

# How to use DISM to copy and restore images FFU

As of Windows 10 version 1709, you can use DISM to capture and deploy FFU (Full Flash Update) images. FFU captures each drive sector to a container file containing the exact image of the drive.

This means that while a WIM file can be applied to any hard drive or SSD capacity, an FFU image can only be applied (deployed) to drives of the same or larger capacity. captured disc. How much storage space is used or available on that drive only affects the size of the captured FFU image file.

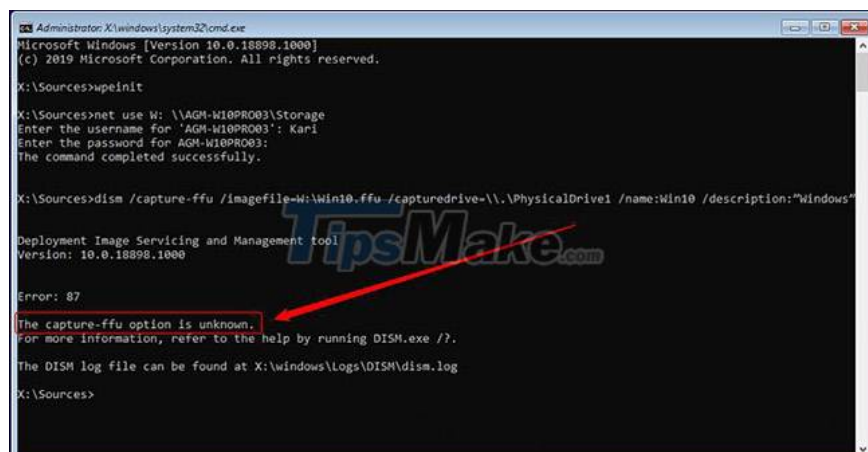
Using DISM with FFU is also useful if you have to replace your HDD or SSD. Just take a FFU image, replace the drive and apply the image to the new drive. Image FFU is a 100% exact copy of the drive, sector by sector. Capturing and deploying FFU images is quick, in fact much faster than using any third-party software.

In this tutorial, **Tipsmake** will demonstrate how to capture and deploy an FFU image using DISM.

**Please note** : FFU images can only be created from a GPT-formatted drive. Similarly, it can only be deployed on GPT drives. Image FFU does not work with MBR formatted drives.

## 1. Create WinPE ISO or USB

1.1. Although it is possible to create FFU images since version 1709, Windows 10 DISM cannot capture or apply FFU images:



1.2. To capture and apply an FFU image, you will need to boot your computer or virtual machine from Windows PE media. See this guide for how to do it: [Instructions to create WinPE IOS file, USB boot WinPE.](#)

## 2. Take a FFU image to share over the network

2.1. Boot the computer or virtual machine you want to capture from WinPE.

2.2. Usually when copying a drive, the user cannot use it to store the copied image. In this case, the only option is to use network sharing.

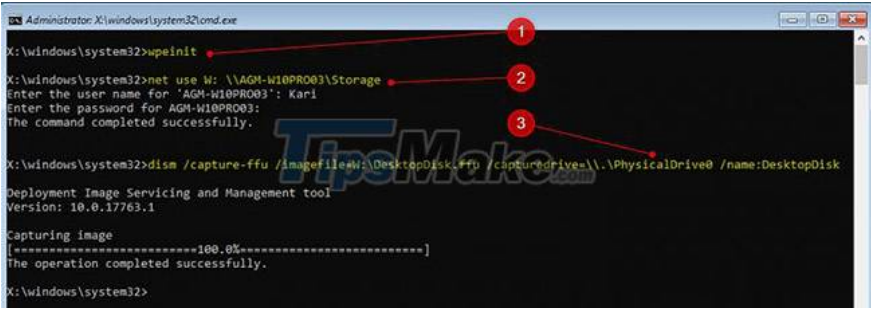
2.3. When the WinPE Command Prompt starts, the wpeinit command will run to initialize and activate the network connection.

```
net use W: PC_NameShareName
```

The drive letter W: in the above command is just a suggestion, you can use any unused character. When prompted, enter your username and password to access that share.

2.4. Enter the following command to capture Disk 0 (PhysicalDrive0) and share it over the network mapped as an FFU image file (.ffu extension):

```
dism /capture-ffu /imagefile=W:DesktopDisk.ffu /capturedrive=\\.PhysicalDrive0 /name:DesktopDisk
```



The screenshot shows a Windows PE Command Prompt window with the following text:

```
X:\windows\system32>wpeinit
X:\windows\system32>net use W: \\AGH-W10PRO03\Storage
Enter the user name for 'AGH-W10PRO03': Kari
Enter the password for AGH-W10PRO03:
The command completed successfully.
X:\windows\system32>dism /capture-ffu /imagefile=W:DesktopDisk.ffu /capturedrive=\\.PhysicalDrive0 /name:DesktopDisk
Deployment Image Servicing and Management tool
Version: 10.0.17763.1
Capturing image
[=====100.0%=====]
The operation completed successfully.
X:\windows\system32>
```

Red circles with numbers 1, 2, and 3 are overlaid on the screenshot, pointing to the wpeinit command, the net use command, and the dism command respectively.

