

C·O·M·O·D·O

Creating Trust Online™

Comodo i- Vault

User Guide

Introduction	3
Unique features:	3
Major features:	3
Hardware and software system requirements	4
Getting Started	5
Three easy steps to begin work with Comodo i-Vault:.....	5
How To Change master password.....	5
How To Customize security settings.....	5
How To Copy data to other applications	6
How to backup and restore data	7
How to Remove Comodo i-Vault.....	7
Main Window Overview	8
Spyware Counteraction System (SCS)	9
Why SCS?	9
Components of SCS:.....	9
Internet Explorer integration	10
Overview	10
Comodo i-Vault's autofill feature	10
Highlighting.....	10
Remarks	11
Preferences	11
Secure Clipboard data transfer	12
Clipboard overview	13
Clipboard vulnerability	13
Secure Clipboard in Comodo i-Vault.....	13
Advanced master password handling	13
Importance of master password.....	13
Solution: advanced master password handling	14
QuickPasswords	14
General Information.....	14
Customizing QuickPasswords.....	14
QuickPasswords List.....	15
Remarks	15
Glossary	15
Software License	16
i-Vault Update	18
Technical Support	19
User feedback	19
Error reporting	19
Comodo Forums.....	19

Introduction

Comodo i-Vault is elegant, unique featured, powerful and secured personal information storage. You can store, organize, access and effectively use your data in a secured manner. All your private data are kept in a personal storage, protected by master password. Comodo i-Vault acts like security control center in your computer, so that you can safely manage and use stored data.

Unique features:

- **Spyware Counteraction System** (security)
This set of unique defensive methods protect your privacy in unsafe environment. With Comodo i-Vault you need not worry about spyware!
- **Internet Explorer® integration** (security and usability)
Comodo i-Vault allows to access password-protected Web pages **without even a single additional click!** It makes Web surfing more convenient and very safe.
- **Advanced master password handling** (security)
This feature improves strength of your master password by **5000** times.
- **QuickPasswords** (usability)
QuickPasswords is fastest and easiest way to use your stored passwords. It allows to enter passwords anywhere just by two simple clicks.

Major features:

- **Powerful encryption** (security)
Comodo i-Vault offers powerful industry-standard encryption algorithm for all supported Windows® platforms, AES. **AES** is an abbreviation of **Advanced Encryption Standard**, and also known as **Rijndael**. When you use strong 256-bit key with this encryption algorithm, it will require hundreds of years to crack your key in brute-force manner, even with help of most powerful modern supercomputers. Combined with **advanced master password handling**, AES ensures nondisclosure of your very important data.
- **Intuitive and easy-to-use interface** (usability)
Comodo i-Vault offers convenient Windows® Explorer® like interface. Tree outlining with unlimited number of folders and **drag-and-drop** technology support helps to organize your data in the most effective way. Most complex actions can be performed with help of carefully designed wizards.
- **Built-in passwords generator** (security)
Most user passwords are quite simple and can be easily picked in seconds. Comodo i-Vault offers built-in password generator. The generator can produce passwords of given length, containing both alphabetical and non-alphabetical characters as well as digits. You can generate passwords directly from Card Creation Wizard. Generated passwords are truly random and unpickable, therefore highly secure. It is quite difficult to memorize

such passwords, but using them will be very easy thanks to i-Vault.

- **Automatic locking system** (security)
Comodo i-Vault can automatically lock your storage while you are away from your desk. Built-in security features put an end to prying eyes at your work place or at home.
- **Highly customizable information representation** (usability)
Utilizing our cards and schemas paradigm, Comodo i-Vault is able to display your information in virtually unlimited number of variations. By using our freeware utility **Schema Builder**, you can create your own schemas.

