

**PORTLAND STATE UNIVERSITY**

**ECE 371/372 – Microprocessors**

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**For**

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# **Installing Code Composer Studio on your Personal Computer**

**-Linux-  
Ubuntu 18.04**

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# Preface

This document will show you how you can install Texas Instruments' Code Composer Studio on your personal computer. This document is specific to Linux users, but there are additional guides for Windows and Mac users. Please refer to the installation document for your operating system for help with installation of CCS.

## Version Compatibility

Code Composer Studio is free to download and use on your personal computer. In the labs, we are supporting Version 8 of CCS, and this guide will also show you how to download and install Version 8. There are newer versions of CCS, and you are free to download and use those if you like. However, there may be limited support and you may have issues with running your code both on your system and the systems in the lab. We recommend that you use the same version as is used in the lab for the best compatibility.

## System Compatibility

This guide will show you how to download and install CCS V8 on a Linux system running Ubuntu 18.04. You can also install/run the software on a Linux Mint or Debian, but those distributions are not supported for this course and our ability to support them will be limited. Please refer to the system specifics guides for installing CCS on a different operating system.

## Downloads

Installation software can be downloaded at the link below.

- **Code Composer Studio Download General Page:**
  - [https://software-dl.ti.com/ccs/esd/documents/ccs\\_downloads.html](https://software-dl.ti.com/ccs/esd/documents/ccs_downloads.html)
  - Click the link above then Scroll down on the to find the download links for CCSV8, or select version 8 from the list of links on the right.
- **Linux specific instructions page for CCS Version 8**
  - [https://software-dl.ti.com/ccs/esd/documents/ccsv8\\_linux\\_host\\_support.html](https://software-dl.ti.com/ccs/esd/documents/ccsv8_linux_host_support.html)

# Installing Code Composer Studio V8 on your Linux Computer Running Ubuntu 18.04

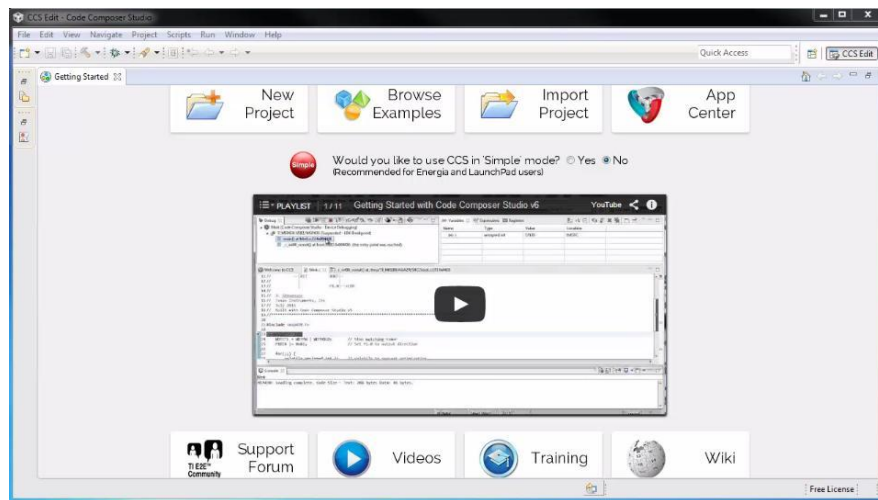


Figure 1 : Home screen of Code Composer Studio after installation

## Downloading the Installation Packages

### Find Version 8 of Code Composer Studio

- Visit this link to find the available Downloads for your system.
  - [https://software-dl.ti.com/ccs/esd/documents/ccs\\_downloads.html](https://software-dl.ti.com/ccs/esd/documents/ccs_downloads.html)
- Scroll down until you find the installer packages for Version 8.
- Then click on the link in the download column that says Linux.
- You should now see the file downloading in your browser.

## Code Composer Studio Version 8 Downloads

| Release | Build #     | Date        | Download   | Notes   |
|---------|-------------|-------------|--|---|
| 8.3.1   | 8.3.1.00004 | May 3, 2019 | <b>Off-line Installers:</b><br><b>Windows MD5</b><br><b>Linux MD5</b> - 64-bit only<br><b>MacOS MD5</b><br><br><b>Manifest</b> | <b>New/Notable In This Release (8.3.1.00004):</b> <ul style="list-style-type: none"><li>• <a href="#">Release notes</a></li></ul> Debugger <ul style="list-style-type: none"><li>• Fix for crash on reconnect when using hardware breakpoints on C26/13xx devices.</li><li>• EMU19_M02_PATCH2 8.1.0.00012</li></ul> IDE <ul style="list-style-type: none"><li>• Bug and stability fixes REX v3.7.0</li></ul> Device support updates <ul style="list-style-type: none"><li>• Fix for CC323x Flash issue on Linux</li></ul> |

Figure 2 : CCS V8 installer packages from the TI downloads page

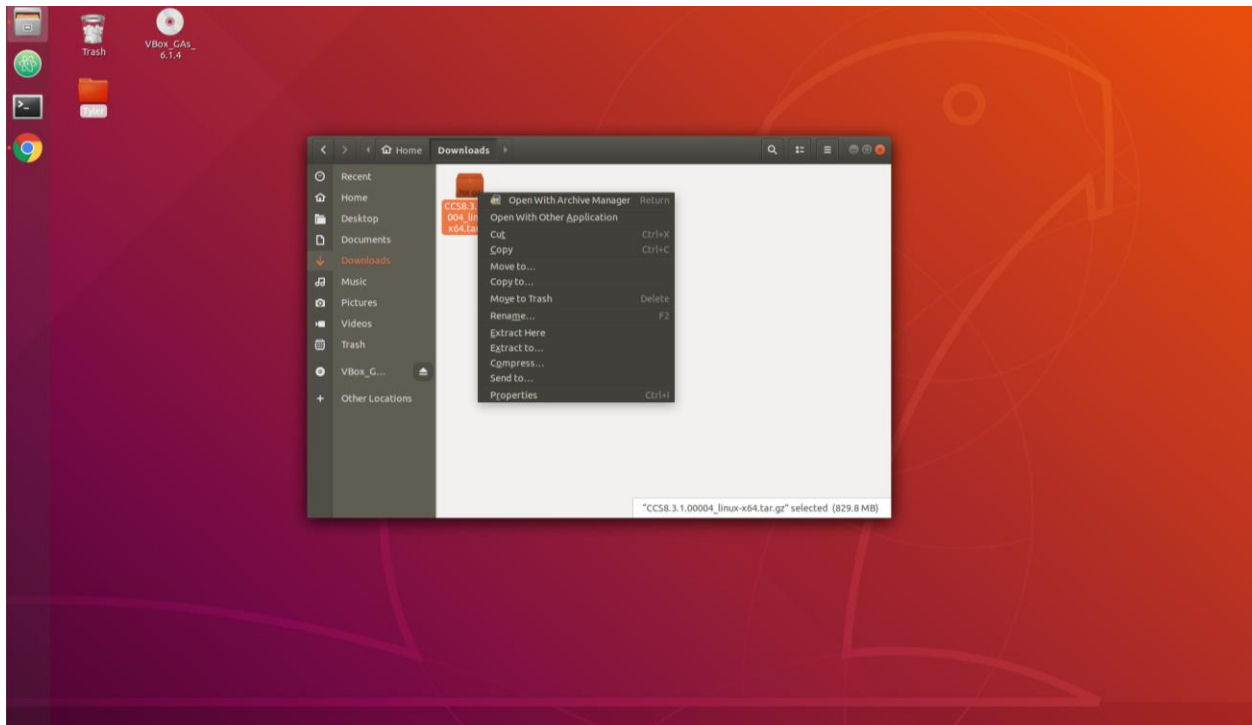


Figure 3 : Open with Archive Manager to extract files from the file you downloaded

## Extracting the downloaded file

- Navigate to your downloads folder and right click on the file.
- Open the file with the Archive Manager.
- Create a new folder or select a location to extract your files to.
- Click the extract button in the top left of the window.
- You can now view the files after they have been extracted.

