

[CKA] #2. Pod - 1

[CKA] #2. Pod (1)

CKA 가 URL .

Pod ?

Kubernetes

Pod Network , Pod Container
Pod 가 /pause
Pod Network , /pause 가

Pod Create

yaml dry run

```
$ kubectl run hello --image=nginx --dry-run=client -o yaml
apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: hello
  name: hello
spec:
  containers:
  - image: nginx
    name: hello
    resources: {}
  dnsPolicy: ClusterFirst
  restartPolicy: Always
status: {}
```

```
# | ( ) (apply) -
```

```
kubectl run hello2 --image=nginx --dry-run=client -o yaml |  
kubectl apply -f -  
kubectl get pods -o wide
```

```
# nodeName 가 pod 가 .  
Taint .  
yaml nodeName 가 .  
$ kubectl run hi --image=nginx --dry-run=client -o yaml >  
hi.yaml  
apiVersion: v1  
kind: Pod  
metadata:  
  creationTimestamp: null  
  labels:  
    run: hi  
  name: hi  
spec:  
  containers:  
  - image: nginx  
    name: hi  
    resources: {}  
  dnsPolicy: ClusterFirst  
  restartPolicy: Always  
  nodeName: user-controller ## Node  
status: {}
```

```
# YAML Pod  
$ kubectl create -f hi.yaml  
$ kubectl get pods -o wide
```

| NAME | IP | READY | STATUS | RESTARTS | AGE |
|------------------------|-----------------|-------|-----------|----------|-----------|
| | | | NOMINATED | NODE | READINESS |
| hello-776c774f98-894tt | 192.168.153.193 | 1/1 | Running | 0 | 18h |
| hi | 192.168.136.5 | 1/1 | Running | 0 | 3m10s |

Pod status

```
$ kubectl describe pod hi
```

```
# Pod . -- kubectl arg --
```

```
$ kubectl exec -it hi -- /bin/bash  
root@hi:/#
```

Pod

```
# --replicas . deployment
```

```
$ kubectl create deployment web --image=nginx --replicas=3  
deployment.apps/web created
```

```
$ kubectl get pods -o wide | grep -i web
```

| | | | | |
|----------------------|-----------------|---------|---|--------|
| web-76b56fd968-c2pk9 | 1/1 | Running | 0 | 11s |
| 192.168.153.217 | user-worker | <none> | | <none> |
| web-76b56fd968-chr4w | 1/1 | Running | 0 | 11s |
| 192.168.136.6 | user-controller | <none> | | <none> |
| web-76b56fd968-mmdfn | 1/1 | Running | 0 | 11s |
| 192.168.153.218 | user-worker | <none> | | <none> |

Pod log

```
# Pod info
```

```
kubectl describe pod hi
```

```
# Pod log
```

```
kubectl logs hi
```

```
# journal Log(kubelet)
```

```
sudo journalctl -u kubelet
```

```
# Log .  
hi POD Container .  
/pause 가 Pod . nginx 가
```

```
$ sudo docker ps -a | grep -i hi
```

```
d507d8b298c3    nginx    "/docker-
entrypoint..."    26 hours ago    Up 26 hours
k8s_hi_hi_default_6a1464a1-0fea-4ff8-a5c6-426afe281173_0
d8fb1a992247    k8s.gcr.io/pause:3.6    "/pause"
26 hours ago    Up 26 hours
k8s_POD_hi_default_6a1464a1-0fea-4ff8-a5c6-426afe281173_0
```

```
# nginx Service Container info
$ sudo docker inspect d507d8b298c3
$ sudo docker logs d507d8b298c3
```

```
# Pod Network info
$ sudo docker inspect d8fb1a992247
$ sudo docker logs d8fb1a992247
```

```
# Container . 가
$ sudo docker exec -it d507d8b298c3 ls
bin  docker-entrypoint.d  home  media  proc  sbin  tmp
boot docker-entrypoint.sh  lib   mnt    root  srv   usr
dev  etc                  lib64 opt    run   sys   var
```

```
$ sudo docker exec -it d507d8b298c3 /bin/bash
root@hi:/#
```

```
# Net 가 nsenter .
ip
$ sudo docker exec -it d507d8b298c3 ip addr
OCI runtime exec failed: exec failed: container_linux.go:380:
starting container process caused: exec: "ip": executable file
not found in $PATH: unknown
```

```
PID
$ sudo docker inspect --format '{{ .State.Pid }}' d507d8b298c3
1244489
```

```
nsenter PID (pod namespace가
) 가 .
$ sudo nsenter -t 1244489 -n ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state
UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
```

```
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
2: tunl0@NONE: <NOARP> mtu 1480 qdisc noop state DOWN group
default qlen 1000
    link/ipip 0.0.0.0 brd 0.0.0.0
4: eth0@if12: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1480 qdisc
noqueue state UP group default
    link/ether c6:3d:04:5d:80:82 brd ff:ff:ff:ff:ff:ff link-
netnsid 0
    inet 192.168.136.5/32 scope global eth0
        valid_lft forever preferred_lft forever
```

