

Gyan ~ Q) Is selector different than label?

Ans. Yes, Labels are key and value pairs that are attached to kubernetes objects, such as pods. And selector is used to identify a set of objects and we can use selector to group objects in kubernetes.

Gyan ~ Q) So if we do volume mapping, it will be done with pods and not with containers?

Ans. A Pod can use any number of volume types simultaneously. Each Container in the Pod's configuration must independently specify where to mount each volume.

Tulasi ~ Q) How to remove label?

Ans. `kubectl label pod <pod-name> <label key>-`

Nilesh ~ Q) It means once we set default namespace whatever command i execute it will get execute for that namespace like delete pod create pod....so if i have multiple clienteach client have separate namespace...so i will change my default namespace for particular client and then i can work on pod for that particular client?

Ans. you can create or delete resource without setting the namespace like `kubectl run --image=nginx -n test1`

Nilesh ~ Q) Every time I need to give namespace, right?

Ans. yes otherwise it will create in default namespace.

Nilesh ~ Q) Yes ...so it is dangerous....if i doing something delete activity for any client and forgot to mention namespace...?

Ans. Yes, but in production we generally run resources in particular ns and we can secure resources by RBAC Security.

Usman ~ Q) Why API version is changed from v1 to apps/v1

Ans. Different object uses different API that's why api version changed to apps/v1.

Kavita ~ Q) lable = ssd..always it is being mentioned ..why what does it means, in your example 3 places label is used ..always it is ssd something confusing deployment lable ,selector & template label ssd , means the place of storing, can u give me some other ex of label?

Ans. Here disk =ssd label is just for example you can use any label here like `env=prod` or `app=backend` make sure label should have some meaning so you can understand the why we used the label.

Nilesh ~ Q) Like all container should have label ENV=DEV then instead of mentioning it every time under container property i will mention under template is it correct?

Ans. Yes, in template section we are defining the pods so all pods will have same label which you will define in template section.

Parthasarathy ~ Q) If i update the replica sets count from 4 to 8, will it pickup 8 pods or do we need to redeploy the deployment.yaml.

Ans. Yes you can edit the replica count, or you can scale up the deployment.

Vivek ~ Q) We can create RS also? correct

Ans. Yes you can create replicaset also but in-kind section instead of deployment you have to mention replicaset.

Vivek ~ Q) In which scenario we create deployment and RS?

Ans. ReplicaSet ensures that a specified number of pod replicas are running at any given time. However, a Deployment is a higher-level concept that manages ReplicaSets and provides declarative updates to Pods along with a lot of other useful features. Therefore, we recommend using Deployments instead of directly using ReplicaSets, unless you require custom update orchestration or don't require updates at all.

Kamlesh ~ Q) Static pods: created via kubectl run pods.

Ans. No, kubectl pods managed by the API server so we can't create static pods using kubectl.

Gyan ~ Q) So deployment always happens in default namespace?

Ans. No, you can create deployment in any namespace. To create deployment in another namespace you have to mention that namespace.

Akhil ~ Q) replicates created to YAML suppose count is 10 and can we scale down using imperative way? which has more priority? Imperative way or the declarative way?

Ans. Yes, you can scale-up and down using imperative commands. Imperative way or the declarative way both has similar priority.

Nilesh ~ Q) Is there any option to scale pods as per requirement, like CPU or memory utilization or depend upon application request?

Ans. Yes you can do this using horizontal pods autoscaler(HPA).

Sumanta ~ Q1) Is POD definition format is specific/mandatory? I mean can this be customized?

Ans. Yes you can customize this you can add different environment files, or you can add persistent volume in this.

Sumanta ~ Q) If you have created a POD with nginx image then can we have a container of different image inside this POD?

Ans. Yes, you can create more than one container inside the pods.

Sumanta ~ Q) So the label has been appended once you assign a label without deleting the old label.

Ans. Yes, correct a pod or deployment can have multiple labels.

Sumanta ~ Q) so by default when a POD is created a label has been assigned to it.

Ans. Yes, if you create a pod using Imperative way a label will be assigned to the pods.

Sumanta ~ Q) Can you define here in which worker you want the replicas to be created? Like in Worker Node.

Ans. Yes, you can do this using Kubernetes scheduler like node selector, node affinity and taint and toleration.

Sumanta ~ Q) How to check how many containers are there inside a POD?

Ans. You can check by using below command:

```
kubectl describe pods redis-bootstrap
```

and check for the containers.

Sumanta ~ Q) How to delete the deployment is it just to remove the kind:deployment in the yaml file?

Ans. No, you can delete deployment using **kubectl delete <deployment name>** command.

Sumanta ~ Q) In the deployment script can we mention how many POD's and how many containers inside each POD's we want to create?

Ans. Yes in replica section you can define how many pods you want and in container section same as pods you can define how many containers you want in single pod.

Sumanta ~ Q) I think the scaleup number depends on the available resources in the host server.

Ans. Yes, correct if you are scaling an application and resources not available then pods will go in pending state.

Amrik ~ Q) When we created a new pod, it also created a label run pod1... is that the default one?

Ans. Yes, by default it will create a label.

Amrik ~ Q) When we will use scale up/scale down in imperative way, will this create Replica Set as well?

Ans. When we scale-up or scale down we decrease or increase the number of replicaset.

Santosh ~ Q) Explain again diff between static and dynamic pods.

Ans. Static pods are pods created and managed by kubelet daemon on a specific node without API server observing them. If the static pod crashes, kubelet restarts them. Control plane is not involved in lifecycle of static pod.

One of the use cases of static pod is kubernetes control plane bootstrapping. Kubeadm while bootstrapping a kubernetes cluster creates API Server, controller manager, kube scheduler as a static pod because it cannot create these as normal

Pods due to the fact that kube API Server itself is not available yet.

Anuj ~ Q) What happens to the in-transit calls/processing to the termination pod when we try to delete a pod? Does it finish the in-transit processing and then gets terminated?

Ans. When we delete a pod all the service will go down all processing will stop. So, create pods as deployment so you can create more than 1 pods for the application.

Sravan ~ Q) How can we automate creation of pods based on certain criteria may be usage, resource utilisation etc.

Ans. You can automate the creation of pods in deployment based on resource utilisation using Horizontal pod autoscaler.

Abou ~ Q) Am getting localhost:8080 Refused from the Master?

Ans. To solve this issue refer to the guide: Bootstrap a Kubernetes Cluster Using Kubectl Troubleshooting section 9.3 Running kubectl get nodes and getting server localhost:8080.

Anuj ~ Q) Can we scale a new node all together just like pods?

Ans. Yes you can do this in managed Kubernetes cluster like AKS, EKS.

Mohamed ~ Q) In the Yaml file creation do all the values are to double spaced?

Ans. Not all values in some values we have to give more than double space it's depend which object you are adding in file.

Sonali ~ Q) One more difference between static pods and dynamic pods deployment file? Apart from creation

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One of the use cases of static pod is kubernetes control plane bootstrapping. Kubectl while bootstrapping a kubernetes cluster creates API Server, controller manager, kube scheduler as a static pod because it cannot create these as normal pod due to the fact that kube API Server itself is not available yet.

Sonali ~ Q) How should we configure the deployment file different for static and dynamic pod?

Ans. We can't create static pod using deployment because deployment is managed by the API Server.

Abiram ~ Q) Label Vs namespace (If i can use namespace to control instead of label).

Ans. Labels are not used to isolate the resources, labels are used as tagging a object and namespace are used to isolate the different objects.

Abiram ~ Q) Example of making the persistence volume disk (for DB like local or azure store) In exam we use imperative or declarative or both?

Ans. We can't create PV or PVC in Kubernetes using imperative way for PV/PVC you have to create a YAML file we will cover this in storage section.

Abiram ~ Q) Does dry run shows the error as well (for yaml)

Ans. To detect the error the existing solution is to run `kubectl apply --dry-run`, but this runs a local dry-run that doesn't talk to the server: it doesn't have server validation and doesn't go through validating admission controllers. As an example, Custom resource names are only validated on the server so a local dry-run won't help.

Abiram ~ Q) How to decide max replica?

Ans. How much replica you want to run is depending on your application requirement how much a pod can handle the requests if you have high load on application scale the applications pods to divide the load from a single application.

Pramod ~ Q) With the deletion of the static pod we will lose the data and when we get these static pod under deployment are we addressing the data persistence or do we still need to explicitly define the persistence volume and deployment will use the same persistence volume when it recreate the POD .. if deployment is depending on persistence volume it might be creating on the same worker node where the original pod was deleted.

Ans. We will cover this question when we will cover persistent storage.

Amit ~ Q) Ramesh thanks it means if you delete the deployment you have to recreate the deployment to resurrect the desired pods. This along with --dry-run would come in handy when developing & testing on the fly. And you said that --dry-run does not create pod. However, when you created burger pod using --dry-run, your output did show creation of burger pod unless I misunderstood.

Ans. Yes dry run will not create the object but it shows if file or command is valid or not. It will give an error if you are creating an object using a wrong file.

Rishi ~ Q) Do we have some reserved words for labels?

Ans. No, labels are in key value form you can use any values/words in labels make sure you remember them to select the specific objects.

Rishi ~ Q) If we mention labels at multiple levels, when we try to search based on the labels, how does the script look for?

Ans. You can search objects with labels using the below command.

```
kubectl get pods -l environment=production,tier=frontend
```

or using set-based requirements:

```
kubectl get pods -l 'environment in (production),tier in (frontend)'
```

As already mentioned, set-based requirements are more expressive. For instance, they can implement the OR operator on values:

```
kubectl get pods -l 'environment in (production, qa)'
```

or restricting negative matching via exists operator:

```
kubectl get pods -l 'environment,environment notin (frontend)'
```

Amit ~ Q) It is the selector calling the label within the template. The template could have n number of labels. I am only selecting one label. that means I could have more than one label in the selector as well. Correct?

Ans. Yes Correct.

Amit ~ Q) According to my info and in agreement with TR. Static pod is created without the knowledge of api server created only under the auspices of Kubelet. Whereas a dynamic pod is created under the radar of the api server.

Ans. Yes Correct Static pods created without the knowledge of api server, API Server does not manage Static pods.