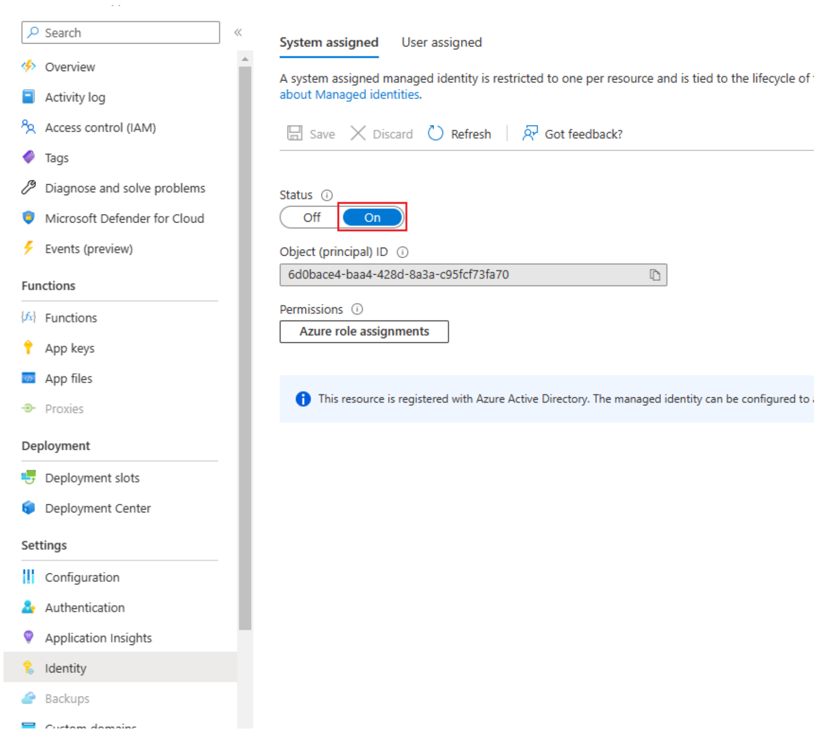
Credential handling with Azure KeyVault

With this option, the secrets for Azure Functions are stored in an Azure Key Vault. An access policy is placed on the Key Vault which only allows the Managed Identity of an Azure Function to read the secret. On the Azure Function side, a Managed Identity is set up as well as an Environment Variable that is linked to the Secret in the Key Vault.

Activate managed identity

To authenticate against the Key Vault you can activate the Managed Identity of your Function App. Thus, permissions can be given to the function app and used within the function.



A system assigned managed identity is restricted to one per resource and is tied to the lifecycle of
about Managed identities.

Status: Off [✓ On]

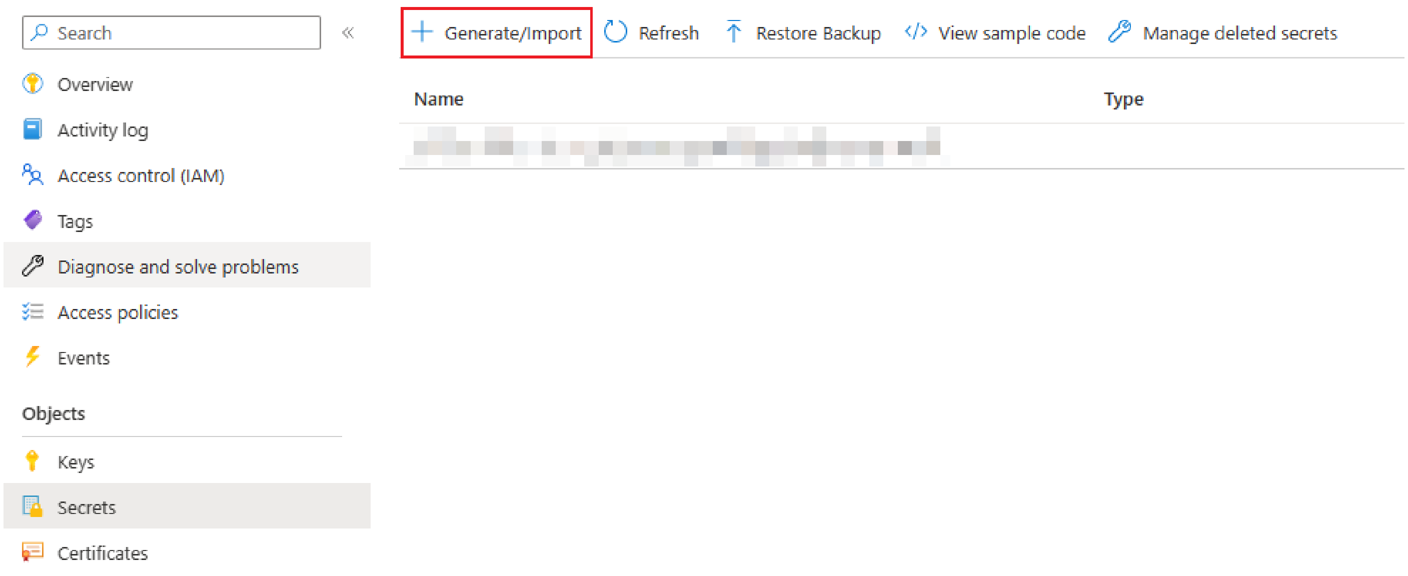
Object (principal) ID: 6d0bace4-baa4-428d-8a3a-c95fcf73fa70

