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Applied Software Engineering Capstone

# Grace

An open-source, cross-platform collection management platform

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# Introduction

Grace as a capstone project is split into three primary components:

### Client # 1

Grace is cross-platform client application, built in Dart with Flutter

### Server # 2

Grace Authentication API is a Node-based REST API serving authentication requests

### Server # 3

Grace Material API is a Go-based REST API serving material requests

# Requirements: Grace

Users should be able to...

- create an account and sign in
- manage their account with a profile dashboard
- view and add books, movies, shows, games to collections

Administrators should be able to...

- view and manage users and materials from a dashboard

# Requirements: Authentication

API should support...

- account creation with email and password
- account creation with an external service
- account sign-in with email and password
- account sign-in with an external service
- account sign-out with cookie removal

# Requirements: Material

API should support material fetching...

- with a type and generated identifier (e.g., UUID)
- with a type and supplied identifier (e.g., ISBN)
- with a type and title
- without a type but with a generated identifier
- without a type but with a supplied identifier
- without a type but with a title

# Artifacts

First iteration includes the following artifacts:

### Grace # 1

Available here - does not interface with either server component.

### Auth API # 2

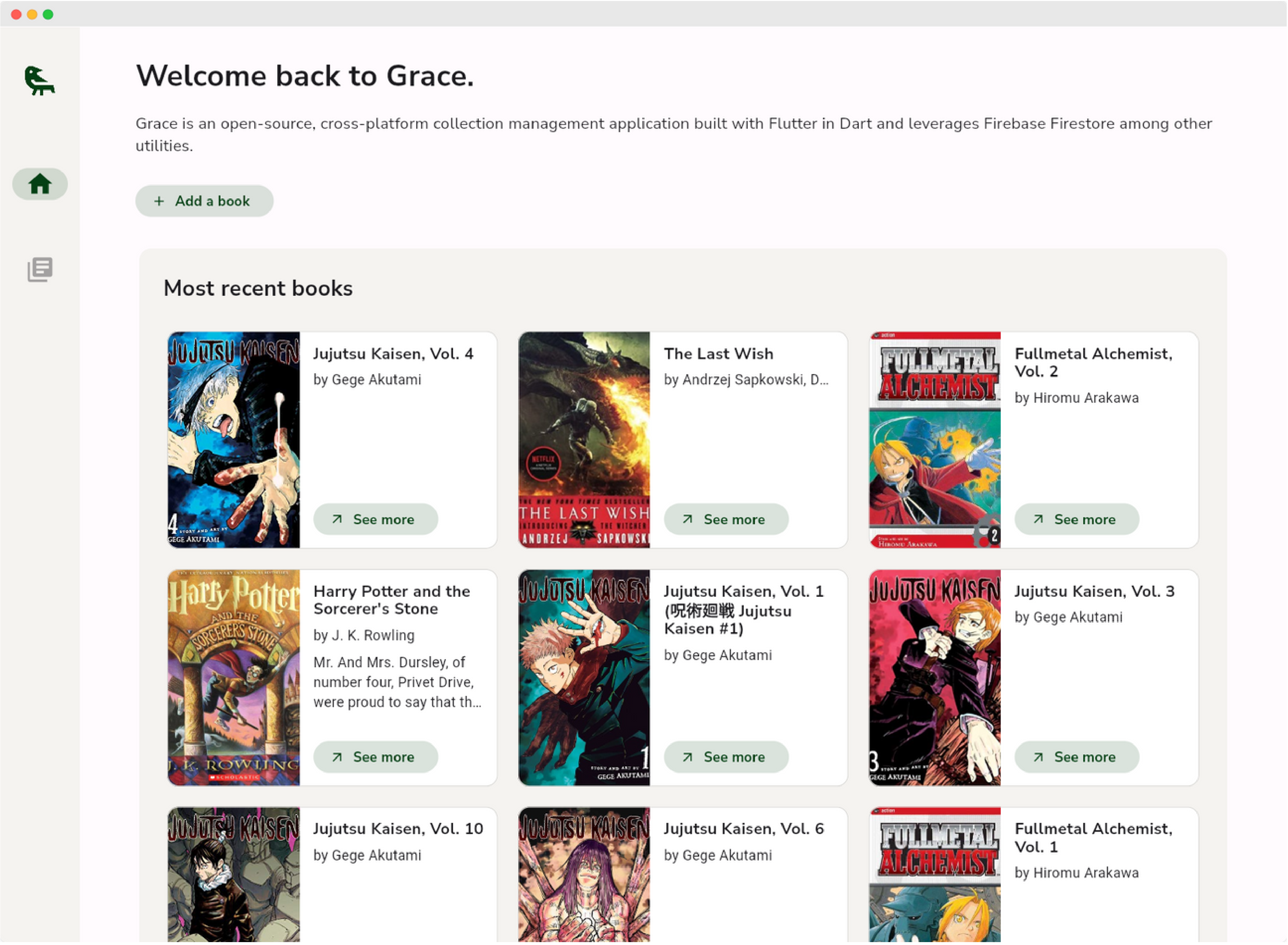
Available here - proof-of-concept can be interfaced with Insomnia

### Material API # 3

Available here - proof-of-concept can be interfaced with Insomnia

# Grace

Grace is cross-platform client application, built in Dart with Flutter, with primary support for web and iOS.



## Welcome back to Grace.

Grace is an open-source, cross-platform collection management application built with Flutter in Dart and leverages Firebase Firestore among other utilities.

### Most recent books

**Jujutsu Kaisen, Vol. 4**
by Gege Akutami

**The Last Wish**
by Andrzej Sapkowski, D...

**Fullmetal Alchemist, Vol. 2**
by Hiromu Arakawa

**Harry Potter and the Sorcerer's Stone**
by J. K. Rowling

Mr. And Mrs. Dursley, of number four, Privet Drive, were proud to say that th...

**Jujutsu Kaisen, Vol. 1 (呪術廻戦 Jujutsu Kaisen #1)**
by Gege Akutami

**Jujutsu Kaisen, Vol. 3**
by Gege Akutami

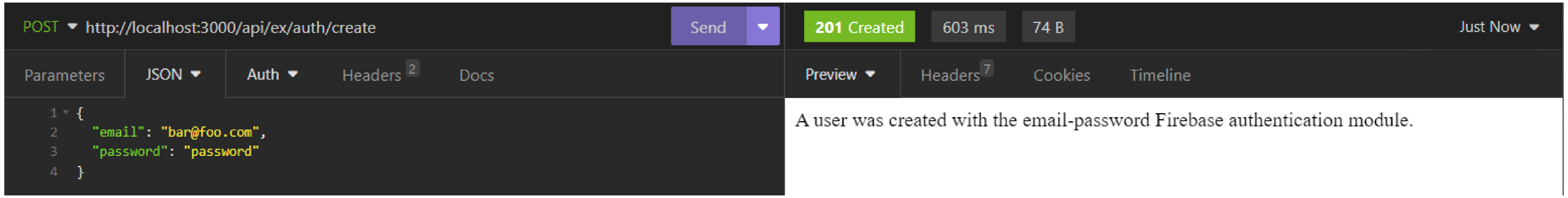
**Jujutsu Kaisen, Vol. 10**
by Gege Akutami

**Jujutsu Kaisen, Vol. 6**
by Gege Akutami

**Fullmetal Alchemist, Vol. 1**
by Hiromu Arakawa

# Authentication API

Grace Authentication API is a Node-based REST API serving authentication requests, interfaced with Insomnia.

