

Getting started at the Demography Lab

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1 Introduction

Welcome to the Demography Lab. This document is intended to get you started doing science at the Demography Department.

1.1 Getting a userid

If you don't already have a userid and password, then you'll need to find Carl Mason (carlm@demog.berkeley.edu) and give him a signed *Statement of Compliance* – which you can download from:

<http://lab.demog.berkeley.edu/Docs/statementofcompliance.pdf>.

1.2 Figuring stuff out

In addition to this woefully inadequate document, you can find out how to do some things and how not to do others by consulting:

1. The Web. Google for things like “introduction to Unix” or “Unix command line”. There are many different flavors of Unix/Linux but the vast majority of commands work the same way on all of them.
2. The Virtual Lab wiki at <http://lab.demog.berkeley.edu/LabWiki> (focuses on using the lab remotely via FreeNX)
3. The Demography Lab website <http://lab.demog.berkeley.edu>
4. Any of your new colleagues whom you might find in or near the computer lab.

1.3 Things to be aware of when logging on to a Linux machine

Once you have a userid and password you can and should logon to a Linux workstation. You can find Linux workstations in both the basement lab and in the Library (the attic). If you are really important, than you might even have an office with a Linux workstation in it. All of the Linux workstations in the building work identically so just choose one with a comfortable chair in front of it.

Logging in is intuitive once you figure out how to turn on the monitor. The custom here is to turn monitors off **but let the computers turn themselves off** as they do when no one is logged in for an hour. Consequently, once you have turned the monitor on, it may also be necessary to turn on the workstation.

If you have never used Linux before, it may take a moment to get used to the user interface. The key differences between it and those found on other operating systems are:

1. With Unix, it is often more efficient to type commands at the command line (also known as the *shell* or the *terminal window*) than it is to just point and click. This would be true of other operating system as well if they had command lines. To use the Linux command line you simply launch a terminal window. How? go to: Applications→System Tools→MATE Terminal.

If you strongly prefer not to be seen typing commands, don't worry Linux also has the usual pointy clicky tools such as a file manager (Places→Home Folder on the upper task bar).

2. Selecting and pasting can be a bit confusing because there are several different “buffers” for holding text. The inbuilt X11 buffer (X11 is the Linux windowing system) operates entirely with the mouse. Just select text with the `LEFT BUTTON` (then move to a new location) and paste it with the `MIDDLE BUTTON`. You don't use the menus or key combinations in X11 for cutting and pasting. HOWEVER –other applications maintain additional buffers so it turns out that one can often use `CTRL + C` and `CTRL + V` or the `CTRLR + K` and `CTRL + Y` but be careful as `CTRL + C` in the shell will kill whatever process is running there. It's confusing. I'm sorry.
3. The mouse `RIGHT BUTTON` generally produces a menu that is vaguely relevant to the place where you are clicking.

2 Email

See <http://lab.demog.berkeley.edu/Email/email/em.shtml> for a more or less complete description of the email situation. The short version however, is that there is a Demography Lab email system and if you have a Demography Lab userid your email address is `your-userid@demog.berkeley.edu`. For nearly everyone, the best option is to make sure that your `@demog.berkeley.edu` email forwards to an address that you actually monitor – and then forget about it. That way you will receive occasional important system and administrative messages.

3 Working remotely

Anything that you can do on a workstation in 2232 Piedmont, you also do from elsewhere in the world. There are no exceptions at least as far as computing is concerned. To continue your demography computing life remotely, only requires a computer with an Internet connection (faster is better).

The fastest, cheapest and best way is to connect via a “FreeNX” client called `noMachine`. This provides a complete desktop inside your PC desktop. It is remarkably fast and robust – even under not so great network

conditions. Documentation on remote computing is kept on <http://lab.demog.berkeley.edu/LabWiki>. Please visit soon.

If you tend towards minimalism, you may also use `mosh` and `tmux`. You can connect to host `nmx.demog.berkeley.edu` using `mosh` and from there you can run `tmux` and knock yourself out. Since anyone stubborn enough to want to use these tools will know them better than I do, I commend you to the web for further information.

4 Wireless access

AirBears2 is available in 2232 and 2224 Piedmont as well as nearly everywhere else on campus. AirBears2 requires a CalNet ID and a special dance whereby you obtain a token. If you do not yet have your CalNet ID, please pester David Murphy (dmurphy@berkeley.edu) until you do. David can help you out with a temporary CalNet ID in the mean time.

The AirBears2 token dance The short answer for the digitally lucky is to go here: <https://idc.berkeley.edu/mmk/auth/index>; login with your CalNet ID and do what makes sense to you.

For the less fortunate or more easily dumbfounded, a fuller “explanation” is available here: <https://ist.berkeley.edu/airbears/>

Note that **just grabbing a wire from the back of a workstation** and plugging it into your laptop is neither a polite, nor an effective strategy for gaining access to the Internet.

4.1 Printing

Printing to Demography Lab printers from your portable is possible, after you manage to get network access. Instructions for setting up printing from your personal computer are in at <http://lab.demog.berkeley.edu> under the Documentation menu.

5 Statistical applications

The Demography Lab primarily supports R, and Stata. Other less common stat packages may be available— after you ask. We are not hard to convince of the need for more toys. And if you want to write your own stat package – C++, Fortran, Java, Perl, and Python are readily available. If you can’t

find a statistical tool you need, ask Carl Mason (carlm@demog.berkeley.edu) about it.

The preferred statistical package in the Demography Dept is R. We will spend a lot of time on it in Demog 213.

6 Office applications

LibreOffice is the most complete office package that runs natively on our Linux workstations. `Applications→Office` gets you all the usual “productivity” tools: a spreadsheet, a word processor, a presentation program... the usual.

Each of these programs is every bit as bad as the Microsoft[®] equivalents and each is very good about reading and writing files in the proprietary secret formats the keep Microsoft[®] rich.

There `abiword` and `gnumeric` are lighter weight spreadsheet and word processing programs available on the system. You can find them under `Applications→Office`.

Naturally we also support and approve of LaTeX. LaTeX is very different way to create documents. It is particularly well suited to the academic world, but it requires some effort to figure it out. We’ll introduce it in Demog 213. You’ll probably use it to write your dissertation. If you are already a fan, you can use with Emacs/Auctex or with Texstudio or Texworks.

If you absolutely must have MSWord/Excel/Powerpoint, we have them too: `Applications→Windows Applications→Programs`. Or type `winword`, `excel` or `powerpnt` at the command line.

But note: these Windows programs are being tricked into running under Linux. They show their disapproval of this by being even quirkiest and somewhat more treacherous than usual. Don’t use them if you don’t have to. Definitely save your work.