# Salix Start-Up Guide

Getting familiar with your new operating System.

September 8, 2022

# Contents

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**About this manual**

The purpose of this manual is to enable you to take full advantage of the many features of Salix. The latest version of this document is available from our websitehttp://www.salixos.org.

**The Salix start up guide is released under the CC-BY-SA 3.0http://creativecommons.org/licenses/by-sa/3.0/ license.**

***Your contribution is important!***

We would like to improve the quality of the manual and to provide more documents translated in your mother tongue. Your help is always welcome.

For any comments and submission of articles to be included in the start-up guide, please contact us through the Salix mailing listhttp://www.salixos.org/mailinglists.html.

***Acknowledgement***

My sincere thanks to all the people who have contributed to and worked on this start-up guide, especially **mimosa**, who did a lot of work rewriting big parts of this guide and helped cleaning it up.

Many thanks also to **tsuren**, ***jrd***, **akuna**, and **maximus** for all their hard work in the previous versions of this guide.

The section on partitioning with *cfdisk* is adapted from the guide for Absolute Linuxhttp://absolutelinux.org, with thanks to Paul Sherman.

*~gapan*

# Chapter 1

# Salix at a Glance



Salix is a Linux Distributionhttp://en.wikipedia.org/wiki/Linux_distro based on Slackwarehttp://en.wikipedia.org/wiki/Slackware that retains full backwards compatibility with its illustrious parent. However, while the KISShttp://en.wikipedia.org/wiki/KISS_prin principle that Slackware adheres to refers to the viewpoint of system design, Salix also applies it to the viewpoint of the end user.

## 1.1 Salix Features

- One application per task rationale.
- Fully backwards compatible with Slackware.
- Optimised for desktop usage.
- With Salix Tools to assist system management#salixtools.

- High-quality package repositories with dependency support.
- Simple & fully localized system administration tools.
- Salix artwork.
- Supports 32-bit and 64-bit architectures.
- Comes with a complete development environment.

## 1.2 Installation Modes

Salix offers three software installation options: **Full**, **Basic** and **Core**, to meet your demands!

Performing a **Full** mode installation is the recommended way of installing Salix for most users. It includes a fully configured desktop environment with a complete selection of applications to fit the needs of most people, including office related software, multimedia applications, internet applications, all the Salix system configuration tools and more. Don't let the word "Full" fool you, this is in no way a bloated installation since it adheres to the "one application per task" rationale. We feel that the collection of software that accompanies each respective desktop environment will cover most user's needs but, of course, any user can tailor the software selection through the Salix package management tools as required.

A **Basic** mode installation is mostly targeted at advanced users. It includes only the desktop environment accompanied by a very minimal selection of software on top, namely the Salix system configuration tools and a web browser. Wi-fi connection tools or drivers are not present and only wired network connections are supported out of the box. The user is expected to know how to install extra software and tailor the installation to their needs.

A **Core** mode installation does not provide any graphical environment. It only installs a command line system, including the Salix command line system and package management tools. It is intended for expert users who know how to use the command line tools to administer their systems. It is most commonly used to set up types of server such as web-servers and e-mail servers. The servers that host the Salix websites are hosted on, run Salix installed using the **Core** mode method. Expert users can of course use this mode to install the X window system and any graphical environment on top of it if desired.

## 1.3 Salix Repositories & Package Management

Here are the key points you need to be aware of with respect to installing software on your Salix system:

- *slapt-get* and its graphical interface *Gslapt* are the primary tools used for package management.
- It is also possible to install software using **Flatpaks**. *flatpak* is available for installing software from the huge collection that is available in Flathubhttps://flathub.org. Finally, *slapt-src* is included to allow building software from source using SBohttps://slackbuilds.org as the primary source.
- A wide range of packages from Slackware, Slackbuild and Salix repositories.
- The Salix repositories offer **dependency resolution support** and are the **largest** third party software package repositories for Slackware offered to date.
- The Salix repositories are offered for both the **32-bit** and **64-bit** architectures.

💡 In Short, Salix is...

*"Like a bonsai, Salix is small, light & the product of infinite care."*

# Chapter 2

# Starting Up Salix

## 2.1 Introduction

### 2.1.1 Downloading Salix

The latest Salix releases are freely and easily available as ISO image files from the Salix download pagehttp://www.salixos.org/download.html, via direct download link or torrent file.

> 💡 Please use the torrents...

*if it is convenient for you to do so and please seed if you can. These torrents are hosted by Salix's torrent server, made possible by generous donations from users.*

An ISO image is an archive file of an optical disc. It can be easily burned to an optical disc by using media authoring or disc burning software. The resulting disc should contain the contents of the .iso file, but not the .iso file itself; if it does, you have made a mistake in the process. These days, it might be more usual to write the .iso file to a USB stick, using a tool like **dd**, or any image writing software.

> 💡 Checking download integrity

*It is recommended if possible, to verify the integrity of your downloaded file by comparing its md5sumhttp://en.wikipedia.org/wiki/Md5sum file with the original one uploaded besides the corresponding ISO image file by Salix. This ensures that your downloaded image file matches exactly with the one provided on the Salix website and minimises the possibility of installation errors later on.*

### 2.1.2  Booting from a Salix Installation medium

Your computer must be set to boot on the optical drive/USB port first before defaulting to the internal hard disk drive.  If that is not the case, you need to first modify the respective BIOShttps://en.wikipedia.org/wiki/BIOS or UE-FIhttps://en.wikipedia.org/wiki/UEFI setting, usually by pressing the Del key or the F2 key (or some other key combinations depending on your machine). Once in the BIOS/UEFI screen, find the *boot menu* or similar and set the order of the boot devices properly, with your optical drive/USB port in the first position.  Save your changes and reboot your computer.  Insert the Salix CD/DVD or USB key, and start up your computer.

## 2.2  Installing Salix

### 2.2.1  Before starting

Installing Salix on your computer is simple.  But before starting, it is wise to check the following points:
- Have you backed up all the important files you have?
- Check if your computer comes with Linux-friendly/supported hardware.
- Minimum recommended specification (1 GB RAM, 12 GB HD space. Any 64-bit capable CPU for a 64-bit installation.  An Intel PIII 1 GHz CPU or equivalent CPU for a 32-bit installation, though a lower spec machine may run without a problem).
- At least one separate partitionhttp://en.wikipedia.org/wiki/Disk_partitioning dedicated for Salix on your computer.

### 2.2.2  Partition Management

Before installing Salix, you need to have the necessary partition space available on your system, and if the computer does not have a separate partition for Linux, you must create one before installing Salix.

If you have an unformatted partition, unallocated disk space, an existing partition you do not use, or you are happy to completely erase and reformat your hard drive, you can create or rewrite a new partition table using *cfdisk* (or *cgdisk* for EFI systems), which is available through the Salix installer.  A short tutorial#cfdisk on using cfdisk is available in a later section in this guide. *cfdisk* and *cgdisk* are capable of removing and creating partitions, but they lack the functionality to resize partitions.  While using *cfdisk* or *cgdisk* is easy, less experienced users may prefer the safeguards and graphical interface of *Gparted*, which can also resize and move partitions.
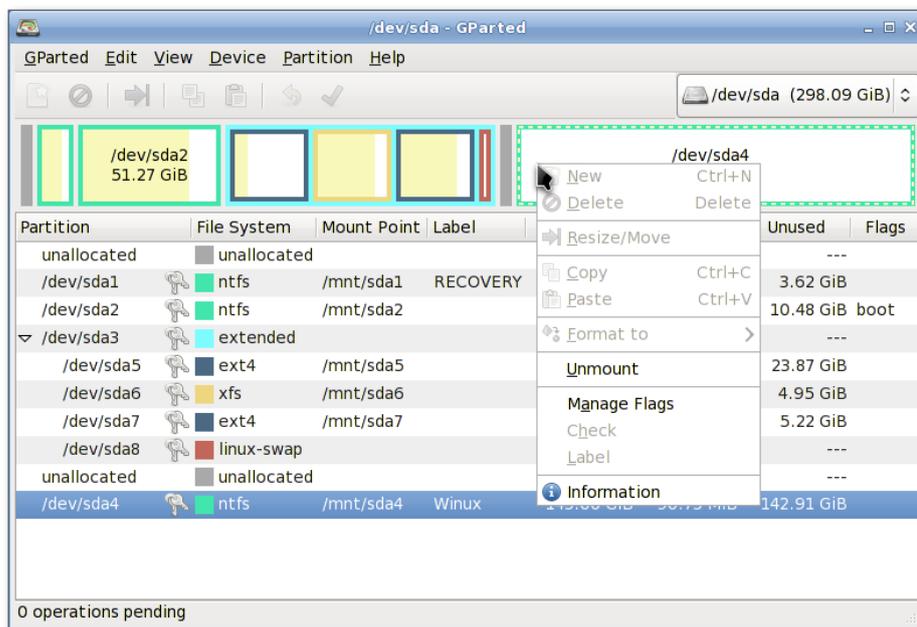
Live CDs from pretty much any Linux distribution come with Gpartedhttp://gparted.sourceforge.net/o manual/C/gparted_manual.html, which will enable you to change the partition organisation on a disk device while preserving the contents of the partitions. You may wish to use this application to create/re-organise your partition table.

A hard drive space can be divided into no more than four "primary" partitions, which can be problematic if you are hosting more than one operating system on the same hard drive. A hard drive can, however, be divided into three "primary" partitions and one "extended" partition. The extended partition can then be subdivided into "logical" partitions and hence overcome the limitation set by the "primary partition" (i.e. no more than four partitions). In practice, there is no difference between a logical and a primary partition except that "Windows" OS cannot be installed on a logical partition.

