Twitter Relational Database Api Analysis and Report By: Julen Marmol Martin

Hardware Configuration

CPU Model: 11th Gen Intel® Core™ i7-1165G7

CPU Speed: 2.80 GHz

Number of CPU Cores: 4

Number of CPU Threads: 8

RAM: 16,0 GB (15,7 GB usable)

Disk: NVMe INTEL SSDPEKNW512GB

Operating System: Windows 11 Pro

Software Configuration

Database: Redis

Database Version: lettuce-core:6.1.5

Programming Language: Java 19

Libraries Used: util, BufferedReader, FileReader, IOException, Files, Paths,

API Performance

API Function	API Function Calls/Sec
postTweet	2094.42
getHomeTimeline	1785.2

- Factors Influencing API performance:
  - Data Structure: The data structure design choice made inserting tweets a low process. Because when a tweet is inserted, the timeline of all of the followers of that user gets updated.
  - High RAM usage by other applications: At the time I ran the program, There were multiple other programs opened; around 50 tabs in google chrome, 2 word documents. It is likely that these programs could've impacted the performance of the program by using about 50% (8 GB) of the available ram.
  - Battery Mode: I ran the program with my laptop using battery power. I've previously noticed that when I run resource-intensive programs on battery mode, the performance of the laptop is significantly worse than when plugged in.