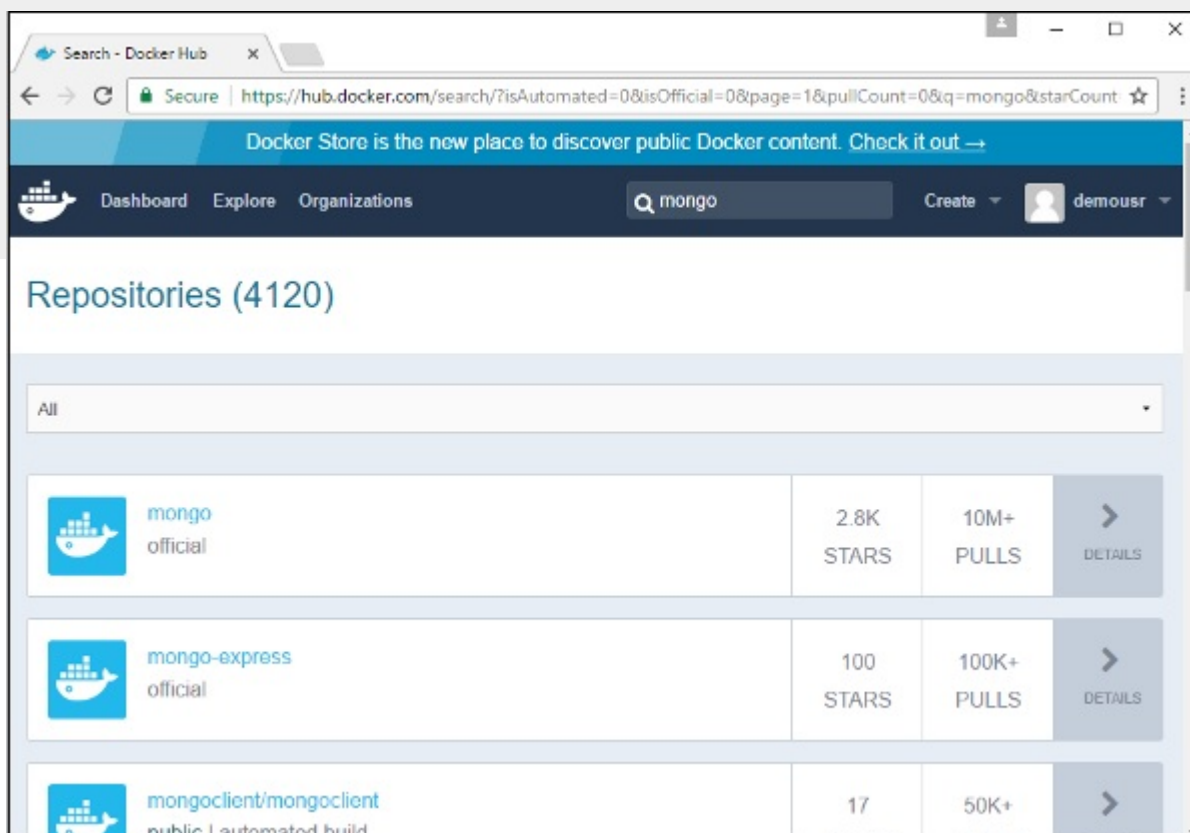


Docker - Setting MongoDB

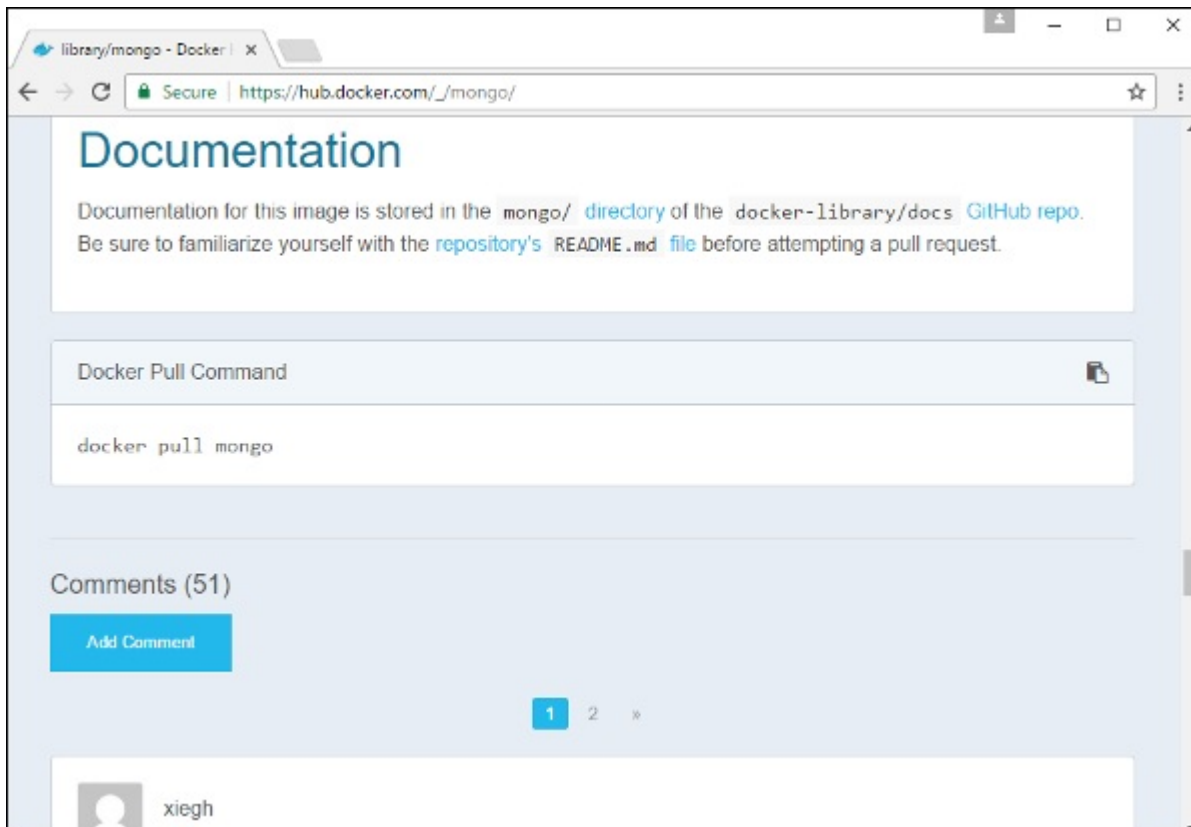
MongoDB is a famous document-oriented database that is used by many modern-day web applications. Since MongoDB is a popular database for development, Docker has also ensured it has support for MongoDB.

We will now see the various steps for getting the Docker container for MongoDB up and running.

Step 1 – The first step is to pull the image from Docker Hub. When you log into Docker Hub, you will be able to search and see the image for Mongo as shown below. Just type in Mongo in the search box and click on the Mongo (official) link which comes up in the search results.



Step 2 – You will see that the Docker **pull** command for Mongo in the details of the repository in Docker Hub.



Step 3 – On the Docker Host, use the Docker **pull** command as shown above to download the latest Mongo image from Docker Hub.

```
demo@ubuntudemo:~$ sudo docker pull mongo
```

```
demo@ubuntudemo:~$ sudo docker pull mongo
[sudo] password for demo:
Using default tag: latest
latest: Pulling from library/mongo

75a822cd7888: Already exists
8bf369f658b6: Pull complete
7d7cb343d20e: Pull complete
73a933a908f7: Pull complete
658569c28c55: Pull complete
124a8bf940da: Pull complete
7c19551df503: Pull complete
a18347fe18d9: Pull complete
53e710c6ec29: Pull complete
Digest: sha256:23e5cdbd9bc26a6d1ae4db8252a295d6bddba8332dec68483816d5b7bb2438d7
Status: Downloaded newer image for mongo:latest
demo@ubuntudemo:~$
```

Step 4 – Now that we have the image for Mongo, let's first run a MongoDB container which will be our instance for MongoDB. For this, we will issue the following command –

```
sudo docker run -it -d mongo
```

The following points can be noted about the above command –

- The **-it** option is used to run the container in interactive mode.
- The **-d** option is used to run the container as a daemon process.
- And finally we are creating a container from the Mongo image.

