Windows File Systems: FAT32

- FAT32 file system is derived from a **FAT file system** that supports drives up to **2 terabytes** in size
- It uses drive space efficiently and uses **small clusters**
- It creates backups of the **file allocation table** instead of using the default copy

Offset	Description	Size
000h	Executable Code (Boots Computer)	446 Bytes
1BEh	1st Position Entry	16 Bytes
1CEh	2nd Position Entry	16 Bytes
1DEh	3rd Position Entry	16 Bytes
1EEh	4th Position Entry	16 Bytes
1FEh	Boot Record Signature	2 Bytes

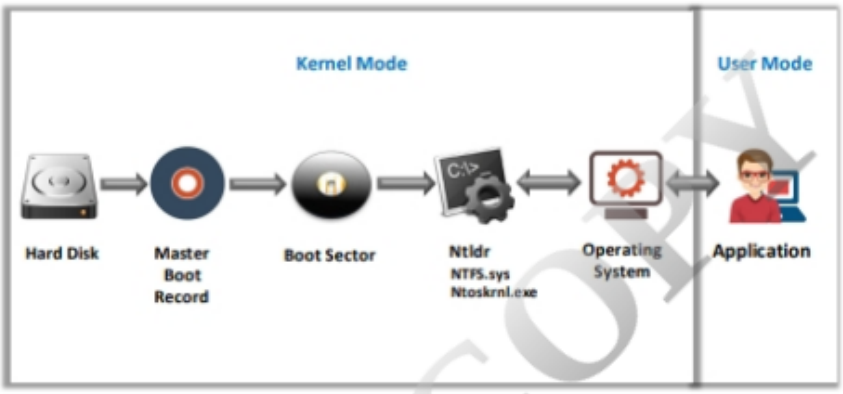
MBR table of FAT32

Windows File Systems: New Technology File System (NTFS)

- NTFS is the **standard file system of Windows NT** and its descendants Windows XP, Vista, 7, 8.1, 10, 11, server 2003, server 2008, server 2012, Server 2016, Server 2019, and Server 2022
- From Windows NT 3.1, it is the default file system of the Windows NT family
- It includes several improvements over FAT, such as enhanced **support for metadata** and the use of advanced data structures to improve performance, reliability, and disk space utilization, besides extensions such as security access control lists and file system journaling

Notes:

Windows File Systems: NTFS Architecture



Windows File Systems: NTFS System Files

File Name	Description
$attrdef	Contains definitions of all system-and user-defined attributes of the volume
$badclus	Contains all the bad clusters
$bitmap	Contains a bitmap for the entire volume
$boot	Contains the volume's bootstrap
$logfile	Used for recovery purposes
$mft	Contains a record for every file
$mftmirr	Mirrors the MFT used for recovering files
$quota	Indicates a disk quota for each user
$upcase	Converts characters into uppercase Unicode
$volume	Contains the volume name and version number

Notes: