

IMDb Movie Rating Scraper – Project Documentation

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Project Type: Individual Project

EXECUTIVE SUMMARY

The **IMDb Movie Rating Scraper** is an automated data extraction tool built using **Python, Selenium, and WebDriver Manager**. The system dynamically loads IMDb's "Top 250 Movies" webpage, extracts important movie information such as *rank*, *title*, *release year*, *rating*, and *movie URL*, and stores the data into a **CSV** file.

This project demonstrates knowledge of **web automation, web scraping, HTML DOM interaction, Python scripting, and structured data export**.

It can be expanded into analytics dashboards, movie trend trackers, or machine-learning datasets for recommendation systems.

PROJECT OBJECTIVE

The main objectives of this project are:

Extract IMDb Top 250 movie details dynamically

Use Selenium to handle JavaScript-rendered content

Export movie data into a structured CSV format

Provide extendable architecture for future scraping (genre, cast, etc.)

Demonstrate browser automation & data scraping skills

PROJECT SCOPE

Included in Scope

- Automated browsing of IMDb Top 250 page
- Extraction of:
 - Movie Rank
 - Movie Title
 - Release Year
 - IMDb Rating
 - URL
- CSV file generation

- Support for headless scraping (no visible browser)

Not Included (Future Scope)

- No extraction from individual movie pages
- No storing in a database
- No analytics dashboard

FEATURES

Dynamic Movie Scraping

Uses Selenium to load the full Top 250 movies page and extract all movie rows dynamically.

Top Movie Ranking Extraction

Scrapes rank, movie name, IMDB rating, and release year.

CSV Export

All extracted movie details are exported into a clean CSV file.

Headless Mode (Optional)

The scraper can run in background mode without opening a browser window.

Easily Expandable

Can be extended to extract:

- cast
- genre
- runtime
- director
- storyline

SYSTEM ARCHITECTURE

1. Selenium WebDriver

Controls Chrome browser and interacts with IMDb website.

2. WebDriver Manager

Automatically downloads compatible ChromeDriver version.

3. Python Script

Handles navigation, extraction, cleaning, and exporting.

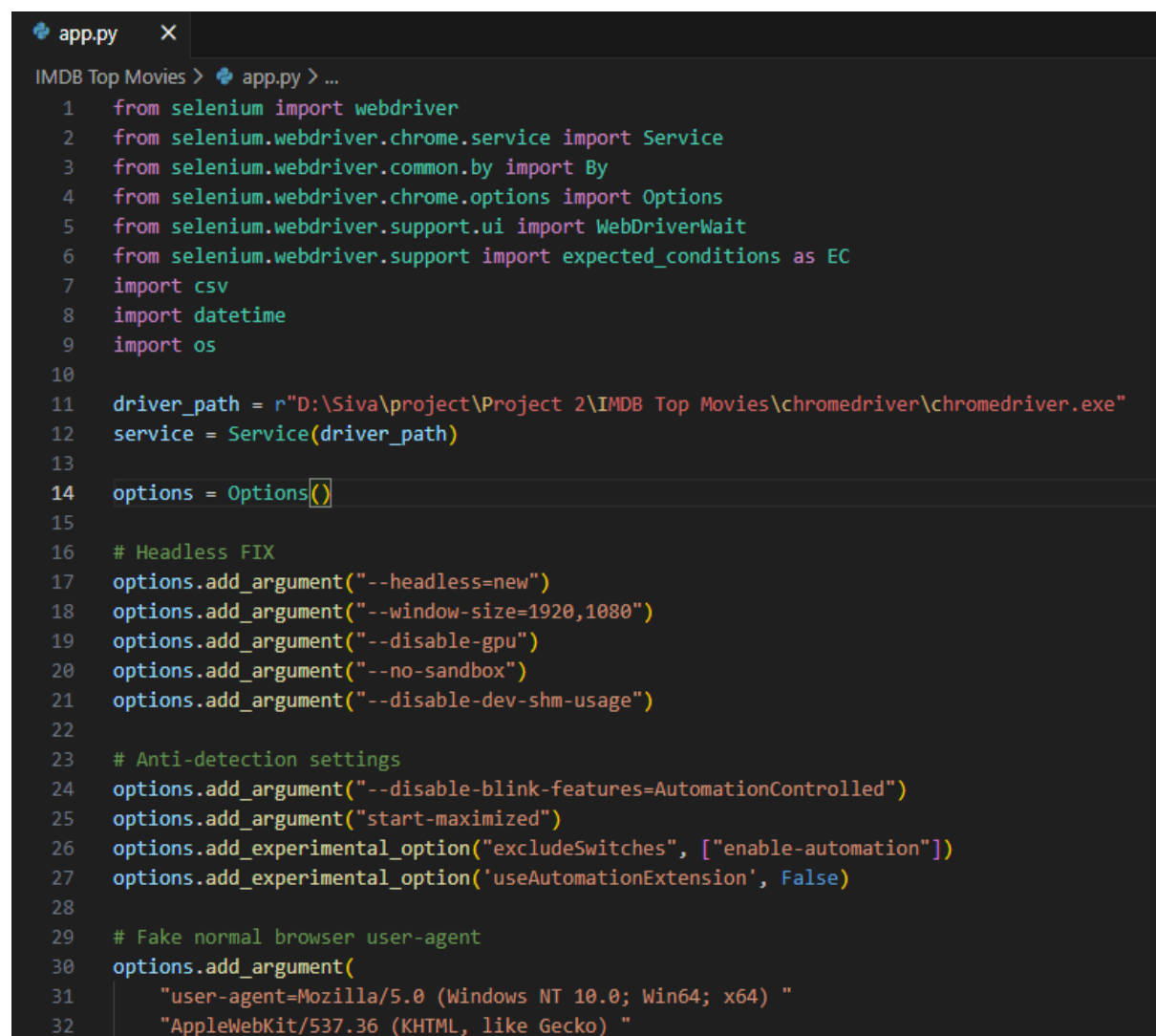
4. Output Layer (CSV)

