

DevOps and Security – Part Azure DevOps Deployment

Purpose of the project

The purpose of this project is to demonstrate a complete CI/CD pipeline using **Azure DevOps** services. It integrates code versioning with Git, automated build and release pipelines, and secure management of secrets via Azure Key Vault.

The project serves as a practical example of DevOps best practices, ensuring that application code is continuously tested, built, and deployed in a secure and automated manner. Additionally, it illustrates how to use Azure Boards for task tracking and the Wiki for collaborative documentation.

Participants

Person	Responsibilities
Nick Müllner / if23b503 / 42300231	<ul style="list-style-type: none">- Set up or integrate an existing working project- Ensure Git integration (Azure Repository)- Collaborate with Build and Release leads to trigger pipelines- Create Azure Key Vault- Link service connections securely
Sophie Peirl / if23b020 / 11710027	<ul style="list-style-type: none">- Create Azure Build Pipeline- Define build steps (restore, test, build, publish)- Add variables, triggers, and pipeline structure
Rene Rumetshofer / if23b503 / 12322848	<ul style="list-style-type: none">- Set up Azure Release Pipeline- Configure artifact handling and deployment strategy
Ruslan Kotliarenko / if23b064 / 52217547	<ul style="list-style-type: none">- Create the one-pager summary- Define purpose, list team members and their contributions

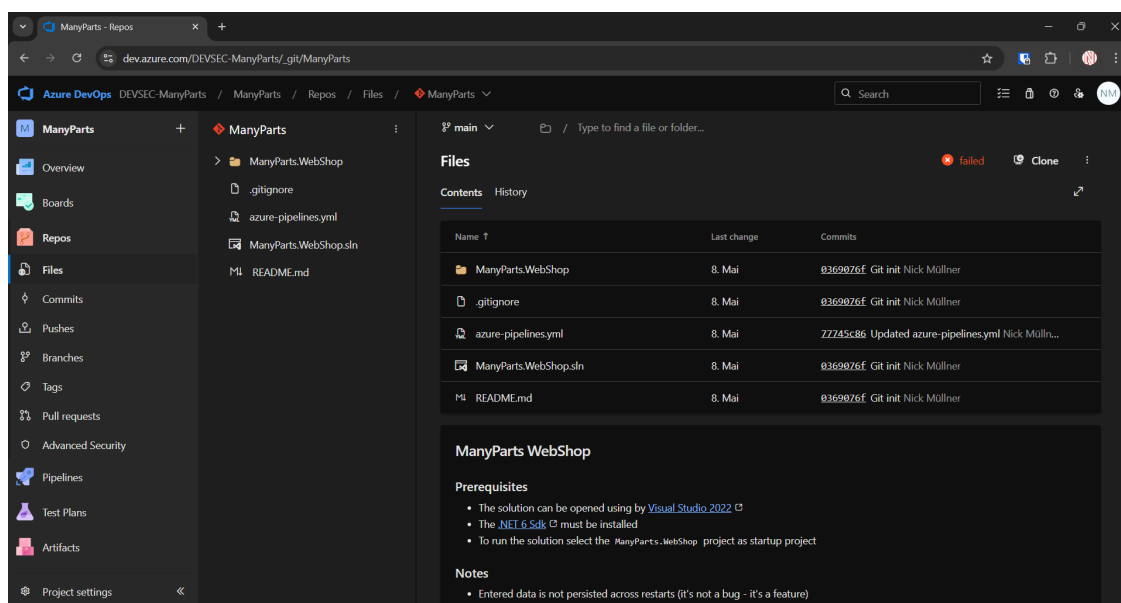
Implementation in Azure DevOps

<https://dev.azure.com/DEVSEC-ManyParts/ManyParts>

<https://portal.azure.com/#@technikum-wien.at/resource/subscriptions/8ede7c1f-0874-4b2e-b3de-3baad7c31c8f/resourceGroups/ManyParts/overview>

<https://learn.microsoft.com/en-us/azure/devops/pipelines/release/azure-key-vault?view=azure-devops&tabs=managedidentity%2Cyaml>

