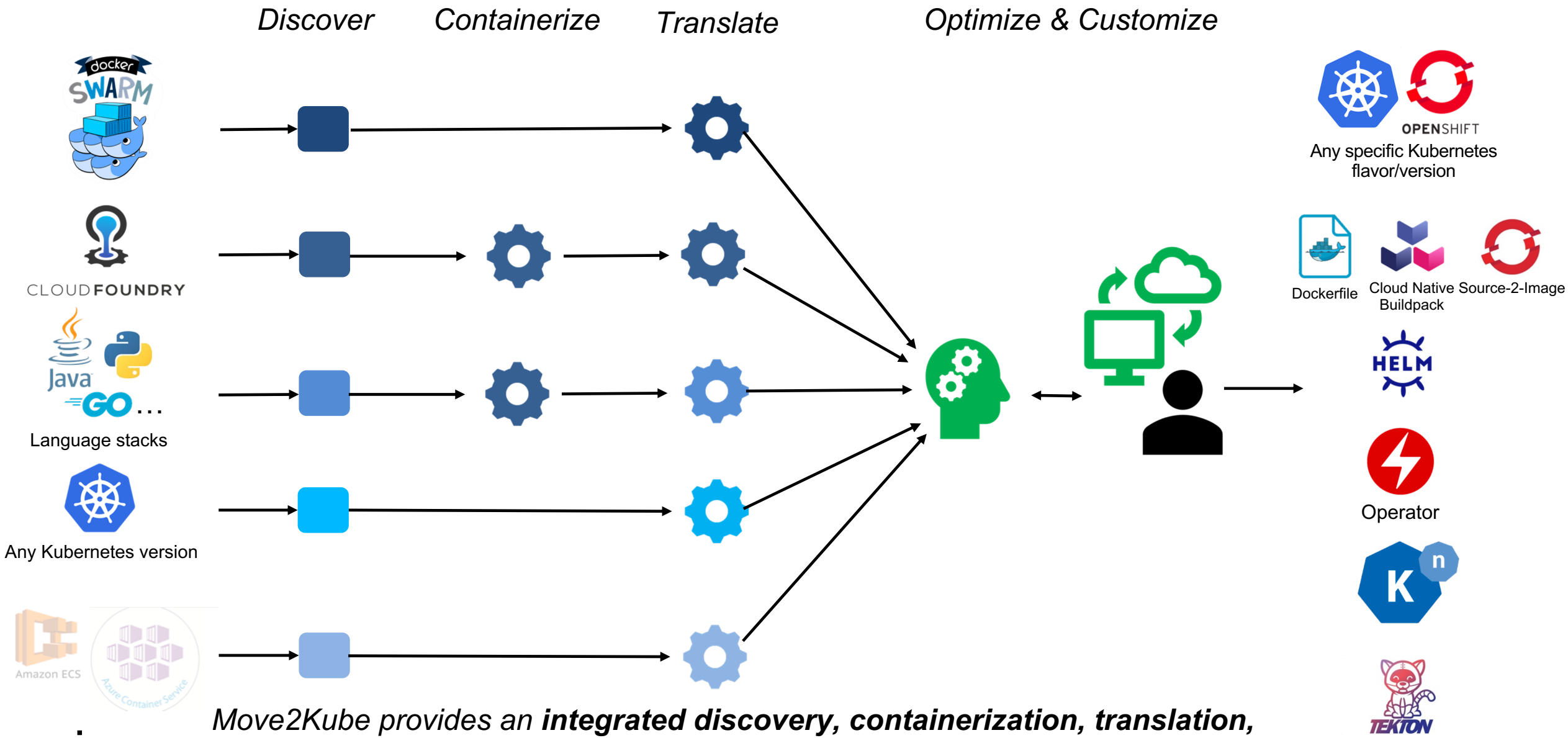
Konveyor Move2Kube

Accelerate your journey to Kubernetes/Openshift

Move2Kube: Accelerate+Optimize move to Kubernetes



*Move2Kube provides an **integrated discovery, containerization, translation, optimization and customization** from many source platforms in an unified way.*

