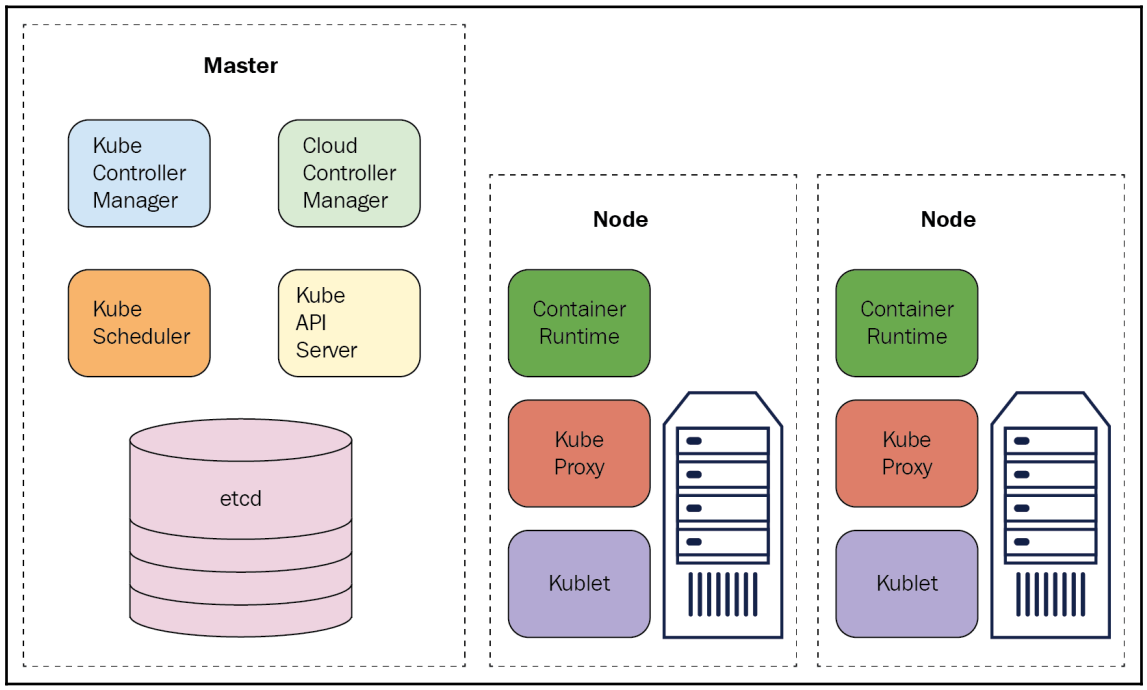
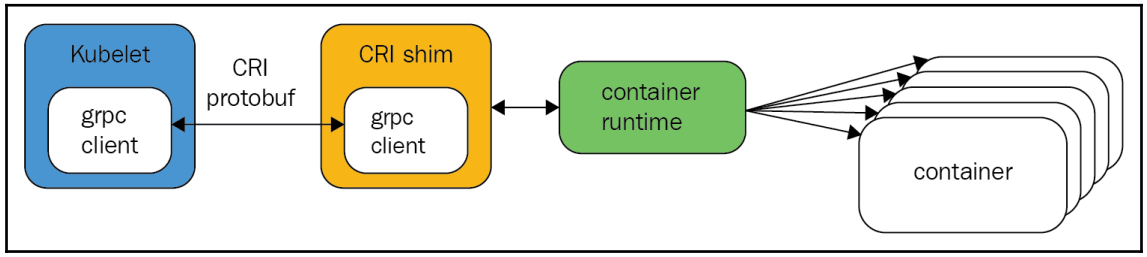
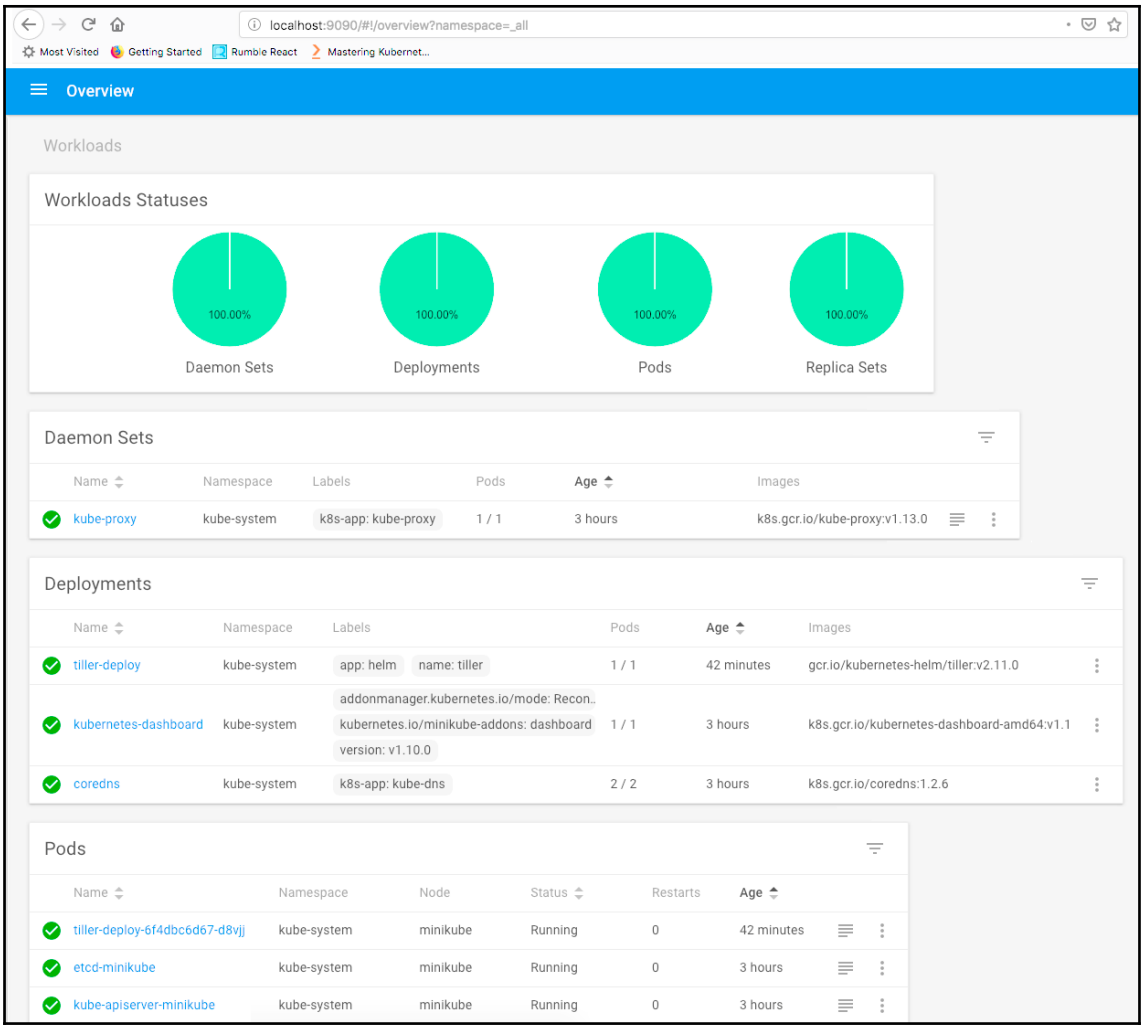
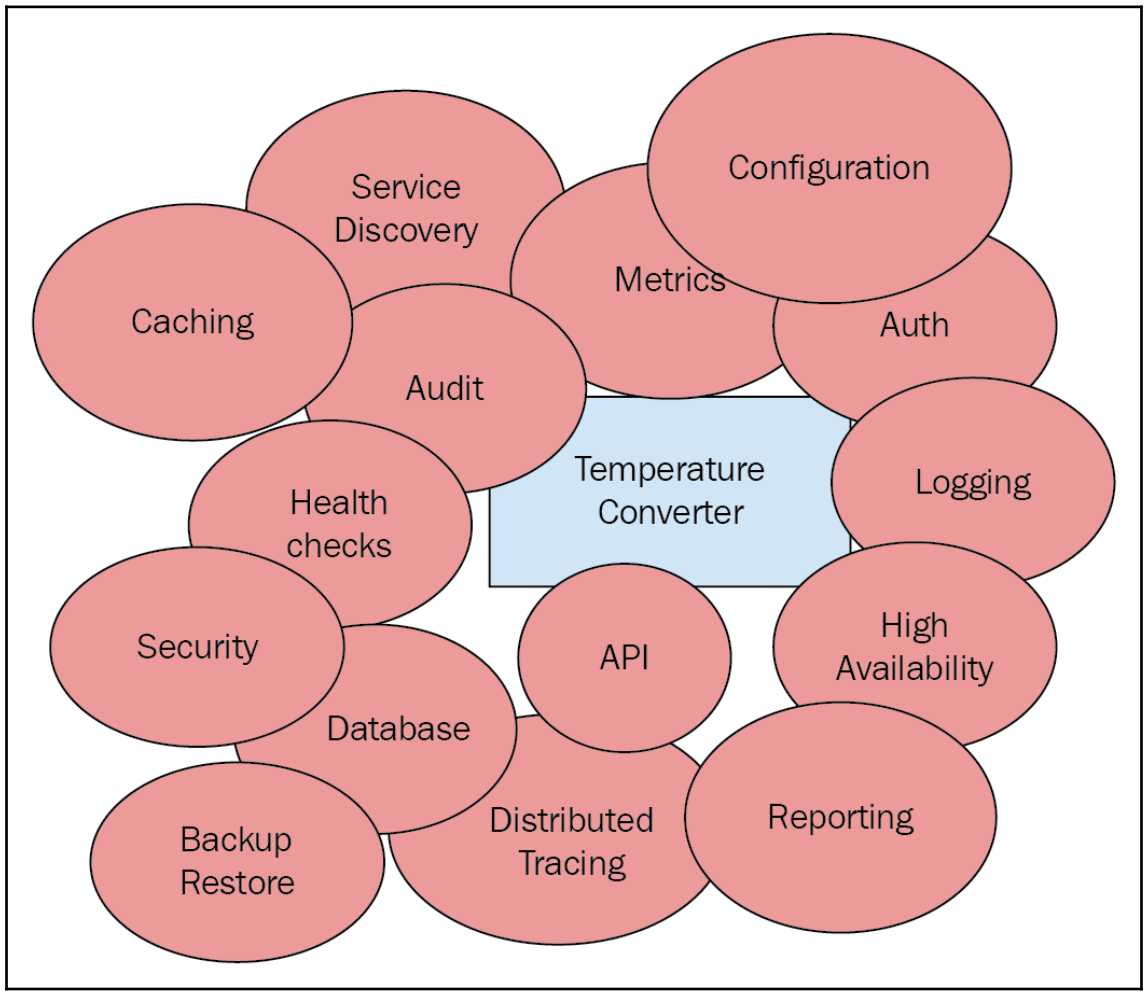
Chapter 1: Introduction to Kubernetes for Developers

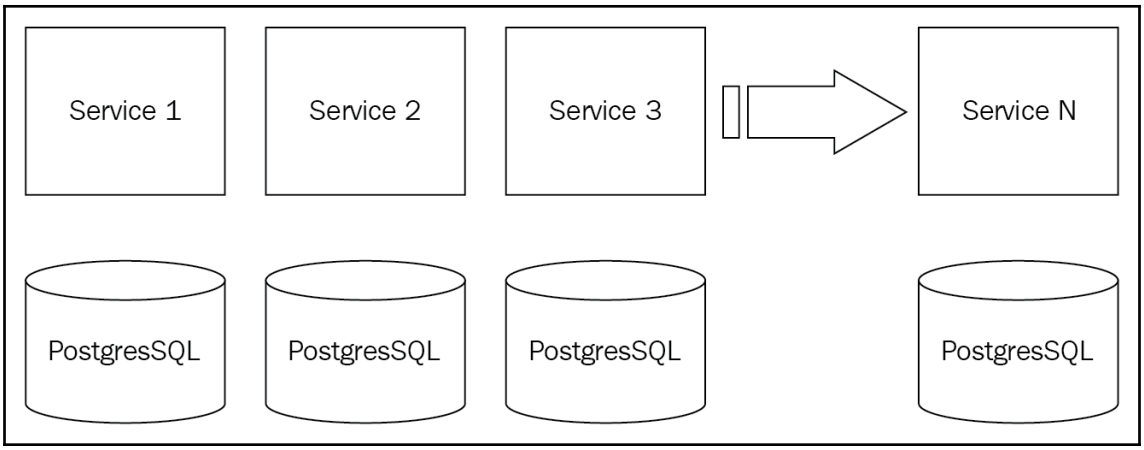


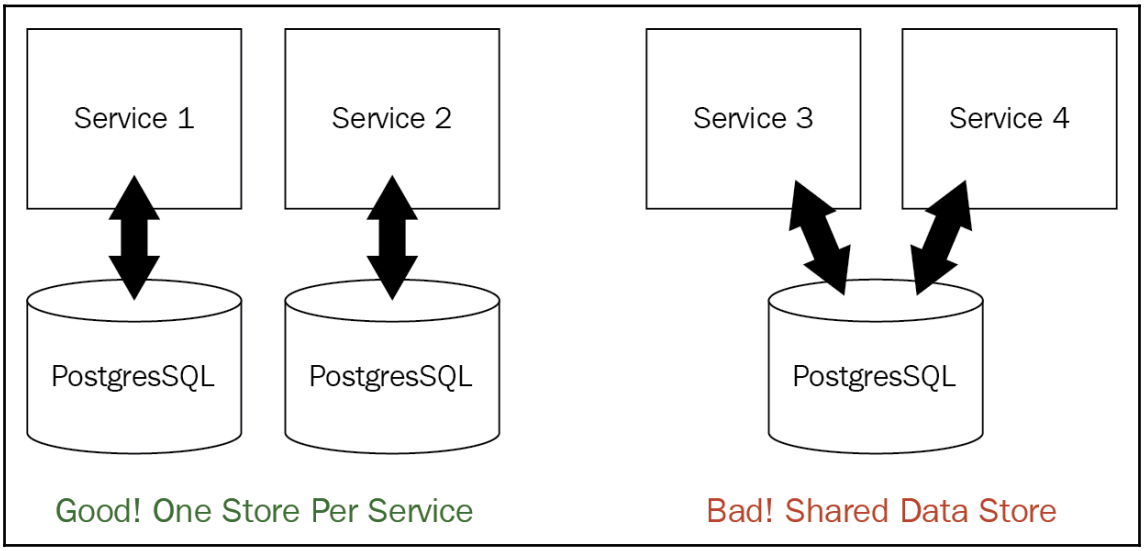


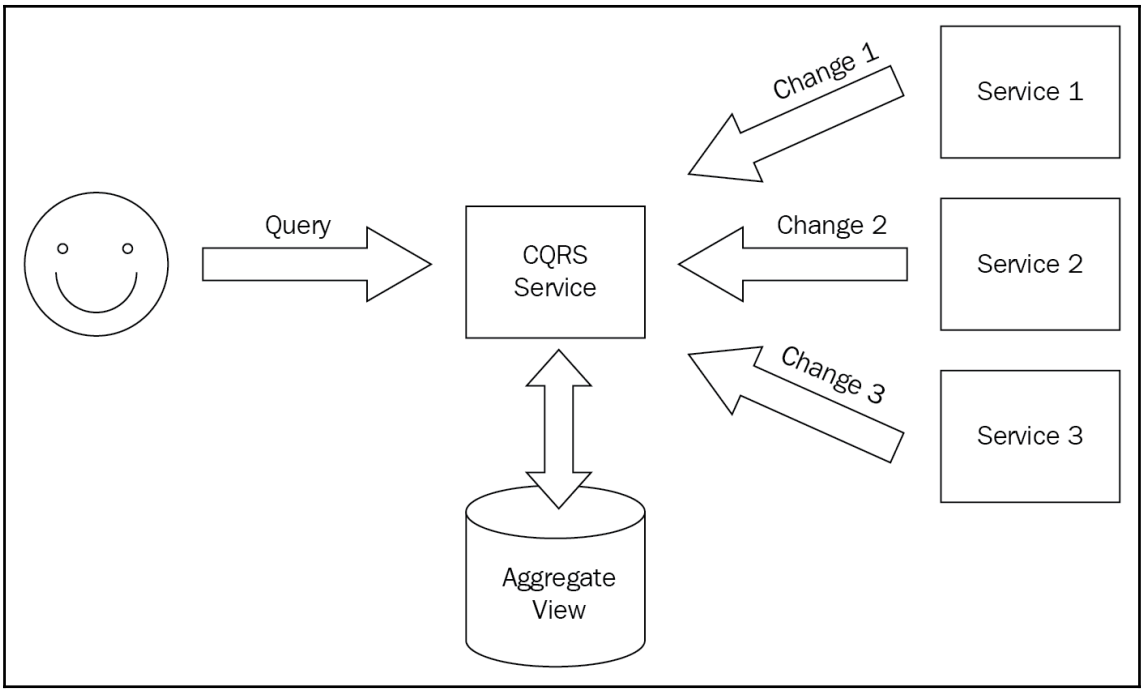

localhost:9090/#!/overview?namespace=_all
Most Visited
Getting Started
Rumble React
Mastering Kubernet...
Overview
Workloads
Workloads Statuses
100.00%
Daemon Sets
100.00%
Deployments
100.00%
Pods
100.00%
Replica Sets
Daemon Sets
Name
Namespace
Labels
Pods
Age
Images
kube-proxy
kube-system
k8s-app: kube-proxy
1 / 1
3 hours
k8s.gcr.io/kube-proxy:v1.13.0
Deployments
Name
Namespace
Labels
Pods
Age
Images
tiller-deploy
kube-system
app: helm
name: tiller
1 / 1
42 minutes
gcr.io/kubernetes-helm/tiller:v2.11.0
kubernetes-dashboard
kube-system
addonmanager.kubernetes.io/mode: Recon..
kubernetes.io/minikube-addons: dashboard
version: v1.10.0
1 / 1
3 hours
k8s.gcr.io/kubernetes-dashboard-amd64:v1.1
coredns
kube-system
k8s-app: kube-dns
2 / 2
3 hours
k8s.gcr.io/coredns:1.2.6
Pods
Name
Namespace
Node
Status
Restarts
Age
tiller-deploy-6f4dbc6d67-d8vjj
kube-system
minikube
Running
0
42 minutes
etcd-minikube
kube-system
minikube
Running
0
3 hours
kube-apiserver-minikube
kube-system
minikube
Running
0
3 hours

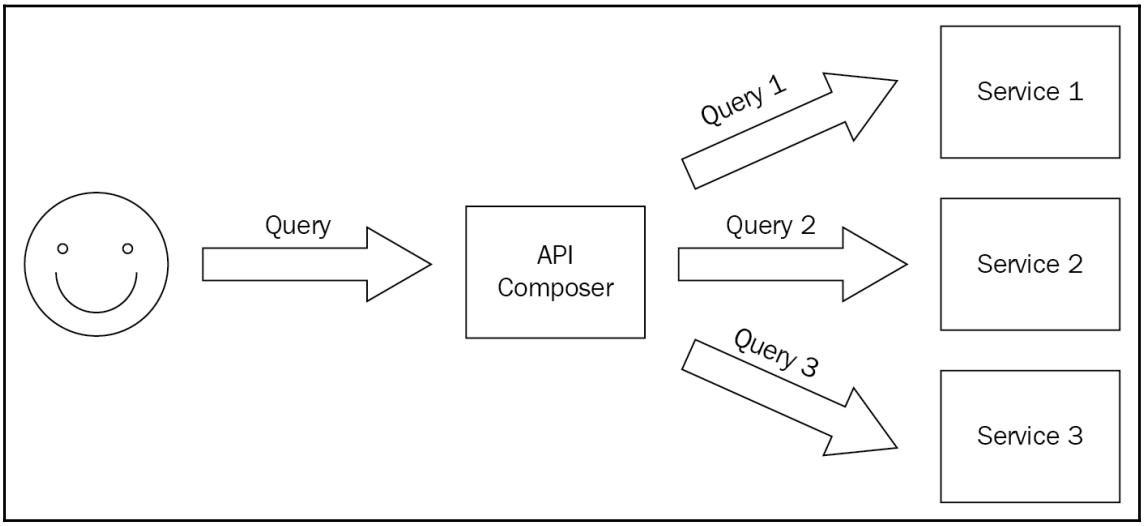
Chapter 2: Getting Started with Microservices



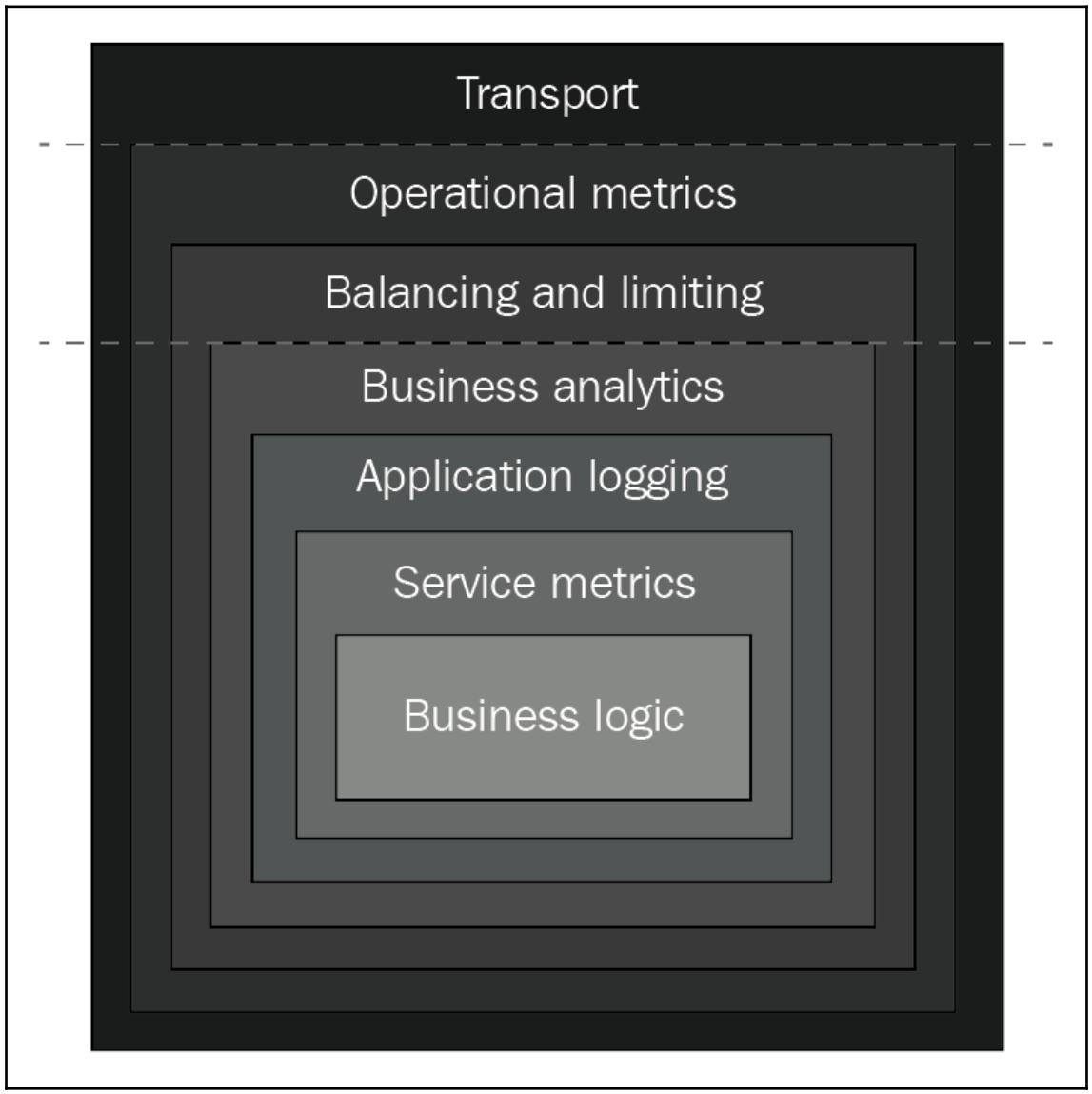

Service 1
Service 2
Service 3
Service N
PostgresSQL
PostgresSQL
PostgresSQL
PostgresSQL


