Domain 04 Demo 08

Implementing Encryption Solutions for Data at Rest Using AESCrypt

Objective: To Implement encryption solutions for data at rest using AESCrypt to protect sensitive information from unauthorized access, ensuring confidentiality, integrity, and security during storage and transmission

Tools required: Windows Server 2022 VM and AESCrypt

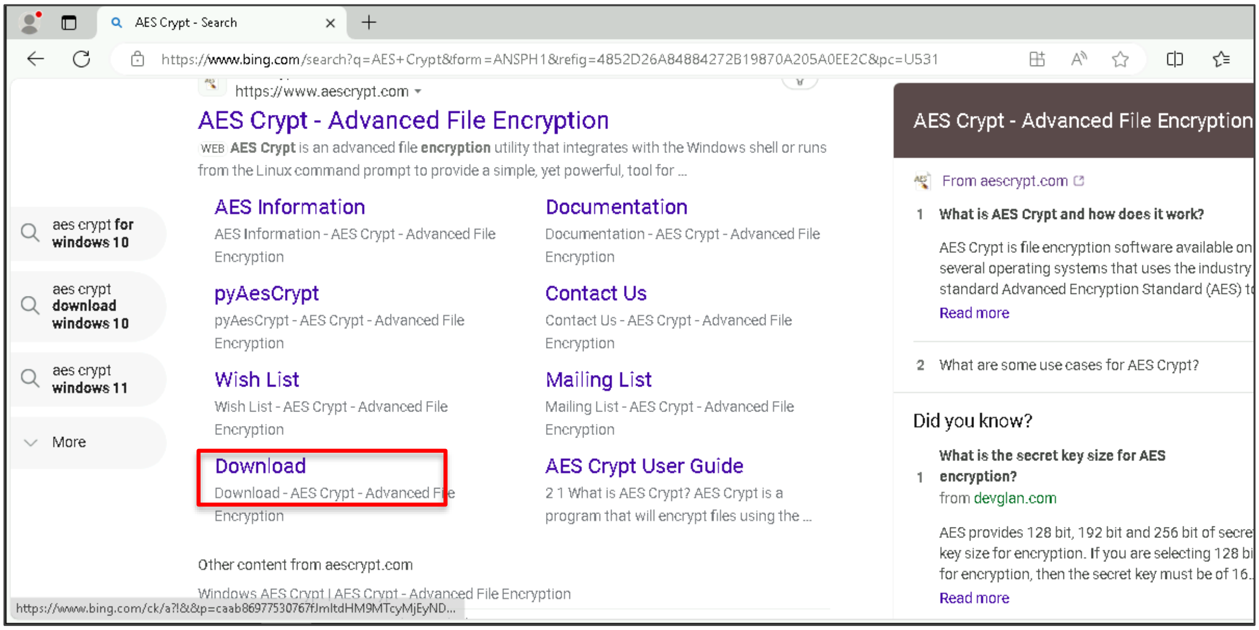
Prerequisites: None

Steps to be followed:

1. Install AESCrypt
2. Create a text file and encrypt it using AESCrypt

Step 1: Install AESCrypt

1.1 Open the browser, search for **AES Crypt,** and click on **Download**



AES Crypt - Search

https://www.bing.com/search?q=AES+Crypt&form=ANSPH1&refig=4852D26A84884272B19870A205A0EE2C&pc=U531

https://www.aescrypt.com

AES Crypt - Advanced File Encryption

WEB **AES Crypt** is an advanced file **encryption** utility that integrates with the Windows shell or runs from the Linux command prompt to provide a simple, yet powerful, tool for ...

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2 1 What is AES Crypt? AES Crypt is a program that will encrypt files using the ...

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AES Crypt - Advanced File Encryption

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1 **What is AES Crypt and how does it work?**

AES Crypt is file encryption software available on several operating systems that uses the industry standard Advanced Encryption Standard (AES) to

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2 What are some use cases for AES Crypt?

Did you know?

