Install Windows 10 from USB after booting with WIM or VHDX - April 22, 2019

- **MediaCreationTool** makes USB stick 32 GB for Installing Win10x64 and Win10x86

- Add **WIM** file for USB boot from RAMDISK - filename = **w10x64A.wim**

- Add **VHDX** file for Portable SSD 250 GB booting with FILEDISK filename = **W10x64.vhdx**

- Add **ISO** file used by **WinNTSetup** for Installing Win10x64 in VHDX or hard disk

- Update BCD files from reserved copies in folders **boot** and **efi** to add WIM and VHDX to USB Boot Menu

- Or **BOOTICE** x64 is used to add New WIM or VHD entry to BCD files in boot and efi folders on USB

- Keep BCD files in **boot** and **efi** folders as copy for future boot repair

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A. Microsoft Method - also needed for New hard disk - via Option **New** the **EFI** partition is created

1. Download and Run MediaCreationTool

2. Make USB-stick 32 GB for Installing Win10x64 and Win10x86 (choose option both)

3. Boot from USB after beep via **F8** menu and choose from menu: Windows 10 Setup (64 bits) to **Install**

Shift F10 gives Command Window for **Repair** with WinCmd and bcdedit and bcdboot and bootsect and DiskPart and DISM

Cmd Window run **notepad** - File Open - All files - R-mouse Run as admin **WinNTSetup** x64 for **method B.**

In WinNTSetup select in USB folder **x64\sources** file install.wim or **install.esd** or install.swm and use **Setup**

Update of Windows 10 with preservation of Programs and User Data

- After starting up Windows 10 then **setup.exe** from USB will allow Update

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B. WinNTSetup Method - Boot from USB with **WIM** or **VHDX** file and use **WinNTSetup** and **ISO** file

This method gives more control to existing hard disk and you can simply install Windows 10 in **VHDX** file

1. Download MediaCreationTool and Create Win10x64.iso for Installing Win10x64

   First create the ISO file on an internal hard disk and then copy the ISO file to USB

2. Boot from USB after beep via **F8** menu and with **WIM** from RAMDISK or with **VHDX** as FILEDISK

3. Use **WinNTSetup** x64 and **ISO** file for **Installation** of Windows 10 x64 in **VHDX** or hard disk

More Info : Forum and WinNTSetup and Boot from USB and VHDX and Native Boot

More Info: WinCmd en bcdedit en bcdboot en bootsect en DiskPart en DISM

Windows 10 Install in detail:

0. Search on Microsoft Account, Win10 key and Mobo Drivers CD and Create PIN code and Computer name

   In Windows 10 x64 use produkey-x64 and Save All keys and Backup Data with SyncBack

1. Boot from USB after beep via **F8** menu - Select w10x64A-WIM or W10x64-VHDX in Boot Manager Menu

   If necessary Backup Data and with R-mouse on WinNTSetup x64 Menu choose Offline Windows - Save Product Keys

2. Start WinNTSetup x64 - click on the right tab for Installation Win10x64

3. Select location Windows Installation files - use R-mouse and choose Win10x64 ISO file

   Or in USB folder **x64\sources** select file install.wim of **install.esd** of install.swm

4. Select Boot and Installation (Target) Drive for Win10x64 Installation

5. Choose Win10 **Edition** - Home or Professional and Select desired **Tweaks**

6. Quick Format Installation Drive via F or via R-mouse menu in My Computer - choose NTFS

7. Select **Setup** and prepare Target drive for Win10x64 installation

8. Reboot and Install Win10x64

POST Install - Install missing drivers and install programs

1. In Device Manager, check if any drivers are missing

   R-mouse on My computer - Select Manage - Update missing drivers eg with Motherboard Driver CD

2. Taskbar - R-mouse on OneDrive icon > Settings - Disconnect This PC - enables to Move folders Location

3. On the Data partition, create 5x empty folder for Documents, Pictures, Downloads, Music and Videos

   R-mouse on icon > Properties > tab Location > Move ... Select the created folder

4. On the Data partition make new folder OneDrive and Use MS Account for connecting to new OneDrive location

5. Open Admin Command via Start > System and R-mouse on Command Prompt as Adminstrator

6. Set **Hibernate Off** - in command window type: **powercfg -h off**

7. After Restart Install 7-zip using file 7z1805-x64.exe

   In 7-zip File Manager menu Tools > Options - select file associations, such as zip 7z rar wim

8. Unpack registry_backup_portable.zip with R-mouse to Drive C:\registry_backup_portable

   Start TweakingRegistryBackup.exe and in Settings click Create Schedule (auto after startup)

9. Install programs such as Office, VLC player for DVD support, SyncBack_Setup.exe , Chrome browser

10. Connect Printer and after auto Installation Set as Default Printer

11. Config Settings > Network > Connection Properties > Select Private and Network > Sharing > Files and Printer

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Make 32 GB USB stick for Installing Win10x64 and Win10x86 (choose option both)

1. Download and Run MediaCreationTool

2. Make USB-stick 32 GB for Installing Win10x64 and Win10x86 (choose option both)

3. Copy Win10PE file **w10x64A.wim** if available to USB-Stick

4. Update BCD files from reserved copies in folders **boot** and **efi** to add **WIM** to USB Boot Menu

5. Download and Add to USB-Stick Explorer++ and WinNTSetup and BOOTICE

6. Add **BOOTICEx64.exe** to your **WinNTSetup3\Tools\x64** folder enables to use BOOTICE

Or instead point 4. create USB boot option in the BCD files manually with program BOOTICE

1. Run BOOTICEx64.exe - Choose BCD file on USB in efi\microsoft\boot

2. In BOOTICEx64.exe - Professional mode choose add **New WIM Boot entry** to BCD file

3. Edit Filename in Description and in ApplicationDevice and OSDevice - use **[boot]\w10x64A.wim, ...**

4. Use R-mouse to create New element - **LoadOptionsString** with **DISABLE_INTEGRITY_CHECKS**

5. Use R-mouse to create New element - **BootMenuPolicy** with **Legacy**

6. Select BCD file on USB in folder boot and repeat step 2-5

7. In **BIOS boot** folder BCD entry modify **winload.efi** in **winload.exe**

8. Keep BCD files in **boot** and **efi** folders as copy for future boot repair

More Info: VHDX and Native Boot and Forum and WinNTSetup and BOOTICE and Boot from USB

More Info: WinCmd and bcdedit and bcdboot and bootsect and DiskPart and DISM and EFI partition and GUID and MBR

