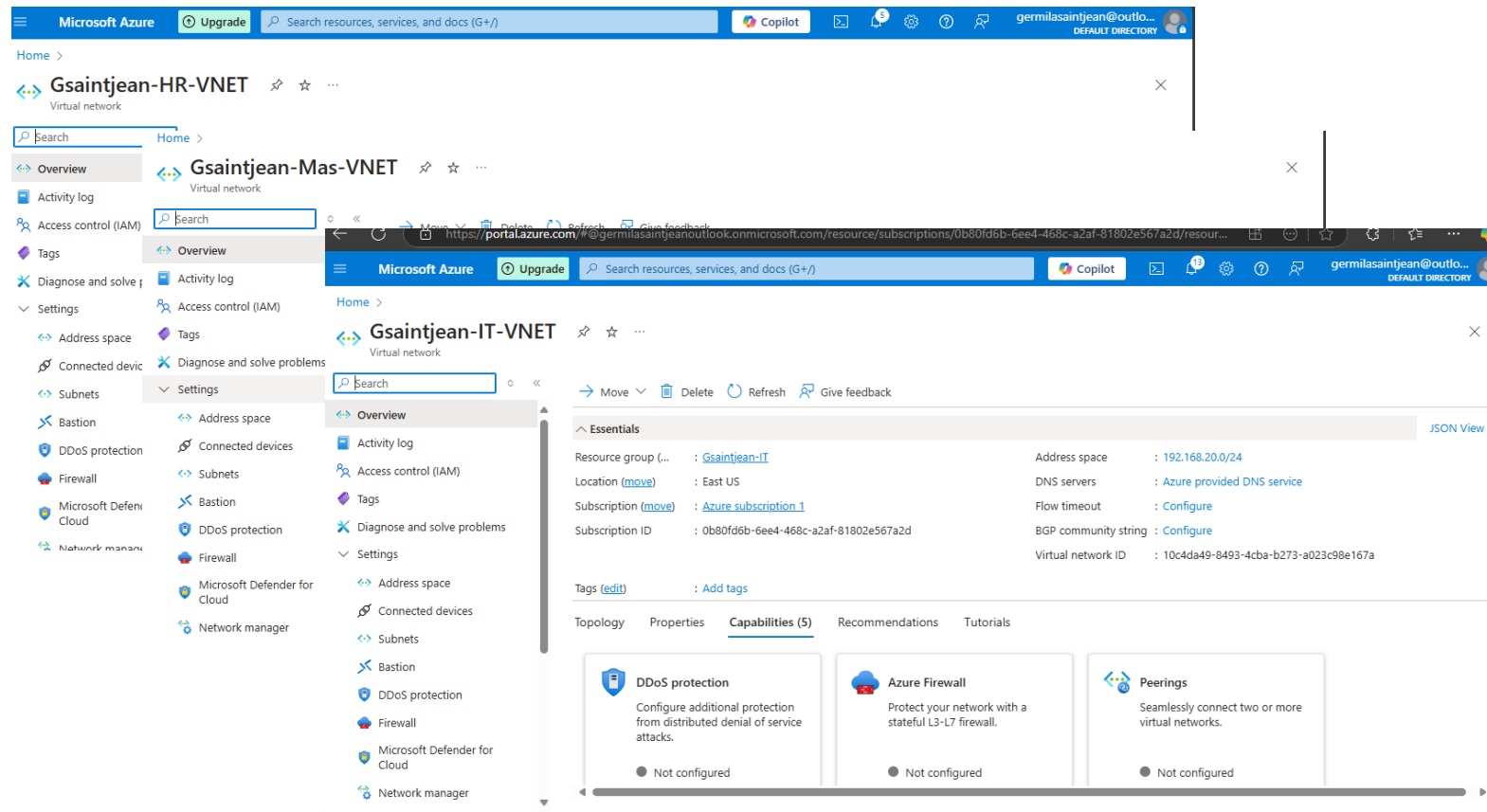
Implementation

- Set up VMs for each department

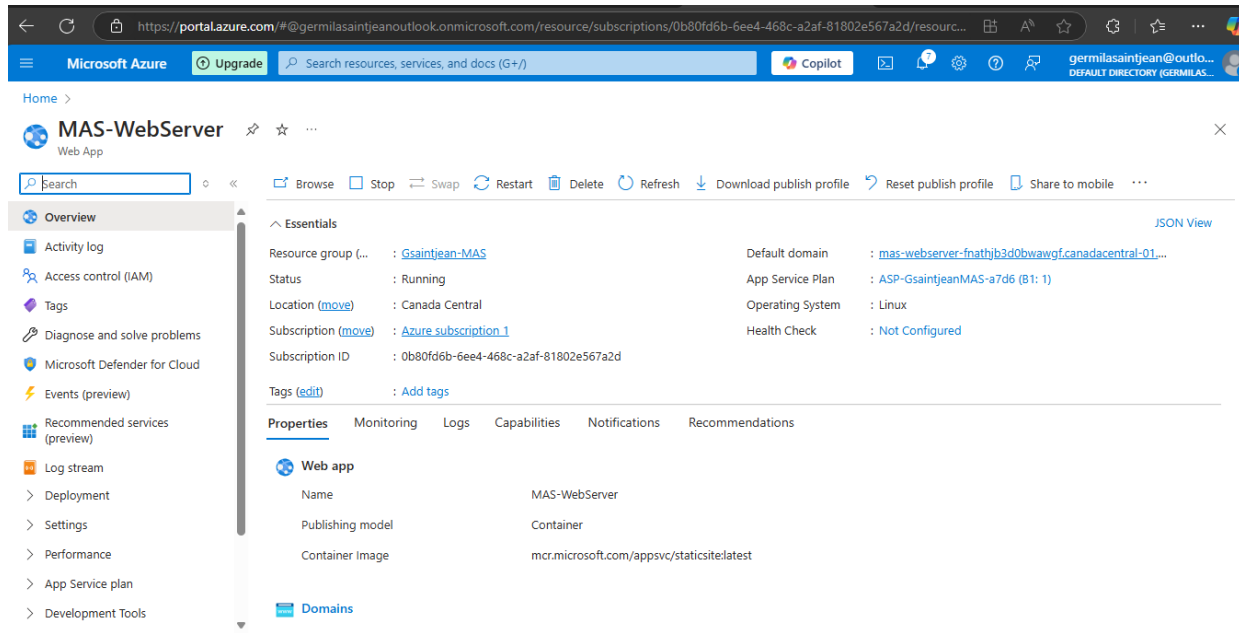# Implementation