1 **What is the secret key size for AES encryption?**

from devglan.com

AES provides 128 bit, 192 bit and 256 bit of secre key size for encryption. If you are selecting 128 bi for encryption, then the secret key must be of 16...

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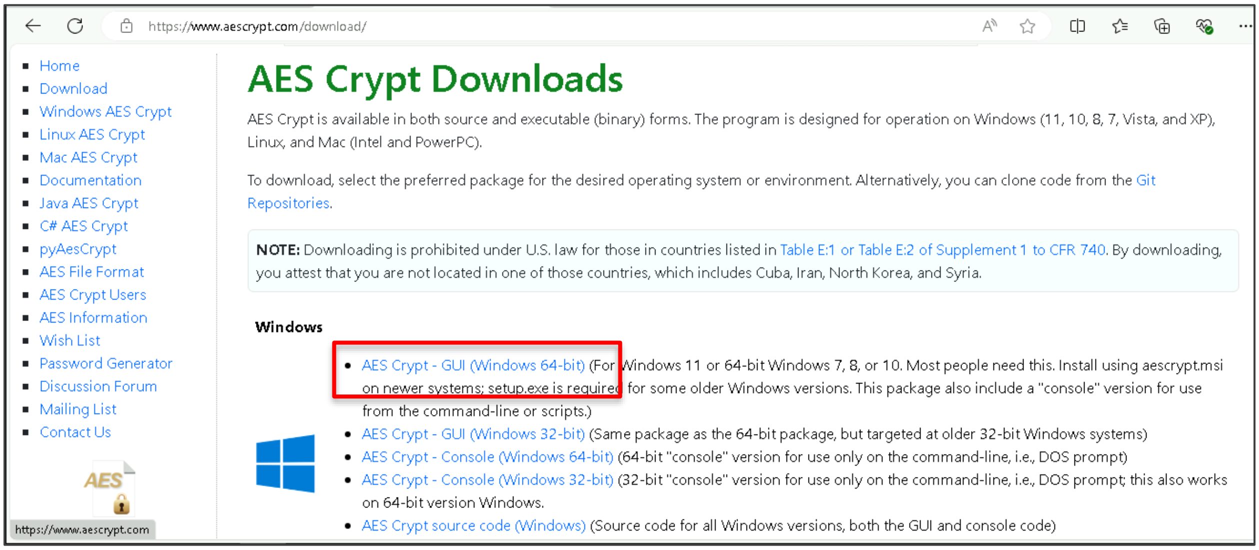
https://www.bing.com/ck/a?!&&p=caab86977530767fJmltdHM9MTcyMjEyND...

1.2 Click on **AES Crypt - GUI (Windows 64-bit)**



AES Crypt Downloads

AES Crypt is available in both source and executable (binary) forms. The program is designed for operation on Windows (11, 10, 8, 7, Vista, and XP), Linux, and Mac (Intel and PowerPC).