Service 1
Service 2
Service 3
Service 4
PostgresSQL
PostgresSQL
PostgresSQL
Good! One Store Per Service
Bad! Shared Data Store

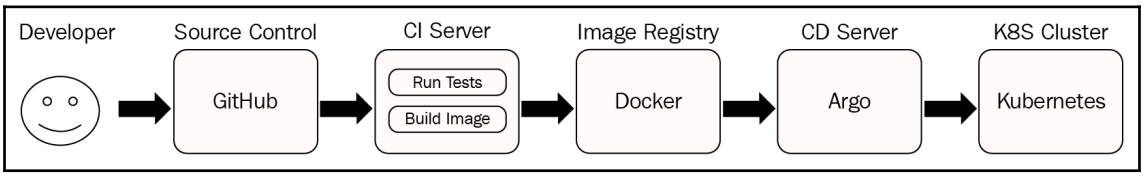

Change 1
Service 1
Query
CQRS
Service
Change 2
Service 2
Change 3
Service 3
Aggregate
View

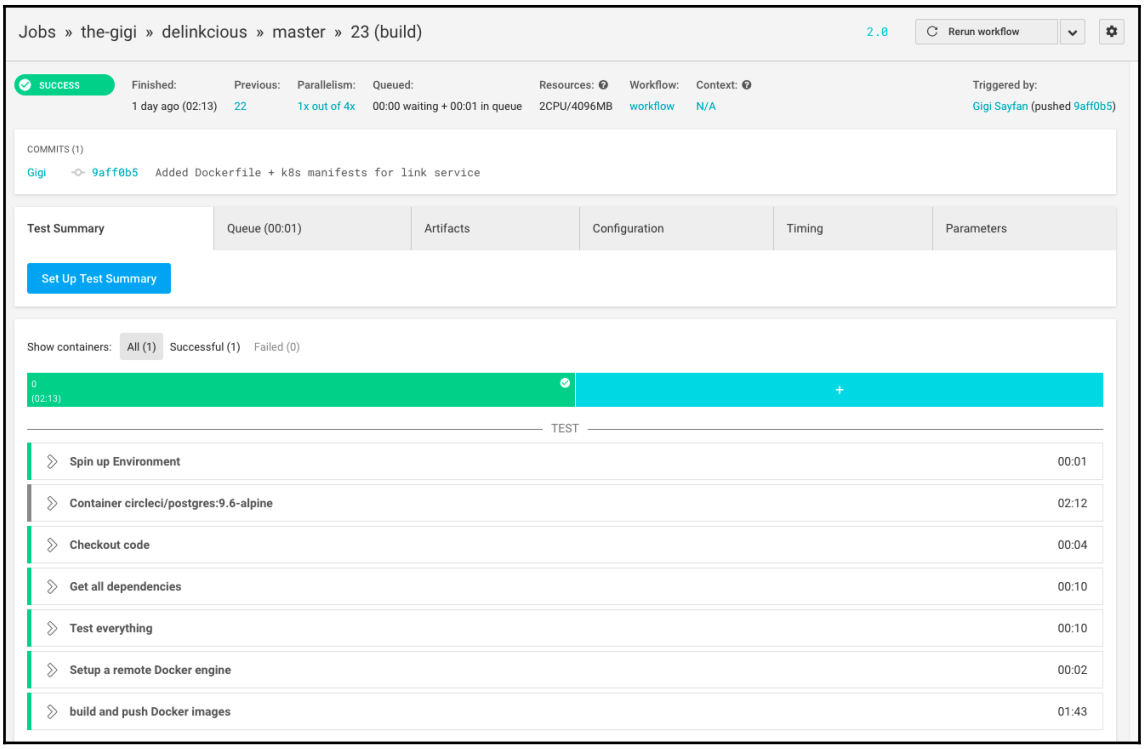

Query 1
Service 1
Query
API
Composer
Query 2
Service 2
Query 3
Service 3

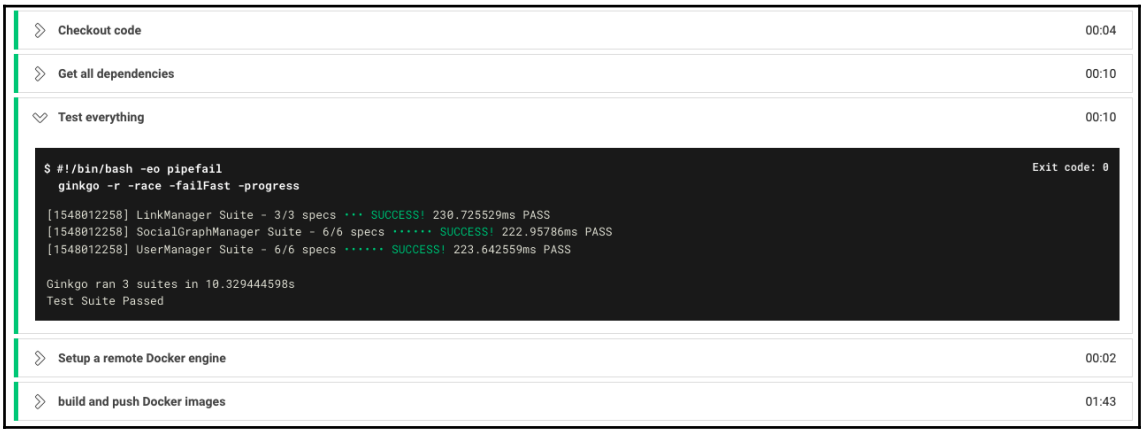
Chapter 3: Delinkcious - the Sample Application

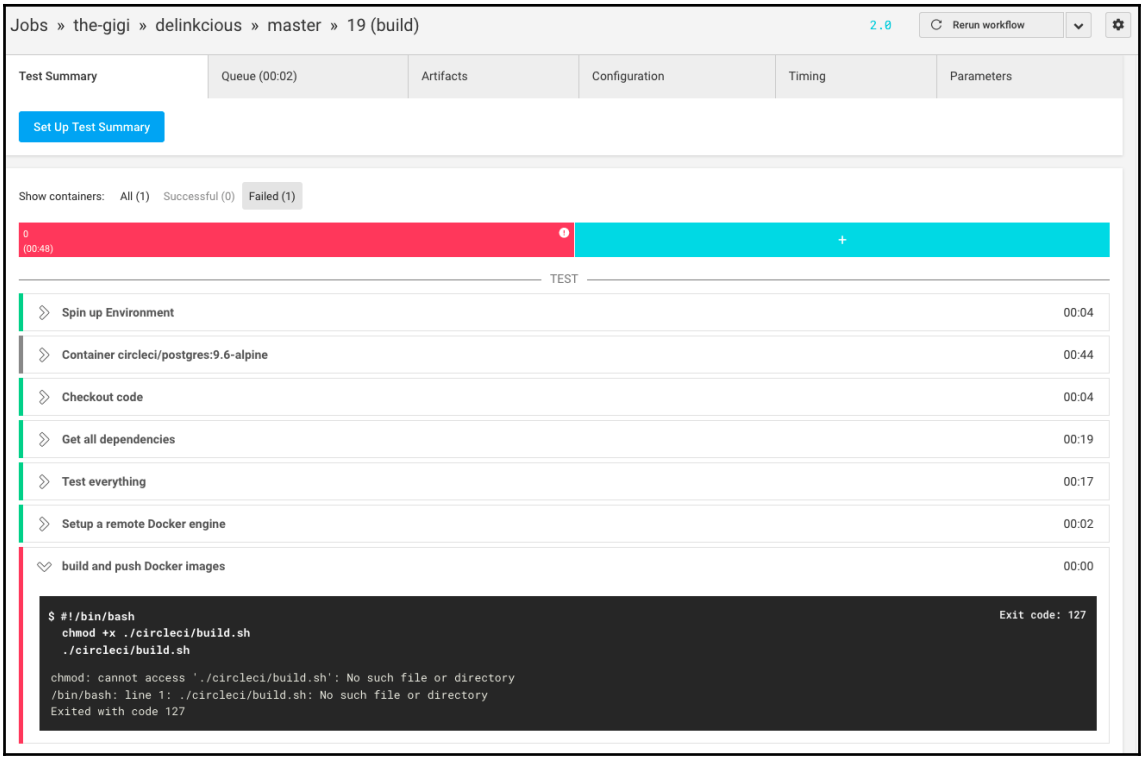


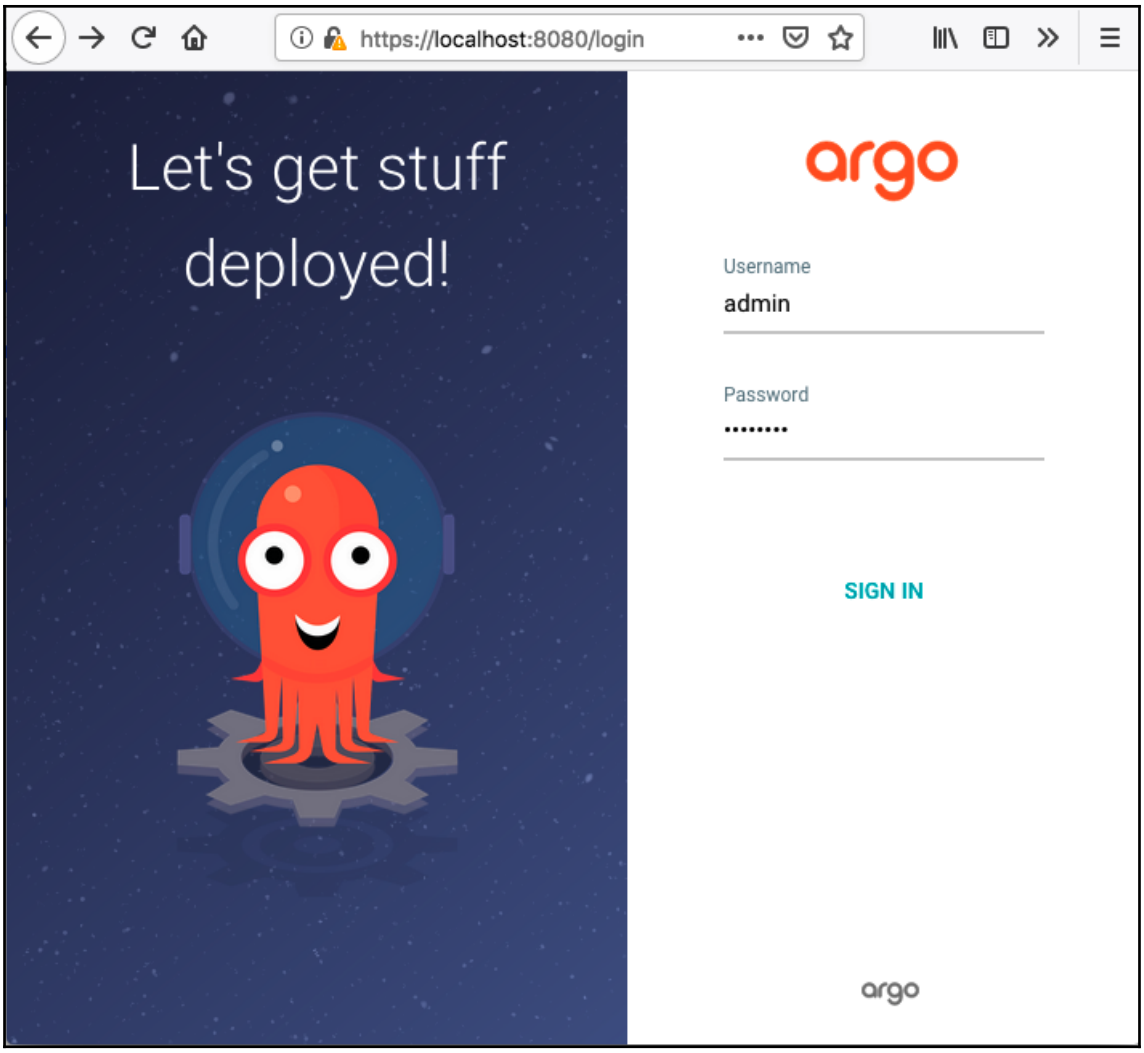
Chapter 4: Setting Up the CI/CD Pipeline

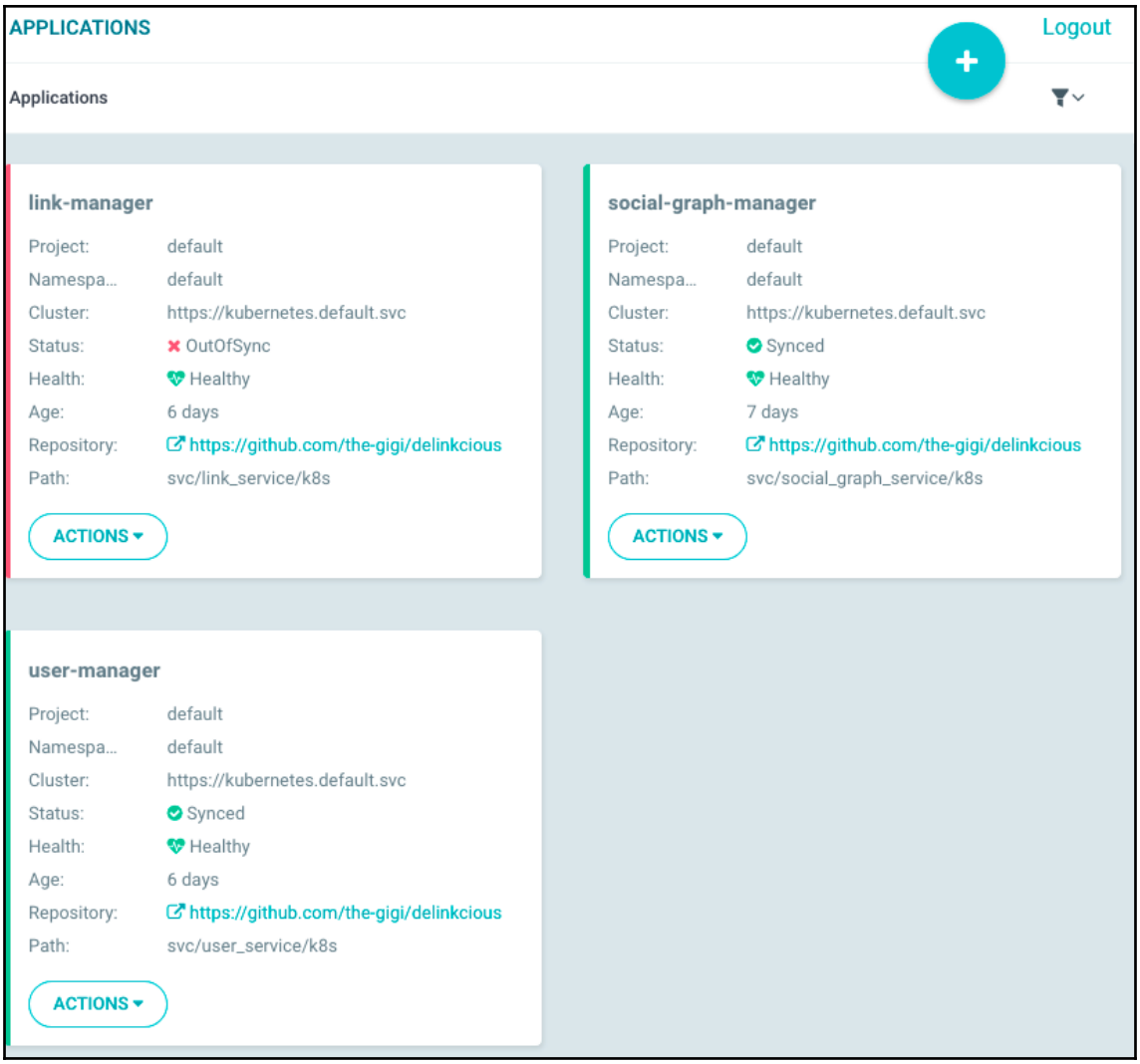


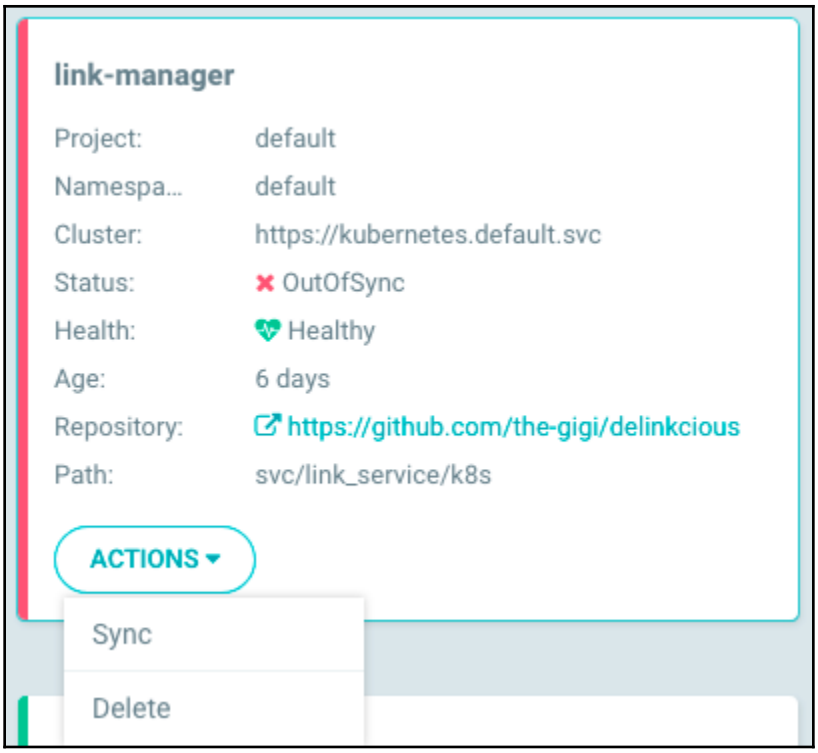

Jobs » the-gigi » delinkcious » master » 23 (build)
2.0
Rerun workflow
SUCCESS
Finished:
1 day ago (02:13)
Previous:
22
Parallelism:
1x out of 4x
Queued:
00:00 waiting + 00:01 in queue
Resources:
2CPU/4096MB
Workflow:
workflow
Context:
N/A
Triggered by:
Gigi Sayfan (pushed 9aff0b5)
COMMITS (1)
Gigi 9aff0b5 Added Dockerfile + k8s manifests for link service
Test Summary
Queue (00:01)
Artifacts
Configuration
Timing
Parameters
Set Up Test Summary
Show containers:
All (1)
Successful (1)
Failed (0)
0
(02:13)
+
TEST
Spin up Environment 00:01
Container circleci/postgres:9.6-alpine 02:12
Checkout code 00:04
Get all dependencies 00:10
Test everything 00:10
Setup a remote Docker engine 00:02
build and push Docker images 01:43

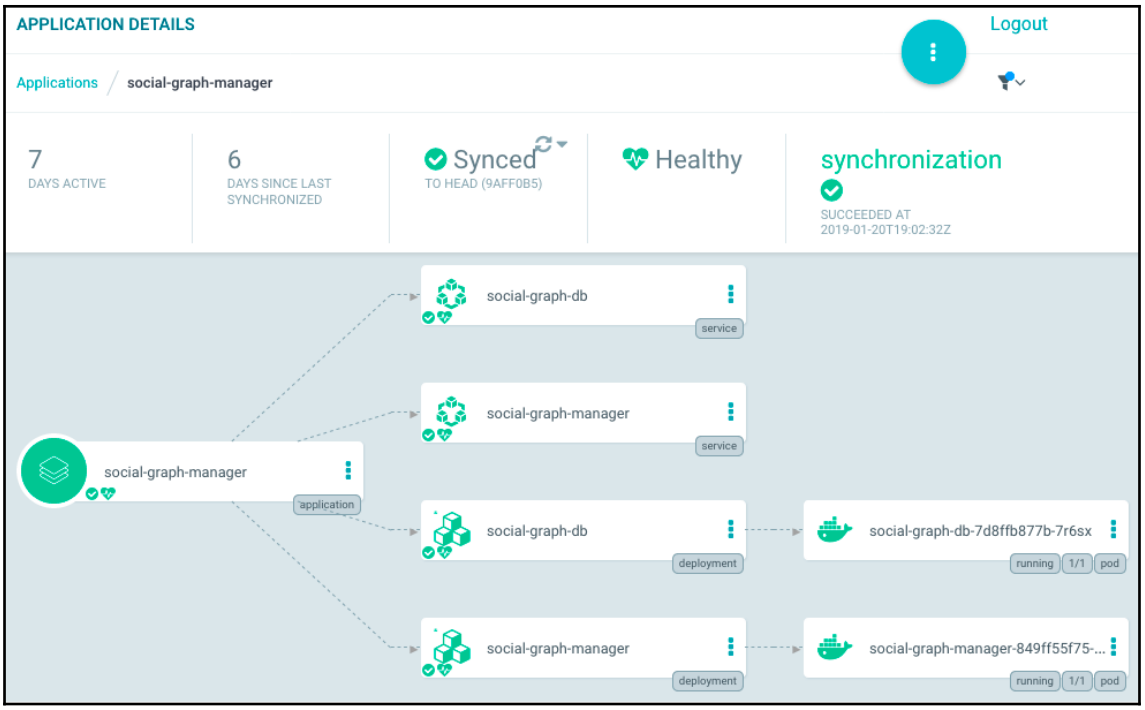

Checkout code 00:04
Get all dependencies 00:10
Test everything 00:10
$ #!/bin/bash -eo pipefail
ginkgo -r -race -failFast -progress
Exit code: 0
[1548012258] LinkManager Suite - 3/3 specs ••• SUCCESS! 230.725529ms PASS
[1548012258] SocialGraphManager Suite - 6/6 specs •••••• SUCCESS! 222.95786ms PASS
[1548012258] UserManager Suite - 6/6 specs •••••• SUCCESS! 223.642559ms PASS
Ginkgo ran 3 suites in 10.329444598s
Test Suite Passed
Setup a remote Docker engine 00:02
build and push Docker images 01:43

