Takeaway Home Test: DevOps GCP Infrastructure and API

Objective

Prepare a Terraform script to deploy the following on **GCP**:

1. A **VPC** with a private subnet hosting a **Cloud SQL PostgreSQL database**.
2. A **Cloud Run service** with an API securely connected to the database.

The API should include:

GET /users endpoint to fetch data from a users table in the database.

Additionally:

Include schema migration to create the users table and populate it with mock data: first_name, last_name, phone, email, and address.

Deliverables

1. **Terraform Code**:

Infrastructure deployment with VPC, Cloud SQL, and Cloud Run.

2. **Schema Migration Script in Knex or Prisma**:

SQL file to create and populate the users table.

3. **Cloud Run API Code**:

An API with a /users endpoint fetching data from the database.

4. **Documentation**:

A README detailing deployment, schema migration, and API usage.

Requirements

1. **VPC**:

A private subnet with NAT gateway for external access.

Ensure the database is only accessible privately.

2. **Cloud SQL**:

PostgreSQL instance with private IP and credentials provisioned via Terraform.

3. **Cloud Run**:

A service securely connected to Cloud SQL using IAM and service accounts.

4. **API**:

A /users endpoint returning mock user data from the database.

Evaluation Criteria

Functionality: Does the infrastructure deploy correctly, and is the API functional?

Security: Is the database private, and are credentials securely handled?

Clarity: Are the Terraform code and documentation well-structured and easy to follow?

Keep the submission concise and focused on delivering the required infrastructure and functionality.