

## Database Schema Design

The database schema includes two main collections:

1. **Requests**: This collection tracks the status of each image processing request.
2. **Products**: This collection stores product data and associated input and output image URLs.

Here is a detailed schema design for both collections:

### Requests Collection

**Schema Name:** `Request`

**Fields:**

- **id** (String, Required, Unique): The unique identifier for the request.
- **status** (String, Enum, Required): The current status of the request. Possible values are 'PENDING', 'PROCESSING', 'COMPLETED', 'FAILED'.
- **createdAt** (Date, Default: Current Date): The timestamp when the request was created.
- **updatedAt** (Date, Default: Current Date): The timestamp when the request was last updated.

### Products Collection

**Schema Name:** `Product`

**Fields:**

- **requestId** (String, Required): The unique identifier for the request this product is associated with.
- **serialNumber** (Number, Required): The serial number of the product.
- **productName** (String, Required): The name of the product.
- **inputImageUrls** (Array of Strings, Required): A list of URLs pointing to the input images for this product.
- **outputImageUrls** (Array of Strings, Default: []): A list of URLs pointing to the processed output images for this product.
- **createdAt** (Date, Default: Current Date): The timestamp when the product entry was created.
- **updatedAt** (Date, Default: Current Date): The timestamp when the product entry was last updated.

## Database Interaction

### Storing and Tracking Requests

- **Create Request:** When a new CSV file is uploaded, a new request document is created with a unique request ID and status set to **PENDING**.
- **Update Request Status:** As the worker processes the images, the request status is updated to **PROCESSING**, **COMPLETED**, or **FAILED**.

### Storing Product Data

- **Create Product:** For each row in the CSV file, a new product document is created with the associated request ID, serial number, product name, and input image URLs.
- **Update Product Data:** Once the images are processed, the product document is updated with the output image URLs.