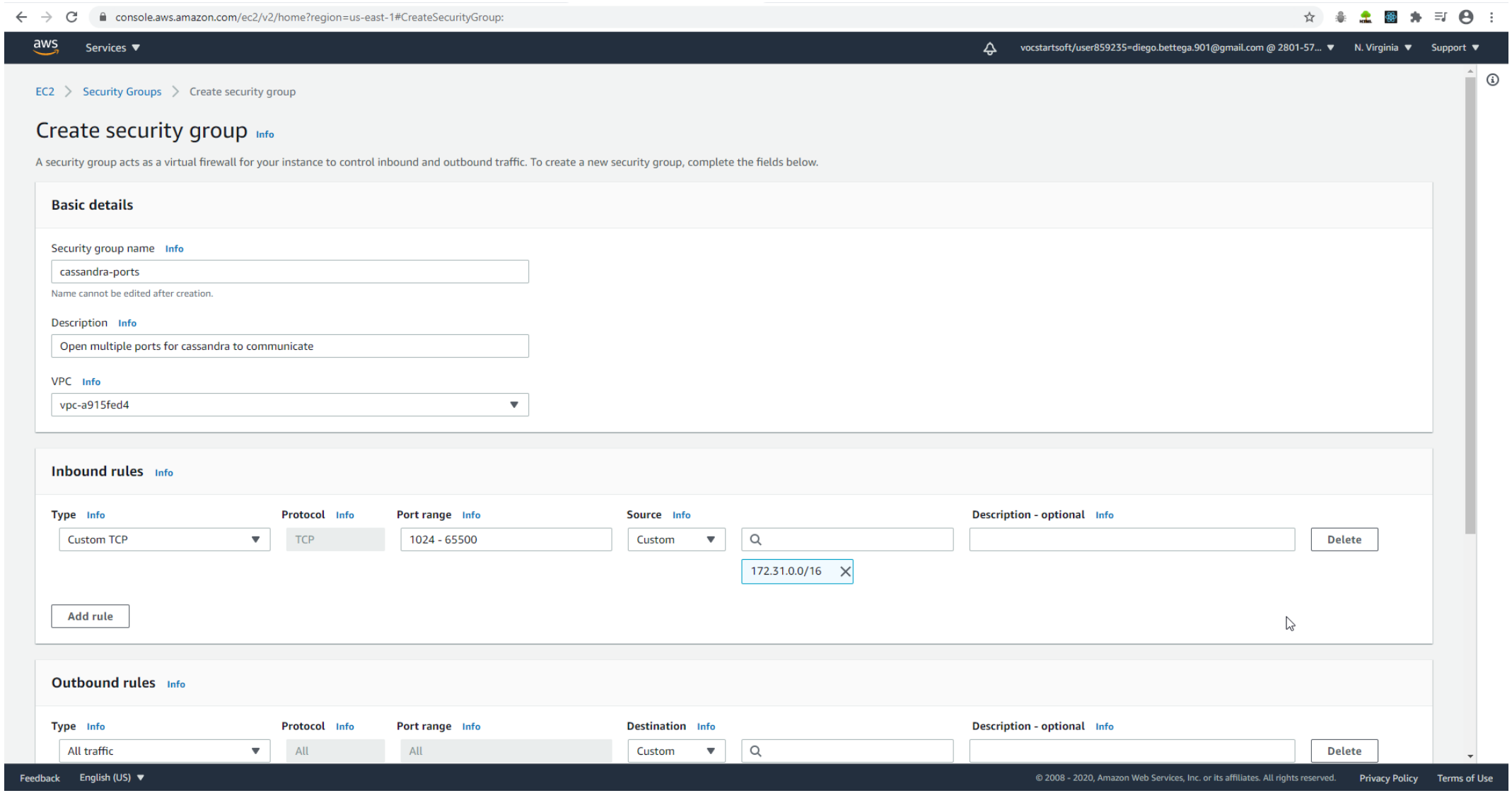
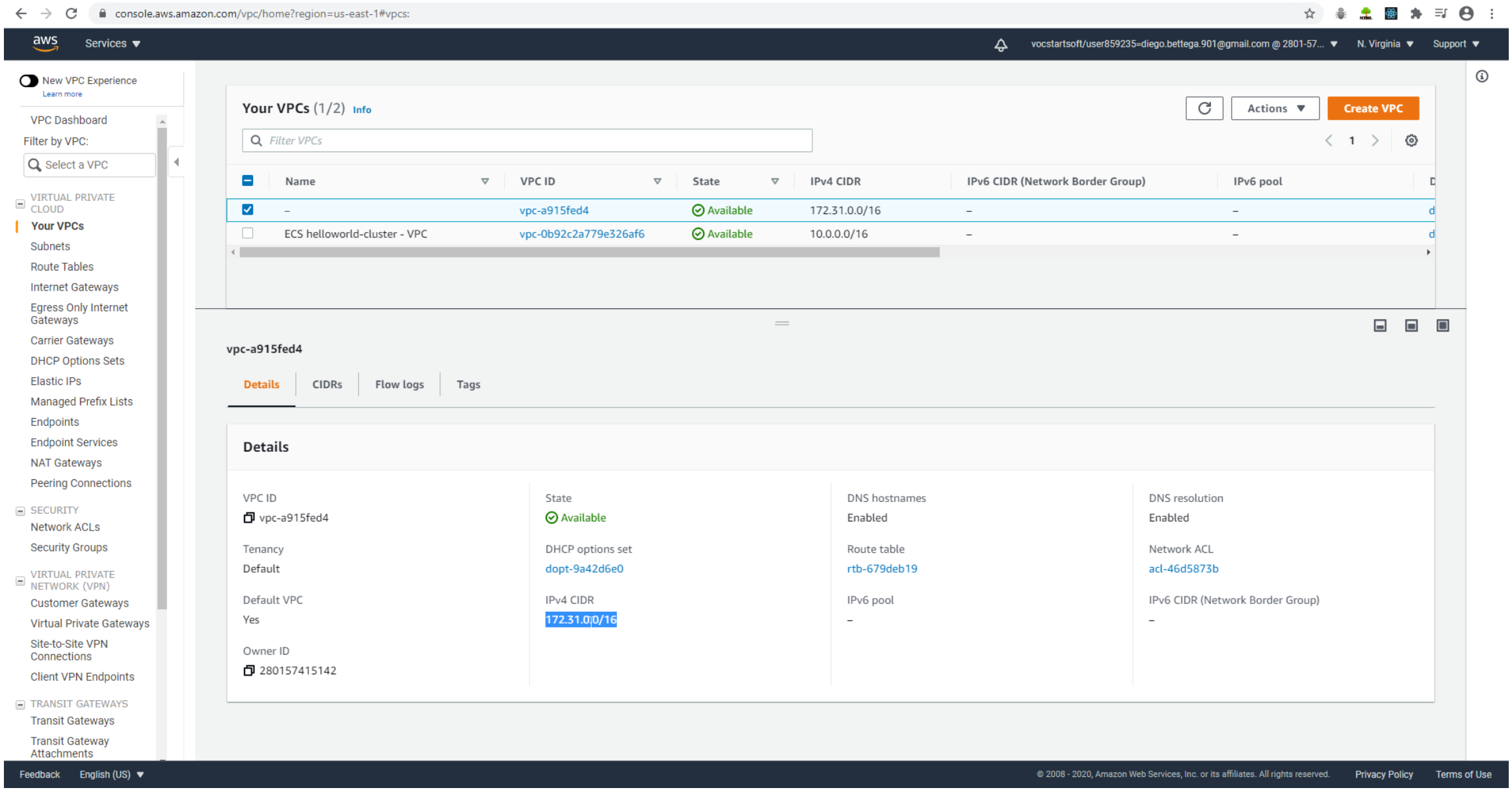
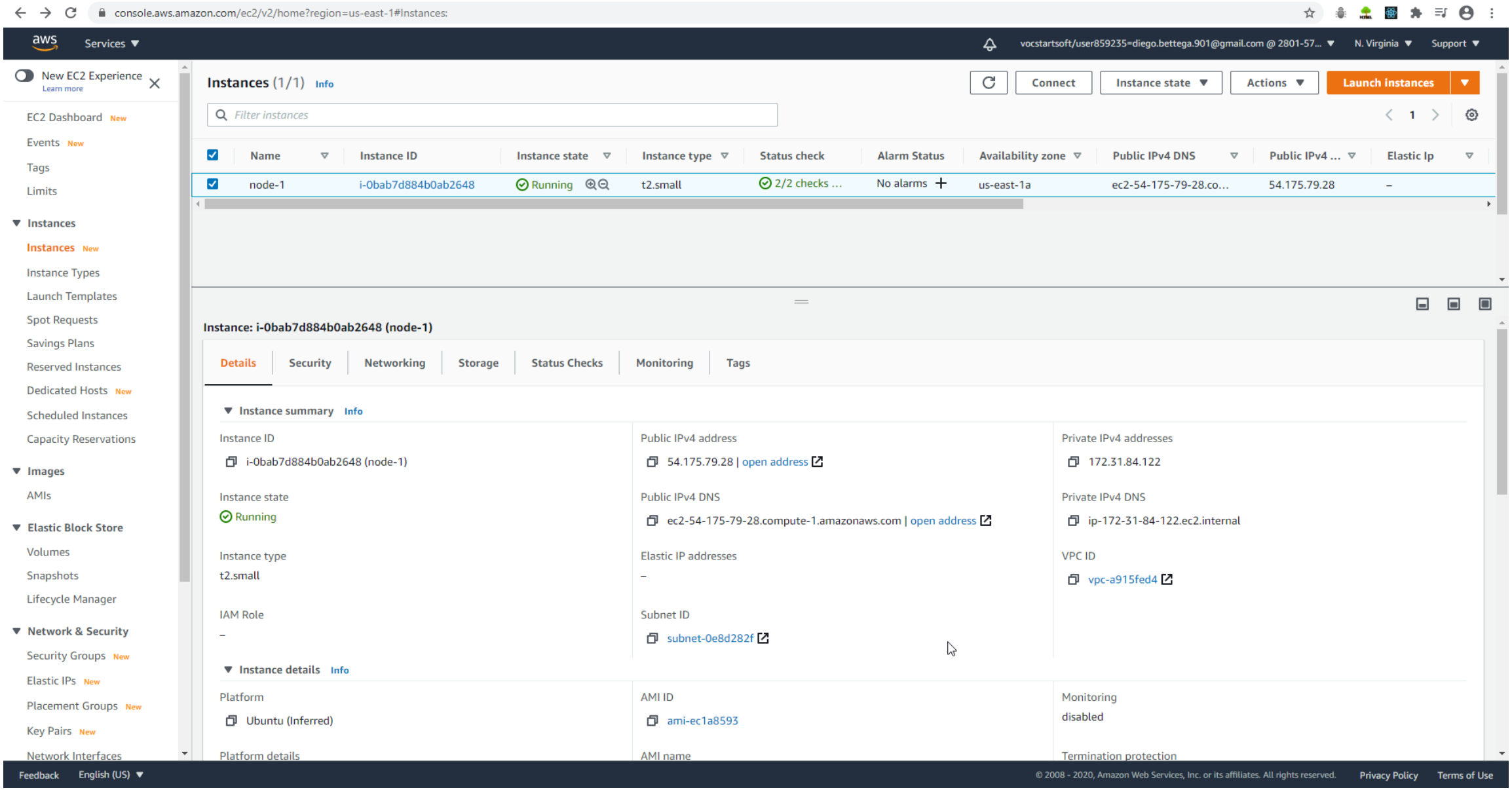
Create a new security group by the name "cassandra-ports"



Create a new security group by the name "cassandra-ports"



