

AZ - 2001 : Implement Security through a Pipeline using Azure DevOps

Course Outline

Module 1: Configure a Project and Repository Structure to Support Secure Pipelines

Lessons:

- Separate a project into team projects and repositories
- Separate secure files between projects
- Move the security repository away from a project
- Assign project and repository permissions
- Organize a project and repository structure

Module 2: Configure Secure Access to Pipeline Resources

Lessons:

- Identify and mitigate common security threats
- Configure pipeline access to specific agent pools
- Manage secret variables and variable groups
- Secure files and storage
- Configure service connections
- Manage environments
- Secure repositories

Module 3: Manage Identity for Projects, Pipelines, and Agents

Lessons:

- Configure a Microsoft-hosted pool
- Configure agents for projects
- Configure agent identities
- Configure the scope of a service connection
- Convert to a managed identity in Azure DevOps

Module 4: Configure and Validate Permissions

Lessons:

- Configure and validate user permissions
- Configure and validate pipeline permissions
- Configure and validate approval and branch checks
- Manage and audit permissions in Azure DevOps

Module 5: Extend a Pipeline to Use Multiple Templates

Lessons:

- Create nested templates
- Rewrite the main deployment pipeline
- Configure the pipeline and the application to use tokenization
- Remove plain text secrets
- Restrict agent logging
- Identify and conditionally remove script tasks in Azure DevOps

Module 6: Configure Secure Access to Azure Repos from Pipelines

Lessons:

- Configure pipeline access to packages
- Configure credential secrets, and secrets for services
- Ensure that the secrets are in the Azure Key Vault
- Ensure that secrets aren't in the logs

Module 7: Configure Pipelines to Securely Use Variables and Parameters

Lessons:

- Ensure that parameters and variables retain their type
- Identify and restrict insecure use of parameters and variables
- Move parameters into a YAML file that protects their type
- Limit variables that can be set at queue time
- Validate that mandatory variables are present and set correctly in Azure DevOps

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