⚠ Backup your files!

*It is advisable to back up any important files before modifying the partition table.*

**So what kind of partitions do you need?**

- Salix needs, at the very minimum, one partition which holds the root directory and must be assigned as /.
- It is often recommended to have one swap partition though modern RAM

sizes now often mean it isn't needed. If you already have another Linux OS running on your machine, its swap partition can be shared, and you do not need to create another. A swap partition is in essence used as extra RAM to improve the performance of your machine when, for example, your machine doesn't have a lot of physical RAM or you're performing memory-intensive operations (such as video editing) that use up most or all of the physical RAM. It is normally recommended to have 1.5-2 times the size of your RAM as swap space, but for a modern desktop computer with several GB of RAM, a swap partition may not be strictly necessary.

- Many users like to have a separate partition to hold the /home directory, where you can store all your personal data such as documents, photos, customised settings for the desktop environment etc; but this is by no means necessary.

- Optionally you can create separate partitions to hold different directories such as the /var directory, where system log files are stored. But unless you are running a server machine, this is probably unnecessary. An advantage of having more than one partition to hold separate directories is that you can reformat one partition without affecting others. For example, you can re-install Salix on your machine (this goes to the partition holding the "/" directory) while leaving the partition holding the /home directory intact; however, be aware that /home can contain configuration specific to each distribution and release, so sharing it between distros or reusing it when installing a new version of Salix is liable to lead to problems.

Each partition can be formatted into one of several file systems, including xfs, ext4, ext3, ext2, btrfs, jfs and reiserfs. The default is xfs.

⭐ EFI

*On (U)EFI systems, it is mandatory to have a separate partition allocated for /boot/efi. This partition should have a type of ef00, when created in cgdisk. This partition should be formatted using the FAT32 filesystem. A size of 200 MB should be more than enough.*

## 2.2.3   Installing from a Salix Installation Disc

Installing Salix from a Salix Installation optical disc is somewhat similar to installing Slackware, but the entire process is considerably shorter and less complicated. Everything is done efficiently in a semi-graphical command line interface.

To start the installation process, you may type setup (or press the up

arrow on your keyboard to revoke the same command - useful if your actual keymap doesn't match the one that is used by default in the installer). Once the installer starts, you will be presented with several dialogs to customize the installation process. Here is what you will have to do:

- Select your keymap.
- The installer will run *cfdisk* (or *cgdisk*) to allow you to set up your desired partitions. If they are already as you wish, type 'Q' to quit. See below for a detailed guide to using cfdisk#cfdisk.
- Your swap partition, if any, will be automatically detected. Say yes if the detected partition corresponds to that.
- You will then be asked to specify the partition for the root / directory. Select the partition you have created for the /, and continue to format the partition. Unless you prefer otherwise, the xfs file system is recommended here.
- If you have other partitions to mount, you can do so. If you have a partition for a /home directory, select the partition and continue. Unless the partition is new or you would like to erase the content of this partition, select not to format.
- Other partitions such as Windows partitions will be detected automatically. If you would like to make those partitions automatically usable during your Salix session, include them all to mount.
- The installer will start installing Salix. You will be asked first where the source files are. If you are installing from the CD, select "from the CD". Everything should be detected automatically.
- You will be asked to choose an installation mode (**Full**, **Basic** or **Core**).
- Installation of packages will start.
- After the installation, LILO (or eLILO for EUFI systems) setup will start up. Unless you are **not** using LILO/eLILO, choose the default options. You can refine the bootloader configuration (for example, in a multi-boot scenario) after booting into your new Salix installation.
- You will be asked some other questions regarding time-zone, username and password. Make sure you add at least one user to your system, otherwise you will not be able to log in!
- When all the basic questions are answered, you will be presented the option to reboot the system.
- That's all. The computer is good to go! Enjoy Salix!

💡 Salix now uses sudo!

*By default, the first user created has access to sudo, any others do not; to allow them access as well, they need to be added to the wheel group. The* **root** *user is disabled by default in Salix.*

### 2.2.4   Installing from a Salix Installation USB

Installing Salix from a USB key is also possible. You can use *dd* to transfer the contents of the Salix iso image to your USB stick, using a command line like this:

```
dd if=salix_image_file.iso of=/dev/sdb
```

Of course, you'll have to replace *salix_image_file.iso* with the exact path and name to the iso file you would like to use.

> ⚠ dd is very dangerous!
>
> *The dd command wipes all the data from the specified target device. In the example given above that device is /dev/sdb, but it could very well be a different one in your case. Always double check which partition and device you are reading from and writing to, e.g. using* `sudo fdisk -l`*. If you are not 100% certain, then do not proceed as this could permanently destroy the contents of an entire hard drive.*

After writing the iso image to your USB stick and setting your BIOS to boot from it, the installer works exactly as described above when booting from an optical disc. The only difference is that when you are asked for the medium to use as a source for the packages installation, you should select the *"Install from a Salix USB"* option.

### 2.2.5   Partition management with cfdisk

These instructions assume that you will create a single partition to hold Salix, plus a swap partition, as an illustration; however, *cfdisk* can create any partitioning scheme required. Note that you can also delete partitions (which will irrevocably destroy their contents). New partitions can be created in free space. For the purposes of this example, it is assumed the entire disk is free. Swap, if you need it, should normally be twice your RAM, so if that is 250 MB, swap should be 500 MB. If you have more than 2 GB of RAM, you needn't take this rule too strictly and you can have smaller sized swap partitions.

You can move between the commands listed at the bottom of the screen with the arrow keys, or select the command by typing the first letter, such as 'Q' to **Quit**.

- Make a **New** partition, taking up all but 1 GB of the disk (this will be used for swap space). Note that you can choose whether to create a Primary or Extended partition; the former is what is needed in this

example, but an extended partition will allow for the creation of logical partitions within it, when a more complex setup is needed.

- Make this partition **Bootable** (with 'B'). Use the up and down arrow keys to select a particular partition, if there is more than one. The default partition type is 'Linux' so that partition is done.
- Next, make another new partition, taking up the rest of the drive.
- Change its **Type** to 82, Linux Swap.
- When you are happy with it, **Write** the partition table to disk.
- **Quit** to continue with Salix installation.



## 💡 GPT

*If your hard drive is partitioned using the GPT scheme, instead of the older MBR scheme, instead of cfdisk, you get cgdisk. While there are some differences between them, you'll find out that they are mostly the same, so the instructions provided for cfdisk apply to cgdisk, for the most part.*

**cfdisk usage details**

**Hard disk names**

SCSI harddisks are named with *sdx*, where *x* is a harddisk letter. The disk with the lowest SCSI ID on the first controller will become *sda*, the next after that, sdb, and so on.

### Hard disk partitions

GNU/Linux systems often use a partition scheme inherited from MS-DOS. With this, a harddisk can have up to four primary partitions. If you want more, you have to make one of these an extended partition where you can make several logical partitions. The partitions are named with the disk they belong to, and a number. The first primary partition on the first disk is therefore *sda1*, the second primary partition is *sda2*, and so on. The first and second logical partition on an extended partition on the first disk is *sda5* and *sda6*, and so on.

### Using cfdisk

### The user interface

After *cfdisk* is started you'll get an interface where the current partition table is listed with the names and some data about each partition and some command buttons on the bottom of the screen. To change between partitions, use the up and down arrow keys. To change between commands, use the left and right arrow keys.

### Deleting a partition

To delete an existing partition, highlight it with the up and down keys, select the Delete command with the left and right arrow keys and press *Enter* or just press D.

### Making a new partition

To make a new partition, select the New command with the left and right arrow keys, and press *Enter*. You'll get the choice between a primary and a logical partition. If you want a logical partition, the program will automatically make an extended partition for you. Then you must choose the size of the partition (in MB). If you can't enter a value in MB, return to the main screen with the Esc key and select MB with the Units command.

### Set the type of a partition

To set the type of a partition, highlight the desired partition and select the *Type* command. You'll get a list of different types. Press *space*, and you'll get even more. Find what type you need, and enter the number at the prompt. Linux is 83, Linux swap is 82.

### Make a partition bootable

To be able to boot from a primary partition, you need to make it bootable. Highlight the partition and select the *Bootable* command.

### Write the result to disk and quit

When you are content with the layout of the disk, select the *Write* command. The partition table will be written to disk. Remember that this will destroy all data on partitions you have deleted or changed. You should, therefore, be very sure that you want to do this before actually pressing the Return key.

To exit the program, select the *Quit* command. The installer will then detect any partitions you have created and offer you the option to assign mount points to them.

# Chapter 3

# Your Salix

## 3.1 Package Management

Installing applications (which roughly equates to "installing packages") is a fundamental part of the Linux experience. A Linux distribution, such as Salix (or Slackware, on which it is based) could be said to consist of its repositories, where the software available for that distribution is kept. These packages have been compiled with the kernel and build tools provided by the distribution and tested to ensure they work together. Salix, like most distros (but not Slackware) provides full dependency management, which means that any items the package needs to run are installed too – and also that they are guaranteed to be available.

Installing extra software is also possible through flatpaks and Flathub-https://flathub.org. Just navigate to the software you wish to install and press the "Install" button on the webpage. If your browser defaults to downloading the `.flatpakref` file instead of opening it, just open the Downloads folder and double-click it inside your file manager.

