

Niveau : Admin Junior	Numéro de la Leçon	Dernière Modification
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# Gestion des Paquets

## Compiler à partir des sources

Historiquement il était nécessaire d'installer un logiciel à partir de ses fichiers sources.

Pour comprendre ce qui est la compilation d'un logiciel, commencez par télécharger le logiciel hello :

```
opensuse:~ # wget http://www.linuxelearning.com/downloads/file/hello-2.1.1.tar.gz
```

Ensuite désarchivez le logiciel :

```
opensuse:~ # tar xvf hello-2.1.1.tar.gz
hello-2.1.1/
hello-2.1.1/intl/
hello-2.1.1/intl/ChangeLog
hello-2.1.1/intl/Makefile.in
hello-2.1.1/intl/config.charset
hello-2.1.1/intl/locale.alias
hello-2.1.1/intl/ref-add.sin
hello-2.1.1/intl/ref-del.sin
hello-2.1.1/intl/gmo.h
hello-2.1.1/intl/gettextP.h
hello-2.1.1/intl/hash-string.h
hello-2.1.1/intl/plural-exp.h
hello-2.1.1/intl/eval-plural.h
hello-2.1.1/intl/os2compat.h
hello-2.1.1/intl/libguintl.h
```

```
hello-2.1.1/intl/loadinfo.h
hello-2.1.1/intl/bindtextdom.c
hello-2.1.1/intl/dcgettext.c
hello-2.1.1/intl/dgettext.c
hello-2.1.1/intl/gettext.c
hello-2.1.1/intl/finddomain.c
hello-2.1.1/intl/loadmsgcat.c
hello-2.1.1/intl/localealias.c
hello-2.1.1/intl/textdomain.c
hello-2.1.1/intl/l10nflist.c
hello-2.1.1/intl/explodename.c
hello-2.1.1/intl/dcgettext.c
hello-2.1.1/intl/dcngettext.c
hello-2.1.1/intl/dngettext.c
hello-2.1.1/intl/ngettext.c
hello-2.1.1/intl/plural.y
hello-2.1.1/intl/plural-exp.c
hello-2.1.1/intl/localcharset.c
hello-2.1.1/intl/localename.c
hello-2.1.1/intl/osdep.c
hello-2.1.1/intl/os2compat.c
hello-2.1.1/intl/intl-compat.c
hello-2.1.1/intl/plural.c
hello-2.1.1/intl/VERSION
hello-2.1.1/po/
hello-2.1.1/po/Makefile.in.in
hello-2.1.1/po/Makevars
hello-2.1.1/po/remove-potcdat.sin
hello-2.1.1/po/quot.sed
hello-2.1.1/po/boldquot.sed
hello-2.1.1/po/en@quot.header
hello-2.1.1/po/en@boldquot.header
hello-2.1.1/po/insert-header.sin
hello-2.1.1/po/Rules-quot
```

```
hello-2.1.1/po/POTFILES.in
hello-2.1.1/po/hello.pot
hello-2.1.1/po/ca.po
hello-2.1.1/po/da.po
hello-2.1.1/po/de.po
hello-2.1.1/po/de_DE.po
hello-2.1.1/po/el.po
hello-2.1.1/po/eo.po
hello-2.1.1/po/es.po
hello-2.1.1/po/et.po
hello-2.1.1/po/fi.po
hello-2.1.1/po/fr.po
hello-2.1.1/po/gl.po
hello-2.1.1/po/he.po
hello-2.1.1/po/hr.po
hello-2.1.1/po/hu.po
hello-2.1.1/po/id.po
hello-2.1.1/po/it.po
hello-2.1.1/po/ja.po
hello-2.1.1/po/ko.po
hello-2.1.1/po/lv.po
hello-2.1.1/po/nb.po
hello-2.1.1/po/nl.po
hello-2.1.1/po/nn.po
hello-2.1.1/po/pl.po
hello-2.1.1/po/pt.po
hello-2.1.1/po/pt_BR.po
hello-2.1.1/po/ru.po
hello-2.1.1/po/sk.po
hello-2.1.1/po/sl.po
hello-2.1.1/po/sv.po
hello-2.1.1/po/tr.po
hello-2.1.1/po/uk.po
hello-2.1.1/po/ca.gmo
```

hello-2.1.1/po/da.gmo  
hello-2.1.1/po/de.gmo  
hello-2.1.1/po/de\_DE.gmo  
hello-2.1.1/po/el.gmo  
hello-2.1.1/po/eo.gmo  
hello-2.1.1/po/es.gmo  
hello-2.1.1/po/et.gmo  
hello-2.1.1/po/fi.gmo  
hello-2.1.1/po/fr.gmo  
hello-2.1.1/po/gl.gmo  
hello-2.1.1/po/he.gmo  
hello-2.1.1/po/hr.gmo  
hello-2.1.1/po/hu.gmo  
hello-2.1.1/po/id.gmo  
hello-2.1.1/po/it.gmo  
hello-2.1.1/po/ja.gmo  
hello-2.1.1/po/ko.gmo  
hello-2.1.1/po/lv.gmo  
hello-2.1.1/po/nb.gmo  
hello-2.1.1/po/nl.gmo  
hello-2.1.1/po/nn.gmo  
hello-2.1.1/po/pl.gmo  
hello-2.1.1/po/pt.gmo  
hello-2.1.1/po/pt\_BR.gmo  
hello-2.1.1/po/ru.gmo  
hello-2.1.1/po/sk.gmo  
hello-2.1.1/po/sl.gmo  
hello-2.1.1/po/sv.gmo  
hello-2.1.1/po/tr.gmo  
hello-2.1.1/po/uk.gmo  
hello-2.1.1/po/ChangeLog  
hello-2.1.1/po/LINGUAS  
hello-2.1.1/README  
hello-2.1.1/ABOUT-NLS

```
hello-2.1.1/AUTHORS
hello-2.1.1/COPYING
hello-2.1.1/ChangeLog
hello-2.1.1/INSTALL
hello-2.1.1/Makefile.am
hello-2.1.1/Makefile.in
hello-2.1.1/NEWS
hello-2.1.1/THANKS
hello-2.1.1/TODO
hello-2.1.1/aclocal.m4
hello-2.1.1/config.guess
hello-2.1.1/config.h.in
hello-2.1.1/config.rpath
hello-2.1.1/config.sub
hello-2.1.1/configure
hello-2.1.1/configure.ac
hello-2.1.1/depcomp
hello-2.1.1/install-sh
hello-2.1.1/missing
hello-2.1.1/mkinstalldirs
hello-2.1.1/BUGS
hello-2.1.1/ChangeLog.0
hello-2.1.1/contrib/
hello-2.1.1/contrib/ChangeLog
hello-2.1.1/contrib/Makefile.am
hello-2.1.1/contrib/Makefile.in
hello-2.1.1/contrib/de_franconian_po.txt
hello-2.1.1/contrib/evolution.txt
hello-2.1.1/contrib/hello.1
hello-2.1.1/doc/
hello-2.1.1/doc/gpl.texi
hello-2.1.1/doc/ChangeLog
hello-2.1.1/doc/Makefile.am
hello-2.1.1/doc/Makefile.in
```

```
hello-2.1.1/doc/mdate-sh
hello-2.1.1/doc/stamp-vti
hello-2.1.1/doc/texinfo.tex
hello-2.1.1/doc/version.texi
hello-2.1.1/doc/hello.texi
hello-2.1.1/doc/hello.info
hello-2.1.1/src/
hello-2.1.1/src/ChangeLog
hello-2.1.1/src/Makefile.am
hello-2.1.1/src/Makefile.in
hello-2.1.1/src/alloca.c
hello-2.1.1/src/hello.c
hello-2.1.1/src/version.c
hello-2.1.1/src/getopt.c
hello-2.1.1/src/getopt1.c
hello-2.1.1/src/getopt.h
hello-2.1.1/src/system.h
hello-2.1.1/man/
hello-2.1.1/man/ChangeLog
hello-2.1.1/man/Makefile.am
hello-2.1.1/man/Makefile.in
hello-2.1.1/man/hello.1
hello-2.1.1/man/help2man
hello-2.1.1/m4/
hello-2.1.1/m4/README
hello-2.1.1/m4/ChangeLog
hello-2.1.1/m4/Makefile.am
hello-2.1.1/m4/Makefile.in
hello-2.1.1/m4/codeset.m4
hello-2.1.1/m4/gettext.m4
hello-2.1.1/m4/glibc21.m4
hello-2.1.1/m4/iconv.m4
hello-2.1.1/m4/isc-posix.m4
hello-2.1.1/m4/lcmessage.m4
```

```
hello-2.1.1/m4/lib-ld.m4
hello-2.1.1/m4/lib-link.m4
hello-2.1.1/m4/lib-prefix.m4
hello-2.1.1/m4/progtest.m4
hello-2.1.1/tests/
hello-2.1.1/tests/ChangeLog
hello-2.1.1/tests/Makefile.am
hello-2.1.1/tests/Makefile.in
hello-2.1.1/tests/hello-1
hello-2.1.1/tests/world-1
hello-2.1.1/tests/nothing-1
```

Changez de répertoire :

```
opensuse:~ # cd hello-2.1.1/
```

A l'étude du fichier README, celui-ci nous renvoie vers le fichier **INSTALL**. Visualisez donc ce dernier :

```
opensuse:~/hello-2.1.1 # more INSTALL
Copyright 1994, 1995, 1996, 1999, 2000, 2001 Free Software Foundation,
Inc.
```

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#### Basic Installation

=====

These are generic installation instructions.

The `configure' shell script attempts to guess correct values for various system-dependent variables used during compilation. It uses those values to create a `Makefile' in each directory of the package. It may also create one or more `.h' files containing system-dependent

definitions. Finally, it creates a shell script ``config.status'` that you can run in the future to recreate the current configuration, and a file ``config.log'` containing compiler output (useful mainly for debugging ``configure'`).

It can also use an optional file (typically called ``config.cache'` and enabled with ``--cache-file=config.cache'` or simply ``-C'`) that saves the results of its tests to speed up reconfiguring. (Caching is `--More--` (10%))

La procédure expliquée est celle utilisée pour la plupart des installations manuelles, à savoir la saisie des quatre commandes suivantes.

## **./configure**

<note important> **configure** est un script chargé de créer les **makefiles** pour une architecture donnée. Les **makefiles** sont lus par la commande **make**. </note>

```
opensuse:~/hello-2.1.1 # ./configure
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for gawk... gawk
checking whether make sets ${MAKE}... yes
checking for gcc... gcc
checking for C compiler default output... a.out
checking whether the C compiler works... yes
checking whether we are cross compiling... no
checking for suffix of executables...
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for style of include used by make... GNU
checking dependency style of gcc... gcc3
checking for strerror in -lcposix... no
```

```
checking how to run the C preprocessor... gcc -E
checking for ANSI C header files... yes
checking for sys/types.h... yes
checking for sys/stat.h... yes
checking for stdlib.h... yes
checking for string.h... yes
checking for memory.h... yes
checking for strings.h... yes
checking for inttypes.h... yes
checking for stdint.h... yes
checking for unistd.h... yes
checking for string.h... (cached) yes
checking fcntl.h usability... yes
checking fcntl.h presence... yes
checking for fcntl.h... yes
checking sys/file.h usability... yes
checking sys/file.h presence... yes
checking for sys/file.h... yes
checking sys/param.h usability... yes
checking sys/param.h presence... yes
checking for sys/param.h... yes
checking for working alloca.h... yes
checking for alloca... yes
checking for struct stat.st_blksize... yes
checking for msgfmt... /usr/bin/msgfmt
checking for gmsgfmt... /usr/bin/msgfmt
checking for xgettext... no
checking for msgmerge... no
checking build system type... i686-suse-linux
checking host system type... i686-suse-linux
checking for ranlib... ranlib
checking for gcc option to accept ANSI C... none needed
checking for an ANSI C-conforming const... yes
checking for inline... inline
```

```
checking for off_t... yes
checking for size_t... yes
checking for stdlib.h... (cached) yes
checking for unistd.h... (cached) yes
checking for getpagesize... yes
checking for working mmap... yes
checking whether we are using the GNU C Library 2.1 or newer... yes
checking for ld used by GCC... /usr/i586-suse-linux/bin/ld
checking if the linker (/usr/i586-suse-linux/bin/ld) is GNU ld... yes
checking for shared library run path origin... done
checking for iconv... yes
checking argz.h usability... yes
checking argz.h presence... yes
checking for argz.h... yes
checking limits.h usability... yes
checking limits.h presence... yes
checking for limits.h... yes
checking locale.h usability... yes
checking locale.h presence... yes
checking for locale.h... yes
checking nl_types.h usability... yes
checking nl_types.h presence... yes
checking for nl_types.h... yes
checking malloc.h usability... yes
checking malloc.h presence... yes
checking for malloc.h... yes
checking stddef.h usability... yes
checking stddef.h presence... yes
checking for stddef.h... yes
checking for stdlib.h... (cached) yes
checking for string.h... (cached) yes
checking for unistd.h... (cached) yes
checking for sys/param.h... (cached) yes
checking for feof_unlocked... yes
```

```
checking for fgets_unlocked... yes
checking for getc_unlocked... yes
checking for getcwd... yes
checking for getegid... yes
checking for geteuid... yes
checking for getgid... yes
checking for getuid... yes
checking for mempcpy... yes
checking for munmap... yes
checking for putenv... yes
checking for setenv... yes
checking for setlocale... yes
checking for stpcpy... yes
checking for strcasecmp... yes
checking for strdup... yes
checking for strtoul... yes
checking for tsearch... yes
checking for __argz_count... yes
checking for __argz_stringify... yes
checking for __argz_next... yes
checking for iconv declaration...
    extern size_t iconv (iconv_t cd, char * *inbuf, size_t *inbytesleft, char * *outbuf, size_t
*outbytesleft);
checking for nl_langinfo and CODESET... yes
checking for LC_MESSAGES... yes
checking for bison... no
checking whether NLS is requested... yes
checking whether included gettext is requested... no
checking for GNU gettext in libc... yes
checking for perl... perl
configure: creating ./config.status
config.status: creating Makefile
config.status: creating contrib/Makefile
config.status: creating doc/Makefile
```

```
config.status: creating intl/Makefile
config.status: creating man/Makefile
config.status: creating po/Makefile.in
config.status: creating m4/Makefile
config.status: creating src/Makefile
config.status: creating tests/Makefile
config.status: creating config.h
config.status: executing depfiles commands
config.status: executing default-1 commands
config.status: creating po/POTFILES
config.status: creating po/Makefile
config.status: executing default commands
```

