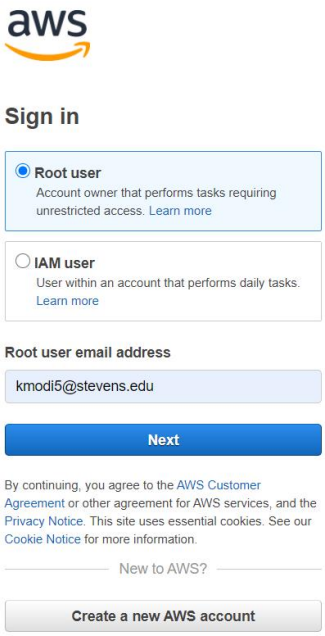
Lab 5: CS 524

In this assignment, you will learn use AWS Lambda and make microservice.

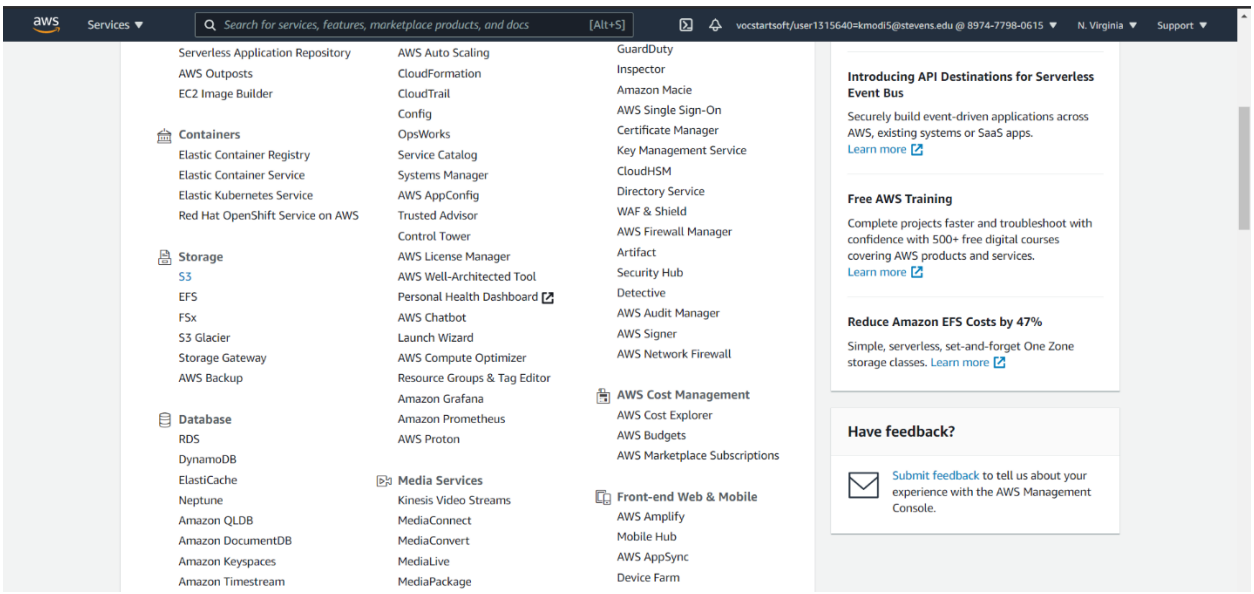
AWS Lambda is a compute service that lets you run code without provisioning or managing servers. Lambda runs your code only when needed and scales automatically, from a few requests per day to thousands per second. You pay only for the compute time that you consume—there is no charge when your code is not running. With Lambda, you can run code for virtually any type of application or backend service, all with zero administration. Lambda runs your code on a high-availability compute infrastructure and performs all of the administration of the compute resources, including server and operating system maintenance, capacity provisioning and automatic scaling, code monitoring and logging.

A microservice aims to deliver a different set of capabilities and focuses on a specific domain. For instance, you can have a component responsible for getting thumbnails and pictures from a database and returning them to the web or mobile application. microservice aims to deliver a different set of capabilities and focuses on a specific domain. For instance, you can have a component responsible for getting thumbnails and pictures from a database and returning them to the web or mobile application. microservice aims to deliver a different set of capabilities and focuses on a specific domain. For instance, you can have a component responsible for getting thumbnails and pictures from a database and returning them to the web or mobile application.

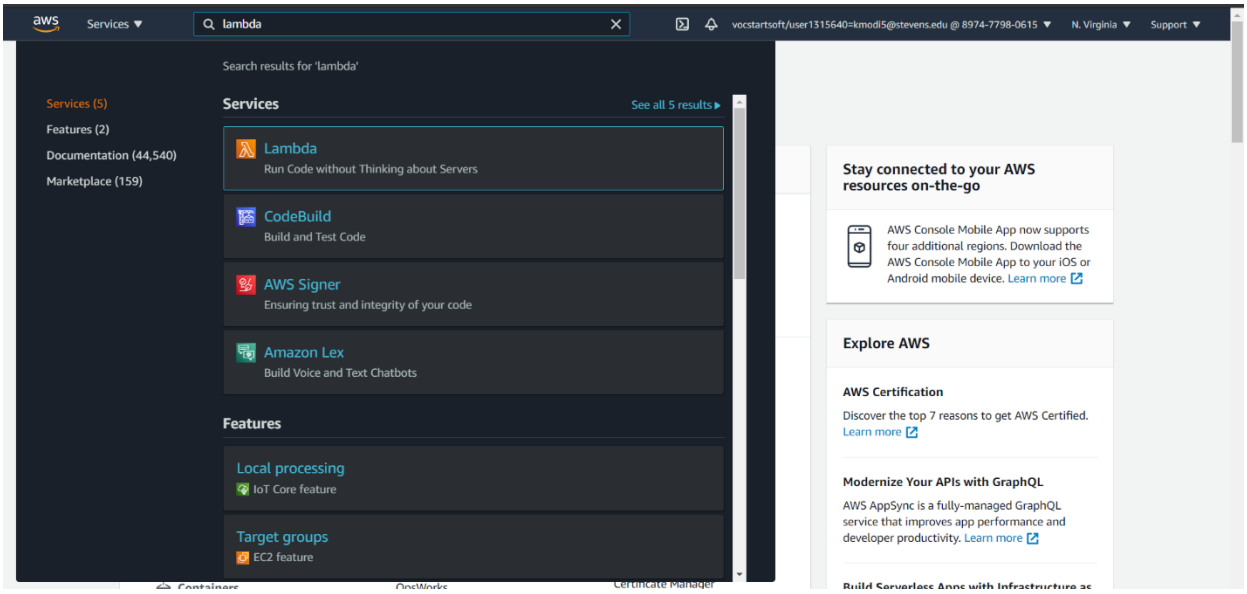
a. Once registered for AWS, now go into AWS Console



