Configure Virtual Machines

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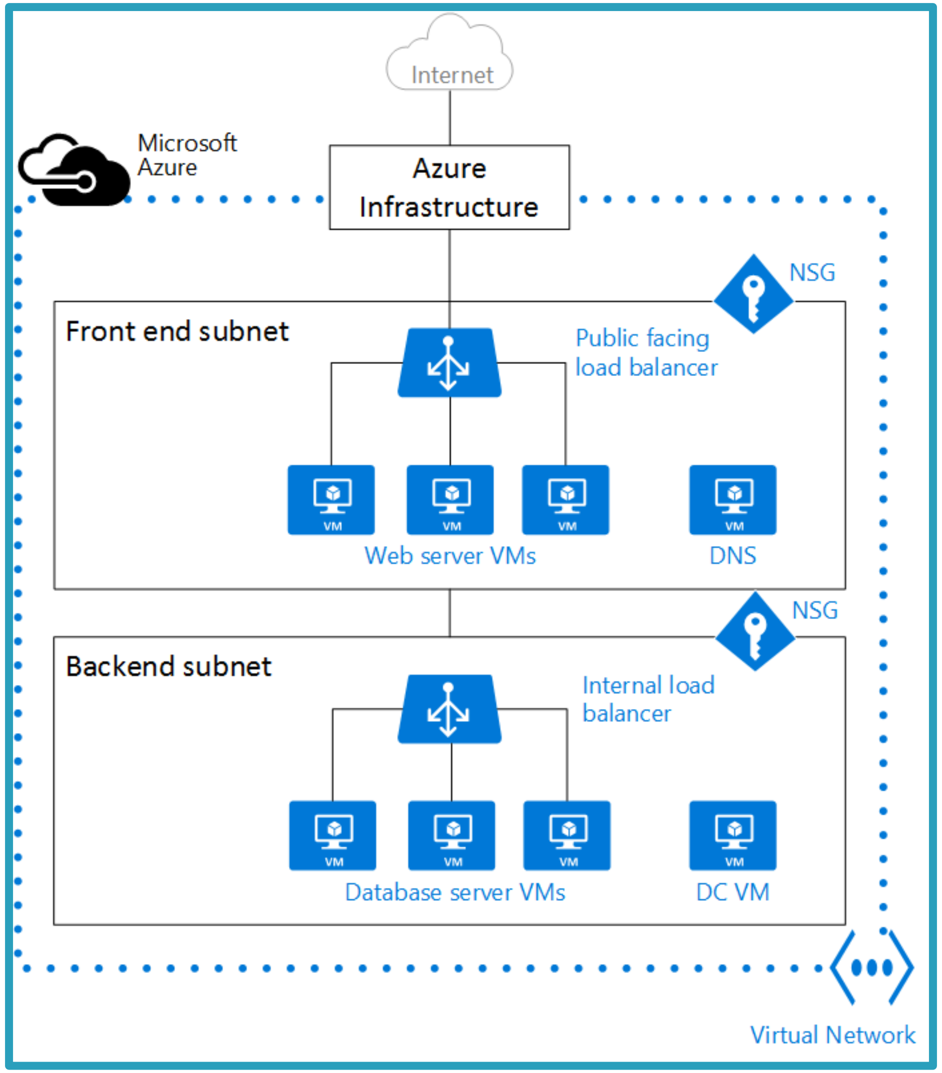
Course Coverage of Certification Objectives

- Configure networking
- Add data disks
- Configure Azure Disk Encryption

Full certification exam skills outline available at http://bit.ly/az104ms

Configure Networking

Configure Networking



Reference: https://bit.ly/2SnrAch

Configure Networking

Network Interface

Virtual Network and Subnets

IP Address

Configure Networking

- When creating an Azure VM, you must create a virtual network or use and existing VNet
- There is no security boundary between subnets by default
- To add a NIC to an existing VM, it must first be deallocated
- A NIC can only be assigned to a virtual network that exists in the same location as the NIC

```
# Azure CLI-Basic Public IP

az network public-ip create -g ps-course-rg -n MyIp
```