Permissions

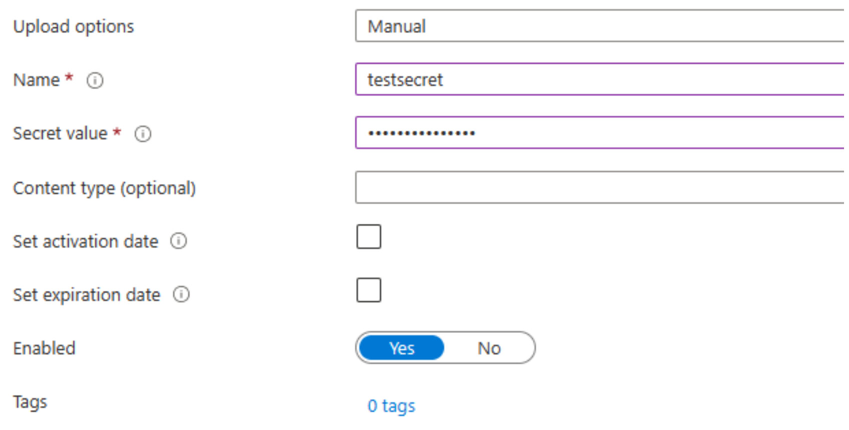
This resource is registered with Azure Active Directory. The managed identity can be configured to

Create new Key Vault Secret

Create a new secret in the key vault and give this secret a unique name. This name will then be used to create a link from the Function App Variable to the Key Vault.



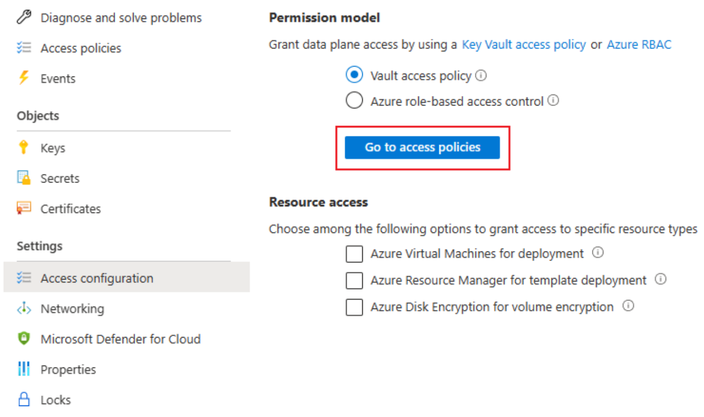
Name	Type
[redacted]	



Upload options	Manual
Name *	testsecret
Secret value *	••••••••••••••••
Content type (optional)	
Set activation date	☐
Set expiration date	☐
Enabled	[✓ Yes] No
Tags	0 tags

Activate access policies

Go to access policies to create a new permission container for the Azure Function.



