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OBFUSCATOR EXECUTIVE V5 USER MANUAL

UM5 2025

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# 1. INTRODUCTION AND KEY FEATURES

Welcome to the *Obfuscator Executive User Manual*. *Obfuscator Executive* is a powerful software obfuscation tool designed to enhance the security of your applications. By making it more difficult to understand and reverse engineer your code, it strengthens the protection of your projects.

*Obfuscator Executive* works by obscuring critical components within executables and binary files, such as class names, functions, subroutines, objects, variables, constants, and UI elements. It replaces meaningful identifiers with indistinguishable placeholders, making it harder for attackers to understand and reverse engineer your software.

This versatile tool supports a wide range of file types, such as .EXE, .OCX, .DLL, .LIB, and .BIN, compiled for 64-bit, 32-bit, and even 16-bit Windows systems. Whether your application targets modern platforms or legacy systems, *Obfuscator Executive* ensures robust protection for your intellectual property and sensitive components.

### Key Features:

- Conceals vulnerable symbols from unauthorized access in compiled projects.
- Protects binaries across all major Windows versions.
- Functions as a development toolchain component and can be automated.
- Intuitive and friendly interface with no training required.
- Supports files up to 18.4 petabytes.

In today's software landscape, where reverse engineering and unauthorized access are ongoing threats, *Obfuscator Executive* adds a crucial layer of defense. Its ability to obscure critical elements across various platforms makes it an essential tool for developers aiming to protect their applications from exploitation.

This manual provides clear, step-by-step instructions to help you effectively use *Obfuscator Executive* and secure your projects.

# 2. SYSTEM REQUIREMENTS

- **Operating System:** Windows XP to Windows 11 (64-bit and 32-bit versions)
- **System Memory:** 64MB base requirement
- System Processor: Pentium class or higher
- Storage: 20MB disk space or more

### Notes on required system memory in addition to base requirement:

Memory requirements increase during binary analysis. For every 100,000 symbols an additional 800 KB is required, on average.

**Versions prior to 5.1** require enough system memory (RAM) to fully store the selected binary in memory where it is directly obfuscated. There was a limitation to the size of binary that could be processed, usually around 1.2 gigabytes (1.2 GB).

**Version 5.1 and above** use a more efficient obfuscation method and does not suffer from earlier memory limitations. The theoretical maximum binary processing size is approximately 18 petabytes (18 PB). It was successfully tested on binaries as large as 300 GB.

# 3. INSTALLATION

### a. Downloading the Installer

• Visit the official website and download the latest installer. <u>https://obfuscator-executive.com/#download</u>

#### b. Running the Installer

• Double-click the downloaded file to begin the installation process.

### c. Following On-Screen Instructions

• Review and accept the *License Agreement*, review the release notes, change log, select the installation location, and complete the setup.

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#### d. Launching Obfuscator Executive

 After installation, *Obfuscator Executive* can be started by clicking the desktop icon or the Start menu entry: Start >> *Obfuscator Executive* >> *Obfuscator Executive*

# 4. TRIAL VERSION LIMITATIONS

When using the software in its free trial mode, users can fully evaluate its capabilities without having purchased a license, but certain restrictions apply. These limitations are designed to prevent misuse and to encourage upgrading to a licensed version for full functionality. Below is an outline of these constraints:

- **Obfuscation Limit:** During the trial period, you may obfuscate up to 20 symbols per session.
- **Session Duration:** Each session is limited to *30 minutes*. After 30 minutes, any further use requires restarting the application.
- Automation Constraints: The free trial version does not support automation in console mode (command line or scripting).

Purchasing a license removes these limitations, granting user access to:

- Unlimited obfuscation capability.
- Extended session durations without the need for frequent restarts.
- Advanced automation features, including console mode support.
- Technical support via email.

By removing these restrictions, licensed users can leverage the full potential and efficiency of our software application for their specific security needs.

See the <u>Pricing</u> section for more details.

# 5. USING OBFUSCATOR EXECUTIVE

Upon launching *Obfuscator Executive*, you will be greeted with a simple and intuitive user interface designed for ease of use. Follow these steps to get started:



# a. Opening a Binary File for Analysis

- i. Click the Open file button on the main screen.
- ii. In the Select a file to obfuscate window, navigate to the location of your file and select it either by double clicking or pressing *Open*. Supported file types include .EXE, .OCX, .DLL, .LIB, and .BIN. If your binary is of another file type, type \*.\* and press *Enter* to see more choices.
- iii. *Obfuscator Executive* will analyze the file and display a list of vulnerable symbols.

