H3ABioNet

Pan African Bioinformatics Network for H3Africa

IBT 2020: Setting Up Linux on Windows

As we approach the start of this year's iteration of the Introduction to Bioinformatics (IBT) course, we are aware that some of you might not have had prior exposure to a linux interface. While your training assistants (TAs) will help you navigate your way around most hurdles, we have put together this document to guide you on getting a minimal installation of linux on your computer. If you need a full installation of linux (e.g. Ubuntu), please make sure to contact someone who knows how to do it so that you don't compromise your computer before the course starts.

What is linux?

This question will be addressed in module 2 of the course. If you are pursuing a career in bioinformatics, then you would want to acquaint yourself with the linux interface. Linux gives you great control over your data analyses. Almost all (if not all) bioinformatics servers/clusters run on linux.

"My laptop runs Windows. Is there any issue with running Windows and Linux at the same time? Will I need to clear up a lot of space on my hard drive for this?"

Running Windows alongside linux is not a problem. You can decide to run linux in Windows by installing an emulator (which we will show you here) or run a Windows operating system (OS) and a Linux OS on the same computer by dual-booting both OSs. Please seek advice on dual-booting both OSs if you really want to do so.

If your computer runs Windows, you can get **Cygwin** (which should be introduced in module 2 of this course). We will show you here how to install Cygwin so that you can get familiar with the interface before the course begins.

If you are running **Windows 10 version 16215.0 or higher**, then getting a minimal installation of linux on your computer is a lot easier.

1. Go to **App Store**

2. Search **Ubuntu**
3. Click to **install** (any version of Ubuntu will do)
4. Once installed, search Ubuntu and **launch** it

NB: Please note that if you are using a Unix operating system (Apple MAC), you wouldn't need another installation of linux.

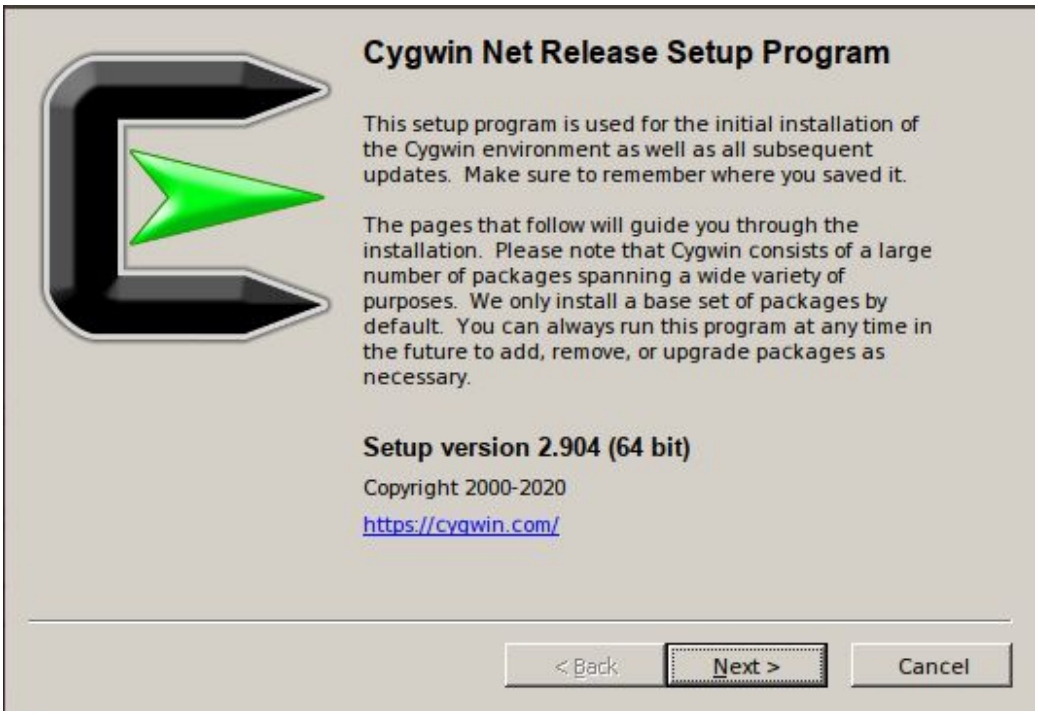
How to install Cygwin on your Windows computer

There are several options for getting linux in your computer without necessarily removing your Windows installation. However, these will only give you a minimal installation which should be enough to get you through the IBT course. We will show you how to get Cygwin. Feel free to install any other simulator/emulator of your choice.

