



DO IT IN CODE (NOT YAML)! UNLOCK POWER OF KOTLIN DSL FOR KUBERNETES

OCTOBER / ST. PETERSBURG, RUSSIA 2019

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ТЩЕСЛАВИЕ И МАРКЕТИНГ

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DISCLAIMER

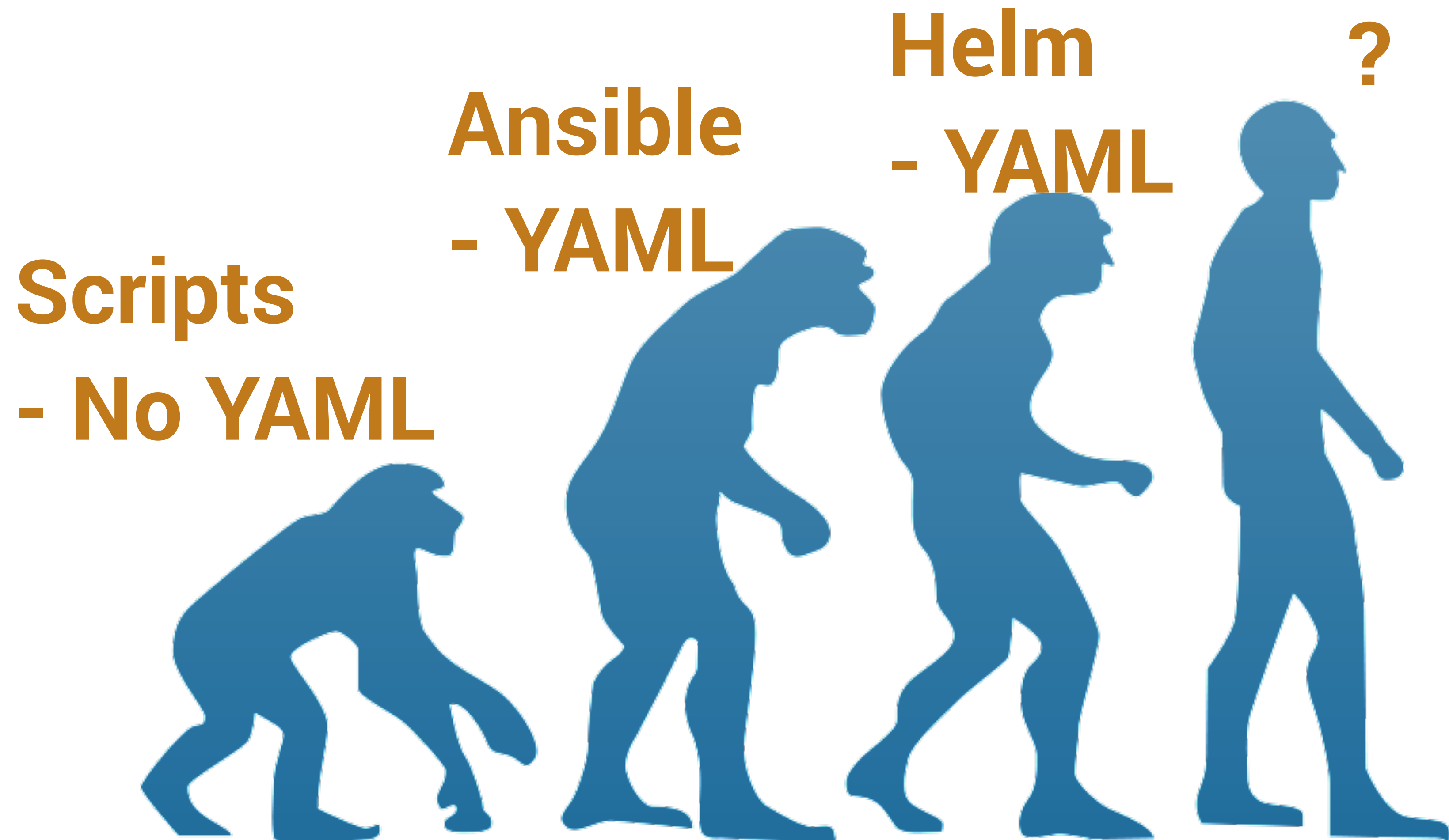
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I GUESS YOU FOLKS ARE NOT READY FOR THIS YET

