

Systems Handbook Version 09.04

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Overview

This is a guide for all users of the Computer Science department's computer systems (those we either own and/or operate), which includes not only the CS department per se but a growing number of collaborating departments (Math, Physics, Biology, English, and many guests from other departments) who rely upon our systems for advanced computing (research) needs not typically provided by the university in general. The department is committed to supporting anyone's computing needs, subject to available resources, especially when it comes to advanced technologies, including but not limited to Free/Open Source software, software as a service (hosting), high performance computing (HPC and clustering), embedded/game development, etc. We encourage feedback and are always looking for faculty, staff, and students within the community who would like to help us in carrying out our vital mission.

This document has benefited greatly from contributions of faculty and students in the Computer Science and Mathematics departments. Please send all suggestions for improvement to George K. Thiruvathukal or Miao Ye, who are serving as the maintainers of the current and future versions of this document.

Chapter 1

Department Services

1.1 Getting Help

We maintain a number of e-mail addresses in the form *alias@cs.luc.edu*. To thwart the efforts of spam robots, you must choose the alias from the list below and compose a message in your favorite e-mail program. (For example, if the alias is named *thealias*, you would send e-mail to *thealias@cs.luc.edu*.)

accounts for any issue related to user accounts: new accounts, password problems, etc.

cms to request a Plone instance, Google Site, or inquiries about web sites not covered in this manual

googleapps to request a mail account (or forwarding alias) on our Google Apps setup, a Google Site, or any other feature of Google Apps for Education that you need.

desktop to request a Linux desktop that is connected to the CS authentication infrastructure (this applies to faculty only). Students may use Linux desktops in our labs (LT 412/413 and Damen 341).

windows to request any new software that you want installed in the Windows labs that are housed in the CS/Math departments (LT 410/411 and Damen 339, 342).

vm to request a virtual machine (server) running on Xen or VMware.

mysql to request a MySQL database on our LAMP server.

help for general inquiries that are not covered by any of the above aliases.

In most cases, these aliases all result in e-mail going to the same person or persons; however, you are encouraged to use the alias to ensure that the right people are receiving your request. We are hoping to replace this in the future with an interface to a system similar to what ITS uses but in the meantime need to rely on good old-fashioned e-mail. In general, please allow up to 48 hours for a response, although we generally try to respond within the same day to most requests.

1.2 People You Should Know

We pride ourselves in paying attention to human interaction. While the support aliases described in the previous section must be used whenever you want something to be done, you may want to know something about the major roles in our department that are applicable to computing.

Chairperson is Prof. Chandra Sekharan. Please contact the Chairperson with any suggestions you have for improvement, especially when it comes to computing matters. The chairperson has the ultimate responsibility for all department matters, especially the departmental computing budget.

Computing Director is Prof. George K. Thiruvathukal. Please contact the Computing Director with any suggestions you have for improvement or with technical support questions. The Computing Director is ultimately responsible for the implementation of all computing initiatives for the department, in particular those that support our teaching and research missions.

Lab Manager is Mr. Miao Ye. The Lab Manager is ultimately responsible for the implementation of the initiatives as defined by the Computing Director (who consults with the Chairperson). Because there is only one Lab Manager at the moment, it is important to recognize that he/she works to support all requests in a timely manner but may not be able to resolve your problem immediately. Please allow 24-48 hours for a response to any non-emergency need.

Computing Committee is Prof. George K. Thiruvathukal (Computing Director and Committee Chair), Prof. Konstantin Läufer, Prof. Stephen Doty, and two new members to be determined (one more faculty and one more student member). The Computing Committee meets at least twice per academic year and drafts recommendations/resolutions for future computing initiatives that support the department's teaching and research mission and those of collaborating departments. The committee's proceedings are reported to the Chairperson.

1.3 User Accounts and LDAP

All students and faculty are given accounts in the CS department. Your account is intended for your use only. Please change your initial password immediately on first use to improve security. (We are able to determine when a password has not been changed from the default and will lock accounts after a certain period.)

We presently lack a self-service mechanism to the PAM service maintained by ITS for resetting your password. In any event, given the manageable number of users, you can send a request to the accounts alias to have your password reset for you. Since we set up all of our accounts to match your university login ID, it is our policy to send your replacement password to your Loyola e-mail address. You may also opt to meet the lab manager in person but must show your Loyola or a government-issued id with your photo on it.