https://konveyor.io/move2kube/

Usage modes

Command line tool

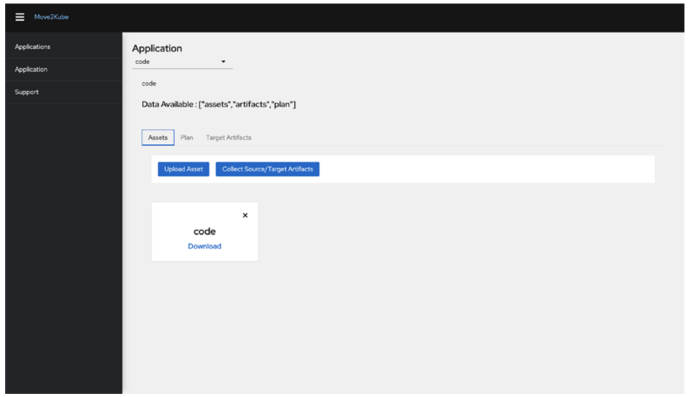
```
ashok:move2kube-demos ashok$ move2kube plan -s samples/unified-flow/
INFO[0000] Planning Translation
INFO[0000] [*source.DockerfileTranslator] Planning translation
INFO[0000] [*source.DockerfileTranslator] Done
INFO[0000] [*source.ComposeTranslator] Planning translation
INFO[0000] [*source.ComposeTranslator] Done
INFO[0000] [*source.CfManifestTranslator] Planning translation
INFO[0006] [*source.CfManifestTranslator] Done
INFO[0006] [*source.KnativeTranslator] Planning translation
INFO[0006] [*source.KnativeTranslator] Done
INFO[0006] [*source.KubeTranslator] Planning translation
INFO[0006] [*source.KubeTranslator] Done
INFO[0006] [*source.Any2KubeTranslator] Planning translation
INFO[0020] [*source.Any2KubeTranslator] Done
INFO[0020] Translation planning done
INFO[0020] Planning Metadata
INFO[0020] [*metadata.ClusterMDLoader] Planning metadata
INFO[0020] [*metadata.ClusterMDLoader] Done
INFO[0020] [*metadata.K8sFilesLoader] Planning metadata
INFO[0020] [*metadata.K8sFilesLoader] Done
INFO[0020] [*metadata.QACacheLoader] Planning metadata
INFO[0020] [*metadata.QACacheLoader] Done
INFO[0020] Metadata planning done
INFO[0020] Plan can be found at [m2k.plan].
```

curl -L https://raw.githubusercontent.com/konveyor/move2kube/master/scripts/install.sh | bash -