You can also create and install your own packages, for which Salix provides a suite of console scripts, especially `slkbuild`; for further information, see the wiki pages on packaging. When installing packages from any other source, proceed with caution.

slackbuilds.orghttp://slackbuilds.org (SBo) provides build scripts for further software not present in the repositories. This means the package will be built on your system before being installed. Salix provides a command-lie tool, *slapt-src*, for this purpose. But it has limited dependency management, as not dependencies are listed at SBo. Therefore the build is not guaranteed to be successful and some manual tinkering may be needed. Unlike the software provided in the repositories, these scripts are not maintained by either Salix

or Slackware but by individual users, and as such are not the responsibility of either distribution, although help may be found on the forum. If the build fails, the last ten lines or so of the output usually provide an indication of the reason. Most commonly, this is a missing dependency, which may be a build dependency (needed to compile the package, but not to run it). Common packages that are required by several SlackBuilds, but not included as part of a standard Salix installation are *cmake* and *linuxdoc-tools*, so first make sure you have these installed if you encounter any problems. If you don't mind using a bit of extra space on your hard drive, then most of these problems could disappear by installing the *slackware/d* and *slackware/l* package sets:

```
sudo slapt-get --install-set slackware/d --install-set slackware/l
```

However, you shouldn't really need to revert to SBo often, if at all. The Salix repositories offer thousands of packages and even more are available through Flathubhttps://flathub.org.

⭐ Reminder!

*You need to have superuser privileges in order to install or upgrade packages.*

### 3.1.1   Gslapt

*Gslapt* is the GUI version of *slapt-get*. It allows one to search Slackware/Salix mirrors for packages. Before use you should first click on the **Update** button to ensure that the latest updates from the software repositories are known to *Gslapt*. The search field is there for you to search for a particular package. You can highlight with your left click and choose to install/uninstall/reinstall packages with a right click. *Gslapt* detects dependencies and will install all the dependency files for a package automatically. Installation, uninstallation or reinstallation of packages (whichever applies) will take place once you click on the **Execute** button. You can blacklist packages by adding their names to the blacklist found in "Preferences" under "Edit".

On first installing Salix, you should also do a general package upgrade to ensure your installed system is up to date with the repositories – click on "Mark all upgrades", then "Execute".
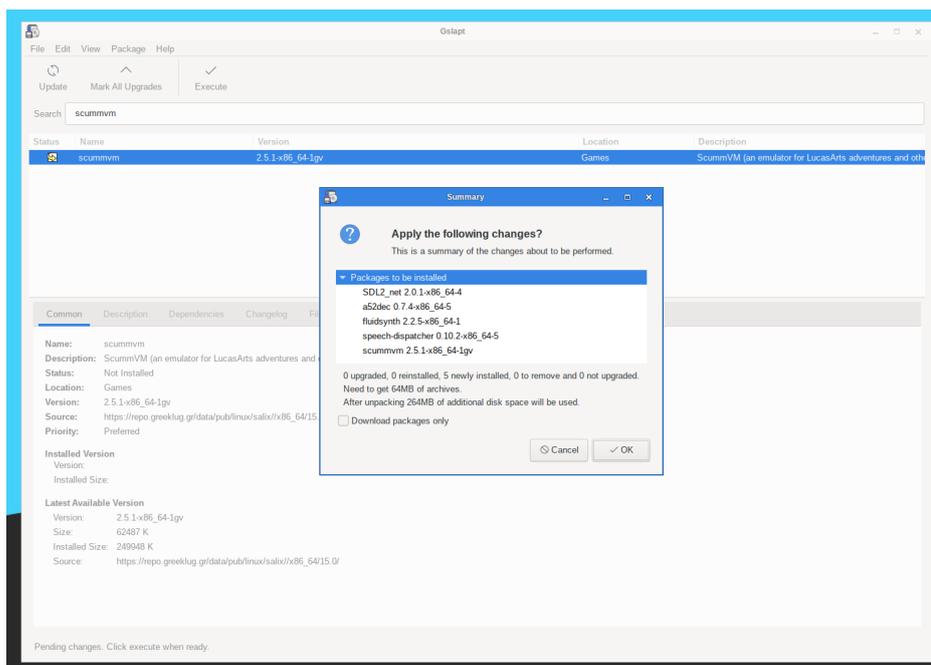


## 3.2   Package management from the command line

*slapt-get* and *slapt-src* are the basic command-line tools used for installing packages. *Gslapt* provides a GUI for *slapt-get*. This section describes their use from the command line, along with the *flatpak* command line tool which is

used to install software that comes in flatpaks.

## 3.2.1   slapt-get

slapt-gethttp://software.jaos.org/git/slapt-get/plain/FAQ.html is a command
line tool for Slackware package management. It allows one to search Slack-
ware/Salix mirrors for packages, compare them with installed packages, install
new packages, or upgrade all installed packages. To use the application, open
a Terminal window and first issue the command

```
sudo slapt-get -u
```

in order to update the package database on your computer. Then

```
slapt-get -l
```

to list all the available packages,

```
slapt-get --search [package name]
```

to search for a package, and

```
sudo slapt-get -i [package name]
```

to install a package. For more command line instructions, please refer to

```
slapt-get --help
```

Here is a little exercise for you. Try installing *w3m* which is a terminal
based web browser, by using slapt-get.

## 3.2.2   slapt-src

*slapt-src* is a command line tool that makes the process of downloading and
building software packages from SBohttp://slackbuilds.org simple and easy.
SBohttp://slackbuilds.org keeps a large collection of build scripts for extra
packages that are still not available from the official Salix / Slackware repos-
itories. Thousands of extra packages are now available to users through this
tool.
    To use the application, type in

```
sudo slapt-src -u
```

first to update on your computer the list of build scripts available from Slackbuild.org.

```
slapt-src -l
```

shows you a list of available packages, and as in slapt-get,

```
sudo slapt-src -i [package name]
```

will build and install a package. For more command line instructions, please refer to

```
slapt-src --help
```

### 3.2.3  spkg

If you would like to install or upgrade a package that you have manually down-loaded or have built yourself, you can use *spkg*. Salix packages (just as Slack-ware packages) have filenames that end with the *.tgz*, or *.txz* extensions (there are also *.tlz* and *.tbz* but they are very rarely used). To either install a new package or upgrade a package you can use the following command:

```
sudo spkg [exact path to package]
```

Note that the name of the package must be exact to the last character in the extension, e.g. *mozilla-firefox-24.3.0esr-x86_64-2gv.txz* (command line auto-complete using the TAB key helps in this respect). Removing a package is somewhat similar. You can remove a package by issuing

```
sudo spkg -d [software name]
```

e.g. `sudo spkg -d mozilla-firefox`

💡 Blacklisting packages

*If you are replacing a package that is available in the repositories, you will need to blacklist this package in /etc/slapt-get/slapt-getrc to prevent it from being "downgraded" when you next carry out a general package upgrade. (See above for how to do this in Gslapt#Gslapt).*

### 3.2.4   flatpak

Software that is installed using flatpaks is managed separately from the main package management tools described earlier.

A popular source for flatpaks is Flathubhttps://flathub.org. Salix comes with a GUI helper tool, `flatpakref-installer` to install software that way.

You may use the `flatpak` command like tool to manage your flatpak software.

To install a flatpak you can run a command like the following:

```
flatpak install flathub org.kde.krita
```

You will find this command in the respective webpage of the software you'd like to install in Flathub.

To run software that is installed through flatpaks your run something like this:

```
flatpak run org.kde.krita
```

This command is also available in the software's page in Flathub. But a menu entry is usually added, so you don't have to remember that.

To get a list of installed flatpaks, you may run:

```
flatpak list
```

To update all of your flatpaks to their latest version, you can run:

```
flatpak update
```

Uninstalling a flatpak is possible by:

```
flatpak uninstall org.kde.krita
```

You may find more information about the `flatpak` command by running:

```
man flatpak
```

or

```
flatpak --help
```

### 3.2.5 Making a Package from a Source File with SLK-BUILD

Installing software from a source file is in most cases not difficult. You can compile a lot of software generally with the following commands.
- unpack a source file, move inside the folder.
- type in `./configure` on the terminal.
- type in `make`.
- type in `sudo make install`.
- type your password.

Make sure to read accompanying files such as "README", "INSTALL" and so on for installation instructions before compiling. These files may list dependency packages which you need to install prior to the configuration.

```
./configure --help
```

or

```
./configure --help=short output
```

should also help you with some configuration options.

Although you should manage to install the software after the final command, it is essentially **untracked**, and neither Gslapt nor slapt-get can see that the software is installed. A better way is to create a Salix package using SLKBUILD, which is a build script you can prepare before issuing

```
fakeroot slkbuild -X
```

to create a Salix compatible package which can then be installed with spkg#spkg (the *fakeroot* package should also be installed). For more on SLK-BUILD, please consult SLKBUILDhttp://www.salixos.org/wiki/index.php/Building_packages_with_slk and New to Packaginghttp://docs.salixos.org/wiki/New_to_Packaging.

### 3.2.6 Upgrading Salix to a Newer Version

If you wish to upgrade an older version of Salix on your machine to the latest, please refer to the following guides:
- Salix 14.2 to 15.0http://www.salixos.org/wiki/index.php/How_to_upgrade_Salix_14.2_to_15.
- Salix 14.1 to 14.2http://www.salixos.org/wiki/index.php/How_to_upgrade_Salix_14.1_to_14.
- Salix 14.0 to 14.1http://www.salixos.org/wiki/index.php/How_to_upgrade_Salix_14.0_to_14.
- Salix 13.37 to 14.0http://www.salixos.org/wiki/index.php/How_to_upgrade_Salix_13.37_to_1
- Salix 13.1 to 13.37http://www.salixos.org/wiki/index.php/How_to_upgrade_Salix_13.1_to_13
- Salix 13.0 to 13.1http://www.salixos.org/wiki/index.php/How_to_upgrade_Salix_13.0_to_13.

