

Fast Incident Response and Data Collection

October 11, 2020 By Raj Chandel

In this article, we will gather information utilizing the quick incident response tools which are recorded beneath. All these tools are a few of the greatest tools available freely online. Through these, you can enhance your Cyber Forensics skills.

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Introduction

Incident Response

- Incident response, organized strategy for taking care of security occurrences, breaks, and cyber attacks.
- IR plan permits you to viably recognize, limit the harm, and decrease the expense of a cyber attack while finding and fixing the reason to forestall future assaults.

Data Collection

- Data collection is the process to securely gather and safeguard your client's electronically stored information (ESI) from PCs, workstations, workers, cloud stores, email accounts, tablets, cell phones, or PDAs.

Proof of Concept

Live Response Collection-Cederpelta Build

Live Response Collection -cedarpelta, an automated live response tool, collects volatile data, and create a memory dump. .This tool is created by [BriMor Labs](#).

You can download the tool from [here](#).

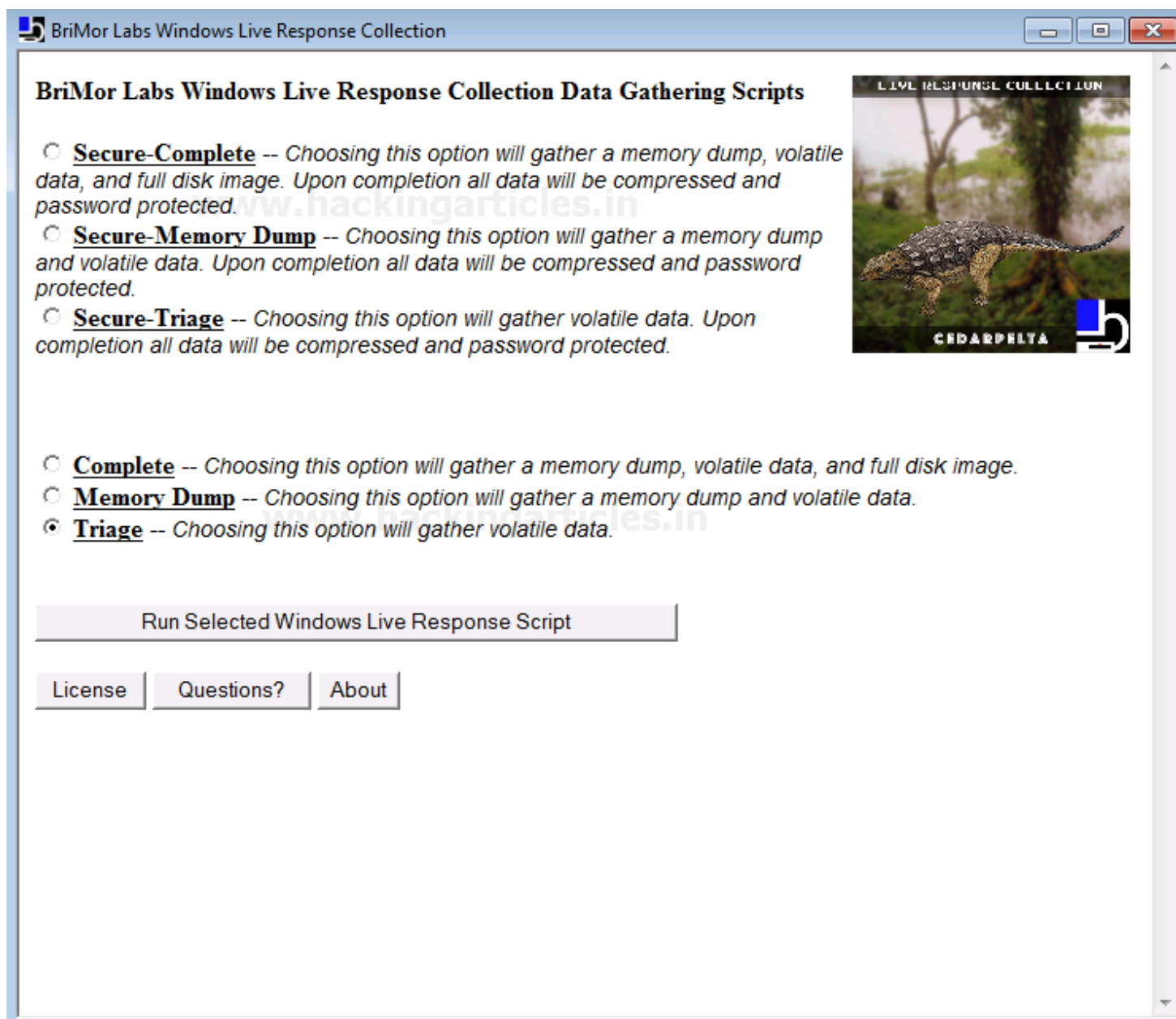
The live response is a zone that manages gathering data from a live machine to distinguish if an occurrence has happened. Such information incorporates artifacts, for example, process lists, connection information, files stored, registry information, etc.

It supports Windows, OSX/ mac OS, and *nix based operating systems. This instrument is kind of convenient to utilize on the grounds that it clarifies quickly which choice does what.

Let's begin by exploring how the tool works:

The live response collection can be done by the following data gathering scripts

- Secure-Complete: Picking this choice will create a memory dump, collects volatile information, and also creates a full disk image. All the information collected will be compressed and protected by a password.
- Secure-Memory Dump: Picking this choice will create a memory dump and collects volatile data. All the information collected will be compressed and protected by a password.
- Secure- Triage: Picking this choice will only collect volatile data. All the information collected will be compressed and protected by a password.
- Complete: Picking this choice will create a memory dump, collects volatile information, and also creates a full disk image.
- Memory dump: Picking this choice will create a memory dump and collects volatile data.
- Triage: Picking this choice will only collect volatile data.



