How to Boot from USB with WIM or VHD file located on Portable SSD August 30, 2020

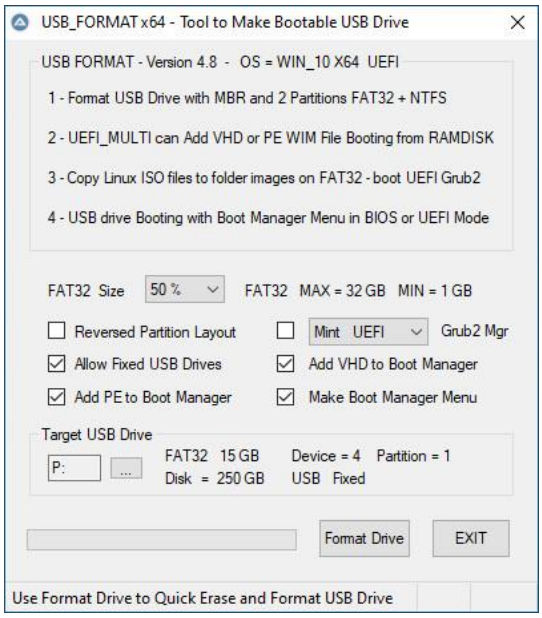
USB Format Tool - Make Bootable USB Drive with MBR and 2 Partitions - active FAT32 + NTFS

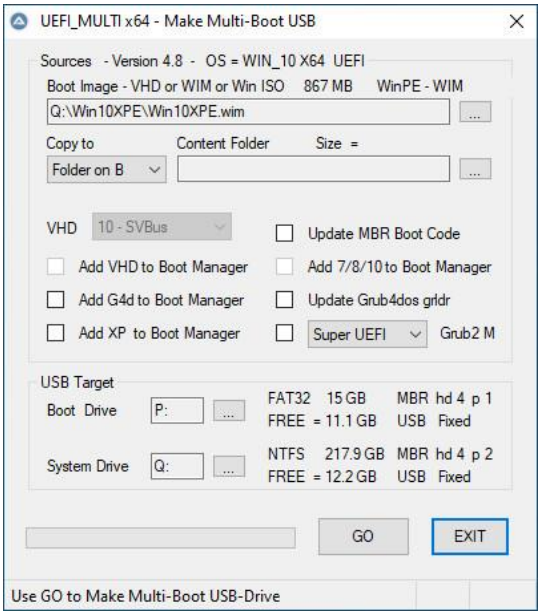
- Use USB_FORMAT with SAMSUNG Portable SSD T5 500 GB Or USB-Stick gives UEFI/MBR Partitioning with active FAT32 + NTFS Partition
- Copy your PE **boot.wim** file to USB FAT32 Boot Drive for booting from RAMDISK Or use UEFI_MULTI to Add Boot Image - VHD or WIM
- Copy VHD and Rename as **Win10x64.vhd** file to USB NTFS Drive for booting as FILEDISK Or use UEFI_MULTI to Add Boot Image - VHD
- Use UEFI_MULTI to Add **WIM** file to make Portable SSD booting from RAMDISK - filename = **Win10XPE.wim** - See below
- Use UEFI_MULTI to Add **VHD** file to make Portable SSD booting with FILEDISK - **W10x64 VHD**
- Add Win10x64 **ISO** file to NTFS System Drive used by **WinNTSetup** for Installing Win10x64 in VHD or partition of SSD hard disk
- Boot from USB - after beep use **F8** or other HotKey Boot Menu - Select **Win10XPE-WIM** or **W10x64 VHD** in Boot Manager Menu
- Use **WinNTSetup** x64 and **ISO** file for **Installation** of Windows 10 x64 in **VHD** or partition of internal SSD hard disk - See below
- **Swith off Defender** - In WinNTSetup Menu - Local Windows Installations - Ctrl+Shift +O and **Capture Wim** to make Backup WIM file

Downloads: from wimb GitHub - USB_FORMAT - UEFI_MULTI - System_Info - VHD_WIMBOOT - MBR_Backup