## 3.3   Configuring Your Salix

### 3.3.1   Setting up an internet connection

Network connections are managed by NetworkManager in Salix. It is an open source wired and wireless network manager for Linux which aims to provide a simple interface to connect to networks with a wide variety of settings. You will find NetworkManager in your system tray.



It will connect to wired (Ethernet only, no PPPoE/DSL support yet) and wireless networks.

Note that **networkmanager** must be activated in the system services#system_services in order to use it..

### 3.3.2   Setting up a Printer

After writing a document, transferring photos from your camera, or creating your own images with GIMP, you would probably like to print them out with your printer. To do this, you need to have a printer already installed on your system. "**Manage Printing**", which is found under "System" in the main application menu, handles the installation and general management of your printers. (Ensure that "CUPS" is enabled in the system services#system_services, or Manage Printing will not start properly).

If you are buying a new printer, it is recommended to check the availability of Linux drivers beforehand from the Open Printing databasehttp://www.linuxfoundation.org/colla (or search on the Internet). Some companies offer printer drivers for Linux, but this is less common than desired and could involve a lengthy installation process. For most Linux friendly printers, you have to install drivers such as gutenprint or HPIJS, both of which are available from the repositories.

- Select "Add Printers and Classes".
- Under "Printers", select "Add Printer".
- Enter "root" as a username and your superuser password.
- Select your printer description and choose if you would like to share the printer.
- Select the correct driver from the list (Model) - see an example below. This is the important part. Or if you have a PPDhttp://en.wikipedia.org/wiki/PostScript_ file instead, you can load it here.
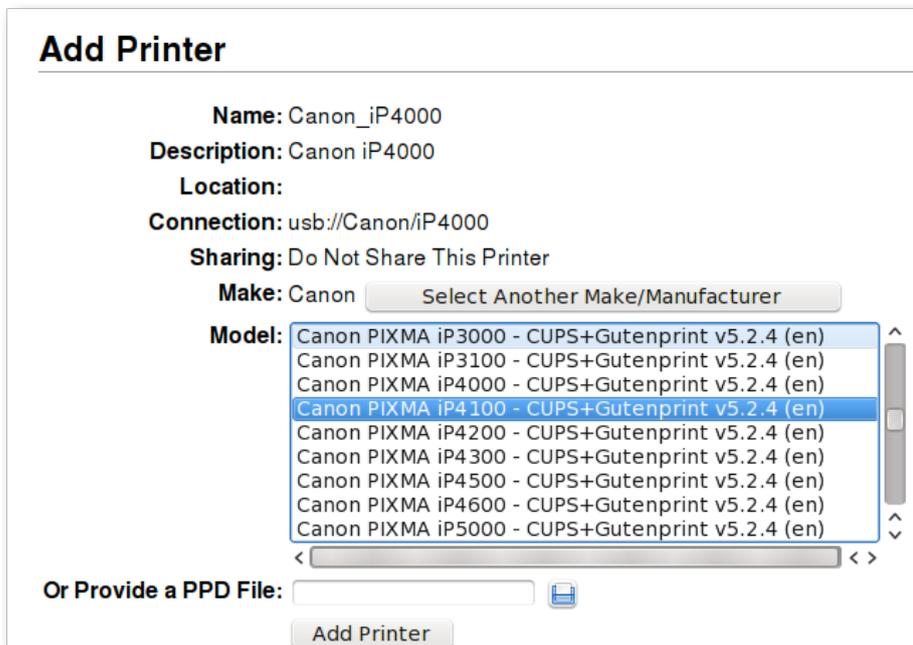
- Select Add Printer, and finish the process by configuring details of the printer.
- Now the printer should be usable on your computer.

For setting up a network printer, please consult the Salix wikihttp://www.salixos.org/wiki/index.php/

### 3.3.3 Salix Codecs Installer

Salix only includes, by default, software that is legally free to use in any country, and that means that proprietary media formats are not configured "out of the box". Most commercial DVDs are encrypted, and that means that you need to install certain codecs to view them. This is legally permitted in most countries but not all. Please check and obtain legal advice if you are unsure whether a particular legal restriction applies to a media format or packages you wish to use in your country.

Salix codecs installer can be found under "Multimedia" in the main application menu, and will conveniently install those codecs which enable the viewing of the vast majority of commercial media formats.
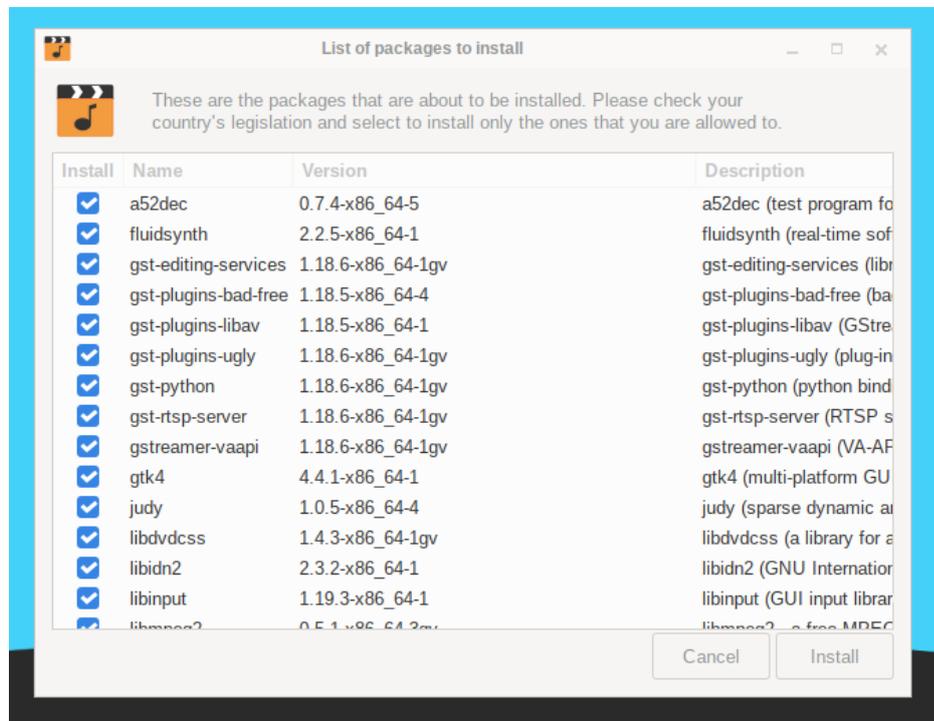
## 3.4   Salix Tools

### 3.4.1   What are the Salix Tools?

Salix tools are a collection of utilities that are designed to manage every aspect of Salix configuration easily.  You can find these tools under the System section of the application menu.  Of course, system management in Salix can also be done the usual (manualhttp://www.slackbook.org/html/book.html) Slackware way.
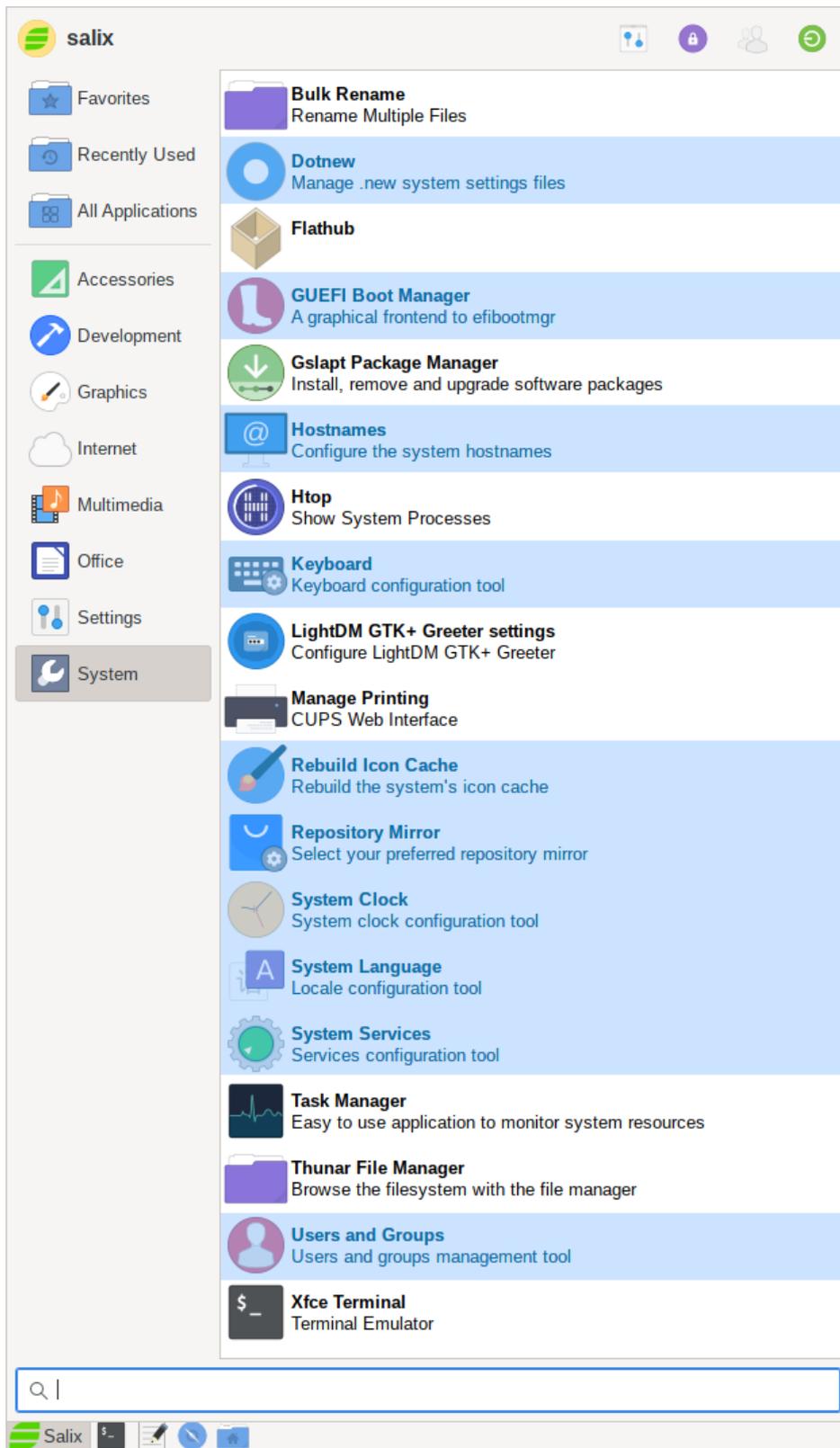
Please note that most Salix tools have an ncurses counterpart which can be used in a Linux terminal or console.