## make

<note important> **make** sert à appeler des commandes créant des fichiers nécessaires à l'installation du logiciel. </note>

```
opensuse:~/hello-2.1.1 # make
make all-recursive
make[1]: Entering directory `/root/hello-2.1.1'
Making all in contrib
make[2]: Entering directory `/root/hello-2.1.1/contrib'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/root/hello-2.1.1/contrib'
Making all in doc
make[2]: Entering directory `/root/hello-2.1.1/doc'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/root/hello-2.1.1/doc'
Making all in intl
make[2]: Entering directory `/root/hello-2.1.1/intl'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/root/hello-2.1.1/intl'
Making all in po
```

```
make[2]: Entering directory `/root/hello-2.1.1/po'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/root/hello-2.1.1/po'
Making all in src
make[2]: Entering directory `/root/hello-2.1.1/src'
source='hello.c' object='hello.o' libtool=no \
depfile='.deps/hello.Po' tmpdepfile='.deps/hello.TPo' \
depmode=gcc3 /bin/sh ../depcomp \
gcc -DLOCALEDIR=\"/usr/local/share/locale\" -DHAVE_CONFIG_H -I. -I. -I.. -I. -I. -I.. -I../intl -I../intl -g -
02 -c `test -f 'hello.c' || echo './`hello.c
source='version.c' object='version.o' libtool=no \
depfile='.deps/version.Po' tmpdepfile='.deps/version.TPo' \
depmode=gcc3 /bin/sh ../depcomp \
gcc -DLOCALEDIR=\"/usr/local/share/locale\" -DHAVE_CONFIG_H -I. -I. -I.. -I. -I. -I.. -I../intl -I../intl -g -
02 -c `test -f 'version.c' || echo './`version.c
source='getopt.c' object='getopt.o' libtool=no \
depfile='.deps/getopt.Po' tmpdepfile='.deps/getopt.TPo' \
depmode=gcc3 /bin/sh ../depcomp \
gcc -DLOCALEDIR=\"/usr/local/share/locale\" -DHAVE_CONFIG_H -I. -I. -I.. -I. -I. -I.. -I../intl -I../intl -g -
02 -c `test -f 'getopt.c' || echo './`getopt.c
source='getopt1.c' object='getopt1.o' libtool=no \
depfile='.deps/getopt1.Po' tmpdepfile='.deps/getopt1.TPo' \
depmode=gcc3 /bin/sh ../depcomp \
gcc -DLOCALEDIR=\"/usr/local/share/locale\" -DHAVE_CONFIG_H -I. -I. -I.. -I. -I. -I.. -I../intl -I../intl -g -
02 -c `test -f 'getopt1.c' || echo './`getopt1.c
gcc -g -02 -o hello hello.o version.o getopt.o getopt1.o
make[2]: Leaving directory `/root/hello-2.1.1/src'
Making all in man
make[2]: Entering directory `/root/hello-2.1.1/man'
perl help2man --name="Friendly Greeting Program" ../src/hello >hello.1
make[2]: Leaving directory `/root/hello-2.1.1/man'
Making all in m4
make[2]: Entering directory `/root/hello-2.1.1/m4'
make[2]: Nothing to be done for `all'.
```

```
make[2]: Leaving directory `/root/hello-2.1.1/m4'
Making all in tests
make[2]: Entering directory `/root/hello-2.1.1/tests'
make[2]: Nothing to be done for `all'.
make[2]: Leaving directory `/root/hello-2.1.1/tests'
make[2]: Entering directory `/root/hello-2.1.1'
make[2]: Nothing to be done for `all-am'.
make[2]: Leaving directory `/root/hello-2.1.1'
make[1]: Leaving directory `/root/hello-2.1.1'
```

## make check

<note important> **make check** permet de vérifier si la commande **make** a bien fonctionné. </note>

```
opensuse:~/hello-2.1.1 # make check
Making check in contrib
make[1]: Entering directory `/root/hello-2.1.1/contrib'
make[1]: Nothing to be done for `check'.
make[1]: Leaving directory `/root/hello-2.1.1/contrib'
Making check in doc
make[1]: Entering directory `/root/hello-2.1.1/doc'
make[1]: Nothing to be done for `check'.
make[1]: Leaving directory `/root/hello-2.1.1/doc'
Making check in intl
make[1]: Entering directory `/root/hello-2.1.1/intl'
make[1]: Nothing to be done for `check'.
make[1]: Leaving directory `/root/hello-2.1.1/intl'
Making check in po
make[1]: Entering directory `/root/hello-2.1.1/po'
make[1]: Nothing to be done for `check'.
make[1]: Leaving directory `/root/hello-2.1.1/po'
Making check in src
make[1]: Entering directory `/root/hello-2.1.1/src'
```

```
make[1]: Nothing to be done for `check'.
make[1]: Leaving directory `/root/hello-2.1.1/src'
Making check in man
make[1]: Entering directory `/root/hello-2.1.1/man'
make[1]: Nothing to be done for `check'.
make[1]: Leaving directory `/root/hello-2.1.1/man'
Making check in m4
make[1]: Entering directory `/root/hello-2.1.1/m4'
make[1]: Nothing to be done for `check'.
make[1]: Leaving directory `/root/hello-2.1.1/m4'
Making check in tests
make[1]: Entering directory `/root/hello-2.1.1/tests'
make check-TESTS
make[2]: Entering directory `/root/hello-2.1.1/tests'
PASS: hello-1
PASS: world-1
PASS: nothing-1
=====
All 3 tests passed
=====
make[2]: Leaving directory `/root/hello-2.1.1/tests'
make[1]: Leaving directory `/root/hello-2.1.1/tests'
make[1]: Entering directory `/root/hello-2.1.1'
make[1]: Nothing to be done for `check-am'.
make[1]: Leaving directory `/root/hello-2.1.1'
```

## make install

<note important> **make install** sert à installer le logiciel. </note>

```
opensuse:~/hello-2.1.1 # make install
Making install in contrib
make[1]: Entering directory `/root/hello-2.1.1/contrib'
```

```
make[2]: Entering directory `/root/hello-2.1.1/contrib'
make[2]: Nothing to be done for `install-exec-am'.
make[2]: Nothing to be done for `install-data-am'.
make[2]: Leaving directory `/root/hello-2.1.1/contrib'
make[1]: Leaving directory `/root/hello-2.1.1/contrib'
Making install in doc
make[1]: Entering directory `/root/hello-2.1.1/doc'
make[2]: Entering directory `/root/hello-2.1.1/doc'
make[2]: Nothing to be done for `install-exec-am'.
/bin/sh ../mkinstalldirs /usr/local/info
mkdir -p -- /usr/local/info
  /usr/bin/install -c -m 644 ./hello.info /usr/local/info/hello.info
  install-info --info-dir=/usr/local/info /usr/local/info/hello.info
make[2]: Leaving directory `/root/hello-2.1.1/doc'
make[1]: Leaving directory `/root/hello-2.1.1/doc'
Making install in intl
make[1]: Entering directory `/root/hello-2.1.1/intl'
if test "hello" = "gettext" \
  && test '' = 'intl-compat.o'; then \
  /bin/sh `case "./mkinstalldirs" in /*) echo "./mkinstalldirs" ;; *) echo "../mkinstalldirs" ;; esac`
/usr/local/lib /usr/local/include; \
  /usr/bin/install -c -m 644 libintl.h /usr/local/include/libintl.h; \
  @LIBTOOL@ --mode=install \
    /usr/bin/install -c -m 644 libintl.a /usr/local/lib/libintl.a; \
else \
  : ; \
fi
if test 'no' = yes; then \
  test yes != no || /bin/sh `case "./mkinstalldirs" in /*) echo "./mkinstalldirs" ;; *) echo "../mkinstalldirs" ;; esac` /usr/local/lib; \
  temp=/usr/local/lib/t-charset.alias; \
  dest=/usr/local/lib/charset.alias; \
  if test -f /usr/local/lib/charset.alias; then \
    orig=/usr/local/lib/charset.alias; \
```

```
sed -f ref-add.sed $orig > $temp; \  
/usr/bin/install -c -m 644 $temp $dest; \  
rm -f $temp; \  
else \  
if test yes = no; then \  
orig=charset.alias; \  
sed -f ref-add.sed $orig > $temp; \  
/usr/bin/install -c -m 644 $temp $dest; \  
rm -f $temp; \  
fi; \  
fi; \  
/bin/sh `case "./mkinstalldirs" in /*) echo "./mkinstalldirs" ;; *) echo ".././mkinstalldirs" ;; esac` \  
/usr/local/share/locale; \  
test -f /usr/local/share/locale/locale.alias \  
&& orig=/usr/local/share/locale/locale.alias \  
|| orig=./locale.alias; \  
temp=/usr/local/share/locale/t-locale.alias; \  
dest=/usr/local/share/locale/locale.alias; \  
sed -f ref-add.sed $orig > $temp; \  
/usr/bin/install -c -m 644 $temp $dest; \  
rm -f $temp; \  
else \  
: ; \  
fi \  
if test "hello" = "gettext"; then \  
/bin/sh `case "./mkinstalldirs" in /*) echo "./mkinstalldirs" ;; *) echo ".././mkinstalldirs" ;; esac` \  
/usr/local/share/gettext/intl; \  
/usr/bin/install -c -m 644 VERSION /usr/local/share/gettext/intl/VERSION; \  
/usr/bin/install -c -m 644 ChangeLog.inst /usr/local/share/gettext/intl/ChangeLog; \  
dists="COPYING.LIB-2.0 COPYING.LIB-2.1 Makefile.in config.charset locale.alias ref-add.sin ref-del.sin gmo.h \  
gettextP.h hash-string.h plural-exp.h eval-plural.h os2compat.h libguintl.h loadinfo.h bindtextdom.c dcgettext.c \  
dgettext.c gettext.c finddomain.c loadmsgcat.c localealias.c textdomain.c l10nflist.c explodename.c dcgettext.c \  
dcngettext.c dngettext.c ngettext.c plural.y plural-exp.c localcharset.c localename.c osdep.c os2compat.c intl- \  
compat.c"; \  

```

```
for file in $dists; do \  
  /usr/bin/install -c -m 644 ./ $file \  
    /usr/local/share/gettext/intl/$file; \  
done; \  
chmod a+x /usr/local/share/gettext/intl/config.charset; \  
dists="plural.c"; \  
for file in $dists; do \  
  if test -f $file; then dir=.; else dir=.; fi; \  
  /usr/bin/install -c -m 644 $dir/$file \  
    /usr/local/share/gettext/intl/$file; \  
done; \  
dists="xopen-msg.sed linux-msg.sed po2tbl.sed.in cat-compat.c COPYING.LIB-2 gettext.h libgettext.h plural-  
eval.c"; \  
for file in $dists; do \  
  rm -f /usr/local/share/gettext/intl/$file; \  
done; \  
else \  
  : ; \  
fi  
make[1]: Leaving directory `/root/hello-2.1.1/intl'  
Making install in po  
make[1]: Entering directory `/root/hello-2.1.1/po'  
/bin/sh `case "./mkinstalldirs" in /*) echo "./mkinstalldirs" ;; *) echo "../mkinstalldirs" ;; esac`  
/usr/local/share  
mkdir -p -- /usr/local/share/locale/ca/LC_MESSAGES  
installing ca.gmo as /usr/local/share/locale/ca/LC_MESSAGES/hello.mo  
mkdir -p -- /usr/local/share/locale/da/LC_MESSAGES  
installing da.gmo as /usr/local/share/locale/da/LC_MESSAGES/hello.mo  
mkdir -p -- /usr/local/share/locale/de/LC_MESSAGES  
installing de.gmo as /usr/local/share/locale/de/LC_MESSAGES/hello.mo  
mkdir -p -- /usr/local/share/locale/de_DE/LC_MESSAGES  
installing de_DE.gmo as /usr/local/share/locale/de_DE/LC_MESSAGES/hello.mo  
mkdir -p -- /usr/local/share/locale/el/LC_MESSAGES  
installing el.gmo as /usr/local/share/locale/el/LC_MESSAGES/hello.mo
```

```
mkdir -p -- /usr/local/share/locale/eo/LC_MESSAGES
installing eo.gmo as /usr/local/share/locale/eo/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/es/LC_MESSAGES
installing es.gmo as /usr/local/share/locale/es/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/et/LC_MESSAGES
installing et.gmo as /usr/local/share/locale/et/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/fi/LC_MESSAGES
installing fi.gmo as /usr/local/share/locale/fi/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/fr/LC_MESSAGES
installing fr.gmo as /usr/local/share/locale/fr/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/gl/LC_MESSAGES
installing gl.gmo as /usr/local/share/locale/gl/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/he/LC_MESSAGES
installing he.gmo as /usr/local/share/locale/he/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/hr/LC_MESSAGES
installing hr.gmo as /usr/local/share/locale/hr/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/hu/LC_MESSAGES
installing hu.gmo as /usr/local/share/locale/hu/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/id/LC_MESSAGES
installing id.gmo as /usr/local/share/locale/id/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/it/LC_MESSAGES
installing it.gmo as /usr/local/share/locale/it/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/ja/LC_MESSAGES
installing ja.gmo as /usr/local/share/locale/ja/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/ko/LC_MESSAGES
installing ko.gmo as /usr/local/share/locale/ko/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/lv/LC_MESSAGES
installing lv.gmo as /usr/local/share/locale/lv/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/nb/LC_MESSAGES
installing nb.gmo as /usr/local/share/locale/nb/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/nl/LC_MESSAGES
installing nl.gmo as /usr/local/share/locale/nl/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/nn/LC_MESSAGES
installing nn.gmo as /usr/local/share/locale/nn/LC_MESSAGES/hello.mo
```

```
mkdir -p -- /usr/local/share/locale/pl/LC_MESSAGES
installing pl.gmo as /usr/local/share/locale/pl/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/pt/LC_MESSAGES
installing pt.gmo as /usr/local/share/locale/pt/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/pt_BR/LC_MESSAGES
installing pt_BR.gmo as /usr/local/share/locale/pt_BR/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/ru/LC_MESSAGES
installing ru.gmo as /usr/local/share/locale/ru/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/sk/LC_MESSAGES
installing sk.gmo as /usr/local/share/locale/sk/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/sl/LC_MESSAGES
installing sl.gmo as /usr/local/share/locale/sl/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/sv/LC_MESSAGES
installing sv.gmo as /usr/local/share/locale/sv/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/tr/LC_MESSAGES
installing tr.gmo as /usr/local/share/locale/tr/LC_MESSAGES/hello.mo
mkdir -p -- /usr/local/share/locale/uk/LC_MESSAGES
installing uk.gmo as /usr/local/share/locale/uk/LC_MESSAGES/hello.mo
if test "hello" = "gettext"; then \
  /bin/sh `case "./mkinstalldirs" in /*) echo "./mkinstalldirs" ;; *) echo "../mkinstalldirs" ;; esac`
/usr/local/share/gettext/po; \
  for file in Makefile.in.in Makevars remove-potcdate.sin quot.sed boldquot.sed en@quot.header en@boldquot.header
insert-header.sin Rules-quot ; do \
  /usr/bin/install -c -m 644 ./file \
    /usr/local/share/gettext/po/file; \
done; \
else \
: ; \
fi
make[1]: Leaving directory `/root/hello-2.1.1/po'
Making install in src
make[1]: Entering directory `/root/hello-2.1.1/src'
make[2]: Entering directory `/root/hello-2.1.1/src'
/bin/sh ../mkinstalldirs /usr/local/bin
```

```
/usr/bin/install -c hello /usr/local/bin/hello
make[2]: Nothing to be done for `install-data-am'.
make[2]: Leaving directory `/root/hello-2.1.1/src'
make[1]: Leaving directory `/root/hello-2.1.1/src'
Making install in man
make[1]: Entering directory `/root/hello-2.1.1/man'
make[2]: Entering directory `/root/hello-2.1.1/man'
make[2]: Nothing to be done for `install-exec-am'.
/bin/sh ../mkinstalldirs /usr/local/man/man1
/usr/bin/install -c -m 644 ./hello.1 /usr/local/man/man1/hello.1
make[2]: Leaving directory `/root/hello-2.1.1/man'
make[1]: Leaving directory `/root/hello-2.1.1/man'
Making install in m4
make[1]: Entering directory `/root/hello-2.1.1/m4'
make[2]: Entering directory `/root/hello-2.1.1/m4'
make[2]: Nothing to be done for `install-exec-am'.
make[2]: Nothing to be done for `install-data-am'.
make[2]: Leaving directory `/root/hello-2.1.1/m4'
make[1]: Leaving directory `/root/hello-2.1.1/m4'
Making install in tests
make[1]: Entering directory `/root/hello-2.1.1/tests'
make[2]: Entering directory `/root/hello-2.1.1/tests'
make[2]: Nothing to be done for `install-exec-am'.
make[2]: Nothing to be done for `install-data-am'.
make[2]: Leaving directory `/root/hello-2.1.1/tests'
make[1]: Leaving directory `/root/hello-2.1.1/tests'
make[1]: Entering directory `/root/hello-2.1.1'
make[2]: Entering directory `/root/hello-2.1.1'
make[2]: Nothing to be done for `install-exec-am'.
make[2]: Nothing to be done for `install-data-am'.
make[2]: Leaving directory `/root/hello-2.1.1'
make[1]: Leaving directory `/root/hello-2.1.1'
```