- Create and Apply Security Group Policies to each department

Impementation

Set up Database
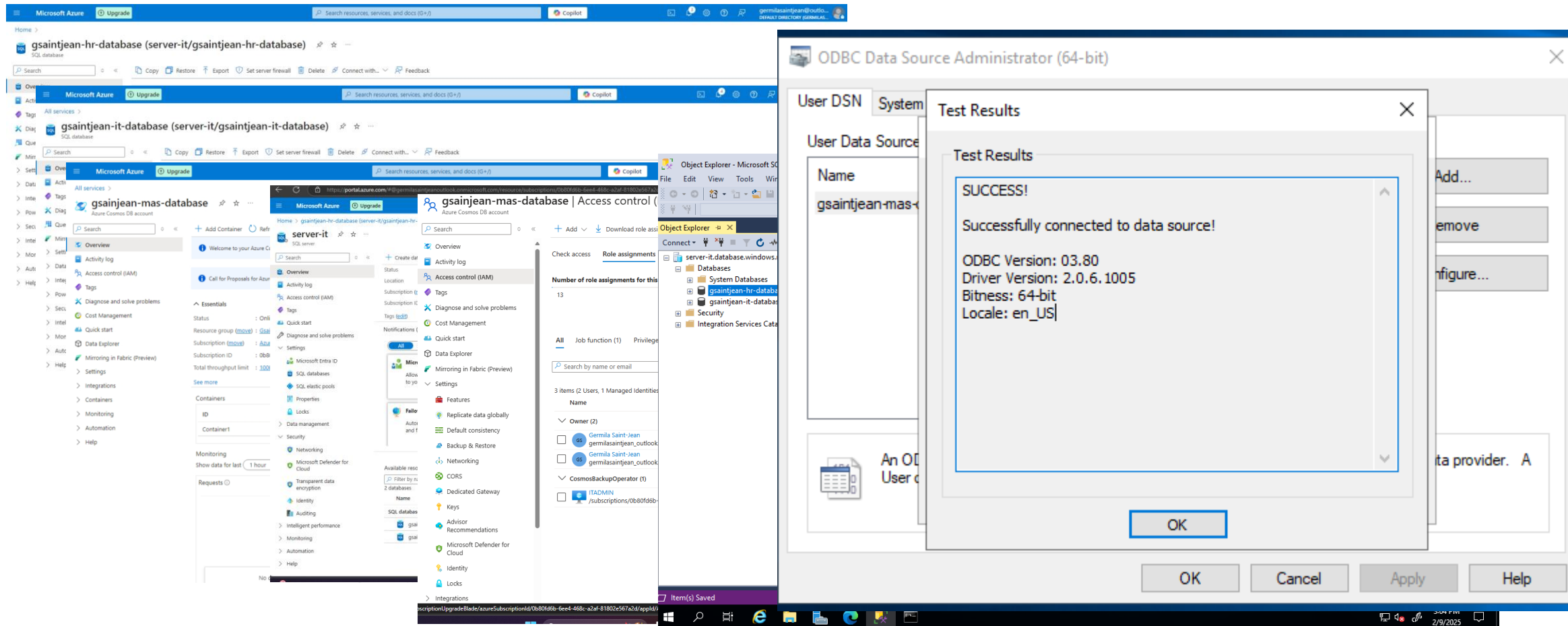
Implementation