Stores extracted movie data in structured format ready for analysis.

DATA FLOW

1. User runs Python script
2. Selenium opens IMDb Top 250 webpage
3. Script waits until all movie rows load
4. Extracts movie details from each row
5. Stores data inside a Python list
6. Converts list into a DataFrame
7. Exports final CSV file

SOURCE CODE IMPLEMENTATION



```
app.py x
IMDb Top Movies > app.py > ...
1  from selenium import webdriver
2  from selenium.webdriver.chrome.service import Service
3  from selenium.webdriver.common.by import By
4  from selenium.webdriver.chrome.options import Options
5  from selenium.webdriver.support.ui import WebDriverWait
6  from selenium.webdriver.support import expected_conditions as EC
7  import csv
8  import datetime
9  import os
10
11  driver_path = r"D:\Siva\project\Project 2\IMDb Top Movies\chromedriver\chromedriver.exe"
12  service = Service(driver_path)
13
14  options = Options()
15
16  # Headless FIX
17  options.add_argument("--headless=new")
18  options.add_argument("--window-size=1920,1080")
19  options.add_argument("--disable-gpu")
20  options.add_argument("--no-sandbox")
21  options.add_argument("--disable-dev-shm-usage")
22
23  # Anti-detection settings
24  options.add_argument("--disable-blink-features=AutomationControlled")
25  options.add_argument("start-maximized")
26  options.add_experimental_option("excludeSwitches", ["enable-automation"])
27  options.add_experimental_option('useAutomationExtension', False)
28
29  # Fake normal browser user-agent
30  options.add_argument(
31      "user-agent=Mozilla/5.0 (Windows NT 10.0; Win64; x64) "
32      "AppleWebKit/537.36 (KHTML, like Gecko) "
```

```

33     "Chrome/120.0.0.0 Safari/537.36"
34 )
35
36 driver = webdriver.Chrome(service=service, options=options)
37
38 driver.get("https://www.imdb.com/chart/top/")
39
40 # Important: wait until the movie list is visible
41 WebDriverWait(driver, 15).until(
42     EC.presence_of_element_located((By.CSS_SELECTOR, "li.ipc-metadata-list-summary-item"))
43 )
44
45 movies = driver.find_elements(By.CSS_SELECTOR, "li.ipc-metadata-list-summary-item")
46
47 data = []
48
49 for movie in movies:
50     try:
51         rank_text = movie.find_element(By.CSS_SELECTOR, ".ipc-metadata-list-summary-item__c").text
52         rank = rank_text.replace(".", "").strip()
53         title = movie.find_element(By.CSS_SELECTOR, "h3.ipc-title__text").text
54         year = movie.find_element(By.CSS_SELECTOR, "span.cli-title-metadata-item:nth-child(1)").text
55         rating = movie.find_element(By.CSS_SELECTOR, "span.ipc-rating-star--rating").text
56         url = movie.find_element(By.CSS_SELECTOR, "a.ipc-title-link-wrapper").get_attribute("href")
57
58         data.append([rank, title, year, rating, url])
59
60     except:
61         continue
62 timestamp = datetime.datetime.now().strftime("%Y-%m-%d_%H-%M-%S")
63