# b. Selecting Symbols for Obfuscation

Ensure that you carefully review the list to select the symbols you want to protect.

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Mark each symbol you have named yourself and want to conceal with a **red ★ star**.

CAUTION: During binary analysis some invalid symbols may be detected. Do not mark these symbols for obfuscation because the binary will become unstable, cause unexpected problems, or crash. Examples of invalid symbols to not mark:

ARPRQh WhLIj WhpJs YPhhJj

# c. Obfuscating Your File

After selecting the desired symbols, click the Obfuscate button to begin the process.

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★ AllowURNsInIframes			
* AllowUndamagedNonro	otRenderPassToSk	rip	
* AllowWebAuthnWithBr	okenTlsCerts		
★ AllowWebLocksTime			
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The symbols in your binary file will be replaced and a new binary is generated having an *-ob* extension to the file name. Wait for the completion message. The duration varies with the binary size, the number of symbols to be protected, and the symbol arrangement in the binary.



# d. Examining the Obfuscated File

The new file will automatically load for review after obfuscation.

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Verify that symbols are obscured and functionality is intact by thoroughly testing the binary. For .EXE files, the file name will turn green and can be clicked to launch it.

### e. Advanced Topics

### i. Find Symbols Window

ind:		
Star matches	Next unstarred	Find

Your binary may contain many symbols to mark for obfuscation, which can be tedious to handle individually. To address this, use the *Find Symbols* window. Press F3 or CTRL-F in symbol view mode after file analysis to open it. The *Find* field supports regular expressions (regex) to accelerate symbol selection.

#### • Star Matches

Pressing this button with text in the *Find* field will mark with a **red**  $\star$  **star** all symbols matching the given text or regex formula. Complex formulas can be created to selectively mark distinct groups of symbols. For example, with *SymbolUI*\* in the *Find* field a press of this button quickly marks for obfuscation all symbols beginning with SymbolUI.

#### Find Operation

Pressing this button with text in the *Find* field will do a search beginning from where the cursor is in the symbol list. A *Find* operation for *btn\_calculate* will search for exactly that symbol name. A *Find* operation for *btn\** where '\*' is a wildcard locates the first symbol beginning with *btn*. In this example, search results would include *btn\_calculate* or *btn\_topmenu*.

#### Next Unstarred

Pressing this button will do a search for the next unstarred symbol, beginning from where the cursor is in the symbol list.

### ii. Regular Expressions

Regular expressions (regex) are a powerful tool for searching and selecting symbols based on flexible patterns. Below are examples of how it can be used:

- SymbolUI\* matches SymbolUI followed by zero or more characters, finding symbols like SymbolUI, SymbolUI123, or SymbolUI\_abc. Use this pattern to match all symbols starting with SymbolUI.
- SymbolUI[0-9]\* matches SymbolUI followed by zero or more digits (0–9), useful for finding symbols like SymbolUI1, SymbolUI12C, or SymbolUI4ab.
- SymbolUI[A-Z]\* matches SymbolUI followed by zero or more uppercase letters, for symbols like SymbolUI, SymbolUIA, or SymbolUIXYZ.
- SymbolUI\_[a-zA-Z]\* matches SymbolUI\_ followed by one or more letters, helping locate variations like SymbolUI\_func, SymbolUI\_Test, or SymbolUI\_ABC.
- [0-9\_]\* matches numeric sequences that may include underscores or allow an optional numeric suffix, useful for identifying version numbers (v1\_2), variable names (Value\_123), or structured numeric codes (ID\_456)

These patterns help customize searches, enabling you to quickly locate groups of symbols with similar naming conventions.

