

IMPLEMENTATIONS OF ADVANCED ENCRYPTION STANDARD ALGORITHM FOR ENHANCING DATABASE FILE SECURITY OF JGNASH

ALAUDDIN MAULANA HIRZAN

(Pembimbing : Aisyatul Karima, S.Kom, MCS)

Teknik Informatika - S1, FIK, Universitas Dian Nuswantoro

www.dinus.ac.id

Email : 111201206682@mhs.dinus.ac.id

ABSTRAK

The development of technology recently grows faster and better than before. Many good impacts of the development help many people in many sectors. However, there are bad impacts from the development of technology. Security issues like hacking and cracking become more effective and faster to gain any confidential information. Side-impact of this matter will occur in many open source software including jGnash. JGnash stores its database into a raw binary file. That's why jGnash has weak security protection from third party. This binary file only protected with password, and there is no encryption within the database. In order to increase the security level of jGnash, Advanced Encryption Standard algorithm is implemented to encrypt and decrypt the database. Many improvements will be added in order to increase the security level of Advanced Encryption Standard. The result of the experiment is plugins for both encryption and decryption. These plugins will let user encrypt or decrypt his database. These plugins will be loaded into the main program, and from this application the user can start the encryption or decryption.

Kata Kunci : Cryptography, Advanced Encryption Standard, jGnash, Open Source Software, Java

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ALAUDDIN MAULANA HIRZAN

(Lecturer : Aisyatul Karima, S.Kom, MCS)

*Bachelor of Informatics Engineering - S1, Faculty of Computer
Science, DINUS University*

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Email : 111201206682@mhs.dinus.ac.id

ABSTRACT

The development of technology recently grows faster and better than before. Many good impacts of the development help many people in many sectors. However, there are bad impacts from the development of technology. Security issues like hacking and cracking become more effective and faster to gain any confidential information. Side-impact of this matter will occur in many open source software including jGnash. JGnash stores its database into a raw binary file. That's why jGnash has weak security protection from third party. This binary file only protected with password, and there is no encryption within the database. In order to increase the security level of jGnash, Advanced Encryption Standard algorithm is implemented to encrypt and decrypt the database. Many improvements will be added in order to increase the security level of Advanced Encryption Standard. The result of the experiment is plugins for both encryption and decryption. These plugins will let user encrypt or decrypt his database. These plugins will be loaded into the main program, and from this application the user can start the encryption or decryption.

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