Kubernetes Imperative Commands Every Engineer Should Learn

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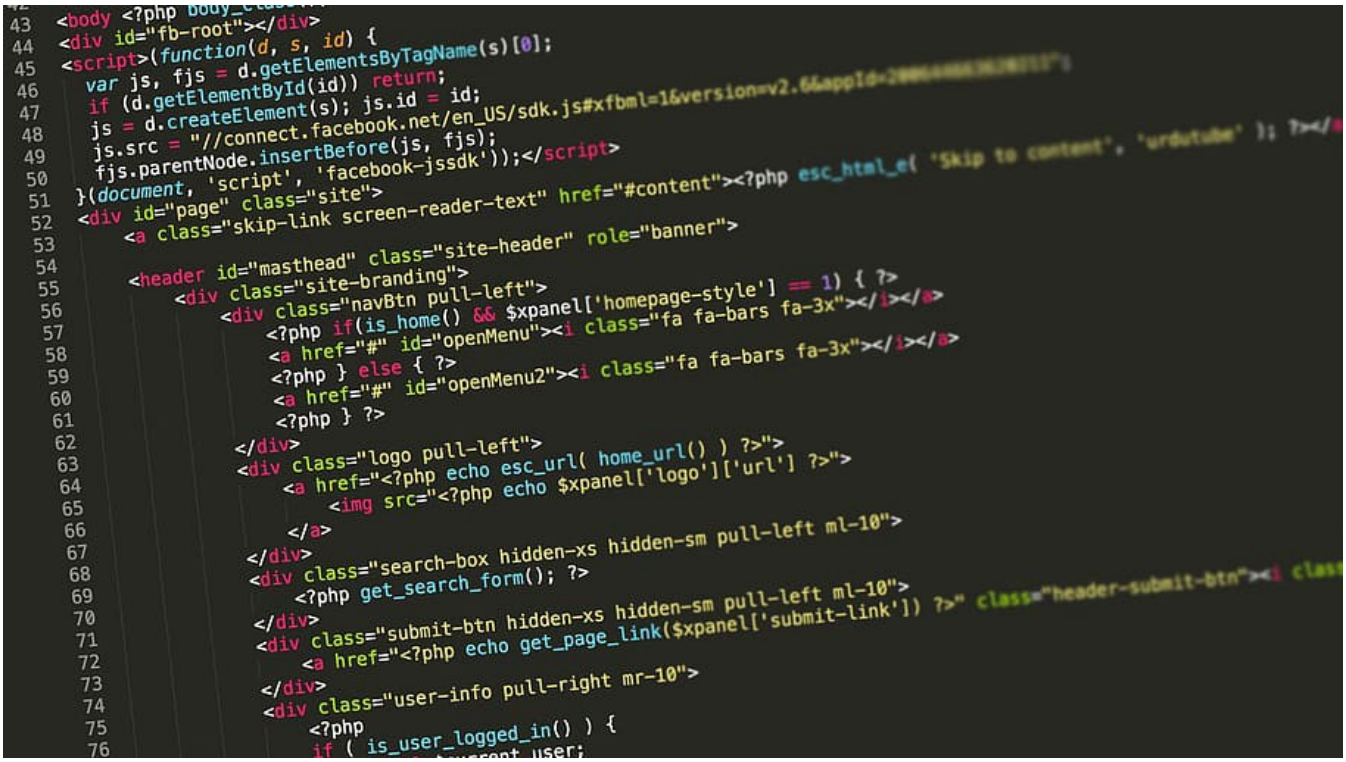
In this post, you will learn about the basic imperative commands that kubernetes offers, which will allow you to create and deploy objects more efficiently and stand out as a DevOps Engineer.



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When working with kubernetes, you will mostly be creating objects in a declarative way using YAML definition files.

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Before we begin, familiarize yourself with the following command parameters:

`--dry-run` : By default, as soon as this is executed, the resource will be created.

`--dry-run=client` : This will **NOT** create the resource. Instead, kubernetes will tell you if it is possible to summon the object.

`-o yaml` : This will output the resource definition file in a YAML format on the screen.

Use the last two in combination to conveniently generate a resource definition file. Later, you can modify it as required, instead of writing the file from scratch.

For example, the following generates a POD manifest file:

```
kubectl run nginx --image=nginx --dry-run=client -o yaml
```

Let's look at more imperative commands for generating PODs.

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Pod Commands

Create an NGINX Pod:

```
kubectl run nginx --image=nginx
```

Generate a POD manifest YAML file:

```
kubectl run nginx --image=nginx --dry-run=client -o yaml
```

Let's now learn about deployment related imperative commands.

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Deployment Commands

To create a deployment from the command line:

```
kubectl create deployment --image=nginx nginx
```

Generate a deployment YAML file template:

```
kubectl create deployment --image=nginx nginx --dry-run=client -o
yaml
```

> ***kubectl create deployment*** *does not have a* ***— replicas*** *option. Having said that, if you wish to scale the deployment, you would have to first create it and then scale it using the* ***kubectl scale*** *command.*

The following command will create a deployment YAML definition file with the name "nginx-deployment.yaml":

```
kubectl create deployment --image=nginx nginx --dry-run=client -o
yaml > nginx-deployment.yaml
```

Again, the **-o** parameter tells kubectl to output a yaml file, while the **> nginx-deployment.yaml** argument provides kubectl with the desired output file name.

You can then modify the YAML file to your needs.

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```
kubectl expose pod redis --port=6379 --name redis-service --dry-
run=client -o yaml
```

> *Note: This will automatically use the POD's labels as selectors*

Alternative:

```
kubectl create service clusterip redis --tcp=6379:6379 --dry-
run=client -o yaml
```

The above command will not use the POD's labels as selectors, instead it will assume selectors as app=redis. You cannot pass in selectors as an option. Alternatively, generate the file and modify the selectors before creating the service.

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The following command creates a service named nginx of type NodePort to expose the nginx pod's port 80 on port 30080 on the nodes:

```
kubectl expose pod nginx --port=80 --name nginx-service --
type=NodePort --dry-run=client -o yaml
```

> *Note: This will automatically use the pod's labels as selectors, but you cannot specify the node port. You have to generate a definition file and then add the node port in manually before creating the service with the pod.*

Or

```
kubectl create service nodeport nginx --tcp=80:80 --node-port=30080
--dry-run=client -o yaml
```

the other cannot accept a node port. In my opinion, I recommend going with the `kubectl expose` command.

If you need to specify a node port, generate a definition file using the same command and manually input the nodeport before creating the service.

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If you enjoyed this tutorial, I recommend you check out my post regarding YAML files in kubernetes.

Understanding YAML Files in Kubernetes

After reading this post you will understand the basics of creating kubernetes objects using a YAML definition file. You...

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