**What is Azure active directory? How will you manage your active directory in landing zone?**

**❓ Q: What is Azure Active Directory?**

**Interview-style answer:**

*Azure Active Directory (Azure AD) is Microsoft’s cloud-based identity and access management service. It helps employees of an organization sign in and access resources such as Microsoft 365, the Azure portal, and thousands of other SaaS applications.*

*It provides features like single sign-on (SSO), multi-factor authentication (MFA), conditional access policies, and identity protection to secure user identities and control access effectively.*

**❓ Q: How will you manage Azure Active Directory in a Landing Zone?**

**Interview-style answer:**

*In a Landing Zone setup, Azure AD is the central identity provider and plays a critical role in controlling access across subscriptions and management groups. Here's how I manage Azure AD in a Landing Zone:*

1. ✅ **Identity Baseline Configuration**:
   * Enforce **MFA** for all users.
   * Disable legacy authentication protocols.
   * Setup **Self-Service Password Reset (SSPR)**.
2. 🔐 **Role-Based Access Control (RBAC)**:
   * Use **PIM (Privileged Identity Management)** to assign just-in-time admin roles.
   * Avoid assigning broad roles like Owner at subscription level — use **least privilege** principle.
3. 🏢 **Hybrid Identity** (if required):
   * Use **Azure AD Connect** for syncing identities from on-prem AD to Azure AD.
   * Implement **Seamless SSO** and **Password Hash Sync** for a smooth experience.
4. 🎯 **Conditional Access Policies**:
   * Create policies to control access based on user location, device compliance, and risk level.
   * Example: Block access from unsupported countries or non-compliant devices.
5. 🛡️ **Monitoring and Alerts**:
   * Use **Azure AD Identity Protection** and **Log Analytics** to monitor risky sign-ins and user behavior.
   * Integrate with **Microsoft Defender for Cloud** for alerts and security recommendations.
6. 📁 **Tenant Management**:
   * Ensure centralized governance of tenants if using multi-tenant architecture.
   * Enable **Tenant Restrictions** if needed to limit external Azure AD tenant access.

**Q: I have an Active Directory on-premises, and I want to create Azure Active Directory as well. How will my users and groups move from on-prem AD to Azure AD?**

**💼 Interview-style Answer:**

*To sync users and groups from on-prem Active Directory to Azure Active Directory, we use a tool called* ***Azure AD Connect****. This allows hybrid identity, where the same users can access both on-prem and cloud resources with a single identity.*

**✅ Steps to move/sync users and groups from on-prem AD to Azure AD:**

1. 🔧 **Set up Azure AD Connect** on an on-prem server:
   * Download and install **Azure AD Connect** on a server joined to your on-prem AD domain.
   * Choose the appropriate sync method during setup.
2. 🔁 **Choose the sync method:**
   * **Password Hash Sync (PHS)** → Most common; syncs password hashes securely to Azure AD.
   * **Pass-through Authentication (PTA)** → Authenticates against on-prem AD directly.
   * **Federation with ADFS** → For advanced scenarios (less common now).
3. 👥 **Sync users, groups, and attributes:**
   * During configuration, select the OUs (Organizational Units) you want to sync.
   * Users and groups in those OUs will be synced to Azure AD.
   * You can also enable **group writeback** (if required) for hybrid scenarios.
4. 🔐 **Enable Hybrid Identity Features:**
   * **Seamless SSO** → So users don’t have to re-authenticate when accessing Azure/M365.
   * **MFA, Conditional Access, and Identity Protection** can now be applied from Azure AD.
5. 🛠️ **Post-Sync Management:**
   * Users are managed **on-premises**, and changes sync automatically to Azure AD.
   * Cloud-only attributes (like MFA settings, conditional access policies) are managed in Azure AD.

**🧠 Bonus Tip (For Interview Edge):**

*“I would also ensure that the Azure AD Connect server is highly available (using Staging Mode on a second server) and monitor sync health using Azure AD Connect Health.”*

**🔄 Diagram (if asked verbally, you can explain like this):**

*On-Prem AD → Azure AD Connect → Azure AD*  
*[Users + Groups] + [Password Hash] → Synced every 30 mins (by default)*

**🚫 Important Notes:**

* Users created in on-prem AD will **not** be editable from Azure AD (they're read-only in AAD).
* Make sure your domain is **verified** in Azure AD before syncing.
* Ensure that UPN (UserPrincipalName) is in email format (user@domain.com) for Azure AD compatibility.