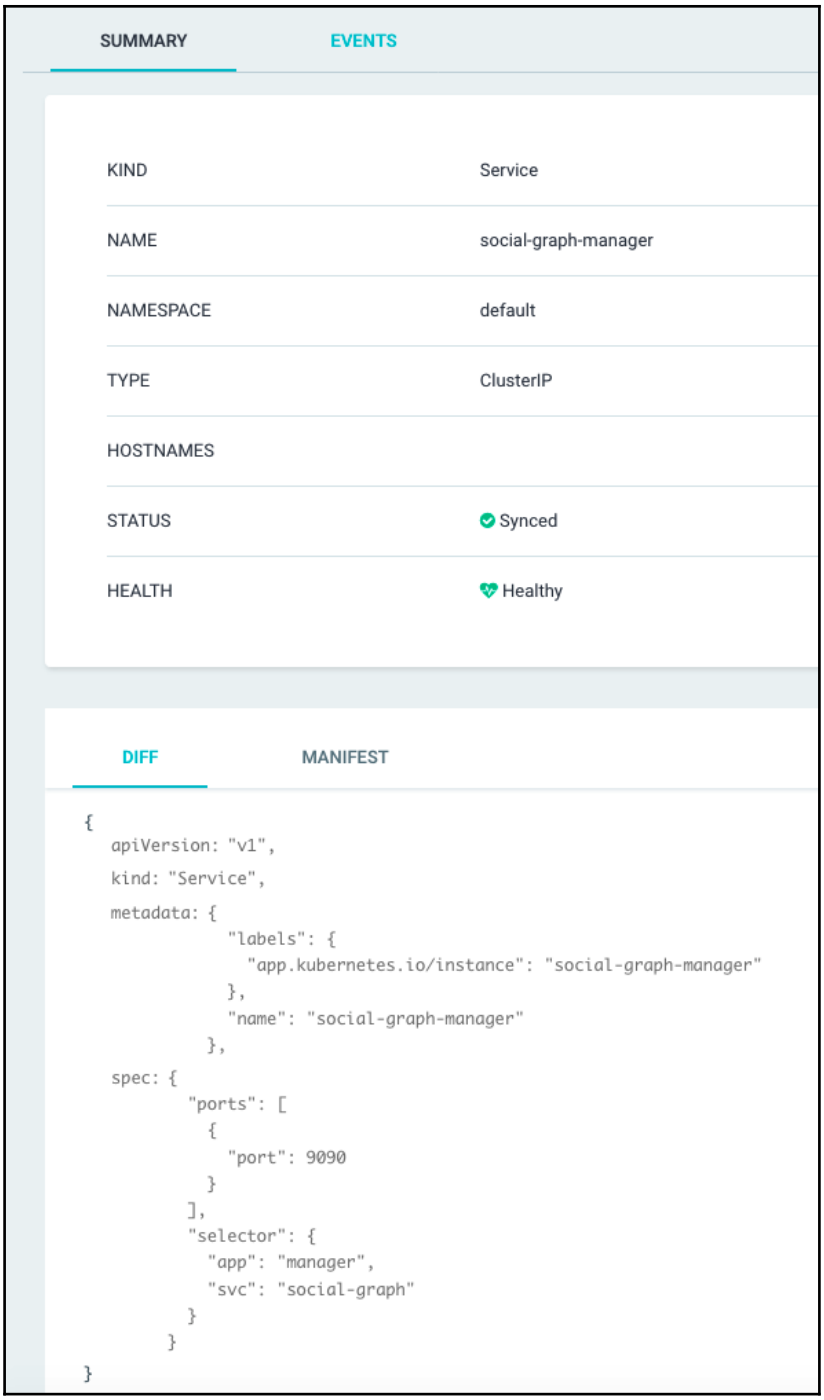

Jobs » the-gigi » delinkcious » master » 19 (build)
2.0
Rerun workflow
Test Summary
Queue (00:02)
Artifacts
Configuration
Timing
Parameters
Set Up Test Summary
Show containers:
All (1)
Successful (0)
Failed (1)
0
(00:48)
+
TEST
Spin up Environment
00:04
Container circleci/postgres:9.6-alpine
00:44
Checkout code
00:04
Get all dependencies
00:19
Test everything
00:17
Setup a remote Docker engine
00:02
build and push Docker images
00:00
$ #!/bin/bash
chmod +x ./circleci/build.sh
./circleci/build.sh
Exit code: 127
chmod: cannot access './circleci/build.sh': No such file or directory
/bin/bash: line 1: ./circleci/build.sh: No such file or directory
Exited with code 127

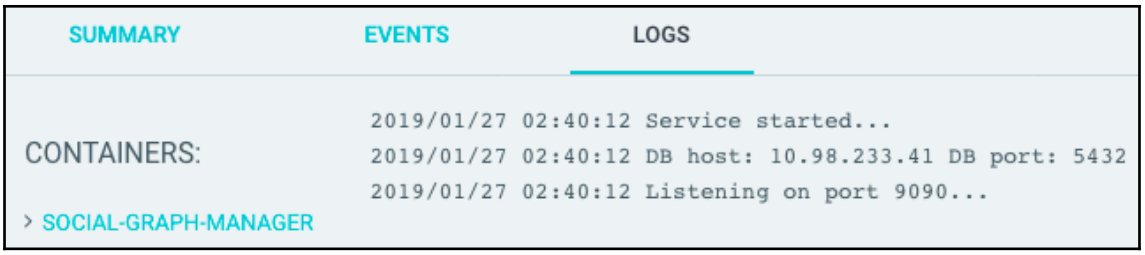

https://localhost:8080/login
Let's get stuff deployed!
argo
Username
admin
Password
••••••••
SIGN IN
argo


APPLICATIONS
Logout
Applications
link-manager
Project: default
Namespa... default
Cluster: https://kubernetes.default.svc
Status: OutOfSync
Health: Healthy
Age: 6 days
Repository: https://github.com/the-gigi/delinkcious
Path: svc/link_service/k8s
ACTIONS
social-graph-manager
Project: default
Namespa... default
Cluster: https://kubernetes.default.svc
Status: Synced
Health: Healthy
Age: 7 days
Repository: https://github.com/the-gigi/delinkcious
Path: svc/social_graph_service/k8s
ACTIONS
user-manager
Project: default
Namespa... default
Cluster: https://kubernetes.default.svc
Status: Synced
Health: Healthy
Age: 6 days
Repository: https://github.com/the-gigi/delinkcious
Path: svc/user_service/k8s
ACTIONS

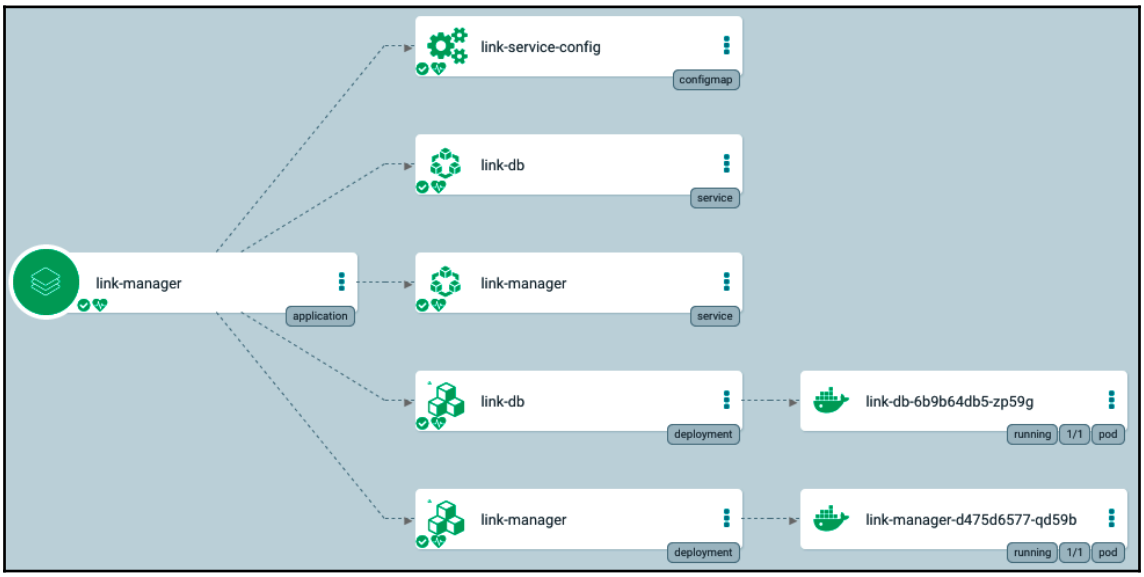

link-manager
Project: default
Namespa... default
Cluster: https://kubernetes.default.svc
Status: OutOfSync
Health: Healthy
Age: 6 days
Repository: https://github.com/the-gigi/delinkcious
Path: svc/link_service/k8s
ACTIONS
Sync
Delete

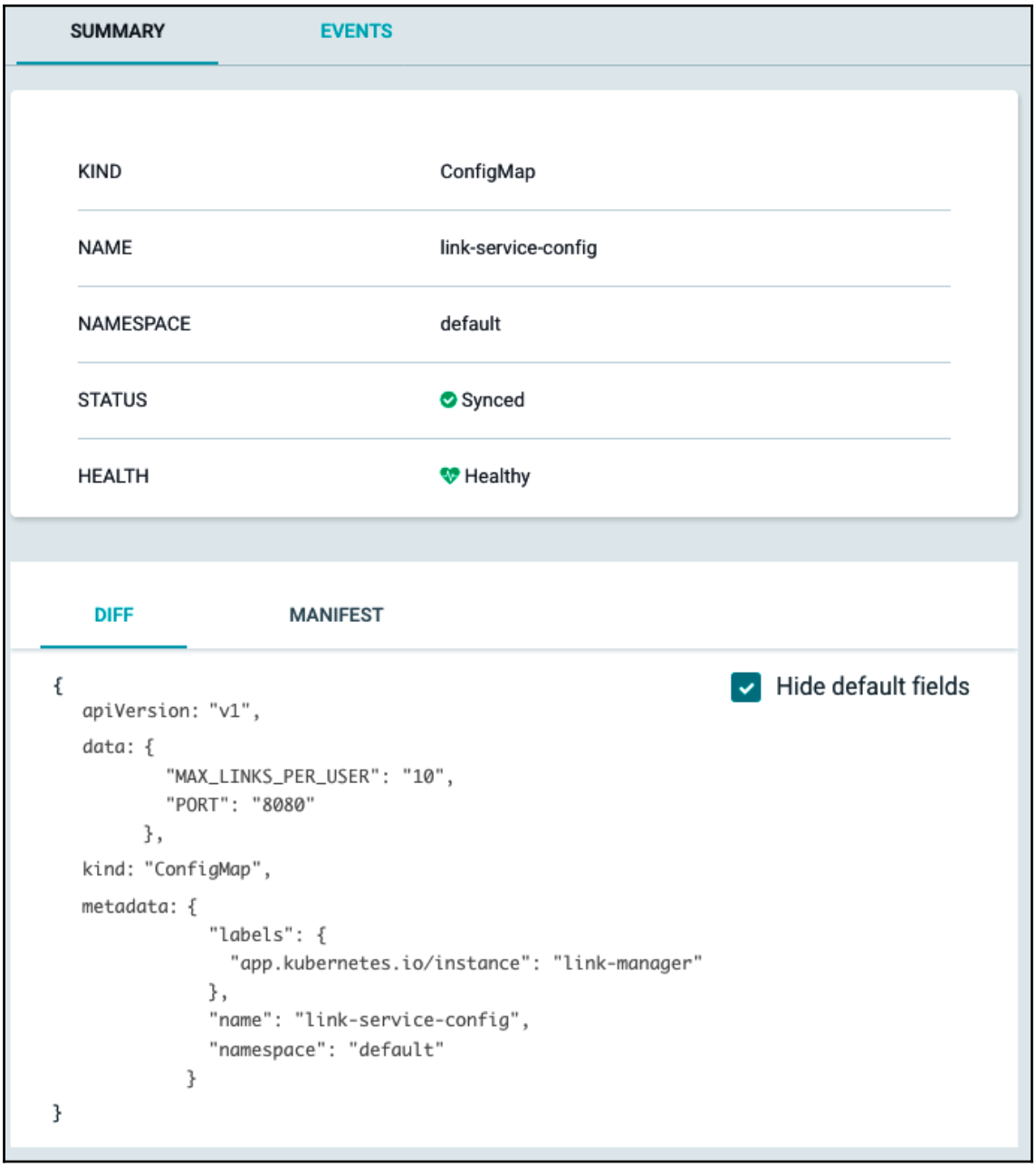

APPLICATION DETAILS
Logout
Applications
social-graph-manager
7
DAYS ACTIVE
6
DAYS SINCE LAST SYNCHRONIZED
Synced
TO HEAD (9AFF0B5)
Healthy
synchronization
SUCCEEDED AT
2019-01-20T19:02:32Z
social-graph-db
service
social-graph-manager
service
social-graph-manager
application
social-graph-db
deployment
social-graph-db-7d8ffb877b-7r6sx
running
1/1
pod
social-graph-manager
deployment
social-graph-manager-849ff55f75-...
running
1/1
pod


SUMMARY
EVENTS
KIND
Service
NAME
social-graph-manager
NAMESPACE
default
TYPE
ClusterIP
HOSTNAMES
STATUS
Synced
HEALTH
Healthy
DIFF
MANIFEST
{
apiVersion: "v1",
kind: "Service",
metadata: {
"labels": {
"app.kubernetes.io/instance": "social-graph-manager"
},
"name": "social-graph-manager"
},
spec: {
"ports": [
{
"port": 9090
}
],
"selector": {
"app": "manager",
"svc": "social-graph"
}
}
}

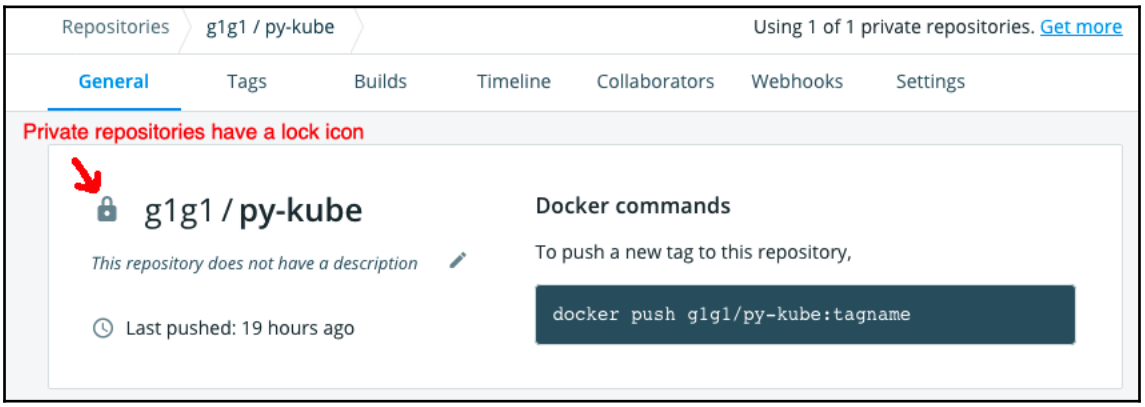

SUMMARY
EVENTS
LOGS
CONTAINERS:
> SOCIAL-GRAPH-MANAGER
2019/01/27 02:40:12 Service started...
2019/01/27 02:40:12 DB host: 10.98.233.41 DB port: 5432
2019/01/27 02:40:12 Listening on port 9090...

Chapter 5: Configuring Microservices with Kubernetes

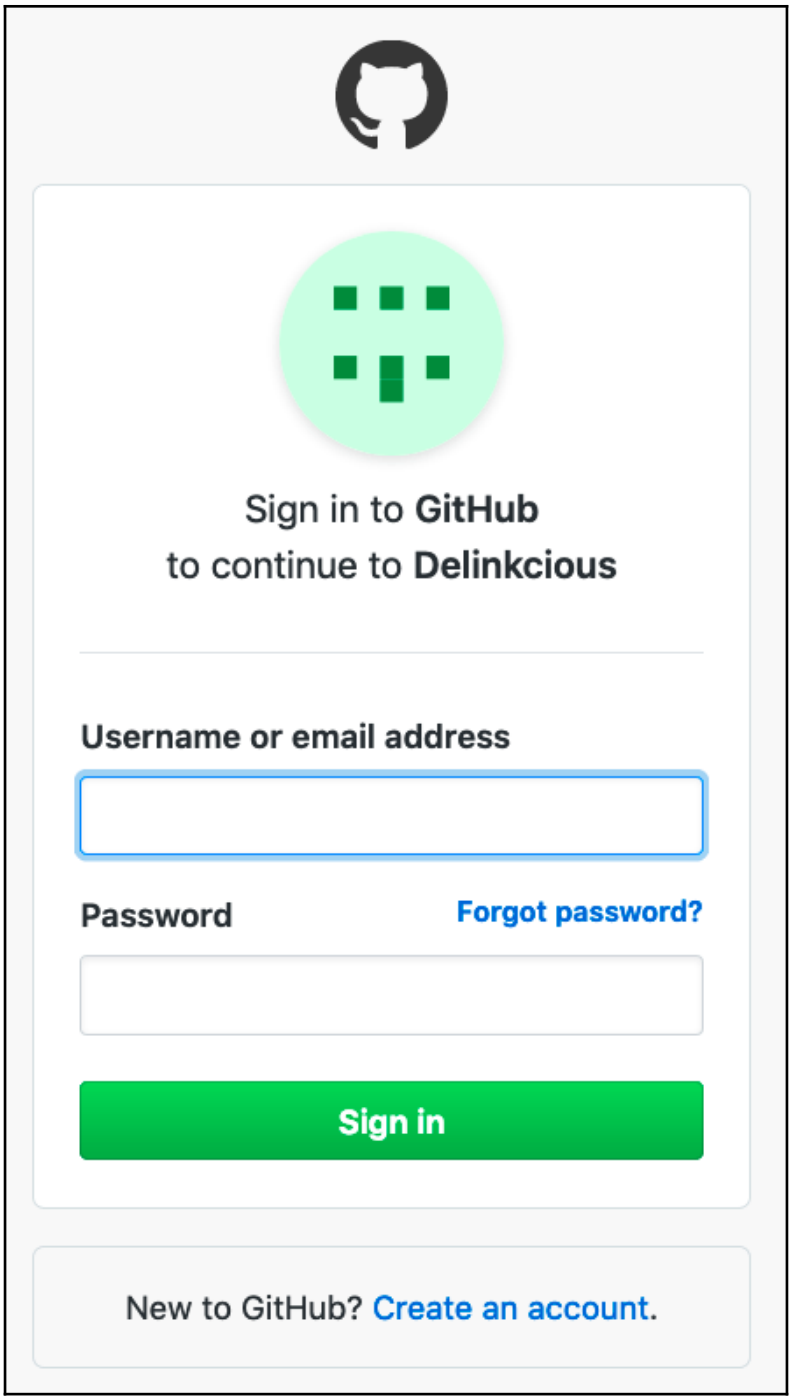


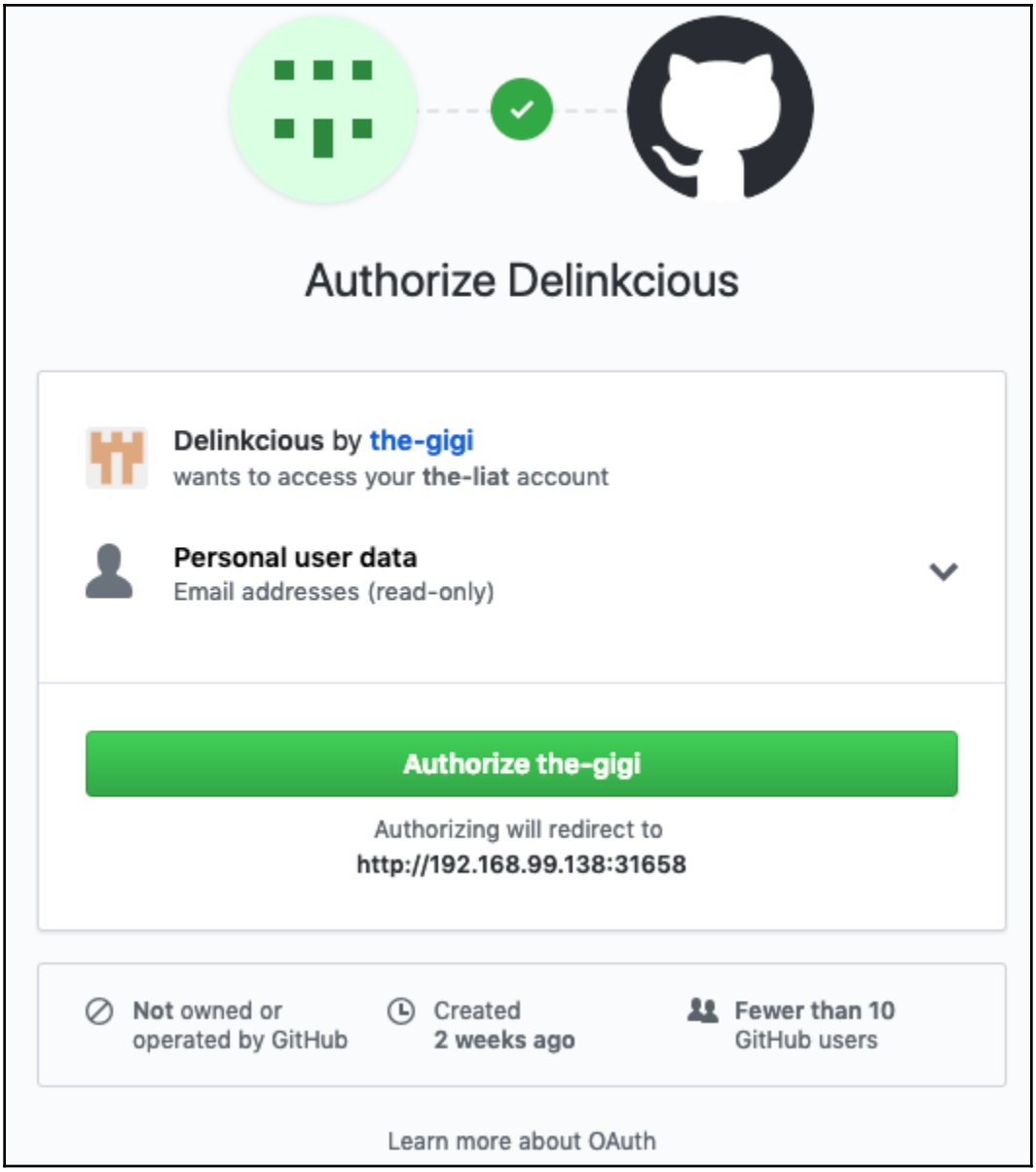

SUMMARY
EVENTS
KIND
ConfigMap
NAME
link-service-config
NAMESPACE
default
STATUS
Synced
HEALTH
Healthy
DIFF
MANIFEST
Hide default fields
{
apiVersion: "v1",
data: {
"MAX_LINKS_PER_USER": "10",
"PORT": "8080"
},
kind: "ConfigMap",
metadata: {
"labels": {
"app.kubernetes.io/instance": "link-manager"
},
"name": "link-service-config",
"namespace": "default"
}
}

