

Manual Test Plan

Prerequisites

1. Python Compiler
2. Python Version 3.9.0
3. PyCharm IDE
4. MongoDB Atlas

Environment Setup and configurations

- Mac OS environment
- Environment variable: **PASSWORD** to connect to the database
- Conduct manual testing by manually validating each functionality by creating and executing test cases. (<https://reqtest.com/testing-blog/gui-testing-tutorial/>)

Operations and the results

COMMAND LINE

- Run the ui.py file in PyCharm or run `python ui.py` in terminal

```
Enter one of the following keywords to configure the Digital Library:
Scrape Goodreads
Update Library
Export Collection
Keyword: █
```

- The following prompt will appear, asking the user to type one of the 3 keywords
 - User will be prompted again if the keyword entered isn't an exact match to the given 3

```
Keyword: scrape
Invalid keyword. Please select from the given choices.
Enter one of the following keywords to configure the Digital Library:
Scrape Goodreads
Update Library
Export Collection
Keyword:
```

- If **Scrape Goodreads** is entered, the following prompt will appear

```
Keyword: Scrape Goodreads
Enter starting URL: █
```

- The user must enter a valid URL that points to GoodReads and potentially represents a book
 - Otherwise the user will be prompted again

```
Enter starting URL: google.com
URL is not valid. Please try again.
Enter starting URL: █
```

- Once valid URL is entered, the user will be prompted to enter the minimum number of books to scrape

```
Enter starting URL: https://www.goodreads.com/book/show/3735293-clean-code
Enter minimum number of books to scrape:
```

- Similarly after that, the user will be prompted to enter the minimum number of authors to scrape

```
Enter minimum number of books to scrape: 250
Enter minimum number of authors to scrape: █
```

- Once both parameters are entered, the program will check if the parameters are within the bounds of less than 200 books and 50 authors and re prompt the user accordingly

```
Enter minimum number of books to scrape: 250
Enter minimum number of authors to scrape: 60
Parameters not valid. Must be less than than 200 books and 50 authors. Please try again.
Enter minimum number of books to scrape: █
```

- Once valid parameters are set, the scraping will begin

```
Enter minimum number of books to scrape: 10
Enter minimum number of authors to scrape: 5
book 1
https://www.goodreads.com/book/show/3735293-clean-code
author 1
https://www.goodreads.com/author/show/45372.Robert\_C\_Martin
book 2
https://www.goodreads.com/book/show/10284614-the-clean-coder
book 3
https://www.goodreads.com/book/show/4099.The\_Pragmatic\_Programmer
author 2
https://www.goodreads.com/author/show/2815.Andy\_Hunt
█
```

- The user will be notified the progress of the scraping with information such as the type of object being scraped, it's count, and the link being scraped

```
author 5
https://www.goodreads.com/author/show/303158.Russ\_Olsen
book 10
https://www.goodreads.com/book/show/2278064.Design\_Patterns\_in\_Ruby
book 11
https://www.goodreads.com/book/show/3892688-the-well-grounded-rubyist
author 6
Scraping complete.
```

- Once both parameters are fulfilled, the scraping will end with the message "Scraping complete"
- If **Update Library** is entered, the following prompt will appear

```
Keyword: Update Library
```

```
Enter file name: 
```

- Once a file name is entered, the program will attempt to read from JSON files to create new books / authors or update existing books / authors
 - If the file is valid the program will end and update the database in MongoDB
 - Otherwise, there will be a print error for invalid JSON file (e.g., syntax error) and malformed data structure (e.g., what if the JSON is an array, or if the object doesn't have id

```
Enter file name: ../data.json
Invalid JSON file. Please try again.
```

- If **Update Library** is entered, the program will automatically export existing books / authors into a JSON file called data.json

DATABASE

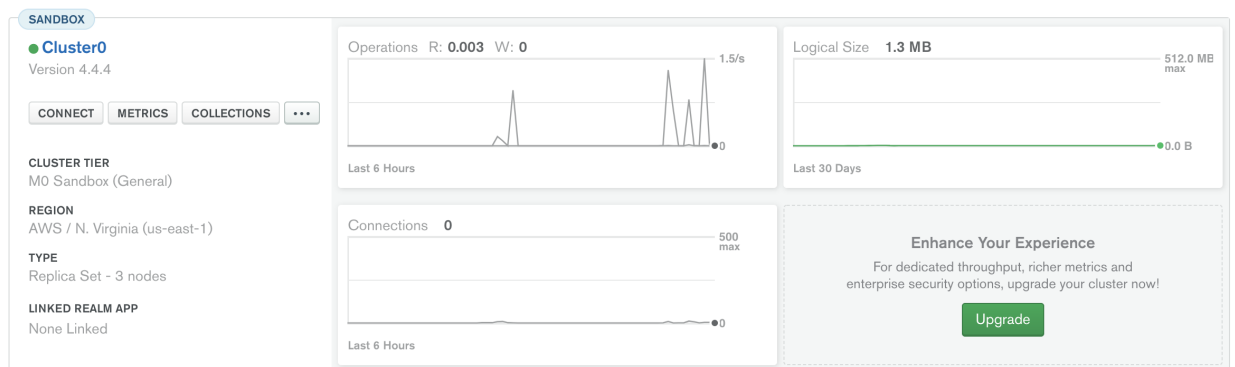
- The data is stored in MongoDB under the database name **goodReads** and collection name is **data**
- The user can view the clusters in the Atlas dashboard and the data resides in Cluster0
- User must click on collections to view more details

AAYUSHI GUPTA > ASSIGNMENT 2.0

Clusters

Create a New Cluster

Find a cluster...



- Upon clicking collections, the user will see the different collections under the Goodreads database

AAYUSHI GUPTA > ASSIGNMENT 2.0 > CLUSTERS

Cluster0 VERSION 4.4.4 REGION AWS N. Virginia (us-e

Overview Real Time Metrics **Collections** Search Profiler Performance Advisor Online Archive Command Line To

DATABASES: 1 COLLECTIONS: 2 VISUALIZE YOUR DATA RE

+ Create Database

Q NAMESPACES

▼ goodReads

data

test

goodReads.data

COLLECTION SIZE: 604.94KB TOTAL DOCUMENTS: 278 INDEXES TOTAL SIZE: 40KB

Find Indexes Schema Anti-Patterns ① Aggregation Search Indexes •

INSERT DOCUMENT

FILTER {"filter": "example"}

Find Re

QUERY RESULTS 1-20 OF MANY

```

_id: ObjectId("603dcd2b2bd4d93e129f1c6ac")
book_url: "https://www.goodreads.com/book/show/3735293-clean-code"
title: "Clean Code: A Handbook of Agile Software Craftsmanship"
book_id: "3735293"
ISBN: "9780132350884"
author_url: "https://www.goodreads.com/author/show/45372.Robert_C_Martin"
author: "Robert C. Martin"

```

- The user can use the filter search to filter through different Books and Authors

FILTER {"filter": "example"}

Find Reset

QUERY RESULTS 1-20 OF MANY

```

_id: ObjectId("603dcd2b2bd4d93e129f1c6ac")
book_url: "https://www.goodreads.com/book/show/3735293-clean-code"
title: "Clean Code: A Handbook of Agile Software Craftsmanship"
book_id: "3735293"
ISBN: "9780132350884"
author_url: "https://www.goodreads.com/author/show/45372.Robert_C_Martin"
author: "Robert C. Martin"
rating: "4.40"
rating_count: "15934"
review_count: "950"
image_url: "https://i.gr-assets.com/images/S/compressed.photo.goodreads.com/books/..."
> similar_books: Array

```

```

> _id: ObjectId("603dcd4bd4d93e129f1c6ad")
author_url: "https://www.goodreads.com/author/show/45372.Robert_C_Martin"
name: "Robert C. Martin"
id: "45372"
rating: "4.34"
rating_count: "29094"
review_count: "1915"
image_url: "https://images.gr-assets.com/authors/1490470967p5/45372.jpg"
> related_authors: Array
> author_books: Array