**Q: What are the different types of VMs provided by Azure?**

**💼 Interview-style answer:**

*Azure provides a wide variety of Virtual Machine (VM) series to meet different workload needs. They are grouped into families based on performance and use case:*

**🔹 1. General Purpose (B, D, A-series)**

Balanced CPU-to-memory ratio  
**Use case:** Web servers, dev/test, small databases

* **B-series (Burstable)**: Cost-effective for variable workloads
* **D-series**: Higher performance than B, good for production apps

**🔹 2. Compute Optimized (F-series)**

High CPU-to-memory ratio  
**Use case:** App servers, batch processing, gaming

**🔹 3. Memory Optimized (E, M-series)**

High memory-to-CPU ratio  
**Use case:** Large databases, in-memory analytics (e.g., SAP HANA)

**🔹 4. Storage Optimized (L-series)**

High disk throughput and low latency  
**Use case:** NoSQL DBs, data warehousing, heavy read/write apps

**🔹 5. GPU-Series (NC, ND, NV)**

GPU-enabled VMs  
**Use case:** AI/ML workloads, video rendering, 3D simulation

* **NC** → Compute (AI/ML)
* **ND** → Deep Learning
* **NV** → Visualization

**🔹 6. High Performance Compute (H-series)**

Optimized for high performance computing (HPC)  
**Use case:** Molecular modeling, fluid dynamics, scientific workloads

**🧠 Bonus Tip:**

*“I usually choose VM size and series based on workload profiling — like CPU usage, memory needs, storage IOPS, and whether GPU is required.”*

**Q: How do you configure a highly available VM in Azure?**

**💼 Interview-style answer:**

*To ensure high availability of a VM in Azure, we use features like Availability Sets, Availability Zones, Load Balancers, and Managed Disks with redundancy options.*

**✅ 1. Use Availability Sets (for single region HA):**

* Distributes VMs across **Fault Domains** (different physical racks) and **Update Domains** (separate update cycles)
* Protects against **hardware failures** and **planned maintenance**

**✅ 2. Use Availability Zones (for zonal HA):**

* Spread VMs across **physically separate data centers** (zones) in the same region
* Protects against complete data center failure
* Minimum 2 VMs in 2 zones

**✅ 3. Configure Load Balancer (for traffic distribution):**

* Use **Azure Load Balancer (Layer 4)** for internal/external traffic distribution
* Ensure backend pool has VMs in different zones/sets

**✅ 4. Use Managed Disks with zone redundancy or replication:**

* Use **ZRS (Zone Redundant Storage)** for critical disks
* Use **premium SSD** with high IOPS for better performance

**✅ 5. Monitoring and Auto-Healing:**

* Use **Azure Monitor** and **Log Analytics** for health checks
* Use **VMSS with autoscaling** for self-healing VMs (recommended for stateless apps)

**🔐 Optional:**

* Configure **Azure Backup** and **Site Recovery (ASR)** for disaster recovery (DR)

**🧠 Bonus Tip (For Interview Edge):**

*“For production-grade systems, I usually deploy VMs using Terraform or Bicep templates with Availability Zones, VMSS, and Load Balancer configured — ensuring both fault tolerance and autoscaling.”*

**📌 One-Line Summary (for quick recall):**

*Use* ***Availability Sets*** *for intra-region HA,* ***Availability Zones*** *for zone-level fault tolerance, and a* ***Load Balancer*** *for distributing traffic across VMs.*

**Q: What all resources are required to create a VM in Azure?**

**💼 Interview-style answer:**

*To create a VM in Azure, several dependent resources are required in addition to the virtual machine itself. These ensure networking, storage, security, and availability are properly configured.*

**✅ List of Required & Commonly Used Azure Resources for a VM:**

| **🔢** | **Resource Name** | **Description** |
| --- | --- | --- |
| 1️⃣ | **Virtual Network (VNet)** | Provides the private IP space for the VM to communicate with other resources. |
| 2️⃣ | **Subnet** | Logical division inside the VNet where the VM will reside. |
| 3️⃣ | **Network Interface (NIC)** | Connects the VM to the network. Each VM must have at least one NIC. |
| 4️⃣ | **Public IP Address** (optional) | Required if the VM needs to be accessed from the internet (e.g., RDP, SSH). |
| 5️⃣ | **Network Security Group (NSG)** | Acts like a firewall — controls inbound/outbound traffic to the VM. |
| 6️⃣ | **Virtual Machine (Compute)** | The actual compute resource – where OS and application run. |
| 7️⃣ | **Disk(s)** |  |

* **OS Disk** (mandatory)
* **Data Disk(s)** (optional)  
  Stored as **Managed Disks** (Standard/Premium). |  
  | 8️⃣ | **Availability Set / Zone** (optional) | Used to configure high availability. |  
  | 9️⃣ | **Boot Diagnostics Storage Account** (optional but recommended) | Stores boot logs/screenshots for troubleshooting. |

