Download the networking code from the following Github URl:

<https://github.com/harikrishna83/Docker-firstdemo-handson/tree/master/networks-starting-setup>

Our requirement is from our container we need send a network request to outside of the world some API and need get the output.

https://swapi.dev/api/films

https://swapi.dev/api/people

Those two are API’s which are outside, which will provide some movies and actors information, now we run a node JS application and will establish a http connect to those outside world API’s and get the response. Also this container need to communicate with some service on our local machine.

Some-api.com/

Requests from container to WWW

<Your App>

GET /some-api.com/

SQL Database

Requests from container to other container

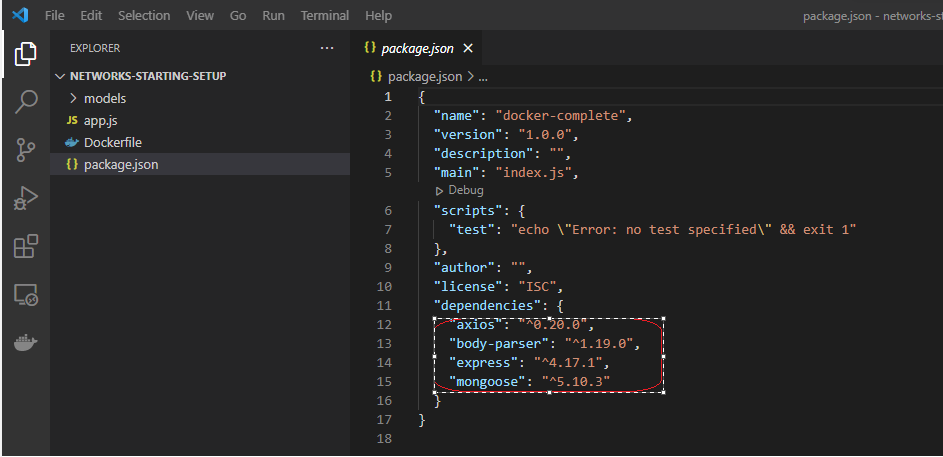
Requests from container to host machine

Your Host Machine

In brief there are three scenarios

1. From our container to outside API on www web.
2. From our container to access some service on our localhost machine.
3. From our container to access SQL database which is running on another container.

Let’s try to understand the application, it had couple of dependencies which need to be installed as shown below.



Now It has some custom code which return some and post some data via WebAPI. This is an web application which doesn’t return anything like a webpage instead it just returns data and also it updates data when request was send through this WebAPI.

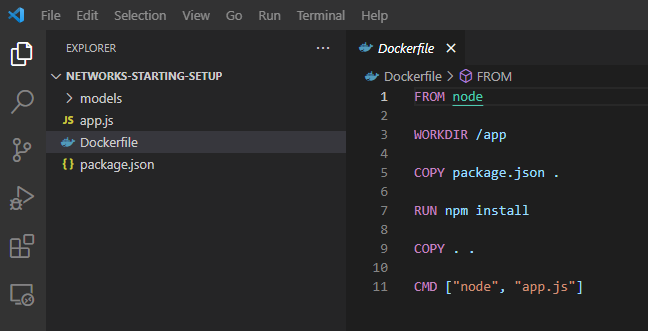
This webapi had four so called end points

1. It accepts get requests to <Web API URl>/favorites.
2. It accepts post requests to <Web API URL>/favorites, which will post data to mango DB by supplying some variables in the form of Json( name, type, url).
3. It send get requests to some outside world starwar Dummy API (‘https://swapi.dev.api/films’)/movies.
4. It send get requests to some outside world starwar Dummy API (‘https://swapi.dev.api/films’)/people.

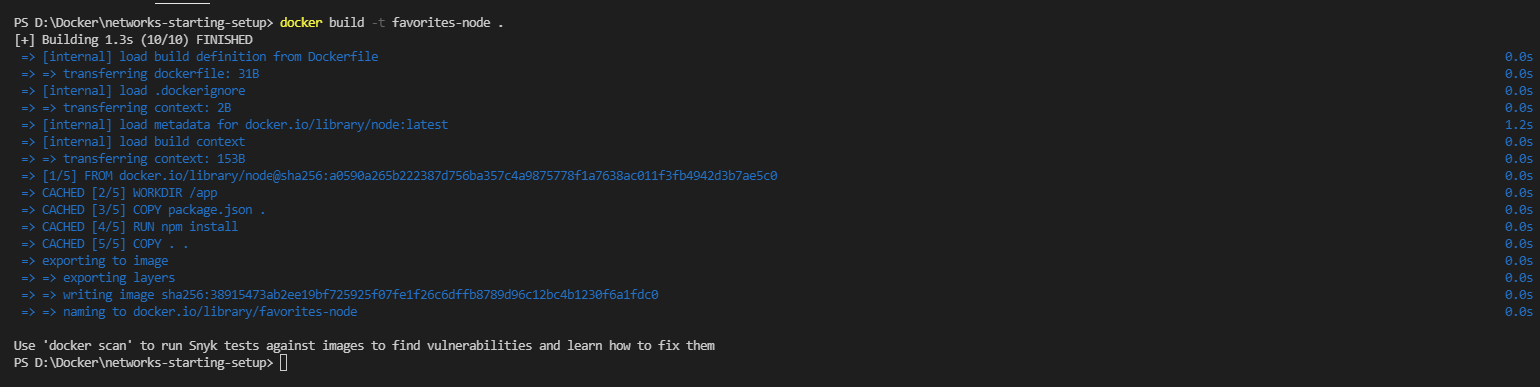
For 3 & 4 points we are sending a requests to get the data from outside world start was API.