You can then issue the **docker ps** command to see the running containers –

```
demo@ubuntudemo:~$ sudo docker run -it -d mongo
ec086eec7416e368614de631b8356fcf68eec978b01b620251cb55d8b7ec7189
demo@ubuntudemo:~$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED
STATUS            PORTS              NAMES
ec086eec7416        mongo              "/entrypoint.sh mongo" 3 seconds ago
Up 2 seconds          27017/tcp          tender_poitras
demo@ubuntudemo:~$ _
```

Take a note of the following points –

- The name of the container is **tender_poitras**. This name will be different since the name of the containers keep on changing when you spin up a container. But just make a note of the container which you have launched.
- Next, also notice the port number it is running on. It is listening on the TCP port of 27017.

Step 5 – Now let's spin up another container which will act as our client which will be used to connect to the MongoDB database. Let's issue the following command for this –

```
sudo docker run -it --link=tender_poitras:mongo mongo /bin/bash
```

The following points can be noted about the above command –

- The **-it** option is used to run the container in interactive mode.
- We are now linking our new container to the already launched MongoDB server container. Here, you need to mention the name of the already launched container.
- We are then specifying that we want to launch the Mongo container as our client and then run the **bin/bash** shell in our new container.

```
demo@ubuntudemo:~$ sudo docker run -it --link=tender_poitras:mongo mongo /bin/
sh
root@83b6ae60e866:/#
```

You will now be in the new container.

Step 6 – Run the **env** command in the new container to see the details of how to connect to the MongoDB server container.

```

Server has startup warnings:
2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten]
2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten] ** WARNING: Using the XFS
filesystem is strongly recommended with the WiredTiger storage engine
2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten] ** See http://www.
mongodb.org/core/prodnotes-filesystem
2017-01-07T15:26:23.873+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten] ** WARNING: Access control
is not enabled for the database.
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten] ** Read and write
access to data and configuration is unrestricted.
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** WARNING: /sys/kerne
l/mm/transparent_hugepage/enabled is 'always'.
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** We suggest se
ting it to 'never'
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** WARNING: /sys/kerne
l/mm/transparent_hugepage/defrag is 'always'.
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** We suggest se
ting it to 'never'
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten]

```

Step 6 – Now it's time to connect to the MongoDB server from the client container. We can do this via the following command –

```
mongo 172.17.0.2:27017
```

The following points need to be noted about the above command

- The **mongo** command is the client **mongo** command that is used to connect to a MongoDB database.
- The IP and port number is what you get when you use the **env** command.

Once you run the command, you will then be connected to the MongoDB database.

```

Server has startup warnings:
2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten]
2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten] ** WARNING: Using the XFS
filesystem is strongly recommended with the WiredTiger storage engine
2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten] ** See http://www.mongodb.org/core/prodnotes-filesystem
2017-01-07T15:26:23.873+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten] ** WARNING: Access control
is not enabled for the database.
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten] ** Read and write
access to data and configuration is unrestricted.
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** WARNING: /sys/kernel
mm/transparent_hugepage/enabled is 'always'.
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** We suggest setting
it to 'never'
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** WARNING: /sys/kernel
mm/transparent_hugepage/defrag is 'always'.
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** We suggest setting
it to 'never'
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten]
>

```

You can then run any MongoDB command in the command prompt. In our example, we are running the following command –

```
use demo
```

This command is a MongoDB command which is used to switch to a database name **demo**. If the database is not available, it will be created.

```

2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten]
2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten] ** WARNING: Using the XFS
filesystem is strongly recommended with the WiredTiger storage engine
2017-01-07T15:26:23.769+0000 I STORAGE [initandlisten] ** See http://www.mongodb.org/core/prodnotes-filesystem
2017-01-07T15:26:23.873+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten] ** WARNING: Access control
is not enabled for the database.
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten] ** Read and write
access to data and configuration is unrestricted.
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.874+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** WARNING: /sys/kernel
mm/transparent_hugepage/enabled is 'always'.
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** We suggest setting
it to 'never'
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten]
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** WARNING: /sys/kernel
mm/transparent_hugepage/defrag is 'always'.
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten] ** We suggest setting
it to 'never'
2017-01-07T15:26:23.875+0000 I CONTROL [initandlisten]
> use demo
switched to db demo
>

```

Now you have successfully created a client and server MongoDB container.