Il convient maintenant de tester le nouveau logiciel :

```
opensuse:~/hello-2.1.1 # hello
Hello, world!
```

Le logiciel hello a été correctement installé.

## La commande rpm

<note important> Placez-vous dans le répertoire personnel de **root** grâce à la commande **cd ~**. </note>

Afin de faciliter l'installation, la désinstallation et la gestion des logiciels (appelés paquets), SLES et openSUSE utilisent un format de fichier de logiciels installables spécifique. Celui-ci s'appelle RPM pour Redhat Package Manager. La commande utilisée pour manipuler ses paquetages s'appelle aussi **rpm**.

Les options de la commande rpm sont :

Afin de connaître la liste des paquets installés sur la machine, il convient de saisir la commande suivante dans une console en tant que root :

```
opensuse:~ # rpm -qa | more
gpg-pubkey-a1912208-446a0899
metatheme-sonar-common-11.3.0-13.1.noarch
gnome-user-docs-2.32.0-4.1.noarch
utempter-0.5.5-155.1.i586
xorg-x11-libICE-7.6-8.1.i586
lsscsi-0.23-6.1.i586
libudev0-166-5.1.i586
libsamplerate-0.1.7-8.1.i586
liborc-0_4-0-0.4.11-5.1.i586
liblzo2-2-2.04-14.1.i586
libjpeg62-62.0.0-3.1.i586
libgimpprint-4.2.7-334.8.1.i586
libdvdread4-4.1.3-15.1.i586
```

```
libcdio12-0.82-7.1.i586
libavahi-common3-0.6.28-7.10.1.i586
keyutils-libs-1.3-4.1.i586
audiofile-0.2.7-4.1.i586
ncurses-utils-5.7-14.1.i586
libtheora0-1.1.1-7.2.i586
libglib-2_0-0-2.28.0-3.6.1.i586
libcdda_paranoia0-3.10.2-10.1.i586
gnome-js-common-0.1.2-2.1.i586
perl-XML-Parser-2.40-4.1.i586
--More--
```

Afin de connaître le nombre total de paquets installés sur la machine, utilisez la commande suivante :

```
opensuse:~ # rpm -qa | wc -l
1423
```

Imaginons maintenant que vous souhaitez vérifier si un paquet contenant la chaîne de caractères **setup** soit déjà installé sur la machine. Dans ce cas, il convient d'utiliser la commande suivante :

```
opensuse:~ # rpm -qa | grep setup
libcryptsetup1-1.2.0-6.9.1.i586
cryptsetup-1.2.0-6.9.1.i586
```

Afin de connaître les détails du paquet **cryptsetup-1.2.0-6.9.1.i586**, il convient de saisir la commande suivante :

```
opensuse:~ # rpm -qi cryptsetup
Name           : cryptsetup           Relocations: (not relocatable)
Version        : 1.2.0                Vendor: openSUSE
Release        : 6.9.1                Build Date: Fri Feb 18 23:34:07 2011
Install Date:  Wed Mar  2 12:52:37 2011  Build Host: build24
Group          : System/Base          Source RPM: cryptsetup-1.2.0-6.9.1.src.rpm
Size           : 284718                License: GPLv2+
Signature      : RSA/8, Fri Feb 18 23:33:57 2011, Key ID b88b2fd43dbdc284
```

```
Packager   : http://bugs.opensuse.org
URL        : http://code.google.com/p/cryptsetup/
Summary    : Set Up dm-crypt Based Encrypted Block Devices
Description :
cryptsetup is used to conveniently set up dm-crypt based device-mapper
targets. It allows to set up targets to read cryptoloop compatible
volumes as well as LUKS formatted ones. The package additionally
includes support for automatically setting up encrypted volumes at boot
time via the config file /etc/crypttab.
```

#### Authors:

```
-----
    Clemens Fruhwirth <clemens@endorphin.org>
    Christophe Saout <christophe@saout.de>
    Ben Slusky <sluskyb@paranoiacs.org>
Distribution: openSUSE 11.4
```

Afin de lister tous les fichiers installés par le paquet concerné, utilisez la commande suivante :

```
opensuse:~ # rpm -ql cryptsetup
/etc/cryptotab
/etc/crypttab
/etc/init.d/boot.crypto
/etc/init.d/boot.crypto-early
/lib/cryptsetup
/lib/cryptsetup/boot.crypto.functions
/lib/cryptsetup/checks
/lib/cryptsetup/checks/vol_id
/lib/mkinitrd
/lib/mkinitrd/scripts
/lib/mkinitrd/scripts/boot-luks.sh
/lib/mkinitrd/scripts/setup-luks.sh
```

```
/lib/mkinitrd/scripts/setup-luks2.sh
/lib/mkinitrd/scripts/setup-luks_final.sh
/sbin/cryptsetup
/sbin/hashtot
/sbin/rccrypto
/usr/sbin/convert_cryptotab
/usr/share/locale/cs/LC_MESSAGES/cryptsetup.mo
/usr/share/locale/de/LC_MESSAGES/cryptsetup.mo
/usr/share/locale/fr/LC_MESSAGES/cryptsetup.mo
/usr/share/locale/id/LC_MESSAGES/cryptsetup.mo
/usr/share/locale/it/LC_MESSAGES/cryptsetup.mo
/usr/share/locale/nl/LC_MESSAGES/cryptsetup.mo
/usr/share/locale/pl/LC_MESSAGES/cryptsetup.mo
/usr/share/locale/sv/LC_MESSAGES/cryptsetup.mo
/usr/share/locale/vi/LC_MESSAGES/cryptsetup.mo
/usr/share/man/man1/hashtot.1.gz
/usr/share/man/man5/cryptotab.5.gz
/usr/share/man/man5/crypttab.5.gz
/usr/share/man/man8/cryptsetup.8.gz
```

A l'inverse, si vous connaissez le nom d'un fichier et vous souhaitez savoir quel paquet l'a installé, utilisez la commande suivante :

```
opensuse:~ # rpm -qf /etc/cryptotab
cryptsetup-1.2.0-6.9.1.i586
```

Pour connaître les fichiers modifiés depuis l'installation d'un paquetage, utilisez la commande suivante :

```
# rpm -V nom_paquet [Entrée]
```

Dans le cas où aucun fichier n'a été modifié, le console n'affiche rien. Dans le cas où les fichiers ont été modifiés, le système vous indique, fichier par fichier, les modifications apportées selon le tableau ci-dessous :

Lettre ou mot Clé	Description
5	Contrôle MD5

Lettre ou mot Clé	Description
S	Taille du fichier
L	Lien symbolique
T	Date de modification
D	Périphérique
U	Utilisateur propriétaire
G	Groupe propriétaire
M	Droits d'accès
?	Fichier illisible
Manquant	Fichier manquant

## La commande zypper

**zypper** est le nom d'un programme utilitaire de gestion de paquetages pour le système d'exploitation Linux, utilisé par **SLES** et **openSUSE**.

Il permet de gérer l'installation et la mise à jour des logiciels installés. C'est une surcouche à RPM gérant les téléchargements et les dépendances, de la même manière que **APT** de Debian, **Urpmi** de Mandriva ou **yum** de Redhat.

La commande zypper prend la forme suivante :

```
# zypper [--options-globales] <commande> [--options-commande] [arguments] [Entrée]
```

Les options et commandes de zypper sont :

```
opensuse:~ # zypper --help
Usage:
  zypper [--global-options] <command> [--command-options] [arguments]

Global Options:
  --help, -h           Help.
  --version, -V        Output the version number.
  --config, -c <file> Use specified config file instead of the default.
```

```
--quiet, -q      Suppress normal output, print only error
                  messages.
--verbose, -v    Increase verbosity.
--no-abbrev, -A  Do not abbreviate text in tables.
--table-style, -s  Table style (integer).
--rug-compatible, -r  Turn on rug compatibility.
--non-interactive, -n  Do not ask anything, use default answers
                      automatically.
--xmlout, -x     Switch to XML output.

--reposd-dir, -D <dir>  Use alternative repository definition file
                      directory.
--cache-dir, -C <dir>  Use alternative directory for all caches.
--raw-cache-dir <dir>  Use alternative raw meta-data cache directory.
--solv-cache-dir <dir>  Use alternative solv file cache directory.
--pkg-cache-dir <dir>  Use alternative package cache directory.

Repository Options:
--no-gpg-checks      Ignore GPG check failures and continue.
--gpg-auto-import-keys  Automatically trust and import new repository
                      signing keys.
--plus-repo, -p <URI>  Use an additional repository.
--disable-repositories  Do not read meta-data from repositories.
--no-refresh         Do not refresh the repositories.
--no-cd              Ignore CD/DVD repositories.
--no-remote          Ignore remote repositories.

Target Options:
--root, -R <dir>     Operate on a different root directory.
--disable-system-resolvables
                      Do not read installed packages.

Commands:
help, ?             Print help.
```

shell, sh           Accept multiple commands at once.

Repository Management:

repos, lr           List all defined repositories.  
addrepo, ar        Add a new repository.  
removerepo, rr     Remove specified repository.  
renamerepo, nr     Rename specified repository.  
modifyrepo, mr     Modify specified repository.  
refresh, ref        Refresh all repositories.  
clean               Clean local caches.

Service Management:

services, ls        List all defined services.  
addservice, as      Add a new service.  
modifyservice, ms   Modify specified service.  
removeservice, rs   Remove specified service.  
refresh-services, refs   Refresh all services.

Software Management:

install, in         Install packages.  
remove, rm         Remove packages.  
verify, ve         Verify integrity of package dependencies.  
source-install, si   Install source packages and their build  
                    dependencies.  
install-new-recommends, inr  
                    Install newly added packages recommended  
                    by installed packages.

Update Management:

update, up         Update installed packages with newer versions.  
list-updates, lu    List available updates.  
patch              Install needed patches.  
list-patches, lp    List needed patches.  
dist-upgrade, dup   Perform a distribution upgrade.

```
patch-check, pchk    Check for patches.

Querying:
search, se           Search for packages matching a pattern.
info, if            Show full information for specified packages.
patch-info          Show full information for specified patches.
pattern-info        Show full information for specified patterns.
product-info        Show full information for specified products.
patches, pch        List all available patches.
packages, pa         List all available packages.
patterns, pt         List all available patterns.
products, pd         List all available products.
what-provides, wp   List packages providing specified capability.

Package Locks:
addlock, al          Add a package lock.
removlock, rl        Remove a package lock.
locks, ll            List current package locks.
cleanlocks, cl       Remove unused locks.

Other Commands:
versioncmp, vcmp     Compare two version strings.
targetos, tos        Print the target operating system ID string.
licenses             Print report about licenses and EULAs of
                    installed packages.
```

Type 'zypper help <command>' to get command-specific help.

## Configuration

La configuration de zypper est effectuée en éditant les fichiers **/etc/zypp/zypp.conf**, **/etc/zypp/zypper.conf** et éventuellement **\$HOME/.zypper.conf** :

L'ordre d'interprétation des configurations est importante :

- Des éventuelles options passées à la commande,
- La configuration dans **\$HOME/.zypper.conf**,
- La configuration dans **/etc/zypp/zypper.conf**,
- La configuration dans **/etc/zypp/zypp.conf**.