GitHub Releases

go get –u github.com/konveyor/move2kube

Web Interface



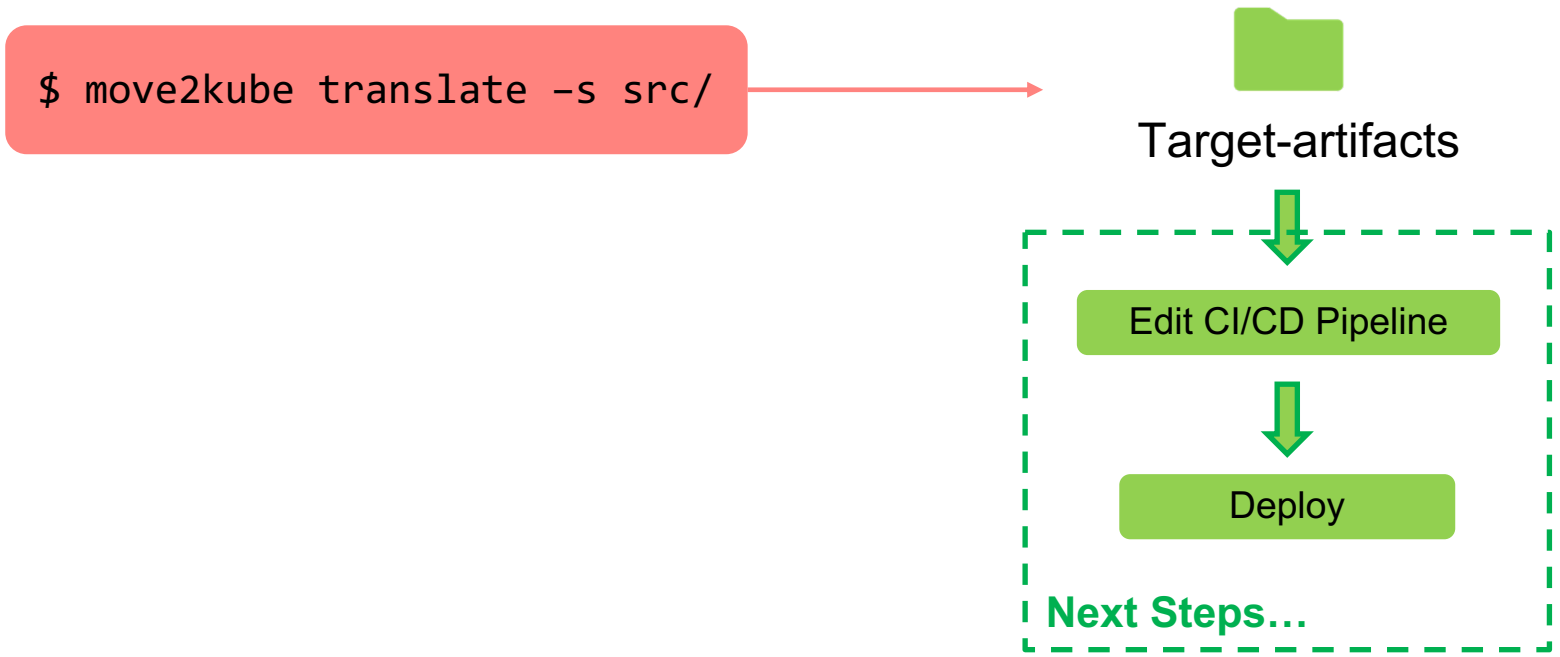
HELM

Operator

docker Compose

https://github.com/konveyor/move2kube

One step usage



Involved Usage

Plan generates a plan file containing a transformation proposal (including containerization options) for all services discovered from various sources.
Inputs: src – Directory containing source code and collected artifact files.
Outputs: Plan file

Analyze code & collected artifacts and correlate

Step 1:
`$ move2kube plan –s src/`

Optional:
`$ move2kube collect`

Scrape from source and target runtime environments

Collect crawls metadata about the source and target runtime environments such as:
- Supported object kinds in cluster
- Apps running in cloud foundry instance
- Meta-information from local docker images.

Inputs: The terminal context should have cf and kubectl logged in.
Outputs: Data from runtime instances as files.

Translate transforms the input source artifacts. as per the generated plan, into target artifacts containing:
Inputs: Plan file and src.
Outputs:
- Scripts for containerization.
- Helm chart and Operator.
- Docker compose file.

