

## BCDV

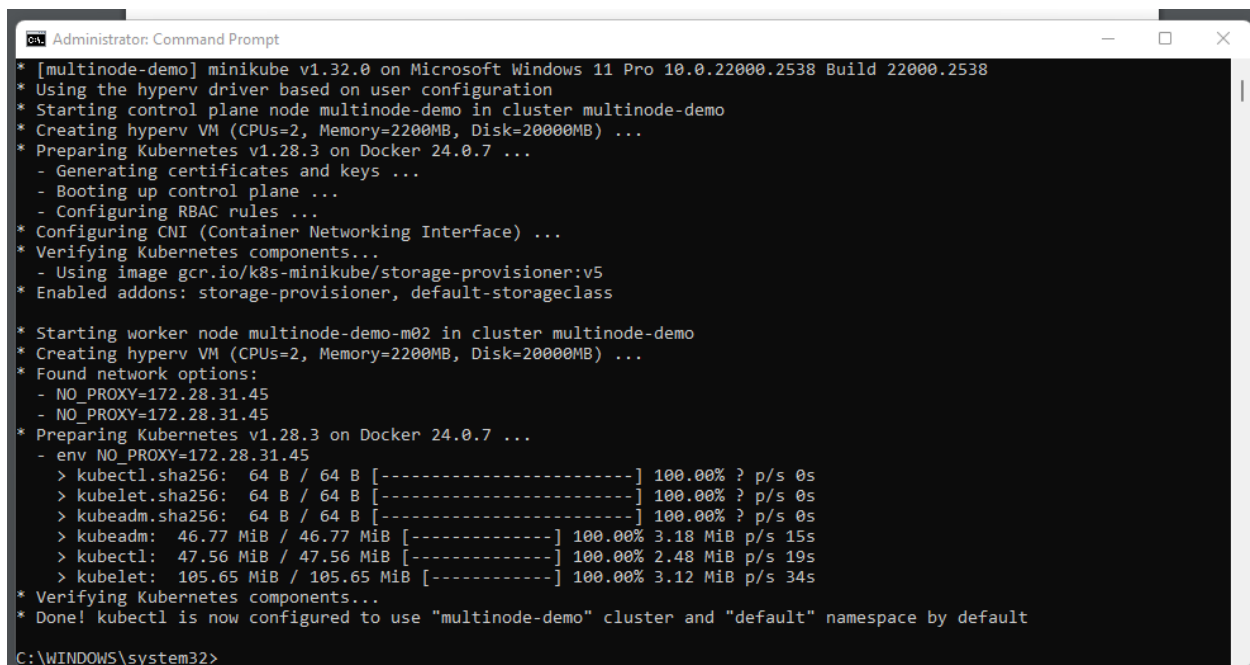
Student Name: Harsh Bhavsar  
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Term: Winter 2024

## BCDV 4032 – Building scalable blockchain applications

### Week-2 lab-3

- **Section-1:** Run a multi-node cluster using the commands above. Submission should include screenshots for each command.



```
Administrator: Command Prompt

* [multinode-demo] minikube v1.32.0 on Microsoft Windows 11 Pro 10.0.22000.2538 Build 22000.2538
* Using the hyperv driver based on user configuration
* Starting control plane node multinode-demo in cluster multinode-demo
* Creating hyperv VM (CPUs=2, Memory=2200MB, Disk=20000MB) ...
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
  - Generating certificates and keys ...
  - Booting up control plane ...
  - Configuring RBAC rules ...
* Configuring CNI (Container Networking Interface) ...
* Verifying Kubernetes components...
  - Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass

* Starting worker node multinode-demo-m02 in cluster multinode-demo
* Creating hyperv VM (CPUs=2, Memory=2200MB, Disk=20000MB) ...
* Found network options:
  - NO_PROXY=172.28.31.45
  - NO_PROXY=172.28.31.45
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
  - env NO_PROXY=172.28.31.45
    > kubect1.sha256: 64 B / 64 B [-----] 100.00% ? p/s 0s
    > kubelet.sha256: 64 B / 64 B [-----] 100.00% ? p/s 0s
    > kubeadm.sha256: 64 B / 64 B [-----] 100.00% ? p/s 0s
    > kubeadm: 46.77 MiB / 46.77 MiB [-----] 100.00% 3.18 MiB p/s 15s
    > kubect1: 47.56 MiB / 47.56 MiB [-----] 100.00% 2.48 MiB p/s 19s
    > kubelet: 105.65 MiB / 105.65 MiB [-----] 100.00% 3.12 MiB p/s 34s
* Verifying Kubernetes components...
* Done! kubect1 is now configured to use "multinode-demo" cluster and "default" namespace by default

C:\WINDOWS\system32>
```

