



# Building Clustered Applications with Kubernetes and Docker

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# Why Docker?



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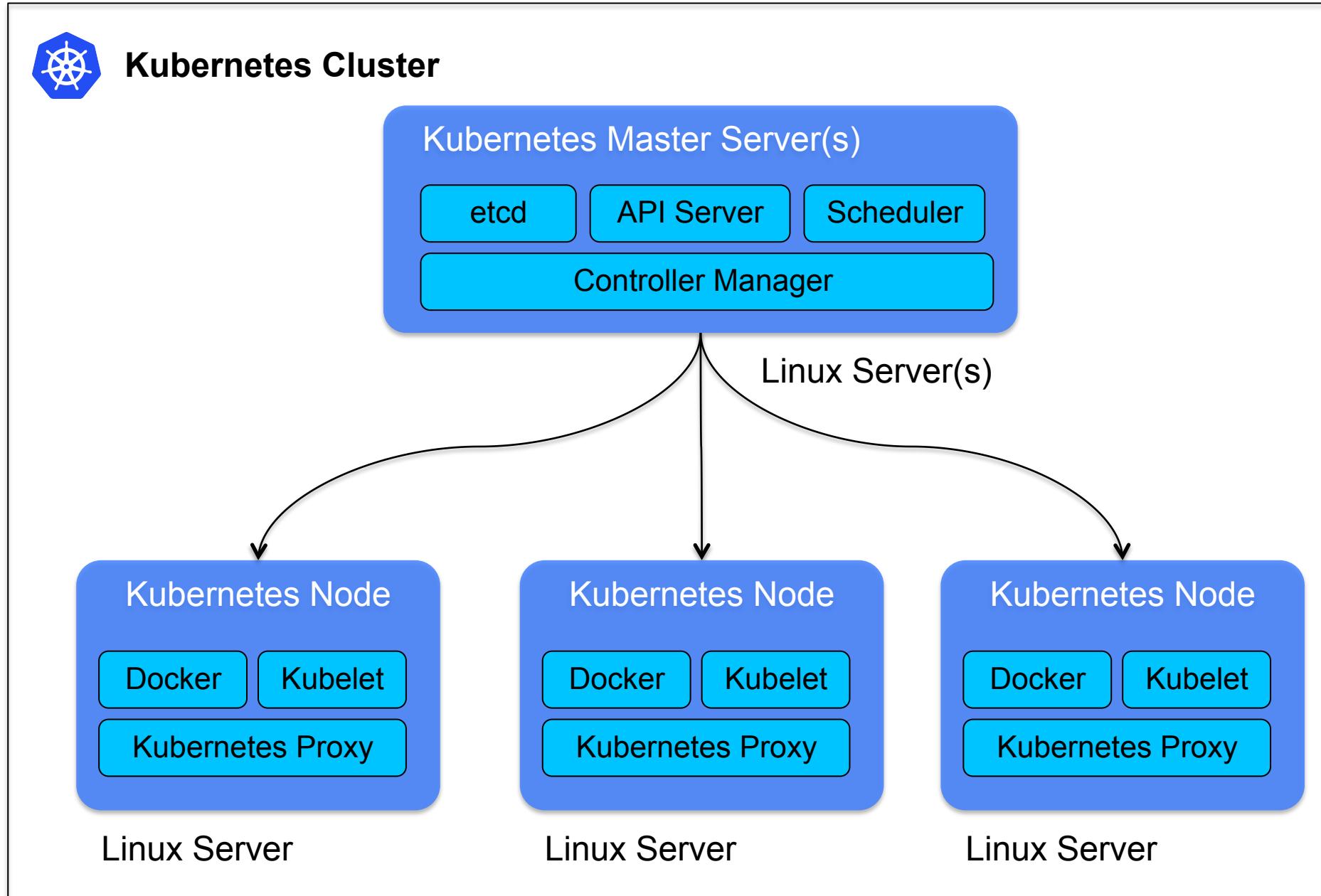
# Why Kubernetes?



