Introduction to `Guymager`

`Guymager` is a lightweight, open-source forensic imaging tool made for Linux distributions. It supports multiple image formats (dd, E01 and AFF), provides detailed logs and ensure integrity checks during the imaging process. It provides a GUI for the users who do not want to take the risk of wiping disks with `dd` and the GUI provides a very comfortable and easy to use interface

NOTE: All screenshots seen in this particular document are taken on Arch Linux

---

Installing `Guymager`

`Guymager` can be installed with the default repositories that are provided with the distributions.

1. **Debian based Distributions:**

```
sudo apt update
sudo apt install guymager
```

2. **Arch based Distributions:**

```
git clone https://aur.archlinux.org/guymager.git
cd guymager/
makepkg -si
```

3. **RPM Packages:**
    - Visit the webpage pkgs.org
    - Choose the right Architecture and Operating System
    - Install the `.deb` or the `.tar.xz` file and extract from there

Launching `Guymager`

`Guymager` is a tool that needs access to the hardware drivers and a normal user does not have those privileges, so we always have to run it using `sudo`

```
sudo guymager
```

This will launch the `guymager` UI and will allow us to make forensic images of the disks.

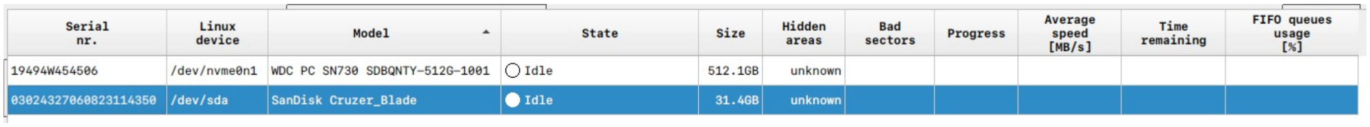
Creating a Forensic Image

Step 1: Connect the target device and note down **it's** Linux device path. We do not want to accidentally clone our own disk or perform any changes to our own disk, so make sure that you know prior which disk **is** yours

*Tip: **If** you are not sure what disk **is** what, then open* `guymager` ***first** without connecting the device, make a note **of all** available disks, then connect the USB drive*

Step 2: Start the Imaging Process

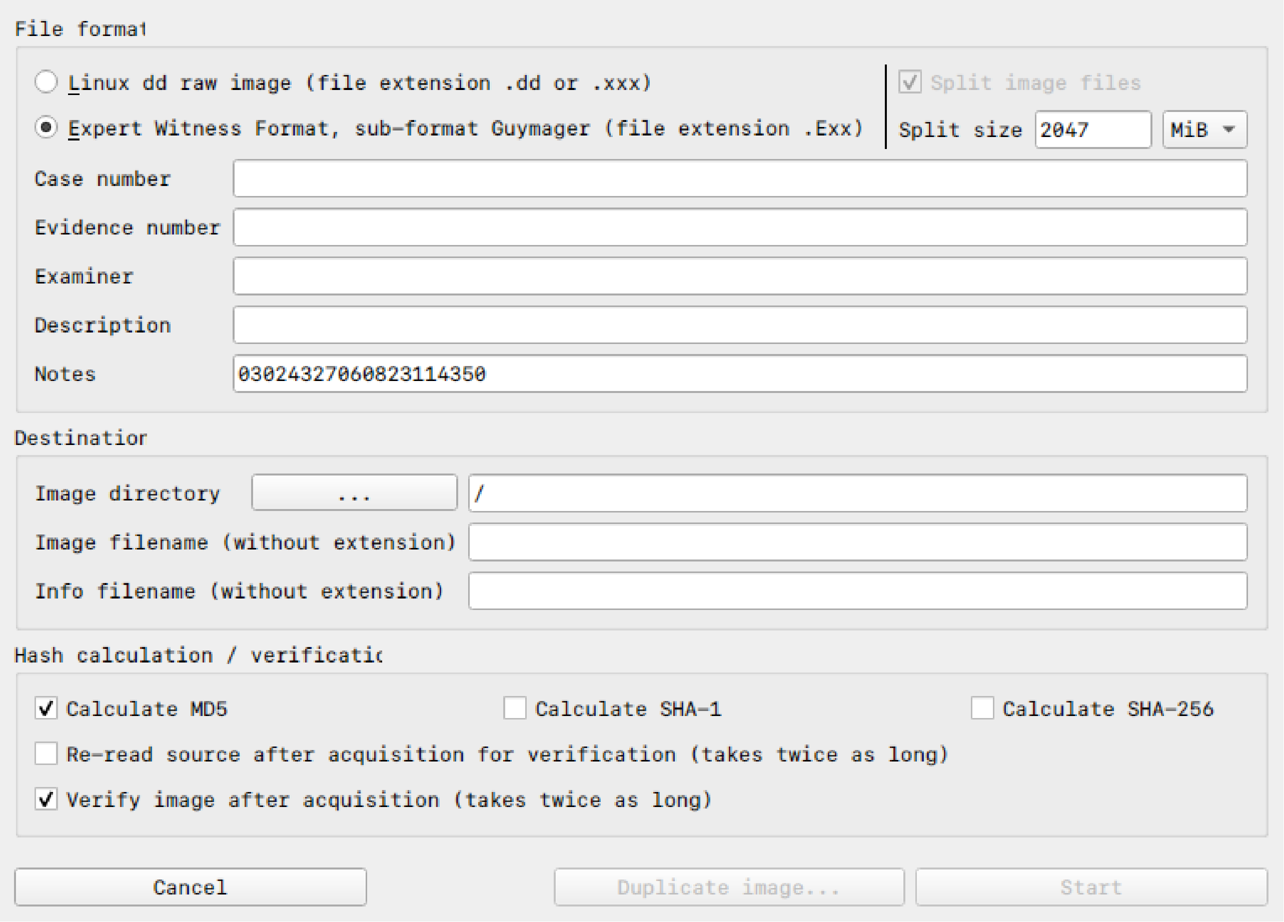
1. In the `Guymager` interface, click on the device that has to be imaged



