

Get acquainted with Slackware

Introduction

This document is intended to allow people who have already used another “Unix-like” system to get quickly acquainted with Slackware. We assume that the reader:

- knows the main Unix commands and the associated concepts,
- knows how-to edit a text file (such as a configuration file)
- can read a simple shell script.

Resources

Slackware's website

The website slackware.com is an entry point to following resources:

- [The store](#) to financially support Slackware,
- [ISO images](#), a [mirrors list](#), [torrents](#) to get the distribution,
- [Files trees](#) from version 1.01,
- The [Packages browser](#) allows to find packages for all versions since Slackware 8.1

Directories and documents at the root of the distribution's file trees

These documents are also available at the root of each of the [ISO images](#)

Here is an incomplete list of the main directories and documents useful to Slackware newcomers.

```
.
|-- CHANGES_AND_HINTS.TXT See the end: OTHER NOTABLE CHANGES AND HINTS
|-- README.TXT             présentation of the version, including the
packages series
|-- README.initrd          how-to create an "initrd" to start the system[1]
|-- Slackware-HOWTO        requirements, installation and configuration
|-- EFI/                   installer for UEFI 64-bit from version 14.1
|-- extra/                 additional packages and sources
|-- isolinux/              installer
|-- kernels/               kernels
|-- pasture/               obsolete packages and sources
|-- patches/               packages and sources updated after a release
|-- slackware/             base packages (if 32-bit)
|-- slackware64/           base packages (if 64-bit)
|-- testing/               packages intended for adventurous
`-- usb-and-pxe-installers/ alternate installation methods
```

[1] See also `/usr/share/mkinitrd/mkinitrd_command_generator.sh` after installation.

The names of the other documents with the TXT extension give a clue about their content.

Other information sources

The aim of community website [SlackDocs](#) is to be the main information source about Slackware. Visit it priority to deepen the topics covered in this document.

Slackware newcomers (and others) have their [Slackware forum](#) on the website [LinuxQuestions.org](#), often abbreviated LQ.

You can find other sources of information following the [Slackware-Links](#) proposed by onebuck from LQ.

After installation, read the email from Patrick Volkerding, it contains additional information: just type `mail` as root, or read the file `/var/spool/mail/root` with `less`.

Installation, configuration, startup

Installation

The installation media can be obtained on Slackware's website (see above).

Slackware provides a text installer, the document [Slackware-HOWTO](#) presents the installation process.

The genuine installer is only available in English but the project [Slint](#) offers [polyglot installers](#), which also complement the system configuration: choosing the language, the keyboard layout and creating ordinary users. A [Slint package](#), also installed, provides polyglot versions of the main administration tools and/or their manual pages. Since version 14.1 the Slint installers can be controlled by a Braille terminal, that can also be used to control the installed system.

Configuration post-installation

The tasks of configuration and administration must be carried out as root. If you are logged in as a normal user, type `su` (to obtain root privileges) or `su -` (to become root). The `sudo` command, although available, is rarely used to administer Slackware.

- To create “ordinary” users, type `adduser`
- To change the font for the console type `setconsolefont`
- To change the console keymap edit `/etc/rc.d/rc.keymap` and make it executable
- To change the LANG edit `/etc/profile.d/lang.sh` and case occurring `/etc/profile.d/lang.csh`. Note: in Slackware `/bin/sh` is a symlink to `/bin/bash`.
- To modify the keyboard settings for X (in graphical mode), copy `usr/share/X11/xorg.conf.d/90-keyboard-layout.conf` to `/etc/X11/xorg.conf.d`, then edit the copy. The file `/etc/X11/xkb/rules/evdev.lst` lists all known values for `XkbModel`, `XkbLayout`, `XkbVariant` and `XkbOptions` under the respective headings `! model`, `! layout`, `! variant` and `! option`

- You can re-run the setup scripts (already used at the end of installation) using the command `pkgtool`, menu entry `Setup`.

Slackware includes the main text editors such as `pico`, `nano`, `elvis` and `vim` and file managers `mc` and `thunar` and, of course, all common utilities and shells, useful to configure and administer the system.

In general, Slackware does not prejudge how the system will be used. It is up to the administrator to customize it for its intended usage by editing the configuration files located in `/etc` or its sub-directories. It helps to read the comments in scripts for management of services located in `/etc/rc.d` as well as in the configuration files.

Startup

At first startup after installation your system will be in “console” mode, without a GUI. If you prefer to start in graphical mode, replace “`id:3:initdefault:`” with “`id:4:initdefault:`” (runlevel 4 instead of 3) in the file `/etc/inittab`

Otherwise, to switch from console to graphical mode, choose first your window manager or desktop by default through command `xwmconfig` either as root (for all) or as ordinary user (for that user). Then type `startx` to start this window manager or desktop from the console after system startup.

