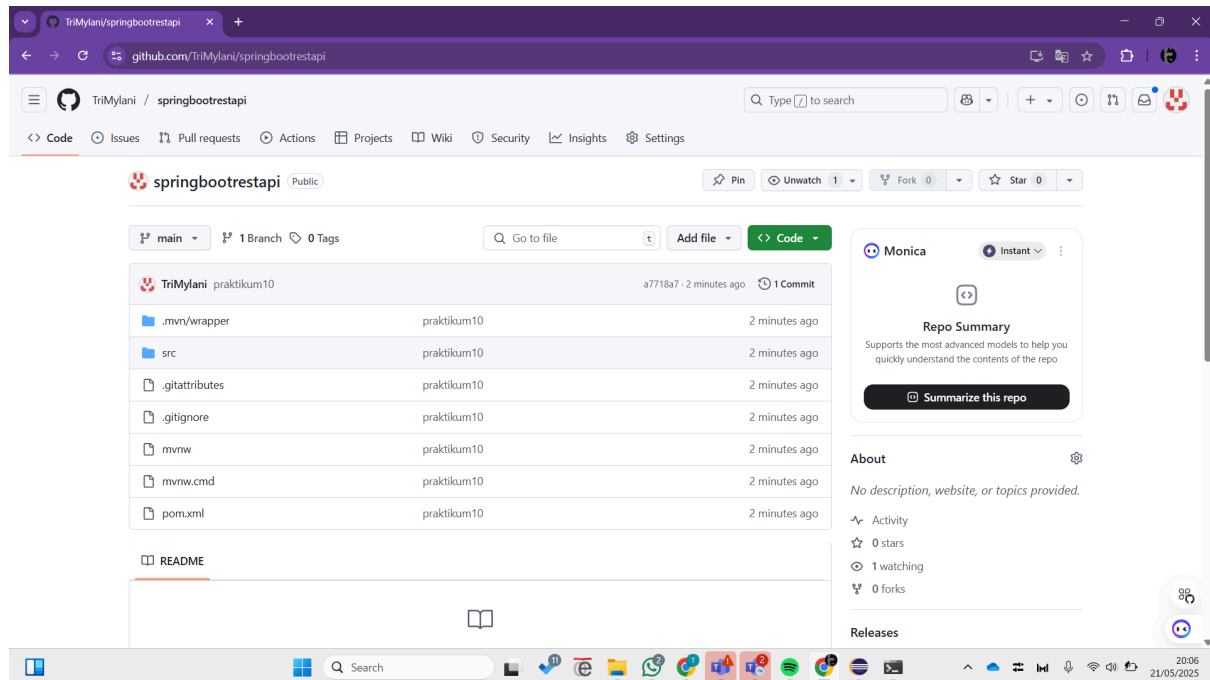


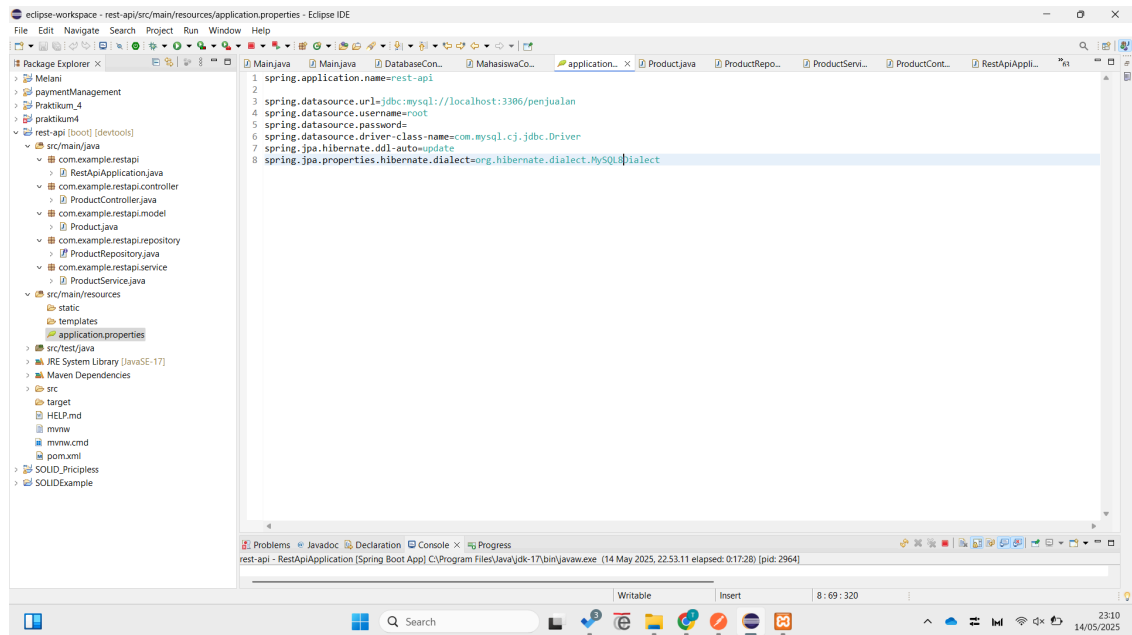
REST API Spring Boot

[https://github.com/TriMylani/springbootrestapi.git](https://github.com/TriMylani/springbootrestapi)



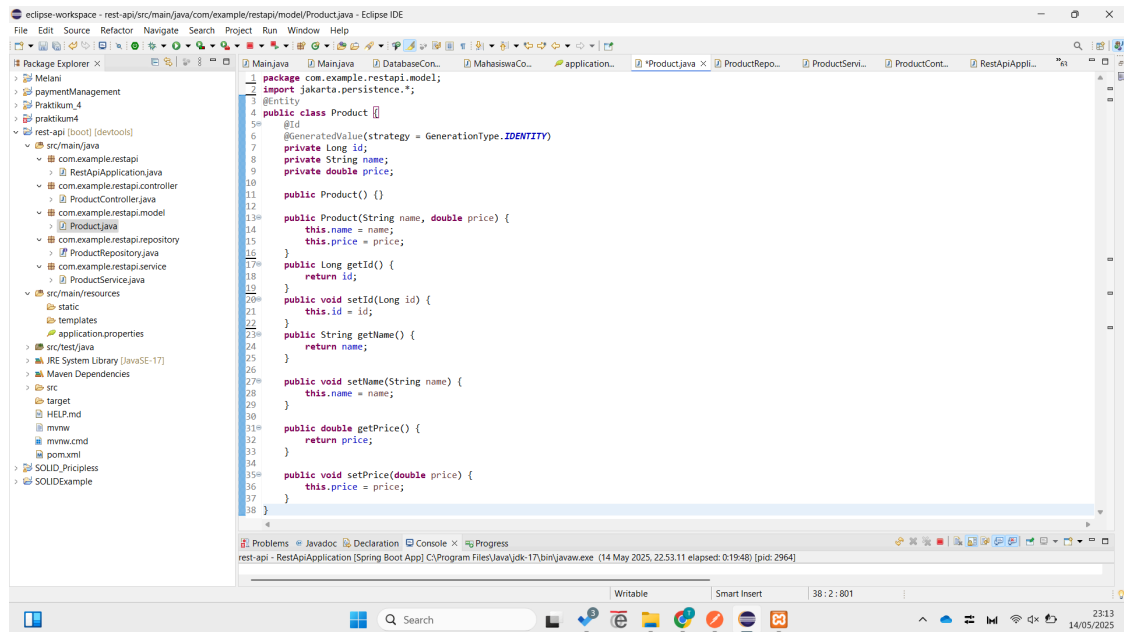
REST API (Representational State Transfer Application Programming Interface) adalah antarmuka yang memungkinkan aplikasi berkomunikasi melalui protokol HTTP. Dengan Spring Boot, proses pengembangan REST API menjadi lebih cepat dan terstruktur. Dimulai dari konfigurasi database di file `application.properties`, lalu dibuat model entity yang mencerminkan tabel database. Repository berfungsi sebagai penghubung ke database, sementara service layer berisi logika bisnis. Controller menangani permintaan dari klien. API kemudian diuji dengan Postman menggunakan metode HTTP (GET, POST, PUT, DELETE) untuk melakukan operasi CRUD pada data, yang dapat diverifikasi hasilnya di database.