### **/etc/zypp/zypp.conf**

```
opensuse:~ # cat /etc/zypp/zypp.conf
## Configuration file for software management
## /etc/zypp/zypp.conf
##
## Boolean values are 0 1 yes no on off true false

[main]

##
## Override the detected architecture
##
## Valid values: i586, i686, x86_64, ppc, ppc64, ia64, s390, s390x, ..
## Default value: Autodetected
##
## ** CAUTION: Only set if you know what you're doing !
## ** Changing this needs a full refresh (incl. download)
## ** of all repository data.
##
# arch = s390

##
```

```
## Path where the caches are kept.
##
## Valid values: A directory
## Default value: /var/cache/zypp
##
# cachedir = /var/cache/zypp

##
## Path where the repo metadata is downloaded and kept.
##
## Valid values: A directory
## Default value: {cachedir}/raw
##
## Changing this needs a full refresh (incl. download) of all repository data
##
# metadatadir = /var/cache/zypp/raw

##
## Path where the repo solv files are created and kept.
##
## Valid values: A directory
## Default value: {cachedir}/solv
##
# solvfilesdir = /var/cache/zypp/solv

##
## Path where the repo packages are downloaded and kept.
##
## Valid values: A directory
## Default value: {cachedir}/packages
##
```

```
# packagesdir = /var/cache/zypp/packages

##
## Path where the configuration files are kept.
##
## Valid values: A directory
## Default value: /etc/zypp
##
# configdir = /etc/zypp

##
## Path where the known repositories .repo files are kept
##
## Valid values: A directory
## Default value: {configdir}/repos.d
##
## Changing this invalidates all known repositories
##
# reposdir = /etc/zypp/repos.d

##
## Path where the known services .service files are kept
##
## Valid values: A directory
## Default value: {configdir}/services.d
##
## Changing this invalidates all known services
##
# servicesdir = /etc/zypp/services.d

##
## Whether repository urls should be probed when added
```

```
##
## Valid values: boolean
## Default value: false
##
## If true, accessibility of repositories is checked immediately (when added)
## (e.g. 'zypper ar' will check immediately)
## If false, accessibility of repositories is checked when refreshed
## (e.g. 'zypper ar' will delay the check until the next refresh)
##
# repo.add.probe = false

##
## Amount of time in minutes that must pass before another refresh.
##
## Valid values: Integer
## Default value: 10
##
## If you have autorefresh enabled for a repository, it is checked for
## up-to-date metadata not more often than every <repo.refresh.delay>
## minutes. If an automatic request for refresh comes before <repo.refresh.delay>
## minutes passed since the last check, the request is ignored.
##
## A value of 0 means the repository will always be checked. To get the opposite
## effect, disable autorefresh for your repositories.
##
## This option has no effect for repositories with autorefresh disabled, nor for
## user-requested refresh.
##
# repo.refresh.delay = 10

##
## Maximum number of concurrent connections to use per transfer
##
```

```
## Valid values: Integer
## Default value: 5
##
## This setting is only used if more than one is possible
## Setting it to a reasonable number avoids flooding servers
##
# download.max_concurrent_connections = 5

##
## Sets the minimum download speed (bytes per second)
## until the connection is dropped
## This can be useful to prevent security attacks on hosts by
## providing updates at very low speeds.
##
## 0 means no limit
##
# download.min_download_speed = 0

## Maximum download speed (bytes per second)
## 0 means no limit
# download.max_download_speed = 0

## Number of tries per download which will be
## done without user interaction
## 0 means no limit (use with caution)
# download.max_silent_tries = 5

##
## Whether to consider using a .delta.rpm when downloading a package
##
## Valid values: boolean
## Default value: true
##
## Using a delta rpm will decrease the download size for package updates
```

```
## since it does not contain all files of the package but only the binary
## diff of changed ones. Recreating the rpm package on the local machine
## is an expensive operation (memory,CPU). If your network connection is
## not too slow, you benefit from disabling .delta.rpm.
##
# download.use_deltarpm = true

##
## Whether to consider using a deltarpm even when rpm is local
##
## Valid values: boolean
## Default value: false
##
## This option has no effect unless download.use_deltarpm is set true.
##
# download.use_deltarpm.always = false

##
## Hint which media to prefer when installing packages (download vs. CD).
##
## Valid values:    download, volatile
## Default value:  download
##
## Note that this just a hint. First of all the solver will choose the 'best'
## package according to its repos priority, version and architecture. But if
## there is a choice, we will prefer packages from the desired media.
##
## Packages available locally are always preferred. The question is whether
## you prefer packages being downloaded via FTP/HTTP/HTTPS (download), rather
## than being prompted to insert a CD/DVD (volatile), in case they are available
## on both media.
##
## Name          | Priority | URI
## openSUSE-11.1 99          dvd:///
```

```
## openSUSE-11.1-0ss 99 http://download.opensuse.org/distribution/11.1/repo/oss
##
## In the above example 2 repositories with similar content are used. Rather
## than raising the priority of one of them to 'prefer' a certain media, you
## should use the same priority for both and set download.media_preference
## instead.
##
## download.media_preference = download
##
## Commit download policy to use as default.
##
## DownloadOnly, Just download all packages to the local cache.
## Do not install. Implies a dry-run.
##
## DownloadInAdvance, First download all packages to the local cache.
## Then start to install.
##
## DownloadInHeaps, Similar to DownloadInAdvance, but try to split
## the transaction into heaps, where at the end of
## each heap a consistent system state is reached.
##
## DownloadAsNeeded Alternating download and install. Packages are
## cached just to avoid CD/DVD hopping. This is the
## traditional behaviour.
##
## <UNSET> If a value is not set, empty or unknown, we pick
## some sane default.
##
## commit.downloadMode =
##
## Defining directory which contains vendor description files.
##
```

```
## One file in this directory reflects a group of equivalent vendors. e.G.:
## (filename is "nvidia" but could be any other name):
## ----- file contains begin -----
## [main]
##
## vendors = nvidia,suse,opensuse
##
## ----- file contains end -----
## Libzypp makes a string comparison (like strcmp, case-insensitive)
## whereas the beginning of the strings are compared only.
## e.G. vendor "opensuse11.0" is compatible to "openSUSE".
##
## Valid values: A directory
## Default value: {configdir}/vendors.d
##
# vendordir = /etc/zypp/vendors.d

##
## Whether required packages are installed ONLY
## So recommended packages, language packages and packages which depend
## on hardware (modaliases) will not be regarded.
##
## Valid values: boolean
## Default value: false
##
# solver.onlyRequires = false

##
## EXPERTS ONLY: Per default the solver will not replace packages of
## different vendors, unless you explicitly ask to do so. Setting this
## option to TRUE will disable this vendor check (unless the application
## explicitly re-enables it). Packages will then be considered based on
## repository priority and version only. This may easily damage your system.
```

```
##
## CHANGING THE DEFAULT IS NOT RECOMMENDED.
##
## Valid values:  boolean
## Default value:  false
##
# solver.allowVendorChange = false

##
## EXPERTS ONLY: Cleanup when deleting packages. Whether the solver should
## per default try to remove packages exclusively required by the ones he's
## asked to delete.
##
## This option should be used on a case by case basis, enabled via
## command line options or switches the applications offer. Changing
## the global default on a system where unattended actions are performed,
## may easily damage your system.
##
## CHANGING THE DEFAULT IS NOT RECOMMENDED.
##
## Valid values:  boolean
## Default value:  false
##
# solver.cleandepsOnRemove = false

##
## This file contains requirements/conflicts which fulfill the
## needs of a running system.
## For example the system would be broken if not glibc or kernel is
## installed.
## So the user will be informed if these packages will be deleted.
##
## Format: Each line represents one dependency:
##         e.g.
```

```
##          requires:kernel
##          requires:glibc
## Default value: {configdir}/systemCheck
##
# solver.checkSystemFile = /etc/zypp/systemCheck

##
## When committing a dist upgrade (e.g. 'zypper dup') a solver testcase
## is written to /var/log/updateTestcase-<date>. It is needed in bugreports.
## This option returns the number of testcases to keep on the system. Old
## cases will be deleted, as new ones are created.
##
## Use 0 to write no testcase at all, or -1 to keep all testcases.
##
## Valid values:      Integer
## Default value:    2
##
# solver.upgradeTestcasesToKeep = 2

##
## Whether dist upgrade should remove a products dropped packages.
##
## A new product may suggest a list of old and no longer supported
## packages (dropped packages). Performing a dist upgrade the solver
## may try to delete them, even if they do not cause any dependency
## problem.
##
## Turning this option off, the solver will not try to remove those
## packages unless they actually do cause dependency trouble. You may
## do the cleanup manually, or simply leave them installed as long
## as you don't need the disk space.
##
## Valid values:      Boolean
## Default value:    true
```

```
##
# solver.upgradeRemoveDroppedPackages = true

##
## Packages which can be installed in different versions at the same time.
##
## Packages are selected either by name, or by provides. In the later case
## the string must start with "provides:" immediately followed by the capability.
##
## Example:
## kernel                - just packages whith name 'kernel'
## provides:multiversion(kernel) - all packages providing 'multiversion(kernel)'
##                        (kenel and kmp packages should do this)
## Valid values:
## Comma separated list of packages.
##
## Default value:
## empty
##
# multiversion = provides:multiversion(kernel)

##
## Path to locks file. If not exist then is create.
## In this file is saved also UI locks.
##
## valid value: path to file or place where file can be created
## default value: {configdir}/locks
##
# locksfile.path = /etc/zypp/locks

##
## Whetever to apply locks in locks file after zypp start.
##
## Valid values: boolean
```

```
## Default value: true
##
# lockfile.apply = true

##
## Where update items are stored
## (example: scripts, messages)
##
## Valid values: path to directory
## Default value: /var/adm
##
# update.datadir = /var/adm

##
## Where update messages are stored
##
## Valid values: path to directory
## Default value: {update.datadir}/update-messages
##
# update.messagesdir = /var/adm/update-messages

##
## Where update scripts are stored
##
## Valid values: path to directory
## Default value: {update.datadir}/update-scripts
##
# update.scriptsdir = /var/adm/update-scripts

##
## Command to be invoked to send update messages.
##
## Packages may leave an update message file in {update.messagesdir}.
## At the end of each commit, zypp collects those messages and may send
```

```
## a notification to the user.
##
## zypp will prepare the update messages according to the selected
## content format and pipe the content to the command.
##
## Format:
##   single - For each update message invoke the command and send
##             the message.
##   none   - For each update message invoke the command but don't
##             use a pipe to send any data. You probably want to pass
##             the message file on the commandline using %P (see
##             Substitutions).
##   digest - Single invocation of the command, sending the path
##             names of all update message. One per line.
##   bulk   - Single invocation of the command, sending the
##             concatenated content of all update messages, separated
##             by Ctrl-L.
##
## Substitutions:
##   %p      - package identification (name-version-release.arch)
##   %P      - full path to the update message file
##
## Valid values: The value is specified as "format | command".
##               An empty value will turn off any notification.
##
## Examples:    single | mail -s 'Update message from %p' root
##             none   | my-send-script -f %P
##
## Default value: single | /usr/lib/zypp/notify-message -p %p
##
# update.messages.notify = single | /usr/lib/zypp/notify-message -p %p
##
## Options for package installation: excludedocs
```

```
##
## Don't install any files which are marked as documentation.
##
## Valid values: boolean
## Default value: no
##
# rpm.install.excludedocs = no

##
## Location of history log file.
##
## The history log is described at
## http://en.opensuse.org/Libzypp/Package\_History
##
## Valid values: absolute path to a file
## Default value: /var/log/zypp/history
##
# history.logfile = /var/log/zypp/history

##
## Global credentials directory path.
##
## If a URL contains ?credentials=<filename> parameter, the credentials will
## be stored and looked for in a file named <filename> in this directory.
##
## Valid values: absolute path to a directory
## Default value: /etc/zypp/credentials.d
##
# credentials.global.dir = /etc/zypp/credentials.d

##
## Global credentials catalog file path.
##
## This file contains a catalog of all known user credentials which were
```

```
## not stored via the ?credentials=<filename> URL parameter, i.e. passed
## in URL as username:password component, or entered by user in
## an authentication dialog.
##
## Valid values: absolute path to a file
## Default value: /etc/zypp/credentials.cat
##
# credentials.global.file = /etc/zypp/credentials.cat
```

### **/etc/zypp/zypper.conf**

```
opensuse:~ # cat /etc/zypp/zypper.conf
## Configuration file for Zypper.
##
## location: /etc/zypp/zypper.conf (system-wide)
##          or: $HOME/.zypper.conf   (user-specific)
##
## You can edit this file by hand (try to keep the structure) or by using
## 'zypper conf' command (TODO). If you need user-specific configuration
## and you do not have ~/.zypper.conf yet, use /etc/zypp/zypper.conf
## as template (copy it to ~/.zypper.conf) and adjust to your liking.
##
## The options known also to libzypp will be overridden by zypper.conf, if set.
##
## Boolean values are:
## 0 1 yes no on off true false
## Color values are:
## white grey darkgrey black red green blue yellow brown cyan purple
## lightred lightgreen lightblue lightcyan lightpurple

[main]

## Show repository alias instead of name.
```

```
##
## Alias is an alternative unique name of repository. Some users prefer
## to define short, handy aliases for their repositories and use them
## when specifying repositories instead of number, name, or URI.
## These users might want to set this option to 'true'.
##
## Other users prefer to keep the aliases and names set by installation,
## registration, YaST, or other software managers, or .repo files (most
## software managers even hide the alias from user's view).
## These users might want to see the descriptive names, thus leave this
## option set to 'false'.
##
## Setting this option to 'true' will tell zypper to show repository
## alias instead of the long name wherever it needs to tell the name of
## the repository.
##
## Valid values: true, false
## Default value: false
##
# showAlias = false

## Columns to show in repository list printed by repos (lr) command by default.
##
## The # (number) and Enabled column is shown always. The following columns
## can be configured:
##
## a - alias - the shorthand for name and unique identifier
## n - name - full name of the repository
## r - autorefresh?
## u - URL
## p - priority
##
## Valid values: any combination of the above letters; capital letter marks
##                column by which the table will be sorted (if multiple
```

```
##          are used the sorting is undefined).
## Default value: Anr
##
# repoListColumns = Anr

[solver]

## Do not install soft dependencies (recommended packages)
##
## Valid values: boolean
## Default value: yes
##
# installRecommends = yes

## Commands in which to force resolution.
##
## Comma-separated list of commands in which the resolution should be forced
## when solving package dependencies. This means the solver
## will automatically opt to remove problematic packages instead
## of asking the user how to resolve the dependency problem.
##
## This is particularly useful in the 'remove' command, since one
## typically wants to remove the requested package and all the packages
## which depend on it, without being asked. But one may find it convenient
## to force the resolution also in the 'install' command, or perhaps even
## others.
##
## This setting can be overridden ad-hoc by the --force-resolution and
## --no-force-resolution command line options.
##
## Valid values: remove, install, update, patch, verify
## Default value: remove
# forceResolutionCommands = remove
```

```
[color]
```

```
## Whether to use colors
##
## Valid values: always, never, or autodetect
## Default value: never
##
# useColors = never

## Do you use dark or light terminal background?
##
## Valid values: dark light
## Default value: dark
##
# background = dark

## Color for displaying results of operations.
## This includes installation summary, tables, and result messages.
##
## Valid values: color
## Default value: white
##
# result = white

## Color for displaying status and progress messages.
##
## Valid values: color
## Default value: grey
##
# msgStatus = grey

## Color for displaying error messages.
##
## Valid values: color
```

```
## Default value: red
##
# msgError = red

## Color for displaying warnings.
##
## Valid values: color
## Default value: yellow
##
# msgWarning = yellow

## Color for highlighting positive information.
## For example, 'done' result of progress indicator.
## (not used yet)
##
## Default value: green
##
# positive = green

## Color for highlighting negative information.
## For example, 'error' result of progress indicator.
## (not used yet)
##
## Valid values: color
## Default value: red
##
# negative = red

## Color for highlighting information for easier reading.
## Unlike positive/negative color, this is intended for neutral information,
## like highlighting table column by which the rows are sorted.
##
## Valid values: color
## Default value: lightcyan
```

```
##
# highlight = lightcyan

## Color for user dialog options.
##
## Valid values: color
## Default value: grey
##
# promptOption = grey

[obs]

## openSUSE Build Service repository base URL.
## This is used to construct real URL from obs://project/platform URI
##
# baseUrl = http://download.opensuse.org/repositories/

## openSUSE Build Service repository target platform.
## This will be used if none is given in the obs://obsrepo/platform URI
## when adding new repository with 'addrepo' command.
##
# platform = openSUSE_11.3
```