Pod delete

```
# Pod
$ kubectl delete hi
```

```
# Pod Delete. replicas 가 .
$ kubectl delete deployment web
deployment.apps "web" deleted
$ kubectl get pods -o wide | grep -i web
-
```

Pod : <https://kubernetes.io/docs/concepts/workloads/pods/>
Pod Networking :
<https://www.digitalocean.com/community/tutorials/how-to-inspect-kubernetes-networking>

CentOS 7

APM

yum

가

가

yum

Image OS : CentOS 7.6.1810 Minimal

```
#
가
yum install -y epel-release

# Apache 2.4.52
                                RPMs
                                (codeit)

cd /etc/yum.repos.d/ && wget
https://repo.codeit.guru/codeit.el`rpm -q --qf "%{VERSION}"
$(rpm -q --whatprovides redhat-release)` .repo

# 가
yum info httpd
```

Loaded plugins: fastestmirror

Loading mirror speeds from cached hostfile

- * base: mirror.kakao.com
- * epel: hk.mirrors.thegigabit.com
- * extras: mirror.kakao.com
- * remi-safe: mirror.bebout.net
- * updates: mirror.navercorp.com

Installed Packages

```
Name       : httpd
Arch       : x86_64
Version    : 2.4.52
Release    : 1.codeit.el7
Size       : 4.3 M
Repo       : installed
From repo  : CodeIT
Summary    : Apache HTTP Server
URL        : https://httpd.apache.org/
License    : ASL 2.0
Description : The Apache HTTP Server is a powerful, efficient,
and extensible
            : web server.
```

```
# Apache
yum --enablerepo=CodeIT install httpd mod_ssl
```

```
# PHP 7.4                Remi Repository                .
yum                                install
https://rpms.remirepo.net/enterprise/remi-release-7.rpm

#      PHP                7.4
yum reponame all | grep -i php
yum --enablerepo=remi-php74 install php  php-opcache php-gd
php-mysql php-xml

# MariaDB 10.3
cat << EOF | tee /etc/yum.repos.d/MariaDB.repo
[mariadb]
name = MariaDB
baseurl = http://yum.mariadb.org/10.3/centos7-amd64
gpgkey=https://yum.mariadb.org/RPM-GPG-KEY-MariaDB
gpgcheck=1
enabled=0
EOF

# MariaDB 10.3
yum -y install --enablerepo=mariadb MariaDB-server MariaDB-
client MariaDB-backup

# APM
[root@localhost ~]# php -v
PHP 7.4.28 (cli) (built: Feb 15 2022 13:23:10) ( NTS )
Copyright (c) The PHP Group
Zend Engine v3.4.0, Copyright (c) Zend Technologies
    with Zend OPcache v7.4.28, Copyright (c), by Zend
Technologies
[root@localhost ~]# mysql --version
mysql Ver 15.1 Distrib 10.3.34-MariaDB, for Linux (x86_64)
using readline 5.1
[root@localhost ~]# httpd -v
Server version: Apache/2.4.52 (codeit)
Server built:   Dec 20 2021 11:29:54
```