



Static PODs

Kubernetes Architecture



Master

Manage, Plan, Schedule, Monitor
Nodes



Worker Nodes

Host Application as Containers

kube-apiserver

ETCD
CLUSTER

Controller-
Manager

kube-scheduler





pod1.yaml



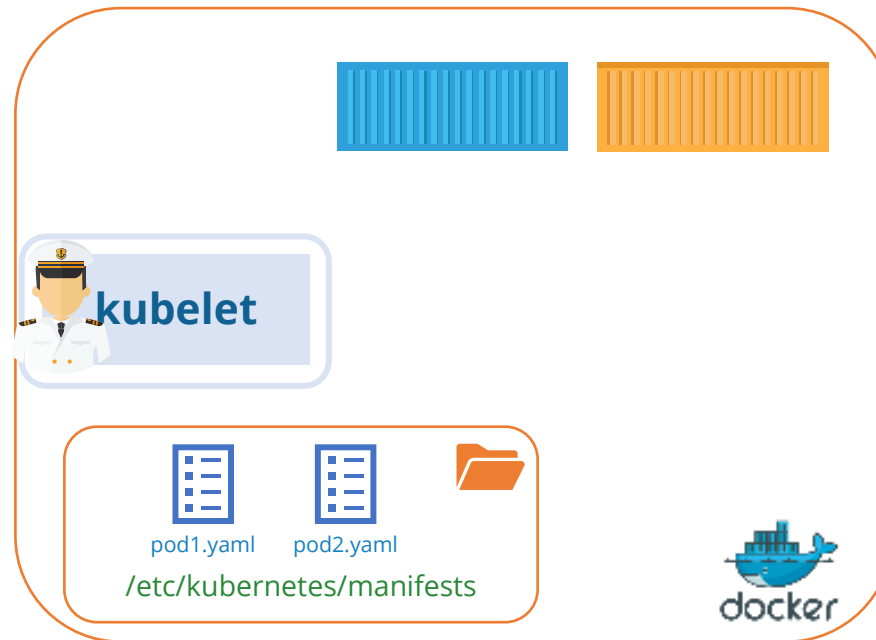
pod2.yaml



/etc/kubernetes/manifests



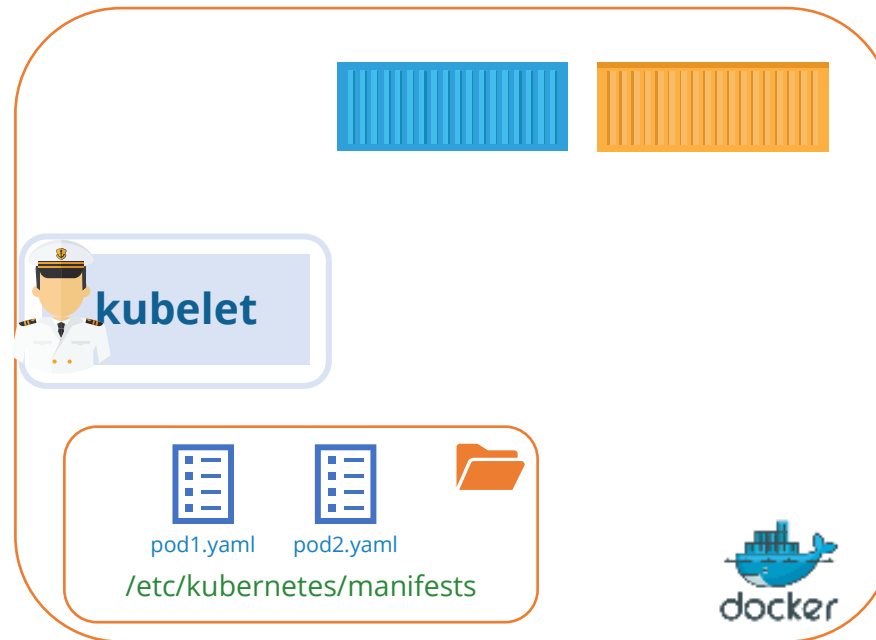
Static PODs



kubelet.service

```
ExecStart=/usr/local/bin/kubelet \\  
  --container-runtime=remote \\  
  --container-runtime-endpoint=unix:///var/run/containerd/containerd.sock \\  
  --pod-manifest-path=/etc/Kubernetes/manifests \\  
  --kubeconfig=/var/lib/kubelet/kubeconfig \\  
  --network-plugin=cni \\  
  --register-node=true \\  
  --v=2
```

