Lab: MongoDB-Java

Part A. Setup a MongoDB that allows remote access

1. Create VM instances https://cloud.google.com/compute/docs/quickstart-linux
    a. Name: mongo-remote
    b. Region: us-west1, zone: us-west1-a
    c. 1vCPU with 3.75 GB memory, n1-standard-1. Customize if you know your requirements well
    d. Ubuntu 18.04 LTS, use default settings for other options
    e. Default access
    f. Allow http traffic
2. Wait for boot up
3. Install MongoDB (https://docs.mongodb.com/manual/tutorial/install-mongodb-on-ubuntu/)
4. Create a database testDB and a database user test

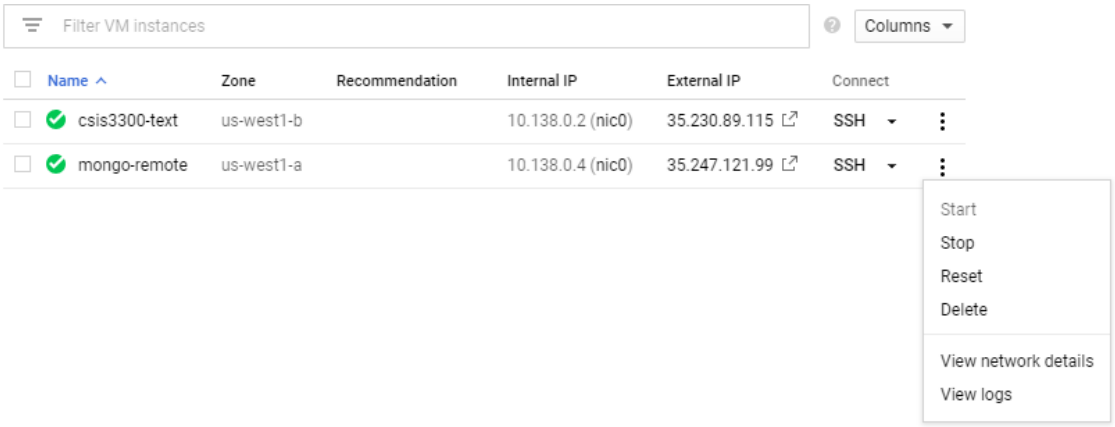
    mongo
    use testDB
    db.createUser({
        user: "test",
        pwd: "csis3300",
        roles: [{role: "readWrite", db: "testDB"},
                {role: "dbAdmin", db: "testDB"}]
    })

    You can use show users to check.
5. Open MongoDB access up to all IPs
    a. Edit MongoDB config file
    sudo nano /etc/mongod.conf

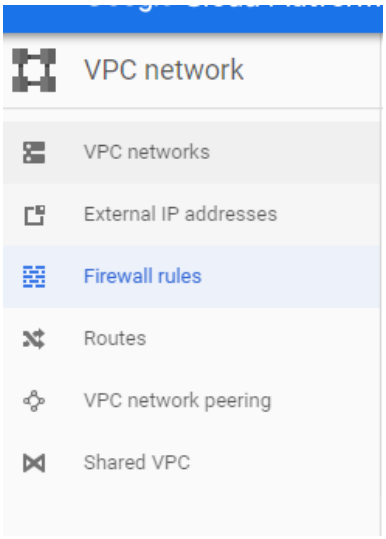
    b. Look for the net line and comment out the bindIp line under it, which is currently limiting MongoDB connections to localhost:

```
# network interfaces
net:
  port: 27017
  bindIp: 127.0.0.1  <- change to 0.0.0.0
```