Serial nr.	Linux device	Model	State	Size	Hidden areas	Bad sectors	Progress	Average speed [MB/s]	Time remaining	FIFO queues usage [%]
19494W454506	/dev/nvme0n1	WDC PC SN730 SDBQNTY-512G-1001	○ Idle	512.1GB	unknown					
03024327060823114350	/dev/sda	SanDisk Cruzer_Blade	● Idle	31.4GB	unknown					

In this case, `/dev/nvme0n1` **is** the name of my local SSD and `dev/sda` **is** the USB drive that **I** have to make an image of

2. Right click on the device and choose `Acquire Image`



File format

○ Linux dd raw image (file extension .dd or .xxx)

● Expert Witness Format, sub-format Guymager (file extension .Exx)

☑ Split image files

Split size 2047 MiB

Case number	
Evidence number	
Examiner	
Description	
Notes	03024327060823114350

Destination

Image directory	/
Image filename (without extension)	
Info filename (without extension)	

Hash calculation / verification

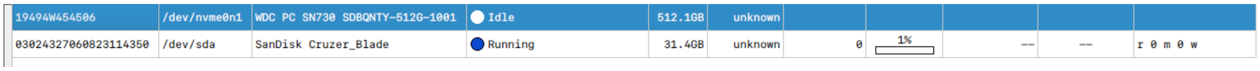
☑ Calculate MD5 □ Calculate SHA-1 □ Calculate SHA-256

□ Re-read source after acquisition for verification (takes twice as long)

☑ Verify image after acquisition (takes twice as long)

This is the UI that will pop up after clicking on `Acquire Image`

3. Configure the image settings
   - Choose what file extension the image has to be in
   - Choose where the image has to be stored
   - Select and verify the validity of the image with the hash algorithms `MD5`, `SHA-1` and `SHA-256`
4. Click `Start` to begin the imaging process
   - A progress bar will appear at the disk to show how much has been done



19494W454506	/dev/nvme0n1	WDC PC SN730 SDBQNTY-512G-1001	○ Idle	512.1GB	unknown					
03024327060823114350	/dev/sda	SanDisk Cruzer_Blade	● Running	31.4GB	unknown	0	1%	--	--	r 0 m 0 w

Step 3: Verify the Image

Once the imaging process is complete, you can tell `Guymager` to verify the image or you can just have it calculate the hash values.

If `Guymager` is the one verifying the image, then it will take twice as long as normal, but if you prefer to do it manually, then you can use command line utilities like `md5sum` or `sha256sum` to verify the image's hash

---

Best Practices

1. Always use a write blocker so that the device is not changed during the acquisition process
2. Create Multiple Copies of the Image file. `Guymager` provides you the option of making multiple copies
3. Verify Integrity

Disadvantages

1. **Linux-Only:** This tool is not natively available on MacOS or Windows (Or is that an advantage)
2. **Memory Acquisition:** Cannot create RAM dumps or create images of volatile memory
3. **GUI:** It's a Linux tool that has a GUI... Need I say more?

Alternatives

The only reason we need "Alternatives" is for making the RAM dump, but we have tools like `LiME` to do that for us