Installing Cygwin

1. Go to https://www.cygwin.com/install.html or copy and paste the link in your browser
2. Click to download a setup based on your computer architecture [64-bit (x86_64) or 32-bit (x86)].

3. Run the installer (setup) Click next



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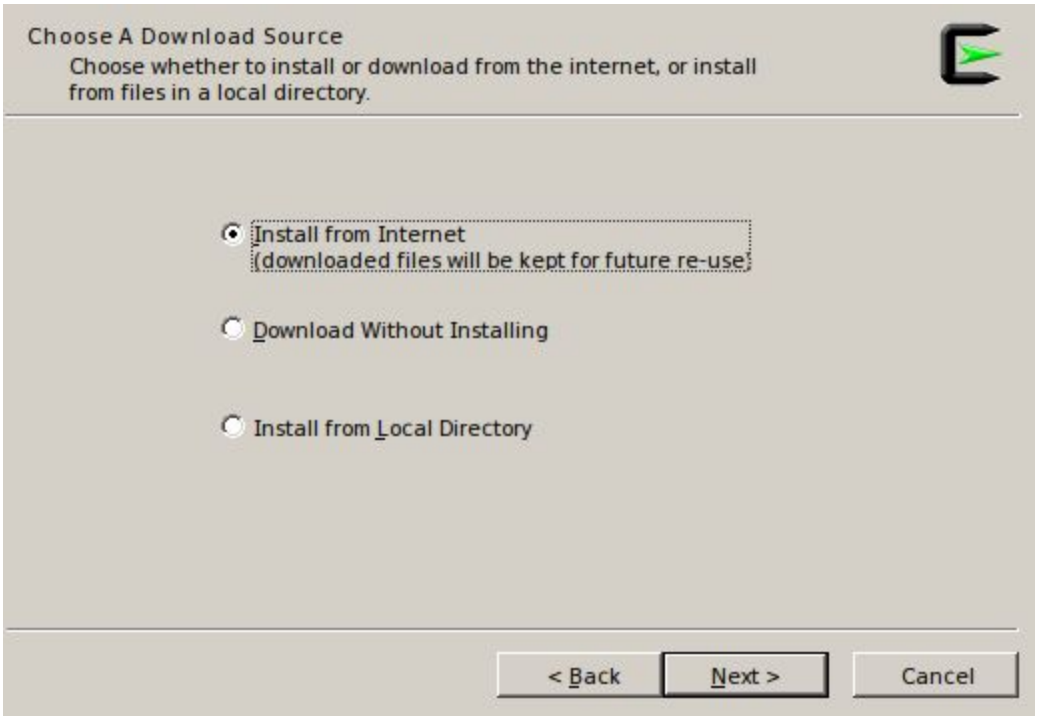

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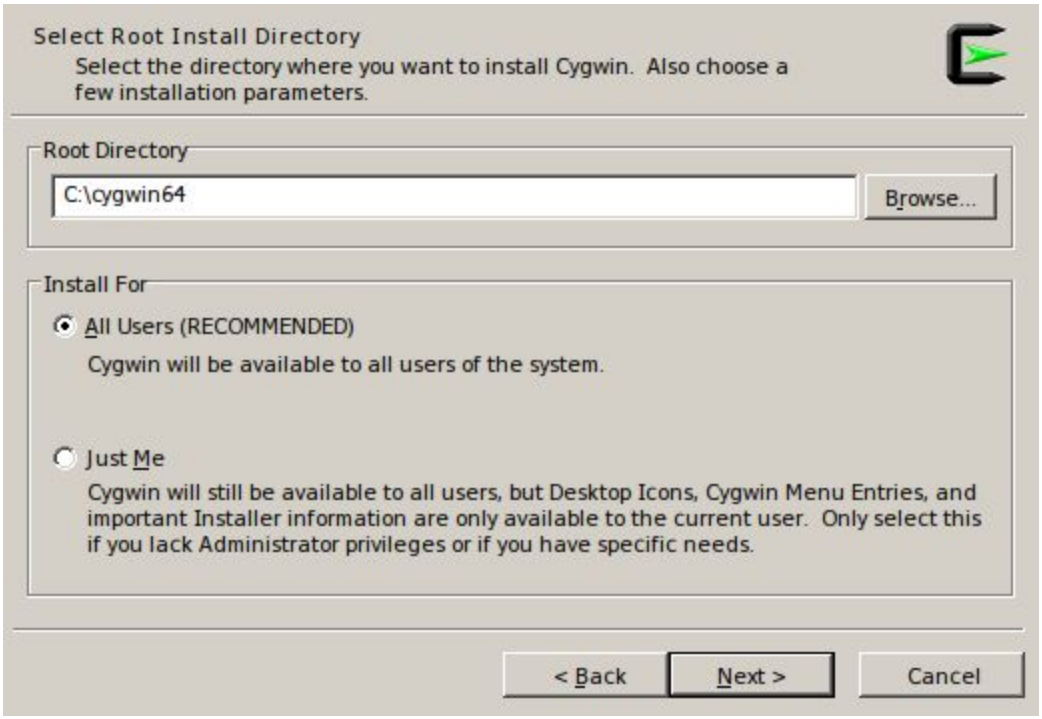
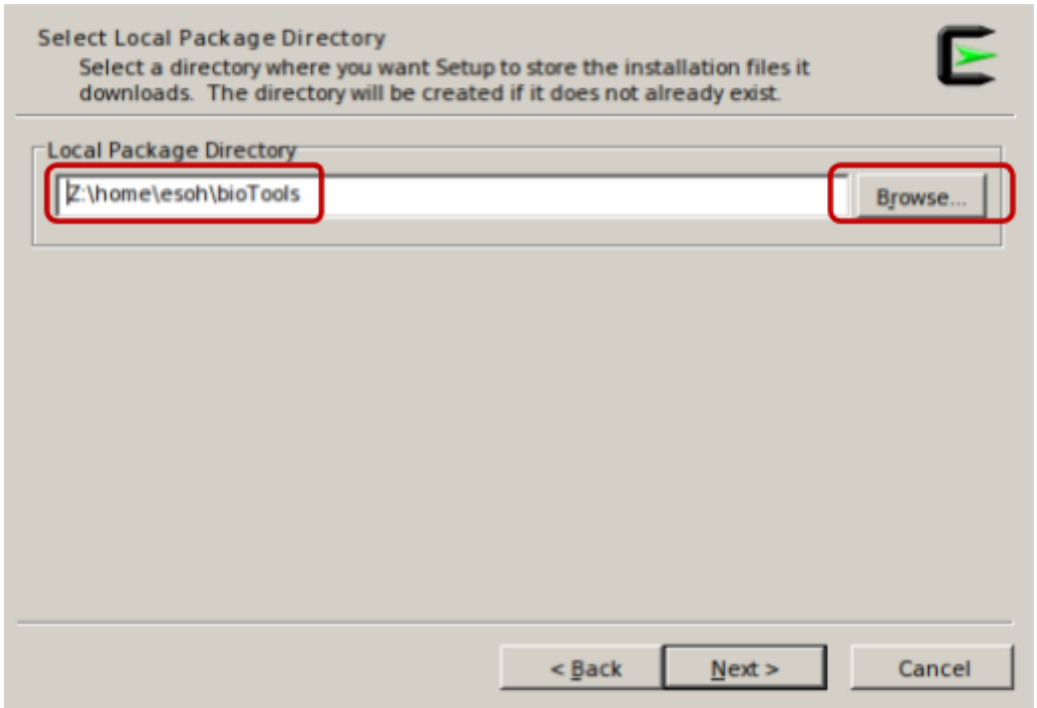
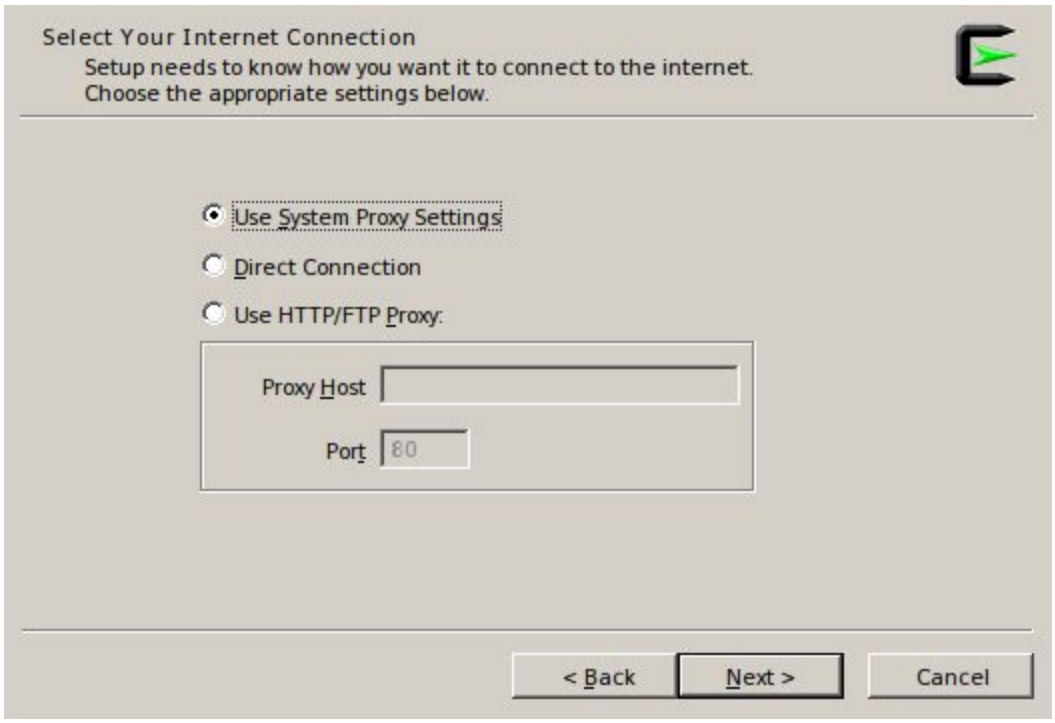