Permission model

Grant data plane access by using a Key Vault access policy or Azure RBAC

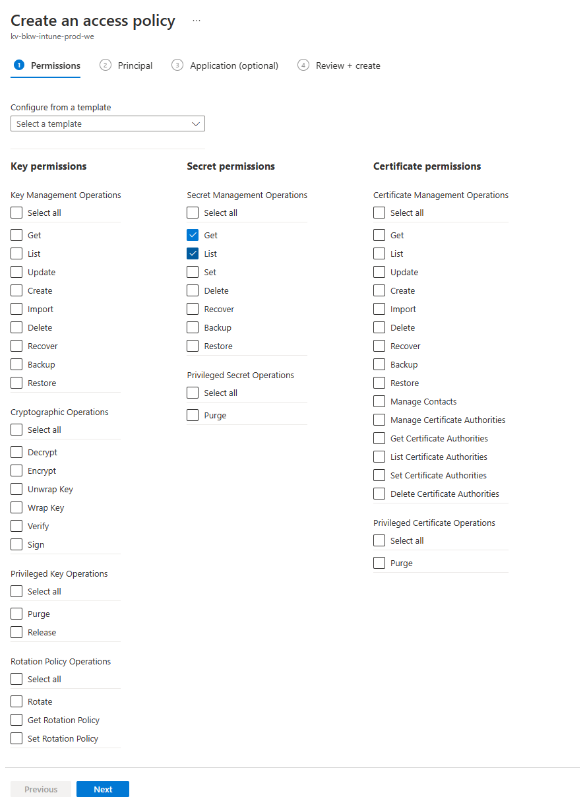
- [✓ Vault access policy]
- Azure role-based access control

Resource access

Choose among the following options to grant access to specific resource types

- ☐ Azure Virtual Machines for deployment
- ☐ Azure Resource Manager for template deployment
- ☐ Azure Disk Encryption for volume encryption

Select the necessary permissions for your function app.


Create an access policy ···
kv-bkw-intune-prod-we

1 Permissions · 2 Principal · 3 Application (optional) · 4 Review + create

Configure from a template
Select a template

Key permissions

Key Management Operations
- ☐ Select all
- ☐ Get
- ☐ List
- ☐ Update
- ☐ Create
- ☐ Import
- ☐ Delete
- ☐ Recover
- ☐ Backup
- ☐ Restore

Cryptographic Operations
- ☐ Select all
- ☐ Decrypt
- ☐ Encrypt
- ☐ Unwrap Key
- ☐ Wrap Key
- ☐ Verify
- ☐ Sign

Privileged Key Operations
- ☐ Select all
- ☐ Purge
- ☐ Release

Rotation Policy Operations
- ☐ Select all
- ☐ Rotate
- ☐ Get Rotation Policy
- ☐ Set Rotation Policy

Secret permissions

Secret Management Operations
- ☐ Select all
- ✓ Get
- ✓ List
- ☐ Set
- ☐ Delete
- ☐ Recover
- ☐ Backup
- ☐ Restore

Privileged Secret Operations
- ☐ Select all
- ☐ Purge

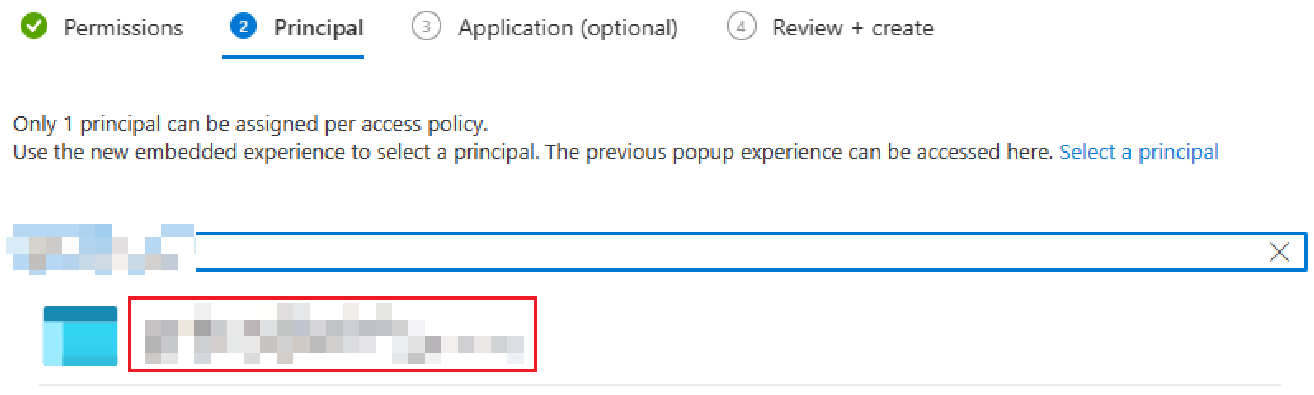
Certificate permissions

Certificate Management Operations
- ☐ Select all
- ☐ Get
- ☐ List
- ☐ Update
- ☐ Create
- ☐ Import
- ☐ Delete
- ☐ Recover
- ☐ Backup
- ☐ Restore
- ☐ Manage Contacts
- ☐ Manage Certificate Authorities
- ☐ Get Certificate Authorities
- ☐ List Certificate Authorities
- ☐ Set Certificate Authorities
- ☐ Delete Certificate Authorities

Privileged Certificate Operations
- ☐ Select all
- ☐ Purge

Previous · Next

Select the appropriate Managed Identity from the function, which was created earlier.


