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Cockroach DB

Securing our cockroachdb

- We need to generate TLS certificates to secure our network
- We can use cockroach's own cert command, openssl or your custom ca. We will use cockroach's
- We will need to generate Certification Authority (CA) and certificates for the nodes.

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- 1. Adjust environment variables in *.env* file and docker-compose.yaml to include the certs path
- 2. Get into the instance
  - *docker exec -it cockroach1 bash*
  - Create ca cert
    - *cockroach cert create-ca --certs-dir=/certs --ca-key=/certs/ca.key*
  - Create client cert
    - *cockroach cert create-client root --certs-dir=/certs --ca-key=/certs/ca.key --also-generate-pkcs8-key*

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- Create cert for node 1
- [Below, localhost, cockroach1, 192.168.1.3 are the hostnames of the cockroach1 instance]
  - *cockroach cert create-node localhost cockroach1 192.168.1.3 --certs-dir=/certs --ca-key=/certs/ca.key*
- Inspect your local file System for cockroach1, you will see them there. E.g.,
  - *dir /Users/piusonobhayedo/Documents-No-iCloud/2022-2023/SST/DataScience/DAT608/cockroachdb1/certs*

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- Copy *ca-key, ca-crt, client.root.crt client.root.key client.root.key.pk8* from cockroach1 to the rest.
- Log into each of the other two and create cert for each node.
- Remove --insecure switch and restart
- Login into the node 1 and init cluster
  - cockroach init --certs-dir=/certs
  - cockroach sql --certs-dir=/certs
  - CREATE USER pius WITH PASSWORD 'cockroach';