PhraseApp on Kubernetes

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WIFI: rubyug : #foobarbaz
Slides: http://bit.ly/phraseapp-on-k8s

Deployment Milestones

2012-01 Capistrano on Hetzner (single app server)

2013-02 First AMI based ruby deployment on AWS

Jeff Lindsay
@progrium

Folgen

My toy PaaS let's you deploy with git and supports Heroku buildpacks. Just Docker and 350 lines of Bash, built in 6 hours.

Original (Englisch) übersetzen

RETWEETS	GEFÄLLT
17	17

08:59 - 23. Mai 2013

2 17 17

Deployment Milestones

2013-09	First high traffic RailsApp deployed with docker
2014-06	Pre-baked AMIs on AWS via Cloudformation + ASGs
2015-03	Custom docker deployment on AWS (wunderproxy)
2016-03	Begin of evaluation (ECS vs. Kubernetes)
2016-04	Kubernetes talk at Ruby UG Hamburg
2016-05	Initial commit to kc
2016-06	Growth app deployed with Kubernetes
2017-02	PhraseApp on Kubernetes

Framework to build **distributed applications**

Pods

Set of **tightly coupled** containers running on a **single node**

- dedicated ip
- shared network interface
- shared file system
- labels

Pods: manifest

```
kind: Pod
apiVersion: v1
metadata:
  name: hello
  labels:
    run: hello
spec:
  containers:
  - name: hello
    image: phraseapp/hello:v1
```

Services

Policy to access a **logical set** of pods

- DNS name
- IP
- port mapping

Services: manifest

```
apiVersion: v1
kind: Service
metadata:
  labels:
    run: hello
  name: hello
spec:
  ports:
  - port: 80
    targetPort: 8080
    protocol: TCP
  selector:
    run: hello
```

