

How can I change the location of docker images when using Docker Desktop on WSL2 with Windows 10 Home?

Asked 3 years, 10 months ago Modified 2 months ago Viewed 125k times



I've just upgraded to Windows 10 Home May 2020, [activated WSL2](#), and installed [Docker Desktop](#).

325



WSL2 must be installed in my system disk, which is a small SSD. I don't want to fill it with docker images. How do I change the docker images path? I'd like to use a path in my big Windows filesystem.



The [image location](#) is somewhat confusing. I believe it is in `/mnt/wsl/docker-desktop-data/`.

How do I change the directory of docker images inside WSL2? May I change docker configuration to select a path inside `/mnt/d`, or mount a path from `/mnt/d` over docker data dirs?

docker

windows-10

docker-desktop

wsl-2

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edited Feb 6, 2021 at 19:18



questionto42

8,248 ● 5 ● 67 ● 101

asked Jun 18, 2020 at 2:21



neves

36.4k ● 29 ● 175 ● 205

12 Answers

Sorted by: Highest score (default)



The WSL 2 docker-desktop-data vm disk image would normally reside in:

`%USERPROFILE%\AppData\Local\Docker\wsl\data\ext4.vhdx`

782



Follow the following to relocate it to other drive/directory, with all existing docker data preserved (tested against Docker Desktop 2.3.0.4 (46911), and continued to work after updating the 3.1.0 (51484)):



First, shut down your docker desktop by right click on the Docker Desktop icon and select Quit Docker Desktop



Then, open your command prompt:

```
wsl --list -v
```

You should be able to see, make sure the STATE for both is Stopped.(`wsl --shutdown`)

NAME	STATE	VERSION
* docker-desktop	Stopped	2
docker-desktop-data	Stopped	2

Export docker-desktop-data into a file

```
wsl --export docker-desktop-data "D:\Docker\wsl\data\docker-desktop-data.tar"
```

Unregister docker-desktop-data from wsl, note that after this, your `ext4.vhdx` file would automatically be removed (so back it up first if you have important existing image/container):

```
wsl --unregister docker-desktop-data
```

Import the docker-desktop-data back to wsl, but now the `ext4.vhdx` would reside in different drive/directory (Note that you will need to create `D:\Docker\wsl\data\` if it does not already exist):

```
wsl --import docker-desktop-data "D:\Docker\wsl\data" "D:\Docker\wsl\data\docker-desktop-data.tar" --version 2
```

Start the Docker Desktop again and it should work. In the event that Docker Desktop doesn't start correctly, restart the PC and try again.

You may delete the `D:\Docker\wsl\data\docker-desktop-data.tar` file (NOT the `ext4.vhdx` file) if everything looks good for you after verifying

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edited Oct 5, 2023 at 9:22

answered Sep 5, 2020 at 9:10



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1 • 1



Franks CHOW
7,836 • 1 • 10 • 5

-
- 41 Perfect! I wanted to use my HDD instead of SSD for docker images. This was what I was looking for.
– [Wajahath](#) Sep 14, 2020 at 6:56
-
- 4 Perfect. The only add-on I can add to this thread, is that I had just purged my cache, and I didn't had this docker-desktop-data present on listing, so I had to start Docker again and quit it in order to create the docker-desktop-data WSL distro again. – [Danton Heuer](#) Oct 5, 2020 at 4:43
-
- 17 Note that you will also need to shutdown wsl before exporting (I got a TimeoutException without that): `wsl --shutdown`. – [Julian Didier](#) Oct 19, 2020 at 8:24
-
- 10 I suffered from low disk space for so long ... Thank you a lot ! – [Disappointed](#) Nov 9, 2020 at 15:58
-
- 14 I had problems related to 'The system cannot find the path specified.', Solved by creating directory 'D:\Docker\wsl\data' directory before procedure. – [Sergey Dvoreckih](#) Dec 9, 2021 at 17:07
-



61

1. Stop Docker Desktop

2. Relocate Docker folder from `C:\Users\xxx\AppData\Local\Docker` to new path



3. Make sure `C:\Users\xxx\AppData\Local\Docker` is no longer there

4. Open a cmd in administrator mode

5. Run the following command that will create a symbolic link in the cmd window with the appropriate from and to path

```
mklink /j "C:\Users\xxx\AppData\Local\Docker" "path to where you relocated your docker folder"
```