## Dépôts

<note important> Un dépôt est un lieu de stockage de paquets binaires prêts à installer. Un dépôt peut être le DVD d'installation de la distribution, un dossier sur disque dur ou bien des serveurs distants accessibles par Internet. </note>

Les dépôts de paquets sont spécifiés dans un fichier *par dépôt* stocké dans le répertoire **/etc/zypp/repos.d** :

```
opensuse:~ # ls /etc/zypp/repos.d
google-chrome.repo          repo-debug-update.repo
Mises-à-jour-pour-openSUSE-11.4-11.4-0.repo  repo-non-oss.repo
```

```
openSUSE-11.4-11.4-0.repo      repo-oss.repo
repo-debug.repo              repo-source.repo
```

Par exemple :

```
opensuse:~ # cat /etc/zypp/repos.d/openSUSE-11.4-11.4-0.repo
[openSUSE-11.4-11.4-0]
name=openSUSE-11.4-11.4-0
enabled=1
autorefresh=0
baseurl=cd:///?devices=/dev/disk/by-id/ata-VBOX_CD-ROM_VB2-01700376,/dev/sr0
path=/
type=yast2
keeppackages=0
```

ou :

```
opensuse:~ # cat /etc/zypp/repos.d/Mises-à-jour-pour-openSUSE-11.4-11.4-0.repo
[Mises-à-jour-pour-openSUSE-11.4-11.4-0]
name=Mises à jour pour openSUSE 11.4 11.4-0
enabled=1
autorefresh=1
baseurl=http://download.opensuse.org/update/11.4/
path=/
type=rpm-md
keeppackages=0
```

## Utilisation

Les commandes les plus utilisées de zypper sont :

Commande	Abréviation	Description
install	in	Installer un ou plusieurs paquets.
update	up	Mettre à jour un ou plusieurs paquets. Sans nom(s) de paquet(s), tous les paquets sont mis à jour.
refresh	ref	Rafraîchir le cache des paquets disponibles.
remove	rm	Supprimer un paquet.
what-provides	wp	Visualiser une liste de paquetages qui fournissent le fichier ou caractéristique spécifié.
search -d	se -d	Trouver un paquetage qui a la chaîne recherchée dans sa <i>description</i> .
search	se	Trouver un paquetage qui a la chaîne recherchée dans son <i>nom</i> .
info	if	Obtenir de l'information sur un paquet.
patch		Appliquer les patches nécessaires au système.
verify	ve	Vérifier si les dépendances des paquets installés sont satisfaites.
repos	lr	Lister les dépôts configurés dans votre système.
help		Obtenir de l'aide sur une des commandes ci-dessus. Par exemple <i>zypper help search</i> .

## T.P. #1

Commencez par mettre à jour les dépôts de zypper :

```
opensuse:~ # zypper refresh
Retrieving repository 'Mises à jour pour openSUSE 11.4 11.4-0' metadata [done]
Building repository 'Mises à jour pour openSUSE 11.4 11.4-0' cache [done]
Retrieving repository 'google-chrome' metadata [done]
Building repository 'google-chrome' cache [done]
Repository 'openSUSE-11.4-Non-Oss' is up to date.
Repository 'openSUSE-11.4-0ss' is up to date.
All repositories have been refreshed.
```

Listez les dépôts zypper configurés dans votre système :

```
opensuse:~ # zypper repos
# | Alias | Name | Enabled | Refresh
--+-----+-----+-----+-----
```

1	Mises-à-jour-pour-openSUSE-11.4-11.4-0	Mises à jour pour openSUSE 11.4 11.4-0	Yes	Yes
2	google-chrome	google-chrome	Yes	Yes
3	openSUSE-11.4-11.4-0	openSUSE-11.4-11.4-0	Yes	No
4	repo-debug	openSUSE-11.4-Debug	No	Yes
5	repo-debug-update	openSUSE-11.4-Update-Debug	No	Yes
6	repo-non-oss	openSUSE-11.4-Non-0ss	Yes	Yes
7	repo-oss	openSUSE-11.4-0ss	Yes	Yes
8	repo-source	openSUSE-11.4-Source	No	Yes

Supprimez maintenant le paquet **mc** :

```
opensuse:~ # zypper remove mc
Loading repository data...
Reading installed packages...
Resolving package dependencies...
```

```
The following package is going to be REMOVED:
 mc
```

```
1 package to remove.
After the operation, 2.1 MiB will be freed.
Continue? [y/n/?] (y): y
Removing mc-4.7.5.1-4.6 [done]
```

Recherchez la chaîne **mc** dans le nom des paquets :

```
opensuse:~ # zypper search mc
Loading repository data...
Reading installed packages...
```

S	Name	Summary	Type
	arts-gmcp	A Modular Software Synthesizer	package
	collectd-plugin-memcachec	Memcache Daemon Monitoring Plugin for co->	package

hamcrest	Library of matchers for building test ex->	package
hamcrest-demo	Library of matchers for building test ex->	package
hamcrest-javadoc	Library of matchers for building test ex->	package
hmconv	HangulCode Conversion Program	package
iceWMCP	An IceWM Configuration Panel	package
iceWMCP-addons	An IceWM Configuration Panel	package
jakarta-commons-collections-tomcat5	Jakarta Commons Collections Package	package
jakarta-commons-dbc-p-tomcat5	Jakarta Commons DataBase Pooling Package	package
jakarta-commons-pool-tomcat5	Jakarta Commons Pool Package	package
libmcal	Modular Calendar Access Library	package
libmccrypt	Data Encryption Library	package
libmccrypt-devel	Development Package for Libmccrypt	package
libmemcached-devel	Development files for libmemcached	package
libmemcached0	A client library for memcached	package
libmemcached	Libmemcached is a C and C++ client libra->	package
libmemcached-devel	Libmemcached is a C and C++ client libra->	package
libmemcached2	Libmemcached is a C and C++ client libra->	package
libmemcachedutil0	Libmemcached is a C and C++ client libra->	package
libopensync-plugin-irmc	IrMC Synchronization Plug-In for OpenSync	package
mc	Midnight Commander	package
mc-lang	Languages for package mc	package
mcal	A Calendar Based on Libmcal	package
mcelog	Log Machine Check Events	srcpackage
mcelog	mcelog: Remove debug emailtarget	patch
mcpp	Matsui's C Preprocessor	package
mdecrypt	Replacement for the crypt Command	package
mcstrans	SELinux Translation Daemon	package
memcached	A high-performance, distributed memory o->	package
openmcu	H.323 Multipoint Control Unit	package
openssl-ibmca	The IBMCA OpenSSL dynamic engine	package
pcmciautils	Utilities for PC-Cards	srcpackage
pcmciautils	Utilities for PC-Cards	package
pcmciautils	pcmciautils: Fix segmentation fault in a->	patch
perl-Mcrypt	An Autoload-Capable Interface Module for->	package

php5-mcrypt	PHP5 Extension Module	package
php5-pear-File_IMC	Create and parse IMC-style files (like v->	package
sblim-wbemcli	SBLIM WBEM Command Line Interface	package
selinux-policy-refpolicy-mcs	SELinux policy - Tresys MCS Refpolicy	package
struts-webapps-tomcat6	Sample struts webapps for tomcat6	package
termcap	The Termcap Library	package
tomcat6	Apache Servlet/JSP Engine, RI for Servle->	package
tomcat6	Apache Servlet/JSP Engine, RI for Servle->	srcpackage
tomcat6	tomcat security update	patch
tomcat6-admin-webapps	The host-manager and manager web applica->	package
tomcat6-docs-webapp	The docs web application for Apache Tomcat	package
tomcat6-el-1_0-api	Expression Language v1.0 API	package
tomcat6-javadoc	Javadoc generated documentation for Apac->	package
tomcat6-jsp-2_1-api	Apache Tomcat JSP API implementation cla->	package
tomcat6-lib	Libraries needed to run the Tomcat Web c->	package
tomcat6-servlet-2_5-api	Apache Tomcat Servlet API implementation->	package
tomcat6-webapps	The ROOT and examples web applications f->	package
tomcat_apparmor	Tomcat 6 plugin for AppArmor change_hat	package
wmctrl	Command line tool to interact with an EW->	package
i   xorg-x11-libXdmcp	X.Org Xdmcp library	package
xorg-x11-libXdmcp-devel	Include Files and Libraries mandatory fo->	package

Recherchez la chaîne **mc** dans la description des paquets :

```
opensuse:~ # zypper search -d mc
Loading repository data...
Reading installed packages...
```

