Installing Anvi'o using a Docker Image Version 2

James Thornton

Abstract

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Guidelines

Virtualization must be enabled for Docker to work. This is performed through the BIOS. To access the BIOS you must restart the computer and press the appropriate key immediately upon start up. Each computer has it's own key to enter the BIOS so google you specific machines key. There should be 2-4 different menus. Scroll until you find an option called "virtualization". Enable virtualization. Save and Quit BIOS. Docker should be able to run now.

Data binding for Windows Users:

The following is a list of files you need to SCP. Remember you need to open a new terminal window in Cygwin and perform these commands offline (meaning don't login to the hpc on the new window):

- scp netid@hpc.arizona.edu:/rsgrps/bh_class/username/assembly/megahit-out/fixed-contigs.fa .
- scp netid@hpc.arizona.edu:/rsgrps/bh_class/username/read_recruit/bam/*.bam .

The default location for these files is C:\cygwin64\home\USER. You can navigate there and ensure all necessary files are present using File Explorer. This PC > C > cygwin64/home/user

Move the necessary files to a folder in Documents.

Starting your Anvi'o session with necessary data:

In order to access your data in the Docker image you must execute this command:

```
docker run --rm -v /path/to/files:/my_data -it meren/anvio:latest
```

where /path/to/files points to where you contig and bam files are located. An easy way to get this is to navigate to the folder containing your files inside the Docker Terminal. pwd to get the path.
Note: Use / instead of the windows convention of using \
:/my_data is the name of the directory that will be created inside the Docker Image. You can leave my_data as is and just edit the path.

Protocol

Step 1.

Install Docker Toolbox. Scroll down the page until you see downloads. Mac users will download DockerToolbox-1.12.2.pkg. Windows users should download DockerToolbox-1.12.2.exe. Install with default settings (no need to uncheck anything).

LINK:
https://www.docker.com/products/docker-toolbox

Step 2.

After installation is complete, run Docker Quickstart Terminal (Windows users should have a shortcut on the desktop). Allow Docker to perform the necessary initializations.

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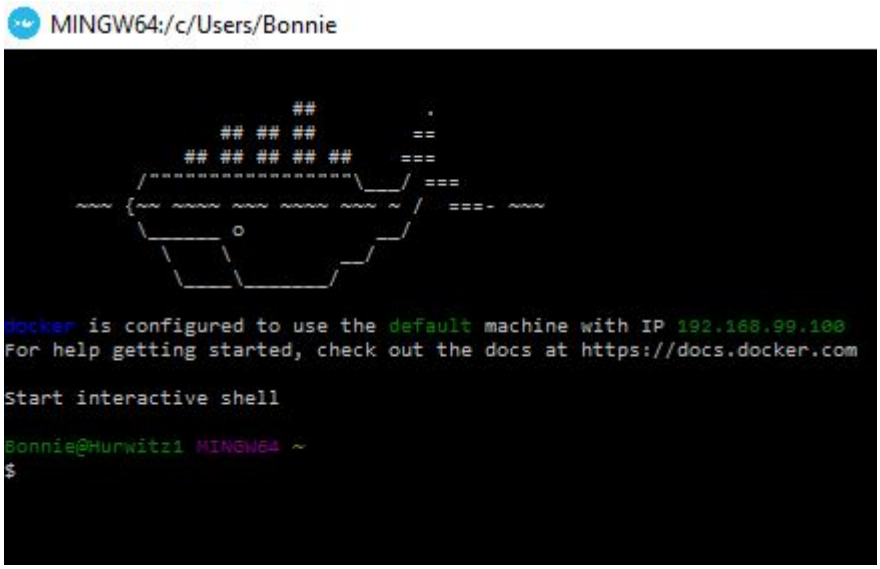
You may be asked multiple times to allow permission. Click yes.

Step 3.

Once initialization is complete your terminal will change to look like the picture below:



Write down the green IP address.

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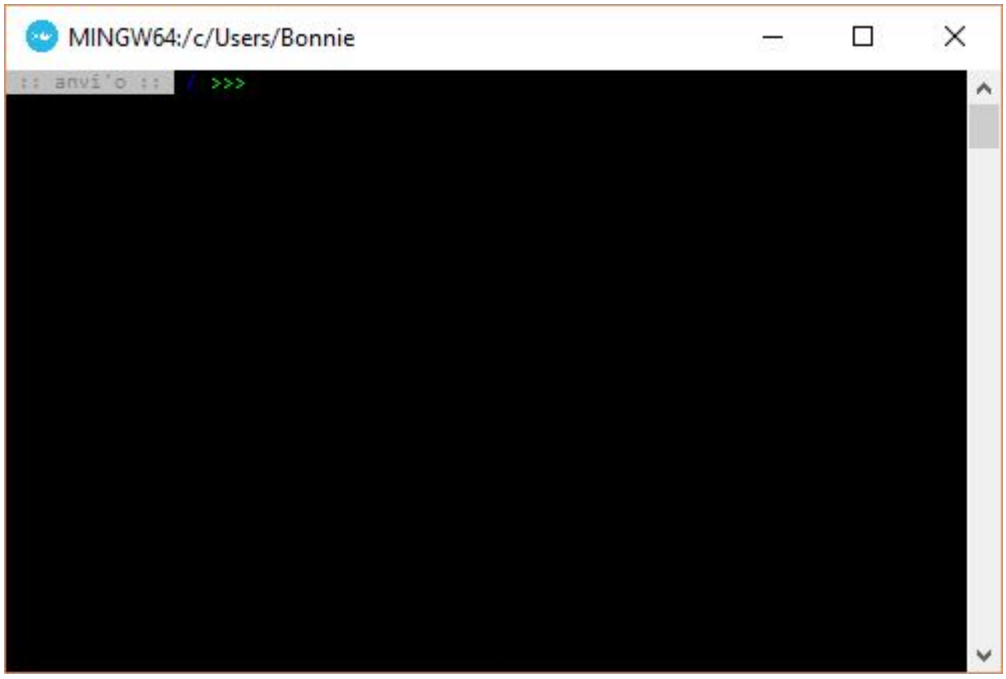
Important: The IP address in green will be used in a later step. Note that your IP will be different than the one shown in the above picture.

Step 4.

Input the following command which will begin to download necessary files:

cmd COMMAND
```
docker run -p 8080:8080 -it meren/anvio:latest
```
Step 5.

Once complete you will have a prompt that looks like the picture below:



Step 6.

Run the self test by putting the following command into the prompt:

cmd COMMAND

```
anvi-self-test
```

Step 7.

Open Google Chrome (yes you need Google Chrome). Input the IP address followed by :8080.

Example: 192.168.99.100:8080

LINK: https://www.google.com/chrome/browser/desktop/index.html

Step 8.

You should see an example Anvi'o visualization. Return to the terminal window and press Ctrl + C to terminate the anvi-interactive session.

Step 9.

Anvi'o is now ready for use on your own data. See guidelines for binding data directories.