**📌 One-liner Summary:**

*To create a VM, you need networking (VNet, Subnet, NIC, NSG), storage (OS/Data disks), compute (VM config), and optionally availability and diagnostics resources.*

**Q: How do you create a private endpoint on Azure VMs?**

**🔹 💼 Interview-Style Answer:**

*Actually, private endpoints are used to provide* ***private connectivity*** *to* ***Azure PaaS services*** *like Storage Account, SQL DB, Key Vault, etc., over a* ***private IP in your VNet****. For Virtual Machines, you typically don’t create private endpoints* ***on*** *them, but you can* ***connect a VM to other services via private endpoints.***

*However, if the intention is to expose a service* ***hosted on a VM (like a web app or API)******privately*** *within the network (or across VNets/regions), then we use other approaches like:*

* **Private Link Service** (custom private endpoint for a VM-based app)
* **Internal Load Balancer + VNet Peering**
* **Service endpoints or Azure Firewall/Private DNS zones** for routing

**✅ Scenario 1: You want to access Azure PaaS service from a VM via private endpoint**

🧭 *Use Case:* VM needs to access **Azure SQL DB** or **Blob Storage** via private IP, not public.

**👉 Steps:**

1. Create a **Private Endpoint** in the same VNet as the VM.
2. Choose the **PaaS resource** (e.g., Storage Account, SQL DB).
3. Assign the private IP in the same subnet (or different subnet in same VNet).
4. Update **DNS resolution**:
   * Use **Azure Private DNS Zone** linked to the VNet.
   * VM will resolve the resource name (e.g., myaccount.blob.core.windows.net) to the private IP.
5. Now the VM accesses the service **privately**, no traffic goes via public internet.

**✅ Scenario 2: You want to expose a service running on a VM via Private Endpoint**

🧭 *Use Case:* You have a custom app or API running on a VM, and want **other VNets or customers** to access it privately.

**👉 Steps:**

1. Create a **Load Balancer** (Standard SKU, **internal**) in front of the VM.
2. Create a **Private Link Service** pointing to the backend pool (your VM).
3. From consumer VNet/subscription, create a **Private Endpoint** that connects to the Private Link Service.
4. Use **Private DNS Zone** to route DNS to the private IP.
5. This allows **private connectivity** to your VM-hosted service across VNets or tenants.

**📌 One-liner Summary (Interview Use):**

*“You don’t create a private endpoint on a VM directly — instead, you either use private endpoints from the VM to access Azure services privately, or create a Private Link Service to expose a VM-hosted app privately.”*

**🔁 Related Interview Tip:**

If interviewer tries to confuse with:  
**“Can I create a private endpoint for RDP/SSH access to VM?”**  
Say:

*No — RDP/SSH access is done via private IP (within VNet) or using Bastion/Jumpbox. Private Endpoint is for Azure services, not for IaaS-level access like SSH/RDP.*

**🔐 Bonus (Security Add-on):**

*In production, I ensure NSGs and route tables allow traffic to/from the private endpoint, and disable public access to the target resource to enforce private traffic only.*

**Q: Explain Service Endpoint and Private Endpoint in Azure. What’s the difference?**

**🧠 💼 Interview-Style Answer (Short and Effective):**

**Service Endpoint** and **Private Endpoint** both allow secure access to **Azure PaaS services** like Storage, SQL, Key Vault, etc. — but they differ in **how** they route traffic.

| **Feature** | **Service Endpoint** | **Private Endpoint** |
| --- | --- | --- |
| 🔁 **Traffic Path** | Over **Azure backbone**, but uses **public IP** of the service | Through **private IP** inside your VNet |
| 🕵️‍♂️ **Visibility** | Traffic is still visible to the service (public) | Completely private, isolated |
| 🌐 **DNS/Name** | Uses public DNS name (e.g., \*.blob.core.windows.net) | Resolves to **private IP** via **Private DNS Zone** |
| 🔐 **Security** | Improves security (but still over public endpoint) | Maximum security, no public exposure |
| 🌍**VNet Integration** | Enabled at **subnet level** | Created per resource; appears as a NIC in your VNet |
| 💸 **Cost** | No extra cost for data transfer | Slightly more expensive (due to private link infra) |
| ➕ **Use Case** | For securing access from VNet without NAT | For strict compliance, private traffic only |

**✅ 1. What is a Service Endpoint?**

*A Service Endpoint allows you to extend your VNet’s private address space to Azure services over the Azure backbone network.*

**🔹 Key Points:**

* Service remains **public**, but VNet is **authorized** to access it.
* Configured at **subnet level**.
* You can restrict access to the service using VNet/subnet ID.
* No need to change DNS.