Create 3 EC2 instances (t2-small) using the 7 step workflow & Follow the steps to configure Cassandra



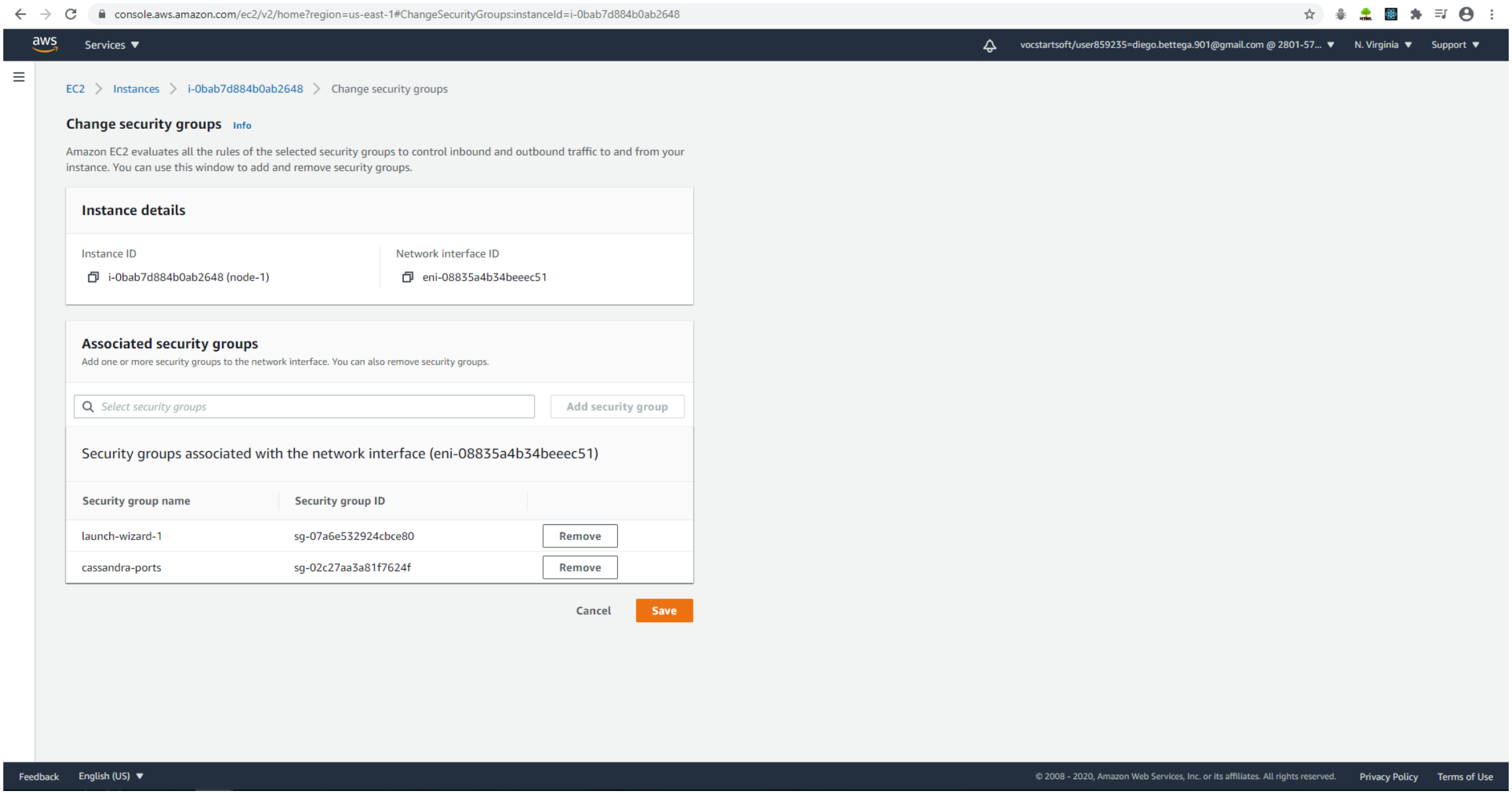
Create 3 EC2 instances (t2-small) using the 7 step workflow & Follow the steps to configure Cassandra

```
diego.bettega@LDNMBL-LW1046Q4 MINGW64 ~
$ cd Desktop/Machine\ Learning/PGP\ CC/Project 4
bash: cd: too many arguments

diego.bettega@LDNMBL-LW1046Q4 MINGW64 ~
$ cd Desktop/Machine\ Learning/PGP\ CC/

diego.bettega@LDNMBL-LW1046Q4 MINGW64 ~/Desktop/Machine Learning/PGP CC
$ cd Project\ 4

diego.bettega@LDNMBL-LW1046Q4 MINGW64 ~/Desktop/Machine Learning/PGP CC/Project 4
$ chmod 400 project4.pem

diego.bettega@LDNMBL-LW1046Q4 MINGW64 ~/Desktop/Machine Learning/PGP CC/Project 4
$ ssh -i project4.pem ubuntu@54.175.79.28
load pubkey "project4.pem": invalid format
The authenticity of host '54.175.79.28 (54.175.79.28)' can't be established.
