Lab 28 : CICD

```
apiVersion: argoproj.io/v1alpha1

kind: WorkflowTemplate

metadata:

  name: cicd-workflow-template

  namespace: argo

  annotations:

    workflows.argoproj.io/description: |

      This workflow is implementing CICD for simple GO API.

spec:

  serviceAccountName: training


  arguments:

    parameters:

      - name: branch

        value: main

      - name: dockerRepo

        value: docker.io/amitow/argo-workflows:1.0.0


  entrypoint: main


  podGC:

    strategy: OnPodSuccess


  volumeClaimTemplates:

    - metadata:

        name: work

      spec:
```

```yaml
    storageClassName: manual  # Specify your StorageClass name here
    accessModes: [ ReadWriteOnce ]
    resources:
     requests:
      storage: 64Mi


templates:
 - name: main
   dag:
    tasks:
     - name: clone
       template: clone
     - name: deps
       template: deps
       dependencies:
        - clone
     - name: build
       template: build
       dependencies:
        - deps
     - name: docker-build
       template: docker-build
       dependencies:
        - build
     - name: create-config
       template: create-config-k8s
       dependencies:
        - docker-build
     - name: create-secret
       template: create-secret-k8s
       dependencies:
```

```yaml
          - docker-build
      - name: deploy
        template: deploy
        dependencies:
          - create-config
          - create-secret


  - name: clone
    container:
      volumeMounts:
        - mountPath: /go/src/github.com/go-api
          name: work
          subPath: src
        - mountPath: /go/pkg/mod
          name: work
          subPath: GOMODCACHE
        - mountPath: /root/.cache/go-build
          name: work
          subPath: GOCACHE
      image: golang:1.18
      workingDir: /go/src/github.com/go-api
      command: [ sh, -euxc ]
      args:
        - |
          git clone -v -b "{{workflow.parameters.branch}}" --single-branch --depth 1
https://github.com/adnanselimovic-abh/go-api.git .


  - name: deps
    container:
      image: golang:1.18
      volumeMounts:
```

```yaml
        - mountPath: /go/src/github.com/go-api
          name: work
          subPath: src
        - mountPath: /go/pkg/mod
          name: work
          subPath: GOMODCACHE
        - mountPath: /root/.cache/go-build
          name: work
          subPath: GOCACHE
      workingDir: /go/src/github.com/go-api
      command: [ sh, -xuce ]
      args:
        - |
          go mod tidy


  - name: build
    container:
      image: golang:1.18
      volumeMounts:
        - mountPath: /go/src/github.com/go-api
          name: work
          subPath: src
        - mountPath: /go/pkg/mod
          name: work
          subPath: GOMODCACHE
        - mountPath: /root/.cache/go-build
          name: work
          subPath: GOCACHE
      workingDir: /go/src/github.com/go-api
      command: [ sh, -xuce ]
      args:
```

```yaml
        - |
          CGO_ENABLED=0 go build main.go


  - name: docker-build
    volumes:
      - name: docker-config
        secret:
          secretName: docker-config
    container:
      image: moby/buildkit:v0.9.3-rootless
      volumeMounts:
        - mountPath: /go/src/github.com/go-api
          name: work
          subPath: src
        - name: docker-config
          mountPath: /.docker
      workingDir: /go/src/github.com/go-api
      env:
        - name: BUILDKITD_FLAGS
          value: --oci-worker-no-process-sandbox
        - name: DOCKER_CONFIG
          value: /.docker
      command:
        - buildctl-daemonless.sh
      args:
        - build
        - --frontend
        - dockerfile.v0
        - --local
        - context=.
        - --local
```

```yaml
            - dockerfile=docker/
            - --output
            - type=image,name={{workflow.parameters.dockerRepo}},push=true
          securityContext:
            privileged: true


    - name: create-config-k8s
      resource:
        action: apply
        manifest: |
          apiVersion: v1
          kind: ConfigMap
          metadata:
            name: go-api-config
            namespace: go-api
          data:
            branch: {{workflow.parameters.branch}}


    - name: create-secret-k8s
      resource:
        action: apply
        manifest: |
          apiVersion: v1
          kind: Secret
          type: Opaque
          metadata:
            name: go-api-secret
            namespace: go-api
          data:
            username: YWRtaW4=
```

```yaml
- name: deploy
  container:
    image: dtzar/helm-kubectl:3.9
    volumeMounts:
      - mountPath: /go/src/github.com/go-api-helm
        name: work
        subPath: src
    workingDir: /go/src/github.com/go-api-helm
    command: [ sh, -xuce ]
    args:
      - |
        [ ! -d "go-api-helm" ] && git clone -v -b "{{workflow.parameters.branch}}" --single-branch --depth 1 https://github.com/adnanselimovic-abh/go-api-helm.git
        cd go-api-helm
        helm upgrade --install atlantbh . --namespace go-api --set image.tag=1.0.0
```