

Troubleshoot DNS issues with the k8s cluster

Wednesday, 15 June 2022 4:10 PM

Purpose

When setting up a cluster, some errors are to do with resolver errors that need a method to troubleshoot.

Method

Spinning up a debug pod in the right namespace of our cluster.

Journal

Turn on [development mode](#) to increase the verbosity of our logs

update values yaml and apply with helm

```
application:
bootstrap:
  organization:
    name: <redacted>
    email: admin@<redacted>.com
    password: "<redacted>"
  environment: "Development" # Environment (e.g Production or Development)
```

note, you may need to [restart the pods manually](#)

```
kubect1 -n cluedin delete pod -l role=main
kubect1 -n cluedin delete pod -l role=processing
kubect1 -n cluedin delete pod -l role=crawling
```

Note the resolver error in our server logs:

```
---> System.IO.IOException: IDX20804: Unable to retrieve document from: 'https://app.redacted-
real-world-example.com/auth/.well-known/openid-configuration'.
---> System.Net.Http.HttpRequestException: Name does not resolve
---> System.Net.Sockets.SocketException (0xFFDFFFFF): Name does not resolve
at System.Net.Http.ConnectHelper.ConnectAsync(String host, Int32 port, CancellationToken
cancellationToken)
```

So, if you run a debug pod in your cluedin namespace, and run the nslookup command you can troubleshoot why your DNS server is not able to resolve app.redacted-real-world-example.com.

Example session for my k1 cluster:

```
kubect1 -n cluedin run -i --tty --rm debug --image=alpine --
restart=Never - sh
```

Pods					
Filtered: 1 / 7			Namespace: cluedin	debug	
<input type="checkbox"/> Name	Containers	Restarts	Node	Age	Status
<input type="checkbox"/> debug		0	aks-processpool-1759051	113s	Running

```
/ # nslookup app.k1.cluedin.me
Server:      10.0.0.10
Address:     10.0.0.10:53
```

Non-authoritative answer:

```
Non-authoritative answer:
Name:   app.k1.cluedin.me
Address: 20.193.9.158
```

Also, your DNS should return the correct addresses for the services, here's an example from my cluster:

Jobs	Services		35 items		Namespace: cluedin		Search Services...			
CronJobs										
Config										
ConfigMaps										
Secrets										
Resource Quotas										
Limit Ranges										
HPA										
Pod Disruption Budg...										
Network										
Services										
Endpoints										
Ingresses										
Network Policies										
Port Forwarding										
Storage										

Name	Namespace	Type	Cluster IP	Ports	External IP	Selector	Age	Status
cluedin-grafana	cluedin	ClusterIP	10.0.92.240	80:3000/TCP	-	app.kubernetes....	112d	Active
cluedin-haproxy-in...	cluedin	LoadBala...	10.0.90.9	80:30025/TCP, 44...	20.193.9.158	app.kubernetes....	112d	Active
cluedin-libpostal	cluedin	ClusterIP	10.0.135.99	80:8080/TCP	-	app=libpostal...	89d	Active
cluedin-ui	cluedin	ClusterIP	10.0.125.114	80:8080/TCP	-	app=ui...	112d	Active
cluedin-webapi	cluedin	ClusterIP	10.0.36.107	80:8080/TCP	-	app=webapi...	112d	Active
cluedin-cert-mana...	cluedin	ClusterIP	10.0.168.161	443:10250/TCP	-	app.kubernetes....	112d	Active
cluedin-operator	cluedin	ClusterIP	10.0.41.170	443:https/TCP	-	app=cluedin-ope...	112d	Active
cluedin-sqlserver	cluedin	ClusterIP	10.0.132.180	1433:mssql/TCP	-	app.kubernetes....	112d	Active
cluedin-haproxy-in...	cluedin	ClusterIP	10.0.146.28	1936:stats/TCP	-	app.kubernetes....	112d	Active
cluedin-openrefine...	cluedin	ClusterIP	10.0.126.195	3333:openrefine-h...	-	app.kubernetes....	112d	Active
cluedin-rabbitmq...	cluedin	ClusterIP	None	4369:epmd/TCP, 5...	-	app.kubernetes....	112d	Active
discovery-cluedin...	cluedin	ClusterIP	None	5000/TCP, 6000/T...	-	statefulset kube...	112d	Active

```

/ # nslookup cluedin-ui
Server:      10.0.0.10
Address:     10.0.0.10:53

Name:   cluedin-ui.cluedin.svc.cluster.local
Address: 10.0.125.114

```

note that the IP matches our result in lens