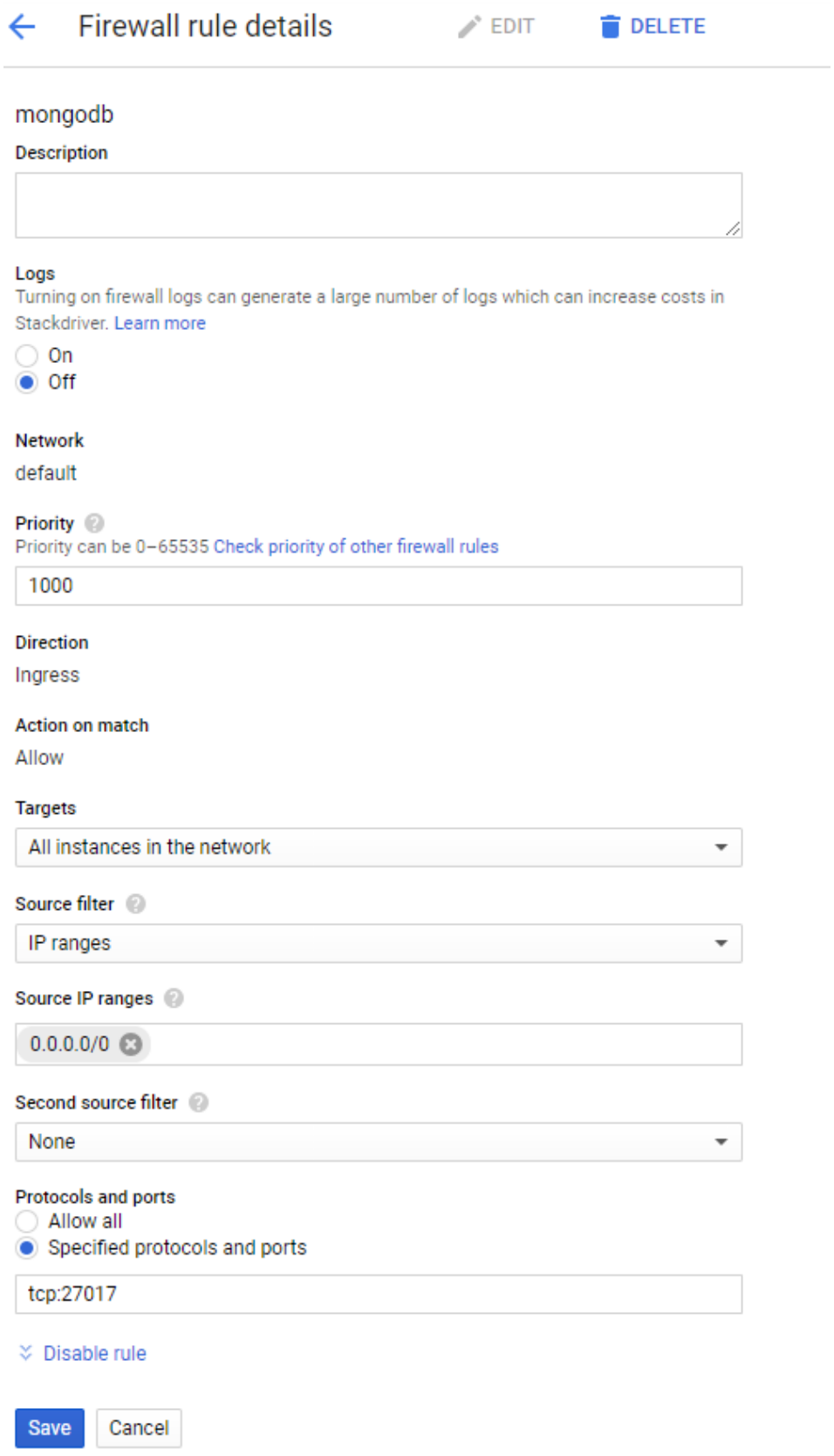
6. Setup firewall on virtual machine
    a. View network details of mongo-remote



    b. Click Firewall rules



c. Create Firewall Rule



7. Restart the virtual machine and bring up the mongod service
8. On another virtual machine, type the following command to verify that remote access has been enabled.
   mongo -u test -p csis3300 --host 35.247.121.99 --authenticationDatabase testDB

   35.247.121.99 is the external IP address of mongo-remote. This IP address may change when you restart the virtual machine.

Part B. MongoDB-Java examples

1. Download the MongoDB Driver
   http://central.maven.org/maven2/org/mongodb/mongo-java-driver/3.9.1/
2. Open Eclipse and create a new project mongo-java.
3. Add the MongoDB Driver to the Build Path.
4. Create collections
5. Insert Documents
6. Query

References

http://mongodb.github.io/mongo-java-driver/3.10/driver/getting-started/quick-start/https://www.tutorialspoint.com/mongodb/mongodb_java.htm
https://www.codejava.net/java-se/jdbc/java-connecting-to-mongodb-database-examples
http://mongodb.github.io/mongo-java-driver/3.10/driver/tutorials/perform-read-operations/