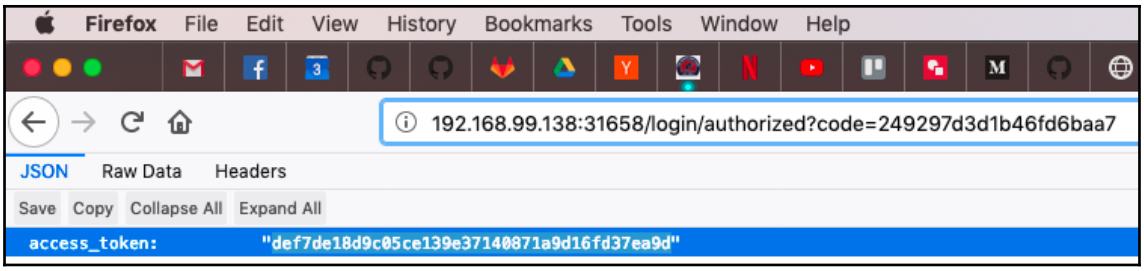
Chapter 6: Securing Microservices on Kubernetes

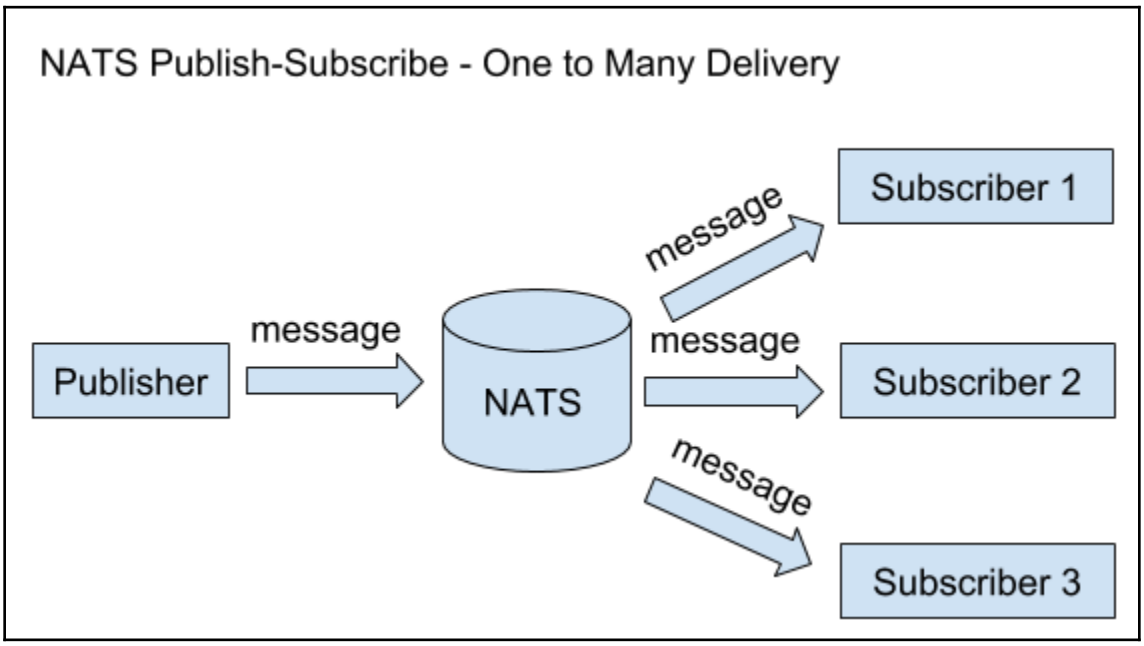


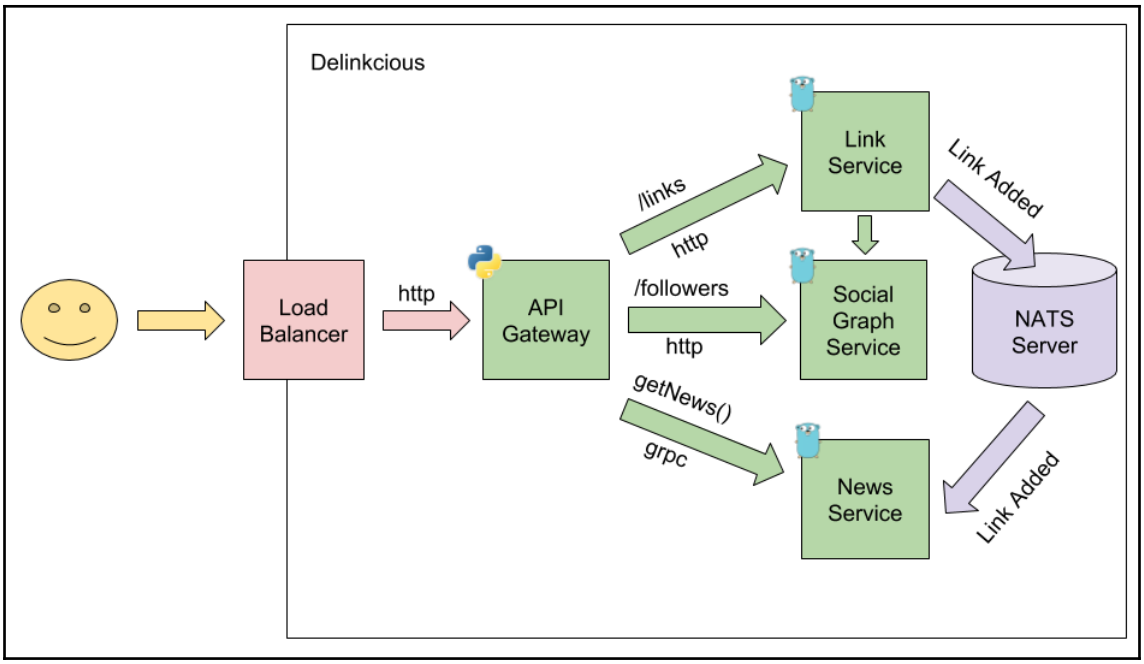
Chapter 7: Talking to the World - APIs and Load Balancers


Sign in to GitHub
to continue to Delinkcious
Username or email address
Password
Forgot password?
Sign in
New to GitHub? Create an account.

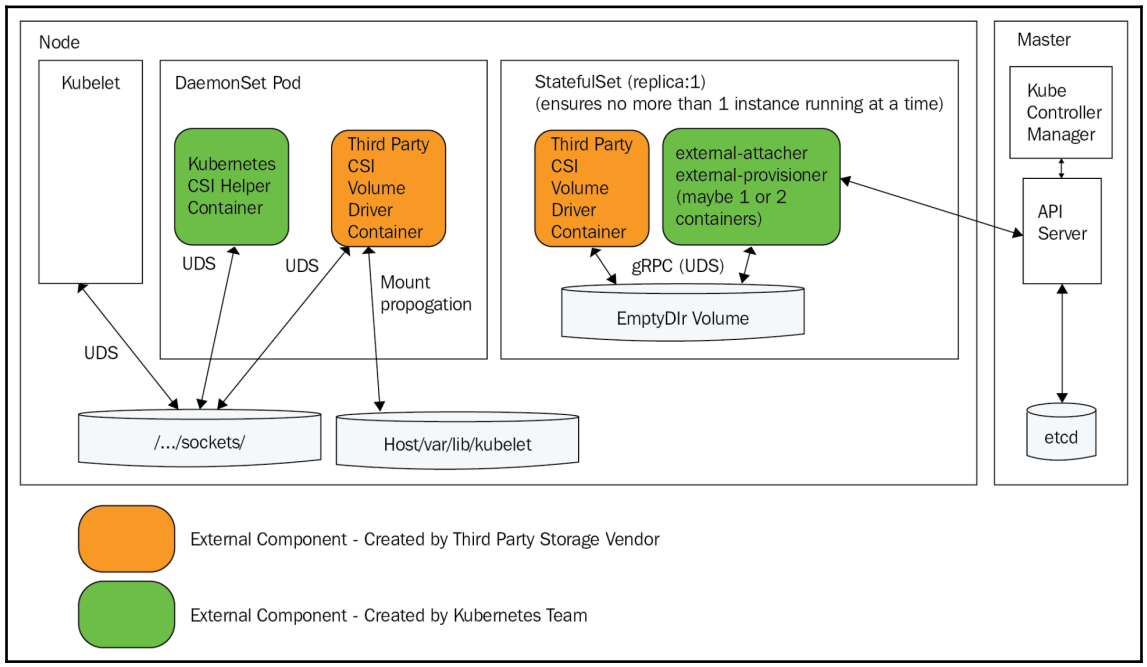

Authorize Delinkcious
Delinkcious by the-gigi
wants to access your the-liat account
Personal user data
Email addresses (read-only)
Authorize the-gigi
Authorizing will redirect to
http://192.168.99.138:31658
Not owned or operated by GitHub
Created 2 weeks ago
Fewer than 10 GitHub users
Learn more about OAuth

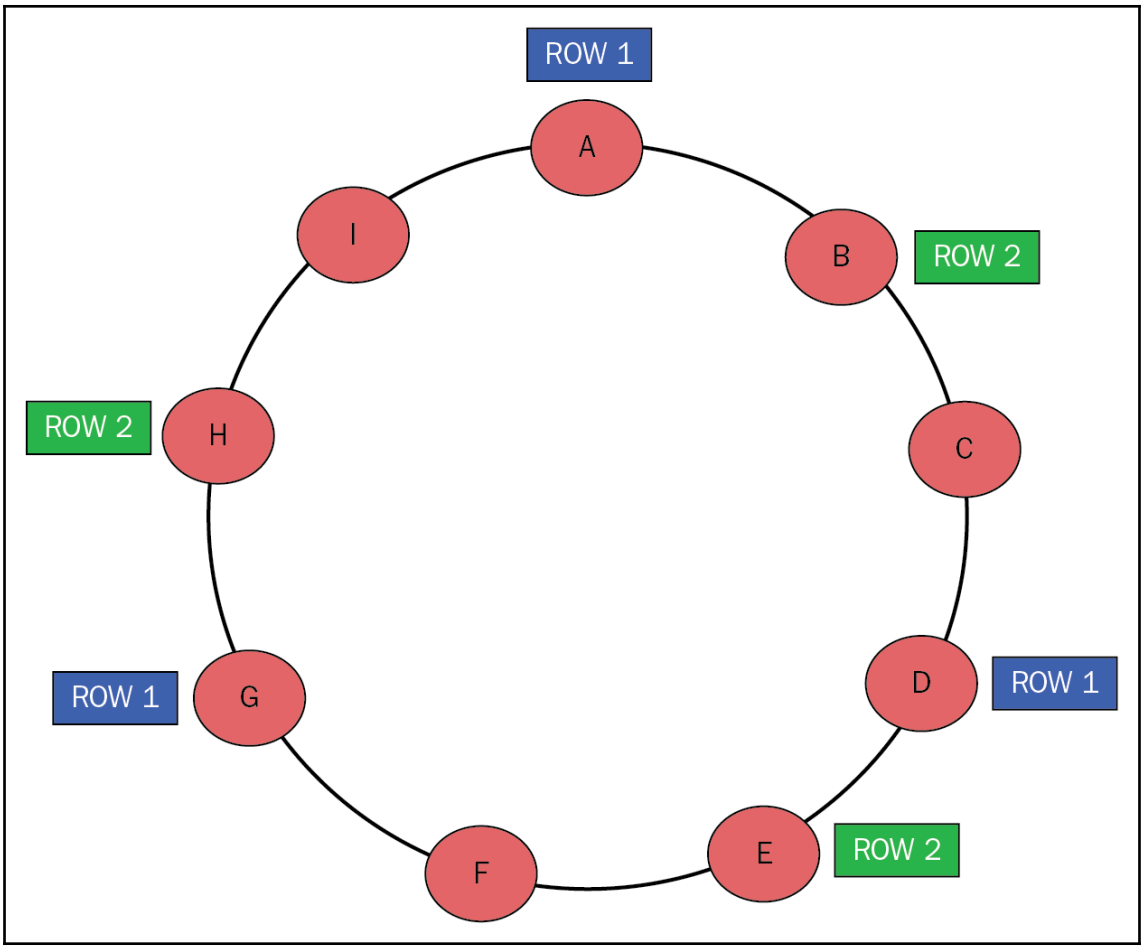

Firefox File Edit View History Bookmarks Tools Window Help
192.168.99.138:31658/login/authorized?code=249297d3d1b46fd6baa7
JSON Raw Data Headers
Save Copy Collapse All Expand All
access_token: "def7de18d9c05ce139e37140871a9d16fd37ea9d"


NATS Publish-Subscribe - One to Many Delivery
Publisher
message
NATS
message
Subscriber 1
message
Subscriber 2
message
Subscriber 3

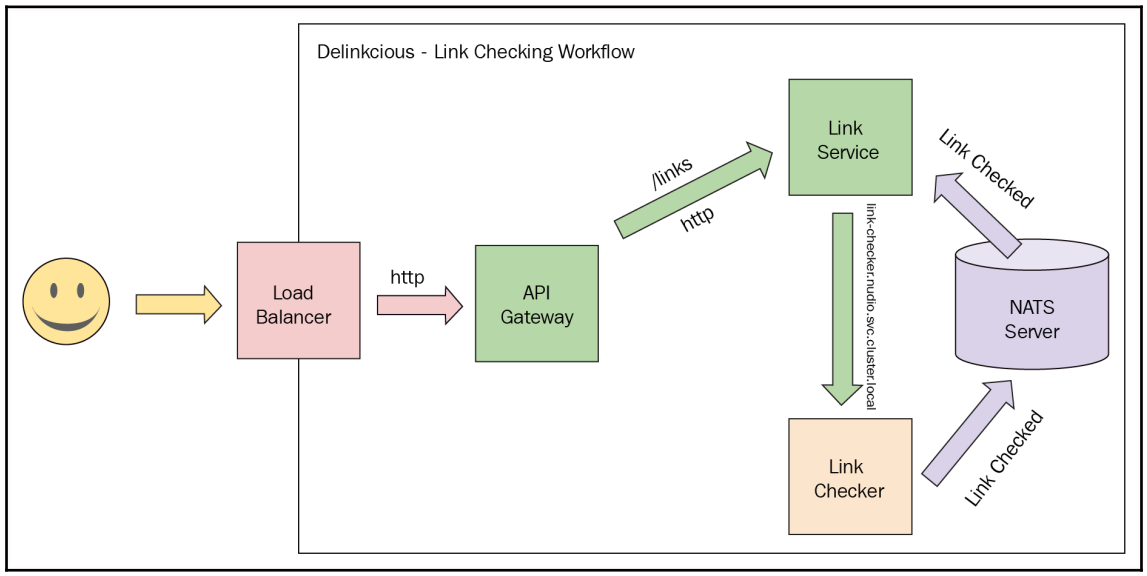

Delinkcious
Load Balancer
http
API Gateway
/links
http
Link Service
Link Added
/followers
http
Social Graph Service
NATS Server
getNews()
grpc
News Service
Link Added

Chapter 8: Working with Stateful Services



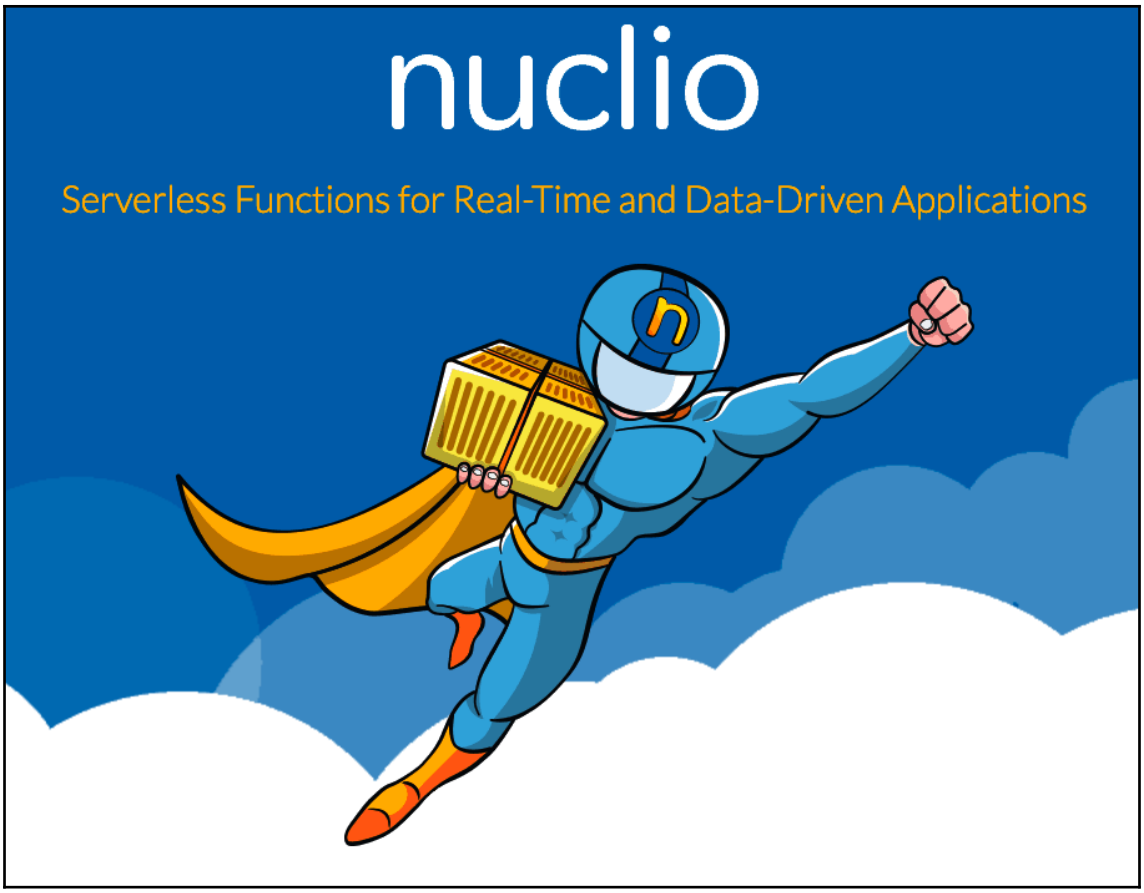

ROW 1
A
B
ROW 2
C
D
ROW 1
E
ROW 2
F
G
ROW 1
H
ROW 2
I

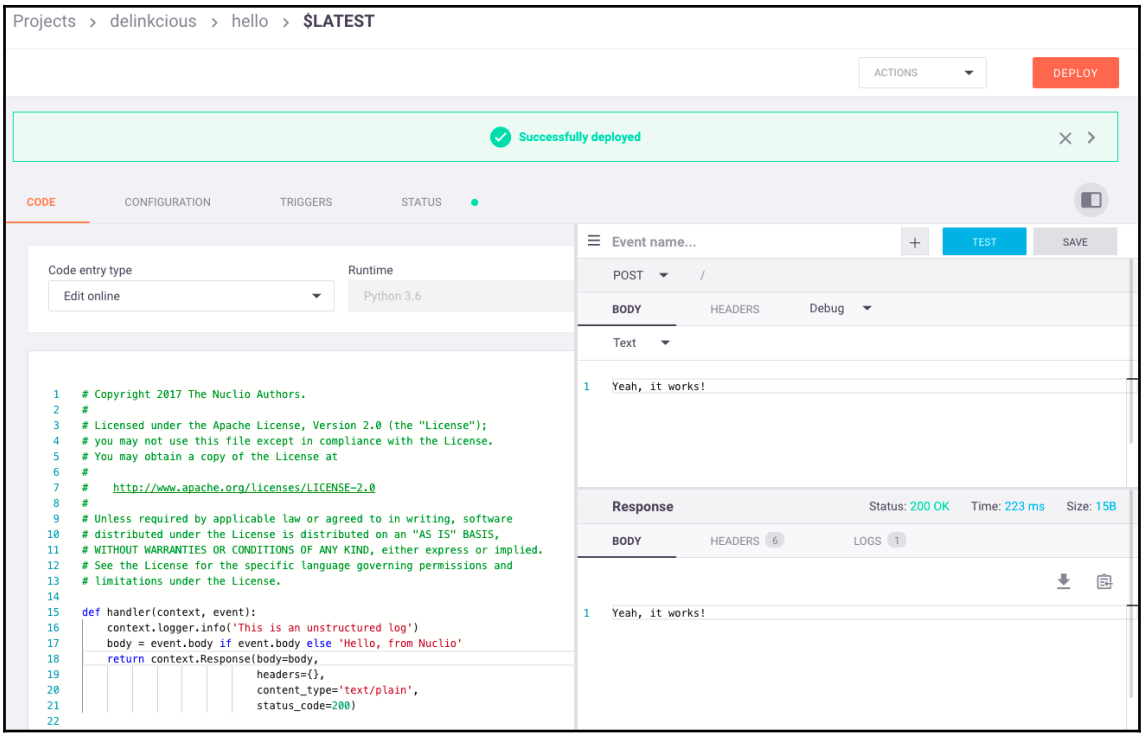
Chapter 9: Running Serverless Tasks on Kubernetes



