

# **DESIGNING A DIGITAL ARCHIVE INFORMATION SYSTEM FOR LAND CERTIFICATES USING ALGORITHM BLOWFISH AND AES 128 CRYPTOGRAPHY**

**DERRIAN**

*Informatics Study Program, Faculty of Science & Technology  
University of Technology Yogyakarta  
Jl. Ringroad Utara Jombor Sleman Yogyakarta  
E-mail : [derrianderrian35@gmail.com](mailto:derrianderrian35@gmail.com)*

## **ABSTRACT**

*Digital archive management is an important need for agencies or companies in the current era of information technology. However, the security aspect of managing digital archives is often ignored, even though the risk of data theft and piracy is very high. This research aims to develop a secure, web-based digital archive information system using two cryptographic algorithms, Blowfish and AES-128, to secure digital land certificates. The system is designed to encrypt archive data before it is stored and decrypt it when downloaded by an authorized user. The encryption process uses a combination of Blowfish and AES-128 algorithms, which offers a higher level of security. Test results show that the system succeeds in encrypting and decrypting data well, as well as protecting archives from unauthorized access. Thus, this system provides an effective and efficient solution for secure digital archive management.*

**Keywords:** *Digital archives, Data security, Cryptography, Blowfish, AES-128, Land certificate, Encryption, Decryption.*

## Daftar Pustaka

- Anggraini, D., & Juanita, S. (2018). Aplikasi E-Arsip Pengamanan Pesan Elektronik Berbasis Web dengan Mengimplementasikan Algoritma Kriptografi RSA dan Elgamal pada Klinik Dr. H. Hartono. *Journal Technology of Information and Communication*, 6(3).
- Ariyus, D. (2008). *Pengantar Ilmu Kriptografi Teori Analisis dan Implementasi*. Yogyakarta: Andi Offset.
- Azhari, M., Mulyana, D., Perwitosari, F., & Ali, F. (2022). Implementasi Pengamanan Data pada Dokumen Menggunakan Algoritma Kriptografi Advanced Encryption Standard (AES). *Jurnal Pendidikan Sains Dan Komputer*, 2(1), 163–171. doi: 10.47709/jpsk.v2i1.1390
- Barthos, B. (2013). *Manajemen Kearsipan*. Jakarta: Bumi Aksara.
- Firdaus, Z., & Jatmiko, D. A. (2019). *Implementasi Algoritma Advanced Encryption Standard (AES) Sebagai Sistem Pengamanan Data Pengarsipan pada Perpustakaan Digital di Puslitbang Geologi Kelautan*. Bandung.
- Hermawan, A. M. (2015). *Perancangan Sistem Basis Data*. Jakarta: Elex media Komputindo.
- Mukhtar, H. (2018). *Kriptografi Untuk Keamanan Data*. Yogyakarta: Deepublish.
- Prameshwari, A., & Sastra, N. P. (2018). Implementasi Algoritma Advanced Encryption Standard (AES) 128 Untuk Enkripsi dan Dekripsi File Dokumen. *Eksplora Informatika*, 8(2), 52–58. doi: 10.30864/eksplora.v8i1.139
- Pulungan, S. M., Febrianti, R., Lestari, T., Gurning, N., & Fitriana, N. (2022). Analisis Teknik Entity-Relationship Diagram Dalam Perancangan Database. *Jurnal Ekonomi Manajemen Dan Bisnis*, 01(2), 143–147. doi: 10.47233/jemb.v2i1.533
- Rosalin, S. (2017). *Manajemen Arsip Dinamis*. Malang: UB Press.
- Sadikin, R. (2012). *Kriptografi untuk keamanan jaringan* (1st ed., Vol. 1). Yogyakarta: Andi Offset.
- Schneier, B. (1996). *Applied Cryptography*. Canada: John Wiley & Sons, Inc.
- Sugiarto, A., & Wahyono, T. (2015). *Manajemen Kearsipan Modern dan Distribusinya*. Yogyakarta: Gava Media.

- Sukarsa, I. M., Pradana, I. M., & Buana, P. (2020). Implementasi Enkripsi dan Otentikasi Transmisi Data ZeroMQ Menggunakan Advanced Encryption Standard. *Rekayasa Sistem Dan Teknologi Informasi*, 4(6), 1149–1156.
- Wahana Komputer. (2013). *The Best Encryption Tools*. Yogyakarta: Elex Media Komputindo.
- Waluyo, S., & Kanahebi, D. (2021). Sistem Pengamanan File Menggunakan Algoritma RC4 Berbasis Webbase Studi Kasus : PT. Tjipta Jaya Bersama. *Seminar Nasional Riset Dan Inovasi Teknologi*.

- ❖ Silahkan kirimkan ke email [informatika.uty@gmail.com](mailto:informatika.uty@gmail.com) dengan subject **abstrak dapus informatika nim\_nama**
- ❖ **Abstrak dan daftar pustaka tidak di jadikan ke dalam satu file word**