# Full Stack Java Developer

# Capstone Project –

# Write Up

----------------------------------------------

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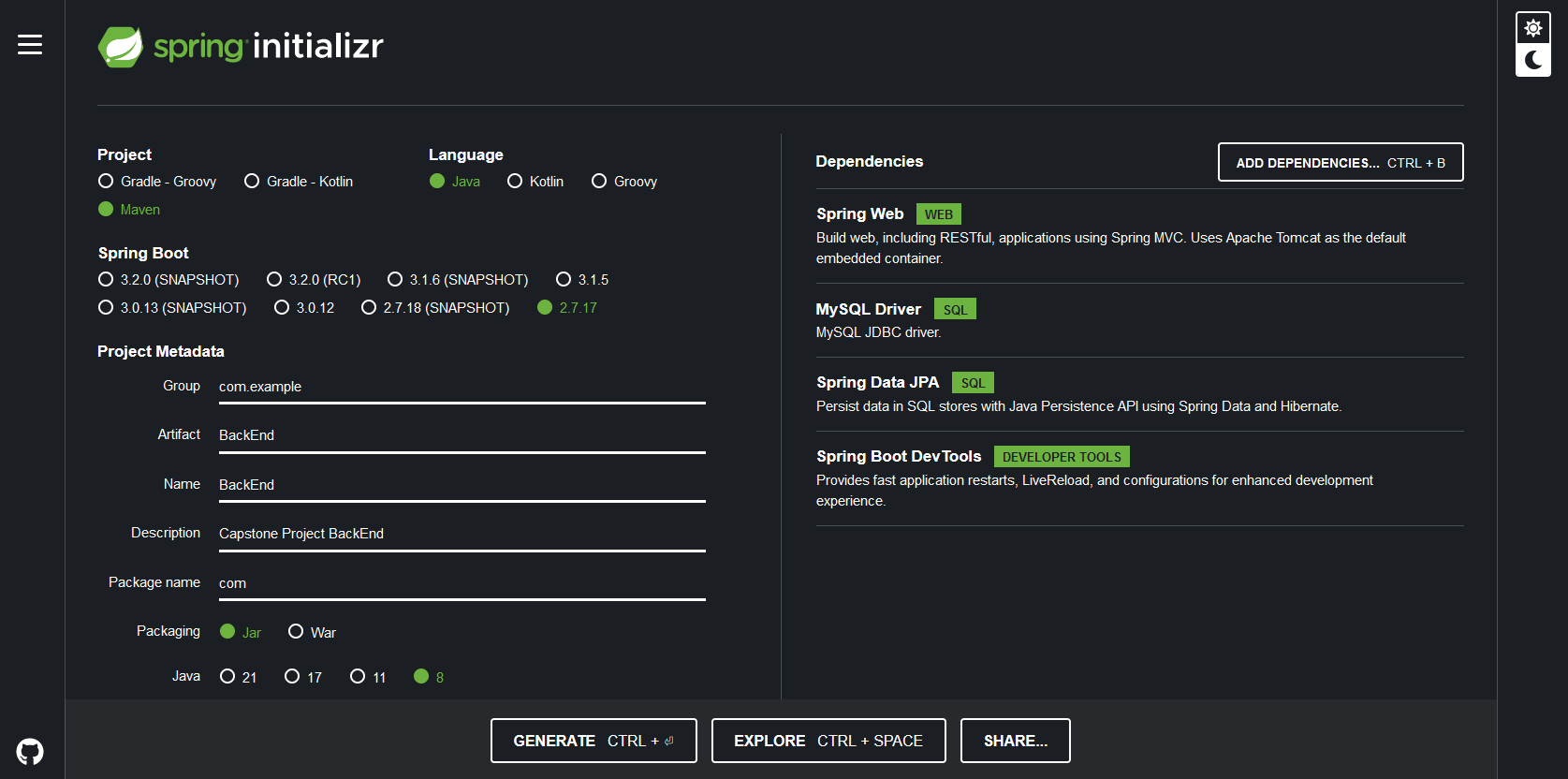
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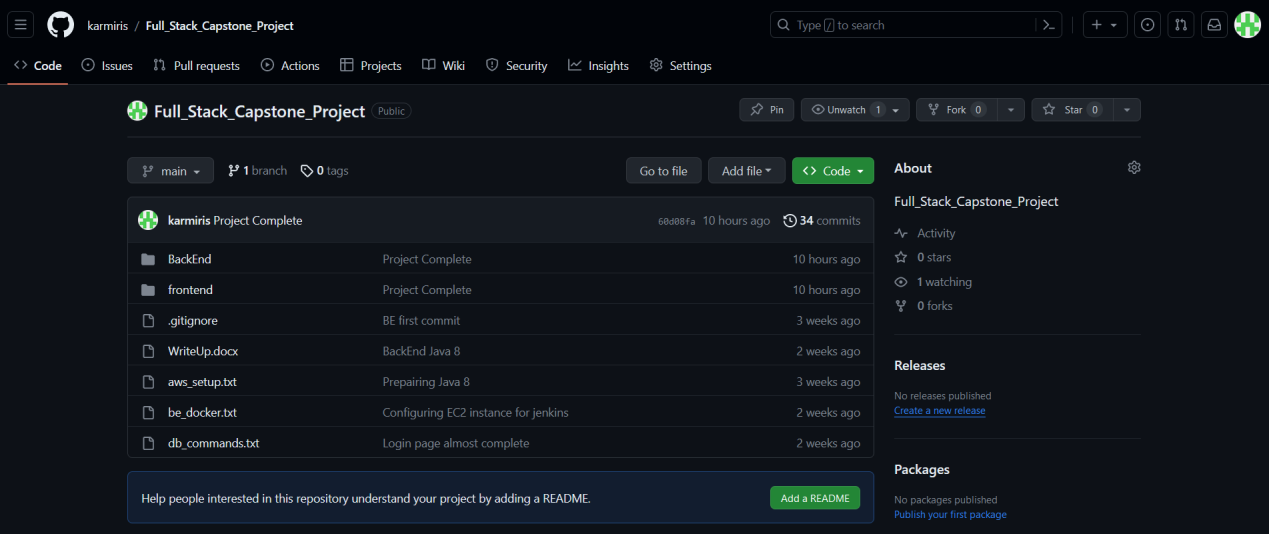
# Creating the Code