S	Name	Summary
	Type	
-----+-----		
	MozillaFirefox	MozillaFirefox securirty update
	patch	

```
| MozillaThunderbird           | MozillaThunderbird: Update to Mozilla Thunderbird 3.1.14
| patch
| agg                           | C++ SVG Rendering Library
| package
| agg-devel                     | C++ SVG rendering library
| package
| amanda                        | Network Disk Archiver
| package
| anthy                         | Kana-Kanji Conversion Engine
| package
| anthy-devel                   | Include Files and Libraries mandatory for Development.
| package
| apache2-mod_jk                | Connectors between Apache and Tomcat Servlet Container
| package
| arts-gmcp                     | A Modular Software Synthesizer
| package
| aspell-gd                     | Scottish Gaelic Dictionary Package for Aspell
| package
| aspell-gv                     | Manx Gaelic Dictionary Package for Aspell
| package
| bootp-DD2                     | Enhanced Version of the CMU BOOTP Server
| package
| buffer                        | Buffering stdin and stdout
| package
i | cdrkit-cdrtools-compat       | Tool for Writing CDRs - cdrtools compatibility package
| package
| cobertura                     | Free Java tool that calculates the percentage of code accessed by tests
| package
| collectd-plugin-memcachec     | Memcache Daemon Monitoring Plugin for collectd
| package
| crash                         | Crash utility for live systems; netdump, diskdump, LKCD or mcore
dumpfiles | package
| crash-devel                   | Development files for crash
| package
```

```
i | crda | 802.11 central regulatory domain agent
| package
| | crosscrash | Cross-architecture version of crash (tool to debug kernel dump files)
| package
| | delta | Minimize files to interesting parts
| package
| | dosemu | The DOS Emulator
| package
| | dvgrab | Record Digital Video (DV) via an IEEE 1394 (Firewire) Interface
| package
| | emacs | GNU Emacs Base Package
| package
| | emacs-el | Several Lisp Files for GNU Emacs
| package
| | emacs-info | Info files for GNU Emacs
| package
| | emacs-nox | GNU Emacs-nox: An Emacs Binary without X Window System Support
| package
| | emacs-w3 | Emacs/W3--a WWW Browser for Emacs
| package
| | emacs-x11 | GNU Emacs: Emacs binary with X Window System Support
| package
| | esound-daemon | A sound daemon for Enlightenment and GNOME
| package
| | esound-utils | A sound daemon for Enlightenment and GNOME
| package
| | fhs | File System Hierarchy Standard
| package
| | gammu | Mobile phone management utility
| package
| | gammu-devel | Development files for Gammu
| package
| | ghostscript-devel | Ghostscript API header
| package
```



```
| graphviz-gd           | Graphviz plugin for renderers based on gd
| package
| graphviz-gnome       | Graphviz plugins that use gtk/GNOME
| package
| graphviz-guile       | Graph Visualization Tools
| package
| graphviz-java        | Graph Visualization Tools
| package
| graphviz-lua         | Lua extension for graphviz
| package
| graphviz-ocaml       | OCAML extension for graphviz
| package
| graphviz-perl        | Perl extension for Graphviz
| package
| graphviz-php         | PHP Extension for Graphviz
| package
| graphviz-python      | Python Extension for Graphviz
| package
| graphviz-ruby        | Ruby Extension for Graphviz
| package
| graphviz-sharp       | C# Extension for Graphviz
| package
| graphviz-tcl         | Tcl extension tools for graphviz
| package
| hamcrest             | Library of matchers for building test expressions
| package
| hamcrest-demo        | Library of matchers for building test expressions
| package
| hamcrest-javadoc     | Library of matchers for building test expressions
| package
| hello                | A Friendly Greeting Program
| package
| hmconv               | HangulCode Conversion Program
| package
```

```
| horde3-eleusis | Password Manager for Horde3
| package
| hxtools-data | Collection of day-to-day tools (data)
| package
| iceWMCP | An IceWM Configuration Panel
| package
| iceWMCP-addons | An IceWM Configuration Panel
| package
| idutils | Language-Independent Identifier Database Tool
| package
i | info | A Stand-Alone Terminal-Based Info Browser
| package
| ipmitool | Utility for IPMI Control
| package
| itcl | Object Oriented Extension for Tcl
| package
| itcl-devel | Header Files and C API Documentation for Itcl
| package
| itk | Object Oriented Extension for Tcl
| package
| iwidgets | Widget Extension for Tcl/Tk
| package
| jakarta-commons-collections-tomcat5 | Jakarta Commons Collections Package
| package
| jakarta-commons-dbc-p-tomcat5 | Jakarta Commons DataBase Pooling Package
| package
| jakarta-commons-httpclient3 | Feature rich package for accessing resources via HTTP
| package
| jakarta-commons-httpclient3-demo | Demonstration files for jakarta-commons-httpclient3
| package
| jakarta-commons-httpclient3-javadoc | Developer documentation for jakarta-commons-httpclient3
| package
| jakarta-commons-httpclient3-manual | Manual for jakarta-commons-httpclient3
| package
```

```
| jakarta-commons-pool-tomcat5 | Jakarta Commons Pool Package
| package
| jaxen | The jaxen project is a Java XPath Engine
| package
| jdom | JDOM is a Java Representation of an XML Document
| package
i | joe | A Text Editor
| package
| kdbus | D-BUS service browser for KDE
| package
i | klogd | The kernel log daemon
| package
| kradio | A comfortable KDE4 AM/FM radio application
| package
| kseg | A Simulator of Euclidean Geometry
| package
i | libEMF | Library for Manipulation with Enhanced MetaFile (EMF, ECMA-234)
| package
| libEMF-devel | Library for manipulation with Enhanced MetaFile (EMF, ECMA-234)
| package
| libavc1394 | Libavc1394--Programming Interface to the AV/C Specification
| package
| libavc1394-0 | Libavc1394--Programming Interface to the AV/C Specification
| package
| libavc1394-devel | libavc1394 is a programming interface to the AV/C specification
| package
| libdlm | Application interface to the kernel's distributed lock manager
| package
| libdlm-devel | Application interface to the kernel's distributed lock manager
| package
| libdlm3 | Application interface to the kernel's distributed lock manager
| package
| libdv | The Quasar DV Codec
| package
```

```
| libdv-devel | The Quasar DV codec
| package
i | libdv4 | The Quasar DV Codec
| package
| libesd-devel | Esound development package
| package
i | libesd0 | A sound daemon for Enlightenment and GNOME
| package
| libgme0 | Collection of video game music file emulators
| package
| libgnutls-devel | Development package for gnutls
| package
| libgnutls-extra-devel | The GNU Transport Layer Security Library
| package
i | libgnutls-extra26 | The GNU Transport Layer Security Library
| package
i | libgnutls26 | The GNU Transport Layer Security Library
| package
| libgps19 | Shared library for GPS applications
| package
| libidmef-devel | C Library for the "Intrusion Detection Message Exchange Format" (IDMEF)
| package
| libmcal | Modular Calendar Access Library
| package
| libmcrypt | Data Encryption Library
| package
| libmcrypt-devel | Development Package for Libmcrypt
| package
| libmemcache-devel | Development files for libmemcache
| package
| libmemcache0 | A client library for memcached
| package
| libmemcached | Libmemcached is a C and C++ client library to the memcached server
| package
```

```
| libmemcached-devel | Libmemcached is a C and C++ client library to the memcached server
| package
| libmemcached2 | Libmemcached is a C and C++ client library to the memcached server
| package
| libmemcachedutil0 | Libmemcached is a C and C++ client library to the memcached server
| package
i | libmission-control-plugins0 | Telepathy Mission Control instant messaging connection manager
| package
| libopenais-devel | The openais Standards-Based Cluster Framework libraries
| package
| libopenais3 | The openais Standards-Based Cluster Framework libraries
| package
| libopensync-plugin-irmc | IrMC Synchronization Plug-In for OpenSync
| package
| libpano-devel | Panorama Tools Back-End Library - files mandatory for development
| package
| libpano-utils | Panorama Tools Front-End Utilities
| package
| libpano13-1 | Panorama Tools Back-End Library
| package
| libpcap-devel | A Library for Network Sniffers
| package
i | libpcap1 | A Library for Network Sniffers
| package
| libpcsclite1 | PCSC Smart Card Library
| package
| libssh-devel | SSH library development headers
| package
| libssh-devel-doc | SSH library api documentation
| package
| libssh4 | SSH library
| package
| libtcnative-1-0 | JNI wrappers for Apache Portable Runtime for Tomcat
| package
```

```
| libtcnative-1-0-devel | JNI wrappers for Apache Portable Runtime for Tomcat
| package
i | libwmf | Library and Utilities for Displaying and Converting Metafile Images
| package
| libwmf-devel | Static libraries, header files and documentation for libwmf
| package
| libwmf-gnome | GNOME plugin for displaying and Converting Metafile Images
i | libx86-1 | x86 real-mode library
| package
| libxmi0 | GNU Plotting Utilities
| package
| lifelines | The Lifelines Genealogy Program
| package
| lighttpd-mod_trigger_b4_dl | Another anti hot-linking module for Lighttpd
| package
| lsvpd | VPD Hardware Inventory Utilities for Linux
| package
| lynx | A Text-Based WWW Browser
| package
| mc | Midnight Commander
| package
| mc-lang | Languages for package mc
| package
| mcal | A Calendar Based on Libmcal
| package
| mcelog | Log Machine Check Events
| srcpackage
| mcelog | mcelog: Remove debug emailtarget
| patch
| mcpp | Matsui's C Preprocessor
| package
| mcrypt | Replacement for the crypt Command
| package
```

```
| mcstrans | SELinux Translation Daemon
| package
| memcached | A high-performance, distributed memory object caching system
| package
| mirror | Perl Scripts for Mirroring FTP Servers
| package
| mpich | A Portable Implementation of MPI
| package
| mpich-devel | A Portable Implementation of MPI
| package
| mtools | Access Files on an MS-DOS File System
| srcpackage
i | mtools | Access Files on an MS-DOS File System
| package
| mtools-doc | Access Files on an MS-DOS File System
| package
| oidentd | Configurable IDENT Server That Supports NAT/IP Masquerading
| package
| openais | The OpenAIS Standards-Based Cluster Framework executive and APIs
| package
| openmcu | H.323 Multipoint Control Unit
| package
i | openssl | An OpenSLP Implementation of Service Location Protocol V2
| package
| openssl-devel | OpenSSL Development SDK
| package
| openssl-server | The OpenSLP Implementation of the Service Location Protocol V2
| package
| openssl-ibmca | The IBMCA OpenSSL dynamic engine
| package
i | orbit2 | High-Performance CORBA Object Request Broker
| package
| orbit2-devel | Include Files and Libraries mandatory for Development
| package
```

```
| orbit2-doc | High-Performance CORBA Object Request Broker
| package
| pcmciautils | Utilities for PC-Cards
| srcpackage
| pcmciautils | Utilities for PC-Cards
| package
| pcmciautils | pcmciautils: Fix segmentation fault in argument handling
| patch
| pcsc-lite | PCSC Smart Cards Library
| package
| pcsc-lite | PCSC Smart Cards Library
| srcpackage
| perl-Algorithm-Diff | Compute 'Intelligent' Differences Between Two Files or Lists
| package
| perl-Cairo | Perl interface to the cairo library
| package
i | perl-Digest-MD4 | RSA MD4 Message Digest Algorithm (Perl Module)
| package
| perl-Glib | Glib Perl module
| package
| perl-Mcrypt | An Autoload-Capable Interface Module for libmcrypt
| package
| perl-PostScript-Simple | a simple method of writing PostScript files from Perl
| package
| perl-Text-Iconv | Perl interface to iconv() codeset conversion function
| package
i | perl-XML-Simple | Easy API to read/write XML (Perl module)
| package
| php5-mcrypt | PHP5 Extension Module
| package
| php5-pear-Crypt_Blowfish | Two-way blowfish encryption without requiring the MCrypt PHP extension
| package
| php5-pear-File_IMC | Create and parse IMC-style files (like vCard and vCalendar)
| package
```

```
| psgml | Emacs Add-On to edit SGML/XML documents
| package
| python-cherrypy | A pythonic, object-oriented web development framework
| package
| python-gpsd | Client libraries in C and Python for talking to a running gpsd or GPS
| package
| python-parsing | Python parsing module
| package
| python-parsing-doc | Documentation for python-parsing
| package
i | sane-backends | SANE (Scanner Access Now Easy) Scanner Drivers
| package
| saxpath | SAXPath is an event-based API for XPath parsers
| package
| sblim-wbemcli | SBLIM WBEM Command Line Interface
| package
| seamonkey | Seamonkey update
| patch
| selinux-policy-refpolicy-mcs | SELinux policy - Tresys MCS Refpolicy
| package
| sgmltool | SGML-Tools - a Text-Formatting Package
| package
| spicctrl | Control LCD Brightness and Bluetooth Power on Sony Vaio Laptops
| package
| struts-webapps-tomcat6 | Sample struts webapps for tomcat6
| package
i | sudo | Execute some commands as root
| package
| syslogd | The Syslog daemon
| package
| tei_4 | TEI 4 DTD (SGML and XML)
| package
i | telepathy-mission-control | Telepathy Mission Control instant messaging connection manager
| package
```

```
| telepathy-mission-control-devel | Telepathy Mission Control instant messaging connection manager
| package
| termcap | The Termcap Library
| package
i | terminfo | A terminal descriptions database
| package
i | terminfo-base | A terminal descriptions database
| package
| texinfo | Tools Needed to Create Documentation from Texinfo Sources
| package
| tomcat6 | Apache Servlet/JSP Engine, RI for Servlet 2.5/JSP 2.1 API
| package
| tomcat6 | Apache Servlet/JSP Engine, RI for Servlet 2.5/JSP 2.1 API
| srcpackage
| tomcat6 | tomcat security update
| patch
| tomcat6-admin-webapps | The host-manager and manager web applications for Apache Tomcat
| package
| tomcat6-docs-webapp | The docs web application for Apache Tomcat
| package
| tomcat6-el-1_0-api | Expression Language v1.0 API
| package
| tomcat6-javadoc | Javadoc generated documentation for Apache Tomcat
| package
| tomcat6-jsp-2_1-api | Apache Tomcat JSP API implementation classes
| package
| tomcat6-lib | Libraries needed to run the Tomcat Web container
| package
| tomcat6-servlet-2_5-api | Apache Tomcat Servlet API implementation classes
| package
| tomcat6-webapps | The ROOT and examples web applications for Apache Tomcat
| package
| tomcat_apparmor | Tomcat 6 plugin for AppArmor change_hat
| package
```

```
| valgrind | Memory Management Debugger
| package
| valgrind | Memory Management Debugger
| srcpackage
| valgrind-devel | Memory Management Debugger
| package
| vim-plugin-diffchanges | Show changes since the last save
| package
| vim-plugin-locateopen | Edit file without entering the whole path
| package
i | wireless-regdb | 802.11 regulatory domain database
| package
| wmctrl | Command line tool to interact with an EWMH/NetWM compatible X Window
Manager | package
i | wodim | Tool for Writing CDRs
| package
| wv | Library and Tools for Importing Microsoft Word (tm) Documents
| package
| wv-devel | Static Libraries and Header Files for wv
| package
| xaw3d | 3D Athena Widgets
| package
| xaw3d-devel | Include Files and Libraries mandatory for Development
| package
| xaw3dd | 3DAthena Widgets as a Replacement for Athena Widgets
| package
| xl2tpd | Layer 2 Tunnelling Protocol Daemon (RFC 2661)
| package
i | xorg-x11 | xorg-x11 security update
| patch
i | xorg-x11 | X.Org core and sample applications
| package
i | xorg-x11-libXdmcp | X.Org Xdmcp library
| package
```

```

| xorg-x11-libXdmcp-devel | Include Files and Libraries mandatory for Development.
| package
| xorg-x11-proto-devel   | Include Files and Libraries mandatory for X11 Development
| package
i | xorg-x11-xauth         | X authority file utility
| package
| yast2-kerberos-server  | YaST2 - Kerberos Server Configuration
| package
| zoo                    | Pack Program
| package

```

Recherchez tout paquet commençant par **kern** :

```

opensuse:~ # zypper search kern*
Loading repository data...
Reading installed packages...

```

S	Name	Summary	Type
	kernel	kernel: security and bugfix update.	patch
	kernel-coverage	Kernel Coverage Imageing, Galaxy Poster	package
	kernel-debug	A Debug Version of the Kernel	package
	kernel-debug	A Debug Version of the Kernel	srcpackage
	kernel-debug-base	A Debug Version of the Kernel - base modules	package
	kernel-debug-devel	Development files necessary for building kernel modules	package
	kernel-default	The Standard Kernel	package
	kernel-default	The Standard Kernel	srcpackage
	kernel-default-base	The Standard Kernel - base modules	package
	kernel-default-devel	Development files necessary for building kernel modules	package
i	kernel-desktop	Kernel optimized for the desktop	package
	kernel-desktop	Kernel optimized for the desktop	srcpackage
	kernel-desktop-base	Kernel optimized for the desktop - base modules	package
i	kernel-desktop-devel	Development files necessary for building kernel modules	package
i	kernel-devel	Development files needed for building kernel modules	package

	kernel-docs	Kernel Documentation	package
	kernel-docs	Kernel Documentation	srcpackage
	kernel-ec2	The Amazon EC2 Xen Kernel	package
	kernel-ec2	The Amazon EC2 Xen Kernel	srcpackage
	kernel-ec2-base	The Amazon EC2 Xen Kernel - base modules	package
	kernel-ec2-devel	Development files necessary for building kernel modules	package
	kernel-ec2-extra	The Amazon EC2 Xen Kernel - Unsupported kernel modules	package
	kernel-firmware	Linux kernel firmware files	package
	kernel-pae	Kernel with PAE Support	package
	kernel-pae	Kernel with PAE Support	srcpackage
	kernel-pae-base	Kernel with PAE Support - base modules	package
	kernel-pae-devel	Development files necessary for building kernel modules	package
i	kernel-source	The Linux Kernel Sources	package
	kernel-source	The Linux Kernel Sources	srcpackage
	kernel-source-vanilla	Vanilla Linux kernel sources with minor build fixes.	package
	kernel-syms	Kernel Symbol Versions (modversions)	package
	kernel-syms	Kernel Symbol Versions (modversions)	srcpackage
	kernel-trace	The Standard Kernel with Tracing Features	package
	kernel-trace	The Standard Kernel with Tracing Features	srcpackage
	kernel-trace-base	The Standard Kernel with Tracing Features - base modules	package
	kernel-trace-devel	Development files necessary for building kernel modules	package
	kernel-vanilla	The Standard Kernel - without any SUSE patches	package
	kernel-vanilla	The Standard Kernel - without any SUSE patches	srcpackage
	kernel-vanilla-base	The Standard Kernel - without any SUSE patches - base modules	package
	kernel-vanilla-devel	Development files necessary for building kernel modules	package
	kernel-vmi	VMI-enabled kernel	package
	kernel-vmi	VMI-enabled kernel	srcpackage
	kernel-vmi-base	VMI-enabled kernel - base modules	package
	kernel-vmi-devel	Development files necessary for building kernel modules	package
	kernel-xen	The Xen Kernel	package
	kernel-xen	The Xen Kernel	srcpackage
	kernel-xen-base	The Xen Kernel - base modules	package
	kernel-xen-devel	Development files necessary for building kernel modules	package
	kerneloops	Tool to collect kernel oopses and submit them to kerneloops.org	package

| kerneloops-applet | Tool to collect kernel oopses and submit them to kerneloops.org | package

Recherchez le paquet qui fournit **mc** :

```
opensuse:~ # zypper what-provides mc
Loading repository data...
Reading installed packages...
S | Name | Type | Version | Arch | Repository
---+-----+-----+-----+-----+-----
 | mc | package | 4.7.5.1-4.6 | i586 | openSUSE-11.4-0ss
 | mc | package | 4.7.5.1-4.6 | i586 | openSUSE-11.4-11.4-0
```

Installez le paquet **mc** :

```
opensuse:~ # zypper install mc
Loading repository data...
Reading installed packages...
Resolving package dependencies...

The following NEW package is going to be installed:
mc

The following package is recommended, but will not be installed:
bundle-lang-common-cs

1 new package to install.
Overall download size: 823.0 KiB. After the operation, additional 2.1 MiB will be used.
Continue? [y/n/?] (y): y
Retrieving package mc-4.7.5.1-4.6.i586 (1/1), 823.0 KiB (2.1 MiB unpacked)
Retrieving: mc-4.7.5.1-4.6.i586.rpm [done (219.1 KiB/s)]
Installing: mc-4.7.5.1-4.6 [done]
Additional rpm output:
Starting SuSEconfig, the SuSE Configuration Tool...
Running module permissions only
```

```

Reading /etc/sysconfig and updating the system...
Executing /sbin/conf.d/SuSEconfig.permissions...
Checking permissions and ownerships - using the permissions files
  /etc/permissions
  /etc/permissions.easy
  /etc/permissions.d/mail-server
  /etc/permissions.d/postfix
  /etc/permissions.local
fscaps support disabled (file_caps missing in /proc/cmdline).
setting /usr/lib/mc/cons.saver to root:root 4755. (wrong permissions 0755)
Finished.