### 3.4.2  Dotnew

Dotnew manages the system configuration upgrades used by Slackware. It will display a possible course of action for each new configuration file found in the system.
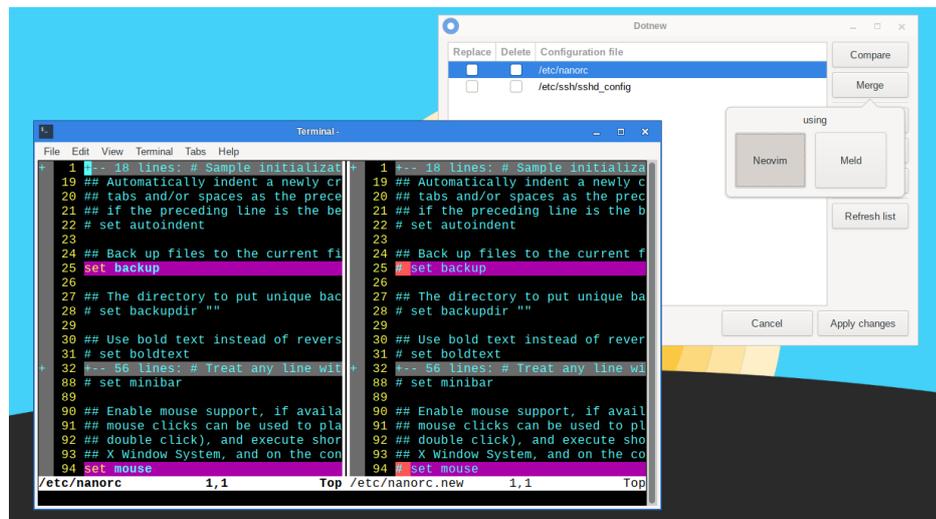


To execute this utility in a terminal, simply type

```
sudo dotnew
```

### 3.4.3  GUEFI

GUEFI is a Python/GTK+3 application that acts as a frontend for efibootmgr. It provides an easy to use interface for managing UEFI boot options.

Using GUEFI you can:

- Create a new UEFI boot entry

- Edit a UEFI boot entry

- Delete a UEFI boot entry

- Change the UEFI boot order

- Enable/disable a UEFI boot entry

- Configure a UEFI boot entry to be the default during the next boot only
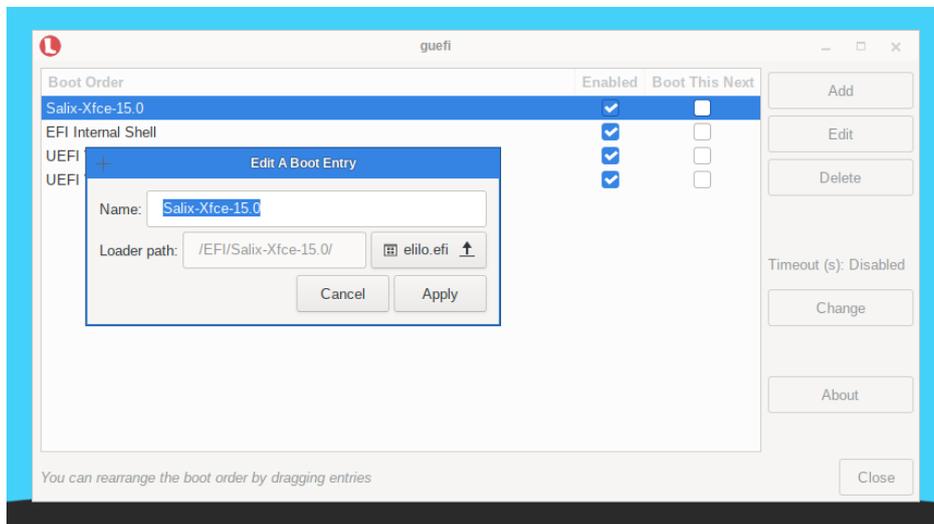
### 3.4.4  Hostnames

Hostnames manages the host names used by your computer. This tool facilitates defining/overviewing host names used while setting up your machine as a server.
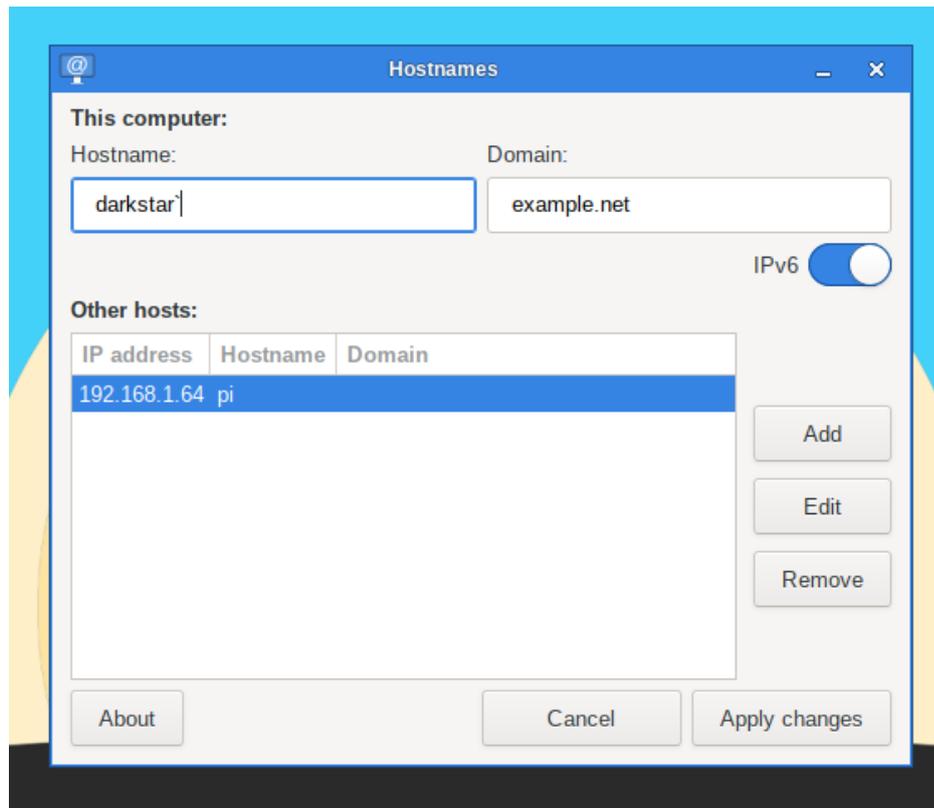
### 3.4.5 Keyboard Layout

This utility will configure the keyboard layout being used both in the graphical and non-graphical environments. Modifications are applied instantly.
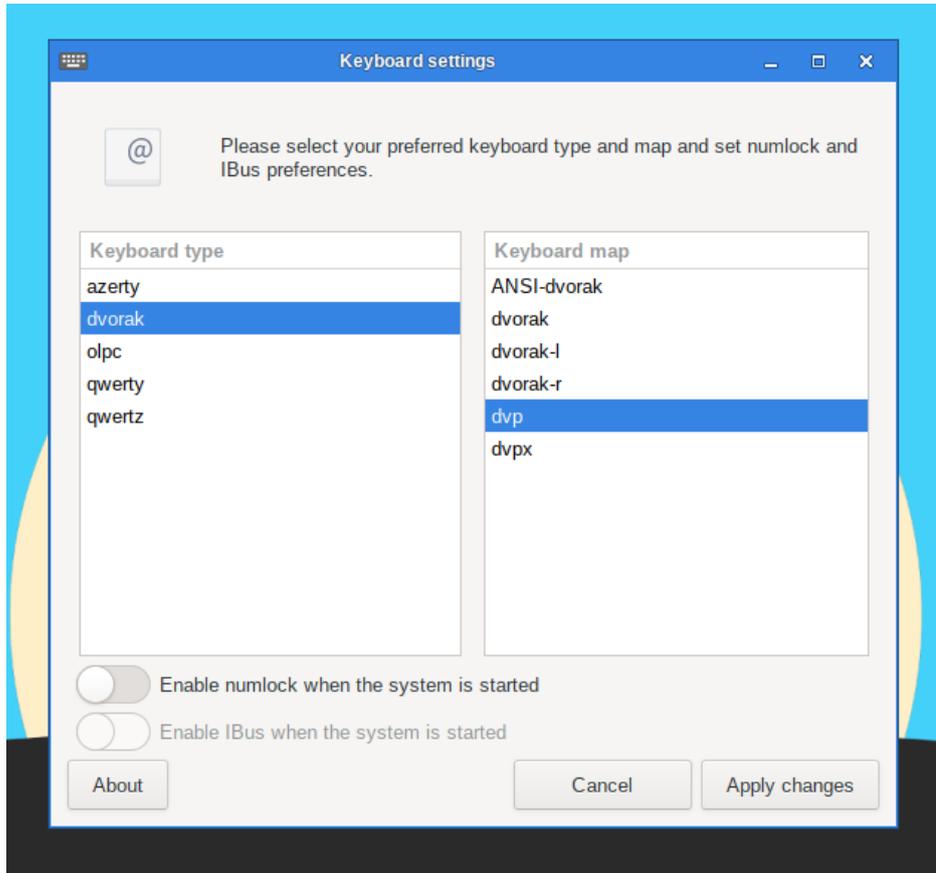


