



# **Build your first Operator with Kubebuilder and Okteto**

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**Hi, I'm Ramiro!** 🖐️

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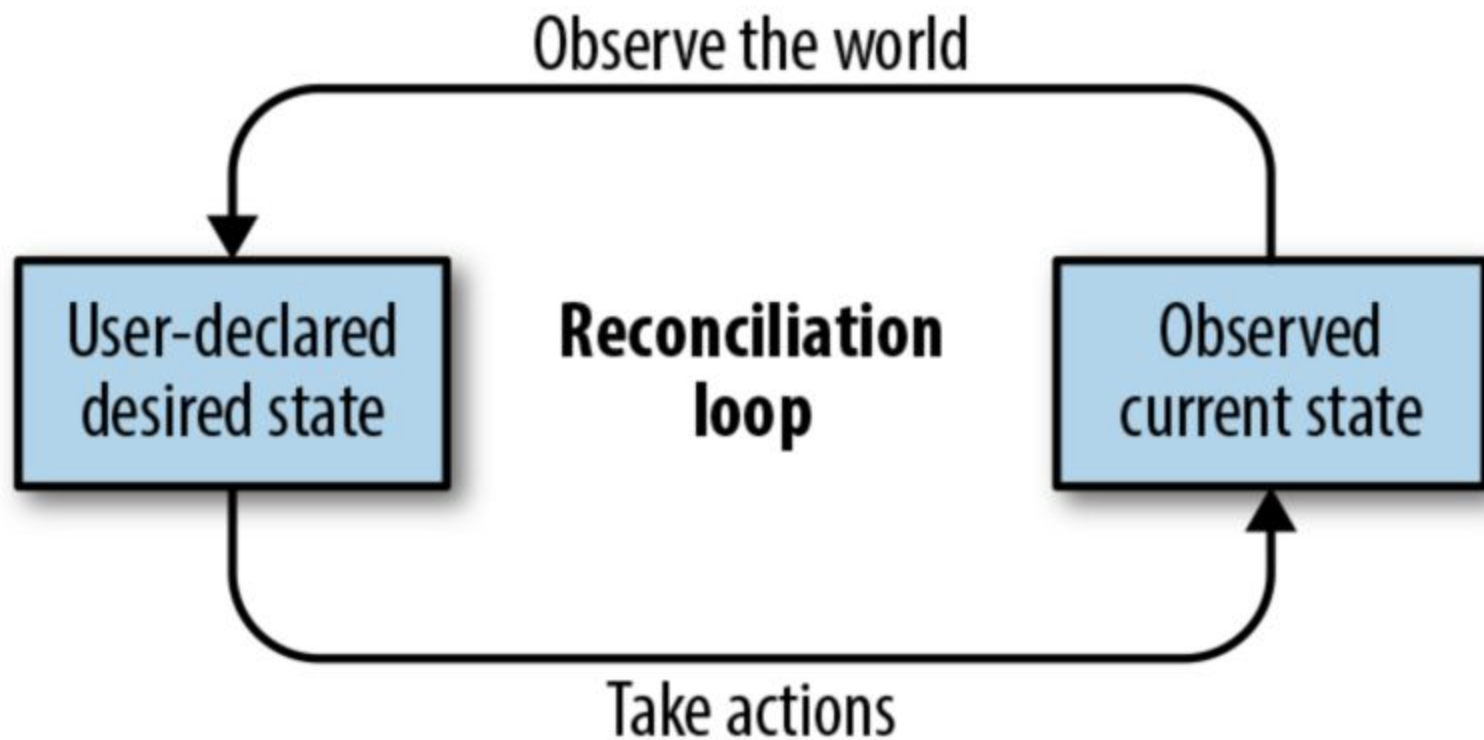




# What's a Kubernetes Operator?

Operators are software extensions to Kubernetes that make use of **custom resources** to manage applications and their components.

Operators follow Kubernetes principles, notably the **control loop**.



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## Operators you might be already using

1. Cert-manager - Request and generate certificates
2. ElasticSearch Operator - Run the ELK stack in Kubernetes
3. Litmus Chaos - Cloud Native chaos testing
4. Flux - gitops for Kubernetes
5. CrossPlane - create infrastructure abstractions for your users

Find more at <https://operatorhub.io/>



**CRDs?**

A *resource* is an endpoint in the [Kubernetes API](#) that stores a collection of [API objects](#) of a certain kind; for example, the built-in *Pods* resource contains a collection of Pod objects.

A ***custom resource*** is an extension of the Kubernetes API that is not necessarily available in a default Kubernetes installation. **It represents a customization of a particular Kubernetes installation.** However, many core Kubernetes functions are now built using custom resources, making Kubernetes more modular.



# Cool open source project to document CRDs

# https://doc.crds.dev/

Doc [crossplane/crossplane@v0.10.0](#) / [Composition.v1alpha1.apiextensions.crossplane.io](#)



Composition

Kind

apiextensions.crossplane.io

Group

v1alpha1

Version

```
apiVersion: apiextensions.crossplane.io/v1alpha1
kind: Composition
```

Composition defines the group of resources to be created when a compatible type is created with reference to the composition.

- collapse all

+ expand all

▼ spec object



CompositionSpec specifies the desired state of the definition.

▼ from object required



▼ reclaimPolicy string



▼ to []object required



▼ writeConnectionSecretsToNamespace string required



> status object



# Kubebuilder + Okteto

<https://github.com/rberrelleza/devops-india-kubebuilder-okteto>

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## Resources

 <https://kubernetes.io/docs/concepts/extend-kubernetes/operator/>

 <https://doc.crd.dev/>

 Kubebuilder: <https://github.com/kubernetes-sigs/kubebuilder>

 Okteto GitHub Repo: <https://github.com/okteto/okteto>

 Kubebuilder Slack channel: **#kubebuilder**

 Okteto Slack channel: **#okteto**

Remember to star on GitHub  

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## See you online!

 Register to DevX Days, part of KubeCon NA 2021

<https://events.linuxfoundation.org/cloud-native-devx-day-north-america/program/schedule/>

 Subscribe to the Okteto channel on YouTube

<https://www.youtube.com/channel/UCXYaFkiXHdBA7fjKgEgSJfA>

 Let's connect on Twitter! <https://twitter.com/rberrelleza>

# Thanks!



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