

Kubernetes Pods

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Pod

A pod is a collection of one or more containers and it is the smallest unit in kubernetes.

Possible pod status values

Pending

The pod will be in pending state when it takes time to download an image from the public registries and it will also be in pending state when scheduler takes time to schedule a pod.

Running

The pod will be in running state when it is properly scheduled on node and at least one container inside pod is running or is in the process of starting or restarting.

Succeed

All containers in the pod have terminated in success and will not be restarted.

Failed

All containers in the pod have terminated and if at least one container has terminated in failure, Then the pod will be in a failed state.

Unknown

If the communication of the pod with the node has a problem,
Then the pod will be in an Unknown state.

Restart Policies

There are three types of restart policies. Below were those.

1) Always

This is the default restart policy. This is applied to pods if we do not specify the restart policy.

With this policy, Pods will be restarted if it has a problem in coming up and if it succeeds as well.

2) OnFailure

If we set this policy then pods will only be restarted when failure occurs.

3) Never

If we set this policy, pods will never be restarted weather they are in a failed or succeed state.

Example pod manifest file

```
apiVersion: v1
kind: Pod
metadata:
  name: myapp
  labels:
    type: frontend
spec:
  containers:
    - name: nginx-app
      image: nginx
      ports:
        - containerPort: 80
```