*Obfuscator Executive* incorporates a Microsoft VBA regex implementation. For more information on how to get the most out of regular expressions, refer to Microsoft's documentation:

https://learn.microsoft.com/en-us/dotnet/standard/base-types/regular-expressionlanguage-quick-reference

A quick reference in PDF format is also available from Microsoft: <u>https://download.microsoft.com/download/D/2/4/D240EBF6-A9BA-4E4F-A63F-</u> <u>AEB6DA0B921C/Regular%20expressions%20quick%20reference.pdf</u>

### iii. Settings Files

For each obfuscated file, you are prompted to save a *Settings File*. These file names ending with an .obs extension contain marked symbols and are reloaded each time the source file is opened. Practicing good security includes updating your *Settings File* as your application grows. *Settings Files* can also be manually edited with a text editor provided you retain the format where each symbol to obfuscate appears with a '+' prefix.

For example:

```
; Obfuscator Executive v5.1.4 Settings File
; 2/4/2025 10:28:52 AM
;
; endpoint.exe
;
<start>
+BlockFromInsecureToMorePrivate
+ComodoSrvKeyPair
+DohProviderQuad9Secure
+HardwareSecureDecryption
```

These marked symbols originate from commonly available binaries and offer insight into the types of security vulnerabilities *Obfuscator Executive* can protect against.

### iv. Using Console Mode (Automation)



A command prompt, shortcut, batch file, or script can automate the obfuscation process. Your original file is overwritten, so be sure to keep a backup. Use the following command:

obfuscator %filename%

After processing, control is returned to the originating process.

Batch file example:

```
CALL "C:\Program Files\Obfuscator Executive\obfuscator.exe"
"C:\My Projects\file_to_obfuscate.exe"
```

A Settings File is required for obfuscation in console mode. If a Settings File is not found, the binary will be loaded and analyzed. You can then create a Settings File by selecting the desired symbols in the user interface and clicking the Obfuscate button. When prompted with Save settings for future use?, click Yes and the Settings File is created for automating future obfuscations.

Console mode is available with a paid license only. To purchase a license, see the <u>Terms of Purchase</u> section.

# 6. EXAMPLE CASE STUDIES

Organizations across various industries use *Obfuscator Executive* to address critical security challenges in software applications. These examples highlight how the tool strengthens security by identifying and obscuring vulnerabilities in compiled binaries, making software more resistant to reverse engineering.

# Acme Software Inc.

Producer of a software tool for engineers offering digital twin development.

A leading provider of digital twin development tools, Acme Software Inc. empowers engineers with innovative solutions for efficient prototyping. Their flagship product combines adaptive learning and proprietary methods to streamline the creation process. While testing a trial version of *Obfuscator Executive*, Acme's CTO, John Stevens, identified critical security vulnerabilities in their software. The analysis revealed over 37,000 unintended disclosures in the main executable and hundreds more in supporting DLLs, exposing proprietary methods, algorithms, variables, and other sensitive components. These vulnerabilities presented a clear view into the software's inner workings, posing a significant risk to Acme's intellectual property.

Recognizing the urgency, John swiftly reached out to us and secured a full license for *Obfuscator Executive*. During a videoconference call, he led a security overhaul with his release managers from various departments, providing instruction on integrating the tool into their build pipeline. The team crafted tailored .obs configuration files, implemented automated obfuscation during the CI/CD process, and trained staff to recognize potential vulnerabilities after obfuscation.

### **Horizon Bank**

Redefining digital banking with innovation and security.

Horizon Bank, a leader in financial services, is renowned for its innovation and unwavering commitment to security. Their application software, HorizonAccess, serves millions with secure payment solutions and investment tools. To uphold its high security standards, the bank continually evaluates emerging technologies to fortify its digital systems.

During a routine review, Rachel Torres, the bank's CISO, tested a trial version of *Obfuscator Executive* on a release build of HorizonAccess. What was intended as a standard security check revealed nearly 100,000 exposed symbols and methods, including sensitive components such as encryption routines, authentication protocols, and backend API endpoints. These vulnerabilities posed a significant threat, providing attackers with valuable knowledge on potential entry points to reverse engineer the application or exploit weaknesses.

Given the critical nature of the findings, Rachel's team quickly licensed and integrated *Obfuscator Executive* into their development workflow. In just an hour, they created custom .obs settings to secure high-risk areas, such as encryption and session management, without compromising performance. After thorough testing, the obfuscated binaries were packaged for distribution and uploaded to the cloud distributor. This process not only uncovered critical vulnerabilities but also enabled Horizon Bank to enhance its defenses, reinforcing its proactive cybersecurity strategy.

