

[29] Kube-DNS

Kube-DNS?

Kube-DNS is a DNS service that runs in the K8s cluster. It is responsible for resolving IP addresses to pod names and vice versa. Kube-DNS is a component of the K8s control plane.

What is Kube-DNS?

- CoreDNS is a DNS service that runs in the K8s cluster.
- Kube-DNS is a DNS service that runs in the K8s cluster.

Service and DNS Lookup

- Create a `nginx` pod called `nginx-resolver` using image `nginx`, expose it internally with a service called `nginx-resolver-service`.
- Test that you are able to look up the service and pod names from within the cluster.
- Use the image: `busybox:1.28` for dns lookup.
 - Record results in `/tmp/nginx.svc` and `/tmp/nginx.pod`
 - Pod: **nginx-resolver** created
 - **Service DNS Resolution** recorded correctly
 - **Pod DNS resolution** recorded correctly

Reference

docs DNS

[DNS for Services and Pods](#)

DNS

1. Service

```
nslookup {service IP} {service namespace}.svc.cluster.local
```

```
nslookup {Cluster IP}
```

2. Pod IP 和 Pod 名称

```
{Pod IP}. {Pod namespace}.pod.cluster.local
```



```
kubectl run nginx-resolver --image=nginx
```

```
kubectl expose pod nginx --name=nginx-resolver-service --port=80 --target-port=80
```

```
# 查看
```

```
kubectl get pod nginx-resolver -o wide
```

```
--> IP 10.1.1.1
```

```
kubectl get service nginx-resolver-service
```

```
kubectl run test --image=busybox:1.28 --rm -it --restart=Never -- /bin/sh
```

```
cat /etc/resolv.conf
```

```
--> DNS 10.1.1.1
```

```
nslookup nginx-resolver-service.default.svc.cluster.local
```

```
nslookup {Cluster IP}
```

```
--> 10.1.1.1
```

```
nslookup {Pod IP}.default.pod.cluster.local
```

```
--> DNS 10.1.1.1
```

```
exit
```

```
vi /tmp/nginx.svc
```

```
--> service lookup 10.1.1.1
```

```
vi /tmp/nginx.pod
```

```
--> pod lookup 10.1.1.1
```

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Create a deployment as follows: Name: nginx-random Exposed via a service nginx-random Ensure that the service & pod are accessible via their respective DNS records.

The container(s) within any pod(s) running as a part of this deployment should use the nginx Image.

Next, use the utility nslookup to look up the DNS records of the service & pod and write the output to /opt/KUNW00601/service.dns and /opt/KUNW00601/pod.dns respectively.

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```
kubectl create deploy nginx-random --image=nginx
```

```
kubectl expose deploy nginx-random --name=nginx-random --port=80 --target-port=80
```

```
kubectl run test --image=busybox:1.28 --rm -it --restart=Never -- /bin/sh
```

```
cat /etc/resolv.conf

nslookup nginx-random.default.svc.cluster.local
--> 00 00

nslookup 10.244.1.24.default.pod.cluster.local
--> 00 00

# pod00 000
exit
```

00 00 0000 000 00

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