

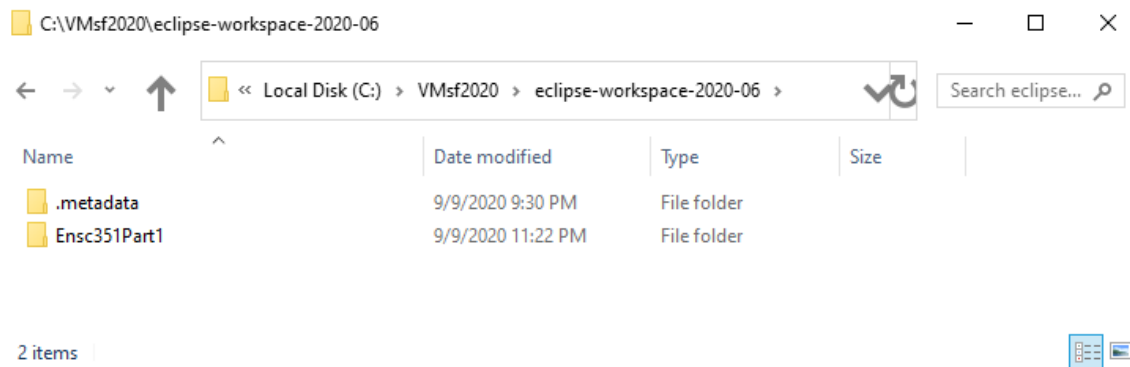
# ENSC 351: Real-time and Embedded Systems

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## Setting up the Virtual Machine (VM)

Hi all. These are the instructions for setting up the VM – focusing on Microsoft Windows.

1. Download a copy of VMware software. On Windows and Linux, you should be able to download and use VMware Player for free. For Mac one can use VMware Fusion. If you are taking a CMPT course I think you can get the software for free. Otherwise, you can buy a copy for yourself. Otherwise, we should be able to get the VMware Virtual Hard Disk working on Mac OS in Oracle VirtualBox (see <https://techathlon.com/how-to-run-a-vmdk-file-in-oracle-virtualbox/>). TA Gao has make the VM work on a Mac with VirtualBox, and will post instructions (or already has somewhere).
2. Download the latest version of the Virtual Machine from the SFU Vault. Use the link:  
[https://vault.sfu.ca/index.php/s/G8OZjaE6QdNO8GJLinks to an external site.](https://vault.sfu.ca/index.php/s/G8OZjaE6QdNO8GJLinks%20to%20an%20external%20site.)
3. On your computer, create a folder called VMsf2020 (this stands for Virtual Machine Shared Folder for ubuntu april 2020). If possible, create the folder directly at the root of your C: drive (so at C:\VMsf2020 ). On a Mac or Linux I assume this is not possible, and you will have to modify the directory in the VMware configuration window discussed in Step 8.
4. Download from Canvas the zip file eclipse-workspace-2021-06.zip and expand into your VMsf2020 folder so that you get something like the following (will be 2021 instead of 2020):