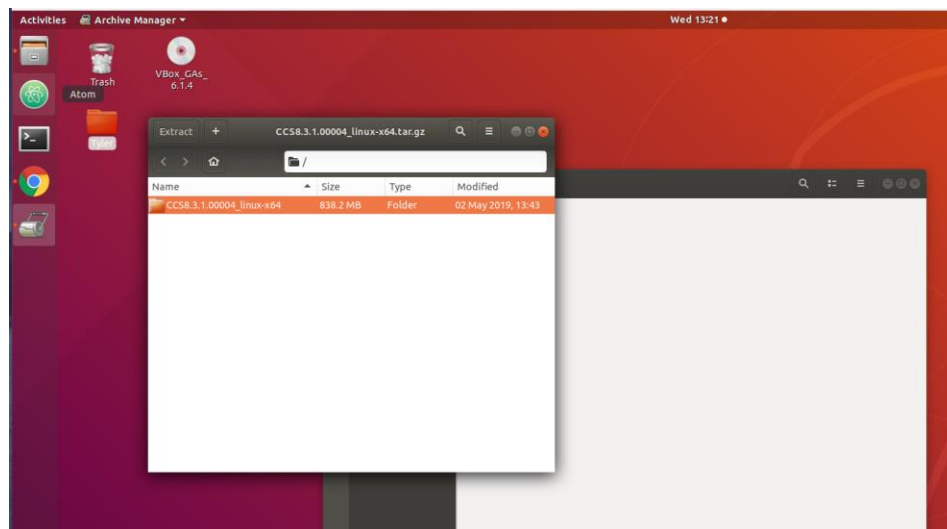


Figure 4 : Choose a location to extract the files

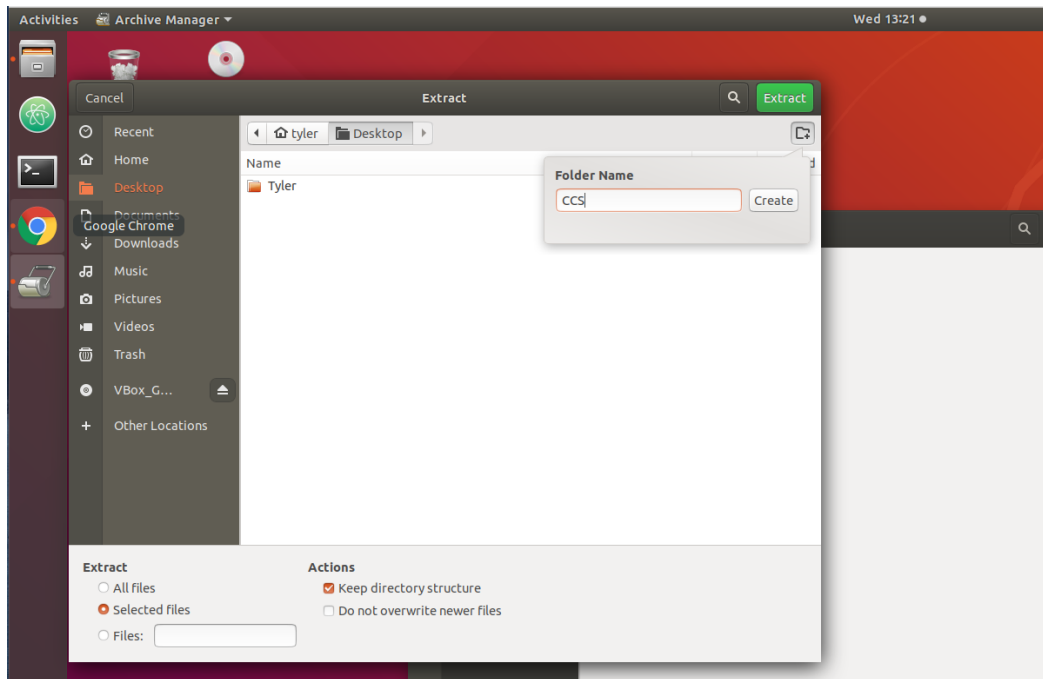


Figure 5 : You can create a new folder to extract the files into

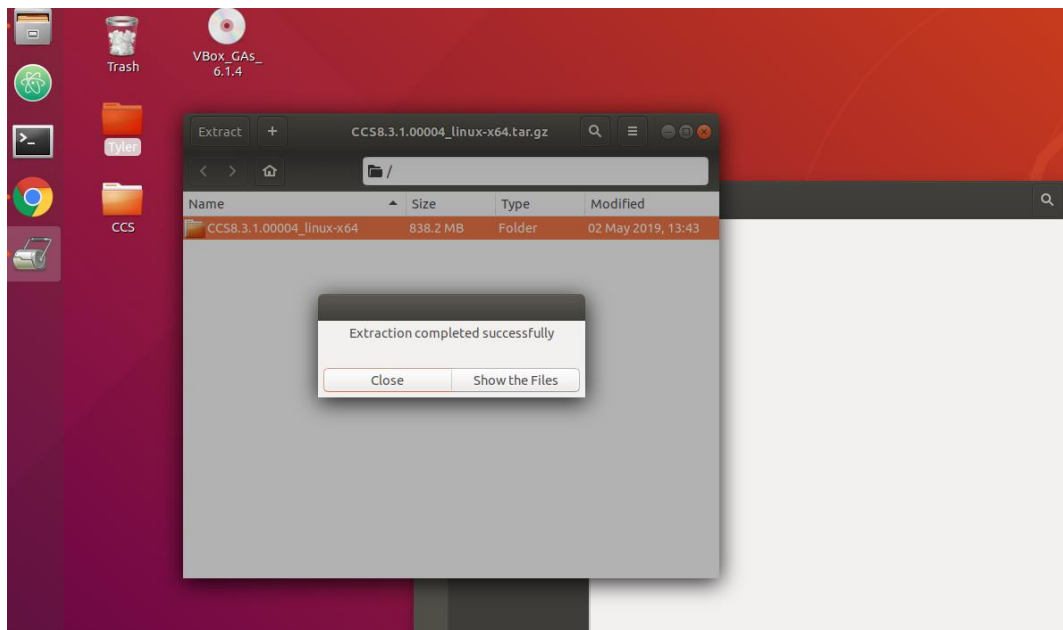


Figure 6 : View your files after the extraction has finished

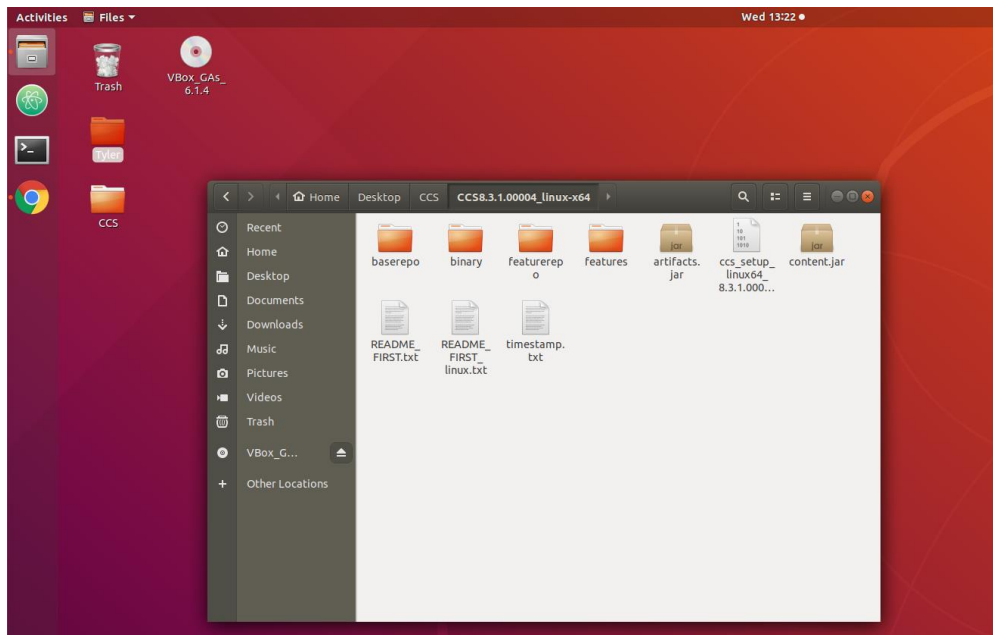


Figure 7 : You should see the files shown above in your folder

## Preparing your system for Installation

- Open a terminal window and update your system with the command:

```
sudo apt update
```

- Next install CCS needed dependencies with the command:

```
sudo apt install libc6:i386 libusb-0.1-4 libgconf-2-4 build-essential
```

- You may have some of the necessary files already installed. You likely just need to type a **Y** into the terminal to complete the installation.
- Choose an installation location on your system.
- Wait for the installation of the dependencies to complete. Then update your system with the command:

```
sudo apt update
```

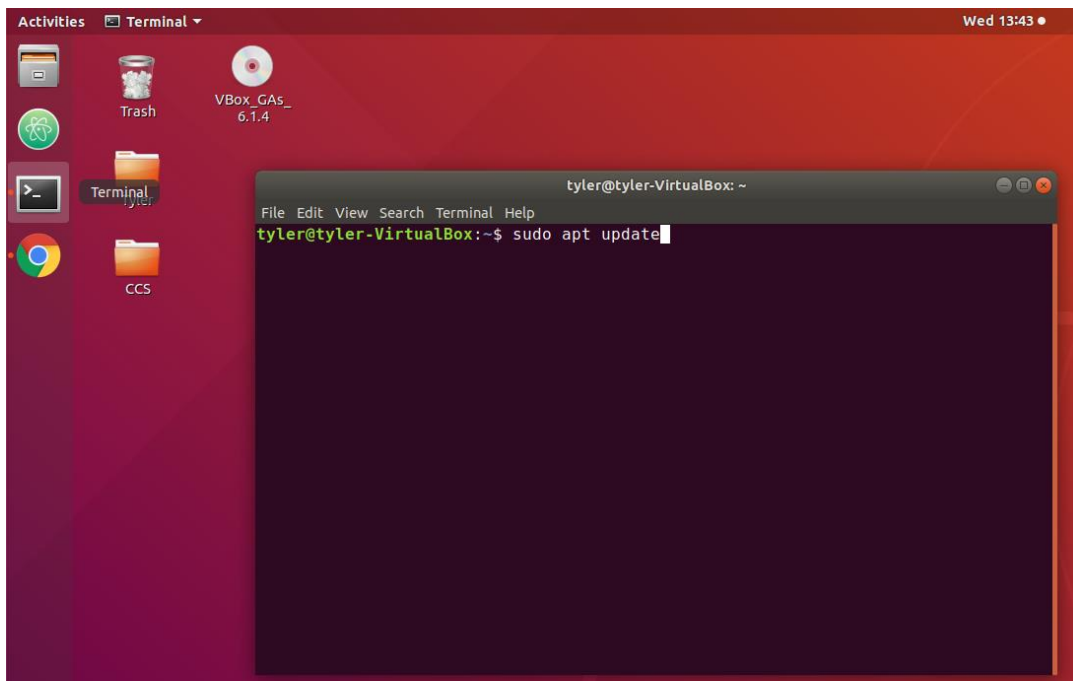


Figure 8 : Update your system before we install needed dependencies

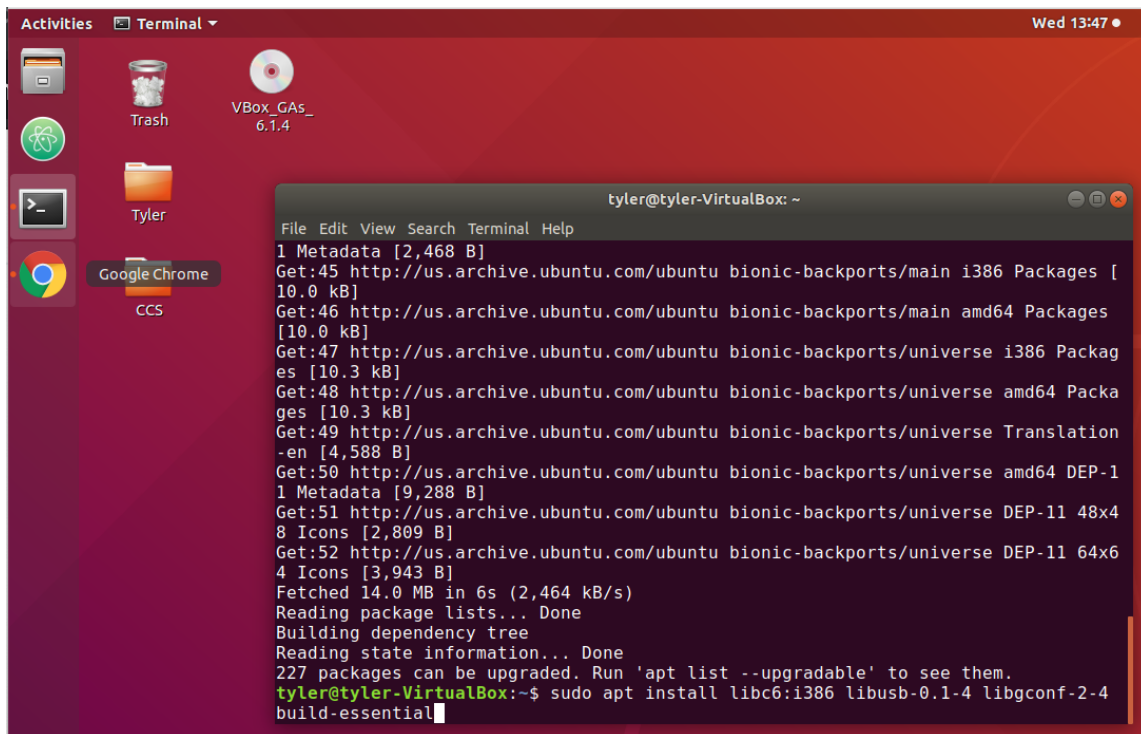


Figure 9 : Install dependencies needed for the CCS compilers and software



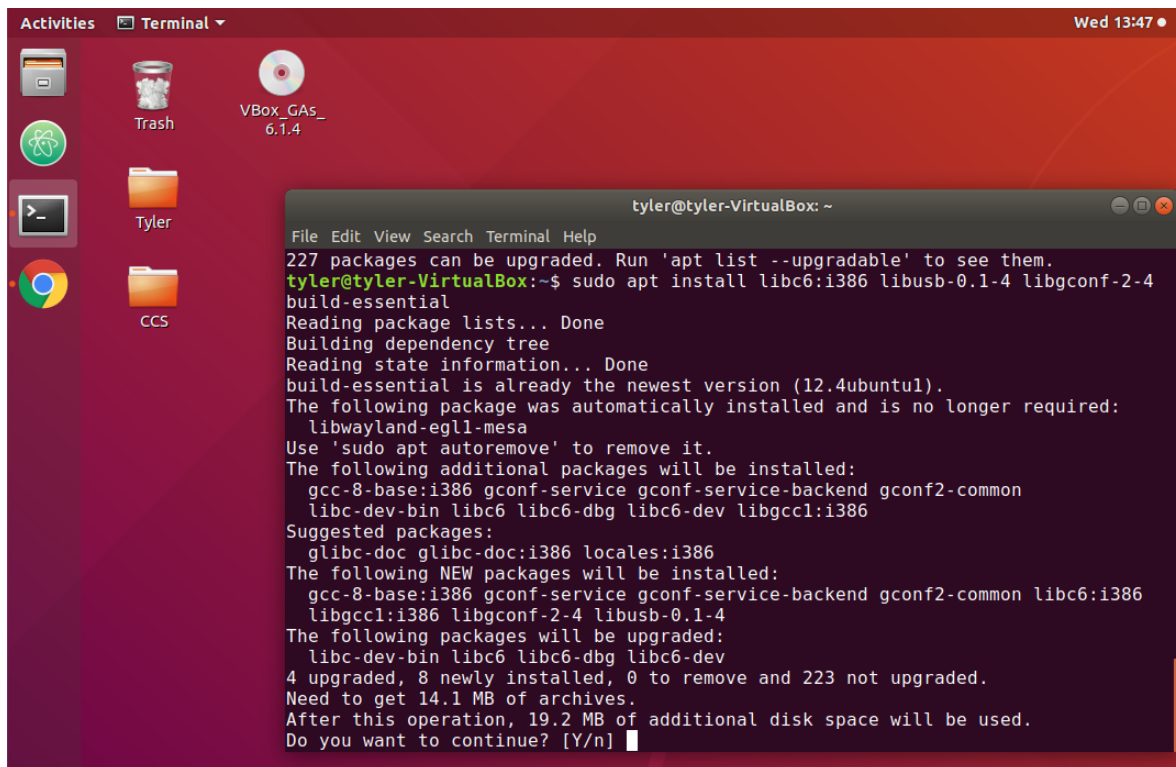


Figure 10 : Complete the installation by typing a Y to continue

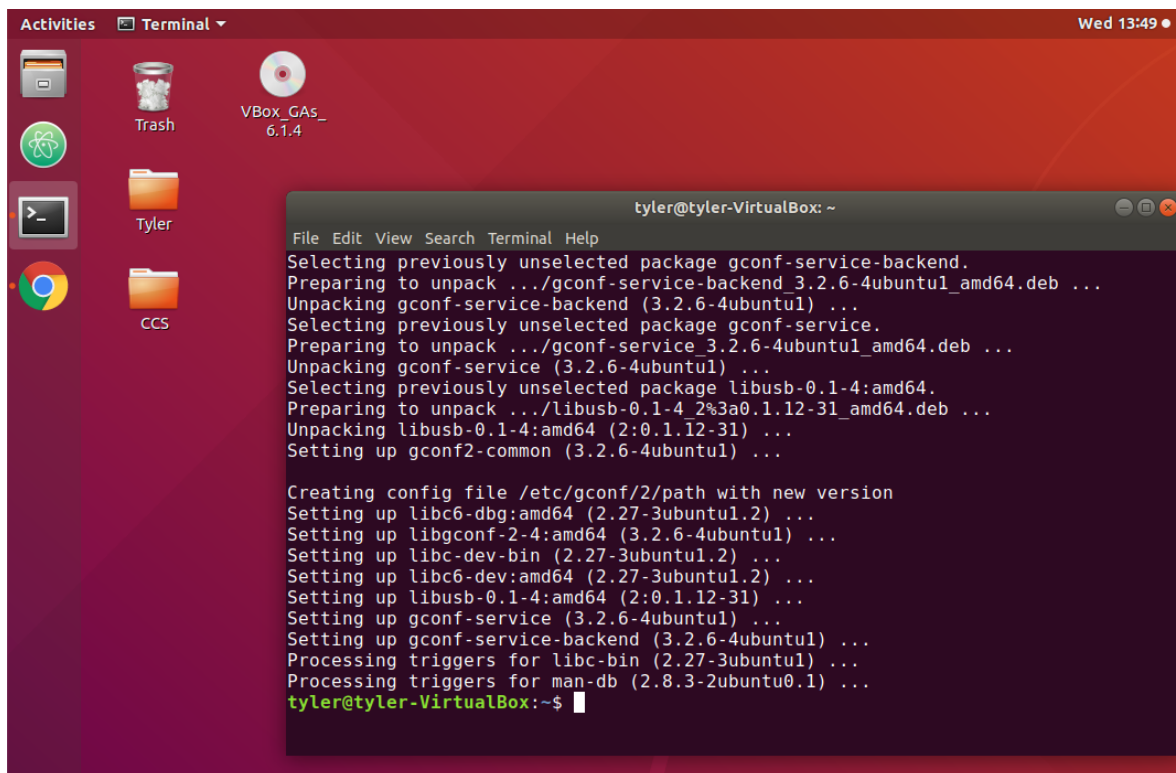


Figure 11 : Wait for all the dependencies to finish installing

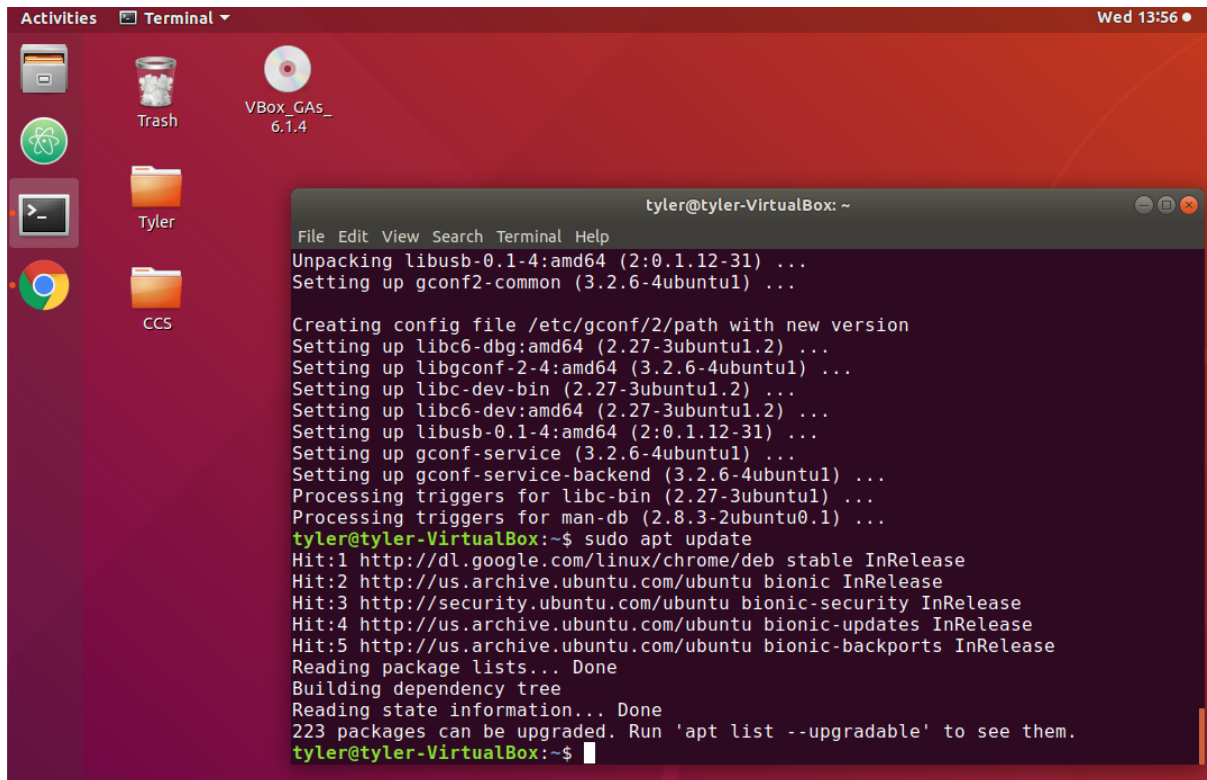


Figure 12 : Update your system again to make sure you are ready to install CCS

## Starting the Installer application

- Open a new terminal window and navigate to the location where you extracted the installer files.
- If you created a folder called CCS on your Desktop and extracted the files there, you can use the following commands to navigate to the correct location.

```
cd Desktop/CCS  
ls  
cd CCS8.3.1.00004_linux-64/  
ls
```

- You should now see a list of the files in the folder showing in your terminal window.
- Next, you need to run the .bin file to continue with the installation. You can do this by typing a `./` followed by the name of the file. (See below for full command)

```
./ccs_setup_linux64_8.3.1.00004.bin
```

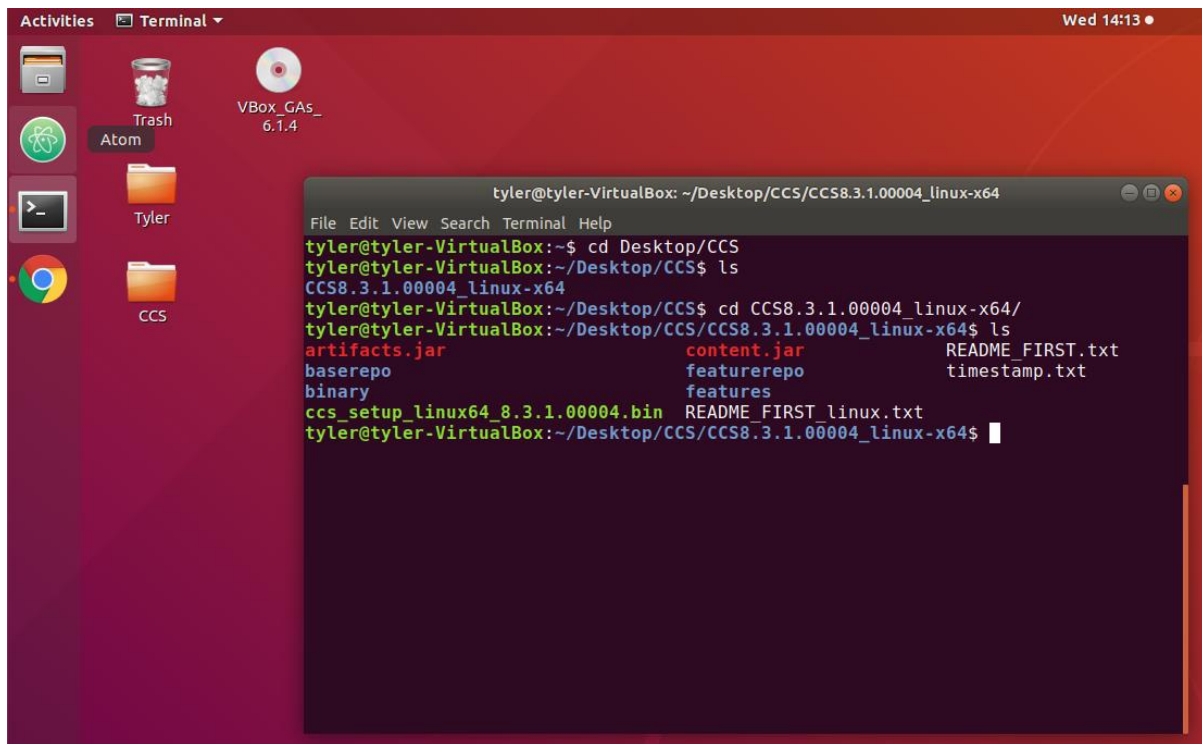


Figure 13 : Navigating to the folder where the installation files were extracted

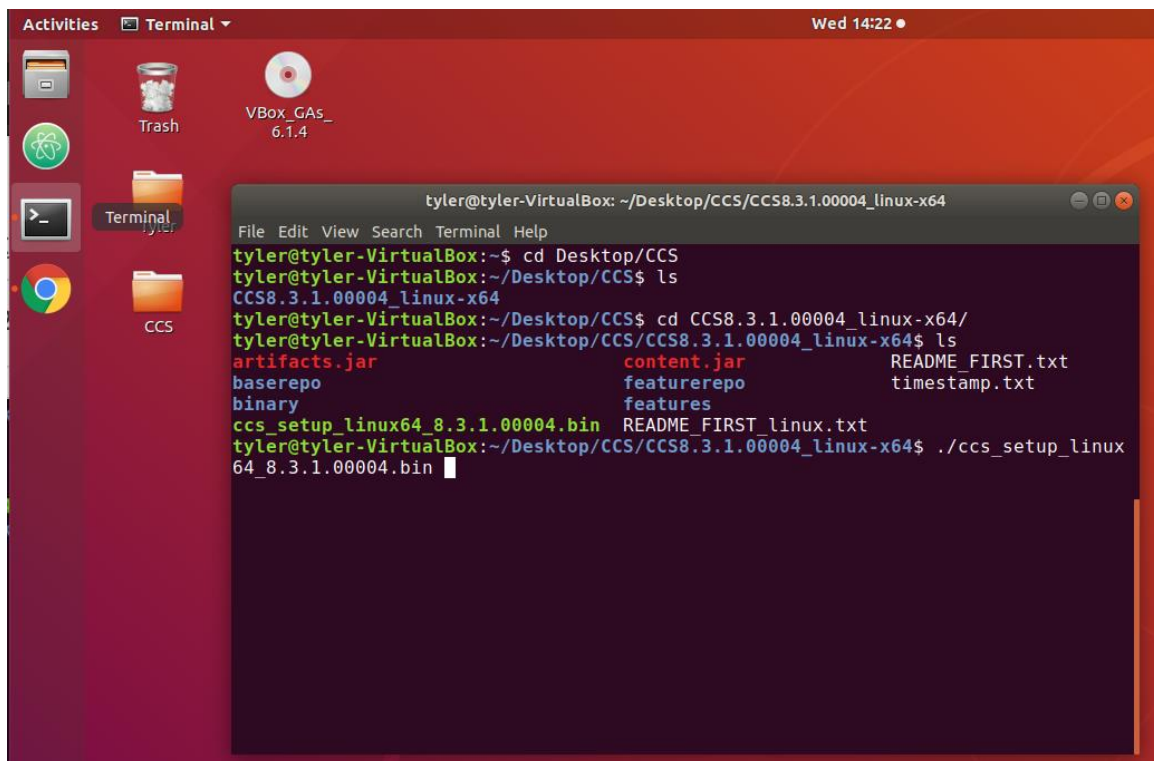


Figure 14 : Run the .bin file to start the installation of CCS

## Installing Code Composer Studio Version 8

- You may see the pre-install checklist appear briefly. If you installed all the dependencies properly, this will likely quickly disappear.
- Next click to accept the terms of the license agreement and click next.
- Choose an install location for CCS.

