# Lab Exercise 11- Creating a ConfigMap from a Folder

In this lab exercise, you will learn how to create a ConfigMap in Kubernetes from a folder containing multiple files. This allows you to manage multiple configuration files as a single ConfigMap.

**Step 1: Set Up Kubernetes Cluster**

Ensure you have access to a Kubernetes cluster. You can use a local setup with Minikube, kind, or use a cloud-based Kubernetes service.

**Step 2: Prepare the Folder with Multiple Files**

Create a directory named configmap-folder:

```
mkdir configmap-folder
cd configmap-folder/
```

Create multiple configuration files inside the directory:

**config1.txt** with content:

```
key1=value1
```

**config2.txt** with content:

```
key2=value2
```

**config3.txt** with content:

```
key3=value3
```

Verify the directory structure:

```
ls configmap-folder/
cd ..
```

You should see the files config1.txt, config2.txt, and config3.txt.

**Step 3: Create a ConfigMap from the Folder**

Create a ConfigMap named folder-configmap from the folder:

```
kubectl create configmap folder-configmap --from-file=configmap-folder/
```

Verify the ConfigMap:

```
kubectl get configmap folder-configmap -o yaml
```

You should see the folder-configmap with the contents of all the files in the configmap-folder.

**Step 4: Use the ConfigMap in a Pod**

Create a file named **pod-folder-configmap.yaml** with the following content:

```
apiVersion: v1
kind: Pod
metadata:
  name: configmap-pod
spec:
  containers:
  - name: nginx
    image: nginx
    envFrom:
    - configMapRef:
        name: folder-configmap
```

In this manifest:

- The Pod mounts the folder-configmap at /etc/config.
- The busybox container concatenates and prints the contents of the files.

Apply the manifest to create the Pod:

```
kubectl apply -f pod-folder-configmap.yaml
```

Check the status of the Pod:

```
kubectl get pods
```

View the Pod logs to see the content of the mounted files:

```
kubectl exec -it configmap-pod -- printenv
```

You should see the contents of config1.txt, config2.txt, and config3.txt printed.

**Step 5: Clean Up**

After completing the exercise, clean up the resources created:

```
kubectl delete pod folder-configmap-pod
kubectl delete configmap folder-configmap
rm -r configmap-folder
```