Note: We will use postman software to send the requests to and from via webapi.

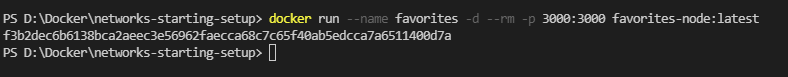
Now let’s dockerize the container by writing the instructions on Dockerfile.

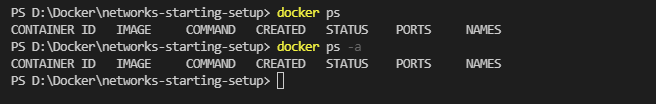


Now let’s build the image by using the instruction now.

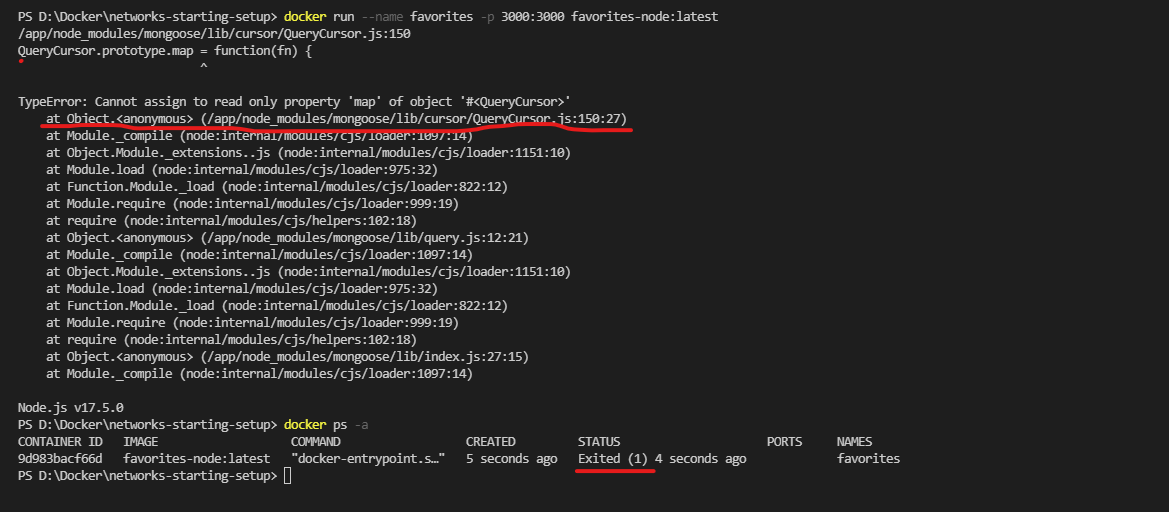


Let’s run the container with docker run





I see there is no container running, let’s what went wrong. To see the error, I will start the container in attached mode.



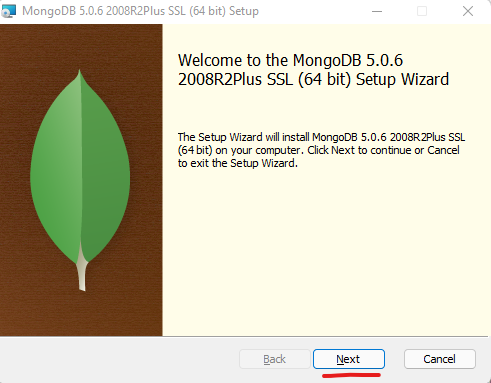
On my app.js I am trying to connect mongo db on my host file system and trying to connect to that and failing as I didn’t installed.

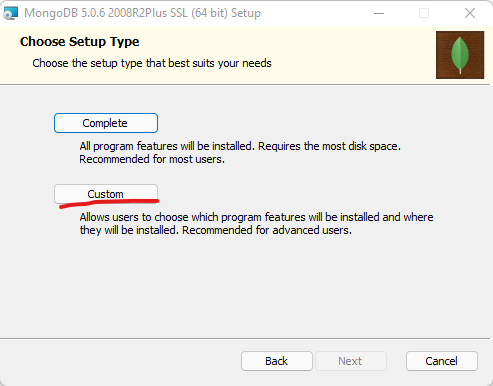
Now let’s install MongoDB on my host file system

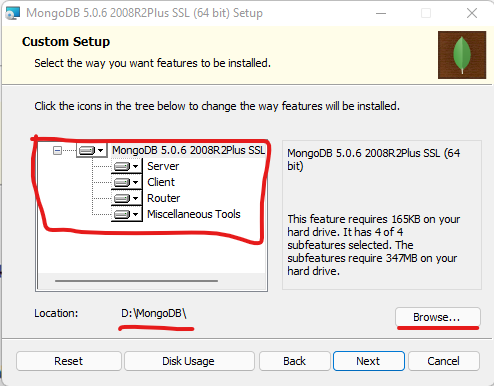
<https://docs.mongodb.com/manual/tutorial/install-mongodb-on-windows/>

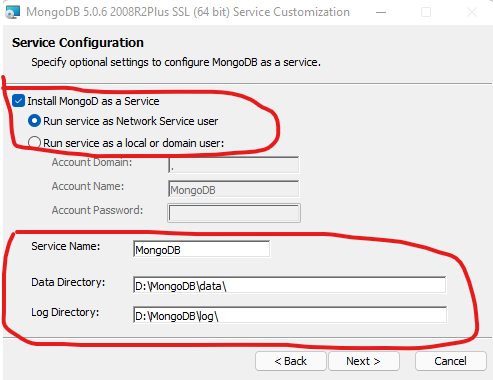
Download the MongoDB Community .msi installer from the following link:

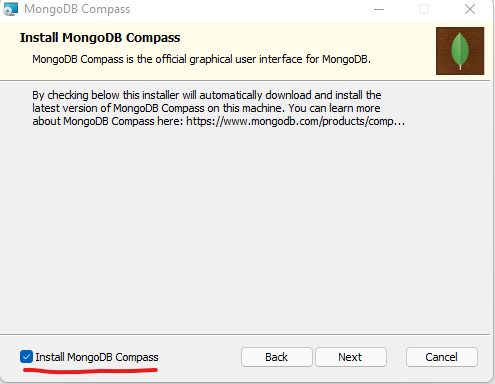
<https://fastdl.mongodb.org/windows/mongodb-windows-x86_64-5.0.6-signed.msi>

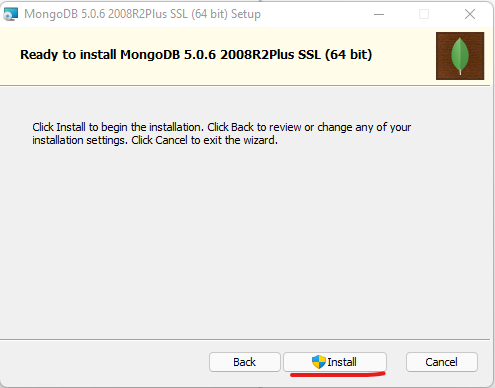


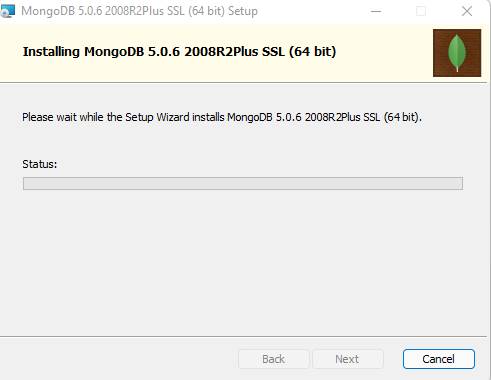


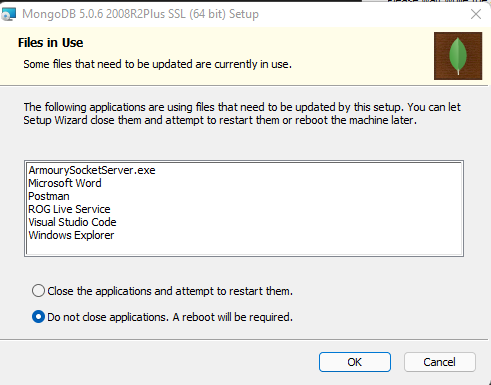