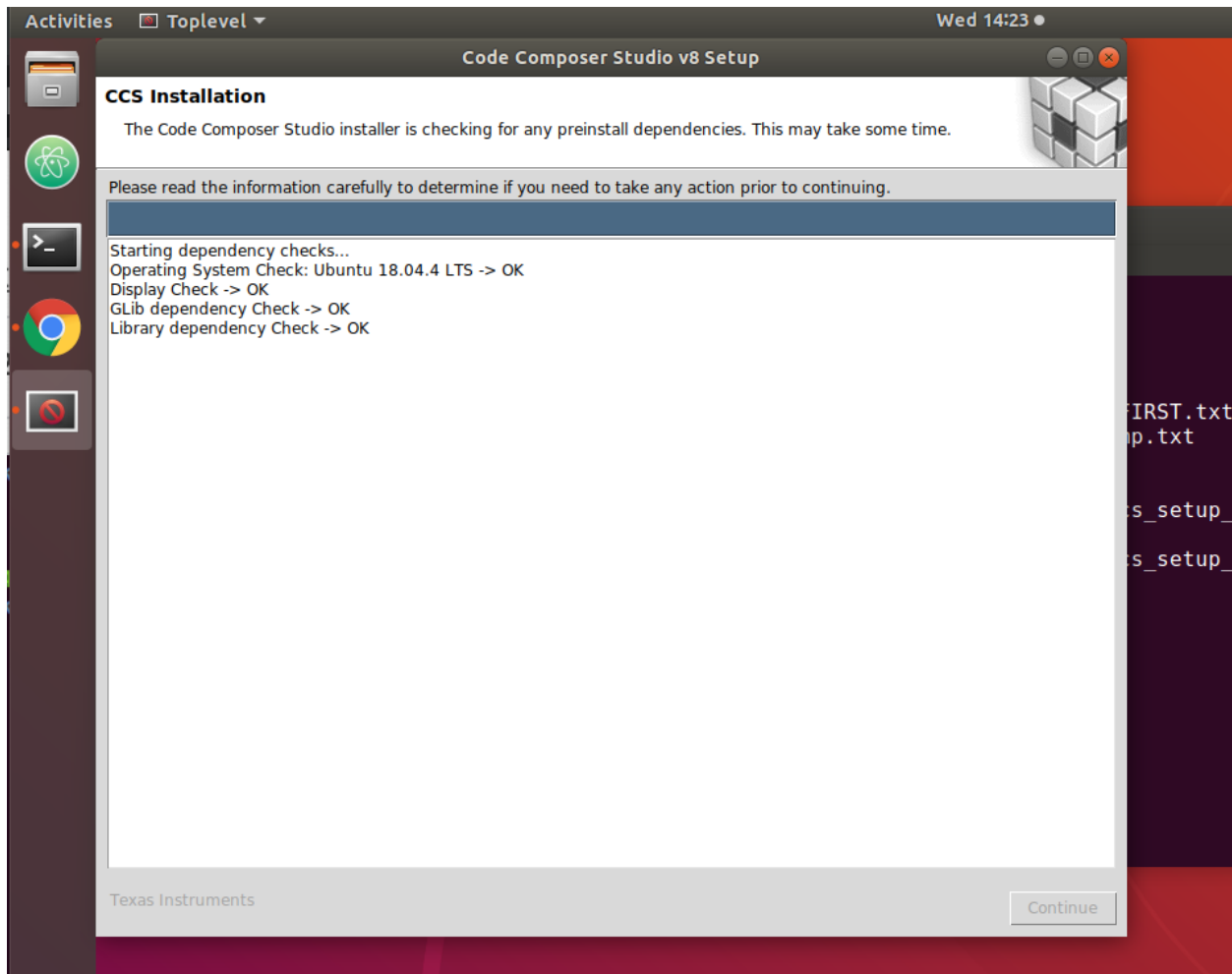


Figure 15 : CCS pre install dependencies check

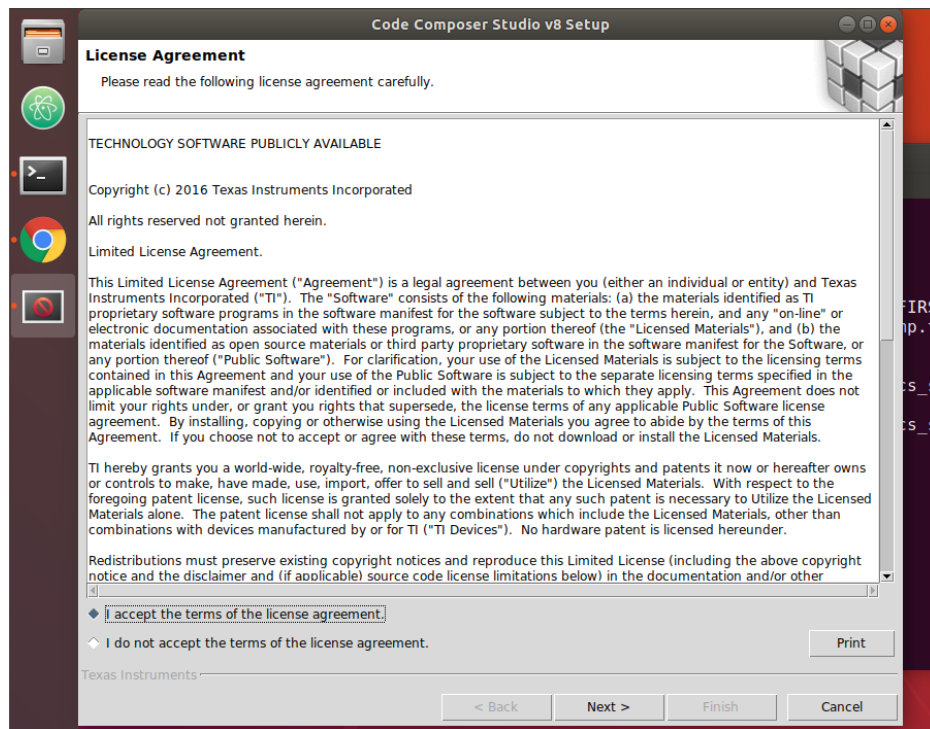


Figure 16 : Accept the terms of the license agreement to continue

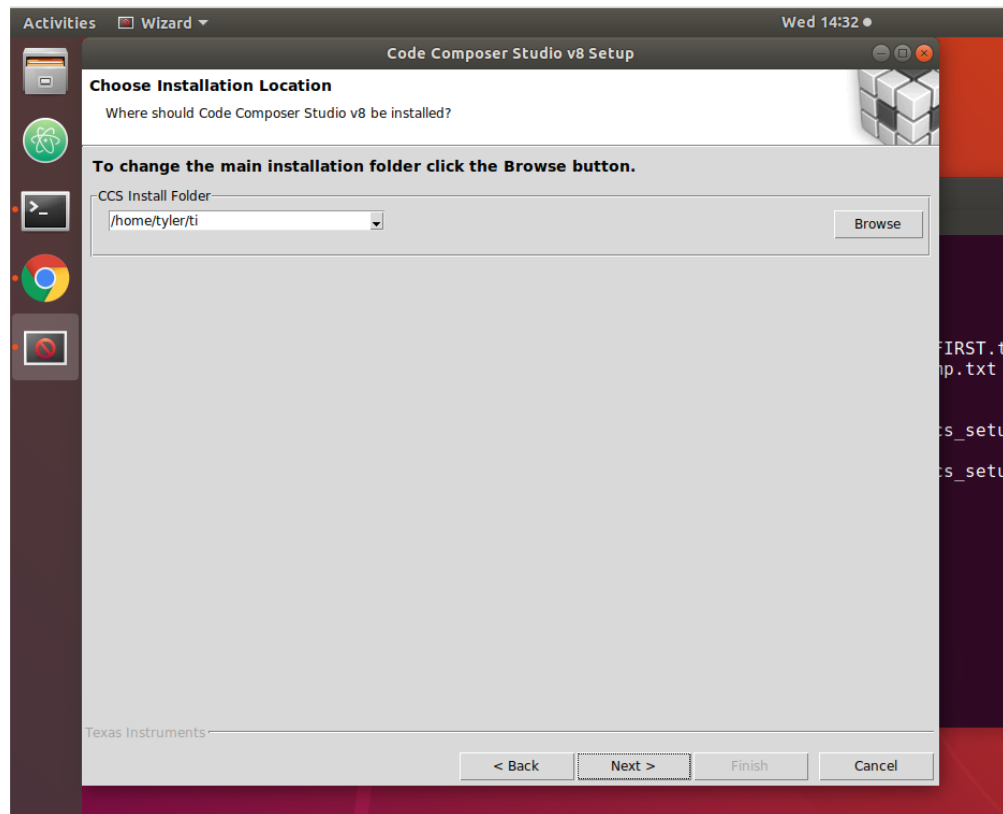


Figure 17 : Choose an installation location for CCS

## Selecting the Correct Processor Family and Emulator

- Choose the Sitara family of processors from the list of processors.
  - Feel free to select other families as well if you like.
- Click next on the notice of unsupported boards.
- Choose TI and Blackhawk debug probes from the list of emulator options.