Optimize and Translate

Step 2:
`$ move2kube translate`

Move2Kube

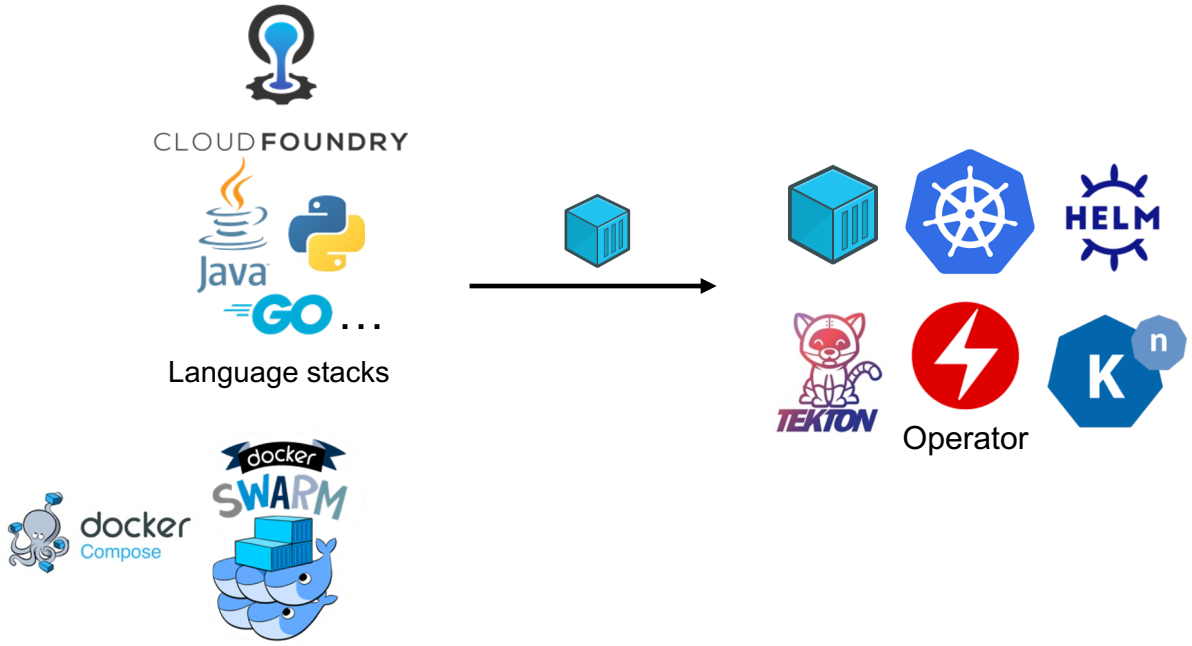
Target-artifacts

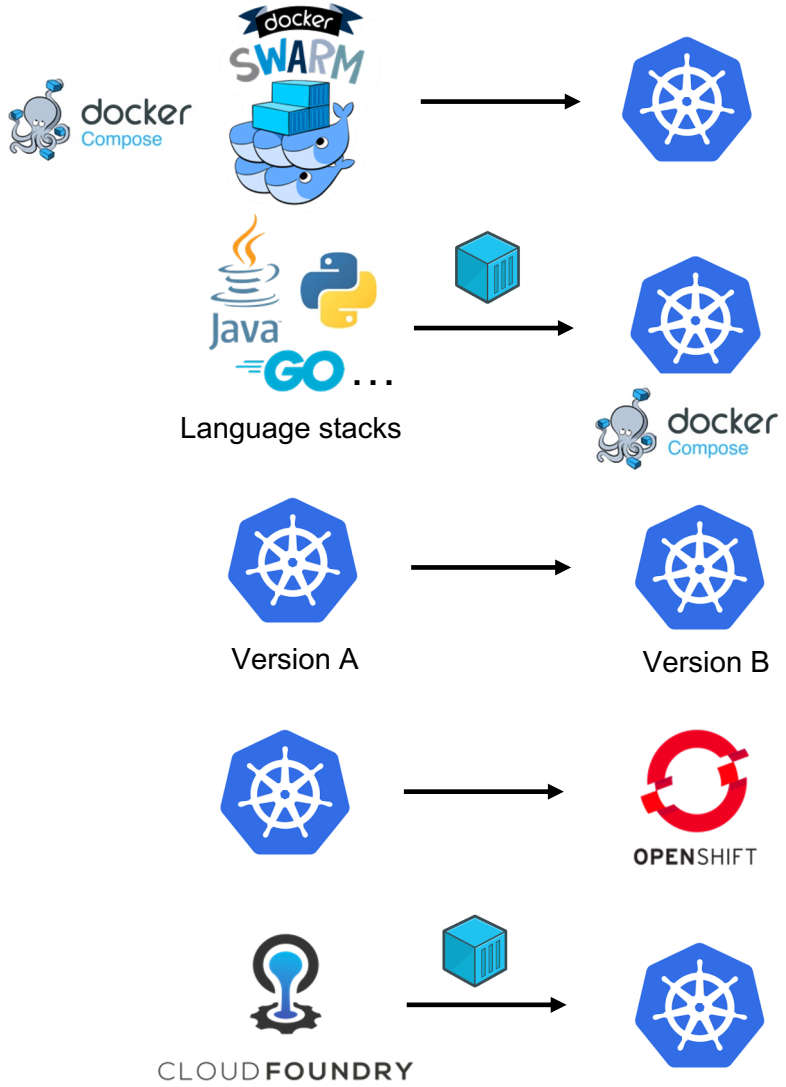
Edit CI/CD Pipeline

Deploy

Next Steps…

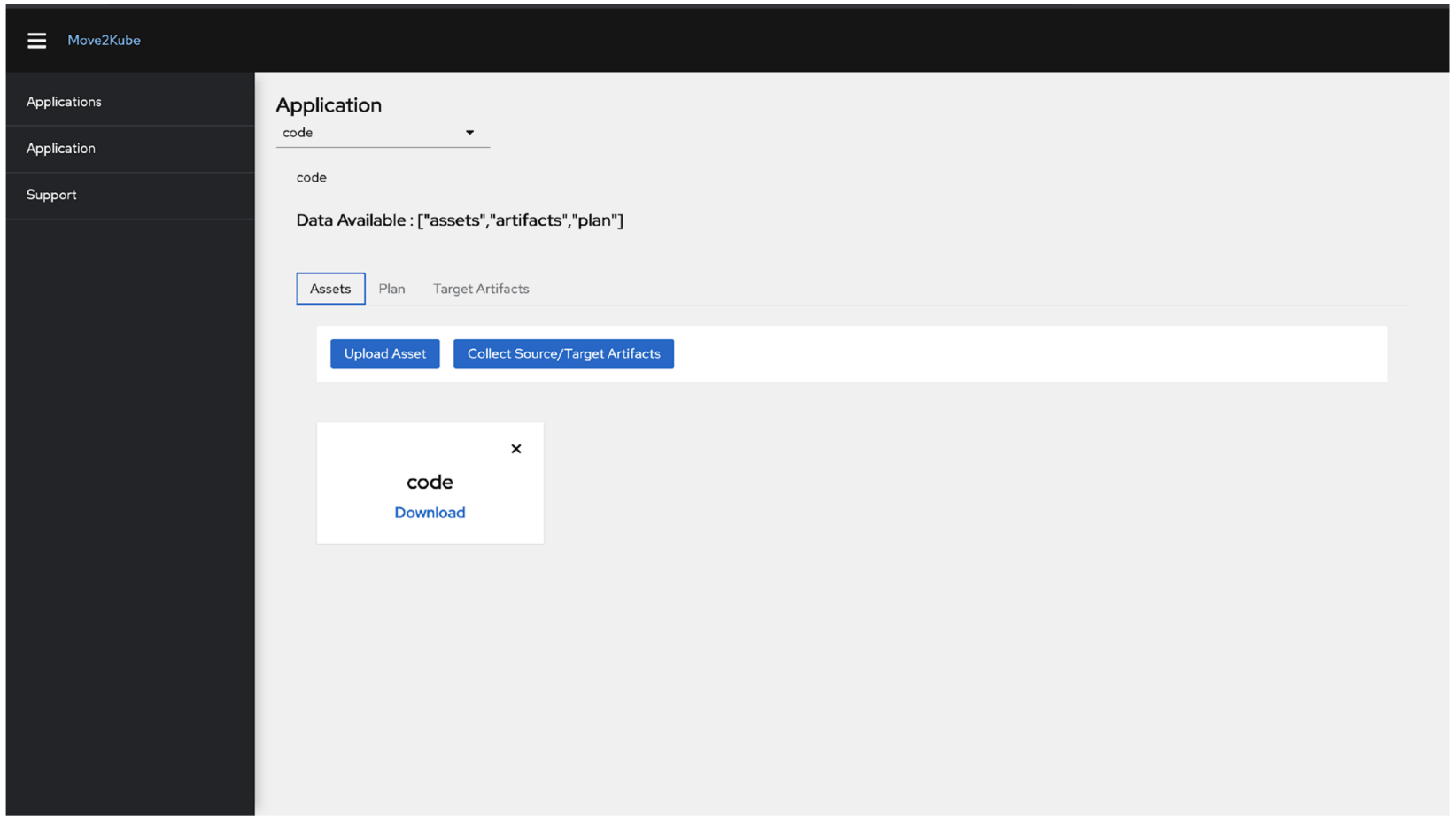
Usecases





https://github.com/konveyor/move2kube-demos

Web UI



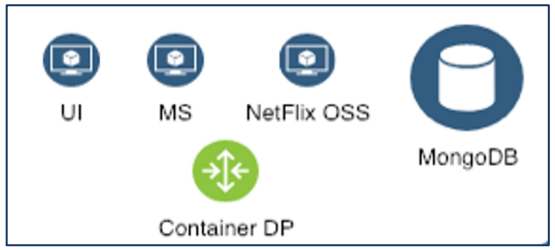
Clone https://github.com/konveyor/move2kube-ui and do `docker-compose up`

Requirements

Source	Artifact available	Features supported
Cloud Foundry	Manifest files	Containerization options from buildpacks, Deployment artifacts
	Manifest files, Source code	Containerization options based on buildpack/source code, Deployment artifacts
	Manifest files, Source code, Access to running instance	Containerization options based on buildpack/source code, Deployment artifacts, Metadata from runtime