1. Konfigurasi Database di Spring Boot



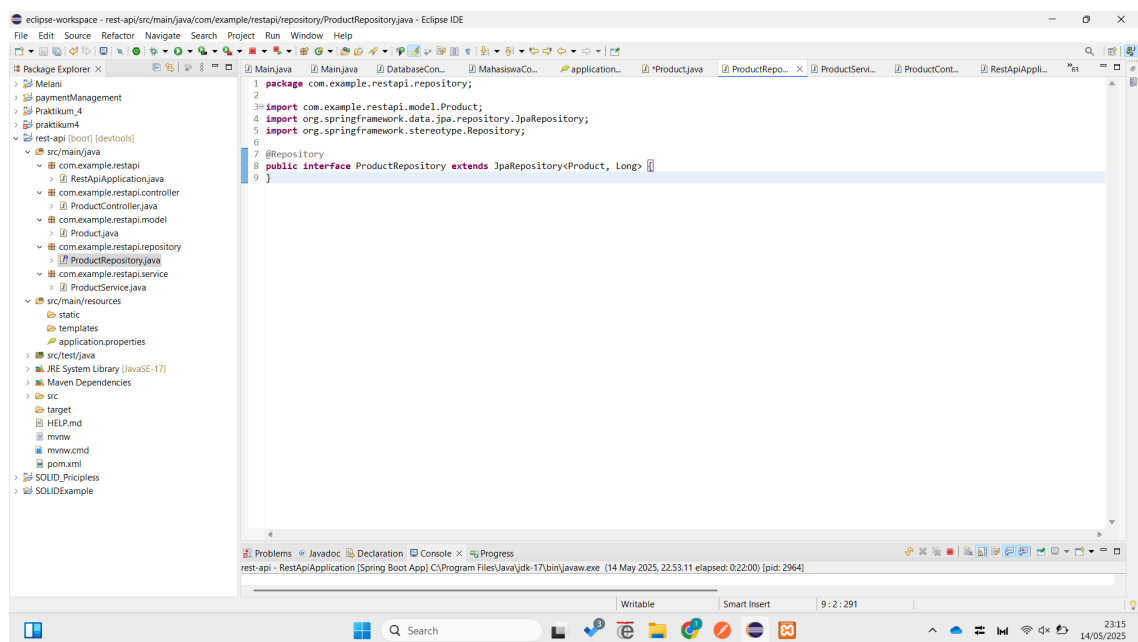
Konfigurasi ini mengatur aplikasi Spring Boot bernama rest-api untuk terhubung ke database MySQL penjualan di localhost

2. Membuat Model Entity



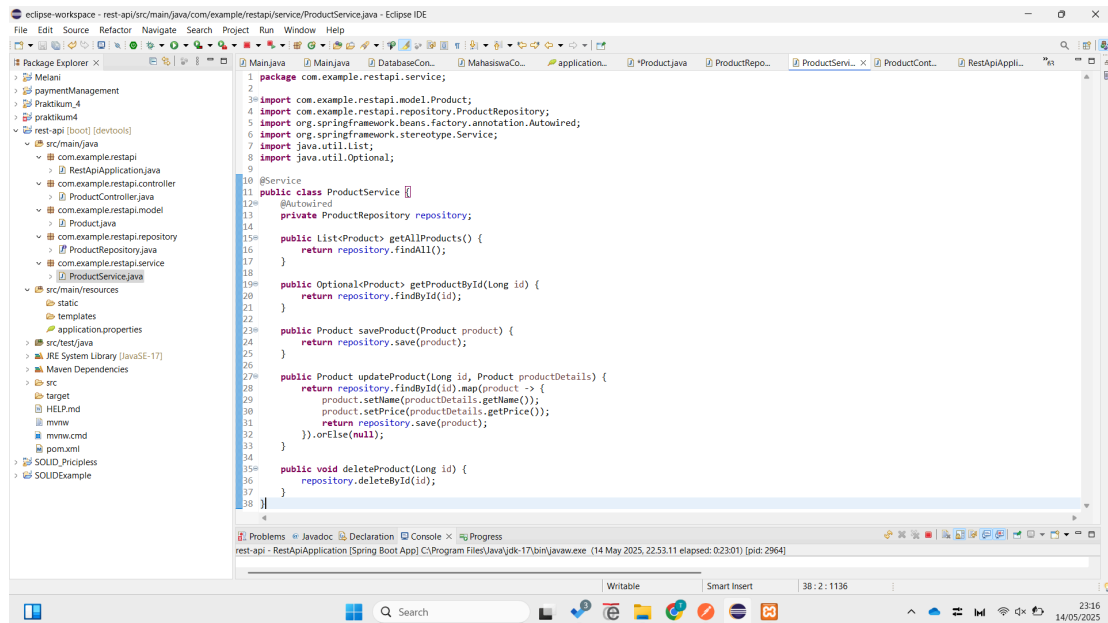
Kelas Product adalah entitas JPA yang merepresentasikan tabel database dengan kolom id, name, dan price, lengkap dengan konstruktor dan getter/setter.