In Slackware the run levels configured in `/etc/inittab` are:

- 0: shutdown
- 1: single user
- 3: multi user (default level)
- 4: idem 3, but with a sessions manager for X
- 7: reboot

At these levels correspond scripts in `/etc/rc.d`:

- `rc.S` runs at startup, it initializes the system, checks then mount the file systems.
- `rc.M` in multi user mode starts most services (daemons launched by scripts in `/etc/rc.d` if executable).
- `rc.K` goes into single user mode (run level 1 or S).
- `rc.4` starts a session manager: `gdm`, `kdm` or `xdm`, others can be added editing that script.
- `rc.0` shuts down the system (symlink to `rc.6`).
- `rc.6` reboots or shuts down (if called as `rc.0`) the system cleanly.

Note. The administrator can add services scripts (daemons manager) in `/etc/rc.d`. Place the start of the demons in `/etc/rc.d/rc.local` and the stop in `/etc/rc.d/rc.local_shutdown`. `/etc/rc.d/rc.local` is run by `/etc/rc.d/rc.M`, `/etc/rc.d/rc.local_shutdown` by `/etc/rc.d/rc.6`

In addition Slackware includes a structure for managing services by run level in a `sysvinit` fashion for the software not included in the distribution (commercial ones, noticeably) that need it.

The management of services to be launched at startup can be done:

- manually making executable: (`chmod 755 <script name>`) or not: (`chmod 644 <script name>`) the corresponding script in `/etc/rc.d`
- using the command `pkgtool` (choose `Setup` then `services` in the menu).

Note. As all administration tools, `pkgtool` should be run as root.

Management of software packages

Presentation of Slackware software packages

Slackware is distributed as a set of software packages containing applications and associated documents, and if necessary scripts executed during installation, noticeably for creating symbolic links or manage the configuration files and services' management scripts.

A Slackware package consists in a file tree archived with `tar` and once compressed with `gzip`, nowadays with `xz` .

A shell script called “SlackBuild” compiles binaries to be shipped in the archive and installs them in the package's tree alongside other files. It usually ends with the execution of the `makepkg` command, which makes the archive from the package's file tree, including case occurring the appropriate installation scripts, cf. “man makepkg”.

The software packages are in the directories of installation media indicated above. Each of these directories contains following files:

- `PACKAGES.TXT` ⇒ Name, size, and description of each package.
- `FILE_LIST` ⇒ All files included in the directory.
- `MANIFEST.bz2` ⇒ The characteristics of each file (to be) installed by each package (file compressed with `bzip2`)

The directories `slackware/` or `slackware64/` gather package “series” like `a/`, `ap/`, `d/`, etc. These series are described in `README.TXT` and `Slackware-HOWTO` at the root of the installation media. They are presented during installation.

During a full installation, all the packages in `slackware/` or `slackware64/` are proposed.

Important: as Slackware does not automatically manage dependencies between software, it is recommended to beginners to perform a complete or “full” installation: all the files needed to run the applications are provided in Slackware packages, thus installing them all guarantees that all dependencies will be met.

To each software package corresponds a source directory, located:

- in the `source/` sub-directory of directories `extra/`, `pasture/` et `testing/`
- in the `source/` directory of the [files trees](#) and in specific ISO images in directories (32-bit edition) of [ISOs](#) for the packages in `slackware/` or `slackware64/`

For instance, for version 14.1 the contents of the directory `source/ap/tmux/` is:

```
.
|-- slack-desc          application's description
|-- tmux-1.8.tar.xz     source archive
`-- tmux.SlackBuild     should be (made) executable
```

This allows in particular to build a package with other compilation options and/or for a newer version by editing the SlackBuild, and case occurring by copying in the package source directory a different version of the software's source archive.

In our example to modernize tmux, just download the most recent (at time of writing) source archive `tmux-1.9a.tar.gz` from the [tmux website](#), place it in `source/ap/tmux/` and type as root from that directory `'VERSION=1.9a./tmux.SlackBuild'` to build a `/tmp/tmux-1.9a-i486-1.txz` package that can replace the previous one with the command `'upgradepkg /tmp/tmux-1.9a-i486-1.txz'`

The Slackware packages database

It consists of text files in the directory `/var/log` of installed system:

`/var/log/packages/<package>`: provides summary data about the package and lists installed files

`/var/log/scripts/<package>`: lists case occurring the commands run by installation scripts

`/var/log/removed_packages/<package>`: provide information about deleted package

`/var/log/removed_scripts/<package>`: lists the commands run by installation scripts of removed packages

As they are text files, you can read them with `less` or with a text editor. They are updated and used by package management programs. They allow for example to know the contents of a package, in which packages(s) is shipped an installed file or whether a file was modified or deleted since installation.

The files `PACKAGES.TXT` and `FILE_LIST` included in the package directories are also used for their management.

Installing, removing and updating software packages

These functions are provided respectively by the commands `installpkg`, `removepkg`, `upgradepkg`, cf. their man pages.

Caution: `upgradepkg` would be better named `replacepkg` as that command installs the specified package then removes the previously installed one, regardless of their respective versions.