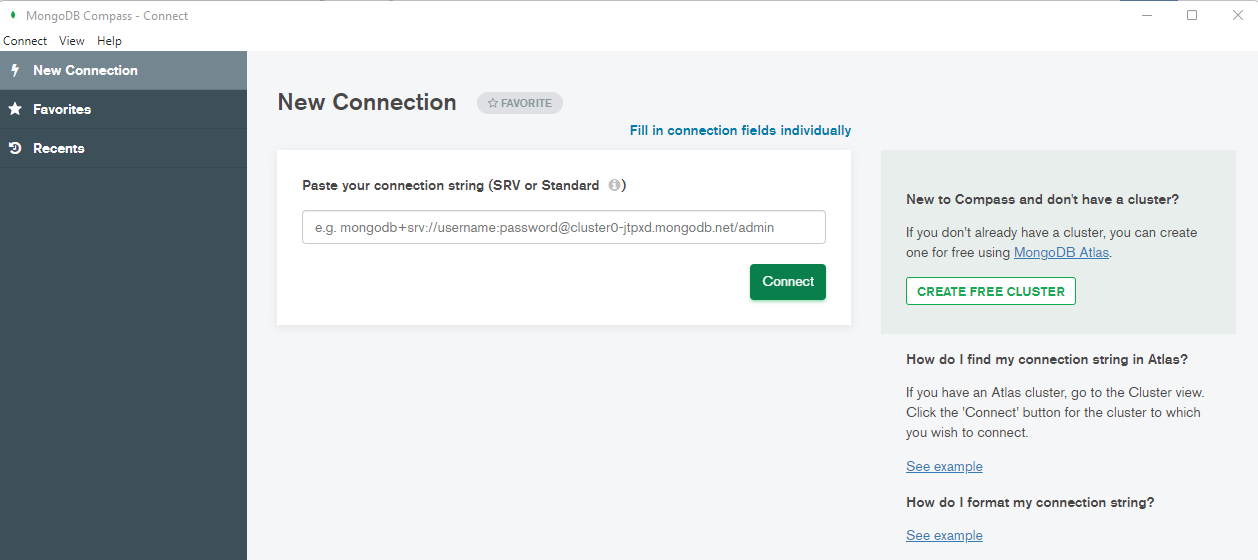


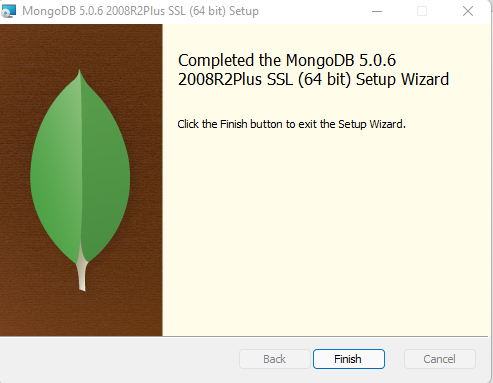




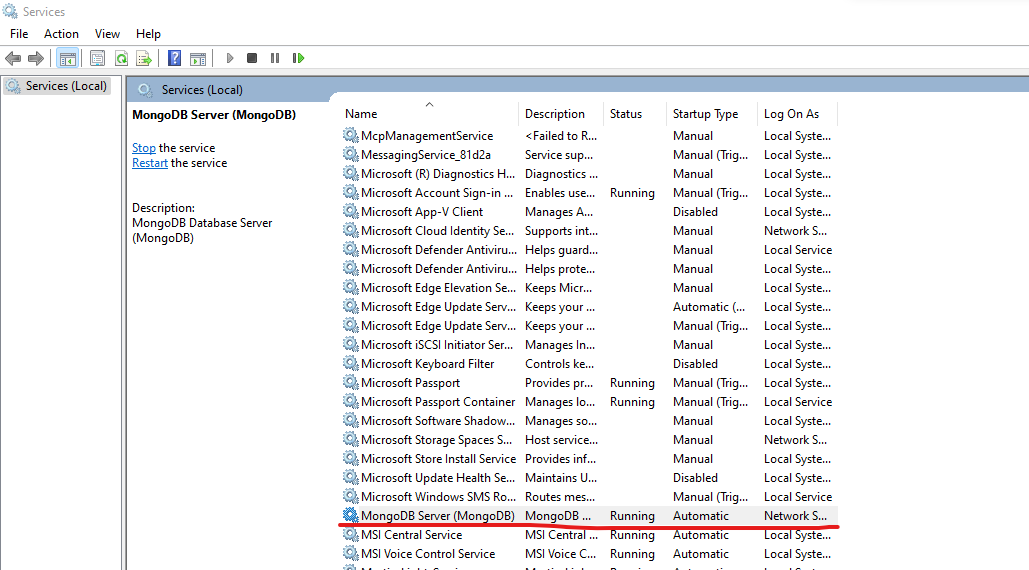






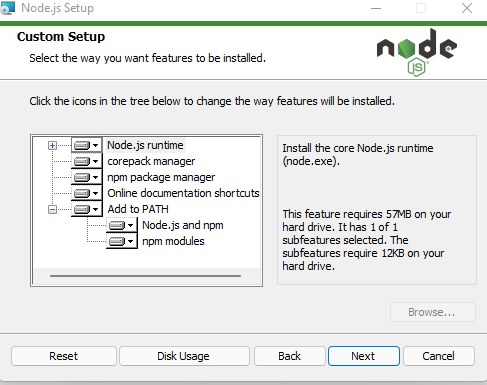


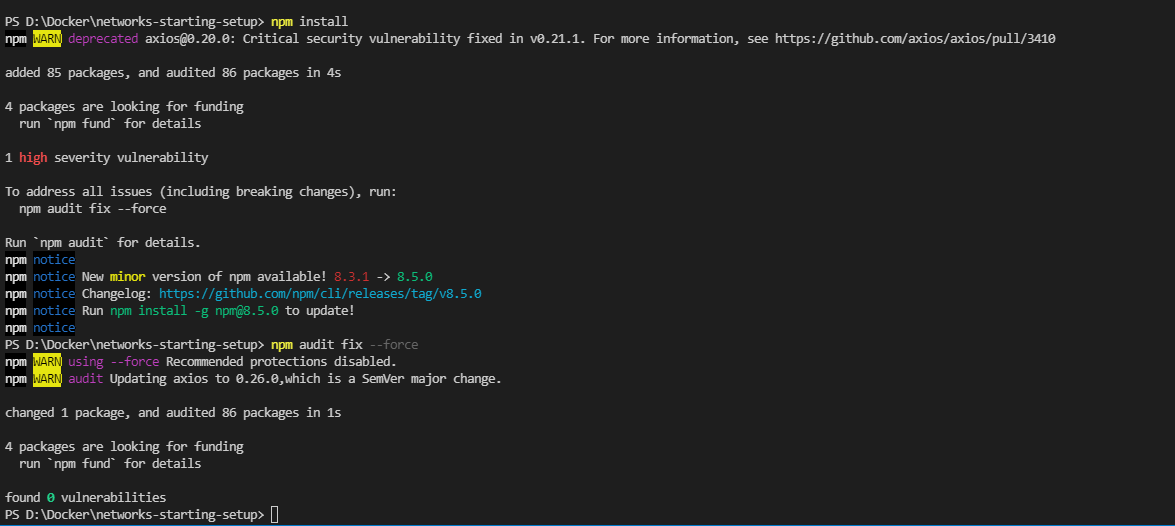
After my local machine restart, I saw the mangodb service is running

