Argo CD GitOps for Kubernetes

Git repo desired state → render → **Application** repo + path + target → sync → **Cluster** live state

CONCEPTS

Argo CD compares Git (desired) with the cluster (live). Out of Sync means they differ; Healthy is separate and describes the running resources.

With automated sync, a merge to Git deploys by itself; manual sync and rollback are for apps without it.

LOGIN & CONTEXT

argocd login *<server>*
Log in with username and password

argocd login *<server>* **--sso**
Log in through your SSO provider

argocd login --core
Talk straight to the cluster API

argocd context
List saved server contexts

argocd context *<name>*
Switch to another server

APPLICATIONS

argocd app list
List applications

APPLICATIONS (cont.)

argocd app get *<app>*
Show status, sources and resources

argocd app get *<app>* **--refresh**
Re-read Git before showing status

argocd app manifests *<app>*
Print the rendered manifests

argocd app logs *<app>*
Show logs from the app's pods

argocd app history *<app>*
Show deployment history and IDs

argocd app delete *<app>*
Delete an application

CREATE & CONFIGURE

argocd app create *<app>* **--repo** *<url>* **--path** *<dir>* **--dest-server https://kubernetes.default.svc --dest-namespace** *<ns>*
Create an app from a Git path

argocd app create -f *<file.yaml>*
Create from an Application manifest

CREATE & CONFIGURE (cont.)

argocd app create *<app>* **...** **--project** *<proj>*
Place the app in a project

argocd app create *<app>* **...** **--sync-policy automated**
Deploy automatically on Git change

argocd app create *<app>* **...** **--auto-prune --self-heal**
Prune deletions, revert manual drift

argocd app create *<app>* **...** **--helm-set** *<key>*=*<val>*
Set a Helm value

argocd app set *<app>* **--revision** *<rev>*
Point at another branch, tag or commit

argocd app set *<app>* **--helm-set** *<key>*=*<val>*
Change a Helm value

argocd app set *<app>* **--sync-policy automated**
Turn on automated sync

argocd app set *<app>* **--sync-policy none**
Turn off automated sync

SYNC & DIFF

argocd app diff *<app>*
Show live vs target differences

argocd app sync *<app>*
Sync to the target state

argocd app sync *<app>* **--dry-run**
Preview without changing the cluster

argocd app sync *<app>* **--prune**
Also delete removed resources

argocd app sync *<app>* **--preview-changes**
Show the diff, then confirm

argocd app sync *<app>* **--resource** *<group>*:*<kind>*:*<name>*
Sync only one resource

argocd app sync -l *<label>*=*<val>*
Sync apps matching a label

WAIT & ROLLBACK

argocd app wait *<app>* **--health**
Wait until the app is healthy

argocd app wait *<app>* **--sync --health**
Wait for synced and healthy

WAIT & ROLLBACK (cont.)

argocd app wait *<app>* **--timeout** *<sec>*
Give up after a time

argocd app rollback *<app>* *<id>*
Roll back to a history ID

REPOSITORIES

argocd repo list
List registered repositories

argocd repo add *<url>* **--username** *<user>* **--password** *<pw>*
Add a private HTTPS Git repo

argocd repo add *<git@host:org/repo>* **--ssh-private-key-path** *<key>*
Add a Git repo over SSH

argocd repo add *<url>* **--type helm --name** *<name>*
Add a Helm chart repository

CLUSTERS

argocd cluster list
List registered clusters

argocd cluster add *<kube-context>*
Register a cluster from kubeconfig