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```
Administrator: Command Prompt

* Done! kubectl is now configured to use "multinode-demo" cluster and "default" namespace by default

C:\WINDOWS\system32>kubectl get nodes
NAME                STATUS    ROLES    AGE     VERSION
multinode-demo      Ready    control-plane   7m31s   v1.28.3
multinode-demo-m02  Ready    <none>        3m47s   v1.28.3

C:\WINDOWS\system32>
C:\WINDOWS\system32>
```

```
Administrator: Command Prompt

multinode-demo-m02  Ready    <none>        3m47s   v1.28.3

C:\WINDOWS\system32>
C:\WINDOWS\system32>minikube status -p multinode-demo
W0119 11:14:35.831862 23036 main.go:291] Unable to resolve the current Docker CLI context "default": context "default"
: context not found: open C:\Users\admin\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a3
3f0688f\meta.json: The system cannot find the path specified.
multinode-demo
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured

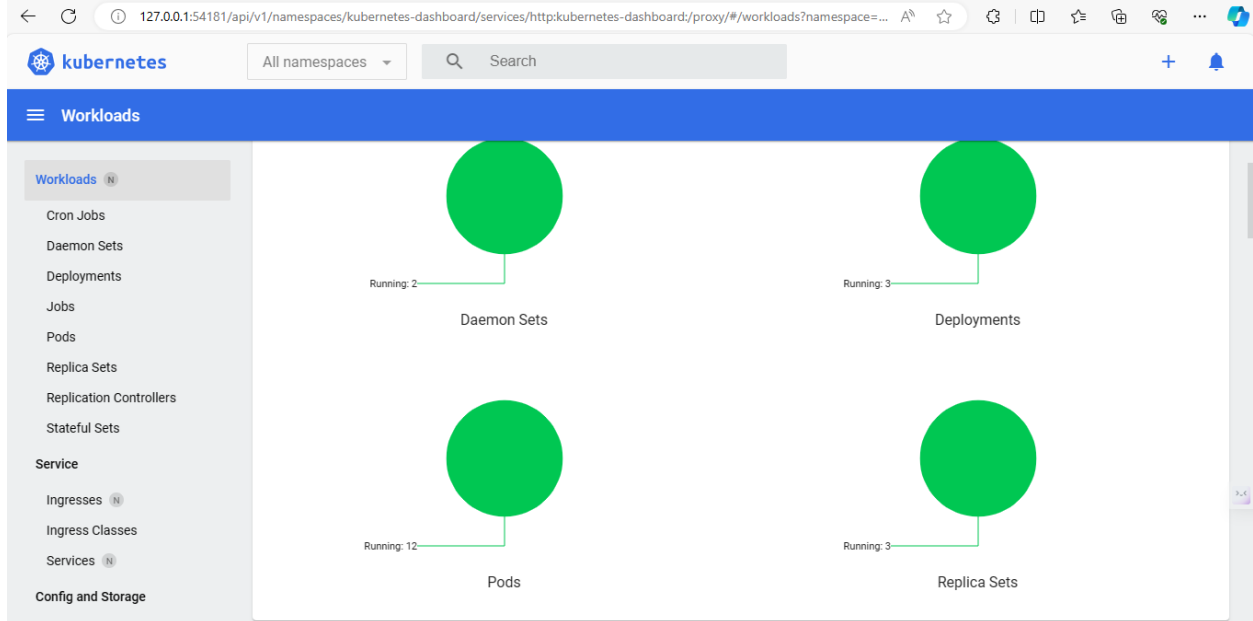
multinode-demo-m02
type: Worker
host: Running
kubelet: Running

