## **Digital Forensics Lab 8 (CSE 4004)**

- 30.09.2020

Faculty: Dr. Nagaraj S V

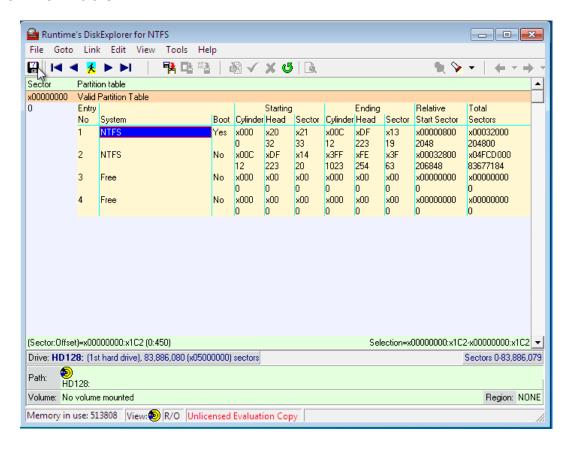


## **Investigating NTFS / FAT/ Linux drives**

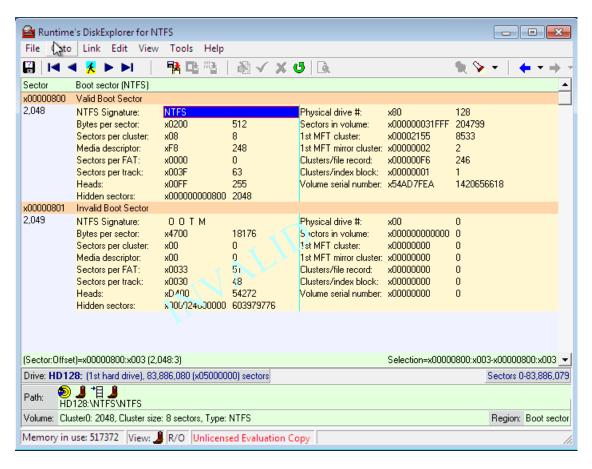
Use the tool to investigate your NTFS drive and conduct your data recovery, using the following features:

Navigate your NTFS drive by jumping to the partition table, boot record, Master file table or the root directory.