Downloads: UEFI_MULTI and WinNTSetup and Windows 10 x64 ISO from TechBench Or using Windows-ISO-Downloader Tool

More Info: Info USB_FORMAT - UEFI_MULTI topic and Forums MSFN and Reboot.pro and VHD_WIMBOOT and BOOTICE 1.3.3.2





How to make Win10XPE WIM file for booting from RAMDISK

Download: Win10XPE Builder Or Win10XPE at GitHub and Unpack with 7-Zip x64 - More Info: Win10XPE and Quick Guide

Download Win10_1909_English_x64.iso or newer from TechBench Or using Windows-ISO-Downloader Tool

Mount ISO with double-click and Copy the Content of the ISO to Folder **Win10_1909_English_x64** on your Harddisk

In WinBuilder > Build Core > Select **Run ALL Programs From RAM** to get WIM file with all Programs integrated

In WinBuilder > Apps > System Tools DeSelect XPE Startup (when Selected build fails)

In WinBuilder Select the Folder Win10_1909_English_x64 on your Harddisk and Start building with **Play** button

Use Win10XPE\ISO\sources\boot.wim as your Boot Image file and use Win10XPE\ISO\Boot\boot.sdi for booting WIM file from RAMDISK

First copy both files to folder Win10XPE located on NTFS System Drive of Portable SSD and then use UEFI_MULTI to make Boot Manager entry

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Instead of USB_FORMAT you can use Windows Disk Management to Partition and Format USB Drive

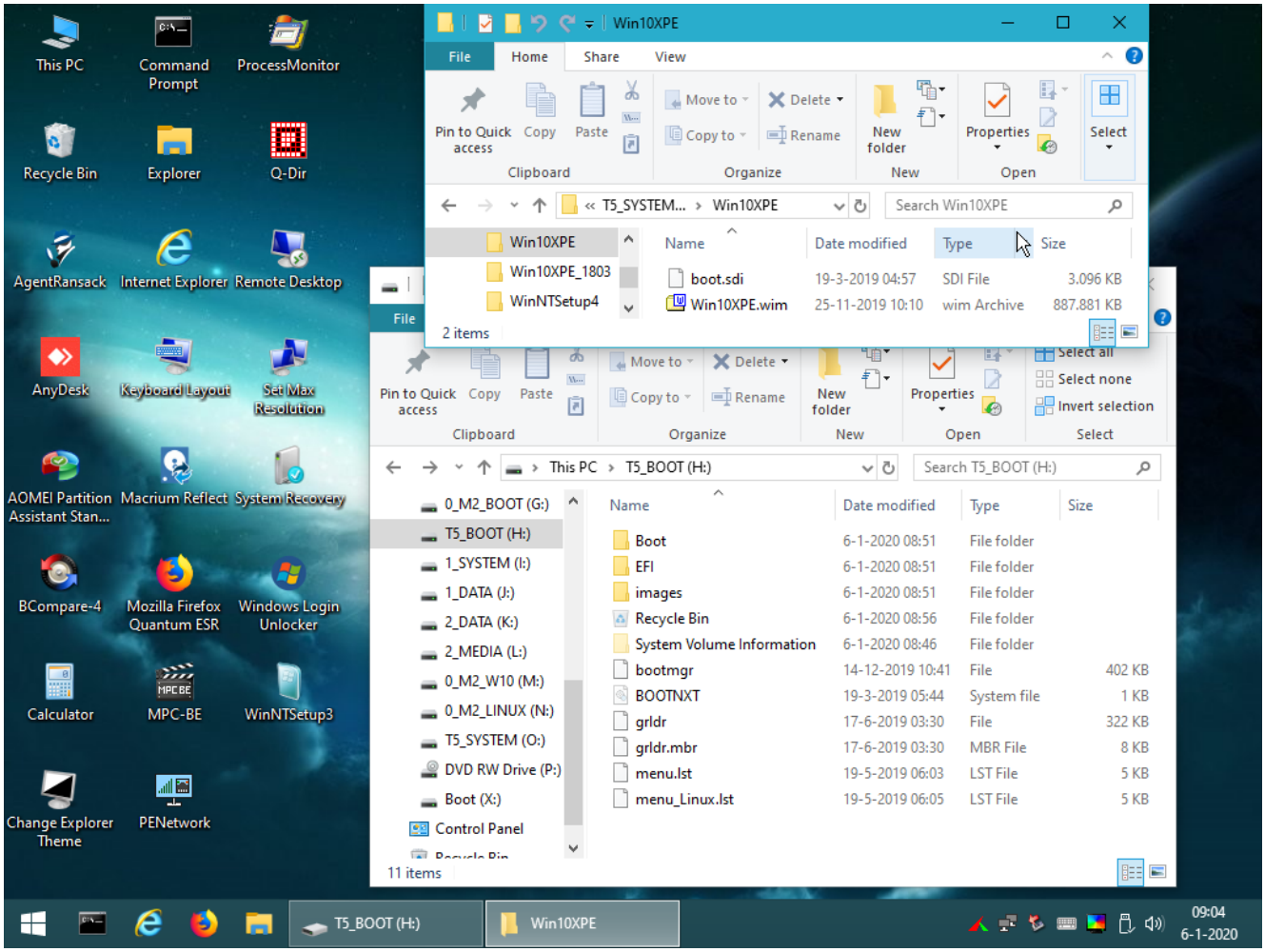
1. In **Disk Management** remove existing exFat Volume and Create new partitions
2. MBR partitioning with 1st partition 20 GB FAT32 Set Active used as Boot Drive and 2nd partition NTFS used as System Drive
3. In **admin command** window run **DiskPart**
4. In DiskPart type **list volume** and **select volume** *<FAT32 volume nr>* and **active** and **exit**

BIOS mode booting requires Active partition with BOOTMGR bootsector

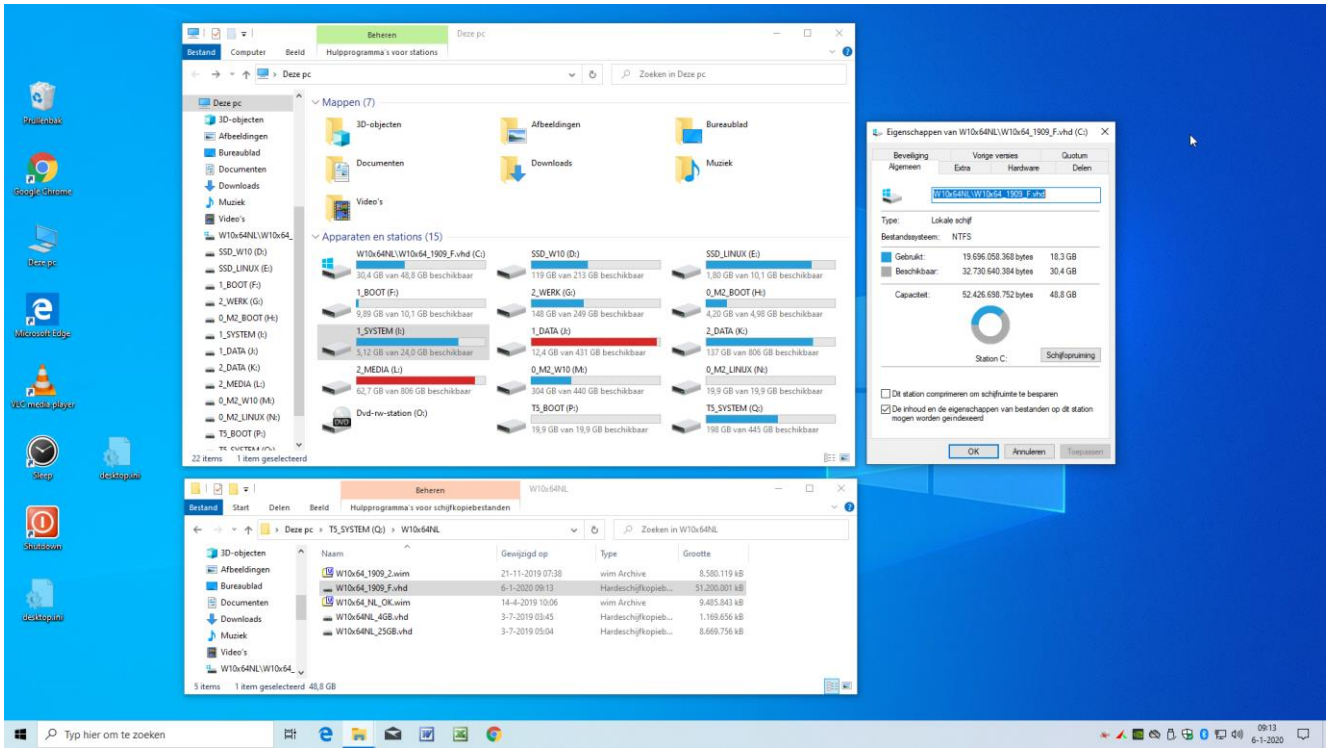
UEFI mode booting requires FAT32 partition with x64 file efi\boot\bootx64.efi Or x86 file efi\boot\bootia32.efi