We first build our code. For the frontend we use React JS. For the backend we use spring-boot with the following options:



We upload the code in GitHub:

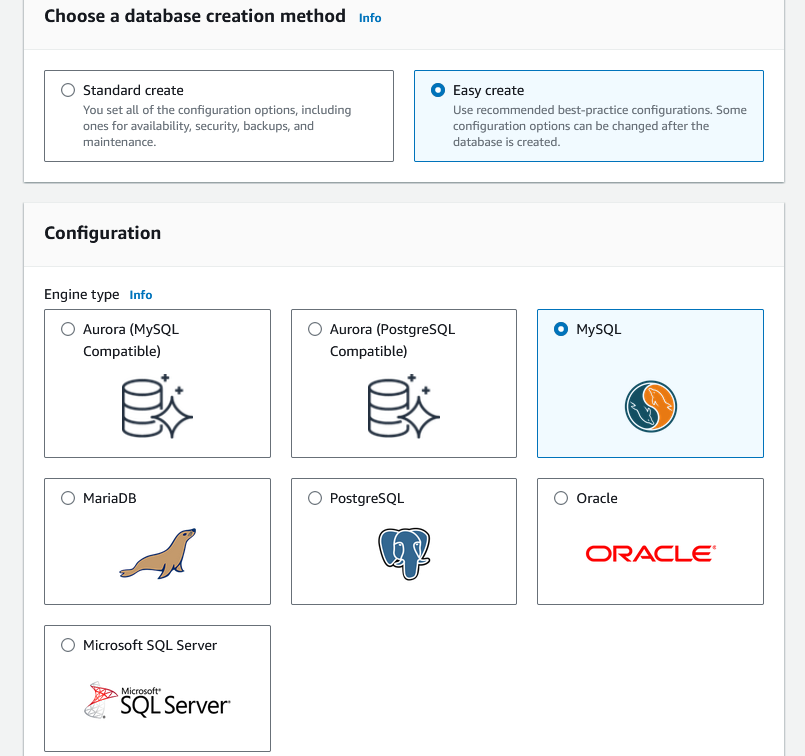
<https://github.com/karmiris/Full_Stack_Capstone_Project>