Permissions · 2 Principal · 3 Application (optional) · 4 Review + create

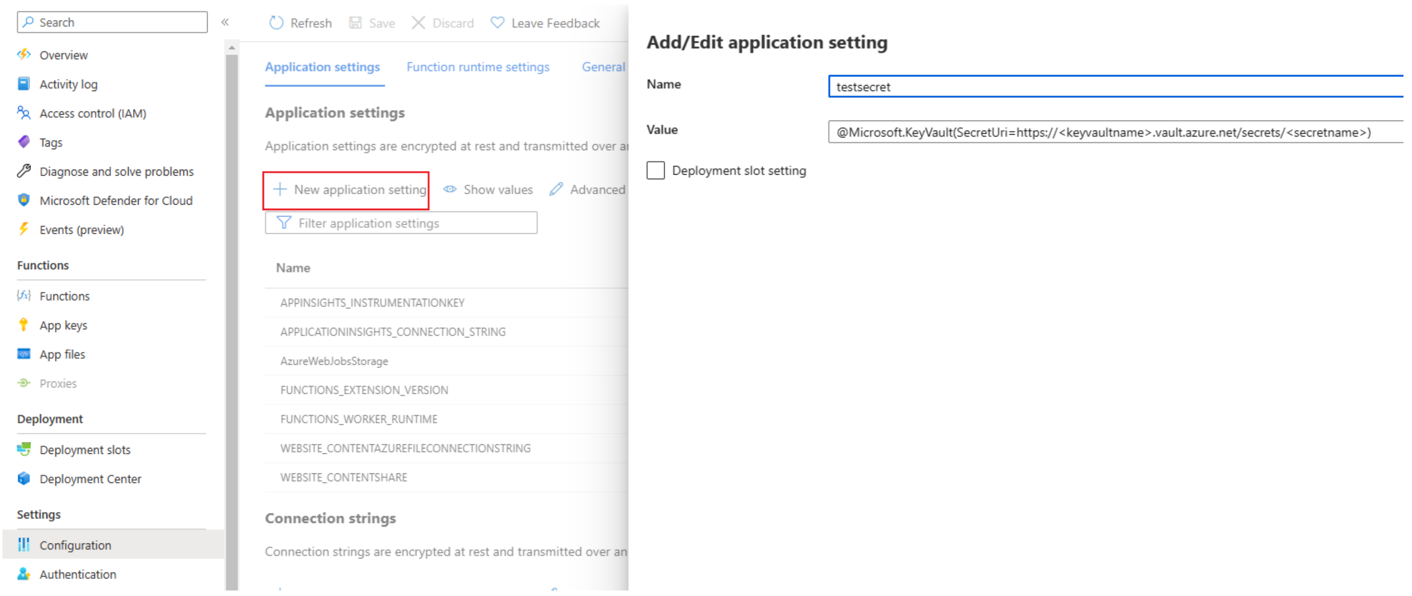
Only 1 principal can be assigned per access policy.
Use the new embedded experience to select a principal. The previous popup experience can be accessed here. Select a principal

[redacted]

[redacted]

Add environment variable link

Then you can get the Key Vault name and secret name. With this information you can create an Application setting which will create an environment variable to use in the Azure Functions code. Set the name of the Environment Variable and create a link to the corresponding secret in the Key Vault.



Application settings

Application settings are encrypted at rest and transmitted over a

Name
APPINSIGHTS_INSTRUMENTATIONKEY
APPLICATIONINSIGHTS_CONNECTION_STRING
AzureWebJobsStorage
FUNCTIONS_EXTENSION_VERSION
FUNCTIONS_WORKER_RUNTIME
WEBSITE_CONTENTAZUREFILECONNECTIONSTRING
WEBSITE_CONTENTSHARE

Connection strings

Connection strings are encrypted at rest and transmitted over an

Add/Edit application setting

Name: testsecret

Value: @Microsoft.KeyVault(SecretUri=https://<keyvaultname>.vault.azure.net/secrets/<secretname>)

@Microsoft.KeyVault(SecretUri=https://<keyvaultname>.vault.azure.net/secrets/<secretname>)

Usage in function code

When everything is implemented as described you can use the variable accordingly:

```
$testsecret = $env:testsecret
```

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