- 1st partition 20 GB FAT32 Set Active used for Boot Manager and Grub4dos Boot files
- 2nd partition NTFS used for VHD + PE WIM System files

After booting from USB with Win10XPE.wim file located on Portable SSD in folder Win10XPE on USB NTFS System Drive

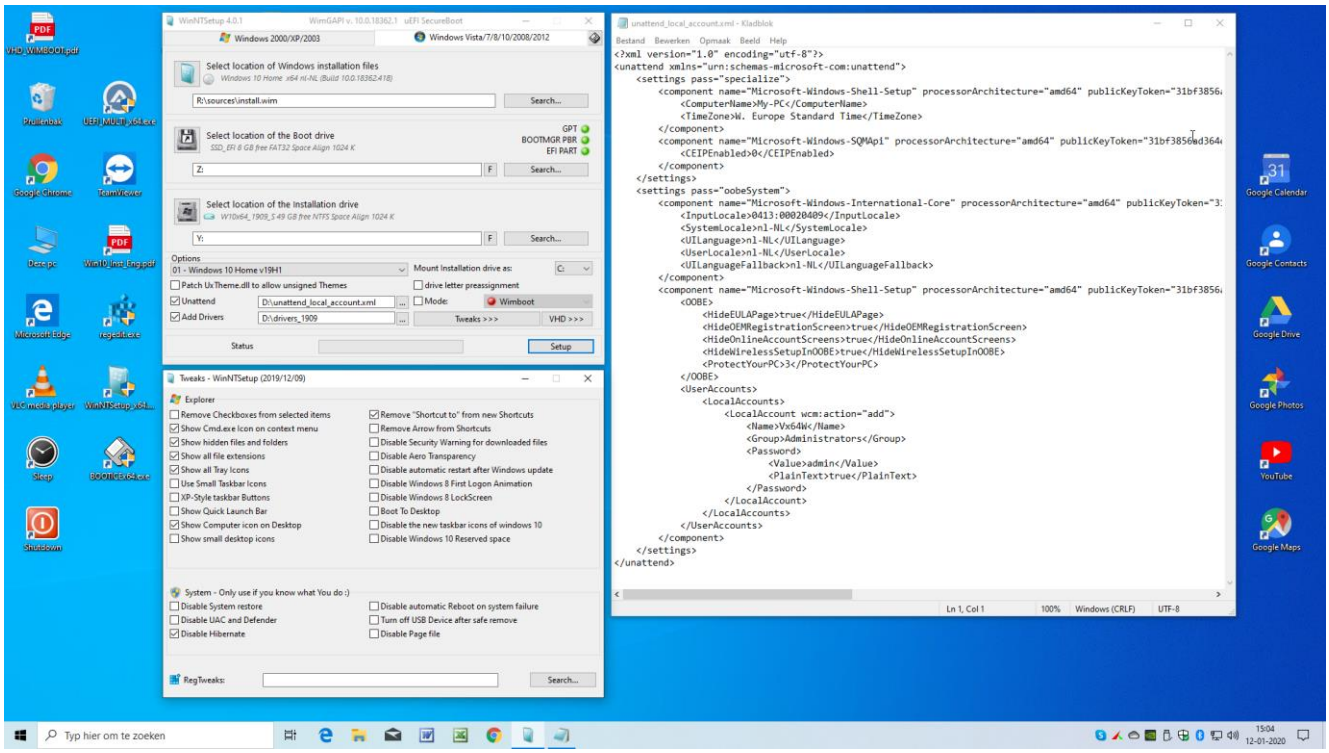


