

Gage White

Lobster Notes: Performance Analysis and Optimization

One of the issues I encountered in the Professor Dashboard was with the course search bar. The initial setup I had would update the results with each keypress, which queried the database each time a character was entered, and resulted in searches being incredibly slow. Below is a screenshot from the backend, just typing in “computer”:

```
127.0.0.1 - - [08/Dec/2025 21:38:29] "GET /api/professor/1/courses?search=CO HTTP/1.1" 200 -
127.0.0.1 - - [08/Dec/2025 21:38:31] "GET /api/professor/1/courses?search=COM HTTP/1.1" 200 -
127.0.0.1 - - [08/Dec/2025 21:38:33] "GET /api/professor/1/courses?search=COMP HTTP/1.1" 200 -
127.0.0.1 - - [08/Dec/2025 21:38:34] "GET /api/professor/1/courses?search=COMPU HTTP/1.1" 200 -
127.0.0.1 - - [08/Dec/2025 21:38:36] "GET /api/professor/1/courses?search=COMPUT HTTP/1.1" 200 -
127.0.0.1 - - [08/Dec/2025 21:38:39] "GET /api/professor/1/courses?search=COMPUTE HTTP/1.1" 200 -
127.0.0.1 - - [08/Dec/2025 21:38:39] "GET /api/professor/1/courses?search=COMPUTER HTTP/1.1" 200 -
```

Ten seconds is a long time for one query. I decided to remove the functionality of updating results in real time and instead waiting for the user to press enter. It was a little more challenging recording a time, but it took seven seconds to enter “cos” as a query, then click back in and enter “computer” as a query, so that is an improvement.

```
127.0.0.1 - - [08/Dec/2025 21:41:52] "GET /api/professor/1/courses?search=COS HTTP/1.1" 200 -
127.0.0.1 - - [08/Dec/2025 21:41:57] "GET /api/professor/1/courses?search=COMPTUER HTTP/1.1" 200 -
```