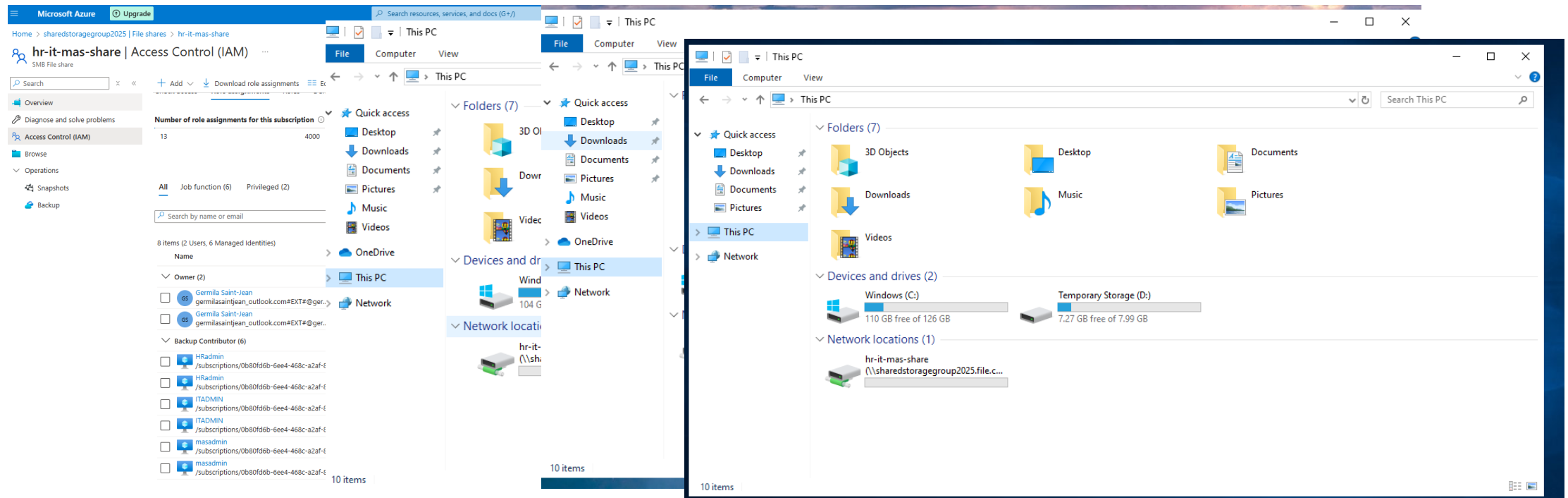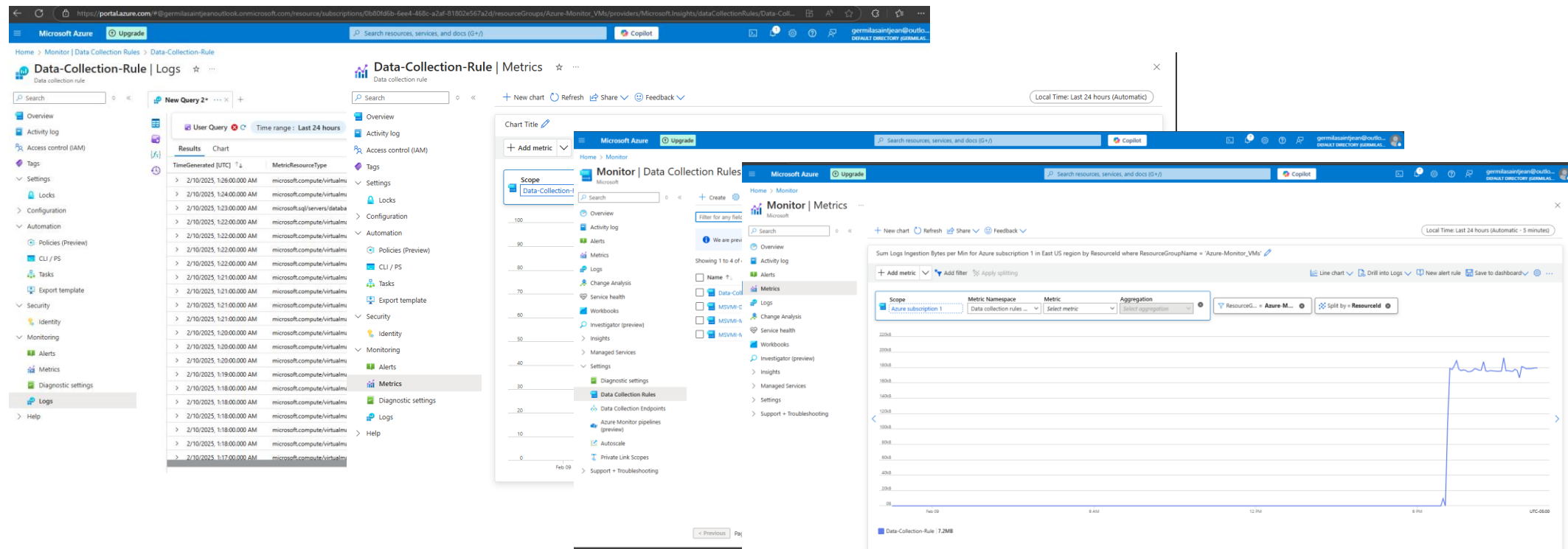- Set up a web App for the marketing and Sales (MAS) department