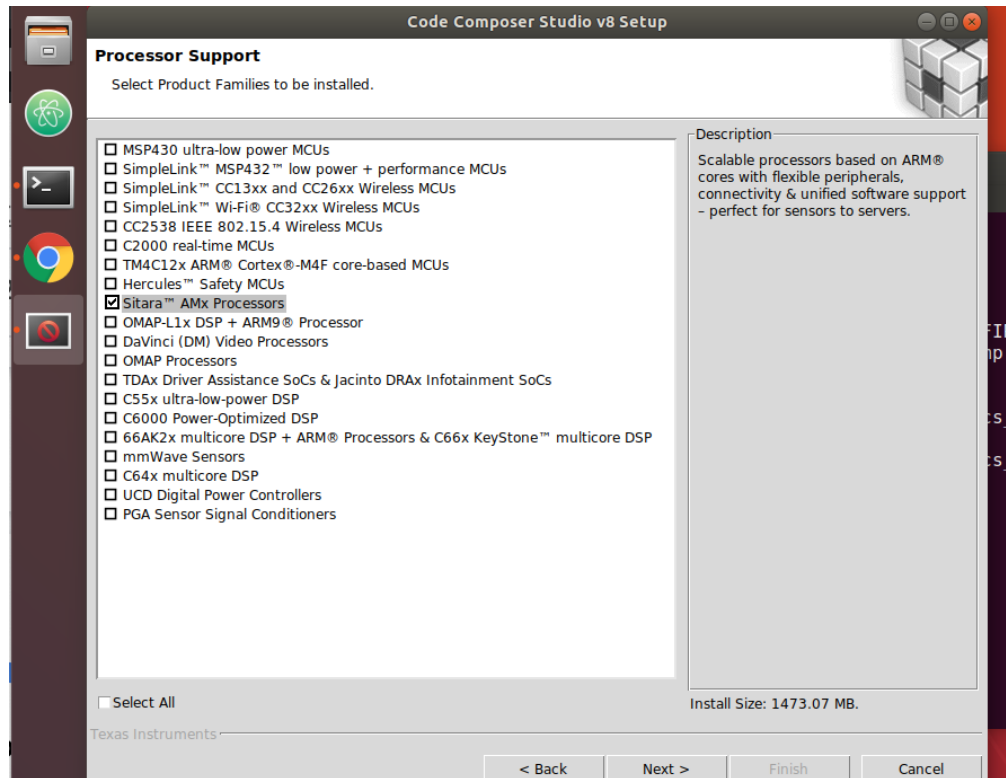


Figure 18 : Select the processor family for the BeagleBone Black

**NOTE:** If you don't select the Sitara family of processors, CCS won't work with the BeagleBone Black. Feel free to select more processor families if you like. Then you can use CCS for other embedded projects later on.

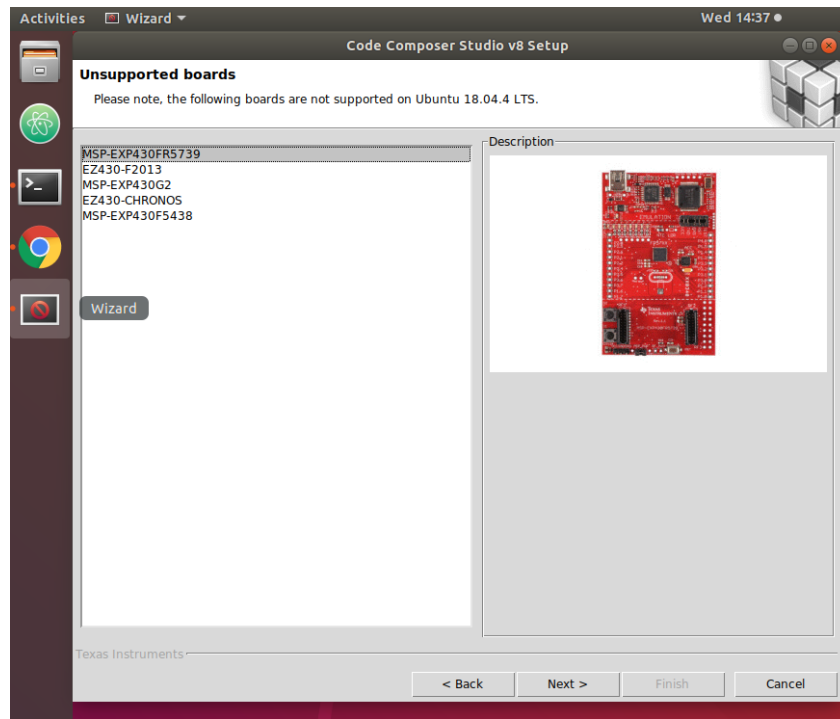


Figure 19 : Notice on unsupported boards

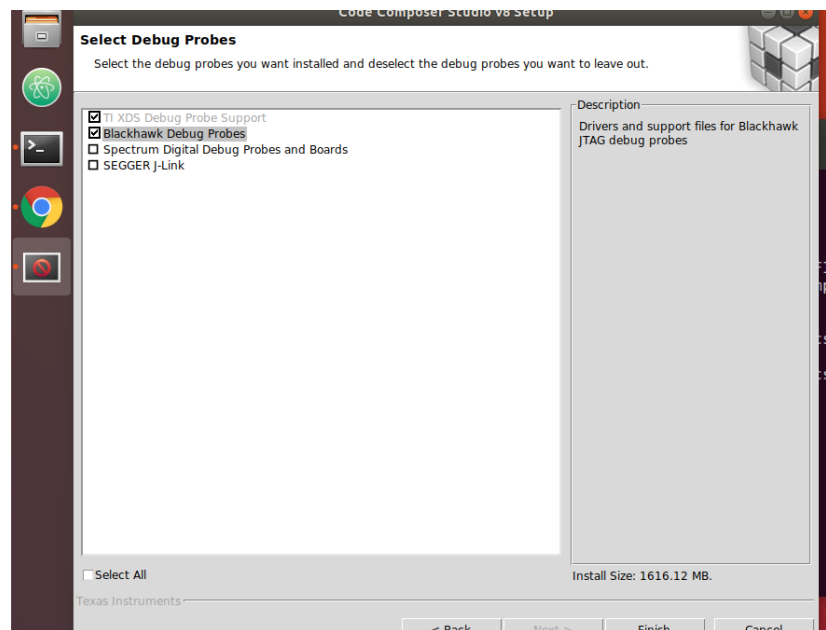


Figure 20 : Select the emulator you are using

**NOTE:** If you are using a rented or purchased Blackhawk emulator, or if you are using a rented Ashling emulator, you need to select the Blackhawk Debug Probes option.

## Finishing installation of CCS and Installing Debug Probes

- Wait for the installation to complete. (This will take some time)
- Complete installation of CCS
- Complete installation for debug probes
  - Open a new terminal window and navigate to the install scripts folder shown on the last screen of the installation program.
  - Run the install script for the debug probes with the following command

```
sudo ./install_drivers.sh
```

- After the script has installed successfully, reboot your computer to ensure that the changes take effect. You can do this with the following command in the terminal.

```
reboot
```