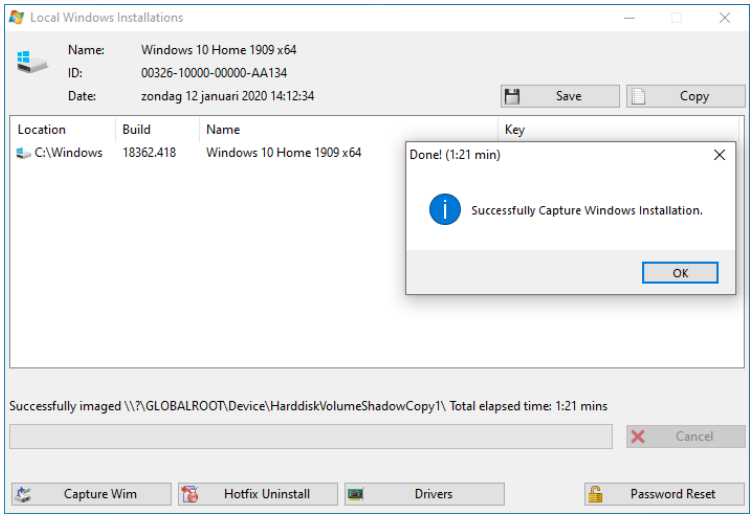
After booting from USB with W10x64 VHD file located on Portable SSD - USB NTFS System Drive

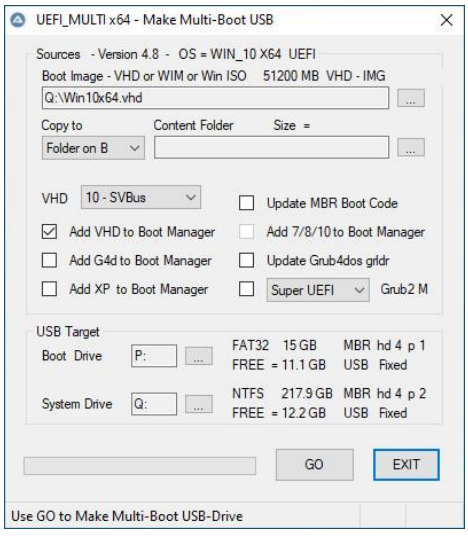


How to use WinNTSetup x64 and ISO file for Installation of Windows 10 x64 in VHD or partition of SSD harddisk

