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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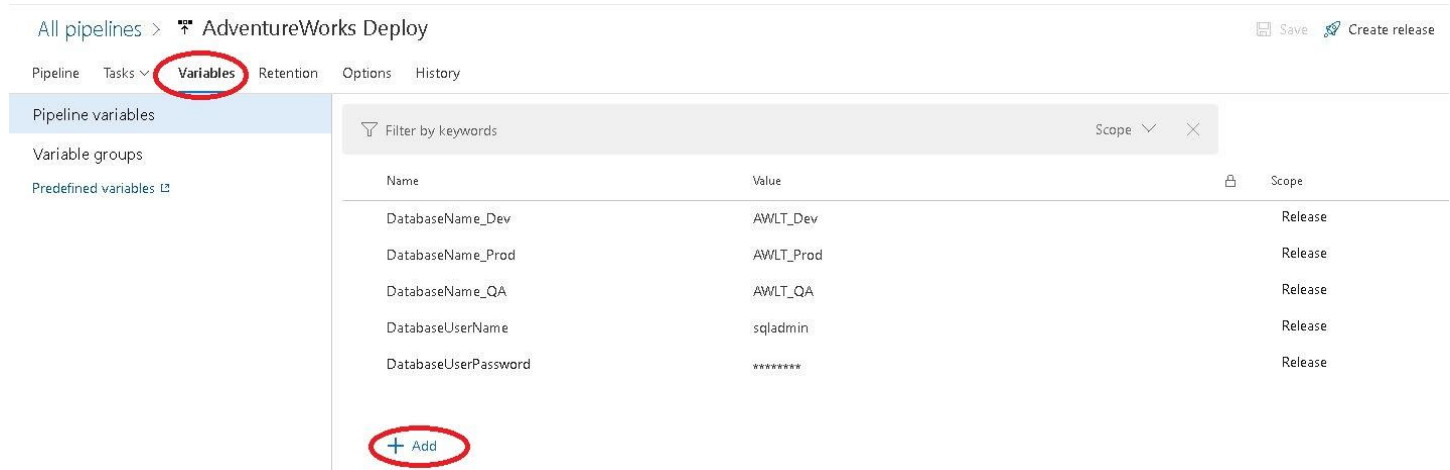
New Release Pipeline Steps
1) Add Artifact (input)
   a) Select Project
   b) Select Source
   c) Default version – Latest
   d) Source Alias – leave
2) Add Stage
   a) Rename Stage to Prod
   b) Add Empty Job
   c) Click 1 Job, 0 Tasks
   d) Edit Job Properties, under Demands, add sqlpackage/exists
   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 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 Trigger

The Trigger lives on the Release Pipeline Artifact

Pre-Post Deployment Approvals – Sends an Email

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

Release Pipeline – DacPac Task Args

Azure Sub - pick your subscription

Azure SQL Server: sqlservername.database.windows.net

Database: $(DatabaseName_Prod)

Login: $(DatabaseUserName)

Password: $(DatabaseUserPassword)