C:\WINDOWS\system32>
```

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```
Administrator: Command Prompt
C:\WINDOWS\system32>
C:\WINDOWS\system32>
C:\WINDOWS\system32>minikube stop -p multinode-demo
W0119 11:27:16.888439 19292 main.go:291] Unable to resolve the current Docker CLI context "default": context "default"
: context not found: open C:\Users\admin\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a3
3f0688f\meta.json: The system cannot find the path specified.
* Stopping node "multinode-demo" ...
* Powering off "multinode-demo" via SSH ...
* Stopping node "multinode-demo-m02" ...
* Powering off "multinode-demo-m02" via SSH ...
* 2 nodes stopped.

C:\WINDOWS\system32>minikube delete --all
W0119 11:28:08.887501 20404 main.go:291] Unable to resolve the current Docker CLI context "default": context "default"
: context not found: open C:\Users\admin\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a3
3f0688f\meta.json: The system cannot find the path specified.
* Stopping node "minikube" ...
* Deleting "minikube" in hyperv ...
* Removed all traces of the "minikube" cluster.
* Stopping node "multinode-demo" ...
* Deleting "multinode-demo" in hyperv ...
* Stopping node "multinode-demo-m02" ...
* Deleting "multinode-demo-m02" in hyperv ...
* Removed all traces of the "multinode-demo" cluster.
* Successfully deleted all profiles

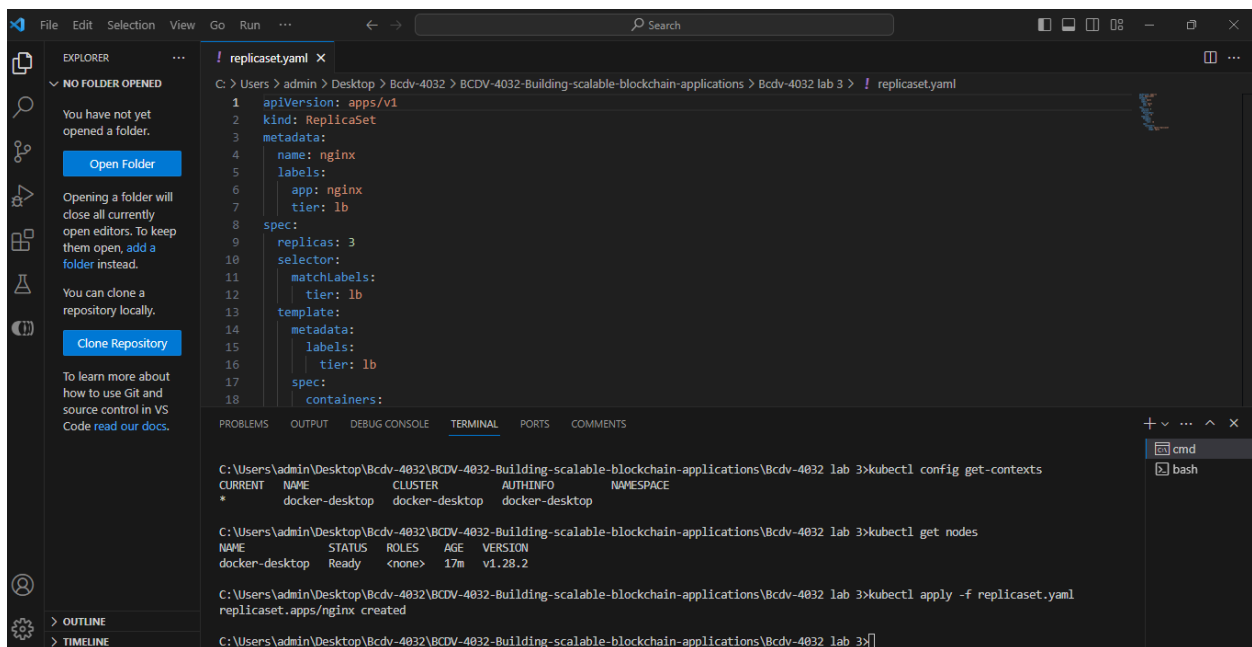
C:\WINDOWS\system32>
```

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- **Section-2:** Run all types of deployment yaml commands separately. Submission should include screenshots for each command.



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows the file structure. The main editor displays the content of `replicaset.yaml`. The terminal window at the bottom shows the execution of several Kubernetes commands.

```
1 apiVersion: apps/v1
2 kind: ReplicaSet
3 metadata:
4   name: nginx
5   labels:
6     app: nginx
7     tier: lb
8 spec:
9   replicas: 3
10  selector:
11    matchLabels:
12      tier: lb
13  template:
14    metadata:
15      labels:
16        tier: lb
17    spec:
18      containers:
```

```
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl config get-contexts
CURRENT  NAME      CLUSTER  AUTHINFO  NAMESPACE
*        docker-desktop  docker-desktop  docker-desktop

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get nodes
NAME                STATUS  ROLES  AGE   VERSION
docker-desktop      Ready   <none>  17m   v1.28.2

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl apply -f replicaset.yaml
replicaset.apps/nginx created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>
```



The screenshot shows a terminal window with the output of several Kubernetes commands.

```
NAME                STATUS  ROLES  AGE   VERSION
docker-desktop      Ready   <none>  17m   v1.28.2

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl apply -f replicaset.yaml
replicaset.apps/nginx created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get pods
NAME                READY  STATUS   RESTARTS  AGE
nginx-4dmjg         1/1    Running   0          80m
nginx-fxr66         1/1    Running   0          80m
nginx-klh58         1/1    Running   0          80m

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>
```

