

## 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

## CI/CD with DevOps Pipelines and Azure SQL

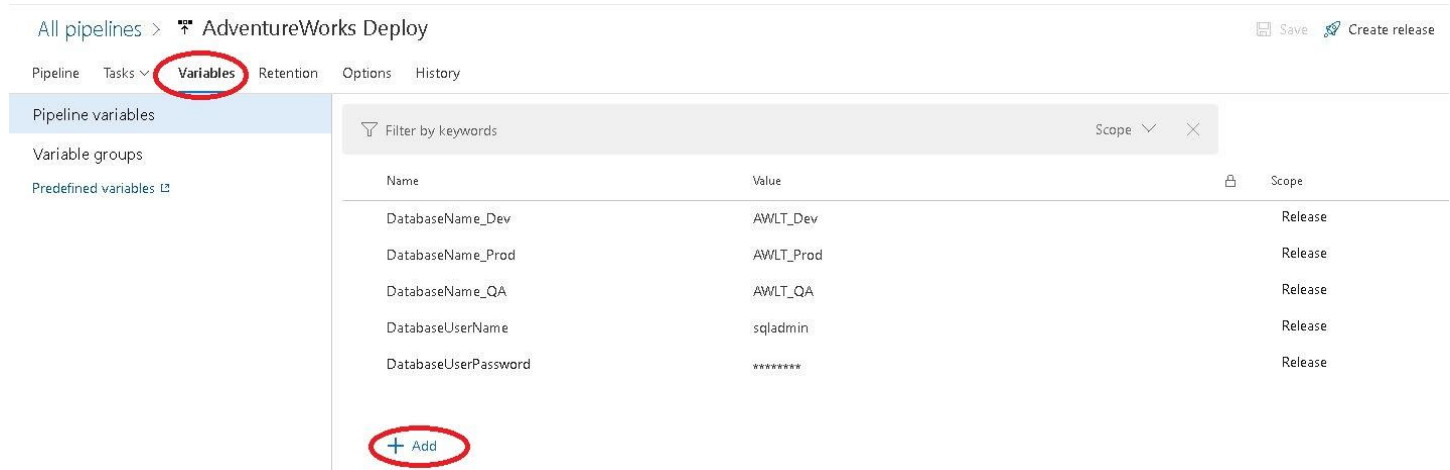
### New Release Pipeline Steps

- 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

# CI/CD with DevOps Pipelines and Azure SQL

## Variables

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



The screenshot shows the Azure DevOps interface for the 'AdventureWorks Deploy' pipeline. The 'Variables' tab is selected and circled in red. The page displays a list of pipeline variables with the following columns: Name, Value, and Scope. The variables listed are:

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

The '+ Add' button at the bottom of the list is also circled in red.

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)

# CI/CD with DevOps Pipelines and Azure SQL

## 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

# CI/CD with DevOps Pipelines and Azure SQL

## 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

### **Build Pipeline – Arguments**

#### **MSBuild arguments**

```
/p:DeployOnBuild=true  
/p:WebPublishMethod=Package  
/p:PackageAsSingleFile=true  
/p:SkipInvalidConfigurations=true  
/p:PackageLocation="$(build.artifactstagingdirectory)\\"  
/p:DropObjectsNotInSource=false
```

#### **Copy File Task Args**

Display Name: Copy Files to: \$(build.artifactstagingdirectory)  
Contents: \*\*\bin\\*\*  
Target Folder: \$(build.artifactstagingdirectory)

#### **Publish Build Artifact Args**

Display Name: Publish Artifact: AW\_LT  
Path To Publish: \$(Build.ArtifactStagingDirectory)  
Artifact Name: AW\_LT  
Artifact publish location: Azure Pipelines

## CI/CD with DevOps Pipelines and Azure SQL

### **Release Pipeline – DacPac Task Args**

Azure Sub - pick your subscription

Azure SQL Server: sqlservername.database.windows.net

Database: \$(DatabaseName\_Prod)

Login: \$(DatabaseUserName)

Password: \$(DatabaseUserPassword)