


See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/357395955>

OpenFOAM installation on Mac

Presentation · December 2021

CITATIONS
0

1 author:



Aqeel Ahmed

14 PUBLICATIONS 67 CITATIONS

SEE PROFILE

READS
694

Some of the authors of this publication are also working on these related projects:

- Project

<http://haos-itn.eu/> [View project](#)
- Project

General CFD tutorials [View project](#)

OpenFOAM on Mac

Local installation

Aqeel Ahmed

*tested on macOS Monterey 12.1
OpenFOAM v2112

Requirements

Sytem Preparation

- Command line tools
- Homebrew
- A new case sensitive partition (easier solution/shared data)
- Bash (optional, to use instead of zsh in Mac)
- Patches for other versions (other than OpenFOAM v2112)

Installations

Command line tools and homebrew

- Command line tools: use terminal command

```
xcode-select --install
```

- Homebrew: install using the terminal command (<https://brew.sh>)

```
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

Dependencies

Installation

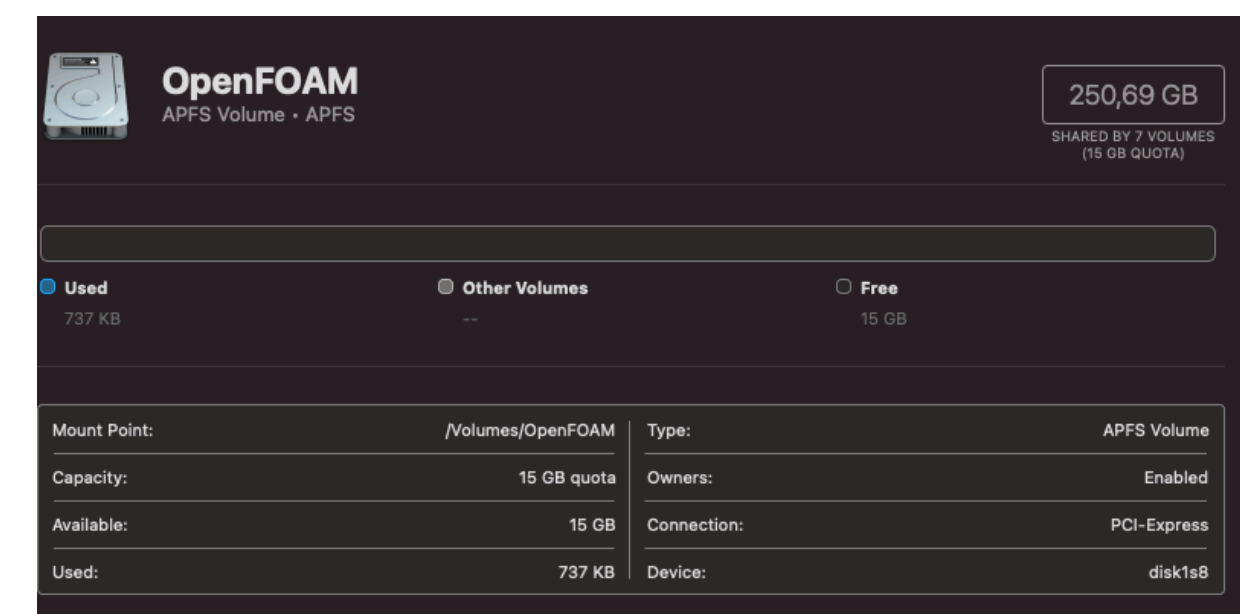
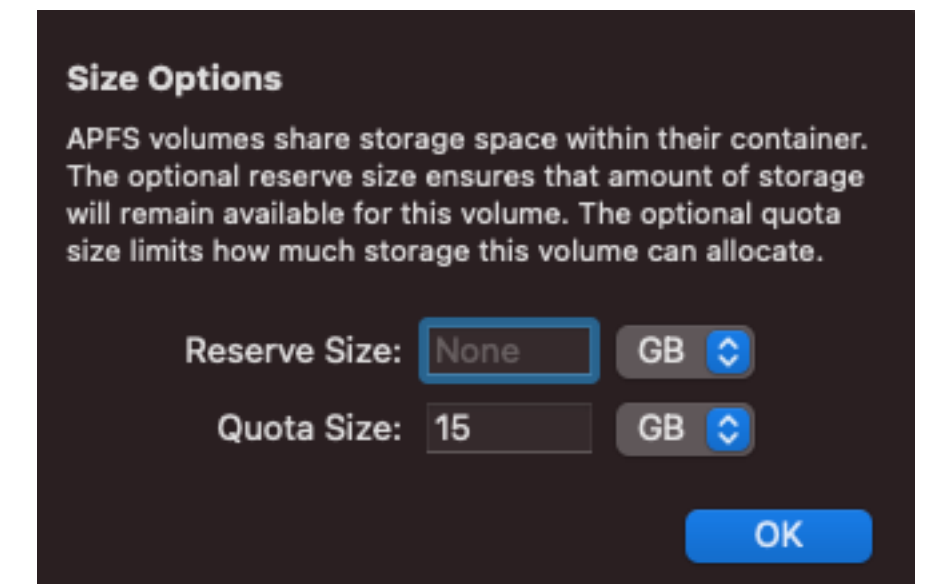
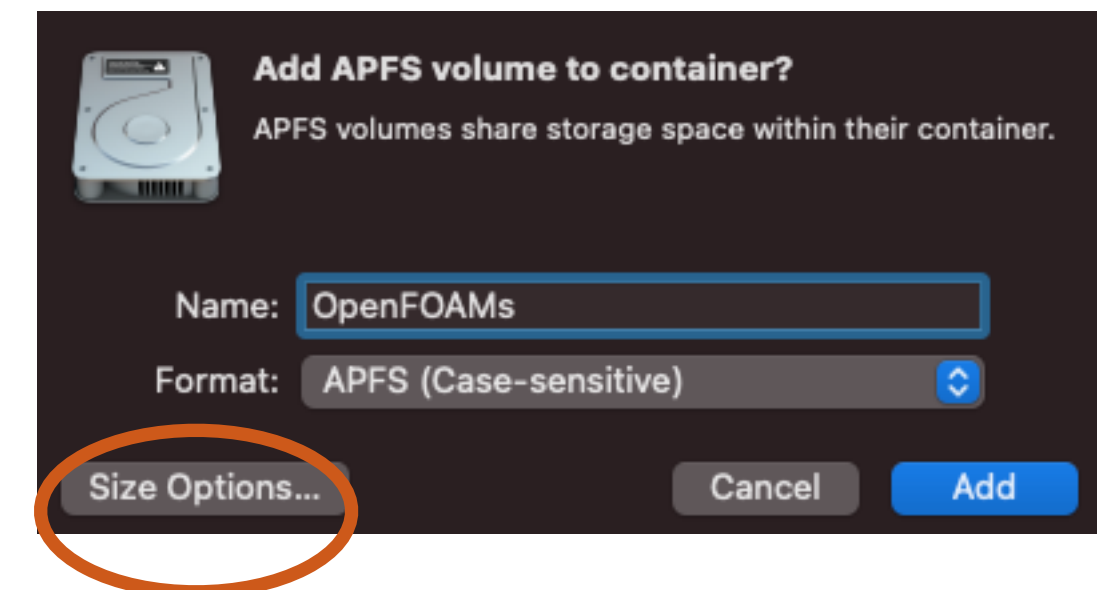
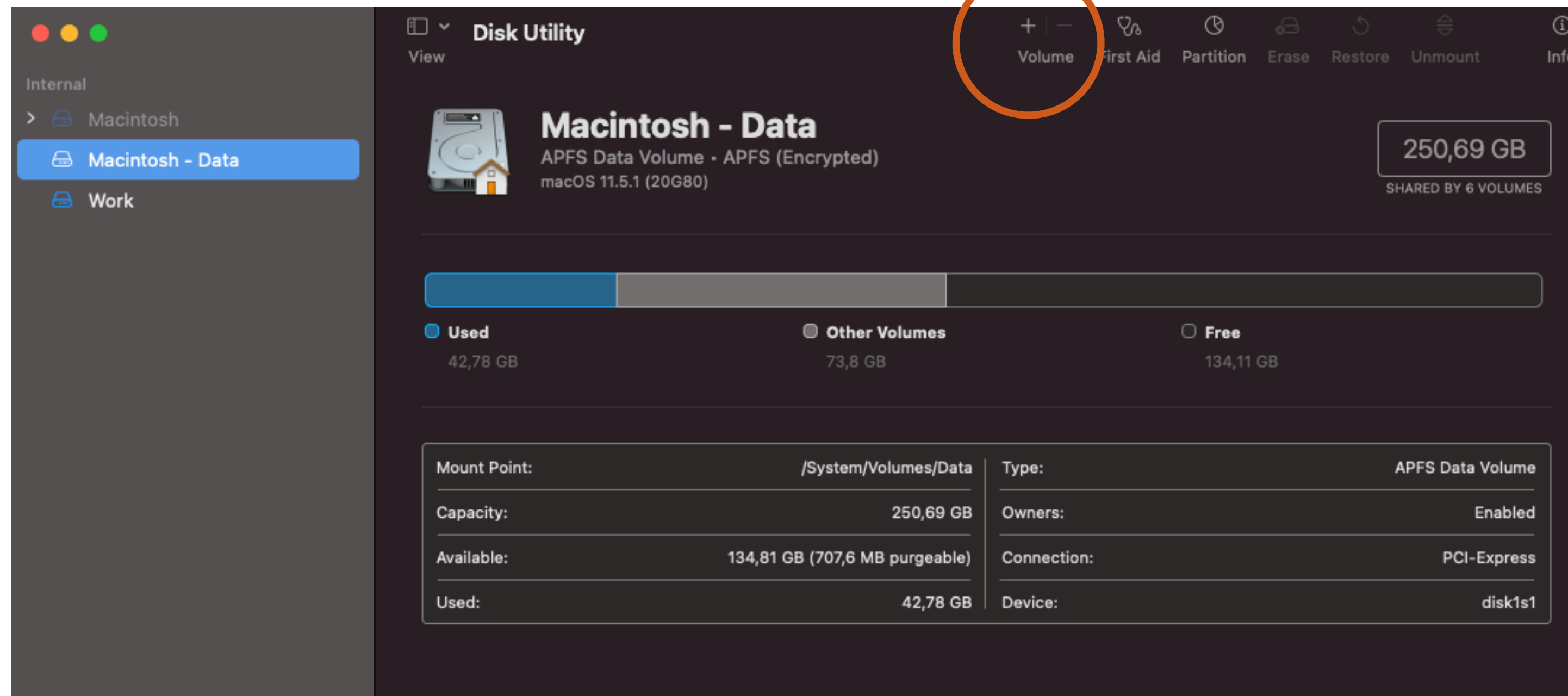
- Use Homebrew to install dependencies