To reset your password, you should log into pw.cs.luc.edu using a secure shell client (a.k.a. SSH) and use the passwd program to reset it. This program is straightforward to use. Type passwd when you see the "\$" prompt and make sure to press the "enter" or "return" key. Then you will be prompted for the old and new password (the latter is requested twice to ensure you have set it correctly and remember it). While typing in the current and new passwords, the terminal will display a blank spaces and not "*" characters.

An example successful password change using the passwd command:

```
$ passwd
Changing password for user
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
```

Please note that we do not reset passwords or set them to expire. This creates a huge number of headaches for our users and our staff and has not been formally proven to improve security. We do, however, retire inactive accounts, so you may find that your account one day becomes unusable. We'll be establishing a renewal process shortly to ensure that you're really using your account, should you wish to maintain your account after completing your studies.

Any Loyola faculty, student, or staff member with a legitimate computing need is invited to apply for an account. Please send an e-mail to the *accounts* alias (see section 1.1 on the preceding page) and let us know your university username (e.g. *username@luc.edu*). We'll send an invitation to your university address. We

regret that we cannot offer accounts to non-Loyola members at this time. Your user account is only needed when you wish to access the Linux laboratories on campus (in Lewis Towers 412/413 and Damen 341). You can also use this to access our remote servers (see table of contents) from other laboratories and off campus.

As a specific point, at this time, we do not provide access to our Linux resources using the Loyola university ID. We recognize that this creates a headache for those new to the CS department; however, we are able to provision a new account for you within minutes and eventually hope to achieve this via a self-sign-up process.

Given the nature of our computing environment, most systems are running Linux or some variant of Unix. *There is, however, a growing presence of Windows server technologies to support specific advanced courses and projects, which will result in some changes to our user management scheme in 2009.*

1.4 Remote File Access and Secure Shell Clients

All users of our systems can access their files remotely; however, we currently do not provide general support to students or faculty for Samba and CIFS shares (i.e. mounting as a Windows drive) owing largely to security and usability considerations. There are a number of alternatives to Windows shares that we do support and consider effective:

sshfs: If you are a Linux or Mac user, you can use the Secure Shell Filesystem client, which makes use of the Fuse project. Linux users can simply install the sshfs package (e.g., on Ubuntu: `apt-get install sshfs`). The Dokan project on Windows provides the same capabilities as sshfs on Linux and the Mac.

sftp: Most Secure Shell clients have the ability to upload/download files. If you are looking for something that is less transparent than a typical filesystem and can live with an upload/download model, this might be all you need (and seemingly, is what most of our users want).

CVS/Subversion: We recommend that all of our students learn how to use the Concurrent Versioning System (CVS) or Subversion, especially for programming classes. Source code management is available through command-line tools or nicely integrated into many development environments, such as Eclipse and NetBeans (even Visual Studio supports Subversion through the AnkhSVN add-in).

Gnome and KDE (Linux) allow you to connect to a "remote place" via SSH and browse folders. In Ubuntu, *Places* → *Connect to Server* will allow a user to connect to a ssh server and will then treat that connection like a "mounted drive".

Speaking of SSH access, Windows users are encouraged to use the PuTTY or Cygwin support for SSH. There are a number of good commercial solutions but these cost big money (between \$75-\$100) and are not likely to be cost effective for most members of our community.

1.5 Systems Approved for General Access

Not all computer systems in the department are intended for general use, and some are restricted to faculty and staff usage. (And many are reserved for testing purposes.) The systems available for general use include the following. The following table lists the host name and intended purpose:

random.cs.luc.edu General purpose Linux shell access and software development.

infinity.cs.luc.edu General purpose Linux shell access and software development.

lamp.cs.luc.edu General purpose LAMP (Linux, Apache, MySQL, and PHP/Python) hosting.

pw.cs.luc.edu Log into this system to reset your password using the `passwd` command. We'll eventually replace this with a web-based system to reset your password.

This list is a growing one, and you are encouraged to check back early/often.

1.6 Content Management and Hosting

The department provides support for faculty/student/staff content hosting using the Plone content management system. (Other systems, e.g. Drupal and Joomla!, can now be self-hosted on our lamp.cs.luc.edu server.)

Please contact us at the *cms* alias (see section 1.1 on page 3) to request a Plone instance.

