Testing programs on `dimefox`

2021

A guide to accessing the Faculty of Engineering and IT student unix machines (`dimefox`) to test your assignment work before submitting via the LMS. For additional general information on the student unix machines, check out https://ithelp.eng.unimelb.edu.au/itservices/students/general_unix.html.

Step 1: Accessing the university network

The first step to access `dimefox` is to connect to the university network.

From campus

If you are on a lab machine, or your own machine connected to UniWireless, you are already on the university network.

From home

If you want to access `dimefox` from home, you'll need to be connected to the university's virtual private network (VPN). The website https://studentit.unimelb.edu.au/findconnect/vpn shows you how to install the *Cisco AnyConnect* or *FortiClient* VPN software and log in to the university's virtual private network. You may also be able to connect with another VPN client, but there are no detailed instructions available to help with this.

Step 2: Getting your files to the server

The next step is to transfer your files to your university hard drive. There are a few ways to do this.

From the lab machines

Your university hard drive accessible from within `dimefox` is the same drive as your `H` drive on the lab machines. So, if you have your files somewhere on your `H` drive on the lab machine, they are already also accessible from `dimefox` and you can go to the next step.

From your personal Windows machine

If not installed already, install *pscp* from http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html.

Also, make sure you are connected to the university network (see above).

Then, follow these steps:

1. In *cmd*, navigate (using `cd`) to the directory that has your source code files in it.
2. Copy these files to your university hard drive using a command like

`pscp <list of my files> <username>@dimefox.eng.unimelb.edu.au:`

For example, say I wanted to copy all the .py files in the current directory,

`pscp *.py farrugiam@dimefox.eng.unimelb.edu.au:`

Note: if you would like to copy the files into a particular folder on your engineering hard drive, rather than the root folder, you can specify its path after the `:` in your `pscp` command. For even more options, see the pscp documentation.

3. Enter your university password.

These steps will copy your files to the root folder of your engineering hard drive, and you are ready to access them from `dimefox`.

From your personal Mac or Linux machine

Before you start, make sure you are connected to the university network (see above). Then, follow these steps:

1. Open up a terminal and navigate (using `cd`) to the directory that has your source code files in it.
2. Copy these files to your university hard drive using a command like

   `scp <list of my files> <username>@dimefox.eng.unimelb.edu.au:`

   For example, say I wanted to copy all the .py files in the current directory,

   `scp *.py farrugiam@dimefox.eng.unimelb.edu.au:`

   Note: if you would like to copy the files into a particular folder on your engineering hard drive, rather than the root folder, you can specify its path after the `:` in your `scp` command. For even more options, see the scp documentation (`man scp`).
3. Enter your university password.

These steps will copy your files to the root folder of your engineering hard drive, and you are ready to access them from `dimefox`.

Step 3: Testing your program on the server

The final step is to log in to `dimefox` and test your program. Once again, there are a few ways to do this:

From the lab machines

The necessary programs are already installed and the machine is already on the university network. Simply follow these steps:

1. Open the program *PuTTY* and type in as the **Host Name** `dimefox.eng.unimelb.edu.au`. Do not change any of the other settings. Press **Open**. This will launch a terminal logged in to `dimefox`, where you can run commands like `python` to test your work.
2. Navigate (using `cd`) to the folder where your source files are on your `H` drive. Once you can see your files by typing `ls`, you're in the right place.
3. Once you are in the right folder, proceed to test your assignment. If you notice problems, you may need to edit your source files. From the lab machines, you can make changes to your source files and then re-test without needing to copy them over to your engineering `H` drive, because you are editing the right files directly from the lab machines.
4. When you are finished testing, you can close *PuTTY*.

From your personal Windows machine

If not installed already, install *PuTTY* from http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html.

Also make sure you are connected to the university network (see above).

Then, follow these steps:

1. Open PuTTY and type in as the **Host Name** `dimefox.eng.unimelb.edu.au`. Do not change any of the other settings. Press **Open**. This will launch a terminal logged in to `dimefox`, where you can run commands like `python` to test your work.
2. Navigate (using `cd`) to the folder where your source files are on your `H` drive. Once you can see your files by typing `ls`, you're in the right place. If you did not specify a custom location when copying your files to the server, you will already be in the right place—you can use `ls` to check.
3. Once you are in the right folder, proceed to test your assignment. If you notice problems, you may need to edit your source files. You can make these changes locally, but you will need to repeat the steps above to copy the new versions of these files back to `dimefox` (using `pscp` in *cmd* if on Windows). Alternatively, you could edit the files from within PuTTY using a command-line editor such as `vim`, `emacs`, or `nano` (the latter has the shallowest learning curve).
4. When you are finished testing, you can close *PuTTY*.

From your personal Mac or Linux machine

Make sure you are connected to the university network (see above). Then, follow these steps:

1. From within a terminal, run the command `ssh` as follows. This will launch a shell session logged in to `dimefox`, where you can run commands like `python` to test your work. Run `ssh` using a command like:

   ```
   ssh <username>@dimefox.eng.unimelb.edu.au
   ```

   For example, my username is `farrugiam`, so I'd use the command:

   ```
   ssh farrugiam@dimefox.eng.unimelb.edu.au
   ```

2. Navigate (using `cd`) to the folder where your source files are on your `H` drive. Once you can see your files by typing `ls`, you're in the right place. If you did not specify a custom location when copying your files to the server, you will already be in the right place—you can use `ls` to check.
3. Once you are in the right folder, proceed to test your assignment. If you notice problems, you may need to edit your source files. You can make these changes locally, but you will need to repeat the steps above to copy the new versions of these files back to `dimefox` (using `scp` if on Mac or Linux—you might like to use a separate terminal for this; one terminal logged in to `dimefox` with `ssh` and the other on your local machine running `scp`). Alternatively, you could edit the files from within this terminal using a command-line editor such as `vim`, `emacs`, or `nano` (the latter has the shallowest learning curve).
4. When you are finished testing, you can log out of `dimefox` by running the command `logout`.