Educating Underserved Populations Through The Magic of Open Source

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Agenda

- Kiwix – what is it, why do we care?
- Rancher – Container management
- Containerizing Kiwix
- Demo

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KIWIX

Kiwix

Kiwix is an offline reader for online content like Wikipedia, Project Gutenberg, or TED Talks.

It makes knowledge available to people with no or limited internet access. The software as well as the content is free to use for anyone.

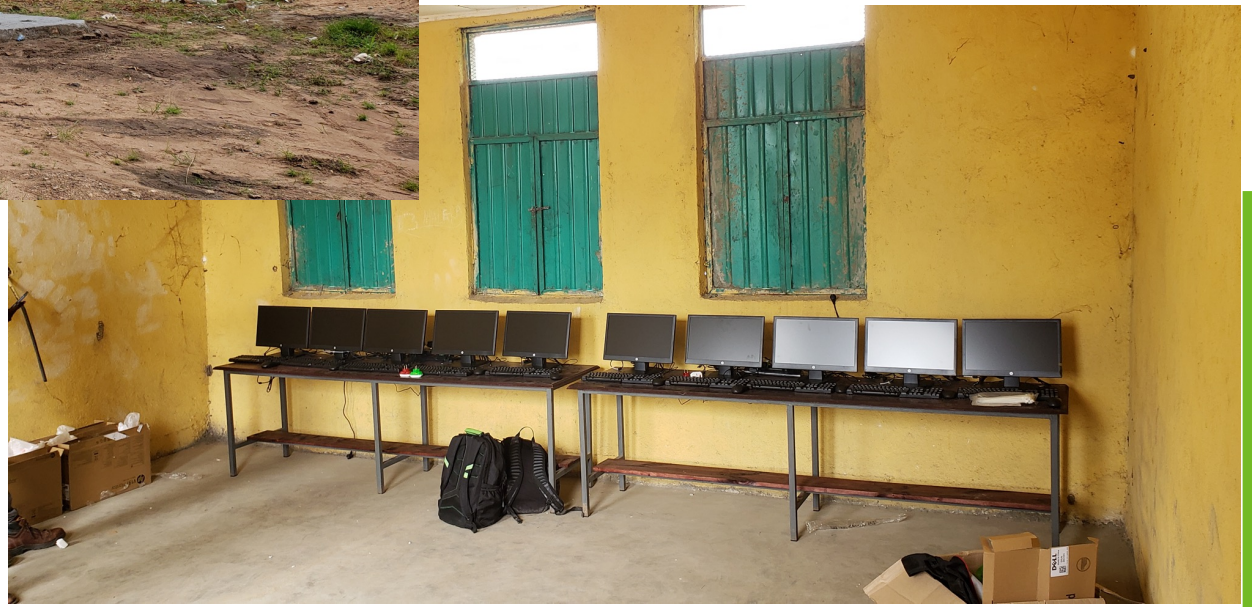
Why?

Half of the world -four billion people – can not reliably use the Internet. It mostly boils down to :

Lack of Infrastructures: in many remote or rural areas or refugee camps internet is often slow, unreliable, or not available at all.

Cost: many people with low or no income simply cannot afford to pay for data.

Gambela, Ethiopia



Kiwix Tools & Resources

The Kiwix tools is a collection of Kiwix related command line tools:

- kiwix-manage: Manage XML based library of ZIM files
- kiwix-read: Read ZIM file content
- kiwix-search: Fulltext search in ZIM files
- kiwix-serve: HTTP daemon serving ZIM files

Kiwix Libraries: https://library.kiwix.org/?lang=eng

Currently 3900+ Books (1110 in English)

Create your own ZIM files:

https://youzim.it/ or https://github.com/openzim/zim-tools

Rancher

One Platform for Kubernetes Management

Rancher is a complete software stack for teams adopting containers. It addresses the operational and security challenges of managing multiple Kubernetes clusters, while providing DevOps teams with integrated tools for running containerized workloads.