YouTube Video Make VHDX and Make USB Win10 en Make USSD Win10 and USB AIO Linux **-** Win10_Inst in Forums MSFN and Reboot.pro

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Make Portable SSD 250 GB - 1st partition 20 GB FAT32 Set Active and 2nd partition NTFS

1. In **Disk Management** remove existing exFat Volume and Create new partitions

2. MBR partitioning with 1st partition 20 GB FAT32 Set Active and 2nd partition NTFS

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 x64 mode booting requires FAT32 partition with file efi\boot\bootx64.efi

Create Win10x64.vhdx via WinNTSetup x64 with option VHDX and Win10x64 ISO file

1. Start up with Windows 10 x64 and Start WinNTSetup x64
2. Use VHD Create and VHDX and make file **Win10x64.vhdx** on internal hard disk NTFS partition
3. Select EFI Boot Drive (Z :) and Installation Drive (Y: Mounted VHDX) for Win10x64 Installation
4. Select location Windows Installation files - use R-mouse and choose Win10x64 ISO file

   Or in USB folder **x64\sources** select file install.wim of **install.esd** of install.swm
5. Choose Win10 Edition eg Home or Professional and Select Tweaks **Disable Hibernate** and **Page file**
6. Select Setup and prepare VHDX for installation of Win10x64 - choose OK and not Reboot
7. Run BOOTICEx64.exe - Choose BCD of current system file Z:\efi\microsoft\boot
8. Professional mode - Choose Windows 10 (VHDX) entry - **BootMenuPolicy** set value **Legacy**
9. Reboot and install Win10x64 in VHDX and Install missing drivers
10. If not done set **Hibernate Off** - in admin command window type: **powercfg -h off**
11. Start > System > Config > System > Advanced system > Settings
12. If not done set Virtual Memory Settings > Advanced > Change > **No Pagefile**
13. Startup > Select as **Standardsystem** your normal Windows 10 and **Reboot** computer

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Portable SSD 250 GB with WIM and VHDX boot options

Use Disk Management to create MBR with 1st partition 20 GB FAT32 Set Active and 2nd partition NTFS

1. Copy the contents of the created USB-Stick to FAT32 formatted drive of Portable SSD
2. Run MediaCreationTool and create ISO file Win10x64_1803.iso on internal hard disk
3. Copy the created **ISO file Win10x64.iso** to NTFS drive of Portable SSD
4. Copy the created **VHDX file Win10x64.vhdx** to NTFS drive of Portable SSD
5. Rename **VHDX** filename into **W10x64.vhdx**
6. Update BCD files from reserved copies in folders **boot** and **efi** to add **VHDX** to USB Boot Menu
7. Download Explorer++ and WinNTSetup and BOOTICE - Add to NTFS drive of Portable SSD
8. Add **BOOTICEx64.exe** to your **WinNTSetup3\Tools\x64** folder enables to use BOOTICE

Or instead of point 6, make the USB boot option in the BCD files manually with BOOTICE program
1. Run BOOTICEx64.exe - Choose BCD file on Portable SSD - first in efi\microsoft\boot
2. In BOOTICEx64.exe - Professional mode choose add **New VHD Boot entry** to BCD file
3. Edit Filename in Description and in ApplicationDevice and OSDevice - use **[locate]\W10x64.vhdx**
4. Use R-mouse to create New element - **BootMenuPolicy** with **Legacy**
5. Select BCD file on Portable SSD in folder boot and repeat step 2 -4
6. In **BIOS boot** folder BCD entry modify **winload.efi** in **winload.exe**
7. File **bootvhd.dll** from C:\Windows\Boot\PCAT - copy to Portable SSD BIOS folder boot
8. Keep BCD files in **boot** and **efi** folders as copy for future boot repair

Or modify BCD files in **boot** and **efi** directory manually, **bootvhd.dll** is added
In admin cmd window you can use **bcdboot** to make boot option for VHDX
Similarly, use **bcdedit** with device and osdevice **vhd = [locate]\W10x64.vhdx** and detecthal on

If VHDX does not want to Boot then use BOOTICEx64.exe to change <UnknownDevice>
1. Run BOOTICEx64.exe - Choose BCD file on Portable SSD - first in efi\microsoft\boot
2. Professional mode - Select W10x64-VHDX entry
3. ApplicationDevice and OSDevice <UnkownDevice> Fix with VHDX Boot disk = Boot/Locate
4. Repeat for BCD file in folder boot on Portable SSD

WinNTSetup 3.9.1 — WimGAPI v. 10.0.15063 — uEFI SecureBoot

Windows 2000/XP/2003 | **Windows Vista/7/8/10/2008/2012**

Select location of Windows installation files
Windows 10 Home x64 nl-NL (Build 10.0.17134.1)

Q:\sources\install.esd   [Search...]

Select location of the Boot drive
2 GB free FAT32 Space Align 1024 K

GPT 🟢
BOOTMGR PBR 🟢
EFI PART 🟢

Z: [F]   [Search...]

Select location of the Installation drive
SSD_W10 192 GB free NTFS Space Align 1024 K

C: [F]   [Search...]

Options
Edition: [1 - Windows 10 Home v1803 ▼]   Mount Installation drive as: [C: ▼]
☐ Patch UxTheme.dll to allow unsigned Themes   ☐ drive letter preassignment
☐ Unattend   [...]   ☐ Mode: 🔴 Wimboot ▼
☐ Add Drivers   [...]   [Tweaks >>>]   [VHD >>>]

Status   [   ]   [Setup]

BCD (Boot Configuration Data) Edit

BcdStore(S)   Boot entry   Element

- BcdStore
  - Windows Boot Manager
  - Application objects
    - W10x64NL-VHD
    - **w10x64A-WIM**
    - Windows 10 Setup (64-bit)
    - Windows 10 Setup (32-bit)
  - Windows resume objects
    - Windows Resume Application
  - Tools objects
    - Windows Geheugencontrole
  - Inheritable objects
    - {resumeloadersettings}
    - {bootloadersettings}
    - Hypervisor Settings
  - Device objects
    - Device Options
    - {ramdiskoptions}