```

Test Items

1. Check if the **Scrape Goodreads** command works
 - a. Test small valid input
 - i. Enter the following parameters
 1. <https://www.goodreads.com/book/show/3735293-clean-code>
 2. 10
 3. 5
 - ii. Check continually refresh MongoDB Atlas to make sure the database is updating while scraping (success)
 - iii. Make sure there is a “Scraping complete.” message once the program exits (success)
 - iv. Make sure there are at least 10 books and 5 authors that have been scraped (success)

```
book 8
https://www.goodreads.com/book/show/21824181-metaprogramming-ruby-2
book 9
https://www.goodreads.com/book/show/9364729-eloquent-ruby
author 5
https://www.goodreads.com/author/show/303158.Russ\_Olsen
book 10
https://www.goodreads.com/book/show/2278064.Design\_Patterns\_in\_Ruby
book 11
https://www.goodreads.com/book/show/3892688-the-well-grounded-rubyist
author 6
Scraping complete.
```

- b. Test large valid input
 - i. Enter the following parameters
 1. <https://www.goodreads.com/book/show/3735293-clean-code>
 2. 200
 3. 50
 - ii. Check continually refresh MongoDB Atlas to make sure the database is updating while scraping (success)
 - iii. Make sure there is a “Scraping complete.” message once the program exits (success)

- iv. Make sure there are at least 200 books and 50 authors that have been scraped (success)

```
https://www.goodreads.com/book/show/14821675-telomeres-and-telomerase
book 196
https://www.goodreads.com/book/show/4060895-telomeres
book 197
https://www.goodreads.com/book/show/48725507-write-from-the-heart
book 198
https://www.goodreads.com/book/show/5986763-the-harvey-lectures-series-86-1990-1991
book 199
https://www.goodreads.com/book/show/13173611-think-success
book 200
https://www.goodreads.com/book/show/264954.Think_Love
book 201
Scraping complete.
```

- c. Test invalid starting URL
 - i. Enter the following parameters
 - 1. https://www.goodreads.com/author/show/45372.Robert_C_Martin
 - 2. <http://google.com/>
 - ii. Make sure the command line prints “URL is not valid. Please try again.” and prompts the user again
- d. Test invalid minimum parameters
 - i. Enter the following parameters
 - 1. 250 & 75
 - 2. 250 & 50
 - 3. 150 & 75
 - ii. Make sure the command line prints “Parameters not valid. Must be less than 200 books and 50 authors. Please try again.”

2. Check if the **Update Library** command works

a. Test single object insertion

i. Create a json file with the following data

```

  _id: ObjectId("603dcdb2bd4d93e129f1c6ac")
  book_url: "https://www.goodreads.com/book/show/3735293-clean-code"
  title: "Clean Code: A Handbook of Agile Software Craftsmanship"
  book_id: "3735293"
  ISBN: "9780132350884"
  author_url: "https://www.goodreads.com/author/show/45372.Robert_C_Martin"
  author: "Robert C. Martin"
  rating: "4.40"
  rating_count: "15934"
  review_count: "950"
  image_url: "https://i.gr-assets.com/images/S/compressed.photo.goodreads.com/books/..."
  similar_books: Array
    0: "https://www.goodreads.com/book/show/4099.The_Pragmatic_Programmer"
    1: "https://www.goodreads.com/book/show/85009.Design_Patterns"
    2: "https://www.goodreads.com/book/show/44936.Refactoring"
    3: "https://www.goodreads.com/book/show/58128.Head_First_Design_Patterns"
    4: "https://www.goodreads.com/book/show/4845.Code_Complete"
    5: "https://www.goodreads.com/book/show/34927404-effective-java"
    6: "https://www.goodreads.com/book/show/387190.Test_Driven_Development"
    7: "https://www.goodreads.com/book/show/44919.Working_Effectively_with_Leg..."
    8: "https://www.goodreads.com/book/show/179133.Domain_Driven_Design"
    9: "https://www.goodreads.com/book/show/23463279-designing-data-intensive-..."
    10: "https://www.goodreads.com/book/show/23215733-the-software-craftsman"
    -- ...

