AZURE KEYVAULT

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https://www.youtube.com/@learnsmartcoding

AZ-204 Implement secure Azure solutions

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Secure app configuration data by using App Configuration or Azure Key Vault

Develop code that uses keys, secrets, and certificates stored in Azure Key Vault

Implement Managed Identities for Azure resources

Getting Started

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What is KeyVault?

- *Implementing and Configuring Azure Key Vault*
- *Soft-delete and Purge-protection*
- *Azure Key Vault References for Function Apps and App Services*

Demo: a lot of real-time demos

Getting Started

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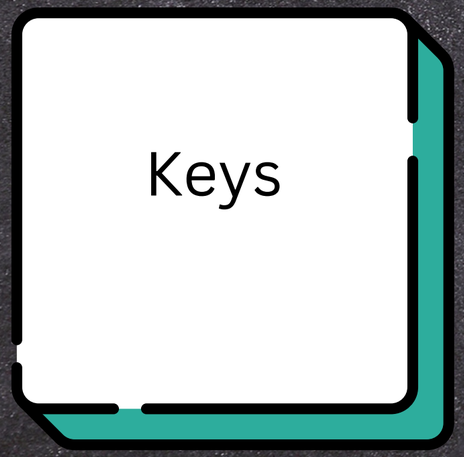
What is KeyVault?

Azure Key Vault is a cloud service offered by Microsoft Azure for securely storing and managing sensitive information such as cryptographic keys, passwords, certificates, and other secrets.

Azure Key Vault Secret Types



Cryptographic keys used in other Azure services such as Azure Disk Encryption

Any sensitive information including connection strings or passwords

x509 certificates used in HTTPS/SSL/TLS communications (encryption in transit)

Azure Key Vault Pricing Tiers

Software-protected

Standard + HSM-protected

Standard Tier

- *This tier is designed for most common scenarios and provides essential key vault functionality.*
- *Standard tier pricing includes the cost of storing and managing keys, secrets, and certificates.*
- *Key operations, such as cryptographic operations (sign/verify, encrypt/decrypt), are billed separately from the storage costs.*

Standard Tier

- *Access to keys, secrets, and certificates stored in the Standard tier is via software-protected keys. Hardware Security Modules (HSMs) are not included in this tier.*

Premium Tier

- *The Premium tier includes all the features of the Standard tier, with additional capabilities focused on high availability and scalability.*
- *Key Vault instances in the Premium tier are backed by HSMs, providing hardware-based security for cryptographic operations.*

Premium Tier

- *Premium tier instances are replicated across multiple Azure regions for increased availability and fault tolerance.*
- *Premium tier pricing includes the cost of storing and managing keys, secrets, and certificates, as well as the cryptographic operations performed by the HSMs.*
- *This tier is suitable for mission-critical applications that require enhanced security, compliance, and scalability.*

Tips

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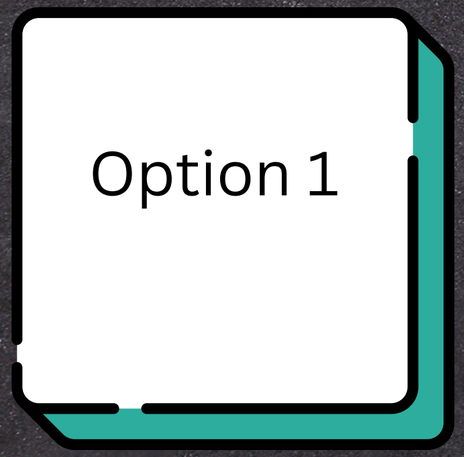
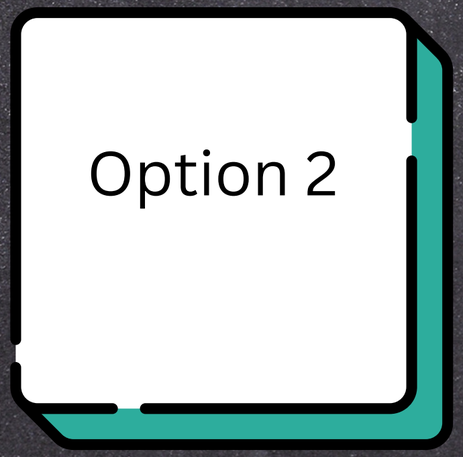
It's important to note that pricing for Azure Key Vault is based on usage, including the number of keys, secrets, and certificates stored, as well as the volume of cryptographic operations performed. Additionally, data transfer costs may apply if you are replicating data across multiple regions or accessing Key Vault from different Azure regions.

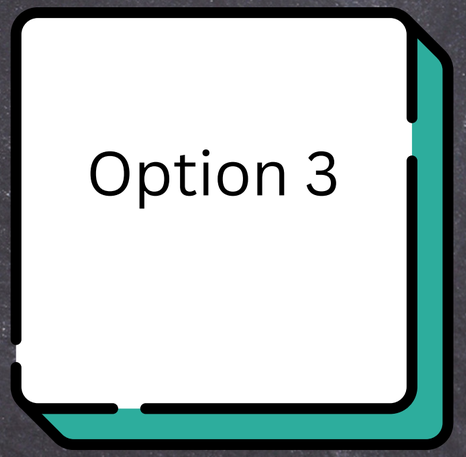
Configuring Authentication for Azure Key Vault



Use Azure AD App Registration



Use Managed Identity



Use Key Vault References

Azure Key Vault References Syntax

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```
# syntax 1
@Microsoft.KeyVault(VaultName=lscaz204vault;SecretName=blobConnectionString; SecretVersion=fsd44a02080254f109c51a1df14cdb2014)
```

```
# syntax 2
@Microsoft.KeyVault(SecretUri=https://lscaz204vault.vault.azure.net/secrets/blobConnectionString/fd44a02080254f109c51a1f14cdb2014)
```

Documents to refer

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Azure CLI & Powershell commands for KeyVault

https://learn.microsoft.com/en-us/azure/key-vault/general/quick-create-powershell

https://learn.microsoft.com/en-us/azure/key-vault/general/quick-create-cli

HANDS ON PRACTICE

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COMPLETE CODE FOR AZ-204 EXAM RELATED AZURE FUNCTIONS ARE AVAILABLE IN THE BELOW LINK

HTTPS://GITHUB.COM/LEARNSMARTCODING/AZURE-AZ204-COMPLETE-COURSE/TREE/MAIN/LSC.AZ204.WEBAPI

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