

# Debathena Private Workstation Owner Guide

## Debathena Private Workstation Owner Guide

The Debathena Private Workstation Owner's Guide is intended to help users maintain the Athena-specific portions of their Debathena installations, as well as some basic configuration information. It is an updated version of the Athena 9 Private Workstation Owner's Guide.

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## Introduction

This guide is not intended to be a comprehensive reference for Debathena — rather, it is intended to document common tasks that workstation owners might perform. Unlike previous releases of Athena, Debathena layers Athena functionality on top of the underlying operating system (OS). In many cases, you will need to consult the OS documentation for detailed instructions on performing certain tasks.

Although Debathena works with any Debian-based Linux distribution, IS&T strongly recommends Ubuntu Linux, particularly for desktop workstations. In this document, we will occasionally link to the official Ubuntu documentation at <https://help.ubuntu.com/>. Similar documentation for Debian may be found at <http://www.debian.org/doc/>

## Installation

Debathena installation instructions are located at <http://debathena.mit.edu/install>.

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## Maintaining Your Workstation

### Becoming root (superuser)

The root user, or "superuser", is a special account that has full privileges on your operating system. The root account can be used for things like changing the network settings of your computer, adding or deleting local user accounts, changing permissions on files or directories, and much more.

You can gain root privileges in two ways on Debathena systems. The first method involves the "sudo" command:

- **sudo:** At your shell prompt, type `sudo -i`. You will be prompted for your password - this is the same password you used to log in to the account on this computer. It may or may not be your Athena password. If your password is accepted, you will get a shell prompt that ends in a hash mark (#). If not, you will get a message that says "joeuser is not in the sudoers file".
- **su:** You can also type `su -` at a shell prompt. In this case, you will be prompted for the root password for your workstation. This will not be the same password you used to log into the computer.



You should never log into your workstation directly as root except under very rare circumstances. The graphical login screen on Ubuntu will prevent this by default.

## Shutting down and rebooting your workstation

From the login screen, you can choose "Shut Down" or "Restart" from the "Actions" button at the bottom left of the login screen. If you are logged in remotely, you will need to become root and run the "poweroff" or "reboot" commands. Note that the "shutdown" command by default will shut the machine down to single user mode, but will not actually cause it to turn itself off.



In recent versions of Ubuntu, the "Restart" command uses a special method of restarting called `kexec`, which attempts to speed up reboot time by bypassing the boot loader. Thus, if you are restarting your workstation in order to boot from a CD or to use a different operating system, you should choose "Shut Down" instead, and then power the machine back on.

If your machine is frozen and won't accept input, you may press the power button once to begin a clean shutdown. The machine should begin to shutdown, although the shutdown procedure may take longer than normal if there are frozen processes. As a **last resort**, you should remove power from the workstation, but that can lead to data loss.

## Configuring your IP address and network settings on Debathena

Unlike Athena 9, Debathena leaves network settings to the underlying operating system. Documentation for Ubuntu is available at <https://help.ubuntu.com/>.

## Backing up and restoring your files

We recommend that every user back up any local data on a regular basis. Data stored in the AFS filesystem (such as your AFS home directory) is automatically backed up, though having your own backup is always a good idea.

Ubuntu offers many options for backing up data. You can create CDs or DVDs (assuming your hardware is capable of creating such discs) of data, you can use USB devices such as thumb drives or external hard drives, and you can also use a service such as TSM.

### CrashPlan/Code42

Code42/CrashPlan is MIT's enterprise backup solution. MIT community members can store up to 15GB of data in Code42 at no charge, and additional amounts of data for a nominal fee.

For more information, please see <http://ist.mit.edu/backup>.

## Software Updates

It is important to keep your Debathena workstation up to date. This ensures that you receive the latest version of software and security bugfixes.

### Getting Debathena software updates

`debathena-workstation` users should automatically receive updates, both from the Ubuntu repository and the Debathena repository.

Users of `debathena-standard`, `debathena-login`, and `debathena-login-graphical` are responsible for ensuring their machine is kept up to date. This can be accomplished by installing the `debathena-auto-update` package (which will update your machine automatically), or by following the procedure in the following section.

### Updating your workstation manually

Users can receive updates manually through one of two methods:

- From the "System" menu, choose "Administration" and then "Update Manager".

- From a shell prompt, ensure that you are root, and type `aptitude update && aptitude dist-upgrade`.

## Upgrading to the latest release of Ubuntu

Ubuntu releases new versions twice a year, usually in April and October. Debathena makes every effort to support new distributions as soon as they are available, however there may be occasions when support is delayed slightly. Before upgrading to the latest release of Ubuntu, we recommend you check the [Debathena website](#) to verify that Debathena supports the new release of Ubuntu.

Once you have verified that Debathena support is available, you can upgrade Ubuntu via the normal method.

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## Customizing your Workstation

Unlike Athena 9, most customizations on Debathena are handled by the core operating system.