Hardware and software system requirements

For normal performance of Comodo i-Vault, your computer must meet the following minimum requirements:

General Requirements:

- 6 MB available space on your hard drive
- CD-ROM drive (for installation of Comodo i-Vault from CD)
- Microsoft Internet Explorer 5.01 or above

Supported Operation Systems:

- Windows 2K (Service Pack 3 or later)
- Windows XP (Service Pack 1 or later)

Hardware Requirements:

- Intel Pentium IV with 133 MHz processor
- 64 MB RAM

Getting Started

Three easy steps to begin work with Comodo i-Vault:

- 1. Create new personal storage**
Start Personal Storage Creation Wizard (by issuing **Storage -> New** command) and follow its step-by-step instruction. During this process, you will need to name your **storage**, select wanted protection level and set up **master password**.
- 2. Enter some data**
Create new card with Card Creation Wizard to add information into your storage. You will need to select card type and fill out card's records. Some of records are required to be filled in (names of those records will be **highlighted** in the entering form). Comodo i-Vault saves all entered data automatically. You can create as many cards as you need and organize them with help of folders. It is also possible to create text notes and edit them directly.
- 3. Access, modify and use your data**
To view the information you have entered, select your card from the list. You can modify entered data by selecting **Edit Card** command from main or context menu.

How To Change master password

It is possible to change master password for your personal storage.

To do this, select **Change Master Password** from **Tools** menu. Confirm your authority by entering current master password. Then enter the new master password twice.

It may take some time to re-encrypt information in the storage with new master password. You will get success notification in the end of the process.

How To Customize security settings

Although Comodo i-Vault selects security options automatically (based on selected security level), you may want to tune it manually. To do this, select **Set security options manually (for advanced users)** while selecting security level in Personal Storage Creation Wizard. Then you will be able to select cryptographic provider, encryption algorithm and key length available for your system. After that, you will need to set up interactive options. Enter inactivity time and select passwords' visibility.

It is possible to customize interactive options for existing storage. Open a storage and select **Properties** from **Storage** menu.

How To Copy data to other applications

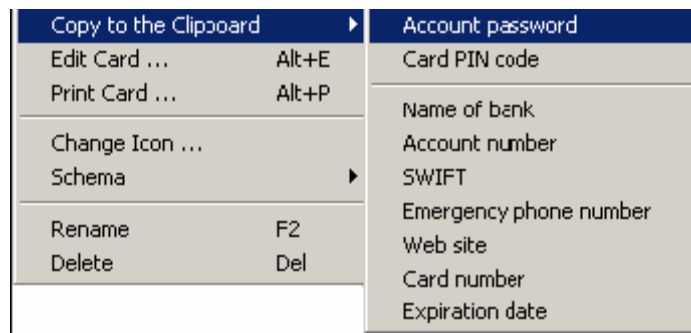
You can copy any of your stored data to other application. There are many ways to perform this operation:

- by using QuickPasswords feature;
- using the Clipboard (powered by Secure Clipboard data transfer);
- by using Internet Explorer® integration feature and;
- by **Drag-and-drop** operations

Using Comodo i-Vault's secure Clipboard transfer

Clipboard is fast and convenient way to transfer important data without revealing it on your screen. To transfer data via the Clipboard, you need to:

1. Right-click with mouse on the card
2. Select **Copy to the Clipboard** submenu
3. Select the type of data you want to copy
4. Switch to other application and paste the data by pressing **Ctrl+V** or by using **Paste** command



How To backup and restore data

Backup

Comodo i-Vault's backup feature helps you to protect data from accidental loss if your system experiences hardware or software failure. Backup creates a duplicate copy of your storage as an accurate point-in-time copy of its contents. If the original storage is accidentally erased or overwritten, or becomes inaccessible because of a hard disk malfunction, you can easily restore the data from the backed up copy.

Important: To maintain security, backup operation copies only encrypted data, your master password **will not be** included in the backup.

The following three steps describe a backup operation:

1. Open a storage you want to backup
2. Select **Backup** from **Storage** menu
3. Choose a destination for your backup (it can be a folder on your local hard drive, removable storage or your local network path)

You will get success notification or error message with a reason why backup operation has failed.

Restore

Restore operation is reverse to backup, it restores data that you previously backed up.

Use this operation carefully: it will overwrite **unrecoverably** all your current data in the storage. The **only** reason to perform restore operation is data loss or corruption.