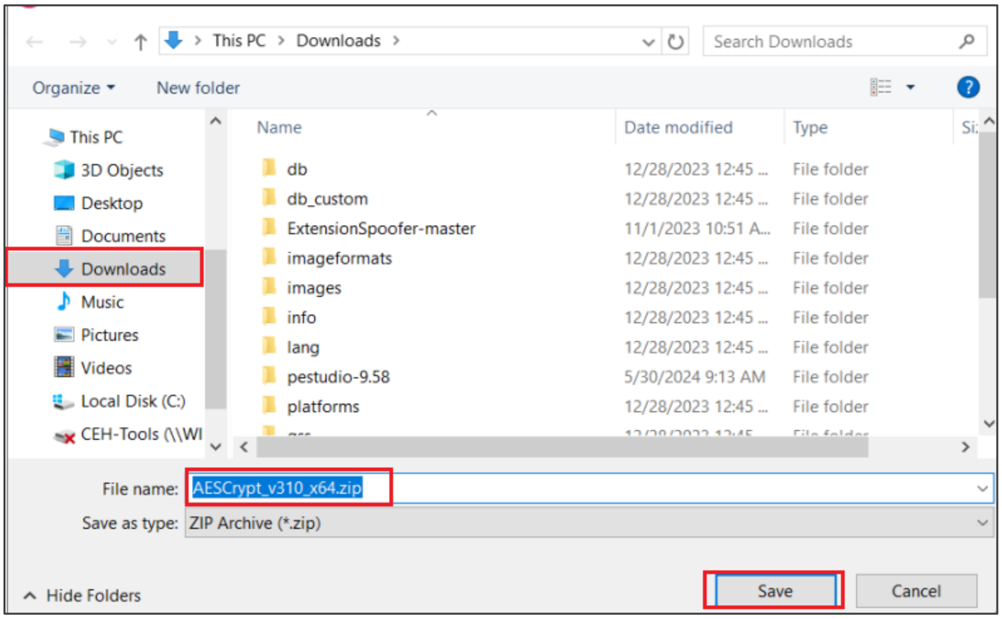
To download, select the preferred package for the desired operating system or environment. Alternatively, you can clone code from the Git Repositories.

NOTE: Downloading is prohibited under U.S. law for those in countries listed in Table E:1 or Table E:2 of Supplement 1 to CFR 740. By downloading, you attest that you are not located in one of those countries, which includes Cuba, Iran, North Korea, and Syria.

Windows

- AES Crypt - GUI (Windows 64-bit) (For Windows 11 or 64-bit Windows 7, 8, or 10. Most people need this. Install using aescrypt.msi on newer systems; setup.exe is required for some older Windows versions. This package also include a "console" version for use from the command-line or scripts.)
- AES Crypt - GUI (Windows 32-bit) (Same package as the 64-bit package, but targeted at older 32-bit Windows systems)
- AES Crypt - Console (Windows 64-bit) (64-bit "console" version for use only on the command-line, i.e., DOS prompt)
- AES Crypt - Console (Windows 32-bit) (32-bit "console" version for use only on the command-line, i.e., DOS prompt; this also works on 64-bit version Windows.
- AES Crypt source code (Windows) (Source code for all Windows versions, both the GUI and console code)

1.3 Once you download AESCrypt, save it in the **Downloads** folder

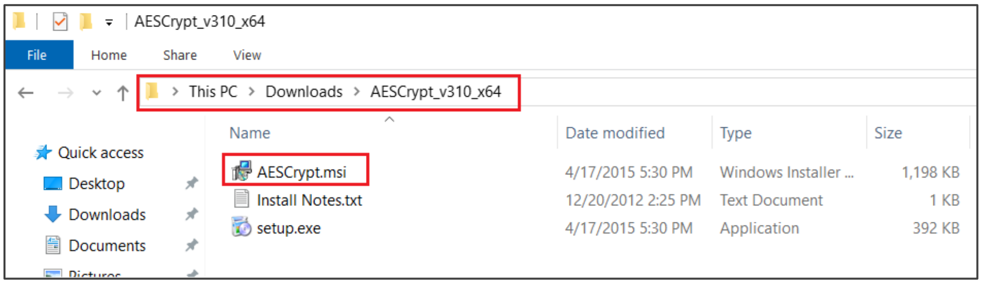


Name	Date modified	Type
db	12/28/2023 12:45 ...	File folder
db_custom	12/28/2023 12:45 ...	File folder
ExtensionSpoofer-master	11/1/2023 10:51 A...	File folder
imageformats	12/28/2023 12:45 ...	File folder
images	12/28/2023 12:45 ...	File folder
info	12/28/2023 12:45 ...	File folder
lang	12/28/2023 12:45 ...	File folder
pestudio-9.58	5/30/2024 9:13 AM	File folder
platforms	12/28/2023 12:45 ...	File folder