3. Membuat Repository



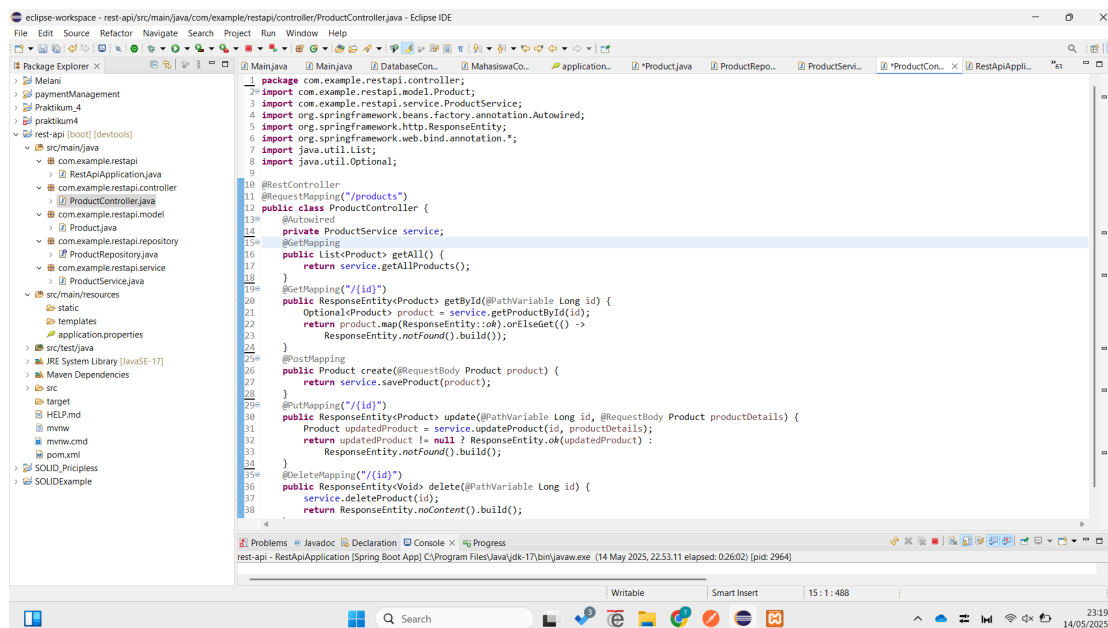
ProductRepository adalah interface repository Spring Data JPA yang menyediakan operasi CRUD untuk entitas Product dengan ID bertipe Long.

4. Membuat Service Layer



ProductService adalah kelas layanan Spring yang menangani logika bisnis untuk operasi CRUD terhadap entitas Product dengan memanfaatkan ProductRepository.

5. Membuat Controller



ProductController adalah REST controller Spring yang menyediakan endpoint HTTP untuk melakukan operasi CRUD pada entitas Product melalui ProductService.

6. Menjalankan Aplikasi Spring Boot

The screenshot shows the Eclipse IDE with the `RestApiApplication.java` file open. The code defines a `RestApiApplication` class that extends `SpringBootApplication` and has a `main` method that calls `SpringApplication.run`. The console output shows the application starting successfully, with various log messages from Spring Boot and Tomcat.

```

1 package com.example.restapi;
2
3 import org.springframework.boot.SpringApplication;
4 import org.springframework.boot.autoconfigure.SpringBootApplication;
5
6 @SpringBootApplication
7 public class RestApiApplication {
8     public static void main(String[] args) {
9         SpringApplication.run(RestApiApplication.class, args);
10    }
11 }