0. Get Ready to have Microsoft Account, Win10 key + Computer name and Backup your User Data
   In Windows 10 x64 use produkey-x64 and Save All keys and Backup Data with SyncBack Free and Save System Info
1. Boot from USB - after beep use **F8** menu - Select **Win10XPE-WIM** or Win10x64 **VHD** in Boot Manager Menu
2. In WinNTSetup x64 - location Windows Installation file sources\install.wim - use R-mouse to select Win10x64 ISO file from TechBench
3. Select Boot drive (usually EFI drive Z:) and Select VHD to Create 50 GB VHD located on internal SSD harddisk - VHD is mounted as Drive Y:
4. Choose Win10 **Edition** - Home or Professional and Select desired **Tweaks** - in case of Install on SSD partition use **F** to Format with NTFS
5. Option for Unattended Install and to Add Drivers - use unattend_local_account.xml for Local Account
6. Select **Setup** and select **Legacy** Boot Menu Style and OK to Install Win10x64 in VHD or partition of internal SSD harddisk and Reboot
7. Optionally - Open Admin Command Window and use **wmic UserAccount where Name='Vx64W' set PasswordExpires=False**
8. Install missing Drivers and Update Win10x64 - Install 7-zip - VLC player and Office and registry backup portable and Reboot
9. **Swith off Defender** - In WinNTSetup Menu - Local Windows Installations - Ctrl+Shift +O and **Capture Wim** to make Backup WIM file
   After Next Install of Win10x64 with Captured WIM file then often first booting via F8 in **Safe Mode** is required and then Reboot normal
10. Boot from USB - Copy VHD to USB NTFS drive and use UEFI_MULTI to Add VHD to Boot Manager menu for booting from USB with VHD
11. Boot normal - Optionally - on separate Data partition Create 5x empty folder for Documents, Pictures, Downloads, Music and Videos
    In My Computer use R-mouse on icon > Properties > tab Location > Move ... Select the Created folder to **change the User Data location**
12. In case of your normal Windows 10 booting from internal SSD then **Swith to Microsoft Account** via Config > Accounts and Reboot







How to Inject Win10 VHD System to Fix Computer

In case of computer troubles it is often desired to have a quick fix available without disturbing existing configuration.
We can decide to Inject from USB in 10 minutes a 50 GB VHD with New Windows 10 x64 System for local account.
Windows 10 in VHD has the advantage that the VHD can be copied to any location.
Windows 10 is Universal and will adjust automatically the drivers needed for the hardware in use.

- Prepare Portable SSD Bootable from USB with PE WIM and VHD file as described in this document Win10_Install PDF
- Disconnect Internet LAN Ethernet cable
- Boot from USB - after beep use F8 menu - Select in Boot Manager Menu Win10XPE WIM file located on Portable SSD
- Copy 50 GB VHD with New System for local account and located on USB Portable SSD to your internal SSD Drive C:
- UEFI_MULTI is used to Add VHD in Boot Manager Menu for booting from internal SSD
- BOOTICE use tab BCD and Z:\efi\microsoft\boot\BCD Or Z:\Boot\BCD in Prof Mode to Set as Default the Added VHD
- For existing System Drive C: use Malware Removal Tool like McAfee Stinger
- Restore Registry use Registry Backup Portable - Copy folders from RegBackup\MY-PC\datetime\C to Drive C:
- Reboot from internal SSD by selecting in Boot Manager menu the Injected VHD with New Windows 10 x64 System
- On Data partition Create 5x empty folder for Documents, Pictures, Downloads, Music and Videos
  My Computer - R-mouse on icon > Properties > tab Location > Move ... Select folder to change the User Data location
- Swith to your Microsoft Account via Config > Accounts and Reboot
- Restore Backup of User Data earlier created with SyncBack Free on external USB and kept safely offline
- Connect Internet LAN Ethernet cable

Alternatively you can use:

How to Fix Booting of Windows 10 using bcdboot

Use bcdboot to Fix on the hidden FAT32 drive the EFI\Microsoft\Boot\BCD entry Or Boot\BCD entry
- Boot from USB - after beep use F8 menu - In Win10XPE use R-mouse menu to **Open Admin Command Window**
- Use bcdboot to Fix the hidden FAT32 drive mounted by WinNTSetup x64 as Drive Z:
  bcdboot C:\Windows /s Z: /f ALL

How to Re-Install Windows 10

If you want to Re-Install Windows 10 x64 while completely disturbing existing configuration then
- Boot with Win10XPE from USB - after beep use F8 menu - In Win10XPE then
- Backup to external USB drive your User Data from C:\Users\YourName
- In WinNTSetup x64 use as Windows Installation file your **Capture Wim** file Or use Win10x64 ISO file from TechBench
- Select as Installation drive your Attached VHD mounted as Drive Y: Or your internal SSD drive C: and Use NTFS Format
- Select **Setup** and **Legacy** Boot Menu Style and OK to Install Win10x64 in VHD or partition of internal SSD and Reboot