```

<note important> Sous openSUSE, il existe deux approches pour maintenir le système à jour. La première approche est basée sur des patches tandis que la deuxième est basée sur la mise à jour des paquets. Dans le premier cas, des patches sont téléchargés et appliqués aux versions de paquets stables déjà installées. Dans le deuxième cas, des mises à jour des paquets sont téléchargées et installées, remplaçant ainsi les versions de paquets déjà installées. </note>

Pour visualiser la liste des patches disponibles pour les paquets installés, utilisez la commande suivante :

```

opensuse:~ # zypper list-patches
Loading repository data...
Reading installed packages...
The following software management updates will be installed first:

```

Repository	Name	Version	Category	Status
Mises à jour pour openSUSE 11.4	softwaremgmt-201112	11.4-0   5521	recommended	needed

The following updates are also available:

Repository	Name	Version	Category	Status
Mises à jour pour openSUSE 11.4	ImageMagick	11.4-0   5132	recommended	needed
Mises à jour pour openSUSE 11.4	Mesa	11.4-0   4546	recommended	needed

Mises à jour pour openSUSE 11.4 11.4-0	MozillaFirefox	5020	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	MozillaFirefox	5119	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	MozillaFirefox	5208	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	MozillaFirefox	5239	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	MozillaFirefox	5399	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	MozillaFirefox-branding-openSUSE	5512	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	NetworkManager	4632	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	NetworkManager	5373	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	aaa_base	4528	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	aaa_base	4601	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	aisleriot	4964	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	alsa	4880	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	apache2-mod_apparmor	4816	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	apache2-mod_apparmor	4985	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	autofs	5072	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	bind	4634	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	bind	4843	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	bind	5441	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	ca-certificates-mozilla	5084	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	coreutils	4777	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	coreutils	4829	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	coreutils	5176	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	dbus-1	4962	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	desktop-data-openSUSE	4684	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	desktop-translations	4701	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	dhcp	4556	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	dhcp	5081	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	dirmngr	5130	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	empathy	5376	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	enchant	5288	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	finch	5485	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	firefox50-upgrade	4833	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	flash-player	4665	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	flash-player	4716	security	needed

Mises à jour pour openSUSE 11.4 11.4-0	flash-player	4834	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	flash-player	4976	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	flash-player	5068	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	flash-player	5183	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	flash-player	5229	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	flash-player	5420	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	flash-player	5436	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	foomatic-filters	4979	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	freetype2	4915	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	gdk-pixbuf-loader-libopenraw	4724	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	gdk-pixbuf-loader-rsvg	5168	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	gdm	4636	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	ghostscript-devel	4535	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	gimp	4637	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	gimp	4927	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	gimp	5151	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	glib2	4974	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	glibc	4943	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	glibc	5164	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	gnome-bluetooth	4673	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	gnome-packagekit	4854	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	gnome-panel	4835	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	groff	4709	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	hplip	4639	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	hplip	4987	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	iproute2	4923	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	kdelibs4	5258	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	kernel	4932	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	kernel	5359	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	krb5	5303	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	ldapsmb	4939	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libQtWebKit-devel	5129	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libcap	5369	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libdc1394	5249	recommended	needed

Mises à jour pour openSUSE 11.4 11.4-0	libfreebl3	5023	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libfreebl3	5097	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libfreebl3	5398	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libgnomesu	4734	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libgudev-1_0-0	4648	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	libltdl7	4967	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	libmodplug	4614	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libmodplug	5004	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libmysqlclient-devel	4676	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libneon-devel	5241	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	libopenssl-devel	4669	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libopenssl-devel	5178	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libpcap	4674	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	libpciaccess0	5102	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libpng14	4949	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libproxy	5021	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	libreoffice-34	5253	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libslab	4675	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	libsndfile	4900	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libsnp25	4840	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	libsoup-2_4-1	4941	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libwebkit	5341	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	libxcrypt	5049	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	libxml2	4811	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	logrotate	4580	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	man-pages	5032	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	mdadm	4757	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	metacity	5211	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	mozilla-nspr	5022	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	nfs-client	4831	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	ntp	4677	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	opensuse-kvm_en-pdf	5186	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	opie	4812	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	pam	5330	security	needed

Mises à jour pour openSUSE 11.4 11.4-0	perl	5471	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	perl-libwww-perl	4589	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	python-virtualbox	4950	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	rdesktop	4545	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	release-notes-openSUSE	4725	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	rpm	5255	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	rsyslog	5099	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	sudo	5114	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	sysconfig	4827	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	sysconfig	5396	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	sysvinit	4842	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	telnet	4881	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	timezone-2011i	5108	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	timezone-2011j	5153	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	timezone-2011m	5325	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	translation-update	4703	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	udisks	4873	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	unzip	5087	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	xorg-x11-Xvnc	4680	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	xorg-x11-driver-video	4549	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	yast2-core	5028	security	needed
Mises à jour pour openSUSE 11.4 11.4-0	yast2-kerberos-client	5443	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	yast2-network	4773	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	yast2-trans	4700	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	yelp	4533	recommended	needed
Mises à jour pour openSUSE 11.4 11.4-0	zlib	4664	recommended	needed

Pour installer les patches, utilisez la commande suivante :

```
opensuse:~ # zypper patch
Loading repository data...
Reading installed packages...
Resolving package dependencies...
```

```
The following NEW patch is going to be installed:
softwaremgmt-201112
```

```
The following packages are going to be upgraded:
```

```
PackageKit PackageKit-browser-plugin PackageKit-gstreamer-plugin PackageKit-gtk-module libpackagekit-glib2-14
libzypp
```

```
6 packages to upgrade.
```

```
Overall download size: 2.6 MiB. No additional space will be used or freed after the operation.
```

```
Continue? [y/n/?] (y): y
```

<note important> Notez que les patches proposés sont ceux pour le système de gestion de paquets. Ces paquets doivent être patchés avant de pouvoir appliquer les patches aux autres paquets. Veuillez donc à répondre **y** à la question **Continue? [y/n/?] (y)**: de façon à pouvoir poursuivre le cours.  
</note>

Pour appliquer les autres patches, utilisez de nouveau la commande **zypper patch** :

```
opensuse:~ # zypper patch
```

```
Loading repository data...
```

```
Reading installed packages...
```

```
Resolving package dependencies...
```

```
The following NEW packages are going to be installed:
```

```
obexd-client perl-File-Tail perl-I0-Socket-INET6 perl-I0-Socket-SSL perl-Net-LibIDN perl-Net-SSLLeay perl-
Socket6
```

```
The following NEW patches are going to be installed:
```

```
ImageMagick Mesa MozillaFirefox MozillaFirefox-branding-openSUSE NetworkManager aaa_base aisleriot alsa
apache2-mod_apparmor autofs bind
```

```
ca-certificates-mozilla coreutils dbus-1 desktop-data-openSUSE desktop-translations dhcp dirmngr empathy
enchant finch firefox50-upgrade flash-player
```

```
foomatic-filters freetype2 gdk-pixbuf-loader-libopenraw gdk-pixbuf-loader-rsvg gdm ghostscript-devel gimp glib2
glibc gnome-bluetooth gnome-packagekit
```

```
gnome-panel groff hplip iproute2 kdelibs4 kernel krb5 ldapsmb libQtWebKit-devel libcap libdc1394 libfreebl3
```

```
libgnomesu libgudev-1_0-0 libltdl7 libmodplug  
libmysqlclient-devel libneon-devel libopenssl-devel libpcap libpciaccess0 libpng14 libproxy libreoffice-34  
libslab libsndfile libsnmp25 libsoup-2_4-1  
libwebkit libxcrypt libxml2 logrotate man-pages mdadm metacity mozilla-nspr nfs-client ntp opensuse-kvm_en-pdf  
opie pam perl perl-libwww-perl  
python-virtualbox rdesktop release-notes-openSUSE rpm rsyslog sudo sysconfig sysvinit telnet timezone-2011i  
timezone-2011j timezone-2011m  
translation-update udisks unzip xorg-x11-Xvnc xorg-x11-driver-video yast2-core yast2-kerberos-client yast2-  
network yast2-trans yelp zlib
```

The following packages are going to be REMOVED:

```
libreoffice-components libreoffice-filters libreoffice-l10n-extras libreoffice-libs-core libreoffice-libs-  
extern libreoffice-libs-gui libreoffice-ure
```

The following packages are going to be upgraded:

```
ImageMagick Mesa MozillaFirefox MozillaFirefox-branding-openSUSE MozillaFirefox-translations-common  
NetworkManager NetworkManager-glib  
NetworkManager-gnome aaa_base aaa_base-extras aisleriot also apparmor-docs apparmor-parser apparmor-profiles  
apparmor-utils autofs bind-libs bind-utils  
ca-certificates-mozilla coreutils dbus-1 desktop-data-openSUSE desktop-translations dhcp dhcp-client dirmngr  
empathy flash-player foomatic-filters  
gdk-pixbuf-loader-libopenraw gdk-pixbuf-loader-rsvg gdm ghostscript-fonts-other ghostscript-fonts-std  
ghostscript-library ghostscript-x11 gimp  
gimp-help-browser gimp-plugins-python glchess glib2-tools glibc glibc-devel glibc-locale gnome-applets-gdm  
gnome-bluetooth gnome-bluetooth-plugins-geoclue  
gnome-games-recommended gnome-games-support gnome-packagekit gnome-panel gnome-panel-bonobo-support gnome-  
sudoku gnomine groff hplip hplip-hpijs iagno  
iproute2 kernel-desktop kernel-desktop-devel kernel-devel kernel-source krb5 libMagick++4 libMagickCore4  
libMagickWand4 libQtWebKit4 libapparmor1  
libasound2 libcap2 libdc1394-22 libenchant1 libfreebl3 libfreetype6 libgimp-2_0-0 libgimpprint libgimpui-2_0-0  
libgio-2_0-0 libgio-fam libglib-2_0-0  
libgmodule-2_0-0 libgnome-bluetooth8 libgnomesu libgnomesu0 libgobject-2_0-0 libgthread-2_0-0 libgudev-1_0-0  
libkde4 libkdecore4 libksuseinstall1 libldb0  
libltdl7 libmodplug0 libmysqlclient_r16 libneon27 libopenraw1 libopenssl1_0_0 libpanel-applet-2-0 libpanel-
```

```
applet-3-0 libpcap1 libpciaccess0 libpng14-14
  libproxy1 libproxy1-config-gnome libproxy1-config-kde4 libproxy1-networkmanager libproxy1-pacrunner-mozjs
libpurple libpurple-tcl libqt4 libqt4-qt3support
  libqt4-sql libqt4-sql-mysql libqt4-x11 libreoffice libreoffice-base libreoffice-base-extensions libreoffice-
calc libreoffice-calc-extensions
  libreoffice-converter libreoffice-draw libreoffice-draw-extensions libreoffice-filters-optional libreoffice-
gnome libreoffice-help-en-US
  libreoffice-help-fr libreoffice-icon-theme-galaxy libreoffice-icon-theme-hicontrast libreoffice-icon-theme-
tango libreoffice-impress
  libreoffice-impress-extensions libreoffice-l10n-fr libreoffice-mailmerge libreoffice-math libreoffice-pyuno
libreoffice-writer
  libreoffice-writer-extensions librsvg-2-2 libslab0 libsmbclient0 libsndfile libsnmp25 libsoftoken3 libsoup-2_4-1
libtalloc2 libtdb1 libtevent0 libudev0
  libwbclient0 libwebkitgtk-1_0-0 libxcrypt libxml2 lightsoff logrotate mahjongg man-pages mdadm metacity
mozilla-nspr mozilla-nss mozilla-nss-certs
  nautilus-sendto-plugin-empathy nfs-client ntp openssl opensuse-manuals_en pam pam_apparmor perl perl-apparmor
perl-base perl-libwww-perl permissions
  preload-kmp-desktop python-libproxy quadrapassel rdesktop release-notes-openSUSE rpm rsyslog samba samba-client
snmp-mibs sudo swell-foop sysconfig
  sysvinit sysvinit-tools telnet timezone timezone-java translation-update translation-update-fr udev udisks
unzip virtualbox-guest-kmp-desktop
  virtualbox-guest-tools virtualbox-guest-x11 wpa_supplicant xorg-x11-Xvnc xorg-x11-driver-video xorg-x11-libs
xorg-x11-server xorg-x11-server-extra
  yast2-core yast2-kerberos-client yast2-ldap-client yast2-network yast2-trans-fr yelp zlib
```

The following packages are going to change architecture:

```
apparmor-docs      i586 -> noarch
apparmor-profiles  i586 -> noarch
```

214 packages to upgrade, 7 new, 7 to remove, 2 to change arch.

Overall download size: 403.6 MiB. After the operation, additional 48.7 MiB will be used.