You may also host web pages and CGI scripts in your web directory. You simply log into any of the above remote systems and create content in your `public_html` directory (it all starts with a simple `index.html` file). Then you can access your page at `http://webpages.cs.luc.edu/~username/filename.html`. Please note that `webpages.cs.luc.edu` is presently an alias (DNS CNAME) to `xenon.cs.luc.edu`. We reserve the right to relocate this to a different server, so you should not assume anything about the software or environment when writing your web pages. Those needing to do serious scripting (e.g. PHP, etc.) should consider using the `lamp.cs.luc.edu` system and referencing their pages using `http://lamp.cs.luc.edu/~username/filename.php`.

1.7 Google Apps for Your (Our) Domain

The domains `cs.luc.edu`, `math.luc.edu`, and `etl.luc.edu` (the research laboratory in the CS department) all take advantage of Google Apps for Your Domain. Among other things, we can host sites, e-mail, documents, calendaring, etc. Our primary use at the moment is for Google Sites, which allows individuals, workgroups (e.g. project teams in classes), research groups, and other collaborations to host their own private or public web sites. While this software is officially in beta, it's already proving to be a winner for many needs. Moreover, we can assign you your own "hostname" within one of the 3 domains. Examples include `www.etl.luc.edu`, `gkt.etl.luc.edu`, `doty.math.luc.edu`, and `tonyg.math.luc.edu`.

We reserve the right to terminate any web site that contains inappropriate content or is reported to Google or us as being offensive. So we ask that if you have such uses in mind to consider setting up your own Google Site that is not connected to LUC or the department proper.

We are not generally taking advantage of e-mail and other services at this time. Please contact us at the *googleapps* alias with any questions (see section 1.1 on page 3).

1.8 Faculty Linux Desktops

In the early 1990s, many faculty opted to have their own workstations that are connected to our authentication infrastructure and file server (for NFS access). We still provide this service on a limited basis. There are a number of security limitations and—with few exceptions—you will need to relinquish administrative rights on your machine. (Beginning sometime in 2009, we will be asking everyone who wants such access to run in a virtual machine.)

We recommend that any faculty member who wants to connect to the department infrastructure obtain at least a dual-core capable computer with >2GB RAM and at least 20GB disk space to dedicate to our virtual machine image. We will obtain an internal (non-routable) static IP address on your behalf and establish various access control entries.

Please contact us at the *desktop* alias (see section 1.1 on page 3) to for desktop Linux. Please do not contact us regarding Windows desktop matters. These issues are handled by ITS. If you are experiencing trouble with Windows labs and other ITS issues, please open a support ticket using the ITS Self Service application, <https://heatss.it.luc.edu/HeatLDAP/>.

1.9 FOSS (Free and Open Source Software) and FOSSAL (FOSS at Loyola)

We encourage all members of our community to consider joining the FOSSAL (Free and Open Source Software at Loyola) student organization. For information, please contact fossal@etl.luc.edu. (This alias is temporary until FOSSAL establishes its own site/e-mail channels.)

FOSSAL also maintains a Google Group at <http://groups.google.com/group/fossal>. All are welcome to join (subject to approval to prevent spamming).

1.10 Windows Labs

With our partner, Loyola Information Technology Services (ITS), we ensure that CS and Math/Stats software needs are formally requested from ITS. This allows us to focus on advanced computing needs (in particular, Linux and server-side applications) and ensure ubiquitous access to Windows labs via the Loyola login ID.

Faculty may request additional software for the Windows lab (system image) by visiting http://www.luc.edu/its/pdfs/instr_sw_inst_form.pdf, or by sending an e-mail to the *windows* alias (see section 1.1 on page 3). In the latter case, the lab manager (Miao Ye) will fill in a software request on your behalf. Please note that there are strict deadlines for getting updates into the fall, summer, or spring image updates. When making a request, you should also indicate in your request whether you are willing to help test the software after it becomes available. We cannot be held responsible for late requests or requests that do not have a designated faculty member interested in testing. In general, faculty members using software for teaching are the best people to do the actual testing.

Again, because the Windows hardware and software are now maintained by ITS, we ask that all issues you encounter be reported, no matter how trivial. If you discover broken hardware and/or software, use the ITS Self Service application located at <https://heatss.it.luc.edu/HeatLDAP/>.

