

DraganFly Guardian: API Instillation Instructions

Spring 2015

Casey Corrado

The Draganflyer Guardian API runs using Qt Creator on Ubuntu. The following instructions are to: install the virtual machine necessary to run Ubuntu, installing Ubuntu on that virtual machine, and, finally, installing Qt Creator and running the API.

- **Downloading virtual machine software**

- 1) There are several options for running Ubuntu on your machine. The recommended way is to use a virtual machine. In this case, VMware was used. This can be downloaded for free from the Tufts VMware Academic Program site.
- 2) Go to <http://vmap-tufts.onthehub.com/WebStore/Welcome.aspx>
- 3) At the top right corner, click 'Sign In', and login using your Tufts UTLN.
- 4) For students, click on the 'Students' tab. For faculty, click on the 'Faculty/Staff' tab.
- 5) Scroll down and select 'VMware Workstation 10'.
- 6) Select the platform for the computer you are using (either Windows or Linux).
- 7) Click 'add to cart', and then click 'check out'.
- 8) Click on 'start download', and then click 'download'.
- 9) Double-click on the .exe file and install the software.

- **Downloading Ubuntu**

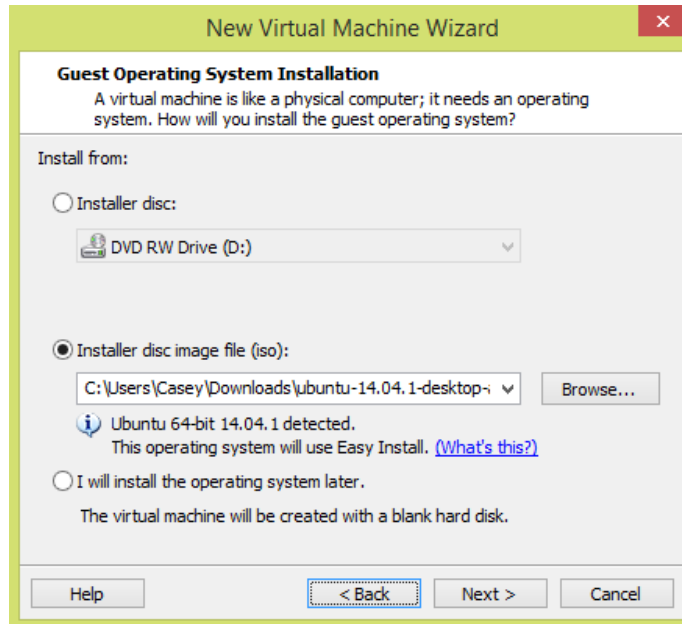
- 1) Go to <http://www.ubuntu.com/download/desktop>
- 2) Select the version of Ubuntu best suited for your machine.
- 3) Download the software.

- **Creating a new virtual machine**

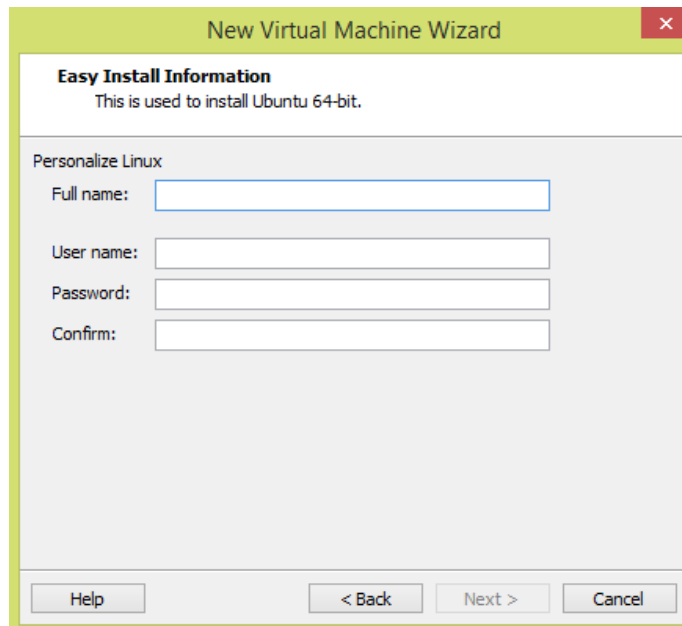
- 1) Open VMware Workstation.
- 2) Click create new virtual machine, or click on 'File', then 'New Virtual Machine'.
- 3) Choose typical.



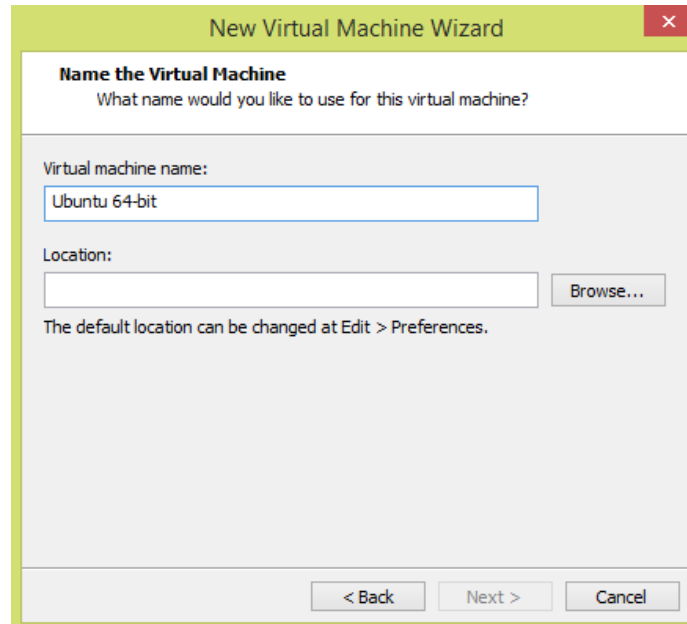
- 4) A window like the one below will pop up. Click 'browse' and select the Ubuntu file you downloaded in the previous step. When this is selected, it should say that the operating system will use 'Easy Install', as seen in the picture below. Then click next.