Deployments

declarative Pod updates

- image
- ENV
- configuration files
- labels

Architecture PhraseApp

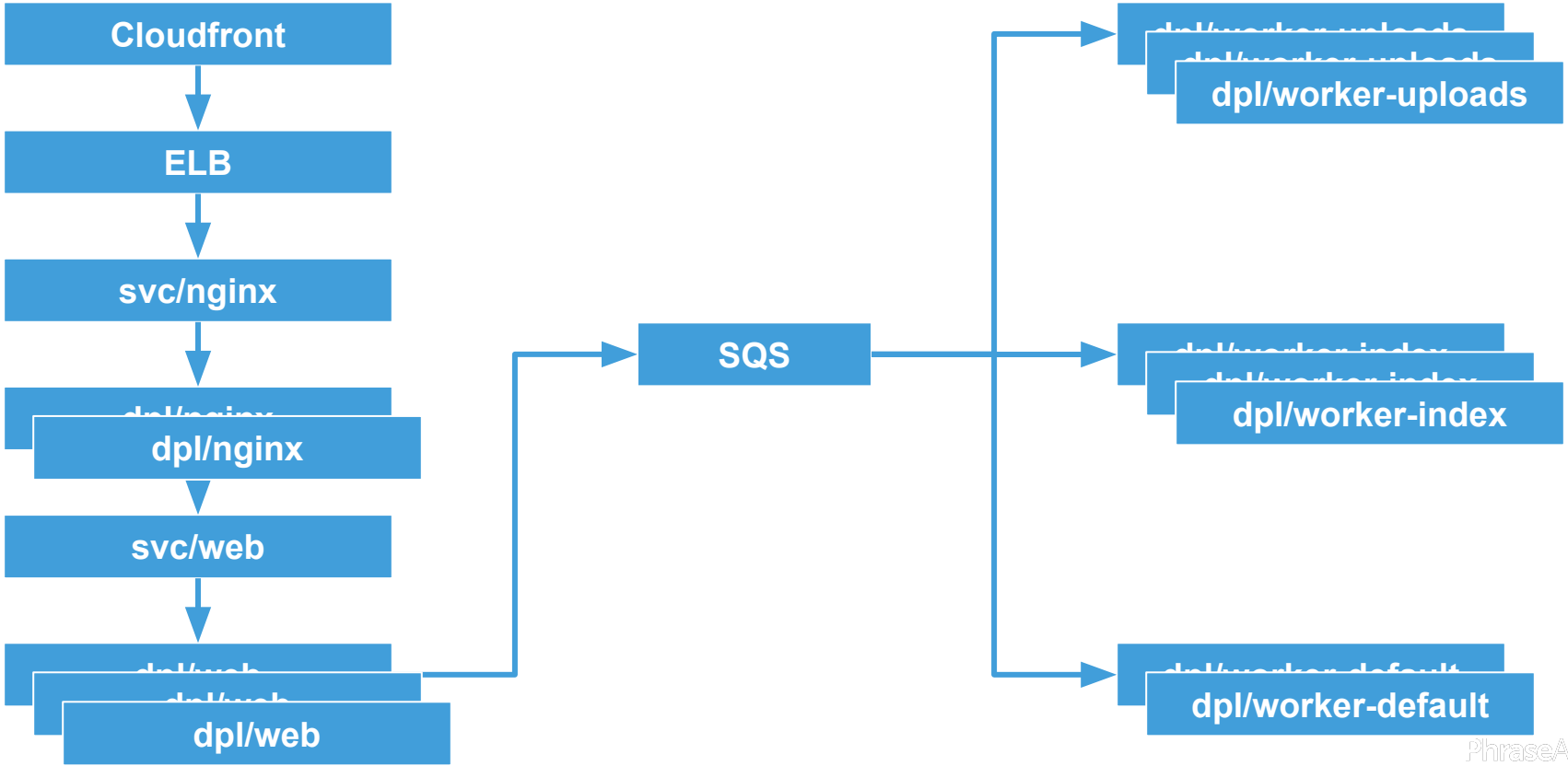


Image Building

- Dockerfile in repository
- triggered on master changes
- build container in cluster
- Gemfile caching
- Asset pipeline
- AWS/ECR

Deployment

- `kc prod deploy`
- kc: generic way to deploy any containerized app into a kubernetes cluster
- Update multiple deployments at once
- Wait for deployments to finish

Migrations

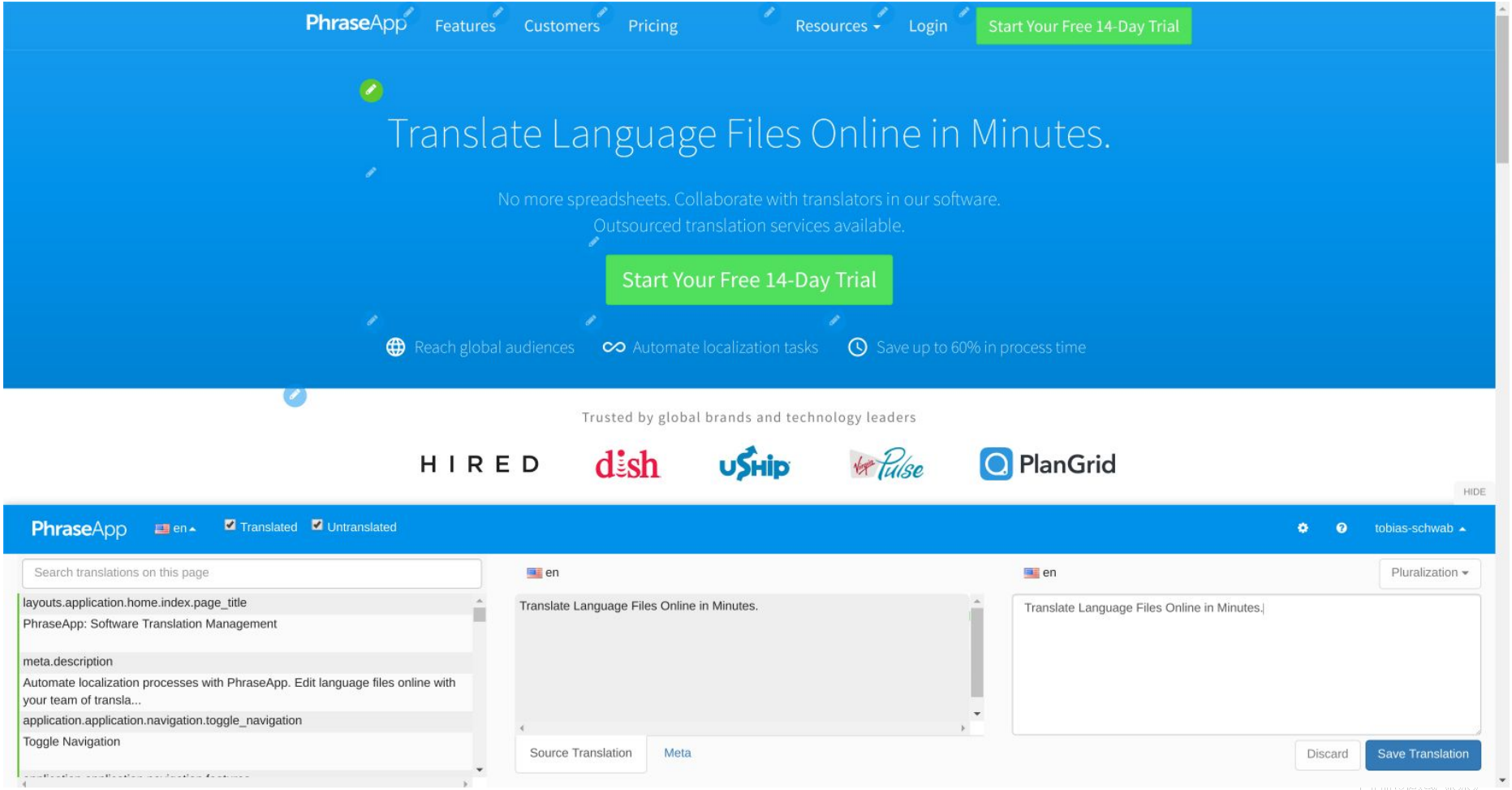
- Can be configured in kc via hook
- Executed with new image with current ENV in separate container
- Pre-check with prompt
- Abort on failure