Note that if you would like to activate Ibus#ibus during the start up, you can do so by ticking the optional box.
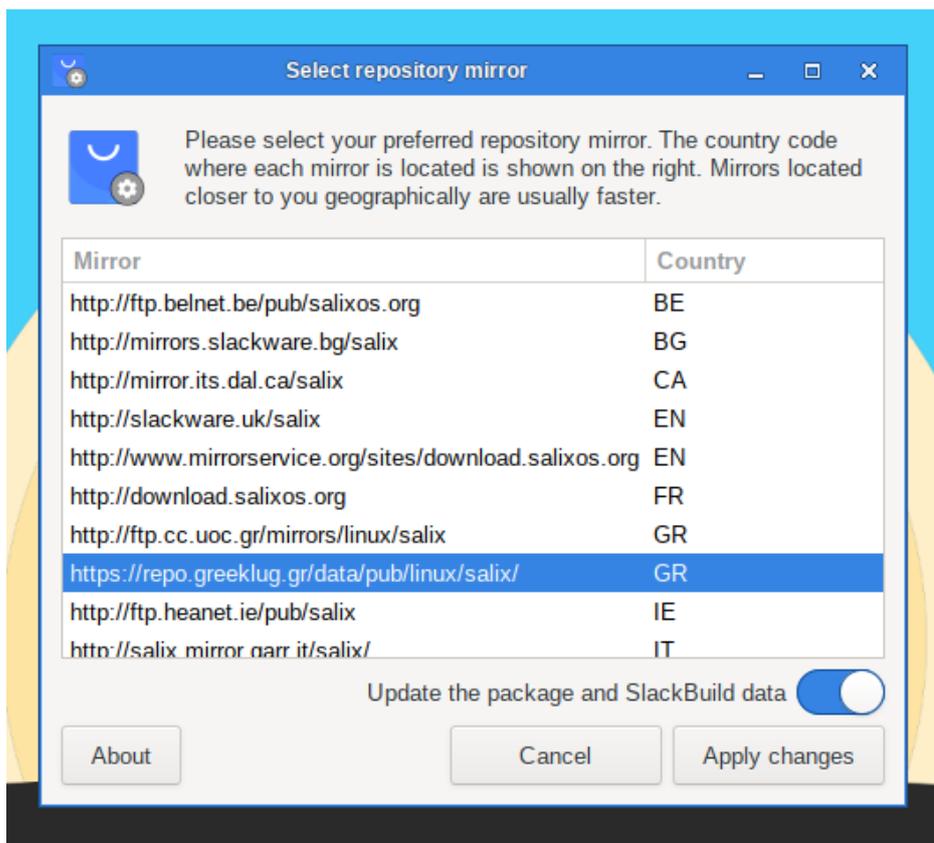
To execute this utility in a terminal, simply type

```
sudo keyboardsetup
```

### 3.4.6   Rebuild Icon Cache

As the name indicates, Rebuild Icon Cache reconnects some icons that may
have become lost after updating your system/installing some new program and
makes them appear again in the application menu.

### 3.4.7 Repository Mirror

This tool can be used to to select your preferred repository mirror. The country code where each mirror is located is shown next to each entry. You should usually choose a mirror that is closer to you geographically, as they will be usually faster. Of course you can also use this tool when your preferred mirror goes temporarily offline to switch to another.
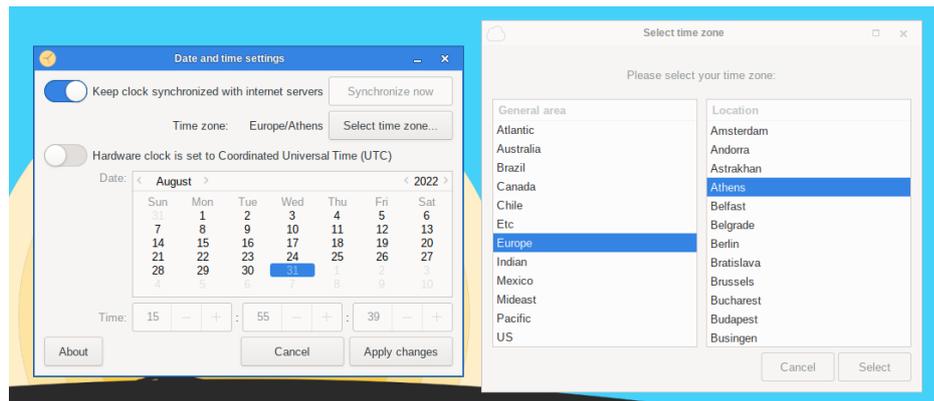


To execute this utility in a terminal, simply type

```
sudo reposetup
```

### 3.4.8   System Clock

This utility will configure your computer clock.  To execute it in a terminal, simply type
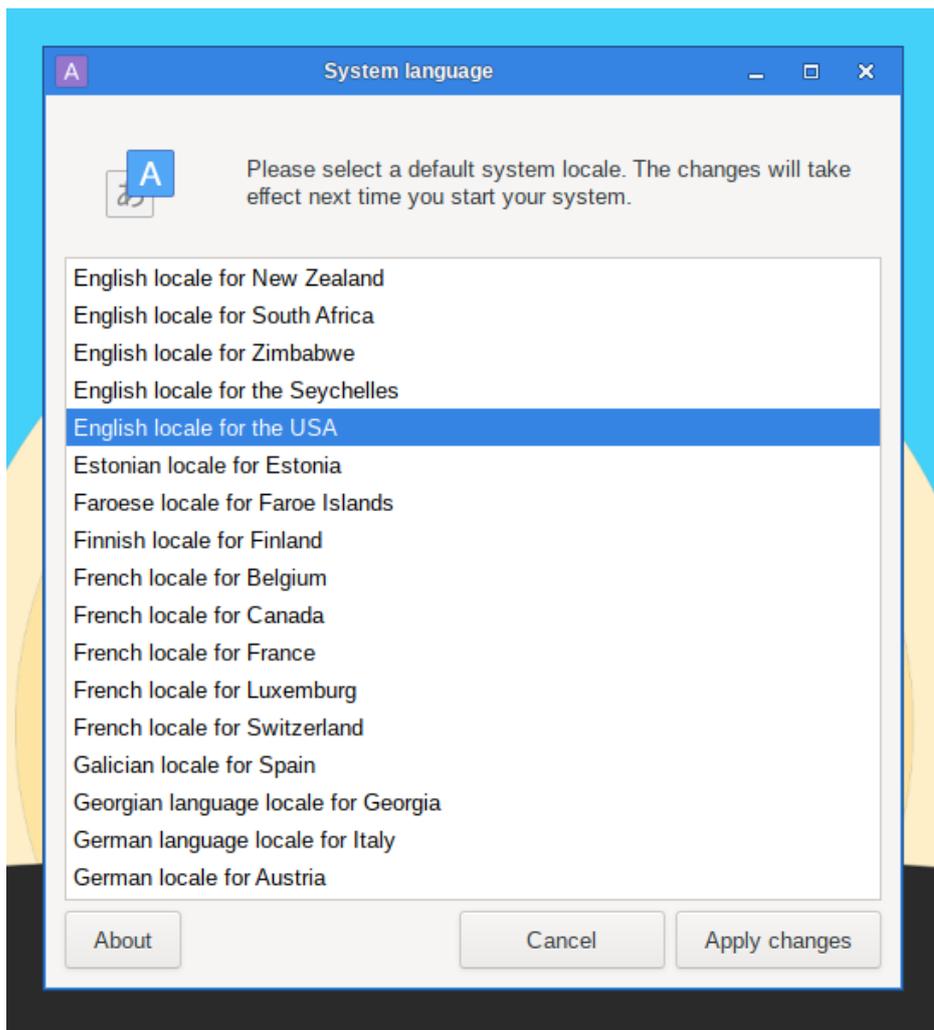
```
sudo clocksetup
```