File name: AESCrypt_v310_x64.zip

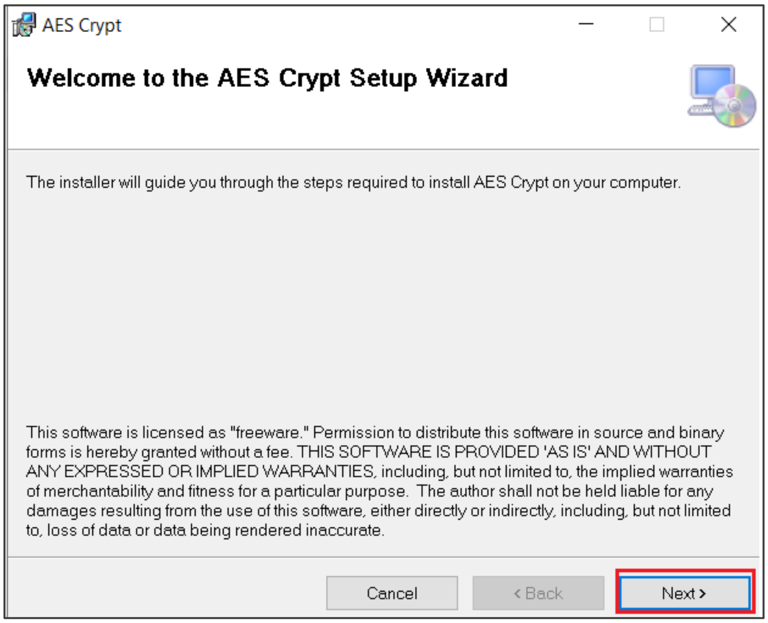
Save as type: ZIP Archive (*.zip)

1.4 Now, run the **AESCrypt.msi** file by double-clicking on it



Name	Date modified	Type	Size
AESCrypt.msi	4/17/2015 5:30 PM	Windows Installer ...	1,198 KB
Install Notes.txt	12/20/2012 2:25 PM	Text Document	1 KB
setup.exe	4/17/2015 5:30 PM	Application	392 KB

1.5 Click on **Next**



Welcome to the AES Crypt Setup Wizard

The installer will guide you through the steps required to install AES Crypt on your computer.

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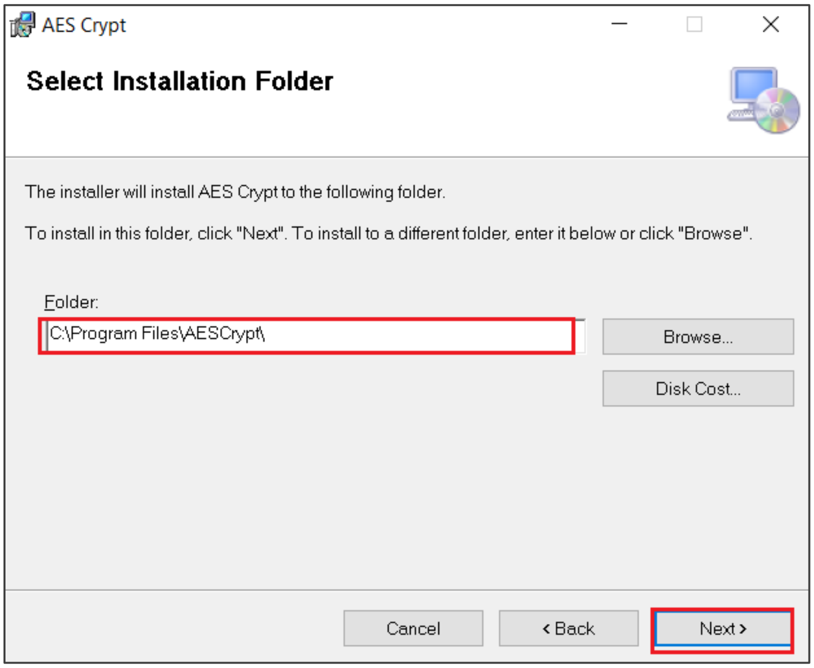
1.6 Select the location where the application will be installed and click on **Next**