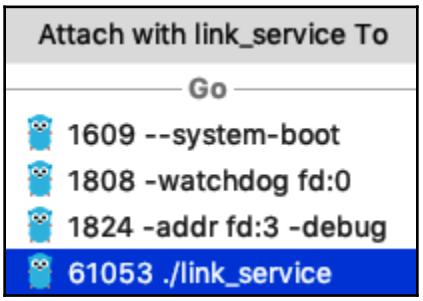
nuclio

Serverless Functions for Real-Time and Data-Driven Applications

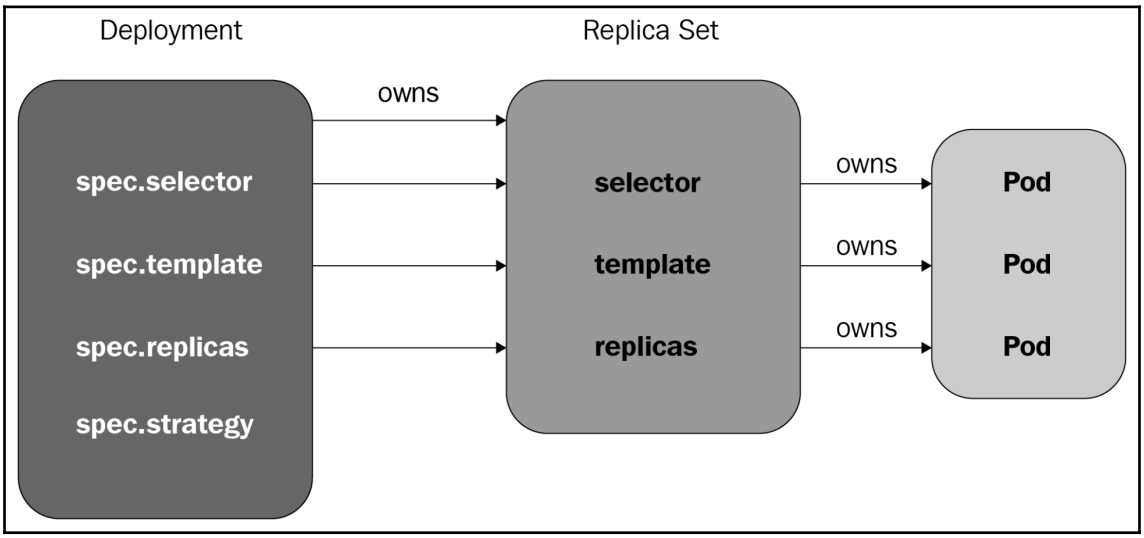


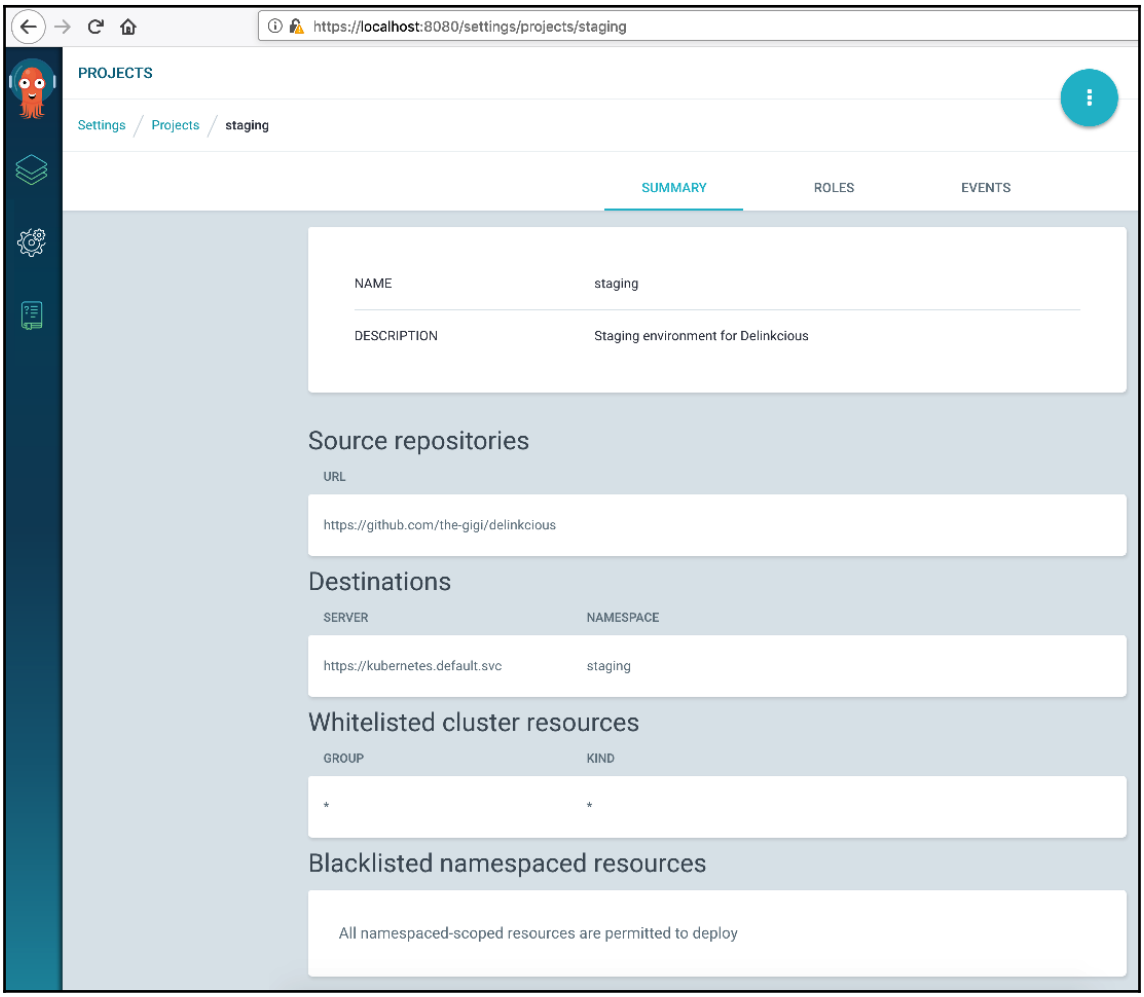

Projects › delinkcious › hello › $LATEST
ACTIONS
DEPLOY
Successfully deployed
CODE
CONFIGURATION
TRIGGERS
STATUS
Code entry type
Edit online
Runtime
Python 3.6
Copyright 2017 The Nuclio Authors.
#
Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at
#
http://www.apache.org/licenses/LICENSE-2.0
#
# Unless required by applicable law or agreed to in writing, software
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
# See the License for the specific language governing permissions and
# limitations under the License.
def handler(context, event):
context.logger.info('This is an unstructured log')
body = event.body if event.body else 'Hello, from Nuclio'
return context.Response(body=body,
headers={},
content_type='text/plain',
status_code=200)
Event name...
TEST
SAVE
POST
/
BODY
HEADERS
Debug
Text
1 Yeah, it works!
Response
Status: 200 OK
Time: 223 ms
Size: 15B
BODY
HEADERS 6
LOGS 1
1 Yeah, it works!

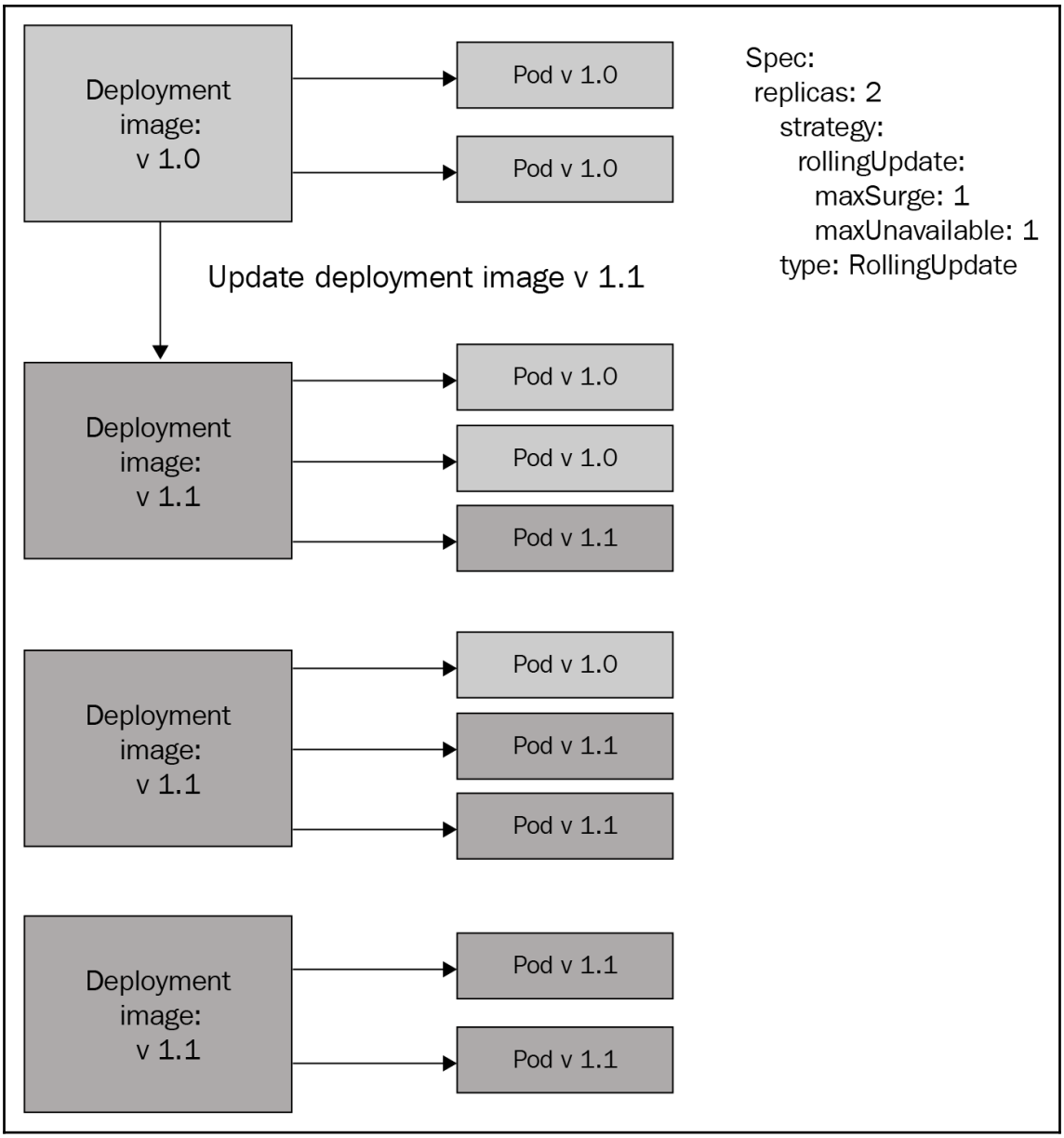
Chapter 10: Testing Microservices

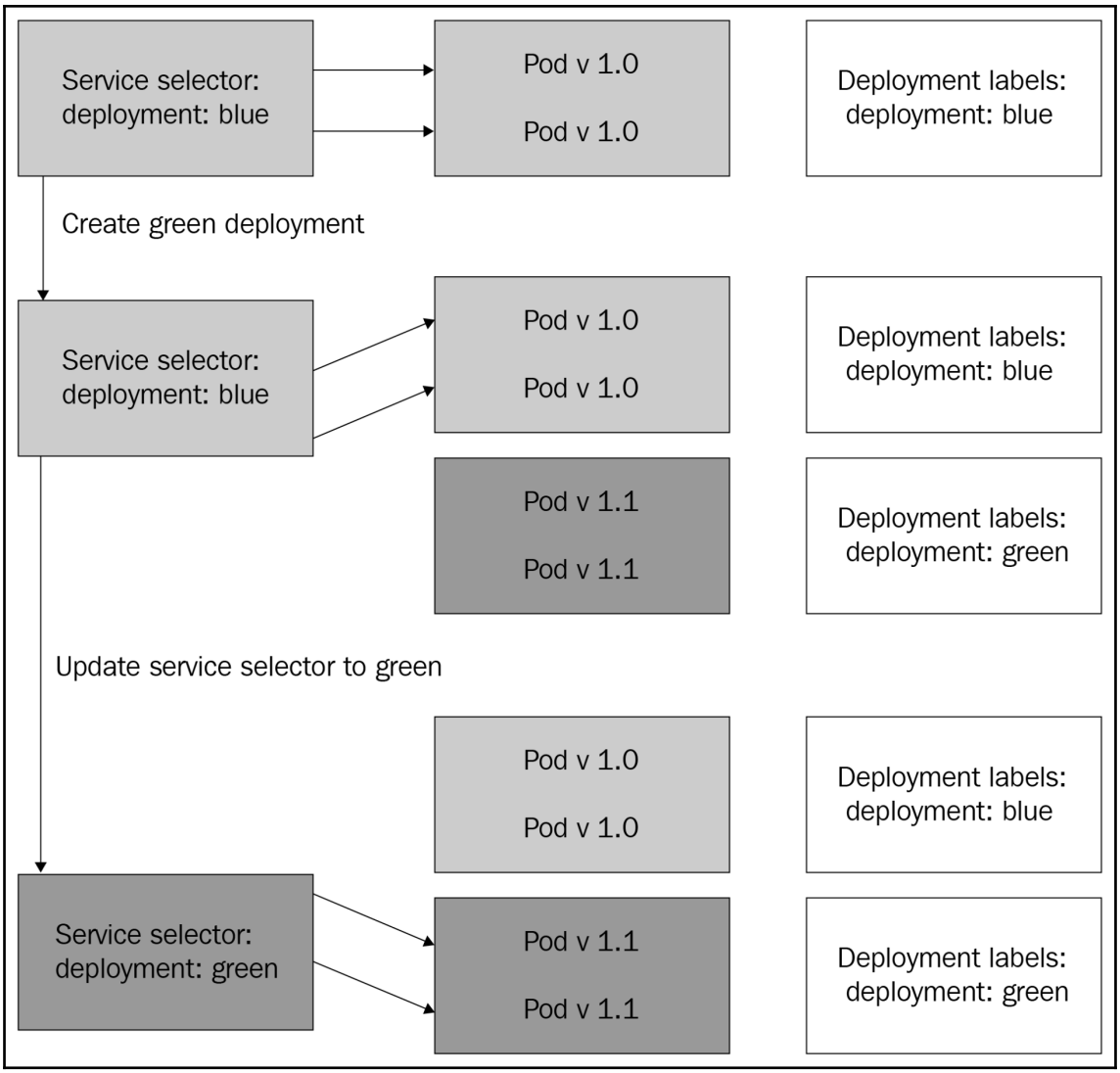


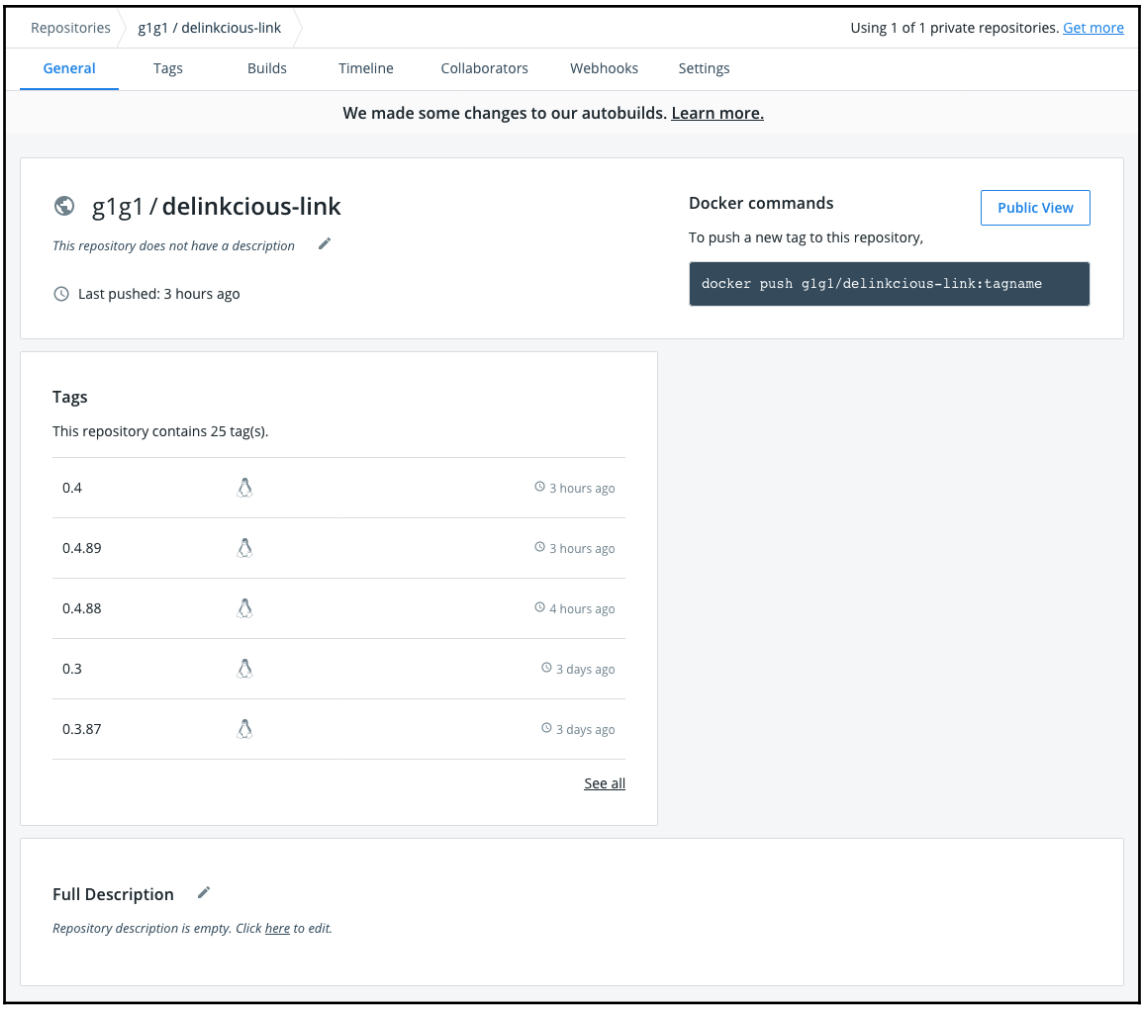
Chapter 11: Deploying Microservices

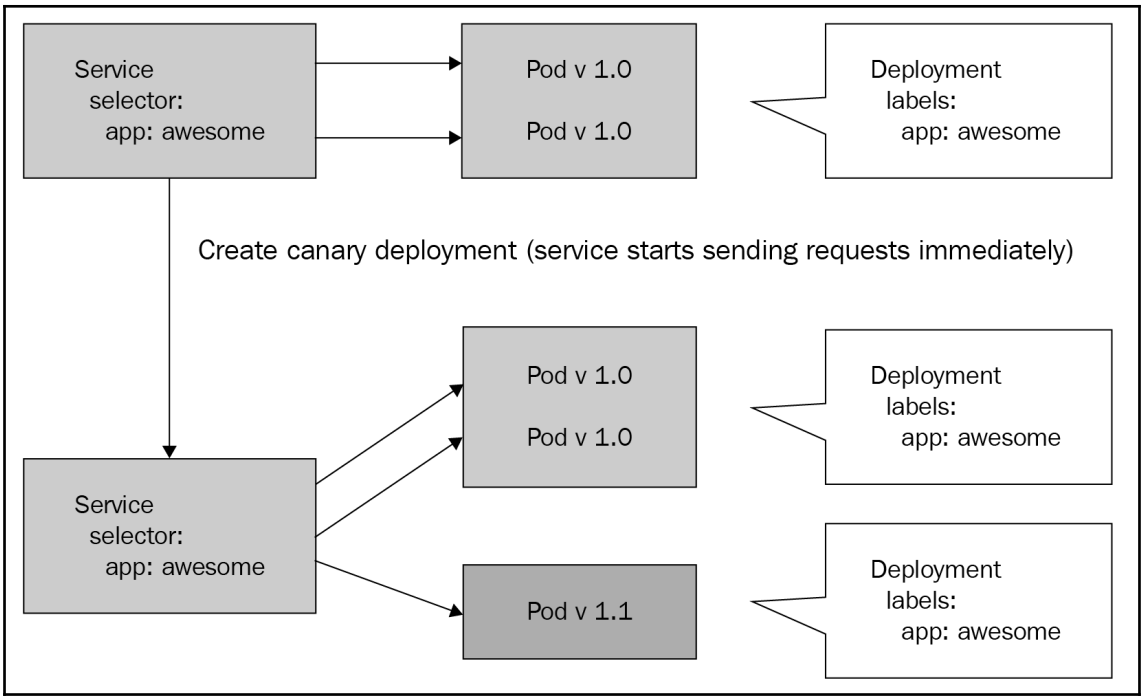


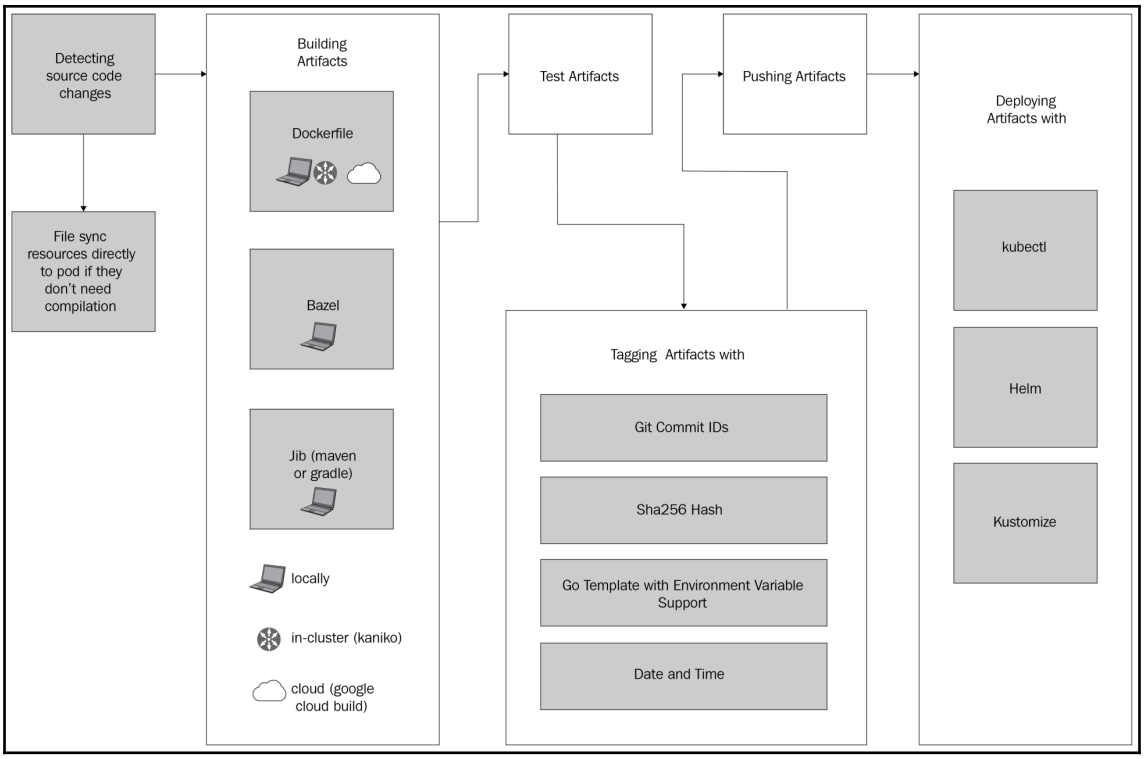

https://localhost:8080/settings/projects/staging
PROJECTS
Settings / Projects / staging
SUMMARY
ROLES
EVENTS
NAME
staging
DESCRIPTION
Staging environment for Delinkcious
Source repositories
URL
https://github.com/the-gigi/delinkcious
Destinations
SERVER
NAMESPACE
https://kubernetes.default.svc
staging
Whitelisted cluster resources
GROUP
KIND
*
*
Blacklisted namespaced resources
All namespaced-scoped resources are permitted to deploy

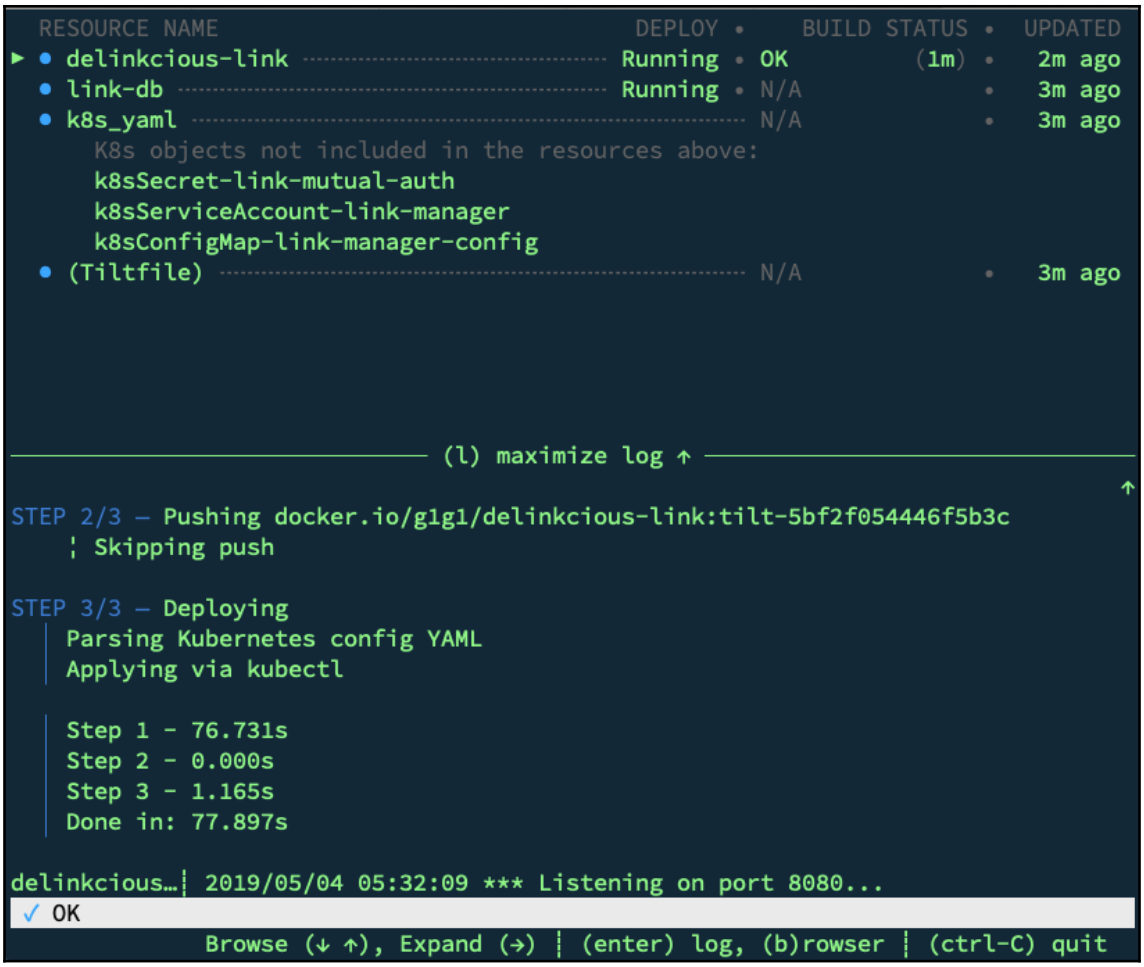

Deployment
image:
v 1.0
Pod v 1.0
Pod v 1.0
Spec:
replicas: 2
strategy:
rollingUpdate:
maxSurge: 1
maxUnavailable: 1
type: RollingUpdate
Update deployment image v 1.1
Deployment
image:
v 1.1
Pod v 1.0
Pod v 1.0
Pod v 1.1
Deployment
image:
v 1.1
Pod v 1.0
Pod v 1.1
Pod v 1.1
Deployment
image:
v 1.1
Pod v 1.1
Pod v 1.1