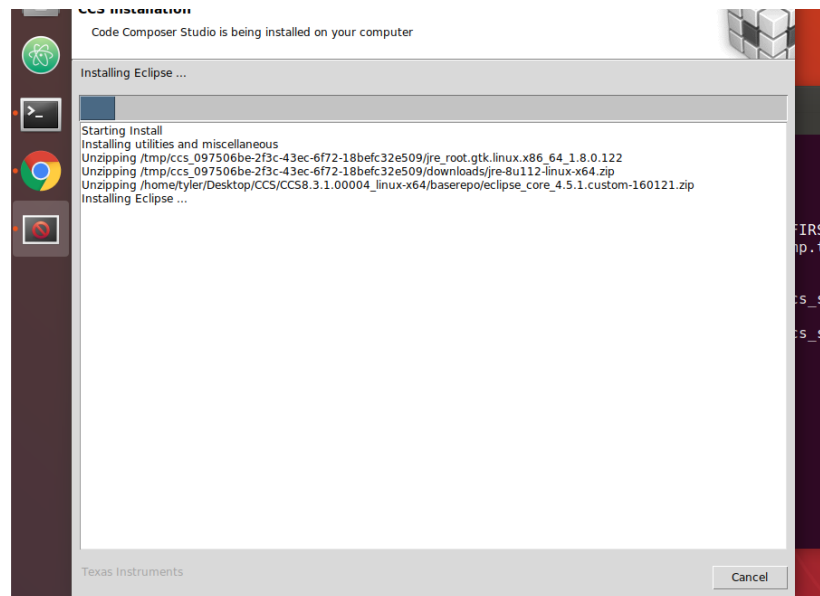


Figure 21 : Wait for the installation to finish



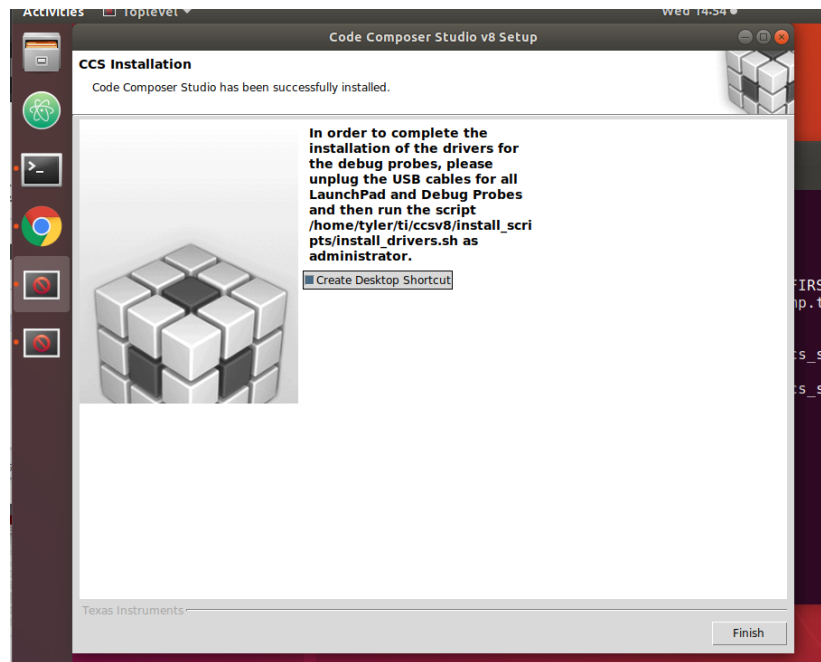


Figure 22 : Click finish to complete CCS installation

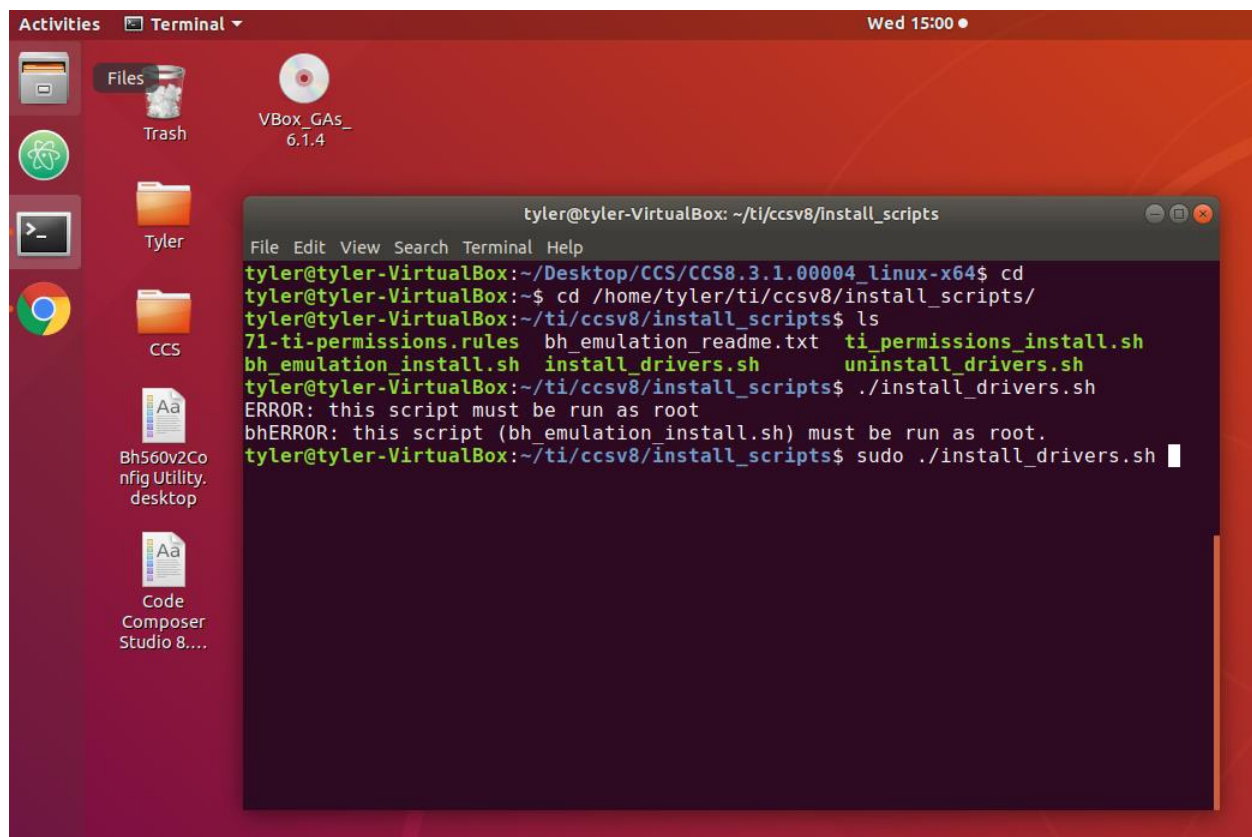


Figure 23 : Run the debug probe install scripts (make sure to do this with sudo)

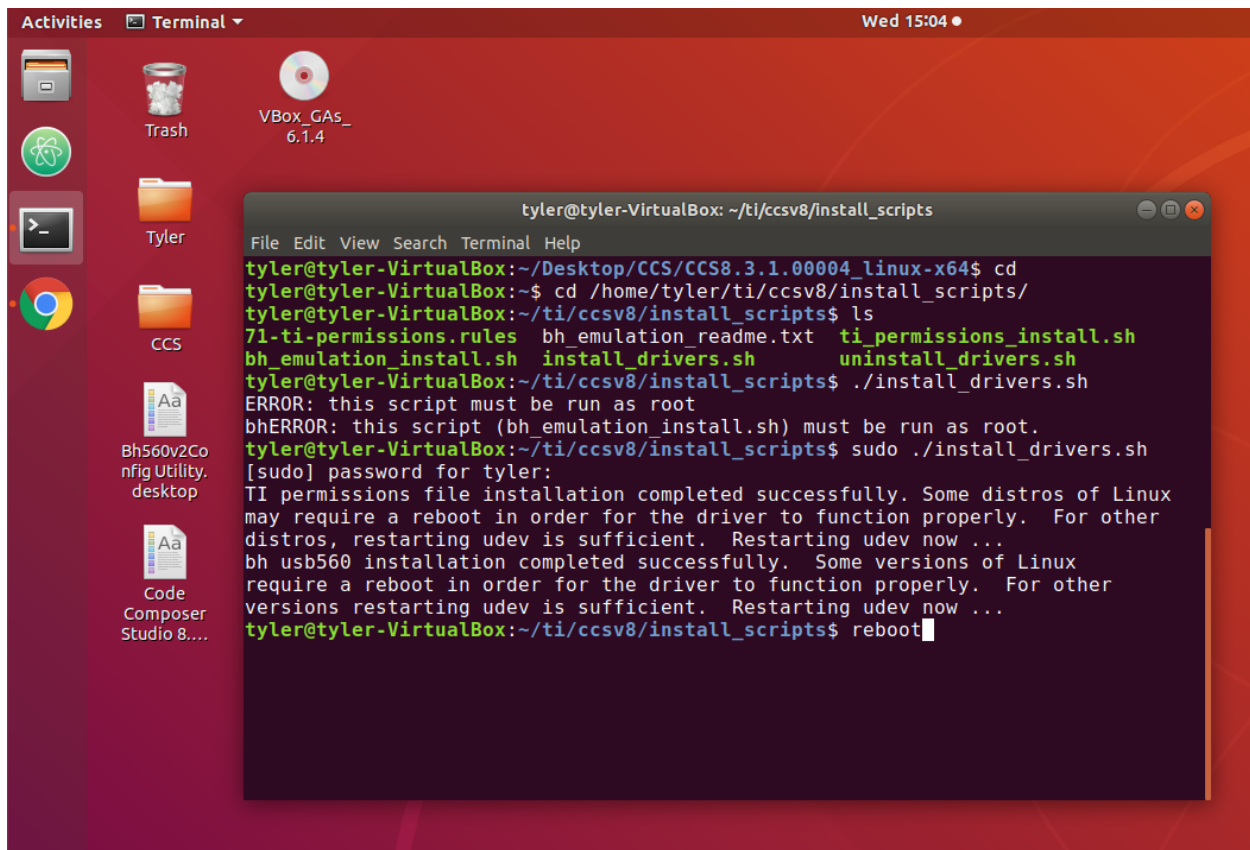


Figure 24 : Click finish to complete CCS installation

## Starting CCS to Confirm Installation

- If you chose to add a shortcut to your desktop, click on the CCS desktop file to start CCS.
  - If you did not choose a desktop shortcut, click the 9 dots in the bottom left of your desktop and type ccs in the search bar.
  - Then click on the CCS icon to start the software.
- Wait for CCS to load and select the location for your workspace to be stored.
- When you see the start screen for CCS, you are ready to move on to the CCS tutorial document.

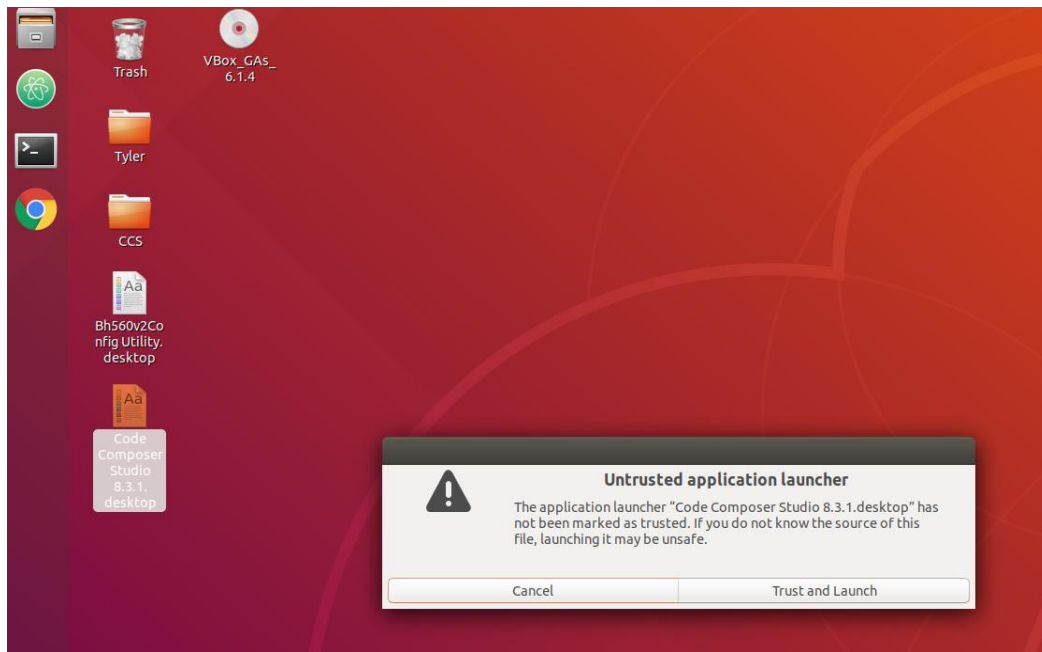


Figure 25 : CCS Icon now located on the desktop (Double click to open)