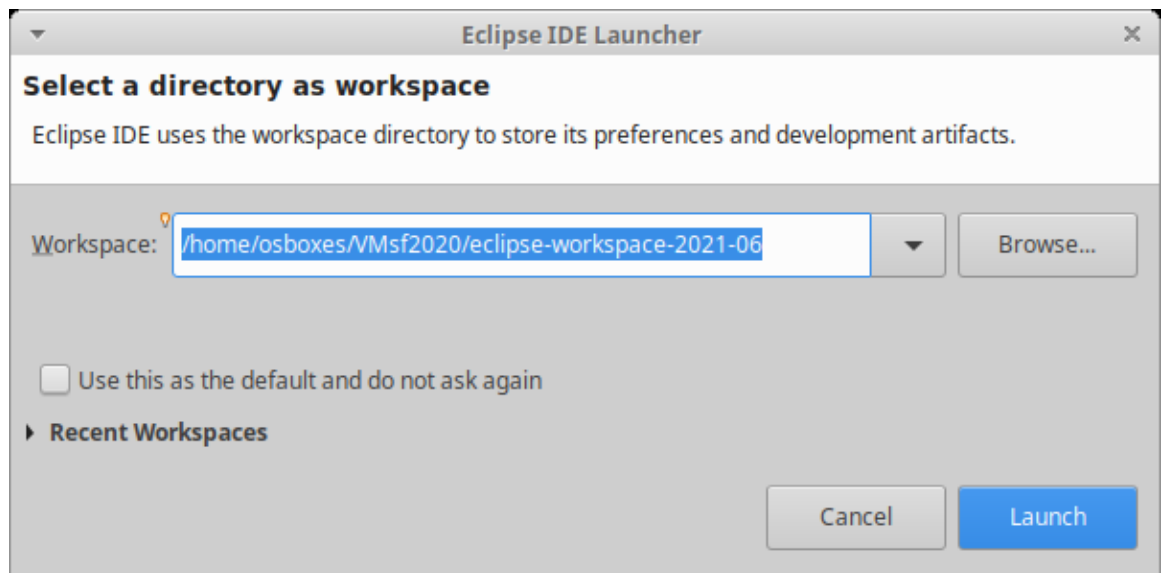


Make sure there are no extra levels of directories created in the process of expanding the .zip file.

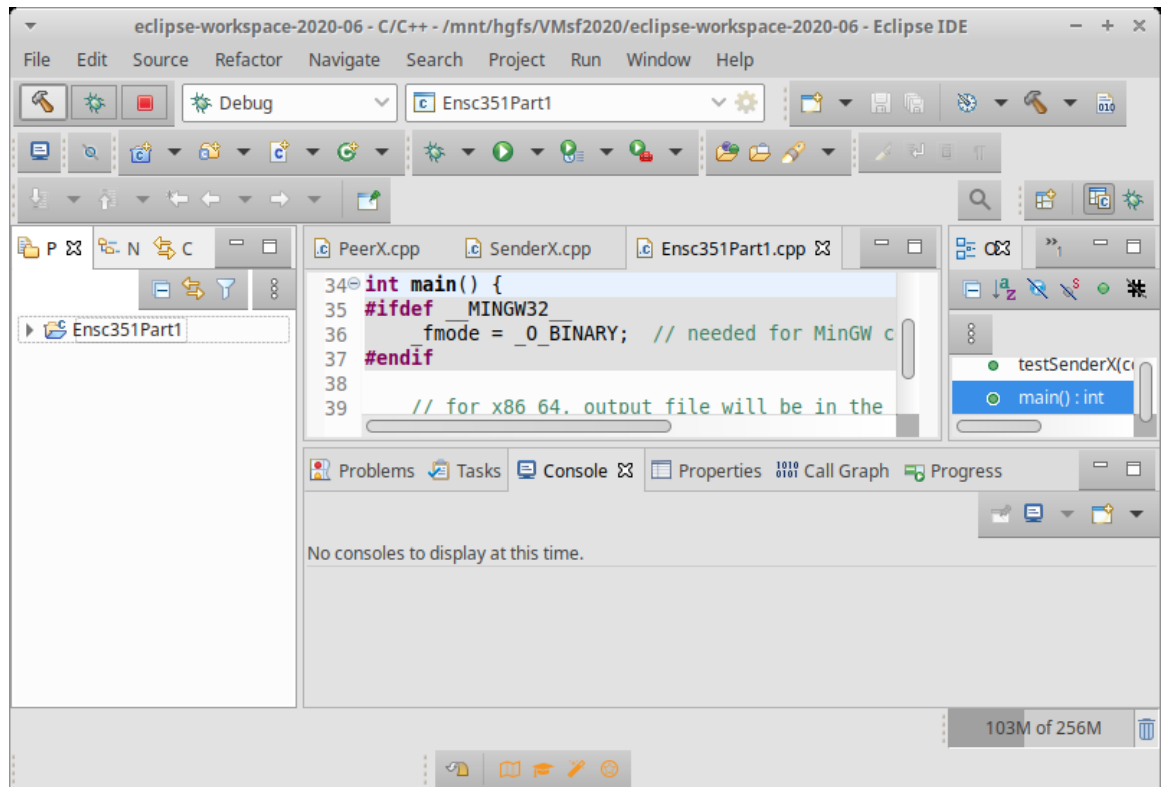
5. Install your VMware software
6. Extract the .zipped Virtual Machine you downloaded to a directory of your choosing. Personally, to match what was done in the Pit lab at SFU, I have most VMs installed at C:\VMs

VMware Player on windows usually installs VMs in one's ... \Documents \Virtual Machines \ folder.