# kubernetes

by Google™

# Kubernetes Architectural Overview



# Installing Kubernetes

- Hosted Services: Google Compute Engine
- Support for a wide variety of Infrastructure (Azure, Rackspace, vSphere, AWS)
- Support for several OS' (RHEL, CentOS, Fedora, Debian, Ubuntu, Atomic, CoreOS)
- Local but automated (Vagrant/Ansible) \* Magic \*
- Local but manual (Fedora) \* What I use \*

[https://github.com/GoogleCloudPlatform/kubernetes/blob/master/docs/getting-started-guides/fedora/fedora\\_manual\\_config.md](https://github.com/GoogleCloudPlatform/kubernetes/blob/master/docs/getting-started-guides/fedora/fedora_manual_config.md)

# Awesome! Now, lets build an application

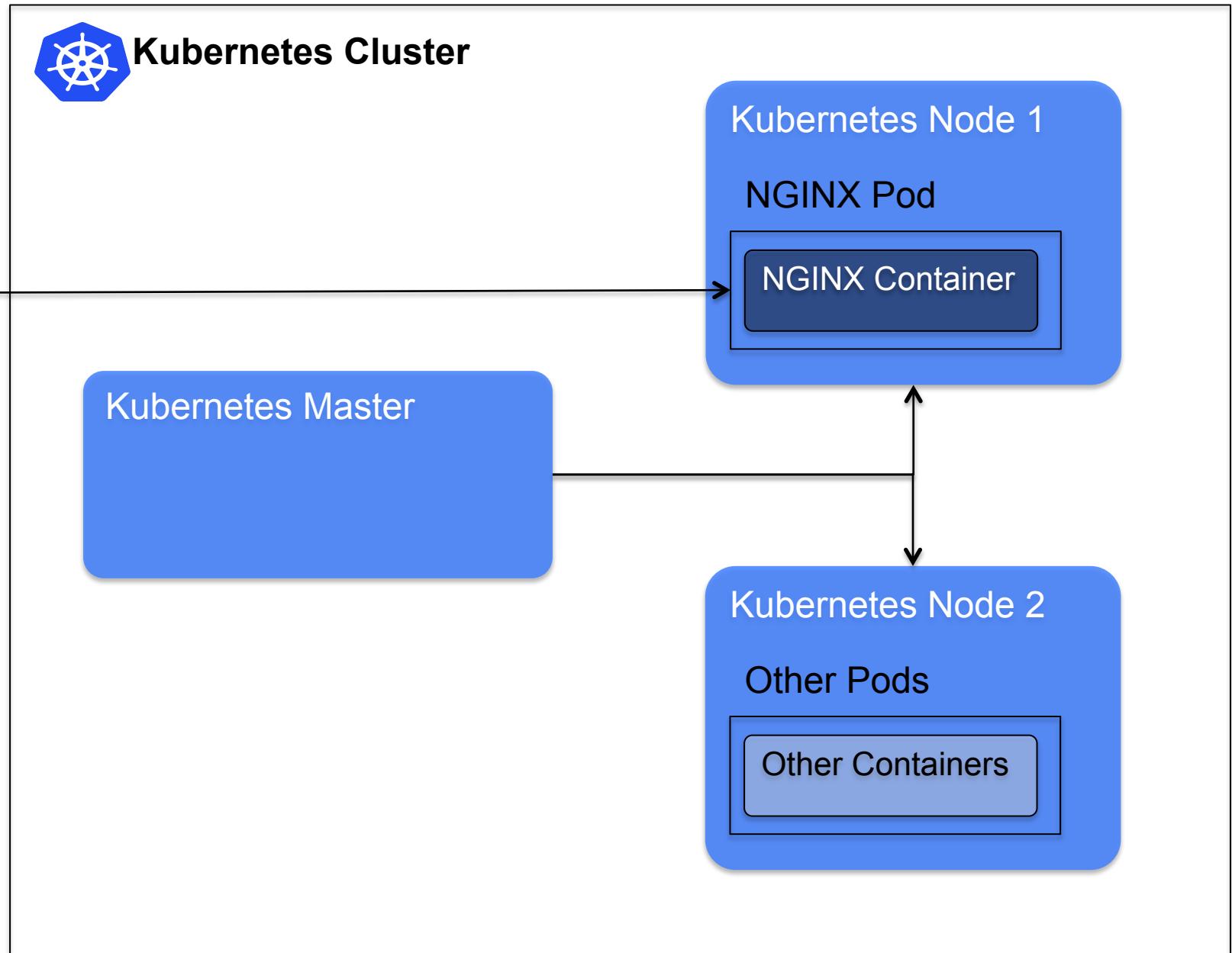


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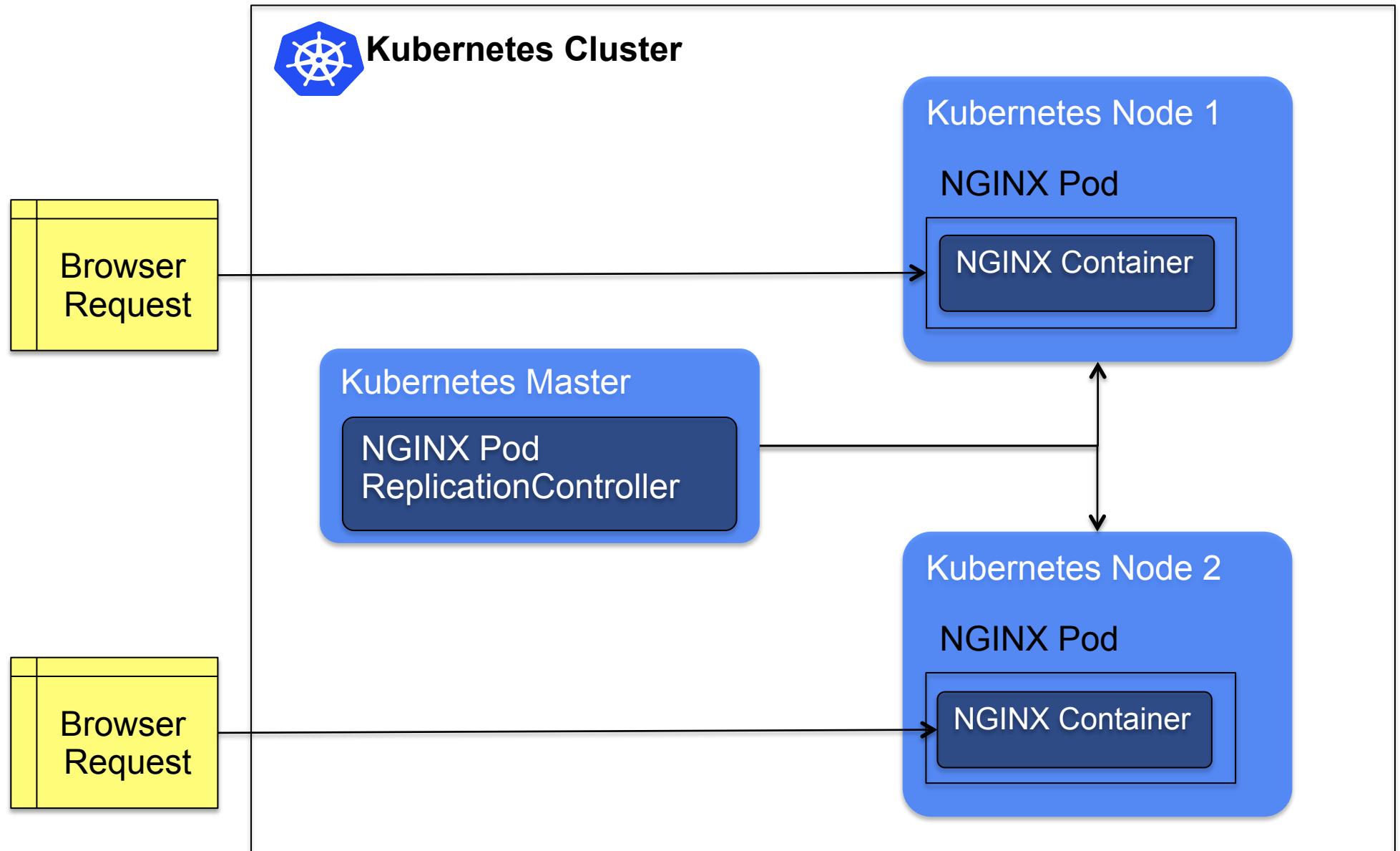
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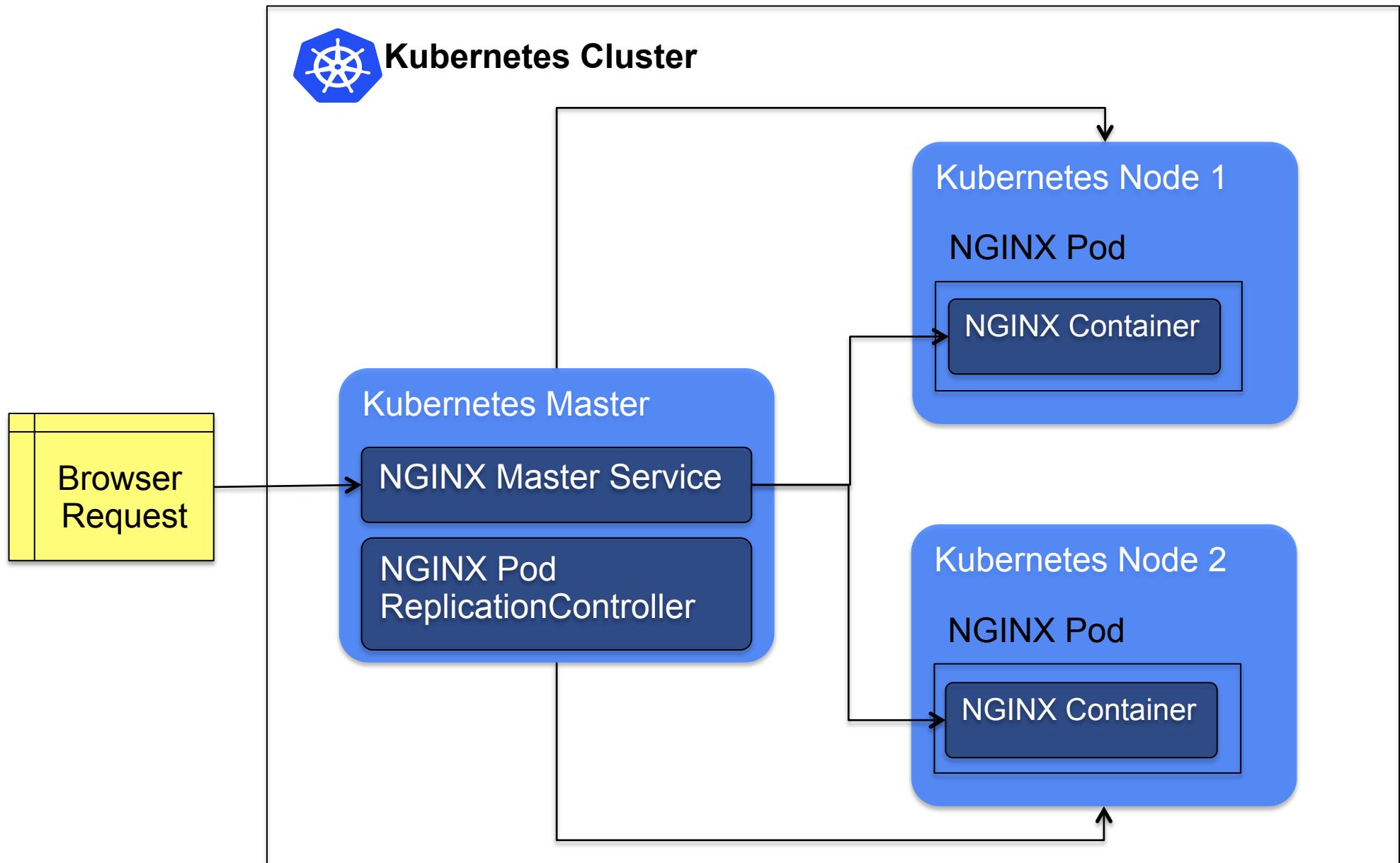
# We'll start by Defining and Deploying a Pod



