Environment Setup for Gemfire Cluster on Kubernetes

Create Gemfire Cluster

We are going to work in the default namespace. There is a more complete example that can be found with the docs at VMware Tanzu Gemfire where the first step is to create a gemfire-cluster namespace.

Apply the CRD for your Tanzu GemFire cluster, as in this development environment example:

```
$ cat << EOF | kubectl  apply -f -
apiVersion: core.geode.apache.org/v1alpha1
kind: GeodeCluster
metadata:
  name: gemfire1
spec:
  exposeExternalManagement: true
  locators:
    replicas: 1
  servers:
    replicas: 2
EOF
```

or you can simply create a yaml file from the contents like gemfire-cluster.yaml:

```
apiVersion: core.geode.apache.org/v1alpha1
kind: GeodeCluster
metadata:
  name: gemfire1
spec:
  exposeExternalManagement: true
  locators:
    replicas: 1
  servers:
    replicas: 2
```

and create the gemfire-cluster with the following command:

```
kubectl apply -f gemfire-cluster.yaml

You can watch the progress of  your gemfire-cluster deployment by using a utility called k9s.  From the comma

```bash
k9s
```

and you'll see the status of the nodes in your cluster and will be able to tell when all nodes are running.

Check the creation status of the Tanzu GemFire cluster:

```
 kubectl  get GeodeClusters
```

and you should see an output that looks similar to this:

```
NAME       LOCATORS   SERVERS
gemfire1   2/2        1/2
```

Start the Tanzu GemFire Shell (GFSH)

```
kubectl  exec -it gemfire1-locator-0 -- gfsh
```

Connect to the Tanzu GemFire cluster

Once GFSH is running, we need to connect to the GemFire cluster through the following command:
```

```
gfsh>connect
```

and to see the topology and configuraton of your cluster you can do the following:

```
k9s
```

Then when all the nodes are up you can check the members as you did in your local lab with the list members cmd:

```
gfsh>list members

Member Count : 4

       Name        | Id
------------------ | ------------------------------------------------------------


gemfire1-locator-0 | 10.244.0.7(gemfire1-locator-0:1:locator)<ec><v0>:41000 [C..
gemfire1-locator-1 | 10.244.0.9(gemfire1-locator-1:1:locator)<ec><v1>:41000
gemfire1-server-0  | 10.244.0.11(gemfire1-server-0:1)<v2>:41000
gemfire1-server-1  | 10.24
```