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# Practices for Secure Software Report

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## Document Revision History

| **Version** | **Date** | **Author** | **Comments** |
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| **1.0** | **Dec 15 2024** | **Yakuba Conde** |  |

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## Developer

Yakuba Conde

## Algorithm Cipher

I chose AES (Advanced Encryption Standard) because it’s fast and secure. It works with keys of 128, 192, or 256 bits, and 256-bit is the safest. AES uses one key to encrypt and decrypt data, which makes it reliable and widely used.

## Certificate Generation

A screenshot of a computer

Description automatically generated

## Deploy Cipher

I added a checksum feature using SHA-256 to verify data. The checksum was generated for the text "Hello World Check Sum!".

A screenshot of a phone

Description automatically generated

## Secure Communications

I set up HTTPS by adding the keystore details in application.properties. The secure webpage was accessed at <https://localhost:8443/hash>

A screenshot of a phone

Description automatically generatedA screenshot of a computer

Description automatically generated



## Secondary Testing

A screenshot of a computer error

Description automatically generated

A screenshot of a computer

Description automatically generated

## Functional Testing

A screenshot of a computer program

Description automatically generated

## Summary

## I updated the application to include AES encryption, checksum verification, and HTTPS. I tested it to make sure everything is secure and working properly.

## Industry Standard Best Practices

I used proven methods like AES encryption, HTTPS, and security scans to protect data. These steps make the app safer and build trust with users.