

How Kubernetes Implements DNS?



10.244.1.5
test



10.244.2.5
web



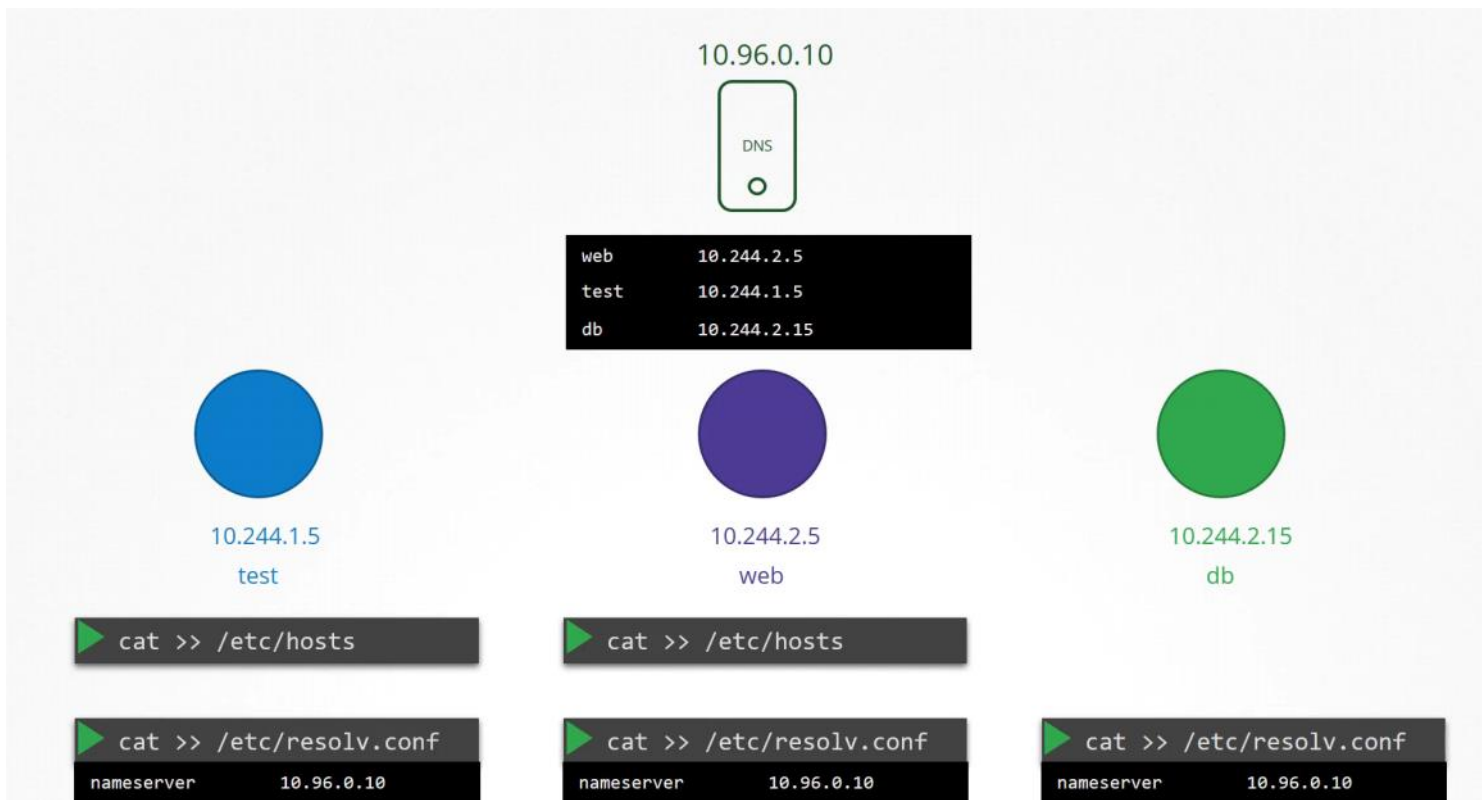
10.244.1.5
test

```
cat >> /etc/hosts
web 10.244.2.5
```



10.244.2.5
web

```
cat >> /etc/hosts
test 10.244.1.5
```





10.96.0.10



10-244-2-5	10.244.2.5
10-244-1-5	10.244.1.5
10-244-2-15	10.244.2.15



10.244.1.5
test

```
cat >> /etc/hosts
```

```
cat >> /etc/resolv.conf  
nameserver 10.96.0.10
```



