CS571
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(19526)
Week 10

Using a GCE Persistent Disk in a pod volume

Step:1 $ gcloud container clusters list

```
shahm888@cloudshell:~ (bookshelf19526)$ gcloud container clusters list
NAME       LOCATION    MASTER_VERSION                    MASTER_IP       MACHINE_TYPE    NODE_VERSION    NUM_NODES  STATUS
bookshelf  us-west1-b  1.14.10-gke.17 (21 days left)     34.83.108.126   n1-standard-1   1.14.10-gke.17             ERROR
center?supportedpurview=project
bookshelf19526)$
```

Step:2 $ gcloud compute disks create --size=1GiB --zone=europe-west1-b mongodb

```
shahm888@cloudshell:~ (bookshelf19526)$ gcloud compute disks create --size=1GiB --zone=us-west1-b mongodb
WARNING: You have selected a disk size of under [200GB]. This may result in poor I/O performance. For more information, see: https://deve
mpute/docs/disks#performance.
Created [https://www.googleapis.com/compute/v1/projects/bookshelf19526/zones/us-west1-b/disks/mongodb].
NAME      ZONE        SIZE_GB  TYPE         STATUS
mongodb   us-west1-b  1        pd-standard  READY

New disks are unformatted. You must format and mount a disk before it
can be used. You can find instructions on how to do this at:

https://cloud.google.com/compute/docs/disks/add-persistent-disk#formatting
```

Step:3 Creating a pod using a gcePersistentDisk volume

```
shahm888@cloudshell:~ (bookshelf19526)$ vim mongodb-pod-gcepd.yaml
shahm888@cloudshell:~ (bookshelf19526)$ cat mongodb-pod-gcepd.yaml
apiVersion: v1
kind: Pod
metadata:
  name: mongodb
spec:
  volumes:
  - name: mongodb-data
    gcePersistentDisk:
      pdName: mongodb
      fsType: ext4
  containers:
  - image: mongo
    name: mongodb
    volumeMounts:
    - name: mongodb-data
      mountPath: /data/db
    ports:
    - containerPort: 27017
      protocol: TCP
shahm888@cloudshell:~ (bookshelf19526)$
```

```
shahm888@cloudshell:~ (bookshelf19526)$ kubectl create -f mongodb-pod-gcepd.yaml
pod/mongodb created
shahm888@cloudshell:~ (bookshelf19526)$ kubectl get po
NAME      READY   STATUS             RESTARTS   AGE
mongodb   0/1     ContainerCreating  0          4s
shahm888@cloudshell:~ (bookshelf19526)$ kubectl get po -o wide
NAME      READY   STATUS             RESTARTS   AGE   IP          NODE                                           NOMINATED NODE   READINESS GATES
mongodb   0/1     ContainerCreating  0          17s   <none>      gke-my-cluster-default-pool-ea0d57ef-rx7c      <none>           <none>
shahm888@cloudshell:~ (bookshelf19526)$ kubectl get po -o wide
NAME      READY   STATUS             RESTARTS   AGE   IP          NODE                                           NOMINATED NODE   READINESS GATES
mongodb   1/1     Running            0          90s   10.48.2.5   gke-my-cluster-default-pool-ea0d57ef-rx7c      <none>           <none>
shahm888@cloudshell:~ (bookshelf19526)$
```

