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Lesson 03 Demo 12

Creating Jobs

Objective: To create jobs in Kubernetes for efficient task management within the cluster

Tools required: kubeadm, kubectl, kubelet, and containerd

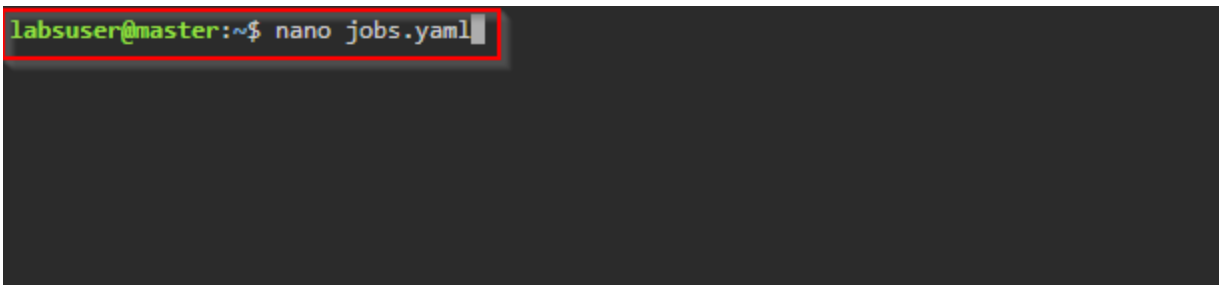
Prerequisites: A Kubernetes cluster (refer to Demo 01 from Lesson 01 for setting up a cluster)

Steps to be followed:

1. Configure and set up the pod files

Step 1: Configure and set up the pod files

1.1 Create a YAML file using the following command:
nano jobs.yaml



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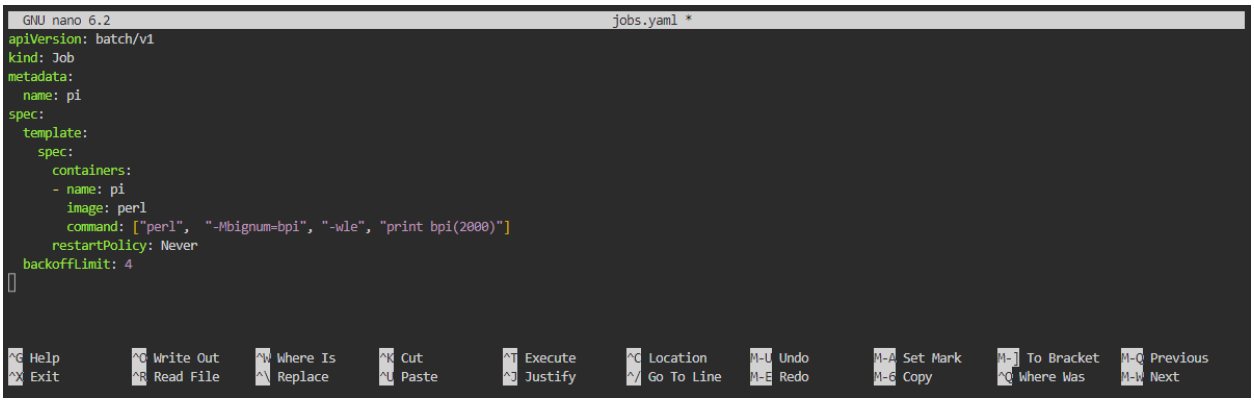
1.2 Add the following code in the **jobs.yaml** file to create the pod:

```
apiVersion: batch/v1
kind: Job
metadata:
  name: pi
spec:
  template:
    spec:
      containers:
      - name: pi
        image: perl
        command: ["perl",  "-Mbignum=bpi", "-wle", "print bpi(2000)"]
      restartPolicy: Never
  backoffLimit: 4
```



Note: Press the **ctrl** + **o** keys to write and then press the **enter** key

Press the **ctrl + x** keys to exit the editor

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1.3 Use the **cat** command to validate the content of the **jobs.yaml** file

```
labsuser@master:~$ nano jobs.yaml
labsuser@master:~$ cat jobs.yaml
apiVersion: batch/v1
kind: Job
metadata:
  name: pi
spec:
  template:
    spec:
      containers:
      - name: pi
        image: perl
        command: ["perl",  "-Mbignum=bpi", "-wle", "print bpi(2000)"]
      restartPolicy: Never
  backoffLimit: 4
labsuser@master:~$
```