**🔸 Example Use Case:**

* VM in a VNet accessing **Azure Storage**, and you want to restrict storage access to **only** that VNet.

**✅ 2. What is a Private Endpoint?**

*A Private Endpoint is a network interface with a* ***private IP address*** *in your VNet that connects you privately to an Azure PaaS service.*

**🔹 Key Points:**

* Entire traffic stays within the **private network**.
* You need a **Private DNS Zone** for name resolution.
* The target resource becomes **invisible to the public internet**.
* Highly secure and recommended for **production & compliance workloads**.

**🔸 Example Use Case:**

* Access **Azure SQL Database** from a VM without exposing the SQL DB to the public internet at all.

**📌 One-Line Summary (use this if interviewer asks difference):**

*Service Endpoint secures access at the* ***network level****, but traffic still hits the public service endpoint. Private Endpoint gives the service a* ***private IP****, making it completely private and isolated from public internet.*

**Q: How to configure auto scale in Azure VM?**

**💼 Interview-Style Answer:**

*To configure auto-scale for Azure Virtual Machines, we use a feature called* ***Virtual Machine Scale Sets (VMSS)****. VMSS allows automatic scaling of identical VMs based on metrics like CPU, memory, schedule, etc.*

**✅ Steps to Configure Auto Scale in Azure VM (via VMSS)**

**🔹 1. Use Virtual Machine Scale Set (VMSS):**

* Go to Azure Portal → Create **Virtual Machine Scale Set**
* Choose:
  + Image (Ubuntu, Windows, etc.)
  + Size (e.g., Standard\_D2s\_v3)
  + Number of instances (initial count)
  + VNet, Subnet, NSG, etc.

**🔹 2. Enable Autoscaling in VMSS:**

* After VMSS is created:
  + Go to → **Scale Set → Scaling**
  + Click on **"Custom Autoscale"**

**🔧 Configure Scaling Rules:**

* Choose **Metric**:
  + e.g., CPU Percentage
* Set Rules:
  + Example:
    - **If CPU > 75% for 10 mins → Increase instance count by 1**
    - **If CPU < 30% for 10 mins → Decrease instance count by 1**
* Set:
  + **Minimum instances** (e.g., 1)
  + **Maximum instances** (e.g., 5)
  + **Default count** (e.g., 2)

**🧠 Optional: Use Schedule-Based Scaling**

* You can also scale **based on time** (e.g., increase at 9 AM, decrease at 6 PM for office hours)

**🔒 Optional: Use with Load Balancer**

* Attach **Azure Load Balancer** to distribute traffic across instances
* Ensures high availability and smooth traffic handling

**📌 One-Liner Summary:**

*To auto-scale VMs, use* ***Virtual Machine Scale Sets (VMSS)*** *with scaling rules based on CPU, memory, or schedule. VMSS automatically adds/removes VM instances as per load.*

**🧠 Bonus Tips (for Interview Edge):**

*“I also integrate VMSS with* ***Azure Monitor*** *to track performance, and use* ***Availability Zones*** *with VMSS for high availability.”*

*“We use* ***custom images*** *with VMSS to ensure all instances have the same configuration.”*

**Q: How to configure vertical auto-scaling for a VM in Azure?**

**💼 Interview-Style Answer:**

*Vertical autoscaling in Azure — i.e., automatically increasing or decreasing the size (CPU/RAM) of a VM — is* ***not supported automatically out-of-the-box*** *like horizontal scaling via VMSS.*

*However, it can be done using* ***automation scripts*** *triggered by* ***Azure Monitor alerts*** *or using* ***Azure Automation Runbooks / Logic Apps****.*

**✅ What is Vertical Scaling?**

*Changing the* ***VM size*** *(e.g., from Standard\_D2s\_v3 → Standard\_D4s\_v3) to increase CPU, memory, or disk capacity.*

**🚫 Limitations:**

* **Requires VM to stop & deallocate** before resizing.
* No native **auto vertical scaling** in Azure (unlike VMSS for horizontal).
* Not suitable for critical workloads that need 24/7 uptime.