### Installing third party software

A large amount of software is available from the Ubuntu repository, including many academic and scientific software packages. You can install repository software by going to the "System" menu and choosing "Administration" and then "Synaptic Package Manager". You can also run Synaptic from the command line, by typing `synaptic`.

If you're not in a graphical environment, you can install packages using `aptitude`. For example, to install the `gnnumeric` package, you would type (as root) `aptitude install gnumeric`.

To see what packages are available in the Ubuntu repository, visit <http://packages.ubuntu.com>.

Purchased software (such as MATLAB, Maple, etc) will need to be installed directly on to your local disk. You should follow the vendor's instructions for installing such software.

### Giving other users access to your workstation

Please see [How do I enable access control on Debathena?](#)

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## Adding Services

An SSH server is installed by default on `debathena-login` and higher. However, by default, only users with local accounts on the workstation can login via SSH. To enable other users to login remotely, please see [How do I enable access control on Debathena?](#)

### Obtaining a keytab

To permit users to login with Kerberos tickets (as opposed to typing their password), you will need to obtain a keytab. A keytab can be obtained from IS&T User Accounts by visiting the following web page: <https://ist.mit.edu/accounts/keytab>

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## Maintaining and adding Hardware

### Physical Security

We recommend that workstations, particularly in public areas, be secured to a desk or table. There are numerous methods of doing this. Public Athena workstations are secured using anchor pads from [KSL Security](#). We also recommend securing peripherals, particularly LCD displays. Many LCD displays feature a Kensington Security Slot, which can accommodate most common laptop cable locks.

### Moving your Athena workstation

Before moving your Athena workstation to a new location, it is very important that it be shut down correctly. For the correct procedure, please see the section on shutting down or rebooting workstations earlier in this document. Please note that if you move your workstation from one building to another, you may need to request a new IP address for your workstation. Please see <http://ist.mit.edu/network/ip-request> for more information.

## Environment requirements

Your Athena workstation should be set up in an environment which meets the requirements detailed in the documentation that comes with the workstation. Please check these manuals for specific requirements for temperature, humidity, and power, for your workstation as well as any peripherals. This section covers some general considerations:

**Climate:** The workstation should be away from heaters, photocopiers, and other sources of heat. It is also recommended that the workstation be protected against direct sunlight. Air should flow freely around your workstation. There should be at least 4 inches between the system vents and other objects. Similarly, there should be at least 4 inches between the monitor vents and other objects. Supplies (i.e., diskettes, tape cartridges, etc.) should be kept in an environment within the same temperature and humidity limits.

**Cleanliness:** Keep your work area as dust free as possible. For example, avoid installing the workstation near chalkboards. You have more discretion in your private workspace, but please keep in mind that no one is immune to causing spills and dropping crumbs, and take care to keep food and drink away from your workstation.

**Interference:** Your workstation should be set up at least 30 inches from any source of electrical interference, such as other terminals or monitors, printers, electric pencil sharpeners, or other hardware that causes electromagnetic radiation (in or near labs). In order to reduce your workstation's exposure to static electricity and magnetized objects, it is recommended that your workstation be located away from high traffic areas (e.g., busy corridors) and away from filing cabinets and steel beams in walls.

**Ergonomics:** Proper posture and typing breaks are important for avoiding Repetitive Strain Injury (RSI). The MIT Adaptive Technology Information Center (ATIC) has [more information on RSI](#). If you have specific questions about RSI, please contact ATIC or your physician.

## Using a UPS to prevent hardware problems

Plugging your equipment into an Uninterruptible Power Supply (UPS) can save you a lot of time and aggravation, and help protect your data integrity. However, UPSs can also pose safety problems that you should be aware of.

### About UPSs

There are two main categories of UPSs:

- An off-line UPS sits in parallel with your computer's line power. If the power fails, an off-line UPS switches on and supplies power to your computer.
- An on-line UPS sits in series with your line power. It is always working and does not need to switch on.

Overall, on-line UPSs perform better than off-line UPSs, because the transfer time from line power to battery power is much faster. Of course, on-line UPSs are more expensive than off-line.

### Characteristics of the UPS

It is also important to know how your UPS provides AC power. Since batteries are generally geared for DC output, the power must be inverted to feed an AC device. The electricity you get from line power is a sinusoidal AC signal; some UPS manufacturers cut corners and make the output of their UPS a trapezoidal approximation of a sine wave. Some machines are more sensitive to the approximation than others.

### Tips

- Test the UPS occasionally to make sure the batteries are charging. Be sure to follow the manufacturer's guidelines for testing the UPS, rather than simply unplugging it from the wall.
- Most UPSs are not designed to supply power during long power failures; they are designed to let you get past a power dip, or give you enough time to shut the system down cleanly. If power is out for more than a few minutes, shut your system down before you run out of UPS power.
- There is a lot of variation among UPSs. Choose a UPS with capacities and features appropriate to your system needs.