

ECE453/CS447/SE465

Software Testing, Quality Assurance, and Maintenance

Assignment/Lab 1 Technical Notes

Patrick Lam
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This document explains how to set up a working environment for Question 2–5. I’ve chosen to use Vagrant to make it easy to set up your environment. I’ve tested these instructions on Debian GNU/Linux as well as Windows. They should work on a Mac as well.

Initializing your virtual machine

Install the following software:

- you should already have git, since you cloned the a1 repository;
- virtualbox (<https://www.virtualbox.org/wiki/Downloads>); you don’t need the extension pack or SDK;
- vagrant (<https://www.vagrantup.com/downloads.html>).

You should have an a1 directory after cloning the provided git repository as described in the main document. In that directory, you will find a Vagrantfile, bootstrap.sh, and the average app (along with what you need for Q1 and templates for your answers).

Next, you need to get vagrant to build your virtual machine.

- Go to the a1 subdirectory, and

```
$ vagrant up
```

This initializes your virtual machine and downloads the average sample code into the virtual machine.

potential pitfall: you may get a cryptic error about “VT-x not available”. In that case, you need to go to your computer’s BIOS settings and enable virtualization extensions. (See <http://superuser.com/questions/22915/how-do-i-enable-vt-x> for information.)

- Start an ssh session into the virtual machine you’ve just set up:

```
$ vagrant ssh
```

potential pitfall: ssh may not be set up/in the PATH on your (Windows) computer. Either put it there (git includes ssh), or ssh directly into your virtual machine:

```
> ssh vagrant@localhost -p 2222 -i <address-vagrant-ssh-tells-you>
```

Great! Now you have a working virtual machine.

Starting the “average” webapp

- building: in the `shared/average` directory, run `pub get; pub build`.
- running: in that same directory, run `dart bin/average.dart`.
- testing: in a web browser on your computer, go to `http://localhost:8088/average`.

Editing files

The Vagrant configuration is set up such that the `shared` directory inside `a1` is also visible inside the virtual machine in your home directory there. You can use your favourite text editor on your host machine, or you can install `vim` or `Emacs` inside the VM and edit there. Because the directory is shared, committing and pushing your clone of the repository from your host machine will send us your submission.