Using Azure CLI to create a public IP

Demo

Configure Networking

Attaching Data Disks

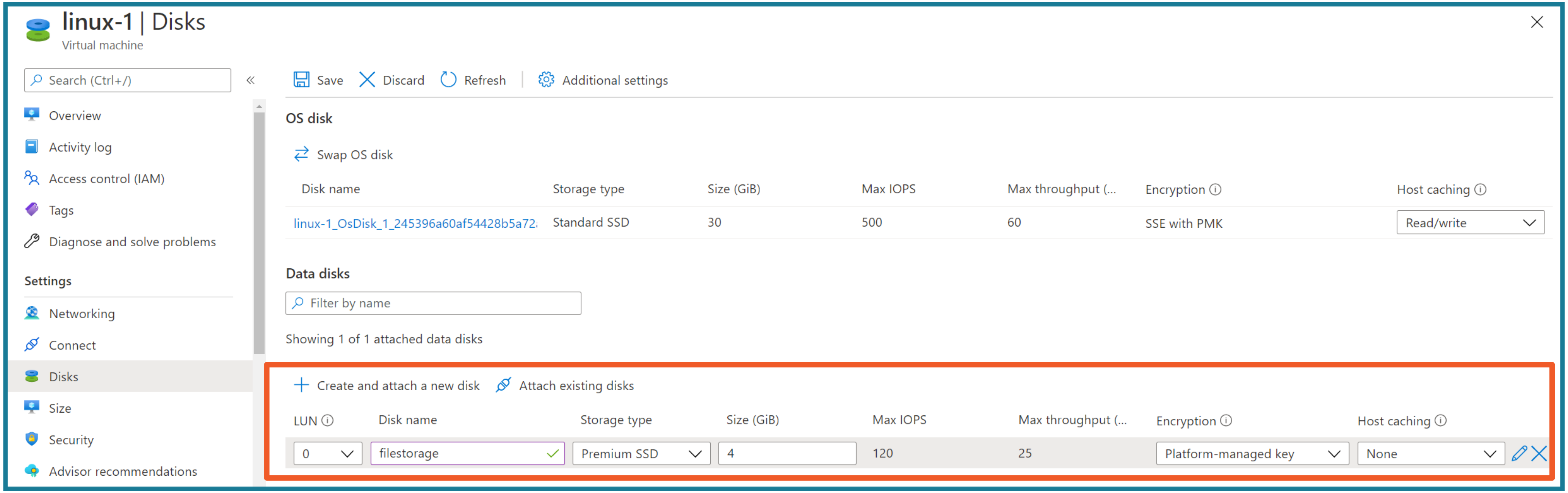
Attaching Data Disks

Can add a new or existing data disk

Can be done through the portal and the command-line

Adding managed disks allows you to choose from source types of BLOB or snapshots.

Attaching Data Disks



linux-1 | Disks

Virtual machine

OS disk

Disk name	Storage type	Size (GiB)	Max IOPS	Max throughput (...	Encryption ⓘ	Host caching ⓘ
linux-1_OsDisk_1_245396a60af54428b5a72	Standard SSD	30	500	60	SSE with PMK	Read/write

Data disks

Showing 1 of 1 attached data disks

LUN ⓘ	Disk name	Storage type	Size (GiB)	Max IOPS	Max throughput (...	Encryption ⓘ	Host caching ⓘ
0	filestorage ✓	Premium SSD	4	120	25	Platform-managed key	None