The process of data collection will begin soon after you decide on the above options. This might take a couple of minutes.

```
C:\> Administrator: Live Response Collection (Cedarpelta Build - 20190905)

***** Module "DiskSizes.bat" has completed. *****
***** Returning to Triage_Windows_Live_Response.bat *****

*****Running module "Gateway-ARP-correlation.bat" now*****

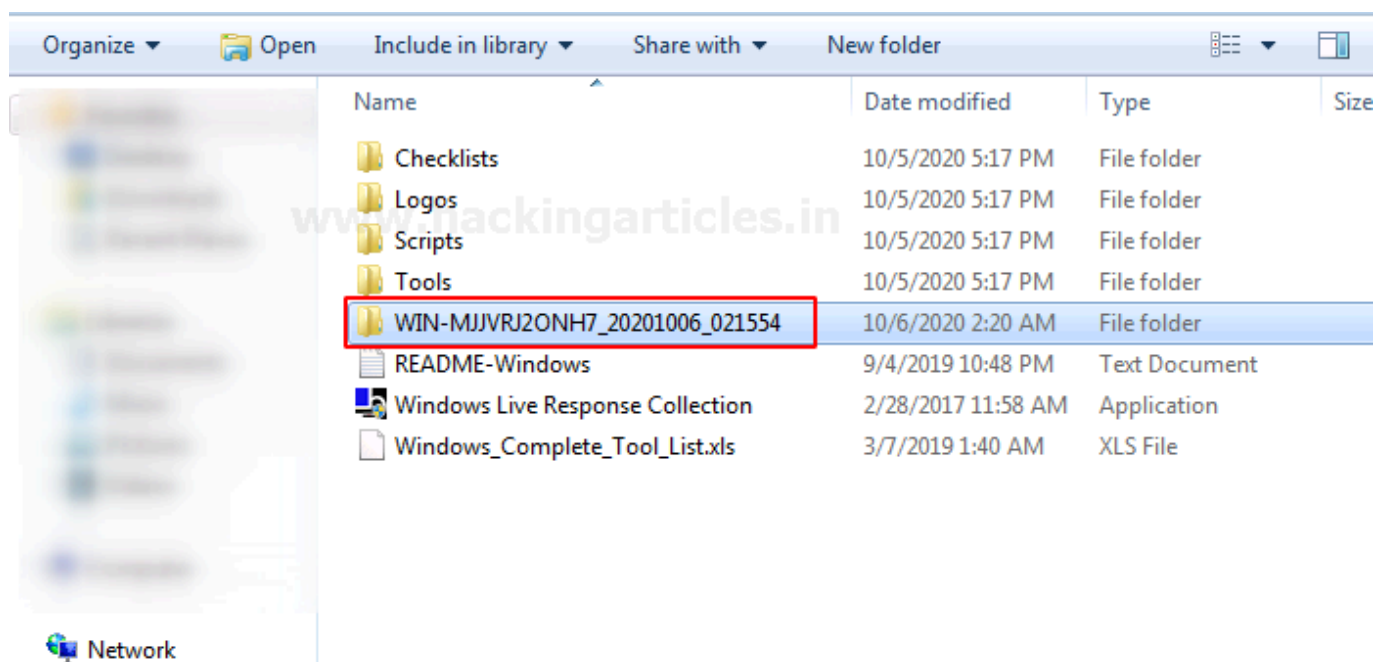
Installing WinPcap, C++ Redistributable Package (if needed), and running ARP Gateway Correlation.
This may take awhile, please be patient....

Installing C++ Redistributable Package

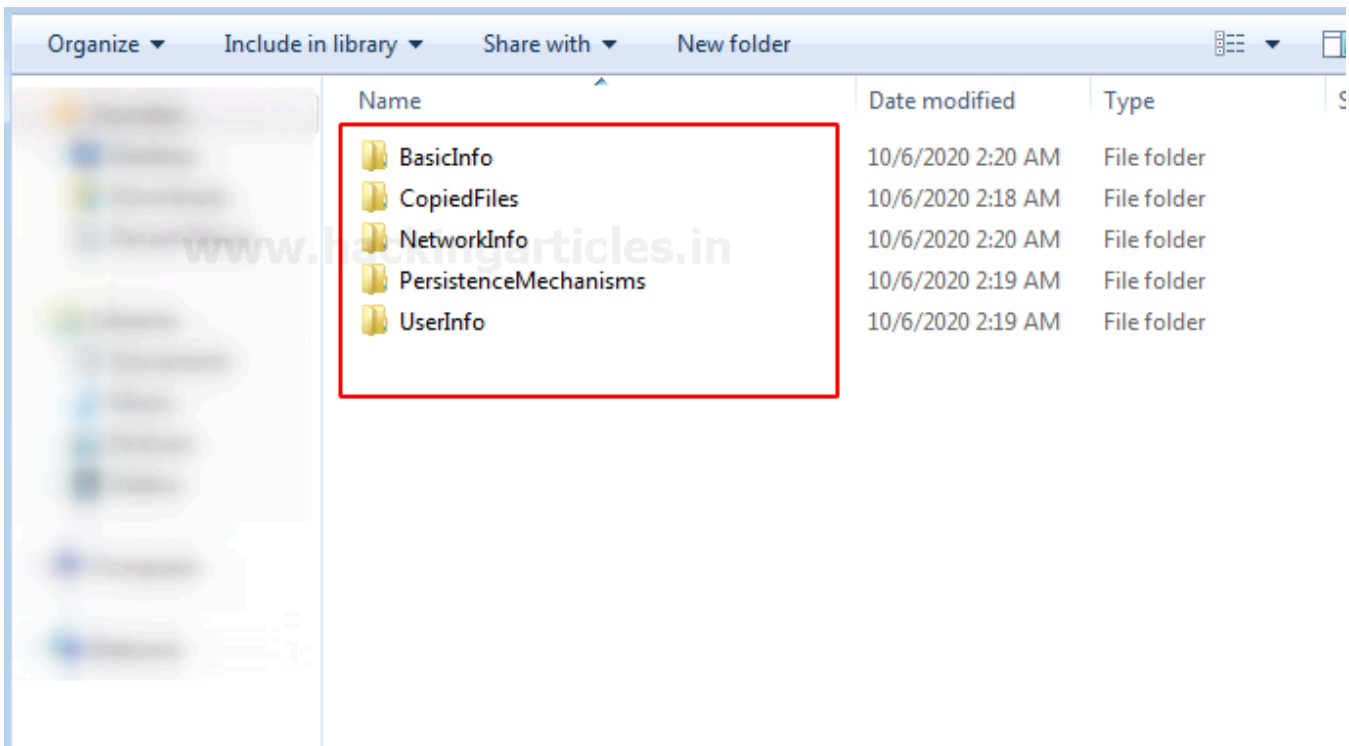
C:\Users\raj\Desktop\Forensic\LiveResponseCollection-Cedarpelta\Windows_Live_Response>"C:\Users\raj\Desktop\Forensic\LIUERE~1\WINDOW~1\Tools\nmap-6.47\vc_redist_x64.exe" setup /q 2>>"C:\Users\raj\Desktop\Forensic\LIUERE~1\WINDOW~1\WIN-MJJURJ2ONH7_20201006_021554\WIN-MJJURJ2ONH7_20201006_021554_Processing_Details.txt"

C:\Users\raj\Desktop\Forensic\LiveResponseCollection-Cedarpelta\Windows_Live_Response>"C:\Users\raj\Desktop\Forensic\LIUERE~1\WINDOW~1\Tools\nmap-6.47\vc_redist_x86.exe" setup /q 2>>"C:\Users\raj\Desktop\Forensic\LIUERE~1\WINDOW~1\WIN-MJJURJ2ONH7_20201006_021554\WIN-MJJURJ2ONH7_20201006_021554_Processing_Details.txt"
```