To restore your data you need:

1. Close all currently opened storages
2. Select **Restore** from **Storage** menu
3. Choose backed up storage you want to restore
4. You may need to confirm overwriting of existing storage

You will get success notification or error message with a reason why restore operation has failed.

How to Remove Comodo i-Vault

Comodo i-Vault is supplied with a fully automatic uninstaller. To remove Comodo i-Vault from your computer perform actions as follows:

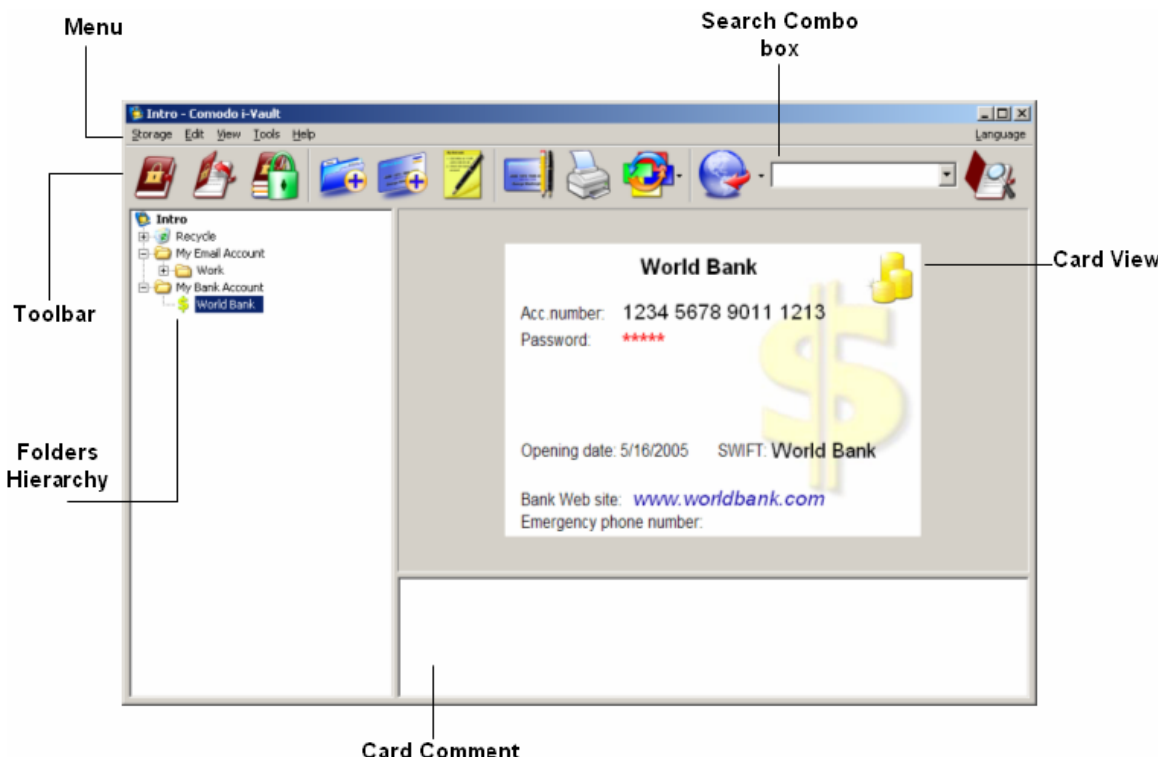
- Exit Comodo i-Vault before uninstalling;
- Go to **Add/Remove Programs** in Control Panel and double-click **Comodo i-Vault** in the list;

- Proceed with uninstalling process.

Main Window Overview

Main window is general Comodo i-Vault's window. Here you can view, enter, edit and manage your data.

Main window can be marked as **always-on-top**, minimized into taskbar area as well as to system tray using **Tools -> Preferences** option.



Area	Description
Folders Hierarchy	An arranged list of cards and folders, contained in current personal storage. Note that Comodo i-Vault's folders are not the Windows® Explorer®'s folders, they only helps to organize your cards. You can drag'n'drop InfoKeeper's folders only within main window.
Card View	Here you can see a graphical representation of your card, text of a note, or contents of a folder. Specific view depends on card or folder you have selected in folders hierarchy. Passwords and other important information may be hidden with *****. It may be needed to left-click on card or password to reveal hidden

	information.
Comments	Here you can see and edit comments for selected card or folder. You can show/hide comments by checking on/off Show Comments item in Edit menu.

Spyware Counteraction System (SCS)

This is a set of original defensive methods, both active and passive, which counteracts any attempt to steal data during your work with Comodo i-Vault.

Why SCS?

Microsoft® Windows® is not safe operating environment. Spyware applications, keyloggers and system monitors, viruses: all this mostly illegal software can spy on you, reveal and/or steal your private data.

To render such activity harmless we have developed powerful defensive system: the Spyware Counteraction System.

Components of SCS:

Secure Clipboard data transfer

This truly unique feature eliminates vulnerability of data transfer via the Clipboard. Comodo i-Vault protects your data from accidental or intentional revealing during Clipboard operation.

Anti keylogger

Keyloggers are special type of applications. They may be either legal (set up by administrator) or illegal (spyware or virus). Keyloggers work hidden, track and log your activity. The most dangerous is collection of your keystrokes.

When you type your master password, hidden but active keylogger utility collects your keyboard typing. In most cases collected data will contain exact symbols from you password! Since master password is the key to all your stored information, your privacy is ruined.

This **will not happen** with Comodo i-Vault! SCS tricks keylogger and makes collected data completely useless. It is impossible to recover valid master password from stolen keystrokes.

Anti password recovery

Password recovery tools allow you to reveal previously typed password. You need to point to password entrance area (where stars or circles hide password) and password recovery either

copies your password or reveals it. Similar technique may be used despite your will, which leads to irreparable master password secrecy loss.

Due to SCS, password recoverers are fully ineffective against Comodo i-Vault. SCS blocks all attempts to reveal typed data and always reports five stars (*****) instead of real password.

It is clear that powerful encryption is not enough to protect your privacy. Spyware Counteraction System is an essential part of secure application. Only combined efforts of all Comodo i-Vault's defensive mechanism ensures your privacy

Internet Explorer integration

By using our unique Comodo i-Vault technology can help you to access your password-protected Web pages in the most secure and convenient way.

Overview

Many resources in Word Wide Web require authorization: secure servers, forums, e-mail accounts with Web interface, etc. You have to provide **user name** (login) and **password** to access such protected Web resource.

You may have many different login/password pairs to remember and it is not a good idea to have one password for many Web pages. Also typing your login/password into corresponding fields on a Web page is slow, inconvenient and not secure (due to keylogger applications).

Comodo i-Vault's autofill feature

Comodo i-Vault resolves all described problems. It can handle password-protected Web pages and fill in login and password fields automatically, omitting manual typing. Therefore, you can access protected pages as **quick and easy** as normal ones!

To use this feature, your storage must contain **Web Resource** card for a given Web page. You can create cards for new protected pages in either automatic (hidden) or manual mode (see **Preferences** below).

Comodo i-Vault obtains required information in two ways:

- **learning from the user** - when you submit login and password to a Web page for a first time, that information is stored and used when you will access an appropriate Web page again.
- **explicit card creation** - when you access password-protected Web page first time, you will need to fill in automatically created card for that Web page.

Highlighting

Comodo i-Vault is able to highlight appropriate input fields on a Web page. There are different colors for each situation as follows:

Color	Meaning
Green	Comodo i-Vault has successfully transferred your data to the Web page.
Yellow	Comodo i-Vault has detected new Web page and ready to obtain user's data.
Red	Comodo i-Vault has detected new Web page, but no storage is opened and unlocked.

Remarks

You need to keep Comodo i-Vault running, and have your storage opened and unlocked while you are surfing the Web.

It is possible to have multiple cards for one Web page. This is useful, for example, if you use multiple e-mail accounts on a mail server. You need to launch Web browser directly from Comodo i-Vault in order to fill in appropriate login/password pair.

Preferences

Here you can tune all aspects of Comodo i-Vault and Internet Explorer® interactions.

Data retrieving for new pages	This group of alternatives defines the method how Comodo i-Vault will grab data from new password-protected Web pages.
Disabled	Comodo i-Vault will not retrieve data from new Web pages.
Hidden	We recommend selecting this option. In this case, Comodo i-Vault will retrieve all necessary information automatically. You just need to login once to the Web page by regular way. There no additional interactions are required, new Web Resource card will be created automatically, as soon as you hit Submit button on the Web page.
Interactive	In this mode, Comodo i-Vault will propose you to create a new card in dialog. You will need to enter your login information into the card's records by yourself. It is possible to cancel card creation and continue surfing the Web. Please note that you can experience small delays (less than 5 seconds) in this mode.
Blocking	This option is similar to the previous one. The only difference is that Comodo i-Vault will hide Internet Explorer® window until you finish or cancel Card

	Creation Wizard.
Data insertion into known pages	This group of alternatives defines the method how Comodo i-Vault will insert your login information into Web pages from cards you have already stored.
Disabled	Comodo i-Vault will not insert any of your login information into Web pages.
Hidden	Once your Web page is loaded, Comodo i-Vault will insert your login information into the Web page automatically. You will just need to click an OK (or Login) button on the page, or simply press Enter key to proceed.
Advanced settings	These settings are for advanced users only.
Disable updates of existing cards	Comodo i-Vault cannot use manually created cards for automatic data insertion. For such cards, Comodo i-Vault will offer you to update some card's technical data. By checking this option, you will disable auto-updating process and Comodo i-Vault will consider given Web page as a new one.
Do not strip arguments from URLs	Usually addresses of Web pages (URLs) consist of address itself and some extra data (parameters). These parameters can vary every time you visit the Web page. To correct this problem, Comodo i-Vault can strip parameters from acquired Web address. However, some Web pages require these parameters to be set. If you need to keep full URLs (with parameters), check this option. Alternatively, you can edit automatically created card and copy full URL from your browser. Example: Real URL: http://www.domain.com/cgi-bin/login.cgi?type=employee&date=05142003 Stripped URL: http://www.domain.com/cgi-bin/login.cgi
Highlight login/password fields	By checking this option, you can switch on/off highlighting.

Secure Clipboard data transfer

Secure Clipboard data transfer is unique, fully automatic feature, which lowers to nothing chances of stealing your private data. A component of Spyware Counteraction System.

Clipboard overview

Clipboard is most common way to transfer data between applications. When you cut or copy information from a program, it is moved to the Clipboard and remains there until you clear the Clipboard or until you cut or copy another piece of information. You can paste the information from the Clipboard into any other application as often as you like.

Clipboard vulnerability

Although data transfer via the Clipboard is convenient, it has two big security problems.

- Copied data remains in the Clipboard until another Clipboard operation. Clipboard clearing is very rare operation and generally not performed. Therefore, it is possible to reveal important information simply by issuing an additional Paste command.
- It is possible to monitor the Clipboard. Some utility tools (like Microsoft® Clipboard Viewer and Microsoft® Office® Clipboard) intercept Clipboard operations and copy data for their own purposes. In this case, your private information is revealed automatically!

Secure Clipboard in Comodo i-Vault

As true secure application, Comodo i-Vault eliminates both problems. The following protection mechanisms are in use:

- Counteraction to any attempt to steal your data by imitating Paste command.
- Clipboard contents are erased right after successful data transfer, so you can paste copied data only once.
- If user won't paste data in 30 seconds, Clipboard contents is also cleared.
- Clipboard monitoring is disabled temporarily, so no one application can intercept and reveal Clipboard contents.
- Clipboard contents are erased when you close Comodo i-Vault.

Therefore, secure Clipboard data transfer protects your data even outside of Comodo i-Vault.

Advanced master password handling

This unique technology strengthens your master password by **5000 times**.

Importance of master password

All your stored data is protected by a single master password. This makes master password an extremely important part of the security system. Weak master password is a serious security vulnerability, because it can be easily picked during **brute force** attack.

Good master password must be quite long and complex. It **must not** be a single word or only-digits combination. However, it is difficult to memorize **good** (and complex) master password. Therefore, it is a problem balancing between security and convenience.

Solution: advanced master password handling

Our research on password-based data encryption results in higher level of information protection. Comodo i-Vault handles your master password in a way that improves its strength by **5000 times**.

Let suppose someone have a computer powerful enough to pick your master password in **3** days. With advanced master password handling, it will require **3*5000=15000** days to crack your password. This is a big difference between **3** and **15000** days (over **40** years).

It means that your private information will not become revealed due to weakness of master password or massive brute-force attack

QuickPasswords

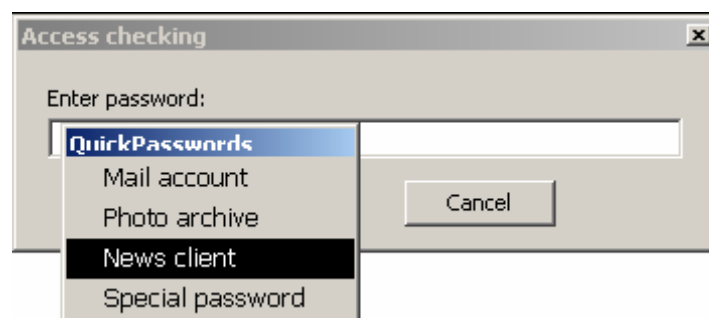
QuickPasswords is fastest, most convenient and highly secure way to use your stored passwords.

General Information

Do you waste your time while copying stored passwords? Don't you want to perform annoying sequence like: switch to password storage, select required password, copy password to the Clipboard, switch to password-input field, paste stored password? QuickPasswords is for you!

This unique feature allows entering passwords just by two simple clicks. Once an application asks you for a password, you need to hit the magic combination and pick the required password. Chosen password will be transferred to the application's password entrance area.

QuickPasswords operation is protected by Secure Clipboard data transfer.



Customizing QuickPasswords

Use can customize every aspect of QuickPasswords feature in **Preferences**.

You can assign your favorite hotkey to QuickPasswords (default is **Win+Ctrl**). Comodo i-Vault

allows to use any possible key combination, including **Windows Logo** (or simply **Win**) key. However, some key combination (like **Ctrl+Alt+Del** or **Win+D**, see **Keyboard Shortcuts** in Windows® help for details) are reserved by operating system, so you cannot select them.

Require keyboard focus option allows to ensure acceptance of transferred data by target application.

Also, you can select data transfer method, number of storages affected as well as switch off QuickPasswords at all.

QuickPasswords List

QuickPasswords list is constructed automatically from cards stored either in all currently opened storages or in active one. So, you need to create few cards and mark necessary records as available for QuickPassword.

Remarks

- Target application should be able to accept keyboard input (caret should blinking);
- You need to keep your storage opened and not locked;
- You need to have at least one card with records, marked for usage in QuickPasswords;
- QuickPasswords' hotkey (default is **Win+Ctrl**) should be unique among all hotkeys in your system.
- QuickPasswords can transfer login+password pair. This feature is activated by **Shift** key

Glossary

Term	Definition
Storage	An encrypted file containing all your data as set of cards and folders. Each storage is protected by a master password.
Card	This is a basic information representation form. Cards differ by types. Each card has a name and number of records, and can be displayed in different forms, called schemas. It is possible to add a brief comment to each card.
Folder	This is an organization structure. Like standard file folders in Windows Explorer, each folder can contain a number of other folders and cards. Most operations can be performed on entire folder including all its contents. You can add a comment to each folder.
Record	A single piece of information like name, number, password, date, PIN, Web address and so on.
Password	This is a special type of record, which contains sensitive data (PINs or other stored

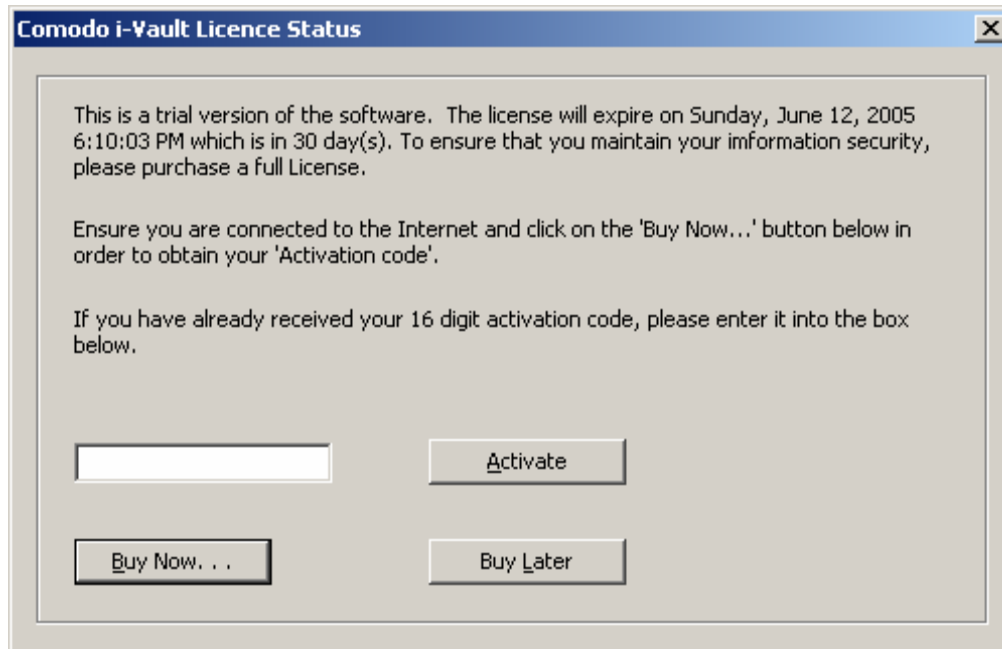
	passwords). You can hide passwords away from direct view by choosing proper level of passwords' visibility. Passwords are distinct from master password. One storage can contain many passwords in its cards, but always have only one master password.
Card type	Each card has its own type and contains information in accordance with its type. Therefore, card type serves as entry template for a card. For example, cards of Bank Account type contain information about bank accounts but not about Web addresses or cell phones.
Master password	Like any other password, master password is a secret combination of alphabetic characters (uppercase and lowercase), digits and special symbols. Master password protects all information in one storage, it is one and only way to access and modify data in that storage. Therefore, it is very important to keep your master password in safety and secrecy. Master password must be long enough to meet the requirements of higher levels of protection.
Schema	Schema defines visual appearance of the card it is applied to. It is possible to have multiple schemas for each card type.
Inactivity time	After expiration of this inactivity time period your storage will be locked automatically. To unlock your storage you must re-enter master password to access your data.
Passwords' visibility	You can limit visibility of your passwords by altering this option. If hidden (which means invisible), your passwords are shown as ***** . To reveal hidden password you need to perform an action you have selected in this option.

Software License

Comodo i-Vault is a free-to-use application. The **Comodo** i-Vault software can be downloaded, installed and evaluated freely for 30 days. You will receive regular reminders if you have not activated your installation. You can obtain **Comodo i-Vault** anytime during the evaluation period by connecting directly to the i-Vault website and obtain a free license that simply requires annual renewal.

The following **Comodo i-Vault License Status** screen appears after the successful installation of Comodo i-Vault.





To navigate to the Comodo i-Vault License Status screen manually, perform the following operation:

- Open **Comodo i-Vault**
- Click **Help -> About / License...** The following **About Comodo i-Vault** screen appears.



- Click **License Status...** button. The **Comodo i-Vault License Status** screen appears.

To obtain a license, perform the following operation:

- Click **Get a License Now...** button

After having obtained the license, you will be provided with an activation code by e-mail

Please ensure that you are connected to the Internet

To activate the Comodo i-Vault immediately:

- Enter your activation code in the text box provided
- Then, click **Activate** button
- Once you have activated the free license, it just requires an annual renewal.

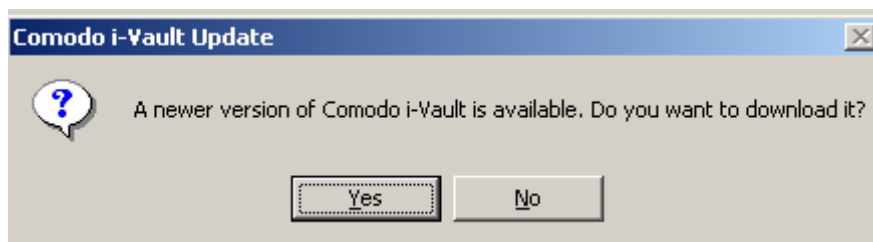
To obtain a license later, perform the following operation:

- Click **Get a License Later** button

In case of license expiry, you will be reminded to activate the Comodo i-Vault software every one hour. In case of trial license, you will be reminded to activate the Comodo i-Vault software once in a day. In case of full license, when {15,7,6,5,4,3,2,1} days are left for license to expire, you will be reminded to activate the Comodo i-Vault software once in a day .

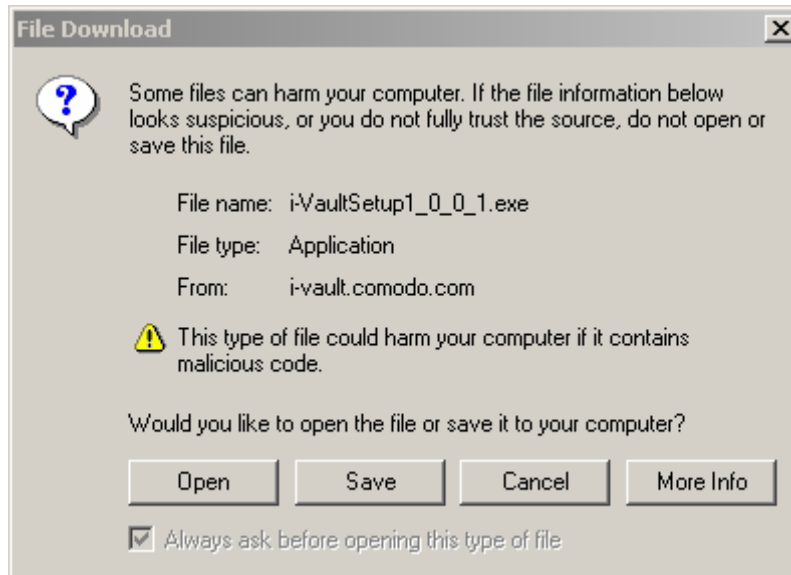
i-Vault Update

Whenever a new version of **Comodo i-Vault** is available, **i-Vault update** notifies the user to download and install the new setup. The user will be prompted with the **Comodo i-Vault Update** dialog box.



To download and install a newer version of **Comodo i-Vault**, click **Yes**. Otherwise, click **No**.

When user clicks Yes, **File Download** dialog box appears.



To open **Comodo i-Vault**, click **Open**. To save **Comodo i-Vault**, click **Save**. To cancel the download, click **Cancel**

Technical Support

User feedback

Our company always appreciates your feedback, which helps us to make our software a better product for you. Please send your suggestions or comments to support@comodo.com. We review all suggestions and feature requests before new software release.

Error reporting

E-mail us to support@comodo.com in case of any questions or problems. Please define your problem as clear as possible and provide background information (like OS version, program version). Additional information (like sequence of actions to reproduce a problem) will help us to trace down your problem more quickly.

We will try to help you as soon as possible.

Comodo Forums

Still got questions? Why not register at the Comodo Forum, a message board exclusively created for our users to discuss anything related to our products. You'll benefit from the expert contributions of developers and fellow users alike and can find answers to any questions you may have.

Register free at forums.comodo.com