The artifact I selected for the Database portion of the final project was an excel version of my book collection that I imported into a MongoDB. This was an incredibly simple artifact that did not have any code created for it before starting this milestone. The final project rubric recommended creating a MongoDB interface from HTML and JavaScript for the enhancement in this milestone, and I have never built and interface like this from scratch. I first created the excel version of my data at the beginning of the course. This artifact was included because I wanted to show my adaptability and innovation when working with databased. I had the opportunity to do something that I thought would be easier, modifying an already working interface to match this data but decided to go with something new and a little more personally challenging to showcase my ability to learn quickly and adjust to new programming languages and requirements.

This artifact was improved greatly during this enhancement. I started with an excel sheet that had the information for my personal library and imported it into MongoDB to create a new database and collection. Once the database was created, I moved on to creating the interface using Node.js and Express. I built this project from the ground up, and my interface has an initial welcome page and links to the other two pages I build for the interface. The first page lists all the entries in the database and a link to the previous page. The second page provides the user the opportunity to add data to the database from the interface and includes a link to the “book list” page as well as the “welcome” page. All the pages available are completely functional and the links between the pages all work. The enhancements I made to this project showed that I can program solutions for storing and accessing data in a database. If I were to continue working on this project in the future, I would want to add user authentication to make it more secure. I know how to add the security to the database itself but could not quite reach the ability for a user to enter a username and password and move to the next page of the interface.

I met the initial objects I laid out during Module One and pending any feedback from the instructor I do not believe I will have many, if any at all, adjustments to make to this enhancement. While I was enhancing this project, I learned a lot about HTML. Before this project I had minimal experience with HTML, but since working on this I have learned a lot and learned that HTML is a lot simpler than I initially believed. Given more time I know that I could create better looking interfaces with more functionality based on my experience with this project. For this project one of the challenges I faced was how to make the interface functional for a user, so I had to think about the things that I expect out of the interfaces I work with. The interface I created was very basic but gets the point across well and is functional enough that a user would be able to walk up and use it. Another challenge I faced was that I was able to add authentication to the database itself but struggling to integrate the code with that authentication. In the end I removed the authentication requirement from the database because it was hindering my ability to connect to the database at all, but it is something that I kept in mind during the project. One of the things I have learned in cybersecurity is the more secure we make a system the more difficult access/use is for an average user, and that is something I encountered when working on this enhancement. Adding the authentication requirement to the database made it more secure, but it also made it harder for me to get the program to connect.