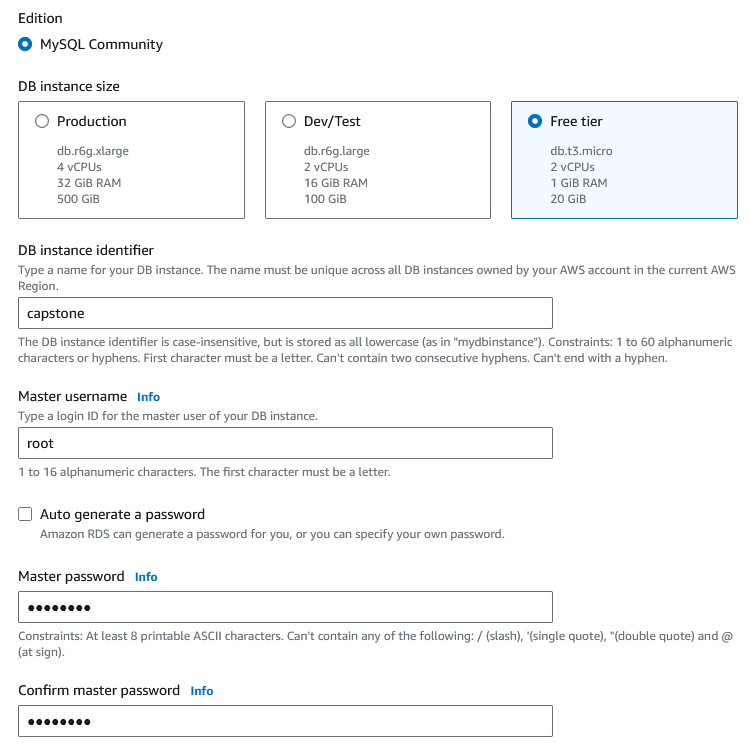
# Building the AWS Infrastructure

We then connect to AWS and create a database (RDS). In all settings that are not mentioned we leave default values:

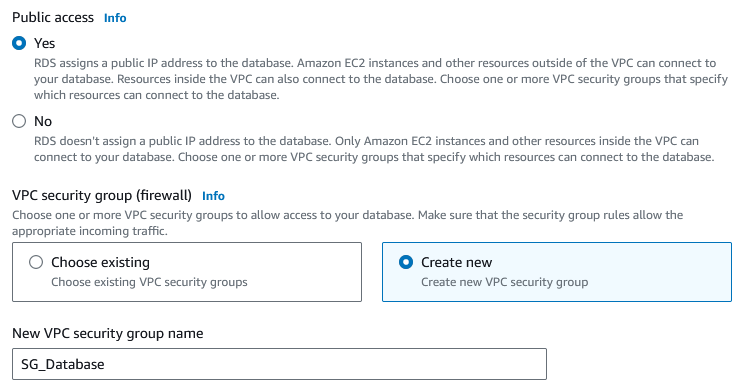
* Engine Type: MySQL
* DB instance size: Free Tier



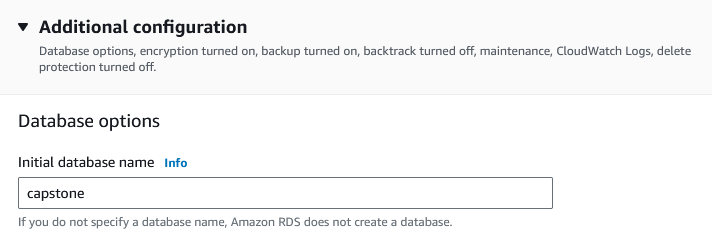
* DB instance identifier: capstone
* Master username: root
* Master password: rootroot



