

Azure Key Vault & API Management



Robert Meyer
FULLSTACK-DEVELOPER

@roeb

Secure your Serverless Services



Best Practices:

- Require HTTPS
- Use Function Keys and never anonymous Functions
- Authorization with OpenID/OAuth
- Restrict CORS
- Disable Remote Debugging
- Managed Identities
- Managing Secrets
- Azure API Management Services

What we look at



Azure API Management Services



Azure Key Vault

Azure Key Vault: What it is



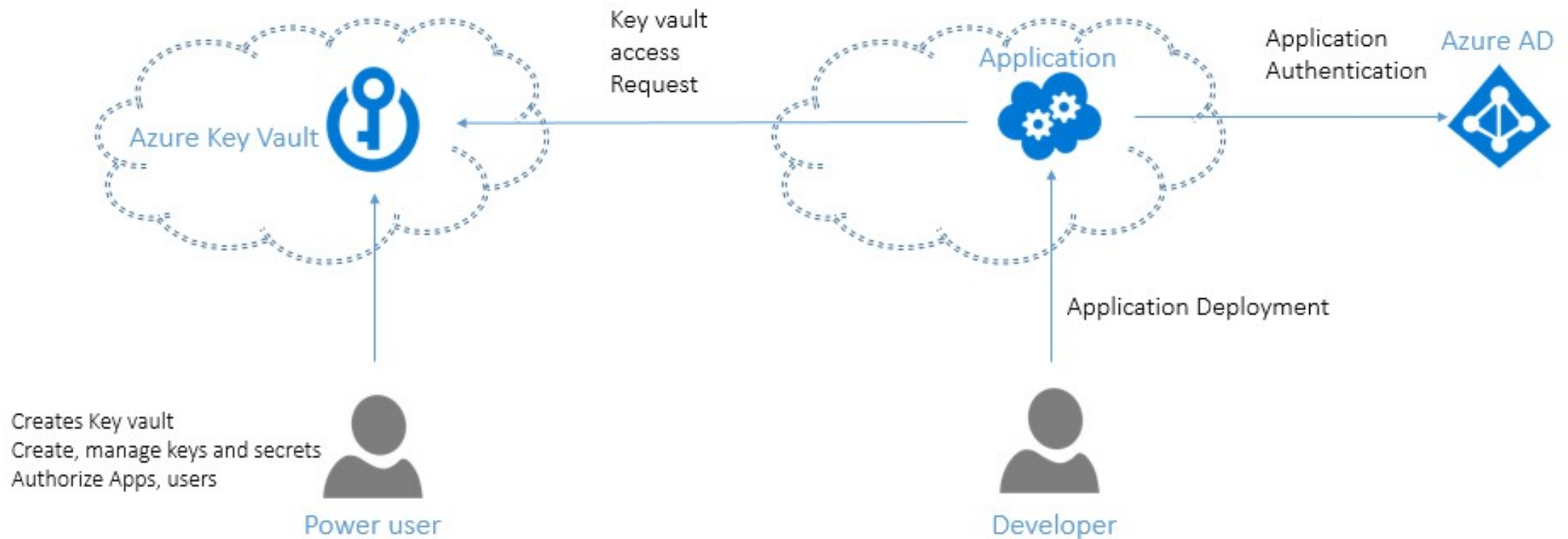
Solve the following problems:

- Secrets Management
- Key Management
- Certificate Management

Features:

- Centralize application secrets
- Monitor access and use
- Simplified administration of application secrets

Azure Key Vault: How it works



Azure Key Vault: What it costs



	Standard	Premium
Secrets operations	€0.026/10,000 transactions	€0.026/10,000 transactions
Certificate operations	Renewals—€2.530 per renewal request. All other operations— €0.026/10,000 transactions	Renewals—€2.530 per renewal request. All other operations— €0.026/10,000 transactions

Standard: Supports only Software Protected Keys and does not support HSM Protected Keys.