Element Name	Element Value
GUID alias	{32983eb8-f243-490f-b89f-b5e3c91a61f2}
ApplicationDevice	[boot]\w10x64A.wim,{ramdiskoptions}
ApplicationPath	\Windows\system32\boot\winload.efi
Description	w10x64A-WIM
PreferredLocale	en-US
LoadOptionsString	DISABLE_INTEGRITY_CHECKS
OSDevice	[boot]\w10x64A.wim,{ramdiskoptions}
SystemRoot	\Windows
BootMenuPolicy	Legacy
DetectKernelAndHal	True
WinPEMode	True

GUID: {32983eb8-f243-490f-b89f-b5e3c91a61f2}   Bcd store: P:\efi\microsoft\boot\bcd


BCD (Boot Configuration Data) Edit

BcdStore(S)   Boot entry   Element

- BcdStore
  - Windows Boot Manager
  - Application objects
    - W10x64NL-VHD
    - **w10x64A-WIM**
    - Windows 10 Setup (64-bit)
    - Windows 10 Setup (32-bit)
  - Windows resume objects
    - Windows Resume Application
  - Tools objects
    - Windows Geheugencontrole
  - Inheritable objects
    - {resumeloadersettings}
    - {bootloadersettings}
    - Hypervisor Settings
  - Device objects
    - Device Options
    - {ramdiskoptions}

| Element Name	Element Value
GUID alias	{175c596e-ba47-11e8-9a15-3052cb53659e}
ApplicationDevice	[locate]\W10x64NL.vhd
ApplicationPath	\Windows\system32\winload.efi
Description	W10x64NL-VHD
PreferredLocale	nl-NL
InheritedObjects	{bootloadersettings}...
IsolatedExecutionContext	True
AllowedInMemorySettings	35232165
OSDevice	[locate]\W10x64NL.vhd
SystemRoot	\Windows
AssociatedResumeObject	{175c596d-ba47-11e8-9a15-3052cb53659e}
NxPolicy	OptIn
BootMenuPolicy	Legacy
DetectKernelAndHal	True

GUID: {175c596e-ba47-11e8-9a15-3052cb53659e}   Bcd store: P:\efi\microsoft\boot\bcd
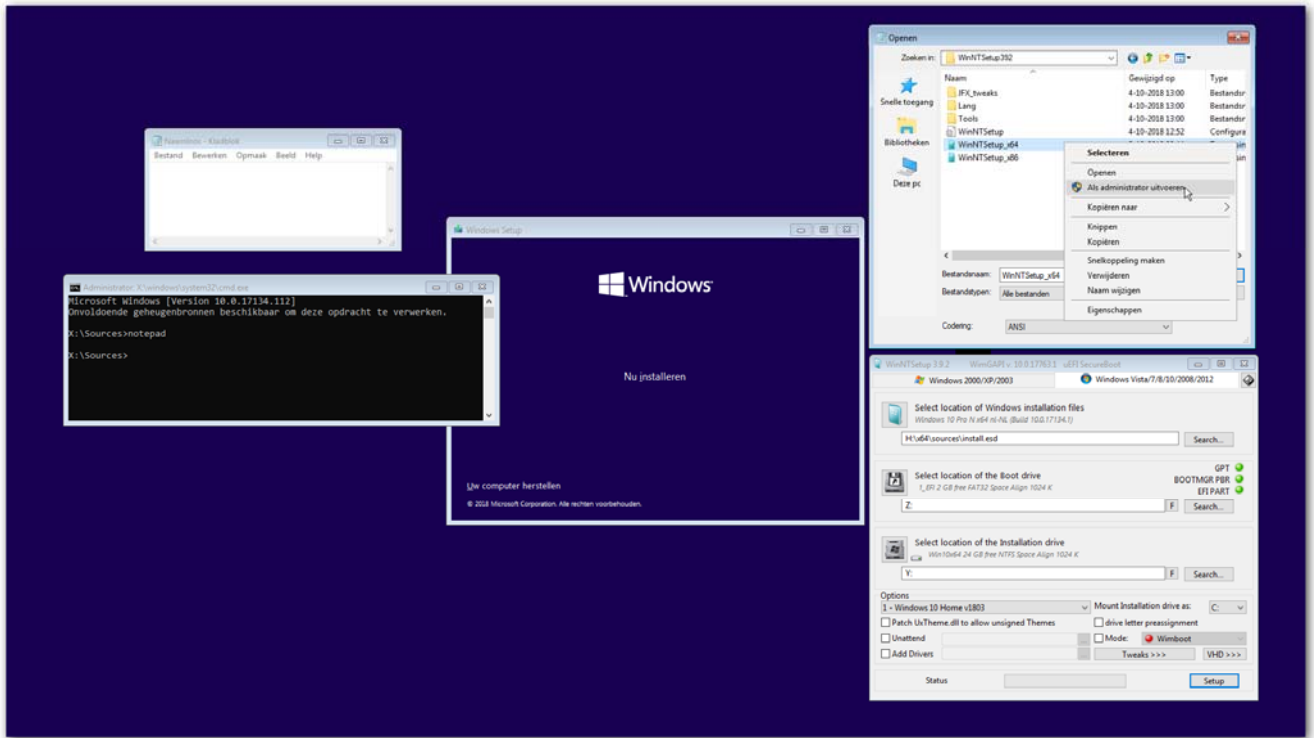
How to use WinNTSetup and other x64 Apps with Microsoft USB Boot Media

1. Download and Run MediaCreationTool - Download and Add Explorer++ and WinNTSetup and BOOTICE

2. Make USB-stick 32 GB for Installing Win10x64 and Win10x86 (choose option both)

3. Boot from USB after beep via **F8** menu and choose from menu: Windows 10 Setup (64 bits)

4. **Shift F10** gives Command Window for **Repair** with WinCmd and bcdedit and bcdboot and bootsect and DiskPart and DISM

5. **Cmd** Window run **notepad** - File Open - All files - R-mouse Run as admin **WinNTSetup** x64

6. In WinNTSetup select in USB folder **x64\sources** file install.wim or **install.esd** and Create VHDX and use **Setup**

7. Run BOOTICEx64.exe - Choose BCD file Z:\efi\microsoft\boot

8. Professional mode - Choose Windows 10 (VHDX) entry - **BootMenuPolicy** set value **Legacy**

9. **Reboot** and install Win10x64 in VHDX and Install missing drivers - Select as **Standardsystem** your normal Windows 10
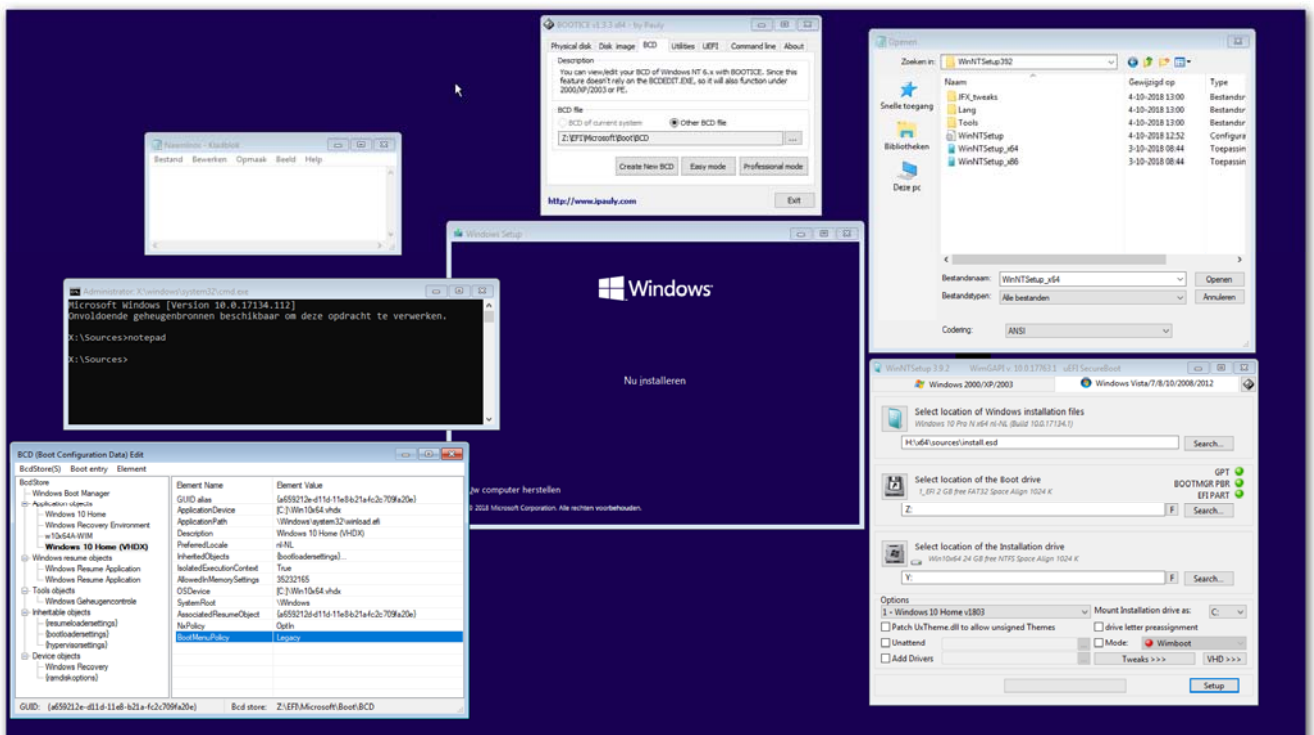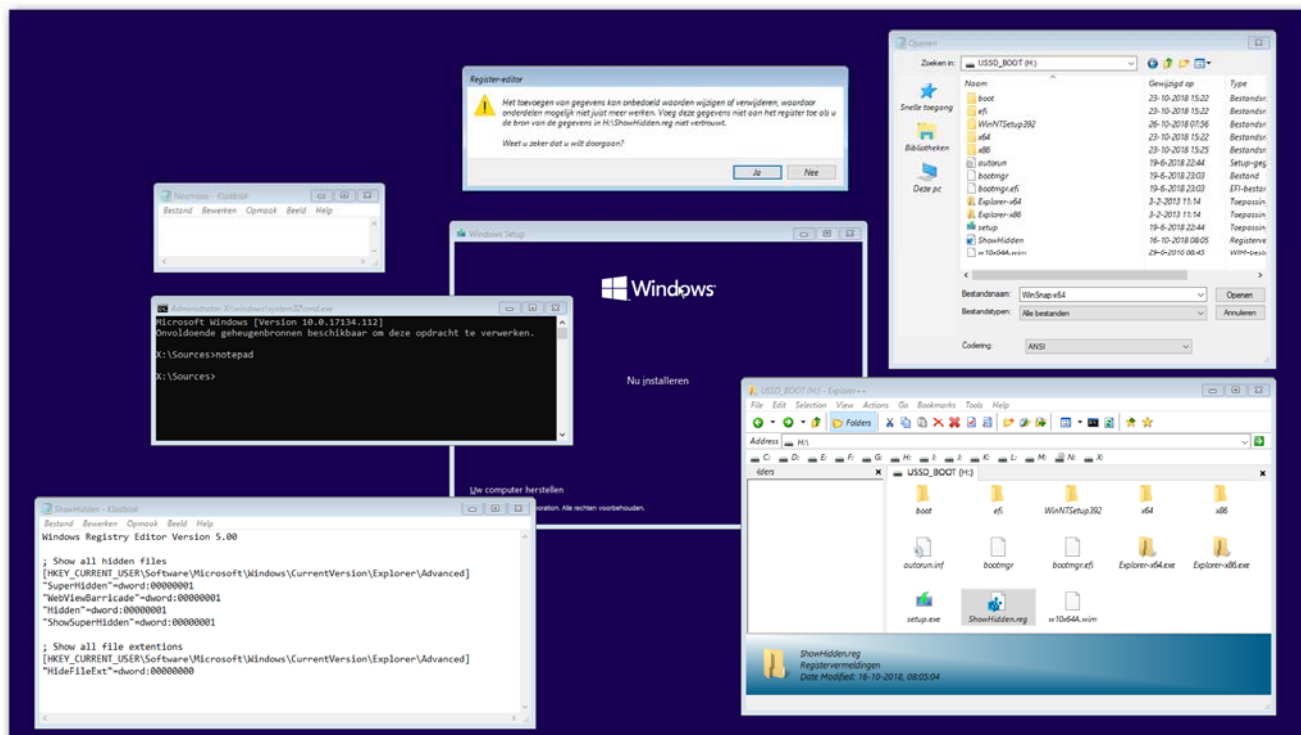
R-mouse and Run as administrator on **Explorer-x64.exe** gives Drive List and FileList

Double click on **ShowHidden.reg** adds tweak to registry, so that Hidden files are visible in BOOTICE

Portable utilities:

Explorer++ and WinNTSetup and BOOTICE and PStart and notepad++ and FastStone Capture and ImgBurn

CCleaner and Defraggler and Speccy and Recuva and CPU-Z and FreeCommander and HDTune

Produkey and Techware Uninfector and Gotcha Data Backup and imdiskinst and WinContig

WebBrowserPassView and WirelessKeyView

More Info: VHDX and Native Boot and Forum and WinNTSetup and BOOTICE and Explorer++ and Boot from USB

More Info: WinCmd and bcdedit and bcdboot and bootsect and DiskPart and DISM and EFI partition and GUID and MBR

More Info: DiskPart and UEFI/GPT-based hard drive partitions and BIOS/MBR-based hard drive partitions

YouTube Video Make VHDX and Make USB Win10 and Make USSD Win10 and USB AIO Linux - Win10_Inst in Forums MSFN and Reboot.pro

VHDX booting from portable SSD has the full power of Windows 10 x64.

That means it has the drivers for all hardware and it allows to use all Windows programs.

The Boot Menu for the **VHDX** is made only once with **BOOTICE** and reserved copies of BCD files can be used on other devices.

Updating the portable SSD for Install of new versions of Windows requires only to add new Windows setup ISO file.

There is no 4GB size limit for the ISO and you don't need to Integrate the ISO with any Toolpack and there is no need to Switch partitions.

The present approach is an easy to make all in one transparent solution for booting fast on any hardware in BIOS or UEFI secure mode

and allows then to Install any version of Windows by using **WinNTSetup** and Windows setup ISO file.

There is no need to boot first in Legacy mode. With **VHDX** you can boot straight into **UEFI Secure Boot mode**.

Microsoft Docs

How to make Win10XPE WIM file for booting from RAMDISK

Download: Win10XPE Builder - More Info: Win10XPE and Quick Guide

Download Win10_1803_English_x64.iso from TechBench

Mount and Extract the ISO to Folder **Win10_1803_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_1803_English_x64 on your Harddisk and Start building with **Play** button

Use UEFI_MULTI and Select Win10XPE\ISO\sources\boot.wim as your Boot Image file to make FAT32 USB-Stick 32 GB Or Portable SSD

More Info: Win10_Inst in Forums MSFN and Reboot.pro and UEFI_MULTI

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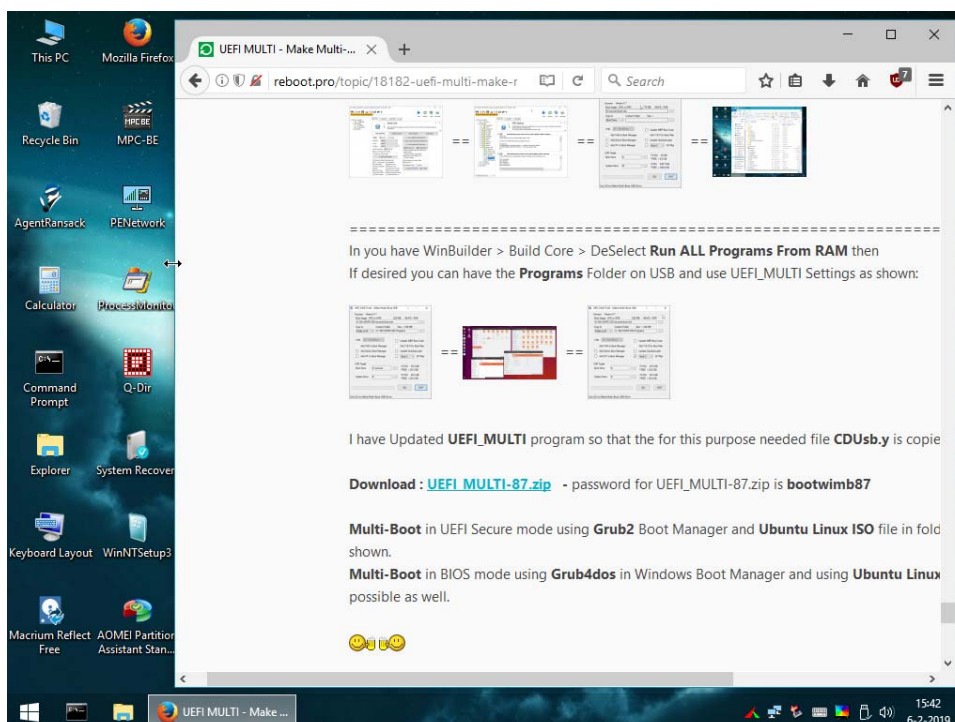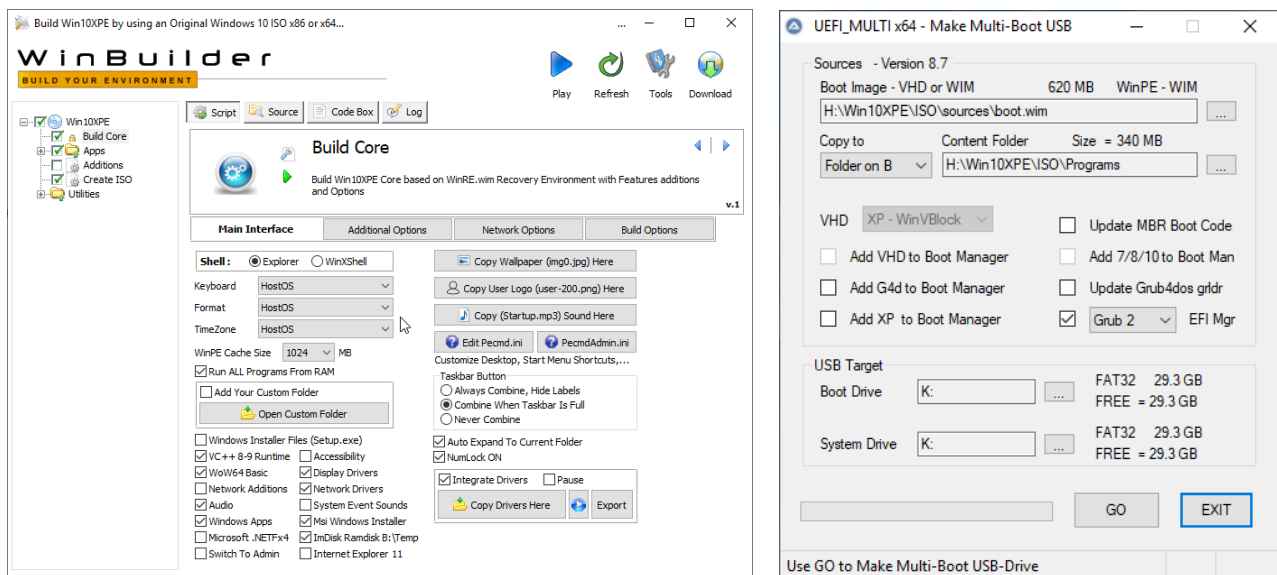
If desired (but not preferred by me) you can have WinBuilder > Build Core > DeSelect Run ALL Programs From RAM

and have the **Programs** Folder on USB and then use UEFI_MULTI Settings as shown