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```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS

pod "nginx-4dmjg" deleted

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
nginx-fxr66   1/1     Running   0           104m
nginx-klh58   1/1     Running   0           104m
nginx-t67p8   1/1     Running   0           20s

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get replicaset
NAME      DESIRED   CURRENT   READY   AGE
nginx     3          3          3       104m

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>]
```

```
File Edit Selection View Go Run ... Bcdv-4032 lab 3

EXPLORER
  BCDV-4032 LAB 3
    curl
    ! nginx.yaml
    ! replicaset.yaml

! nginx.yaml
1 apiVersion: apps/v1
2 kind: Deployment
3 metadata:
4   name: nginx-deployment
5   labels:
6     app: nginx
7 spec:
8   replicas: 3
9   selector:
10    matchLabels:
11      app: nginx
12   template:
13     metadata:
14       labels:
15         app: nginx
16     spec:
17       containers:
18         - name: nginx

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl rollout status deployment nginx
Error from server (NotFound): deployments.apps "nginx" not found

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get deployments
NAME          READY   UP-TO-DATE   AVAILABLE   AGE
nginx-deployment  3/3      3             3           3m45s

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl rollout status deployment nginx-dep
deployment "nginx-deployment" successfully rolled out

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>]
```

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The screenshot shows a VS Code editor with a file explorer on the left containing files for 'BCDV-4032 LAB 3': 'curl', 'nginx.yaml', 'replicaset.yaml', and 'stateful-nginx.yaml'. The 'stateful-nginx.yaml' file is open in the editor, displaying a Kubernetes StatefulSet configuration for nginx. The configuration includes a pod template with an nginx image, port 80, and a volume mount for 'www' at '/usr/share/nginx/html'. It also defines a volumeClaimTemplate with a metadata name 'www', a spec with 'ReadWriteOnce' access mode and 'my-storage-class' storage class, and a request for 1Gi storage. Below the editor, the terminal window shows the following commands and output:

```
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl rollout status deployment nginx-deployment
deployment "nginx-deployment" successfully rolled out

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl apply -f stateful-nginx.yaml
service/nginx created
statefulset.apps/web created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get statefulsets
NAME READY AGE
web 0/3 17s

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>
```

The screenshot shows a VS Code editor with a file explorer on the left containing files for 'BCDV-4032 LAB 3': 'curl', 'daemonSet-nginx.yaml', 'nginx.yaml', 'replicaset.yaml', and 'stateful-nginx.yaml'. The 'daemonSet-nginx.yaml' file is open in the editor, displaying a Kubernetes DaemonSet configuration for nginx. The configuration includes a pod template with an nginx image and a selector matching the 'nginx-lb' label. Below the editor, the terminal window shows the following commands and output:

```
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get statefulsets
NAME READY AGE
web 0/3 17s

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl apply -f daemonSet-nginx.yaml
daemonset.apps/nginx created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get daemonset
NAME DESIRED CURRENT READY UP-TO-DATE AVAILABLE NODE SELECTOR AGE
nginx 1 1 1 1 1 <none> 15s

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>
```

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The screenshot shows a VS Code editor with the Explorer sidebar on the left displaying a file tree for 'BCDV-4032 LAB 3'. The main editor area shows the 'nginx-deployment-resource-limit.yaml' file. The terminal at the bottom shows the following commands and output:

```
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get daemonset
NAME DESIRED CURRENT READY UP-TO-DATE AVAILABLE NODE SELECTOR AGE
nginx 1 1 1 1 1 <none> 15s

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl apply -f nginx-deployment-resource-limit.yaml
deployment.apps/nginx-deployment configured

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get deployments
NAME READY UP-TO-DATE AVAILABLE AGE
nginx-deployment 3/3 2 3 7h14m

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>
```

The YAML file content is as follows:

```
12 template:
13   metadata:
14     labels:
15       app: nginx
16   spec:
17     containers:
18       - name: nginx
19         image: nginx:1.14.2
20         ports:
21           - containerPort: 80
22         resources:
23           limits:
24             memory: "256Mi"
25             cpu: "200m"
26           requests:
27             memory: "128Mi"
28             cpu: "100m"
```

The screenshot shows a VS Code editor with the Explorer sidebar on the left displaying a file tree for 'BCDV-4032 LAB 3'. The main editor area shows the 'nginx-deployment-healthcheck.yaml' file. The terminal at the bottom shows the following commands and output:

```
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get deployments
NAME READY UP-TO-DATE AVAILABLE AGE
nginx-deployment 3/3 2 3 7h14m

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl apply -f nginx-deployment-healthcheck.yaml
deployment.apps/nginx-deployment configured

