

AZ 2001- Implement Security Through A Pipeline Using Azure Devops



Days: 1

Prerequisites: Basic knowledge of Azure DevOps. Basic knowledge of security concepts like identities and permissions. Experience using the Azure portal to create resources like Azure Key Vault and set permissions.

Description: This learning path helps you prepare for the Implement security through a pipeline assessment using Azure DevOps. Learn how to configure and secure Azure Pipelines. You'll also get opportunities to practice hands-on skills. These skills include configuring secure access to pipeline resources, configuring, and validating permissions, configuring a project and repository structure, extending a pipeline, configuring pipelines to use variables and parameters securely, and managing identity for projects, pipelines, and agents.

Course Objectives:

- Configure secure access to pipeline resources
- Configure and validate permissions
- Configure a project and repository structure to support secure pipelines
- Extend a pipeline to use multiple templates
- Manage identity for projects, pipelines, and agents

OUTLINE:

LESSON 1 - CONFIGURE A PROJECT AND REPOSITORY STRUCTURE TO SUPPORT SECURE PIPELINES

- Organize project and repository structure
- Configure secure projects and repositories

LESSON 2 - MANAGE IDENTITY FOR PROJECTS, PIPELINES, AND AGENTS

- Configure a Microsoft-hosted pool
- Configure agents for projects
- Configure agent identities
- Configure the scope of a service connection
- Understand and convert to a Managed Identity

LESSON 3 - CONFIGURE SECURE ACCESS TO PIPELINE RESOURCES

- Configure agent pools

- Use secret variables and variable groups
- Understand secure files
- Configure service connections
- Manage environments
- Secure repositories

LESSON 4 - CONFIGURE AND VALIDATE PERMISSIONS

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

LESSON 5 - EXTEND A PIPELINE TO USE MULTIPLE TEMPLATES

- Create a nested template
- Rewrite the main deployment pipeline
- Configure the pipeline and the application to use tokenization

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- Remove plain text secrets
- Restrict agent logging
- Identify and conditionally remove script tasks

LESSON 6 - CONFIGURE SECURE ACCESS TO AZURE REPOS FROM PIPELINES

- Configure pipeline access to packages
- Configure pipeline access to credential secrets
- Configure pipeline access to secrets for services
- Use Azure Key Vault to secure secrets
- Explore and secure log files

7 - CONFIGURE PIPELINES TO SECURELY USE VARIABLES AND PARAMETERS

- Ensure parameter and variable types
- Identify and restrict insecure use of parameters and variables
- Move parameters into a YAML file
- Limit queue time variables
- Validate mandatory variables