**✅ How to Implement Vertical Autoscaling (Manually/Scripted):**

**Step-by-step approach:**

1. **🧠 Monitor VM Metrics:**
   * Use **Azure Monitor** to track metrics like:
     + CPU utilization
     + Memory usage (via Log Analytics agent)
     + Disk I/O
2. **🔔 Create Alert Rules:**
   * Set alert for example:  
     **If CPU > 80% for 15 minutes**
3. **⚙️ Trigger an Automation Runbook / Logic App:**
   * The alert triggers a Runbook that:
     + Stops the VM
     + Changes the VM size (via Set-AzVM PowerShell cmdlet or CLI)
     + Starts the VM again
4. **🔄 Sample PowerShell Snippet:**
5. Stop-AzVM -Name "myVM" -ResourceGroupName "myRG" -Force
6. $vm = Get-AzVM -Name "myVM" -ResourceGroupName "myRG"
7. $vm.HardwareProfile.VmSize = "Standard\_D4s\_v3"
8. Update-AzVM -VM $vm -ResourceGroupName "myRG"
9. Start-AzVM -Name "myVM" -ResourceGroupName "myRG"
10. **💾 Use Tags or Metadata (Optional):**
    * Track current size
    * Avoid frequent scale-up/down flapping

**📌 One-liner Summary (Interview Style):**

*Azure does not support native vertical autoscaling. But we can implement it using Azure Monitor + Automation Runbooks to resize VMs based on performance thresholds — keeping in mind that the VM must be stopped to resize.*

**🧠 Bonus Tip (For Interview Edge):**

*“For production workloads requiring high availability, I prefer horizontal scaling via VMSS. But for legacy apps or licensing-bound workloads, I’ve implemented scheduled vertical scaling during peak business hours using Automation + Logic Apps.”*

**🔄 Horizontal vs Vertical Scaling (Quick Table):**

| **🔁 Scaling Type** | **Description** | **Native Support in Azure?** |
| --- | --- | --- |
| Horizontal | Add/remove VMs (VMSS) | ✅ Yes |
| Vertical | Resize VM (change SKU) | ❌ Not native; scripted |
|  |  |  |

**Q: When to use ASG (Application Security Group)? Is it for VNet or VM?**

**💼 Interview-Style Answer:**

*Application Security Group (ASG) is used to* ***group virtual machines (VMs)*** *with similar functions, and apply* ***Network Security Group (NSG)*** *rules based on these groups. So, ASG is for* ***VMs, not VNets.***

*It allows you to manage security rules dynamically — without relying on IP addresses — which is especially useful in auto-scaling environments.*

**✅ Key Points About ASG:**

| **Feature** | **Details** |
| --- | --- |
| 🎯 **Scope** | ASG is applied to **VM NICs** (network interfaces), not VNets or subnets. |
| 🧑‍🤝‍🧑 **Used For** | Grouping VMs logically for applying NSG rules |
| 🔒 **Purpose** | Simplifies management of **inbound/outbound traffic rules** in NSGs |
| 🌐 **Works Within** | Same VNet only (ASGs are **not cross-VNet**) |
| 🔁 **Dynamic Updates** | Automatically applies rules to new VMs added to ASG |

**📌 When to Use ASG:**

*Use ASG when you want to:*

* Create **role-based access** (e.g., only web VMs can talk to app VMs)
* Avoid hardcoding **IP addresses** in NSG rules
* Simplify **scaling** — new VMs inherit rules by just adding to ASG

**🧠 Example Use Case:**

**🔹 Scenario:**

You have 3-tier architecture: Web → App → DB

**🔹 ASG Setup:**

| **Layer** | **ASG Name** |
| --- | --- |
| Web VMs | asg-web |
| App VMs | asg-app |
| DB VMs | asg-db |

**🔹 NSG Rule Example:**

* **Allow** traffic from asg-web to asg-app on port 80
* **Allow** traffic from asg-app to asg-db on port 1433 (SQL)
* **Deny** all other inbound traffic to DB

No need to use static IPs — just attach VMs to the right ASG.

**❌ ASG is NOT for:**

* Grouping **VNets**
* Replacing **NSGs**
* Working **across VNets** (ASG is VNet-scoped)

**📌 One-Liner Summary:**

*ASG is used to group* ***VMs****, not VNets. It helps apply* ***NSG rules*** *logically to VM groups without relying on IPs — especially useful in dynamic or auto-scaling environments.*

**🧠 Bonus Tip (For Interview Edge):**

*“I use ASGs heavily in microservices and tiered app deployments where roles are clearly defined — helps me manage traffic rules efficiently without changing NSGs every time a VM scales.”*

**Q: How to configure Application Gateway if we have 2 VMs?**

**💼 Interview-style answer:**

*To distribute web traffic efficiently between 2 VMs, Azure Application Gateway can be used as a Layer 7 load balancer. It routes HTTP/HTTPS traffic based on URL paths or other rules, providing security and scalability.*

**✅ Step-by-step to configure Application Gateway for 2 VMs**

**1️⃣ Prepare Backend Pool**

* Create a **backend pool** and add the **2 VMs’ NIC IP addresses or FQDNs** into this pool.
* These VMs will serve the incoming requests.

**2️⃣ Create Frontend IP**

* Application Gateway gets a **frontend IP** — this can be:
  + **Public IP** (if internet-facing)
  + **Private IP** (for internal-only access)

**3️⃣ Configure Listener**

* Set up a **listener** on Application Gateway:
  + Protocol: HTTP or HTTPS (for secure, configure SSL cert)
  + Port: Usually 80 (HTTP) or 443 (HTTPS)

**4️⃣ Create Rules**

* Create **routing rules** to forward traffic from the listener to the backend pool.
* Can be **basic** (all traffic forwarded) or **path-based** routing.

**5️⃣ Health Probes**

* Configure **health probes** to monitor the health of the 2 VMs.
* App Gateway will only route traffic to healthy VMs.

**6️⃣ Network Configuration**

* Application Gateway must be in a **subnet** of a VNet.
* Ensure **NSGs** and **UDRs** allow traffic between App Gateway and backend VMs.

**7️⃣ Test Setup**

* Access the **frontend IP or domain name** of the App Gateway.
* Traffic will distribute between the 2 VMs according to your rules.

**📌 Additional Points**

* **Autoscaling**: Application Gateway supports autoscaling itself to handle load.
* **WAF (Web Application Firewall)**: Can be enabled on App Gateway for extra security.
* **SSL Termination**: Offload SSL at the gateway to reduce VM load.
* **Session Affinity**: Enable if you want to stick sessions to the same VM.

**One-liner Summary:**

*To configure Application Gateway for 2 VMs, create a backend pool with both VMs, configure frontend IP and listener, set routing rules, and health probes to load balance web traffic efficiently.*

**Q: How does Terraform communicate with cloud VMs?**

**💼 Interview-style answer:**

*Terraform primarily interacts with cloud providers via their APIs to* ***provision and manage infrastructure*** *like VMs, networks, storage, etc. It does* ***not directly connect*** *or communicate inside the VMs by itself.*

*However, after creating VMs, Terraform can trigger* ***provisioners*** *(like remote-exec or file) which use protocols such as SSH or WinRM to execute commands or copy files inside the VM, but this requires proper network access and credentials.*

*So, Terraform’s communication is two-fold:*

* *With cloud provider APIs for resource lifecycle*
* *Optionally with VM OS via provisioners for configuration*

How you login into VMs and change the disks.

We have 2 vm which is in 2 different subnets, connectivity is interrupted so what are the troubleshoot?

we have deployed an application on vm application got popular and we experience sudden increase traffic. what is the concept to address sudden traffic

-if I have to deploy that artifacts into specific vm and after deployment the vm should start and execute those artifacts, how will you achieve it

If you encounter an issue with a virtual machine (VM), how would you troubleshoot it?

How do you connect to a single console on a Windows VM?

Etc/dh file to update the user details (related to upgrade the disk like attach SSD to VM)

If a VM cannot be restored, how would you create another VM with the same configuration?

How you handle if you patch one VM and during reboot it's not coming up.

I have created a vm in resource group a and want to move resource group b is it possible if yes how can do it

VM get the security concern after creating how you deal with it.

Assume Manager A and Manager B uses Subscription A and Subscription B and we need to create VM A in Subscription A and VM B in Subscription B in single terraform file and after VM creation I have to do ssh from VM A to VM B. How and What approach will you follow?

How to migrate a VM from one region to another, what are the different ways?

How we can access VMs to Pass services apert from private endpoint.

How health probe checks health of VMs

What are ASG and NSG, why do we need ASG, because we also need to white list the traffic on ASG as well and we can also assign same NSG to multiple VMs?

Which Linux command to you use to check VM open ports?

Which command is used in Linux to attach any VM disk?

Port rules in Linux.

Do you work as Linux Admin or Window admin

Which command is used to check open ports on a Linux VM?

How would you add a new data disk to a Linux VM?

Have you ever worked on Disk Encryption Sets?

What is TOP and LVM command in Linux?

What is the load balancer how does it work.

Azure Load Balancer you use in your organisation

How you upload the certificate to a load balancer?

Which load balancer do you consider the best, and why?

How you change the private load balancer to public load balancer.

external load balancer is azure load balancer or application gateway?

Can we use 2 IP in the application gateway?

Application Gateway - How to stop traffic in Application Gateway?

What is Application Gateway, how it is work and balancing the load?

At what protocol application gateway work?

Is there any difference in load balancer and application gateway if yes then what and share use cases.

Why don't we use the application gateway in backend and vice versa.

What is an application gateway?

What is the difference between load balancer and application gateway

What are the main components you configure in the application gateways.

How many types of load balancers. tell me about on the application g/w

What is the difference between layer 4 and layer 7 load balancers?

routing methods in app gateway

Path based routing?

routing method traffic manager'

Routing in azure & frontdoor routing method.

Diff between Azure frontdoor and traffic manager?

while creating the frontdoor what information we need?

What is VPN gateway, when it used and why we use it?

What is app gateway, it's working & parts, layer on which it works

Which monitoring tools have you used in your projects?

Any monitoring tools worked upon? what is diff b/w Prometheus and Grafana?

What other tools we can use for monitoring and alerting.

suppose I have website and monitor performance of the website so what parameter you monitor?

How do you monitor the cloud infrastructure? azure monitor or any third-party tools like Prometheus and Grafana?

Did you work on logging tools

Suppose I have configured Key vault on portal what would be by default permission will give to the user.

How to use key vault secrets for storage account?

How to call secrets from key vault

Have you used Azure key vault. Asked to write tf code to provision secrets in key vault and how will you access secrets using terraform.

How will you encrypt the storage account of using customer-managed keys?

What are Key Vaults? In how many ways to provide a access to key vaults?

How roles can be provided in key vaults?

What is data plane and control plane in key vaults?

SSO & SSO Key vault

What are the best security practices we should follow while creating an Azure Key vault?

You have the owner rights how you can fetch the key vaults secrets and passwords

how you will secure a storage account

how will he access storage account of your infrastructure without vnet peering.

what is azure storage and Types of storage account and its protocol

Which protocol we are using to access the data from Azure Storage Account

How you will provide access to the storage account.

How do you manage multiple storage accounts (e.g., 50+) and handle individual billing for each?

What is the difference between the cold tier and cool tier in a storage account?

How many replicas set there in Storage account.

How you access the storage a/c with a different Vnet resources.

How you can communicate Storage A/c to different Vnet infra?

What type of storage disks are provided by Azure.

Other than Azure storage how you will manage the credentials.

What is blob storage? How to setup service for blob storage

What is RPO, RTO? How we can apply RPO and RTO with Terraform.

Difference between stateful and deployment

Did you work on Splunk

What is Traffic manager in azure. What is role of traffic manager in azure.

what security practices you follow during IaC implementation.

what are the different layers of security you use in your Cloud infrastructure

what is availability Set and availability Zone?

what is the difference between availability set and scale set

How availability sets are better than Availability Zone

What is replica set & Replica controller. Diff b/w Replica set and Replica controller?

What is Horizontal Autoscaling and Vertical Autoscaling.

what is virgin groups?

what is management group in Azure?

What are key management services provided by Azure

you have a requirement related to authentication where you need to ensure that when ever any user login it should be prompted to re-enter the password

What is service mesh

What is telemetry.

Do you know Nagios.

How you store backups

Which type of HPA you apply when high memory app required

If A vnet is peered with A and B to C then Will A and C communicate?

How two same address space VNET will communicate

What is UDR and How can you define rules in it?

what is the difference between awk and set command

SDLC details

How you reduce the downtime and deployment time.

Difference between highly available and highly scalable environment

What are the resources you have created on azure.

How we use the Vertical and horizontal scaling and use cases.

How you create service connection

How to reduce image size

HOW TO MAKE OUR DATABSE HIGHLY AVAILBLE

What is Azure Migrate?

How can you make a connectivity between 1 vnet to other vents if they are in separate regions?

What is NSG and explain me the working of it.

Azure backup explain why to use this?

What are all the services you can take backups?

disaster recovery & backup etc

If a machine stops working & is not getting restarted, what will you do in that case, you have to save the data also

I want to provide the secretes when container runs that time credentials will take and application will start running.

How many Architectures model there in your organization?

What will be your approach to set 5 best practices?

Difference between Imperative and Declarative method?

Difference between Waterfall SDLC and Agile?

What is Data Resource and Null Resource

How you will login inside the pod using specific namespace

Suppose your customer is complaining the application is not working, what you will check

Web app shows web unavailable. How would you troubleshoot?

Have you worked Azure PAAS services like Azure Web apps? What is custom domain certificate in web apps?

Why we need both service connection and app registrations.

What is Identity and access management, which service your using for IAM

What is managed identity

What is NSlookup and ping?

What is Telnet?

Answer: Telnet is a network protocol used for remote command-line login to a server, allowing you to manage devices or services over a TCP/IP network.

Data block (data reference) - Will it work if the data reference is created on the Azure portal?

Azure Well-Architected Framework - 5 Pillars

headers addition in while passing in backend

application g/w vs traffic manager

azure functions? call azure function.

vnet integration azure function

Purpose of Vnet Integration in Azure Functions

Have you worked on Azure Functions

Difference in Azure web app and functions?

have you worked web app services, function app or logic app service.

What is azure app service, how we can use it?

What is deployment slot in App services?

What is App Logic Service in the Azure.

