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## 1 Resource Group (RG)

### ◆ What is Resource Group?

"Resource Group is a logical container in Azure where we group related resources like VMs, VNet, Storage, NSG etc."

### ◆ Why we use RG?

- Easy management
- Single point for **RBAC**
- Cost tracking
- Delete RG → all resources delete

## 2 Storage Account

### ◆ What is Storage Account?

"Storage Account provides scalable, durable and secure storage for blobs, files, queues and tables."

### ◆ Storage Types

Type	Use
Blob Storage	Images, logs, backups
File Storage	File share (like NFS/SMB)
Queue Storage	Messaging
Table Storage	NoSQL key-value

### ◆ Account Tier Types

#### ◆ Performance Tier

- Standard → HDD based, cheap
- Premium → SSD based, high IOPS

#### ◆ Access Tier (Blob)

- Hot → frequently accessed
- Cool → infrequent
- Archive → long-term backup

### ◆ Soft Delete & Versioning

"Soft delete and versioning protect data from accidental deletion and overwrite."

#### Soft Delete

Accidentally delete ho jaye to recovery possible for X days

#### Versioning

File ka previous version store hota hai (overwrite protection)

## 3 Virtual Network (VNet)

### ◆ What is VNet?

"VNet is a private network in Azure where we deploy VMs and services securely."

### ◆ Features

- Private IP
- Subnets
- NSG, Firewall
- Peering support

## 4 Subnet & NSG

### ◆ Subnet

"Subnet is a smaller network inside VNet used to isolate workloads."

#### Example:

- Web subnet

- App subnet

- DB subnet

### ◆ Network Security Group (NSG)

"NSG controls inbound and outbound traffic using security rules."

#### Rules Based On

- Source IP

- Destination IP

- Port

- Protocol

- Allow / Deny

#### Where NSG applied?

- Subnet level

- NIC level

#### Interview Line

"NSG acts as a virtual firewall at network level."

## 5 Virtual Machine (VM)

### ◆ VM Image

"VM Image defines the OS of the VM."

#### Examples

- Windows Server

- Ubuntu

- RHEL

- Custom image

### ◆ VM Size

"VM Size defines CPU, RAM and network capacity."

#### Example

- B-series → low cost

- D-series → general purpose

- E-series → memory optimized

### ◆ Disk Types

#### Disk

#### Use

OS Disk Operating system

Data Disk Application data

Temp Disk Temporary storage

#### Disk Types

- Standard HDD

- Standard SSD

- Premium SSD

- Ultra Disk

### ◆ Availability Zone

"Availability Zone places VM in physically separate data centers for high availability."

#### ✓ Protects from data center failure

#### ✓ SLA 99.99%

### ◆ Availability Set (FD & UD)

"Availability Set ensures VMs are not impacted together during hardware or maintenance failures."

#### Fault Domain (FD)

Protects from hardware/rack failure

#### Update Domain (UD)

Protects from planned maintenance restart

### ◆ RDP & SSH

#### RDP

- Windows VM
- Port **3389**

#### SSH

- Linux VM

- Port **22**

#### Security Best Practice

- NSG allow limited IP

- Use Bastion

- Disable public IP if possible