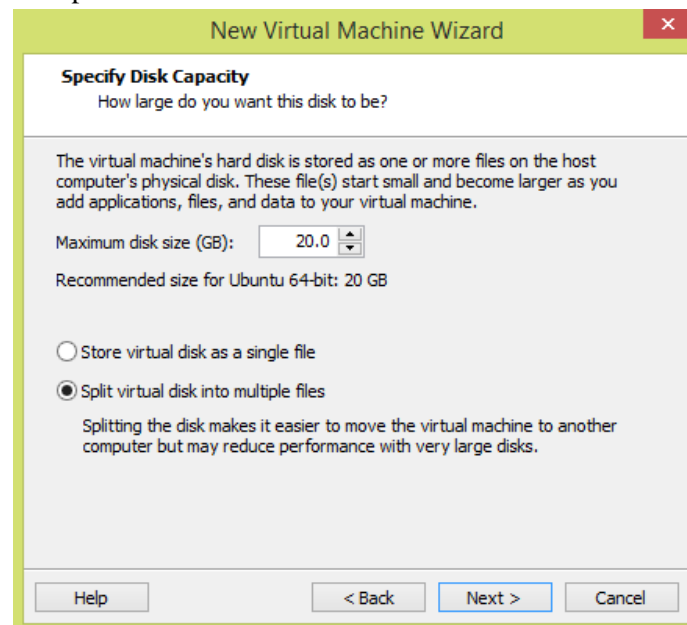
- 5) An 'easy installation information' window will pop up. Fill in your desired name, username, and password. Your username cannot contain uppercase letters. When you are finished, click next.



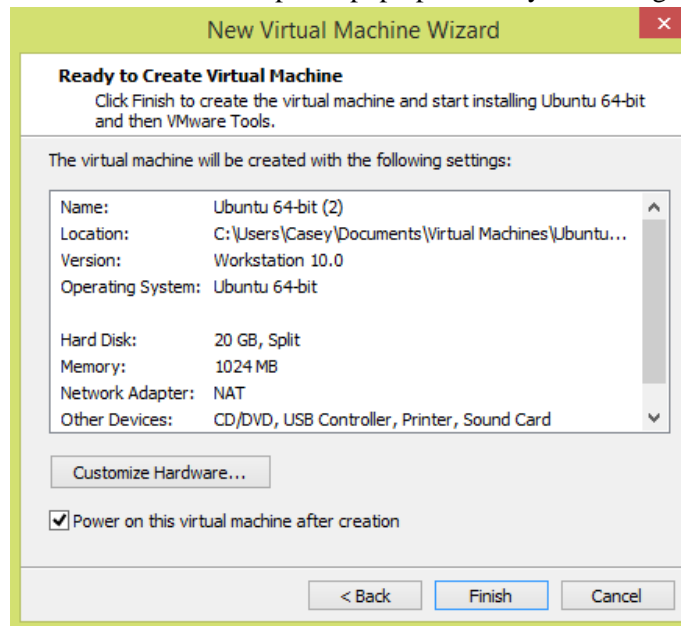
- 6) Next you will choose the name and location of the virtual box. It will automatically fill in a default name and location, but you can change this depending on your preferences. Once this is completed, click next.



- 7) Next you will choose the amount of disk space to allocate to the virtual machine. The recommended size is 20 GB, but depending on your machine, you can choose a larger amount of disk space. It is not recommended to choose less than 20 GB.



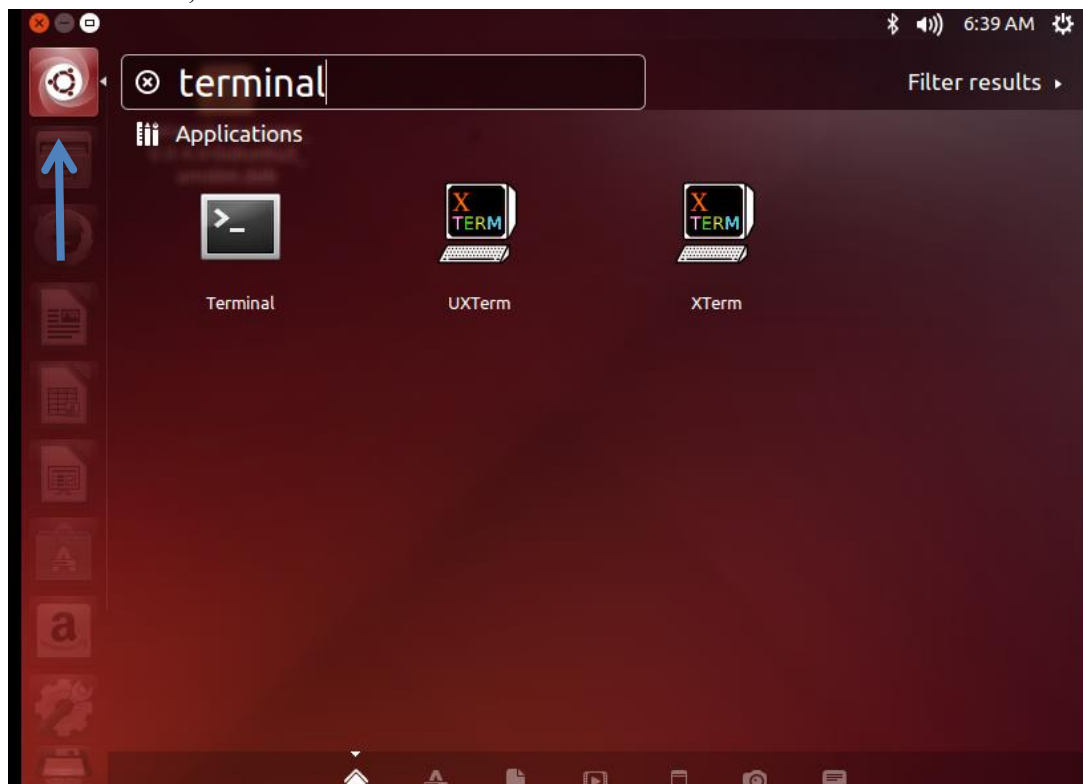
8) A summary of the virtual machine set up will pop up. Check your settings before finishing.



9) Click 'Finish' and the installation process will begin. This should take several minutes.

- **Preparing to install Qt on Ubuntu**

- 1) Login to Ubuntu using the password you created in the previous step.
- 2) Open the terminal. To do this, click on the icon at the top left side of the screen and search 'terminal'; then click on the terminal icon.