```

```

64 # Save CSV
65 with open(f"Top 250 IMDB Movies-{timestamp}.csv", "w", newline="", encoding="utf-8") as f:
66     writer = csv.writer(f)
67     writer.writerow(["Rank", "Title", "Year", "Rating", "URL"])
68     writer.writerows(data)
69
70 print("CSV created successfully!")
71 driver.quit()
72 os.startfile(f'Top 250 IMDB Movies-{timestamp}.csv')
73

```

IMDB Top Movies > main.py > ...

```
1  import time
2  import csv
3  from selenium import webdriver
4  from selenium.webdriver.common.by import By
5  from selenium.webdriver.chrome.service import Service
6  from selenium.webdriver.chrome.options import Options
7
8  service = Service(r"D:\shiv\imdb-rating\chromedriver-win64\chromedriver-win64\chromedriver.exe")
9  options = Options()
10 #options.add_argument("--headless=new")
11
12 driver = webdriver.Chrome(service=service, options=options)
13 driver.get("https://www.imdb.com/chart/top/")
14 time.sleep(3)
15 driver.maximize_window()
16
17
18 movies = driver.find_elements(By.CSS_SELECTOR, ".ipc-metadata-list-summary-item")
19
20 data = []
21 |
22 for movie in movies:
23     # Rank
24     rank_text = movie.find_element(By.CSS_SELECTOR, ".ipc-metadata-list-summary-item_c").text
25     rank = rank_text.split('.', 0).strip()
26
27     # Title
28     title = movie.find_element(By.CSS_SELECTOR, "h3").text
29
30     # Year
31     year = movie.find_element(By.CSS_SELECTOR, ".cli-title-metadata-item").text
```

```
33     # Rating
34     rating_str = movie.find_element(By.CSS_SELECTOR, ".ipc-rating-star--rating").text
35
36     # URL (full)
37     relative_url = movie.find_element(By.CSS_SELECTOR, "a.ipc-title-link-wrapper").get_attribute("href")
38
39     # Save row
40     data.append([rank, title, year, rating_str, relative_url])
41
42 # Save to CSV
43 with open("test-imdb-top250.csv", "w", newline="", encoding="utf-8") as f:
44     writer = csv.writer(f)
45     writer.writerow(["Rank", "Title", "Year", "Rating", "URL"])
46     writer.writerows(data)
47
48 print("CSV saved successfully: imdb_top250.csv")
49
50 driver.quit()
51
```

```
IMDB Top Movies > req.txt
1  attrs==25.4.0
2  beautifulsoup4==4.14.2
3  bs4==0.0.2
4  certifi==2025.11.12
5  cffi==2.0.0
6  charset-normalizer==3.4.4
7  h11==0.16.0
8  idna==3.11
9  numpy==2.3.5
10 outcome==1.3.0.post0
11 packaging==25.0
12 pandas==2.3.3
13 pycparser==2.23
14 PySocks==1.7.1
15 python-dateutil==2.9.0.post0
16 python-dotenv==1.2.1
17 pytz==2025.2
18 requests==2.32.5
19 selenium==4.38.0
20 six==1.17.0
21 sniffio==1.3.1
22 sortedcontainers==2.4.0
23 soupsieve==2.8
24 trio==0.32.0
25 trio-websocket==0.12.2
26 typing_extensions==4.15.0
27 tzdata==2025.2
28 undetected-chromedriver==3.5.5
29 urllib3==2.5.0
30 webdriver-manager==4.0.2
31 websocket-client==1.9.0
32 websockets==15.0.1
33 wsproto==1.3.2
```

OUTPUT

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS D:\Siva\project\Project 2\IMDB Top Movies> py app.py
CSV created successfully!
PS D:\Siva\project\Project 2\IMDB Top Movies> 
```

	A	B	C	D	E	F	G	H	I	J
1	Rank	Title	Year	Rating	URL					
2	#1	The Shawshank Redemption	1994	9.3	https://www.imdb.com/title/tt0111161/?ref_=chttp_t_1					
3	#2	The Godfather	1972	9.2	https://www.imdb.com/title/tt0068646/?ref_=chttp_t_2					
4	#3	The Dark Knight	2008	9.1	https://www.imdb.com/title/tt0468569/?ref_=chttp_t_3					
5	#4	The Godfather Part II	1974	9	https://www.imdb.com/title/tt0071562/?ref_=chttp_t_4					
6	#5	12 Angry Men	1957	9	https://www.imdb.com/title/tt0050083/?ref_=chttp_t_5					
7	#6	The Lord of the Rings: The Return of the King	2003	9	https://www.imdb.com/title/tt0167260/?ref_=chttp_t_6					
8	#7	Schindler's List	1993	9	https://www.imdb.com/title/tt0108052/?ref_=chttp_t_7					
9	#8	The Lord of the Rings: The Fellowship of the Ring	2001	8.9	https://www.imdb.com/title/tt0120737/?ref_=chttp_t_8					
10	#9	Pulp Fiction	1994	8.8	https://www.imdb.com/title/tt0110912/?ref_=chttp_t_9					
11	#10	The Good, the Bad and the Ugly	1966	8.8	https://www.imdb.com/title/tt0060196/?ref_=chttp_t_10					
12	#11	Star Wars: The Force Awakens	2015	8.8	https://www.imdb.com/title/tt2488496/?ref_=chttp_t_11					
13	#12	Forrest Gump	1994	8.8	https://www.imdb.com/title/tt0109830/?ref_=chttp_t_12					
14	#13	Fight Club	1999	8.8	https://www.imdb.com/title/tt0137523/?ref_=chttp_t_13					
15	#14	Inception	2010	8.8	https://www.imdb.com/title/tt1375666/?ref_=chttp_t_14					
16	#15	Star Wars: Episode V - The Empire Strikes Back	1980	8.7	https://www.imdb.com/title/tt0080684/?ref_=chttp_t_15					
17	#16	The Matrix	1999	8.7	https://www.imdb.com/title/tt0133093/?ref_=chttp_t_16					
18	#17	Goodfellas	1990	8.7	https://www.imdb.com/title/tt0099685/?ref_=chttp_t_17					
19	#18	Interstellar	2014	8.7	https://www.imdb.com/title/tt0816692/?ref_=chttp_t_18					
20	#19	One Flew Over the Cuckoo's Nest	1975	8.7	https://www.imdb.com/title/tt0073486/?ref_=chttp_t_19					

	A	B	C	D	E	F	G	H	I	J
41	#40	Whiplash	2014	8.5	https://www.imdb.com/title/tt2582802/?ref_=chttp_t_40					
42	#41	The Prestige	2006	8.5	https://www.imdb.com/title/tt0482571/?ref_=chttp_t_41					
43	#42	American History X	1998	8.5	https://www.imdb.com/title/tt0120586/?ref_=chttp_t_42					
44	#43	LÃ©on: The Professional	1994	8.5	https://www.imdb.com/title/tt0110413/?ref_=chttp_t_43					
45	#44	Spider-Man: Across the Spider-Verse	2023	8.5	https://www.imdb.com/title/tt9362722/?ref_=chttp_t_44					
46	#45	Cinema Paradiso	1988	8.5	https://www.imdb.com/title/tt0095765/?ref_=chttp_t_45					
47	#46	Casablanca	1942	8.5	https://www.imdb.com/title/tt0034583/?ref_=chttp_t_46					
48	#47	The Intouchables	2011	8.5	https://www.imdb.com/title/tt1675434/?ref_=chttp_t_47					
49	#48	The Usual Suspects	1995	8.5	https://www.imdb.com/title/tt0114814/?ref_=chttp_t_48					
50	#49	Alien	1979	8.5	https://www.imdb.com/title/tt0078748/?ref_=chttp_t_49					
51	#50	Modern Times	1936	8.5	https://www.imdb.com/title/tt0027977/?ref_=chttp_t_50					
52	#51	Rear Window	1954	8.5	https://www.imdb.com/title/tt0047396/?ref_=chttp_t_51					
53	#52	Django Unchained	2012	8.5	https://www.imdb.com/title/tt1853728/?ref_=chttp_t_52					
54	#53	Once Upon a Time in the West	1968	8.5	https://www.imdb.com/title/tt0064116/?ref_=chttp_t_53					
55	#54	City Lights	1931	8.5	https://www.imdb.com/title/tt0021749/?ref_=chttp_t_54					
56	#55	Apocalypse Now	1979	8.4	https://www.imdb.com/title/tt0078788/?ref_=chttp_t_55					
57	#56	WALLÃ·E	2008	8.4	https://www.imdb.com/title/tt0910970/?ref_=chttp_t_56					
58	#57	Memento	2000	8.4	https://www.imdb.com/title/tt0209144/?ref_=chttp_t_57					
59	#58	Dune: Part Two	2024	8.4	https://www.imdb.com/title/tt15239678/?ref_=chttp_t_58					
60	#59	Raiders of the Lost Ark	1981	8.4	https://www.imdb.com/title/tt0082971/?ref_=chttp_t_59					

	A	B	C	D	E	F	G	H	I	J
61	#60	Avengers: Infinity War	2018	8.4	https://www.imdb.com/title/tt4154756/?ref_=chttp_t_60					
62	#61	The Lives of Others	2006	8.4	https://www.imdb.com/title/tt0405094/?ref_=chttp_t_61					
63	#62	Spider-Man: Into the Spider-Verse	2018	8.4	https://www.imdb.com/title/tt4633694/?ref_=chttp_t_62					
64	#63	Sunset Boulevard	1950	8.4	https://www.imdb.com/title/tt0043014/?ref_=chttp_t_63					
65	#64	Witness for the Prosecution	1957	8.4	https://www.imdb.com/title/tt0051201/?ref_=chttp_t_64					
66	#65	Paths of Glory	1957	8.4	https://www.imdb.com/title/tt0050825/?ref_=chttp_t_65					
67	#66	The Shining	1980	8.4	https://www.imdb.com/title/tt0081505/?ref_=chttp_t_66					
68	#67	The Great Dictator	1940	8.4	https://www.imdb.com/title/tt0032553/?ref_=chttp_t_67					
69	#68	Inglourious Basterds	2009	8.4	https://www.imdb.com/title/tt0361748/?ref_=chttp_t_68					
70	#69	Aliens	1986	8.4	https://www.imdb.com/title/tt0090605/?ref_=chttp_t_69					
71	#70	12th Fail	2023	8.7	https://www.imdb.com/title/tt23849204/?ref_=chttp_t_70					
72	#71	High and Low	1963	8.4	https://www.imdb.com/title/tt0057565/?ref_=chttp_t_71					
73	#72	The Dark Knight Rises	2012	8.4	https://www.imdb.com/title/tt1345836/?ref_=chttp_t_72					
74	#73	Coco	2017	8.4	https://www.imdb.com/title/tt2380307/?ref_=chttp_t_73					
75	#74	Avengers: Endgame	2019	8.4	https://www.imdb.com/title/tt4154796/?ref_=chttp_t_74					
76	#75	Amadeus	1984	8.4	https://www.imdb.com/title/tt0086879/?ref_=chttp_t_75					
77	#76	Good Will Hunting	1997	8.3	https://www.imdb.com/title/tt0119217/?ref_=chttp_t_76					
78	#77	Toy Story	1995	8.3	https://www.imdb.com/title/tt0114709/?ref_=chttp_t_77					
79	#78	Your Name.	2016	8.4	https://www.imdb.com/title/tt5311514/?ref_=chttp_t_78					
80	#79	Das Boot	1981	8.4	https://www.imdb.com/title/tt0082096/?ref_=chttp_t_79					

81	#80	Oldboy	2003	8.3	https://www.imdb.com/title/tt0364569/?ref=chttp_t_80
82	#81	Dr. Strangelove or: How I Learned to Stop Worrying and Love	1964	8.3	https://www.imdb.com/title/tt0057012/?ref=chttp_t_81
83	#82	Braveheart	1995	8.3	https://www.imdb.com/title/tt0112573/?ref=chttp_t_82
84	#83	Princess Mononoke	1997	8.3	https://www.imdb.com/title/tt0119698/?ref=chttp_t_83
85	#84	American Beauty	1999	8.3	https://www.imdb.com/title/tt0169547/?ref=chttp_t_84
86	#85	3 Idiots	2009	8.4	https://www.imdb.com/title/tt1187043/?ref=chttp_t_85
87	#86	Capernaum	2018	8.4	https://www.imdb.com/title/tt8267604/?ref=chttp_t_86
88	#87	Joker	2019	8.3	https://www.imdb.com/title/tt7286456/?ref=chttp_t_87
89	#88	Once Upon a Time in America	1984	8.3	https://www.imdb.com/title/tt0087843/?ref=chttp_t_88
90	#89	Singin' in the Rain	1952	8.3	https://www.imdb.com/title/tt0045152/?ref=chttp_t_89
91	#90	Come and See	1985	8.3	https://www.imdb.com/title/tt0091251/?ref=chttp_t_90
92	#91	Requiem for a Dream	2000	8.3	https://www.imdb.com/title/tt0180093/?ref=chttp_t_91
93	#92	Star Wars: Episode VI - Return of the Jedi	1983	8.3	https://www.imdb.com/title/tt0086190/?ref=chttp_t_92
94	#93	Toy Story 3	2010	8.3	https://www.imdb.com/title/tt0435761/?ref=chttp_t_93
95	#94	The Hunt	2012	8.3	https://www.imdb.com/title/tt2106476/?ref=chttp_t_94
96	#95	Ikiru	1952	8.3	https://www.imdb.com/title/tt0044741/?ref=chttp_t_95
97	#96	Eternal Sunshine of the Spotless Mind	2004	8.3	https://www.imdb.com/title/tt0338013/?ref=chttp_t_96
98	#97	Incendies	2010	8.3	https://www.imdb.com/title/tt1255953/?ref=chttp_t_97
99	#98	The Apartment	1960	8.3	https://www.imdb.com/title/tt0053604/?ref=chttp_t_98
100	#99	Lawrence of Arabia	1962	8.3	https://www.imdb.com/title/tt0056172/?ref=chttp_t_99

101	#100	2001: A Space Odyssey	1968	8.3	https://www.imdb.com/title/tt0062622/?ref=chttp_t_100
102	#101	Reservoir Dogs	1992	8.3	https://www.imdb.com/title/tt0105236/?ref=chttp_t_101
103	#102	Scarface	1983	8.3	https://www.imdb.com/title/tt0086250/?ref=chttp_t_102
104	#103	Heat	1995	8.3	https://www.imdb.com/title/tt0113277/?ref=chttp_t_103
105	#104	Double Indemnity	1944	8.3	https://www.imdb.com/title/tt0036775/?ref=chttp_t_104
106	#105	Up	2009	8.3	https://www.imdb.com/title/tt1049413/?ref=chttp_t_105
107	#106	North by Northwest	1959	8.3	https://www.imdb.com/title/tt0053125/?ref=chttp_t_106
108	#107	M	1931	8.3	https://www.imdb.com/title/tt0022100/?ref=chttp_t_107
109	#108	Full Metal Jacket	1987	8.2	https://www.imdb.com/title/tt0093058/?ref=chttp_t_108
110	#109	Citizen Kane	1941	8.2	https://www.imdb.com/title/tt0033467/?ref=chttp_t_109
111	#110	Like Stars on Earth	2007	8.3	https://www.imdb.com/title/tt0986264/?ref=chttp_t_110
112	#111	Vertigo	1958	8.2	https://www.imdb.com/title/tt0052357/?ref=chttp_t_111
113	#112	AmÃ©lie	2001	8.3	https://www.imdb.com/title/tt0211915/?ref=chttp_t_112
114	#113	A Separation	2011	8.3	https://www.imdb.com/title/tt1832382/?ref=chttp_t_113
115	#114	Die Hard	1988	8.2	https://www.imdb.com/title/tt0095016/?ref=chttp_t_114
116	#115	To Kill a Mockingbird	1962	8.3	https://www.imdb.com/title/tt0056592/?ref=chttp_t_115
117	#116	Indiana Jones and the Last Crusade	1989	8.2	https://www.imdb.com/title/tt0097576/?ref=chttp_t_116
118	#117	The Sting	1973	8.2	https://www.imdb.com/title/tt0070735/?ref=chttp_t_117
119	#118	A Clockwork Orange	1971	8.2	https://www.imdb.com/title/tt0066921/?ref=chttp_t_118
120	#119	Metropolis	1927	8.3	https://www.imdb.com/title/tt0017136/?ref=chttp_t_119

232	#231	Before Sunset	2004	8.1	https://www.imdb.com/title/tt0381681/?ref=chttp_t_231
233	#232	The Incredibles	2004	8	https://www.imdb.com/title/tt0317705/?ref=chttp_t_232
234	#233	The Exorcist	1973	8.1	https://www.imdb.com/title/tt0070047/?ref=chttp_t_233
235	#234	Hachi: A Dog's Tale	2009	8.1	https://www.imdb.com/title/tt1028532/?ref=chttp_t_234
236	#235	Rush	2013	8.1	https://www.imdb.com/title/tt1979320/?ref=chttp_t_235
237	#236	The Wizard of Oz	1939	8.1	https://www.imdb.com/title/tt0032138/?ref=chttp_t_236
238	#237	The Passion of Joan of Arc	1928	8.1	https://www.imdb.com/title/tt0019254/?ref=chttp_t_237
239	#238	Stand by Me	1986	8.1	https://www.imdb.com/title/tt0092005/?ref=chttp_t_238
240	#239	The Iron Giant	1999	8.1	https://www.imdb.com/title/tt0129167/?ref=chttp_t_239
241	#240	My Father and My Son	2005	8.2	https://www.imdb.com/title/tt0476735/?ref=chttp_t_240
242	#241	The Battle of Algiers	1966	8.1	https://www.imdb.com/title/tt0058946/?ref=chttp_t_241
243	#242	The Handmaiden	2016	8.1	https://www.imdb.com/title/tt4016934/?ref=chttp_t_242
244	#243	Network	1976	8.1	https://www.imdb.com/title/tt0074958/?ref=chttp_t_243
245	#244	Gangs of Wasseypur	2012	8.2	https://www.imdb.com/title/tt1954470/?ref=chttp_t_244
246	#245	Demon Slayer: Kimetsu no Yaiba - The Movie: Mugen Train	2020	8.2	https://www.imdb.com/title/tt11032374/?ref=chttp_t_245
247	#246	The Grapes of Wrath	1940	8.1	https://www.imdb.com/title/tt0032551/?ref=chttp_t_246
248	#247	Drishyam	2015	8.2	https://www.imdb.com/title/tt4430212/?ref=chttp_t_247
249	#248	To Be or Not to Be	1942	8.1	https://www.imdb.com/title/tt0035446/?ref=chttp_t_248
250	#249	Autumn Sonata	1978	8.1	https://www.imdb.com/title/tt0077711/?ref=chttp_t_249
251	#250	Lost Ladies	2023	8.3	https://www.imdb.com/title/tt21626284/?ref=chttp_t_250

TECHNOLOGY STACK

Category	Technologies Used
Language	Python
Libraries	Selenium, pandas, time, webdriver_manager
Automation	Chrome WebDriver
Output	CSV File
Platform	Windows / Linux / Mac

SYSTEM COMPONENTS

Main Python Script

Controls entire scraping process.

WebDriver Manager Module

Manages browser driver versioning.

CSV Output File

Stores the scraped movie data.

OUTPUT DETAILS

The generated CSV contains:

- Rank
- Title
- Release Year
- IMDb Rating
- URL

Example:

Rank	Title	Year	Rating	URL
1	The Shawshank Redemption	1994	9.3	https://...
2	The Godfather	1972	9.2	https://...

KEY ACHIEVEMENTS

Successfully automated IMDb data extraction

Handles JavaScript-rendered web pages

Clean & structured CSV output

Fully scalable scraping architecture

Works with visible or headless browser

LIMITATIONS

Requires internet connection

Cannot bypass CAPTCHA if IMDb blocks automation

No historical tracking

No database storage

Only scrapes Top 250 page

FUTURE ENHANCEMENTS

- Scrape movie genre, cast, director
- Scrape IMDb trending movies & box office
- Store data in SQL or MongoDB
- Build movie analytics dashboard
- Use API instead of scraping
- Add ML-based movie recommendation system

CONCLUSION

The **IMDb Movie Rating Scraper** is a robust mini-project that demonstrates strong skills in:

- ✓ Python scripting
- ✓ Web automation
- ✓ Data scraping
- ✓ Data processing
- ✓ CSV export

It provides an excellent foundation for larger data engineering or movie analytics applications.

The system is reliable, extendable, and fully functional, making it a valuable contribution to automation and data extraction projects.