Implementation

- Deploy a shared storage between all departements

Implementation

- Deploy Monitoring resources

Challenge and Solutions

- One of my first challenge was after deploying my IT-VM. It took me a while to figure out how to access HR-DB and MAS-DB because I didn't have enough space in my IT-VM. Whenever I tried to connect, the screen would freeze. I reconnected to my Azure portal, resized my CPU and RAM, and the VM finally ran properly.

- Setting up firewalls for each department was another challenge. I did a lot of research to figure out the ports that should not be able to ping any department.

- Creating databases for each department was also challenging. Every time I chose a region; I failed until I tried several regions and was successful. I created an Azure Cosmos SQL database for the MAS department and SQL databases for both HR and IT. I did a lot of research to find out which tools to use to access the different databases. I finally discovered that SQL Server Management Studio is suitable for SQL databases and Open Database Connectivity (ODBC) drivers for Azure Cosmos DB.

- Another challenge was accessing my file share in my VMs because I had entered the wrong path. After some research, I found the correct path.

Results and Benefits

- I feel more comfortable deploying infrastructure in the Azure cloud.

- The challenges and errors I encountered taught me a lot as I was able to fix them.

- I now have a better understanding of the concepts and services.

- My research led me to discover a lot of helpful documentation.

- Previous labs and my notes were instrumental in deploying this project.

- By reviewing my previous labs, I realized there were things I didn't understand well.

- Now, I feel ready to focus on my Azure exam, as I have a better grasp of the concepts and services

Conclusion and Final thoughts

I appreciate everyone's time