Microsoft Azure Cloud Infrastructure Project

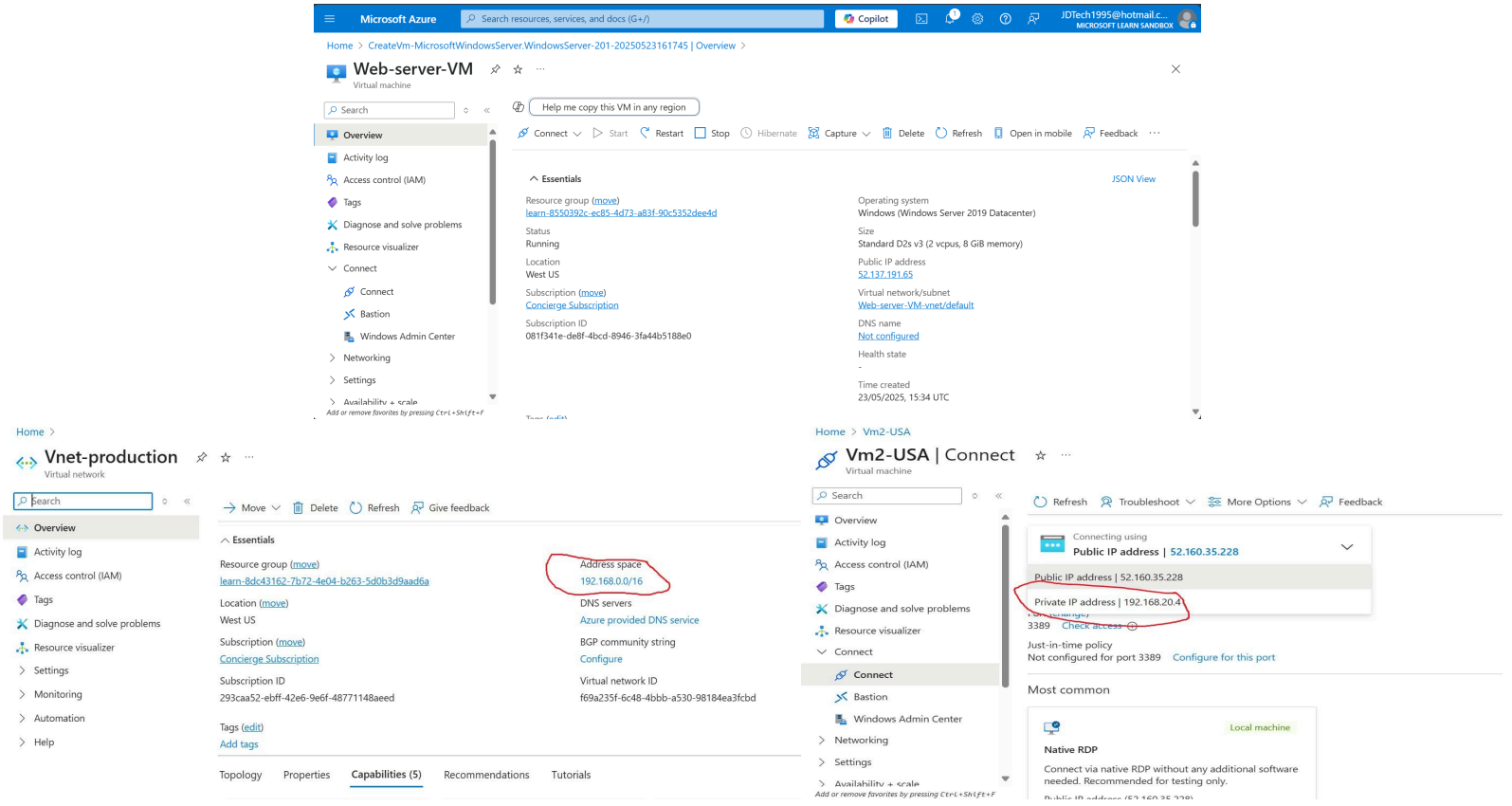
Project Overview

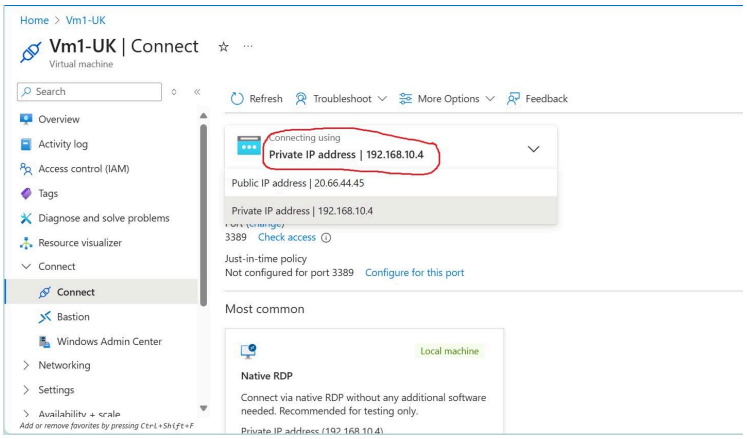
This project demonstrates practical deployment, configuration, and validation of core Microsoft Azure services. All resources were provisioned and managed within the Azure portal, reflecting foundational cloud engineering capability aligned with Microsoft Azure Fundamentals (AZ-900) objectives.

Infrastructure as a service (IaaS)

A windows server Virtual Machine was deployed within Microsoft Azure and configured with a public IP address for remote connectivity. The virtual machine was associated with a dedicated VNet (Virtual Network) to ensure logical network segmentation and structured resource management.

