

## Security Findings of Project "AESOFBISO10126Padding"

**Analysis Date:** 2020-03-07 03:15:00

### Analyzed Workspace:

|           |   |                               |     |
|-----------|---|-------------------------------|-----|
| Packages: | 1 | Total LOC:                    | 41  |
| Classes:  | 1 | No. of Bytecode Instructions: | 175 |

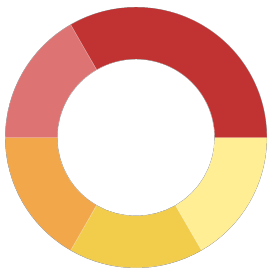
### Computed Call Graph:

|                            |   |                            |   |
|----------------------------|---|----------------------------|---|
| Classes not in Call Graph: | 0 | Methods not in Call Graph: | 0 |
|----------------------------|---|----------------------------|---|

### Findings in List:

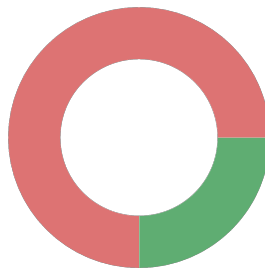
|               |   |                       |   |
|---------------|---|-----------------------|---|
| All Findings: | 8 | Problematic Findings: | 6 |
|---------------|---|-----------------------|---|

#### Finding Problem Types:



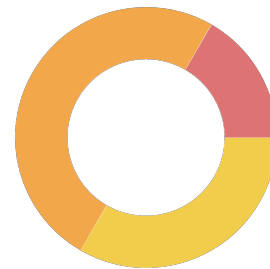
- Cryptography: Crypto...: 2
- Cryptography: AES En...: 1
- Cryptography: Check ...: 1
- Usage: PrintStackTra...: 1
- Other: 1

#### Finding Classifications:



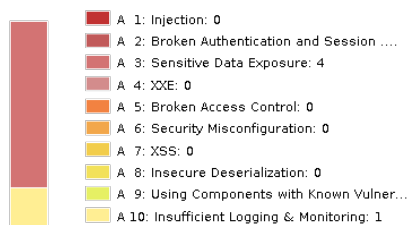
- High risk: 6
- No risk: 2

#### Finding Ratings:

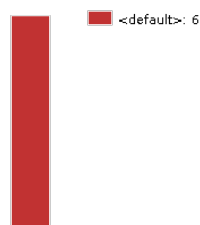


- High risk: 1
- Medium risk: 3
- Low risk: 2

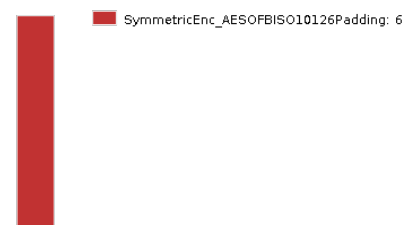
#### OWASP Top 10 2017



#### Hot Spots (Packages)



#### Hot Spots (Classes)



## Findings List

|                        |  |                        |  |
|------------------------|--|------------------------|--|
| <b>Finding ID:</b>     | 7  | <b>Problem Type:</b>   | Cryptography: AES Encryption (Protocol Check Findings) |
| <b>Classification:</b> | Warning  | <b>Date:</b>           | 2020-03-07 03:15:00 - new                              |
| <b>Rating:</b>         | 5.00   | <b>Reviewed State:</b> | Not Reviewed   |
| <b>Location:</b>       | SymmetricEnc_AESOFBISO10126Padding.java (<Source Code>):29   |                        |  |
| <b>Tags:</b>           | no tags assigned   |                        |  |
| <b>Comment:</b>        | no comment   |                        |  |
| <b>Description:</b>    | <p>An identified location for problem type 'Cryptography: AES Encryption'.<br/>The protocol check detected something wrong when encountering symbol 'CipherInitializationForEncryption_IVMissing':<br/>An initialization vector should be used when encrypting.</p> <p>Violated protocol: Creation of an AES Cipher for Encryption<br/>Protocol description:<br/>Creation of a cipher for AES consists of creating an uninitialized cipher, and then initializing it properly.</p> <p>Matching pattern in protocol check kind 'CipherInitializationForEncryption_IVMissing':<br/>void javax.crypto.Cipher.init(int, java.security.Key)</p> |                        |  |

