RESTful API Design for Public Library Management System

This document outlines the design of a RESTful API for managing authors and books in a public library system.

➢ Resources

The API manages two primary resources:

- **Authors:** Represents an author with properties like full name, date of birth, and bio.
- **Books:** Represents a book with properties like title, subtitle, description, image URL, edition, publishing date, authors (list of references to Author resources), and categories.

➢ API Endpoints and Methods

⬥ Authors

GET /api/authors	- List all authors
GET /api/authors/{id}	- Get a specific author by ID
POST /api/authors	- Add a new author
PUT /api/authors/{id}	- Update an author
DELETE /api/authors/{id}	- Delete an author

⬥ Books

GET /api/books	- List all books
GET /api/books/{id}	- Get a specific book by ID
POST /api/books	- Add a new book
PUT /api/books/{id}	- Update a book
DELETE /api/books/{id}	- Delete a book
GET /api/books/author/{authorId}	- List books by author

⬥ Additional Endpoints

➢ **GET /books/{bookId}/authors: Retrieves a list of authors for a specific book.**

❖ Request Models

✓ Author:

full_name (string)
dob (date)
bio (string)

Book:

title (string)
subtitle (string)
description (string)
image_url (string)
edition (string)
publishing_date (date)
authors (list of author IDs)
categories (list of strings)

Request Models

Book

```
{
  "title": "string",
  "subtitle": "string",
  "description": "string",
  "imageURL": "string",
  "edition": "string",
  "publishingDate": "string",
  "authors": ["string"],
  "categories": ["string"]
}
```

Author

```
{
  "fullName": "string",
  "dob": "string",
  "bio": "string"
}
```

Response Models
Book

```
{
  "id": "integer",
  "title": "string",
  "subtitle": "string",
  "description": "string",
  "imageURL": "string",
  "edition": "string",
  "publishingDate": "string",
  "authors": [
    {
      "id": "integer",
      "fullName": "string"
    }
  ],
  "categories": ["string"]
}
```

Author

```
{
  "id": "integer",
  "fullName": "string",
  "dob": "string",
  "bio": "string"
}
```

Response Models

✓ Author:

id (integer)
full_name (string)
dob (date)
bio (string)
Book:
id (integer)
title (string)
subtitle (string)
description (string)
image_url (string)
edition (string)
publishing_date (date)
authors (list of author objects)
categories (list of strings)

❖ Response Status Codes

`200 OK` - Successful request
`201 Created` - Resource created successfully
`204 No Content` - Resource deleted successfully
`400 Bad Request` - Invalid request payload
`404 Not Found` - Resource not found

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