



## Lab 6

### Portable Technologies in Cloud

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CODE: CLO835

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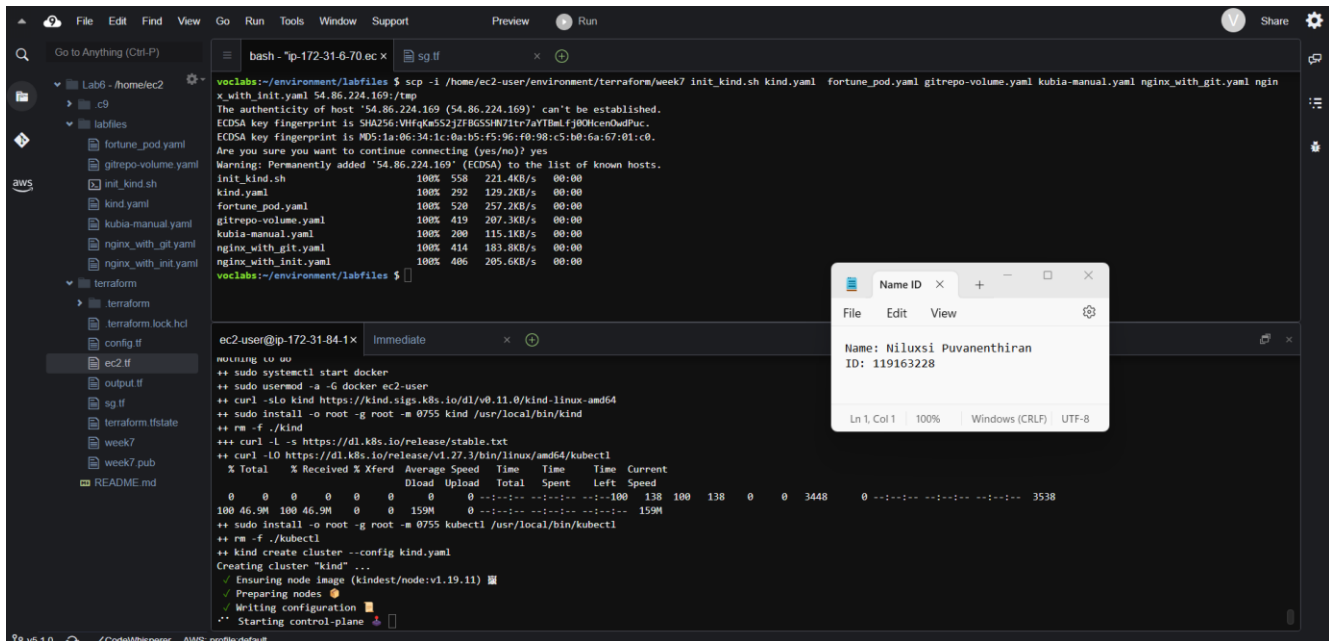
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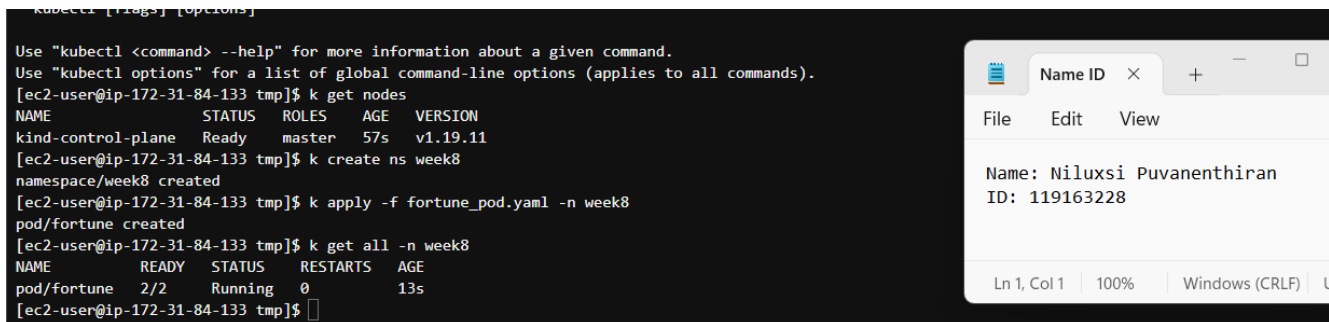
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# WEEK 7 – LAB 6

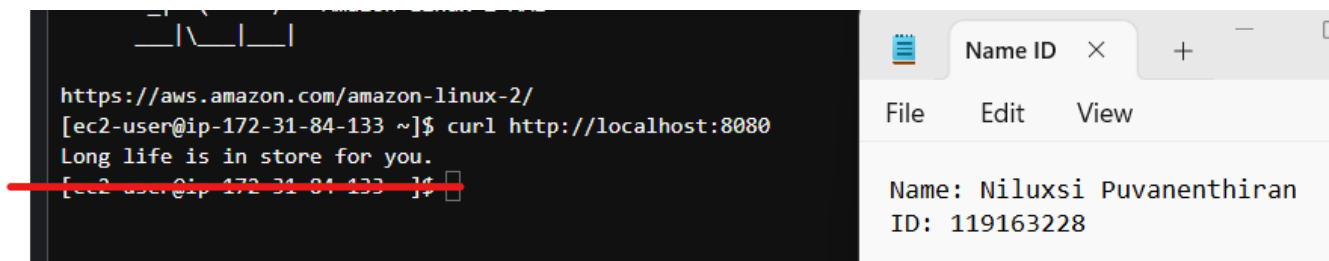
## Workshop 1 - Using EMPTYDIR volume to share data between containers in the Pod



