**5-2 Milestone Four: Enhancement Three: Databases**

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CS-499: Computer Science Capstone

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1. **Briefly describe the artifact. What is it? When was it created?**  
   I chose the ProjectTwDashboard from the CS-340: Client Server Development course. I completed this course in the May-June 2024 term at SNHU. The project used Python, Jupyter Notebook, and MongoDB to produce an interactive dashboard displaying the data from an animal shelter. To interact with the dashboard, the user could filter by the different rescue type options. The dashboard also included a pie chart and an interactive map of the Austin, TX area where the shelter is located.
2. **Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?**  
   I included this artifact in my ePortfolio because it presented opportunities for improvement to showcase the skillset I have learned during my time at SNHU. For this 3rd enhancement I wanted to show my skills with working with databases. The dataset for this artifact uses a csv file that contains 10,000 records of animals. Originally this database was on MongoDB, but I moved it to Amazon Web Services and used MariaDB. I was able to import the csv file into HeidiSQL (MariaDB) and connect it to the PyCharm project. Once this was done, the dashboard was able to be accessed.

HeidiSQL:  
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PyCharm connection to MariaDB:

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Dashboard:

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1. **Did you meet the course outcomes you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?**  
   Yes, I was able to meet outcome 4 with this enhancement.
2. **Reflect on the process of enhancing and modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?**  
   I learned about some of the many options AWS has for databases. I was able to use the free version, which still provides a lot of tools. I had some difficulty importing the entire csv file of 10,000 records. This took a few attempts and finally I was able to import it all by working in chunks. I found it easiest to use SQL commands in HeidiSQL instead of using the import tool. Once the data was loaded, I was able to successfully connect the PyCharm project to the database using the username, password, host, and port I created.