# You might also want to add a ReplicationController



# And add a Service to Proxy in front of it



# What about Persistence? Lets try out Volumes

Volumes are specified in a Pod and mounted onto a specified path within a container. There are several kinds of Volumes:

- hostPath (mount a persistent directory provided by host)
- NFS (mount NFS share provided by a 3<sup>rd</sup> Party)

## Ephemeral

- emptyDir (mount an ephemeral directory provided by host)

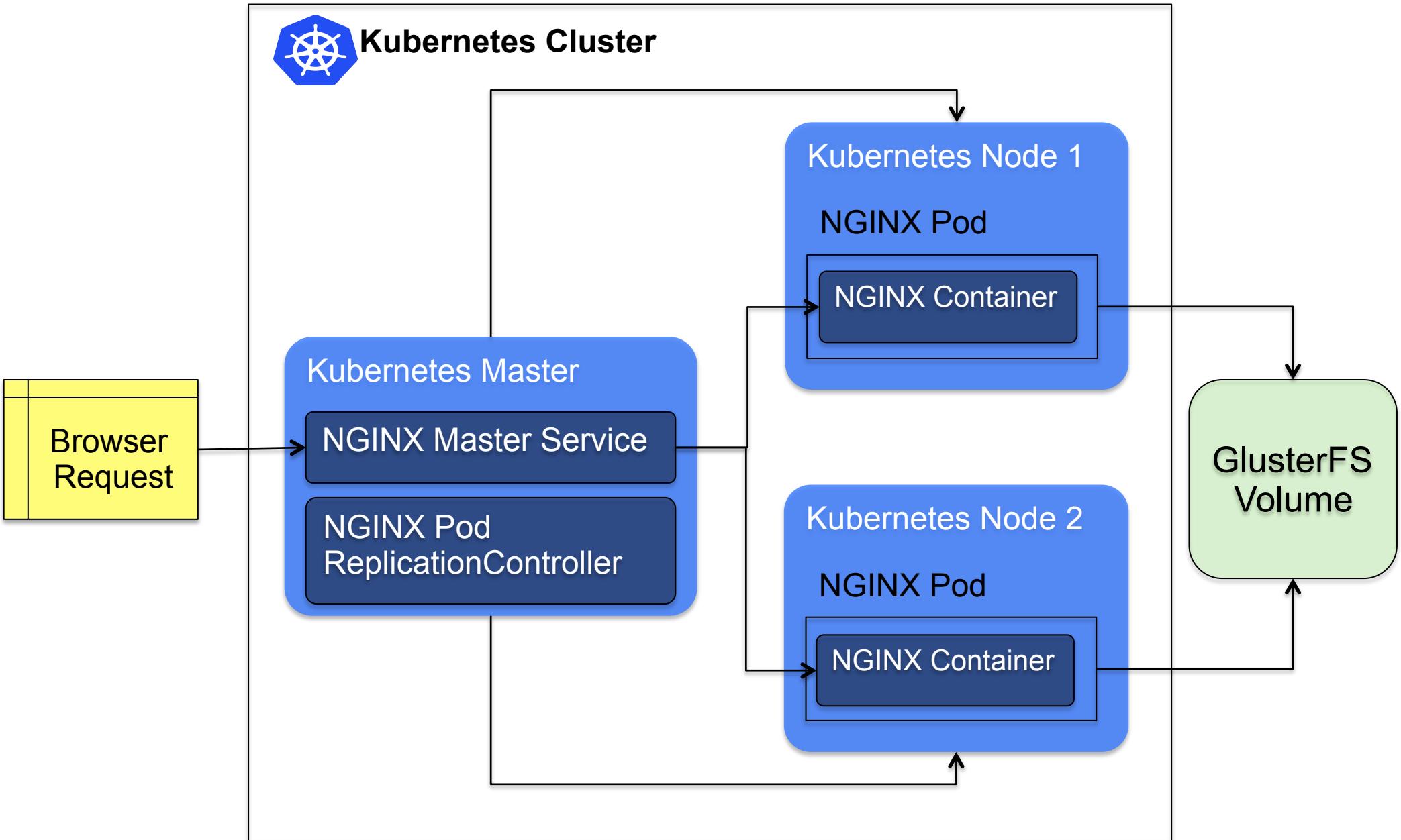
## File

- GlusterFS Distributed File System (mount an adjacent GlusterFS volume)
- Ceph Distributed File System (mount an adjacent CephFS volume)

## Block

- GCEPersistentDisk (mount a GCE Block Device when in GCE)
- Ceph Block (mount an adjacent Ceph Block Device)
- ISCSI Block Devices (mount an adjacent ISCSI Block Device)

# For this example, we're going to use GlusterFS





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# Debugging FAQ

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Tips that may help you debug why Kubernetes isn't working.

Of course, also take a look at the [documentation](#), especially the [getting-started guides](#).

When asking for help, please indicate your hosting platform (GCE, Vagrant, physical machines, etc.), OS distribution (Debian, CoreOS, Fedora, etc.), and special networking setup (Flannel, OVS, etc.).

## Checking logs

- Of your pod:
  - `cluster/kubectl.sh log <podname> [<containername>]`

# Thanks for Attending

Interested in following up?

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Examples:

<https://github.com/wattsteve/kubernetes/>