Subnet allocation and network association were configured to demonstrate understanding of Azure networking fundamentals, including IP addressing and secure resource connectivity.



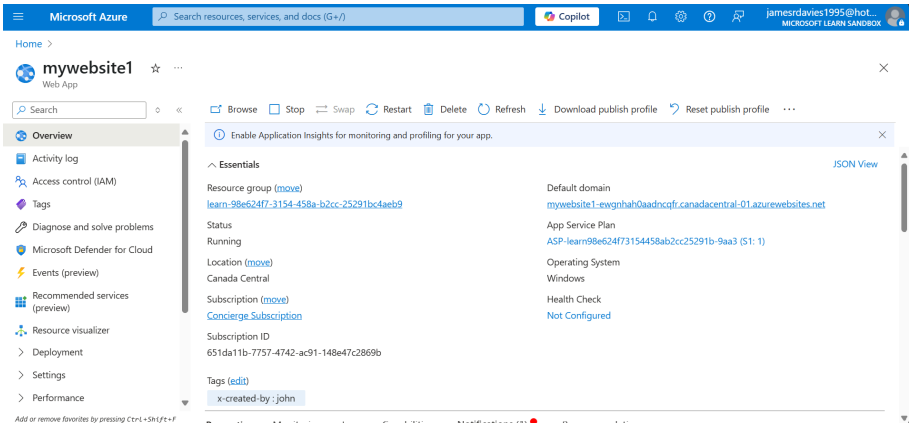


Platform as a Service (PaaS)

Azure app service (Web App Deployment)

An Azure Web App was provisioned using the App Service model, demonstrating knowledge of PaaS architecture. In this deployment model, Azure manages the underlying infrastructure, operating system, and runtime environment, allowing focus on application-level configuration.

The web application was successfully deployed and validated in a running state within the Azure Portal.