```

Console Output:

```

2025-05-14T22:53:14.259+07:00 INFO 2964 --- [rest-api] [ restartedMain] com.example.restapi.RestApiApplication : Starting RestApiApplication using Java 17 with I
2025-05-14T22:53:14.264+07:00 INFO 2964 --- [rest-api] [ restartedMain] com.example.restapi.RestApiApplication : No active profile set, falling back to 1 default
2025-05-14T22:53:14.325+07:00 INFO 2964 --- [rest-api] [ restartedMain] e.DevToolsPropertyDefaultsPostProcessor : DevTools property defaults active! Set 'spring.d
2025-05-14T22:53:15.224+07:00 INFO 2964 --- [rest-api] [ restartedMain] s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in De
2025-05-14T22:53:15.298+07:00 INFO 2964 --- [rest-api] [ restartedMain] s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 60
2025-05-14T22:53:15.852+07:00 INFO 2964 --- [rest-api] [ restartedMain] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port 8080 (http)
2025-05-14T22:53:15.871+07:00 INFO 2964 --- [rest-api] [ restartedMain] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2025-05-14T22:53:15.926+07:00 INFO 2964 --- [rest-api] [ restartedMain] o.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/10.1.40
2025-05-14T22:53:15.927+07:00 INFO 2964 --- [rest-api] [ restartedMain] w.s.c.ServletWebServerApplicationContext : Initializing Spring embedded WebApplicationCont
2025-05-14T22:53:16.090+07:00 INFO 2964 --- [rest-api] [ restartedMain] o.hibernate.jpa.internal.util.LogHelper : HHH0000204: Processing PersistenceUnitInfo [name
2025-05-14T22:53:16.161+07:00 INFO 2964 --- [rest-api] [ restartedMain] org.hibernate.Version : HHH0000412: Hibernate ORM core version 6.6.13.Fi
2025-05-14T22:53:16.198+07:00 INFO 2964 --- [rest-api] [ restartedMain] o.h.c.internal.RegionFactoryInitiator : HHH000026: Second-level cache disabled
2025-05-14T22:53:16.491+07:00 INFO 2964 --- [rest-api] [ restartedMain] o.s.o.j.p.SpringPersistenceUnitInfo : No LoadTimeWeaver setup: ignoring JPA class tra
2025-05-14T22:53:16.530+07:00 INFO 2964 --- [rest-api] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2025-05-14T22:53:16.755+07:00 INFO 2964 --- [rest-api] [ restartedMain] com.zaxxer.hikari.pool.HikariPool : HikariPool-1 - Added connection com.mysql.cj.jdbc
2025-05-14T22:53:16.758+07:00 INFO 2964 --- [rest-api] [ restartedMain] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2025-05-14T22:53:16.795+07:00 WARN 2964 --- [rest-api] [ restartedMain] org.hibernate.orm.deprecation : HHH0000025: MySQL8Dialect does not need to be :
2025-05-14T22:53:16.796+07:00 WARN 2964 --- [rest-api] [ restartedMain] org.hibernate.orm.deprecation : HHH0000026: MySQL8Dialect has been deprecated

```

RestApiApplication adalah kelas utama yang menjalankan aplikasi Spring Boot dengan memanggil `SpringApplication.run()`.