```
brew install boost  
brew install cgal  
brew install open-mpi  
brew install metis  
brew install scotch
```

Getting started

Preparing case sensitive drive

- Create a case sensitive drive using disk utility
- After the creation of volume create a symbolic link for mapping home/run directories `ln -s /Volumes/OpenFOAM $HOME/OpenFOAM`

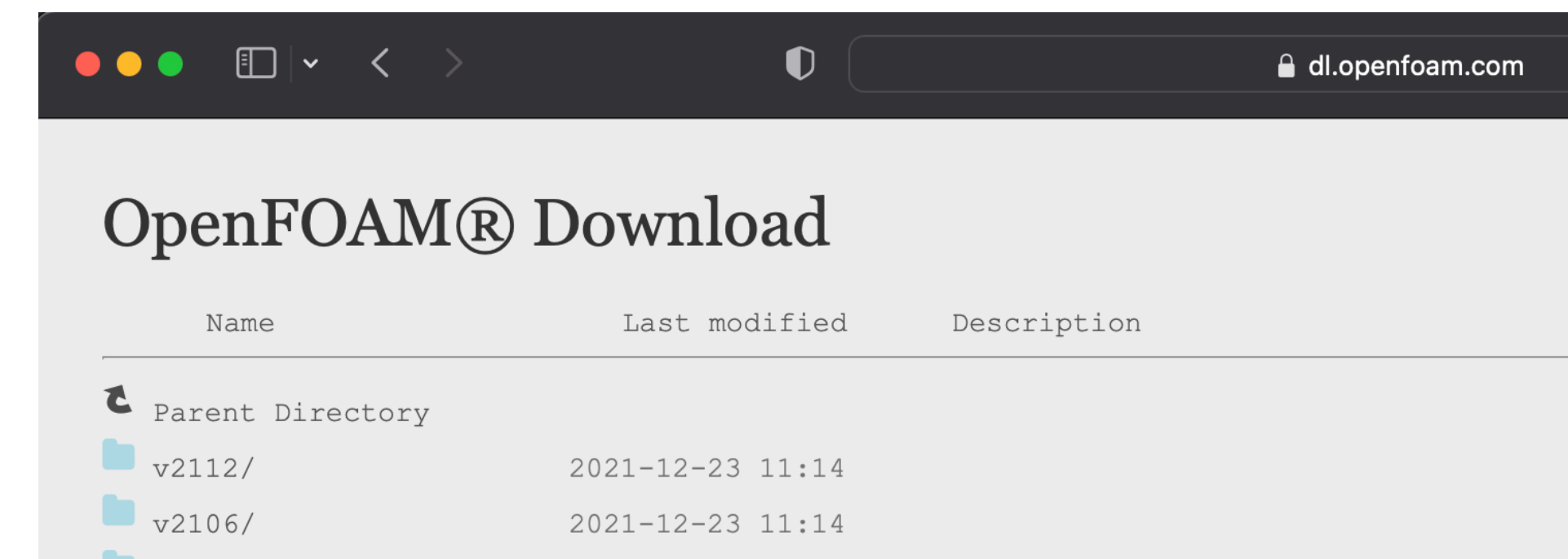


OpenFOAM sources

Download the sources of the required version

- In the new case sensitive volume
- Download the sources of the OpenFOAM
- Extract the sources

<https://dl.openfoam.com/source/>



```
cd /Volumes/OpenFOAM
curl -L https://dl.openfoam.com/source/v2112/OpenFOAM-v2112.tgz > OpenFOAM-v2112.tgz
tar xzf OpenFOAM-v2112.tgz
```

OpenFOAM installation

Building from sources

- Combine preferences in ~/.OpenFOAM/prefs.sh (easier than bashrc/zshrc in Mac)
- Older versions might need patches (<https://github.com/mrklein/openfoam-os-x>)

```
mkdir -p $HOME/.OpenFOAM
echo 'WM_COMPILER=Clang' > $HOME/.OpenFOAM/prefs.sh
echo 'WM_COMPILE_OPTION=Opt' >> $HOME/.OpenFOAM/prefs.sh
echo 'WM_MPLIB=SYSTEMOPENMPI' >> $HOME/.OpenFOAM/prefs.sh
echo 'export WM_NCOMPPROCS=$(sysctl -n hw.ncpu)' >> $HOME/.OpenFOAM/prefs.sh
echo 'WM_LABEL_SIZE=32' >> $HOME/.OpenFOAM/prefs.sh
```

```
source etc/bashrc
./Allwmake > log.Allwmake 2>&1
```