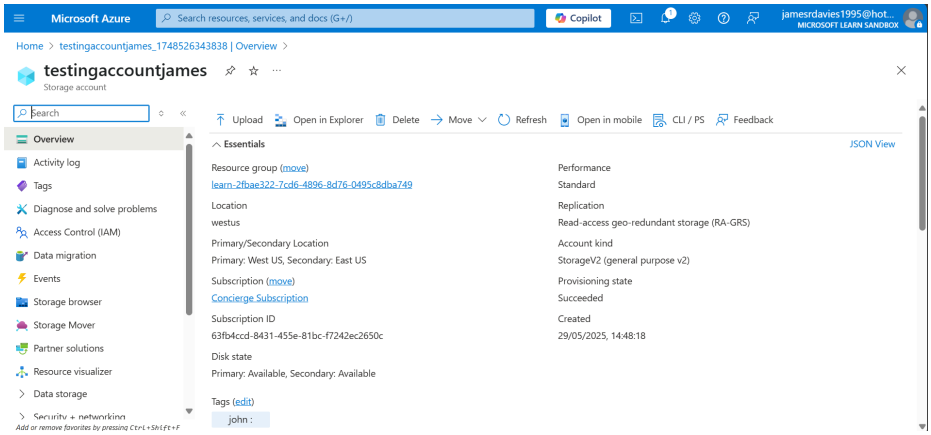


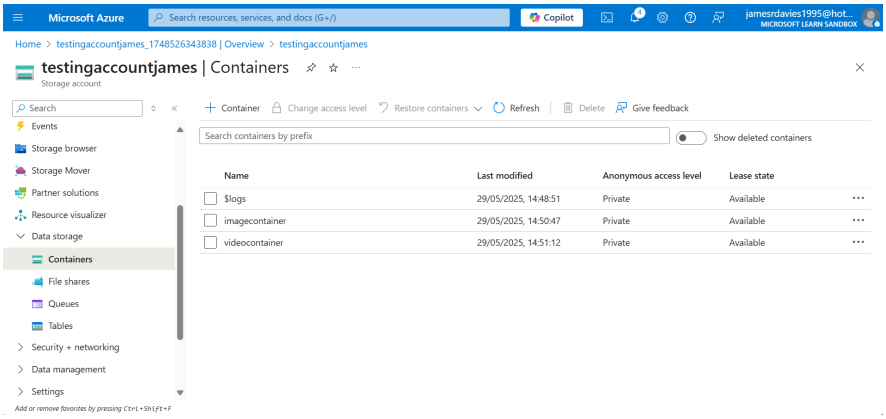
Azure Storage & Data Management

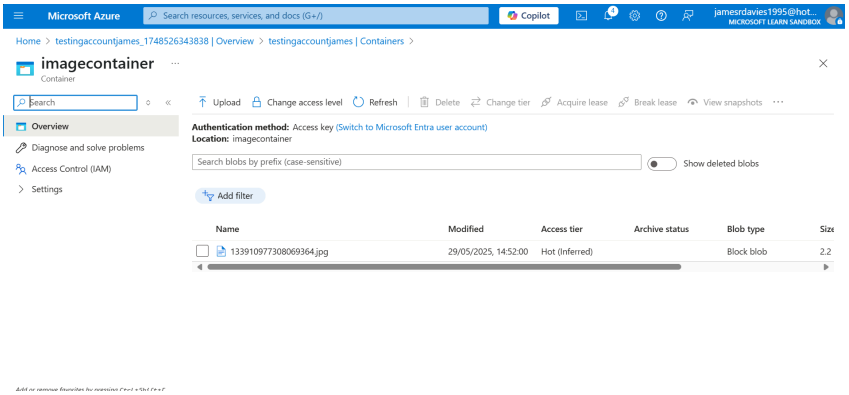
Storage Account & Blob Containers

A General Purpose v2 Storage Account was created using the standard performance tier. Blob containers were provisioned within the storage account to demonstrate understanding of Azure object storage architecture.

Image files were uploaded to a blob container to validate data storage functionality and container hierarchy within Azure Blob Storage.