6. Restart Docker Desktop

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edited Feb 22, 2021 at 19:45

answered Feb 22, 2021 at 17:39



dejanualex

4,102 ● 6 ● 27 ● 42



Attila Badi

611 ● 5 ● 3

3 this is easy and saved my disk, thanks =D – [Ramon Veloso](#) Nov 1, 2022 at 4:04

i did the same steps the docker in appdata\local\Docker shows that shortcut icon as well. but the storage keeps building up despite running the mklink command. did not work for me. – [Ashutosh Soni](#) Feb 26, 2023 at 7:01

3 this worked a lot better than editing the config and sticking the VMs onto my HDD via the `.tar` import method. Thank you! – [Aaronontheweb](#) Mar 1, 2023 at 20:32

1 You might also need to run `wsl --shutdown` to move the files. – [mheinzerling](#) Apr 24, 2023 at 18:25

Thanks. I can confirm this works for Rancher Desktop too. – [JStanton](#) Jan 30 at 10:44



Edit: re-register docker-desktop would set the default docker-data to C drive now, so we should only unregister docker-data as the accepted answer.

23

You can do



```
wsl --unregister docker-desktop-data
```

```
wsl --import docker-desktop-data D:\wsl\docker-desktop-data "C:\Program Files\ Docker\ Docker\resources\wsl\wsl-data.tar" --version=2
```

The tar file is the file used to install, and before it is your new destination.

This always work while the `move-wsl` or `lxrunoffline` didn't work for me on fast rings. And sometimes you have to unistall/install docker first

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edited Nov 10, 2020 at 18:05

answered Jul 22, 2020 at 3:55



Yiming Lu

401 ● 3 ● 5

For me I had to restart my computer but this did work! – [Michael Xu](#) Feb 10, 2022 at 20:51

**13**

Extending @Attila Badi 's answer would be to also give the same treatment to the C:\ProgramData\Docker folder, which seems to be used for WSL / Windows Containers. Even moving the Docker data folders, would still leave you with a boot drive ProgramData\Docker folder of massive proportions - especially if you are unable or unwilling to clean the images. You cannot migrate it, or move it once installed. Using the Docker engine advanced settings works in Linux container mode, but not in windows and vice versa and has trouble starting.

Steps I followed:

1. Uninstall Docker. I know... Make sure you have saved what you need.
2. Create the primary space-eating docker folders, in a location you have a lot of space, e.g. :

D:\Data\Docker\ProgramData_Docker & D:\Data\Docker\AppData_Local_Docker

3. Create linked folders, by running the below in a command window in administrator mode:

```
mklink /j "C:\Users\xxx\AppData\Local\Docker" "D:\Data\Docker\ProgramData_Docker"
mklink /j "C:\ProgramData\Docker" "D:\Data\Docker\AppData_Local_Docker"
```

4. Install Docker.

You should be able to merrily pull windows server images, but not clog up your boot drive.

UPDATE:

Trying to symlink the C:\ProgramData\Docker folder, may result in a security error, depending on the version running depending on the originally installed version.

Release notes for 4.13.0 refers to this feature, which may be a possible work-around (Thanks to @bhagerty and @Oly for the trail):

```
start /w "" "Docker Desktop Installer.exe" install --installation-dir=G:\Docker
```

(Source: ungureanuvidiu @ <https://forums.docker.com/t/docker-installation-directory/32773/17>)

Update:

This works on 4.17.1 BUT ProgramData_Docker changes to DockerDesktop. Broken Everything required a windows reset and reinstalling docker on windows 11 with the above changes still work / apply. NB remember the DockerDesktop change after one of the versions.

