Installing Windows 11 (from ISO) on real hardware (without SB and/or TPM 2.0 support)

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Supported Windows 11 Version:	21996.1

WIP

Overview

Here's some quick notes on installing Windows 11 on real hardware from ISO in case when hardware doesn't support TPM and/or SB (Secure Boot). For this example, we're assuming a system with *no* other critical disks installed, and a helpful host system being around to set up the initial image.

This guide has been created for the 21996.1 version of Windows 11.

Prerequisites

Host

- Windows 10 Iron or Cobalt (20279 or 21xxx+) - though 20H2 can also work just fine
- Utility USB flash drive of ~8GB+

Target

- Boot drive larger than 50 GiB

Common: Files & Tools

1. Download Windows 11 ISO
2. Download Windows USB/DVD Tool
3. Install it

Prepare USB Drive for Flashing

1. Get an empty USB Flash drive (with size at least 8GB)
2. Use Windows USB/DVD Tool
3. Follow its instructions to flash your Windows 11 ISO onto the USB Flash drive

Apply Your Image

Clean Disk & Lay Out Partitions

1. Boot from USB Flash drive
2. Open **diskpart**
3. Type this:

```
list disk
```

Take a note of the name of your device's main disk drive, e.g., `disk 0` 4. Type this (where `disk 0` is your device's main disk drive):

```
select disk 0
clean
```

5. Follow the instructions for UEFI-based PCs from docs.microsoft.com to properly lay out your device's main disk for Windows 11 installation:

```
rem == CreatePartitions-UEFI.txt ==
rem == These commands are used with DiskPart to
rem    create four partitions
rem    for a UEFI/GPT-based PC.
rem    Adjust the partition sizes to fill the drive
rem    as necessary. ==
select disk 0
clean
convert gpt
rem == 1. System partition =========================
create partition efi size=100
rem    ** NOTE: For Advanced Format 4Kn drives,
rem              change this value to size = 260 **
format quick fs=fat32 label="System"
assign letter="S"
rem == 2. Microsoft Reserved (MSR) partition =======
create partition msr size=16
rem == 3. Windows partition ========================
rem ==    a. Create the Windows partition ==========
create partition primary
rem ==    b. Create space for the recovery tools ===
rem       ** Update this size to match the size of
rem          the recovery tools (winre.wim)
rem          plus some free space.
shrink minimum=500
rem ==    c. Prepare the Windows partition =========
format quick fs=ntfs label="Windows"
assign letter="W"
rem === 4. Recovery partition ======================
create partition primary
format quick fs=ntfs label="Recovery"
assign letter="R"
set id="de94bba4-06d1-4d40-a16a-bfd50179d6ac"
gpt attributes=0x8000000000000001
list volume
```

6. Mark your Windows partition as active in diskpart:

```
list partition
note the name of your Windows partition (e.g., "partition 3")
```

```
select partition 3
active
```

7. Type **exit** to leave **diskpart**

Apply Image

1. Check which OS SKU you want to install:

```
dism /Get-WimInfo /WimFile:D:\Sources\install.wim <— here D:\ is the drive name of your USB drive
```

2. Remember its index and use it to apply its image to your Windows partition (e.g., "W"):

```
dism /Apply-Image /ImageFile:D:\Sources\install.wim /index:1 /ApplyDir:W:\
```

3. Create boot records:

```
W:\Windows\System32\bcdboot G:\Windows
```

If you'll see "Failure when attempting to copy boot files" error message then use this command instead:

```
W:\Windows\System32\bcdboot c:\windows /s s: /f ALL
```

4. Type **exit** in the **Command Prompt window**

Load Windows 11

At this time, your Windows 11 will boot. If everything is correct you should see the OOBE.

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