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>kubectl get deployments
NAME READY UP-TO-DATE AVAILABLE AGE
nginx-deployment 3/3 1 3 7h16m

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>
```

The YAML file content is as follows:

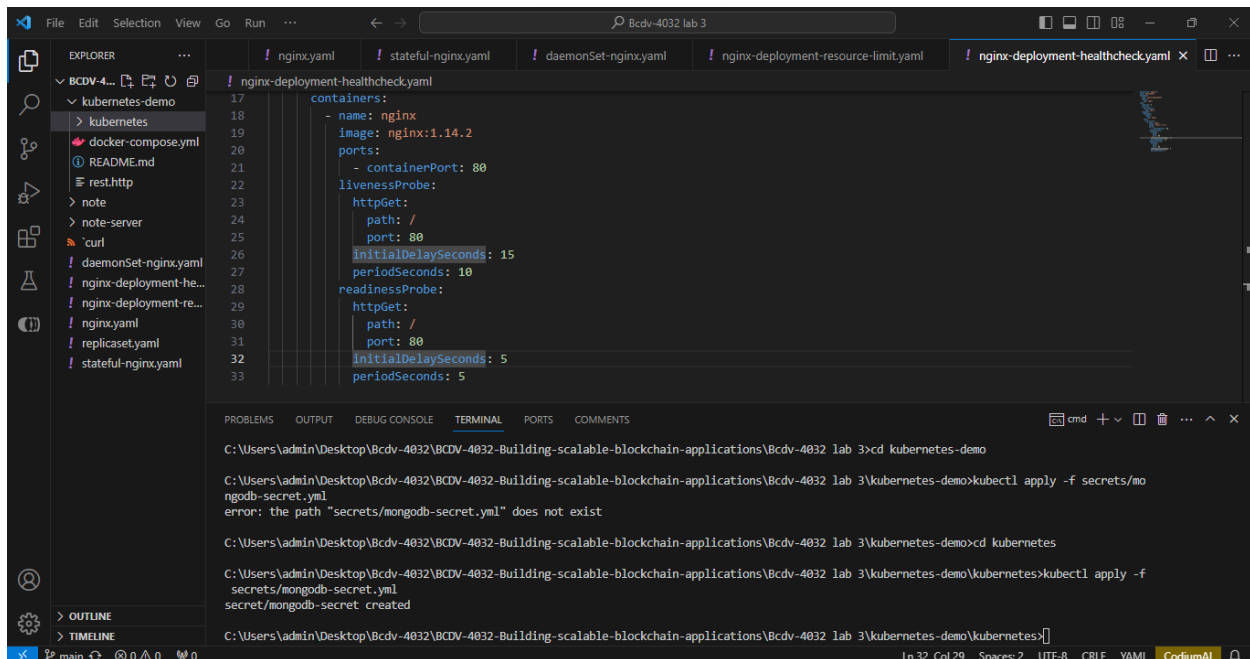
```
17 containers:
18   - name: nginx
19     image: nginx:1.14.2
20     ports:
21       - containerPort: 80
22     livenessProbe:
23       httpGet:
24         path: /
25         port: 80
26       initialDelaySeconds: 15
27       periodSeconds: 10
28     readinessProbe:
29       httpGet:
30         path: /
31         port: 80
32       initialDelaySeconds: 5
33       periodSeconds: 5
```

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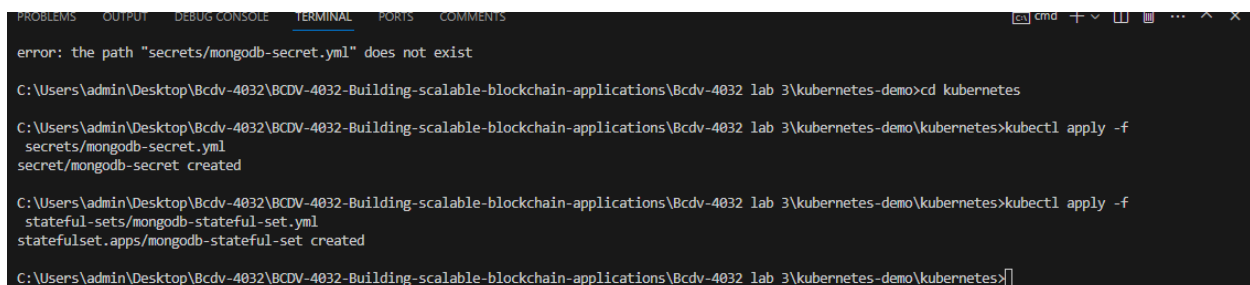
Term: Winter 2024

- **Section-3:** Run the full stack application deployment as provided in the attached instructions.
  - Submission should include screenshots for each command.
  - Screenshot with the Front end of the application open.
- **Task:** Bring down note-depp pod. Demonstrate using screenshot if a new pod has started.



The screenshot shows a Visual Studio Code editor with a file explorer on the left and a terminal window at the bottom. The file explorer shows a project structure with a 'kubernetes-demo' folder containing various YAML files. The terminal window shows the following commands and output:

