

# Introduction to Kubernetes

# About Me

- Python user since 2007
- Build web based systems using Python + Django mostly
- Gain interests in infrastructure gradually
- Working on Porter.io since 2014



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# Disclaimer

- This talk is more about sharing information and ideas other than best practice
- The choices we made might not suite your needs and are probably not the best ones
- Take whatever you think is useful and use your own judgement

# It all starts with Docker

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## Build, Ship and Run Any App, Anywhere

Docker - An open platform for distributed applications for developers and sysadmins.



### Get started with Docker

- Build better apps
- Deploy apps faster
- Get the latest news

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**Everything is Perfect  
Except ...**

# Docker Missing Features

- Multi-Node Cluster
- Orchestration
- Load Balance
- Failure Recovery
- Live Migration
- Build & Deploy

# Welcome Kubernetes



kubernetes

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kubernetes by Google

Manage a cluster of Linux containers as a single  
system to accelerate Dev and simplify Ops.

# Quick Introduction



## Kubernetes: Introduction

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Google Cloud Platform



**DEMO**

# Lessons Learned

- gcr.io - Google Container Registry
- Memory matters - Use n1-standard-1 or above
- Persistent Disk Volumes are great but it might cause scheduler stuck. Use it for stable services which doesn't update often.
- kube-proxy sometimes stop working. Might be related to low memory issue. Have to restart manually.
- `docker run -v /usr/bin/docker:/usr/bin/docker -v /var/run/docker.sock:/var/run/docker.sock google/cloud-sdk gcloud preview docker push IMAGE`
- Using kubernetes is fun as long as someone else is managing the infrastructure. Business opportunity here.

# heka-google-cloud-platform

- Google Cloud Platform plugins for Mozilla Heka
- We built and made it open source while migrating Porter.io to Kubernetes
- Works well with existing heka plugins to make logging and monitoring easy to use in Docker environment
- Collect logs of Docker containers and forward them to Google Cloud Logging
- Forward selected Heka messages to Google Cloud Monitoring

# Links

- Docker <https://www.docker.com/>
- Kubernetes <http://kubernetes.io/>
- Kubernetes: Introduction <http://www.slideshare.net/RohitJnagal/kubernetes-intro-public-kubernetes-meetup-4212015>
- DEMO Recording <https://asciinema.org/a/19211>
- heka-google-cloud-platform <https://github.com/porter-io/heka-google-cloud-platform>

**Q & A**