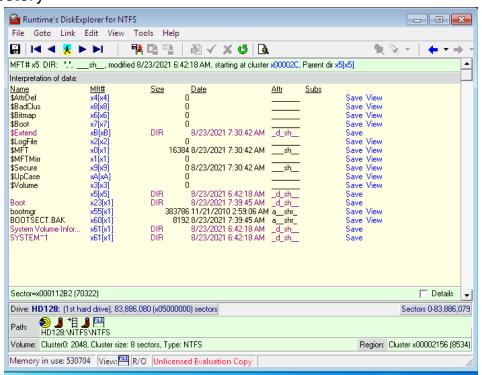
**Partition Table** 



#### **Boot Sector**

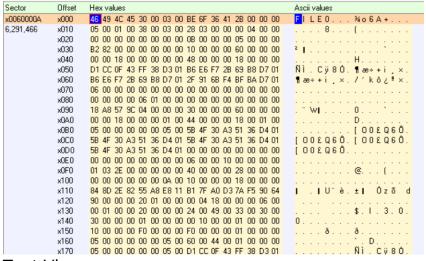


#### **Root Directory**

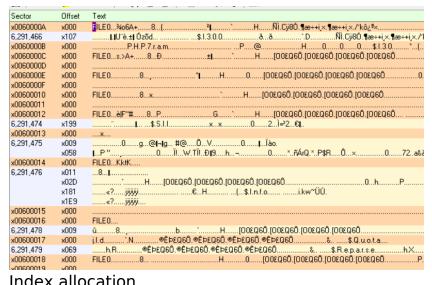


## Choose between views such as hex, text, index allocation, MFT, boot record, partition Table.

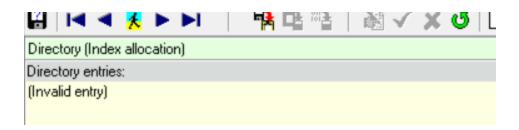
#### Hex view



#### Text View



Index allocation



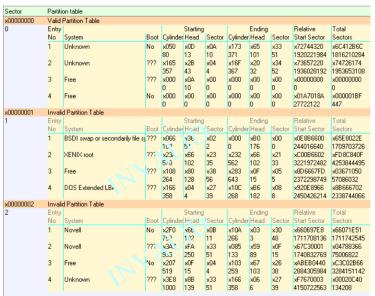
## MFT

	🦰 🏲 🏲	<b>"   </b>	<b>A</b>	X 0	L <b>Q</b> L		
Sector	Name		Туре	Attributes	Size	Date	1st c
x000000000	Invalid MFT entry						
0							
x00000002	Invalid MFT entry						
2							
x00000004	Invalid MFT entry						
4							
x000000006	Invalid MFT entry						
6							
x000000008	Invalid MFT entry						
8							
x0000000A	Invalid MFT entry						
10							
x0000000C	Invalid MFT entry						
12							
x0000000E	Invalid MFT entry						
14							
x00000010	\$MFT		FILE	sh	386609971	217-08-2018 23:12:	15 x0C0
16	No: ???[x1] (x0), Pa	rent directory: x5[x5],	Run:	33:C0 B5 00	00 00 0C ×	43:00 14 09 90 3C A	B 08 *42:00
x00000012	\$MFTMirr		FILE	sh	4096	17-08-2018 23:12:	15 x000
18	No: ???[x1] (x1), Pa	rent directory: x5(x5),	Run:	11:01 02			
x00000014	\$LogFile		FILE	sh	67108864	17-08-2018 23:12:	15 x0BE
20	No: ???[x2] (x2), Pa	rent directory: x5[x5],	Run:	32:00 40 2B	BD 0B		
x00000016	\$Volume		FILE	sh	0	17-08-2018 23:12:	15 Resi
22	No: ???[x3] (x3), Pa	rent directory: x5(x5).	Run:	Resident			

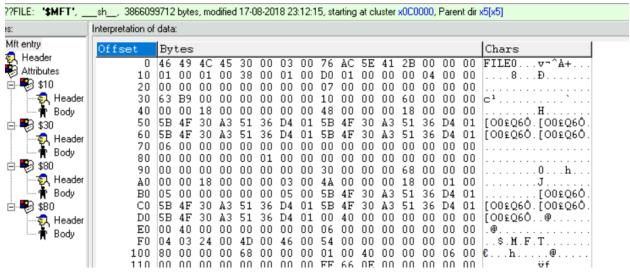
## Boot record

Sector	Boot sector (NTFS)					
x000000000	Valid Boot Sector					
0	NTFS Signature: Bytes per sector: Sectors per cluster: Media descriptor: Sectors per FAT: Sectors per track: Heads: Hidden sectors:	NTFS x0200 x08 xF8 x0000 x003F x00FF x00000008A800	512 8 248 0 63 255 567296	Physical drive #: Sectors in volume: 1st MFT cluster: 1st MFT mirror cluster: Clusters/file record: Clusters/index block: Volume serial number:	x80 x0000E6BD5FFF x000C0000 x00000002 x000000F6 x00000001 xAEA39509	128 3871170559 786432 2 246 1 2929956105
x00000001	Invalid Boot Sector					
1	NTFS Signature: Bytes per sector: Sectors per cluster: Media descriptor: Sectors per FAT: Sectors per track: Heads: Hidden sectors:	O O T M x4700 x00 x00 x0033 x0030 xD400 x106/324630000	18176 0 0 51 48 54272 603979776	Physical drive #: 5 votors in volume: 1st MFT cluster: 1st MFT mirror cluster: Clusters/findex block: Volume serial number:	x00 x000000000000000 x00000000 x00000000	0 0 0 0 0 0
x00000002	Invalid Boot Sector					
2	NTFS Signature: Bytes per sector: Sectors per cluster: Media descriptor: Sectors per FAT: Sectors per track: Heads: Hidden sectors:	1 fit fit x0EB7 x0B x66 x96A3 x6602 x46A1 x126506u36602	3767 11 102 36753 26114 18081 2809009497602	Physical drive #: 5 actors in volume: 1st MFT cluster: 1st MFT mirror cluster: Clusters/file record: Clusters/index block: Volume serial number:	x66 x840F0002363E x3A3E8366 x8B66FD30 x3E8B6607 xA166024A xEDE8022E	102 14519995952 977175398 2338782512 1049323015 2707817034 3991405102
x00000003	Invalid Boot Sector					

#### **Partition Table**

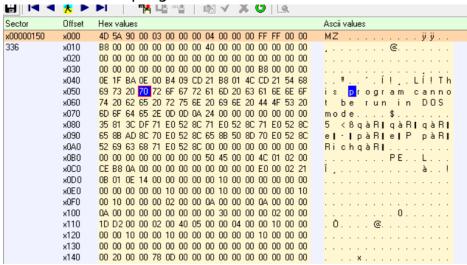


#### Inspect File Entry Details



# Search your drive for text, partition tables, boot records, MFT entries, and index buffers.

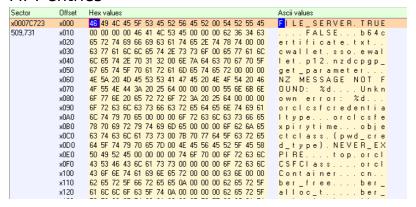
Searched text - program



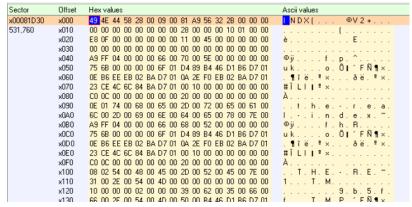
### Boot Record/partition Table

	-		
Sector	Offset	Hex values	Ascii values
x00037AE6	×000	5B 5E 9A B1 2B D7 4F 39 AD 53 8D 74 66 17 5D F3	[ ^   ± + × 0 9 · S tf. ] ó
228,070	x010	B8 7B 87 3D 50 B1 78 26 68 C9 F8 E6 3D 2F 0E D5	, {   = P ± x & h É ø æ = / . Õ
	x020	B2 B5 29 A7 E5 6D CE 35 AC B1 96 7C 14 DD 2B 15	²μ)§åmî5-±  .Ý+.
	x030	6F 6A A3 37 43 1D 13 3A E5 F3 16 49 50 15 A6 1C	oj £7C: åó.   P.   .
	x040	E1 F7 8C C8 BD 3D C3 90 99 3C 90 07 E2 E5 D5 33	á÷ Ƚ=à  < .âåÕ3
	x050	F8 A0 79 D6 F9 39 79 66 FC 86 72 35 D7 C8 BB 2C	øyÖù9yfülr5×È»,
	x060	11 79 AD F1 CF 5C 35 CB B6 CA 05 4E CF 64 A4 D7	, y - ñ ï \ 5 Ë ¶ Ê . N ï d ¤ ×
	x070	C5 1D 22 22 25 F9 84 F2 D6 C2 AC 35 D5 05 F5 46	Å. ""%ù òÖÂ-5Õ.őF
	x080	EC 5C 9C 0F 1F 51 FC 15 A9 A2 2C 70 B0 6F 13 8A	ì <b>\  </b> Qü. @ç, pှံ o. <b> </b>
	×090	A9 BE 84 41 25 28 8C E9 19 C3 28 94 CF 0A 6B AD	®¾  A%( é.Ã( Î.k·
	x0A0	B3 05 32 10 34 D1 4A 42 F0 53 A3 09 23 F1 4B D1	3 . 2. 4 Ñ J B ð S £. # ñ K Ñ
	x0B0	84 D2 74 A4 B8 44 13 9A FE E0 DE DE F7 4A E1 23	Ôt¤, D.   þàÞÞ÷Já#
	x0C0	54 FB DA 2A 7F 19 96 45 71 83 93 94 3D 0A D6 3B	ΤûÚ* . Eqļ  =.Ö;
	x0D0	83 E5 F3 2D 13 49 94 90 82 C8 7C FA 42 12 92 45	å ó       È   ú B . ´ E
	x0E0	98 76 B5 0C 92 C8 24 BF FE 48 24 E7 E1 05 C4 C8	l vμ. ´È\$¿þH\$çá.ÄÈ
	x0F0	15 6E C2 A9 BB 8F 84 8F 56 D0 CB 02 55 12 CF 41	. n®» I VĐË. U. Î A
	x100	24 94 AE 7B 30 58 81 DA 0C 94 3D 37 03 71 D7 2E	\$   ® { 0 × Ú.   = 7. q ×.
	x110	5F 10 24 94 A5 7B B9 41 CA AF 3B 3E DA 87 F0 72	\$  \{ ' A Ê \; > Ú  ă r
	x120	E6 83 EE 60 56 20 3A 7B DD 05 1D 6B C8 F0 E8 BE	æ[î`V:{ÝkĚðè¾
	x130	OB 01 6E 28 58 33 56 41 B5 3B 38 2E C2 0B 81 11	n ( Χ ϶ ۷ Α μ ; 8 . Å
	x140	2E 6A 97 D0 B5 D1 89 30 4C 62 44 64 53 1D 16 22	. j I ĐμÑI OLb DdS "
	x150	29 12 4A 02 8C B8 76 49 1A B2 CD 17 83 91 4C 01	) . J . <b>I ,</b> v l . ² ĺ . <b>I</b> ′ L .

