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In this artifact, we used various MySQL commands to perform operations on a database. We gathered data based on RMA from the database. With the data that we received, we interpreted and described the data for stakeholders. All the operations were performed from the MySQL terminal. We completed this project in August 2023.

I included this item in the portfolio because I wanted to delve deeper into the usage of MySQL. The specific components that I wanted to include in this enhancement is the usage of commands to perform CRUD operations on a database. Additionally, in this class we also created databases and collection. This was also performed in the enhancement. This enhancement displays my ability to create a database and connect JavaScript code to it. Then using Node.js, I created a command line interface for controlling the database.

I did meet the outcomes that I set out to meet, these are the outcomes:   
   
“Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals.”

“Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.”

I met the first outcome by effectively using techniques, skills and tools needed to reach the desired outcome. This enhancement meets the accomplishment for users who may need to track various logs for the logistics field. Then I also developed the security mindset. I met this through designing my input validation to ensure that the database is not going to succumb to SQL injection. I did this by allowing only the characters needed to perform the system's needs.

When developing this, I did not know the language I would set out to use. I eventually came up with Node.js. I am thoroughly happy with that decision because of the packages that are available. Furthermore, I was able to use axios to connect to a web API for retrieving city and state information depending on a zip code. Then I was able to use commander to create an esthetically pleasing command interface. Finally, I was able to use inquirer to create secure and visually pleasing command input inquiries. When developing, I found myself needing to type ‘node index.js add-route’ too often. So, I wondered if there was any way to shortcut it. I found out how to create shell scripts. Through this, I was able to shorten the command to run the program to ‘./run.sh add-route'. I faced challenges when trying to add data to the database. I found that the issue was because the JavaScript code was not waiting for some responses. Furthermore, I was able to overcome this problem by employing the await keyword. Overall, this enhancement has given me the ability to work confidently with API’s, MySQL, and JavaScript/node.js