BUT YOUR KIDS ARE GONNA LOVE IT

EVOLUTION FOR YAML IN THE COMPANY

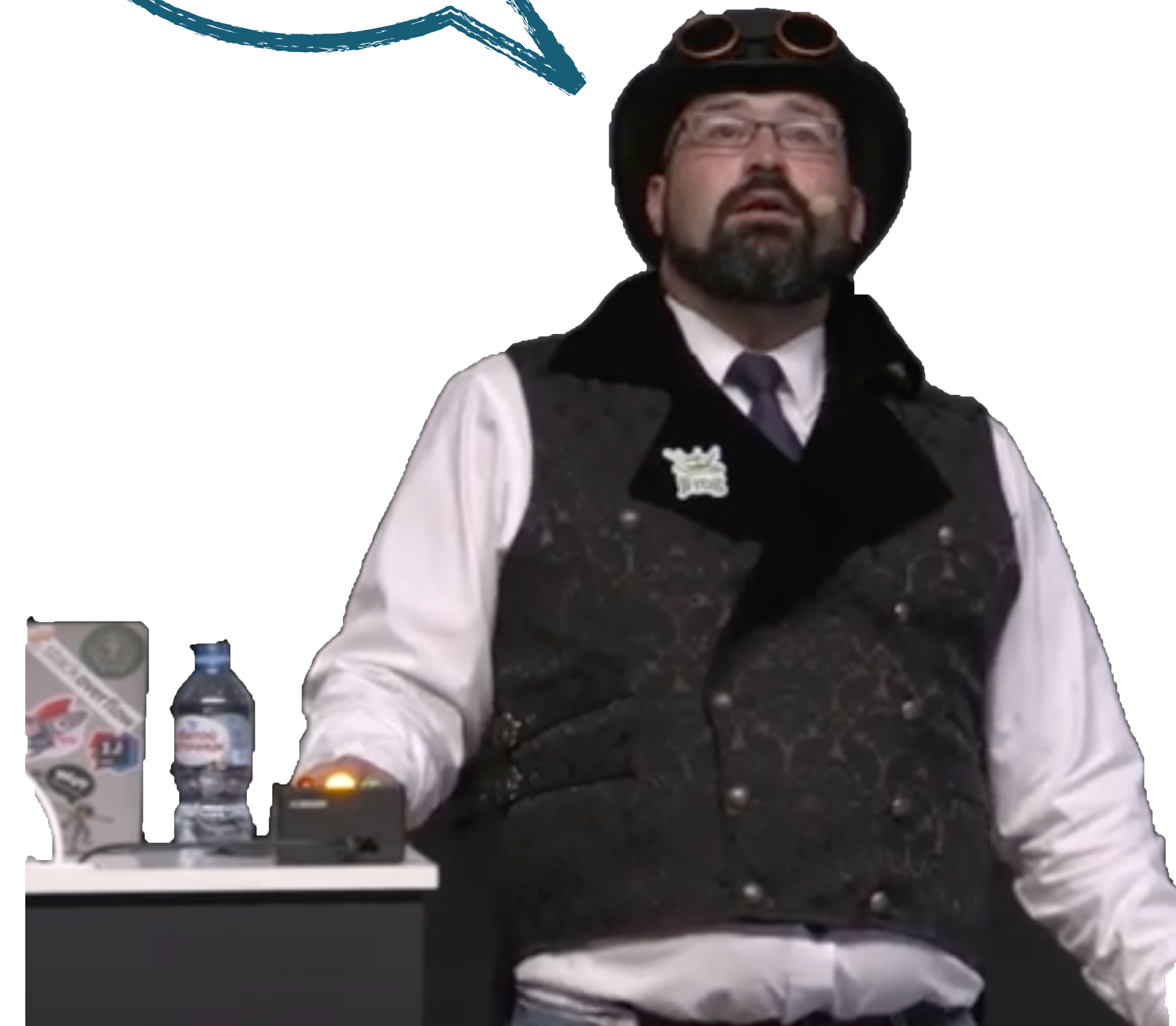


Andrei Rebrov

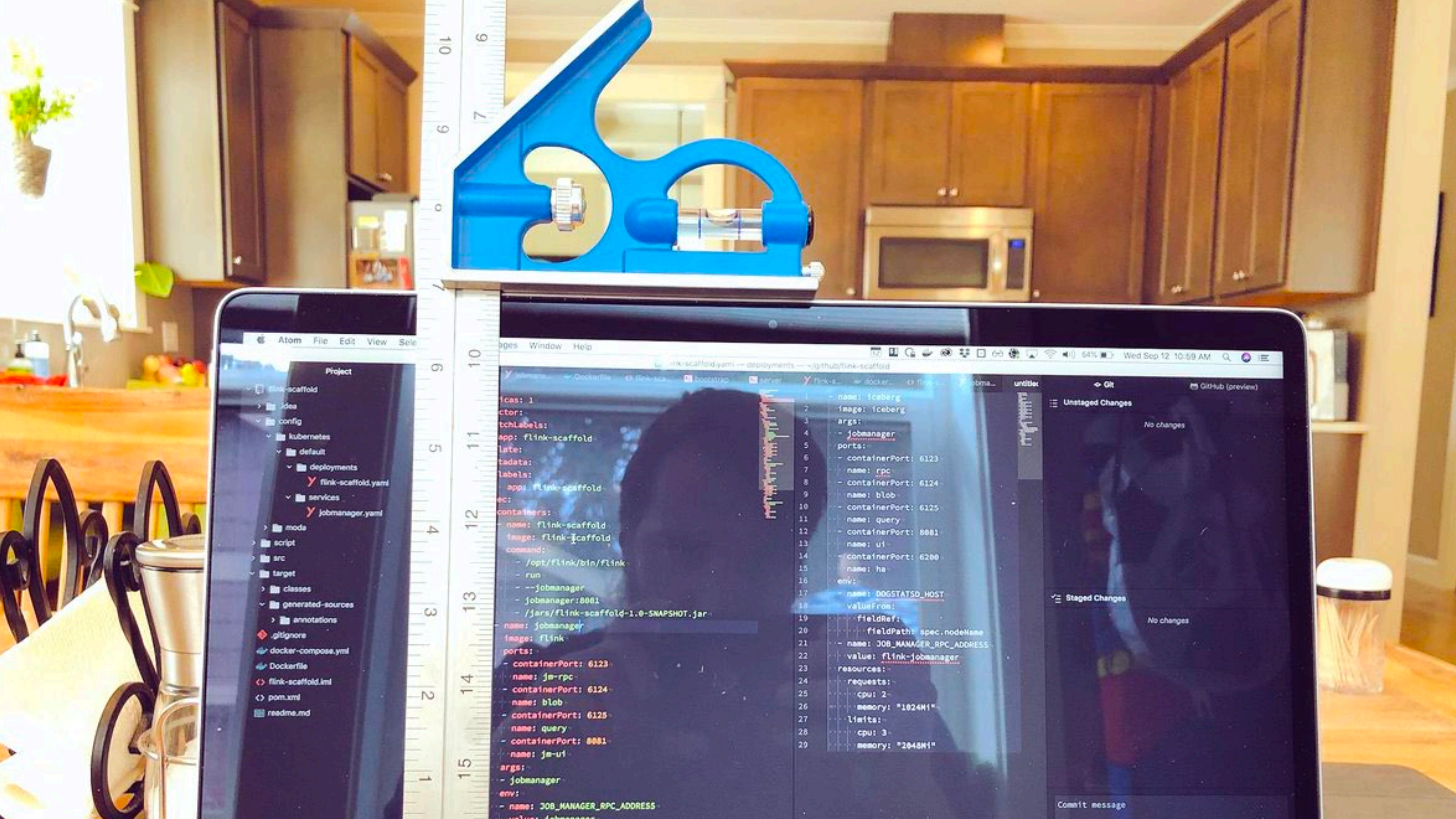
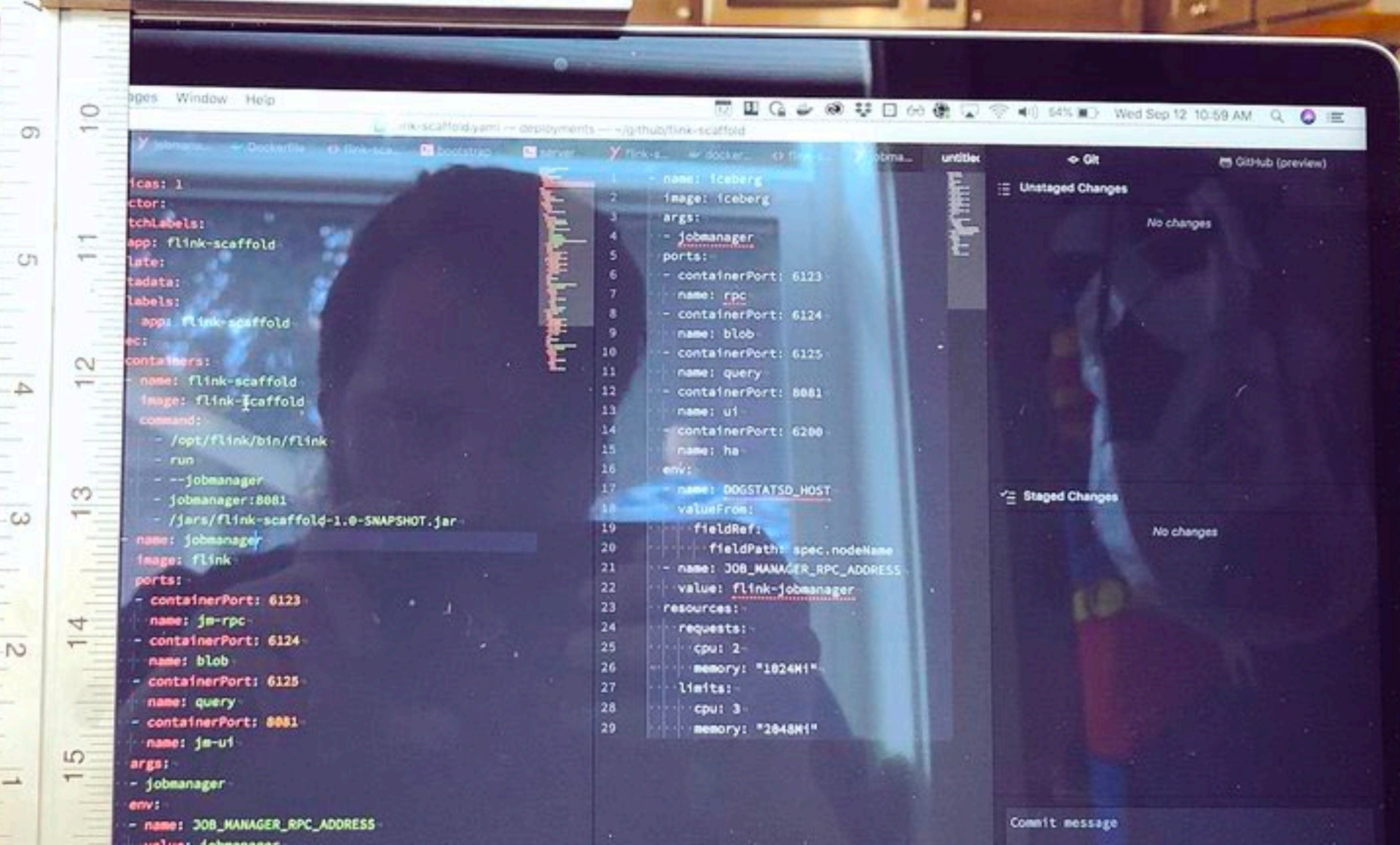
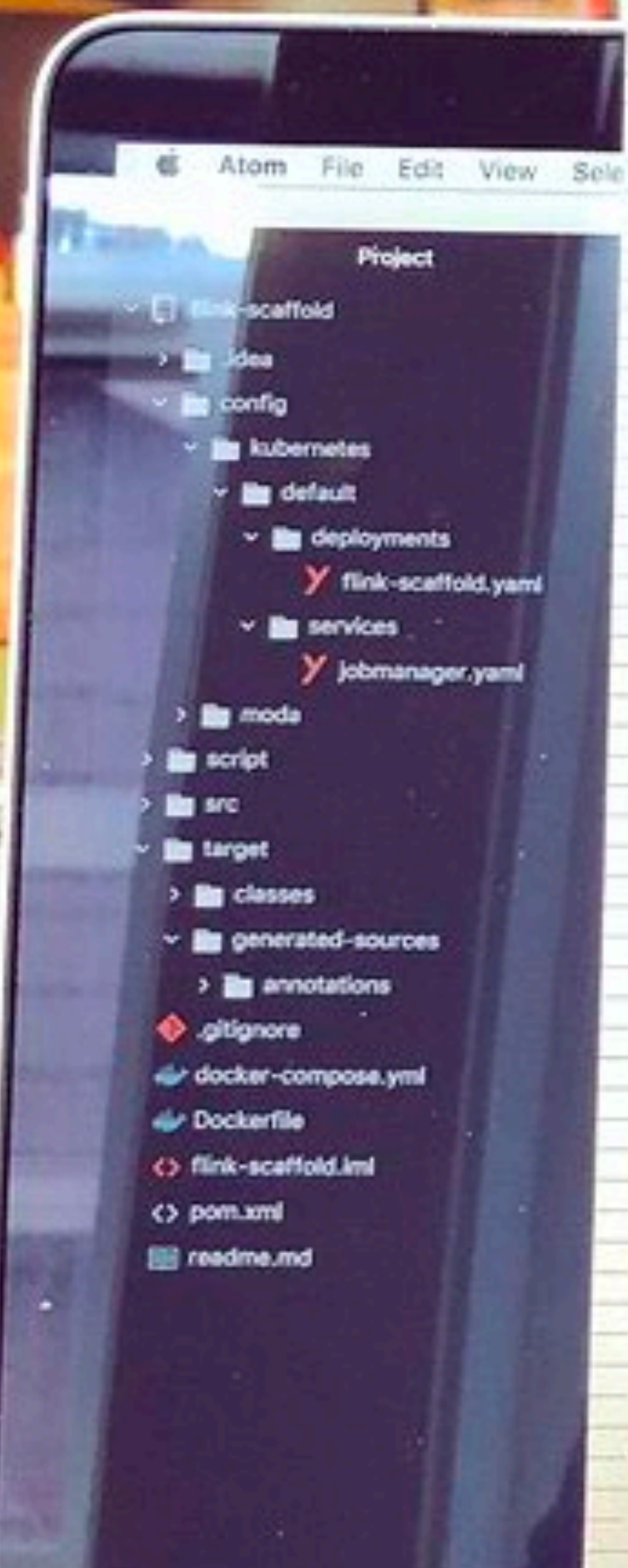
Если все стало кодом, то почему я пишу тонну ямлов? (с)



WAT?



ОСТОРОЖНО!
СЛЕДУЮЩИЕ СЛАЙДЫ
ПРИЧИНЯЮТ БОЛЬ




```
:9: logger.SetOutput undefined (type *
101:37: l.log.GetLevel undefined (type
112:14: l.log.IsLevelEnabled undefined
144:7: l.log.SetFormatter undefined (ty
157:7: l.log.SetOutput undefined (type
188:9: l.entry.Tracef undefined (type *I
244:9: l.entry.Trace undefined (type *lo
300:9: l.entry.TraceIn undefined (type *
464:10: undefined: logrus.TraceLevel
485:7: undefined: logrus.TraceLevel
485:7: too many errors
go:26:9: undefined: yaml.NewDecoder
```


Senior YAML Engineer

APPLY FOR THIS JOB

REMOTE: US, CANADA ENGINEERING - CORE INFRASTRUCTURE

FULL TIME

What you'll do

Core Infrastructure plays a fundamental role in both our on-premise infrastructure and our on-going efforts to upgrade infrastructure towards AWS. As an infrastructure engineer you will be part of implementing the infrastructure to support the continued growth of Scribd's foundation. You will be part of the team which manages our existing on-premise datacenter, while helping service owners move into a newer AWS-centric model.

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```
{{ toYaml .Values.resources | indent 10 }}
```