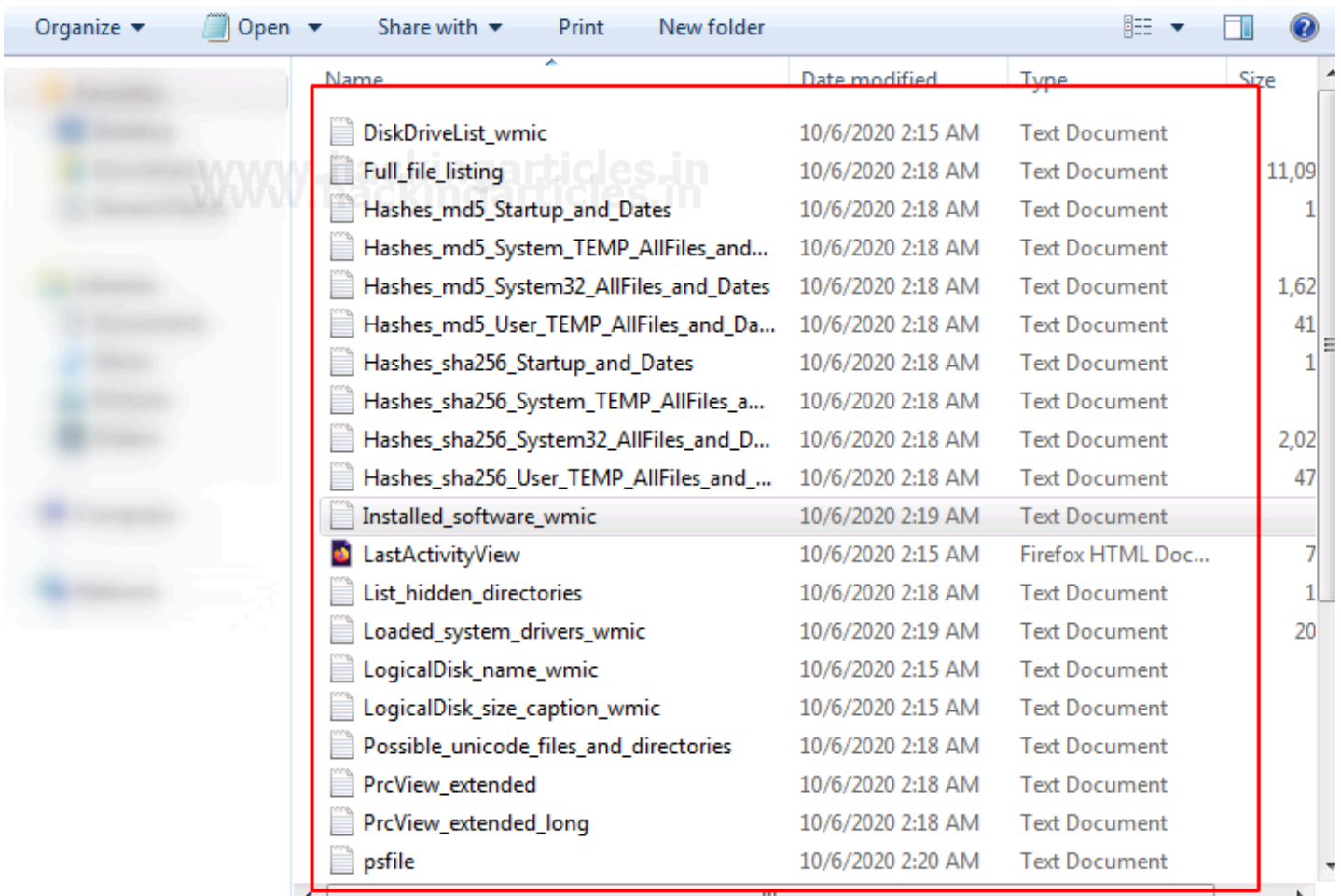
After, the process is over it creates an output folder with the name of your computer alongside the date at the same destination where the executable file is stored.



The output folder consists of the following data segregated in different parts.



These are few records gathered by the tool. You can check the individual folder according to your proof necessity. It collects RAM data, Network info, Basic system info, system files, user info, and much more.



CDIR (Cyber Defense Institute Incident Response) Collector

CDIR (Cyber Defense Institute Incident Response) Collector is a data acquisition tool for the Windows operating system. The tool is created by Cyber Defense Institute, Tokyo Japan. The tool collects RAM, Registry data, NTFS data, Event logs, Web history, and many more.

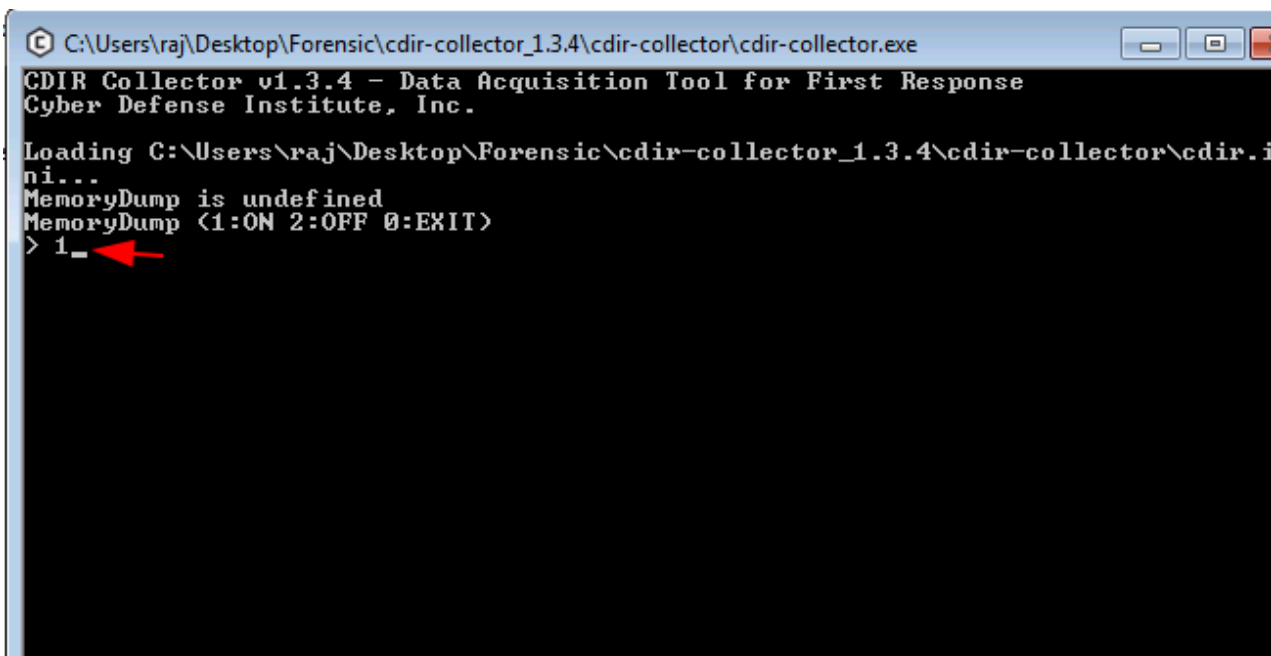
You can download the tool from [here](#).

Let's begin by exploring how the tool works:

There are three options

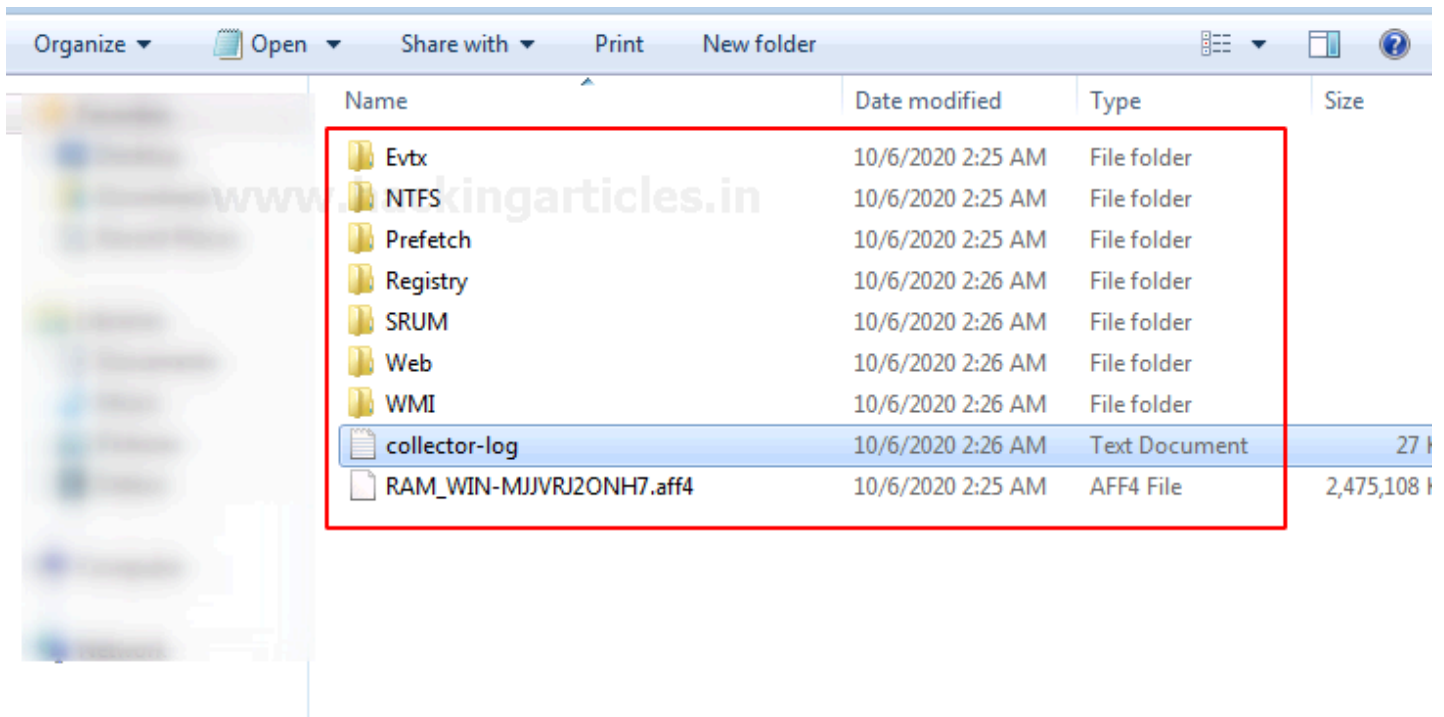
1. To initiate the memory dump process (1: ON)
2. To stop the memory dump process and (2: OFF)
3. Exit (0: EXIT)

After successful installation of the tool, to create a memory dump select 1 that is to initiate the memory dump process (**1:ON**)

A screenshot of a Windows command prompt window titled "C:\Users\raj\Desktop\Forensic\cdir-collector_1.3.4\cdir-collector\cdir-collector.exe". The window displays the following text: "CDIR Collector v1.3.4 - Data Acquisition Tool for First Response", "Cyber Defense Institute, Inc.", "Loading C:\Users\raj\Desktop\Forensic\cdir-collector_1.3.4\cdir-collector\cdir.i", "ni...", "MemoryDump is undefined", "MemoryDump <1:ON 2:OFF 0:EXIT>", and a prompt "> 1_" with a red arrow pointing to the number 1. The command prompt has a black background and white text.

```
C:\Users\raj\Desktop\Forensic\cdir-collector_1.3.4\cdir-collector\cdir-collector.exe
CDIR Collector v1.3.4 - Data Acquisition Tool for First Response
Cyber Defense Institute, Inc.
Loading C:\Users\raj\Desktop\Forensic\cdir-collector_1.3.4\cdir-collector\cdir.i
ni...
MemoryDump is undefined
MemoryDump <1:ON 2:OFF 0:EXIT>
> 1_
```

Soon after the process is completed, an output folder is created with the name of your computer alongside the date at the same destination where the executable file is stored.



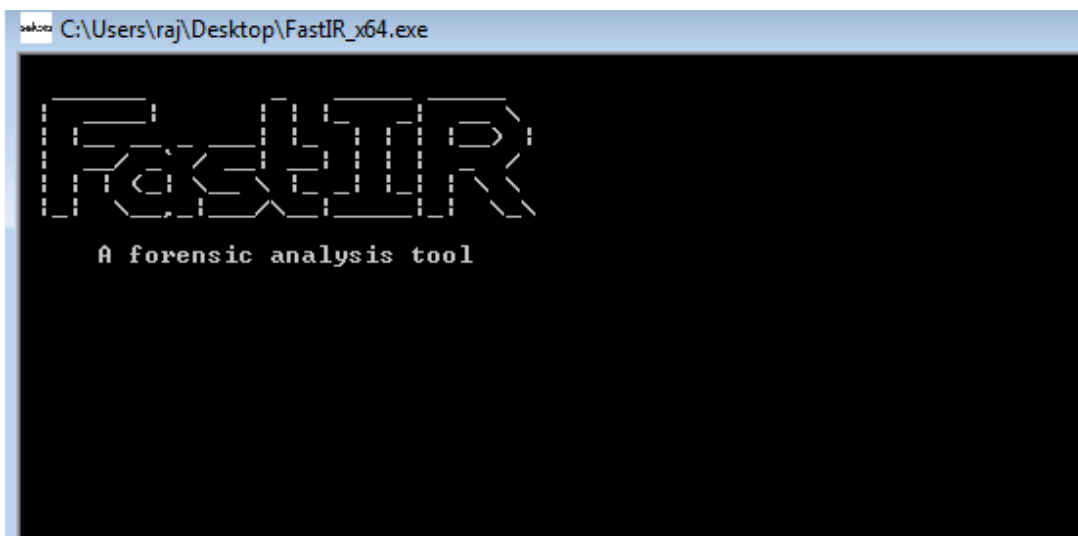
Fast IR Collector

Fast IR Collector is a forensic analysis tool for Windows and Linux OS. It gathers the artifacts from the live machine and records the yield in the .csv or .json document. Windows and Linux OS. This tool is created by [SekoiaLab](#).

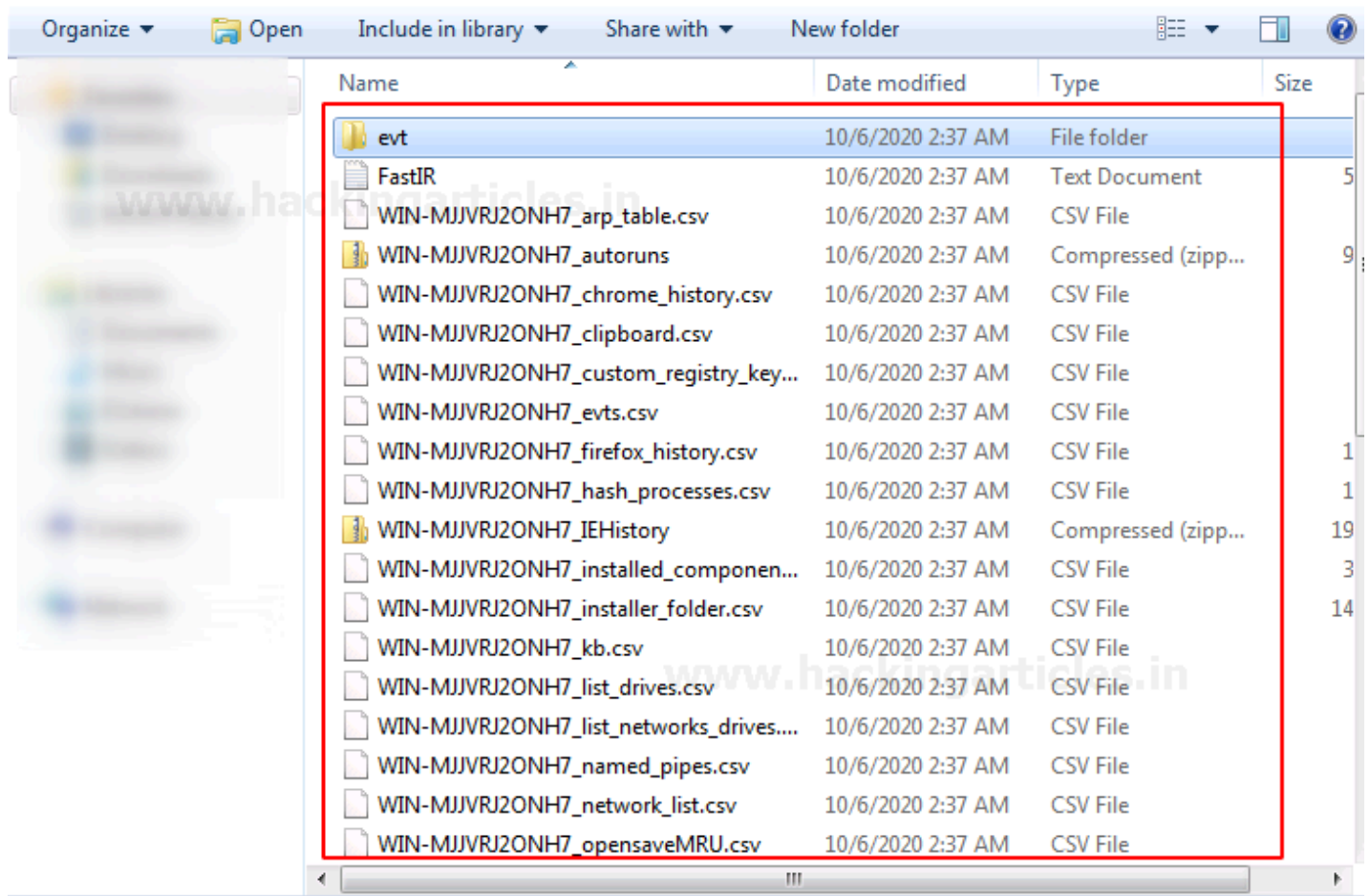
You can download the tool from [here](#).