7. GET - Mendapatkan Semua Produk

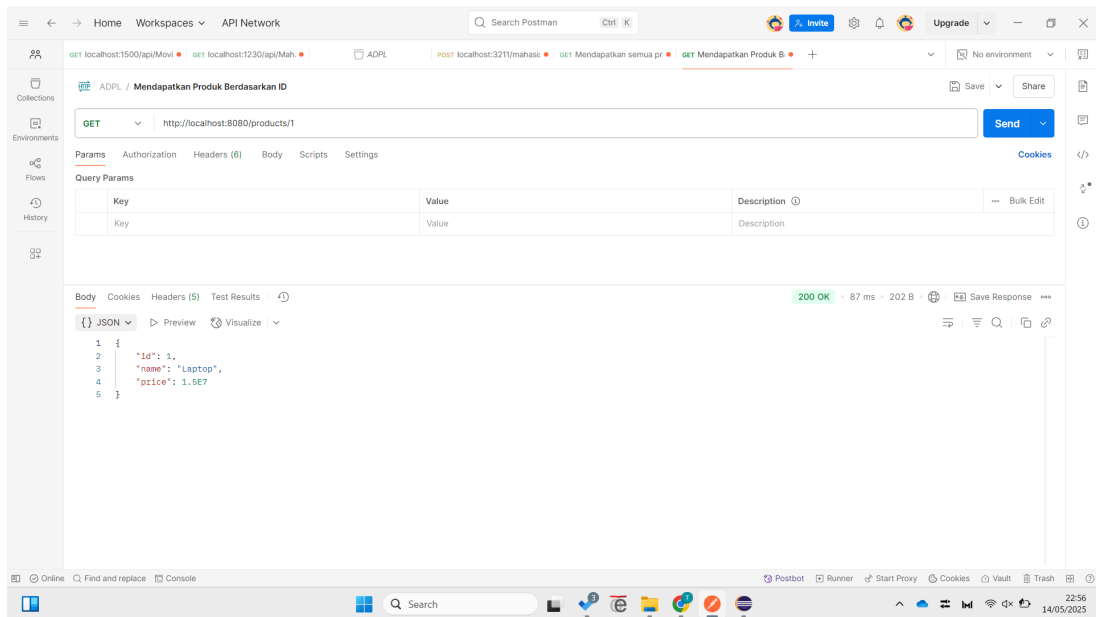
The screenshot shows a Postman collection named "Mendapatkan semua produk" with a GET request to `http://localhost:8080/products`. The response is a 200 OK status with a JSON body containing an array of three product objects.

```

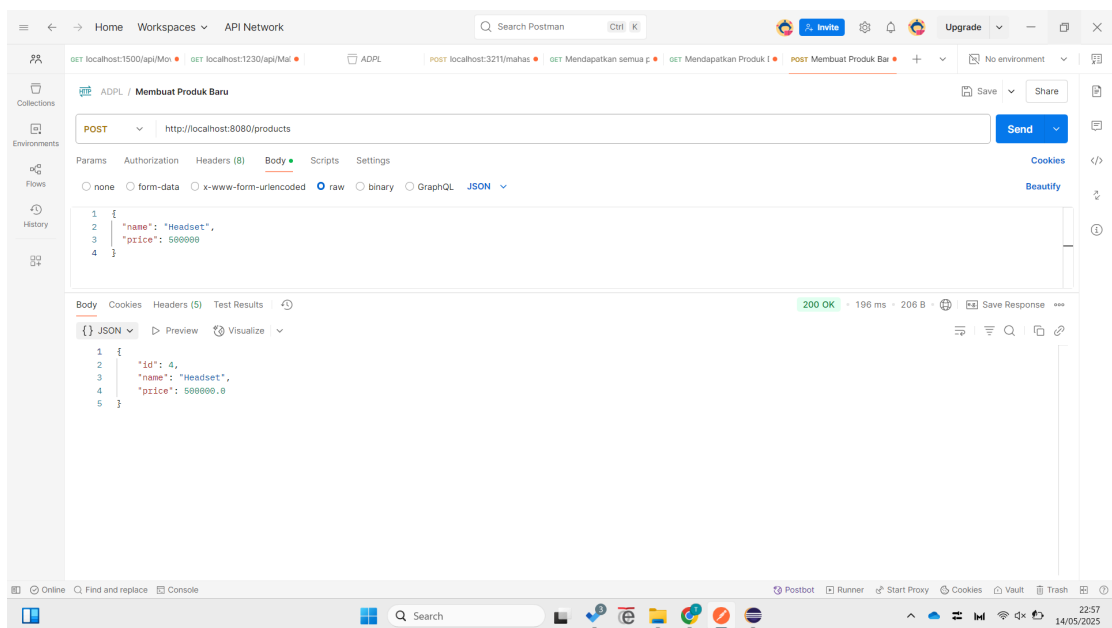
{
  "id": 1,
  "name": "Laptop",
  "price": 1.8E7
},
{
  "id": 2,
  "name": "Mouse",
  "price": 250000.0
},
{
  "id": 3,
  "name": "Keyboard",
  "price": 300000.0
}

