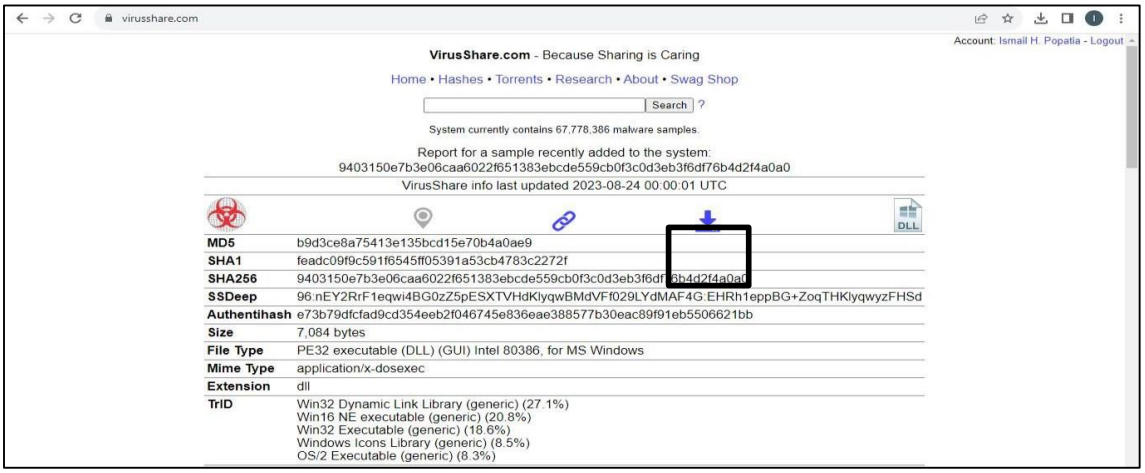
Practical No.7

Aim: To do Detect and Analyse Malware (Clean Samples)

Analysis:

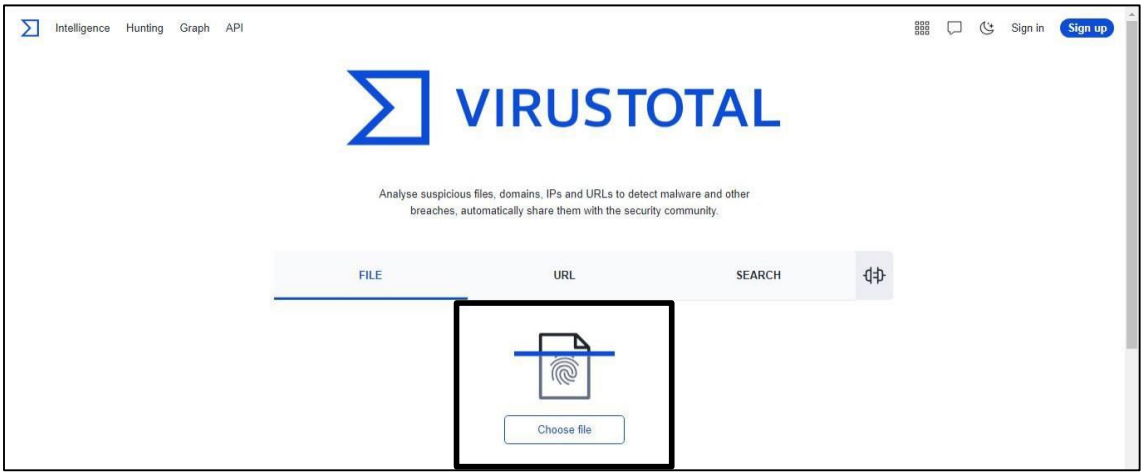
For analysing the Malware, we need one. A clean sample of the Malware needs to be downloaded from a trusted website, the downloading and analysis is demonstrated by the following steps

1) We select the website www.virusshare.com for downloading the clean sample of Malware (an account needs to be created for the same). Any other source can be selected to download the Malware (clean sample and authorised site)

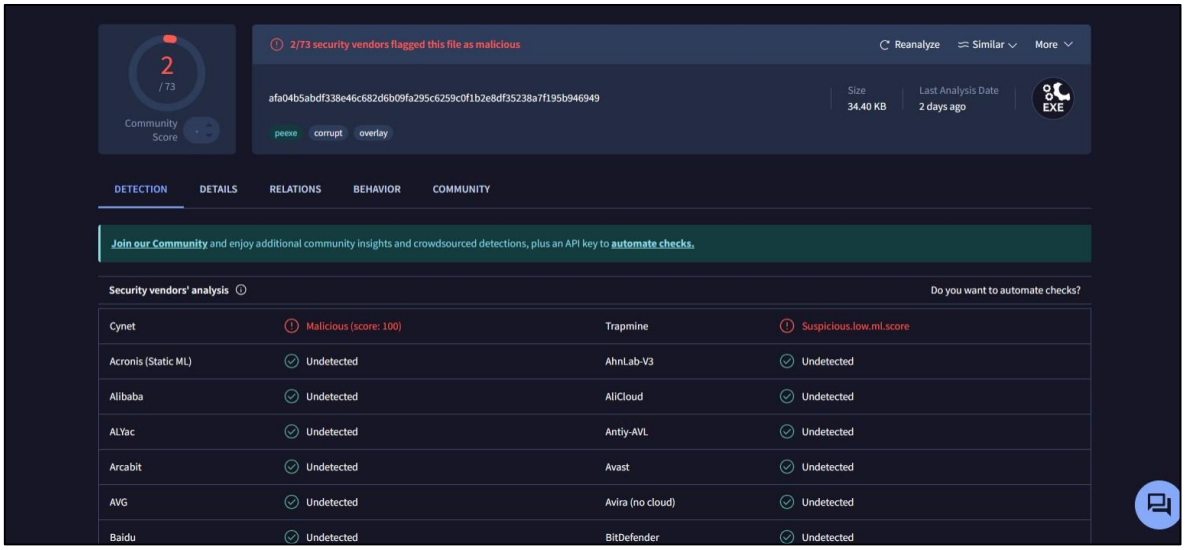


2) By clicking the above download icon the Malware gets downloaded in ZIP format.

3) For unzip the password is “infected”, there is no need to unzip the file, we create a folder “Malware” on desktop and save the file in the folder
4) In order to analyse the Malware, we select the website www.virustotal.com



5) Click on “Choose File” and select the file from the location (ZIP file will do, if asks for password enter infected)
6) We get the following after the upload is complete



We are interpret the following findings

a) 2 security vendors out of 72 flagged this file as malicious
b) The detection tab shows the threats-type which were flagged by the vendors for e.g

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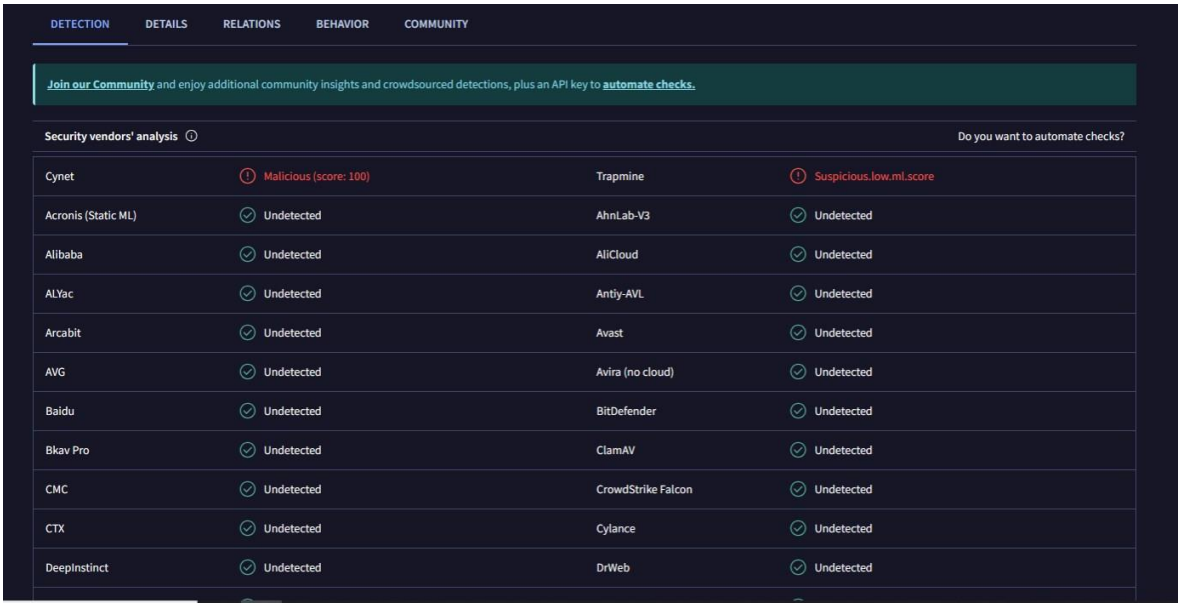
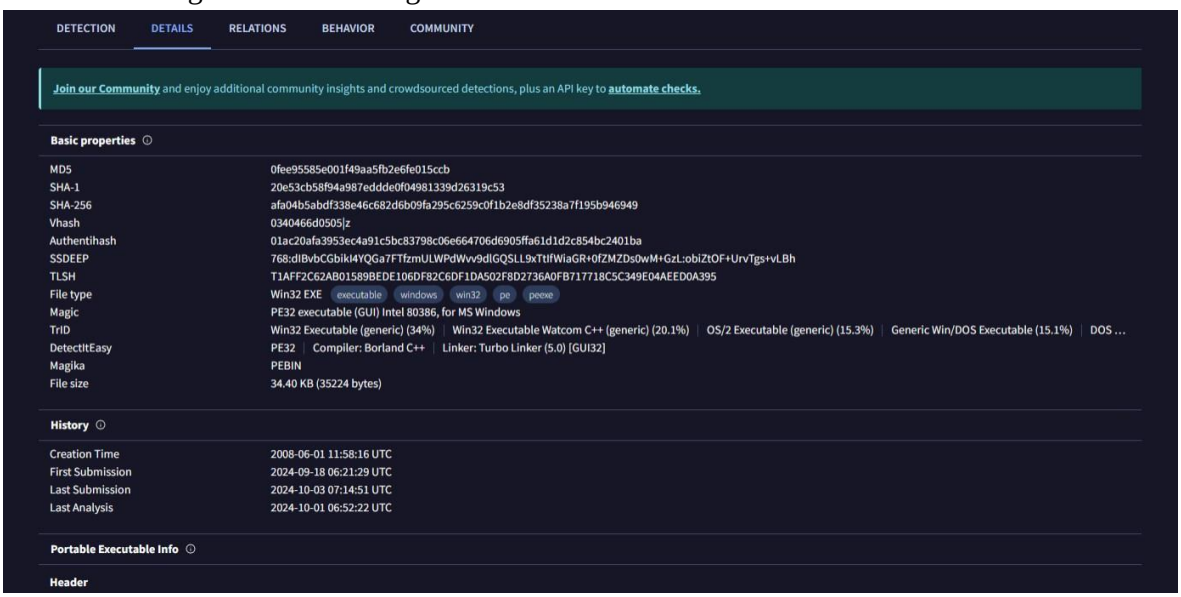


c) The details tab gives the following information



i. Basic properties
ii. History
iii. Compiler products
iv. Header
v. Sections
vi. Imports
vii. Exports
viii. Overlays

d) The Behavior tab gives the following information
i. Activity summary
ii. MITRE ATT&CK Tactics and Techniques
iii. Behavior Similarity Hashes

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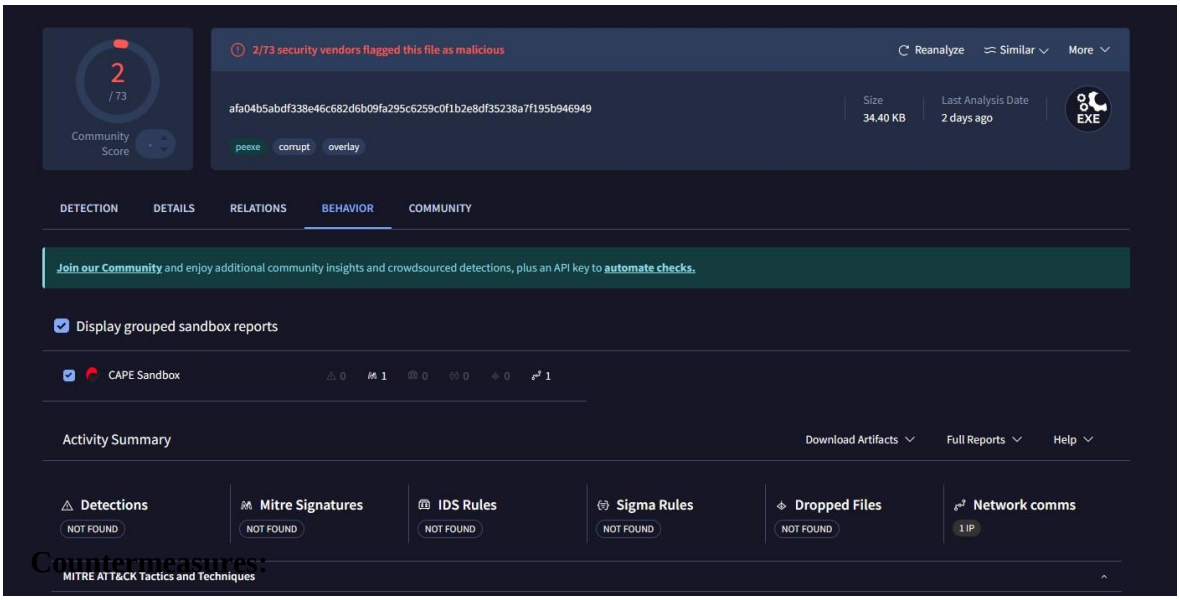

Countermeasures:

Countermeasures are strategies, actions, or precautions taken to prevent or mitigate various risks, threats, or undesirable events. In the context of cyber-security and dealing with potential malware, viruses, and other online threats, here are some common countermeasures you can take:

1. Use Antivirus and Anti-Malware Software: Install reputable antivirus and anti-malware software on your devices. Keep the software updated to ensure you have the latest protection against known threats.

2. Keep Operating Systems and Software Updated: Regularly update your operating system, web browsers, plugins, and other software. Updates often include security patches that address vulnerabilities.

3. Use Strong and Unique Passwords: Use complex passwords that combine upper and lower case letters, numbers, and symbols. Avoid using common or easily guessable passwords. Consider using a password manager to securely store your passwords.

4. Enable Two-Factor Authentication (2FA): Whenever possible, enable two-factor authentication for your online accounts. This adds an extra layer of security by requiring a second form of verification in addition to your password.

5. Be Cautious with Email and Attachments: Be wary of unsolicited emails, especially those with attachments or links. Don't open attachments or click on links from unknown or suspicious sources. Verify the sender's authenticity before taking any action.

6. Use a Firewall: Enable firewalls on your devices and network. Firewalls help block unauthorized access and protect your system from external threats.

7. Regular Backups: Regularly back up your important data to an external source or a cloud storage service. In case of a malware attack or data loss, you'll have a copy of your important files.

8. Secure Wi-Fi Networks: Secure your home or office Wi-Fi network with a strong password and encryption. Avoid using public Wi-Fi networks for sensitive activities.

9. Use Ad-Blockers and Script Blockers: Install browser extensions that block ads and potentially .

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malicious scripts. This can help prevent drive-by downloads and malvertising.

10. Disable Macros: Disable macros in office documents unless you're certain they are safe. Malicious macros are often used to deliver malware.

11. Download Software from Official Sources: Only download software from reputable and official sources. Be cautious of downloading software from unfamiliar websites.

12. Regularly Scan for Malware: Perform regular scans of your devices using reputable antivirus and anti-malware tools.

13. Use Virtual Private Networks (VPNs): When connecting to the internet, especially on public networks, use a VPN to encrypt your internet connection and enhance your privacy.

14. Implement Security Policies: If you're managing a network or a business, establish and enforce security policies for employees, including guidelines for safe browsing, email practices, and device usage.