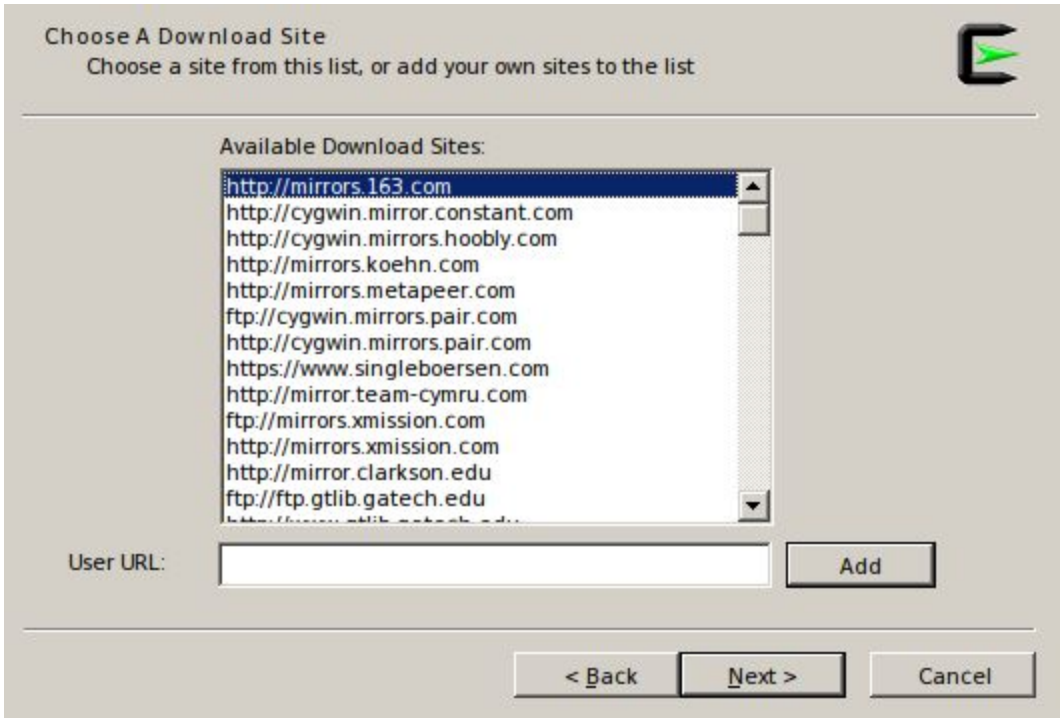
6. Choose a path where you would want the Cygwin packages to be installed. Click on browse and select your folder. Click next after selecting a folder