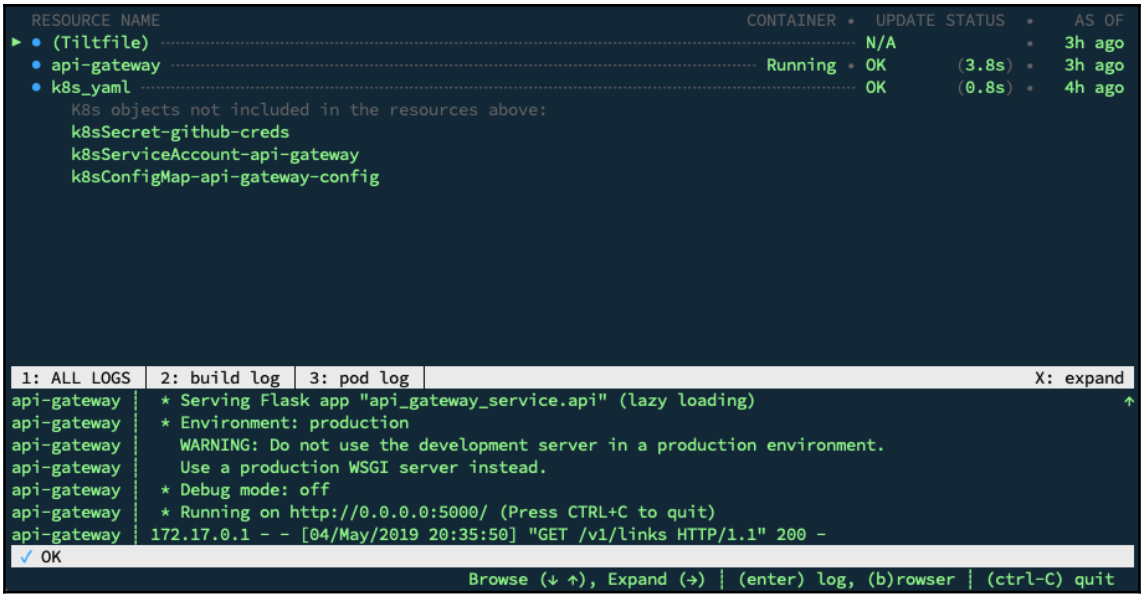

Service selector:
deployment: blue
Pod v 1.0
Pod v 1.0
Deployment labels:
deployment: blue
Create green deployment
Service selector:
deployment: blue
Pod v 1.0
Pod v 1.0
Deployment labels:
deployment: blue
Pod v 1.1
Pod v 1.1
Deployment labels:
deployment: green
Update service selector to green
Pod v 1.0
Pod v 1.0
Deployment labels:
deployment: blue
Service selector:
deployment: green
Pod v 1.1
Pod v 1.1
Deployment labels:
deployment: green

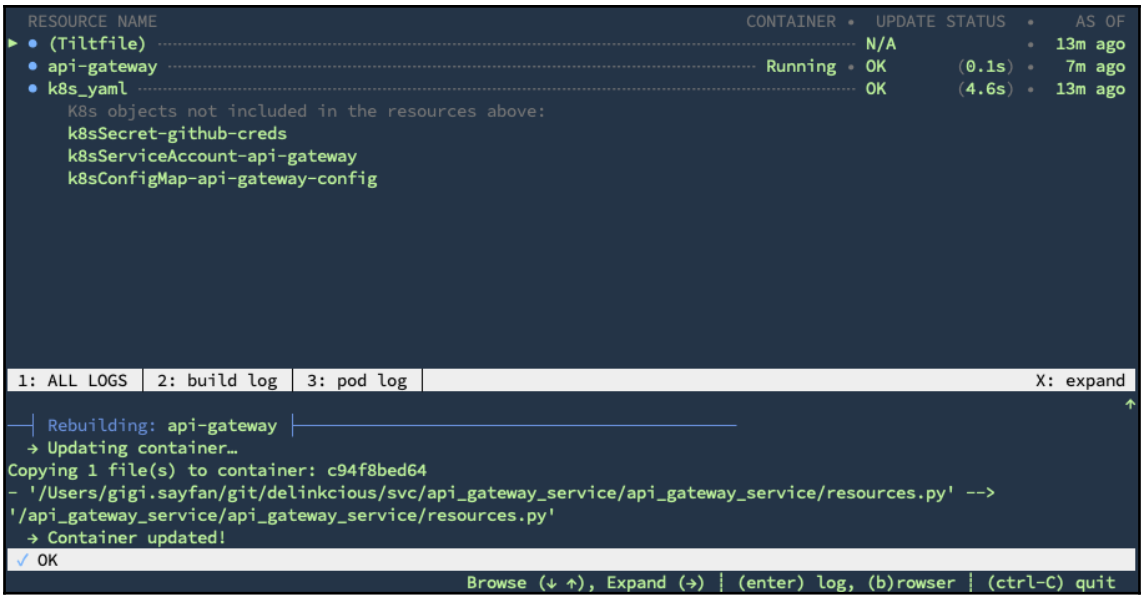

Repositories
g1g1 / delinkcious-link
Using 1 of 1 private repositories. Get more
General
Tags
Builds
Timeline
Collaborators
Webhooks
Settings
We made some changes to our autobuilds. Learn more.
g1g1 / delinkcious-link
This repository does not have a description
Last pushed: 3 hours ago
Docker commands
Public View
To push a new tag to this repository,
docker push g1g1/delinkcious-link:tagname
Tags
This repository contains 25 tag(s).
0.4
3 hours ago
0.4.89
3 hours ago
0.4.88
4 hours ago
0.3
3 days ago
0.3.87
3 days ago
See all
Full Description
Repository description is empty. Click here to edit.


Service
selector:
app: awesome
Pod v 1.0
Pod v 1.0
Deployment
labels:
app: awesome
Create canary deployment (service starts sending requests immediately)
Service
selector:
app: awesome
Pod v 1.0
Pod v 1.0
Deployment
labels:
app: awesome
Pod v 1.1
Deployment
labels:
app: awesome

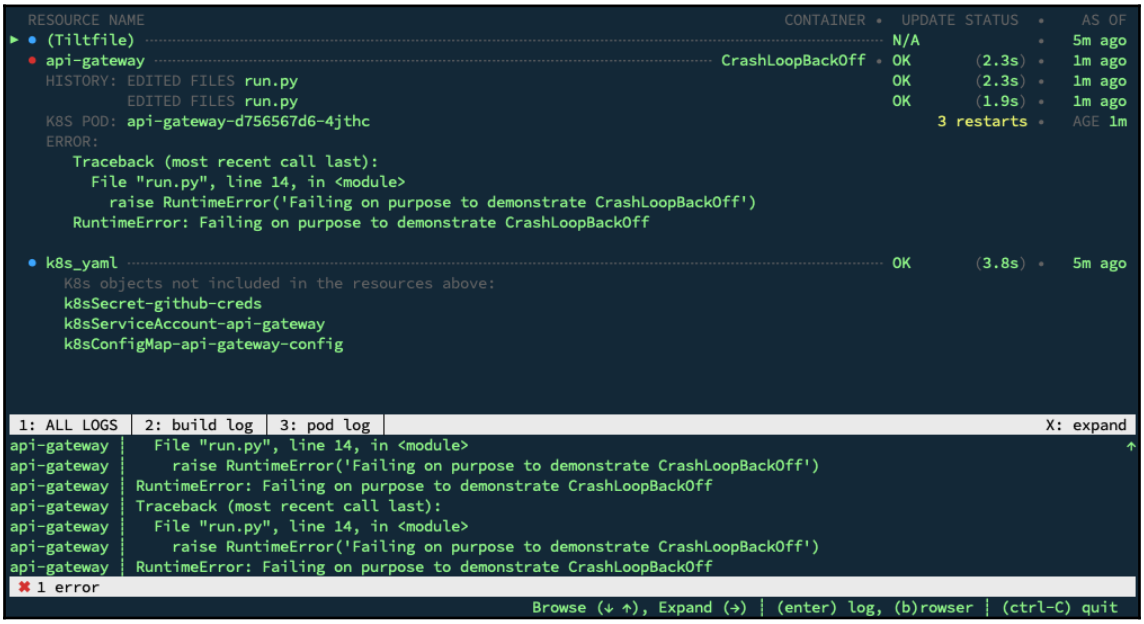

Detecting source code changes
File sync resources directly to pod if they don't need compilation
Building Artifacts
Dockerfile
Bazel
Jib (maven or gradle)
locally
in-cluster (kaniko)
cloud (google cloud build)
Test Artifacts
Tagging Artifacts with
Git Commit IDs
Sha256 Hash
Go Template with Environment Variable Support
Date and Time
Pushing Artifacts
Deploying Artifacts with
kubectl
Helm
Kustomize

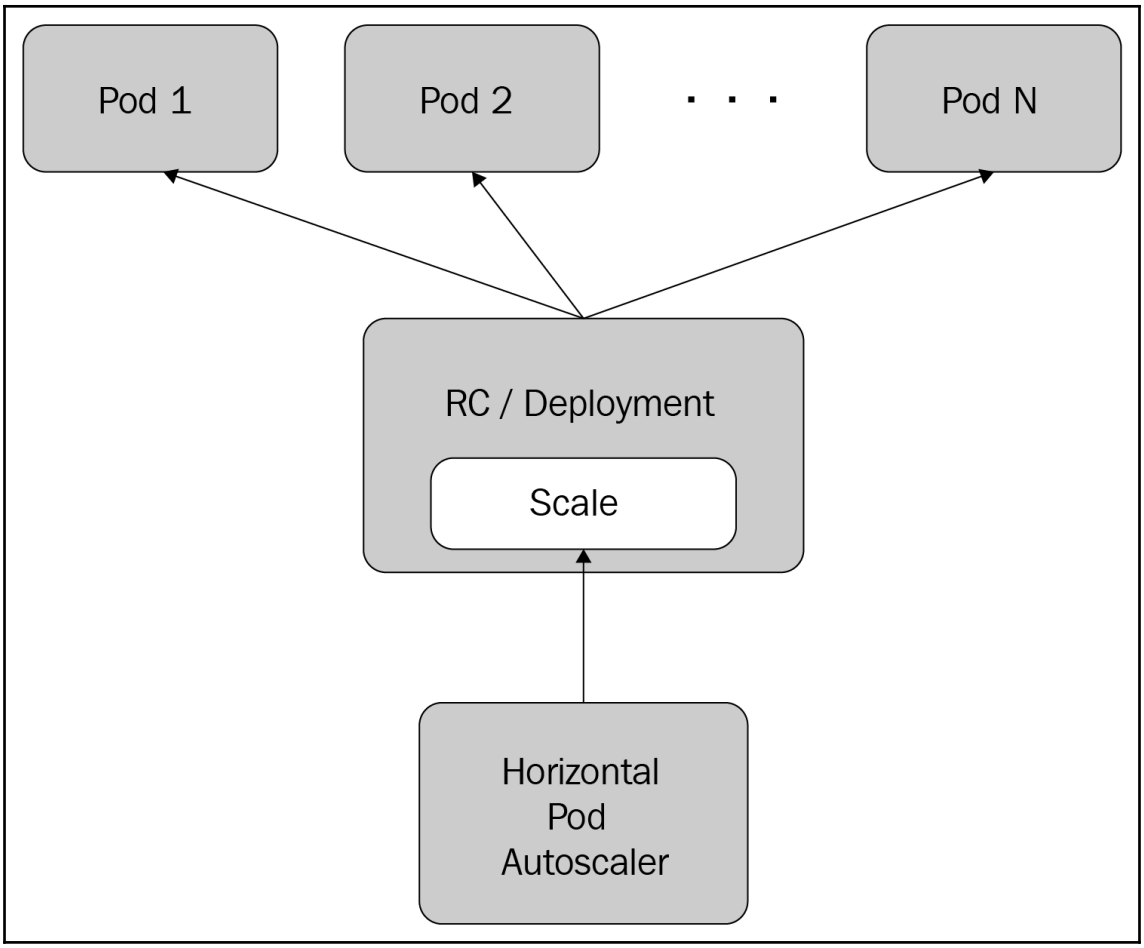

RESOURCE NAME DEPLOY • BUILD STATUS • UPDATED
▶ • delinkcious-link Running • OK (1m) • 2m ago
• link-db Running • N/A • 3m ago
• k8s_yaml N/A • 3m ago
K8s objects not included in the resources above:
k8sSecret-link-mutual-auth
k8sServiceAccount-link-manager
k8sConfigMap-link-manager-config
• (Tiltfile) N/A • 3m ago
(l) maximize log ↑
STEP 2/3 — Pushing docker.io/g1g1/delinkcious-link:tilt-5bf2f054446f5b3c
┆ Skipping push
STEP 3/3 — Deploying
Parsing Kubernetes config YAML
Applying via kubectl
Step 1 - 76.731s
Step 2 - 0.000s
Step 3 - 1.165s
Done in: 77.897s
delinkcious…┆ 2019/05/04 05:32:09 *** Listening on port 8080...
✓ OK
Browse (↓ ↑), Expand (→) ┆ (enter) log, (b)rowser ┆ (ctrl-C) quit

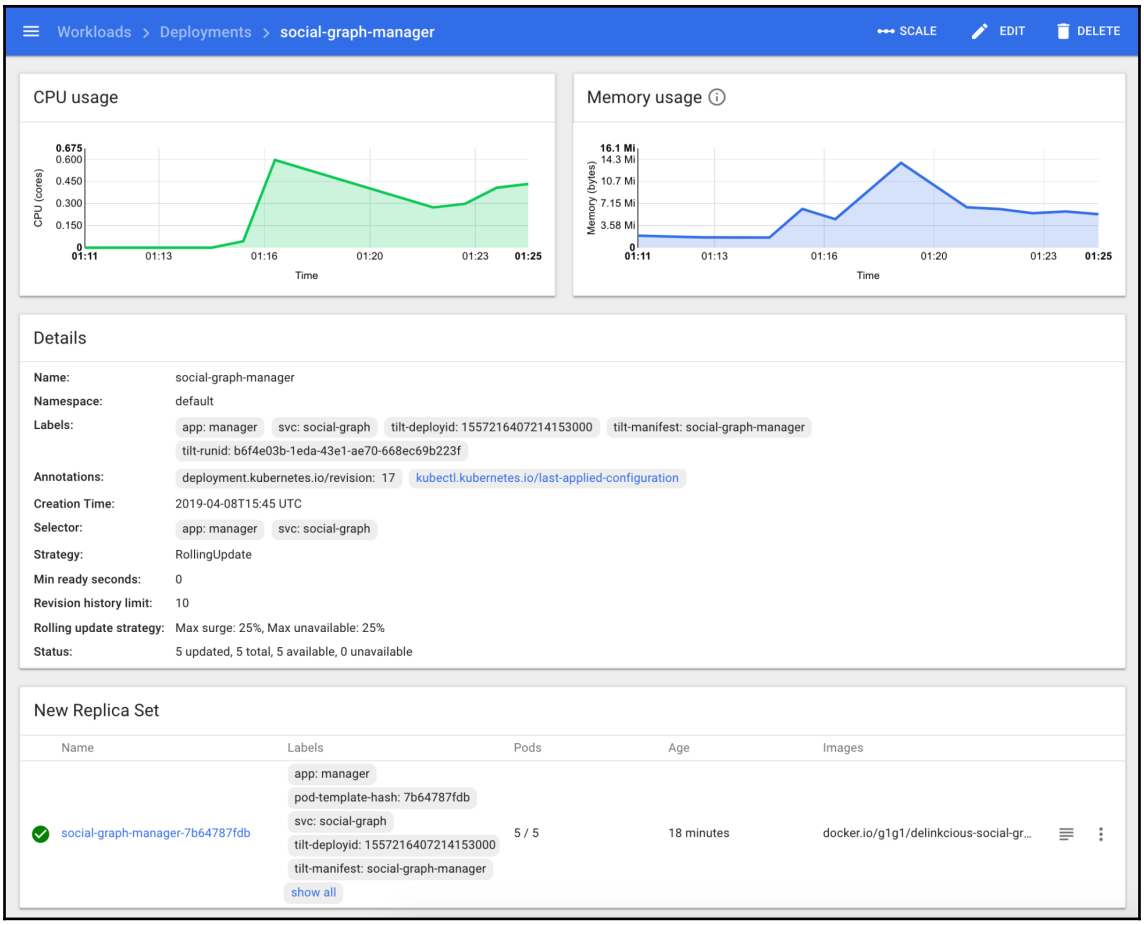

RESOURCE NAME CONTAINER • UPDATE STATUS • AS OF
▸ • (Tiltfile) N/A • 3h ago
• api-gateway Running • OK (3.8s) • 3h ago
• k8s_yaml OK (0.8s) • 4h ago
K8s objects not included in the resources above:
k8sSecret-github-creds
k8sServiceAccount-api-gateway
k8sConfigMap-api-gateway-config
1: ALL LOGS 2: build log 3: pod log X: expand
api-gateway * Serving Flask app "api_gateway_service.api" (lazy loading)
api-gateway * Environment: production
api-gateway WARNING: Do not use the development server in a production environment.
api-gateway Use a production WSGI server instead.
api-gateway * Debug mode: off
api-gateway * Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
api-gateway 172.17.0.1 - - [04/May/2019 20:35:50] "GET /v1/links HTTP/1.1" 200 -
✓ OK
Browse (↓ ↑), Expand (→) (enter) log, (b)rowser (ctrl-C) quit

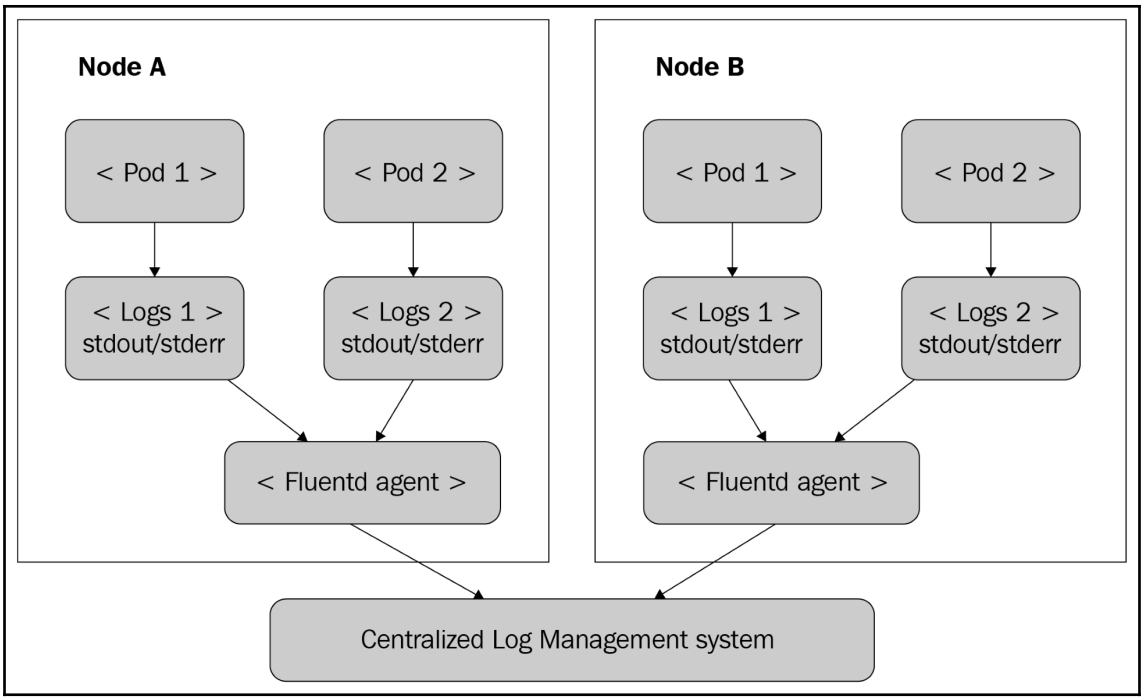

RESOURCE NAME CONTAINER • UPDATE STATUS • AS OF
▸ • (Tiltfile) N/A • 13m ago
• api-gateway Running • OK (0.1s) • 7m ago
• k8s_yaml OK (4.6s) • 13m ago
K8s objects not included in the resources above:
k8sSecret-github-creds
k8sServiceAccount-api-gateway
k8sConfigMap-api-gateway-config
1: ALL LOGS 2: build log 3: pod log X: expand
Rebuilding: api-gateway
→ Updating container…
Copying 1 file(s) to container: c94f8bed64
- '/Users/gigi.sayfan/git/delinkcious/svc/api_gateway_service/api_gateway_service/resources.py' -->
'/api_gateway_service/api_gateway_service/resources.py'
→ Container updated!
✓ OK
Browse (↓ ↑), Expand (→) (enter) log, (b)rowser (ctrl-C) quit