ECDSA key fingerprint is SHA256:YVxVqfvBRSkV04kp3X5v219SDzJYygnHEqb2NN4twOo.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '54.175.79.28' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 16.04.3 LTS (GNU/Linux 4.4.0-1047-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  Get cloud support with Ubuntu Advantage Cloud Guest:
    http://www.ubuntu.com/business/services/cloud

110 packages can be updated.
1 update is a security update.


*** System restart required ***
Last login: Sun Jan 28 15:55:31 2018 from 106.200.196.203
ubuntu@ip-172-31-84-122:~$ java -version
java version "1.8.0_92"
Java(TM) SE Runtime Environment (build 1.8.0_92-b14)
Java HotSpot(TM) 64-Bit Server VM (build 25.92-b14, mixed mode)
ubuntu@ip-172-31-84-122:~$ python -V
Python 2.7.12
ubuntu@ip-172-31-84-122:~$ cd /opt/
ubuntu@ip-172-31-84-122:/opt$ ls -al
total 24
drwxr-xr-x  6 ubuntu ubuntu 4096 Jan 28  2018 .
drwxr-xr-x 23 root   root   4096 Oct 24 14:58 ..
drwxrwxr-x 10 ubuntu ubuntu 4096 Jan 28  2018 apache-cassandra-3.11.1
drwxr-xr-x  8 ubuntu ubuntu 4096 Dec 20  2017 jdk1.8.0_161-CassHasIssuesWith161
drwxr-xr-x  8 ubuntu ubuntu 4096 Apr  1  2016 jdk1.8.0_92
drwxrwxr-x  2 ubuntu ubuntu 4096 Jan 28  2018 softwares
ubuntu@ip-172-31-84-122:/opt$ cd apache-cassandra-3.11.1/conf/
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/conf$ sed -i 's=MOD_CLUSTER_NAME=GL-Cluster=g' cassandra.yaml
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/conf$ sed -i 's=MOD_IP_ADDRESS=172.31.84.122=g' cassandra.yaml
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/conf$ sed -i 's=MOD_SEED_LIST=172.31.84.122=g' cassandra.yaml
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/conf$ sed -i 's=MOD_DATACENTER=dc1=g' cassandra-rackdc.properties
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/conf$ sed -i 's=MOD_RACK=r1=g' cassandra-rackdc.properties
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/conf$ cd ..