```
env:
```

```
- KAFKA_HEAP_OPTS =
```

```
{{- if 5555 }}
```

```
- KAFKA_JMX_PORT =
```

```
{{- end }}
```

```
- ZOOKEEPER_TICK_TIME =
```

```
- ZOOKEEPER_CLIENT_PORT =
```

```
- ZOOKEEPER_SERVERS = {{ template "cp-zookeeper.serverlist" . }}
```

```
- ZOOKEEPER_SERVER_ID = <valueFrom>
```

```
command:
```

```
- "bash"
```

```
- "-c"
```

```
- |
```

```
ZK_FIX_HOST_REGEX="s/${HOSTNAME}\.^[^:]*:/0.0.0.0:/g"
```

```
ZOOKEEPER_SERVER_ID=$(( ${HOSTNAME##*-} + 1 )) \
```

```
ZOOKEEPER_SERVERS=`echo $ZOOKEEPER_SERVERS | sed -e "$ZK_FIX_HOST_REGEX"
```

```
/etc/confluent/docker/run
```

```
volumeMounts:
```



```
- ZOOKEEPER_SERVER_ID = <valueFrom>
```

```
command:
```

```
- "bash"
```

```
- "-c"
```

```
- |
```

```
ZK_FIX_HOST_REGEX="s/${HOSTNAME}\.^[^:]*:/0.0.0.0"
```

```
ZOOKEEPER_SERVER_ID=$(( ${HOSTNAME##*-} + 1 )) \
```

```
ZOOKEEPER_SERVERS=`echo $ZOOKEEPER_SERVERS | s
```

```
/etc/confluent/docker/run
```

```
volumeMounts:
```

```
- name: datadir