Demo

Add Data Disks

Azure Disk Encryption

Azure Disk Encryption

- Azure Disk Encryption uses Bitlocker for Windows, DMCrypt for Linux

- Full disk encryption of the OS and data disk

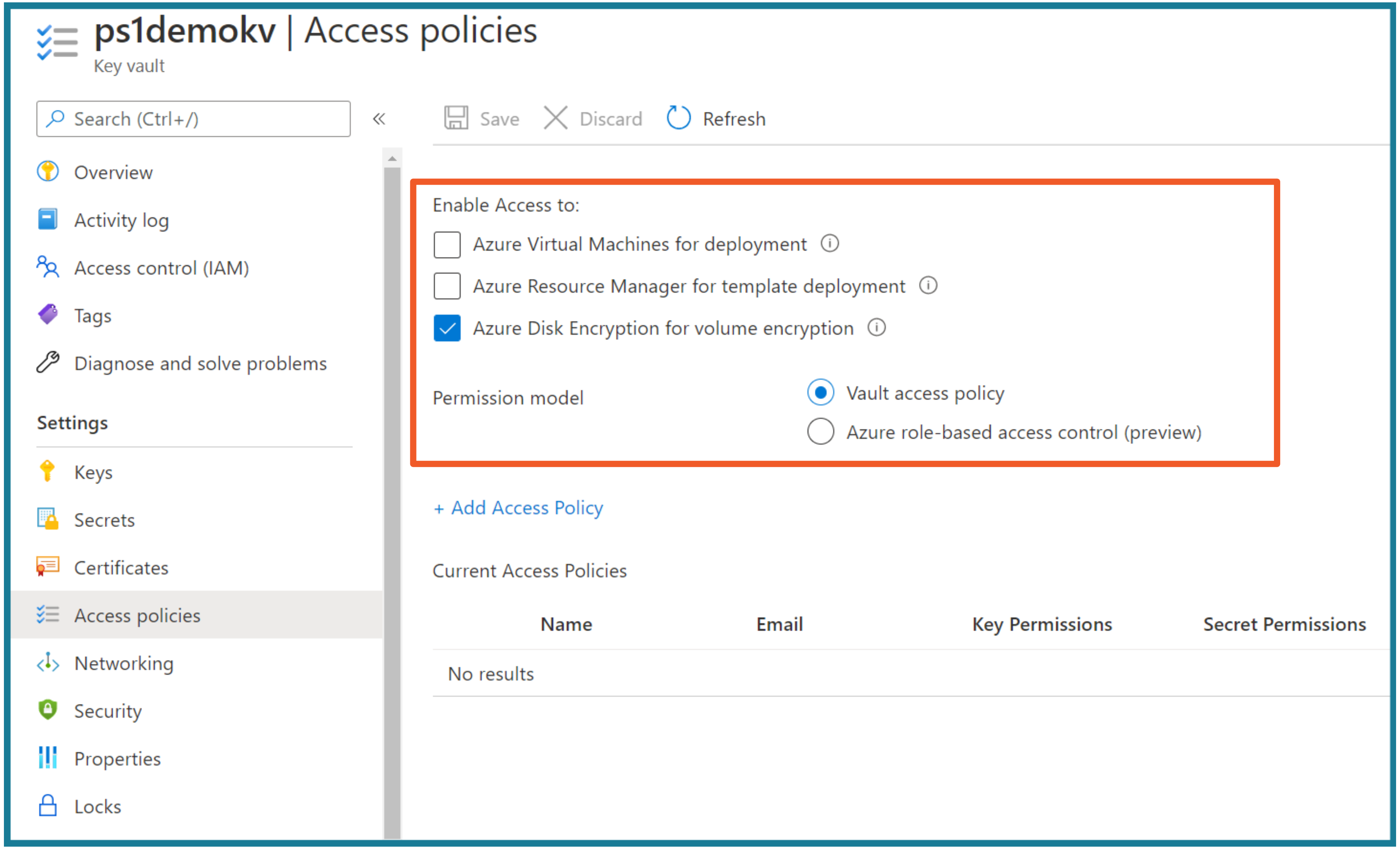
- Integrated with Azure Key Vault

- VM’s must be able to connect to either Azure AD or the KeyVault endpoint

```
New-AzKeyVault -Name 'demokv' -ResourceGroupName 'ps-course-rg’ `
     -Location 'northcentralus' -EnabledForDiskEncryption
$KeyVault = Get-AzKeyVault -VaultName 'demokv' -ResourceGroupName 'ps-course-rg’
Set-AzVMDiskEncryptionExtension -ResourceGroupName 'ps-course-rg' -VMName 'linux-1’ `
     -DiskEncryptionKeyVaultUrl $KeyVault.VaultUri `
     -DiskEncryptionKeyVaultId $KeyVault.ResourceId
```

Azure Disk Encryption-PowerShell

Azure Disk Encryption



Enable Access to:

☐ Azure Virtual Machines for deployment ⓘ

☐ Azure Resource Manager for template deployment ⓘ

☑ Azure Disk Encryption for volume encryption ⓘ

Permission model

● Vault access policy

○ Azure role-based access control (preview)

Current Access Policies

Name	Email	Key Permissions	Secret Permissions
No results			

Summary

Moving a VM to another subscription requires moving all network related items

VM scale sets with standard load balancers/PIPs cannot be moved

Resizing a VM while running will restart the VM

Redeploy moves your VM to another Azure node

Summary

VMs require a NIC, virtual network and IP address

A dynamic public IP is released when the VM is deallocated

A NIC can only be assigned to a virtual network that exists in the same location as the NIC

BLOBs and snapshots can be added to a VM

Azure Disk Encryption is integrated with Azure KeyVault

Azure KeyVault access policy must be enabled for Azure Disk Encryption.