

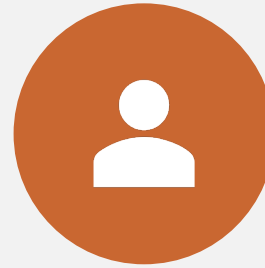
# AZURE DEVOPS

Pipeline for ACR build

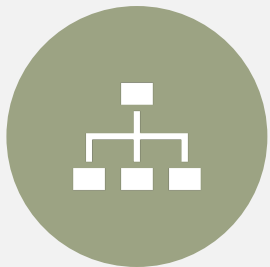
# PREREQUISITIES



A GitHub account, where you can create a repository.



An Azure DevOps organization



If your team already has one, then make sure you're an administrator of the Azure DevOps project that you want to use.



An Azure account

# WHAT IS IT ACR BUILD PIPELINE

- Declarative yaml
- description of build stage in Azure DevOps
- Main description:
  - command: buildAndPush
  - repository: \$(imageRepository)
  - dockerfile: \$(dockerfilePath)
  - containerRegistry:  
\$(dockerRegistryServiceConnection)
  - tags:

## YAML

```
- stage: Build
  displayName: Build and push stage
  jobs:
  - job: Build
    displayName: Build job
    pool:
      vmImage: $(vmImageName)
    steps:
    - task: Docker@2
      displayName: Build and push an image to container registry
      inputs:
        command: buildAndPush
        repository: $(imageRepository)
        dockerfile: $(dockerfilePath)
        containerRegistry: $(dockerRegistryServiceConnection)
        tags: |
          $(tag)
```

# DOCKER TASK

Key benefits of using Docker task :

**Integration with Docker registry service connection** - The task makes it easy to use a Docker registry service connection for connecting to any container registry. Once logged in, the user can author follow-up tasks to execute any tasks/scripts by leveraging the login already done by the Docker task. For example, you can use the Docker task to sign into any Azure Container Registry and then use a subsequent task/script to build and push an image to this registry.

YAML

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```
- task: Docker@2
  displayName: Login to ACR
  inputs:
    command: login
    containerRegistry: dockerRegistryServiceConnection1
```

# DOCKER TASK

Key benefits of using Docker task :

- **Metadata added as labels** - The task adds traceability related metadata to the image in the form of the following labels -
- com.azure.dev.image.build.repository.uri
- com.azure.dev.image.build.repository.name
- com.azure.dev.image.build.sourcebranchname
- com.azure.dev.image.build.sourceversion
- com.azure.dev.image.system.teamfoundationcollectionuri
- com.azure.dev.image.system.teamproject
- com.azure.dev.image.build.definitionname
- com.azure.dev.image.build.buildnumber
- com.azure.dev.image.build.requestedfor

YAML

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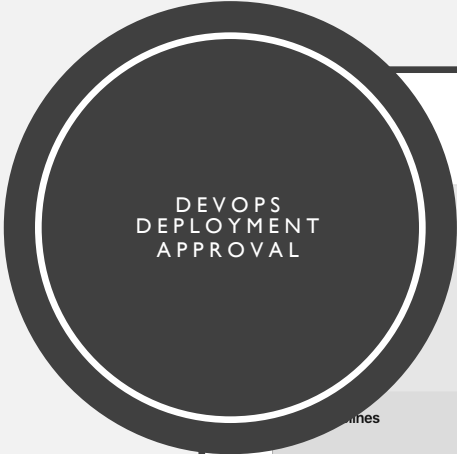
```
steps:
- task: Docker@2
  displayName: Build and Push
  inputs:
    command: buildAndPush
    containerRegistry: dockerRegistryServiceConnection1
    repository: contosoRepository
    tags: |
      tag1
      tag2
```

# ACR BUILD

- **ACR Tasks** is a suite of features within Azure Container Registry. It provides cloud-based container image building for platforms including Linux, Windows, and ARM, and can automate OS and framework patching for your Docker containers. ACR Tasks not only extends your "inner-loop" development cycle to the cloud with on-demand container image builds, but also enables automated builds triggered by source code updates, updates to a container's base image, or timers.

```
ws-kv-cp3089:acr-build-helloworld-node leonid.chetverikov$ az acr run
--registry myContainerRegistrylch008 --file quickrun.yaml .
Packing source code into tar to upload...
Excluding '.git' based on default ignore rules
Uploading archived source code from '/var/folders/4l/drgmrvpx3dv2nzrlc
c_ky79hkdq1y1/T/run_archive_5f9023ffe52642cb88170b9c5f7d4daf.tar.gz'..
.
Sending context (4.506 KiB) to registry: myContainerRegistrylch008...
Queued a run with ID: ca2
Waiting for an agent...
2019/12/11 03:44:19 Downloading source code...
2019/12/11 03:44:20 Finished downloading source code
2019/12/11 03:44:21 Creating Docker network: acb_default_network, driv
er: 'bridge'
2019/12/11 03:44:21 Successfully set up Docker network: acb_default_ne
twork
2019/12/11 03:44:21 Setting up Docker configuration...
2019/12/11 03:44:22 Successfully set up Docker configuration
2019/12/11 03:44:22 Logging in to registry: mycontainerregistrylch008.
```

```
ac-build-helloworld-node — vi quickrun.yaml — 70x20
Steps:
- cmd: mycontainerregistrylch008.azurecr.io/sample/hello-world:v1
```



Builds

Releases

Library

Task groups

Deployment groups

Test Plans

Artifacts

Project settings

LChetverikov / msworkshop / Pipelines / Releases

Search

Save Create release View releases

All pipelines > New release pipeline

Pipeline

Tasks

Variables

Retention

Options

History

Artifacts | + Add

+ Add an artifact

Schedule not set

Stages | + Add

K8s dev

1 job, 0 task

K8s prod

1 job, 0 task

Post-deployment conditions

K8s dev

Post-deployment approvals

Enabled

Select the users who can approve or reject deployments to this stage

Approvers

Search users and groups for approvers

Enter at least one approver.

Timeout

30 Days

Approval policies

The user requesting a release or deployment should not approve it

Gates

Define gates to evaluate after the deployment. Learn more

Disabled

Auto-redeploy trigger

Configure the events that trigger automated redeployment.

Disabled



## PRACTICAL TASK

- <https://docs.microsoft.com/en-us/azure/container-registry/container-registry-quickstart-task-cli>
- <https://docs.microsoft.com/en-us/azure/devops/pipelines/ecosystems/java-webapp?view=azure-devops&tabs=java-tomcat>
- <https://aksworkshop.io/#devops>