**Enhancement three: databases**

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The artifact is part of developing a web application that connects a client-side user interface to the Mongo database. The project develops a python framework that enables CRUD functionality to interact with the Mongo database. As illustrated, the selected artifact demonstrates a solid understanding of Python language and the integration of the MongoDB database through the implementation of Pymongo and MongoClient to allow the mongo database to interact with the dashboard. Moreover, it demonstrates the ability to implement a dashing table that provides access to large datasets and imports the CSV datasets from a CSV file to MongoDB.

The dashboard development uses the Dash framework to interact with the Mongo database and to connect the client-side user interface to Mongo. The dashboard interactive module clue the frameworks to facilitate interaction between mongo and python. For the client-facing web application to interact with mongo several component libraries were imported to allow communication among the frameworks. In order words, understanding and exploring how the dash core, HTML components, and callbacks work to produce an efficient and straightforward coding structure are the components that demonstrate my skills and abilities to connect the dashboard AIP with Jupyter Notebook.

To complete the required functionality for this project, I created a full stack development application using python language, Jupiter notebook platform, and MongoDB for the user to access the Mongo database. In doing so, Pymongo imports MongoClient to allow the mongo database to interact with the dashboard. Moreover, I ensure the application has a user-friendly client-facing web application dashboard that integrates the dash core components to facilitate access to many interactive components.

This paper explains why the selected artifact is chosen and demonstrates my ability to develop a web application that connects a client-side user interface to the Mongo database. Meeting the course objectives planned to refine the artifact demonstrates my proficiency, knowledge, and skills in implementing techniques to complete a polished project, and the ability to solve complex problems is one step to securing an interview because employers are interested in a candidate who can apply various tools to solve a given challenge.

As previously mentioned, the artifact was developed in the Apporto environment, to which I previously had access. To get the artifact up and running, I started the artifact from scratch on my local computer. In doing so, I download all the necessary Mongo database tools to develop a python module file through Jupyter Notebook. In Jupyter Notebook, an object-oriented methodology is used to create and read functionality for the mongo database. On the positive side, setting up the Mongo database framework was time-consuming, but my efforts paid off because I could successfully connect Jupyter Notebook with the mongo client and imported the animal shelter csv file from my local computer to the Mongo database. For the most part, I had to fix multiple errors like module named not found error (dash\_leaflet, jupyter\_plotly\_dash, dash, dash\_table, and pandas)when running the project. To resolve these errors, from the jupyter command line, I installed the module needed to clear the faults. While running the project, I encountered a failed authentication because the Mongo shell could not connect to the server after installing the Mongo client components. The Mongo server network lost communication. In Windows 10, the control panel ->system and security->administration tools->services. I searched for mongoDB and clicked on start to connect Mongo shell to the mongo server network.

Working on the project's implementation benefited greatly. From this project, I developed the necessary skills to manage and query Mongo database, which strengthening my skills by integrating diverse components to develop practical techniques to accomplish the goal. Furthermore, I have developed an understanding of how the knowledge acquired from Mongo database will help me in my future endeavors.

References