```
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3>cd kubernetes-demo
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo>kubectl apply -f secrets/mongodb-secret.yml
error: the path "secrets/mongodb-secret.yml" does not exist
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo>cd kubernetes
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f secrets/mongodb-secret.yml
secret/mongodb-secret created
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>
```



The screenshot shows a terminal window with the following commands and output:

```
error: the path "secrets/mongodb-secret.yml" does not exist
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo>cd kubernetes
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f secrets/mongodb-secret.yml
secret/mongodb-secret created
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f stateful-sets/mongodb-stateful-set.yml
statefulset.apps/mongodb-stateful-set created
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>
```



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```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
secrets/mongodb-secret.yml
secret/mongodb-secret created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
stateful-sets/mongodb-stateful-set.yml
statefulset.apps/mongodb-stateful-set created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
services/mongodb-service.yml
service/mongodb-service created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
stateful-sets/mongodb-stateful-set.yml
statefulset.apps/mongodb-stateful-set created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
services/mongodb-service.yml
service/mongodb-service created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
deployments/note-server-depl.yml
deployment.apps/note-server-deployment created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>
Ln 32, Col 29 Spaces: 2 UTF-8 CRLF YAML CodiumAI
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
services/mongodb-service.yml
service/mongodb-service created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
deployments/note-server-depl.yml
deployment.apps/note-server-deployment created

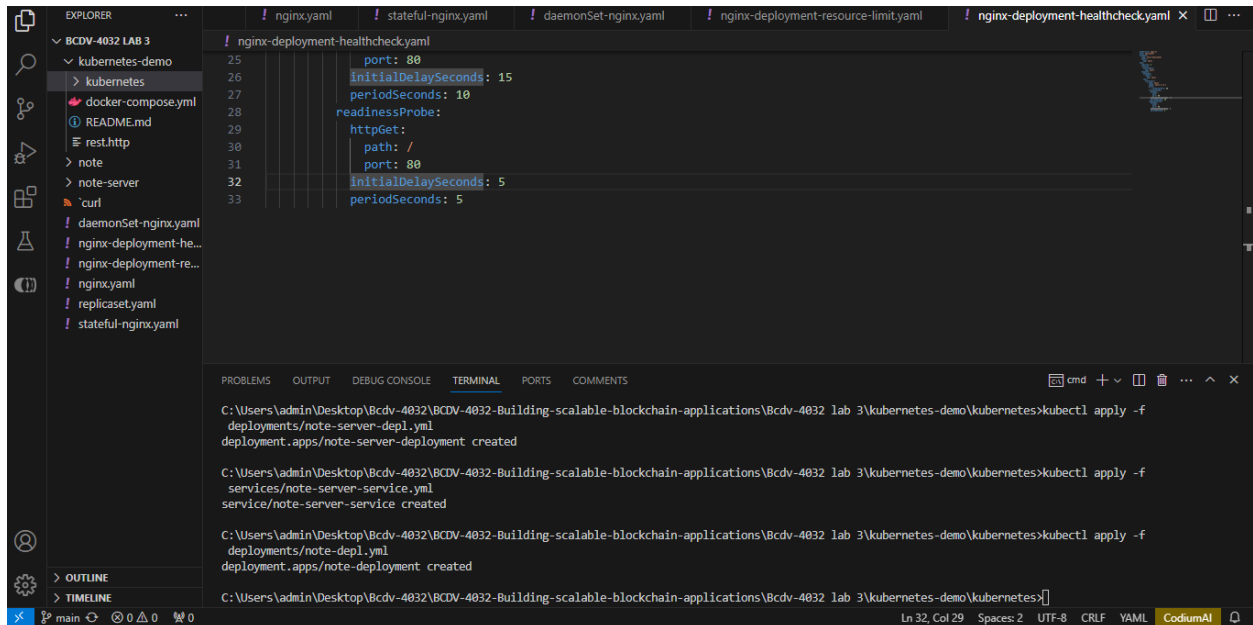
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
services/note-server-service.yml
service/note-server-service created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>
Ln 32, Col 29 Spaces: 2 UTF-8 CRLF YAML CodiumAI
```