The command `pkgtool`, menu driven, allows to install, remove, examine the content of packages and more generally administer the system: `pkgtool` is the “Swiss army knife” of Slackware. In addition to “`man pkgtool`”, get to know the tool browsing its menu.

The command `slackpkg`, build atop other Slackware package tools, provides in addition an access to a local or remote mirror of official Slackware packages. This allows e.g. to download and install a set of packages or keep the system up to date with a single command. Its operation is governed by the configuration files `/etc/slackpkg/slackpkg.conf` and `/etc/slackpkg/mirrors`, see “`man slackpkg`” and “`man slackpkg.conf`”.

The software package's database on Slackware's website

The [Slackware Package Browser](#) allows to make a search using following criteria:

- Package
- Label
- Description
- Content

in one or more packages directories, for all versions of Slackware from 8.1 up to “current”. It also provides access to the files' tree of each of these versions.

Complete Slackware with third party packages

Slackware doesn't provide all existing software. As wrote Patrick Volkerding:

When I started this project, it really wasn't my intent to provide every possible package, application, desktop, etc. My goal was to make a platform upon which things could be built easily and that followed upstream as closely as was possible. Of course, some applications had to be included, but the idea was to try to stick to the essentials that everyone would miss if they weren't there.

Most of the applications missing from Slackware are available on the community website <http://slackbuilds.org> that offers, not third party packages, but everything needed to build them minus the sources files.

For information on using the provided materials, see <http://slackbuilds.org/howto/>.

The sbopkg software available here: <http://www.sbopkg.org/> facilitates usage of Slackbuilds available in <http://slackbuilds.org/>, automating the download of everything needed, then the construction and installation of packages. See “man sbopkg” and the configuration file `/etc/sbopkg/sbopkg.conf`.

Furthermore the sqg application, available after installing sbopkg in `/usr/doc/sbopkg-<version>/contrib/sqg`, eases usage of sbopkg in automatically forming ordered dependencies lists or “queue files”. Type 'sqg -h' for details. You should edit the beginning of the script sqg before use.

Finally, some trusted third party offer packages already built. See especially those offered by Eric Hameleers aka [Alien BOB](#), [Robby Workman](#) and Matteo Bernardini aka [ponce](#), Slackware contributors.

The website <http://www.slackware.org.uk/> also hosts packages or Slackbuilds such as those proposed by distributions derived from Slackware, as [Salix](#) maintained mainly by George Vlahavas, or desktops not included in Slackware, such as [Mate](#) proposed by Chess Griffin and Willy Sudiarto Raharjo, or provided by [slacky.eu](#)

Packages that can be installed on Slackware are also available elsewhere. Important warnings:

- Know who proposes these packages and preferably trust contributors of Slackware or at least of <http://slackbuilds.org>
- Carefully inspect the contents of packages before installation, including a check of the permissions of files and any changes to existing directories and files. Use `less`, `tar` and/or `explodepkg`, see “man explodepkg”.
- Never install a package whose sources and SlackBuild are not available.

Finally, the unofficial plugin [slackpkg+](#) extends the use of `slackpkg` to directories containing

“unofficial” Slackware packages.

Build your own packages

This is the recommended method if no SlackBuild is available, to benefit of the Slackware package management tools and maintain a “clean” system.

The software `slacktrack`, included in Slackware, can help you, as “`man makepkg`”. Inspecting existing Slackbuilds and [templates](#) proposed at slackbuilds.org can inspire you. Browse [SlackDocs](#) with the key word “package” or “install” to learn more.

Maintainance of the system

To be informed of the availability of software packages that meet security breaches, email majordomo@slackware.com with the phrase “subscribe slackware-security” in the body.

The page [Slackware Changelogs](#) gathers Changelogs of stable and current versions.

For a stable version updates are few, because they are only intended to fill a security breach or to correct a major bug and not just to provide a more recent version of software included in the distribution. Users are expected to modernize their software themselves if they wish, see previous chapter for how to do that: Slackware is not a rolling releases, but publishes a succession of stable versions.

Updating or reinstalling a package can lead to reinstall a file (usually a configuration file) already installed. In this case if they don't match the system will install a new file next to the precedent with a `.new` extension and you get to decide what to do on a case by case basis: merge the two files, keep the former as is or replace it with the new one.

The practice of installing on a system a software package shipped in another version of Slackware is discouraged and often fails. Better try to rebuild a package for the installed version, running the SlackBuild in a copy of the source directory of that package, gathered from the other version. And of course, it is strongly unadvised to install packages intended for or included in another distribution, unless it be deemed 100% compatible with Slackware's identical version.

The dissemination of “Slackware-current” fastens and helps to finalize the development of the future stable version, allowing those who wish to test the work in progress and report problems. It should neither be used in production nor considered as a proper way of updating a stable release.

Sources

- Originally written by [Didier Spaier](#)

[howtos](#)

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Last update: **2016/04/30 23:24 (UTC)**

