Assign Pods to Nodes

How to assign a Kubernetes Pod to a particular node in a Kubernetes cluster.

1. Add a label to a node
2. List the nodes in your cluster, along with their labels:

kubectl get nodes --show-labels

The output is similar to this:

NAME STATUS ROLES AGE VERSION LABELS

worker0 Ready <none> 1d v1.13.0 ...,kubernetes.io/hostname=worker0

worker1 Ready <none> 1d v1.13.0 ...,kubernetes.io/hostname=worker1

worker2 Ready <none> 1d v1.13.0 ...,kubernetes.io/hostname=worker2

1. Chose one of your nodes, and add a label to it:

kubectl label nodes <your-node-name> disktype=ssd

where <your-node-name> is the name of your chosen node.

1. Verify that your chosen node has a disktype=ssd label:

kubectl get nodes --show-labels

The output is similar to this:

NAME STATUS ROLES AGE VERSION LABELS

worker0 Ready <none> 1d v1.13.0 ...,disktype=ssd,kubernetes.io/hostname=worker0

worker1 Ready <none> 1d v1.13.0 ...,kubernetes.io/hostname=worker1

worker2 Ready <none> 1d v1.13.0 ...,kubernetes.io/hostname=worker2

1. Create a pod that gets scheduled to your chosen node

This pod configuration file describes a pod that has a node selector, disktype: ssd. This means that the pod will get scheduled on a node that has a disktype=ssd label.

pods/pod-nginx.yaml

apiVersion: v1

kind: Pod

metadata:

name: nginx

labels:

env: test

spec:

containers:

- name: nginx

image: nginx

imagePullPolicy: IfNotPresent

nodeSelector:

disktype: ssd

1. Use the configuration file to create a pod that will get scheduled on your chosen node:

kubectl apply -f https://k8s.io/examples/pods/pod-nginx.yaml

1. Verify that the pod is running on your chosen node:

kubectl get pods --output=wide

The output is similar to this:

NAME READY STATUS RESTARTS AGE IP NODE

nginx 1/1 Running 0 13s 10.200.0.4 worker0