Static PODs



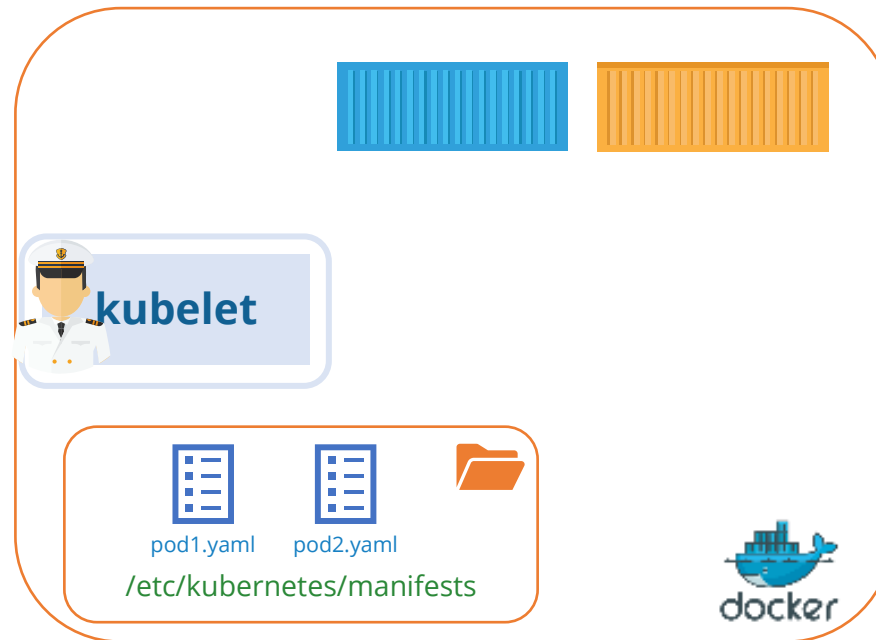
kubelet.service

```
ExecStart=/usr/local/bin/kubelet \\  
  --container-runtime=remote \\  
  --container-runtime-endpoint=unix:///var/run/containerd/containerd.sock \\  
  --config=kubeconfig.yaml \\  
  --kubeconfig=/var/lib/kubelet/kubeconfig \\  
  --network-plugin=cni \\  
  --register-node=true \\  
  --v=2
```