```

```
mountPath: /var/lib/zookeeper/data
```


steps:

- name: slack-webhook

 - image: ibmcom/pipeline-base-image

 - env:

 - name: APIKEY

 - value: \$(inputs.params.apikey)

 - name: REGION

 - value: \$(inputs.params.region)

 - name: TOOLCHAIN_URL

 - value: \$(inputs.params.toolchainUrl)

 - name: HOME

 - value: "/root"

 - command: ["/bin/sh", "-c"]

 - args:

 - git clone https://github.com/VokusX/tekton_examples;

 - export NVM_DIR="\$HOME/.nvm" && [-s "\$NVM_DIR/nvm.sh"] && \. "\$NVM_DIR/nvm.sh";

 - ibmcloud config --check-version=false;

 - ibmcloud login --apikey \$APIKEY -r \$REGION;

 - TOKEN=\$(ibmcloud iam oauth-tokens | cut -c 11-);

 - curl -X GET \${TOOLCHAIN_URL} -H "Accept:application/json" -H "Authorization:\${TOKEN}

 - SLACK_WEBHOOK=\$(node tekton_examples/slack_parser.js);

 - curl -X POST -H 'Content-type:application/json' --data '{"text":"Tekton Pipeline ra

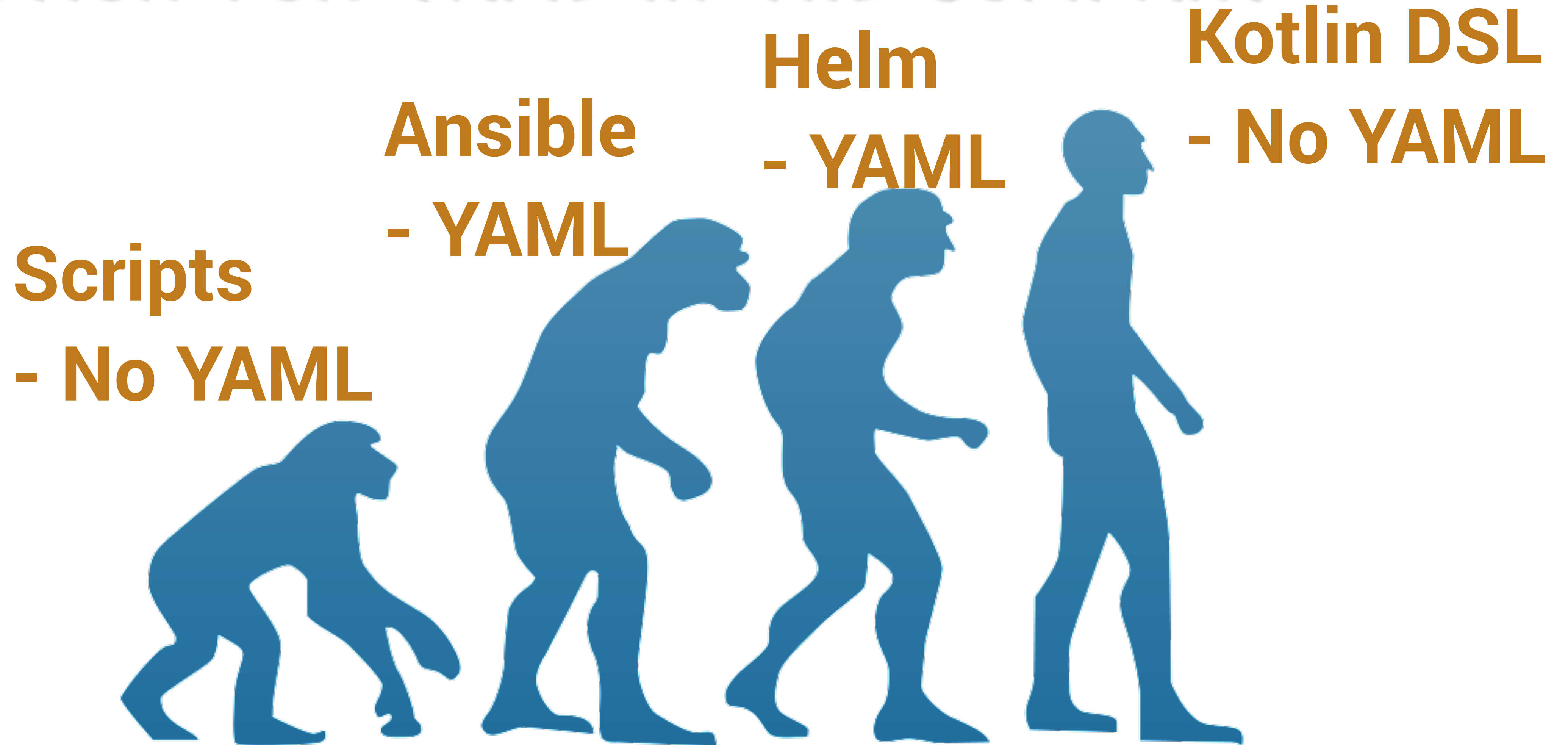


BASH

WTF?

YAML

EVOLUTION FOR YAML IN THE COMPANY