### 3.4.9 System Language

This utility will configure the language of your system. To execute it in a terminal, simply type
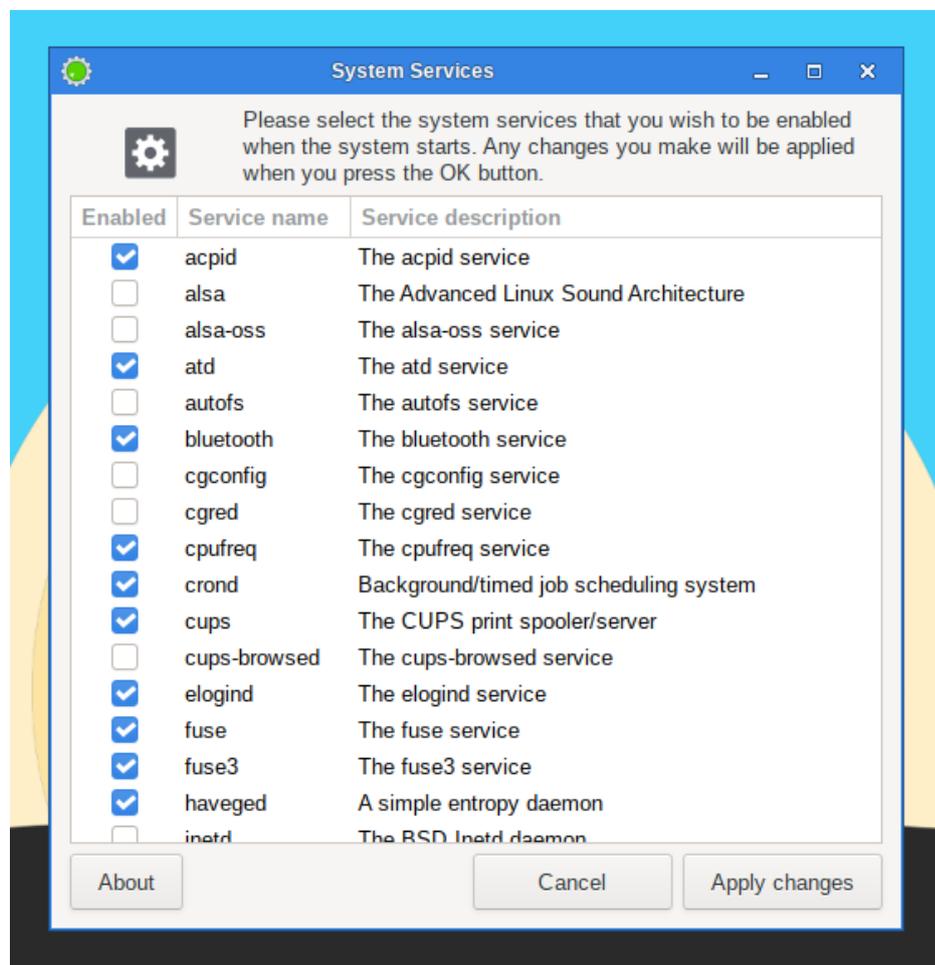
```
sudo localesetup
```

### 3.4.10   System Services

Here you will be able to select the services that should or shouldn't be activated in the background when your system starts.

All your modifications will be applied instantly if you press the OK button and will not necessitate a reboot.

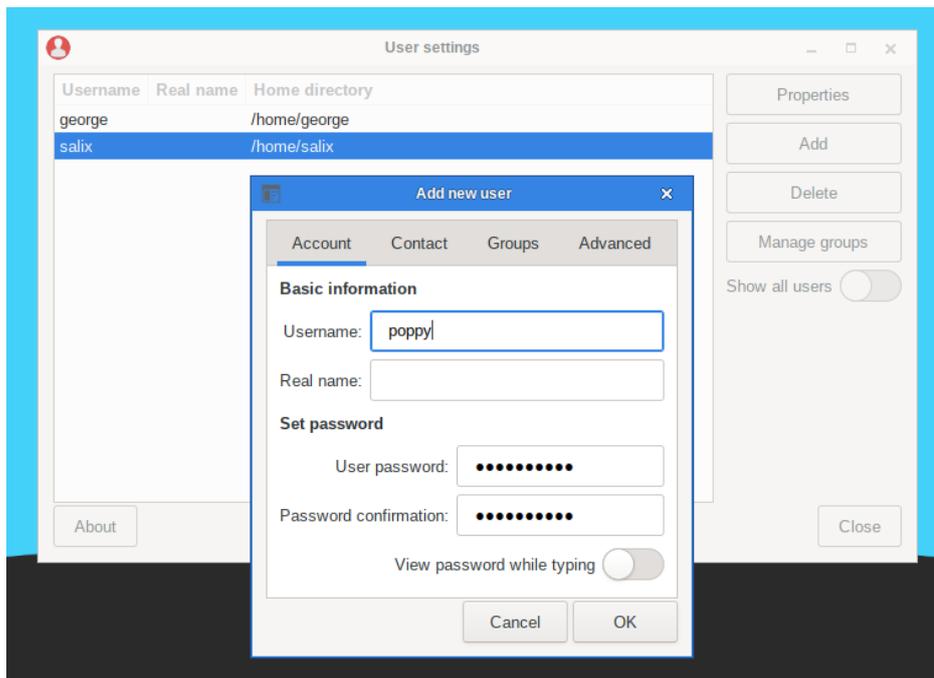To execute this utility in a terminal, simply type

```
sudo servicesetup
```

### 3.4.11   User Profiles

In Unix/Linux, all users and groups of users are given certain permissions and access rightshttp://en.wikibooks.org/wiki/UNIX_Computing_Security/Access_authorization to some part of the system in order to control their ability to access and change it.

This utility manages the creation, deletion and properties of all the system users and groups of users.



To execute it in a terminal, simply type

```
sudo usersetup
```

### 3.4.12   Salix-Update-Notifier

Salix update notifier is a tool that periodically checks for available package updates and informs the user about them with the display of a non-intrusive tray icon, which can be used to launch the upgrade process with Gslapt.

# Chapter 4

# Salix Mini Walkthroughs

## 4.1 Working with the Command Line Interface

This section deals with working in a console mode or with a terminal (such as Xfce terminal, xterm, konsole and so forth), and serves merely as a light introduction to the command line interface (CLI). The intended audience here is not seasoned travelers but new journeymen in the land of Linux, who are willing to discover more about what one can do with it. We will go through some examples in this section for you to follow, and hopefully by the end of this walkthrough, you will have no problem working with the "black screen". For those who would like to know more about CLI, there are a couple of useful resources available on the net, and some are listed in the Salix Forumhttp://forum.salixos.org.

So why learn CLI commands at all? Graphical user interfaces for applications have been steadily improving in Linux and are probably now comparable to any OS in their ease of use. On the other hand, where Linux excels, in particular, is in the area of command line applications, its traditional strength. Without the CLI, you would be effectively missing out on half of what Linux can offer.

There is another reason. From time to time, you might have to work in the console. For instance, if the machine fails to start up a graphical desktop environment during booting, then you are more or less forced to fix the problem without the graphical user interface (GUI).

Of course, there are many other reasons to learn CLI commands, but for now we will start by learning how to move around directories.

First, open up a terminal or move to a console: you can do the latter by pressing **Ctrl+Alt+F2**, for example. To get back to the graphical desktop, press **Alt+F4**, for example. F number keys are used to switch between consoles;

if F4 or F7 doesn't do the trick, try others.

However, the simplest option is to open a terminal within the GUI: there is probably an option to do so in the panel, or if not, in the menu.

### 4.1.1   Moving Around - cd

You should be in your user directory (denoted as ~), which is normally the same as /home/your_user_name (replace your_user_name with your own). In Salix, this directory contains Desktop, Music, Documents and so on. To see its contents, type ls and press enter. You will see something like this:

```
george[~]$ ls
Desktop       Download    Pictures    Templates    salix
Documents     Music       Music       Videos
```

Now to move around directories, we use the command cd. If you just type in cd and enter, it will take you to your home directory, but as we are already there, in this case, nothing will happen. cd must otherwise be followed either by a name of a directory which is within the directory you are in or by a full path to the directory you wish to move into. You can also go one directory up by typing

```
cd ..
```

(be careful, there is a space between cd and ..). Remember in Linux, *arguments are separated by spaces.* So for now, let's move to the root directory. The root directory is, as the name suggests, the core of your directories - every directory stems from here.

To move to the root /, type in

```
cd /
```

Type in ls to see the list of files and directories in the directory. You should see something like tmp/, usr/, home and so on. OK, not so interesting here. Let us move back to your home directory with

```
cd /home/your_user_name
```

or just

```
cd
```

Now move into the Music directory by issuing

```
cd Music
```

In fact, you do not have to type to the end. By pressing Tab after the first letter or two, you may complete the rest of the directory name automatically.

The important thing to notice here is this is a *relative path*: unlike where the whole path was specified above, starting from the root of the filesystem /, if the path doesn't begin with / it is understood as starting from whatever the current directory is, in this case, your user's home. So `Music`, in this case, means the same as /home/your_user_name/Music.