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edited Mar 25, 2023 at 15:18

answered Feb 23, 2021 at 20:24



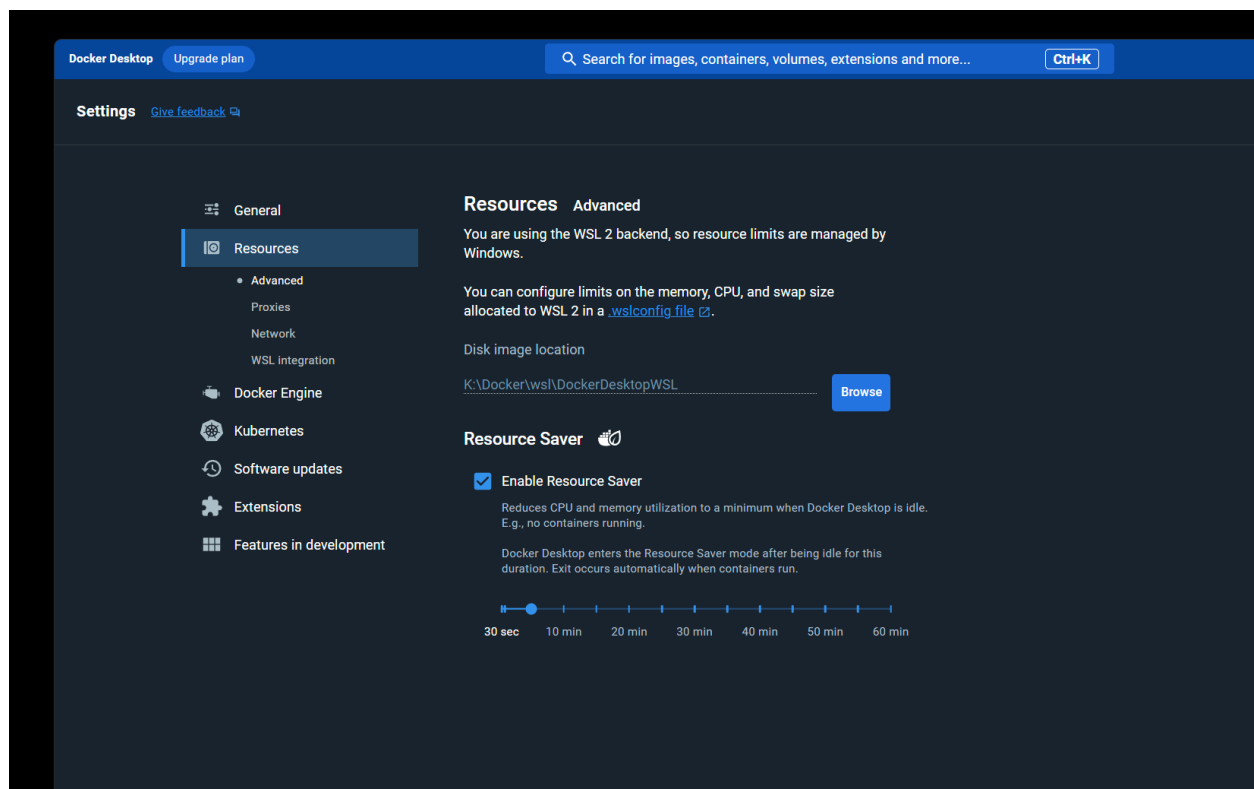
Anthony Horne

2,532 ● 2 ● 30 ● 52

- 1 I was trying to avoid this approach but looks like from all the ones I tried this one worked for me. I think My problem is that I'm using new docker but in WSL1 setup and the 2021 answers do not apply on me. And the locations were slightly different, I did only one link here: [mmlink /j](#)
"C:\ProgramData\DockerDesktop" "D:\work\docker" – [Anton Krug](#) Apr 29, 2021 at 11:36
- 1 I'm on WIN10 LTSC which so far has only the WSL1, so then docker put things into slightly different folders and moving folders was not possible for me even when I shutdown Docker/Hyper-V. But when I uninstalled, prepared the C:\ProgramData\DockerDesktop -> D drive link then just installed Docker again then it did exactly what I wanted – [Anton Krug](#) Apr 29, 2021 at 13:48
- 2 Agreed. Shutdown did nothing for me either - it still runs WSL machines in the background somewhere. Glad it worked for you. Docker should fix this and make it property part of settings (advanced even). – [Anthony Horne](#) Apr 30, 2021 at 10:29
- 4 It's ridiculous that it's not part of the regular install already, docker is not for casual consumers, yet power users often have elaborate partions/hdds setups, so I would say Docker should have this as an option for long time. Actually one of the reasons why I still use other frameworks like vagrant which feel much more solidly build and designed. – [Anton Krug](#) Apr 30, 2021 at 10:40
- 1 Not working with Docker Desktop. Installation stops with an error: For security reasons c:/ProgramData/DockerDesktop can not by symlink. – [Oly](#) Nov 16, 2022 at 1:12

Docker for Windows now supports changing this in the UI as shown in the image below. I believe it handles moving the existing file as well.

