

Docker & Kubernetes ASSIGNMENT

PEER LEARNING DOCUMENT

Problem Statement -

Docker task

1. Write a simple airflow dag to connect with db(postgres) and add entry in db for each execution (Time of dag execution)
2. Add the given Dag into the container and install dependencies.
3. Use docker compose to launch airflow and postgres
4. Schedule the Dag
5. Validate entry in Postgres

Kubernetes Task

1. Create deployment and service for above airflow and postgres (you can use postgres helm chart for Postgres deployment)
 2. Deploy airflow and Postgres
 3. Schedule the Dag
 4. Validate entry in Postgres
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Rahul Kumar

Docker task

- Rahuls approach is very much similar to my one.
- He created a dag with two tasks. Using docker compose command he started airflow container.
- He created a connection with postgres and validated.

Kubernetes steps

- He created a personalised Docker image that includes the postgres database and the necessary installation tools for connecting to Airflow. He used a docker file to execute instructions prior to installation.
- He starts the Postgres service and deploys the Postgres pod using the kubectl command.
- Then he started the airflow service, deployed the airflow pod, and produced a dag in the airflow container.

Gnana Praneeth Kothapally

Docker task

- Praneeth's approach is very much similar to mine.
- He created another task for validating data inserted into postgres.
- He created a dag with there tasks. Using docker compose command he started airflow container.
- He created a connection with postgres and validated the data in the task itself.

Kubernetes steps

- The steps he followed were mostly similar to mine.
- Using the kubectl command, he launches the Postgres service and deploys the Postgres pod.
- The airflow service was then launched, the airflow pod was deployed, and a dag was created in the airflow container.