Let's begin by exploring how the tool works:

You just need to run the executable file of the tool as administrator and it will automatically start the process of collecting data.



Results are stored in the folder by the named **output** within the same folder where the executable file is stored.



Panorama

Panorama is a tool that creates a fast report of the incident on the Windows system.

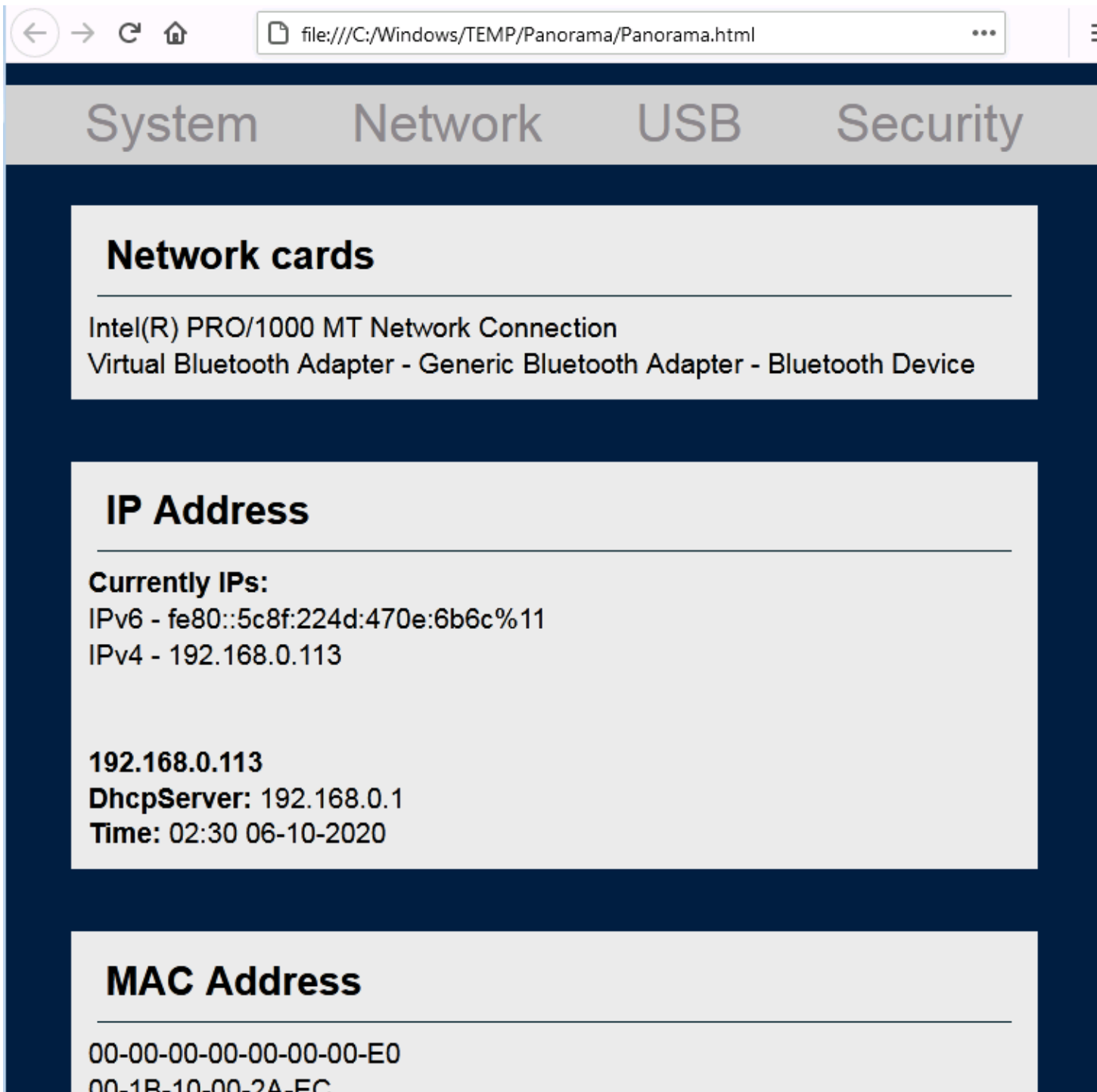
You can download the tool from [here](#).

Let's begin by exploring how the tool works:

- Run the Panorama.exe on the system.
- Choose "Report" to create a fast incident overview.



The browser will automatically launch the report after the process is completed.



The report data is distributed in a different section as a system, network, USB, security, and others.

Triage

Triage is an incident response tool that automatically collects information for the Windows operating system.

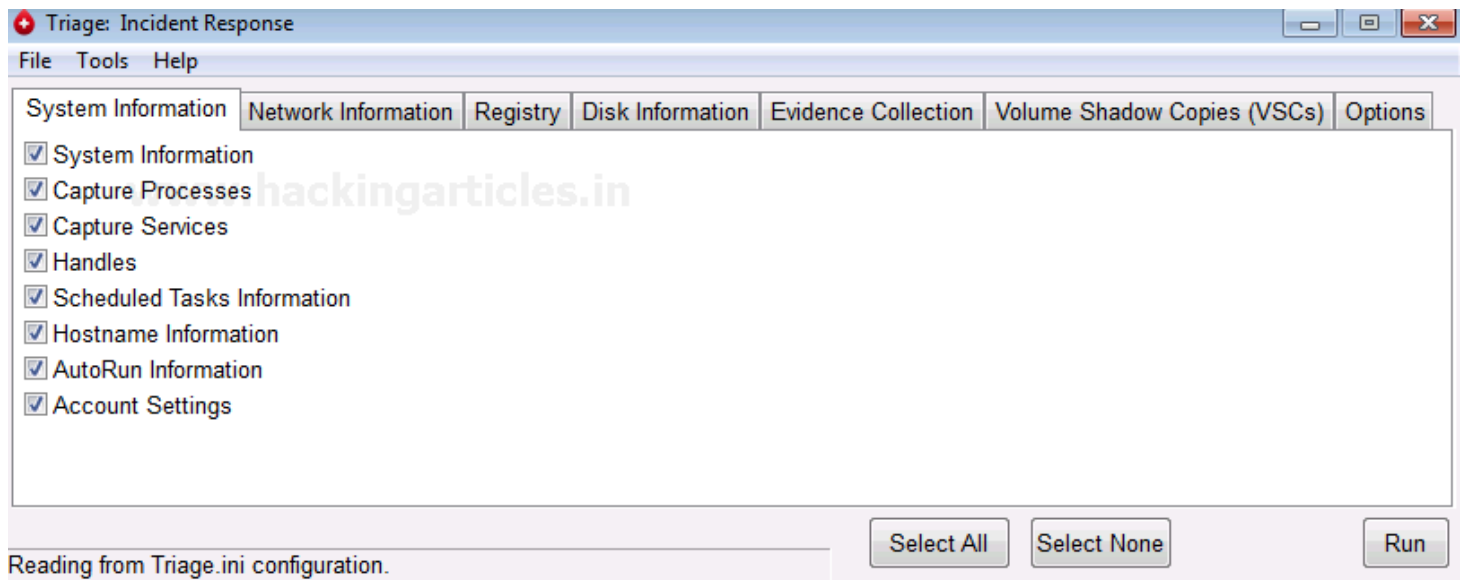
Triage-ir is a script written by Michael Ahrendt.