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1$ cd bin
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/bin$
```

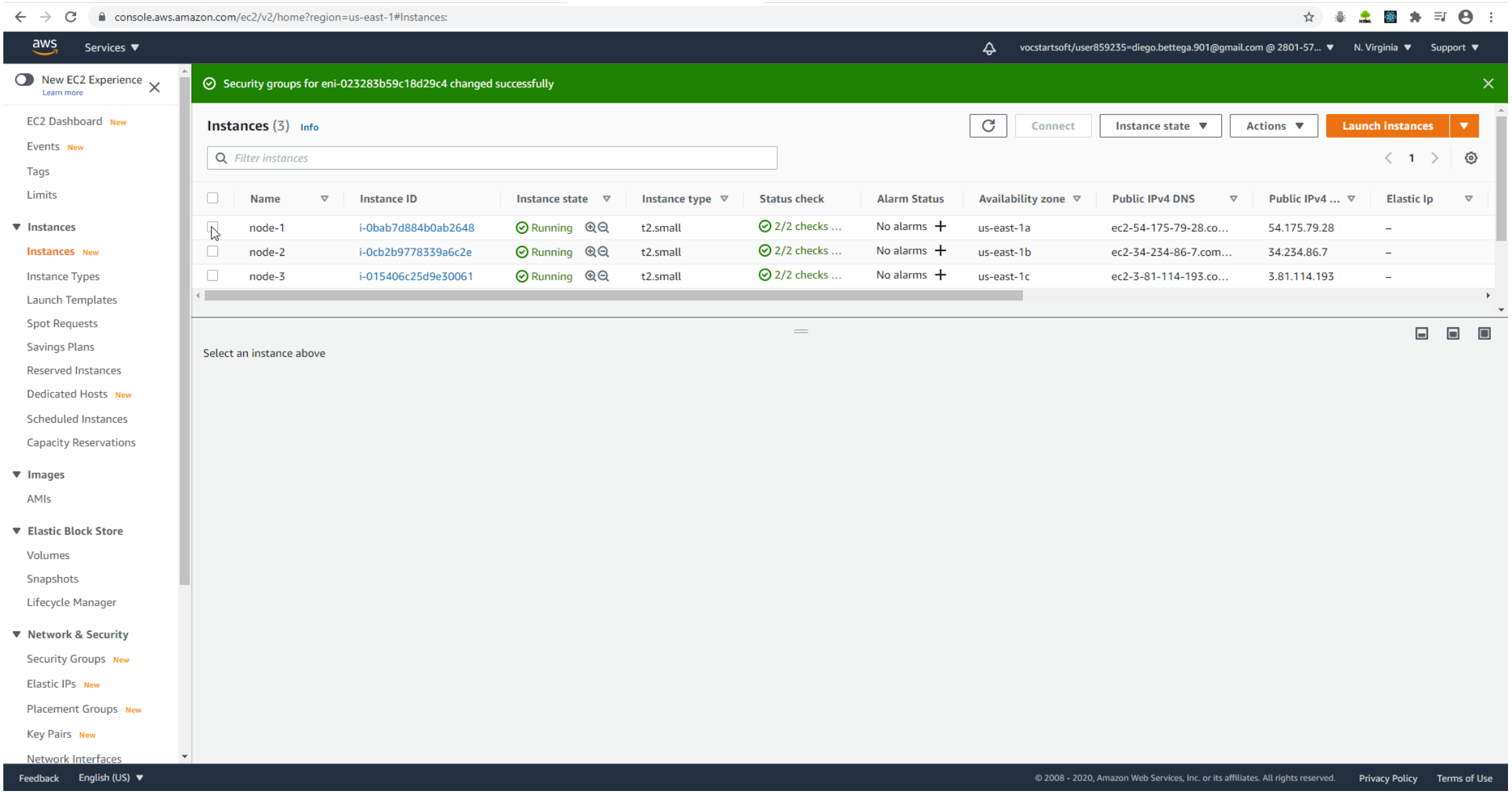
Create 3 EC2 instances (t2-small) using the 7 step workflow & Follow the steps to configure Cassandra

```
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/bin$ nodetool status
Datacenter: dc1
===============
Status=Up/Down
|/ State=Normal/Leaving/Joining/Moving
--  Address         Load       Tokens       Owns (effective)  Host ID                               Rack
UN  172.31.84.122   103.82 KiB  256          100.0%            ae3309c7-2f76-4335-a1eb-fadff531384d  r1

ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/bin$
```

Create 3 EC2 instances (t2-small) using the 7 step workflow & Follow the steps to configure Cassandra



Create 3 EC2 instances (t2-small) using the 7 step workflow & Follow the steps to configure Cassandra



Create 3 EC2 instances (t2-small) using the 7 step workflow & Follow the steps to configure Cassandra

Create 3 EC2 instances (t2-small) using the 7 step workflow & Follow the steps to configure Cassandra

```
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/bin$ nodetool status
Datacenter: dc1
===============
Status=Up/Down
|/ State=Normal/Leaving/Joining/Moving
--  Address         Load       Tokens       Owns (effective)  Host ID                               Rack
UN  172.31.17.12    108.4 KiB  256          69.0%             be196f73-a41d-4756-a69d-8697b5397a53  r2
UN  172.31.84.122   165.2 KiB  256          63.9%             ae3309c7-2f76-4335-a1eb-fadff531384d  r1
UN  172.31.40.232   15.47 KiB  256          67.2%             90cb0b09-58c1-446b-aa7f-0e52beb99ab4  r3

ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/bin$
```

Part 2

```
ubuntu@ip-172-31-84-122:/opt/apache-cassandra-3.11.1/bin$ cqlsh 172.31.84.122 -u cassandra -p cassandra
Connected to GL-Cluster at 172.31.84.122:9042.