Bringing Kiwix & Rancher Together!

Containerizing an application

Kiwix Docker images:

- Official Kiwix Docker Hub Image -- https://hub.docker.com/r/kiwix/kiwix-serve
- SUSE Base Container Image -- https://hub.docker.com/r/smuse/suse-bci-kiwix-serve
  - https://registry.suse.com/

Pre-Requisites:

- Load Balancer (our demo will use MetalLB)
- Storage backend (our demo will use NFS)

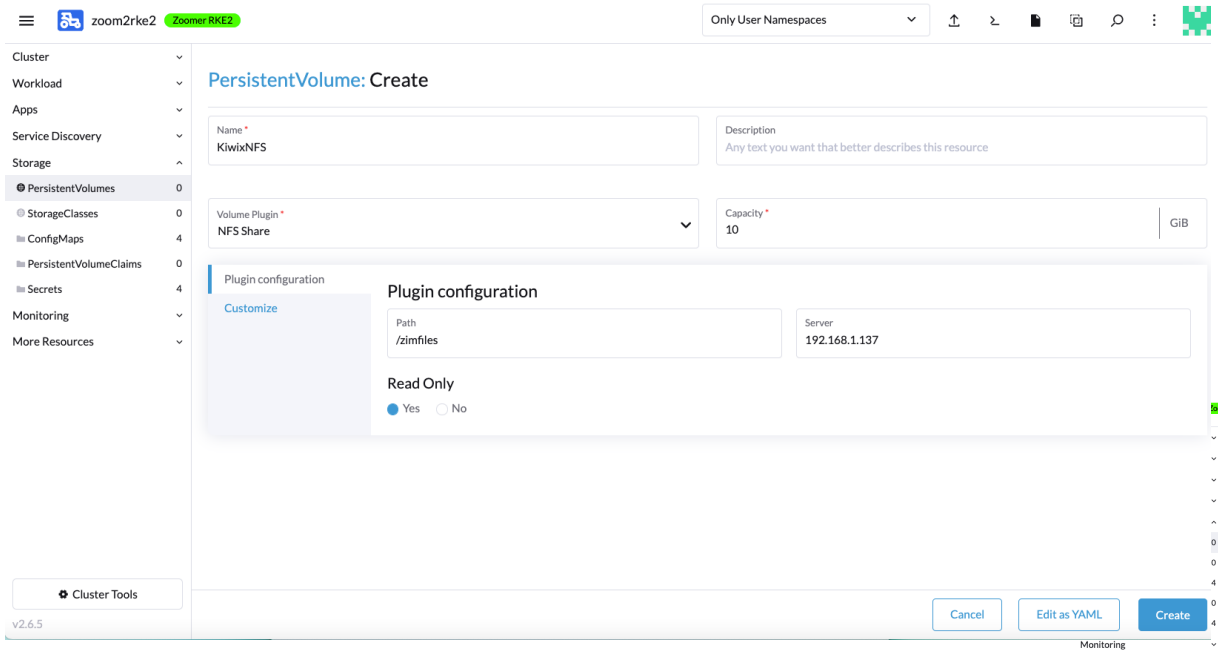
Helm Chart:

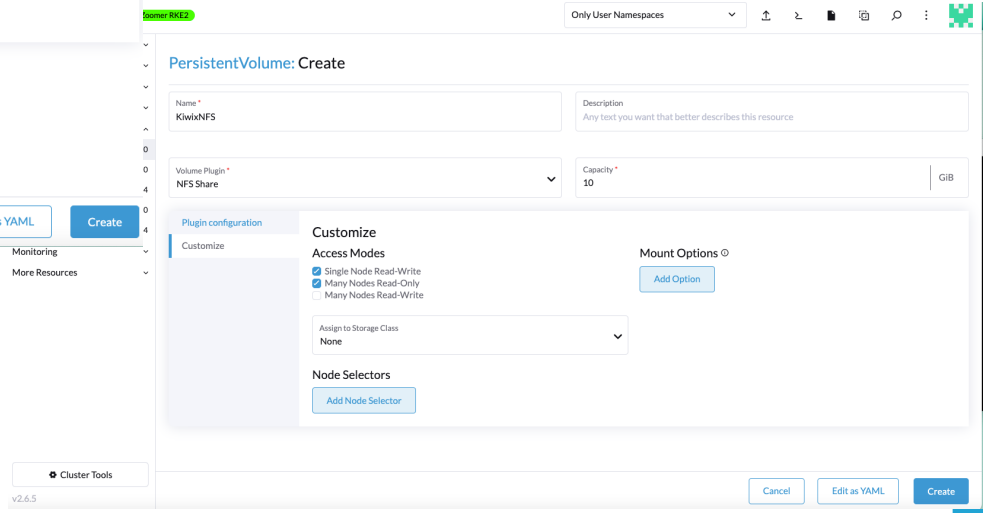
- https://github.com/phs4suse/kiwix

Rancher Steps

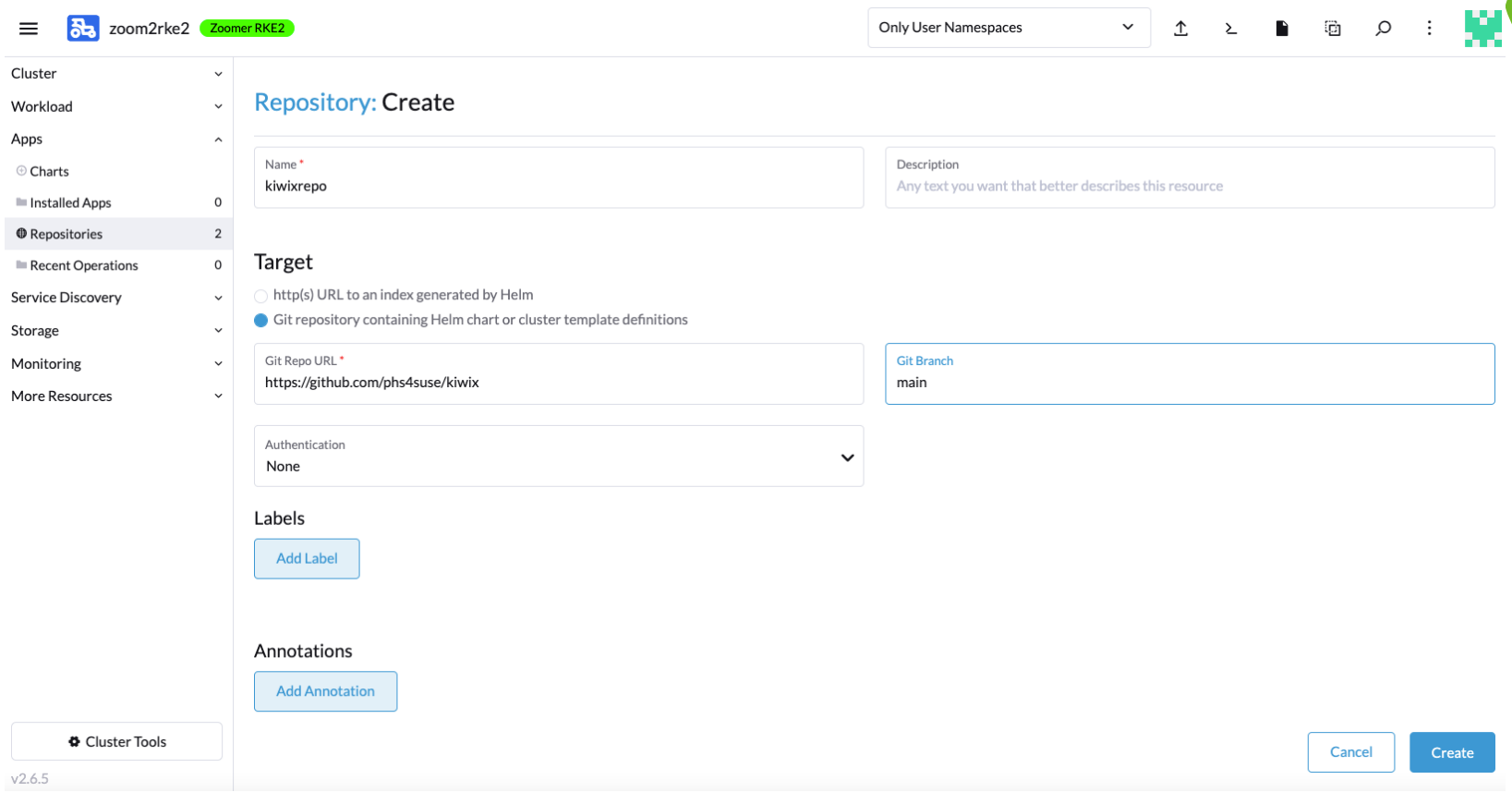
- Add Github Helm repo
- Create PersistentVolume (our lab will use NFS)
- Launch install
  - Answer custom questions:
  - Namespace, storage, Kiwix options

Rancher Steps - PV

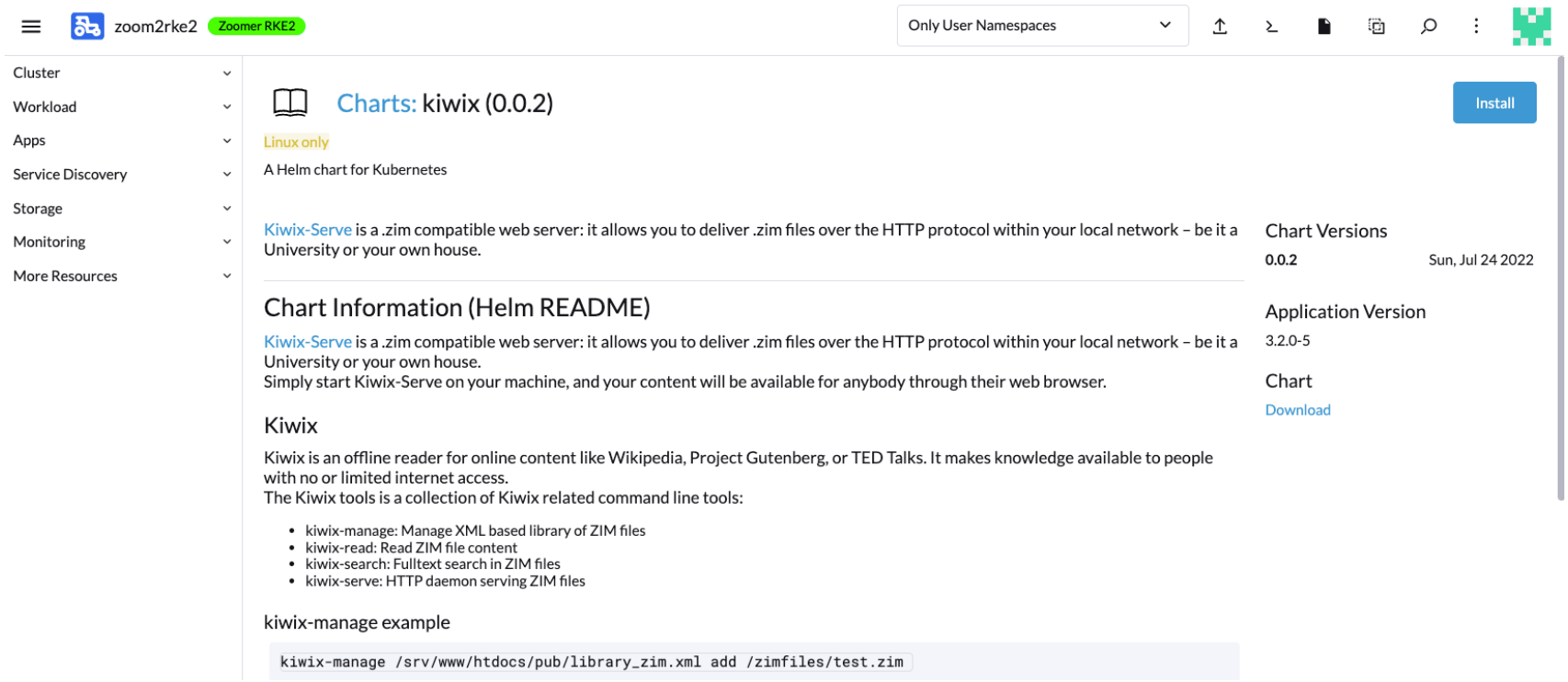




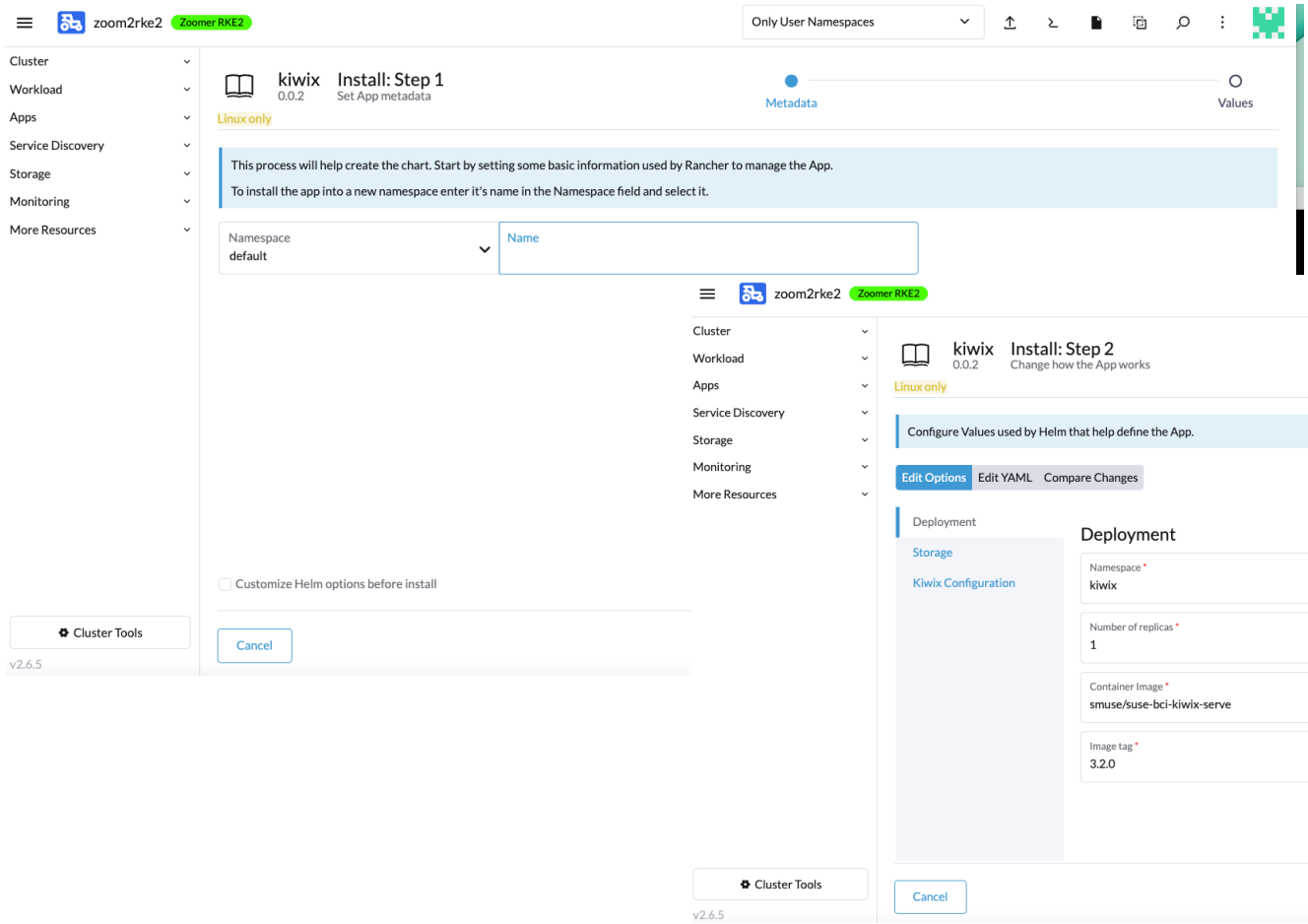
Rancher Steps - Repo



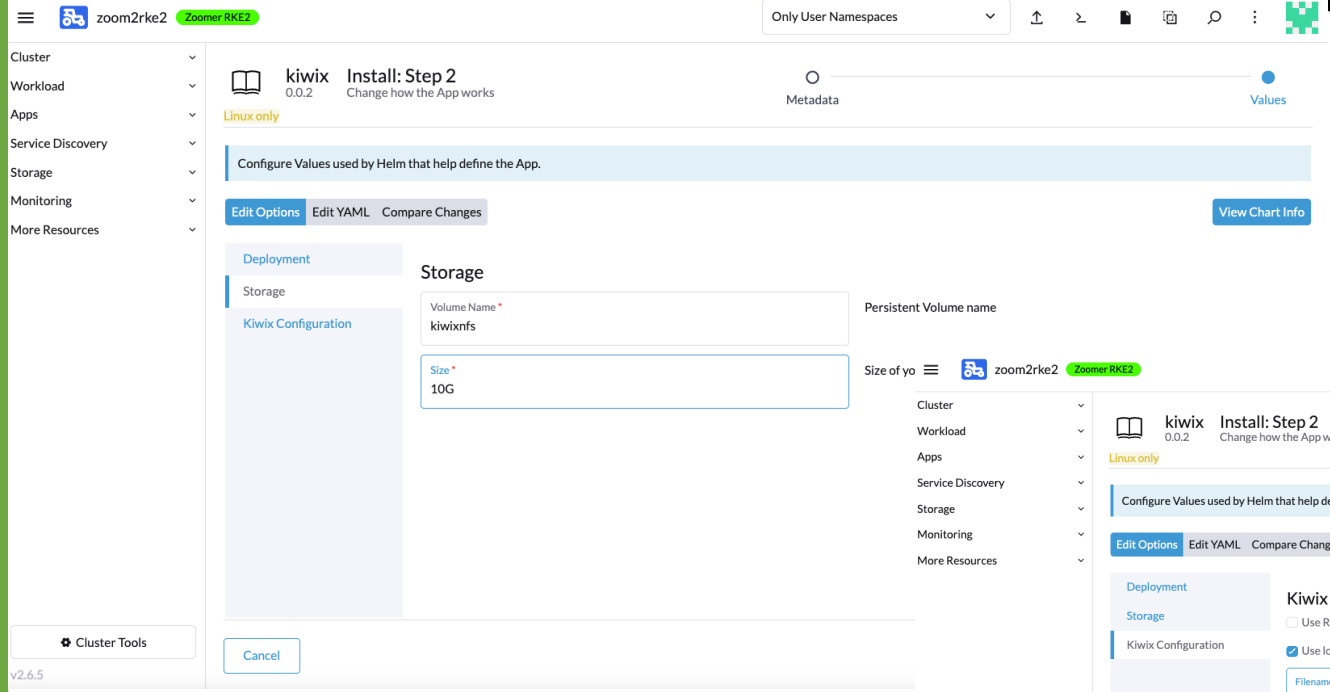
Rancher Steps - Install

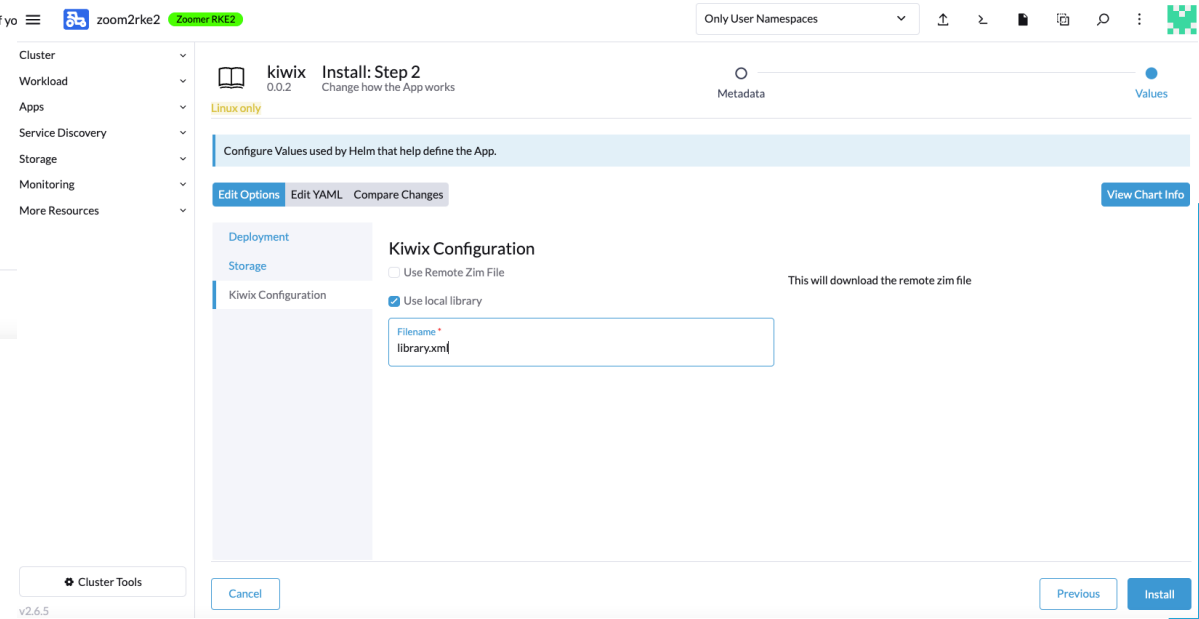


Rancher Steps – Install (cont.)



Rancher Steps – Install (cont.)





Rancher Steps – Install (cont.)