## 4.1.2 Creating a Folder - mkdir

You can create a folder by issuing

```
mkdir name_of_a_new_folder
```

For example, let's say we are going to create a photo folder.
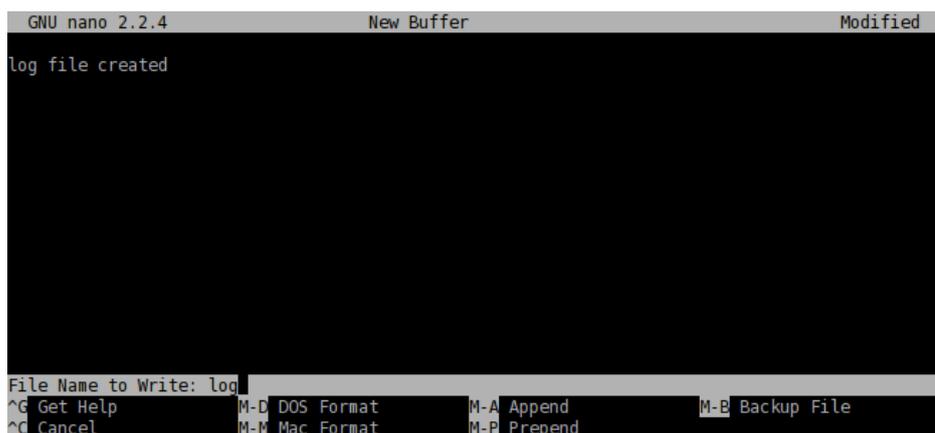
```
mkdir photo
```

will place the new folder in the current directory. You can check this by typing

```
ls
```

Next, let's create a log file for the photo folder. `nano` is a command-line application for reading and writing texts. To bring up the program, type in

```
nano
```



The application is simple to use, and you can see command options shown at the bottom. Type

```
log file created
```

and with `Ctrl+x`, save the document as `log` and quit the application.

## 4.1.3  Copying & Moving & Removing a File - cp & mv & rm

`cp` is perhaps one of the most used commands in a console mode. `cp` copies a file or files from one location to another. Since we created the file called `log` and it is currently in the wrong directory, let us move it inside the `photo` directory. You can do so by issuing `cp log photo/` but perhaps it is better to call the log file not just `log` but `log.txt`, so that it would be obvious to a Windows user that it is a text file. Type in

```
cp log photo/log.txt
```

and enter to execute the command.

You can go inside the `photo` directory and check if the copying has been done properly. `cd photo` and then `ls`. The file should be there. Let's add to the log file by saying that it has been moved from `Music` to `photo`. Issuing

```
nano log.txt
```

will bring up the text. Add a line to say it has been moved, and then save and quit the application by `Ctrl+x`.

Oh, but we forgot to delete the original `log` file in the `Music` folder. Let's just get back to the `Music` directory using `cd ..` and remove the `log` file by issuing `rm log`. The `rm` command removes a file or files. For example, if you would like to remove all photos with .jpg extension but not with .png, you can issue a command something like:

```
rm *.jpg
```

This will remove all the files with .jpg extension within the directory you are in. Note that the `rm` command will not ask you to confirm your order. It will just carry out your instructions without further ado and once a file is removed, it is deleted forever. You cannot recover it from the recycle bin.

In this example, we used `cp` to copy the log file and then later on deleted it. Normally, this would be done by issuing a `mv` command;

```
mv log photo/
```

You can also use the `mv` command to rename a file. Let's say that you did not like the earlier decision to call the log file `log.txt` and you now want to rename it as `log` again. Type in

```
mv photo/log.txt photo/log
```

and execute the command. Now the file name has been changed back to `log`.

## 4.1.4  Copying & Moving & Removing a Folder - cp & mv & rm

So now you have the folder called `photo` and a log file in the `Music` directory. This is a little strange as we should normally have the folder not in `Music` but in `Pictures`. But now you know how to move a file, perhaps the same command will work for moving a folder?

But...

```
cp photo ../Pictures
```

remember that `..` refers to the folder one level up) will give an error like this.

```
george[Music]$ cp photo ../Pictures
cp: omitting directory 'photo/'
george[Music]$
```

Let's see what we can do here. The first thing when encountering such a problem is to check the corresponding help file. This can normally be done by issuing a command with an option like `cp --help`. It is possible that `--help` will just be `-h`, and there may be no help at all. `man` is another command if this is the case.

```
man cp
```

will give a more in-depth explanation of this command. (To get out of the manual, press q).

If you read the help carefully, you will see that you need to give an extra option `-r` if you wish to copy a folder to another location. So now

```
cp -r photo ../Pictures
```

should copy the `photo` folder inside the correct `Pictures` directory. After checking that the folder has been safely copied, you can remove the `photo` folder from the `Music` directory:

```
rm -r photo/
```

### 4.1.5  Installing a Program - slapt-get

Maybe a little bird has told you that there is a wonderful application called *cowsay* in Linux, and now you would like to see what this program can do.

If this is the first time you are installing an application on Salix, the first thing you should do is to update the package database on your computer by executing

```
sudo slapt-get -u
```

Then to search for an application (in this case, "cowsay"), type in

```
slapt-get --search cowsay
```

Notice that you don't need to type sudo just for searching for a package. The output you will get should be similar to this:

```
george[~]$ slapt-get --search cowsay
cowsay-3.03-noarch-1salix15.0 [inst=no]: cowsay (A Configurable Speaking/Thin
xcowsay-1.5.1-x86_64-2salix15.0 [inst=no]: xcowsay (display a cute cow and sp
```

To install it, you simply must run:

```
sudo slapt-get -i cowsay
```

If you are not sure what this -i is in the above command, you can check it with slapt-get --help. You will see a lot of lines running up the terminal quickly until the application is installed.

Once it is installed, you might want to test it. First get out of the superuser mode by typing exit. Then type in cowsay. Nothing happens, and, in fact, you will see that you are now in a strange mode that you cannot execute any commands. This is because the application is still running, but as you don't see anything, perhaps it is not running properly. To terminate the process, press Ctrl+c. You will get back the normal input line back on your terminal.

```
george[Desktop]$ cowsay
^C
george[Desktop]$
```

So what was going wrong? Check

```
cowsay -h
```

You will see that you need to type in a `[message]`. Try again with

`cowsay Hello Salix!`

We have merely scratched the surface of the power of the command line here. The best way to learn more is by using it, but remember to use the help tools, and consult online documentation such as that listed in the Salix forum. Linuxcommand.orghttp://linuxcommand.org/index.php can be particularly recommended if you wish to gain a comprehensive grounding. Proceed cautiously, but don't be afraid to experiment.

A final tip - it can be difficult to copy longer commands accurately. If you select the text with the mouse, clicking the middle button or wheel will paste it accurately into the command line or wherever you wish. This only works in a terminal running within a GUI.

# Chapter 5

# Support

If you are still quite new to either Salix, Slackware or even Linux in general, then you should first of all take some time to study Salix Startup Guide, as it is specifically intended to be accessible to newcomers. The desktop link, Salix Online, will bring you to the Salix Homepagehttp://www.salixos.org. You could also use the IRC linkhttps://web.libera.chat/#salix to be in live communication with members of the community and get instant help if necessary. If you do, however, you might want to modify the default *GuestXX* login to something more personal.



We hope that the information here will allow you to get Salix up and running

fairly straightforwardly, to begin exploring its potential, and, above all, to use it for what you want to do. Nonetheless, sometimes you may not know how to do something or be able to make it work.

While Salix aims to be elegant and intuitive, every operating system has its own characteristics, and if you are new to Linux, the sheer fact that it is different means there will inevitably be a process of adaptation (see Linux is Not Windowshttp://linux.oneandoneis2.org/LNW.htm), even where its very best features are concerned. The only way to climb the learning curve is by trying things out and using them. The more you explore Salix, the quicker you will become familiar with it. However, it is worth emphasising that the default set of applications (they vary depending on the version of Salix you choose, see List of Applications#list_of_applications) include many that have a very similar look and feel to those found on other operating systems, such as the office suite LibreOffice, which offers full compatibility with common file formats.

Our Wikihttp://docs.salixos.org and Forumhttp://forum.salixos.org will be two other important sources of information. The search option of the forum will quickly show you if the question you have in mind has already been posted by a member of the community and if it has been answered. For the same reason, please also search the internet. If you are working on the command line (Working with the Command Line Interface#working_with_cli), remember to consult man (and try man salix for a summary of key points specific to this distribution). There are several online forums devoted to Linux, such as linuxquestions.orghttp://www.linuxquestions.org/. It should be noted that each forum has its own subculture, and sometimes explicit posting guidelines. If you post a query to a forum, bear Paul Grice's conversational maximshttp://www.sas.upenn.edu/~haroldfs/dravling/grice.html in mind: for instance, be as specific as possible and mention any information you have already found out. To put it another way, remember you are consulting a human community, not an interactive online encyclopedia; it is a conversation, something which can be easily lost sight of online.

Forums are a concrete example of one of the qualities at the heart of Linux, which is that it is community-based. Rather than being a commercial product, in almost all cases it is developed by enthusiasts collaborating together for the sheer delight of making good software. This community extends out into the users of the distribution on its forums. Even if you just want to use core office, multimedia or network applications productively, over time the power that Linux gives users tends to promote self-reliance and an ability to configure and fix their computer setup independently. The same approach underlies the development of Linux as an operating system; where there is room for improvement, someone will dive in and tinker. The cumulative result is that Linux today is highly usable out of the box.

The best way to learn Linux is by using it to the full, finding out in the process how to make it do exactly what you want. After a while, though, it may be helpful to supplement this experience with some more systematic background. As mentioned in the section introducing the command line, the Documentation-http://www.salixos.org/forum/viewforum.php?f=30&sid=8007ff0fe74d8ba139ecb29032db24d2 board on the Salix forums contains a useful post on tutorials and guideshttp://www.salixos.org/forum/vie Wherever you find problems recur, it may be worth reading up on the underlying issues over time to gain broader knowledge, especially when it comes to general features of Linux that may be unfamiliar to you, such as file permissions.

Some users may face problems at the very beginning with peripherals or the network. This can seem daunting if you are also adapting to a different operating system at the same time. Explore the options under Menu/System carefully. If difficulties persist, with judicious use of the information and help in the wiki and forums, you should hopefully get the essentials set up as you wish reasonably quickly; then you will be able to take Linux at your own pace.