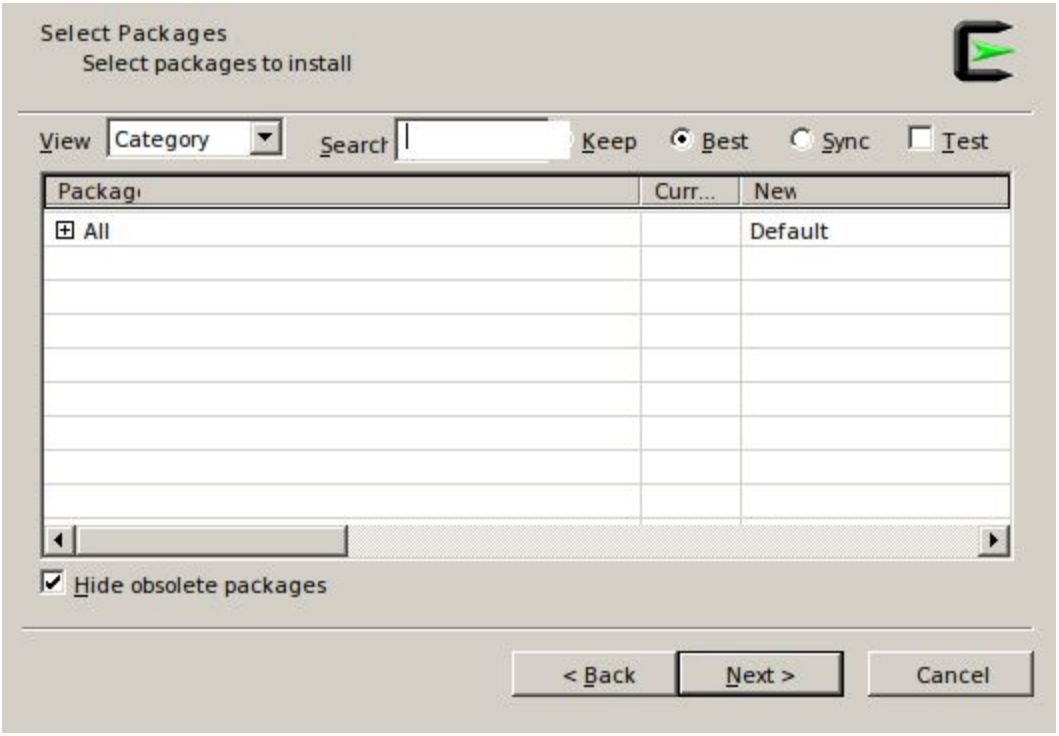
7. Click next



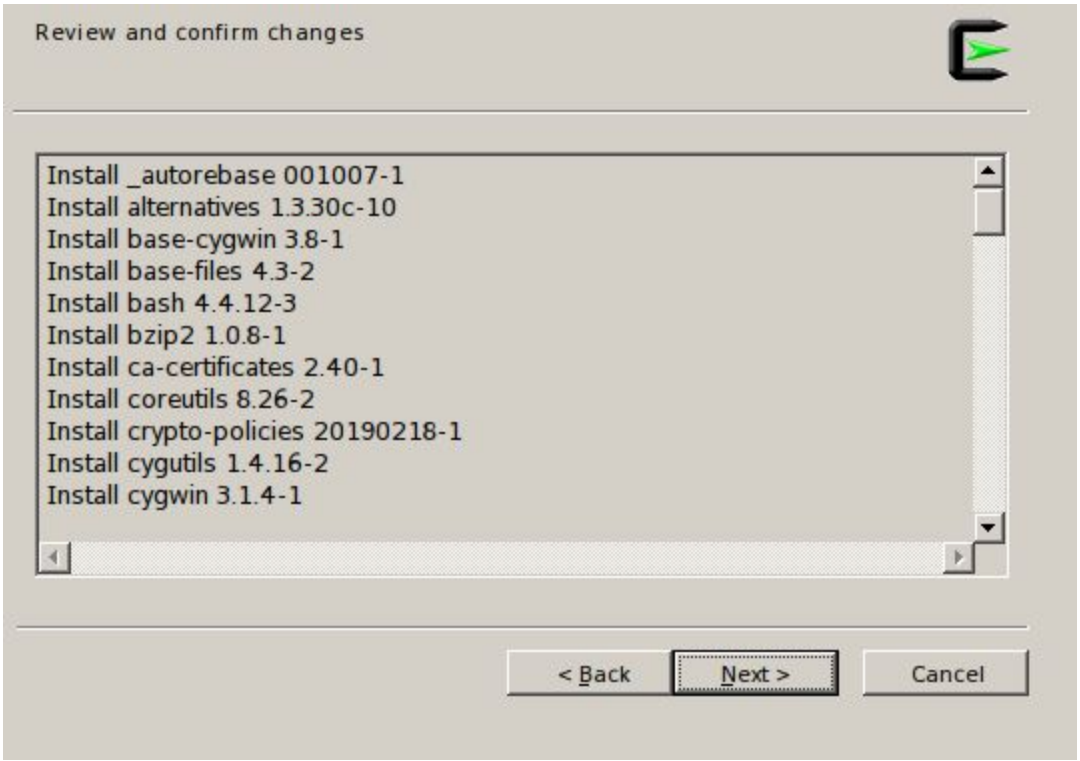
8. Select a mirror (any) and Click next



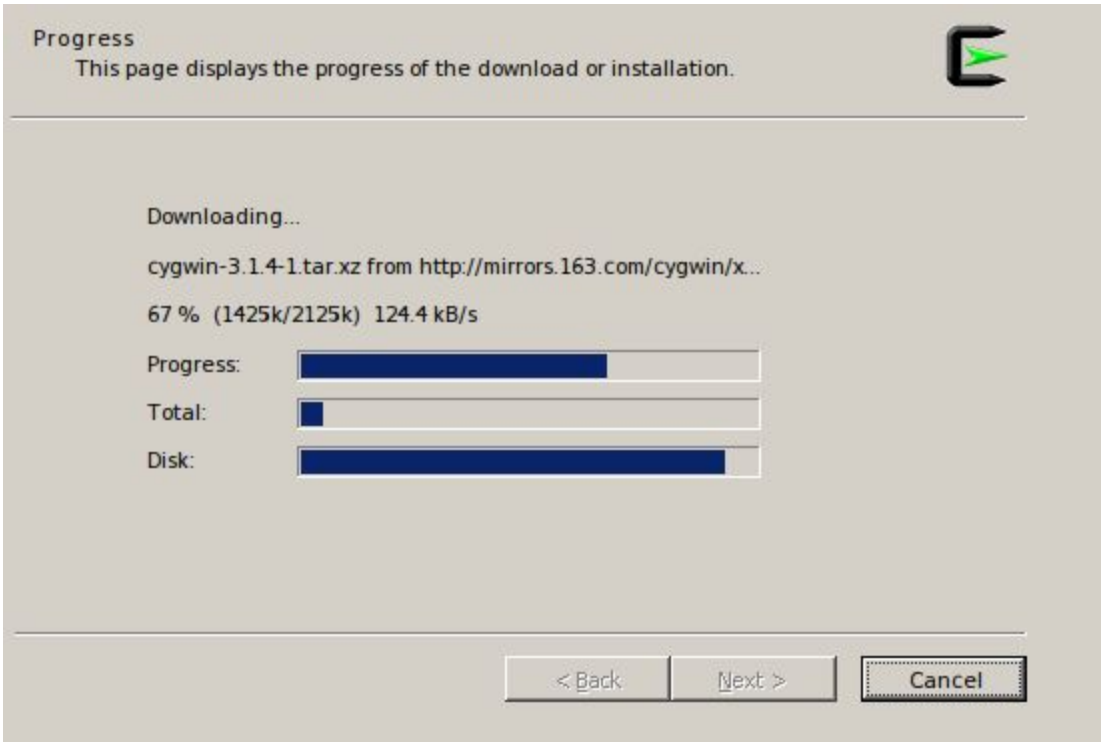
9. Click next (This will install base packages needed to run linux).



10. Click next



11. You will see the download/install progress. If no errors occur, you will be prompted to create a desktop icon and finish the installation.



How much disk space do I need for Cygwin/Linux installation?

You will notice on **Cygwin** website that "only the **minimal base packages** will be installed which takes about **100 MB**". This should not be too much. Also, the course contents (if you are not downloading the videos) should not require much disk space (typically, not up to 5 GB). However, the question of how much disk space you will require depends on how much extra data you would want to download for your personal practice on each module.

As mentioned above, there are many options for running linux on a Windows computer, e.g.

MobaXterm (https://mobaxterm.mobatek.net/), VirtualBox (https://www.virtualbox.org/), etc. Feel free to get what you are comfortable with. These do not also require a lot of disk space. Please do not hesitate to contact the following in case you need help with any of the software.

Kevin Esoh (esohkevin4@gmail.com)