Installed App: s19demo2 Deployed

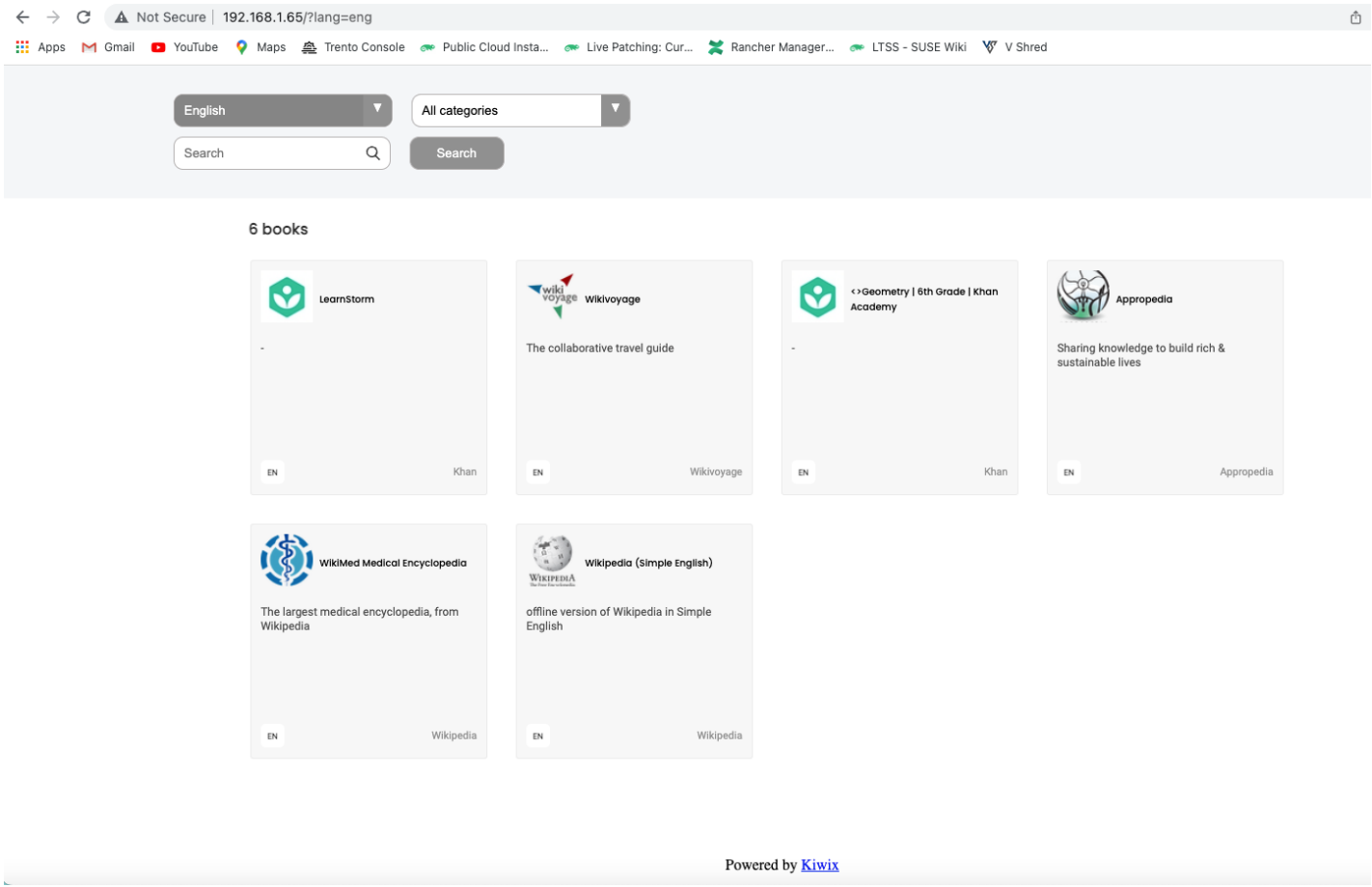
Namespace: default Age: 1.2 mins

Last Operation: (install) - View Logs

Resources | Values YAML | Chart README

```
image:
  args:
    - '--library library.xml'
  env: null
  repository: smuse/suse-bci-kiwix-serve
  tag: 3.2.0
namespace: s19demo2
replicas: 1
storage:
  storage_size: 10G
  volume_name: kiwixnfs2
downloadFile: false
global:
  cattle:
    clusterId: c-m-zq28thw6
    clusterName: zoom2rke2
    rkePathPrefix: ''
    rkeWindowsPathPrefix: ''
    systemDefaultRegistry: ''
    systemProjectId: p-8mmzp
    url: https://leapmac.houseofswartz.net
  systemDefaultRegistry: ''
libraryXML: true
```

Success!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Maps
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Public Cloud Insta...
Live Patching: Cur...
Rancher Manager...
LTSS - SUSE Wiki
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