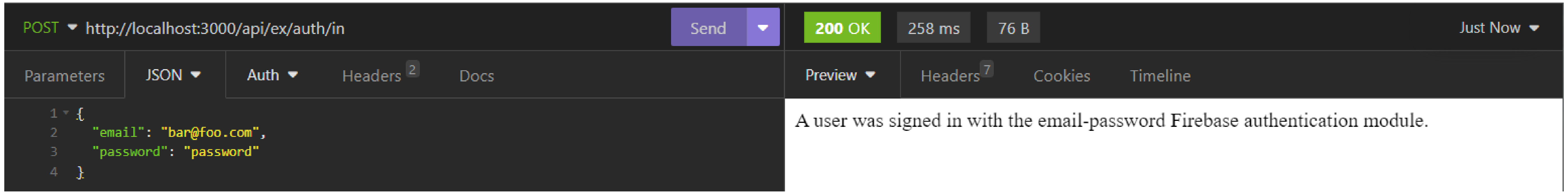


POST http://localhost:3000/api/ex/auth/create

```
{
  "email": "bar@foo.com",
  "password": "password"
}
```

201 Created 603 ms 74 B

A user was created with the email-password Firebase authentication module.



POST http://localhost:3000/api/ex/auth/in

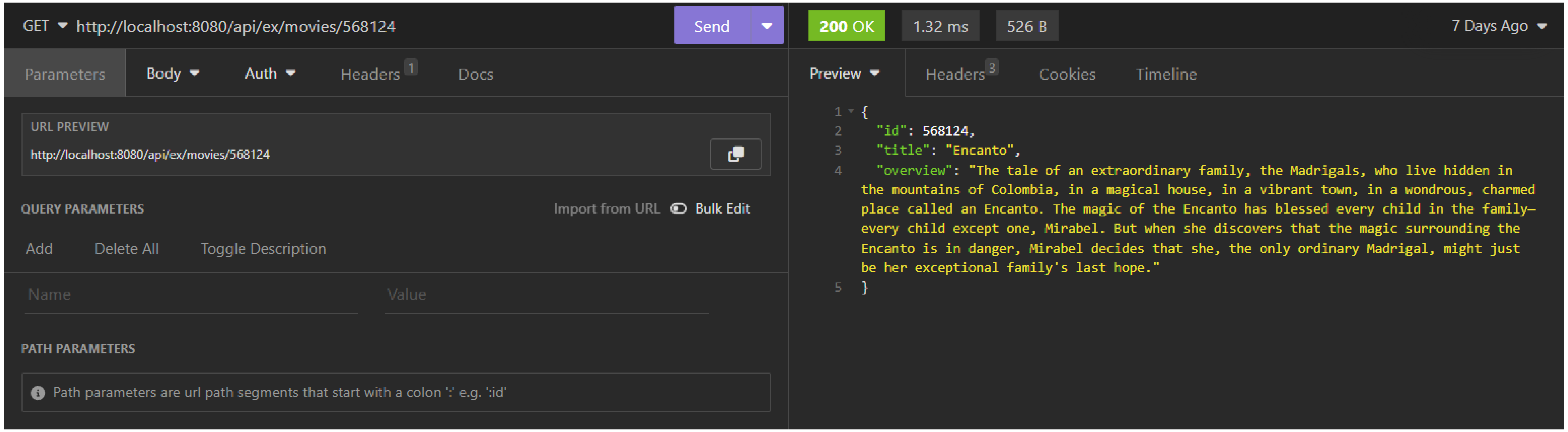
```
{
  "email": "bar@foo.com",
  "password": "password"
}
```

200 OK 258 ms 76 B

A user was signed in with the email-password Firebase authentication module.

# Material API

Grace Material API is a Go-based REST API serving material requests, interfaced with Insomnia.



GET http://localhost:8080/api/ex/movies/568124

http://localhost:8080/api/ex/movies/568124

Path parameters are url path segments that start with a colon ':' e.g. ':id'

200 OK 1.32 ms 526 B

```
{
  "id": 568124,
  "title": "Encanto",
  "overview": "The tale of an extraordinary family, the Madrigals, who live hidden in
the mountains of Colombia, in a magical house, in a vibrant town, in a wondrous, charmed
place called an Encanto. The magic of the Encanto has blessed every child in the family—
every child except one, Mirabel. But when she discovers that the magic surrounding the
Encanto is in danger, Mirabel decides that she, the only ordinary Madrigal, might just
be her exceptional family's last hope."
}
```

# Risk Analysis

Two primary concerns for the second iteration:

- dynamic UI within the scaffold
- authentication library support

Next steps: research and design before development to understand what I don’t know.