

# User Guide

[MBR-Integrity-Verifier-and-Recovery-Tool](#)



---

## 1. Introduction

The **MBR-Integrity-Verifier-and-Recovery-Tool** is a powerful utility designed to ensure the integrity of the Master Boot Record (MBR) on systems. It can be used to both verify the integrity of an MBR and recover corrupted MBRs using forensic images or directly on live systems.

---

## 2. Installation Guide

1. Clone the tool's repository.

[MBR-Integrity-Verifier-and-Recovery-Tool](#).

2. Refer to the **Readme.md** file for detailed instructions.
3. Install the tool by following the steps outlined in the installation guide.
4. Ensure the required dependencies are installed.

Install dependencies:

```
pip install -r requirements.txt
```

---

## 3. Activating the Virtual Environment (VENV)

1. Navigate to the directory containing the tool.
2. Activate the virtual environment by executing:

```
source venv/bin/activate
```

Or

```
venv/Scripts/activate
```

3. Ensure the tool is run with **administrator privileges** for full functionality.

```
Administrator: Windows PowerShell
PS D:\DF\Theory\DF Project\Doc> ls

Directory: D:\DF\Theory\DF Project\Doc

Mode                LastWriteTime         Length Name
----                -
d-----         11/17/2024   6:57 PM             MBR-Integrity-Verifier-and-Recovery-Tool
d-----         11/17/2024   3:37 PM             venv
-a----         11/17/2024   3:42 PM          9293 mbr_verifier.py
-a----         11/17/2024   3:40 PM           30 requirements.txt

PS D:\DF\Theory\DF Project\Doc>
```

```
PS D:\DF\Theory\DF Project\Doc> .\venv\Scripts\activate
(venv) PS D:\DF\Theory\DF Project\Doc>
```

---

## 4. Running the Tool

- Ensure you have the necessary permissions (admin privileges).