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The screenshot shows the Visual Studio Code interface. The Explorer pane on the left displays a project structure for 'BCDV-4032 LAB 3' containing a 'kubernetes-demo' folder with various YAML files. The main editor area shows the 'nginx-deployment-healthcheck.yaml' file with the following content:

```
25     port: 80
26     initialDelaySeconds: 15
27     periodSeconds: 10
28     readinessProbe:
29       httpGet:
30         path: /
31         port: 80
32     initialDelaySeconds: 5
33     periodSeconds: 5
```

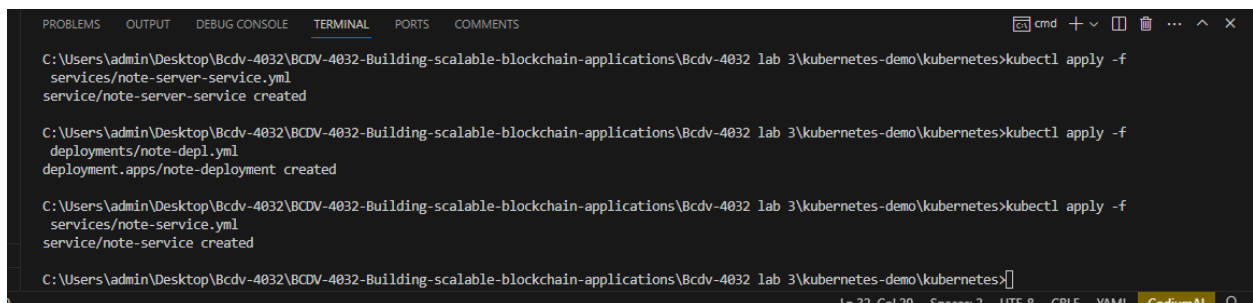
The TERMINAL pane at the bottom shows the execution of several Kubernetes commands:

```
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
deployments/note-server-depl.yaml
deployment.apps/note-server-deployment created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
services/note-server-service.yaml
service/note-server-service created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
deployments/note-depl.yaml
deployment.apps/note-deployment created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>
```



This screenshot shows a different view of the VS Code terminal, displaying the same sequence of Kubernetes commands and their outputs as the previous image:

```
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
services/note-server-service.yaml
service/note-server-service created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
deployments/note-depl.yaml
deployment.apps/note-deployment created

C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>kubectl apply -f
services/note-service.yaml
service/note-service created

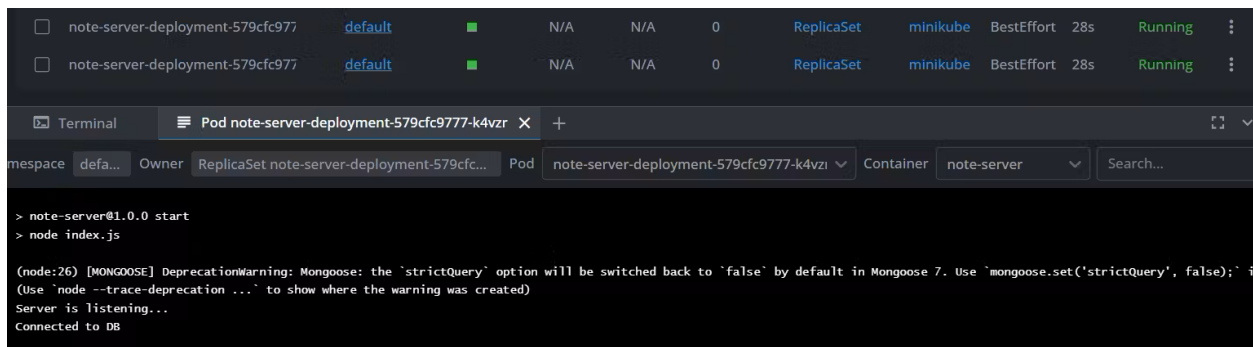
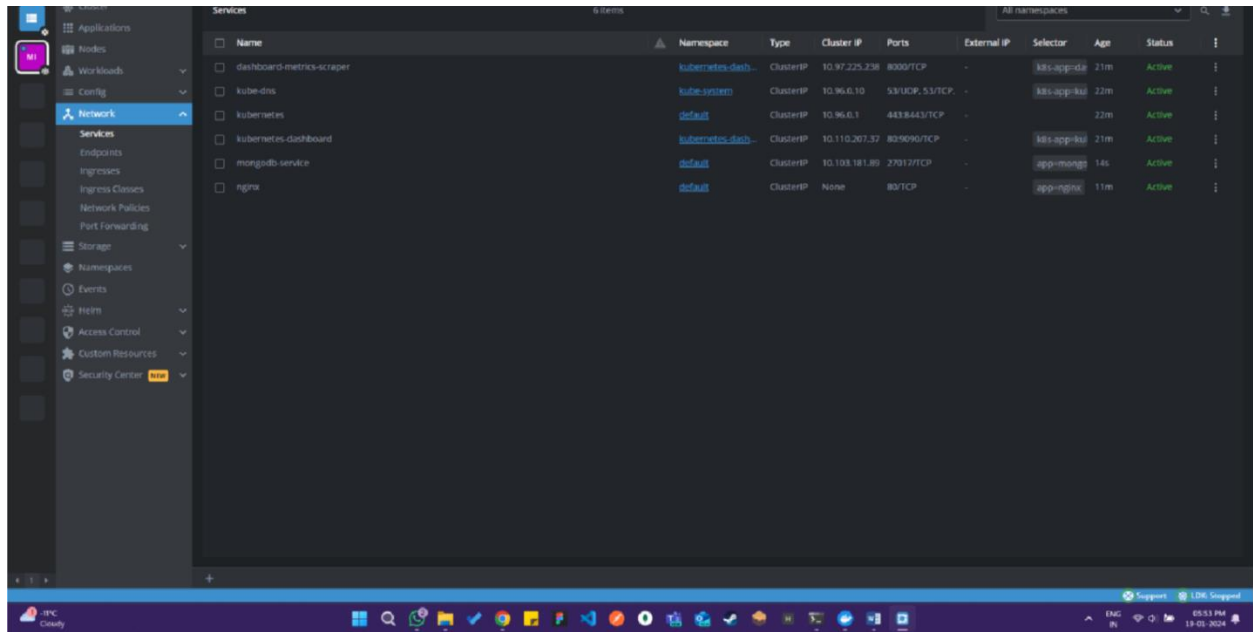
C:\Users\admin\Desktop\Bcdv-4032\BCDV-4032-Building-scalable-blockchain-applications\Bcdv-4032 lab 3\kubernetes-demo\kubernetes>
```