Screenshot 1 Created instance and deployed cluster



Screenshot 2 Created namespace



Screenshot 3 pod was accessed via port forwarding

```
[ec2-user@ip-172-31-04-155 ~]$ k exec -it fortune -c web-server -- sh
/ # cat /usr/share/nginx/html/index.html
Having nothing, nothing can he lose.
    -- William Shakespeare, "Henry VI"
/ # cat /usr/share/nginx/html/index.html
You're currently going through a difficult transition period called "Life."
/ # vi /usr/share/nginx/html/index.html
/ #
```

Screenshot 4 attached shell to web-server container inside fortune pod

```
~
~
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~
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~
~
~
- /usr/share/nginx/html/index.html [Readonly] 1/1 100%
S: profile:default
```

Screenshot 5 tried updating the index.html file

Editing failed as this is read-only file

## Workshop 2 - Introducing InitContainer and gitrepo Volume

```
error: unable to listen on any of the requested ports: [{8080 80}]
[ec2-user@ip-172-31-84-133 tmp]$ k port-forward pod/nginx-with-git 8080:80 -n week8
Unable to listen on port 8080: Listeners failed to create with the following errors: [unable to create listener: Error listen tcp4 127.0.0.1:8080: bind: address already in use unable to
create listener: Error listen tcp6 [::1]:8080: bind: address already in use]
error: unable to listen on any of the requested ports: [{8080 80}]
[ec2-user@ip-172-31-84-133 tmp]$ sudo lsof -i :8080
COMMAND PID USER FD TYPE DEVICE SIZE/OFF NODE NAME
kubectl 7518 ec2-user 8u IPv4 43779 0t0 TCP localhost:webcache (LISTEN)
kubectl 7518 ec2-user 9u IPv6 43780 0t0 TCP localhost6:webcache (LISTEN)
[ec2-user@ip-172-31-84-133 tmp]$ kill 7518
[ec2-user@ip-172-31-84-133 tmp]$ k port-forward pod/nginx-with-git 8080:80 -n week8
Forwarding from 127.0.0.1:8080 -> 80
Forwarding from [::1]:8080 -> 80
```

Screenshot 6 listening to port 8080

The port was on use by PID 7518  
Used Kill 7518 command and then port forwarded

```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-84-133 ~]$ curl localhost:8080
<!DOCTYPE html>

<html>
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
  <title>Spoon-Knife</title>
  <LINK href="styles.css" rel="stylesheet" type="text/css">
</head>

<body>



<!-- Feel free to change this text here -->
<p>
  Fork me? Fork you, @octocat!
</p>

</body>
</html>
[ec2-user@ip-172-31-84-133 ~]$
```

Screenshot 7 Curl localhost running

```
pod/nginx-with-init created
[ec2-user@ip-172-31-84-133 tmp]$ kubectl port-forward pod/nginx_with_init 8080:80 -n week8
Error from server (NotFound): pods "nginx_with_init" not found
[ec2-user@ip-172-31-84-133 tmp]$ kubectl port-forward pod/nginx-with-init 8080:80 -n week8
Unable to listen on port 8080: Listeners failed to create with the following errors: [unable to create listener: Error listen tcp4 127.0.0.1:8080: bind: address already in use unable to
create listener: Error listen tcp6 [::1]:8080: bind: address already in use]
error: unable to listen on any of the requested ports: [{8080 80}]
[ec2-user@ip-172-31-84-133 tmp]$ sudo lsof -i :8080
COMMAND PID USER FD TYPE DEVICE SIZE/OFF NODE NAME
kubectl 11099 ec2-user 8u IPv4 68376 0t0 TCP localhost:webcache (LISTEN)
kubectl 11099 ec2-user 9u IPv6 68377 0t0 TCP localhost6:webcache (LISTEN)
[ec2-user@ip-172-31-84-133 tmp]$ kill 11099
[ec2-user@ip-172-31-84-133 tmp]$ kubectl port-forward pod/nginx-with-init 8080:80 -n week8
Forwarding from 127.0.0.1:8080 -> 80
Forwarding from [::1]:8080 -> 80
Handling connection for 8080
```

Screenshot 8 Defining init containers

```

Last login: Sun Jul  2 03:09:21 2023 from 44.198.193.105

  _| _|_ )
  _| ( _| /  Amazon Linux 2 AMI
 _|\_|_|_|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-84-133 ~]$ curl localhost:8080
<!DOCTYPE html>

<html>
<head>
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
  <title>Spoon-Knife</title>
  <LINK href="styles.css" rel="stylesheet" type="text/css">
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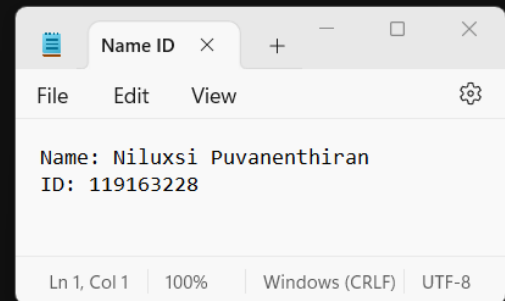
<body>



<!-- Feel free to change this text here -->
<p>
  Fork me? Fork you, @octocat!
</p>

</body>
</html>
[ec2-user@ip-172-31-84-133 ~]$

```



Screenshot 9 Curl localhost

# REFERENCES

Geiman, I. (2023, Summer). Lectures and Slides, CLO835\_Portable Technologies in cloud.  
Seneca Newham Campus, North York.

*Learner Lab*. (2023). Retrieved from <https://awsacademy.instructure.com/>.