LET'S TALK KUBERNETES



Claes Mogren
@claesmogren



"Kubernetes is of course named after the Greek god of spending money on cloud services." - @QuinnyPig

3:54 PM · Mar 20, 2019 · [Twitter Web Client](#)

68 Retweets **233** Likes

<https://twitter.com/claesmogren/status/1108456688175079424>

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Corey Quinn @QuinnyPig · 10h

Replying to @timbray

Proper pronunciations include but are not limited to:

- Kubernetes
- Kubernetis
- Cooper nets
- KuBERneties
- Kate's
- K 8 s
- Cubernetes
- Kyoober nets
- Kuiper Ned's
- Kubernandos
- Kuber kitties
- Cue bernettes
- Kubernoots
- Kooper neats
- Kubernetix
- Clueberneties

<https://twitter.com/QuinnyPig/status/1150927901782499330>

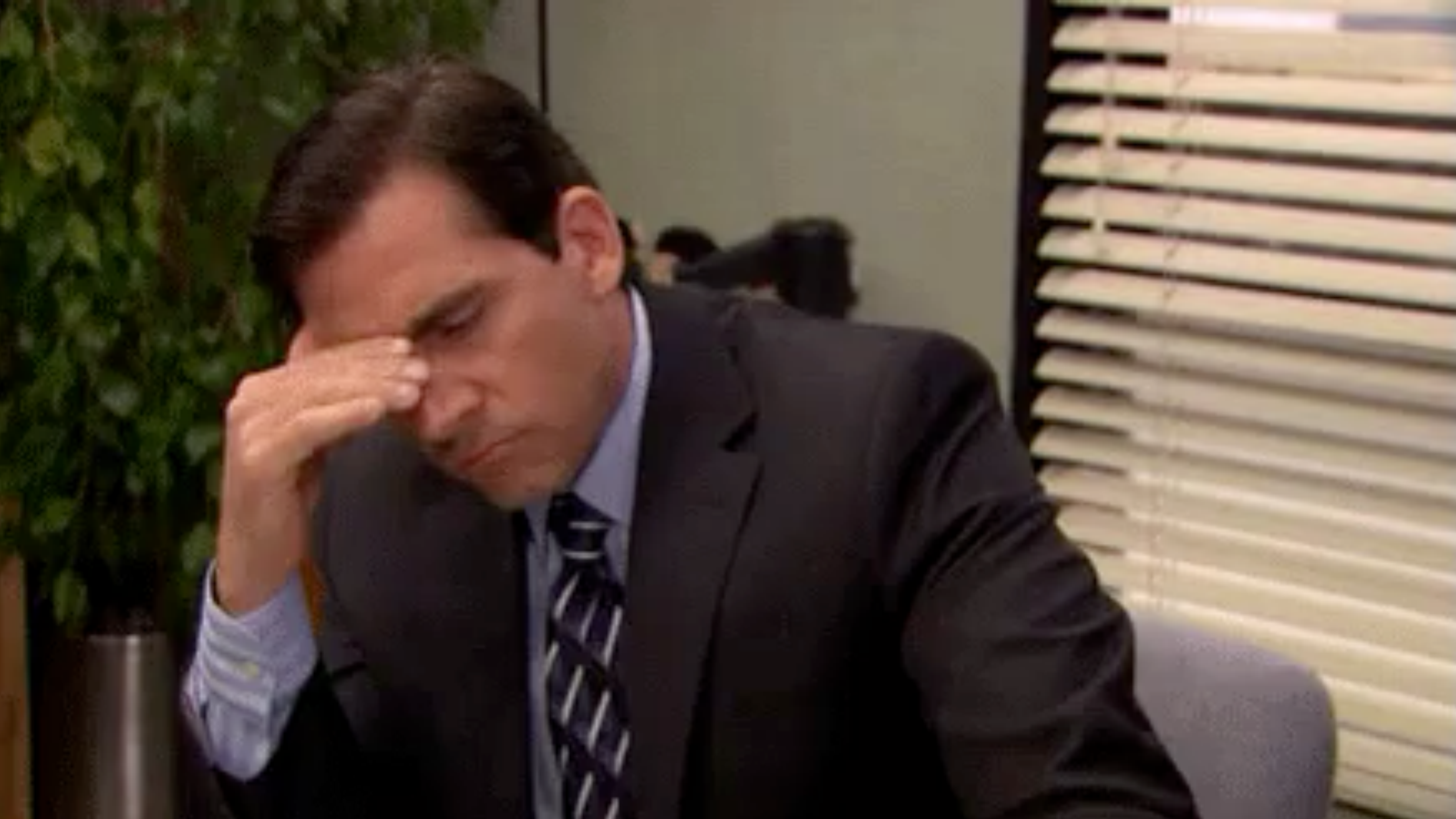
2

4

25

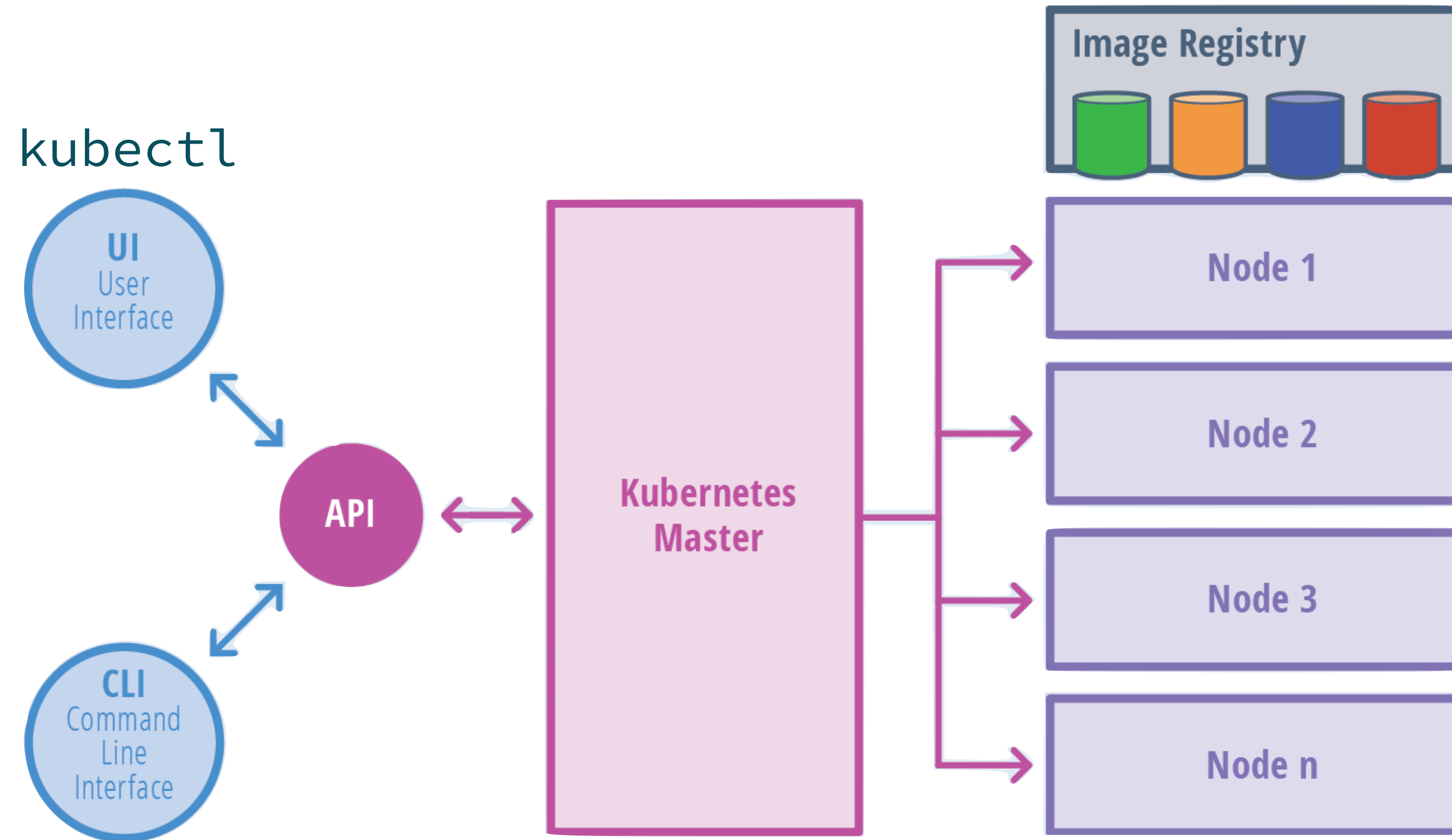


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KUBERNETES ARCHITECTURE



Source: Janakiram MSV

THENEWSTACK

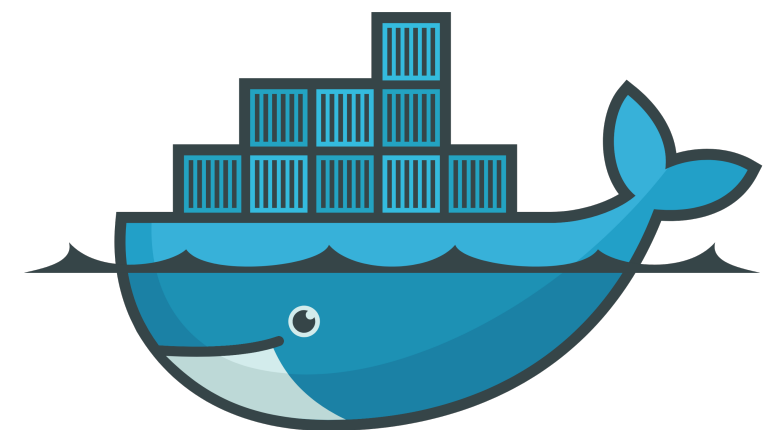
