

How do you run Pods

till task completion?

&

at scheduled times?

g unit is **Virtual Machine (VM)**

ling unit is **Container**

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In **Kubernetes**, what is basic scheduling unit ?



Pods

Concept

Objectives

Concept

What is Pod?

Pod deployment

Multi-container

Pod networking

Inter-Pod & Intra-Pod communication

Pod lifecycle

Review Demo

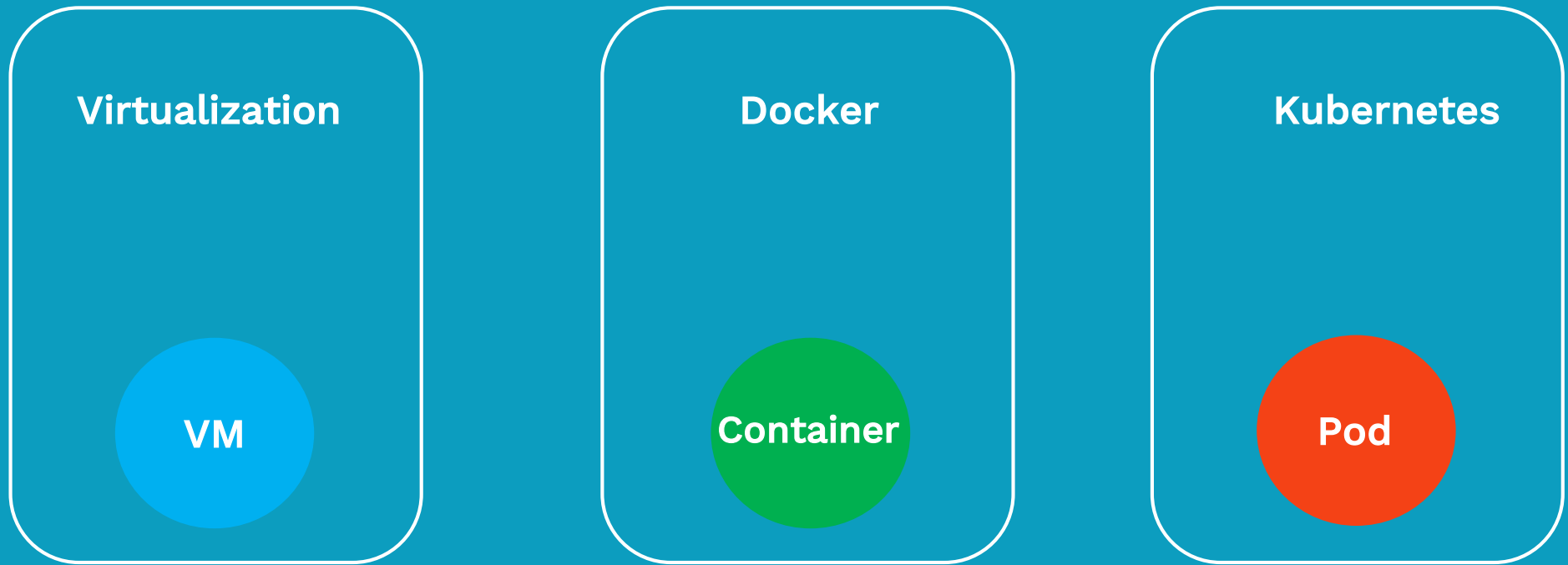
Pod manifest file

Create & display

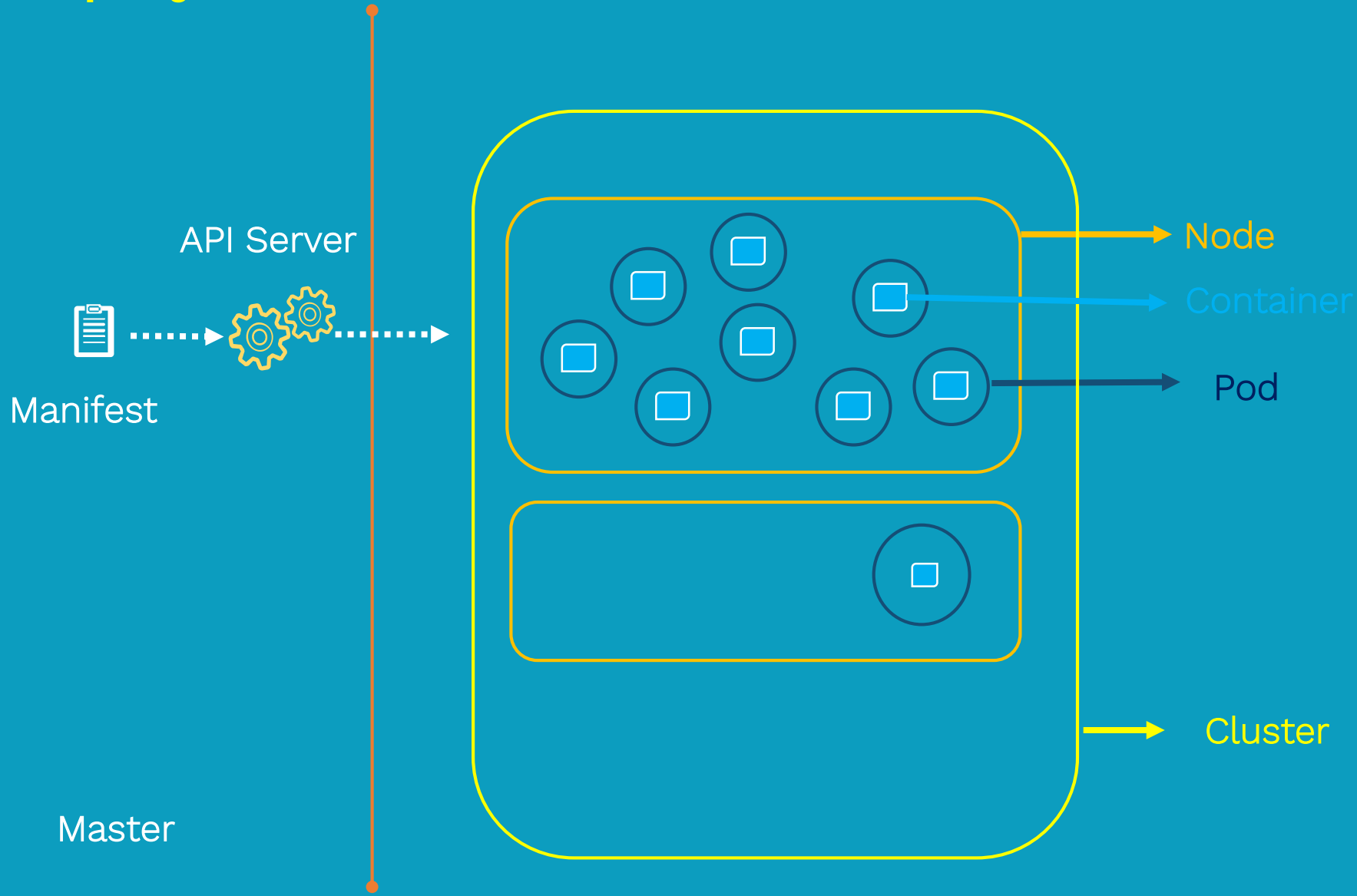
Testing

What is Pod?