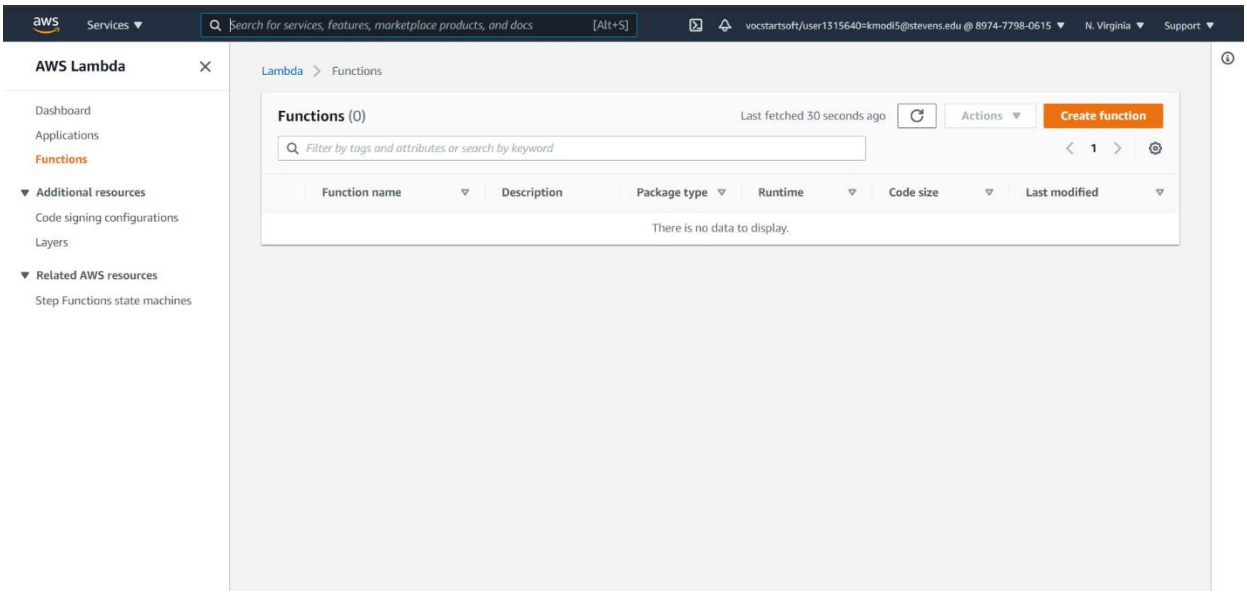
b. Go into AWS Console and Launch a S3 Bucket



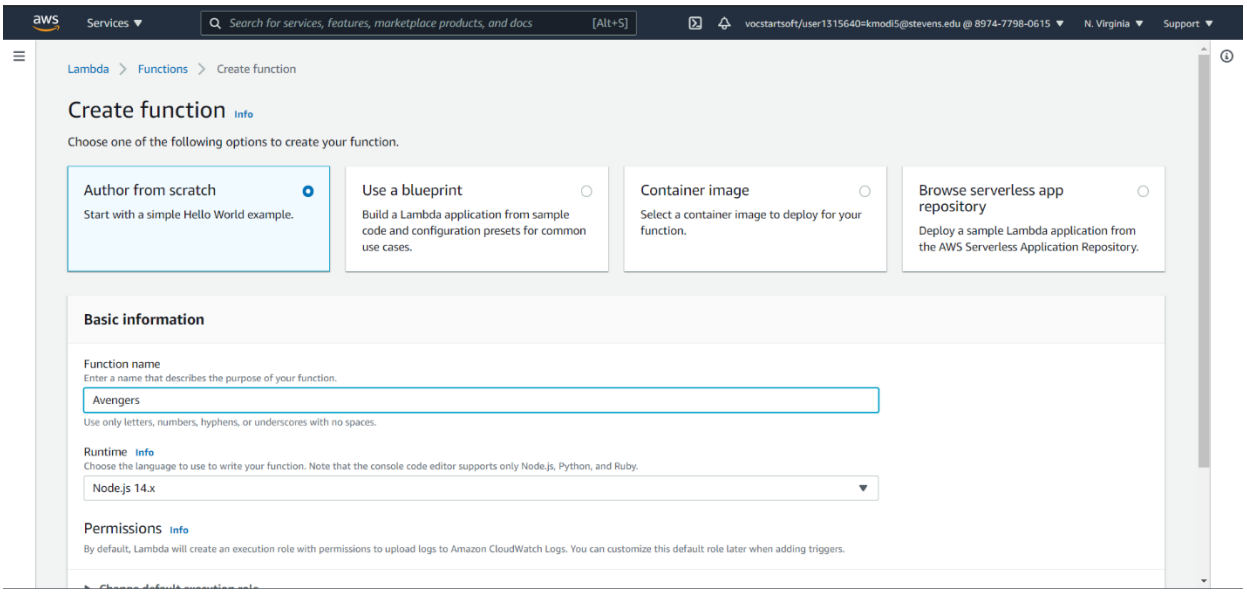
c. Open Lambda



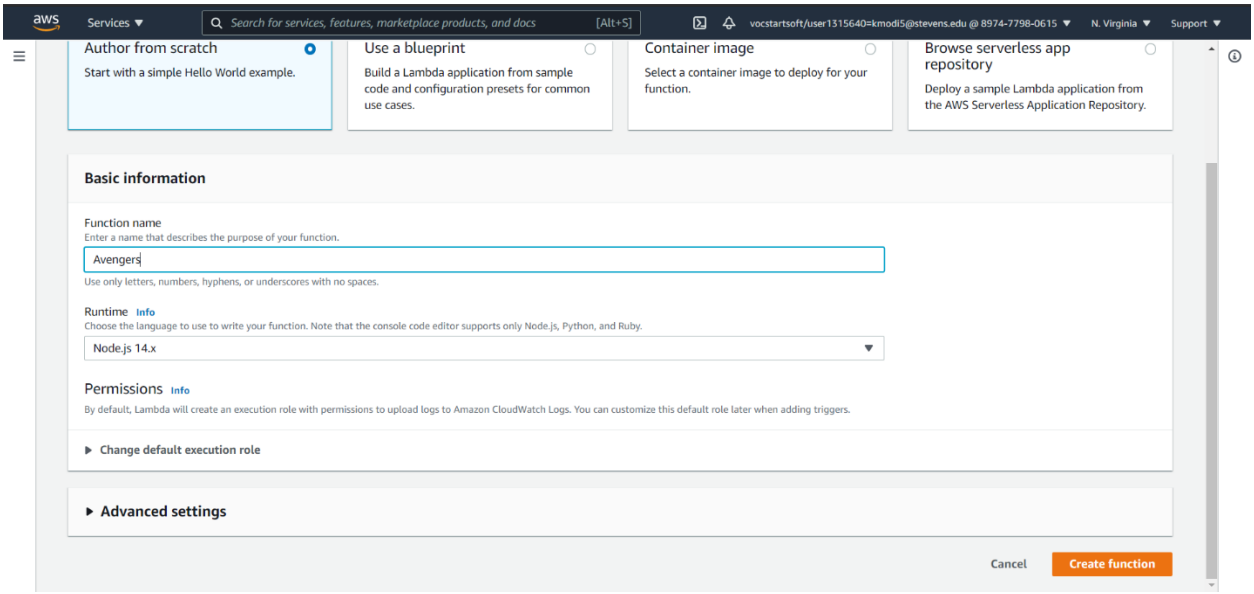
d. Create function



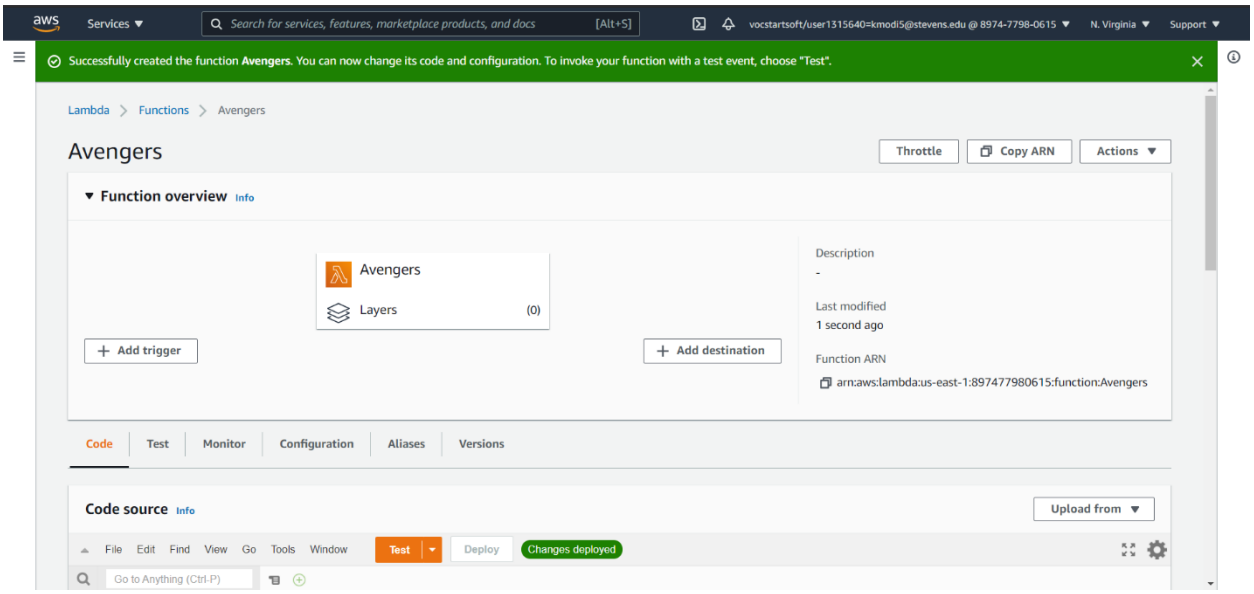
e. We are going to use Author from Scratch option(choice your preference)



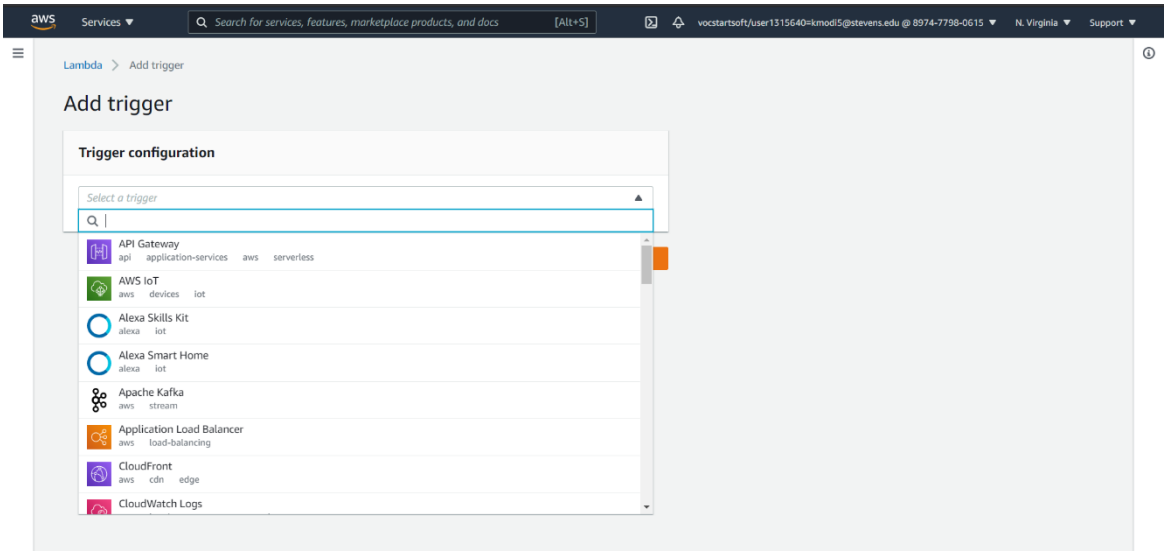
f. Review and create function



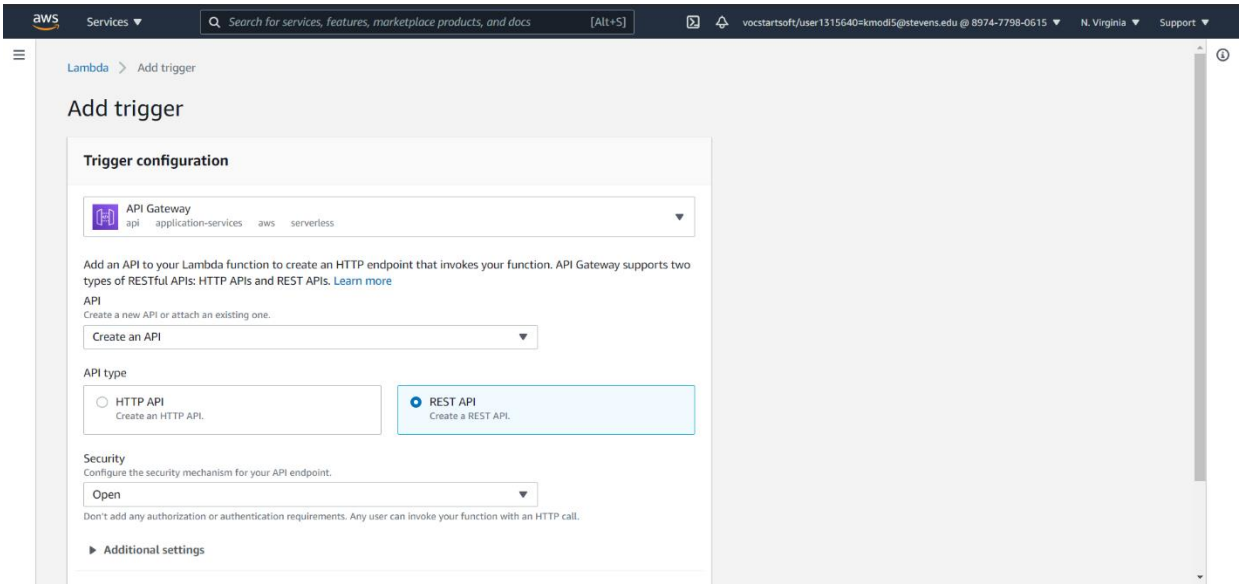
g. Now add a trigger



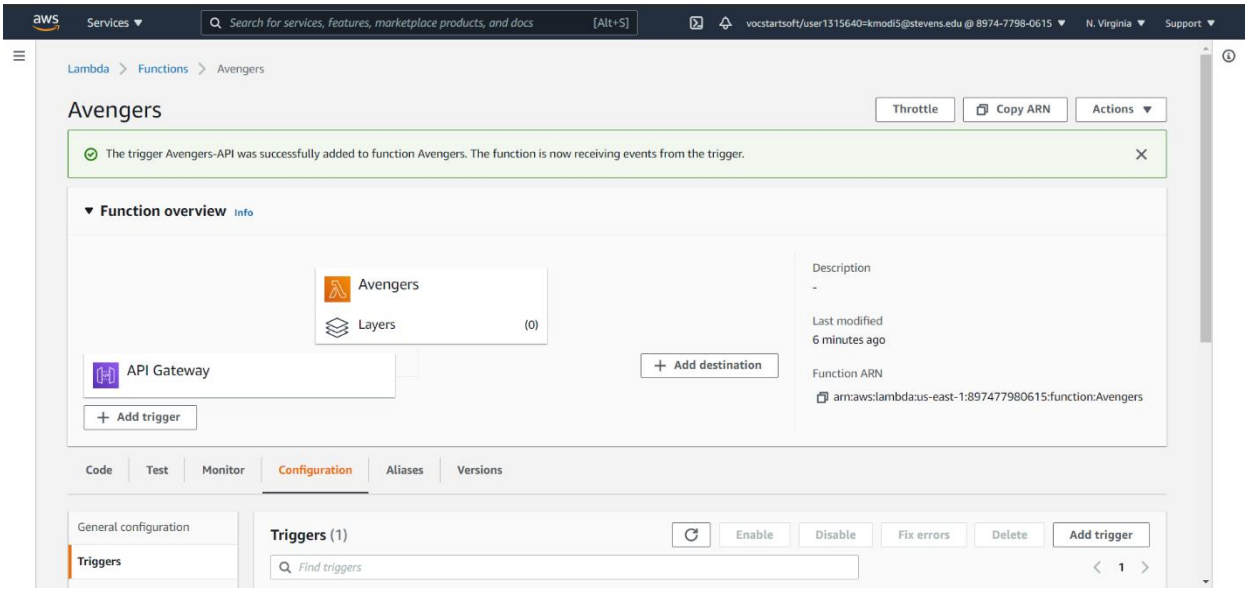
h. Now we will use API Gateway to expose the URL



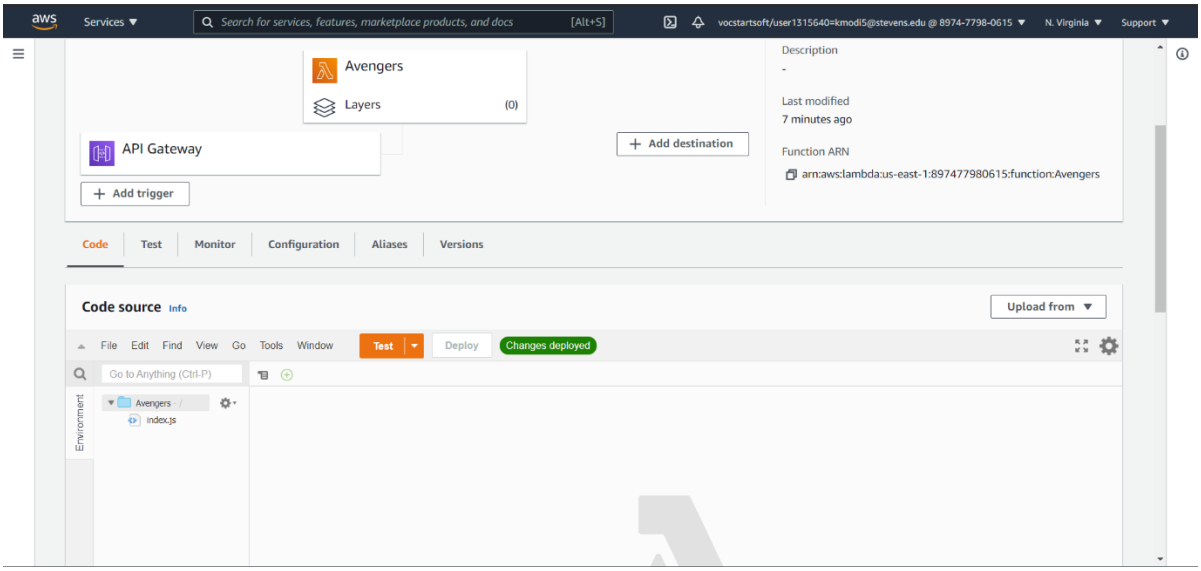
i. Select REST API and security for our API



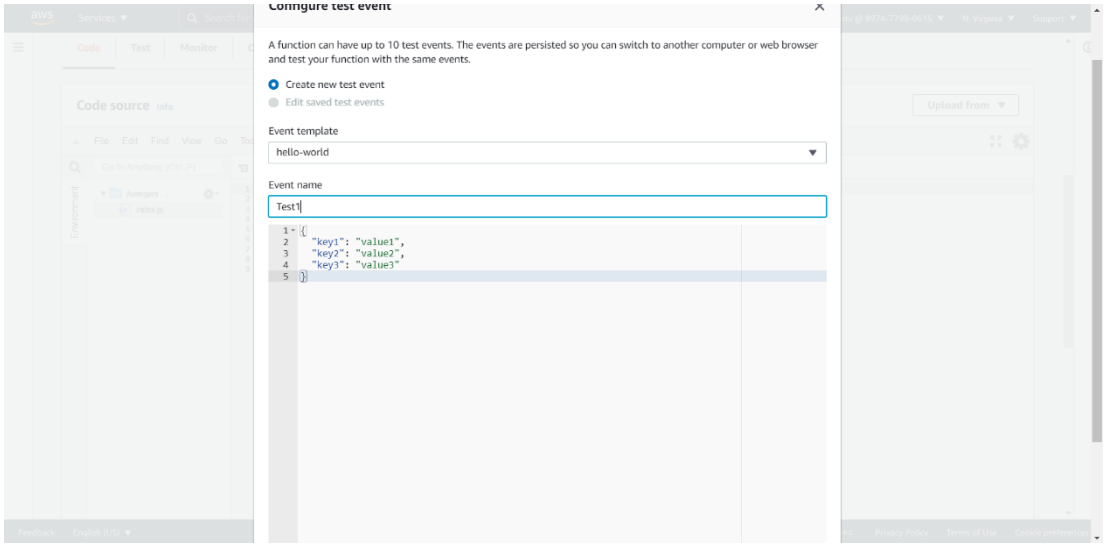
j. API has been created



k. Add your code or upload a ZIP



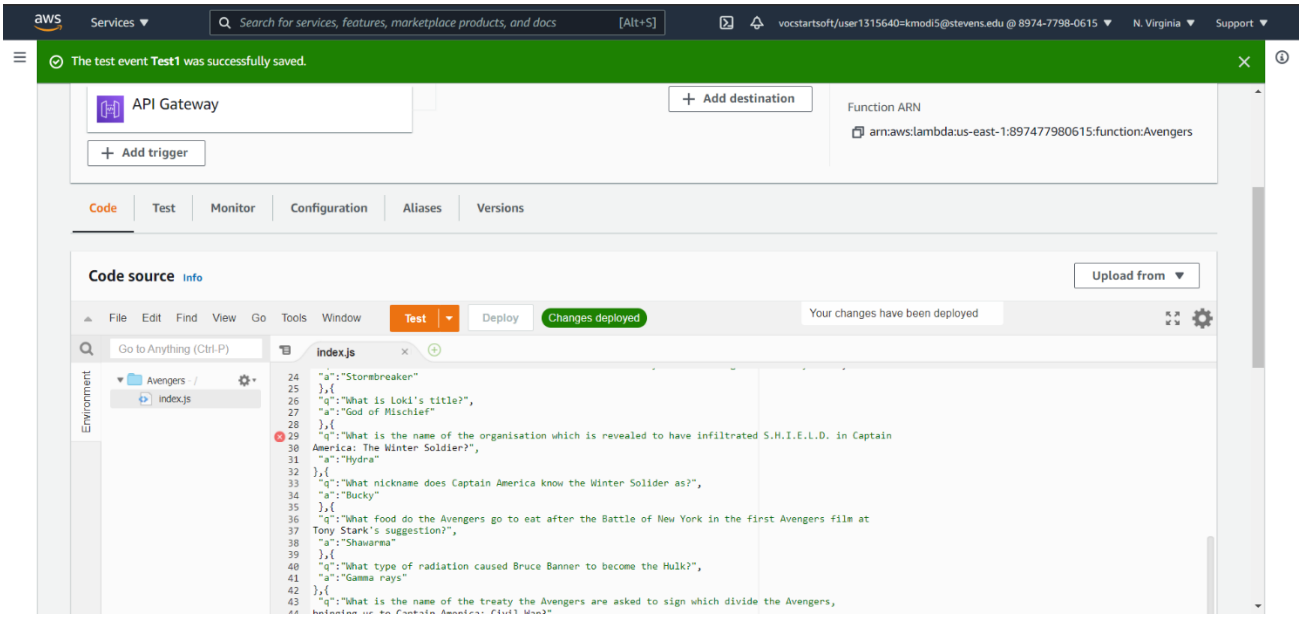
l. Testing the service



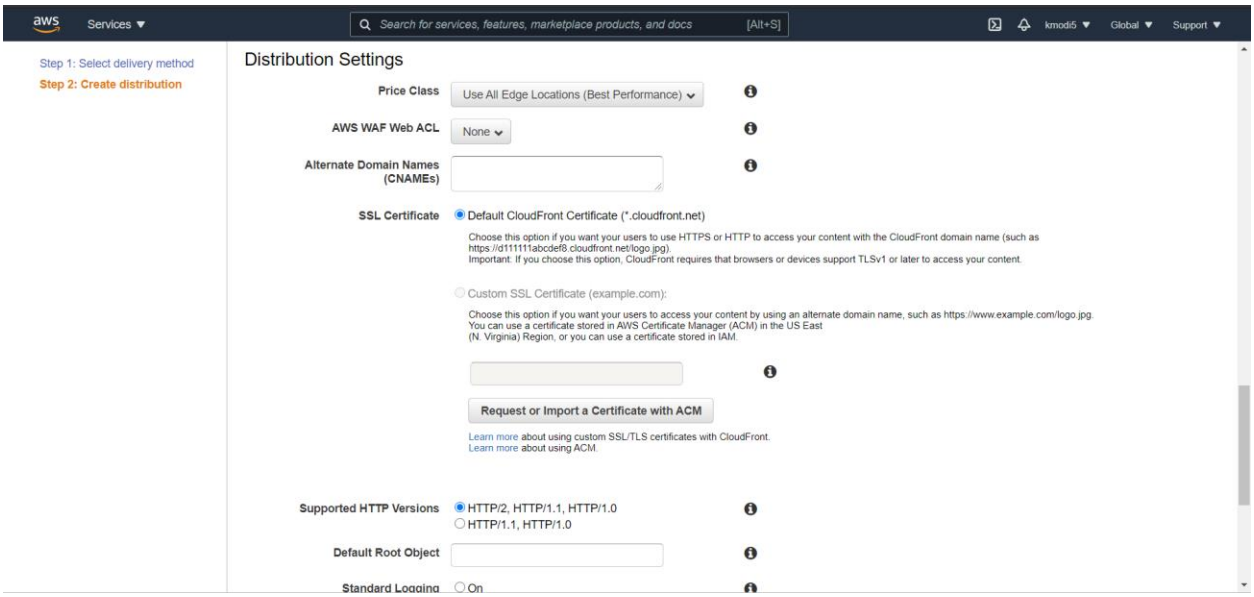
m. The Lambda works

"Hello from Lambda!"

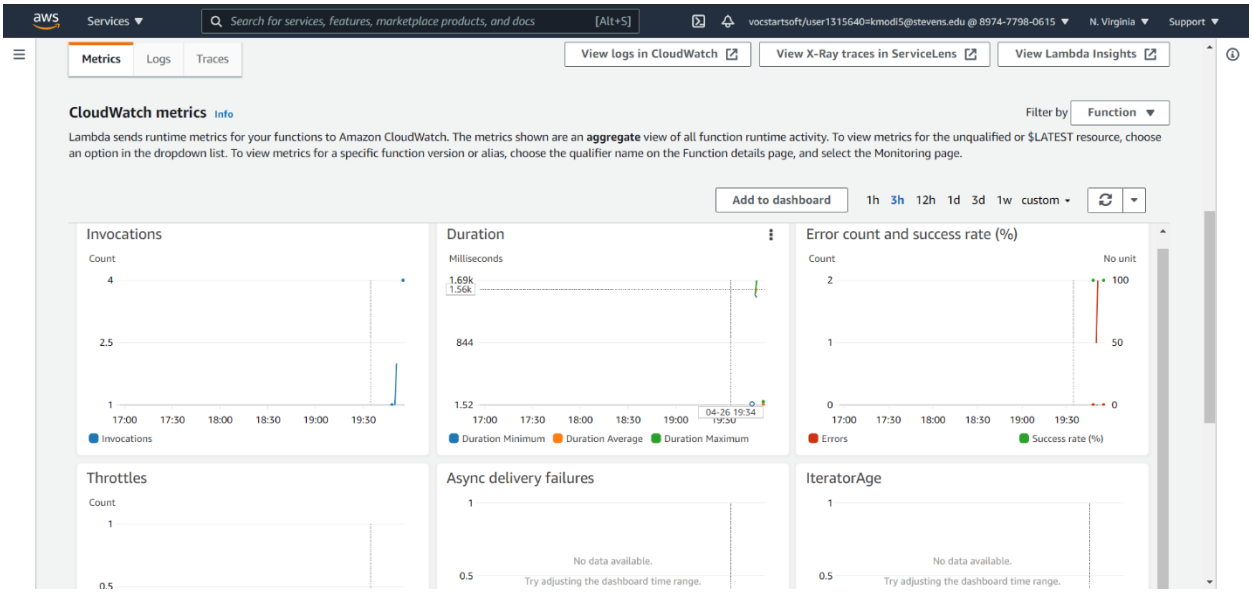
n. Change the code and Deploy it

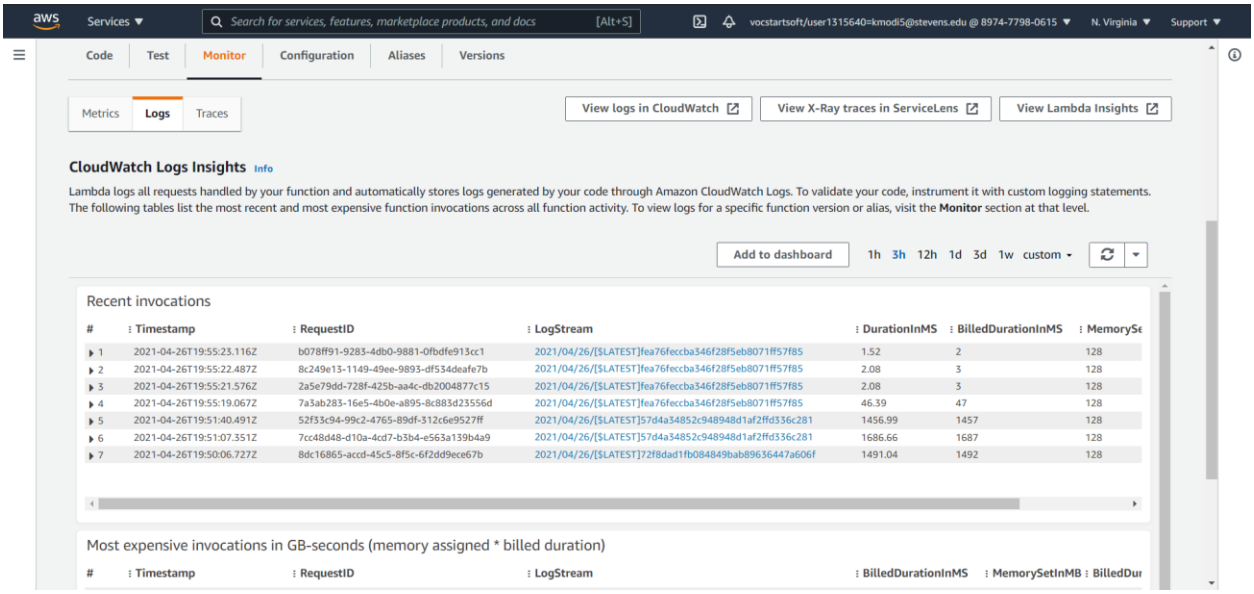


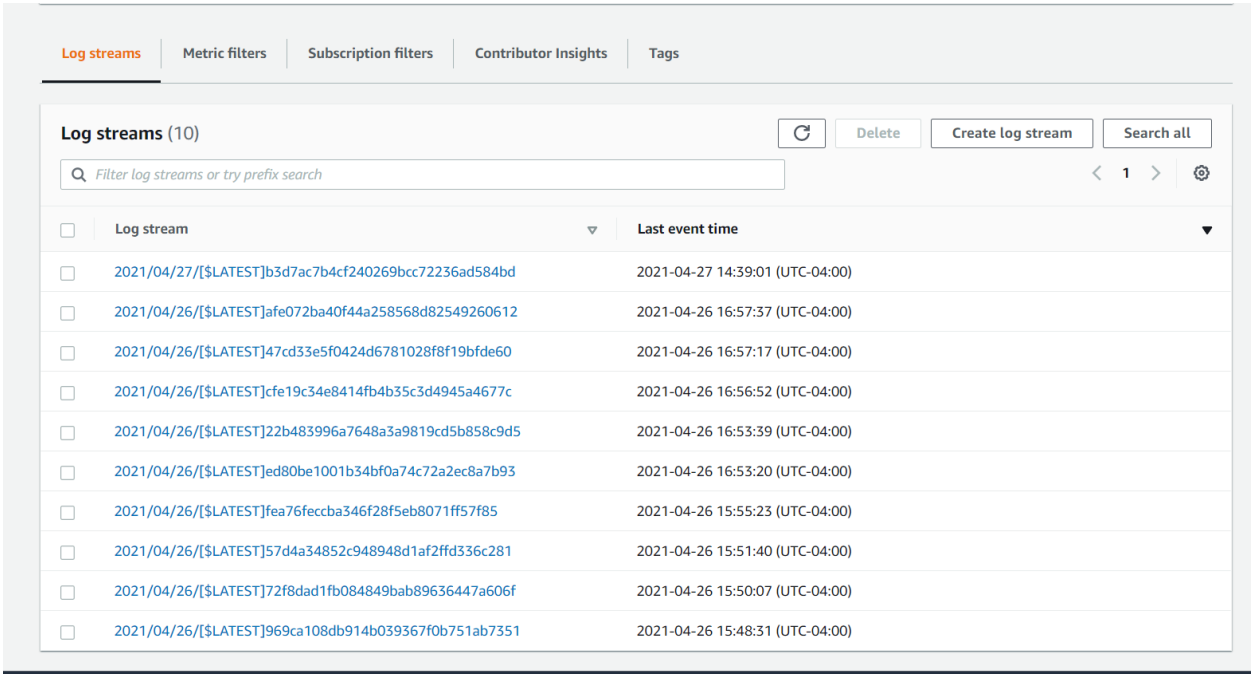
o. Now the lambda function will randomly cycle through the questions and answer from our Marvel Encylopedia!



p. Use functions page and go to monitor to access Cloudwatch dashboard and logs

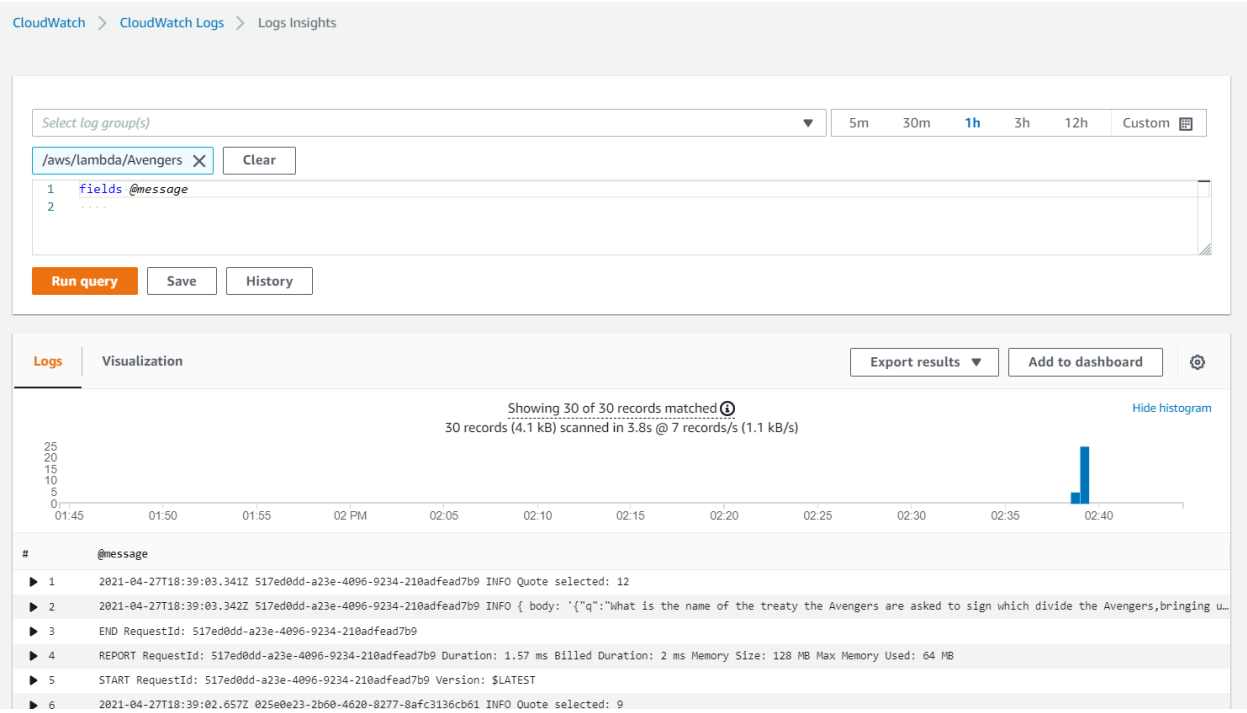


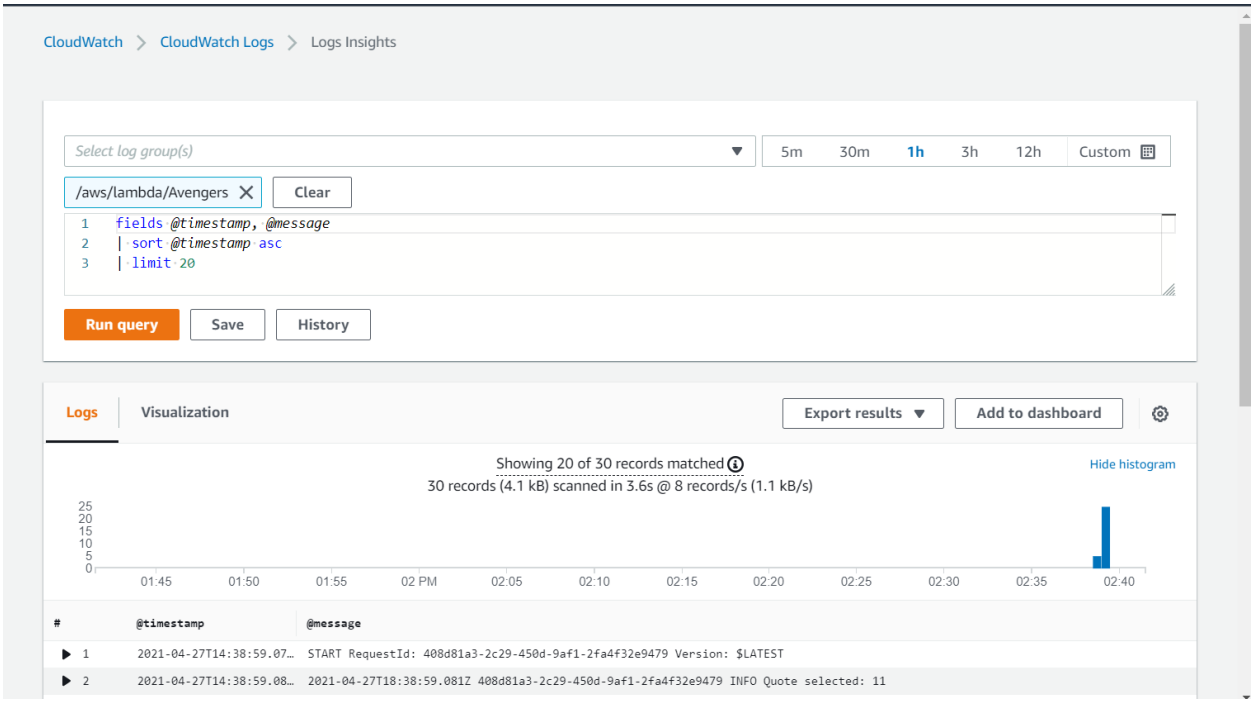




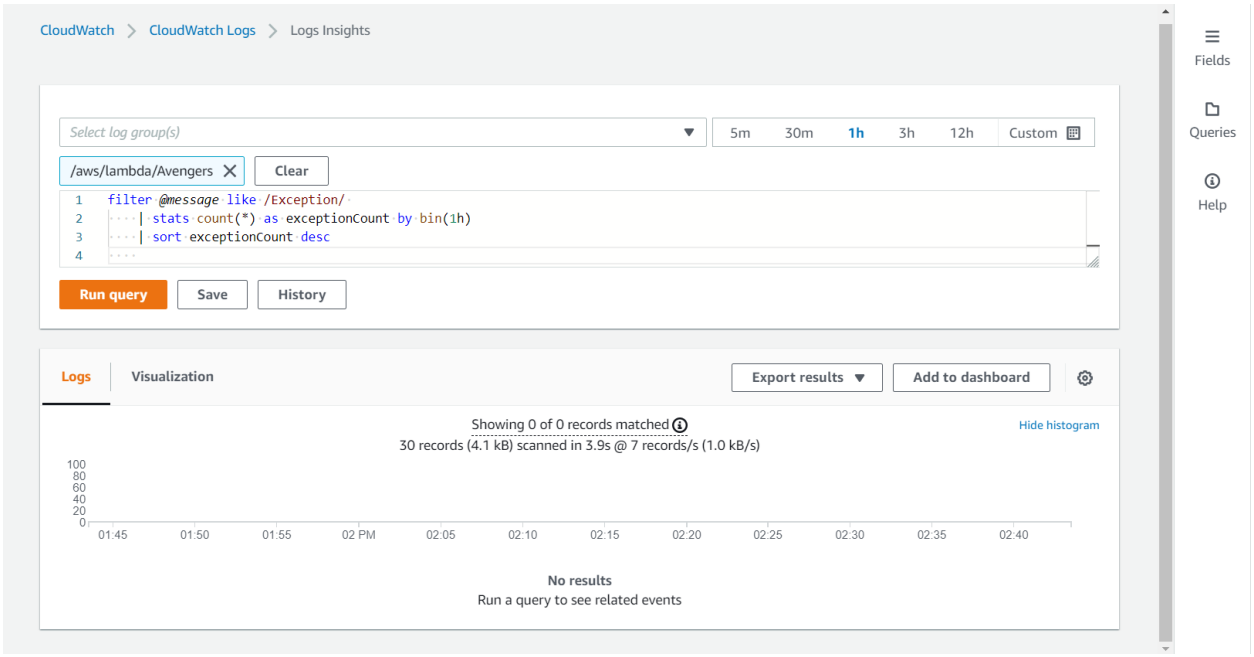
Now we have deployed our new code we can view the logs, the requests and any exceptions to our function. Note since this is a microservice, so if it is a part of a website only compute used for microservice is counted towards the use.

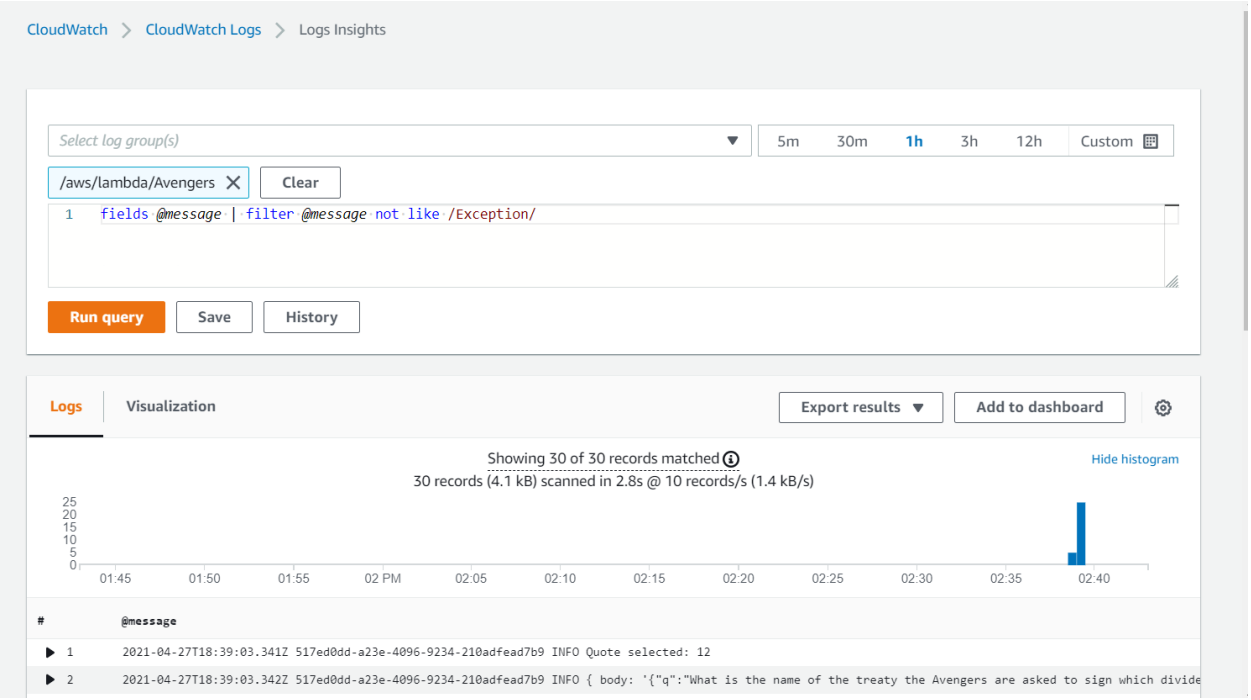
Now we will query some results using Logs insight:





So luckily we had no exceptions here:





By using the microservices we have learned that different code sections can be easily deployed and individually managed. Thus, we can conclude that moving from monolithic to microservice architecture it allows:

a. Flexibility
b. Scalability
c. Isolated functions
d. Faster implementation
e. Efficient use of resources
f. Lower deployment time
g. Security and Reliability (Since it is modular)
h. Monitoring (Metrics and Logs)

Some particular features like logs, queries also allows very granular control and metrics and makes implementation and deployment a joy.