# Dynamische Pipeline Tasks (Draft)

tekton.dev/v1beta1Idee/Entwurf für frei konfigurierbare Pipeline Tasks/Steps/Actions (→ analog GitHub Actions) innerhalb der ESTA Tekton Standard Pipelines.

# Anforderungen

Abnehmer von ESTA Tekton sollen einfach die standardisierten Pipelines via estaTektonPipeline.json um weitere Tasks erweitern können, ohne eine Custom Pipeline selbst bauen und pflegen zu müssen.

ESTA pflegt eine Palette von Tekton Tasks für unterschiedliche Funktionen, die nicht zum Standard Buildprozess gehören. Abnehmer können zudem eigene Tekton Tasks erstellen und über ein [Custom Template Repository](file:///C:\display\CLEW\Advanced+Topics#AdvancedTopics-ImportCustomPipelinesfromyourownRepository) in ihrem Build Namespace verfügbar machen.

Die Tasks können an beliebiger Stelle in die Pipeline eingehängt werden (→ runAfter/runBefore).

# Beispiel (S3 Push)

## Tekton Task Definition

Inspired by <https://hub.tekton.dev/tekton/task/aws-cli>

**esta-s2-push.yaml**

apiVersion: tekton.dev/v1beta1

kind: Task

metadata:

name: esta-s3-push

spec:

description: |

This task can push files from the workspace directory to a given S3 bucket

params:

- name: BUCKET\_URL

description: URL to destination bucket and subdirectory (e.g. s3://bucket-name/subdir)

- name: SOURCE\_DIR

description: Source directory for files to push

- name: GLOB\_PATTERN

description: Glob pattern for files to push from SOURCE\_DIR

default: '\*'

- name: AWS\_DEFAULT\_REGION

description: AWS region

default: us-east-1

- name: AWS\_CREDENTIALS\_SECRET

description: |

Secret name to read AWS credentails from.

Must contain entries named AWS\_ACCESS\_KEY\_ID and AWS\_SECRET\_ACCESS\_KEY

workspaces:

- name: source

- name: env-vars

optional: true

steps:

- name: push

image: remote.docker.bin.sbb.ch/amazon/aws-cli:2.0.5

workingDir: $(workspaces.source.path)

env:

- name: AWS\_DEFAULT\_REGION

value: $(params.AWS\_DEFAULT\_REGION)

- name: AWS\_ACCESS\_KEY\_ID

valueFrom:

secretKeyRef:

name: $(params.AWS\_CREDENTIALS\_SECRET)

key: AWS\_ACCESS\_KEY\_ID

- name: AWS\_ACCESS\_KEY\_ID

valueFrom:

secretKeyRef:

name: $(params.AWS\_CREDENTIALS\_SECRET)

key: AWS\_SECRET\_ACCESS\_KEY

script: |

aws s3 cp $(params.SOURCE\_DIR)/$(params.GLOB\_PATTERN) $(params.BUCKET\_URL)/

## Action in estaTektonPipeline.json

**estaTektonPipeline.json**

{

"$schema": "https://clew-resources.sbb-cloud.net/tekton-schema.json",

...

"pipelines": [

{

"name": "release",

"triggerType": ["GITEVENT"],

"versionTagEventPatterns": "^(\\d+\\.)(\\d+\\.)(\\\*|\\d+)",

"build": {

},

"tasks": [

{

"name": "s3-push",

"taskRef": "esta-s3-push",

"params": {

"BUCKET\_URL": "s3://test-bucket/static-www",

"SOURCE\_DIR": "./dist",

"AWS\_DEFAULT\_REGION": "us-east-1",

"AWS\_CREDENTIALS\_SECRET": "pipeline-env-aws-credentails"

},

"runAfter": "quality-gate-check",

"runBefore": "helm-package-deploy"

}

]

}

]

}

→ per Template Modifier wird folgendes ins Pipelinerun Template eingefügt:

- kind: PipelineRun

...

spec:

params:

...

- name: S3\_PUSH\_BUCKET\_URL

value: ${S3\_PUSH\_BUCKET\_URL}

- name: S3\_PUSH\_SOURCE\_DIR

value: ${S3\_PUSH\_SOURCE\_DIR}

- name: S3\_PUSH\_AWS\_DEFAULT\_REGION

value: ${S3\_PUSH\_AWS\_DEFAULT\_REGION}

- name: S3\_PUSH\_AWS\_CREDENTIALS\_SECRET

value: ${S3\_PUSH\_AWS\_CREDENTIALS\_SECRET}

pipelineSpec:

params:

...

- name: S3\_PUSH\_BUCKET\_URL

- name: S3\_PUSH\_SOURCE\_DIR

- name: S3\_PUSH\_AWS\_DEFAULT\_REGION

- name: S3\_PUSH\_AWS\_CREDENTIALS\_SECRET

tasks:

...

- name: helm-package-deploy

...

runAfter:

...

- s3-push

# injected task from json action

- name: s3-push

taskRef:

name: esta-s3-push

runAfter:

- quality-gate-check

params:

- name: BUCKET\_URL

value: $(params.S3\_PUSH\_BUCKET\_URL)

- name: SOURCE\_DIR

value: $(params.S3\_PUSH\_SOURCE\_DIR)

- name: AWS\_DEFAULT\_REGION

value: $(params.S3\_PUSH\_AWS\_DEFAULT\_REGION)

- name: AWS\_CREDENTIALS\_SECRET

value: $(params.S3\_PUSH\_AWS\_CREDENTIALS\_SECRET)

workspaces:

- name: source

workspace: pipeline-workspace

- name: env-vars

workspace: pipeline-env

parameters:

...

- name: S3\_PUSH\_BUCKET\_URL

type: string

- name: S3\_PUSH\_SOURCE\_DIR

type: string

- name: S3\_PUSH\_AWS\_DEFAULT\_REGION

type: string

- name: S3\_PUSH\_AWS\_CREDENTIALS\_SECRET

type: string

## Konventionen für Tasks

* Definiert genau einen Workspace mit den Namen "source"
* Akzeptiert nur Parameter vom type: string