13



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answered Oct 5, 2023 at 12:41



Tom

3,038 1 19 23

-
- 3 This is by far the easiest solution now! No need for all the other complex procedures. – [Vijay](#) Nov 16, 2023 at 11:10
-



For me docker won't start with junction.

10

Then I've used just directory **symbolic link**:



Docker stopped

Folder "wsl" moved to other location on disk "B"

```
RUben@AD-RUBEN C:\Users\RUben\AppData\Local\Docker
$ mklink /D wsl "B:\dev\wsl"
**symbolic link** created for wsl <====> B:\dev\wsl
```



Local > Docker		▼	↺
<input type="checkbox"/>	Name ^	Date modified	
	mutagen	28.08.2020 18:44	
	pki	10.10.2020 13:40	
	vm-config	18.04.2021 13:49	
	wsl	15.05.2021 14:59	

Containers and Images are ready to use:

Images on disk 13 images Total size: 3.56 GB IN USE UNUSED Clean up...

LOCAL REMOTE REPOSITORIES

Search Sort by

	TAG	IMAGE ID	CREATED	SIZE
zero-theme-free	v1.1.0	5482c0a9784d	2 months ago	658.93 MB
<none>	IN USE <none>	adafeeb07e9b	2 months ago	660.83 MB
arch-deco2/ad2_v...	IN USE vuecreated	5d771f4188e3	7 months ago	512.83 MB
arch-deco2/ad2_v...	first	2f41cdcc3b95	7 months ago	512.83 MB
yii2vue_vueweb	latest	007f015e88c8	7 months ago	673.78 MB
yii2vue_backend	IN USE latest	d620c3b3a1e7	7 months ago	735.04 MB
yii2vue_frontend	IN USE latest	135c014a47c6	7 months ago	735.04 MB
yii2software/yii2-php	7.2-apache	e8927a3beed9	7 months ago	735.04 MB
phpmyadmin/php...	IN USE latest	e384811e461e	7 months ago	463.95 MB
node	lts-alpine	d8b74300d554	7 months ago	89.63 MB
mysql	IN USE 5.7	ef08065b0a30	8 months ago	448.49 MB
didstopia/docker-...	IN USE latest	3fea5f0105d8	about 3 years ago	419.9 MB
node	7	d9aed20b68a4	over 3 years ago	660.37 MB

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answered May 15, 2021 at 12:35



RUBen

201 ● 2 ● 6

- 2 FreeMove utility can do this with a GUI for the lazy ones: github.com/imDema/FreeMove – djibe Jun 6, 2022 at 15:19
- 1 This concept plus the suggested FreeMove utility made this operation absolutely dead-simple - everything worked perfectly first try. If anyone wants the easy answer, this is it. – bsplosion Jul 22, 2023 at 16:56

A nice tool:



DDoSolitary/LxRunOffline: A full-featured utility for managing Windows Subsystem for Linux (WSL)

5



<https://github.com/DDoSolitary/LxRunOffline>



```
LxRunOffline.exe move      Move a distribution to a new directory.
Options:
  -n arg                    Name of the distribution
  -d arg                    The directory to move the distribution to.
```

for example:

quit docker desktop, then:

```
wsl --shutdown
LxRunOffline.exe move -n docker-desktop-data -d D:\vm\dockerdesktop\wsl\data
```

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answered May 25, 2021 at 7:55