Cronjobs

- Executed via jenkins (running in cluster)
- `kc run`
- Each job creates new container with current image and ENV
- Jenkins task waits for jobs to finish (only one job at a time)

Staging / Preview

- Running in the same cluster
- Separate kc config
- Separate ELB (TCP only)
- Nginx ingress
- TLS via kube-lego
- Basic-Auth Proxy (because SEO)


PhraseApp
Features
Customers
Pricing
Resources
Login
Start Your Free 14-Day Trial
Translate Language Files Online in Minutes.
No more spreadsheets. Collaborate with translators in our software.
Outsourced translation services available.
Start Your Free 14-Day Trial
Reach global audiences
Automate localization tasks
Save up to 60% in process time
Trusted by global brands and technology leaders
HIRED
dish
uShip
Virgin Pulse
PlanGrid
HIDE
PhraseApp
en
Translated
Untranslated
tobias-schwab
Search translations on this page
layouts.application.home.index.page_title
PhraseApp: Software Translation Management
meta.description
Automate localization processes with PhraseApp. Edit language files online with your team of transla...
application.application.navigation.toggle_navigation
Toggle Navigation
en
Translate Language Files Online in Minutes.
Source Translation
Meta
en
Pluralization
Translate Language Files Online in Minutes.
Discard
Save Translation

In-Context Editor

- Similar config as preview/staging
- Separate MySQL instance in cluster
- Separate Redis instance in cluster
- Separate ElasticSearch instance in cluster

DEMO

deployment/nginx

- Versioned ConfigMap
- Custom nginx image
- ngx_headers_more

Logging

- All important information in single nginx line
- Rails App passes information via HTTP header
- Fluented as DaemonSet on all nodes
- Kinesis-Firehose → S3 → SQS → k8s → ES
- Kibana

Monitoring

- Prometheus in cluster
- Node-Exporter as DaemonSet
- Kubernetes metrics from kubelet
- ...

Benefits

- No more (chef, puppet, etc.)
- Fully transparent infrastructure
- Better resource utilization, bigger instances
- New services deployed in zero time
- Easy to scale cluster up and down

Outlook

- Kops: advanced kubernetes cluster management on AWS
- Extract first components from monolith via GRPC

Resources

- https://kubernetes.io
- https://github.com/jetstack/kube-lego
- https://github.com/kubernetes/ingress/tree/master/controllers/nginx
- https://github.com/kubernetes/kops
- https://prometheus.io/
- http://www.fluentd.org/
- http://www.grpc.io/

PhraseApp

We are always looking for talent!

Grab some swag, if you want!

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