Lab: Deploying a Sample Application

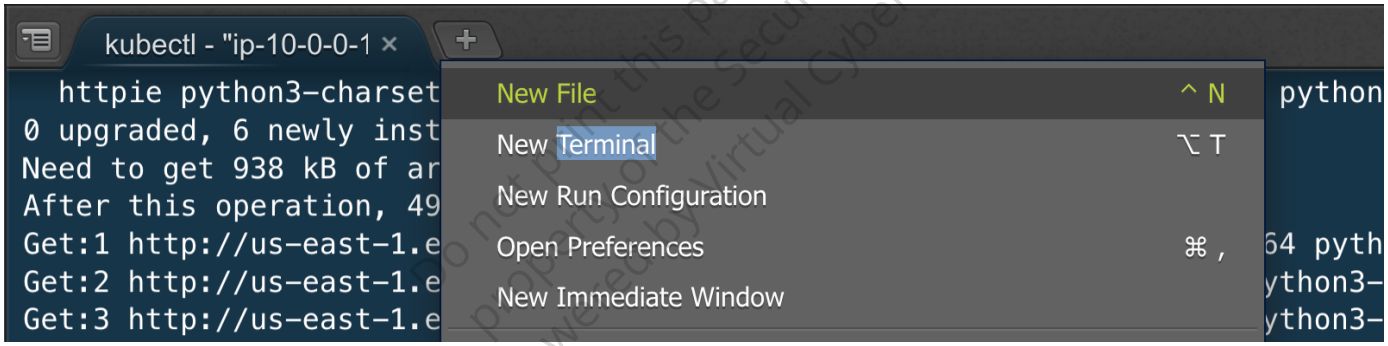
We will be creating an insecure password manager sample application in the kind cluster via `kubectl`.

It is important to note that this application is not intended for production use and has security vulnerabilities.

Open New Terminal (Optional)

If current working directory is not `workspace/course`

- Click on `+` icon, then select `new terminal` to open new terminal.



- Keep current working directory as `workspace/course`

```
cd course/
```

Demo:

- Run the ls command to check if folder `3.10_sample_app` is present in current working directory.

```
ls
```

```
root@ip-10-0-0-134:/home/ubuntu/ workspace/course# ls
3.10_sample_app  3.3.2_dive  3.3_docker_layers  cilium  k8s-setup.sh  k8s_services  kind-config.yaml
root@ip-10-0-0-134:/home/ubuntu/ workspace/course#
```

- Create a Kubernetes namespace for the application.

```
kubectl apply -f 3.10_sample_app/cluster-clusterbinding/namespace.yaml
```

```
root@ip-10-0-0-134:/home/ubuntu/ workspace/course# kubectl apply -f 3.10_sample_app/cluster-clusterbinding/namespace.yaml
namespace/vulapp-namespace-cl created
root@ip-10-0-0-134:/home/ubuntu/ workspace/course#
```

- Deploy the application to the Kubernetes cluster.

```
kubectl apply -f 3.10_sample_app/cluster-clusterbinding/
```

```
root@ip-10-0-0-134:/home/ubuntu/ workspace/course# kubectl apply -f 3.10_sample_app/cluster-clusterbinding/
clusterrole.rbac.authorization.k8s.io/vulapp-clusterrole created
clusterrolebinding.rbac.authorization.k8s.io/vulapp-clusterrolebinding created
deployment.apps/vulapp-deployment-cl created
namespace/vulapp-namespace-cl unchanged
service/vulapp-service-cl created
serviceaccount/vulapp-sa-cl created
root@ip-10-0-0-134:/home/ubuntu/ workspace/course#
```


- Check the service running for the sample application deployment.

```
kubectl get svc -n vulapp-namespace-cl
```

```
root@ip-10-0-0-134:/home/ubuntu/ workspace/course# kubectl get svc -n vulapp-namespace-cl
NAME                TYPE       CLUSTER-IP    EXTERNAL-IP   PORT(S)          AGE
vulapp-service-cl   NodePort   10.96.40.26   <none>        8000:32249/TCP   13m
root@ip-10-0-0-134:/home/ubuntu/ workspace/course#
```

- Forward the port of the service to access the application.

`echo $(curl -s ifconfig.me):8000` , run command to get the IP and access application

```
kubectl port-forward svc/vulapp-service-cl 8000:8000 -n vulapp-namespace-cl
--address 0.0.0.0
```

```
root@ip-10-0-0-134:/home/ubuntu/ workspace/course# kubectl port-forward svc/vulapp-service-cl 8000:8000 -n vulapp-namespace-cl --address
0.0.0.0
Forwarding from 0.0.0.0:8000 -> 8000
Handling connection for 8000
Handling connection for 8000
```

- Access the application by navigating to `http://<subdomain>.securitydojo.co.in:8000` .

Do not close the terminal or run `ctrl + c` to close the port forward, in the next lab we would perform validation of sample application.
