

# Group Project ArgoCD Deployment

*What is happening, step-by-step.*

## 1. Starting with Backstage

A developer selects a Building Block template, fills in parameters (names, realm settings, namespaces, etc.), and Backstage generates a new repository with a consistent structure.

**Keycloak Authentication Building Block**  
Deploy a preconfigured Keycloak instance and publish to your GitHub

1 Keycloak config      2 App repository (your GitHub)      3 GitOps (Argo CD)      4 Review

Realm name \*  
newrealm  
Name of the realm to create

Default Client ID \*  
123  
Default client created in the realm

Keycloak Admin Username \*  
admin

Keycloak Admin Password  
admin1234!

This widget is insecure. Please use ui:field="secret" instead of ui:widget="password".

Password for the admin user

Login Theme  
base

**Allowed Redirect URIs**

redirect\_uri\_0 \*  
http://localhost:3000/

BACK      NEXT

**Keycloak Authentication Building Block**  
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GitHub owner \*  
css-bb

Repository name \*  
newrealm

Visibility \*  
private

BACK      NEXT

Keycloak Authentication Building Block

Deploy a preconfigured Keycloak instance and publish to your GitHub

Keycloak config

App repository (your GitHub)

GitOps (Argo CD)

Review

GitOps owner/org \*  
css-bb

GitOps repo name \*  
gitops-config

gitops branch  
main

cluster server \*  
https://kubernetes.default.svc

cluster namespace \*  
demonstration

argocd project  
default

App manifests path  
k8s

Path to Kubernetes manifests in the app repo

App repo branch  
main

BACK REVIEW

Fetch Keycloak base 2 seconds

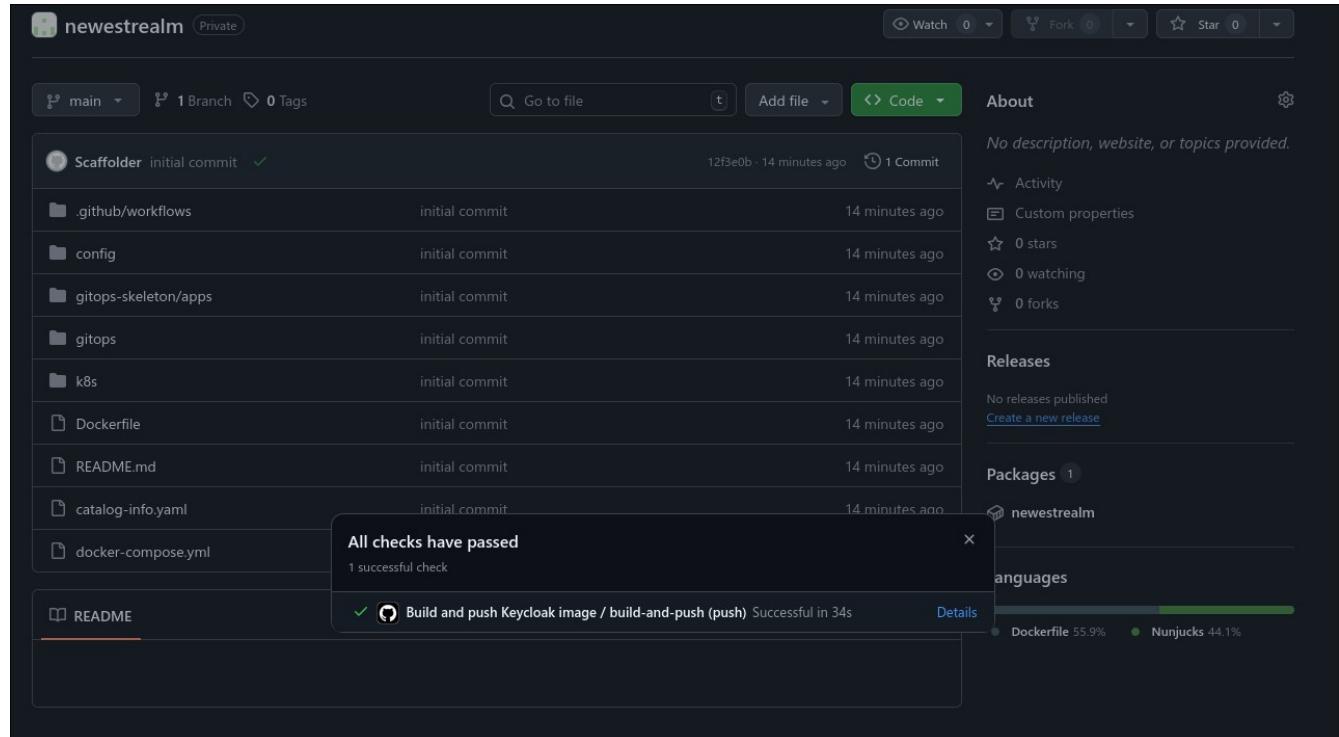
Publish app repository 3 seconds

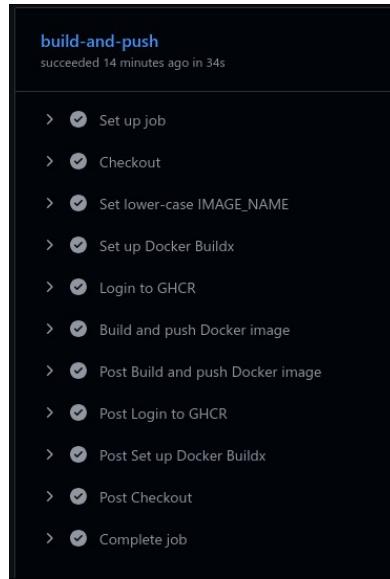
Render Argo CD Application manifest (for GitOps repo) 1 second

Propose Argo CD Application to GitOps repo 4 seconds

## 2. Scaffolding a new repo and building an image

It's important that the scaffolded template run its own workflow to build an image based on the new configuration





## 3. Updating the `gitops-config` repo

Backstage doesn't deploy directly to the cluster. Instead, it updates a dedicated GitOps repository.

Name	Last commit message
init.yaml	init
newestrealm.yaml	feat(gitops): add Application newestrealm

## 4. ArgoCD watches for new deployments

Argo CD continuously monitors the GitOps repo. When it detects a new or changed Application, it generates the target Kubernetes manifests and reconciles them into the cluster.