|                        |   |                        |  |
|------------------------|---|------------------------|--|
| <b>Finding ID:</b>     | 6   | <b>Problem Type:</b>   | Cryptography: Check that only allowed crypto algorithms are used (Protocol Check Findings) |
| <b>Classification:</b> | Warning   | <b>Date:</b>           | 2020-03-07 03:15:00 - new  |
| <b>Rating:</b>         | 5.00  | <b>Reviewed State:</b> | Not Reviewed   |
| <b>Location:</b>       | SymmetricEnc_AESOFBISO10126Padding.java (<Source Code>):27  |                        |  |
| <b>Tags:</b>           | no tags assigned  |                        |  |
| <b>Comment:</b>        | no comment  |                        |  |
| <b>Description:</b>    | <p>An identified location for problem type 'Cryptography: Check that only allowed crypto algorithms are used'.<br/>The protocol check detected something wrong when encountering symbol 'AnyAlgorithm_CipherConstruction':<br/>Only AES is allowed as algorithm for encryption or decryption.</p> <p>Violated protocol: Check Allowed Cryptography Algorithms<br/>Protocol description:<br/>Allow only a given set of cryptography algorithm names where algorithm names are expected.</p> <p>The algorithm names are configured via constant value constraint variables.</p> <p>Names to be checked against can be found here: <a href="https://docs.oracle.com/javase/8/docs/technotes/guides/security/StandardNames.html">https://docs.oracle.com/javase/8/docs/technotes/guides/security/StandardNames.html</a></p> <p>Matching pattern in protocol check kind 'AnyAlgorithm_CipherConstruction':<br/>static javax.crypto.Cipher javax.crypto.Cipher.getInstance(java.lang.String, ***)</p> |                        |  |

### Findings List

|                        |   |                        |   |
|------------------------|---|------------------------|---|
| <b>Finding ID:</b>     | <b>4</b>  | <b>Problem Type:</b>   | Cryptography: Cryptographic Algorithms Used in Project (Special Code) |
| <b>Classification:</b> | Information   | <b>Date:</b>           | 2020-03-07 03:15:00 - new   |
| <b>Rating:</b>         | 0.00  | <b>Reviewed State:</b> | Not Reviewed  |
| <b>Location:</b>       | SymmetricEnc_AESOFBISO10126Padding.java (<Source Code>):18  |                        |   |
| <b>Tags:</b>           | no tags assigned  |                        |   |
| <b>Comment:</b>        | <i>no comment</i>   |                        |   |
| <b>Description:</b>    | An identified location for problem type 'Cryptography: Cryptographic Algorithms Used in Project'. Declared in: javax.crypto.KeyGenerator<br><br>Matching pattern in special code kind 'Cryptography: Cryptographic Algorithms Used in Project':<br>static javax.crypto.** javax.crypto.**.getInstance(java.lang.String) |                        |   |

|                        |   |                        |   |
|------------------------|---|------------------------|---|
| <b>Finding ID:</b>     | <b>5</b>  | <b>Problem Type:</b>   | Cryptography: Cryptographic Algorithms Used in Project (Special Code) |
| <b>Classification:</b> | Information   | <b>Date:</b>           | 2020-03-07 03:15:00 - new   |
| <b>Rating:</b>         | 0.00  | <b>Reviewed State:</b> | Not Reviewed  |
| <b>Location:</b>       | SymmetricEnc_AESOFBISO10126Padding.java (<Source Code>):27  |                        |   |
| <b>Tags:</b>           | no tags assigned  |                        |   |
| <b>Comment:</b>        | <i>no comment</i>   |                        |   |
| <b>Description:</b>    | An identified location for problem type 'Cryptography: Cryptographic Algorithms Used in Project'. Declared in: javax.crypto.Cipher<br><br>Matching pattern in special code kind 'Cryptography: Cryptographic Algorithms Used in Project':<br>static javax.crypto.** javax.crypto.**.getInstance(java.lang.String) |                        |   |

|                        |   |                        |   |
|------------------------|---|------------------------|---|
| <b>Finding ID:</b>     | <b>1</b>  | <b>Problem Type:</b>   | Cryptography: Cryptographic Algorithms w/o Specified Crypto-Provider (Special Code) |
| <b>Classification:</b> | Warning   | <b>Date:</b>           | 2020-03-07 03:15:00 - new   |
| <b>Rating:</b>         | 1.00  | <b>Reviewed State:</b> | Not Reviewed  |
| <b>Location:</b>       | SymmetricEnc_AESOFBISO10126Padding.java (<Source Code>):18  |                        |   |
| <b>Tags:</b>           | no tags assigned  |                        |   |
| <b>Comment:</b>        | <i>no comment</i>   |                        |   |
| <b>Description:</b>    | An identified location for problem type 'Cryptography: Cryptographic Algorithms w/o Specified Crypto-Provider'. Declared in: javax.crypto.KeyGenerator<br><br>Matching pattern in special code kind 'Cryptography: Cryptographic Algorithms w/o Specified Crypto-Provider':<br>static javax.crypto.** javax.crypto.**.getInstance(java.lang.String) |                        |   |

## Findings List

|                        |   |                        |   |
|------------------------|---|------------------------|---|
| <b>Finding ID:</b>     | <b>2</b>  | <b>Problem Type:</b>   | Cryptography: Cryptographic Algorithms w/o Specified Crypto-Provider (Special Code) |
| <b>Classification:</b> | Warning   | <b>Date:</b>           | 2020-03-07 03:15:00 - new   |
| <b>Rating:</b>         | 1.00  | <b>Reviewed State:</b> | Not Reviewed  |
| <b>Location:</b>       | SymmetricEnc_AESOFBISO10126Padding.java (<Source Code>):27  |                        |   |
| <b>Tags:</b>           | no tags assigned  |                        |   |
| <b>Comment:</b>        | <i>no comment</i>   |                        |   |
| <b>Description:</b>    | <p>An identified location for problem type 'Cryptography: Cryptographic Algorithms w/o Specified Crypto-Provider'.</p> <p>Declared in: javax.crypto.Cipher</p> <p>Matching pattern in special code kind 'Cryptography: Cryptographic Algorithms w/o Specified Crypto-Provider':</p> <pre>static javax.crypto.** javax.crypto.**.getInstance(java.lang.String)</pre> |                        |   |

|                        |   |                        |                                       |
|------------------------|---|------------------------|---------------------------------------|
| <b>Finding ID:</b>     | <b>3</b>  | <b>Problem Type:</b>   | Usage: PrintStackTrace (Special Code) |
| <b>Classification:</b> | Warning   | <b>Date:</b>           | 2020-03-07 03:15:00 - new             |
| <b>Rating:</b>         | 5.00  | <b>Reviewed State:</b> | Not Reviewed                          |
| <b>Location:</b>       | SymmetricEnc_AESOFBISO10126Padding.java (<Source Code>):38  |                        |                                       |
| <b>Tags:</b>           | no tags assigned  |                        |                                       |
| <b>Comment:</b>        | <i>no comment</i>   |                        |                                       |
| <b>Description:</b>    | <p>An identified location for problem type 'Usage: PrintStackTrace'.</p> <p>Declared in: java.security.GeneralSecurityException</p> <p>Matching pattern in special code kind 'Usage: PrintStackTrace':</p> <pre>public void java.lang.Throwable.printStackTrace()</pre> |                        |                                       |

|                        |   |                        |  |
|------------------------|---|------------------------|--|
| <b>Finding ID:</b>     | <b>8</b>  | <b>Problem Type:</b>   | FindSecBugs: Cipher with no integrity (SpotBugs Security Issues) |
| <b>Classification:</b> | Warning   | <b>Date:</b>           | 2020-03-07 03:15:00 - new  |
| <b>Rating:</b>         | 8.00  | <b>Reviewed State:</b> | Not Reviewed   |
| <b>Location:</b>       | SymmetricEnc_AESOFBISO10126Padding.java (<Source Code>):27  |                        |  |
| <b>Tags:</b>           | no tags assigned  |                        |  |
| <b>Comment:</b>        | <i>no comment</i>   |                        |  |
| <b>Description:</b>    | <p>A finding identified by the external 'SpotBugs' plugin:</p> <p>The cipher does not provide data integrity</p> <p>- In method SymmetricEnc_AESOFBISO10126Padding.main(String[])</p> |                        |  |