1.4 Create the job resource using the following command:
kubectl create -f jobs.yaml

```
labsuser@master:~$ nano jobs.yaml
labsuser@master:~$ cat jobs.yaml
apiVersion: batch/v1
kind: Job
metadata:
  name: pi
spec:
  template:
    spec:
      containers:
      - name: pi
        image: perl
        command: ["perl",  "-Mbignum=bpi", "-wle", "print bpi(2000)"]
      restartPolicy: Never
  backoffLimit: 4
labsuser@master:~$ kubectl create -f jobs.yaml
job.batch/pi created
labsuser@master:~$
```

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1.5 Verify the pod you created using the following command:
kubectl get pods

```
  name: pi
spec:
  template:
    spec:
      containers:
      - name: pi
        image: perl
        command: ["perl",  "-Mbignum=bpi", "-wle", "print bpi(2000)"]
      restartPolicy: Never
  backoffLimit: 4
labsuser@master:~$ kubectl create -f jobs.yaml
job.batch/pi created
labsuser@master:~$ kubectl get pods
NAME       READY   STATUS      RESTARTS       AGE
apache2    1/1     Running     1 (147m ago)   4h7m
apache3    1/1     Running     1 (147m ago)   3h58m
mypod1     1/1     Running     0              132m
mypod2     1/1     Running     0              127m
pi-8bmjj   0/1     Completed   0              3m2s
labsuser@master:~$
```

1.6 Copy the name of the pod

```
  name: pi
spec:
  template:
    spec:
      containers:
      - name: pi
        image: perl
        command: ["perl",  "-Mbignum=bpi", "-wle", "print bpi(2000)"]
      restartPolicy: Never
  backoffLimit: 4
labsuser@master:~$ kubectl create -f jobs.yaml
job.batch/pi created
labsuser@master:~$ kubectl get pods
NAME       READY   STATUS      RESTARTS       AGE
apache2    1/1     Running     1 (147m ago)   4h7m
apache3    1/1     Running     1 (147m ago)   3h58m
mypod1     1/1     Running     0              132m
mypod2     1/1     Running     0              127m
pi-8bmjj   0/1     Completed   0              3m2s
labsuser@master:~$
```

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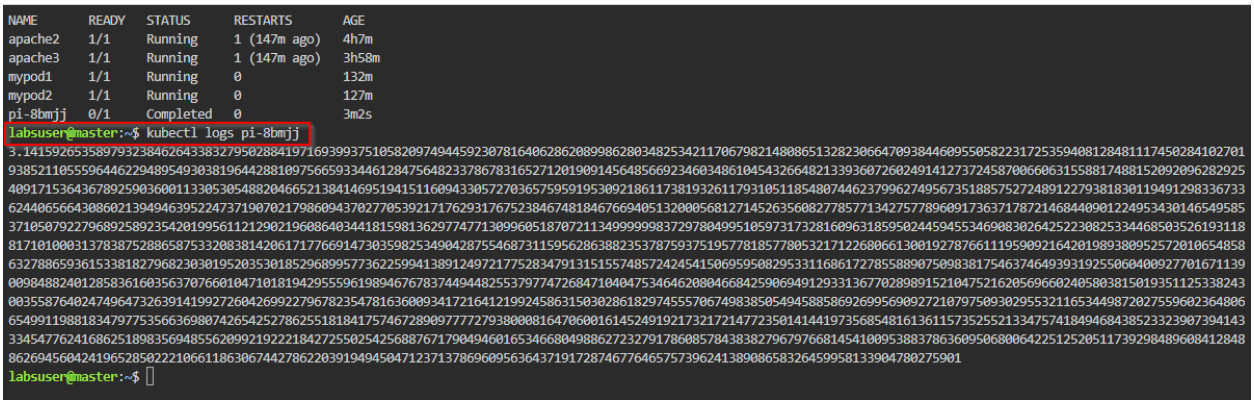
1.7 Verify the logs using the following command, replacing <**Filename**> with the pod's name:
kubectl logs <Filename>



By following these steps, you have successfully configured and created jobs, enhancing your ability to automate and manage tasks effectively in a Kubernetes environment.