by DigitalOcean
deploy

Running Containers on DigitalOcean

Guy Barrette

Digital Learning Experiences Creator

Who am I?

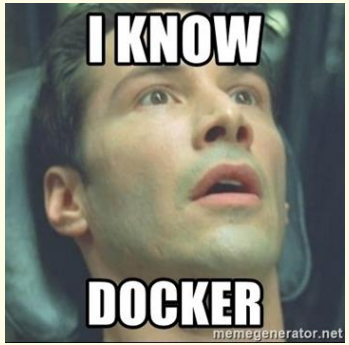
- Guy Barrette
- Dev/Coach/Trainer
- Based in Montréal, Canada
- Teach Docker & Kubernetes
- DigitalOcean Navigator
- @GuyBarrette
- guybarrette.com

CONTAINERS
CONTAINERS EVERYWHERE
makeameme.org

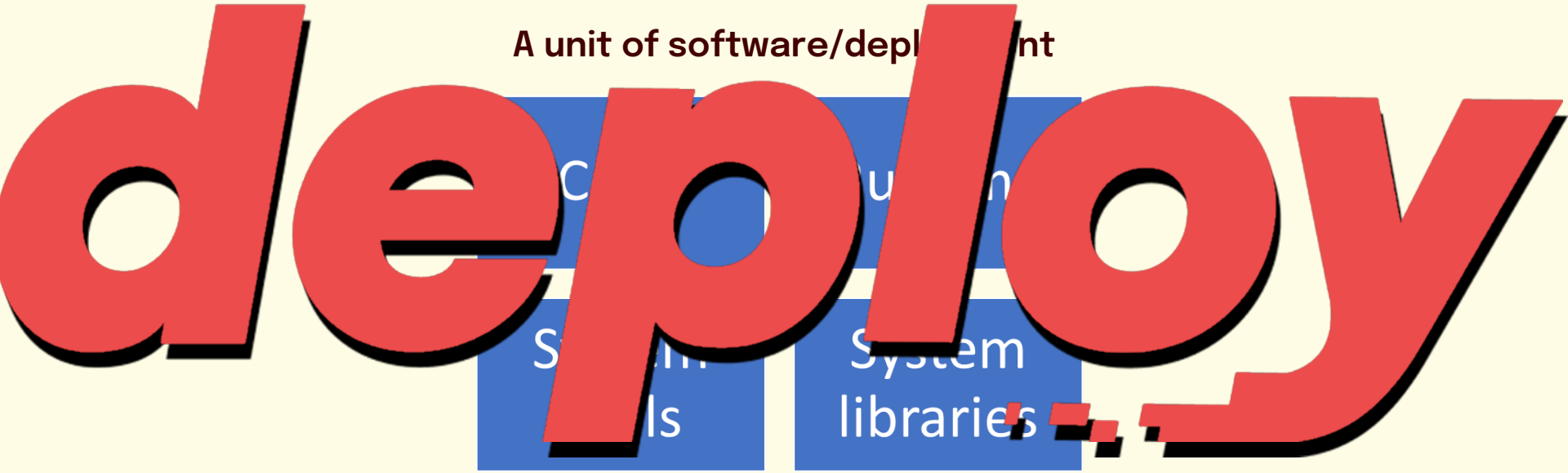
WHAT DO WE WANT?
CONTAINERS!
WHY?
imgflip.com

IN THE FUTURE
EVERYTHING IS DOCKERIZED

YOU GET A CONTAINER
AND YOU GET A CONTAINER --
EVERYONE GETS CONTAINERS!


I KNOW
DOCKER
memegenerator.net

What is a container?

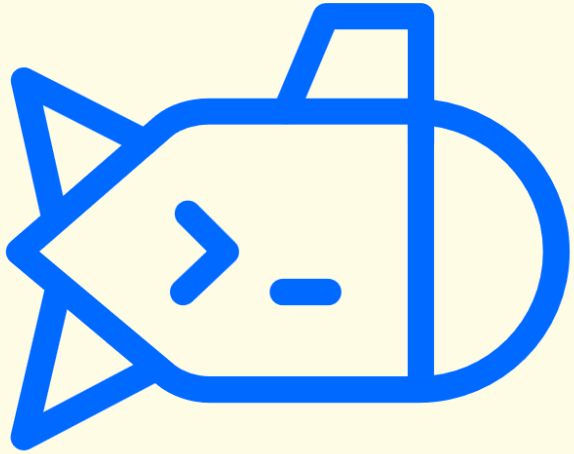


Containers in DigitalOcean

- App Platform
  - Deploy web apps or APIs using single containers in a PaaS environment
  - Multi containers
- Droplets
  - Virtual Private Servers (VPS) where you can install a container runtime and run your containers.
- DigitalOcean Kubernetes Se
  - Scale and orchestrate
- DigitalOcean Container Registry (DOCR)
  - Docker Registry in DO