	Access to running instance	Metadata from runtime, Containerization options based on buildpack, Deployment artifacts
Docker Compose/Swarm	Docker compose files	Deployment artifacts
	Docker compose files, Docker images	Deployment artifacts, Ability to enhance images to run in secure environments like Openshift.
Source Folders	Source code with no source metadata	Containerization options based on source code, Deployment artifacts
Any source	Access to target cluster	Ability to create artifacts customized for that particular cluster with the most preferred GroupVersion for the kind.

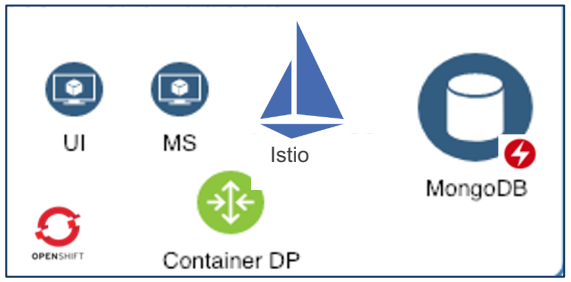
Command line support : Linux/Mac/Windows (WSL)

Move2Kube Case Study



Application and middleware services on Docker Swarm

Speed up modernization (Move2Kube)



Application and middleware service on Red Hat Openshift

Tasks	Manual (est.)	Move2Kube
Discover relevant assets	3 days	3 hours
Direct artifact translations	14 days	1 day
Complex artifact translations	32 days	4 days
Exploit OCP features + best practices	3 days	3 hours
Customize for a deployment	4 days	30 mins
Rightsize initial config	5 days	1 day
	61 days	**7 days**

For ~100 container scenario.

Based on extrapolation from PoC experience on a limited subset of the migration process, we will further evolve this from actual delivery data

~9x reduction

Contributions are welcome!

Head over and submit PRs

https://github.com/konveyor/move2kube
https://github.com/konveyor/move2kube-api

https://github.com/konveyor/move2kube-ui

https://github.com/konveyor/move2kube-operator

https://github.com/konveyor/move2kube-tests

https://github.com/konveyor/homebrew-move2kube