- 3) You will need to install g++ and several libraries in order to install Qt. Type the following commands into the terminal: (each one of these commands might take several minutes)

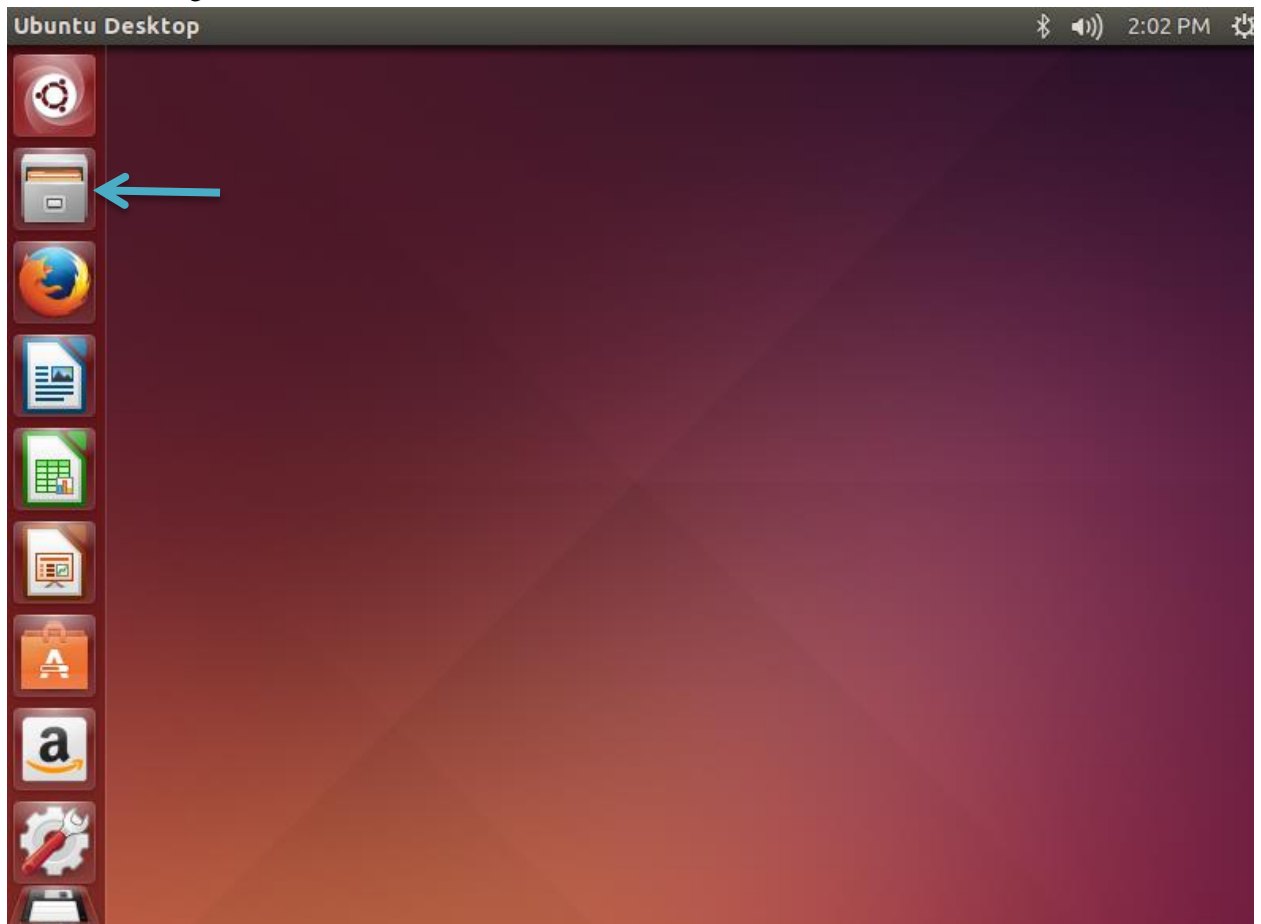
```
sudo apt-get update
sudo apt-get install g++
sudo apt-get install libxext-dev
sudo apt-get install libsdl-dev
sudo apt-get install libx11-dev
sudo apt-get install libgl2.0-cil
```

- **Downloading and Installing the Qt Software**

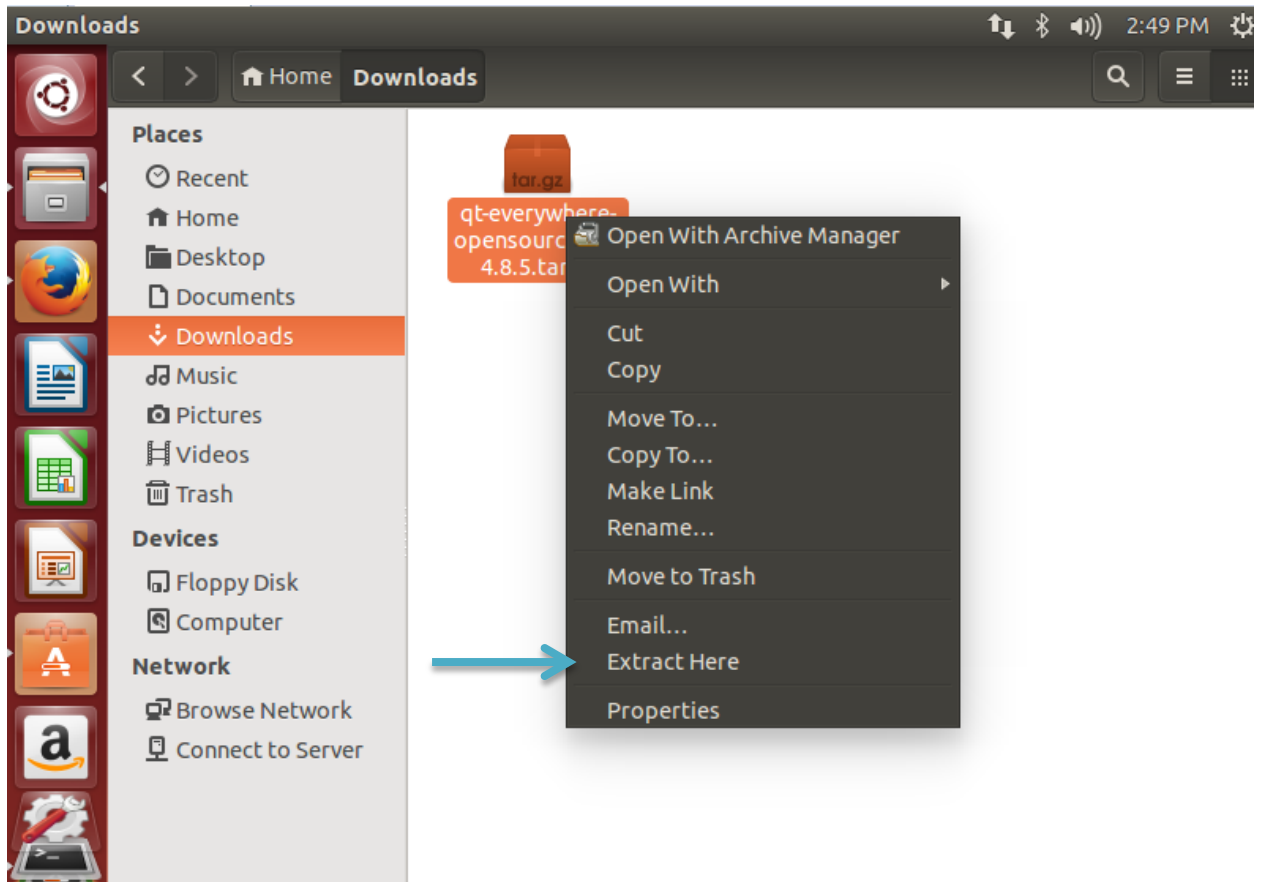
- 1) Download the Qt software from:

<http://download.qt-project.org/archive/qt/4.8/4.8.5/qt-everywhere-opensource-src-4.8.5.tar.gz>

- 2) Go to your documents by clicking on the 'Files' icon on the left side of the screen, as shown in the image below. Inside of 'Files', click on the downloads folder.

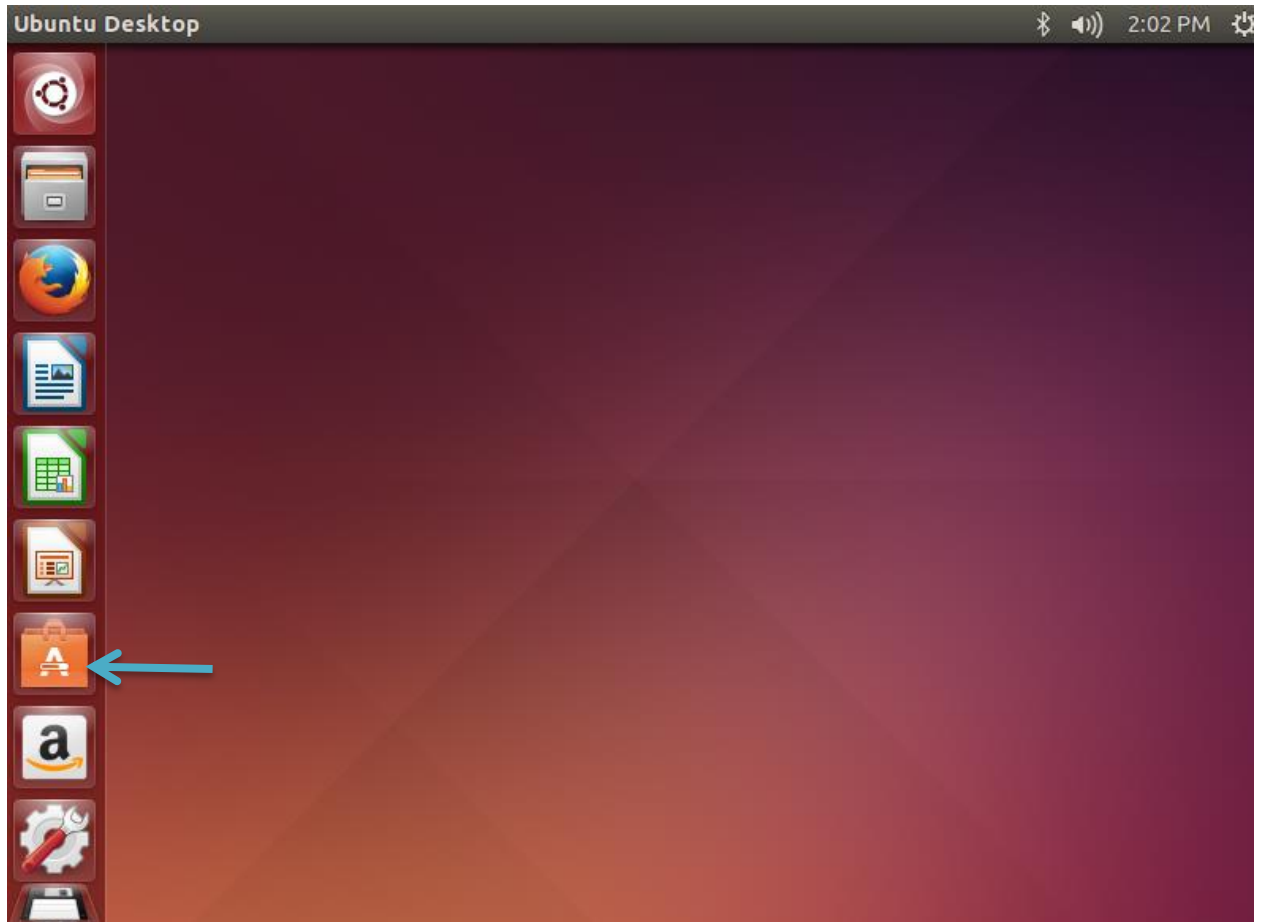


- 3) Unzip the Qt folder in your downloads folder. To do this, right click on the folder and click 'extract here'.



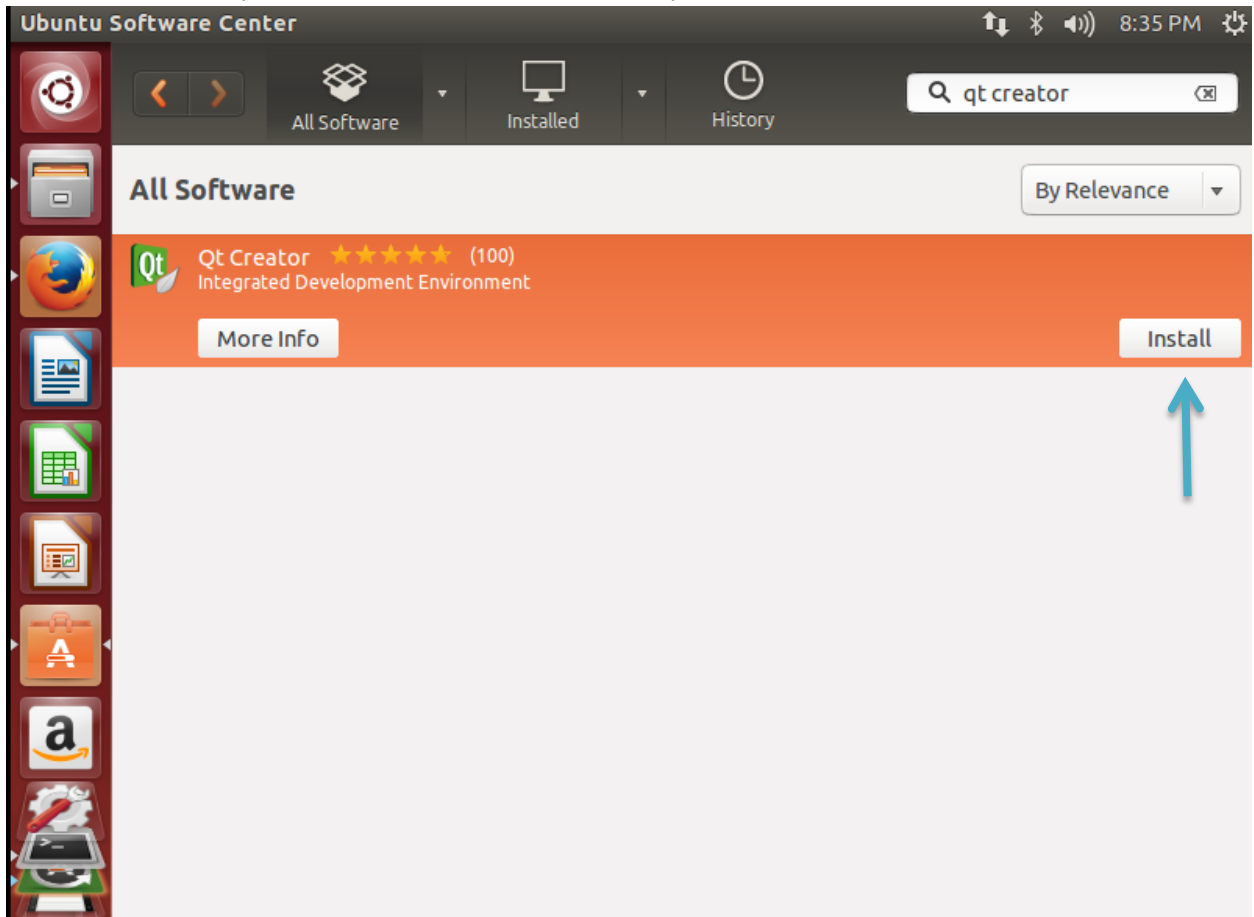
- 3) In the terminal, enter the following command to enter the downloads folder:
`cd ~/Downloads/qt-everywhere-opensource-src-4.8.5/qt-everywhere-opensource-src-4.8.5`
- 4) Install the Qt software using the following command: **(This step may take several hours)**
`./configure && make && sudo make install`
- 5) You will need to have the correct permissions to use 'sudo'. You will be prompted to input the password you created while installing Ubuntu onto the virtual machine.
- 6) When asked, choose the open source edition and agree to the terms of the license.

- 7) Minimize the terminal and go to 'Ubuntu Software Center'; to do this, click on the orange icon on the left side of the toolbar.



8) Search for 'Qt Creator' and click install.

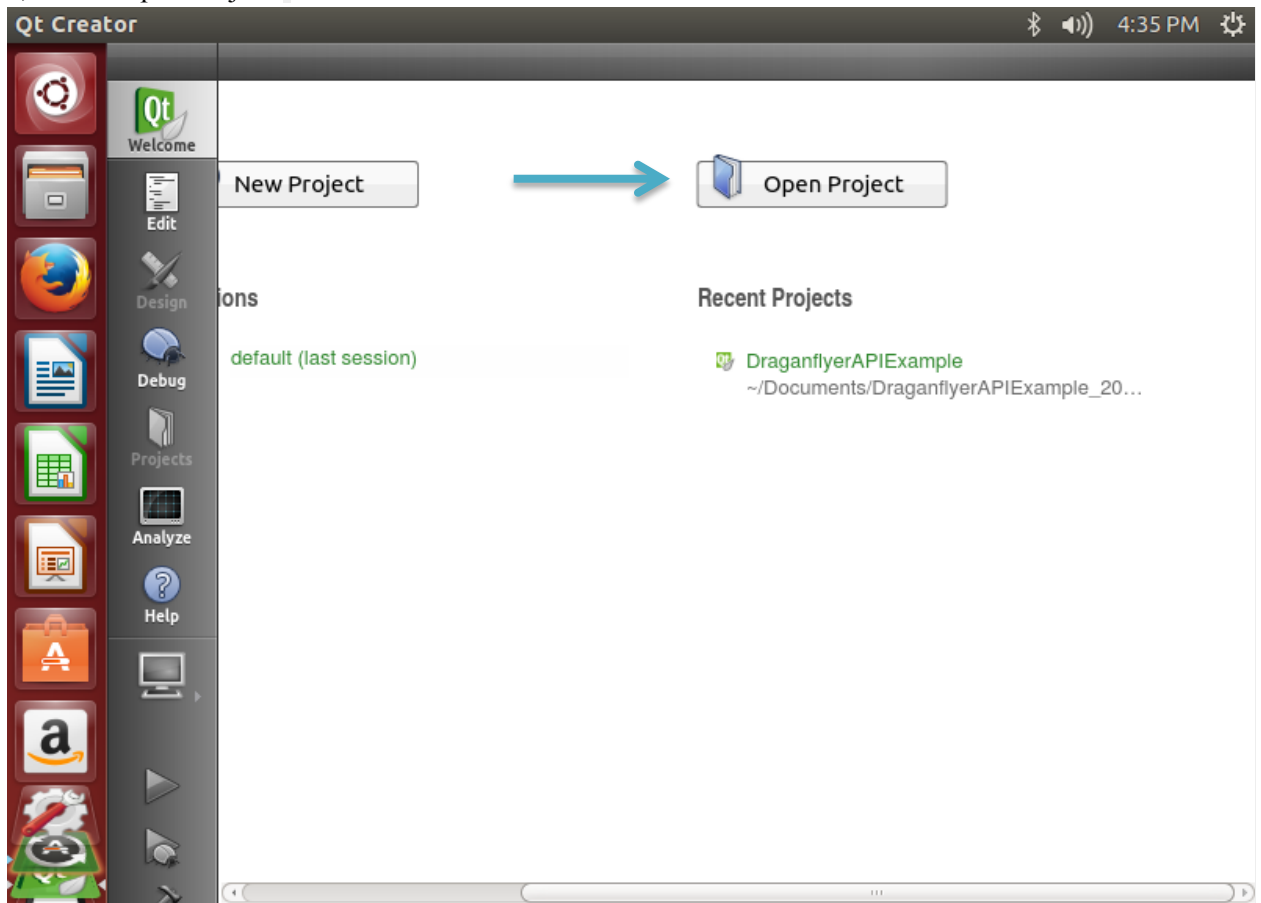
Note: If you cannot see the search bar, make your virtual machine full screen.