kubeconfig.yaml

```
staticPodPath: /etc/kubernetes/manifests
```

Static PODs



```
▶ docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
8e5d4c4db7b6	busybox	"sh -c 'echo Hello K..."	20 seconds ago	Up 20 seconds
k8s_myapp-container_myapp-pod-host01_default_48e37fb432f2e06350e76786bd0bac66_0				
f6737e1149cb	k8s.gcr.io/pause:3.1	"/pause"	24 seconds ago	Up 23 seconds
k8s_POD_myapp-pod-host01_default_48e37fb432f2e06350e76786bd0bac66_0				

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kubelet



pod1.yaml



pod2.yaml



/etc/kubernetes/manifests

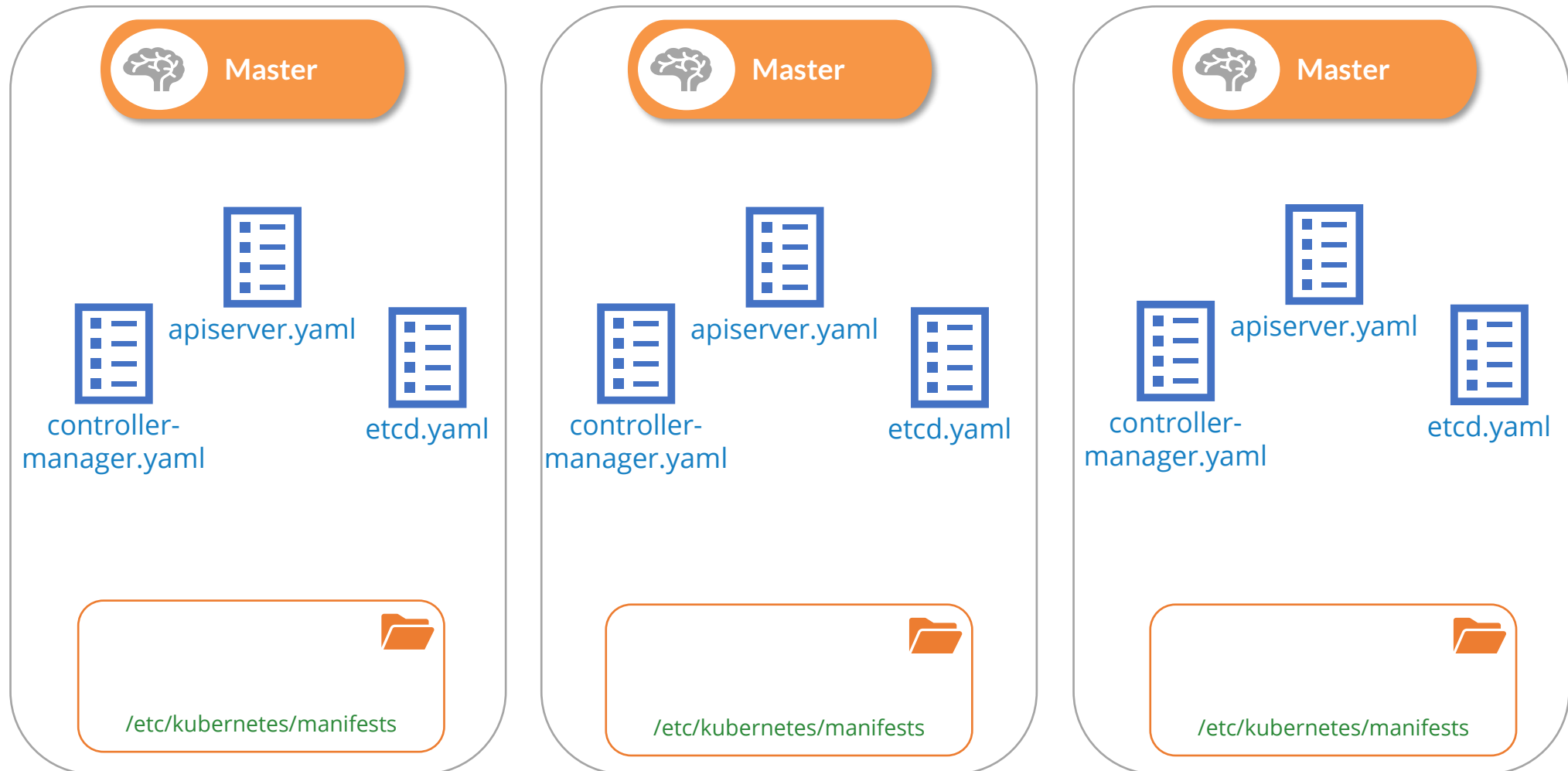


docker

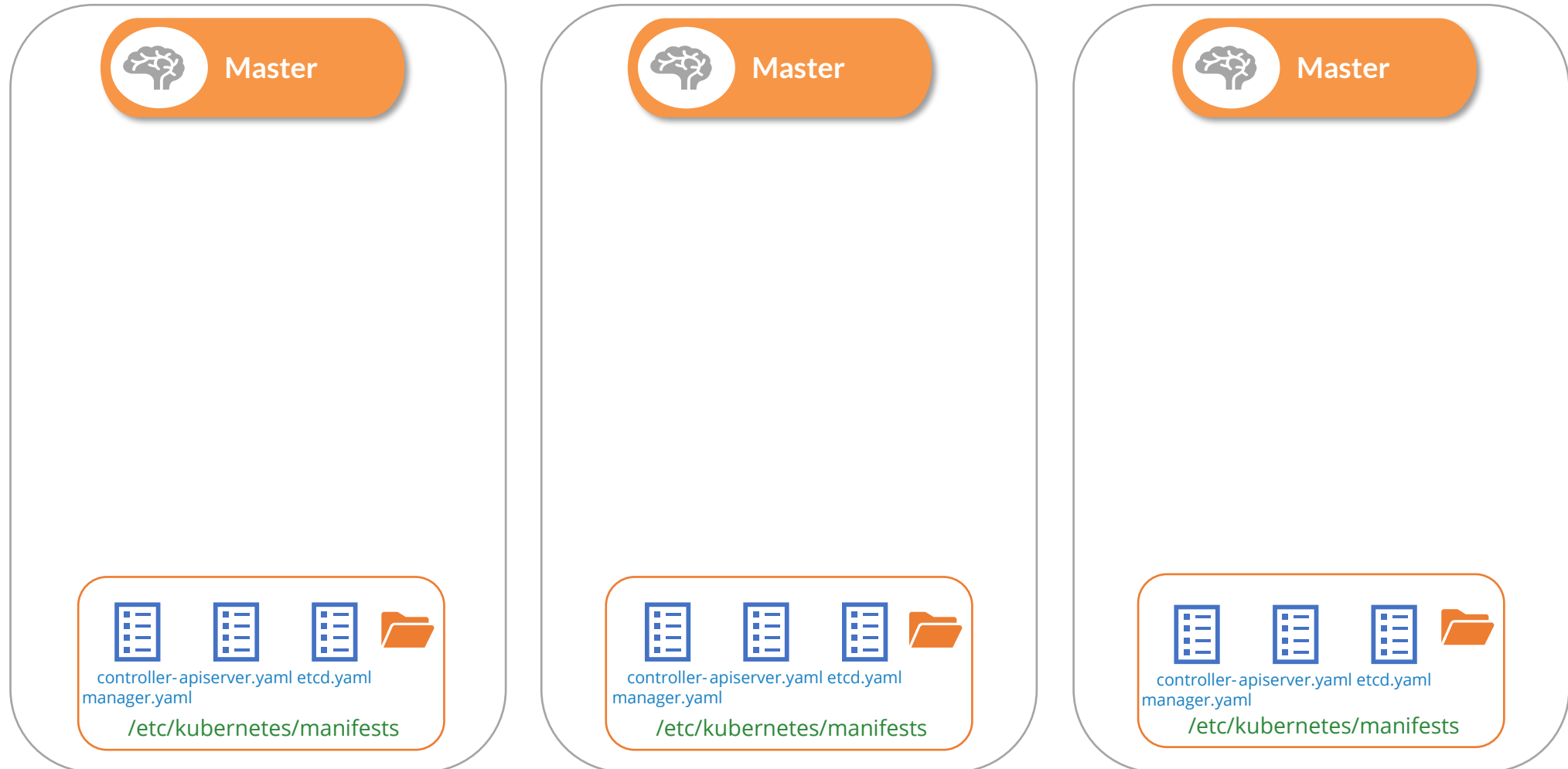
```
kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
static-web-node01	0/1	ContainerCreating	0	29s

Use Case



Use Case



Use Case

```
▶ kubectl get pods -n kube-system
```

NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE	
kube-system	coredns-78fcd6894-hwrq9	1/1	Running	0	16m	
kube-system	coredns-78fcd6894-rzhjr	1/1	Running	0	16m	
kube-system	etcd-master	1/1	Running	0	15m	
kube-system	kube-apiserver-master	1/1	Running	0	15m	
kube-system	kube-controller-manager-master	1/1	Running	0	15m	
kube-system	kube-proxy-lzt6f	1/1	Running	0	16m	
kube-system	kube-proxy-zm5qd	1/1	Running	0	16m	
kube-system	kube-scheduler-master	1/1	Running	0	15m	
kube-system	weave-net-29z42	2/2	Running	1	16m	
kube-system	weave-net-snmdl	2/2	Running	1	16m	-

Static PODs vs DaemonSets

Static PODs	DaemonSets
Created by the Kubelet	Created by Kube-API server (DaemonSet Controller)
Deploy Control Plane components as Static Pods	Deploy Monitoring Agents, Logging Agents on nodes
Ignored by the Kube-Scheduler	