You can simply select the data you want to collect using the checkboxes given right under each tab. Triage IR requires the Sysinternals toolkit for successful execution.

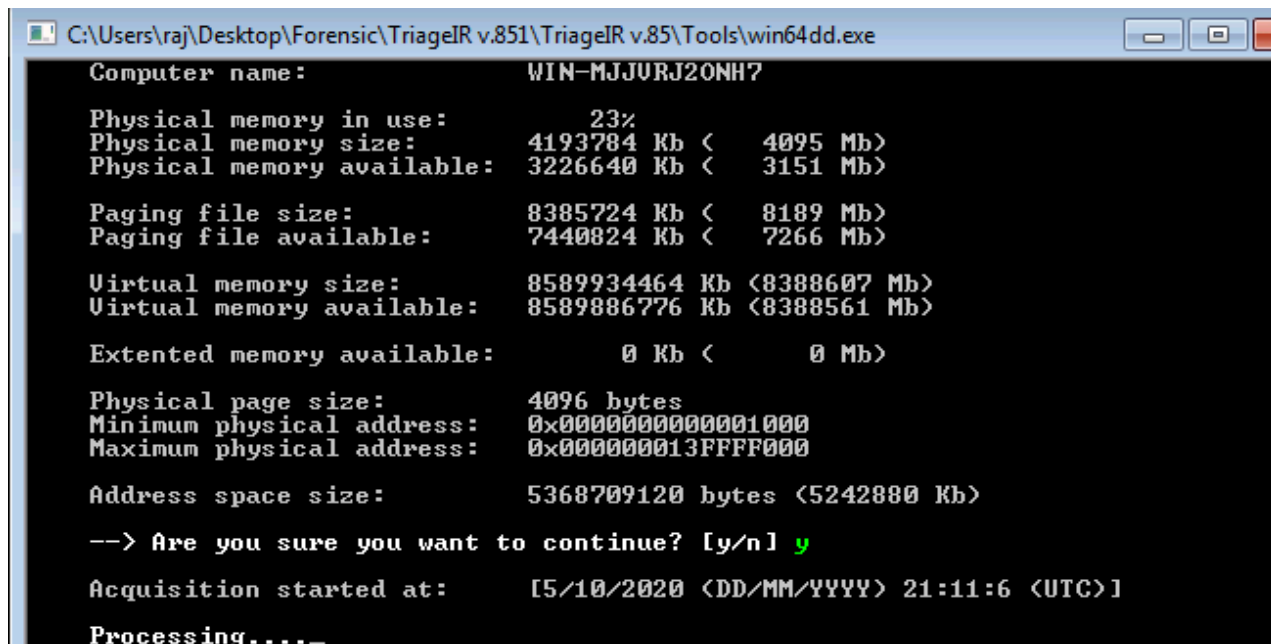
Download [here](#).

Let's begin by exploring how the tool works:

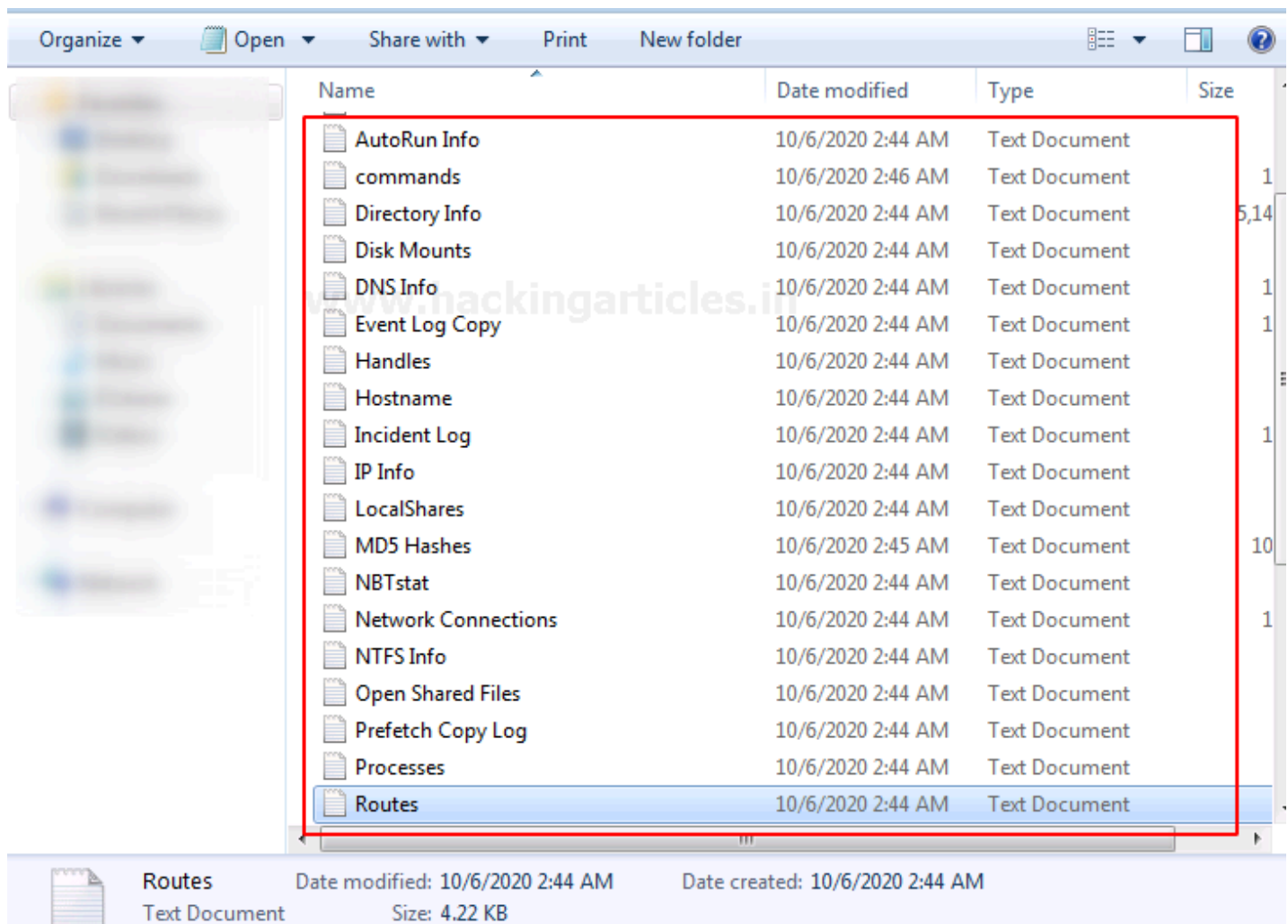
- Run the executable file of the tool.
- Select “Yes” when shows the prompt to introduce the Sysinternal toolkit.



Click on “Run” after picking the data to gather. The process of data collection will take a couple of minutes to complete.



The data is collected in the folder by the name of your computer alongside the date at the same destination as the executable file of the tool.



IREC – IR Evidence Collector | Binalyze

IREC is a forensic evidence collection tool that is easy to use the tool. It is an all-in-one tool, user-friendly as well as malware resistant. This tool is created by [Binalyze](#). A paid version of this tool is also available.


Download the tool from [here](#).

Let's begin by exploring how the tool works:

You can collect data by two means:

- Collect evidence: This is for an in-depth investigation.
- RAM and Page file: This is for memory only investigation



Here we will choose, "collect evidence." for in-depth evidence. Click start to proceed further.

IREC | FREE Edition

Upgrade to TACTICAL

Case NotesLicenseSettings

Collection Profile



Collect Evidence

For an in-depth investigation

Evidence Types



Artifact Types

Custom Content

10 selected

0 selected


Default (0 items)



RAM and PageFile

For a memory only investigation

TACTICAL Features:



Triage / IoC Scan with YARA


Find the smoking gun

MemoryFile System

Output path:

C:\Users\raj\Desktop

Free Space: 28.4 GB



Start

Send Feedback | Documentation

b!analyze

1100100011001101001

2.4.2

The process has been begun after effectively picking the collection profile.

00m:05s



Cancel

The process is completed. You can analyze the data collected from the output folder.



Operation successfully completed!

Saved To C:\Users\raj\Desktop\Cases\20201006030044-WIN-MJJVRJ2ONH7

Duration 01m:56s

Total Size 9.00 GB

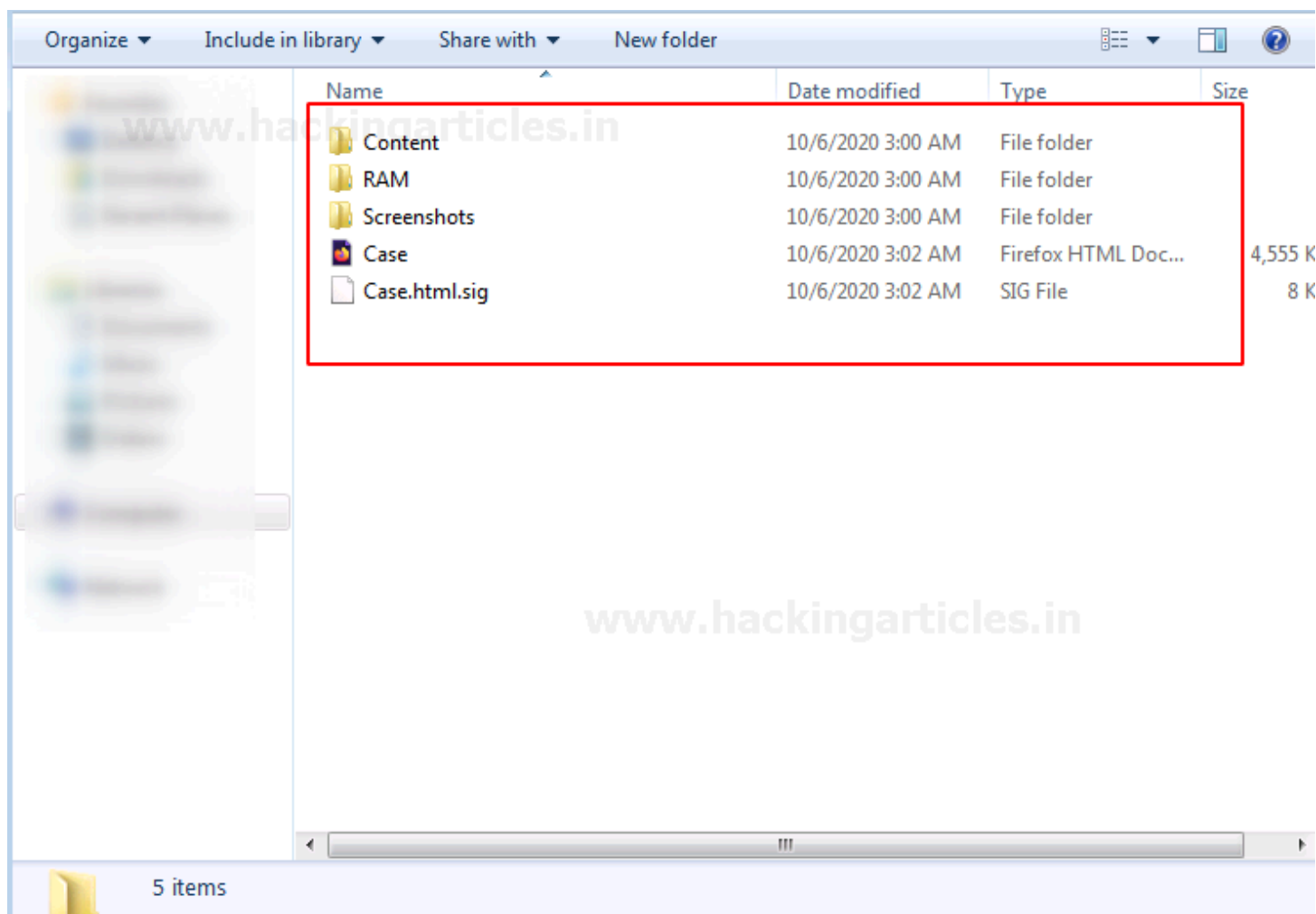
File Count 15

Triage No matches

Open Output Folder

Open HTML Report

The output will be stored in a folder named **cases** that will comprise of a folder named by PC name and date at the same destination as the executable file of the tool.



Here is the HTML report of the evidence collection. The HTML report is easy to analyze, the data collected is classified into various sections of evidence. You can also generate the PDF of your report.

file:///C:/Users/raj/Desktop/Cases/20201006030044-WIN-MJJVRJ2ONH7/Case.html#/pro ...

WIN-MJJVRJ2ONH7 Search Generate PDF

Case

System Info

Hashes

Triage / IoC Scan

Processes

Autoruns

Registry

Scheduled Tasks

Startup Folder

Services

RAM Image

Files

Downloads

Drivers

Processes (49)

A+ A- Send Feedback

Search...

Column Chooser

Process ID	Session ID	Entropy	Process Path
4 System	0	0	
256 smss.exe	0	5.63687153008061	C:\Windows\Sys
352 csrss.exe	0	4.26284705121306	C:\Windows\Sys
404 wininit.exe	0	5.76191086125369	C:\Windows\Sys
504 services.exe	0	6.19820552464443	C:\Windows\Sys
520 lsass.exe	0	5.19095912743845	C:\Windows\Sys
528 lsm.exe	0	6.12101240194908	C:\Windows\Sys
620 svchost.exe	0	5.39227896250686	C:\Windows\Sys
696 svchost.exe	0	0	C:\Windows\Sys
792 svchost.exe	0	0	C:\Windows\Sys
840 svchost.exe	0	0	C:\Windows\Sys
864 svchost.exe	0	0	C:\Windows\Sys
236 svchost.exe	0	0	C:\Windows\Sys
524 svchost.exe	0	0	C:\Windows\Sys
1140 spoolsv.exe	0	5.67272830990368	C:\Windows\Sys
1168 svchost.exe	0	0	C:\Windows\Sys

b!alyze

DG Wingman

DG Wingman is a free windows tool for forensic artifacts collection and analysis. The tool is by [DigitalGuardian](#). This tool collects artifacts of importance such as registry logs, system logs, browser history, and many more. Also allows you to execute commands as per the need for data collection.