I have Updated UEFI_MULTI program so that the file **CDUsb.y** needed for this purpose is copied to USB root

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How to make USB Drive booting with various Linux ISO versions in BIOS and in UEFI Secure mode

1. Make FAT32 USB Drive (Max = 32 GB) booting with Microsoft Boot Manager Menu
    Microsoft Media Creation Tool (Architecture both 32 and 64 bits) Or Other Format Tool can be used
2. Use UEFI_MULTI to Add Grub4dos for booting in BIOS mode and Grub2 EFI Manager of Linux Mint for booting in UEFI Secure mode
3. In USB folder **images** Add your Linux ISO file - preferred is linuxmint-19-cinnamon-64bit-v2.iso
4. Boot from USB after beep via F8 menu in BIOS mode with Grub4dos menu Or in UEFI Secure mode with Grub2 menu and select Linux OS

Grub4dos entries can be modified in **menu.lst** or **menu_Linux.lst** for booting in BIOS mode various Linux ISO files
Grub2 entries can be modified in **boot\grub\grub.cfg** or **grub_Linux.cfg** for booting in UEFI Secure mode various Linux ISO files

In case UEFI Grub2 is not available as Boot option in your F8 Boot Menu then you need to use BOOTICE to Add UEFI entry
Select as UEFI Boot entry on USB the Linux Mint Grub2 file **\EFI\Boot\BOOTx64.EFI**

Download: UEFI_MULTI - password is **bootwimb**

More Info - Linux Mint - Knoppix Live - Ubuntu - Porteus - All booting in **UEFI Secure** mode using Grub2 EFI Manager of Linux Mint

UEFI Secure booting - In folder **EFI\BOOT** files **bootx64.efi** and **grubx64.efi** are replaced by UEFI_MULTI with secure files of **Linux Mint**
UEFI_MULTI can be used to make Portable SSD booting with Grub4dos and Grub2 and WIM and VHDX

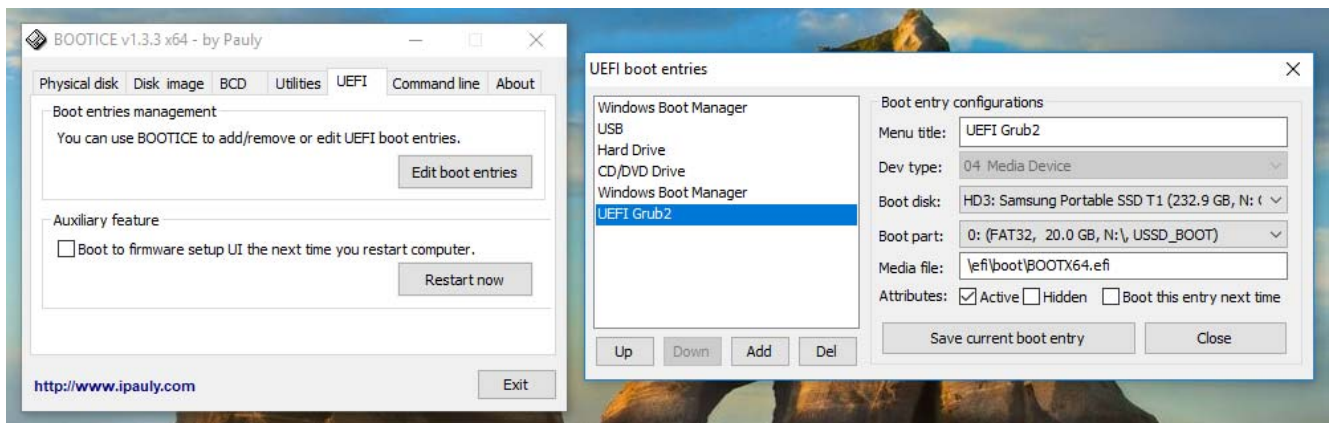**How to make USB Drive booting with various AIO Linux versions in BIOS and in UEFI Secure mode**

1. Make FAT32 USB Drive (Max = 32 GB) booting with Microsoft Boot Manager Menu
    Microsoft Media Creation Tool (Architecture both 32 and 64 bits) Or Other Format Tool can be used
2. Download and Unpack AIOBoot-v0.9.8.17.7z - Don't use Extractor and Don't Overwrite existing Microsoft files
    Unpack and Copy content of folder AIOBoot-v0.9.8.17 to FAT32 USB Drive, but keep existing Microsoft Boot files
3. Use UEFI_MULTI to Add Grub2 EFI Manager of Linux Mint, which fixes AIO Boot for booting in BIOS and UEFI Secure mode
4. On USB run **AIOCreator.exe** - Select Integration Linux OS and your Linux ISO - preferred is linuxmint-19-cinnamon-64bit-v2.iso
5. Boot from USB after beep via F8 menu in UEFI or in BIOS mode with Grub2 menu and Select your Linux OS

UEFI Secure booting - In folder **EFI\BOOT** files **bootx64.efi** and **grubx64.efi** are replaced by UEFI_MULTI with secure files of **Linux Mint**
UEFI_MULTI will copy folder AIO\grub to boot\grub and replace file boot\grub\Main.cfg to fix AIO Boot for UEFI mode booting
UEFI_MULTI will Add New **Grub2** entry for BIOS mode booting with Boot file **\AIO\grub\grub2win**
AIO Boot creates folder AIO\Files\Linux with files from extracted Linux ISO
AIO Boot creates folder AIO\Menu\Linux with Grub2 entries in Linux cfg files and creates Grub4dos entries in file AIO\Menu\Linux.lst

More Info: Linux Mint - Knoppix Live - AIO Boot - AIO Info - AIO Reboot and Win10_Inst at MSFN and Reboot.pro - UEFI_MULTI