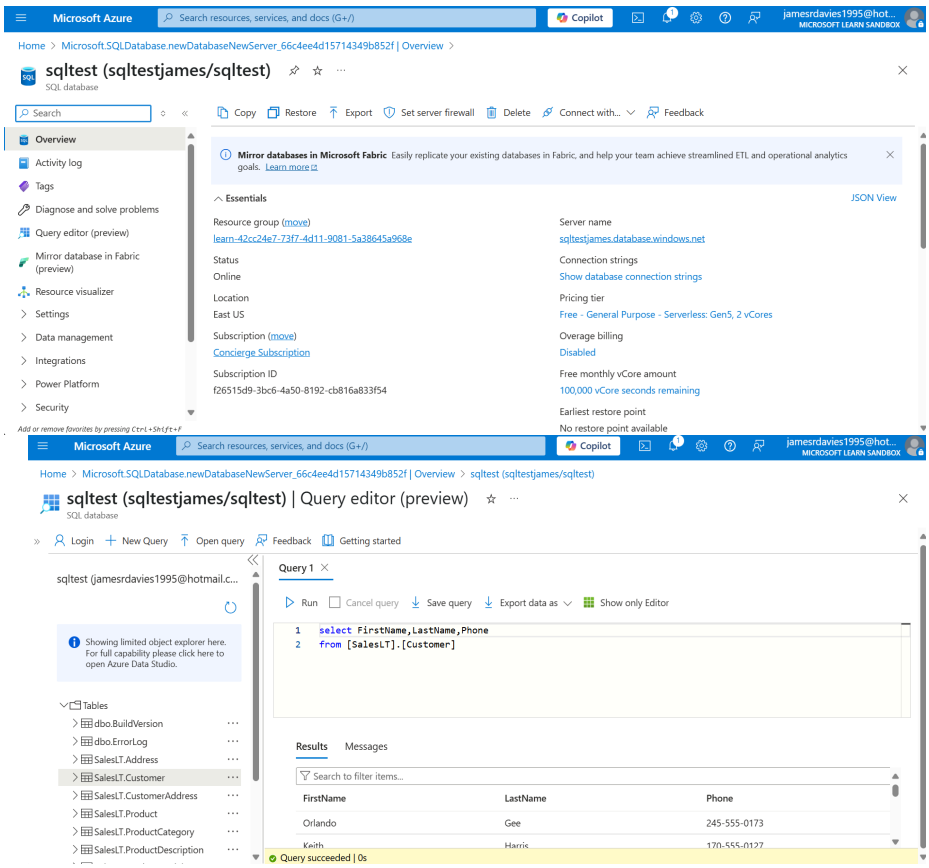


Azure SQL Database

Database Deployment & Query Execution

An Azure SQL database instance was provisioned alongside a logical SQL server. Configuration included region selection and deployment validation within the Azure portal.

SQL queries were executed using the Azure Query Editor to demonstrate database connectivity, table interaction and successful data retrieval. This validated both database provisioning and operational functionality.

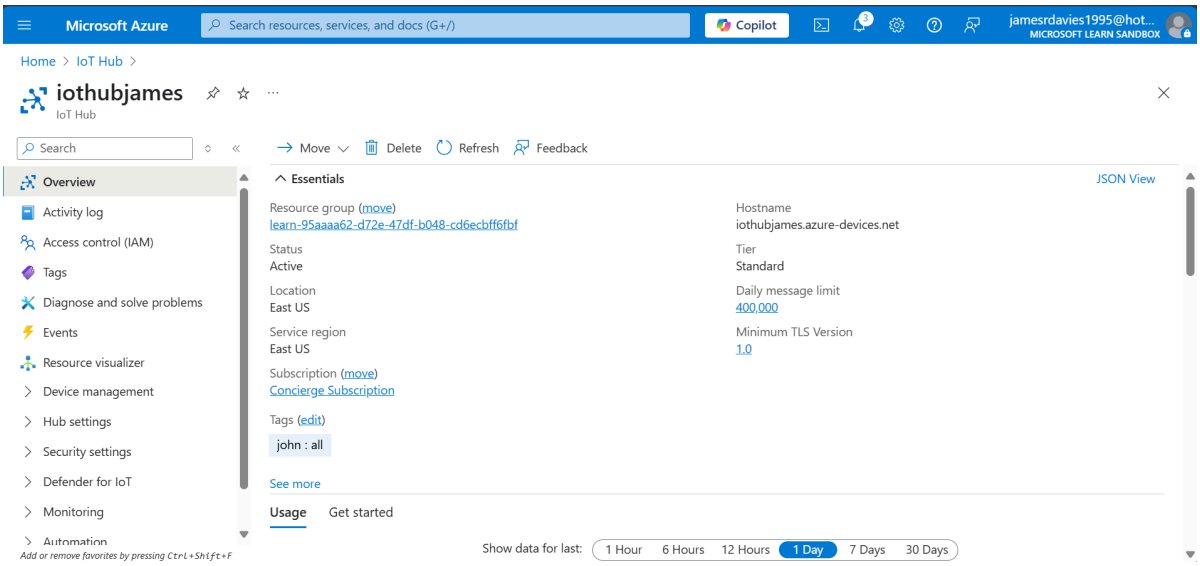


Azure IoT Hub

IoT Hub Deployment

An Azure IoT Hub instance was provisioned to demonstrate understanding of device/cloud communication services within the Azure ecosystem.

Configuration included region selection and pricing tier setup, followed by validation of active deployment status within the Azure Portal.



Project Outcome

This project demonstrates hands-on experience with Azure resource provisioning, networking, configuration, storage management, database deployment and IoT service setup.

The successful deployment and validation of each component reflects practical familiarity with Azure cloud architecture and foundational cloud engineering capability within the Microsoft Azure platform.