Chapter 12: Monitoring, Logging, and Metrics

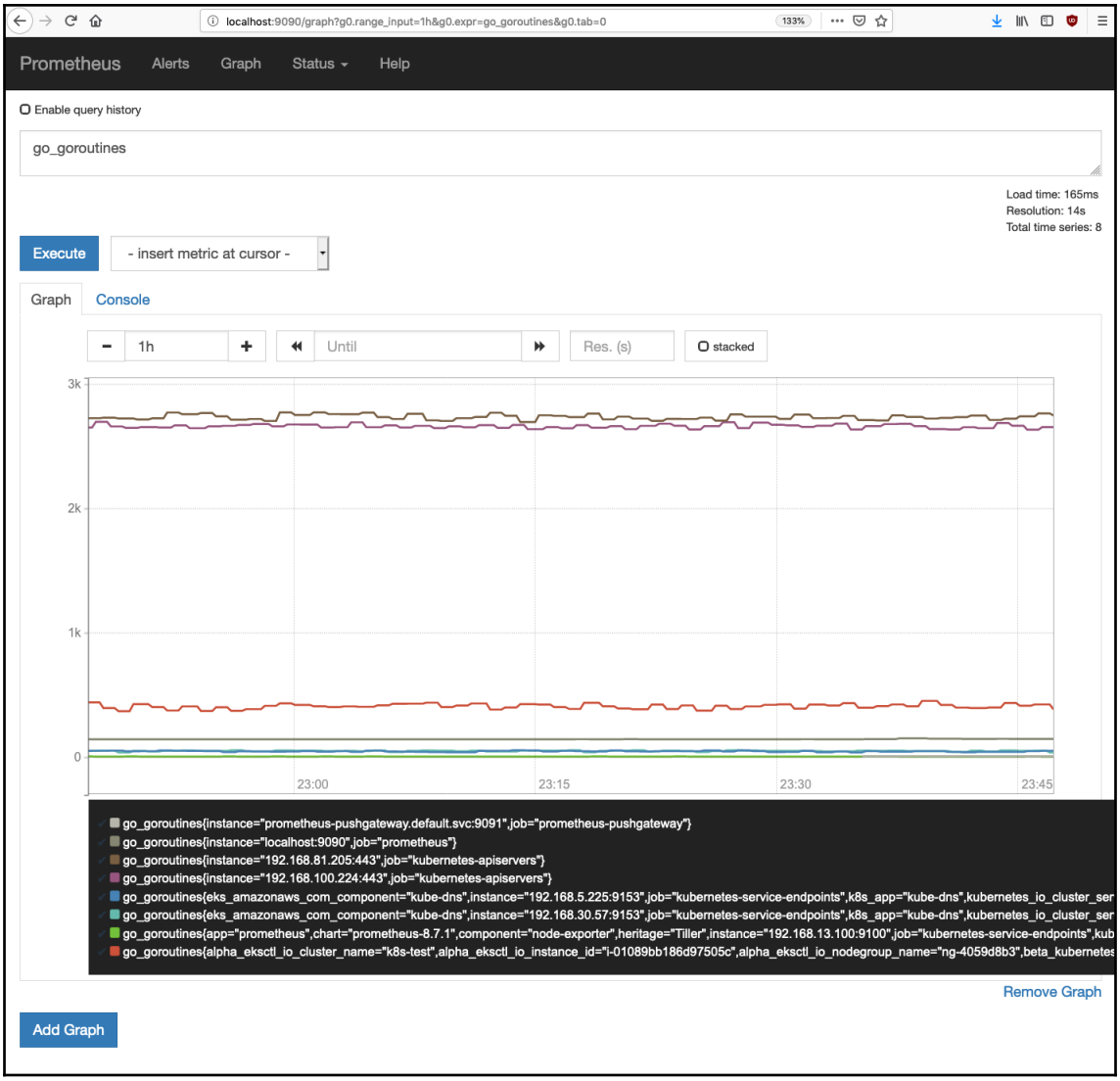


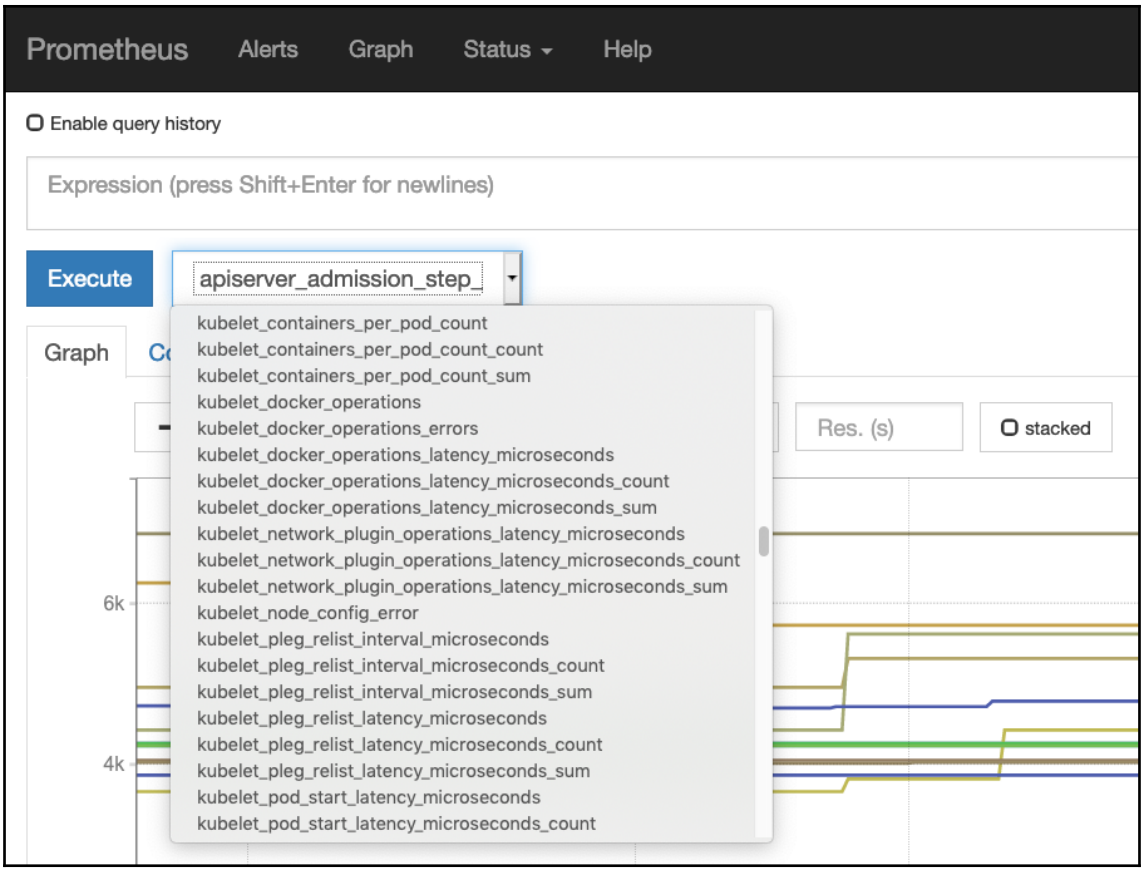

Pod 1
Pod 2
. . .
Pod N
RC / Deployment
Scale
Horizontal
Pod
Autoscaler

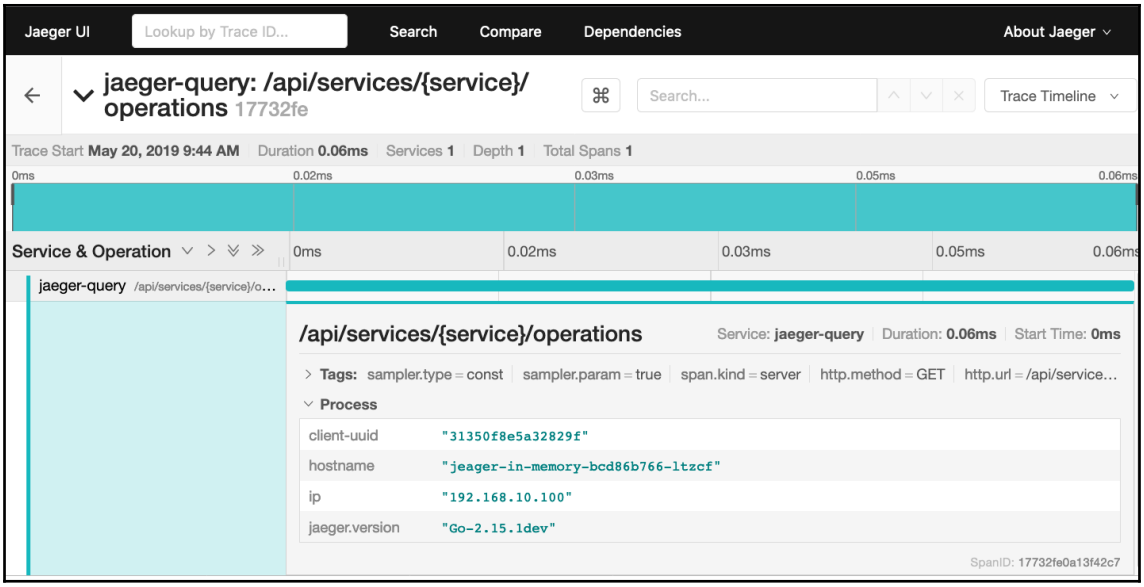

Workloads > Deployments > social-graph-manager
SCALE
EDIT
DELETE
CPU usage
0.675
0.600
0.450
0.300
0.150
0
CPU (cores)
01:11
01:13
01:16
01:20
01:23
01:25
Time
Memory usage
16.1 Mi
14.3 Mi
10.7 Mi
7.15 Mi
3.58 Mi
0
Memory (bytes)
01:11
01:13
01:16
01:20
01:23
01:25
Time
Details
Name: social-graph-manager
Namespace: default
Labels: app: manager svc: social-graph tilt-deployid: 1557216407214153000 tilt-manifest: social-graph-manager tilt-runid: b6f4e03b-1eda-43e1-ae70-668ec69b223f
Annotations: deployment.kubernetes.io/revision: 17 kubectl.kubernetes.io/last-applied-configuration
Creation Time: 2019-04-08T15:45 UTC
Selector: app: manager svc: social-graph
Strategy: RollingUpdate
Min ready seconds: 0
Revision history limit: 10
Rolling update strategy: Max surge: 25%, Max unavailable: 25%
Status: 5 updated, 5 total, 5 available, 0 unavailable
New Replica Set
Name
Labels
Pods
Age
Images
social-graph-manager-7b64787fdb
app: manager
pod-template-hash: 7b64787fdb
svc: social-graph
tilt-deployid: 1557216407214153000
tilt-manifest: social-graph-manager
show all
5 / 5
18 minutes
docker.io/g1g1/delinkcious-social-gr...


Node A
< Pod 1 >
< Pod 2 >
< Logs 1 >
stdout/stderr
< Logs 2 >
stdout/stderr
< Fluentd agent >
Node B
< Pod 1 >
< Pod 2 >
< Logs 1 >
stdout/stderr
< Logs 2 >
stdout/stderr
< Fluentd agent >
Centralized Log Management system

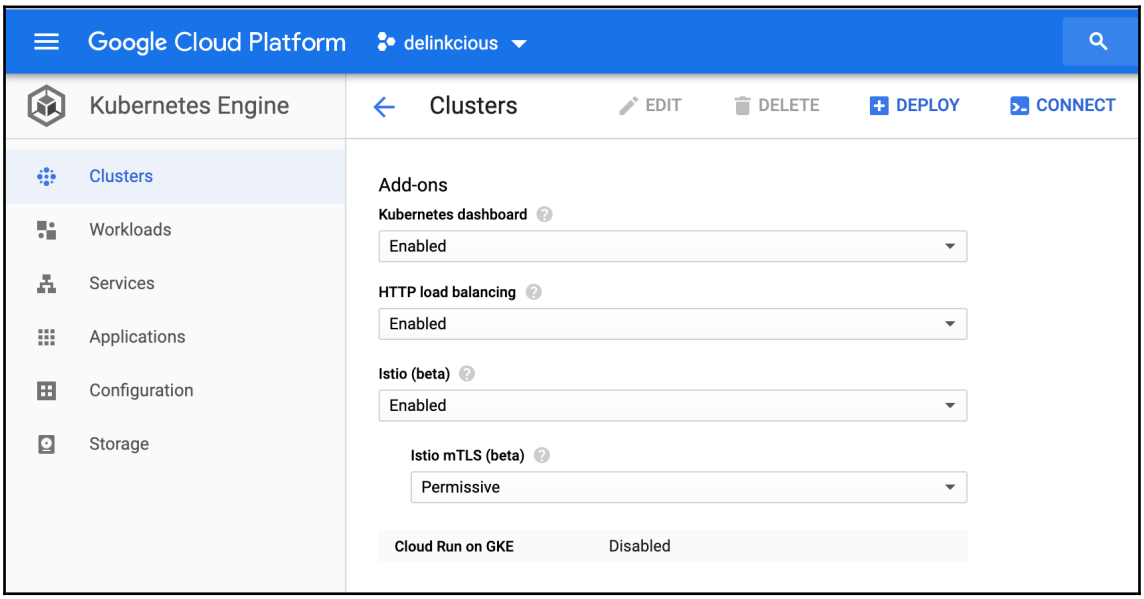
kubernetes
OPERATOR
Prometheus

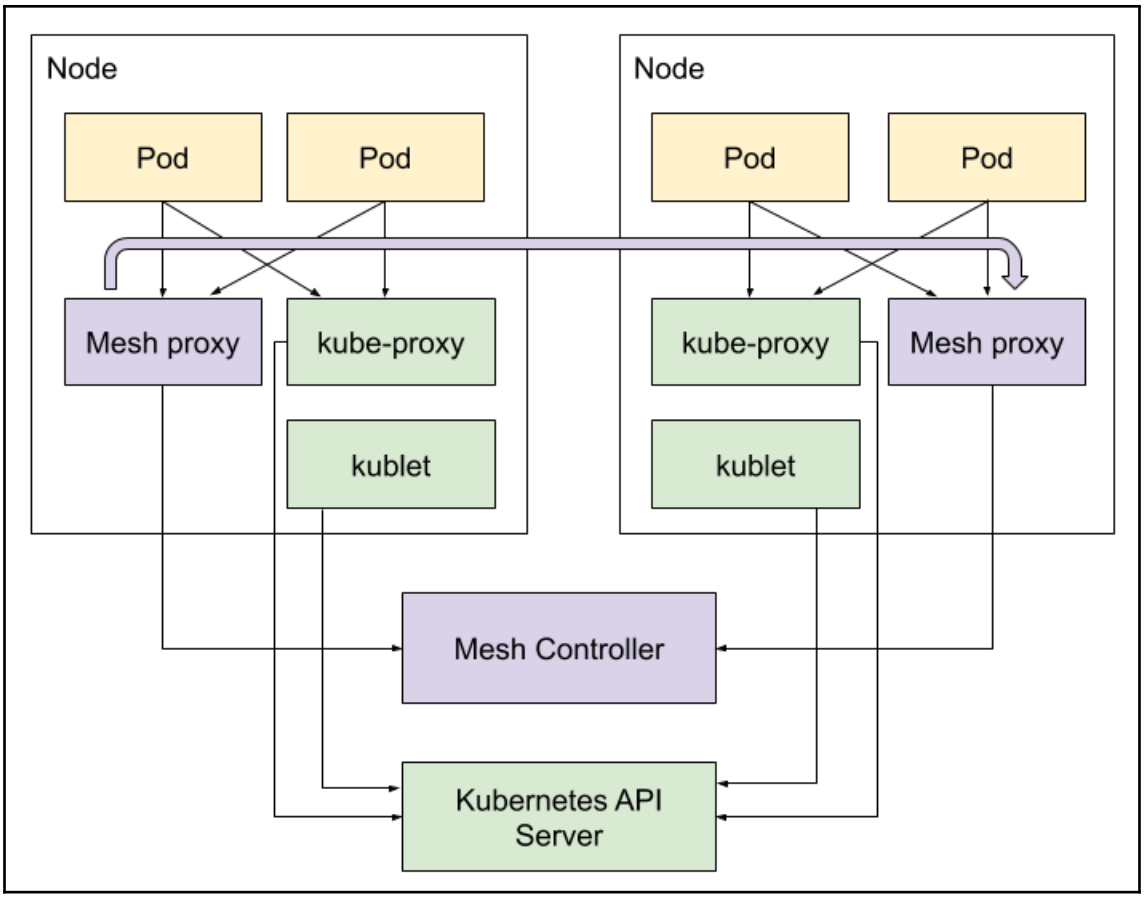

localhost:9090/graph?g0.range_input=1h&g0.expr=go_goroutines&g0.tab=0
133%
Prometheus
Alerts
Graph
Status
Help
Enable query history
go_goroutines
Load time: 165ms
Resolution: 14s
Total time series: 8
Execute
- insert metric at cursor -
Graph
Console
1h
Until
Res. (s)
stacked
3k
2k
1k
0
23:00
23:15
23:30
23:45
go_goroutines{instance="prometheus-pushgateway.default.svc:9091",job="prometheus-pushgateway"}
go_goroutines{instance="localhost:9090",job="prometheus"}
go_goroutines{instance="192.168.81.205:443",job="kubernetes-apiservers"}
go_goroutines{instance="192.168.100.224:443",job="kubernetes-apiservers"}
go_goroutines{eks_amazonaws_com_component="kube-dns",instance="192.168.5.225:9153",job="kubernetes-service-endpoints",k8s_app="kube-dns",kubernetes_io_cluster_ser
go_goroutines{eks_amazonaws_com_component="kube-dns",instance="192.168.30.57:9153",job="kubernetes-service-endpoints",k8s_app="kube-dns",kubernetes_io_cluster_ser
go_goroutines{app="prometheus",chart="prometheus-8.7.1",component="node-exporter",heritage="Tiller",instance="192.168.13.100:9100",job="kubernetes-service-endpoints",kub
go_goroutines{alpha_eksctl_io_cluster_name="k8s-test",alpha_eksctl_io_instance_id="i-01089bb186d97505c",alpha_eksctl_io_nodegroup_name="ng-4059d8b3",beta_kubernetes
Remove Graph
Add Graph

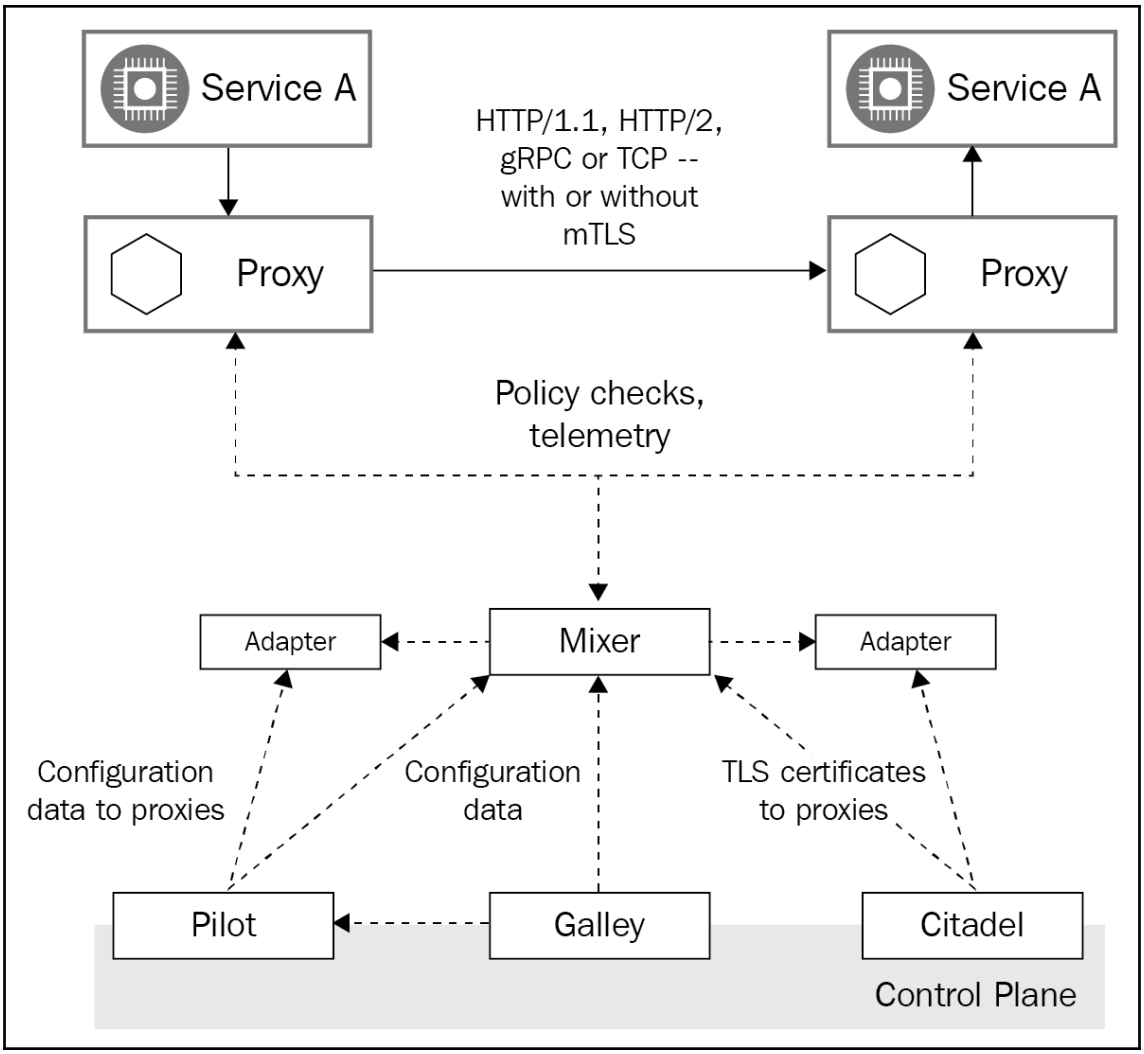

Prometheus
Alerts
Graph
Status
Help
Enable query history
Expression (press Shift+Enter for newlines)
Execute
apiserver_admission_step_
kubelet_containers_per_pod_count
kubelet_containers_per_pod_count_count
kubelet_containers_per_pod_count_sum
kubelet_docker_operations
kubelet_docker_operations_errors
kubelet_docker_operations_latency_microseconds
kubelet_docker_operations_latency_microseconds_count
kubelet_docker_operations_latency_microseconds_sum
kubelet_network_plugin_operations_latency_microseconds
kubelet_network_plugin_operations_latency_microseconds_count
kubelet_network_plugin_operations_latency_microseconds_sum
kubelet_node_config_error
kubelet_pleg_relist_interval_microseconds
kubelet_pleg_relist_interval_microseconds_count
kubelet_pleg_relist_interval_microseconds_sum
kubelet_pleg_relist_latency_microseconds
kubelet_pleg_relist_latency_microseconds_count
kubelet_pleg_relist_latency_microseconds_sum
kubelet_pod_start_latency_microseconds
kubelet_pod_start_latency_microseconds_count
Graph
Res. (s)
stacked
6k
4k

