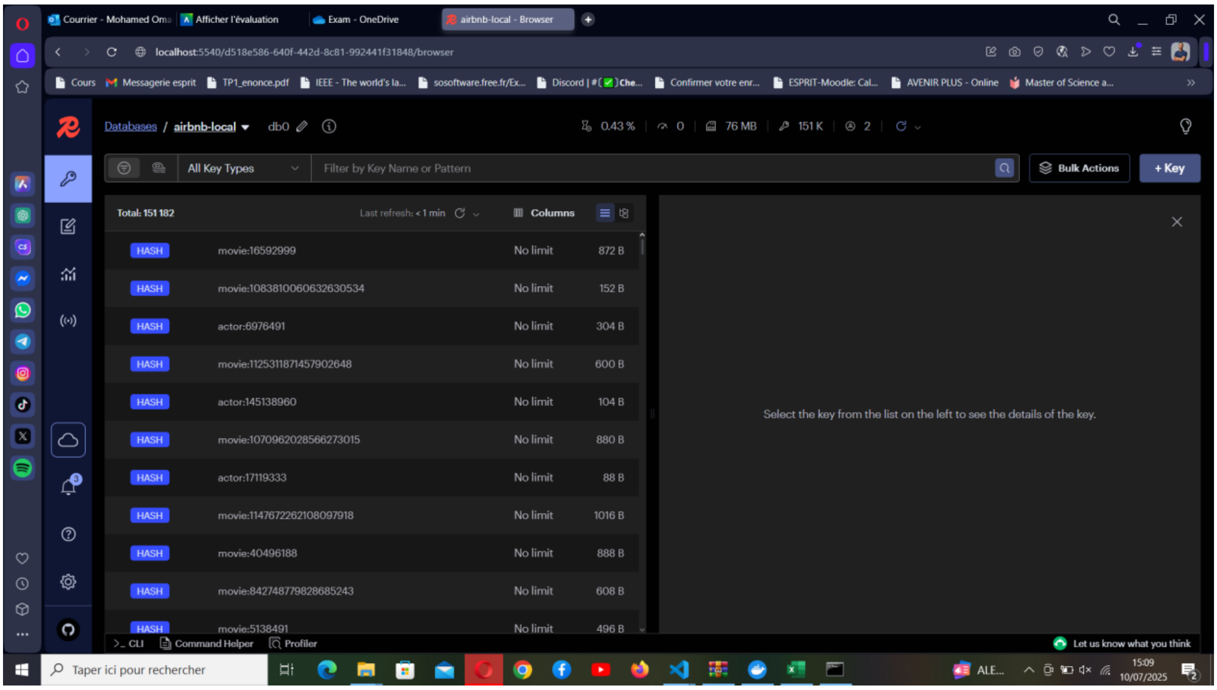
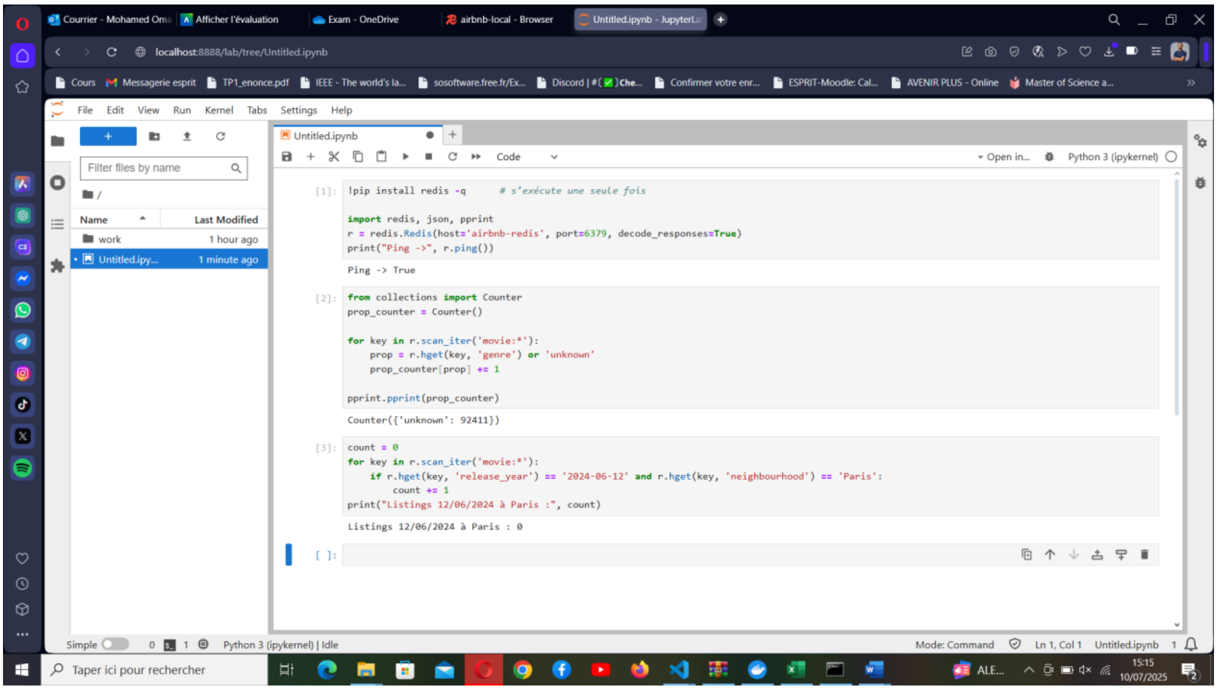


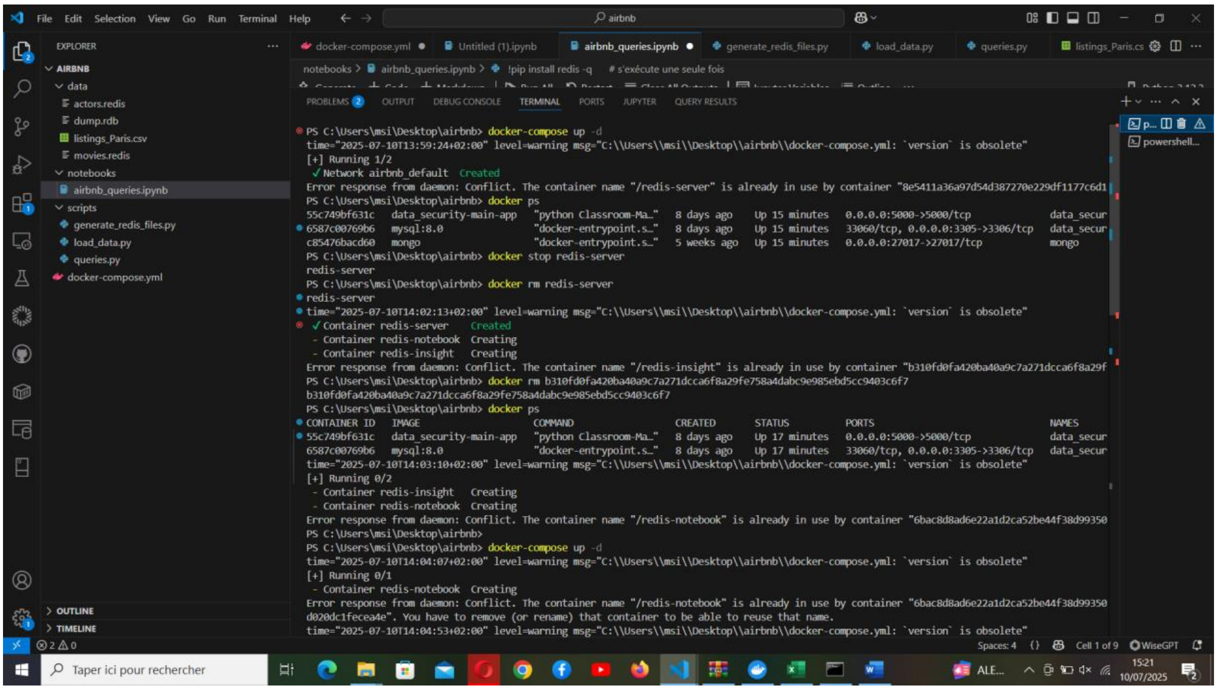
localhost:5540/d518e586-640f-442d-8c81-992441f31848/browser
Databases / airbnb-local
db0
0.43 %
0
76 MB
151 K
2
All Key Types
Filter by Key Name or Pattern
Bulk Actions
+ Key
Last refresh: < 1 min
Columns
Select the key from the list on the left to see the details of the key.
>_ CLI
Command Helper
Profiler
Let us know what you think

Total: 151 182

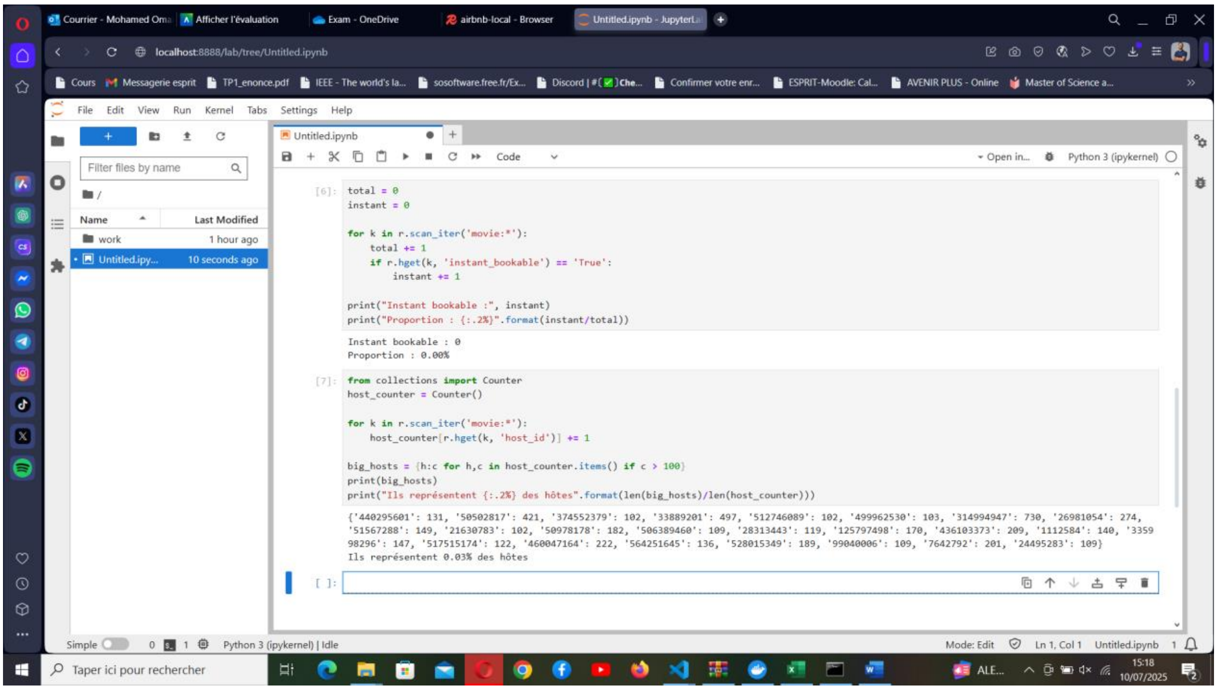
HASH	movie:16592999	No limit	872 B
HASH	movie:1083810060632630534	No limit	152 B
HASH	actor:6976491	No limit	304 B
HASH	movie:1125311871457902648	No limit	600 B
HASH	actor:145138960	No limit	104 B
HASH	movie:1070962028566273015	No limit	880 B
HASH	actor:17119333	No limit	88 B
HASH	movie:1147672262108097918	No limit	1016 B
HASH	movie:40496188	No limit	888 B
HASH	movie:842748779828685243	No limit	608 B
HASH	movie:5138491	No limit	496 B



```
[1]: !pip install redis -q      # s'exécute une seule fois

     import redis, json, pprint
     r = redis.Redis(host='airbnb-redis', port=6379, decode_responses=True)
     print("Ping ->", r.ping())

     Ping -> True

[2]: from collections import Counter
     prop_counter = Counter()

     for key in r.scan_iter('movie:*'):
         prop = r.hget(key, 'genre') or 'unknown'
         prop_counter[prop] += 1

     pprint.pprint(prop_counter)

     Counter({'unknown': 92411})

[3]: count = 0
     for key in r.scan_iter('movie:*'):
         if r.hget(key, 'release_year') == '2024-06-12' and r.hget(key, 'neighbourhood') == 'Paris':
             count += 1
     print("Listings 12/06/2024 à Paris :", count)

     Listings 12/06/2024 à Paris : 0

[ ]:
```



```
PS C:\Users\msi\Desktop\airbnb> docker-compose up -d
time="2025-07-10T13:59:24+02:00" level=warning msg="C:\\Users\\msi\\Desktop\\airbnb\\docker-compose.yml: `version` is obsolete"
[+] Running 1/2
 ✓ Network airbnb_default  Created
Error response from daemon: Conflict. The container name "/redis-server" is already in use by container "8e5411a36a97d54d387270e229df1177c6d1
PS C:\Users\msi\Desktop\airbnb> docker ps
55c749bf631c   data_security-main-app   "python Classroom-Ma…"   8 days ago    Up 15 minutes   0.0.0.0:5000->5000/tcp              data_secur
6587c00769b6   mysql:8.0                "docker-entrypoint.s…"   8 days ago    Up 15 minutes   33060/tcp, 0.0.0.0:3305->3306/tcp   data_secur
c85476bacd60   mongo                    "docker-entrypoint.s…"   5 weeks ago   Up 15 minutes   0.0.0.0:27017->27017/tcp            mongo
PS C:\Users\msi\Desktop\airbnb> docker stop redis-server
redis-server
PS C:\Users\msi\Desktop\airbnb> docker rm redis-server
redis-server
time="2025-07-10T14:02:13+02:00" level=warning msg="C:\\Users\\msi\\Desktop\\airbnb\\docker-compose.yml: `version` is obsolete"
 ✓ Container redis-server    Created
 - Container redis-notebook  Creating
 - Container redis-insight   Creating
Error response from daemon: Conflict. The container name "/redis-insight" is already in use by container "b310fd0fa420ba40a9c7a271dcca6f8a29f
PS C:\Users\msi\Desktop\airbnb> docker rm b310fd0fa420ba40a9c7a271dcca6f8a29fe758a4dabc9e985ebd5cc9403c6f7
b310fd0fa420ba40a9c7a271dcca6f8a29fe758a4dabc9e985ebd5cc9403c6f7
PS C:\Users\msi\Desktop\airbnb> docker ps
CONTAINER ID   IMAGE                    COMMAND                  CREATED       STATUS          PORTS                               NAMES
55c749bf631c   data_security-main-app   "python Classroom-Ma…"   8 days ago    Up 17 minutes   0.0.0.0:5000->5000/tcp              data_secur
6587c00769b6   mysql:8.0                "docker-entrypoint.s…"   8 days ago    Up 17 minutes   33060/tcp, 0.0.0.0:3305->3306/tcp   data_secur
time="2025-07-10T14:03:10+02:00" level=warning msg="C:\\Users\\msi\\Desktop\\airbnb\\docker-compose.yml: `version` is obsolete"
[+] Running 0/2
 - Container redis-insight   Creating
 - Container redis-notebook  Creating
Error response from daemon: Conflict. The container name "/redis-notebook" is already in use by container "6bac8d8ad6e22a1d2ca52be44f38d99350
PS C:\Users\msi\Desktop\airbnb>
PS C:\Users\msi\Desktop\airbnb> docker-compose up -d
time="2025-07-10T14:04:07+02:00" level=warning msg="C:\\Users\\msi\\Desktop\\airbnb\\docker-compose.yml: `version` is obsolete"
[+] Running 0/1
 - Container redis-notebook  Creating
Error response from daemon: Conflict. The container name "/redis-notebook" is already in use by container "6bac8d8ad6e22a1d2ca52be44f38d99350
d020dc1fecea4e". You have to remove (or rename) that container to be able to reuse that name.
time="2025-07-10T14:04:53+02:00" level=warning msg="C:\\Users\\msi\\Desktop\\airbnb\\docker-compose.yml: `version` is obsolete"
```



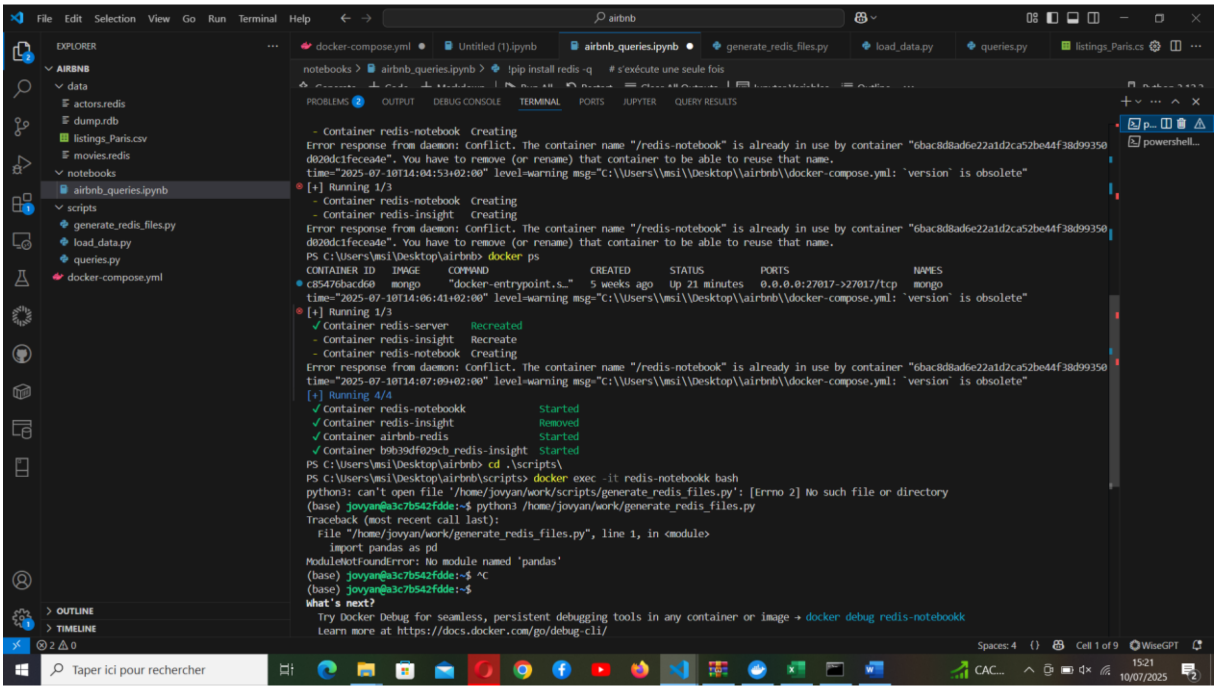
```
[6]: total = 0
     instant = 0

     for k in r.scan_iter('movie:*'):
         total += 1
         if r.hget(k, 'instant_bookable') == 'True':
             instant += 1

     print("Instant bookable :", instant)
     print("Proportion : {:.2%}".format(instant/total))
```

```
Instant bookable : 0
Proportion : 0.00%
```

```
[7]: from collections import Counter
     host_counter = Counter()

     for k in r.scan_iter('movie:*'):
         host_counter[r.hget(k, 'host_id')] += 1

     big_hosts = {h:c for h,c in host_counter.items() if c > 100}
     print(big_hosts)
     print("Ils représentent {:.2%} des hôtes".format(len(big_hosts)/len(host_counter)))
```

```
{'440295601': 131, '50502817': 421, '374552379': 102, '33889201': 497, '512746089': 102, '499962530': 103, '314994947': 730, '26981054': 274,
'51567288': 149, '21630783': 102, '50978178': 182, '506389460': 109, '28313443': 119, '125797498': 170, '436103373': 209, '1112584': 140, '3359
98296': 147, '517515174': 122, '460047164': 222, '564251645': 136, '528015349': 189, '99040006': 109, '7642792': 201, '24495283': 109}
Ils représentent 0.03% des hôtes
```

```
[ ]:
```



```
 - Container redis-notebook  Creating
Error response from daemon: Conflict. The container name "/redis-notebook" is already in use by container "6bac8d8ad6e22a1d2ca52be44f38d99350
d020dc1fecea4e". You have to remove (or rename) that container to be able to reuse that name.
time="2025-07-10T14:04:53+02:00" level=warning msg="C:\\Users\\msi\\Desktop\\airbnb\\docker-compose.yml: `version` is obsolete"
[+] Running 1/3
 - Container redis-notebook  Creating
 - Container redis-insight   Creating
Error response from daemon: Conflict. The container name "/redis-notebook" is already in use by container "6bac8d8ad6e22a1d2ca52be44f38d99350
d020dc1fecea4e". You have to remove (or rename) that container to be able to reuse that name.
PS C:\Users\msi\Desktop\airbnb> docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED       STATUS          PORTS                      NAMES
c85476bacd60   mongo     "docker-entrypoint.s…"   5 weeks ago   Up 21 minutes   0.0.0.0:27017->27017/tcp   mongo
time="2025-07-10T14:06:41+02:00" level=warning msg="C:\\Users\\msi\\Desktop\\airbnb\\docker-compose.yml: `version` is obsolete"
[+] Running 1/3
 ✓ Container redis-server    Recreated
 - Container redis-insight   Recreate
 - Container redis-notebook  Creating
Error response from daemon: Conflict. The container name "/redis-notebook" is already in use by container "6bac8d8ad6e22a1d2ca52be44f38d99350
time="2025-07-10T14:07:09+02:00" level=warning msg="C:\\Users\\msi\\Desktop\\airbnb\\docker-compose.yml: `version` is obsolete"
[+] Running 4/4
 ✓ Container redis-notebookk             Started
 ✓ Container redis-insight               Removed
 ✓ Container airbnb-redis                Started
 ✓ Container b9b39df029cb_redis-insight  Started
PS C:\Users\msi\Desktop\airbnb> cd .\scripts\
PS C:\Users\msi\Desktop\airbnb\scripts> docker exec -it redis-notebookk bash
python3: can't open file '/home/jovyan/work/scripts/generate_redis_files.py': [Errno 2] No such file or directory
(base) jovyan@a3c7b542fdde:~$ python3 /home/jovyan/work/generate_redis_files.py
Traceback (most recent call last):
  File "/home/jovyan/work/generate_redis_files.py", line 1, in <module>
    import pandas as pd
ModuleNotFoundError: No module named 'pandas'
(base) jovyan@a3c7b542fdde:~$ ^C
(base) jovyan@a3c7b542fdde:~$
What's next?
  Try Docker Debug for seamless, persistent debugging tools in any container or image → docker debug redis-notebookk
  Learn more at https://docs.docker.com/go/debug-cli/
```

1. NoSQL Model Chosen: Key-Value Store (Redis)

We chose **Redis** as a key-value store due to its high performance and simplicity for fast data access. The dataset (actors and movies) is well-suited for Redis hashes, enabling quick lookups via unique keys. Redis is ideal for simple queries like "get actor by ID" or "list top-rated movies", and scales easily with Redis Cluster, making it appropriate for large datasets and real-time analytics.

---

2. NoSQL Schema Design (Redis)

- **Actors:**
  - **Key format:** actor:<id>
  - **Structure:** Hash
  - **Example fields:** first_name, last_name, date_of_birth
- **Movies:**
  - **Key format:** movie:<id>
  - **Structure:** Hash
  - **Example fields:** title, genre, votes, rating, release_year

To support queries like sorting by rating or filtering by genre, we can optionally use:

- **Sorted Sets:** movies_by_rating
- **Sets by genre:** genre:<name>

Denormalization:
We accept redundancy (e.g., storing genre inside each movie hash) since Redis does not support joins. This ensures fast and simple access without complex lookups.