Execute the tool in the desired mode:

```
python mbr_verifier.py
```

---

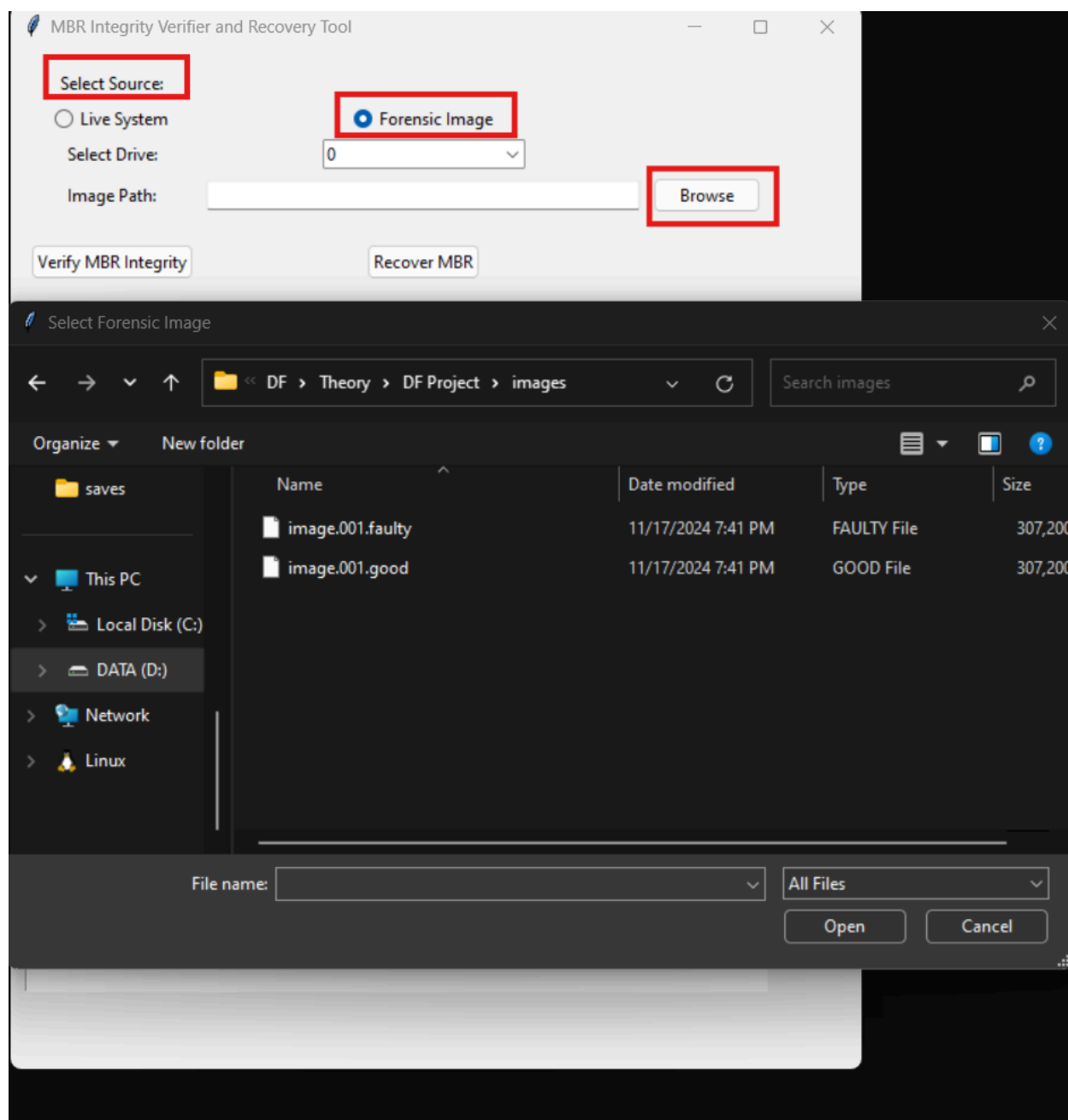
## 5. Operating Instructions

### Modes of Operation

The tool has two operational modes:

#### Mode 1: Forensic Image

- This mode allows users to interact with forensic images of the MBR.
- Features:
  1. **Verify MBR:** Checks the integrity of the MBR in the image file.





MBR Integrity Verifier and Recovery Tool



Select Source:

☐ Live System

☒ Forensic Image

Select Drive:

0

Image Path:

D:/DF/Theory/DF Project/images/image.001.good

Browse

Verify MBR Integrity

Recover MBR

MBR Hex Viewer:

MBR Integrity Verifier and Recovery Tool

Select Source:

☐ Live System

☒ Forensic Image

Select Drive:

0

Image Path:

D:/DF/Theory/DF Project/images/image.001.good

Browse

Verify MBR Integrity

Recover MBR

Current MBR Hash:

59019b8b59cffb325855cdc7716d38f8ce2112b9b027f2f8516992e2e686525b

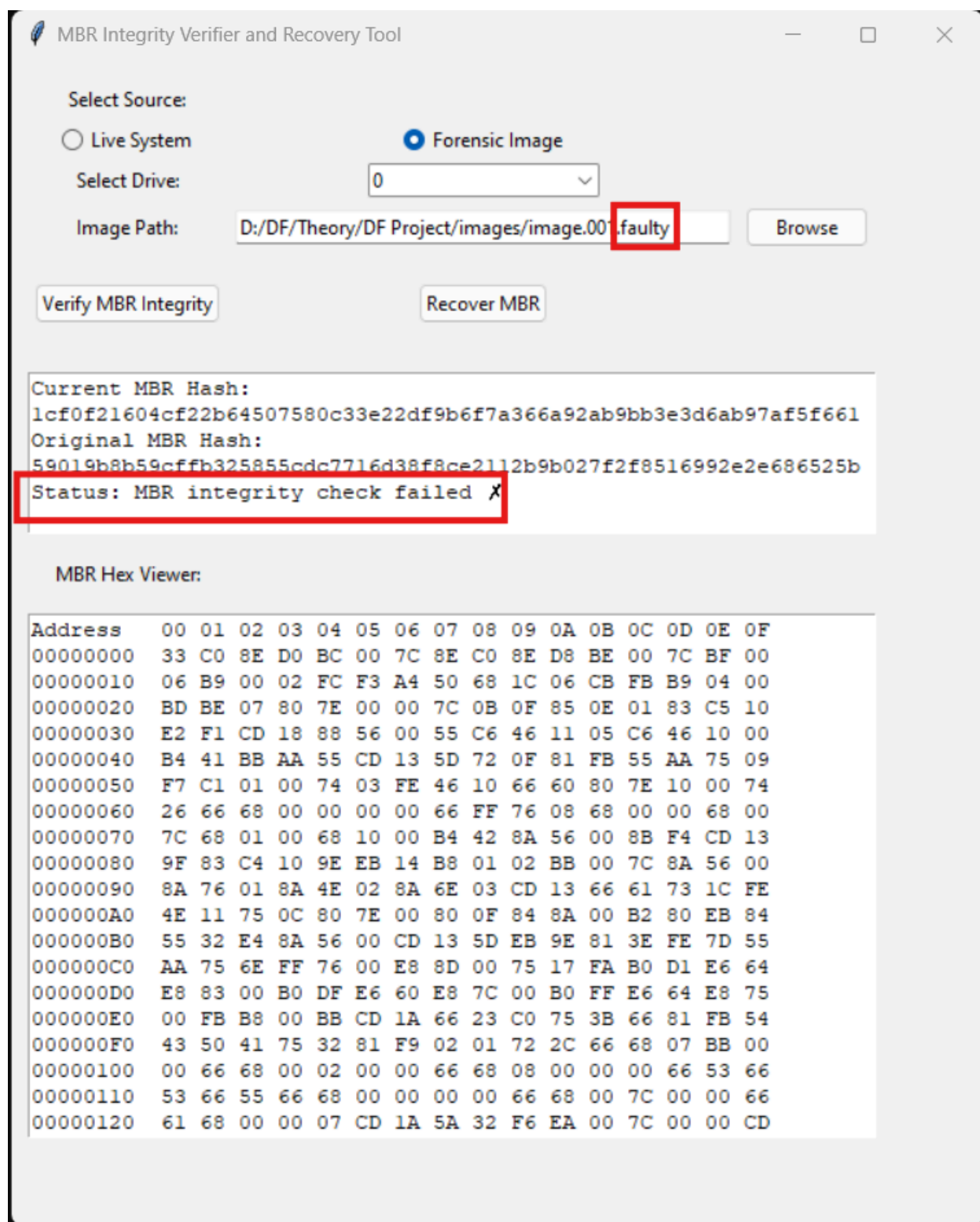
Original MBR Hash:

59019b8b59cffb325855cdc7716d38f8ce2112b9b027f2f8516992e2e686525b

Status: MBR is intact ✓

MBR Hex Viewer:

Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00000000	33	C0	8E	D0	BC	00	7C	8E	C0	8E	D8	BE	00	7C	BF	00
00000010	06	B9	00	02	FC	F3	A4	50	68	1C	06	CB	FB	B9	04	00
00000020	BD	BE	07	80	7E	00	00	7C	0B	0F	85	0E	01	83	C5	10
00000030	E2	F1	CD	18	88	56	00	55	C6	46	11	05	C6	46	10	00
00000040	B4	41	BB	AA	55	CD	13	5D	72	0F	81	FB	55	AA	75	09
00000050	F7	C1	01	00	74	03	FE	46	10	66	60	80	7E	10	00	74
00000060	26	66	68	00	00	00	00	66	FF	76	08	68	00	00	68	00
00000070	7C	68	01	00	68	10	00	B4	42	8A	56	00	8B	F4	CD	13
00000080	9F	83	C4	10	9E	EB	14	B8	01	02	BB	00	7C	8A	56	00
00000090	8A	76	01	8A	4E	02	8A	6E	03	CD	13	66	61	73	1C	FE
000000A0	4E	11	75	0C	80	7E	00	80	0F	84	8A	00	B2	80	EB	84
000000B0	55	32	E4	8A	56	00	CD	13	5D	EB	9E	81	3E	FE	7D	55
000000C0	AA	75	6E	FF	76	00	E8	8D	00	75	17	FA	B0	D1	E6	64
000000D0	E8	83	00	B0	DF	E6	60	E8	7C	00	B0	FF	E6	64	E8	75
000000E0	00	FB	B8	00	BB	CD	1A	66	23	C0	75	3B	66	81	FB	54
000000F0	43	50	41	75	32	81	F9	02	01	72	2C	66	68	07	BB	00
00000100	00	66	68	00	02	00	00	66	68	08	00	00	00	66	53	66
00000110	53	66	55	66	68	00	00	00	00	66	68	00	7C	00	00	66
00000120	61	68	00	00	07	CD	1A	5A	32	F6	EA	00	7C	00	00	CD