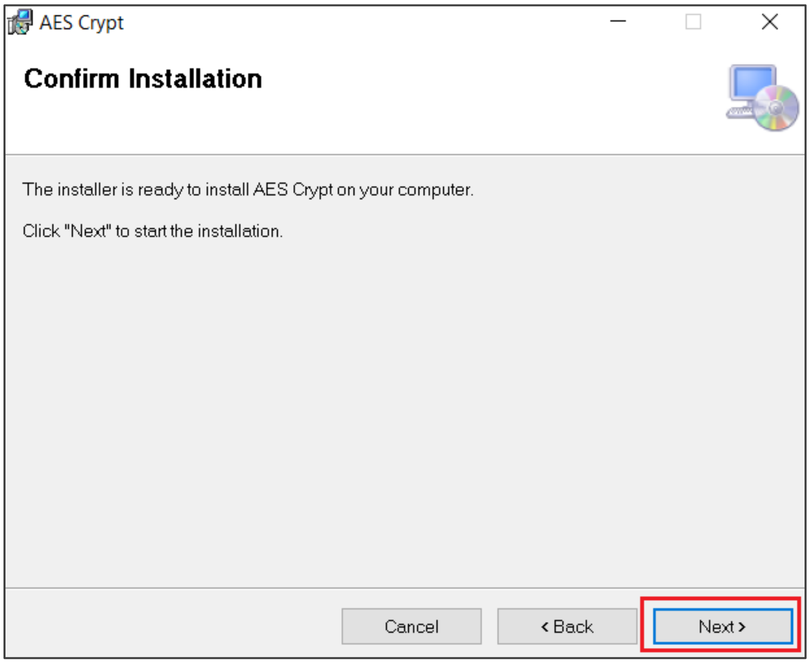
Select Installation Folder

The installer will install AES Crypt to the following folder.

To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".

Folder: C:\Program Files\AESCrypt\

1.7 Click on **Next** to start the installation

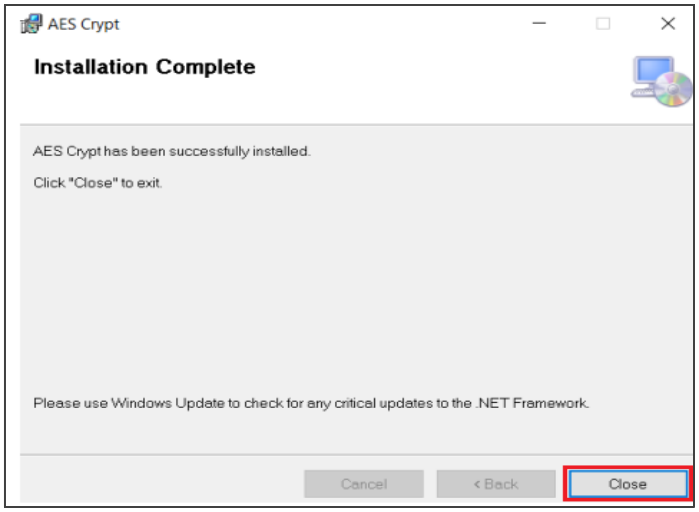


Confirm Installation

The installer is ready to install AES Crypt on your computer.

Click "Next" to start the installation.