Premium: Supports both software and HSM protected keys

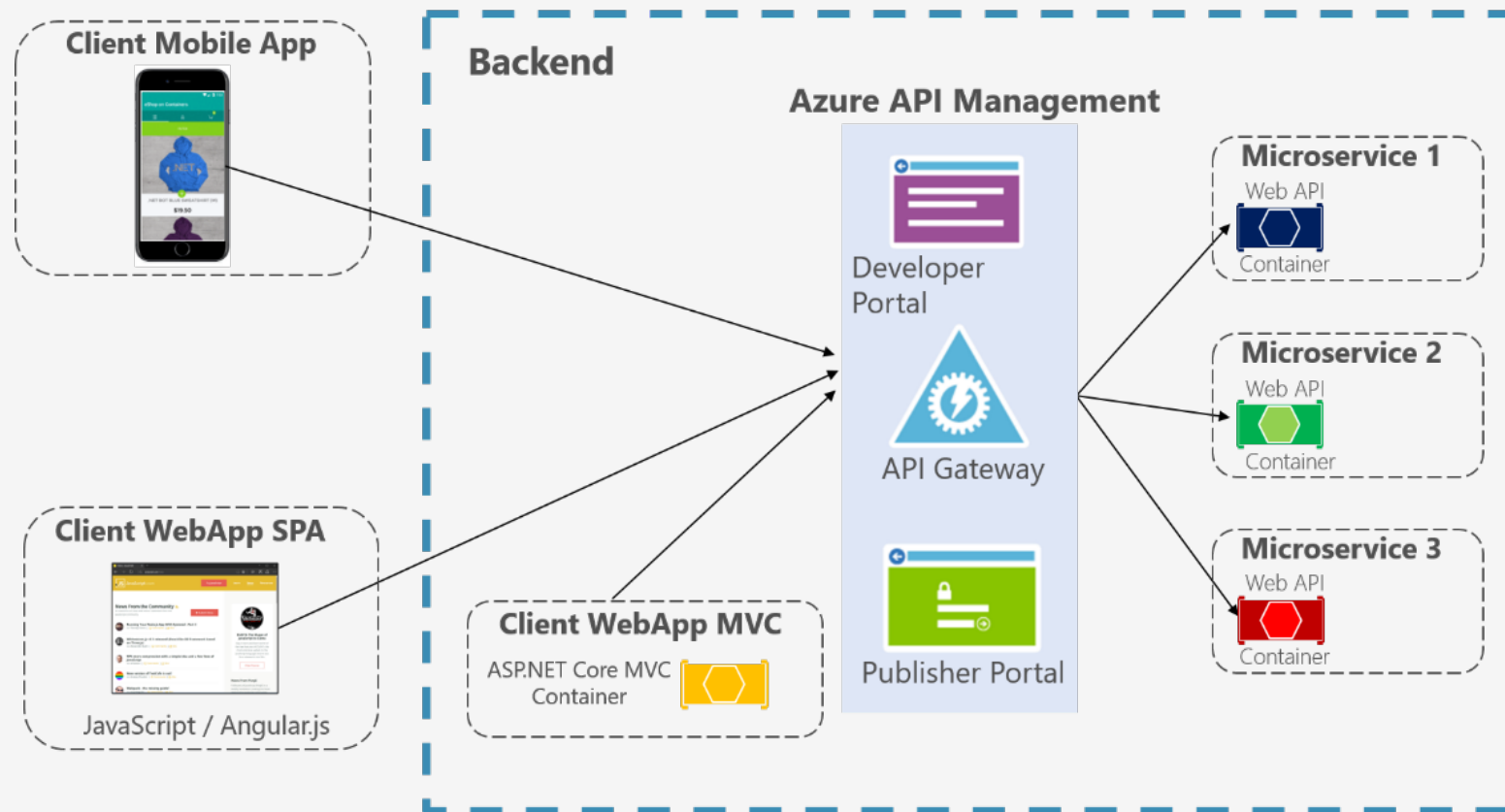
API Management: What it is



- Accept API calls and route them to your backends
- Verifies API Keys, JWT Tokens and certificates
- Enforces usage quotas and rate limits.
- Logs call metadata for analytics purposes.
- Manage Versioning of your APIs

API Management: How it works

API Gateway with Azure API Management Architecture



API Management: Tiers & Costs



Multiple Tiers available:

- Consumption: Lightweight and serverless version of API Management service
- Developer: Non-production use cases and evaluations
- Basic: Entry-level production use cases
- Standard: Medium-volume production use cases
- Premium: High-volume or enterprise production use cases

Costs:

- Consumption: €2.95155 per million calls (1M calls free)
- Plans: €0.06 - €3.23 /hour

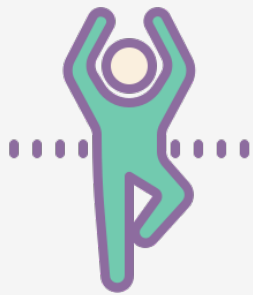
API Management & Key Vault: Demo



Explain Azure Key Vault & API Management in Azure Portal

Use Azure Key Vault with a Azure Function

API Management & KeyVault: Exercise



Secure your Azure Functions with Azure KeyVaults & API Management

In the last exercises you successfully built a solution based on Microsoft Azure Serverless Services. However, sensitive information is stored directly in the AppSettings of the functions and can therefore be viewed by everyone.

The goal in this exercise is to protect sensitive data and to provide it only to authorized persons & applications. We will realize this with the help of the Azure KeyVault. We will also look at how you can protect and control your Azure functions with HTTP triggers using the Azure API Management.

Link: [\[INSERT GITHUB LINK HERE\]](#)