How to Backup your Computer

A. System Backup

- Swith off Defender - WinNTSetup - R-mouse menu - Local Windows Inst. - Capture Wim to make Backup WIM file - Time = 5 min
  The Captured WIM file of your System can be used for fast Re-Install of Win10 including all Programs and Settings
- Registry Backup Portable can make a Backup in folder C:\RegBackup of the Windows Registry useful for System Restore - Time = 5 sec
- MBR_Backup can make Backup of Partition Table and Bootsectors of all Local Harddisks Fixed + Removable - Time = 10 sec
  Use TinyHexer to study and Restore Bootsectors - Hopefully Never Needed

B. Data Backup

- SyncBack Free - Make Backup of User Data on external USB and kept safely Offline - Time = initially few hours - update in 10 min
- Backup using File History - available in Windows 10 - More Info - Time = initially few hours - autoupdate running in the background
- Backup your Data in OneDrive in the Cloud - Backup kept safely on Remote Location - Time = initially few hours - autoupdate

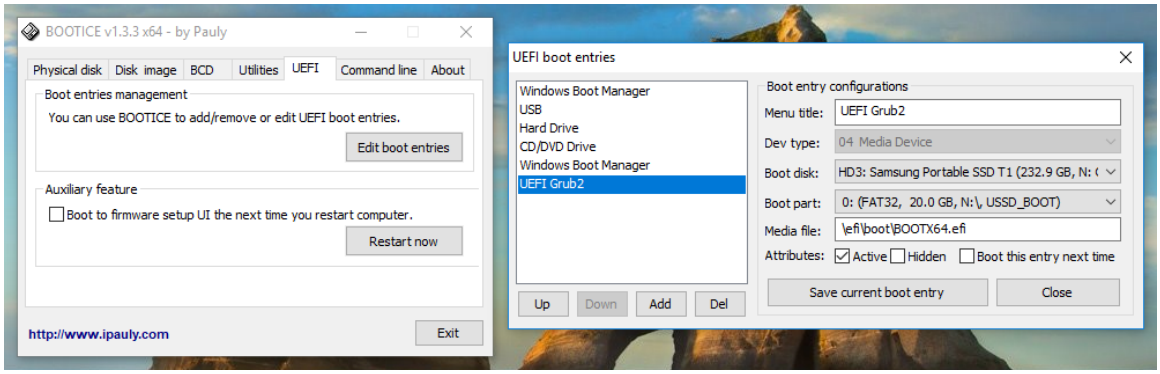
How to make USB Drive booting with Linux ISO files in MBR BIOS mode and in UEFI Secure mode

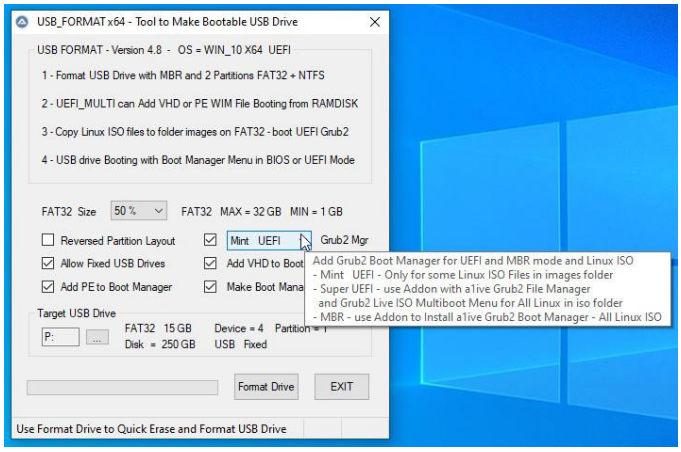
In USB_FORMAT and UEFI_MULTI select Mint UEFI Or Super UEFI as Grub2 Manager - Install of Grub2 in MBR optionally for MBR BIOS mode
- Super UEFI and MBR BIOS Grub2 options require **addon-glim-agFM** and needed to add BIOS mode Grub2 using grub\core.img and i386-pc
- Use R-mouse 7-zip menu to **Extract here** will Add the content of addon to existing folder and confirm overwrites with yes - More Info

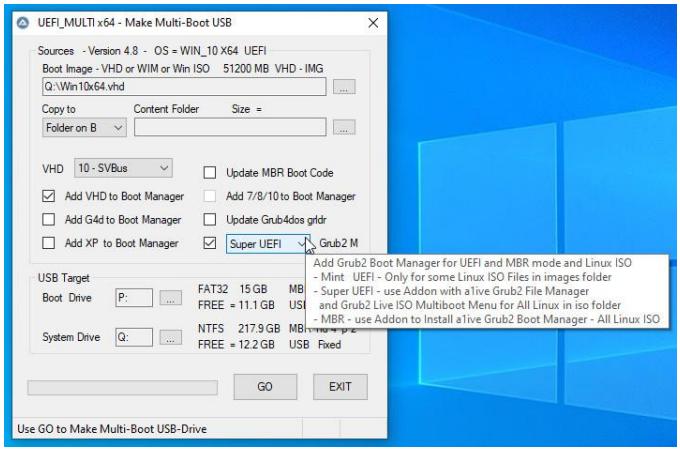
A. Linux Mint UEFI Manager - Addon is Not needed - Only for some Linux ISO files Renamed in folder **images**
Download ISO: Linux Mint Cinnamon - Knoppix Runtime Live CD - Ubuntu Desktop - Porteus x86_64 PassWord=toor - Kali Linux 64-bit Live
Rename as linuxmint.iso - runtimelivecd.iso - knoppix.iso - ubuntu.iso - Porteus.iso - kali-linux.iso in folder **images**
UEFI Secure - Grub2 Menu from \Boot\grub\grub.cfg and \Boot\grub\grub_Linux.cfg - Linux Mint bootx64.efi and grubx64.efi of 15-05-2018
BIOS mode - Grub4dos Menu from \menu.lst and menu_Linux.lst

B. Super UEFI Grub2 Manager - use **addon-glim-agFM** with Super-UEFIinSecureBoot-Disk_v3 and a1ive Grub2 Boot Manager
Copy Your Linux ISO to folder **\iso\YourLinux** on FAT32 USB Boot drive U-BOOT- support for a lot of Linux ISO files in (glim) menu
UEFI Secure - Grub2 Menu from \EFI\grub\grub.cfg with GRUB2 Live ISO Multiboot (glim) menu and \EFI\grub\glim\main.cfg
BIOS mode - MBR Or Grub4dos core.img > Grub2 Menu from grub\grub.cfg with GRUB2 Live ISO Multiboot menu and \grub\glim\main.cfg
a1ive Grub2 File Manager from agFM Addon can be used in UEFI Secure Grub2 and BIOS Grub4dos Menu to select a lot of Linux ISO files
After booting in UEFI Secure mode from USB then use the MokManager to Add ENROLL_THIS_KEY_IN_MOKMANAGER.cer to the firmware
More info on UEFI Secure booting - Super-UEFIinSecureBoot-Disk_v3.zip Release Download and Extracted twice (zip and img) with 7z

In case UEFI Grub2 is not available as Boot option in your F8 HotKey Boot Menu then you need to use BOOTICE 1.3.3.2 to Add UEFI entry
Unneeded for USB-Stick, but UEFI Grub2 boot entry is easily lost in case of Portable SSD
Select as UEFI Boot entry on USB the Linux Mint Grub2 file **\EFI\Boot\BOOTx64.EFI**







How to Boot from USB with AIO Boot - AIO Boot - AIO Info - More Info Win10_Inst_Eng.pdf
- Download AIOBoot-v0.9.9.6.7z - Unpack and Copy content of folder AIOBoot-v0.9.9.6 to USB FAT32, but keep Microsoft Boot files
- On USB run **AIOCreator.exe** - Select Integration Linux OS and your Linux ISO - Linux Mint - Knoppix Live - Ubuntu - Kali Linux 64-bit Live
- Use UEFI_MULTI **After** AIO to Add Mint Or Super Grub2 UEFI Manager and to make Windows Boot Manager entry \AIO\grub\grub2win