

<Openshift OKD 3.11 Install>

1. 환경설정

- Master Node 16G, 4 vCPU * 1대
- Compute Node 8G, 1vCPU * 2대
- OS CentOS 7

2. User 생성 (on All Node)

```
$ useradd origin
```

```
$ passwd origin
```

```
$ echo -e 'Defaults:origin !requiretty\norigin ALL = (root) NOPASSWD:ALL' | tee  
/etc/sudoers.d/openshift
```

```
$ chmod 440 /etc/sudoers.d/openshift
```

3. 필수 Package 설치 (on All Node)

```
$ yum install centos-release-openshift-origin311.
```

```
$ yum install openshift-ansible ansible docker
```

```
$ systemctl enable --now docker
```

4. SSH 설정 (Master)

```
$ ssh-keygen -q -N ""
```

```
$ vi ~/.ssh/config
```

```
# create new ( define each node )
Host master
    Hostname master.suejin.com
    User origin
Host node01
    Hostname node01.suejin.com
    User origin
Host node02
    Hostname node02.suejin.com
    User origin
```

\$ chmod 600 ~/.ssh/config

\$ ssh-copy-id node01, 02, master

5. All-in-one Inventory 작성

cat /etc/ansible/hosts

```
[OSEv3:children]
masters
nodes
etcd

[OSEv3:vars]
# admin user created in previous section
ansible_ssh_user=origin
ansible_become=true
openshift_deployment_type=origin

# use HTTPasswd for authentication
openshift_master_identity_providers=[{'name': 'htpasswd_auth', 'login': 'true', 'challenge': 'true', 'kind': 'HTPasswdPasswordIdentityProvider'}]
# define default sub-domain for Master node
openshift_master_default_subdomain=apps.asia-northeast3-a.c.eloquent-region-360705.internal
# allow unencrypted connection within cluster
#openshift_docker_insecure_registries=172.30.0.0/16
openshift_portal_net=172.30.0.0/16
openshift_disable_check=disk_availability,memory_availability,docker_image_availability

[masters]
master.asia-northeast3-a.c.eloquent-region-360705.internal openshift_schedulable=true containerized=false

[etcd]
master.asia-northeast3-a.c.eloquent-region-360705.internal

[nodes]
# defined values for [openshift_node_group name] in the file below
# [/usr/share/ansible/openshift-ansible/roles/openshift_facts/defaults/main.yml]
master.asia-northeast3-a.c.eloquent-region-360705.internal openshift_node_group_name='node-config-master-infra'
node01.asia-northeast3-a.c.eloquent-region-360705.internal openshift_node_group_name='node-config-compute'
node02.asia-northeast3-a.c.eloquent-region-360705.internal openshift_node_group_name='node-config-compute'
```

6. Prerequisites.yml 배포

\$ ansible-playbook /usr/share/ansible/openshift-ansible/playbooks/prerequisites.yml

7. Deploy_cluster.yml 배포

\$ ansible-playbook /usr/share/ansible/openshift-ansible/playbooks/deploy_cluster.yml

```
PLAY RECAP *****
localhost : ok=11 changed=0 unreachable=0 failed=0
master.asia-northeast3-a.c.eloquent-region-360705.internal : ok=712 changed=320 unreachable=0 failed=0
node01.asia-northeast3-a.c.eloquent-region-360705.internal : ok=120 changed=61 unreachable=0 failed=0
node02.asia-northeast3-a.c.eloquent-region-360705.internal : ok=120 changed=61 unreachable=0 failed=0

INSTALLER STATUS *****
Initialization : Complete (0:00:29)
Health Check : Complete (0:00:06)
Node Bootstrap Preparation : Complete (0:02:49)
etcd Install : Complete (0:00:57)
Master Install : Complete (0:05:17)
Master Additional Install : Complete (0:00:44)
Node Join : Complete (0:00:15)
Hosted Install : Complete (0:01:01)
Cluster Monitoring Operator : Complete (0:01:18)
Web Console Install : Complete (0:00:47)
Console Install : Complete (0:00:44)
metrics-server Install : Complete (0:00:01)
Service Catalog Install : Complete (0:02:19)
```

8. 확인

```
[root@master ~]# oc get nodes
NAME      STATUS    ROLES    AGE      VERSION
master    Ready     infra,master  6m      v1.11.0+d4cacc0
node01    Ready     compute    2m      v1.11.0+d4cacc0
node02    Ready     compute    2m      v1.11.0+d4cacc0

[root@master ~]# oc get all
NAME                                     READY   STATUS    RESTARTS   AGE
pod/docker-registry-1-2k4mk            1/1     Running   0           8m
pod/registry-console-1-cp87f           0/1     ImagePullBackOff  0           7m
pod/registry-console-1-deploy           1/1     Running   0           8m
pod/router-1-9f62j                     1/1     Running   0           8m

NAME                                     DESIRED   CURRENT   READY   AGE
replicationcontroller/docker-registry-1 1          1         1       8m
replicationcontroller/registry-console-1 1          1         0       8m
replicationcontroller/router-1           1          1         1       8m

NAME                                     TYPE          CLUSTER-IP    EXTERNAL-IP    PORT(S)          AGE
service/docker-registry                  ClusterIP      172.30.56.120  <none>         5000/TCP          8m
service/kubernetes                       ClusterIP      172.30.0.1     <none>         443/TCP,53/UDP,53/TCP 13m
service/registry-console                  ClusterIP      172.30.108.99  <none>         9000/TCP          8m
service/router                            ClusterIP      172.30.94.205  <none>         80/TCP,443/TCP,1936/TCP 8m

NAME                                     REVISION    DESIRED   CURRENT   TRIGGERED BY
deploymentconfig.apps.openshift.io/docker-registry 1            1         1         config
deploymentconfig.apps.openshift.io/registry-console 1            1         1         config
deploymentconfig.apps.openshift.io/router           1            1         1         config

NAME                                     HOST/PORT                                          PATH
route.route.openshift.io/docker-registry          docker-registry-default.apps.asia-northeast3-a.c.eloquent-region-360705.internal
route.route.openshift.io/registry-console          registry-console-default.apps.asia-northeast3-a.c.eloquent-region-360705.internal
route.route.openshift.io/router                    router-default.apps.asia-northeast3-a.c.eloquent-region-360705.internal
```

<Reference>

1. https://www.server-world.info/en/note?os=CentOS_7&p=openshift311&f=1
2. <https://docs.openshift.com/container-platform/3.11/install/prerequisites.html#wildcard-dns-prereq>
3. https://docs.okd.io/3.11/install/configuring_inventory_file.html