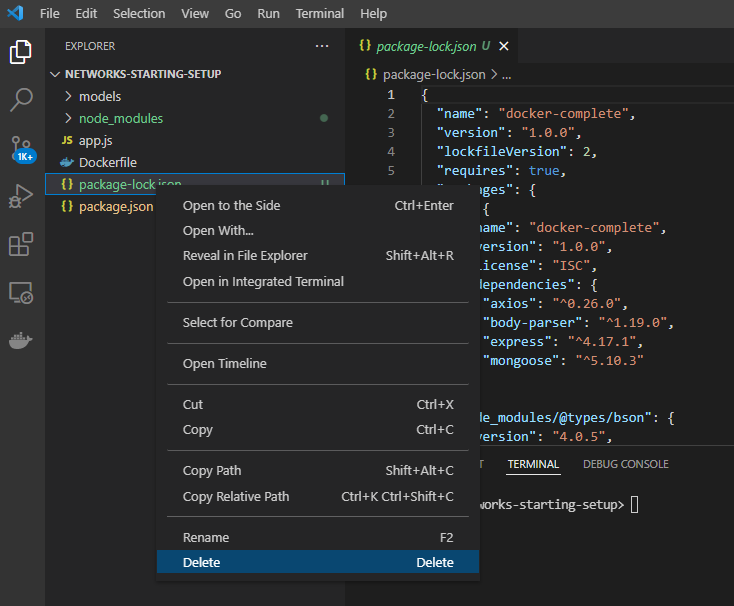


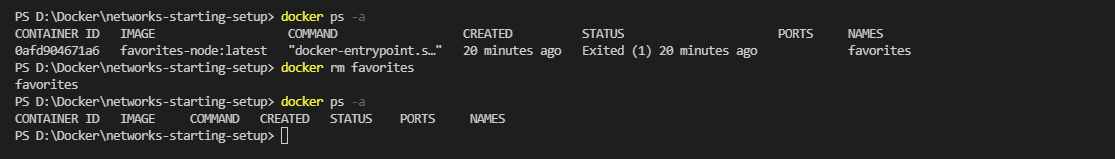
Now let’s start the container and see whether I am able to run the container or not after installing the MongoDB.

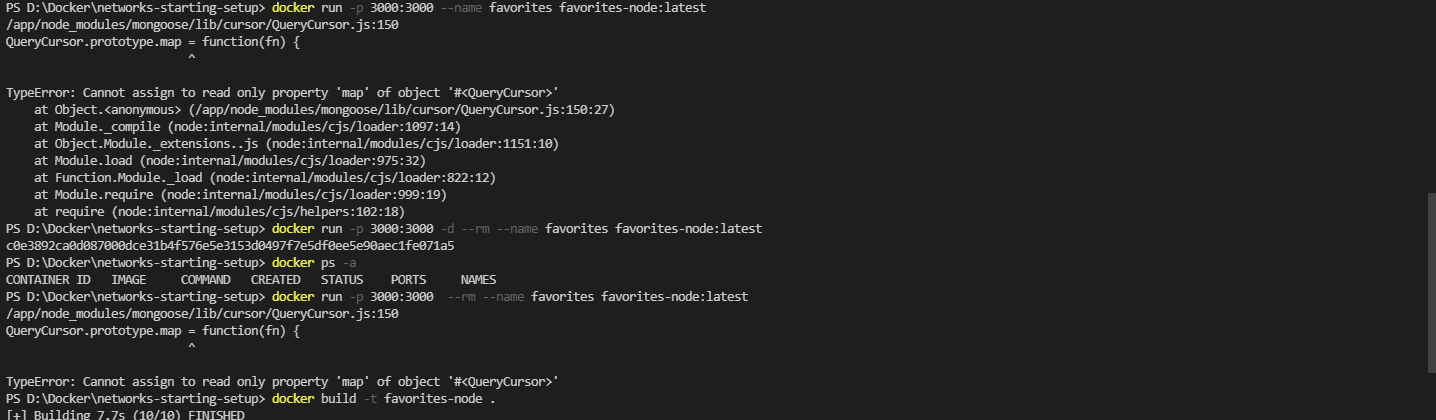
<https://nodejs.org/en/download/>



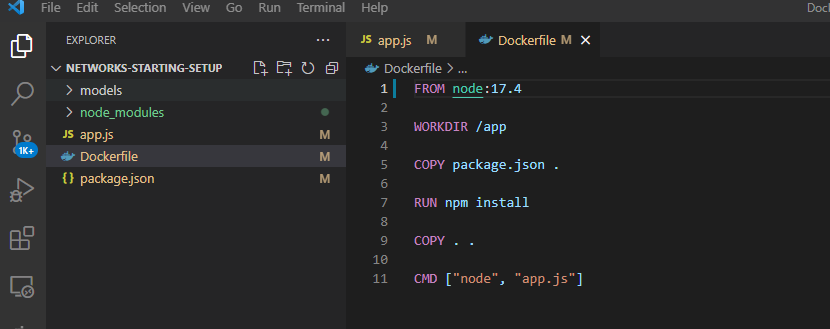


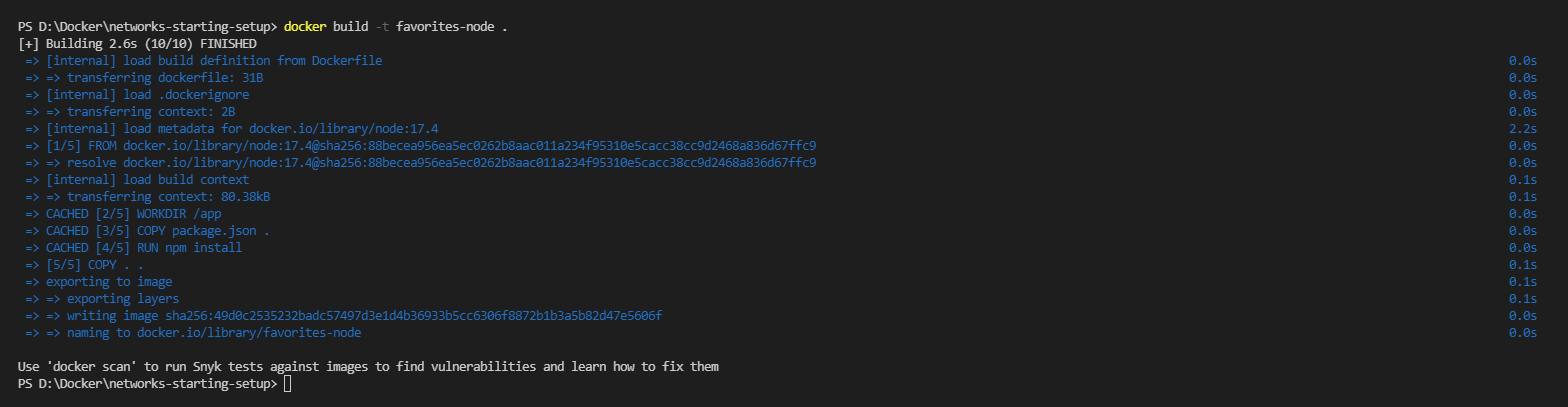


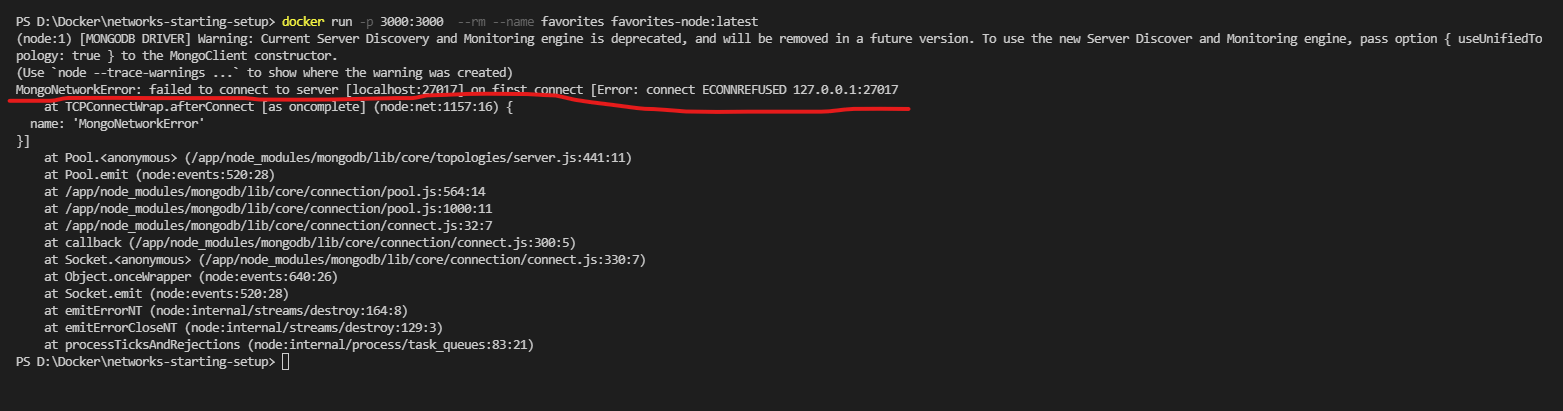




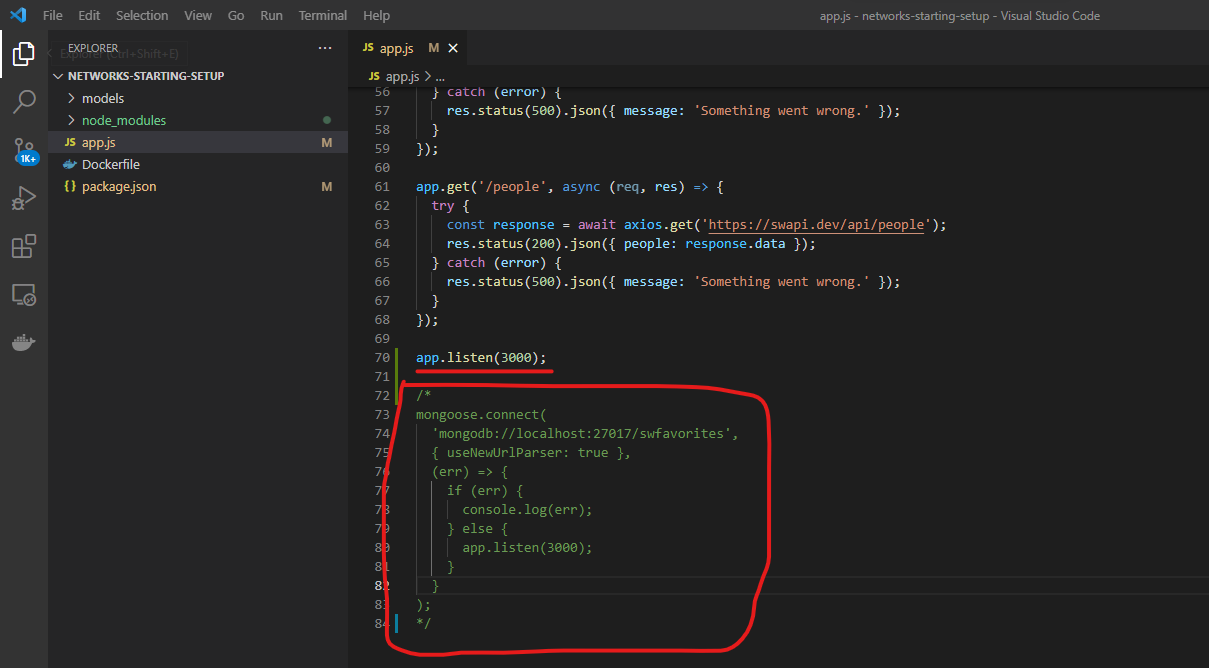
You will get this error if you don’t have latest version on NodesJS on container. So I am trying to install Node:17.4 version on the container.

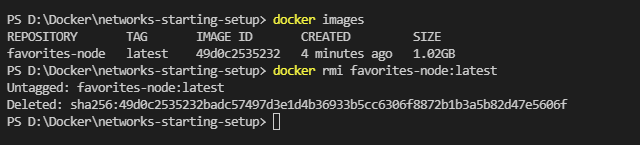


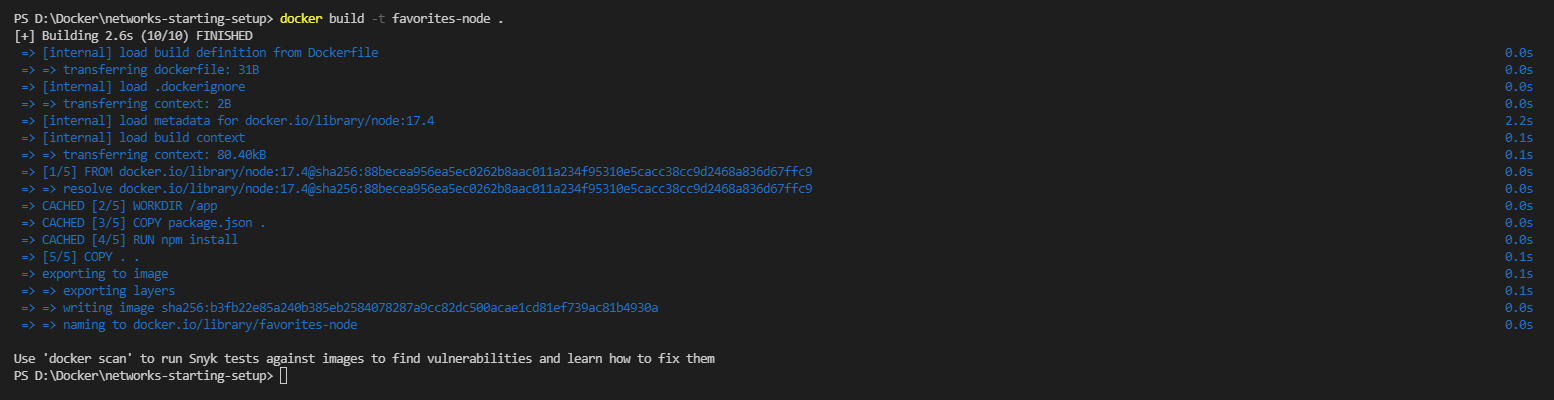




As I don’t written any MangoDB connection instructions on Dockerfile, it is unable to establish a local DB connection. So let’s comment the MangoDB connection code and start the container, and will see if the /movies and /people end points are working or not. Because /favorites get & post end points are depend on MangoDB connection and we will work that later.

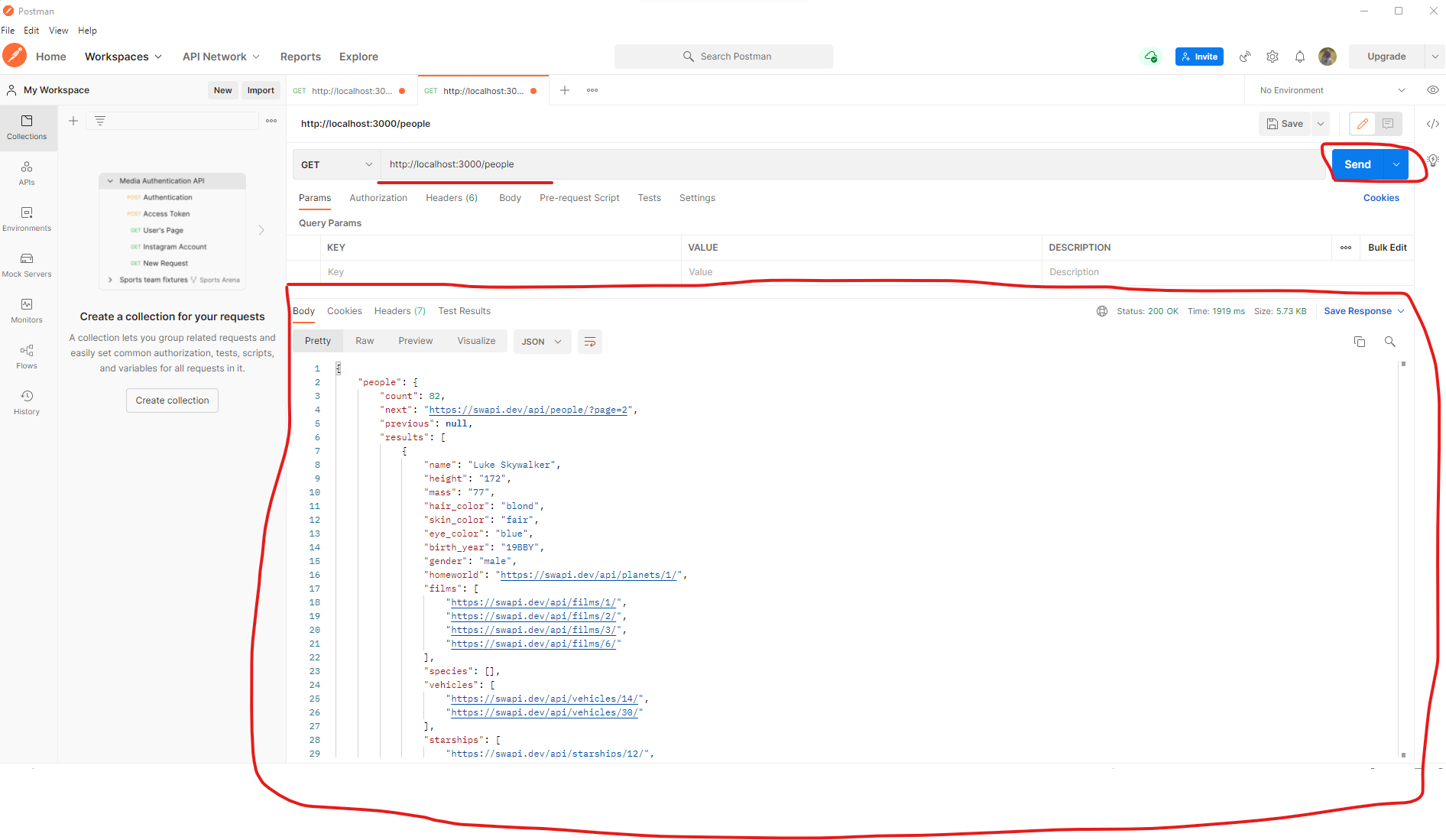
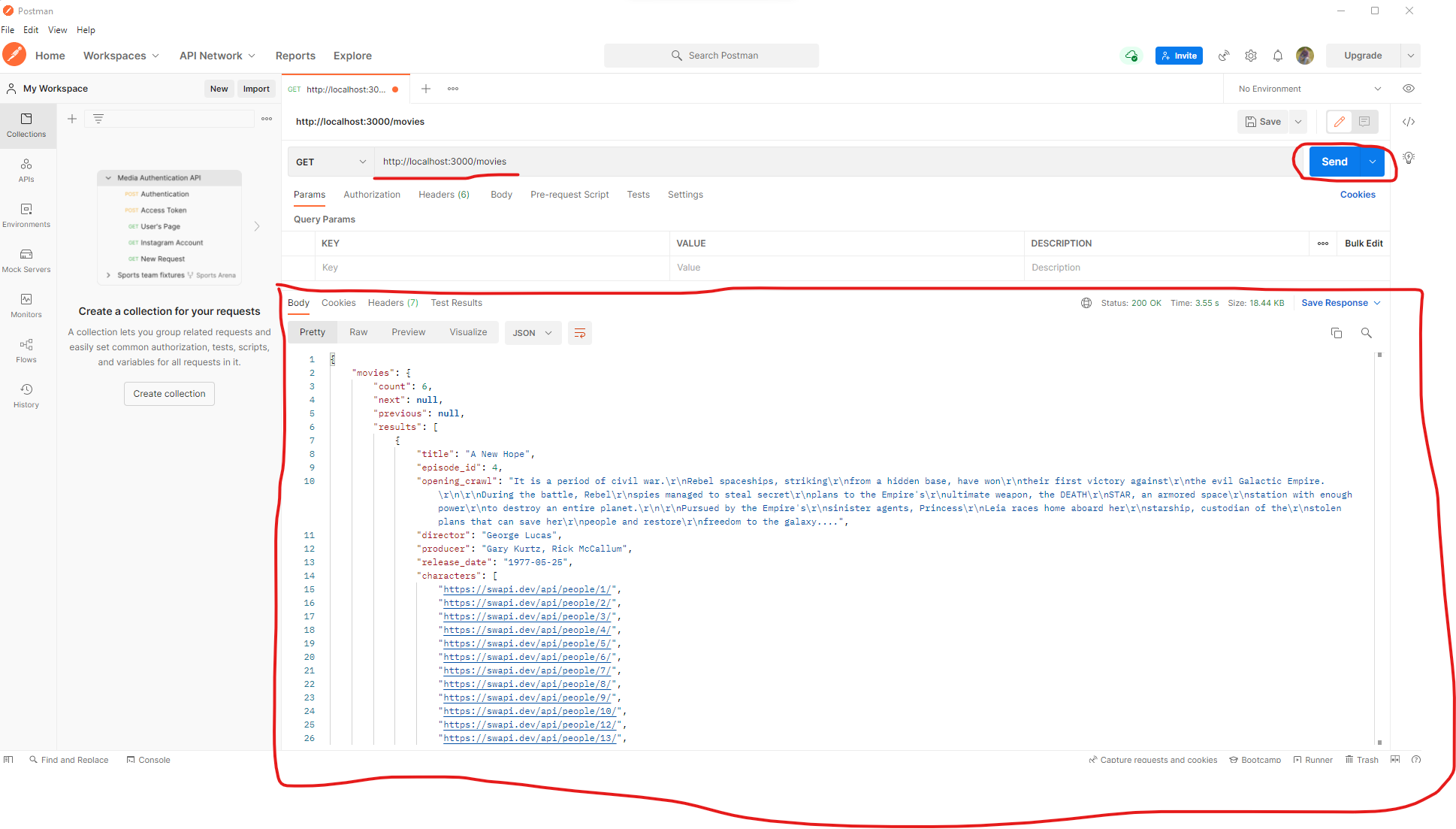








Open post man App and verify the end point /movies and /people.

SO 

So as you observe, with you modifying additional network configurations, sending requests to outside world Just works, the API GET request sent from the container to startwas Dummy API just works fine.. Bingo!!!!

Next section we will how the other types connections will work.