1.11 Wireless Access

IEEE 802.11a and IEEE 802.11b/g wireless access is provided by ITS throughout the campus. See <http://www.luc.edu/its/wireless.shtml> for additional details.

1.12 Printing

The department maintains a number of printers for its faculty, staff, and teaching/research assistants. These printers are not for general student use, and it is prohibited to print to them without permission from the department.

There are ITS-maintained Windows labs at Damen (339, 342) and Lewis Towers (LT 410/411) that use the PrintWise system. You'll need to have funds loaded on your ID to take advantage of these printers as a card swipe is required to print your document (from the PrintWise station). As with anything else in the Windows Labs, please report printing problems directly to ITS at <https://heatss.it.luc.edu/HeatLDAP/>.

At this time, printing is not supported from the Linux labs in LT 412 (at Water Tower Campus) and DH 341 (at Lake Shore Campus). In the interim, you will need to print from one of the adjacent Windows labs.

1.13 Scanning and Media Burning

We presently do not offer this service but do have plans to offer it by August 2009 in time for the fall semester.

1.14 Virtual Servers

We are now able to host Xen and VMWare virtual servers in the department. We can host these with a dedicated public IP address (justification is required to obtain one) or private IP addresses which would be visible when you connect via the Loyola VPN.

Given our present resource limitations, we can only provide virtual machines on a limited basis, primarily for faculty and student research/outreach projects. Please send your requests to the *vm* alias (see section 1.1 on page 3) and make sure you include the following information:

- **name:** your full name
- **university e-mail address:** we will not give virtual machines to anyone who is not part of the Loyola community, although we will allow some to be used by outsiders, provided there is a Loyola contact. You become the administrator of your virtual machine.
- **alternate e-mail address:** where we can find you in case you decide not to read your Loyola e-mail (or you're not getting your messages!)
- **duration:** amount of time in months for your project, or permanent (in general, permanent machines will be given only with highly sound justification)
- **RAM:** required RAM in 256MB increments; large allocations are rarely given. We'll prioritize requests that are smaller than 512MB.
- **disk space:** required storage in 10GB increments
- **desired OS:** We recommend Ubuntu server edition but can support many others. At present, we do not support any OS that requires a license key or activation.
- **desired hostname:** may be requested in one cs, math, physics, etl, cslabs (a private zone), all of which are subdomains of .luc.edu. For example, if you want the hostname gkt in the domain etl.luc.edu, you would ask for gkt.etl.luc.edu.
- **public or private static IP:** You must say public or private. We will generally be asking you (especially if you're a student) to start with a private IP address. This in most cases will require you to choose the domain cslabs.luc.edu, which only resolves within Loyola proper.
- **type of virtual machine:** Xen or VMware; at present, we only support Xen but VMware is in the works, and we are part of their academic program. You would only need VMware if you want to host a Windows VM but we presently have no plans to support Windows, per our emphasis on freely available OS technology without activation requirements.
- **number of CPUs:** we are only able to support 1 for most requests at this time.

1.15 LAMP (Linux-Apache-MySQL-PHP) Hosting

We are now able to provide LAMP hosting for student projects on the LAMP virtual server (lamp.cs.luc.edu). In general, you can get started right away with this server but may find at some point that you need an actual database instance. We're working toward a self-service option but in the interim all requests must go through the *mysql* alias (see section 1.1 on page 3). We apologize but at this time there is no support for other databases (support is planned for PostgreSQL and Oracle).

In general, when you make a database request, we will create a database named username0, username1, etc. This will allow us to keep track of the instances that belong to a particular user (easily) in the event you or we want to delete them later.

Please note that the primary purpose of the LAMP server is for pedagogical (teaching) purposes. We will ask that you pay close attention to how much database space you are using. If you require a large amount of database storage, you are encouraged to inform us at the mysql alias (see section 1.1 on page 3) so we can find a more appropriate match for your needs. The department works primarily on an honor system when it comes to resource usage but, in general, is able to accommodate most requests, especially when we know about them. Thank you for your understanding on this matter.

1.16 Planned for Summer 2009

1.16.1 Java Hosting

We are working toward a general purpose hosting solution for Java and students enrolled in upper division classes. Please stay tuned for details as they unfold. We are able to provide this capability for students enrolled in advanced classes by giving you your own Xen virtual machine as a temporary solution.