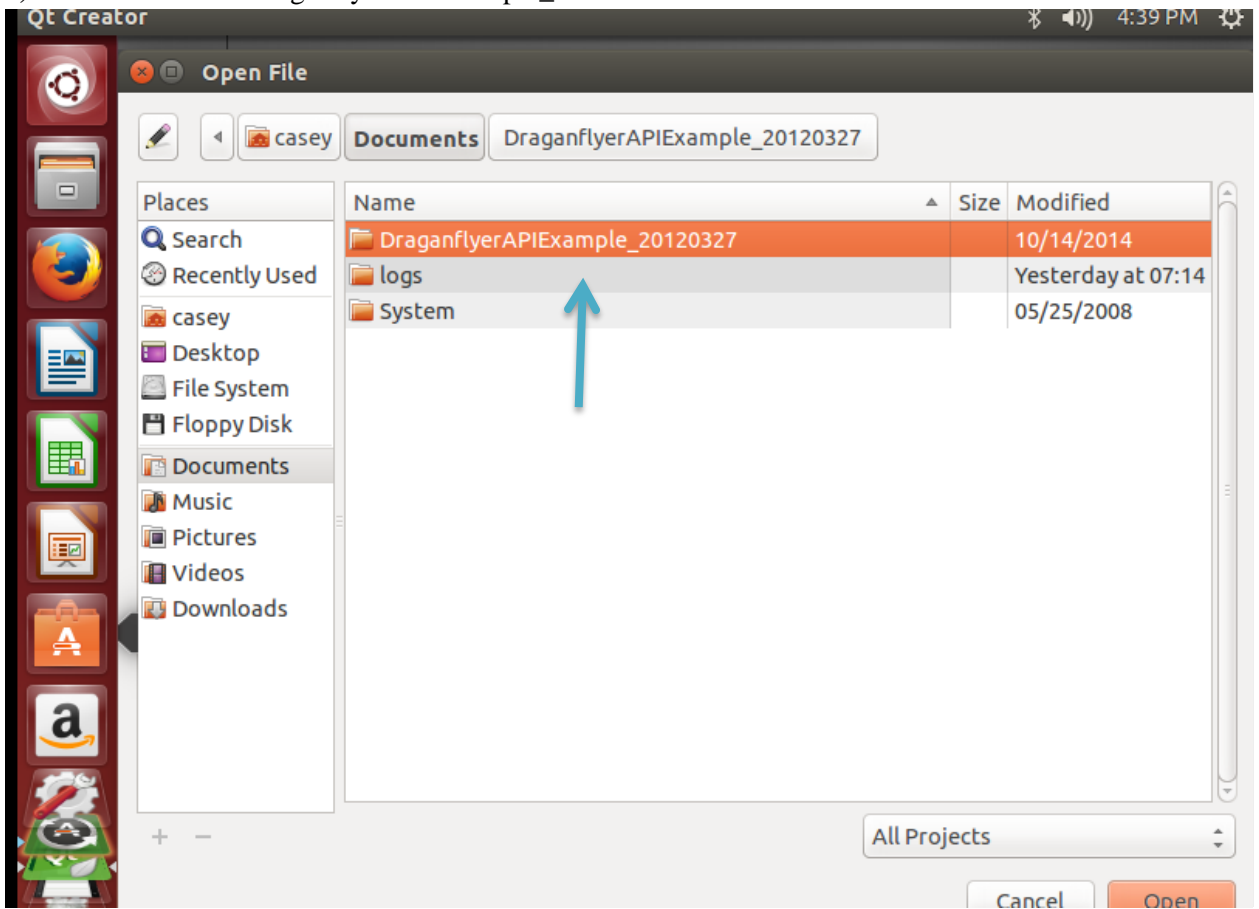
- **Opening the Draganfly API**

- 1) Get the Draganfly files from the provided CD and save them onto your virtual machine.
- 2) Open Qt Creator (you can search for Qt using the top search bar).

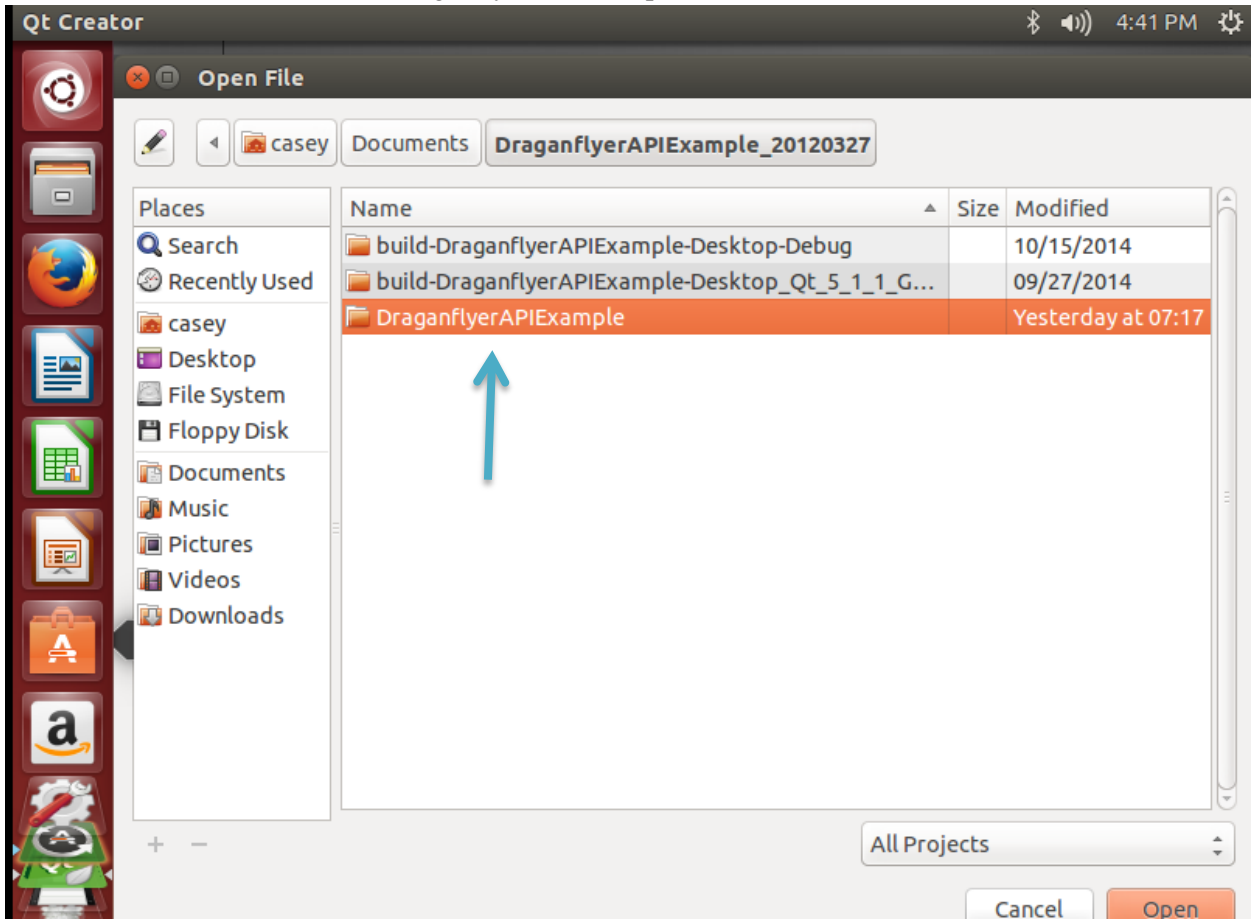
3) Click 'Open Project'.



