

# Lab 0: GETTING STARTED

The University of Washington | [The Remote Hub Lab](#) | Last Revised: March 2022

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## Summary

This lab helps students install and become familiar with the technology tools they need to complete the Remote Hub Lab's introductory digital logic lab series. Material includes making an account on the LabsLand platform and downloading Quartus and ModelSim.

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## About the LabsLand Platform

### *Description*

LabsLand is an online platform where students around the world can access remote hardware laboratories. For the purposes of this introductory digital logic lab series from the Remote Hub Lab (RH Lab), LabsLand provides virtual access to real remote hardware through the University of Washington's Electrical and Computer Engineering department.

### *For Instructors*

1. Go to the following link: <https://labsland.com/web/intel/community-colleges>.
2. Follow the instruction prompts on your screen to create a group for your students.

### *For Students*

1. Wait for a link from your instructor to join your LabsLand group. **DO NOT ACCESS THE LINK ABOVE, WHICH IS FOR INSTRUCTORS ONLY.**
2. When you are able to login using the link from your instructor, you should be able to see a dashboard which includes three LabsLand laboratories: 1) Digital Trainer, 2) Boole, and 3) Intel DE1\_SoC.

## Downloading Quartus and ModelSim

### *Getting the Quartus and ModelSim Software*

The designs and simulations in this lab series will be done through Quartus and ModelSim software, respectively. We will use these tools beginning in Lab 4.

If you are using a Windows machine, you can install the software for free by following these steps:

1. Go to <https://fpgasoftware.intel.com/?edition=lite>.
2. Download the free web edition and install it. Note that you will have to register to be able to download the software.
  - a. Make sure you Select Edition “Lite” and Select Release “17.0”.
  - b. Download the 5.8 GB tar file under the “Combined files” tab.
  - c. Extract the tar file using a program like 7-zip.
  - d. Run the QuartusLiteSetup-17.0-windows.exe file.
  - e. When it asks for the components to install, make sure you select each of these:
    - Quartus Prime Lite Edition (Free)
    - Devices: Cyclone V
    - ModelSim: Intel FPGA Starter Edition (Free)
3. When the software is done downloading, make sure to install the USB blaster driver.
4. Run Quartus next, and if asked about licensing just run the software (we use the free version, so no license required).

In the case that you use a Mac, you can install a virtual machine (which allows you to run Windows on a Mac) and proceed with the steps 1-4 above.

### *Creating Your First Quartus Project*

Follow the instructions in this video tutorial to set up and create your first Quartus project and directory for future use in Lab 4: <https://youtu.be/iLbmSTG7bpA>.