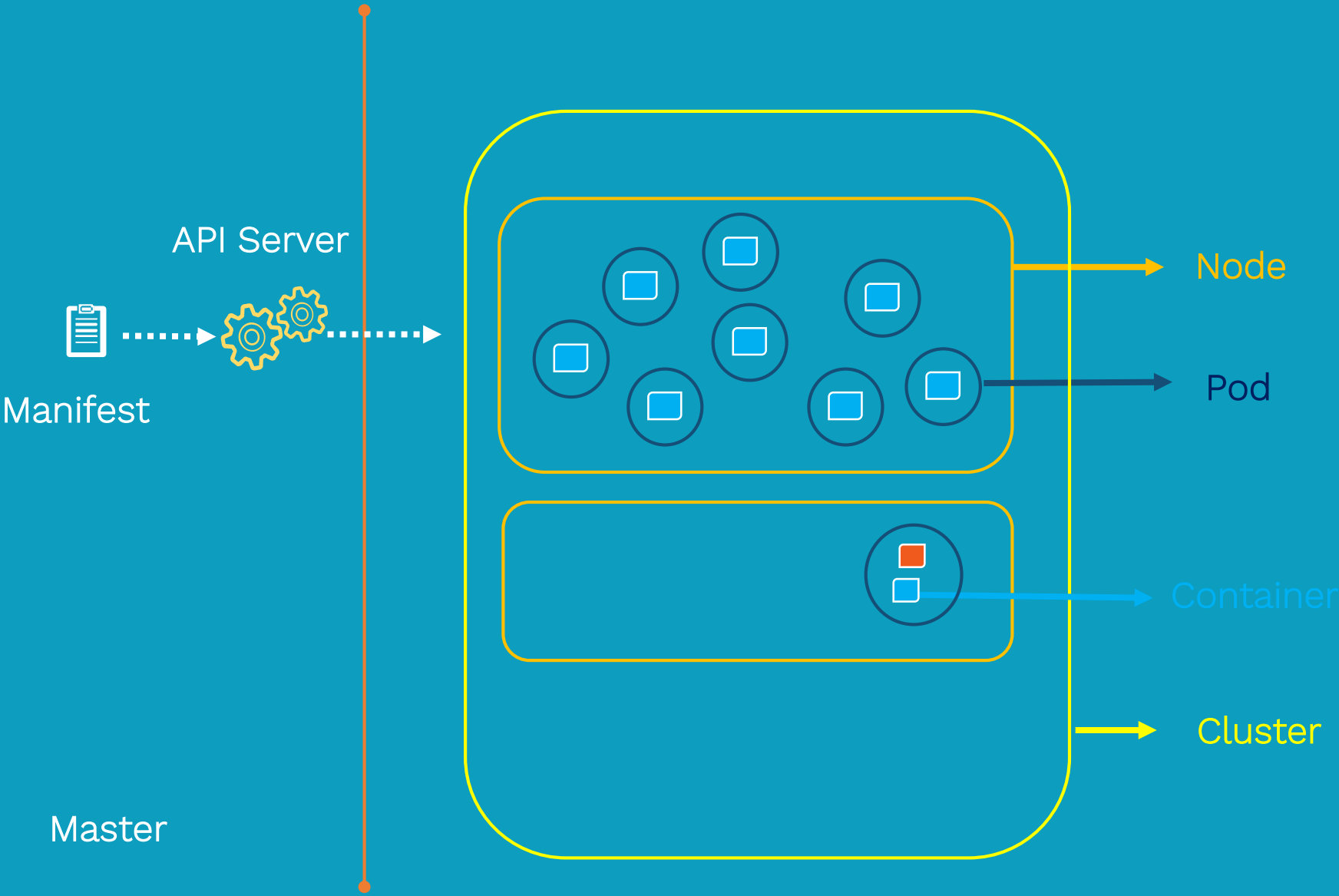
Atomic Unit of Scheduling



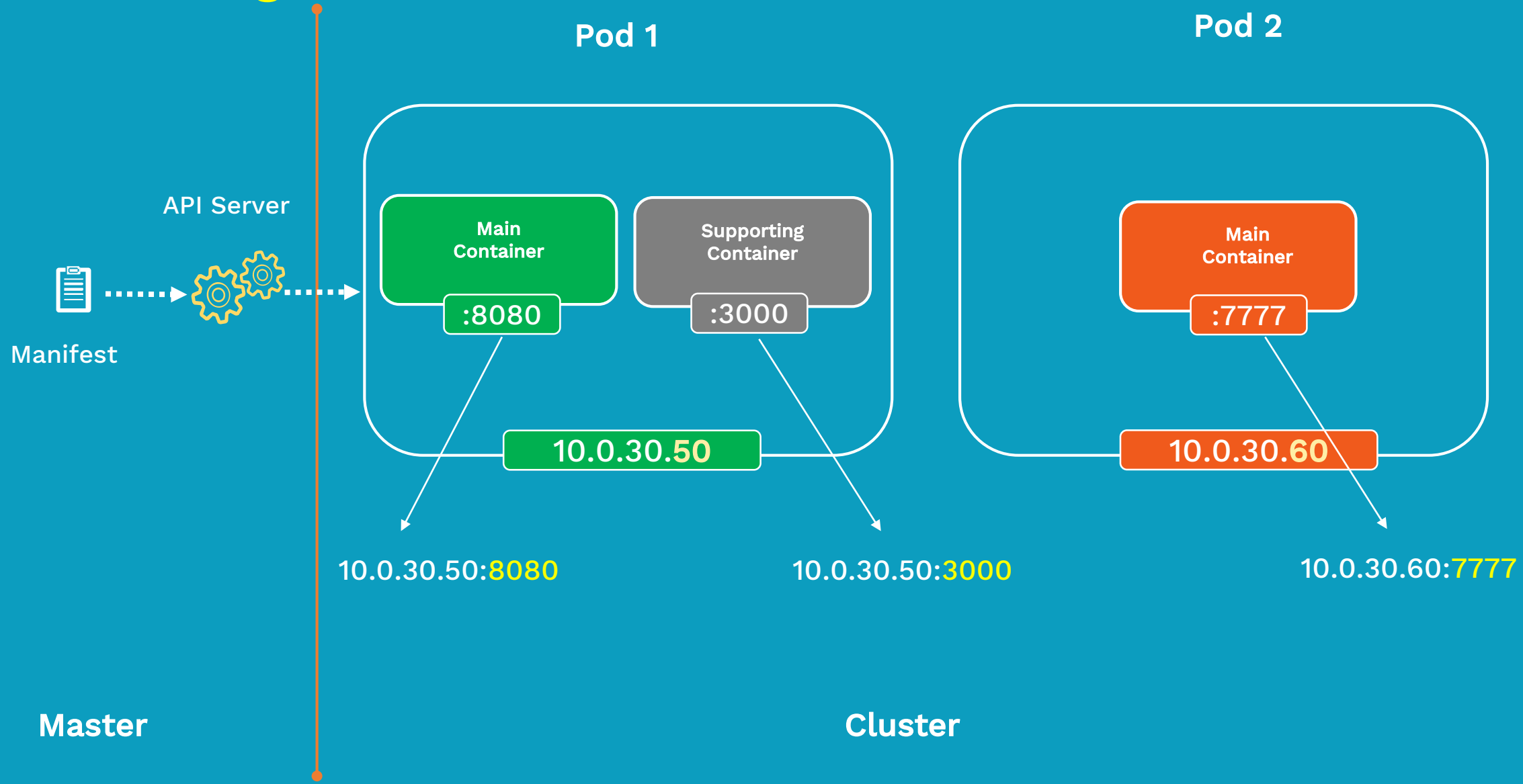
Pod Deployment



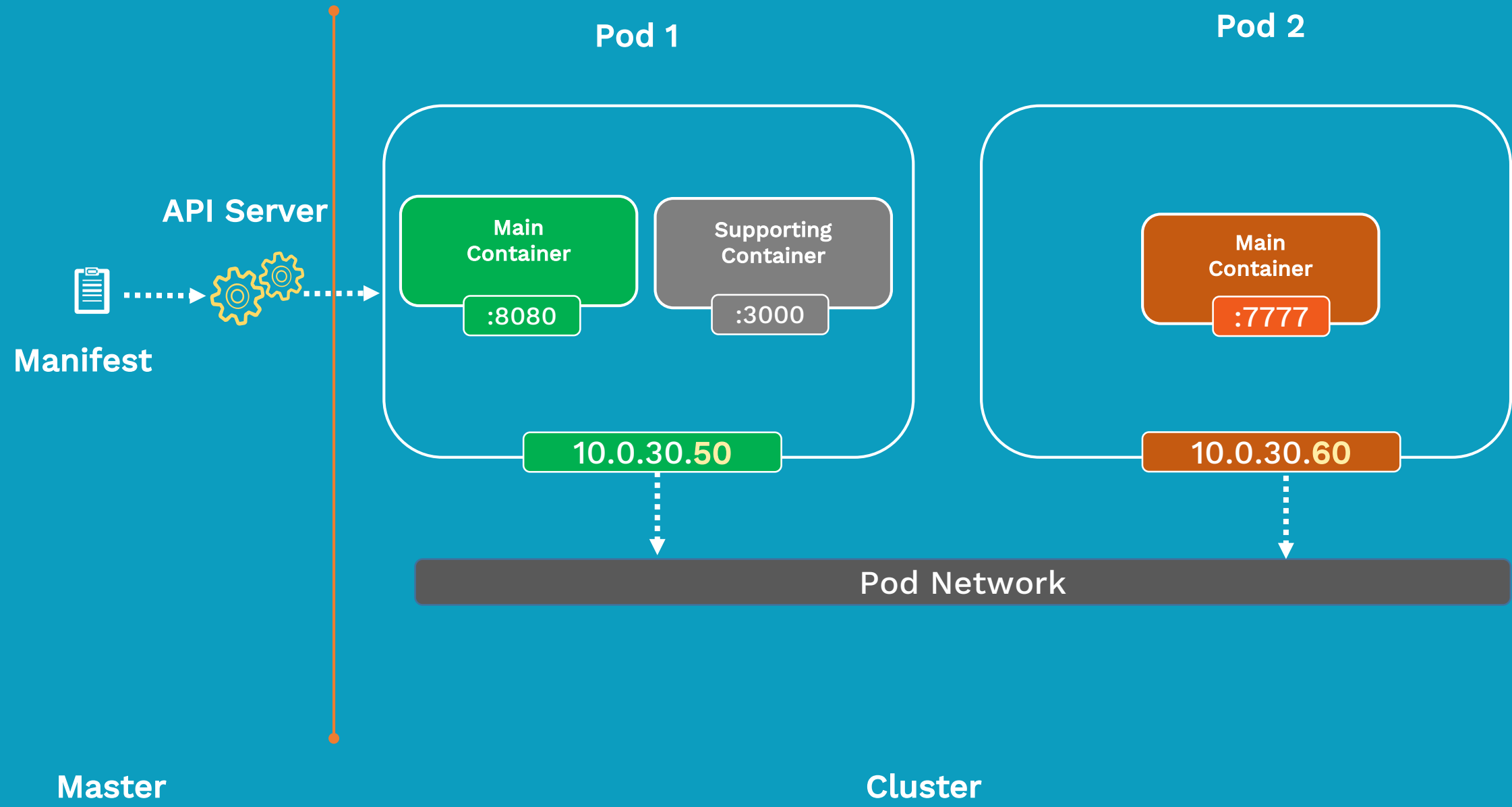
Multi-Container



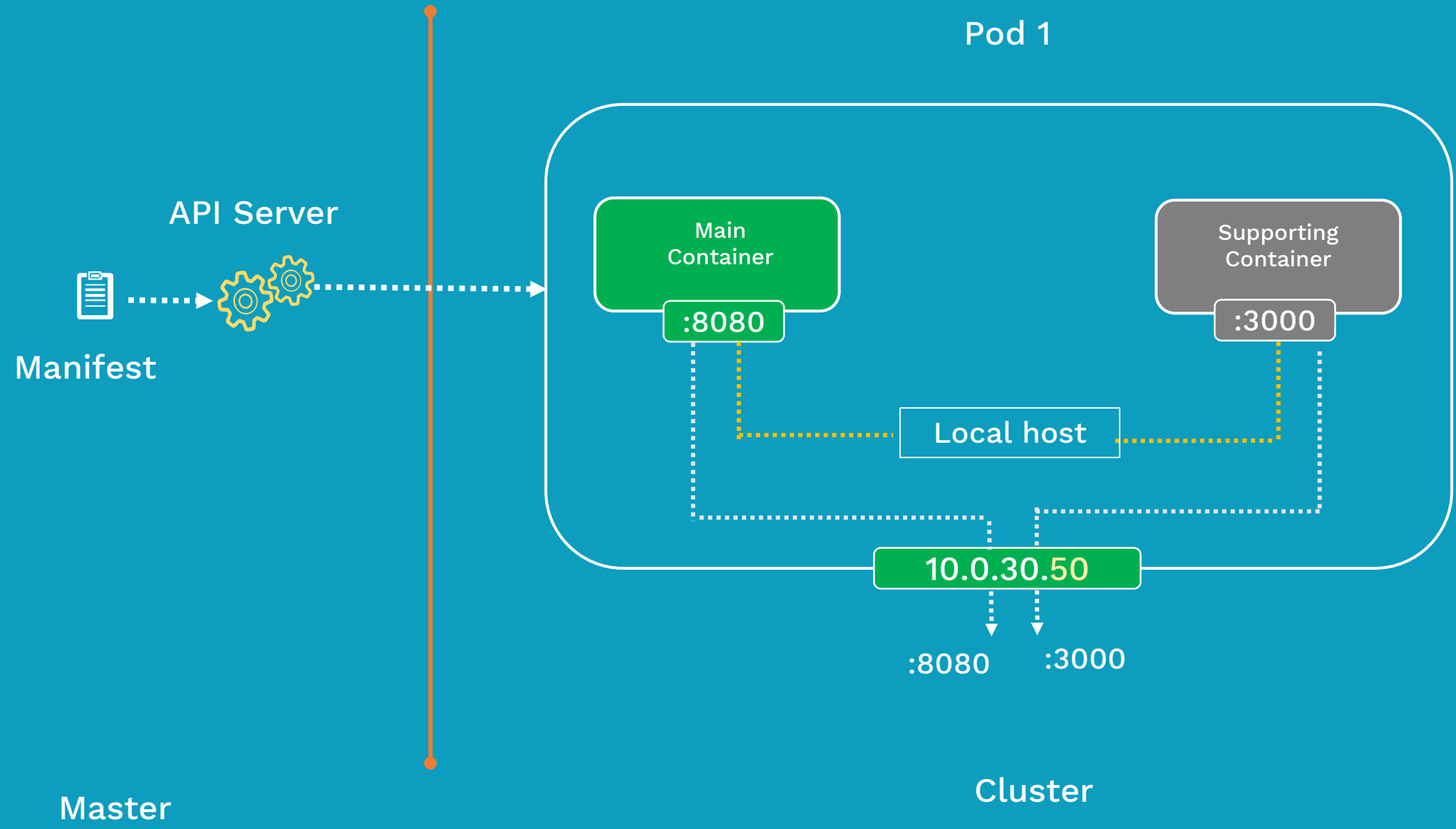
Pod Networking



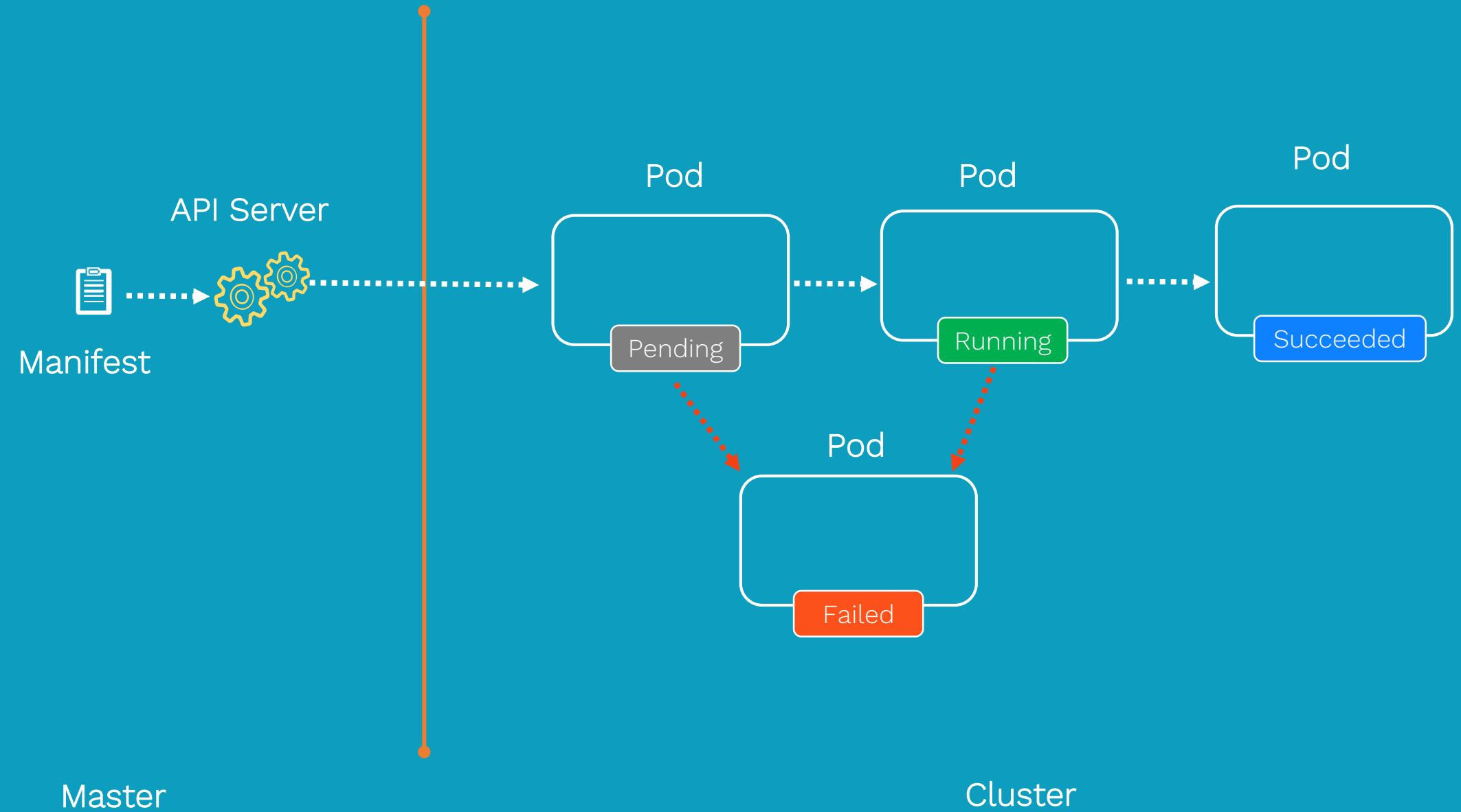
Inter-Pod communication



Intra-Pod communication



Pod lifecycle



Pod - Config

```
# nginx-pod.yaml
apiVersion: v1
kind: Pod
metadata:
  name: nginx-pod
  labels:
    app: nginx
    tier: dev
spec:
  containers:
  - name: nginx-container
    image: nginx
```

Kind	apiVersion
Pod	v1
ReplicationController	V1
