Skaffold Kubernetes dev loop

CONCEPTS

skaffold dev is the inner loop: it builds, deploys and tails logs, rebuilds on file change, and deletes what it deployed when you press Ctrl+C. skaffold run deploys once and leaves it.

- **build** images from artifacts
- **test** optional
- **render** manifests with new tags
- **deploy** kubectl / helm / kustomize
- **verify** optional checks

Skaffold only drives your existing tools: Docker or buildpacks to build, kubectl, Helm or Kustomize to deploy. Its own config is skaffold.yaml.

DEV LOOP

skaffold dev
Build, deploy, watch, tail logs

skaffold dev --port-forward=services
Forward service ports locally

skaffold dev --no-prune --cleanup=false
Keep resources after exit

skaffold dev --auto-build=false
Rebuild only on request

skaffold dev -w *<image>*
Watch only matching images

skaffold dev --skip-tests
Skip tests after build

skaffold dev --tail=false
Do not stream logs

RUN, BUILD & DEPLOY

skaffold run
Build and deploy once

skaffold run --tail
Deploy and stream logs

skaffold build
Build images only

skaffold build -q
Print only built image names

skaffold build --push
Push built images

skaffold build --file-output *<file>*
Save built tags as JSON

RUN, BUILD & DEPLOY (cont.)

skaffold deploy -a *<file>*
Deploy pre-built images

skaffold deploy -i *<name>*=*<tag>*
Deploy given image tag

skaffold test
Run tests on built images

DEBUG & VERIFY

skaffold debug
Dev loop with debug ports

skaffold debug --port-forward=user,debug
Forward debug ports

skaffold verify
Run verify tests

CONFIG & PROFILES

skaffold init
Generate skaffold.yaml

skaffold init --generate-manifests
Also create basic manifests

skaffold init -k *<glob>*
Pick Kubernetes manifests

skaffold fix
Print config in newest schema

skaffold fix --overwrite
Upgrade skaffold.yaml in place

skaffold diagnose
Inspect effective config

skaffold diagnose --yaml-only
Print merged skaffold.yaml

skaffold dev -f *<file>*
Use another config file

skaffold dev -p *<profile>*
Activate a profile

skaffold dev -m *<module>*
Select config module

RENDER & DELETE

skaffold render
Print rendered manifests

skaffold render -o *<file>*
Write manifests to a file

skaffold render --offline
Render without a cluster

RENDER & DELETE (cont.)

skaffold delete
Remove deployed resources

skaffold delete --dry-run
List what would be deleted

TARGETING & IMAGES

skaffold dev -n *<ns>*
Deploy to a namespace

skaffold dev --kube-context *<ctx>*
Use a kube context

skaffold dev -d *<repo>*
Default image repository

skaffold dev -t *<tag>*
Custom image tag

skaffold dev --platform *<os/arch>*
Target platform

skaffold dev --cache-artifacts=false
Disable build cache

HOUSEKEEPING

skaffold version
Print version

skaffold completion *<shell>*
Shell completion script

skaffold dev -v *<level>*
Set log level

SKAFFOLD.YAML

Minimal skaffold.yaml

```
apiVersion: skaffold/v4beta14
kind: Config
build:
  artifacts:
  - image: web
    docker: {dockerfile:
Dockerfile}
manifests:
  rawYaml: [k8s/*.yaml]
deploy:
  kubectl: {}
portForward:
- {resourceType: service,
resourceName: web, port: 80,
localPort: 8080}
```

RECIPES

Inner loop on local cluster

```
kubectl config use-context kind-dev
skaffold dev --port-forward=services -n dev
```