#### MFT entries

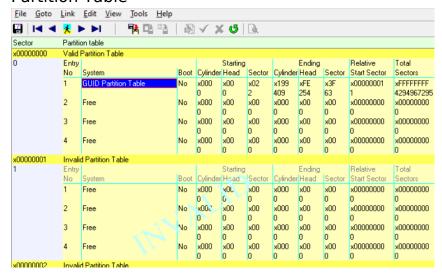


#### Index buffers



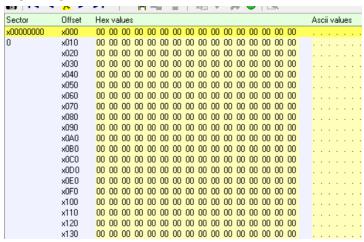
## Navigate your FAT drive by jumping to the partition table.

#### Partition Table

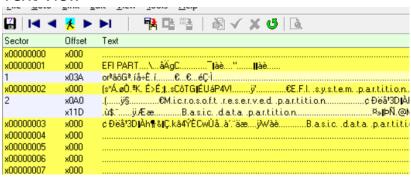


Choose between views such as hex, text, index allocation, MFT, boot record, partition table.

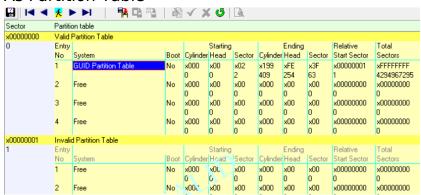
#### **Hex View**



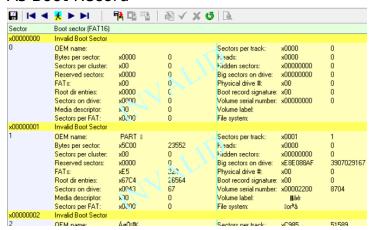
#### **Text View**



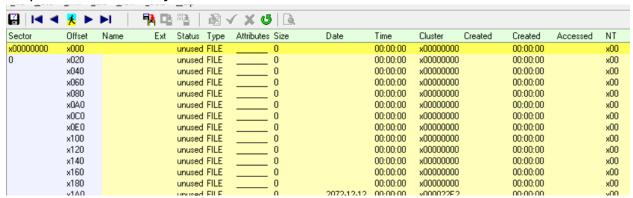
#### As Partition Table



#### As Boot Record

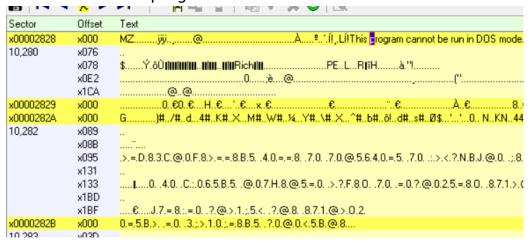


#### Inspect the file entry details

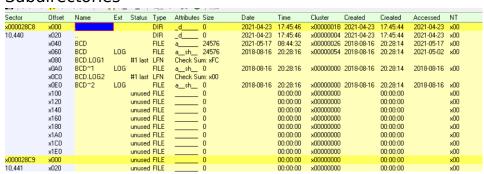


## Search your drive for text, subdirectories, FAT and Partition

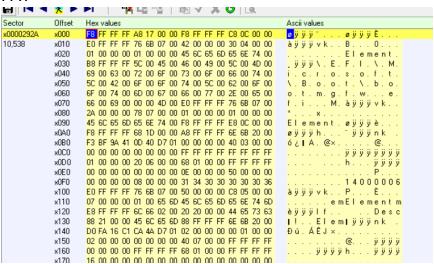
Searched for text program



