Cloud Native – Azure

# Azure Kubernetes Service Cluster

A screenshot of a computer

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An overview of the deployments in my AKS cluster.

# Azure Key Vault

A screenshot of a computer

Description automatically generatedA screen shot of a computer code

Description automatically generated

Example of the Azure Key Vault being used in the Content Service code.

# Azure CosmosDB for Postgres Cluster

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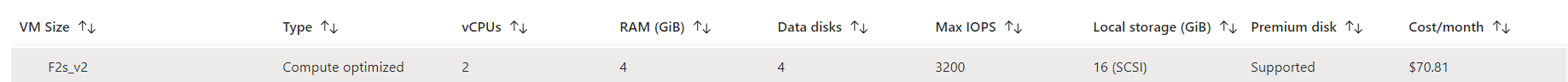
An overview of my databases in Azure.

# Pricings

A screenshot of a graph

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A brief summary of my spendings so far. Most of my spending is going towards the AKS cluster. This one is relatively expensive. As seen in the picture below.



The VM I’m using is roughly 70 dollars a month. And this scales up depending on the amount of node pools.

The databases are about 22.50 dollars a month. And I have three, so that means 67.50 dollars a month.

A screenshot of a phone

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# Monitoring

A number and green tick

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A screenshot of a computer screen

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Azure provides monitoring for the AKS cluster.

A screenshot of a computer

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It also provides monitoring for the database clusters.

# Reasoning

Hosting my services in Azure Kubernetes Service (AKS), Azure Key Vault, and Azure Cosmos DB has several key advantages, especially focusing on centralized management, simplified billing, cost optimization, and enhanced security.

Firstly, AKS allows me to manage my containerized applications from one platform. It can scale automatically and integrates well with other Azure tools, making it easier to handle different workloads. This centralized management reduces the complexity of managing multiple services and simplifies my operations.

Azure Key Vault provides a secure place to store my secrets, passwords, and keys. By keeping all these critical elements in one place, Key Vault makes it easier to manage access controls and improve security. This centralized approach ensures that only authorized users and applications can access sensitive data, making it easier for me to maintain security and compliance.

With Azure Cosmos DB, I can manage different types of data, like documents and graphs, within one service. This unified data management system simplifies my database operations. Cosmos DB’s global distribution capabilities ensure low latency and high availability, enhancing the centralized management of my data.

Another significant benefit of using Azure services is the simplified billing process. By hosting everything within Azure, I receive a single bill for all my services. This unified billing approach makes it easier to track and manage costs, providing a clearer overview of my spending.

Cost optimization is another key advantage. Azure offers tools to monitor my spending and find areas where I can save money. This helps me use resources more efficiently and reduce unnecessary expenses.

Finally, Azure’s integrated security features provide strong protection across all its services. With tools like Microsoft Entra ID and role-based access control, I can manage security policies consistently and centrally. Additionally, Azure’s many compliance certifications help me meet industry regulations more easily, ensuring that my services stay secure and compliant.

By hosting my services in AKS, Azure Key Vault, and Azure Cosmos DB, I benefit from centralized management, simplified billing, cost optimization, and enhanced security, making my operations more efficient and secure.