

Packaging Applications with Helm for Kubernetes



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Be organized with archives !

Use package managers

**Kubernetes application contains many
Kubernetes objects**

Simplify your life with Helm



Helm ?



What is Helm ?

How Helm works ?



What is an Helm chart ?

How to define dependencies ?



What is an Helm repository ?

How to install application with Helm ?



Course Overview



Discovering Helm

Building Helm charts

Customizing charts with Helm templates

Managing charts dependencies

Using existing charts from repositories



Learn & Practice



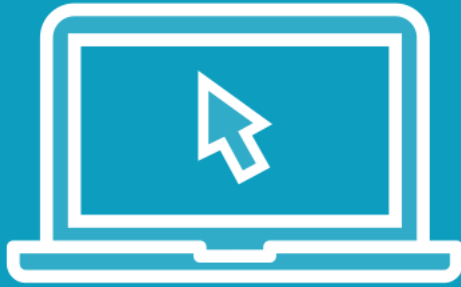
Learn the theory!



Practice with 11 Labs!



Demo



Installing Kubernetes with Helm

Building an Helm Chart

- Umbrella Chart

Installing a Release

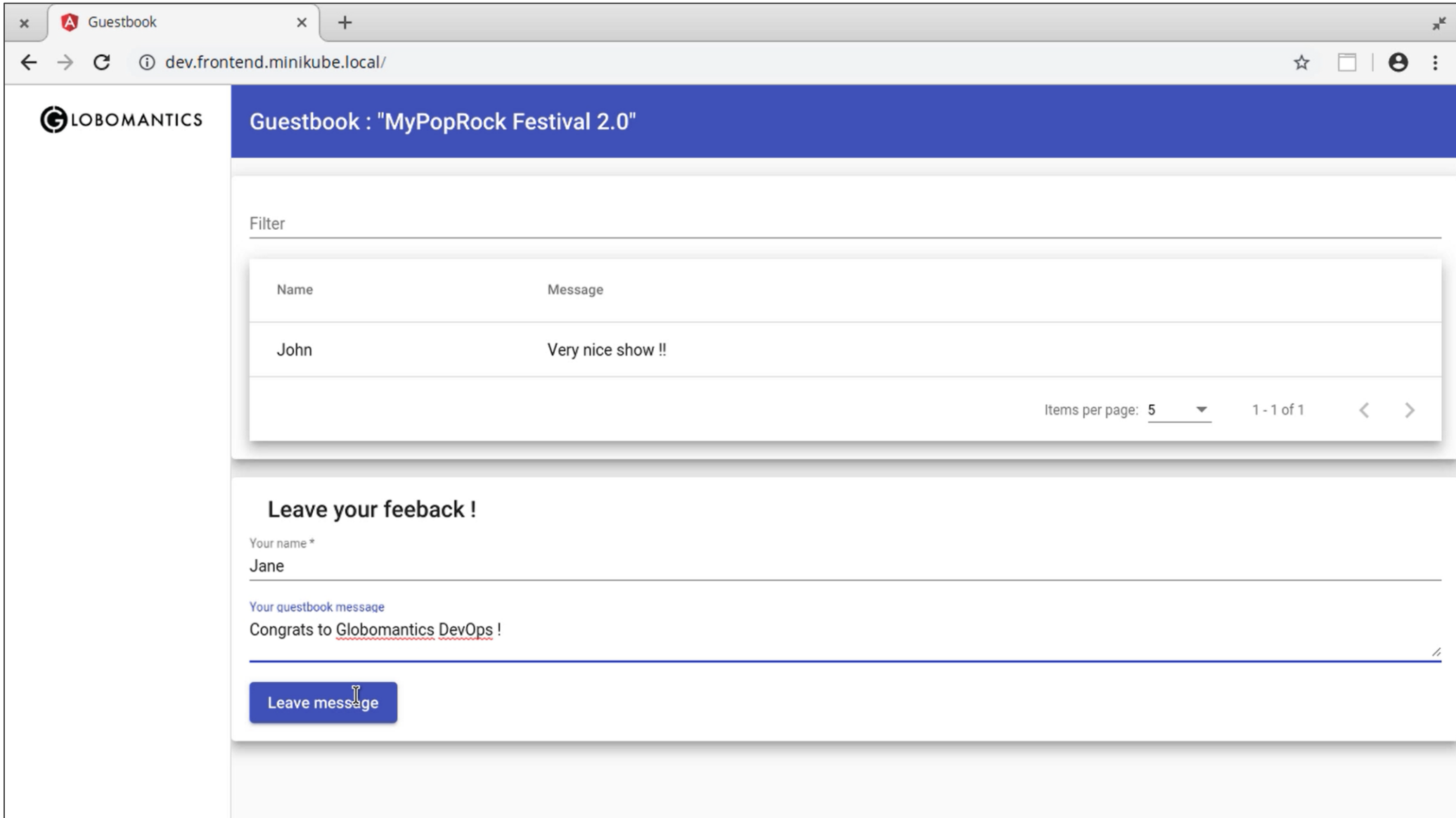
Customizing Helm Templates

Managing dependencies

Packaging and working with repositories



Sample Application : Guestbook for Events



The screenshot shows a web browser window with the address bar displaying `dev.frontend.minikube.local/`. The page title is "Guestbook : 'MyPopRock Festival 2.0'". The application logo "LOBOMANTICS" is visible in the top left corner.

Below the header, there is a "Filter" input field. A table displays the guestbook entries:

Name	Message
John	Very nice show !!

At the bottom right of the table, there is a pagination control showing "Items per page: 5" and "1 - 1 of 1".

Below the table, there is a section titled "Leave your feedback !". It contains a form with the following fields:

- "Your name *" with the value "Jane".
- "Your questbook message" with the value "Congrats to Globomantics DevOps !".

A blue button labeled "Leave message" is located at the bottom of the form.

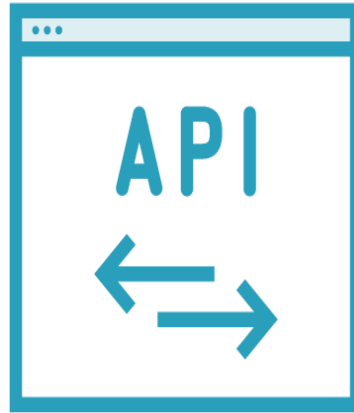


GuestBook for Events Application



- ✓ ConfigMap
- ✓ Pod
- ✓ Service
- ✓ Ingress

Frontend



- ✓ Secret
- ✓ Pod
- ✓ Service

Backend API



- ✓ Secret
- ✓ PV
- ✓ PVC
- ✓ Pod
- ✓ Service

Database



Source Code for Labs

<https://github.com/phcollignon/helm>

The screenshot shows the GitHub repository page for `phcollignon/helm`. The repository is a Helm course with 1 commit and 1 contributor. The file list on the right side of the page is circled in red. The file list includes:

- `lab10_helm_dependencies_exp`
- `lab10_helm_dependencies_final`
- `lab11_helm_repository_begin`
- `lab11_helm_repository_final`
- `lab1_kubectrl_version1`
- `lab2_kubectrl_version2`

The commit history on the left side of the page shows the following files and their commit status:

File	Commit Status	Time
<code>lab10_helm_dependencies_begin</code>	initial commit	3 minutes ago
<code>lab10_helm_dependencies_child-parent</code>	initial commit	3 minutes ago
<code>lab10_helm_dependencies_exports</code>	initial commit	3 minutes ago
<code>lab10_helm_dependencies_final</code>	initial commit	3 minutes ago
<code>lab11_helm_repository_begin</code>	initial commit	3 minutes ago
<code>lab11_helm_repository_final</code>	initial commit	3 minutes ago
<code>lab1_kubectrl_version1</code>	initial commit	3 minutes ago
<code>lab2_kubectrl_version2</code>	initial commit	3 minutes ago



Prerequisites



Kubernetes concepts

No required programming

Basic virtual machine experience

Unix shell

Goal for Attendees



Understand Helm concepts

Build and customize a Chart

Use Helm to install and manage Kubernetes application versions