2. **Recover MBR:** Repairs or restores the MBR from the image file if needed.



MBR Integrity Verifier and Recovery Tool

Select Source:

☐ Live System

☒ Forensic Image

Select Drive:

0

Image Path:

D:/DF/Theory/DF Project/images/image.001.faulty

Browse

Verify MBR Integrity

Recover MBR

Current MBR Hash:

1cf0f21604cf22b64507580c33e22df9b6f7a366a92ab9bb3e3d6ab97af5f661

Original MBR Hash:

59019b8b59cffb325855cdc7716d38f8ce2112b9b027f2f8516992e2e686525b

Status: MBR integrity check failed ✕

MBR Hex Viewer:

Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00000000	33	C0	81	00	00	00	00	00	00	00	00	00	00	00	00	00
00000010	06	B9	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00000020	BD	BE	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00000030	E2	F1	C1	00	00	00	00	00	00	00	00	00	00	00	00	00
00000040	B4	41	B1	00	00	00	00	00	00	00	00	00	00	00	00	00
00000050	F7	C1	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00000060	26	66	68	00	00	00	00	66	FF	76	08	68	00	00	68	00
00000070	7C	68	01	00	68	10	00	B4	42	8A	56	00	8B	F4	CD	13
00000080	9F	83	C4	10	9E	EB	14	B8	01	02	BB	00	7C	8A	56	00
00000090	8A	76	01	8A	4E	02	8A	6E	03	CD	13	66	61	73	1C	FE
000000A0	4E	11	75	0C	80	7E	00	80	0F	84	8A	00	B2	80	EB	84
000000B0	55	32	E4	8A	56	00	CD	13	5D	EB	9E	81	3E	FE	7D	55
000000C0	AA	75	6E	FF	76	00	E8	8D	00	75	17	FA	B0	D1	E6	64
000000D0	E8	83	00	B0	DF	E6	60	E8	7C	00	B0	FF	E6	64	E8	75
000000E0	00	FB	B8	00	BB	CD	1A	66	23	C0	75	3B	66	81	FB	54
000000F0	43	50	41	75	32	81	F9	02	01	72	2C	66	68	07	BB	00
00000100	00	66	68	00	02	00	00	66	68	08	00	00	00	66	53	66
00000110	53	66	55	66	68	00	00	00	00	66	68	00	7C	00	00	66
00000120	61	68	00	00	07	CD	1A	5A	32	F6	EA	00	7C	00	00	CD






Success



MBR recovered successfully.  
Backup created at: D:/DF/Theory/DF  
Project/images/image.001.faulty.backup

OK

Name	Date modified	Type	Size
 image.001.faulty	11/17/2024 7:48 PM	FAULTY File	307,200 KB
 image.001.good	11/17/2024 7:41 PM	GOOD File	307,200 KB
 image.001.faulty.backup	11/17/2024 7:41 PM	BACKUP File	307,200 KB

MBR Integrity Verifier and Recovery Tool

Select Source:

☐ Live System

☒ Forensic Image

Select Drive:

0

Image Path:

D:/DF/Theory/DF Project/images/image.001.faulty

Browse

Verify MBR Integrity

Recover MBR

Current MBR Hash:

59019b8b59cffb325855cdc7716d38f8ce2112b9b027f2f8516992e2e686525b

Original MBR Hash:

59019b8b59cffb325855cdc7716d38f8ce2112b9b027f2f8516992e2e686525b

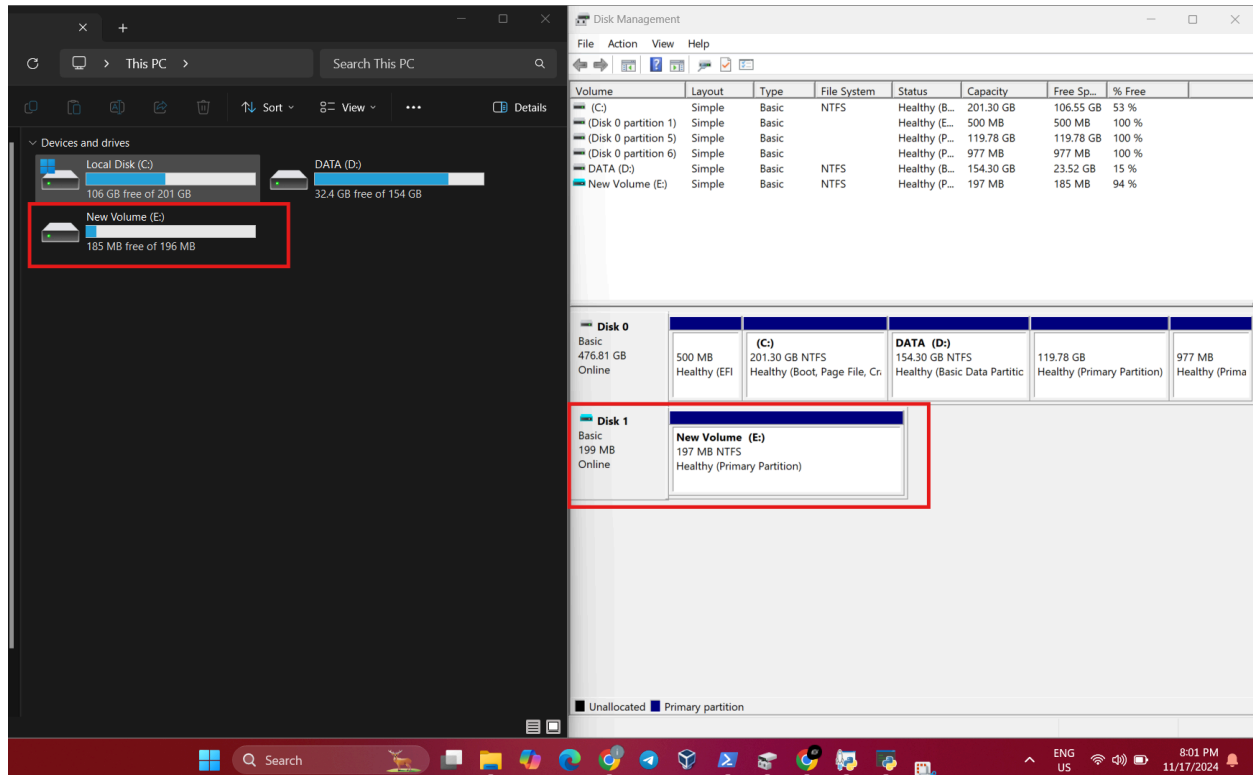
Status: MBR is intact ✓

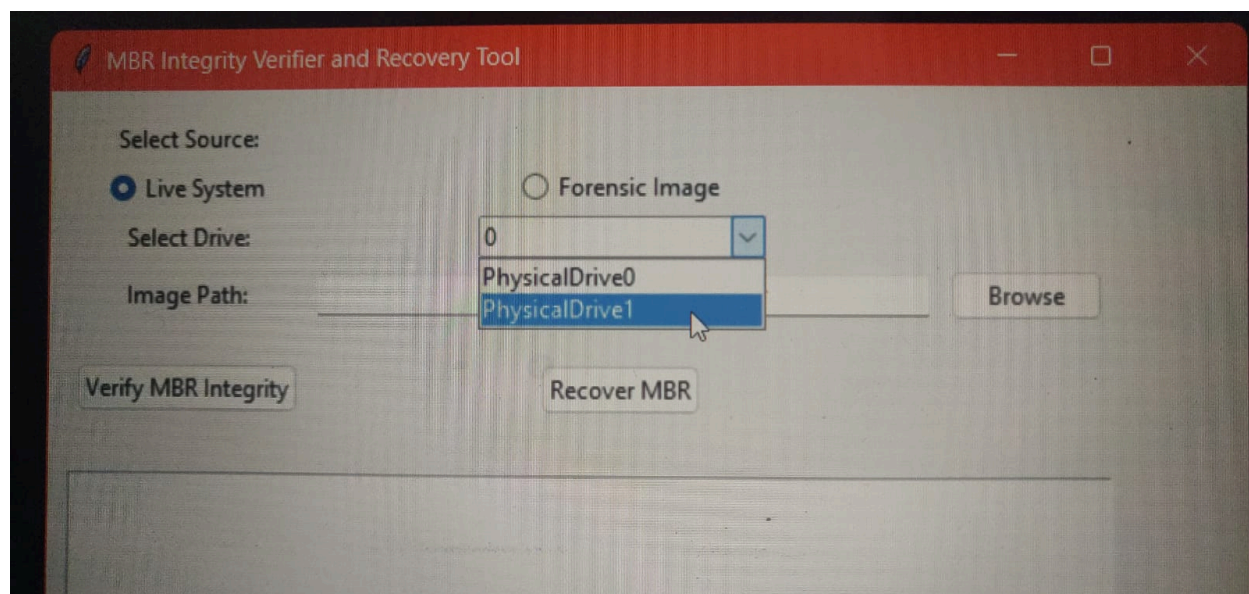
MBR Hex Viewer:

Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00000000	33	C0	8E	D0	BC	00	7C	8E	C0	8E	D8	BE	00	7C	BF	00
00000010	06	B9	00	02	FC	F3	A4	50	68	1C	06	CB	FB	B9	04	00
00000020	BD	BE	07	80	7E	00	00	7C	0B	0F	85	0E	01	83	C5	10
00000030	E2	F1	CD	18	88	56	00	55	C6	46	11	05	C6	46	10	00
00000040	B4	41	BB	AA	55	CD	13	5D	72	0F	81	FB	55	AA	75	09
00000050	F7	C1	01	00	74	03	FE	46	10	66	60	80	7E	10	00	74
00000060	26	66	68	00	00	00	00	66	FF	76	08	68	00	00	68	00
00000070	7C	68	01	00	68	10	00	B4	42	8A	56	00	8B	F4	CD	13
00000080	9F	83	C4	10	9E	EB	14	B8	01	02	BB	00	7C	8A	56	00
00000090	8A	76	01	8A	4E	02	8A	6E	03	CD	13	66	61	73	1C	FE
000000A0	4E	11	75	0C	80	7E	00	80	0F	84	8A	00	B2	80	EB	84
000000B0	55	32	E4	8A	56	00	CD	13	5D	EB	9E	81	3E	FE	7D	55
000000C0	AA	75	6E	FF	76	00	E8	8D	00	75	17	FA	B0	D1	E6	64
000000D0	E8	83	00	B0	DF	E6	60	E8	7C	00	B0	FF	E6	64	E8	75
000000E0	00	FB	B8	00	BB	CD	1A	66	23	C0	75	3B	66	81	FB	54
000000F0	43	50	41	75	32	81	F9	02	01	72	2C	66	68	07	BB	00
00000100	00	66	68	00	02	00	00	66	68	08	00	00	00	66	53	66
00000110	53	66	55	66	68	00	00	00	66	68	00	7C	00	00	66	
00000120	61	68	00	00	07	CD	1A	5A	32	F6	EA	00	7C	00	00	CD

## Mode 2: Live System.

- This mode operates directly on a live system.
- Feature:
  - **Verify MBR:** Verifies the MBR integrity of the current live system.