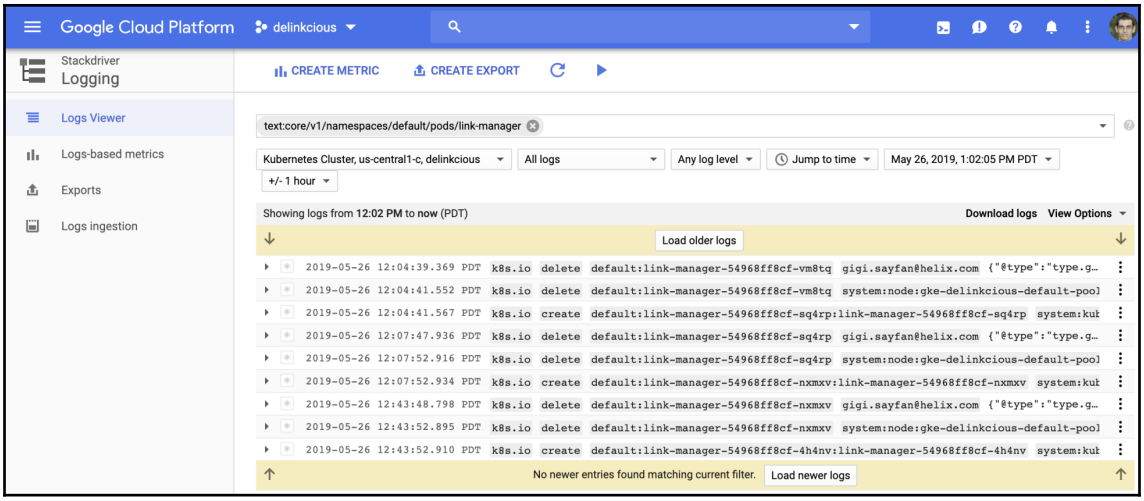

Jaeger UI
Lookup by Trace ID...
Search
Compare
Dependencies
About Jaeger
jaeger-query: /api/services/{service}/operations 17732fe
Search...
Trace Timeline
Trace Start May 20, 2019 9:44 AM
Duration 0.06ms
Services 1
Depth 1
Total Spans 1
0ms
0.02ms
0.03ms
0.05ms
0.06ms
Service & Operation
jaeger-query /api/services/{service}/o...
/api/services/{service}/operations
Service: jaeger-query
Duration: 0.06ms
Start Time: 0ms
Tags: sampler.type = const
sampler.param = true
span.kind = server
http.method = GET
http.url = /api/service...
Process
client-uuid "31350f8e5a32829f"
hostname "jeager-in-memory-bcd86b766-ltzcf"
ip "192.168.10.100"
jaeger.version "Go-2.15.1dev"
SpanID: 17732fe0a13f42c7

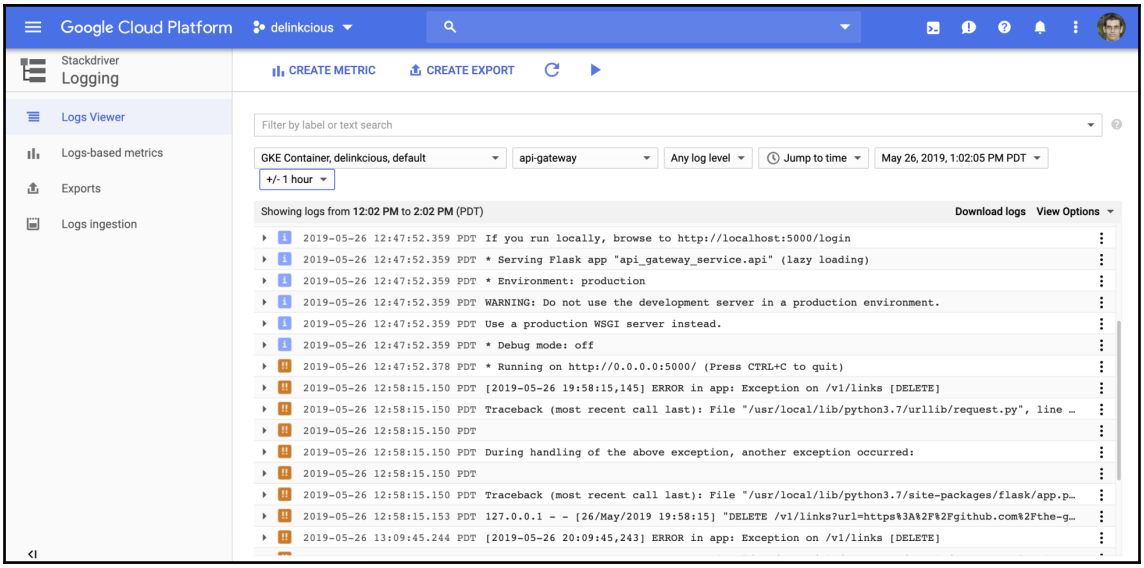
Chapter 13: Service Mesh - Working with Istio

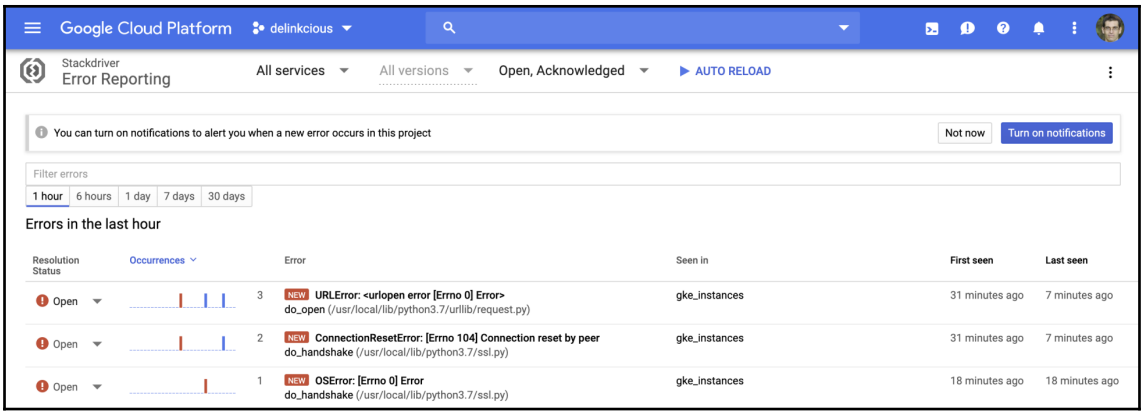


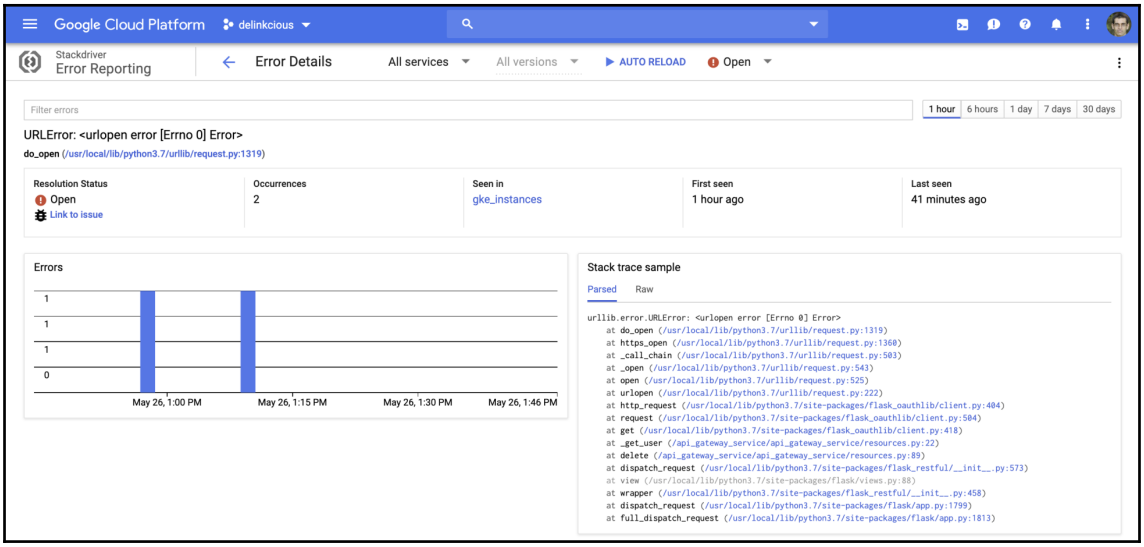

Node
Node
Pod
Pod
Pod
Pod
Mesh proxy
kube-proxy
kube-proxy
Mesh proxy
kublet
kublet
Mesh Controller
Kubernetes API Server


Service A
Service A
HTTP/1.1, HTTP/2,
gRPC or TCP --
with or without
mTLS
Proxy
Proxy
Policy checks,
telemetry
Adapter
Mixer
Adapter
Configuration
data to proxies
Configuration
data
TLS certificates
to proxies
Pilot
Galley
Citadel
Control Plane

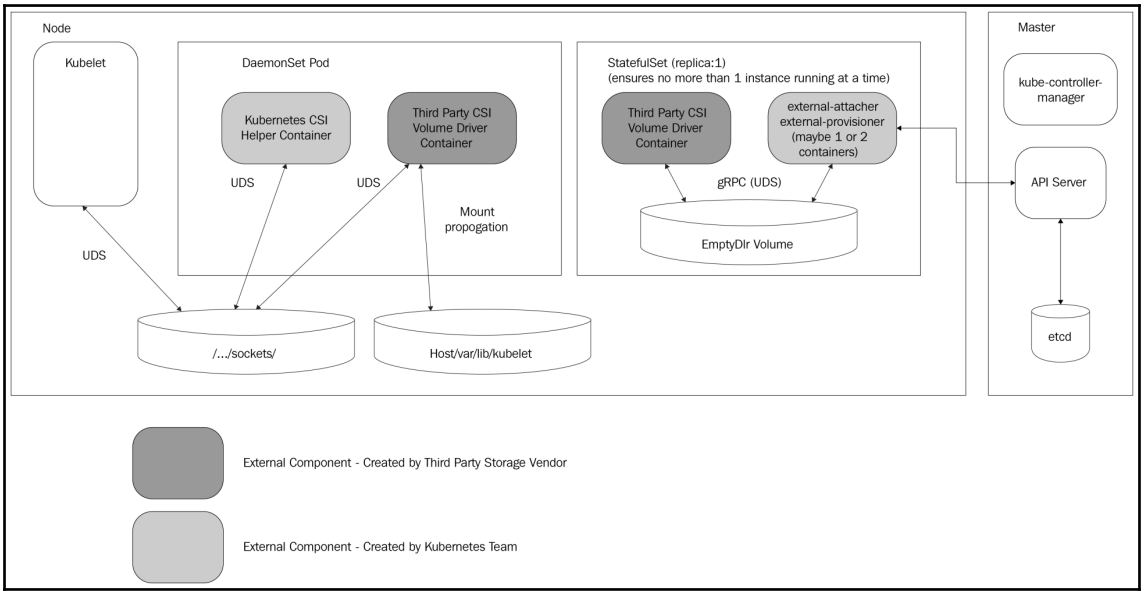

Google Cloud Platform
delinkcious
Stackdriver
Logging
CREATE METRIC
CREATE EXPORT
Logs Viewer
Logs-based metrics
Exports
Logs ingestion
text:core/v1/namespaces/default/pods/link-manager
Kubernetes Cluster, us-central1-c, delinkcious
All logs
Any log level
Jump to time
May 26, 2019, 1:02:05 PM PDT
+/- 1 hour
Showing logs from 12:02 PM to now (PDT)
Download logs
View Options
Load older logs
2019-05-26 12:04:39.369 PDT k8s.io delete default:link-manager-54968ff8cf-vm8tq gigi.sayfan@helix.com {"@type":"type.g…
2019-05-26 12:04:41.552 PDT k8s.io delete default:link-manager-54968ff8cf-vm8tq system:node:gke-delinkcious-default-pool
2019-05-26 12:04:41.567 PDT k8s.io create default:link-manager-54968ff8cf-sq4rp:link-manager-54968ff8cf-sq4rp system:kub
2019-05-26 12:07:47.936 PDT k8s.io delete default:link-manager-54968ff8cf-sq4rp gigi.sayfan@helix.com {"@type":"type.g…
2019-05-26 12:07:52.916 PDT k8s.io delete default:link-manager-54968ff8cf-sq4rp system:node:gke-delinkcious-default-pool
2019-05-26 12:07:52.934 PDT k8s.io create default:link-manager-54968ff8cf-nxmxv:link-manager-54968ff8cf-nxmxv system:kub
2019-05-26 12:43:48.798 PDT k8s.io delete default:link-manager-54968ff8cf-nxmxv gigi.sayfan@helix.com {"@type":"type.g…
2019-05-26 12:43:52.895 PDT k8s.io delete default:link-manager-54968ff8cf-nxmxv system:node:gke-delinkcious-default-pool
2019-05-26 12:43:52.910 PDT k8s.io create default:link-manager-54968ff8cf-4h4nv:link-manager-54968ff8cf-4h4nv system:kub
No newer entries found matching current filter.
Load newer logs

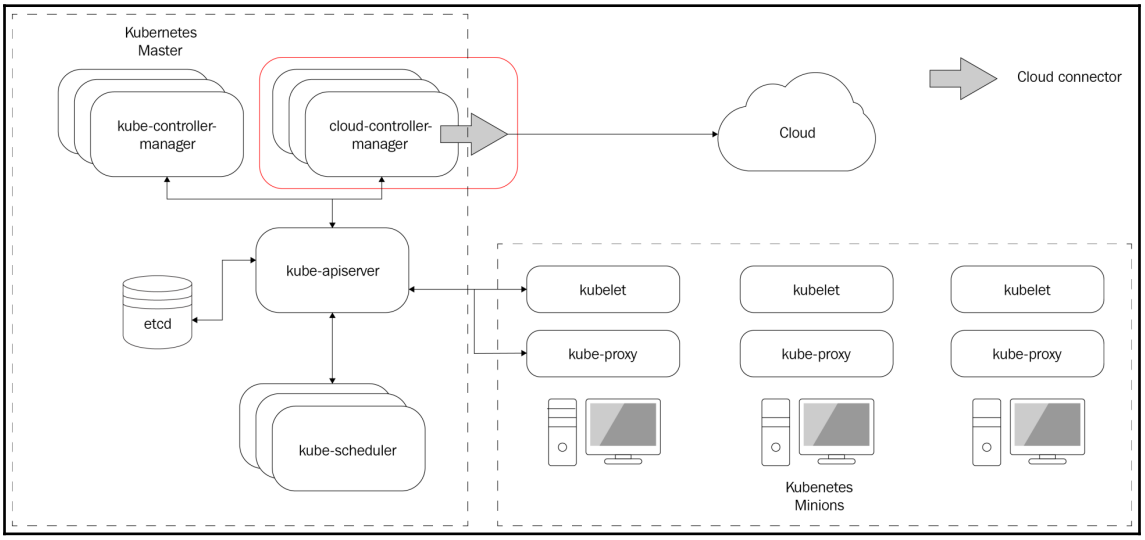

Google Cloud Platform
delinkcious
Stackdriver
Logging
CREATE METRIC
CREATE EXPORT
Logs Viewer
Logs-based metrics
Exports
Logs ingestion
Filter by label or text search
GKE Container, delinkcious, default
api-gateway
Any log level
Jump to time
May 26, 2019, 1:02:05 PM PDT
+/- 1 hour
Showing logs from 12:02 PM to 2:02 PM (PDT)
Download logs
View Options
2019-05-26 12:47:52.359 PDT If you run locally, browse to http://localhost:5000/login
2019-05-26 12:47:52.359 PDT * Serving Flask app "api_gateway_service.api" (lazy loading)
2019-05-26 12:47:52.359 PDT * Environment: production
2019-05-26 12:47:52.359 PDT WARNING: Do not use the development server in a production environment.
2019-05-26 12:47:52.359 PDT Use a production WSGI server instead.
2019-05-26 12:47:52.359 PDT * Debug mode: off
2019-05-26 12:47:52.378 PDT * Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
2019-05-26 12:58:15.150 PDT [2019-05-26 19:58:15,145] ERROR in app: Exception on /v1/links [DELETE]
2019-05-26 12:58:15.150 PDT Traceback (most recent call last): File "/usr/local/lib/python3.7/urllib/request.py", line …
2019-05-26 12:58:15.150 PDT
2019-05-26 12:58:15.150 PDT During handling of the above exception, another exception occurred:
2019-05-26 12:58:15.150 PDT
2019-05-26 12:58:15.150 PDT Traceback (most recent call last): File "/usr/local/lib/python3.7/site-packages/flask/app.p…
2019-05-26 12:58:15.153 PDT 127.0.0.1 - - [26/May/2019 19:58:15] "DELETE /v1/links?url=https%3A%2F%2Fgithub.com%2Fthe-g…
2019-05-26 13:09:45.244 PDT [2019-05-26 20:09:45,243] ERROR in app: Exception on /v1/links [DELETE]

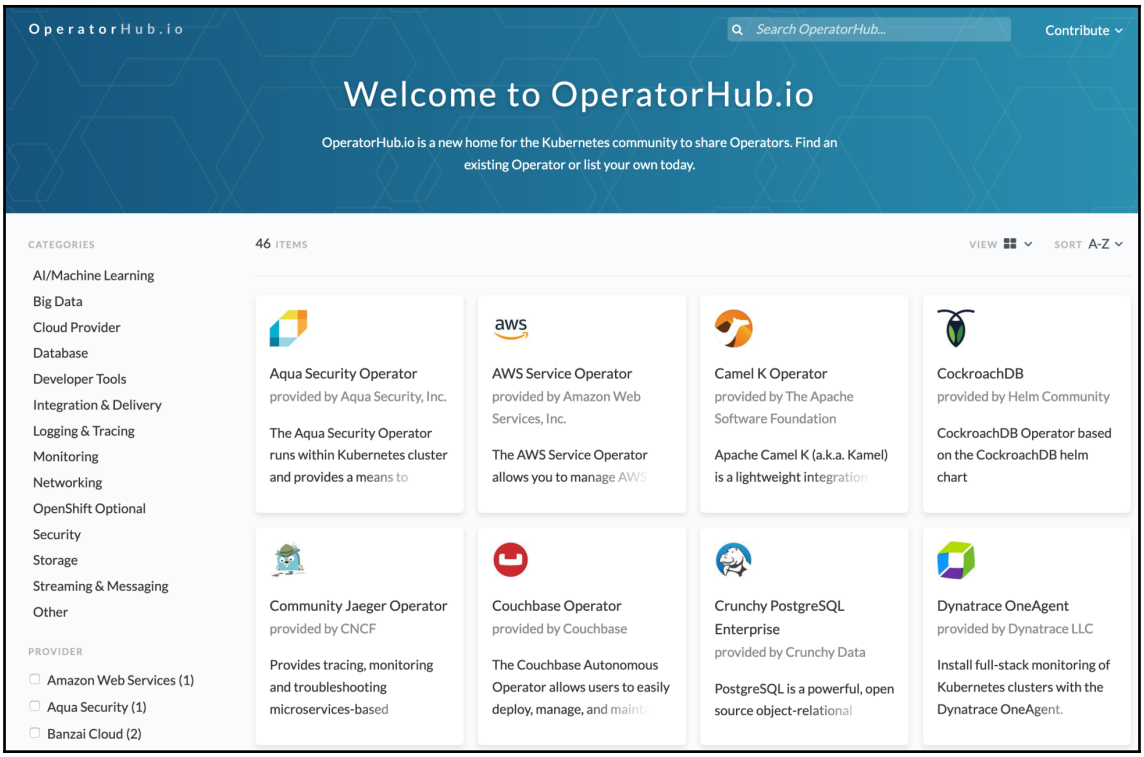

Google Cloud Platform
delinkcious
Stackdriver
Error Reporting
All services
All versions
Open, Acknowledged
AUTO RELOAD
You can turn on notifications to alert you when a new error occurs in this project
Not now
Turn on notifications
Filter errors
1 hour
6 hours
1 day
7 days
30 days
Errors in the last hour
Resolution Status
Occurrences
Error
Seen in
First seen
Last seen
Open
3
NEW URLError: <urlopen error [Errno 0] Error>
do_open (/usr/local/lib/python3.7/urllib/request.py)
gke_instances
31 minutes ago
7 minutes ago
Open
2
NEW ConnectionResetError: [Errno 104] Connection reset by peer
do_handshake (/usr/local/lib/python3.7/ssl.py)
gke_instances
31 minutes ago
7 minutes ago
Open
1
NEW OSError: [Errno 0] Error
do_handshake (/usr/local/lib/python3.7/ssl.py)
gke_instances
18 minutes ago
18 minutes ago


Google Cloud Platform
delinkcious
Stackdriver
Error Reporting
Error Details
All services
All versions
AUTO RELOAD
Open
Filter errors
1 hour
6 hours
1 day
7 days
30 days
URLError: <urlopen error [Errno 0] Error>
do_open (/usr/local/lib/python3.7/urllib/request.py:1319)
Resolution Status
Open
Link to issue
Occurrences
2
Seen in
gke_instances
First seen
1 hour ago
Last seen
41 minutes ago
Errors
1
1
1
0
May 26, 1:00 PM
May 26, 1:15 PM
May 26, 1:30 PM
May 26, 1:46 PM
Stack trace sample
Parsed
Raw
urllib.error.URLError: <urlopen error [Errno 0] Error>
at do_open (/usr/local/lib/python3.7/urllib/request.py:1319)
at https_open (/usr/local/lib/python3.7/urllib/request.py:1360)
at _call_chain (/usr/local/lib/python3.7/urllib/request.py:503)
at _open (/usr/local/lib/python3.7/urllib/request.py:543)
at open (/usr/local/lib/python3.7/urllib/request.py:525)
at urlopen (/usr/local/lib/python3.7/urllib/request.py:222)
at http_request (/usr/local/lib/python3.7/site-packages/flask_oauthlib/client.py:404)
at request (/usr/local/lib/python3.7/site-packages/flask_oauthlib/client.py:504)
at get (/usr/local/lib/python3.7/site-packages/flask_oauthlib/client.py:418)
at _get_user (/api_gateway_service/api_gateway_service/resources.py:22)
at delete (/api_gateway_service/api_gateway_service/resources.py:89)
at dispatch_request (/usr/local/lib/python3.7/site-packages/flask_restful/__init__.py:573)
at view (/usr/local/lib/python3.7/site-packages/flask/views.py:88)
at wrapper (/usr/local/lib/python3.7/site-packages/flask_restful/__init__.py:458)
at dispatch_request (/usr/local/lib/python3.7/site-packages/flask/app.py:1799)
at full_dispatch_request (/usr/local/lib/python3.7/site-packages/flask/app.py:1813)

Chapter 14: The Future of Microservices and Kubernetes






OperatorHub.io
Search OperatorHub...
Contribute
Welcome to OperatorHub.io
OperatorHub.io is a new home for the Kubernetes community to share Operators. Find an existing Operator or list your own today.
CATEGORIES
AI/Machine Learning
Big Data
Cloud Provider
Database
Developer Tools
Integration & Delivery
Logging & Tracing
Monitoring
Networking
OpenShift Optional
Security
Storage
Streaming & Messaging
Other
PROVIDER
Amazon Web Services (1)
Aqua Security (1)
Banzai Cloud (2)
46 ITEMS
VIEW
SORT A-Z
Aqua Security Operator
provided by Aqua Security, Inc.
The Aqua Security Operator runs within Kubernetes cluster and provides a means to
AWS Service Operator
provided by Amazon Web Services, Inc.
The AWS Service Operator allows you to manage AWS
Camel K Operator
provided by The Apache Software Foundation
Apache Camel K (a.k.a. Kamel) is a lightweight integration
CockroachDB
provided by Helm Community
CockroachDB Operator based on the CockroachDB helm chart
Community Jaeger Operator
provided by CNCF
Provides tracing, monitoring and troubleshooting microservices-based
Couchbase Operator
provided by Couchbase
The Couchbase Autonomous Operator allows users to easily deploy, manage, and maint
Crunchy PostgreSQL Enterprise
provided by Crunchy Data
PostgreSQL is a powerful, open source object-relational
Dynatrace OneAgent
provided by Dynatrace LLC
Install full-stack monitoring of Kubernetes clusters with the Dynatrace OneAgent.