The right tool for the right job

APP PLATFORM

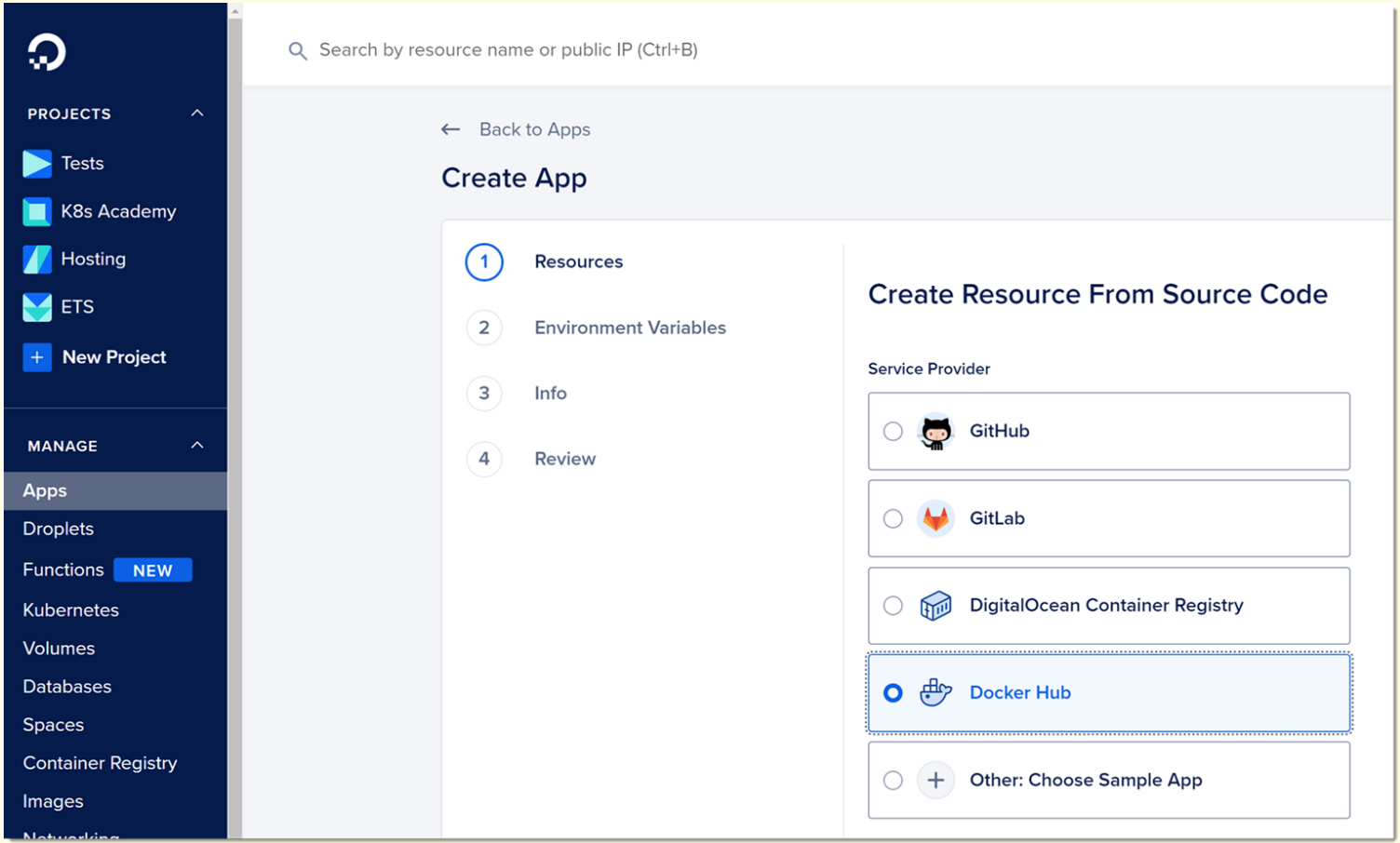


What is App Platform?

- Platform as a Service (PaaS)
- Built on top of DigitalOcean Kubernetes
- Build, deploy and scale apps
- Python, Node.js, Go, PHP, Ruby, Hugo, and static sites
- Containers
    - A single container is deployed as a component
        - Web Service: external visibility

Multi Containers on App Platform

- Docker Compose is not supported
- You can add more then one component
- Web Services can be restricted to internal use
- Pricing is per component
    - 1 Web Service (Front-end)
    - 1 Web Service Internal (Backend)


Search by resource name or public IP (Ctrl+B)
PROJECTS
Tests
K8s Academy
Hosting
ETS
New Project
MANAGE
Apps
Droplets
Functions
NEW
Kubernetes
Volumes
Databases
Spaces
Container Registry
Images
Back to Apps
Create App
1 Resources
2 Environment Variables
3 Info
4 Review
Create Resource From Source Code
Service Provider
GitHub
GitLab
DigitalOcean Container Registry
Docker Hub
Other: Choose Sample App

DEMO !

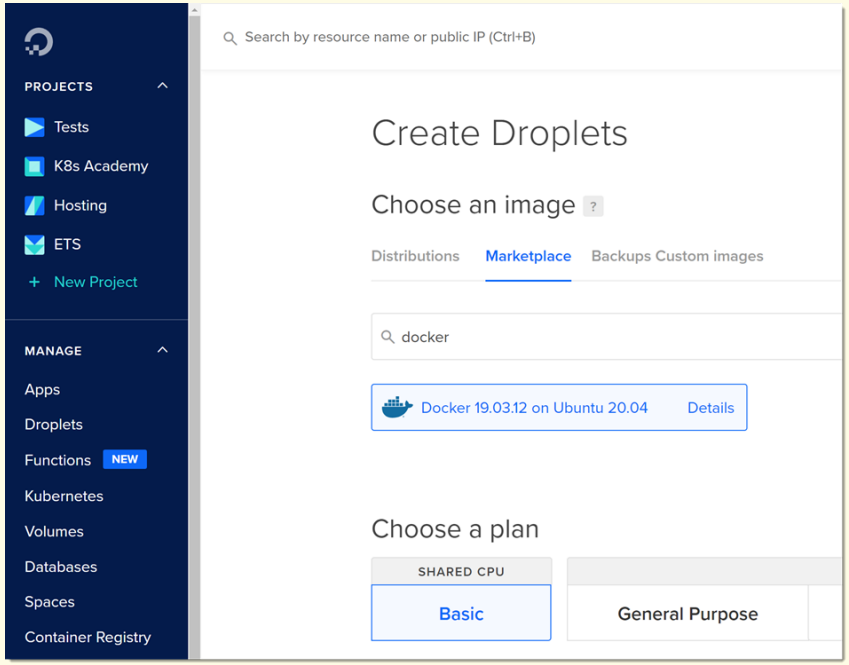
DROPLET

What is a Droplet?

- A Linux virtual machine or virtual private server
- You have complete control
- Large numbers of distributions available
- Marketplace with many pre-installed products (1-Click Apps)
- You're responsible for updating and patching
- Can be load balanced
- Backups can be configured
- Can use Block Storage as external storage

Containers on Droplets

- Install Docker from the Marketplace (1-Click Apps)
- Supports single containers and Docker Compose



Restart Policy

```
docker run -d --name hello -p 80:8080 --restart unless-stopped k8sacademy/hello-app:1.0
```

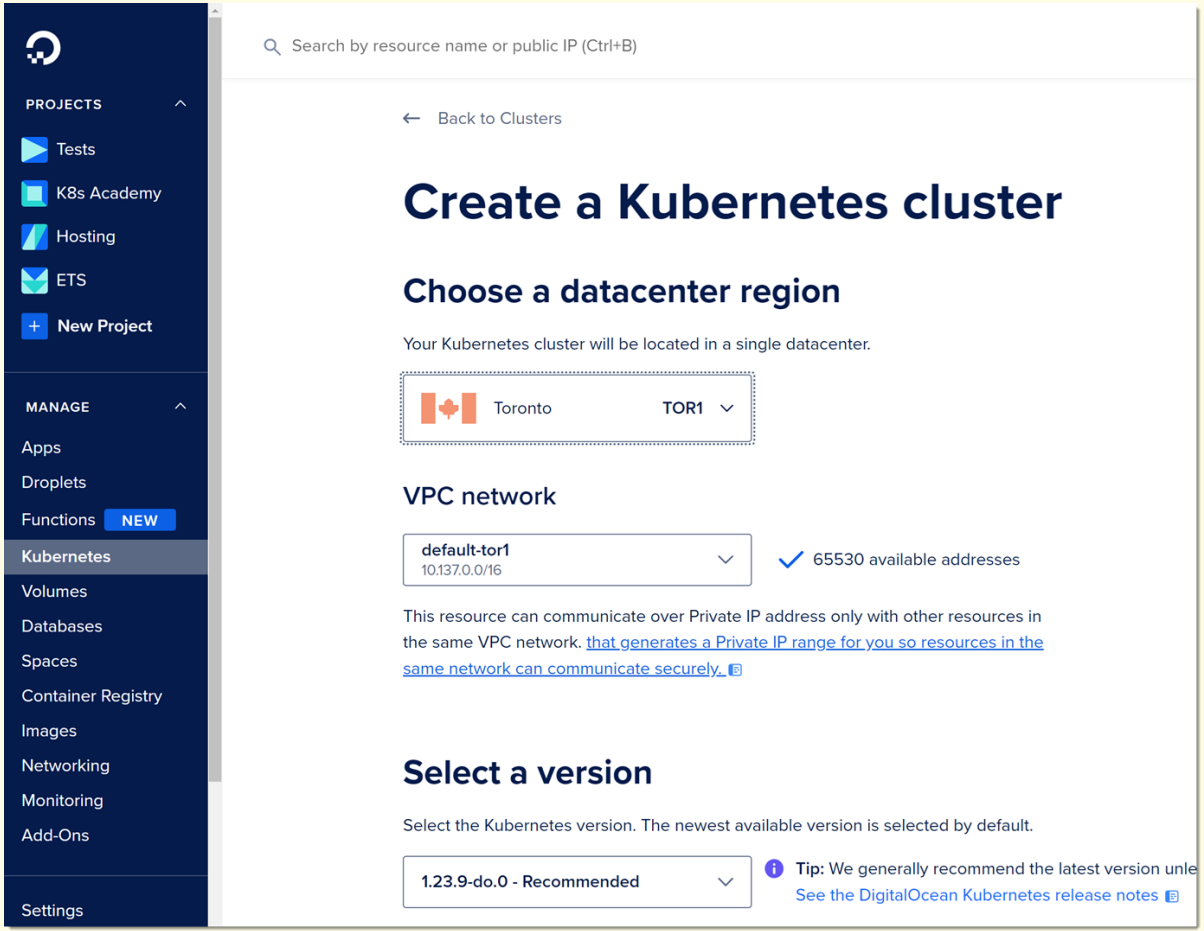
```
version: "3.5"
services:
  hello1:
    depends_on:
      - reverseproxy
    image: "nginxdemos/hello"
    restart: unless-stopped

  hello2:
    depends_on:
      - reverseproxy
    image: "nginxdemos/hello"
    restart: unless-stopped

  reverseproxy:
    image: k8sacademy/reverseproxy
    ports:
      - "80:80"
    restart: unless-stopped
```

DEMO !

DIGITALOCEAN KUBERNETES SERVICE (DOKS)

DOKS

- Kubernetes as a service
- CNCF certified as Kubernetes conformant
- Not a hacked version
- Create a cluster in a few minutes
- DigitalOcean takes care of the control-plane (master node)
    - Free
- High-availability (HA) control plane available ($40/month)
- You pay for the nodes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Functions NEW
Kubernetes
Volumes
Databases
Spaces
Container Registry
Images
Networking
Monitoring
Add-Ons
Settings
Back to Clusters
Create a Kubernetes cluster
Choose a datacenter region
Your Kubernetes cluster will be located in a single datacenter.
Toronto TOR1
VPC network
default-tor1
10.137.0.0/16
65530 available addresses
This resource can communicate over Private IP address only with other resources in the same VPC network. that generates a Private IP range for you so resources in the same network can communicate securely.
Select a version
Select the Kubernetes version. The newest available version is selected by default.
1.23.9-do.0 - Recommended
Tip: We generally recommend the latest version unle
See the DigitalOcean Kubernetes release notes

DEMO !

CONCLUSION

The right tool for the right job

Thank you for attending deploy by DigitalOcean!

by DigitalOcean deploy