<https://thenewstack.io/kubernetes-an-overview/>

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WORKLOADS DEPLOYMENT

USUAL SUSPECTS

Docker images



docker

Helm Charts



Workloads Deployment

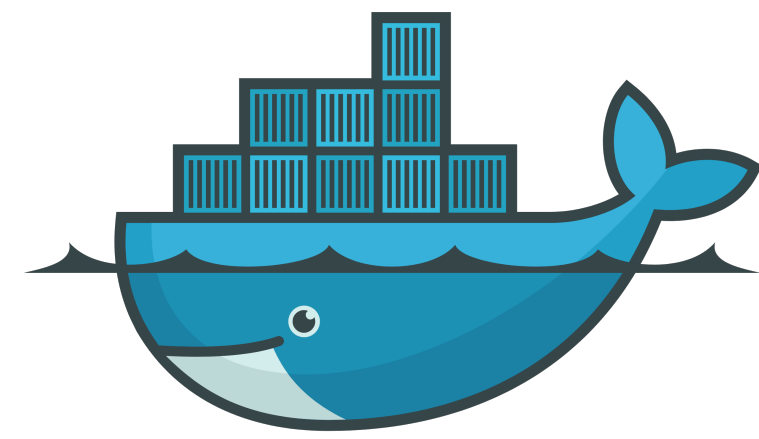
Enter Helm #ihateyaml





UNUSUAL SUSPECTS

Docker Images



docker

Kotlin DSL



<https://gamov.dev/devoops19>

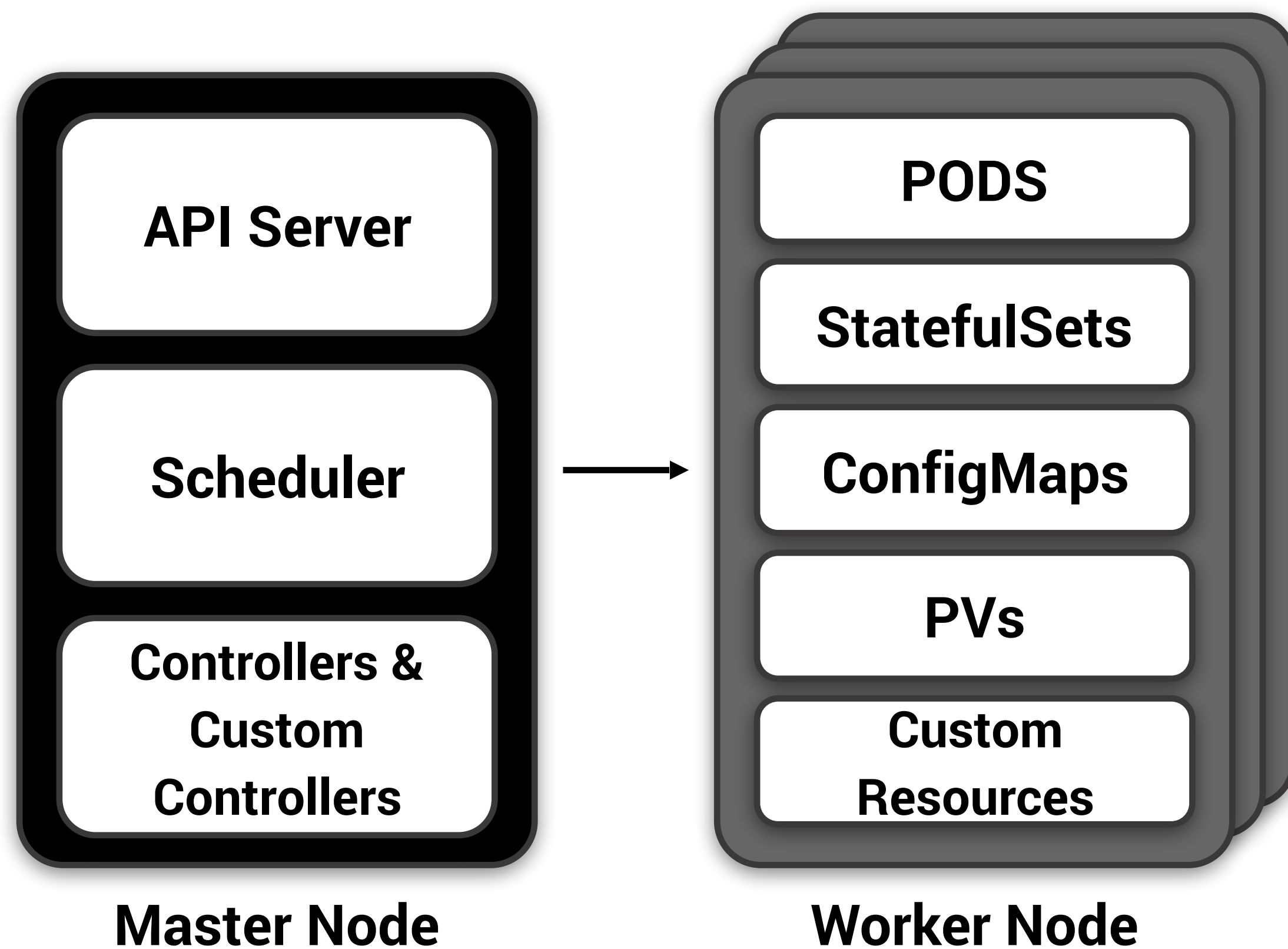


<https://github.com/fkorotkov/k8s-kotlin-dsl>



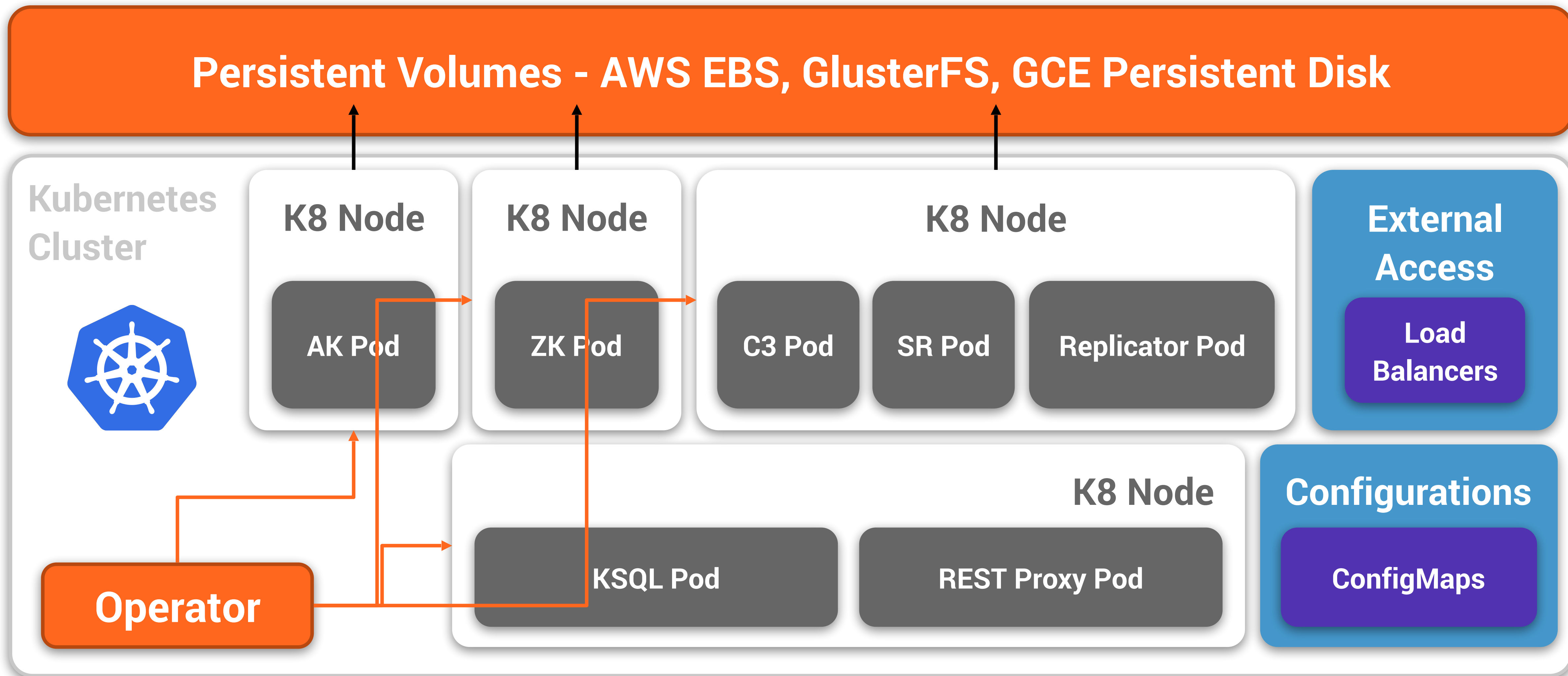


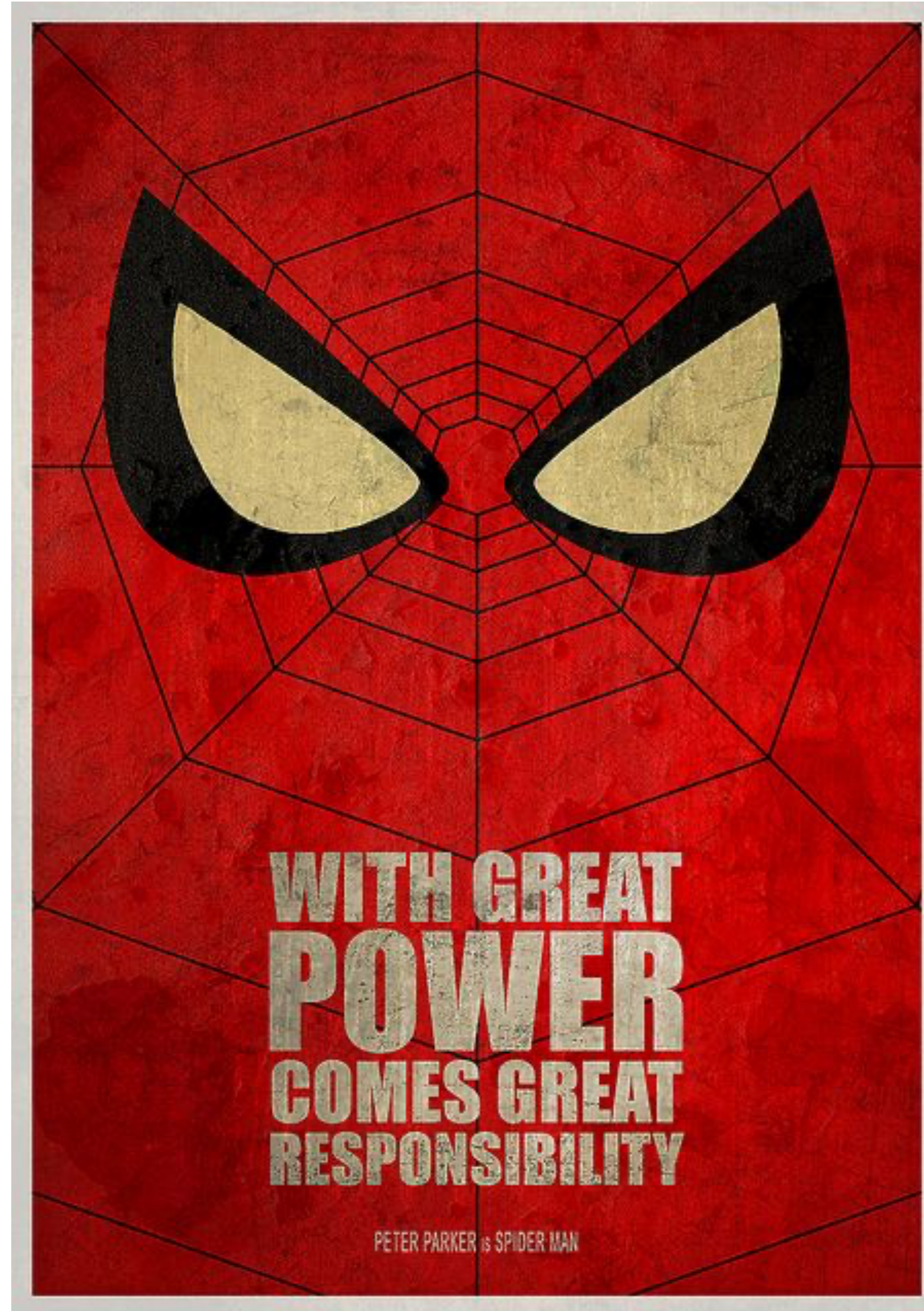
A CUSTOM KUBERNETES CONTROLLER



- Nodes and pods are where Applications run on Kubernetes
- Applications use objects like StatefulSets, Configmaps, PVs
- Custom Controllers create custom resources that provide unique application functionality:
 - Upgrades, elasticity, Kafka Operational Logic

Confluent Operator Architecture and Deployment





THANKS!

@gamussa

@fedor



<https://slackpass.io/confluentcommunity>

#kubernetes

 confluent

 Cirrus CI