```

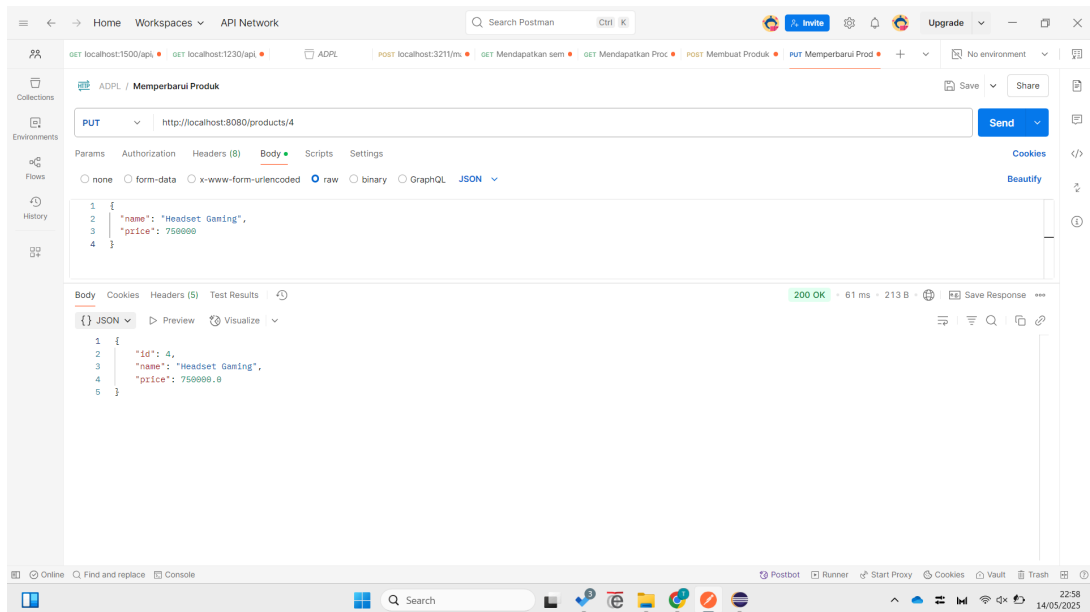
8. GET - Mendapatkan Produk Berdasarkan ID



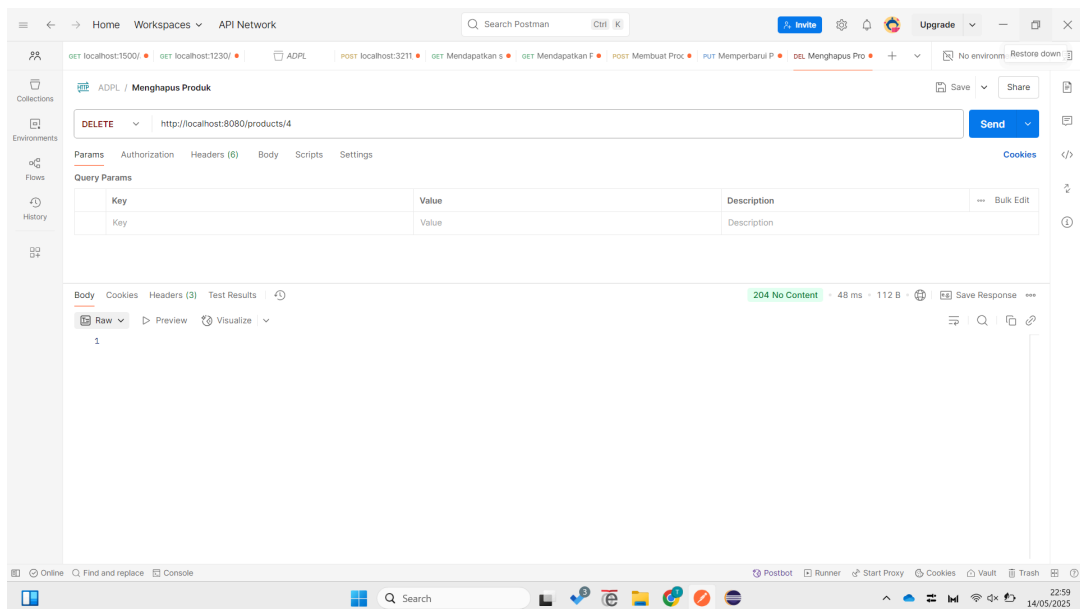
9. POST - Membuat Produk Baru



10. PUT - Memperbarui Produk



11. DELETE - Menghapus Produk



12. Verifikasi di Database

Modul 10 - Tri Mylani - 2311104001

Showing rows 0 - 2 (3 total. Query took 0.0005 seconds)

```
SELECT * FROM `product`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	id	name	price
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	Laptop	1500000
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2	Mouse	250000
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3	Keyboard	300000

↑ ☐ Check all | With selected: ☐ Edit ☐ Copy ☐ Delete ☐ Export

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results operations

☐ Print ☐ Copy to clipboard ☐ Export ☐ Display chart ☐ Create view

Console

Search

23:00
14/05/2025