lto_manager

LTO manager script for writing, reading and erasing magnetic tapes.

Docker

Build Image from Dockerfile

> **IMPORTANT:** Internet access and root privileges required!

```
$ cd /mnt/share/Benutzer/David/4n6-tools/lto_manager/
$ docker build --network host -t lto_manager .
```

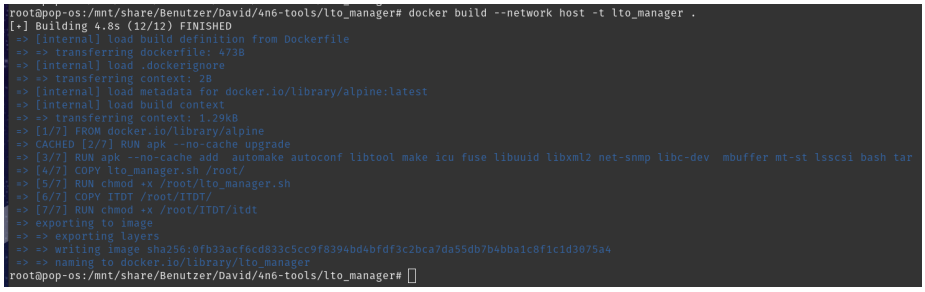

Figure 1: Docker build image

Run script in container

```
$ docker run --rm -it --name lto_manager --privileged -v /dev:/dev -v /mnt:/mnt lto_manager
```

Install short script

```
$ cp /mnt/share/Benutzer/David/4n6-tools/lto_manager/lto_manager /usr/local/bin/$1
```

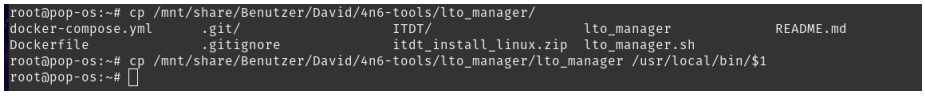

Figure 2: Install short script

How to use

Run lto_manager

From any location simply run

```
$ lto_manager
```

In the following menu use up and down keys to switch between menu options:

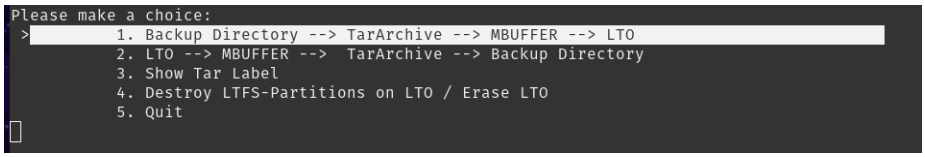

Figure 3: menu

Select option 1. Backup Directory. Then for source put in the folder you want to backup. You can use any location, e.g. directly from network share:

Figure 4: enter source path

Next enter a label for the tape without spaces! You can use any label, e.g. viva or XD number:

Figure 5: enter label

In the next step it lists all available tape drives, here only one LTO-6 drive. For selection enter 6 into the field as the target drive:

As the final step verify the information and type y for validation to start writing to the tape:

> **NOTICE:** The memory warnings are just for information and can be ignored.

The script will auto unload the tape from the drive when finished writing so you can safely withdraw the tape.

Verify tape content

You can list the content of any TAR like on a tape with the same methods.

```
$ tar -tf /dev/st0 --record-size=500k
```

> **NOTICE:** The record size is set by our lto_manager script to 500k and has to set to this value again every time reading the tar. Otherwise you get a allocation error as the following:

```
List of Tapes
[6:0:0:0]    tape    QUANTUM  ULTRIUM-HH6      G351  /dev/st0

Give me a LTO Device:
Enter correct LTO(n) for your Tape-Device 6,7: 6
LTO Device /dev/st0 can be used...
```

Figure 6: drive

```
Start Backup /mnt/ufed/2023/05/XD 2023 05 03 KK11 Arenz >>>>> TarArchive (XD-2023-05-03) >>>>>>> MBUFFER >>>> LTO /dev/st0
 [y]es|[n]o :y
Start Backup...
Fri May 19 08:52:16 UTC 2023
tar: Removing leading `/' from member names
mbuffer: warning: high value of number of blocks(52444): increase block size for better performance
mbuffer: warning: allocating more than half of available memory
```

Figure 7: validation

```
root@besi-tape-02:~# tar -tf /dev/st0 --record-size=500k
XD-2022-10-03
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 01/
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 01/Backup 2023_02_09 (001).clog
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 01/Logical.ufd
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 01/Report.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 01/Report.xml
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 01/Report_CallLogsSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 01/Report_ContactsSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 01/Report_SMSSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 02/
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 02/Backup 2023_02_09 (001).clog
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 02/Logical.ufd
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 02/Report.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 02/Report.xml
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 02/Report_CallLogsSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 02/Report_ContactsSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/Logical 02/Report_SMSSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (001)/EvidenceCollection.ufdx
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/Backup 2023_02_09 (001).clog
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/Backup 2023_02_09 (001).PBB
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/Logical.ufd
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/Report.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/Report.xml
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/Report_CallLogsSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/Report_ContactsSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 01/Report_SMSSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 02/
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 02/Backup 2023_02_09 (001).clog
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 02/Backup 2023_02_09 (001).PBB
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 02/Logical.ufd
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 02/Report.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 02/Report.xml
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 02/Report_CallLogsSection.html
mnt/ufed/2022/10/XD 2022 10 03 KK36 Weise/Sicherung/UFED SIM Card SIM 2023_02_09 (002)/Logical 02/Report_ContactsSection.html
```

Figure 8: tar listing

```
root@besi-tape-02:~# tar -tf /dev/st0
tar: /dev/st0: Cannot read: Cannot allocate memory
tar: At beginning of tape, quitting now
tar: Error is not recoverable: exiting now
root@besi-tape-02:~#
```

Figure 9: error

Unload tape manually

To unload simply type

```
$ mt -f /dev/st0 offline
```

You could also use the following

```
$ mt -f /dev/st0 rewoffl
```

The difference is that *rewoffl* first rewinds the tape to its beginning and the unloads the tape from the drive. However, since we use the device */dev/st0* the tape is automatically rewind to the start after every command. Hence, rewinding before unloading is not necessary.