You can download the tool from [here](#).

Let's begin by exploring how the tool works:

- Run the executable file of the tool.
- Use the command wingman.exe/h, this gives you a rundown of commands along with their capacities.

```

C:\Users\raj\Desktop\wingman\wingman>wingman.exe /h
Unknown option < /h >.. Aborting.

wingman [Version 1.0]
(c) Digital Guardian, Inc. All rights reserved.

Usage:
  wingman [-p pid] [-ph] [-e] [-f pathname] [-s] [-la] [-le] [-ly] [-lt] [-lw]
          [-mft] [-pre] [-sup] [-h] [-j] [-r] [-ry] [-ro] [-re] [-ra] [-ru] [-k key]
          [-b] [-d] [-bf filename] [-pf filename] [-pn name]
          [-ac command] [-acf filename]
          [-cap filename] [-capf filename]
          [-x savefile] [-nj num]
          [-oh] [-oh] [-ov] [-oc] [-ox] [-os]

  At least one of -p, -e, -s, -la, -le, -ly, -lt, -lw, -mft, -pre, -sup, -h, -j,
  -r, -ry, -ro, -re, -ra, -ru, -k, -b, -d, -pn, -ac, -acf, -cap or -capf must
  be present.

-x savefile  File to output results to.
              Location will be relative to location of dgscantool.exe
              Default output file is .\EDR\dg_edr_af_guid.zip.

-p pid      Collect information on process 'pid'
              If pid is set to 0, on all active processes
-ph         Add information on handles opened by the process.

-s          Collect all system information.
-la         - Collect Application event log.
-le         - Collect Security event log.
-ly         - Collect System event log.
-lt         - Collect Terminal Services event log.
-lw         - Collect Windows Setup API log.
-mft        - Collect Master File Table.
-pre        - Collect Prefetch files.
-sup        - Collect SuperFetch DB.
-h          - Collect Hosts file.
-j          - Collect scheduled tasks.

-r          Collect all Registry information.
-ry         - Collect SYSTEM Registry.
-ro         - Collect SOFTWARE Registry.
-re         - Collect SECURITY Registry.
-ra         - Collect SAM Registry.
-ru         - Collect NTUSER Registry.
-k key      Collect registry information for the indicated key.

-b          Collect web browser history files. *Requires -bf*

-bf filename File that contains the list of browser history files.
              Default is .\BrowserHistoryFiles.dat.

-ac command  Run an adhoc command,
              command should be surrounded by double quotes
-acf filename Run a file of adhoc commands.

-cap filename File Capture the named file,
              filename should be surrounded by double quotes
-capf filename File Capture from file with list of files to be captured.

-e          Collect information on Executable/PE files.
              Default - all fixed drives. To overwrite, use -f
-f pathname  Limit PE Scan to the pathname.
-nj num      Number of EXE/PE file records per json file (default 1000)

  Use the following to add to default EXE/PE information:

-ob         Base <-oh, -ov, -oc, -ox>
-oh         Hashes
-ov         Version Information
-oc         Digital Certificates
-ox         Imports and Exports
-os         Strings

```

For example, in the incident, we need to gather the registry logs. We will use the command

wingman.exe -r

```
C:\Users\raj\Desktop\wingman\wingman>wingman.exe -r
wingman [Version 1.0]
(c) Digital Guardian, Inc. All rights reserved.

--Collecting Registry information...
Key: SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall SubKeys: Total-22 RegOpenKeyEx Fails-0
Key: Software\Wow6432Node\Microsoft\Windows\CurrentVersion\Uninstall SubKeys: Total-17 RegOpenKeyEx Fails-0
Key: Software\Classes\Installer\Products SubKeys: Total-9 RegOpenKeyEx Fails-0
  0 File(s) Captured by: [%systemroot%\System32\config\SYSTEM]
  0 File(s) Captured by: [%systemroot%\System32\config\SOFTWARE]
  0 File(s) Captured by: [%systemroot%\System32\config\SECURITY]
  0 File(s) Captured by: [%systemroot%\System32\config\SAM]
  CopyFile "C:\Users\Default User\NTUSER.DAT" succeeded
  CopyFile "C:\Users\Default\NTUSER.DAT" succeeded
  CopyFile "C:\Users\raj\NTUSER.DAT" failed, error=32 The process cannot access the file because it is being used by another process.
  RawFileCopy TSK error Error opening image file (raw_open: file "\\.\C:" - access denied)
  ForensicCopy "C:\Users\raj\NTUSER.DAT" failed
  2 File(s) Captured by: [%userprofile%\NTUSER.DAT]
done in 468 ms

--Saving MetaData...
done in 1 ms

--Finalizing...
Compressing 0_NTUSER.DAT
Compressing dg_edr.log
Compressing metadata.json
```

All the registry entries are collected successfully.

Organize ▾ Include in library ▾ Share with ▾ New folder					
Name	Date modified	Type	Size		
HKCU_Software_Microsoft_Internet Explo...	10/6/2020 3:09 AM	Registration Entries			
HKCU_Software_Microsoft_Internet Explo...	10/6/2020 3:09 AM	Registration Entries			
HKCU_Software_Microsoft_Windows NT...	10/6/2020 3:09 AM	Registration Entries			
HKCU_Software_Microsoft_Windows_Cur...	10/6/2020 3:09 AM	Registration Entries			
HKLM_Hardware_DeviceMap_Serialcomm	10/6/2020 3:09 AM	Registration Entries			
HKLM_Software_Classes_clsid	10/6/2020 3:09 AM	Registration Entries	6,22		
HKLM_Software_Microsoft_Active Setup	10/6/2020 3:09 AM	Registration Entries	2		
HKLM_Software_Microsoft_Internet Explo...	10/6/2020 3:09 AM	Registration Entries	46		
HKLM_Software_Microsoft_Windows NT...	10/6/2020 3:09 AM	Registration Entries			
HKLM_Software_Microsoft_Windows NT...	10/6/2020 3:09 AM	Registration Entries			
HKLM_Software_Microsoft_Windows NT...	10/6/2020 3:09 AM	Registration Entries	6		
HKLM_Software_Microsoft_Windows_Cu...	10/6/2020 3:09 AM	Registration Entries			
HKLM_Software_Microsoft_Windows_Cu...	10/6/2020 3:09 AM	Registration Entries			
HKLM_Software_Microsoft_Windows_Cu...	10/6/2020 3:09 AM	Registration Entries			
HKLM_SOFTWARE_Microsoft_Windows_...	10/6/2020 3:09 AM	Registration Entries	2		
HKLM_Software_Wow6432Node_Microso...	10/6/2020 3:09 AM	Registration Entries	2		
HKLM_Software_Wow6432Node_Microso...	10/6/2020 3:09 AM	Registration Entries			
HKLM_Software_Wow6432Node_Microso...	10/6/2020 3:09 AM	Registration Entries	5		

These are the amazing tools for first responders. And they even speed up your work as an incident responder. These tools come handy as they facilitate us with both data analyses, fast first responding with additional features.