

# API Design Document: Scalable Tracking Number Generator API

## Overview:

Design and implement a RESTful API that generates unique tracking numbers for parcels. This API must be scalable, efficient, and capable of handling high concurrency.

**Endpoint:** GET /next-tracking-number

## Request:

Name	Data Type	Description
origin_country_id	String	ISO 3166-1 alpha-2 country code for the origin (e.g., "MY").
destination_country_id	String	ISO 3166-1 alpha-2 country code for the destination (e.g., "ID").
weight	Float	Order weight in kilograms (up to 3 decimal places, e.g., "1.234").
created_at	String	Order creation timestamp in RFC 3339 format (e.g., "2018-11-20T19:29:32+08:00").
customer_id	UUID	Customer's unique identifier (e.g., "de619854-b59b-425e-9db4-943979e1bd49").
customer_name	String	Customer's name (e.g., "RedBox Logistics").
customer_slug	String	Customer name in slug-case/kebab-case (e.g., "redbox-logistics").

## Response DTO:

```
public class TrackingNumberResponse {  
    private String trackingNumber;  
    private OffsetDateTime createdAt;  
    private String originCountryId;  
    private String destinationCountryId;  
}
```

## Response Body:

Response code: 200

Example value:

```
{  
    trackingNumber:  
    createdAt:  
    originCountryId:  
    destinationCountryId:  
}
```

**Validation Rules:**

- The generated tracking number must:
  - Match the regex pattern: `^[A-Z0-9]{1,16}$`
  - Be unique (no duplicate tracking numbers allowed).
  - Be generated efficiently.