Service	v1
ReplicaSet	apps/v1
Deployment	apps/v1
DaemonSet	apps/v1
Job	batch/v1

Alpha ---> Beta ---> Stable

Pod – Create & Display

```
[schalla@master ~]$ kubectl create -f nginx-pod.yaml  
pod/nginx-pod created
```

```
[schalla@master ~]$ kubectl get pod  
NAME          READY   STATUS    RESTARTS   AGE  
nginx-pod     1/1     Running   0           2m
```

```
[schalla@master ~]$ kubectl get pod -o wide  
NAME          READY   STATUS    RESTARTS   AGE   IP            NODE       NOMINATED NODE  
nginx-pod     1/1     Running   0           8m    10.240.1.26   node1      <none>
```

```
[schalla@master ~]$ kubectl get pod nginx-pod -o yaml  
apiVersion: v1  
items:  
- apiVersion: v1  
.....
```

Pod - Describe

```
[schalla@master ~]$ kubectl describe pod nginx-pod # Display all details and events of a pod
```

```
Name:          nginx-pod
Namespace:     default
Priority:       0
PriorityClassName: <none>
Node:          node1/10.128.0.5
Start Time:    Tue, 28 Aug 2018 07:06:55 +0000
Labels:        app=nginx
               tier=dev
Annotations:   <none>
Status:        Running
IP:           10.240.1.26
Containers:
  nginx-container:
```

.....

Events:

Type	Reason	Age	From	Message