10.244.2.5
web

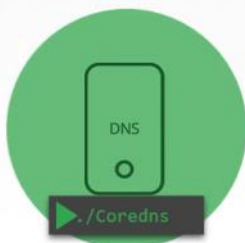
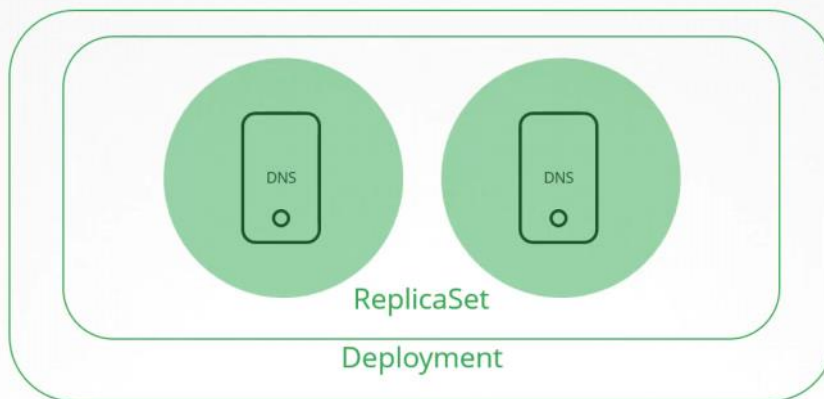
```
cat >> /etc/hosts
```

```
cat >> /etc/resolv.conf  
nameserver 10.96.0.10
```



10.244.2.15
db

```
cat >> /etc/resolv.conf  
nameserver 10.96.0.10
```





```
cat /etc/coredns/Corefile
```

```
.:53 {
  errors
  health
  kubernetes cluster.local in-addr.arpa ip6.arpa {
    pods insecure
    upstream
    fallthrough in-addr.arpa ip6.arpa
  }
  prometheus :9153
  proxy . /etc/resolv.conf
  cache 30
  reload
}
```

```
cat /etc/coredns/Corefile
```

```
.:53 {
  errors
  health
  kubernetes cluster.local in-addr.arpa ip6.arpa {
    pods insecure
    upstream
    fallthrough in-addr.arpa ip6.arpa
  }
  prometheus :9153
  proxy . /etc/resolv.conf
  cache 30
  reload
}
```

```
pods insecure
```

10-244-1-5	default	pod	cluster.local	10.244.1.5
------------	---------	-----	---------------	------------

```
cat /etc/coredns/Corefile
```

```
.:53 {
  errors
  health
  kubernetes cluster.local in-addr.arpa ip6.arpa {
    pods insecure
    upstream
    fallthrough in-addr.arpa ip6.arpa
  }
  prometheus :9153
  proxy . /etc/resolv.conf
  cache 30
  reload
}
```

```
kubectl get configmap -n kube-system
```

NAME	DATA	AGE
coredns	1	168d

CoreDNS



10.244.1.5
test

10-244-1-5	10.244.1.5
10-244-2-5	10.244.2.5
web-service	10.107.37.188



10.107.37.188
web-service

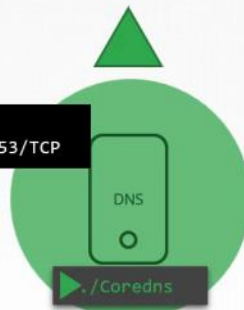


10.244.2.5
web

CoreDNS

```
kubectl get service -n kube-system
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)
kube-dns	ClusterIP	10.96.0.10	<none>	53/UDP,53/TCP



10.244.1.5
test

10-244-1-5	10.244.1.5
10-244-2-5	10.244.2.5
web-service	10.107.37.188



10.107.37.188
web-service



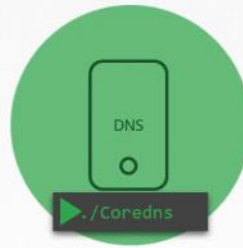
10.244.2.5
web

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

```
nameserver
```



```
cat /etc/resolv.conf
nameserver      10.96.0.10
```



10.244.1.5
test

10-244-1-5	10.244.1.5
10-244-2-5	10.244.2.5
web-service	10.107.37.188



10.107.37.188
web-service



10.244.2.5
web

```
curl http://web-service
curl http://web-service.default
curl http://web-service.default.svc
curl http://web-service.default.svc.cluster.local
```

```
host web-service
web-service.default.svc.cluster.local has address 10.97.206.196
```