Milestone Four: Databases

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CS 499 Capstone

Prof Brooke

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Databases Narrative

Artifact

This artifact was made during my time in CS 465 Full Stack Dev I. This course taught me the fundamentals of full stack development and how to weave together back-end and front-end development into a SPA website. The artifact is a small website called Travlr which holds trips and the ability to view them in a list form. The admin can add custom trips as well.

Why I Chose This Artifact

I chose to expand on this artifact to show how I could enhance a database within a full stack project that will allow a user to log in securely, hold that user's information safely behind an encrypted token, and even hold a custom trip added by the administrator. I used HTML, JavaScript, TypeScript and managed a lot of the database with Windows PowerShell when working on this artifact. With this artifact I am showcasing my ability to expand a database to handle all the things mentioned above and test it with applications such as Postman. Having experience with foundational full stack dev and testing and showcasing that experience could help me in securing a future career.

Course Objectives

With this artifact I have achieved the course objective of developing and adopting a security mindset within the software architecture and utilizing skills and tools to implement computer solutions. The user's info is run through input validation and is token encrypted, which was confirmed via Postman testing application, which allows the user to sign in successfully and safely. Admins can add trips and edit existing ones. Examples are shown below!
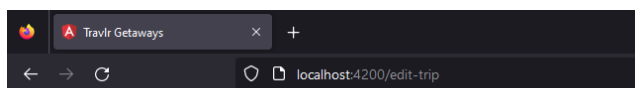
Travlr Getaways Admin

Travlr Getaways Trips

Login

Email Address

david.garcia7@snhu.edu

Password

••••••••

Sign In!

Travlr Getaways Admin

Travlr Getaways Trips

Edit Trip

Code:

DAVR210111

Name:

David's Reef

Length:

3 nights / 4 days

Start Date:

2024-08-22T08:00:00.000Z

Resort:

Clear Sands, 5 stars

Per Person ($):

1999.00

Image:

reef4.jpg

Description:

At David's Reef...

Save

David's Reef

Clear Sands, 5 stars

3 nights / 4 days only $1,999.00 per person

At David's Reef...

Edit Delete

When creating and implementing these enhancements I also achieved the course objectives of software design/engineering, algorithmic problem solving, and testing. After the enhancements were in place, I combed through the rest of the project code and commented code that was not coded so that I could build a collaborative environment that enables a diverse audience when looking at the work. I had to dig deep into what I have learned throughout this course to get the user database to correctly store user information and log them in. I was able to employ algorithmic principles and multiple other computer science practices, a majority involving security measures, while working on this artifact and its enhancement.

Reflect

Working on this artifact was a rollercoaster throughout. The importance of persistence as well as taking breaks when needed was emphasized during the lifetime of this artifact. Also commenting as you work on the code will save a lot of time in the future when refining the code. Using testing software such as Postman showed its importance when enhancing the log in function. Without it I would not have been able to fully understand whether the log in info was being successfully encrypted or not. Example of Postman token encryption show below.

Search Postman

Sign In   Create Account

POST http://loca   POST http://loca   POST http://loca   POST http://loca   POST http://loca   [CONFLICT] POS   GET http://local   POST http://loca

http://localhost:3000/api/login   Save

POST   http://localhost:3000/api/login   Send

Params   Authorization   Headers (8)   Body   Pre-request Script   Tests   Settings   Cookies

○ none   ○ form-data   ● x-www-form-urlencoded   ○ raw   ○ binary

	Key	Value	Bulk Edit
☑	name	david.garcia7	
☑	email	david.garcia7@snhu.edu	
☑	password	david123	
	Key	Value	

Body   Cookies   Headers (10)   Test Results   200 OK   13 ms   695 B   Save Response

Pretty   Raw   Preview   Visualize   JSON

```
1  {
2      "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
           eyJfaWQiOiI2NGRlNGYxOTFkNTNjYzBhYjRjZGMzNzkiLCJlbWFpbCI6ImRhdmlkLmdhcmNpYTdAc25odS5lZHUiLCJuYW
           1lIjoiZGF2aWQuZ2FyY2lhNyIsImV4cCI6MTY5NjY5NjU3MiwiaWF0IjoxNjk2MDkxNzcyfQ.
           YZgyAhUnqXv8qCHUkMcrqcsUruYTLlQ7FeDvG21B6c8"
3  }
```