The name of the captured FFU image can be anything you want, but the extension should be .ffu.

### 3. Capture FFU image to local drive

3.1. Booting into WinPE may display a different drive letter than what you normally see when booting normally with Windows. To make sure you're using the correct drive letter for the partition used to save the FFU image, you'll need DISKPART.

3.2. When WinPE Command Prompt is displayed, enter the following command to start Windows Disk Partitioning Utility:

```
diskpart
```

3.3. Enter the following command to check the drive number for all connected internal and external hard drives:

```
list disk
```

Note the drive number for both the drive you want to capture to the FFU image and the drive used to store the image file. In this example, the author of the article will capture disk 0 and save the image on disk 1.

3.4. Select the drive where the image will be saved with the following command, replacing # with the actual drive number:

```
sel disk #
```

3.5. Check the available partitions on the selected drive with the following command:

```
list part
```

3.6. In the case of this example, the author will save to Partition 4. Select it with the following command:

```
sel part 4
```

3.7. To get its drive letter, check the partition details with the following command:

```
det part
```

The author notes the drive letter under the Ltr column. In the example case, the captured FFU image will be saved to the F: drive.

3.8. Exit DISKPART with the following command:

```
exit
```

```
Administrator: X:\windows\system32\cmd.exe
X:\windows\system32>diskpart
Microsoft DiskPart version 10.0.17763.1
Copyright (C) Microsoft Corporation.
On computer: MININT-7HK6037

DISKPART> list disk

Disk ### Status      Size  Free  Dyn  Gpt
-----
Disk 0   Online        493 GB   0 B   *
Disk 1   Online        932 GB  1024 KB *

DISKPART> sel disk 1
Disk 1 is now the selected disk.

DISKPART> list part

Partition ### Type              Size  Offset
-----
Partition 1  Reserved         15 MB   17 KB
Partition 2  Primary           50 GB   16 MB
Partition 3  Primary           76 GB   50 GB
Partition 4  Primary           805 GB  126 GB

DISKPART> sel part 4
Partition 4 is now the selected partition.

DISKPART> det part

Partition 4
Type       : ebd0a0a2-b9e5-4433-87c0-68b6572699c7
Hidden     : No
Required   : No
Atrib     : 0000000000000000
Offset in Bytes: 136963114496

Volume ### Ltr Label      FS      Type  Size  Status  Info
-----
* Volume 6  F  Backup    NTFS    Partition  805 GB  Healthy

DISKPART> exit
```

3.9. Capture the drive to an FFU image with the following command:

```
dism /capture-ffu /imagefile=F:\DesktopDisk.ffu /capturedrive=.PhysicalDrive0 /na
```

```
Volume ## Ltr Label Fs Type Size Status Info
-----
* Volume 6 F Backup NTFS Partition 805 GB Healthy

DISKPART> exit
Leaving DiskPart...

X:\windows\system32>dism /capture-ffu /ImageFile-F:\DesktopDisk.ffu /Capturedrive-\\.\PhysicalDrive0 /name:DesktopDisk

Deployment Image Servicing and Management tool
Version: 10.0.17763.1

Capturing image
[-----100.0%-----]
The operation completed successfully.

X:\windows\system32>
```

In this example, the above command captures disk 0 (PhysicalDrive0) to drive F: as DesktopDisk.ffu file.

## 4. Apply the FFU . image

### 4.1. Boot from WinPE

4.2. Check the drive number you want to apply the image. If the image will be applied from the local drive, check the lettering for the partition where the image is saved. See steps 3.2 to 3.9 for how to use DISKPART for this.

4.3. In this example case, the author will apply an image from the network share, containing the image. That sharing mapping is shown in step 2.3.

4.4. The author will apply the DesktopDisk.ffu FFU image from the W: mapped share to disk 0 with the following command:

```
dism /apply-ffu /ImageFile=W:DesktopDisk.ffu /ApplyDrive:.\PhysicalDrive0
```

```
Administrator: X:\windows\system32\cmd.exe
Copyright (C) Microsoft Corporation.
On computer: MININT-LKUGQH4

DISKPART> list disk

Disk ##  Status      Size  Free  Dyn  Gpt
-----
Disk 0   Online        493 GB   0 B   *
Disk 1   Online        932 GB  1024 KB

DISKPART> exit
Leaving DiskPart...

X:\windows\system32>net use W: \\AGM-W10PR003\Storage
Enter the user name for 'AGM-W10PR003': Kari
Enter the password for AGM-W10PR003:
The command completed successfully.

X:\windows\system32>dism /apply-ffu /ImageFile=W:DesktopDisk.ffu /ApplyDrive:.\PhysicalDrive0

Deployment Image Servicing and Management tool
Version: 10.0.17763.1

Applying image
[-----100.0%-----]
The operation completed successfully.

X:\windows\system32>
```

An identical sector-by-sector copy image has been applied to the drive. Booting the PC from that drive, Windows will be exactly the same as when the image was taken, except Windows needs to be reactivated if the image applies to a different machine than the one it was captured on and the new machine doesn't have a digital license now available.

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