----	-----	----	----	-----
Normal	Scheduled	14m	default-scheduler	Successfully assigned default/nginx-pod to node1
Normal	Pulling	14m	kubelet, node1	pulling image "nginx"
Normal	Pulled	14m	kubelet, node1	Successfully pulled image "nginx"
Normal	Created	14m	kubelet, node1	Created container
Normal	Started	14m	kubelet, node1	Started container

Pod - Testing

```
[schalla@master ~]$ ping 10.240.1.26          #Pinging Container IP from master
PING 10.240.1.26 (10.240.1.26) 56(84) bytes of data.
64 bytes from 10.240.1.26: icmp_seq=1 ttl=63 time=0.387 ms
64 bytes from 10.240.1.26: icmp_seq=2 ttl=63 time=0.361 ms
64 bytes from 10.240.1.26: icmp_seq=3 ttl=63 time=0.246 ms
^C
--- 10.240.1.26 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2000ms
rtt min/avg/max/mdev = 0.246/0.331/0.387/0.063 ms
```

```
[schalla@master ~]$ kubectl exec -it nginx-pod -- /bin/sh #Getting a shell to running cont
# hostname
nginx-pod
# exit
```

```
[schalla@master ~]$ kubectl delete pod nginx-pod
pod "nginx-pod" deleted
```

Summary

Concept

What is Pod?

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Review Demo

Pod manifest file

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Coming up...

Demo

Pods