# 7. FAQ

### **Frequently Asked Questions**

### Which software compilers are compatible?

*Obfuscator Executive* protects Windows EXE and other binaries compiled with popular platforms like Visual Studio (C#, VB.NET, C++), GCC, JetBrains Rider, Eclipse, NetBeans, and Xamarin Studio. Legacy compilers such as Microsoft Visual C/C++, "Classic" Visual Basic (VB4, VB5, VB6), Borland C++, Turbo C++, Delphi, and others are fully supported.

#### Does this obfuscate source code?

No, Obfuscator Executive protects compiled binaries and executables only.

#### Does this protect encrypted executables?

No, binaries and executables must be decrypted before they can be analyzed and obfuscated by *Obfuscator Executive*.

#### Which file types can be obfuscated?

*Obfuscator Executive* protects .EXE, .OCX, .DLL, .LIB, and .BIN files compiled for 64bit, 32-bit, and 16-bit Windows.

# 8. TROUBLESHOOTING

### **Common Issues**

- **No Objects Found:** Ensure the binary file is a supported format (.EXE, .OCX, .DLL, .LIB, .BIN). Alternatively, the file may not contain any vulnerable symbols.
- **Obfuscation Takes a Long Time:** Complexity and size of the binary affects processing time. This may not be the case with some binaries: a 15 MB file may take longer to analyze and obfuscate than a 300 MB file. This could be due to the number of symbols and the internal structure of the binary, which may be more complex and require additional processing time.

# **Contact Support**

If you encounter issues not addressed in this manual or need further assistance, please refer to the <u>Contacts section</u> for support. Our team is available to provide guidance and resolve any technical difficulties you may experience. Whether you need troubleshooting assistance, have questions about advanced features, or require personalized assistance, we are here to ensure your success with *Obfuscator Executive*. Basic support is included with all license levels, including new users.

# 9. PRICING

The license format for this software varies depending on the scale of use, choosing from either the Individual or Enterprise level. An Individual license grants access for personal or small-scale use, while an Enterprise license covers multiple users or teams within a larger organization, offering additional features and support.

### Individual Users:

- Cost: \$249.00 per permanent license. No further costs.
- Purchased online through the <u>Obfuscator Executive website</u>.
- Features Unlocked:
  - Unlimited obfuscations
  - Multiple instances
  - Command line integration (automation)
  - Extended session durations

#### **Corporations and Enterprise Clients:**

• Contact *Obfuscator Executive* via email at <u>sales@obfuscator-</u> <u>executive.com</u> to arrange for an Enterprise license.

Pricing and Terms are subject to change without notice on the website at <a href="https://obfuscator-executive.com/#pricing">https://obfuscator-executive.com/#pricing</a>.

# 10. TERMS OF PURCHASE

Please review the *License Agreement* to understand its terms and conditions, including usage rights, restrictions, and other essential details about your software license.

# **License Policy**

Please review all details and requirements carefully before completing your purchase. Once a license is issued, it is permanent and non-refundable. However, if you are unhappy, please contact us within 30 days to discuss the issue. We will work to resolve the problem or issue a refund as appropriate.

# **Prices and Payment**

Prices listed on the *Obfuscator Executive* website are in USD and do not include taxes. For transactions under \$1000, we accept payments via PayPal. For larger transactions or additional payment methods, please contact us directly for further assistance.

# Delivery

Orders are typically delivered on the same or next business day. You will receive an email with a license key to unlock the product. There is no physical media, CD, DVD, printed manual, or product box.

# Support

Technical support is available at no cost via email.

# **Updates**

Minor updates are free within the same major version number. For example, a purchase of version 5.1 includes free updates up to, but not including, version 6.0.

# **Educational Discounts**

We offer exclusive pricing for students, teachers, security researchers, and institutions. For more information, please <u>reach out to us</u>.

# 11. CONTACT AND SUPPORT

For additional help or feedback, please don't hesitate to reach out to our support team. Whether you have questions, need assistance with a specific feature, or want to share your experience, we're here to assist you every step of the way.

Our team is committed to providing timely and helpful support to ensure you make the most of your experience with our product. Please allow up to 24 hours for a response during normal business hours, and we'll get back to you as quickly as possible.

- Email: <a href="mailto:support@obfuscator-executive.com">support@obfuscator-executive.com</a>
- Website: <u>https://obfuscator-executive.com</u>

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