DevOps Assignment

Planning approach:

1. Learn the things that are needed to complete the task:

* Understand how docker compose work
* How does HA works in Postgres and what are the method to achieve it
  + Replication between nodes
  + Automatic fail-over
* What is pgAdmin and how to preconfigure connections that will suffer a fail-over

1. Pre-Deployment plan:

* Postgres cluster with repmgr to ensure replication and auto fail-over
* Pgpool load balancer that will manage the connection to the primary whenever a fail-over occurs
* pgAdmin web client that be connected to the pgpool instance with two preconfigured connections

1. Configuration:

* Preconfigure 2 connections to the pgAdmin – 1 RO and 1 RW
* Create a Python script that will create a specified user for each connection, and run it with Dockerfile
* Ensure the users are whitelisted on the pgpool

1. Deployment and Testing:

* Spun the deployment using a single command
* Test the users by creating tables with the RW user and ensuring that the RO user cannot write.
* Test the automatic failover and recovery, and see if the connections are still working and the data has been replicated

1. Create a README file that has a manual for the user