1.8 After the installation is complete, click on **Close**



AES Crypt

Installation Complete

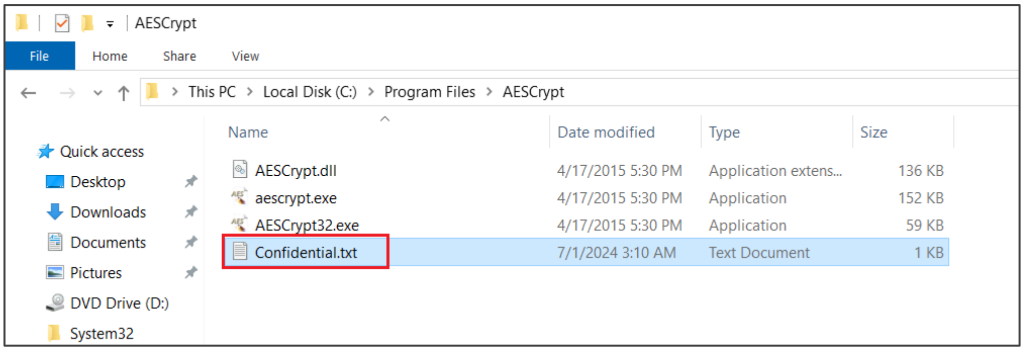
AES Crypt has been successfully installed.

Click "Close" to exit.

Please use Windows Update to check for any critical updates to the .NET Framework.

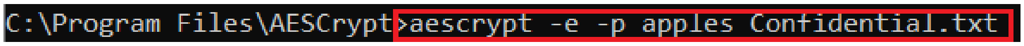
Step 2: Create a text file and encrypt it using AESCrypt

2.1 Create a text file named **Confidential.txt** in the directory in which AESCrypt is downloaded to encrypt it



Name	Date modified	Type	Size
AESCrypt.dll	4/17/2015 5:30 PM	Application extens...	136 KB
aescrypt.exe	4/17/2015 5:30 PM	Application	152 KB
AESCrypt32.exe	4/17/2015 5:30 PM	Application	59 KB
Confidential.txt	7/1/2024 3:10 AM	Text Document	1 KB

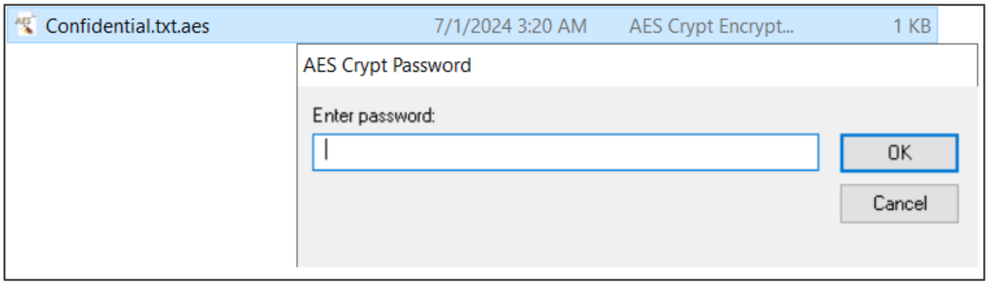
2.2 Open the command prompt and run the following command to encrypt the file: **aescrypt -e -p apples Confidential.txt**



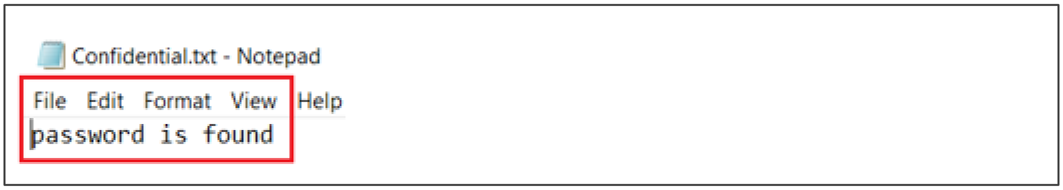
```
C:\Program Files\AESCrypt>aescrypt -e -p apples Confidential.txt
```

Note: Make sure you remove the Confidential.txt file after creating it to keep only the encrypted file [In the command, **apples** is the password.]

2.3 Now, open the **Confidential.txt.aes** file and enter the password as **apples** as mentioned in the above step



Confidential.txt.aes 7/1/2024 3:20 AM AES Crypt Encrypt... 1 KB



```
password is found
```

You can see the message password is found in the Confidential.txt file.

By following these steps, you have successfully implemented encryption solutions for data at rest using AESCrypt to protect sensitive information from unauthorized access, ensuring confidentiality, integrity, and security during storage and transmission.