Git Repository



Pipeline

trigger:

- main

pr:

branches:

include:

- main

autoCancel: true

drafts: false

```

pool:
  vmImage: 'windows-latest'

variables:
  solution: '**/*.sln'
  buildPlatform: 'Any CPU'
  buildConfiguration: 'Release'

steps:
- task: AzureKeyVault@2
  displayName: Azure Key Vault
  inputs:
    azureSubscription: 'Azure Connection'
    KeyVaultName: 'ManyParts-KeyVault'
    SecretsFilter: '*'
    RunAsPreJob: false

- task: NuGetToolInstaller@1

- task: NuGetCommand@2
  inputs:
    restoreSolution: '$(solution)'

- task: VSBUILD@1
  inputs:
    solution: '$(solution)'
    msbuildArgs: '/p:DeployOnBuild=true /p:WebPublishMethod=Package /p:Pack
platform: '$(buildPlatform)'
configuration: '$(buildConfiguration)'

- task: VSTest@2
  inputs:
    platform: '$(buildPlatform)'
    configuration: '$(buildConfiguration)'
    codeCoverageEnabled: true

```

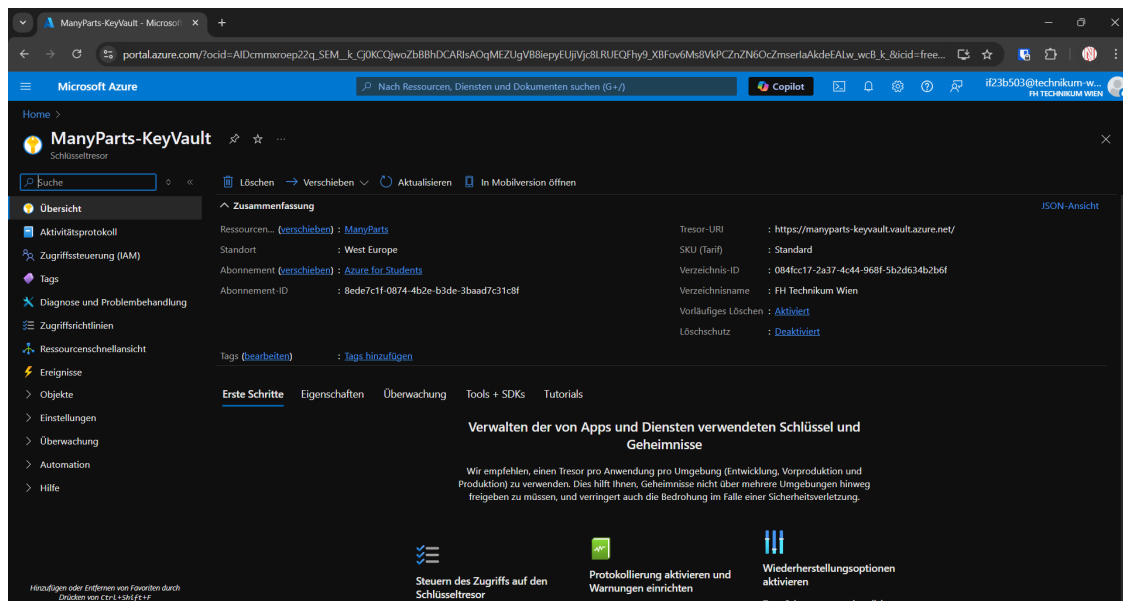
- task: PublishPipelineArtifact@1

inputs:

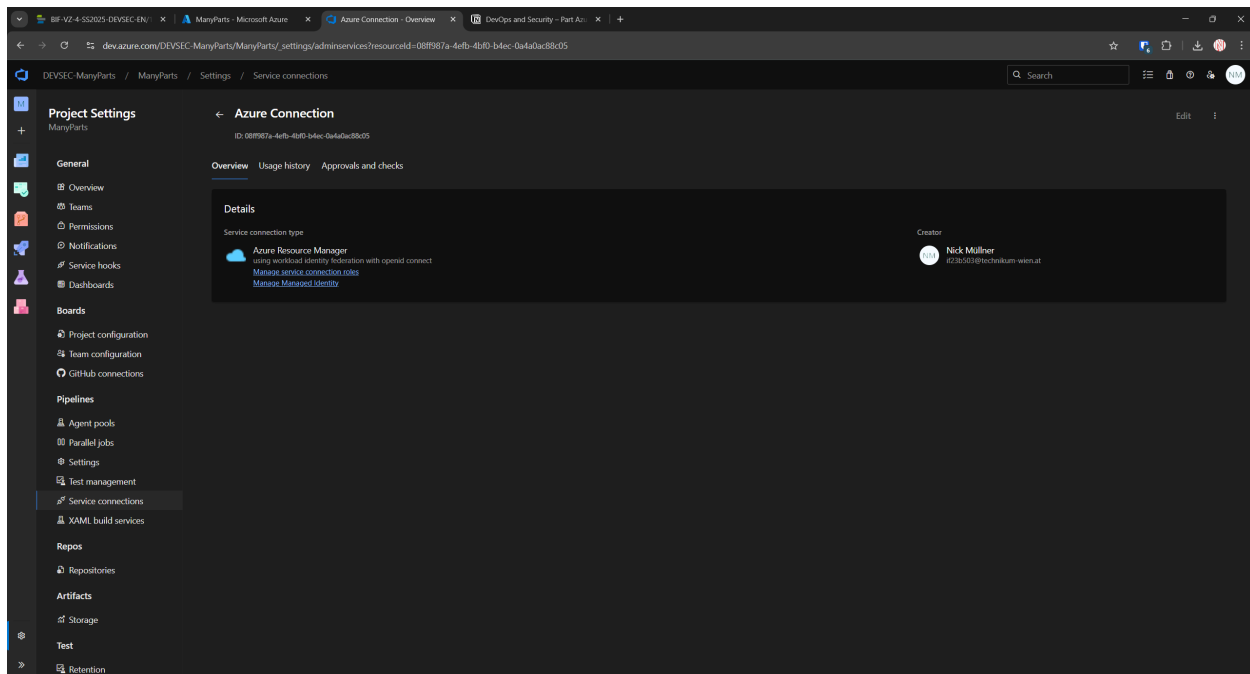
targetPath: \$(build.artifactStagingDirectory)\ManyParts.zip

artifactName: ManyParts

Key Vault



Service connection created:



Running the pipeline

←

Jobs in run #2025052...

ManyParts

Jobs

✓	Job	4m 8s
✓	Initialize job	11s
⌚	Pre-job: Azure Key Vault	2s
✓	Checkout ManyParts...	7s
✓	Azure Key Vault	1s
✓	NuGetToolInstaller	<1s
✓	NuGetCommand	1m 46s
✓	VSBUILD	1m 18s
✓	VSTest	33s
✓	PublishPipelineArtifact	4s
✓	Post-job: Checkout ...	<1s
✓	Finalize Job	<1s
✓	Report build status	<1s

✓ Azure Key Vault

```

1 Starting: Azure Key Vault
2 =====
3 Task : Azure Key Vault
4 Description : Download Azure Key Vault secrets
5 Version : 2.254.0
6 Author : Microsoft Corporation
7 Help : https://docs.microsoft.com/azure/devops/pipelines/tasks/deploy/azure-key-vault
8 =====
9 SubscriptionId: 8ede7c1f-0874-4b2e-b3de-3baad7c31c8f.
10 Key vault name: ManyParts-KeyVault.
11 Downloading secrets using: https://ManyParts-KeyVault.vault.azure.net/secrets?maxresults=25&api-version=2016-10-01.
12 No secrets found in: ManyParts-KeyVault
13 Finishing: Azure Key Vault

```

Released artifacts:

Azure DevOps

DEVSEC-ManyParts / ManyParts / Pipelines / ManyParts / 20250521.2 / Published artifacts

ManyParts

Overview

Boards

Pipelines

Pipelines

Environments

Library

Artifacts

Artifacts

Published

Name	Size
ManyParts	16 MB
ManyParts.zip	16 MB