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# Practices for Secure Software Report

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## Document Revision History

| **Version** | **Date** | **Author** | **Comments** |
| --- | --- | --- | --- |
| **1.0** | **06/21/2024** | **Paul Yovan** |  |

## Client



## Instructions

Submit this completed practices for secure software report. Replace the bracketed text with the relevant information. You must document your process for writing secure communications and refactoring code that complies with software security testing protocols.

* Respond to the steps outlined below and include your findings.
* Respond using your own words. You may also choose to include images or supporting materials. If you include them, make certain to insert them in all the relevant locations in the document.
* Refer to the Project Two Guidelines and Rubric for more detailed instructions about each section of the template.

## Developer

Paul Yovan

## Algorithm Cipher

The best cipher to use in my opinion would be the AES cipher as it is highly recommended as well as being known to be one of the best ciphers for security as it helps prevent multiple different types of attacks. The purpose of the AES cipher’s hash functions and bit levels is to help encrypt the data for it to be more secure, on top of that the purpose of the random numbers the cipher uses is to also help encrypt that data further to make it very difficult to crack.

## Certificate Generation

Insert a screenshot below of the CER file.

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

## Deploy Cipher

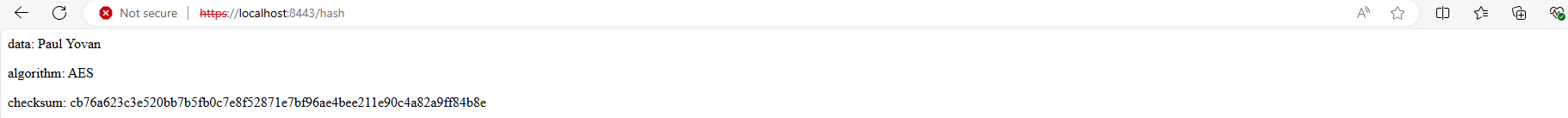
Insert a screenshot below of the checksum verification.

A black text on a white background

Description automatically generated

## Secure Communications

Insert a screenshot below of the web browser that shows a secure webpage.



## Secondary Testing

Insert screenshots below of the refactored code executed without errors and the dependency-check report.

A white background with green text

Description automatically generated

A close-up of a white background

Description automatically generated

## Functional Testing

Insert a screenshot below of the refactored code executed without errors.





## Summary

The way that I refactored the code is by suppressing some possible false positives in the dependency check, as well as implementing the local server that was created earlier to show the checksum as well as my name. I also updated the dependency checker as the one currently being used is out of date to ensure that the checker is accurate and secure for security purposes. I also updated the maven part of the project to ensure that the java portion of the project was up-to-date as that could cause some issues.

## Industry Standard Best Practices

I used comments in my code that helps explain certain lines of code that may need explaining in the event that someone needs to look at my code and needs help understanding what certain parts of the code do. Applying standard best practices helps the company overall as it helps the company when they have to do an update to their application as the practices will make it easier for the code to be understandable which will help figure out what the problem might be with the application or what needs to be updated for security purposes.