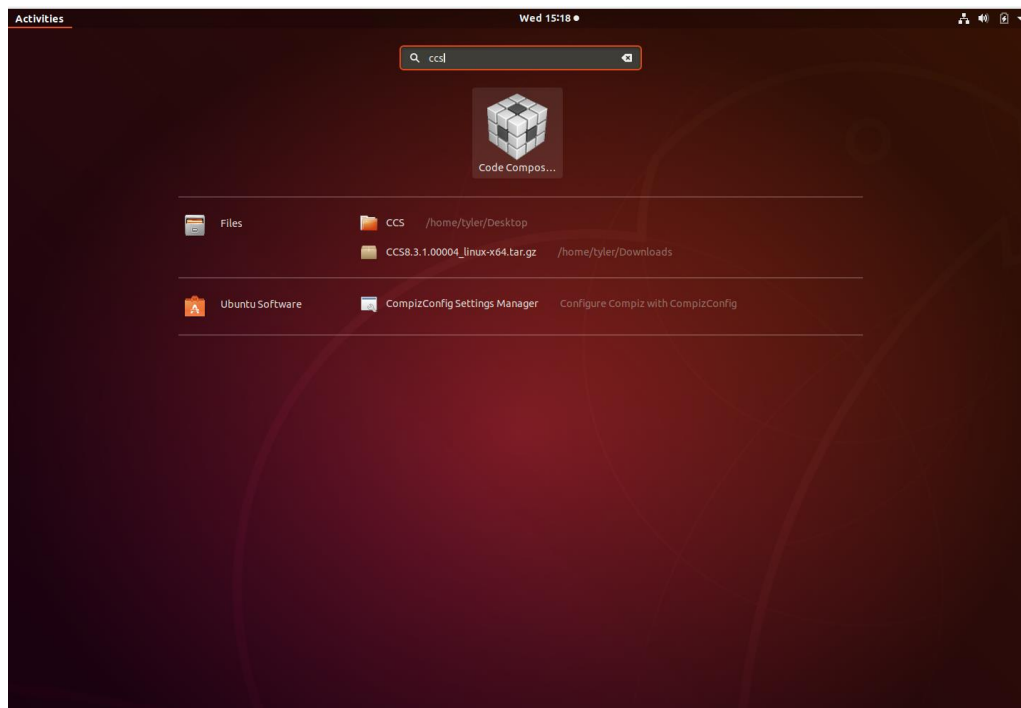


Figure 26 : Can also search for CCS and click to start the application

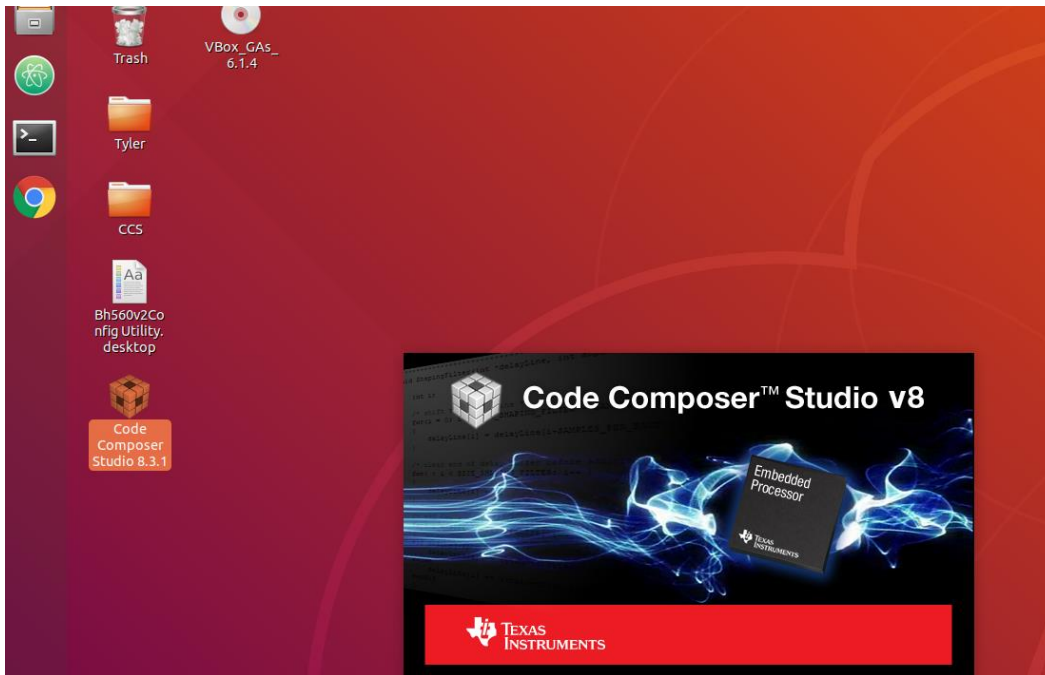


Figure 27 : Wait for CCS to load

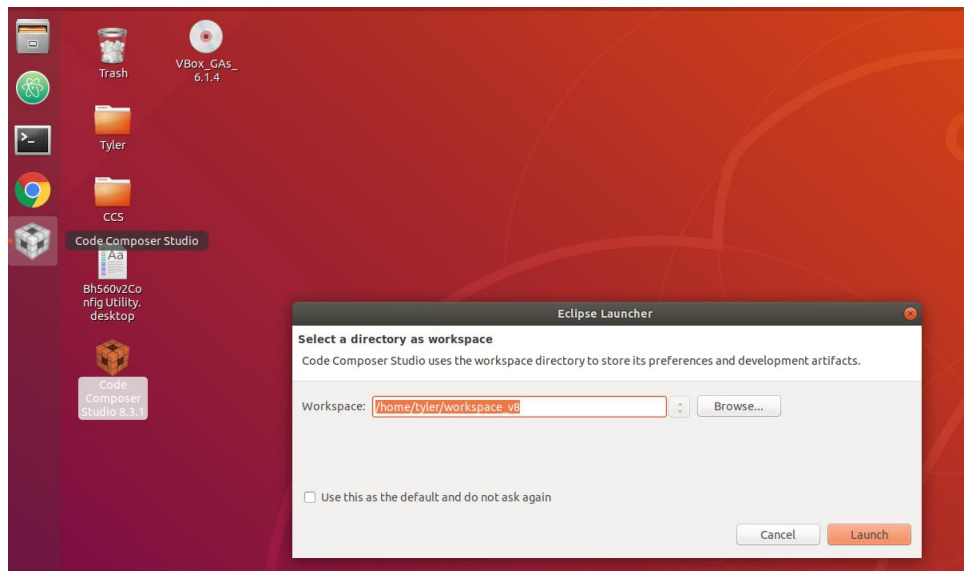


Figure 28 : Choose a workspace location (Where all your files are located)

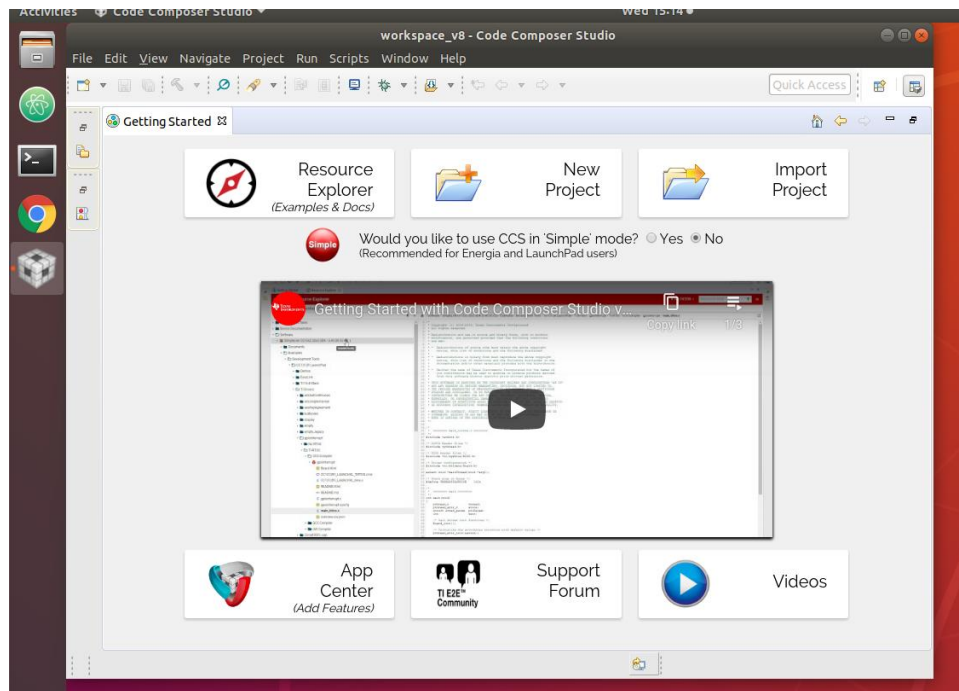


Figure 29 : CCS homescreen. You are ready to move on to the tutorial!