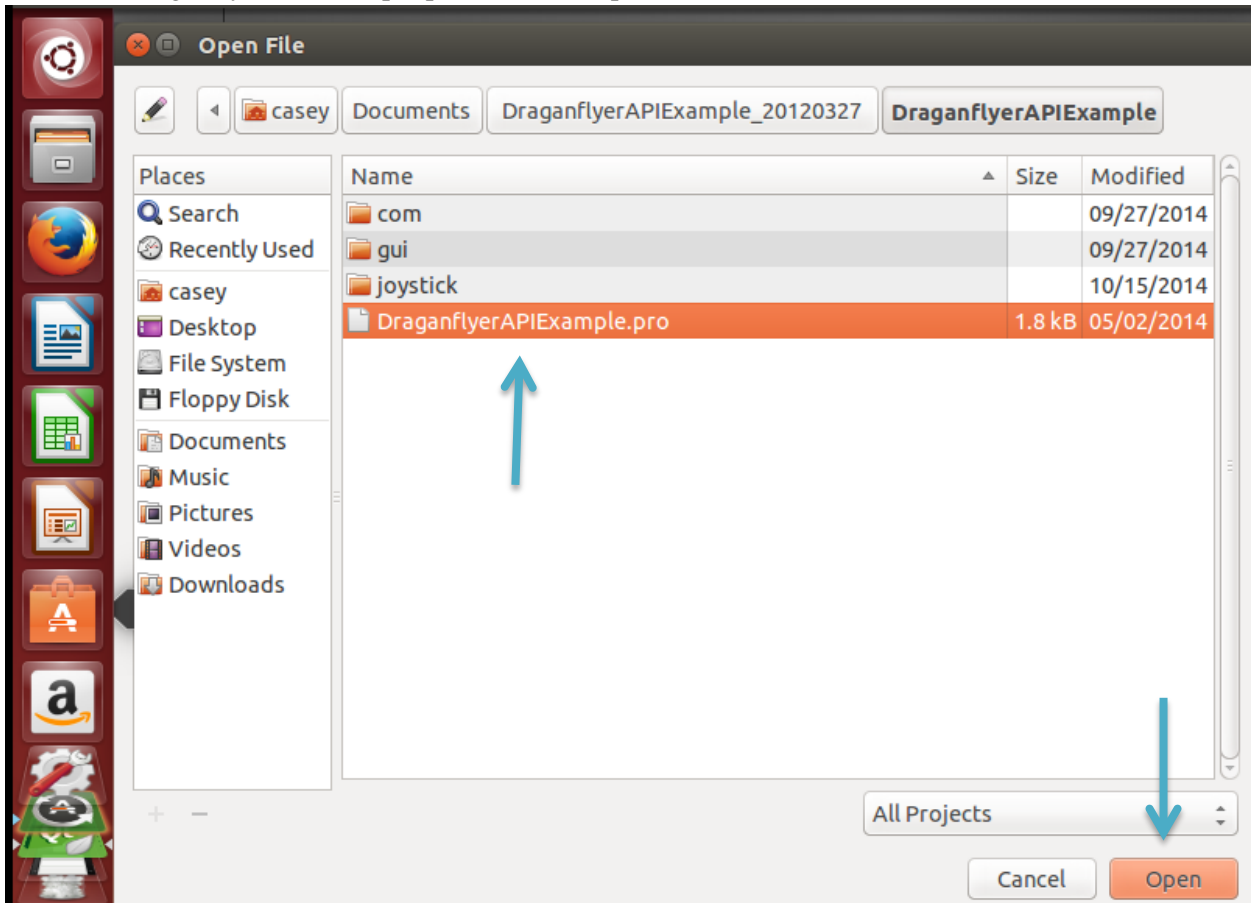
4) Select the folder 'DraganflyerAPIExample_20120327'.