[cqlsh 5.0.1 | Cassandra 3.11.1 | CQL spec 3.4.4 | Native protocol v4]
Use HELP for help.
cassandra@cqlsh> CREATE KEYSPACE IF NOT EXISTS starfleet WITH replication = {'class':'NetworkTopologyStrategy', 'dc1':3};
cassandra@cqlsh> CREATE TABLE starfleet.user (
   ...  user_id VARCHAR,
   ...  location VARCHAR,
   ...  display_name VARCHAR,
   ...  first_name VARCHAR,
   ...  last_name VARCHAR,
   ...  PRIMARY KEY (user_id, location)
   ... );
cassandra@cqlsh> INSERT INTO starfleet.user (user_id,location,display_name,first_name,last_name)
   ...  VALUES ('u1','earth1','Kirk','William','Shatner');
cassandra@cqlsh> INSERT INTO starfleet.user (user_id,location,display_name,first_name,last_name)
   ...  VALUES ('u2','vulcan','Spock','Leonard','Nimoy');
cassandra@cqlsh> select * from starfleet.user;

 user_id | location | display_name | first_name | last_name
---------+----------+--------------+------------+-----------
      u2 |   vulcan |        Spock |    Leonard |     Nimoy
      u1 |   earth1 |         Kirk |    William |   Shatner

(2 rows)
cassandra@cqlsh>
```

Part 2

```
(2 rows)
cassandra@cqlsh> ALTER KEYSPACE "system_auth" WITH REPLICATION = {'class':'NetworkTopologyStrategy', 'dc1':3};
cassandra@cqlsh> select * from starfleet.user where user_id='u2;;
   ... select * from starfleet.user where user_id='u2;
SyntaxException: line 2:44 mismatched input 'u2' expecting EOF (... starfleet.user where user_id='u2;;select * from starfleet.user where user_id='[u2]...)
cassandra@cqlsh> select * from starfleet.user where user_id='u2';

 user_id | location | display_name | first_name | last_name
---------+----------+--------------+------------+-----------
      u2 |   vulcan |        Spock |    Leonard |     Nimoy

(1 rows)
cassandra@cqlsh> consistency;
Current consistency level is ONE.
cassandra@cqlsh> consistency all;
Consistency level set to ALL.
cassandra@cqlsh> select * from starfleet.user where user_id='u2';

 user_id | location | display_name | first_name | last_name
---------+----------+--------------+------------+-----------
      u2 |   vulcan |        Spock |    Leonard |     Nimoy

(1 rows)
cassandra@cqlsh>
```

Part 2

```
ubuntu@ip-172-31-17-12:/opt/apache-cassandra-3.11.1/bin$ nodetool stopdaemon
WARN  16:54:48,791 Small commitlog volume detected at /opt/cassandra-data/commitlog; setting commitlog_total_space_in_mb to 1969.  You can override this in cassandra.yaml
WARN  16:54:48,797 Small cdc volume detected at /opt/cassandra-data/cdc_raw; setting cdc_total_space_in_mb to 984.  You can override this in cassandra.yaml
WARN  16:54:48,802 Only 5.196GiB free across all data volumes. Consider adding more capacity to your cluster or removing obsolete snapshots
Cassandra has shutdown.
ubuntu@ip-172-31-17-12:/opt/apache-cassandra-3.11.1/bin$
```

```
ubuntu@ip-172-31-40-232:/opt/apache-cassandra-3.11.1/bin$ nodetool status
Datacenter: dc1
===============
Status=Up/Down
|/ State=Normal/Leaving/Joining/Moving
--  Address         Load       Tokens       Owns (effective)  Host ID                               Rack
DN  172.31.17.12    120.34 KiB  256          100.0%            be196f73-a41d-4756-a69d-8697b5397a53  r2
UN  172.31.84.122   141.79 KiB  256          100.0%            ae3309c7-2f76-4335-a1eb-fadff531384d  r1
UN  172.31.40.232   91.59 KiB  256          100.0%            90cb0b09-58c1-446b-aa7f-0e52beb99ab4  r3
```

```
(1 rows)
cassandra@cqlsh> select * from starfleet.user where user_id='u2';
NoHostAvailable:
cassandra@cqlsh> consistency quorum;
Consistency level set to QUORUM.
cassandra@cqlsh> select * from starfleet.user where user_id='u2';

 user_id | location | display_name | first_name | last_name
---------+----------+--------------+------------+-----------
      u2 |   vulcan |        Spock |    Leonard |     Nimoy

(1 rows)
cassandra@cqlsh>
```