

Big data

Cockroach DB

Getting Started

- ♥ Installation
- ♥ We shall illustrate with the free community edition
- ♥ Instructions:
 - <https://www.cockroachlabs.com/docs/stable/install-cockroachdb-windows.html> (windows version is experimental, not suitable for production)
 - <https://www.cockroachlabs.com/docs/stable/install-cockroachdb-mac.html>
 - <https://www.cockroachlabs.com/docs/v23.1/install-cockroachdb-linux>

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**Cockroach
DB**

***...Getting
Started***

- Let's use docker image for a cluster on our system
- Step 1: create a folder for our docker-compose.yml for the DAT 608 projects e.g.,
 - /Users/piusonobhayedo/Documents-No-iCloud/2022-2023/SST/DataScience/DAT608
 - Open in VS Code

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Add a .env file with entries like the following:

```
# cockroach
COCKROACH_SEED=192.168.1.3

# cockroach1
COCKROACH1_HOST=192.168.1.3
COCKROACH1_DATA_DIR=/Users/piusonobhayedo/Documents-No-iCloud/2022-2023/SST/DataScience/DAT608/cockroachdb1/data
# COCKROACH1_CERTS_DIR=/Users/piusonobhayedo/Documents-No-iCloud/2022-2023/SST/DataScience/DAT608/cockroachdb1/certs

# cockroach2
COCKROACH2_HOST=192.168.1.3
COCKROACH2_DATA_DIR=/Users/piusonobhayedo/Documents-No-iCloud/2022-2023/SST/DataScience/DAT608/cockroachdb2/data
# COCKROACH2_CERTS_DIR=/Users/piusonobhayedo/Documents-No-iCloud/2022-2023/SST/DataScience/DAT608/cockroachdb2/certs

# cockroach3
COCKROACH3_HOST=192.168.1.3
COCKROACH3_DATA_DIR=/Users/piusonobhayedo/Documents-No-iCloud/2022-2023/SST/DataScience/DAT608/cockroachdb3/data
# COCKROACH3_CERTS_DIR=/Users/piusonobhayedo/Documents-No-iCloud/2022-2023/SST/DataScience/DAT608/cockroachdb3/certs
```



Ensure that you create the directories specified above



Ensure that you use the network IP (can be an alias)

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*...Getting
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Make the following entry in docker-compose.yml

```
version: '3'
services:
  cockroach1:
    image: cockroachdb/cockroach:latest
    container_name: cockroach1
    hostname: cockroach1
    volumes:
      - '$COCKROACH1_DATA_DIR:/cockroach/cockroach-data'
    ports:
      - "26257:26257"
      - "8081:8080"
    command: "start --insecure --store=cockroach1 --advertise-addr=${COCKROACH1_HOST}:26257 --join=${COCKROACH1_HOST}:26257"
```

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...Make the following entry in docker-compose.yml
(cont'd)

```
cockroach2:  
  image: cockroachdb/cockroach:latest  
  container_name: cockroach2  
  hostname: cockroach2  
  volumes:  
  -  
    '$COCKROACH2_DATA_DIR:/cockroach/coc  
    kroach-data'  
  ports:  
  - "26258:26257"  
  - "8082:8080"  
  command: "start --insecure --  
    store=cockroach2 --advertise-  
    addr=${COCKROACH2_HOST}:26258 --  
    join=${COCKROACH1_HOST}:26257"
```

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...Make the following entry in docker-compose.yml
(cont'd)

```
cockroach3:
  image: cockroachdb/cockroach:latest
  container_name: cockroach3
  hostname: cockroach3
  volumes:
  -
    '$COCKROACH3_DATA_DIR:/cockroach/coc
    kroach-data'
  ports:
  - "26259:26257"
  - "8083:8080"
  command: "start --insecure --
    store=cockroach3 --advertise-
    addr=${COCKROACH3_HOST}:26259 --
    join=${COCKROACH1_HOST}:26257"
```

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***...Getting
Started***

***Initialize the
cluster***



Startup cluster

- *docker-compose up -d cockroach1*
- *docker-compose up -d cockroach2*
- *docker-compose up -d cockroach3*

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***...Getting
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***Initialize the
cluster***

- 🏰 Connect to cockroach1 (as seed cluster)
 - *docker exec -it cockroach1 bash*
- 🏰 Initialize
 - *cockroach init --insecure*
- 🏰 Connect to sql shell
 - *cockroach sql --insecure*
- 🏰 Create user
 - *create user pius*

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Test cluster

- 🛡 Startup cluster
- 🛡 View the cluster from web frontend via the url
 - <http://192.168.1.3:8081>
- 🛡 Try out some sql commands on terminal
 - Install a client
 - <https://www.cockroachlabs.com/docs/v2.2/cockroach-sql-binary>
 - Connect with installed client
 - `cockroach-sql --insecure --url postgresql://192.168.1.3:26257`
 - Try out commands
 - <https://www.cockroachlabs.com/docs/cockroachcloud/learn-cockroachdb-sql.html>