

Data 607 Web APIs

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New York Times Books API

I choose the book api from New York Times that contains information 15 books. First we use a API Tester to see all the relevant information about the API and what I can get a view where to get the information I need. I need to construct a table from API available information.

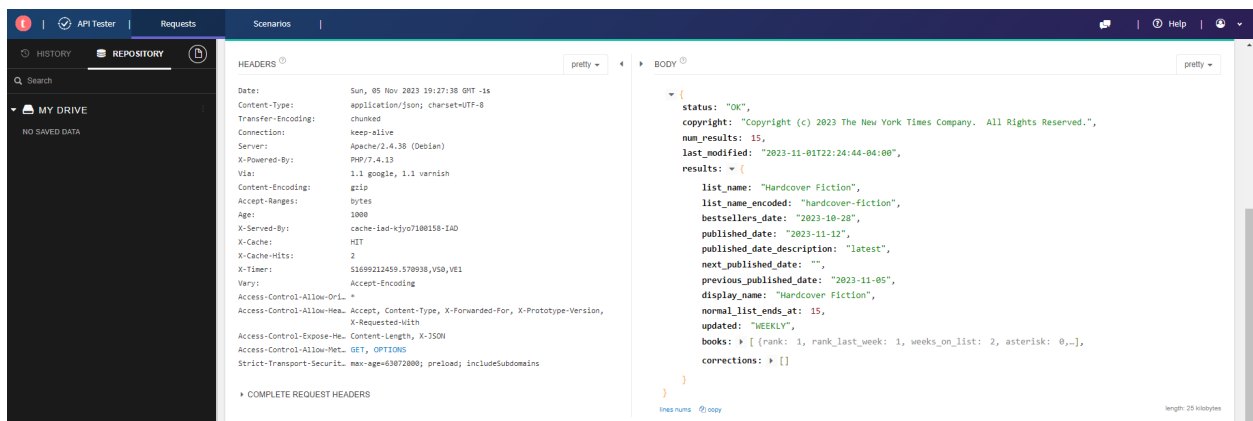


Figure 1: This is API tester from Chrome

```
library(jsonlite)
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v dplyr      1.1.3      v readr      2.1.4
## v forcats    1.0.0      v stringr   1.5.0
## v ggplot2    3.4.3      v tibble    3.2.1
## v lubridate  1.9.2      v tidyr     1.3.0
## v purrr      1.0.2
```

```
## -- Conflicts ----- tidyverse_conflicts() --
```

```
## x dplyr::filter() masks stats::filter()
## x purrr::flatten() masks jsonlite::flatten()
## x dplyr::lag() masks stats::lag()
```

```
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(laers)
library(ggplot2)
library(httr)
library(ggbump)
```

```
# Read the api links
```

```
api_url <- "https://api.nytimes.com/svc/books/v3/lists/current/hardcover-fiction.json?api-key=QFqxixdrj"
```

```
# turn the data into Json Format
data <- fromJSON(api_url)

# based on the API test, select books from the json format
books <- as.data.frame( data$results$books)
```

Lets investigate the Book data set.

```
str(books)
```

```
## 'data.frame': 15 obs. of 26 variables:
## $ rank : int 1 2 3 4 5 6 7 8 9 10 ...
## $ rank_last_week : int 1 0 2 3 0 5 4 6 7 9 ...
## $ weeks_on_list : int 2 1 25 77 1 8 13 4 52 26 ...
## $ asterisk : int 0 0 0 0 0 0 0 0 0 0 ...
## $ dagger : int 0 0 0 0 0 0 0 0 0 0 ...
## $ primary_isbn10 : chr "0385548958" "1984818589" "1649374046" "038554734X" ...
## $ primary_isbn13 : chr "9780385548953" "9781984818584" "9781649374042" "9780385547345" ...
## $ publisher : chr "Doubleday" "Delacorte" "Red Tower" "Doubleday" ...
## $ description : chr "In a sequel to "The Firm," Mitch McDeere, who is now a partner at the
## $ price : chr "0.00" "0.00" "0.00" "0.00" ...
## $ title : chr "THE EXCHANGE" "THE SECRET" "FOURTH WING" "LESSONS IN CHEMISTRY" ...
## $ author : chr "John Grisham" "Lee Child and Andrew Child" "Rebecca Yarros" "Bonnie G
## $ contributor : chr "by John Grisham" "by Lee Child and Andrew Child" "by Rebecca Yarros"
## $ contributor_note : chr "" "" "" "" ...
## $ book_image : chr "https://storage.googleapis.com/du-prd/books/images/9780385548953.jpg"
## $ book_image_width : int 329 331 309 328 326 327 331 331 329 320 ...
## $ book_image_height : int 500 500 500 500 500 500 500 500 500 500 ...
## $ amazon_product_url : chr "https://www.amazon.com/dp/0385548958?tag=NYTBSREV-20" "https://www.am
## $ age_group : chr "" "" "" "" ...
## $ book_review_link : chr "" "" "" "" ...
## $ first_chapter_link : chr "" "" "" "" ...
## $ sunday_review_link : chr "" "" "" "" ...
## $ article_chapter_link: chr "" "" "" "" ...
## $ isbnns :List of 15
## ..$ : 'data.frame': 3 obs. of 2 variables:
## .. ..$ isbn10: chr "0385548958" "0385548966" "0593607481"
## .. ..$ isbn13: chr "9780385548953" "9780385548960" "9780593607480"
## ..$ : 'data.frame': 4 obs. of 2 variables:
## .. ..$ isbn10: chr "1984818589" "1984818597" "0593452801" "0593452798"
## .. ..$ isbn13: chr "9781984818584" "9781984818591" "9780593452806" "9780593452790"
## ..$ : 'data.frame': 4 obs. of 2 variables:
## .. ..$ isbn10: chr "1649374046" "1649374089" "1705085059" "1705085032"
## .. ..$ isbn13: chr "9781649374042" "9781649374080" "9781705085059" "9781705085035"
## ..$ : 'data.frame': 4 obs. of 2 variables:
## .. ..$ isbn10: chr "038554734X" "0593507533" "0385547374" "0593862406"
## .. ..$ isbn13: chr "9780385547345" "9780593507537" "9780385547376" "9780593862407"
## ..$ : 'data.frame': 2 obs. of 2 variables:
## .. ..$ isbn10: chr "198210449X" "1982104511"
## .. ..$ isbn13: chr "9781982104498" "9781982104511"
## ..$ : 'data.frame': 3 obs. of 2 variables:
## .. ..$ isbn10: chr "1668016133" "1668014955" "1797161407"
## .. ..$ isbn13: chr "9781668016138" "9781668014950" "9781797161402"
## ..$ : 'data.frame': 2 obs. of 2 variables:
```

```

## .. ..$ isbn10: chr "006332752X" "0063327546"
## .. ..$ isbn13: chr "9780063327528" "9780063327542"
## ..$ : 'data.frame': 3 obs. of 2 variables:
## .. ..$ isbn10: chr "0593542819" "0593542827" "059378801X"
## .. ..$ isbn13: chr "9780593542811" "9780593542828" "9780593788011"
## ..$ : 'data.frame': 3 obs. of 2 variables:
## .. ..$ isbn10: chr "0063251922" "006325199X" "0063251981"
## .. ..$ isbn13: chr "9780063251922" "9780063251991" "9780063251984"
## ..$ : 'data.frame': 3 obs. of 2 variables:
## .. ..$ isbn10: chr "0802162177" "1705070248" "1705070221"
## .. ..$ isbn13: chr "9780802162175" "9781705070246" "9781705070222"
## ..$ : 'data.frame': 4 obs. of 2 variables:
## .. ..$ isbn10: chr "0525954996" "059365532X" "0593789628" "059378961X"
## .. ..$ isbn13: chr "9780525954996" "9780593655320" "9780593789629" "9780593789612"
## ..$ : 'data.frame': 2 obs. of 2 variables:
## .. ..$ isbn10: chr "1982179007" "1982179023"
## .. ..$ isbn13: chr "9781982179007" "9781982179021"
## ..$ : 'data.frame': 4 obs. of 2 variables:
## .. ..$ isbn10: chr "0593422945" "0593422961" "0593684125" "0593684141"
## .. ..$ isbn13: chr "9780593422946" "9780593422960" "9780593684122" "9780593684146"
## ..$ : 'data.frame': 3 obs. of 2 variables:
## .. ..$ isbn10: chr "0063204150" "0063204185" "0063204169"
## .. ..$ isbn13: chr "9780063204157" "9780063204188" "9780063204164"
## ..$ : 'data.frame': 4 obs. of 2 variables:
## .. ..$ isbn10: chr "0525619992" "0593600142" "0593724704" "0525620001"
## .. ..$ isbn13: chr "9780525619994" "9780593600146" "9780593724705" "9780525620006"
## $ buy_links :List of 15
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/0385548958?tag=NYTBSREV-20" "https://goto.applebooks..."
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/1984818589?tag=NYTBSREV-20" "https://goto.applebooks..."
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/1649374046?tag=NYTBSREV-20" "https://goto.applebooks..."
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/038554734X?tag=NYTBSREV-20" "https://goto.applebooks..."
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/198210449X?tag=NYTBSREV-20" "https://goto.applebooks..."
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/1668016133?tag=NYTBSREV-20" "https://goto.applebooks..."
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/006332752X?tag=NYTBSREV-20" "https://goto.applebooks..."
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/0593542819?tag=NYTBSREV-20" "https://goto.applebooks..."
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/0063251922?tag=NYTBSREV-20" "https://goto.applebooks..."

```

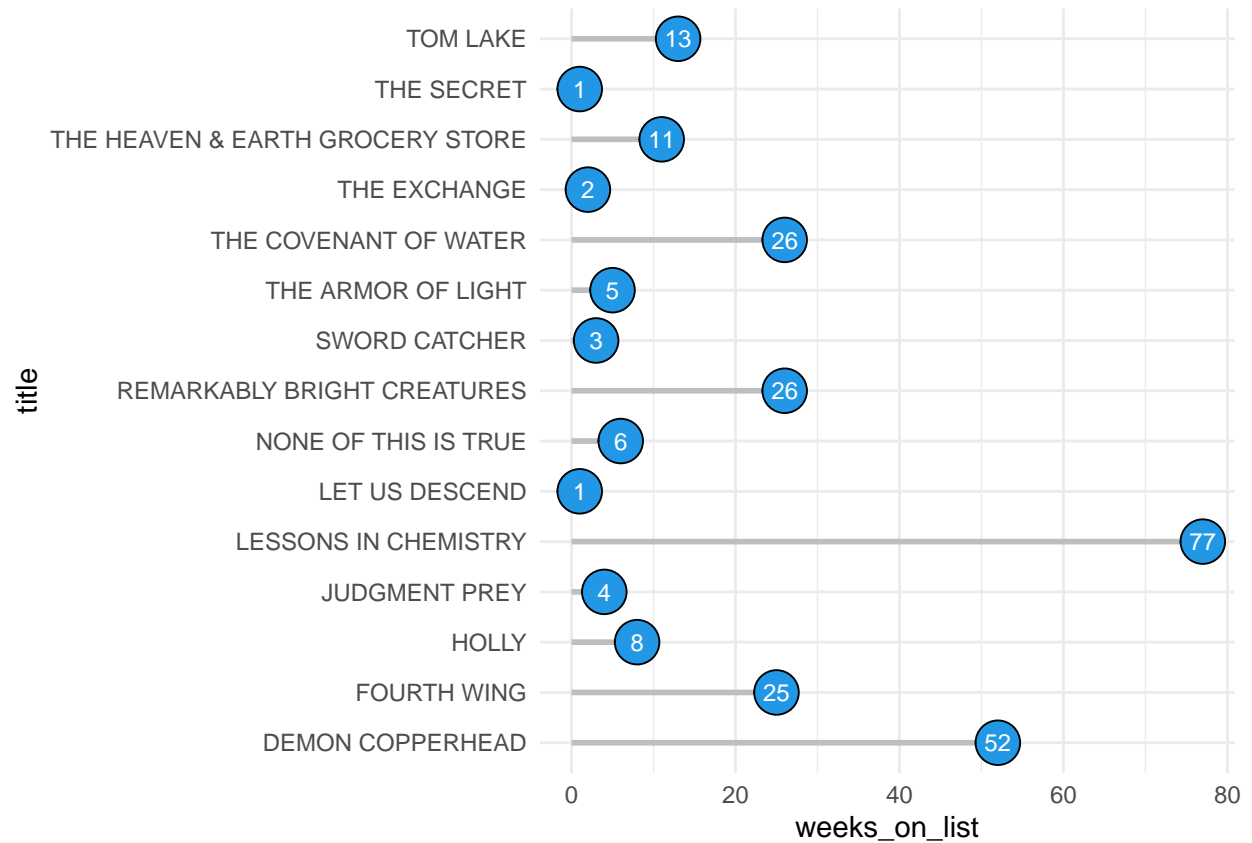
```
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/0802162177?tag=NYTBSREV-20" "https://goto.applebooks.
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/0525954996?tag=NYTBSREV-20" "https://goto.applebooks.
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/1982179007?tag=NYTBSREV-20" "https://goto.applebooks.
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/0593422945?tag=NYTBSREV-20" "https://goto.applebooks.
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/0063204150?tag=NYTBSREV-20" "https://goto.applebooks.
## ..$ : 'data.frame': 6 obs. of 2 variables:
## .. ..$ name: chr "Amazon" "Apple Books" "Barnes and Noble" "Books-A-Million" ...
## .. ..$ url : chr "https://www.amazon.com/dp/0525619992?tag=NYTBSREV-20" "https://goto.applebooks.
## $ book_uri : chr "nyt://book/52c31163-754f-58c8-90d8-ea1f297f7030" "nyt://book/79b1b510"
```

```
# Show preview some columns
head(books) %>% select(6:8,11)
```

```
## primary_isbn10 primary_isbn13 publisher title
## 1 0385548958 9780385548953 Doubleday THE EXCHANGE
## 2 1984818589 9781984818584 Delacorte THE SECRET
## 3 1649374046 9781649374042 Red Tower FOURTH WING
## 4 038554734X 9780385547345 Doubleday LESSONS IN CHEMISTRY
## 5 198210449X 9781982104498 Scribner LET US DESCEND
## 6 1668016133 9781668016138 Scribner HOLLY
```

Lets look at the books that spend more times in the list for highest ranking books

```
ggplot(books, aes(x = title, y = weeks_on_list)) +
  geom_segment(aes(x = title, xend = title, y = 0, yend = weeks_on_list),
    color = "gray", lwd = 1) +
  geom_point(size = 7.5, pch = 21, bg = 4, col = 1) +
  geom_text(aes(label = weeks_on_list), color = "white", size = 3) +
  #scale_x_discrete(labels = paste0("G_", 1:10)) +
  coord_flip() +
  theme_minimal()
```



Conclusion

This graph shows a distribution of all the books that spend weeks in the ranking chart. I access the API from NYTimes Developer account and turn the json data into a R Data Frame and run analysis on it.