Support I have small web site and I want to use Azure Service and run it, which service you will use

Suppose we have customer and having office in the diff location, with onprem infra how they will connect to each other using Azure.

What is fault domain and Update domain?

in azure which PAAS service you have worked on

IAAS and PAAS application exposure?

How do you use already create resources on cloud?

How to do the VNET peering?

How to establish connectivity between on-premisses and azure cloud resources?

What are UDRs?

What is the difference in NSG and UDR?

Have you worked on SSL termination, how it works?

On which security best practices, you have worked on in azure?

have you used bicep or ARM for IAC?

How to use the Intra ID AD connect for on-premisses connectivity to azure cloud?

Describe the AGIC and share all other options to expose the Application

Diff between AGIC and Load balancer

By default, what all agents are there in your organization on which you are working.

How self-hosted agent will work on private VNET

I have a website and want to hosted on azure what options i have for hosing website.

when we configure autoscaling we configure minimum and maximum no. of node what is the default no. of nodes.

I have a website hosted in London azure region and my users are in London, India, us and Australia.

What is preferred location where I should create CDN service in azure.

suppose there are 3 vnet A,B and C there is paring between A&B, B&C. Can the resource A communicate with C?

you have vnet 192.168.2.0/24 under this vnet I want to create 3 subnets so what will be address space for those 3 subnets.

Which application have worked on java or .net?

Let’s suppose I am creating 2 pipelines 1 is reacts and 2nd .net. and we are having 2 separate agent pools 1 is for java and another is for dotnet. I want my pipeline to use java for java agent pool and dotnet for dotnet agent pool. How can be setup these things?

What is Observability.

What is the process and threats.

what is Observability and what are the key Components of Observability

What is CDN.

What is RBAC?

Explain IAM.

What's azure biceps

If traffic increases how, you manage this during weekends?

What is reverse proxy?

What is traffic manager and on which layer does it work?

how to set up a route table

azure migration strategy

what you do if any escalation by client to your team member and he not able to resolve.

What makes Azure DevOps different from others?

How you describe DevOps Er. end to end role ?

azure devops describe

How you will secure a Azure DevOps.

What are the key components of Azure devops.

How you will connect AKS to ADO.

How you communicate with Azure from ADO

What are the different kind of self-hosted agents in ADO?

How parallelism work in ADO?

What are Azure Policies?

What level we can apply policy? Can we apply policy before creating a resource?

Suppose I want to create a resource in east us only can I enforce the azure policies?

How can we create a custom policy?

How to apply policies to restrict the other teams.

Have you worked on azure policies, how they work?

What is Policy Initiative? What is access policy?

What is azure firewall policy?

explain hub and spoke model and Hub & spoke model policy.

What you will do if image pull not allowed from docker hub and how you ensure its security.

Hub and spoke model and advantage in one line.

If you have a deprecated resource and cannot delete it . How can you migrate to a new resource which has new features.

What type of firewall provided by Azure

What are the steps to configure the firewall.

why we used firewall and how it work

Can we create a Azure Firewall without Public IP?

Which security tool have you used for Azure?

How will you migrate your user from onprem to azure network?

What is azure AD connect & Why we use it, How you run it azure AD connect?

What are different Azure services.

List roles mentioned in azure portal.

IF I create a service load balancer as a controller. What type of load balancer will create in azure external or internal?

If I go to azure portal and see start option for a VM is disabled and VM is not getting UP? What is troubleshooting step?

What is prerequisite for azure AD connect?

What is difference between premium and basic SKU

What is landing zone? What are the resources required to build Landing Zone.

How will you make your infrastructure more secure using landing zone?

What is the process or landing zone?

THREE TIER APPLICATION AZURE LANDING ZONE

WHAT MORE COMPONENTS REQUIRED FOR LANDING ZONE

How will you use firewall in your landing zone? Do you need public ip for azure firewall?

How can you access remote backend apart from Az login

Have you done the tunnelling from cloud to on-prem, explain how to do it?

You're using helm as a packet manager suppose you faces error 502 and 404 how will you rectify it.

You have an infrastructure, and the client also has infrastructure client want in different subscriptions

You have deployed multiple pods how will you configure your DNS server on the mapconfig yml file.

What difference will be between deployment and service definition file suppose your pods are on auto scale mode.

How can you change a single resource without impacting infrastructure.

What is Application scaling.

Intro with problem faced and how you resolved during your current project

How many load balancers are there and differences among them

Why need to use different load balancers

Do you know about http1.1 and http2

How you handle when Dods traffic comes

What all security measures you apply at your organization

What is your approach with minimum cost and performance issue when customer want to switch application from http to https.

Scenario based to import vm from cloud to IaC and deep dive these questions like what will terraform init, plan and apply will show.

How traffic routes in ingress load balancer