**Azure Class 4 Notes: Accessing and Managing VMs**

Accessing a Windows VM through RDP

* **Remote Desktop Protocol (RDP)**: A method to connect to and manage a Windows VM in Azure.
* **Steps**:
	1. **Ensure VM is Running**: The VM must be up and running in Azure.
	2. **Public IP Address**: The VM should have a public IP assigned.
	3. **Open RDP Port**: Port 3389 should be open for RDP access.
	4. **Connect via RDP**: Use the Remote Desktop client with the VM's IP address.

Troubleshooting VM Access

* **Ping Public IP**: Check if the VM's public IP address is reachable.
* **Check Port Accessibility**: Ensure the necessary ports (like RDP 3389 for Windows) are open and not blocked by firewalls.
* **Network Security Groups (NSGs)**: Verify that NSGs are configured correctly to allow traffic.

Understanding Inbound and Outbound Traffic

* **Inbound Traffic**: Refers to connections initiated from outside the VM to the VM.
* **Outbound Traffic**: Connections initiated from the VM to external sources.
* **Network Security Groups**: Control the inbound and outbound traffic to VMs.
	+ **Adding Rules**: By setting inbound and outbound rules, you can manage what traffic is allowed to and from the VM.
	+ **Ports for Major Protocols**: For example, HTTP typically uses port 80, HTTPS uses port 443.

Showcasing Internet Speed

* Demonstrated the internet speed capabilities of Azure VMs, emphasizing the robustness of Azure's network infrastructure.

Interesting Points

* **Billing Only When Running**: You are charged for VMs only when they are running. If you stop or delete a VM, billing is paused.
* **Flexibility in Use**: VMs can be used for various purposes, even like downloading shows or streaming.
* **Size Resizing of VMs**: Demonstrated resizing a VM from B1s to B2s, showcasing how to adjust VM capabilities based on needs.

Use Cases for Using Azure VM

* **Collaborative Projects**: Ideal for teams working together from different locations.
* **Corporate Requirements**: Used by businesses for secure, controlled environments.
* **High Computation Tasks**: Beneficial for short-term, resource-intensive tasks.

Tips for Selecting VMs

* For simple tasks, choose basic VMs and invest in better disks if required.
* Always select a VM size and specifications based on the actual need to optimize costs.

**AZ-900 Exam Relevance**

* Understanding VM operations, like accessing via RDP, troubleshooting, and managing traffic through NSGs, is crucial.
* Knowing how to resize VMs and the billing implications of running/stopping VMs is relevant for the AZ-900 exam.
* Grasping the practical applications and flexibility of Azure VMs, along with security measures (like NSG rules), aligns well with the fundamentals covered in the AZ-900 certification.

**AZ-900 Exam Relevance: Focused Questions from Class Notes**

Question 1: What is a Resource Group in Azure, and how is it used?

**Answer**: A Resource Group in Azure is a container that holds related resources for an Azure solution. It's used for organizing, managing, and applying policies to resources collectively, which is important for efficient cloud management.

Question 2: Explain the difference between Azure Blob Storage and Azure File Storage.

**Answer**: Azure Blob Storage is for storing large amounts of unstructured data like images and videos, whereas Azure File Storage provides managed file shares for cloud or on-premises deployments. Understanding these storage options is key for data management in Azure.

Question 3: Why are Azure Regions important, and what factors should you consider when choosing one?

**Answer**: Azure Regions are important for reducing latency, adhering to data residency laws, and disaster recovery. When choosing a region, consider factors like proximity to users, compliance needs, and service availability.

Question 4: What are the implications of resizing a VM in Azure?

**Answer**: Resizing a VM can adjust its performance capabilities and cost. It's important to balance the VM's specifications with the workload's requirements and budget considerations.

Question 5: How does Azure's pricing model work for Virtual Machines?

**Answer**: Azure VM pricing is based on the size and resources of the VM, the region it's deployed in, the operating system, and additional factors like storage and data transfer. Understanding this helps in cost-effective cloud management.

Question 6: Describe the purpose and functionality of Azure Active Directory.

**Answer**: Azure Active Directory is a cloud-based identity and access management service. It helps manage user identities and create policies for access control and authentication, which is essential for securing Azure resources.

Question 7: What is the significance of inbound and outbound rules in Network Security Groups?

**Answer**: Inbound and outbound rules in NSGs control the flow of network traffic to and from Azure resources in a Virtual Network. Proper configuration of these rules is vital for securing and optimizing network traffic.