Who am I?

- Software Engineer at Google
  - Minikube maintainer
  - Container tools, container-diff, distroless
- @r2d4 on GitHub
- @mattrickard on twitter

Structure of the Talk

- Best practices to help developers be more productive and efficient with minikube
- Reference tool and starting point for setting up your team with customized minikube environments

Getting started: Configuring Minikube

- Bash (zsh, powershell, fish) completion
  - `$ source <(minikube completion bash)`
- Persistent configuration instead of flags
  - `$ minikube config get/set/unset/view`
- Configure addons
  - `$ minikube addons enable/disable/list/open/configure`
  - `$ minikube addons enable ingress`
  - `$ minikube addons configure registry-creds`
  - `$ minikube addons enable registry`

Configuring Minikube: Special Folders

- Special folders on the host
  - `~/.minikube/files`
    - *"I need a configuration file to be mounted on the minikube node"*
      - `~/.minikube/files/home/config.yaml -> /home/config.yaml`
  - `~/.minikube/addons`
    - *"I need to run some custom kubernetes resources everytime I run minikube"*
      - `~/.minikube/addons/deployment.yaml`
- Special files in the VM
  - `/var/lib/boot2docker/bootlocal.sh`
    - *"I need a script to be ran every time the VM boots"*

Configuring Kubernetes

- Choose a bootstrapper {localkube, kubeadm}
  - `$ minikube config set bootstrapper kubeadm`
- Choose a runtime
  - default: docker, cri-o, cri, rkt
- Choose a version
  - `$ minikube config set kubernetes-version v1.9.0`

| Version	Suggested Bootstrapper
>= v1.8.0	Kubeadm
< v1.8.0	Localkube

Configuring Kubernetes

- Component configuration
- Localkube
  - Uses reflection on component option struct
  - `--extra-config=apiserver.Authentication.Webhook.ConfigFile=/home/docker/test.yaml`
- Kubeadm
  - Passes flags to component containers
  - `--extra-config=apiserver.authorization-webhook-config-file=/home/docker/test.yaml`

Interacting with Minikube

- Persistent Folders inside the VM
  - `/data`
  - `/var/lib/localkube`
  - `/var/lib/docker`
  - `/tmp/hostpath_pv`
  - `/tmp/hostpath-provisioner`

- Default hostpath storage provisioning
- `eval $(minikube docker-env)`
- `$ minikube cache add/delete`

Sharing Files

- ## 9p Filesystem
  - `$ minikube mount src_folder:dst_folder`
- ## NFS client included in minikube image
- ## VboxFS
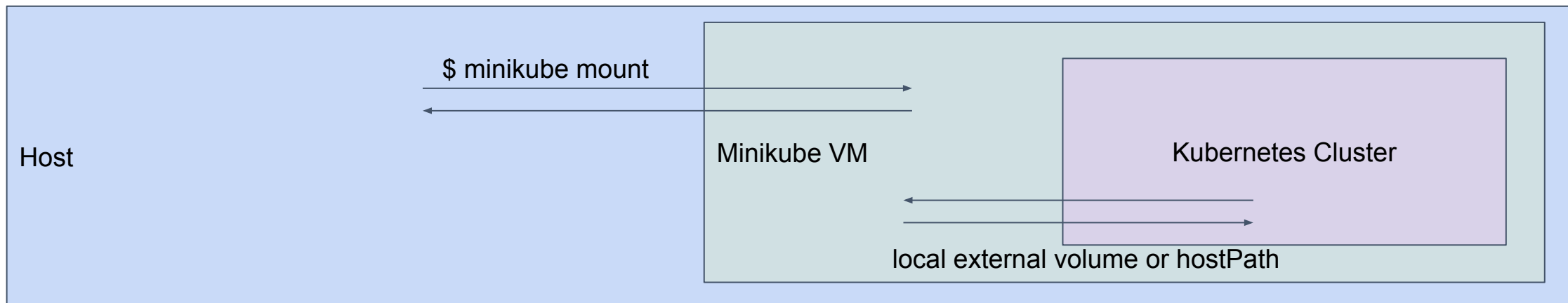
Testing

"I need to run e2e tests against a cluster on travisCI (jenkins, circleCI, etc.)"

- `$ minikube --vm-driver=none`
- Disable any notifications
  - `MINIKUBE_WANTUPDATENOTIFICATION=false`
  - `MINIKUBE_WANTREPORTERRORPROMPT=false`

- Utilize caches for completely offline tests

- https://github.com/aaron-prindle/minikube-travis-example

Questions?

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- mrick on #minikube
- @mattrickard on Twitter
- @r2d4 on GitHub