 [Xingxing Qiao](#)
156 ● 1 ● 6



The best option is to update the registry. Follow the below steps

5



1. Shutdown the wsl. Use the command `wsl --shutdown`.
2. Move the entire C:\Users\%USERPROFILE%\AppData\Local\Docker directory to different drive for example D:\Docker.
3. Goto Registry editor location
Computer\HKEY_CURRENT_USER\SOFTWARE\Microsoft\Windows\CurrentVersion\Lxss.
4. Find the registry entry with the BasePath set to
C:\Users\%USERPROFILE%\AppData\Local\Docker\wsl\data. Update this
D:\Docker\wsl\data.
5. Find another registry entry with the BasePath set to
C:\Users\%USERPROFILE%\AppData\Local\Docker\wsl\distro. Update this
D:\Docker\wsl\distro.
6. Restart wsl using: `wsl -d Ubuntu`.

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edited Dec 30, 2022 at 13:28



[Maxim Kamalov](#)
763 ● 9 ● 24

answered Aug 16, 2022 at 9:01



[Subramanya Adiga](#)
123 ● 2 ● 8

I wasn't able to move distro with current Docker version. It just restores it in the old place after restart
– [Basil Peace](#) Mar 2, 2023 at 4:42

And, if you move the entire Docker directory then you should change Docker configuration as well, not just Lxss. Probably add execRoot into C:\Users\%USERPROFILE%\docker\daemon.json – [Basil Peace](#)

Mar 2, 2023 at 5:16



3

I found [this tool](#) from pxlrbt on github. It's using standard wsl import/export and pretty safe. Just moved both my docker-desktop-data distro to a different drive and it works well.

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answered Jun 20, 2020 at 18:09



sidecus

752 ● 5 ● 10



2 After I moved using the above script, I got an error `Docker desktop WSL distro stopped`. Mind to share the steps? – [otong](#) Aug 17, 2020 at 17:07



2

In Windows 10 home, docker desktop creates the VM under `"C:\Users\xxx\AppData\Local\Docker"` directory and it is this VM that contains the downloaded docker images. If you want to change the VM location from C: to a different directory you can do this by creating a junction on windows (prior to docker desktop installation) using a command like below:



```
mklink /j "C:\Users\xxx\AppData\Local\Docker" "D:\Users\xxx\AppData\Local\Docker"
```



Note that prior to executing the command the target directory structure should exist while you should delete the `C:\Users\xxx\AppData\Local\Docker` directory if it exists already else the command could fail. Now install docker desktop on windows 10 home and voila you can see stuff inside `"D:\Users\xxx\AppData\Local\Docker"` directory namely the docker VM hard disk image file that is going to contain all the downloaded docker images.

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answered Jan 10, 2021 at 8:31



Anupam Yadav

23 ● 4



2

Just for reference for anyone finding this question, as of now (June 2023):

1. The export-import method fails on Windows for images larger than 8 GB. It's a bug in the underlying tar implementation.
2. Fortunately, there is a `--vhd` switch for wsl that one can use for export and import. Even more, there is a `wsl --import-in-place` command that is useful when one has large volumes.
3. Although moving the wsl .vhdx files to another location works from the wsl point of view, Docker Desktop still has problems with it. After it makes changes to "docker-data", e.g., the (smaller) distro\ext4.vhdx file, Docker Desktop finally deletes this volume and even a backup copy at the old (%APPDATA%\Docker\wsl\distro) location, and pops an error window.

All in all, I second the `mklink` method on Windows as 1. it's the least hassle, 2. it's working.

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answered Jun 13, 2023 at 11:04



Yogurt

83 ● 9



1

Using small SSD also you may want to relocate WSL swap file location.

<https://learn.microsoft.com/en-us/windows/wsl/wsl-config>



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answered Jun 5, 2022 at 1:25



hotamateurxxx

23 ● 4



2 Your answer could be improved with additional supporting information. Please [edit](#) to add further details, such as citations or documentation, so that others can confirm that your answer is correct. You can find more information on how to write good answers [in the help center](#). – Community Bot Jun 5, 2022 at 6:08

2 This does not provide an answer to the question. Once you have sufficient [reputation](#) you will be able to [comment on any post](#); instead, [provide answers that don't require clarification from the asker](#). - [From Review](#) – Besworks Jun 7, 2022 at 21:59