

Quartus on Mac M1: Setup Guide

Notes:

- This guide uses Parallels 17 as the software for the Windows VM. There may be other software that can do the same thing, and I am not endorsing Parallels 17. If you find other equivalent software it should work just as well.
- Parallels offers several different pricing plans, as well as a trial version. I recommend using the trial version to set everything up and make sure it works before spending any money. Once you have everything set up, you can purchase the software and enter the activation code.
- The cheapest version of the software should be sufficient for everything in this guide. There is a student version available for \$39.99 per year.
- This guide is assuming you have a 2020 or later Mac with Apple Silicon, and MacOS Big Sur or Monterey. If you have a Mac with an Intel processor you can install Windows with Bootcamp.

Parallels Installation

1. Go to: <https://www.parallels.com/products/desktop/>
2. Click on Download Free trial -> Download Now
3. Open the downloaded dmg file and double click "Install Parallels Desktop" to start the installation process
4. Follow the prompts in the installer, Windows 11 should automatically download and install itself
5. Once you are on the windows desktop, continue to the sections below

Quartus Installation

1. Open the Windows VM with Parallels Desktop.
2. In the Windows VM download and install Microsoft Visual C++ Redistributable
 - a. I first installed the x86 version which didn't work, and then the x64 version, which did work. I'm not sure if you have to install them both or just the x64 version but having them both installed didn't cause any issues for me.
 - b. Link: <https://docs.microsoft.com/en-us/cpp/windows/latest-supported-vc-redist?view=msvc-170>
3. Download and Install Quartus in the Windows VM as you would on a normal Windows computer.

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- a. Link to Quartus Installation guide that I used:
https://mil.ufl.edu/3701/docs/quartus/quartus19.1_installation.pdf
4. Attempt to open Quartus. If it opens without any issues and you can create a project, you should be all set.
5. If you get an error when trying to open Quartus that says you have missing DLL files:
 - a. Download the file specified in the error message from: <https://www.dll-files.com>
 - b. If you installed Quartus in the default location, place the downloaded DLL file in this directory: C:\intelFPGA_lite\19.1\quartus\bin64
 - c. Otherwise, find the directory that you installed Quartus in and place the file in the bin64 folder
6. If Quartus is still not able to open or is giving you unexpected errors, try restarting the Windows VM or reinstalling Quartus.

Notes

Do **not** save files to the Mac system; save files only to the C: drive.

Microchip/Atmel Studio Installation (for students in 4744: Microprocessor Applications)

1. After installing Quartus using the steps above, I was able to install Atmel Studio on the Windows VM without any issues.
 - a. Link to the guide I used:
https://mil.ufl.edu/4744/docs/Install_Microchip_Studio_7.0.pdf