17-625 API Design: Homework #3 – gRPC

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Part 1: GitHub Repository

My repository is available at the following link: https://github.com/jaharvey2000/Jaredhar 17625 Assignment3

Part 2: Testing

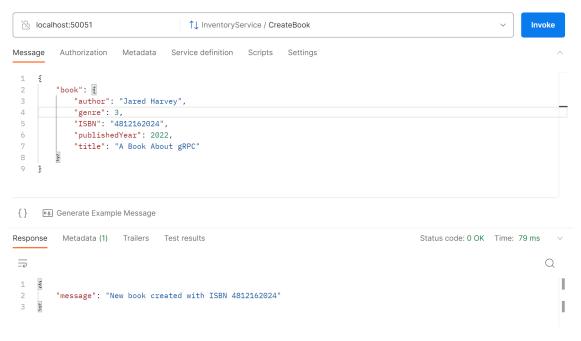
I implemented a small set of test cases to test my gRPC API implementation. Since there are only two RPCs, there are only a few tests run in total. Tests were implemented using one of two common helper functions which are defined in my ./service/inventory_client.py script. All tests are shown below:

RPC	Test Case	Inputs	Outputs
CreateBook	"Happy Path"	A valid Book object with all parameters given	A success message (Status: OK)
CreateBook	Incomplete Book information	A Book object which is missing one or more parameters	An error message with the missing parameter (Status: INVALID_ARGUMENT)
CreateBook	Book already exists in database	A valid Book object, but the ISBN already belongs to another book in the database	An error message saying the book already exists (Status: INVALID_ARGUMENT)
GetBook	"Happy Path"	The ISBN for a book stored in the database	The book with the given ISBN (Status: OK)
GetBook	No book exists with given ISBN	An ISBN for a book that does not exist in the database	An error message saying that no book exists (Status: INVALID_ARGUMENT)

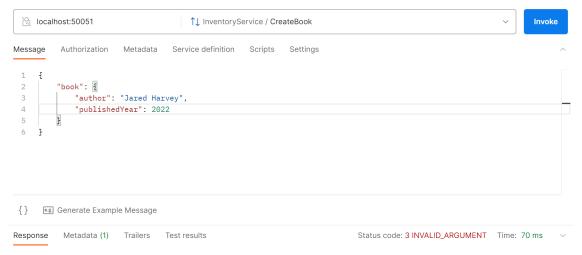
The output of my ./service/inventory client.py script is shown at the end of this report.

I also tested my API using Postman's gRPC feature. I have attached screenshots of each test below:

CreateBook: "Happy Path"



CreateBook: Incomplete Book Information



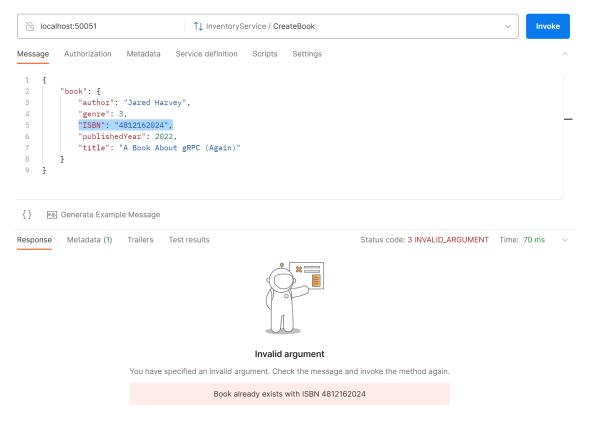


Invalid argument

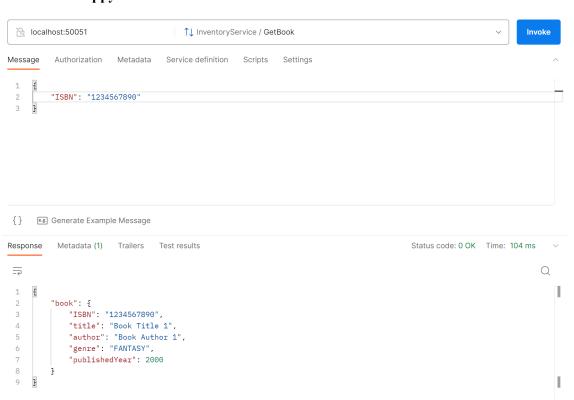
You have specified an invalid argument. Check the message and invoke the method again.

Book missing field "ISBN"

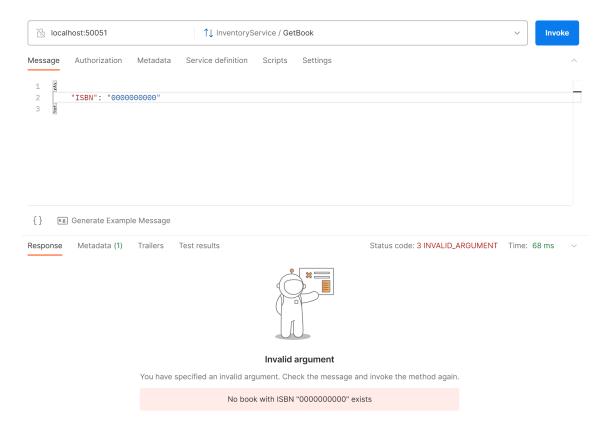
CreateBook: Book Already Exists



GetBook: "Happy Path"



GetBook: No Book Exists



Part 2.1: Testing RPCs via inventory client.py Script

1. CREATEBOOK VALID CASE

Input Book:

ISBN: "4812162024"

title: "Title 4"

author: "Author 4"

genre: NONFICTION

publishedYear: 2022

Client received:

New book created with ISBN 4812162024

2. CREATEBOOK MISSING FIELDS

Input Book:

ISBN: "6121824303"

author: "An Author"

genre: NONFICTION

publishedYear: 2022

Client received error:

Error code: INVALID_ARGUMENT ((3, 'invalid argument'))

Details: Book missing field "title"

3. CREATEBOOK INVALID ISBN

Input Book:

ISBN: "4812162024"

genre: NONFICTION

Client received error:

Error code: INVALID_ARGUMENT ((3, 'invalid argument'))

Details: Book already exists with ISBN 4812162024

4. GETBOOK VALID CASE

Client received:

ISBN: "4812162024"

title: "Title 4"

author: "Author 4"
genre: NONFICTION

publishedYear: 2022

5. GETBOOK INVALID ISBN

Client received error:

Error code: INVALID_ARGUMENT ((3, 'invalid argument'))

Details: No book with ISBN "5101520253" exists
