**Certificate Generation**

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CS 305: Software Security

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February 09, 2025

1. **Certificate Authorities**: Investigate and explain the role and value of the services provided by a CA.
   1. A certificate authority (CA) plays a critical role in establishing trust and secure communications over networks and the internet. “CAs digitally sign certificates so that their authenticity can be validated — to prevent attackers from easily impersonating servers” (National Institute of Standards and Technology, 2020). This allows websites, organizations, and users to verify their identity and ensure that the data exchanged is trusted and protected from cyber criminals. A company should use a CA because it enables the encryption of data in transit which protects it from being intercepted by malicious threats and ensures trust from users that their personal information will be safe. When a user visits a website, they can feel safe and confident when conducting online interactions when the organization uses CA’s. This is also an advantage of using CA’s because the certificates are issued to trusted users and verify authentication.
2. **Screenshot of the certificate information form filled out with all fields completed & printout of the server.cer file to show that the certificate has been effectively generated.**

A computer screen with white text

AI-generated content may be incorrect.

**Reference**

National Institute of Standards and Technology. (2020). *Securing web transactions: TLS server certificate management* (NIST Special Publication 1800-16). U.S. Department of Commerce. [Securing Web Transactions: TLS Server Certificate Management](https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1800-16.pdf)