

# Microsoft ADC Cybersecurity Skilling Program

## Week 6 Assignment

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### Introduction

This week I worked through the AZ-500 Learning Path: Secure Networking, which is part of the Microsoft Certified: Azure Security Engineer Associate certification. The focus was on the first module:

1. Plan and implement security for virtual networks.

This module equips Azure security professionals with the necessary skills to protect virtual network environments by applying a variety of security tools and configurations within Microsoft Azure. I assumed the role of an Azure network security specialist, responsible for safeguarding my organization's cloud-based infrastructure through practical application of Azure networking best practices.

### Tasks Completed

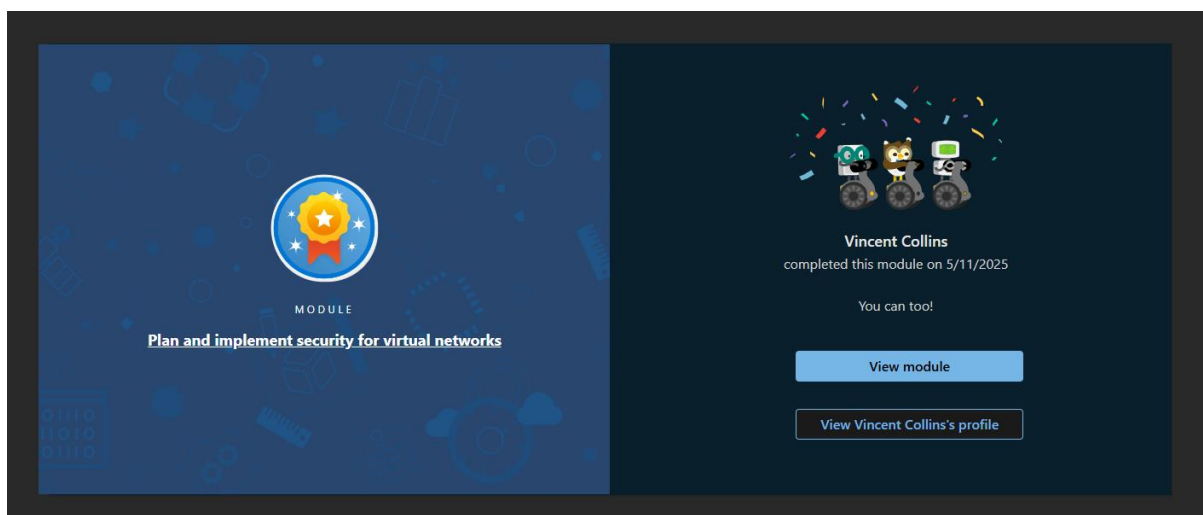
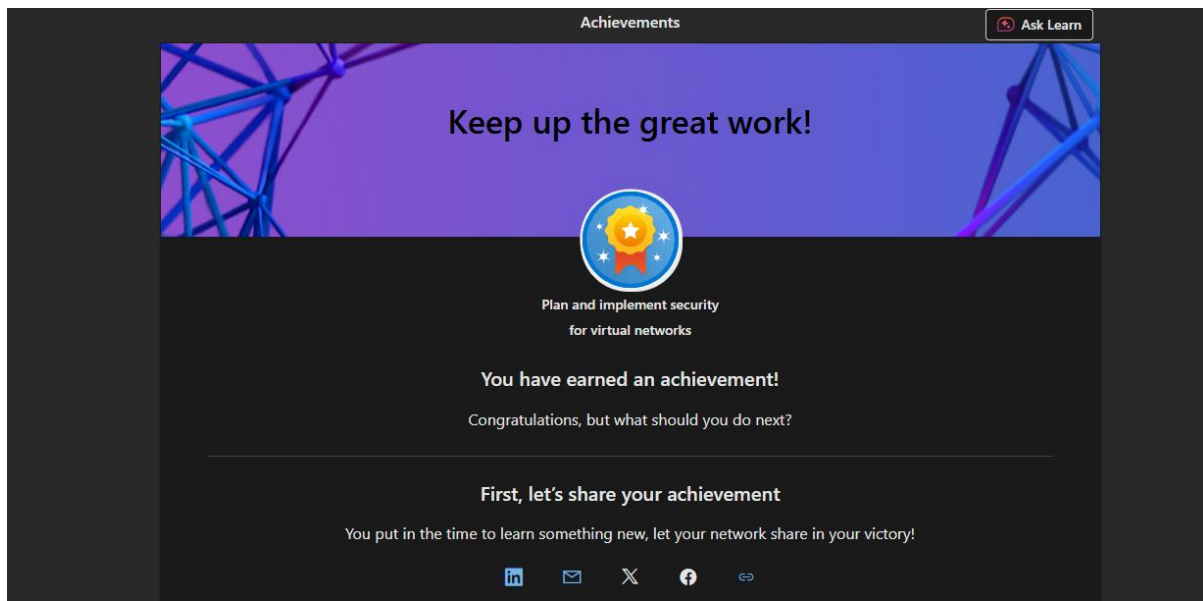
#### 1. Plan and implement security for virtual networks

This module was centered on securing Azure virtual networks by implementing best practices and tools designed to ensure data confidentiality, integrity, and availability. I explored the use of Network Security Groups (NSGs) and Application Security Groups (ASGs) to control and filter inbound and outbound traffic at different layers. I also gained practical knowledge in configuring User-Defined Routes (UDRs) to enhance traffic routing and segmentation across subnets.

Furthermore, I learned how to establish secure connectivity using Virtual Network peering, VPN gateways, and Virtual WAN to create isolated and secure communication channels within and across Azure regions. The module also covered advanced topics such as ExpressRoute encryption, firewall settings for Platform-as-a-Service (PaaS) resources, and NSG flow logs via Network Watcher to monitor and analyze traffic patterns for threat detection.

Completing this module helped me gain a comprehensive understanding of how to implement layered security in a virtual network infrastructure and ensure secure access to Azure-hosted services and resources.

Verification link: <http://learn.microsoft.com/en-us/users/vincentcollins-8814/achievements/d99bkscj>



## Conclusion

This week's module significantly deepened my understanding of Azure virtual network security. It helped me recognize the various components and configurations that play a role in protecting networked resources in the cloud. I am more confident in my ability to plan and implement secure networking strategies using NSGs, ASGs, and VPNs, and in ensuring compliance and visibility through tools like Network Watcher. This hands-on experience has strengthened my technical foundation and prepared me for more advanced security concepts in the coming weeks. I am excited to continue learning and sharing my progress online to build my professional presence in cloud security.