## BCDV

Student Name: Harsh Bhavsar

Term: Winter 2024

Student ID: 101440339



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127.0.0.1:36837

Mongo Express Database ▾

### Databases

Database Name [+ Create Database](#)

<a href="#">View</a>	admin	<a href="#">Del</a>
<a href="#">View</a>	config	<a href="#">Del</a>
<a href="#">View</a>	local	<a href="#">Del</a>

### Server Status

Turn on admin in config.js to view server stats!

note. [Assignments](#) [Add Assignment](#) [Notes](#) [Add Note](#)

## New Note

Name:

[Choose cover image](#)

Note:

## BCDV

Student Name: Harsh Bhavsar  
Student ID: 101440339

Term: Winter 2024

The screenshot shows a Visual Studio Code editor window with a project named 'BCDV-4032 LAB 3'. The Explorer sidebar on the left shows a folder structure with 'kubernetes-demo' containing 'docker-compose.yml', 'README.md', 'rest.http', 'note', 'note-server', 'curl', 'daemonSet-nginx.yaml', 'nginx-deployment-he...', 'nginx-deployment-re...', 'nginx.yaml', 'replicaset.yaml', and 'stateful-nginx.yaml'. The main editor area displays the 'docker-compose.yml' file with the following content:

```
1 version: '3.9'
2 services:
3   note:
4     image: ghcr.io/ananya2001-an/note:latest
5     ports:
6       - "3000:80" # Expose React app on port 3000
7     depends_on:
8       - note-server # Ensure backend is ready before starting the frontend
9
10  note-server:
11    image: ghcr.io/ananya2001-an/note-server:latest
12    ports:
13      - "5000:5000" # Expose backend on port 5000
14    depends_on:
15      - mongodb # Ensure MongoDB is ready before starting the backend
16    environment:
17      MONGODB_URI: mongodb://mongodb:27017
18      DB_NAME: mydb
```

The terminal window at the bottom shows an error message: 'Exiting due to GUEST\_NOT\_FOUND: load: filestore "minikube": open C:\Users\admin\.minikube\machines\minikube\config.json: The system cannot find the file specified.' It also provides a suggestion to run 'minikube delete' and a related issue link. Below the error, the terminal shows the output of the command 'kubectl get pods':

NAME	READY	STATUS	RESTARTS	AGE
mongo-express-deployment-b88f6d45f-75jvx	1/1	Running	11 (5m13s ago)	52m
mongodb-stateful-set-0	0/1	Pending	0	121m
nginx-deployment-5f4f55f467-xzxs	1/1	Running	0	133m
nginx-deployment-5f4f55f467-z74qx	1/1	Running	0	133m
nginx-deployment-5f4f55f467-zgp9t	1/1	Running	0	133m
nginx-dhmfz	1/1	Running	0	138m