```

ii. Enter the json file as the parameter

iii. Make sure the database is updated by checking searching up the object id or book title and making sure the number of total documents has increased by 1 (success)

b. Test multiple object insertion

i. Create a json file with more sample data from the database

ii. Enter the json file as the parameter

iii. Make sure the database is updated by making sure the number of total documents has increased by however many objects inserted (success)

c. Test object update

- i. Create a json file with the following data (same data as before but the rating has been updated to 5.00)

```
> {
  "_id": ObjectId("603dcdb2bd4d93e129f1c6ac"),
  "book_url": "https://www.goodreads.com/book/show/3735293-clean-code",
  "title": "Clean Code: A Handbook of Agile Software Craftsmanship",
  "book_id": "3735293",
  "ISBN": "9780132350884",
  "author_url": "https://www.goodreads.com/author/show/45372.Robert_C_Martin",
  "author": "Robert C. Martin",
  "rating": "5.00",
  "rating_count": "15934",
  "review_count": "950",
  "image_url": "https://i.gr-assets.com/images/S/compressed.photo.goodreads.com/books/...",
  "similar_books": Array
    0: "https://www.goodreads.com/book/show/4099.The_Pragmatic_Programmer"
    1: "https://www.goodreads.com/book/show/85009.Design_Patterns"
    2: "https://www.goodreads.com/book/show/44936.Refactoring"
    3: "https://www.goodreads.com/book/show/58128.Head_First_Design_Patterns"
    4: "https://www.goodreads.com/book/show/4845.Code_Complete"
    5: "https://www.goodreads.com/book/show/34927404-effective-java"
    6: "https://www.goodreads.com/book/show/387190.Test_Driven_Development"
    7: "https://www.goodreads.com/book/show/44919.Working_Effectively_with_Leg..."
    8: "https://www.goodreads.com/book/show/179133.Domain_Driven_Design"
    9: "https://www.goodreads.com/book/show/23463279-designing-data-intensive-..."
    10: "https://www.goodreads.com/book/show/23215733-the-software-craftsman"
```

- ii. Enter the json file as the parameter
- iii. Make sure the database is updated by searching for the book and making sure the rating value has changed (success)

d. Test invalid input

- i. Create an invalid JSON file (e.g., syntax error) and malformed data structure (e.g., what if the JSON is an array, or if the object doesn't have id)
- ii. Enter the json file as the parameter
- iii. Make sure the command line prints "Invalid JSON file. Please try again."

3. Check if the **Export Collection** command works
 - a. Test command
 - i. Run the command
 - ii. See if the data.json file successfully exported items from the collection (success)

```
[
  {
    "_id": {
      "$oid": "603dcdb2bd4d93e129f1c6ac"
    },
    "book_url": "https://www.goodreads.com/book/show/3735293-clean-code",
    "title": "Clean Code: A Handbook of Agile Software Craftsmanship",
    "book_id": "3735293",
    "ISBN": "9780132350884",
    "author_url": "https://www.goodreads.com/author/show/45372.Robert_C_Martin",
    "author": "Robert C. Martin",
    "rating": "5.00",
    "rating_count": "15934",
    "review_count": "950",
    "image_url": "https://i.gr-assets.com/images/S/compressed.photo.goodreads.com/books/1436202607",
    "similar_books": [
      "https://www.goodreads.com/book/show/4099.The_Pragmatic_Programmer",
      "https://www.goodreads.com/book/show/85009.Design_Patterns",
      "https://www.goodreads.com/book/show/44936.Refactoring",
      "https://www.goodreads.com/book/show/58128.Head_First_Design_Patterns",
      "https://www.goodreads.com/book/show/4845.Code_Complete",
      "https://www.goodreads.com/book/show/34927404-effective-java",
      "https://www.goodreads.com/book/show/387190.Test_Driven_Development",
      "https://www.goodreads.com/book/show/44919.Working_Effectively_with_Legacy_Code",
      "https://www.goodreads.com/book/show/179133.Domain_Driven_Design",
      "https://www.goodreads.com/book/show/23463279-designing-data-intensive-applications",
      "https://www.goodreads.com/book/show/23215733-the-software-craftsman",
      "https://www.goodreads.com/book/show/13629.The_Mythical_Man_Month",
      "https://www.goodreads.com/book/show/22512931-building-microservices",
      "https://www.goodreads.com/book/show/127932.Java_Concurrency_in_Practice",
      "https://www.goodreads.com/book/show/67833.Extreme_Programming_Explained",
      "https://www.goodreads.com/book/show/2998152-javascript"
    ]
  }
]
```