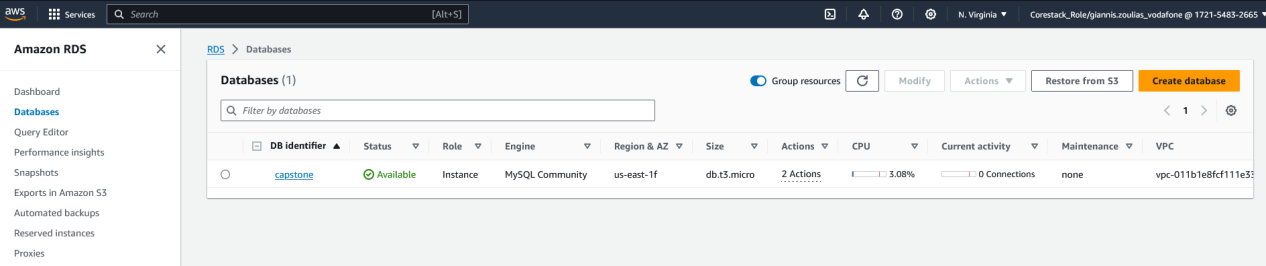
* Public access: Yes
* VPC security group (firewall): Create New
* New VPC security group name: SG\_Database



* Initial database name: capstone



Finally, we create the database:

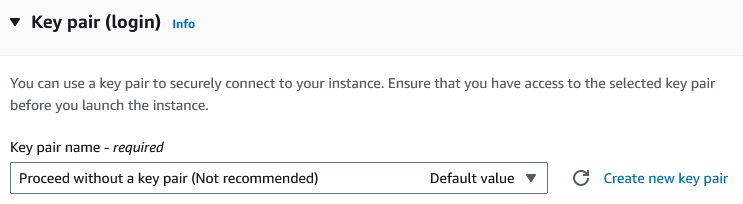


Then we switch to EC2 and create the Backend instance. In all settings that are not mentioned we leave default values:

* Name: BackEnd

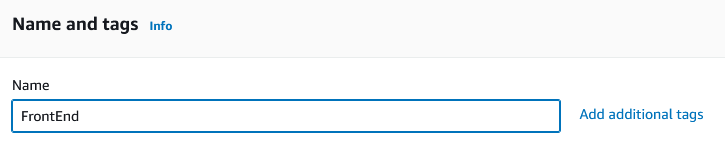


* Key pair: Proceed without a key pair

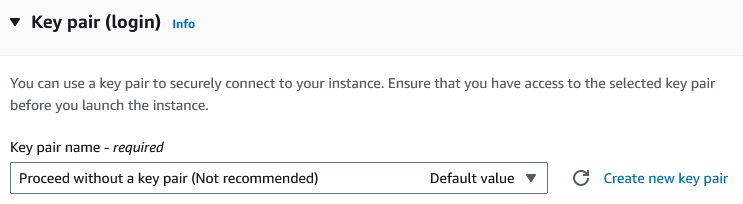


And we create a second instance for the Frontend:

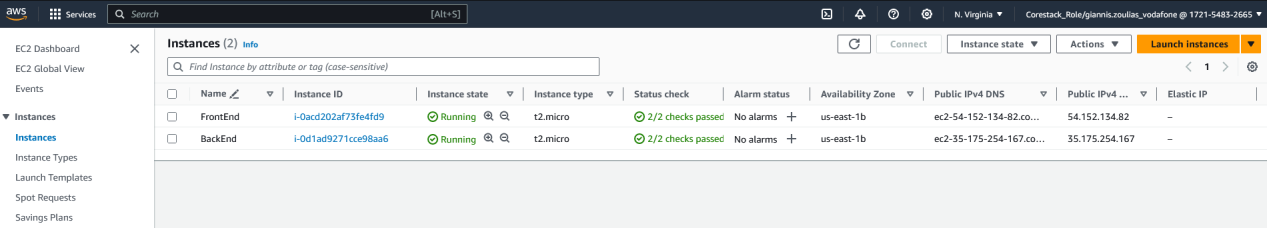
* Name: FrontEnd



* Key pair: Proceed without a key pair



We check that both instances are up and running:



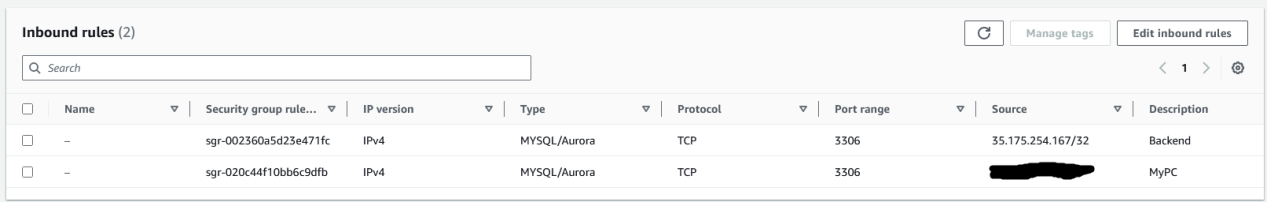
So, we sum up the IPs:

* Database: capstone.crealx72j3np.us-east-1.rds.amazonaws.com
* Database Port: 3306
* Backend: 35.175.254.167
* Frontend: 54.152.134.82

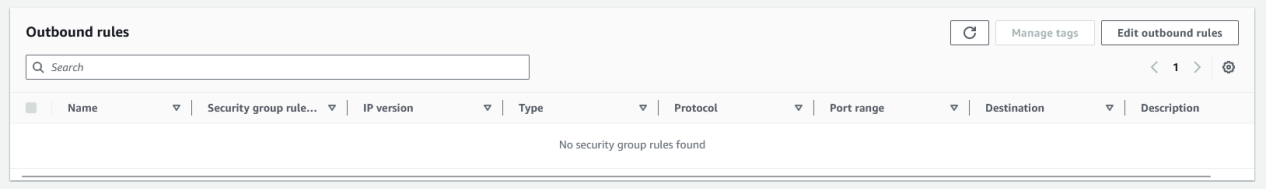
Now we setup the Security Groups (Firewall) Traffic for all elements:

* For the database:

Inbound traffic from the Backend instance and my PC:

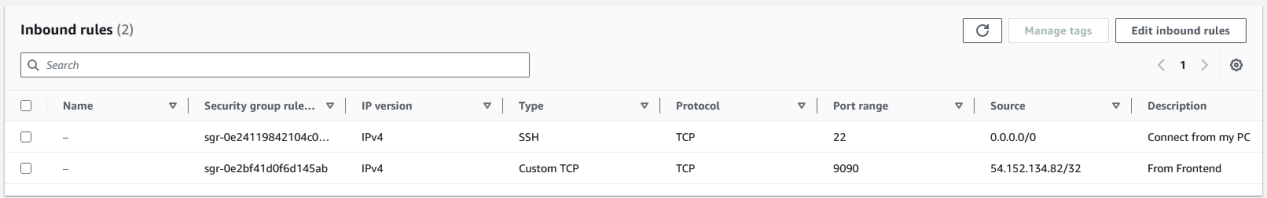


No outgoing traffic:

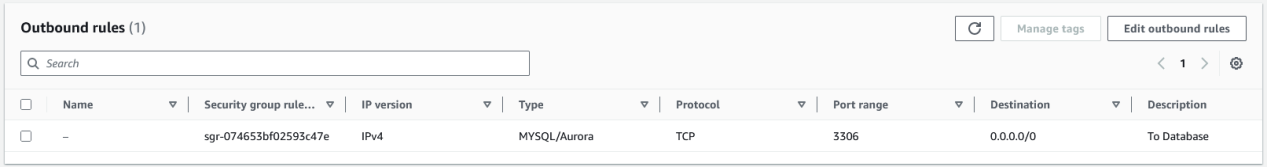


* For the backend:

Inbound traffic (port 9090) from the Frontend instance and SSH from my PC:

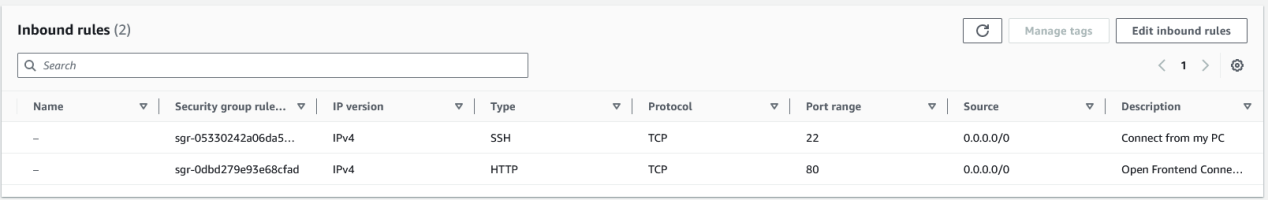


Outgoing traffic to the database:

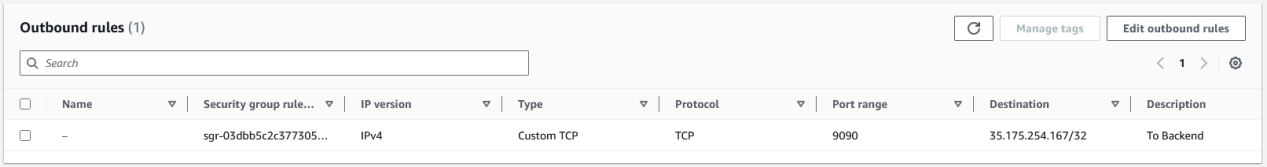


* For the frontend:

Inbound HHTP traffic from anywhere and SSH from my PC:



Outgoing traffic (port 9090) to the backend:

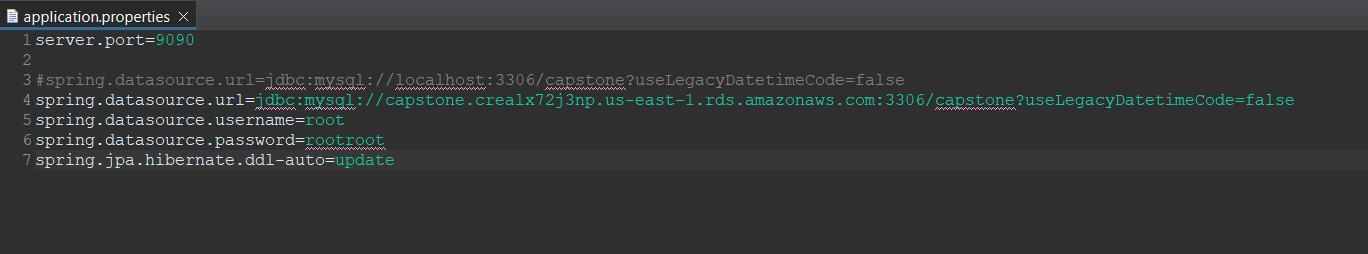


# Updating Code with the AWS IPs

Now we know the AWS endpoints, we can update our code configuration with them.

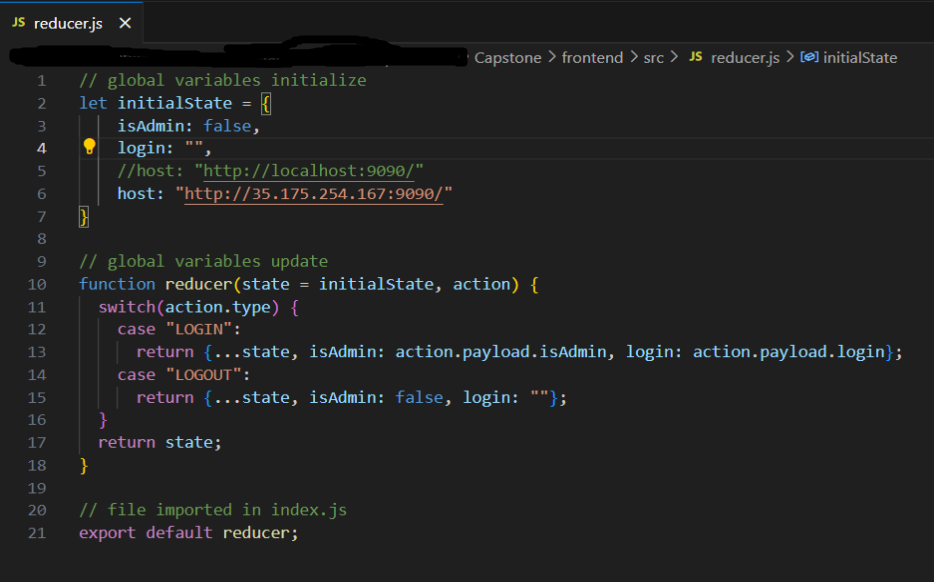
For the backend to connect to the database, we edit the file:

\BackEnd\src\main\resources\application.properties



For the frontend to communicate with the backend, we edit the file:

\frontend\src\reducer.js



Finally, we commit the changes in GitHub: