



“workstation up” -
Docker Development at
Flow

Mike Roth

Principal Engineer  *Flow*
roth@flow.io

Flow Commerce

Flow is a next-generation solution for taking merchants global - more at <https://flow.io>

We are about to launch and are hiring – email roth@flow.io if interested



**“Everything should be
made as simple as
possible, but not simpler.”**

— Albert Einstein



Flow uses Docker for...



Local development environment (workstation)

<https://github.com/flowcommere/workstation>



Building custom base images (Play & PostgreSQL)

<https://github.com/flowcommerce/docker>



Continuous Integration (Travis CI)

<https://travis-ci.org/flowcommerce/delta>



Continuous Delivery (Delta)

<https://github.com/flowcommerce/delta>



External APIs

<https://github.com/flowcommerce/goutils>



Production (AWS/ECS)

Open Source!

github.com/flowcommerce



Right now, let's make a
change...

in Production



Key Stages in Delta

- Syncs GitHub SHAs with master branch
- Syncs tags & applies new one



Creates/Builds Docker Hub Automated Build

- Scale

****More on CD @ Flow****

<http://www.slideshare.net/mbryzek/nyc-continuous-delivery-meetup-introducing-delta>

Now, back to Development

Docker for Mac



Simple



Containers referenced via ``localhost``



Developers install less (e.g. No Virtual Box)



CLIs at Flow

Ruby ➡ Go

- CLI essentially “baked in”
- Get stuff done - repetitive tasks (e.g. repo tagging, environment variable updates in S3, check kinesis, etc.)
- Binaries can be passed around, and they “just work”
 - Super useful for non-tech
- Robust

Application Dependencies

Flow manages dependencies with Registry

<https://github.com/flowcommerce/registry>

```
- id: example
  ports:
    - healthcheck:
        host: vm
        port: 9001
        external: 9001
        internal: 9000
  dependencies: [example-postgresql]
```

Application Dependencies

- Implement custom health checks (with substance)
- Loosely couple dependencies
 - No extends or links needed
- No volumes
- Use S3 for environment variables (in Dev & Prod)



External APIs



Docker Hub API

<https://github.com/flowcommerce/external-apis/blob/master/docker/hub.json>



Docker Registry

<https://github.com/flowcommerce/external-apis/tree/master/docker>



Clients integrated with applications like Workstation and Delta

Workstation



Sample Process Flow

For example: ***workstation up --app www***



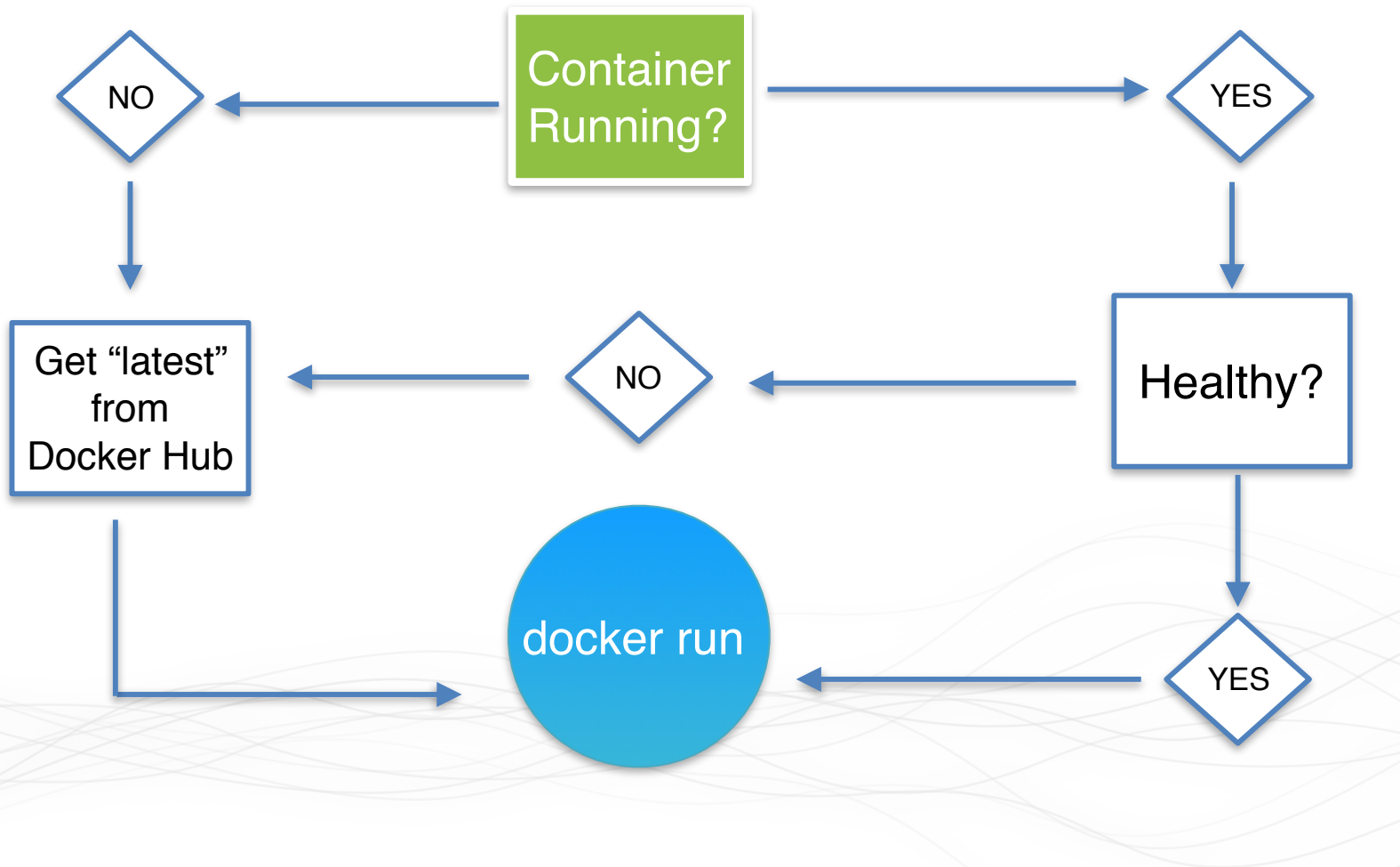
Checks YAML configuration for app details



Recursively checks for **upstream dependencies** and maintains **priority order** (based on their upstream dependencies)



Sample Process Flow (up)



Live Demo



Let's Check Prod

and send some Docker love!



Thank you!

roth@flow.io
@DevsClimbRock