YouTube Video Make VHDX and Make USB Win10 and Make USSD Win10 and USB AIO Linux

Make 32 GB USB stick with Linux AIO and booting wth BootManager

1. Download and Run MediaCreationTool

2. Make USB-stick 32 GB for Installing Win10x64 and Win10x86 (choose option both)

3. Rename folder **efi** into **ms-efi**

4. Download and Unpack AIOBoot-v0.9.8.17.7z - Don't use Extractor with Auto install Bootloader

5. Copy content of folder AIOBoot-v0.9.8.17 to USB-stick

6. On USB run **AIOCreator.exe** - Select Integration Linux OS and your Linux ISO **linuxmint-19-cinnamon-64bit-v2.iso** - preferred

7. Rename EFI\BOOT\bootia32.efi into aio-bootia32.efi

8. Copy file ms-efi\boot\bootia32.efi to folder EFI\BOOT

9. Copy folder **microsoft** from folder **ms-efi** to folder **EFI**

10. Copy file ms-efi\boot\bootx64.efi to folder EFI\Microsoft\Boot and rename as file **bootmgfw.efi**

11. Copy folder **grub** from folder AIO to folder boot - UEFI booting grubx64.efi expects file boot\grub\grub.cfg

12. In file Main.cfg of folder boot\grub make new boot entry for UEFI booting of Windows BootManager

menuentry "[b] Windows 10 x64 EFI USB BootManager" --hotkey=b {

  chainloader /efi/microsoft/boot/bootmgfw.efi

}

13. In **BOOTICE** select file boot\bcd - Easy mode - Add New **Grub2** entry for BIOS - Boot file **\AIO\grub\grub2win**

14. Boot from USB after beep via **Delete** with BIOS Setup Menu and then **Disable UEFI Secure** booting - needed for refind and clover

15. Boot from USB after beep via **F8** menu in UEFI or in BIOS with Grub2 menu and Select your Linux OS

For **UEFI Secure** booting you need in folder **EFI\BOOT** to replace files **bootx64.efi** and **grubx64.efi** with secure files of your **mint Linux Mint** files OK for linuxmint-19-cinnamon-64bit-v2.iso and Knoppix runtimelivecd.iso and ubuntu-18.10-desktop-amd64.iso

More Info: Linux Mint and Knoppix Live and Ubuntu and AIO Boot and AIO Info and AIO Reboot and **Win10_Inst** MSFN and Reboot.pro
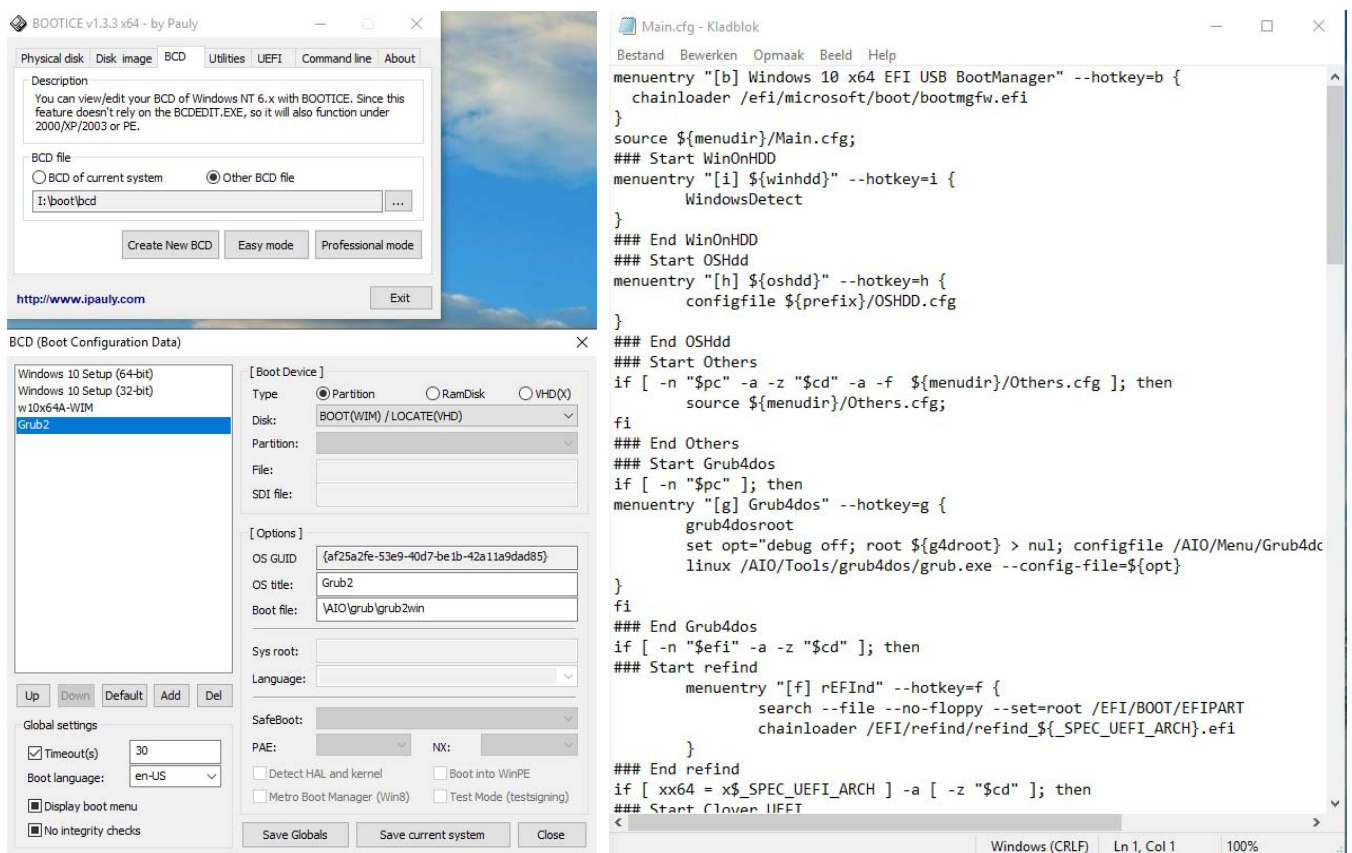
How to Make Computer booting with Linux and Windows

A. UEFI Secure Multi-Boot Computer booting with Linux and Windows (New Computer > 2012)

- In Windows Disk Management use R-mouse menu to Shrink partition of drive C: by 10 GB

- Create a **FAT32** primary partition of 10 GB to host the Linux ISO files

- Make folder **images** on FAT32 drive and copy Ubuntu and other Linux ISO files to folder images

