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### Artifact 3 Narrative

The artifact is for the full stack project of the Travlr website application, and the Trip Management API was created using Node.js, MySQL, and MongoDB. Initially created during a course project for CS-465 Full Stack Development, it serves as a web service that handles CRUD operations (Create, Read, Update, Delete) for managing travel packages. The primary focus of the artifact is to retrieve, display, and manipulate travel-related data. The project was created to demonstrate backend development skills using popular technologies like Express.js and Mongoose for MongoDB. However, for the databases topic for this course artifact, the enhancements performed were to resolve errors, migrate from a MongoDB to a MySQL database, and ensure proper integration between the database and the API.

This artifact was chosen for the e-portfolio because it matched the database needs to showcase my skill sets with migrating from one database to another, as well as matching the criteria of one of the courses I could select a project from. I chose this artifact because it demonstrates my problem-solving skills in a real-world scenario—working with a combination of MySQL and MongoDB. The artifact highlights my ability to design database queries, handle HTTP requests, and resolve any issues that may arise along the way. The artifact's enhancement, not only included the database migration, but also included bug fixes and switches from the default “trips” table to “travel\_package” which helped highlight the varying database design and efficiency.

The enhancement also satisfied various course outcomes, such as:

1. Design and evaluate computing solutions: By resolving errors and enhancing the database to SQL, I applied problem-solving techniques to optimize the database interactions and showcase a progression in proficiency in algorithmic principles and standards.
2. Use innovative tools and techniques: The integration of MySQL with MongoDB and improvements in the API reflect my ability to use industry-standard tools (MySQL, MongoDB, Express.js, Visual Studio Code) to build effective software solutions. Not only did the data migration work successfully for the travel packages to MySQL, but it helped combine the use of SQL and MongoDB still by having the users portion remain on MongoDB.

The enhancement process was interesting and a learning process with overcoming some errors I had run into. For example, a roadblock I encountered was a MODULE\_NOT\_FOUND error, which occurred because of an incorrect file path for the db\_mysql module. Another challenge was with the deprecation warnings from MongoDB when I used the terminal. This led to me adjusting the connection settings and researching different configurations to try and smooth the database operations.