MBR Integrity Verifier and Recovery Tool

Select Source:

☒ Live System

☐ Forensic Image

Select Drive:

PhysicalDrive1

Image Path:

Browse

Verify MBR Integrity

Recover MBR

Current MBR Hash:  
59019b8b59cffb325855cdc7716d38f8ce2112b9b027f2f8516992e2e686525b  
Original MBR Hash:  
59019b8b59cffb325855cdc7716d38f8ce2112b9b027f2f8516992e2e686525b  
Status: MBR is intact ✓

MBR Hex Viewer:

Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00000000	33	C0	8E	D0	BC	00	7C	8E	C0	8E	D8	BE	00	7C	BF	00
00000010	06	B9	00	02	FC	F3	A4	50	68	1C	06	CB	FB	B9	04	00
00000020	BD	BE	07	80	7E	00	00	7C	0B	0F	85	0E	01	83	C5	10
00000030	E2	F1	CD	18	88	56	00	55	C6	46	11	05	C6	46	10	00
00000040	B4	41	BB	AA	55	CD	13	5D	72	0F	81	FB	55	AA	75	09
00000050	F7	C1	01	00	74	03	FE	46	10	66	60	80	7E	10	00	74
00000060	26	66	68	00	00	00	00	66	FF	76	08	68	00	00	68	00
00000070	7C	68	01	00	68	10	00	B4	42	8A	56	00	8B	F4	CD	13
00000080	9F	83	C4	10	9E	EB	14	B8	01	02	BB	00	7C	8A	56	00
00000090	8A	76	01	8A	4E	02	8A	6E	03	CD	13	66	61	73	1C	FE
000000A0	4E	11	75	0C	80	7E	00	80	0F	84	8A	00	B2	80	EB	84
000000B0	55	32	E4	8A	56	00	CD	13	5D	EB	9E	81	3E	FE	7D	55
000000C0	AA	75	6E	FF	76	00	E8	8D	00	75	17	FA	B0	D1	E6	64
000000D0	E8	83	00	B0	DF	E6	60	E8	7C	00	B0	FF	E6	64	E8	75
000000E0	00	FB	B8	00	BB	CD	1A	66	23	C0	75	3B	66	81	FB	54
000000F0	43	50	41	75	32	81	F9	02	01	72	2C	66	68	07	BB	00
00000100	00	66	68	00	02	00	00	66	68	08	00	00	00	66	53	66
00000110	53	66	55	66	68	00	00	00	00	66	68	00	7C	00	00	66
00000120	61	68	00	00	07	CD	1A	5A	32	F6	EA	00	7C	00	00	CD

## 6. Troubleshooting

- **Error: "Permission denied"**: Ensure the tool is run with admin privileges.
  - **MBR Verification Fails**: Confirm the integrity of the forensic image or consult system logs for additional details.
- 

## 7. Contact Information

For additional support, please refer to the tool's repository or contact the development team.

[idreesk478@gmail.com](mailto:idreesk478@gmail.com)

---

## 8. Conclusion

The **MBR-Integrity-Verifier-and-Recovery-Tool** is a critical utility for ensuring the integrity of the Master Boot Record, providing both verification and recovery functionalities. Its dual modes—**Forensic Image** and **Live System**—offer flexibility for handling both static and live environments effectively. By following this User Guide, users can install, configure, and operate the tool with confidence, ensuring the safety and reliability of their systems. For any additional assistance, refer to the troubleshooting section or contact the development team for support.

This tool serves as an essential asset for cybersecurity professionals, delivering robust capabilities for MBR integrity management.