Step 1: Build an API

Create a RESTful API that provides basic CRUD and other relevant operations on the following  
domain entity object.

Entity: Customer

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute | Type | Constraints | Notes |
| Id | UUID | PK |  |
| First Name | String |  |  |
| Middle Name | String |  | Null is acceptable |
| Last Name | String |  |  |
| Email Address | String | Unique |  |
| Phone Number | String |  | Can be composite |

The project uses Java and Spring Boot 3, which are mature technologies for developing enterprise-level cloud applications. It benefits from a wide range of available third-party libraries and integrates well with AWS or Azure. The database chosen is H2, an embedded database that supports SQL, and it integrates easily with Spring Boot.

Following is the schema for Customer entity:

CREATE TABLE Customer (  
 id UUID PRIMARY KEY,  
 first\_name VARCHAR(50) NOT NULL,  
 middle\_name VARCHAR(50),  
 last\_name VARCHAR(50) NOT NULL,  
 email\_address VARCHAR(120) UNIQUE NOT NULL,  
 phone\_number VARCHAR(30) NOT NULL  
);

In H2, the UNIQUE constraint automatically creates an index on the column to enforce uniqueness.