



Janna G. Conda

BSIT 4-1

ACTIVITY TITLE: " CIA Triad Application (Hands-on)"

Objective:

To perform hands-on activities that demonstrate the core principles of the CIA Triad and how they help protect information systems.

Instructions:

- Perform the three tasks below using your computer and the recommended tools. For each task, record your answers, observations, and screenshots (if required) in your lab worksheet or logbook.

A. CONFIDENTIALITY TEST – BASIC DATA ENCRYPTION

Tool: Online AES Encryption/Decryption tool

<https://www.devglan.com/online-tools/aes-encryption-decryption>

AES Encryption	AES Decryption
Enter Plain Text to Encrypt Psalm 119:106 "Your word is a lamp for my feet, a light on my path."	AES Encrypted Text SV9RASEBWCaL+hjcGPvgtdoxVzMBxWLQofOz7XKo/9zRSyz/hS6zyTyoyEJz7IAPs4ik8m94EpIS7CjIYCUth49Gk84ZgDYewbfq7M+
Select Cipher Mode of Encryption ECB	Select Cipher Mode of Decryption ECB
Select Padding PKCS5Padding	Select Padding PKCS5Padding
Key Size in Bits 128	Key Size in Bits 128
Enter Secret Key JANNACONDA123456	Enter Secret Key used for Encryption JANNACONDA123456
Output Text Format <input checked="" type="radio"/> Base64 <input type="radio"/> Hex	Output Text Format <input checked="" type="radio"/> Plain-Text <input type="radio"/> Base64
Encrypt	Decrypt
AES Encrypted Output SV9RASEBWCaL+hjcGPvgtdoxVzMBxWLQofOz7XKo/9zRSyz/hS6zyTyoyEJz7IAPs4ik8m94EpIS7CjIYCUth49Gk84ZgDYewbfq7M+	AES Decrypted Output Psalm 119:106 "Your word is a lamp for my feet, a light on my path."

AES Encryption

Enter Plain Text to Encrypt

Colossians 3:23 "Whatever you do, work at it with all your heart, as working for the Lord, not for human masters".

Select Cipher Mode of Encryption

CBC

Select Padding

PKCS5Padding

Enter IV (Optional)

Enter initialization vector

Key Size in Bits

128

Enter Secret Key

JANNACONDA#12345

Output Text Format ☒ Base64 ☐ Hex

Encrypt

AES Encrypted Output

kCKXV9DCZxYxSF5ayUlmwW9BTp7mOP9c7W6g4JD68jweZOTXeoNA50UmfWYq7X9L9F38Hr1tCOk4hNm1QyfdzRB0wFn8p8Ehm8Y2YgOKZy6bVxao12qGkw3Yn3xCRmeupbACZ/nA5dQf6JQWJYpP/EZYE/XgV/E=

AES Decryption

AES Encrypted Text

kCKXV9DCZxYxSF5ayUlmwW9BTp7mOP9c7W6g4JD68jweZOTXeoNA50UmfWYq7X9L9F38Hr1tCOk4hNm1QyfdzRB0wFn8p8Ehm8Y2YgOKZy6bVxao12qGkw3Yn3xCRmeupbACZ/nA5dQf6JQWJYpP/EZYE/XgV/E=

Select Cipher Mode of Decryption

CBC

Select Padding

PKCS5Padding

Enter IV Used During Encryption(Optional)

Enter initialization vector

Key Size in Bits

128

Enter Secret Key used for Encryption

JANNACONDA#12345

Output Text Format ☒ Plain-Text ☐ Base64

Decrypt

AES Decrypted Output

Colossians 3:23 "Whatever you do, work at it with all your heart, as working for the Lord, not for human masters".

AES Encryption

Enter Plain Text to Encrypt

Matthew 19:26 "With man this is impossible, but with God all things are possible"

Select Cipher Mode of Encryption

ECB

Select Padding

PKCS5Padding

Key Size in Bits

128

Enter Secret Key

JANNACONDA#12345

Output Text Format ☒ Base64 ☐ Hex

Encrypt

AES Encrypted Output

CYpCTWVYjWkS4PMVb1OLpLwWx76WfBCWshYUeln+0ifva7qW3BCLWk5mLULkzoSTULpXyFgZGfgXfe1ZGVuSOLWBZrsCCkNL1/9e8wXLJhLSYa3VT5V58eII

AES Decryption

AES Encrypted Text

CYpCTWVYjWkS4PMVb1OLpLwWx76WfBCWshYUeln+0ifva7qW3BCLWk5mLULkzoSTULpXyFgZGfgXfe1ZGVuSOLWBZrsCCkNL1/9e8wXLJhLSYa3VT5V58eII

Select Cipher Mode of Decryption

ECB

Select Padding

PKCS5Padding

Key Size in Bits

128

Enter Secret Key used for Encryption

JANNACONDA#12345

Output Text Format ☒ Plain-Text ☐ Base64

Decrypt

AES Decrypted Output

Matthew 19:26 "With man this is impossible, but with God all things are possible"

Guide Questions (Answer in your worksheet):

- What is the purpose of encrypting data?
- The purpose of encrypting data is to secure confidential information by transforming it into a coded version that cannot be easy to read but unauthorized users. This ensures that only authorized individuals who have the right key or password may read the original data.
- How does encryption contribute to **confidentiality**?
- Encryption helps to guarantee confidentiality because sensitive information does not reveal itself to unauthorized users. Even if others intercept the data, encryption keeps the information secret until decrypted using the right decryption key.
- What would happen if someone intercepted the encrypted data but didn't have the password?
- If the intercepted data is encrypted and the individual does not have the password or key, they would only see unreadable, jumbled text (ciphertext). They would be unable to comprehend or utilize the original information, maintaining confidentiality.