

CI/CD with DevOps Pipelines and Azure SQL

New Build Pipeline Steps

- 1) Source = TFCV/Git
- 2) Start with an Empty Job
- 3) Add Agent Tasks
 - i) Add VSBuild Task
 - (1) Select SLN/Solution File from your Repo
 - (2) Set MSBuild Arguments for SQLPackage
 - (3) Platform – Any cpu
 - (4) Config – release
 - ii) Add Copy Files Task
 - (1) DisplayName - Copy Files to: \$(build.artifactstagingdirectory)
 - (2) Source Folder - \$/SQL Server/DatabaseProjects/DevOpsDemo/AWLT
 - (3) Contents - **\bin**
 - (4) Target Folder - \$(build.artifactstagingdirectory)
 - iii) Add Publish Build Artifact
 - (1) Display Name - Publish Artifact: AW_LT
 - (2) Path to Publish: \$(Build.ArtifactStagingDirectory)
 - (3) Artifact Name: AW_LT
 - (4) Artifact publish location: Azure Pipelines

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New Release Pipeline Steps

- 1) Add Artifact (input)
 - a) Select Project
 - b) Select Source
 - c) Default version – Latest
 - d) Source Alias – leave
- 2) Add Stage
 - a) Rename Stage to Prod
 - b) Add Empty Job
 - c) Click 1 Job, 0 Tasks
 - d) Edit Job Properties, under Demands, add sqlpackage/exists
 - e) Add Tasks to Agent Job
 - i) Select Azure SQL DacPac Task – blue cloud
 - ii) Set Task properties
 - (1) Azure subscription
 - (2) Auth Type – SQL
 - (3) SQL Server - insyncva.database.windows.net
 - (4) Database – use variable
 - (5) Login – use variable
 - (6) Password – use variable
 - (7) Deploy Type- SQL DacPac file
 - (8) Action – Publish
 - (9) DacPac File – browse to dacpac
 - (10) Publish Profile – empty
 - (11) Additional SqlPackage.exe Arguments
 - (a) /p:DatabaseEdition=Basic is the Product SKU

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Variables

Variables are useful when you create many pipelines, pipelines via automation or via YAML

The screenshot shows the 'Variables' tab in the Azure DevOps interface for a pipeline named 'AdventureWorks Deploy'. The 'Variables' tab is highlighted with a red circle. On the left sidebar, 'Pipeline variables' is selected. The main area displays a table of variables with columns for Name, Value, and Scope. A '+ Add' button is circled in red at the bottom left of the table.

Name	Value	Scope
DatabaseName_Dev	AWLT_Dev	Release
DatabaseName_Prod	AWLT_Prod	Release
DatabaseName_QA	AWLT_QA	Release
DatabaseUserName	sqladmin	Release
DatabaseUserPassword	*****	Release

The list of pre-defined pipeline variables is here:

<https://docs.microsoft.com/en-us/azure/devops/pipelines/build/variables?view=azure-devops&tabs=yaml>

The most common variable is \$(build.artifactstagingdirectory)

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CI/CD Trigger

The Trigger lives on the Release Pipeline Artifact

All pipelines > AdventureWorks Deploy

Save Create release View releases

Pipeline Tasks Variables Retention Options History

Artifacts | + Add

AdventureWorks Lite

Schedule not set

Stages | + Add

QA
1 job, 1 task

Prod
1 job, 1 task

Dev
1 job, 1 task

Continuous deployment trigger

Build: AdventureWorks Lite

☒ Enabled

Creates a release every time a new build is available.

Build branch filters ⓘ

No filters added.

+ Add

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Pre-Post Deployment Approvals – Sends an Email

Pipeline Tasks Variables Retention Options History

Artifacts | + Add

Stages | + Add

QA
1 job, 1 task

Prod
1 job, 1 task

Dev
1 job, 1 task

Pre-deployment conditions

QA

Triggers
Define the trigger that will start deployment to this stage

Pre-deployment approvals
Select the users who can approve or reject deployments to this stage

Enabled

Approvers
george walkey

Timeout
30 Days

Approval policies

- ☐ The user requesting a release or deployment should not approve it
- ☐ Revalidate identity of approver before completing the approval.
- ☐ Skip approval if the same approver approved the previous stage