SSN College of Engineering,
Department of Computer Science and Engineering
CS6711 Security Laboratory

Exercise 11:

To install rootkit and to study about the variety of options.

Introduction :

- A rootkit is a stealthy type of malicious software (malware) designed to hide the existence of certain processes or programs from normal methods of detection and enables continued privileged access to a computer.
- The term rootkit is a concatenation of "root" (the traditional name of the privileged account on Unix operating systems) and the word "kit" (which refers to the software components that implement the tool).
- A rootkit is a collection of tools (programs) that enable administrator-level access to a computer or computer network.
- Typically, a cracker installs a rootkit on a computer after first obtaining user-level access, either by exploiting a known vulnerability or cracking a password.
- Once the rootkit is installed, it allows the attacker to mask intrusion and gain root or privileged access to the computer and, possibly, other machines on the network.
- A rootkit may consist of spyware and other programs that: monitor traffic and keystrokes; create a "backdoor" into the system for the hacker's use; alter log files; attack other machines on the network; and alter existing system tools to escape detection

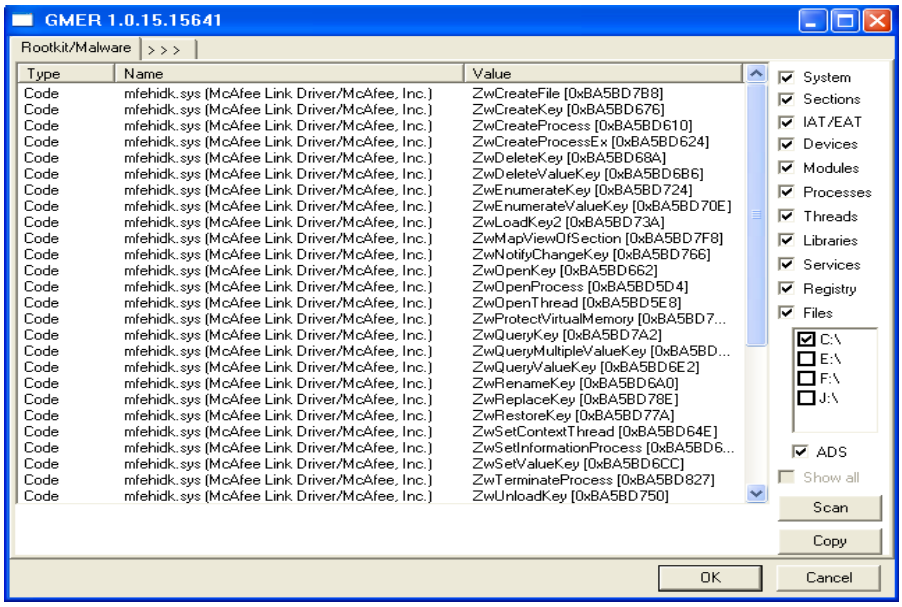
GMER :

- GMER is a free rootkit detector developed by Przrmyslaw Gmerek, a Polish security researcher.
- Some of the features that GMER provides include detection of hidden processes, threads, services, files. It also provides removal and restoration options if a rootkit is detected.

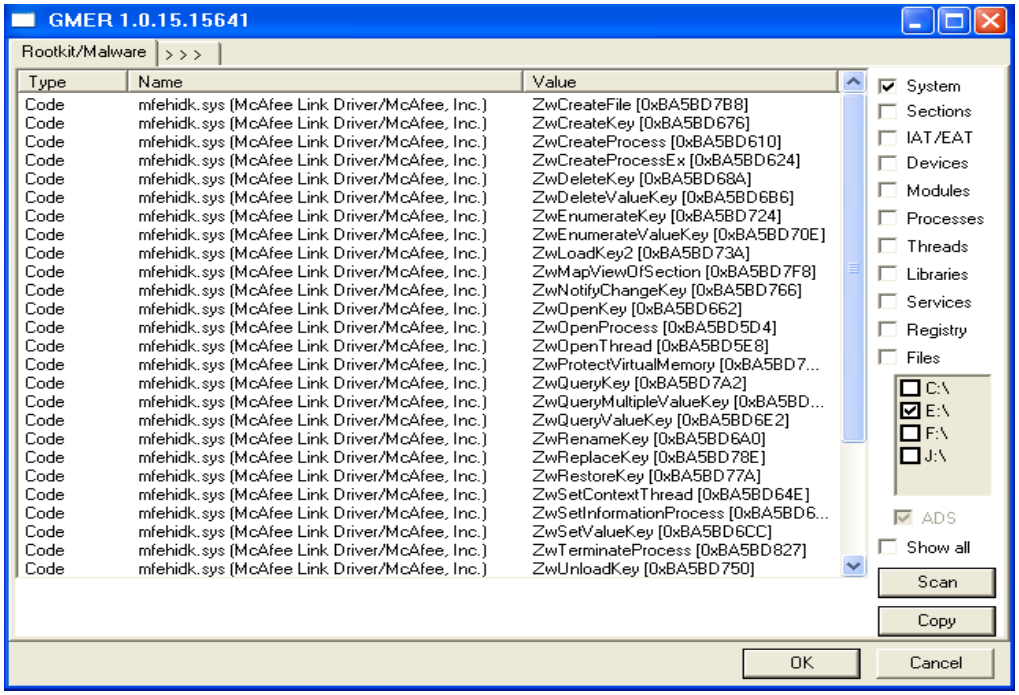
- GMER has built-in protection by hooking various Windows OS services to prevent malware from interfering with its operation.
- Additionally, GMER randomly changes the name of its running process as another method of self-protection.
- GMER has the ability to scan and display all currently loaded drivers and tell you whether they are hidden and whether the drivers file is visible on disk.
- It scans for hidden, locked or falsified files on the system
- It scans and displays the currently running processes (similar to Process Explorer) but shows if the process is hidden or locked.
- It scans for Stealth objects which looks for rootkit symptoms in general.
- It scans for Hidden services and displays them.
- Once you have found something malicious, you can right click on the driver/file/service and either copy, wipe or force delete it.

Installation of GMER:

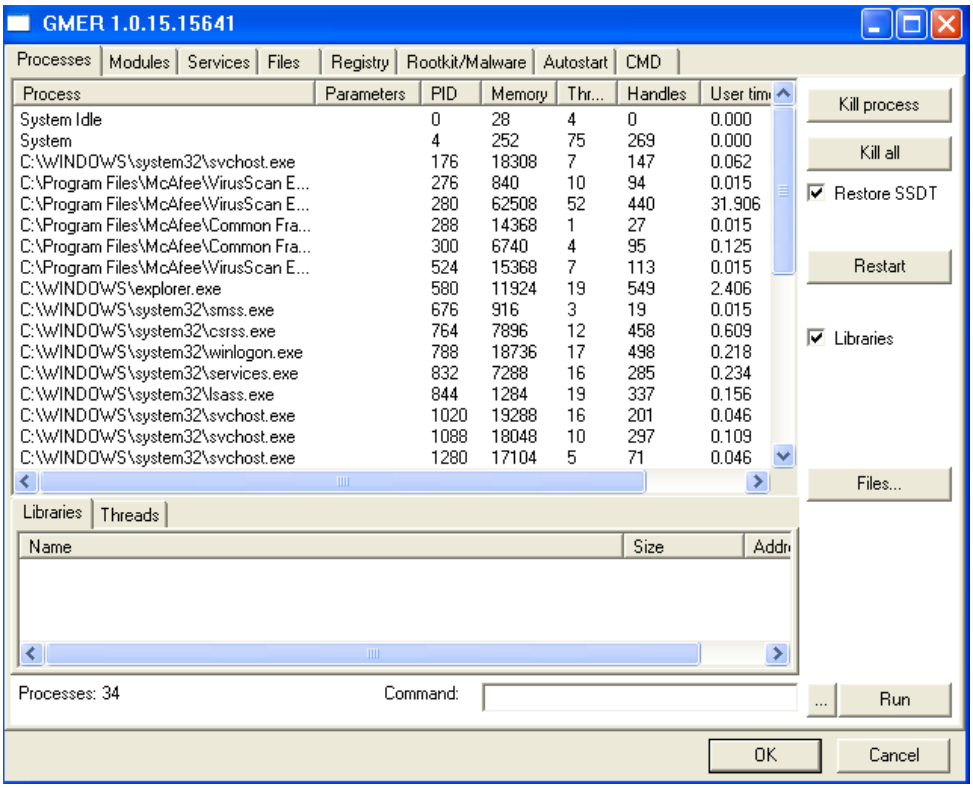
1. Download and install the Rootkit Tool from GMER website. www.gmer.net
2. Now the rootkit screen will be displayed



3. Select anyone of the drive which is shown at right side of the screen.
4. After selecting the drive click on scan button.



5. Click on the options



6. This displays the Processes, Modules, Services, Files, Registry, RootKit/Malwares, Autostart, CMD of local host.
7. Select Processes menu and kill any unwanted process if any. (Read the details listed, Malware affected processes, services if any will be shown in red. Before selecting the kill option, care must be taken, since the Rootkit tool's suspects may be systems core services.)

8. Modules menu displays the various system files like .sys, .dll
9. Services menu displays the complete services running with Autostart, Enable, Disable, System, Boot.
10. Files menu displays full files on Hard-Disk volumes.
11. Registry displays Hkey_Current_user and Hkey_Local_Machine.
12. Rootkits/Malawares scans the local drives selected.
13. Autostart displays the registry base Autostart applications.
14. CMD allows the user to interact with command line utilities or Registry