1.16.2 Python/Django Hosting

This is also planned and will likely be done on a server similar to lamp.cs.luc.edu. We are able to provide this capability for students enrolled in advanced classes by giving you your own Xen virtual machine as a temporary solution.

1.16.3 High Performance Computing Resources

A top priority for 2009 is to make a number of computing resources available for HPC, distributed, and cloud computing. This includes the following:

- Bioinformatics Cluster: Contact Dr. Catherine Putonti for additional information.
- PlanetLab: We are in the process of joining PlanetLab and should be online in Spring semester 2009.
- Windows HPC Cluster: This is in the planning stages but should be announced in Spring semester 2009.

1.16.4 Jabber Server

We are working to re-establish the “talk” server at talk.cs.luc.edu and should have this available again in Spring 2009.

Chapter 2

Information Technologies Services (ITS) Services

2.1 Loyola VPN Access

There are a number of services (read: ports) that are firewalled because they're (simply put) not secure. The university VPN allows you to access these services.

There is a self-signup process via ITS: <http://www.luc.edu/its/vpn.shtml>. We recommend that all students working on advanced projects to get access to the VPN so they will run into few(er) surprises.

2.2 Groupwise Instant Messaging

Loyola supports instant messaging at gwim.luc.edu on port 8300. This can be accessed from anywhere and does not require the use of a VPN. To connect, you either need the Groupwise client but can also use the Adium and Pidgin instant messaging client. Just use the Groupwise protocol.

2.3 Security

Security is everyone's business. If you see something, say something, as we are frequently reminded nowadays. The following numbers will help you when you're on campus:

44-911 Campus Safety for all on-campus emergencies

911 for all emergencies off-campus

773-508-6039 Campus Safety for all non-emergency situations

312-915-7999 Computer Science department for all non-emergency situations

Please report all computer security issues to helpdesk@luc.edu. You should CC the CS *help* alias (see section 1.1 on page 3) if the issue is one where you think the CS department would also want to know.

2.4 University Wikis and Blogs (IGNation)

The university provides a system called IGNation, <http://ignation.luc.edu/>, which supports wikis and blogs. While many of our users typically take advantage of publicly available sources, e.g. Blogger and Wordpress, we would like to encourage our users to consider these university-maintained sources as

a starting point. Should these not be appropriate for your needs, we can establish a Google Site for you via Google Apps for Your Domain (see below), which is a feature-rich solution for maintaining public and private web sites, and (unlike the university solution) can be used to collaborate with those outside of the institution (as it is tied to e-mail addresses, not university IDs).

Chapter 3

HOWTO Information

3.1 Getting Started with Linux

There are many tutorials on the web, just Google around and you will find them. A decent online tutorial is available for example at this link <http://www.linux.org/lessons/beginner/toc.html>; one can also find books on Linux in a bookstore, for those who prefer a hard copy. Linux is derived from Unix, and many of its commands are identical with, or very similar to, older Unix commands. Since Apple's Mac OS X is also derived from a version of Unix (BSD Unix), many of these commands are the same as on a Mac. Typically one interacts with a Unix/Linux system using a Command Line Interface (CLI), also known as a Terminal or a Shell. Unless one is using a Desktop Manager on a Linux system, running programs (commands) is by typing on the command line. Some of the more common commands that just about everyone uses are listed below:

pwd - "print working directory" prints the name of the current folder

ls - "list space" lists all the files in the current folder

ls -l - "long list" lists the files along with permissions, creation dates, etc

ls -A - list all files in current folder, including the hidden ones

cd - "change directory" moves the current folder back to one's home folder

cd <pathname> - change current folder to the one named by <pathname>

cd .. - change to the parent folder of current folder

mkdir <foldername> - make a new folder (folders are also known as directories)

cat <filename> - prints the contents of a text file

cat <file1> <file2> > <file3> - joins together text files <file1> and <file2> and puts the result in <file3> ("cat" is short for "concatenate")

less <filename> - lets you scroll up and down through a text file; use Q to quit

cp <file1> <file2> - makes a copy of <file1> named <file2> in the current folder; previous contents of <file2> (if any) are lost

mv <file1> <file2> - move <file1> to <file2>; used to rename a file (previous contents of <file2> are lost)

mv <foldername1> <foldername2> - move <foldername1> to <foldername2>; used to rename a folder name

rm <file> - remove a file (delete it)

rm - remove all files in the current folder (be careful with this)

rm -r * - recursively remove all files and folders in the current folder (be VERY careful with this)

rm -r <foldername> - recursively remove the folder and all its contents, including subfolders and their files

rmdir <foldername> - remove a folder (delete it); the folder must be empty

man <command> - shows the manual page for the given <command>

passwd - change your password

lpr <filename> - print a file; should work with text, postscript, and .pdf files.

lpq - show status of printer and print jobs

lprm <printno> - remove a printer job from the queue

a2ps - "anything to postscript" this (if installed) converts a file into postscript and then prints it; gives nicer formatting for text files

nano - edit a text file with a user friendly interface

pico - edit a text file (usually pico and nano are equivalent)

nano <filename> - edit the named file

vi <filename> - the old Unix "visual editor"; see the man page for help

exit - quits the current Terminal session; CTRL-D often does the same

ping <URL> - see if an IP address is answering

who - see who is logged on

whoami - see who you are (for the existentially challenged)

top - show the top running processes in a list, with process numbers

kill <number> - kill a process number (you have to own the process)

finger <name> - show stats for the user <name>; with no <name> finger shows stats for all current users

Note that by default you are positioned in your home folder after signing in. The file system is a tree with root at /, so to view the entire file system start by typing "cd /" followed by "ls" and so forth. Pathnames are separated by forward slashes, so for example a file named "whosis" in your home folder /home/myuserid has pathname /home/myuserid/whosis. You can always refer to files by their fully qualified pathnames, but lacking the full pathname the system will look for the file in the current folder. Note that CTRL-C often cancels the current process, and CTRL-D often serves as an End of File marker. All of the above merely scratches the surface; see external documentation for further particulars and advice.

Why learn Linux? Because Unix and its offshoots remains one of the most important operating systems for servers, and many networking concepts are rooted in Unix for historical reasons. Because Unix/Linux systems are efficient, fast, and highly stable. Because Unix/Linux is powerful: check out wildcards, regular expressions, pipes, redirecting input and output, shell scripts, and cron jobs for starters. There are some very cool ideas here for the cognoscenti that just don't exist in the Windows world. Linux is open source software.

Trying Linux. For those who want to try it out on your personal laptop or desktop, find a decent Linux distribution such as Ubuntu (see ubuntulinux.org), download and burn the installation CD for your

hardware, and boot from the CD. This will give you a working version of Linux running from the CD (slow) that can be played with. You can also choose to install Linux on your hard drive next to the existing OS (a dual boot approach) so that you can choose the OS at boot time, or choose to install Linux in place of your existing OS.

3.2 Mozilla Problems under Linux

3.2.1 Problems Arising from Improperly-Terminated Sessions

Firefox on Unix platforms occasionally encounters problems launching, especially when a previous session has not terminated gracefully. Should you run into this problem, open up a Terminal session (Gnome Terminal or KDE Konsole) and try the following:

```
$ find ~/.mozilla -name .parentlock
.mozilla/firefox/9vulgnfz.default/.parentlock
```

You can try removing the lock as follows:

```
$ rm .mozilla/firefox/9vulgnfz.default/.parentlock
```

If you are feeling particularly brave, you can adapt the find command shown above to do the removal for you in one step:

```
$ find ~/.mozilla -name .parentlock -exec rm -i {} \;
(you will be prompted to confirm removal, given the "-i" above)
```

Once you've removed the "parent lock", you can try launching Firefox again.

3.2.2 Performance Problems over NFS

Firefox (like many programs) does not play nicely with NFS. We have observed really bad performance at times. Because most people don't generally rely on keeping their history and bookmarks on our systems (and would be better off with a cloud-based solution like del.icio.us or Google), there is almost no point to keeping your profile in your home directory (~/.mozilla).

We encourage users to consider creating a local profile, which could live on /tmp. Most of our lab computers have enough space to accommodate this need, and /tmp is cleaned on reboot anyway. For information on creating profiles, please visit <http://support.mozilla.com/en-US/kb/managing+profiles>. If you are too lazy to read the documentation (we don't blame you), then you can try:

```
$ firefox -ProfileManager
```

You'll see a dialog that allows you to create a named profile and location. As long as you use /tmp (or a subdirectory thereof) you'll be hitting the local disk instead of your filesystem. Happy surfing!