Insert new entry into DB

```
shahm888@cloudshell:~ (bookshelf19526)$ kubectl exec -it mongodb mongo
MongoDB shell version v4.2.3
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("da9849cc-56b6-40dc-9f26-3a1a2dd99afc") }
MongoDB server version: 4.2.3
Welcome to the MongoDB shell.
For interactive help, type "help".
For more comprehensive documentation, see
        http://docs.mongodb.org/
Questions? Try the support group
        http://groups.google.com/group/mongodb-user
Server has startup warnings:
2020-03-19T09:24:58.070+0000 I  STORAGE  [initandlisten]
2020-03-19T09:24:58.071+0000 I  STORAGE  [initandlisten] ** WARNING: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine
2020-03-19T09:24:58.071+0000 I  STORAGE  [initandlisten] **          See http://dochub.mongodb.org/core/prodnotes-filesystem
2020-03-19T09:24:59.267+0000 I  CONTROL  [initandlisten]
2020-03-19T09:24:59.267+0000 I  CONTROL  [initandlisten] ** WARNING: Access control is not enabled for the database.
2020-03-19T09:24:59.267+0000 I  CONTROL  [initandlisten] **          Read and write access to data and configuration is unrestricted.
2020-03-19T09:24:59.267+0000 I  CONTROL  [initandlisten]
---
Enable MongoDB's free cloud-based monitoring service, which will then receive and display
metrics about your deployment (disk utilization, CPU, operation statistics, etc).

The monitoring data will be available on a MongoDB website with a unique URL accessible to you
and anyone you share the URL with. MongoDB may use this information to make product
improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---

> use mystore
switched to db mystore
> db.foo.insert({name:'foo'})
WriteResult({ "nInserted" : 1 })
> db.foo.find()
{ "_id" : ObjectId("5e733aff15d433da11e2e743"), "name" : "foo" }
>
```

Delete pod and Create pod and search for entry.

```
shahm888@cloudshell:~ (bookshelf19526)$ kubectl delete pod mongodb
pod "mongodb" deleted
shahm888@cloudshell:~ (bookshelf19526)$ kubectl create -f mongodb-pod-gcepd.yaml
pod/mongodb created
shahm888@cloudshell:~ (bookshelf19526)$ kubectl get po -o wide
NAME      READY   STATUS            RESTARTS   AGE   IP          NODE                                      NOMINATED NODE   READINESS GATES
mongodb   0/1     ContainerCreating 0          9s    <none>      gke-my-cluster-default-pool-ea0d57ef-rx7c <none>           <none>
shahm888@cloudshell:~ (bookshelf19526)$ kubectl get po -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP          NODE                                      NOMINATED NODE   READINESS GATES
mongodb   1/1     Running   0          27s   10.48.2.6   gke-my-cluster-default-pool-ea0d57ef-rx7c <none>           <none>
shahm888@cloudshell:~ (bookshelf19526)$ kubectl exec -it mongodb mongo
MongoDB shell version v4.2.3
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("15b5ff46-1841-4854-9353-0277355b6e5d") }
MongoDB server version: 4.2.3
Welcome to the MongoDB shell.
For interactive help, type "help".
For more comprehensive documentation, see
        http://docs.mongodb.org/
Questions? Try the support group
        http://groups.google.com/group/mongodb-user
Server has startup warnings:
2020-03-19T09:31:03.603+0000 I  STORAGE  [initandlisten]
2020-03-19T09:31:03.603+0000 I  STORAGE  [initandlisten] ** WARNING: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine
2020-03-19T09:31:03.603+0000 I  STORAGE  [initandlisten] **          See http://dochub.mongodb.org/core/prodnotes-filesystem
2020-03-19T09:31:04.859+0000 I  CONTROL  [initandlisten]
2020-03-19T09:31:04.859+0000 I  CONTROL  [initandlisten] ** WARNING: Access control is not enabled for the database.
2020-03-19T09:31:04.859+0000 I  CONTROL  [initandlisten] **          Read and write access to data and configuration is unrestricted.
2020-03-19T09:31:04.859+0000 I  CONTROL  [initandlisten]
---
Enable MongoDB's free cloud-based monitoring service, which will then receive and display
metrics about your deployment (disk utilization, CPU, operation statistics, etc).

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and anyone you share the URL with. MongoDB may use this information to make product
improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---

> use mystore
switched to db mystore
> do.foo.find()
2020-03-19T09:31:46.477+0000 E  QUERY    [js] uncaught exception: SyntaxError: expected expression, got '.' :
@(shell):1:2
>
```