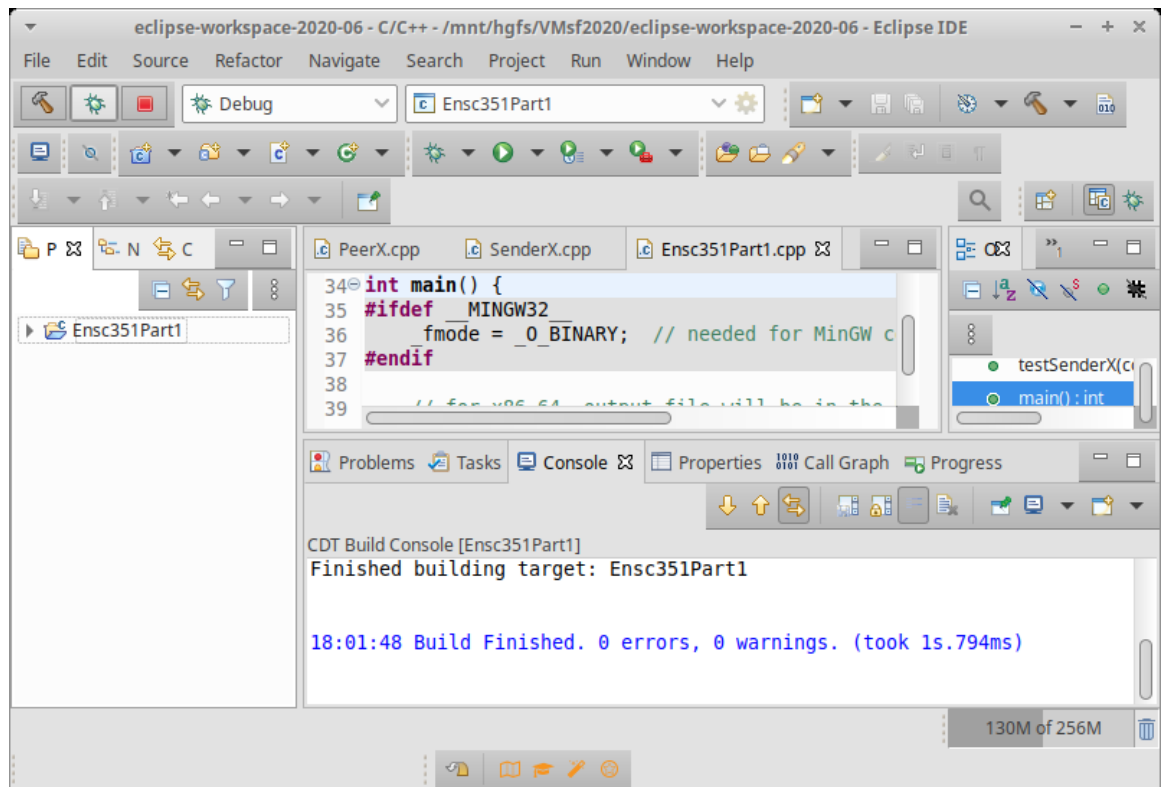
7. Launch the VM. You can launch the VM by double-clicking on the .vmx file (Ubuntu 64-bit.vmx – of type “VMware virtual machine configuration”). . It seems that some students are finding that they need to modify a setting in their BIOS and then restart their computer. If you need help with such things, please post on Piazza and include details of your computer including details of your BIOS.
8. After the VM launches (or before if you prefer), you will need to set “Folder sharing” to “Always enabled”. To do so, click on “Player” > “Manage” > “Virtual Machine Settings...” and then go to “Shared Folders” in the “Options” tab. Choose the “Always enabled” radio button and click on the “OK” button.
9. If you now open the VMsf2020 link, you should see the eclipse workspace that you extracted on your host. If the shared folder doesn’t seem to be working and you haven’t already restarted your VM, try restarting your VM.
10. Launch the “Eclipse CPP” icon on your desktop. Make sure that you put in or get this path to the Workspace:



11. You should be able to click on the “Build” button in the top-left corner of Eclipse to build the one project currently in the workspace. If you have any problems, use the “Build Project” entry in the context menu for the project.



12. Then you should be able to click on the next button over, a little green “bug” icon, to debug this project in the debugger. If you have any problems, in the context menu for the project select “Debug As” > “Local C/C++ Application”. More on this again in class. Please ask on Piazza if you have any questions.



13. That’s it for now. As in Piazza if you have any questions.