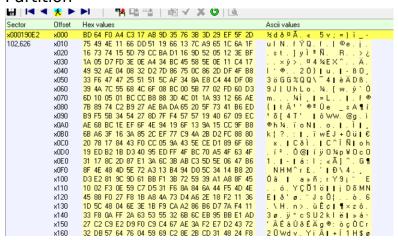
#### Subdirectories



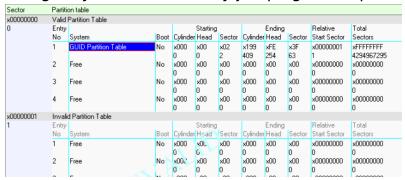
#### **FAT**



#### **Partition**

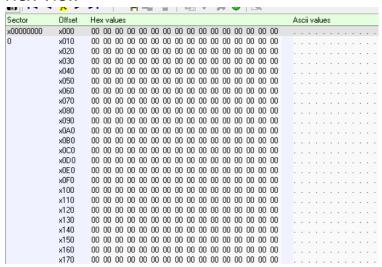


## Navigate your Linux EXT by jumping to the partition table.

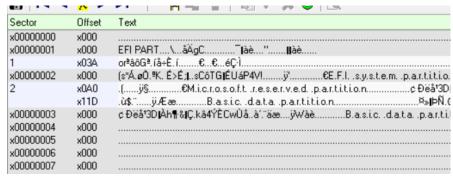


## Choose between views such as hex, text, group description, and partition table.

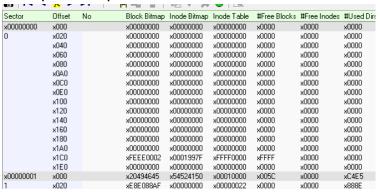
#### Hex View



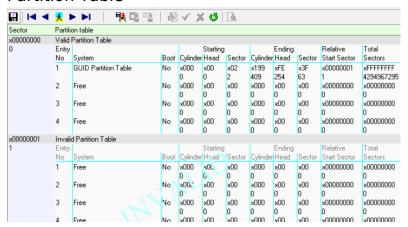
#### Text View



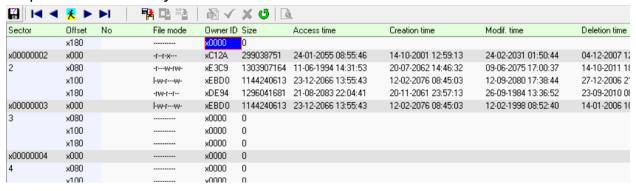
#### **Group Description View**



#### **Partition Table**

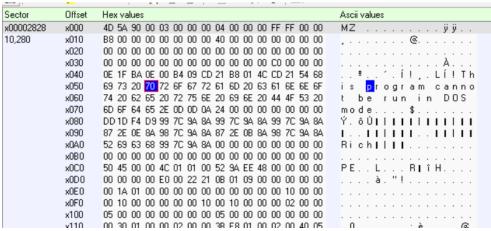


#### Inspect the file entry details

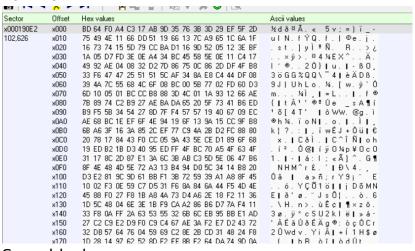


#### Search your drive for text, partition tables and superblock

Searched Text - program



#### **Partition**



### Superblock