- In Windows 10 x64 run WinNTSetup x64 so that EFI partition is mounted as drive Z:

- Or use R-mouse to open **admin cmd** window and mount the EFI partition using **mountvol Z: /s**

- Use R-mouse menu to **run as administrator** Explorer-x64.exe of Explorer++

- Rename Microsoft file **bootx64.efi** in folder Z:\EFI as file **org-bootx64.efi**

- Use download Linux_MULTI Or Mount Linux Mint ISO file in Explorer using double-click

- Copy folder boot and EFI of Linux Mint to your EFI drive Z: so that computer can boot with Grub2 of Linux Mint

- Edit if needed file **boot\grub\grub.cfg** or **grub_Linux.cfg** in drive Z: according to samples given in download Linux_MULTI

- Take into account your FAT32 disk number and partitioning type and partition number e.g. use **(hd0,gpt3)** or **(hd1,msdos1)**

- In Windows 10 use BOOTICE to make **UEFI Grub2** entry for the internal disk having FAT32 partition.

- If desired move the UEFI Grub2 entry with **Up** to the first place so that Grub2 has the highest **Boot Priority**

- Use BOOTICE to adjust the BCD of current system in Professional mode

- Adjust Windows Boot entry setting **BootMenuPolicy Legacy** so that there is no reboot of Windows 10

- Use **F8** Boot Menu to Select **UEFI Grub2** entry Or use the **auto** sequence for booting the computer:

UEFI Grub2 Menu with Linux ISO entries >> **Windows Boot Manager** with Win 10 x64 and WIM and VHDX >> **Windows 10 x64 OS**

BOOTICE can be used to Add **WIM** and **VHDX** to Boot Manager Menu as described in Win10_Inst_Eng.pdf (this document)

More Info - Linux Mint - Knoppix Live - Ubuntu - Porteus - UEFI_MULTI - Grub2 Manual - Grub4dos Guide - Forums MSFN and Reboot.pro

Download - Explorer++ and WinNTSetup and BOOTICE and Linux_MULTI and UEFI_MULTI

Ubuntu Or Linux Mint ISO with persistence in UEFI Secure Multi-Boot with Windows 10 x64 can be realised as follows:

- Download Make_Ext Or Download Easy2Boot

- In folder Easy2Boot_v1.A8_ISO\docs\Make_Ext Run **Make_Ext.exe**

- Use **File Name** and Volume Name **casper-rw** with ext3 filesystem and size e.g. 1000 MB

- Make Ext file **casper-rw** to be located in FAT32 drive folder **\images\ubuntu** and /or **\images\linuxmint**

- In Windows 10 x64 run WinNTSetup x64 so that EFI partition is mounted as drive Z:

- Use R-mouse menu to **run as administrator** Explorer-x64.exe of Explorer++

- Edit if needed file **boot\grub\grub.cfg** or **grub_Linux.cfg** as given in download Linux_MULTI

- Take into account your FAT32 disk number and partitioning type and partition number e.g. use **(hd0,gpt3)** or **(hd1,msdos1)**

- Boot with **UEFI Grub2** of Linux Mint and select ISO Ubuntu - persistence menuentry Or Select **Windows Boot Manager**

B. BIOS Multi-Boot Computer booting with Linux and Windows (Old Computer < 2012)

- In Windows Disk Management use R-mouse menu to Shrink partition of C: drive by 10 GB

- Create a **FAT32** primary partition of 10 GB to host the Linux ISO files

- Make folder **images** on FAT32 drive and copy Ubuntu and other Linux ISO files to folder images

- For Persistence Use Make_Ext to create file **casper-rw** with ext3 filesystem and size 500 MB in folder **images\ubuntu**

- BOOTICE is used to add New RealMode **Grub4dos** entry to **boot\bcd** Windows BootManager

  for **BIOS** booting support with Boot file **\grldr.mbr**

- Add to Drive C: files **grldr** and **grldr.mbr** and **menu.lst** and **menu_Linux.lst** with entries for Linux ISO files given in Linux_MULTI

- Boot and in Windows Boot Manager Menu Select **Grub4dos** and then in Grub4dos Menu Select your Linux ISO file

BOOTICE v1.3.3 x64 - by Pauly

Physical disk | Disk image | BCD | Utilities | UEFI | Command line | About

Boot entries management

You can use BOOTICE to add/remove or edit UEFI boot entries.

Edit boot entries

Auxiliary feature

☐ Boot to firmware setup UI the next time you restart computer.

Restart now

http://www.ipauly.com   Exit

UEFI boot entries

Windows Boot Manager
UEFI: IP4 Intel(R) Ethernet Connection (
UEFI: IP6 Intel(R) Ethernet Connection (
Hard Drive
CD/DVD Drive
UEFI Grub2

Boot entry configurations

Menu title: UEFI Grub2
Dev type: 04 Media Device
Boot disk: HD0: Samsung SSD 850 EVO 250GB (232.9 GB,
Boot part: 0: (FAT32, 2.9 GB, ESP)
Media file: \EFI\Boot\BOOTx64.EFI
Attributes: ☑ Active ☐ Hidden ☐ Boot this entry next time

Save current boot entry   Close

Up | Down | Add | Del

BCD (Boot Configuration Data)

Windows 10 Home
w10x64A-WIM
Win10x64NL-VHD
Grub4dos

[Boot Device]

Type: ● Partition ○ RamDisk ○ VHD(X)
Disk: BOOT(WIM) / LOCATE(VHD)
Partition:
File:
SDI file:

[Options]

OS GUID: {67237e76-02d3-406c-8660-359a979635f7}
OS title: Grub4dos
Boot file: \grldr.mbr
Sys root:
Language:

Up | Down | Default | Add | Del

New Windows 7/8/8.1 entry
New Windows XP/2003 entry
New RealMode entry (Grub/Linux)
New VHD boot entry
New WIM boot entry

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Description

You can view/edit your BCD of Windows NT 6.x with BOOTICE. Since this feature doesn't rely on the BCDEDIT.EXE, so it will also function under 2000/XP/2003 or PE.

BCD file

● BCD of current system   ○ Other BCD file

Create New BCD | Easy mode | Professional mode

http://www.ipauly.com   Exit

Global settings

☑ Timeout(s)   5
Boot language: nl-   ☐ Boot into WinPE
☑ Display boot menu   ☐ Test Mode (testsigning)
☑ No integrity checks

Save Globals | Save current system | Close