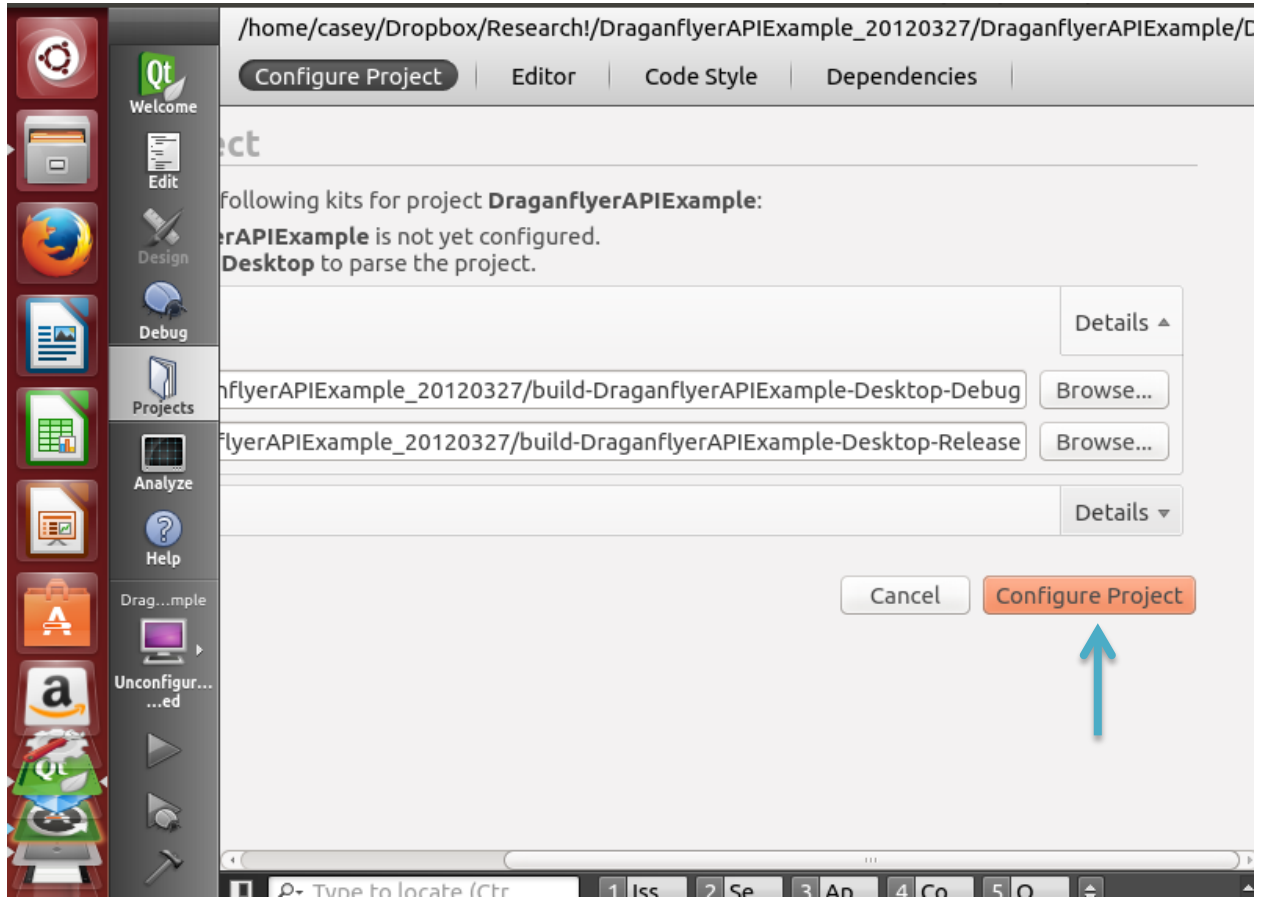
5) Within that folder, select the 'DraganflyerAPIExample' folder.



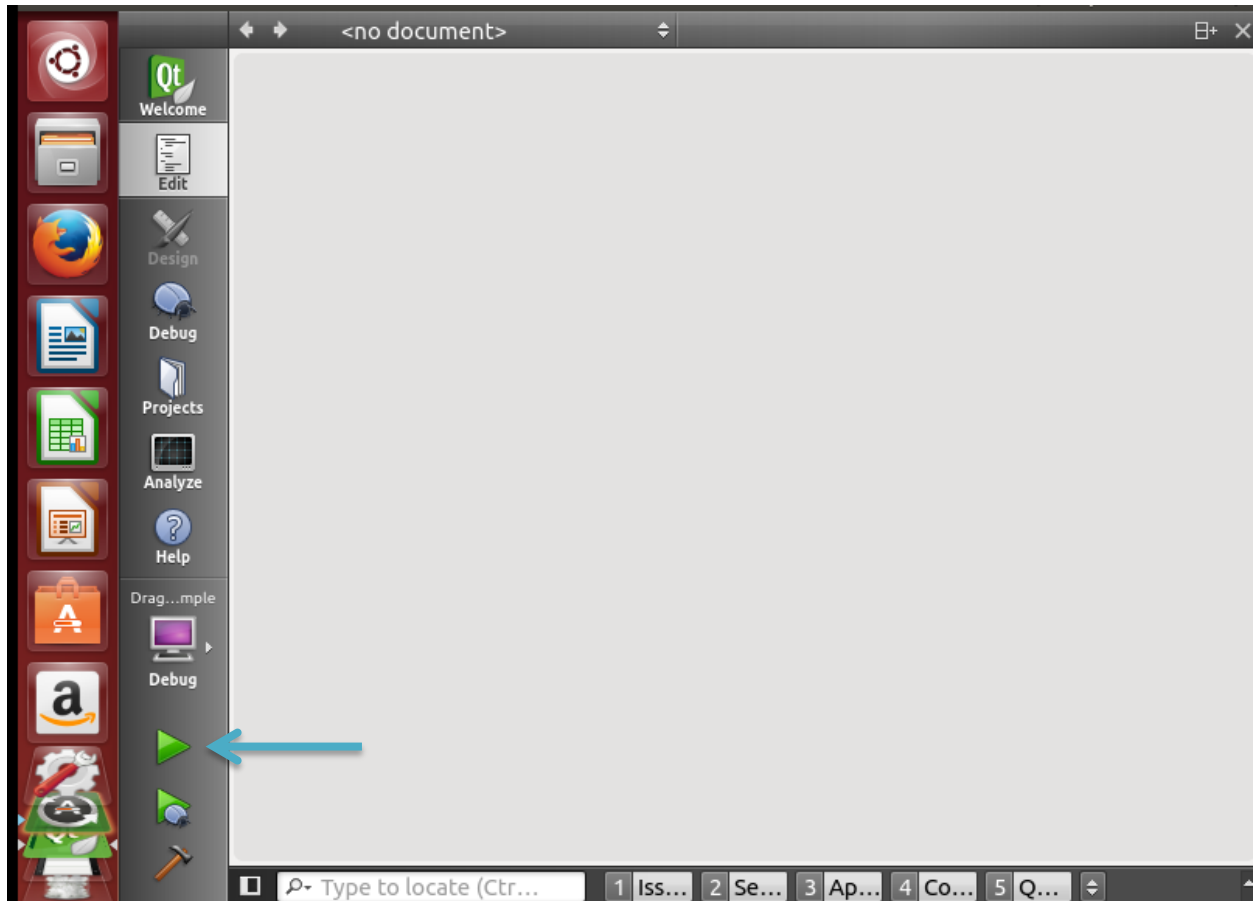
6) Select 'DraganflyerAPIExample.pro' and click open.



7) Click 'Configure Project' and wait for the project to finish parsing.



- 8) If the project does not automatically build, press the green play button on the bottom left hand corner. When you return to the API any time after this, open the project and hit this button to open the API.



9) The following screen will pop up and you have finished setting up the API.