Continue? [y/n/?] (y): n

<note important> Veuillez à répondre **n** à la question **Continue? [y/n/?] (y)**: de façon à pouvoir poursuivre le cours. </note>

Pour visualiser la disponibilité des mises à jour, utilisez la commande suivante :

```

opensuse:~ # zypper list-updates
Loading repository data...
Reading installed packages...
S | Repository                               | Name                               | Current Version                     |
Available Version           | Arch                               |                                     |
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
v | Mises à jour pour openSUSE 11.4 11.4-0 | ImageMagick                         | 6.6.5.8-7.3                         |
6.6.5.8-8.9.1               | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | Mesa                                | 7.10-3.3                             |
7.10.2-7.3.1               | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | MozillaFirefox                     | 4.0.1-0.2.2                         |
8.0-0.2.2                  | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | MozillaFirefox-branding-openSUSE   | 4.0-4.1                              |
5.0-2.7.1                  | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | MozillaFirefox-translations-common | 4.0.1-0.2.2                         |
8.0-0.2.2                  | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | NetworkManager                     | 0.8.2-15.22.1                       |
0.8.2-15.28.1              | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | NetworkManager-glib                | 0.8.2-15.22.1                       |
0.8.2-15.28.1              | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | NetworkManager-gnome               | 0.8.2-9.10.1                        |
0.8.2-9.12.1               | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | PackageKit                          | 0.6.14-0.2.1                        |
0.6.14-0.8.1               | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | PackageKit-browser-plugin          | 0.6.14-0.2.1                        |
0.6.14-0.8.1               | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | PackageKit-gstreamer-plugin        | 0.6.14-0.2.1                        |
0.6.14-0.8.1               | i586                               |                                     |
v | Mises à jour pour openSUSE 11.4 11.4-0 | PackageKit-gtk-module              | 0.6.14-0.2.1                        |

```

0.6.14-0.8.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	aaa_base		11.4-54.64.1	
11.4-54.68.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	aaa_base-extras		11.4-54.64.1	
11.4-54.68.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	aisleriot		2.32.1-10.1	
2.32.1-11.12.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	alsa		1.0.24.1-4.7.1	
1.0.24.1-4.9.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	apparmor-docs		2.5.1.r1445-52.55.1	
2.5.1.r1445-52.63.1	noarch				
v   Mises à jour pour openSUSE 11.4	11.4-0	apparmor-parser		2.5.1.r1445-52.55.1	
2.5.1.r1445-52.63.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	apparmor-profiles		2.5.1.r1445-52.55.1	
2.5.1.r1445-52.63.1	noarch				
v   Mises à jour pour openSUSE 11.4	11.4-0	apparmor-utils		2.5.1.r1445-52.55.1	
2.5.1.r1445-52.63.1	noarch				
v   Mises à jour pour openSUSE 11.4	11.4-0	autofs		5.0.5-14.17.1	
5.0.5-14.19.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	bind-libs		9.7.3-1.2.1	
9.7.4P1-0.2.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	bind-utils		9.7.3-1.2.1	
9.7.4P1-0.2.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	ca-certificates-mozilla		1.70-3.1	
1.76-1.3.1	noarch				
v   Mises à jour pour openSUSE 11.4	11.4-0	coreutils		8.9-4.1	
8.9-11.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	cron		4.2-9.19.1	
4.2-9.23.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	cronie		1.4.7-9.19.1	
1.4.7-9.23.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	dbus-1		1.4.1-6.1	
1.4.1-7.8.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	desktop-data-openSUSE		11.4-13.16.1	

11.4-13.18.1	noarch				
v   Mises à jour pour openSUSE 11.4	11.4-0	desktop-translations		11.4-8.15.1	
11.4-8.17.1	noarch				
v   Mises à jour pour openSUSE 11.4	11.4-0	dhcp		4.2.1-0.5.1	
4.2.1-0.9.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	dhcp-client		4.2.1-0.5.1	
4.2.1-0.9.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	dirmngr		1.1.0-4.1	
1.1.0-5.6.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	empathy		2.32.2-6.4	
2.32.2-7.10.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	flash-player		10.3.181.14-0.2.1	
11.1.102.55-0.6.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	foomatic-filters		4.0.6-6.1	
4.0.6-7.8.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	gdk-pixbuf-loader-libopenraw		0.0.8-10.1	
0.0.8-11.12.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	gdk-pixbuf-loader-rsvg		2.32.1-2.1	
2.32.1-3.4.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	gdm		2.32.0-9.14.1	
2.32.0-9.16.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	ghostscript-fonts-other		9.00-4.8.1	
9.00-4.10.1	noarch				
v   Mises à jour pour openSUSE 11.4	11.4-0	ghostscript-fonts-std		9.00-4.8.1	
9.00-4.10.1	noarch				
v   Mises à jour pour openSUSE 11.4	11.4-0	ghostscript-library		9.00-4.8.1	
9.00-4.10.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	ghostscript-x11		9.00-4.8.1	
9.00-4.10.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	gimp		2.6.11-12.3	
2.6.11-13.18.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	gimp-help-browser		2.6.11-12.3	
2.6.11-13.18.1	i586				
v   Mises à jour pour openSUSE 11.4	11.4-0	gimp-plugins-python		2.6.11-12.3	

2.6.11-13.18.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	glchess		2.32.1-10.1		
2.32.1-11.12.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	glib2-tools		2.28.0-3.6.1		
2.28.0-3.8.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	glibc		2.11.3-12.15.1		
2.11.3-12.19.1	i686				
v   Mises à jour pour openSUSE 11.4 11.4-0	glibc-devel		2.11.3-12.15.1		
2.11.3-12.19.1	i686				
v   Mises à jour pour openSUSE 11.4 11.4-0	glibc-locale		2.11.3-12.15.1		
2.11.3-12.19.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-applets-gdm		2.32.0-9.14.1		
2.32.0-9.16.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-bluetooth		2.32.0-4.1		
2.32.0-5.6.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-bluetooth-plugins-geoclue		2.32.0-4.1		
2.32.0-5.6.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-games-recommended		2.32.1-10.1		
2.32.1-11.12.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-games-support		2.32.1-10.1		
2.32.1-11.12.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-packagekit		2.32.0-6.1		
2.32.0-7.8.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-panel		2.32.1-7.10.5		
2.32.1-7.12.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-panel-bonobo-support		2.32.1-7.10.5		
2.32.1-7.12.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnome-sudoku		2.32.1-10.1		
2.32.1-11.12.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	gnomine		2.32.1-10.1		
2.32.1-11.12.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	groff		1.20.1-2.2		
1.20.1-3.4.1	i586				
v   Mises à jour pour openSUSE 11.4 11.4-0	hplip		3.11.1-6.1		

```
3.11.5-1.5.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | hplip-hpijs | 3.11.1-6.1 |
3.11.5-1.5.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | iagno | 2.32.1-10.1 |
2.32.1-11.12.1 | i586
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v | Mises à jour pour openSUSE 11.4 11.4-0 | kernel-desktop | 2.6.37.6-0.5.1 |
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2.6.37.6-0.9.1 | noarch
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6.6.5.8-8.9.1 | i586
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6.6.5.8-8.9.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | libQtWebKit4 | 4.7.1-7.1 |
4.7.1-8.15.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | libapparmor1 | 2.5.1.r1445-52.55.1 |
2.5.1.r1445-52.61.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | libasound2 | 1.0.24.1-4.7.1 |
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v | Mises à jour pour openSUSE 11.4 11.4-0 | libenchant1 | 1.6.0-7.1 |
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v | Mises à jour pour openSUSE 11.4 11.4-0 | libgio-fam | 2.28.0-3.6.1 |
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v | Mises à jour pour openSUSE 11.4 11.4-0 | libglib-2_0-0 | 2.28.0-3.6.1 |
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2.32.0-5.6.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | libgnomesu | 1.0.0-329.332.1 |
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v | Mises à jour pour openSUSE 11.4 11.4-0 | libgnomesu0 | 1.0.0-329.332.1 |
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v | Mises à jour pour openSUSE 11.4 11.4-0 | libgthread-2_0-0 | 2.28.0-3.6.1 |
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v | Mises à jour pour openSUSE 11.4 11.4-0 | libkdecore4 | 4.6.0-6.15.1 |
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11.4-1.9	i586				
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2.88-37.47.1 | i586
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1.2-150.153.1 | i586
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2011m-0.2.1 | i586
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v | Mises à jour pour openSUSE 11.4 11.4-0 | udisks | 1.0.2-3.4.1 |
1.0.2-3.6.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | unzip | 6.00-5.2 |
6.00-6.7.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | virtualbox-guest-kmp-desktop | 4.0.4_k2.6.37.1_1.2-1.6.1 |
4.0.12_k2.6.37.6_0.7-0.2.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | virtualbox-guest-tools | 4.0.4-1.6.1 |
4.0.12-0.2.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | virtualbox-guest-x11 | 4.0.4-1.6.1 |
4.0.12-0.2.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | wpa_supplicant | 0.7.3-2.1 |
0.7.3-3.4.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | xorg-x11-Xvnc | 7.6_1.9.3-15.20.1 |
7.6_1.9.3-15.24.2 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | xorg-x11-driver-video | 7.6-53.56.1 |
```

```
7.6-53.58.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | xorg-x11-libs | 7.6-16.1 |
7.6-17.18.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | xorg-x11-server | 7.6_1.9.3-15.18.4 |
7.6_1.9.3-15.24.2 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | xorg-x11-server-extra | 7.6_1.9.3-15.18.4 |
7.6_1.9.3-15.24.2 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | yast2-core | 2.20.0-3.3 |
2.20.1-0.3.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | yast2-kerberos-client | 2.20.3-3.1 |
2.20.4-0.3.1 | noarch
v | Mises à jour pour openSUSE 11.4 11.4-0 | yast2-ldap-client | 2.20.14.1-0.3.1 |
2.20.14.2-0.2.1 | noarch
v | Mises à jour pour openSUSE 11.4 11.4-0 | yast2-network | 2.20.10-3.1 |
2.20.12-0.3.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | yast2-trans-fr | 2.19.0-31.36.1 |
2.19.0-31.38.1 | noarch
v | Mises à jour pour openSUSE 11.4 11.4-0 | yelp | 2.30.2-9.12.1 |
2.30.2-9.14.1 | i586
v | Mises à jour pour openSUSE 11.4 11.4-0 | zlib | 1.2.5-8.1 |
1.2.5-9.10.1 | i586
```

Pour appliquer la seule mise à jour de cron, utilisez la commande suivante :

```
opensuse:~ # zypper update cron
Loading repository data...
Reading installed packages...
Resolving package dependencies...

The following packages are going to be upgraded:
  cron cronie

2 packages to upgrade.
Overall download size: 94.0 KiB. No additional space will be used or freed
```

```
after the operation.  
Continue? [y/n/?] (y): y
```

Pour mettre à jour tous les paquets, utilisez la commande suivante :

```
opensuse:~ # zypper update  
Loading repository data...  
Reading installed packages...
```

The following NEW packages are going to be installed:

```
obexd-client perl-File-Tail perl-IO-Socket-INET6 perl-IO-Socket-SSL perl-Net-LibIDN perl-Net-SSLeay perl-  
Socket6
```

The following packages are going to be REMOVED:

```
libreoffice-components libreoffice-filters libreoffice-l10n-extras libreoffice-libs-core libreoffice-libs-  
extern libreoffice-libs-gui libreoffice-ure
```

The following packages are going to be upgraded:

```
ImageMagick Mesa MozillaFirefox MozillaFirefox-branding-openSUSE MozillaFirefox-translations-common  
NetworkManager NetworkManager-glib  
NetworkManager-gnome PackageKit PackageKit-browser-plugin PackageKit-gstreamer-plugin PackageKit-gtk-module  
aaa_base aaa_base-extras aisleriot alsa  
apparmor-docs apparmor-parser apparmor-profiles apparmor-utils autofs bind-libs bind-utils ca-certificates-  
mozilla coreutils dbus-1 desktop-data-openSUSE  
desktop-translations dhcp dhcp-client dirmngr empathy flash-player foomatic-filters gdk-pixbuf-loader-  
libopenraw gdk-pixbuf-loader-rsvg gdm  
ghostscript-fonts-other ghostscript-fonts-std ghostscript-library ghostscript-x11 gimp gimp-help-browser gimp-  
plugins-python glchess glib2-tools glibc  
glibc-devel glibc-locale gnome-applets-gdm gnome-bluetooth gnome-bluetooth-plugins-geoclue gnome-games-  
recommended gnome-games-support gnome-packagekit  
gnome-panel gnome-panel-bonobo-support gnome-sudoku gnomine groff hplip hplip-hpijs iagno iproute2 kernel-  
desktop kernel-desktop-devel kernel-devel  
kernel-source krb5 libMagick++4 libMagickCore4 libMagickWand4 libQtWebKit4 libapparmor1 libasound2 libcap2  
libdc1394-22 libenchant1 libfreebl3
```

```
libfreetype6 libgimp-2_0-0 libgimpprint libgimpui-2_0-0 libgio-2_0-0 libgio-fam libglib-2_0-0 libgmodule-2_0-0
libgnome-bluetooth8 libgnomesu libgnomesu0
libgobject-2_0-0 libgthread-2_0-0 libgudev-1_0-0 libkde4 libkdecore4 libksuseinstall1 libldb0 libltdl7
libmodplug0 libmysqlclient_r16 libneon27
libopenraw1 libopenssl1_0_0 libpackagekit-glib2-14 libpanel-applet-2-0 libpanel-applet-3-0 libpcap1
libpciaccess0 libpng14-14 libproxy1
libproxy1-config-gnome libproxy1-config-kde4 libproxy1-networkmanager libproxy1-pacrunner-mozjs libpurple
libpurple-tcl libqt4 libqt4-qt3support
libqt4-sql libqt4-sql-mysql libqt4-x11 libreoffice libreoffice-base libreoffice-base-extensions libreoffice-
calc libreoffice-calc-extensions
libreoffice-converter libreoffice-draw libreoffice-draw-extensions libreoffice-filters-optional libreoffice-
gnome libreoffice-help-en-US
libreoffice-help-fr libreoffice-icon-theme-galaxy libreoffice-icon-theme-hicontrast libreoffice-icon-theme-
tango libreoffice-impress
libreoffice-impress-extensions libreoffice-l10n-fr libreoffice-mailmerge libreoffice-math libreoffice-pyuno
libreoffice-writer
libreoffice-writer-extensions librsvg-2-2 libslab0 libsmbclient0 libsndfile libsnmp25 libsoftoken3 libsoup-2_4-1
libtalloc2 libtdb1 libtevent0 libudev0
libwbclient0 libwebkitgtk-1_0-0 libxcrypt libxml2 libzypp lightsoff logrotate mahjongg man-pages mdadm metacity
mozilla-nspr mozilla-nss mozilla-nss-certs
nautilus-sendto-plugin-empathy nfs-client ntp openSUSE-release openssl opensuse-manuals_en pam pam-modules
pam_apparmor perl perl-apparmor perl-base
perl-libwww-perl permissions preload-kmp-desktop pwdutils python-libproxy quadrapassel rdesktop release-notes-
openSUSE rpm rsyslog samba samba-client
snmp-mibs sudo swell-foop sysconfig sysvinit sysvinit-tools telnet timezone timezone-java translation-update
translation-update-fr udev udisks unzip
virtualbox-guest-kmp-desktop virtualbox-guest-tools virtualbox-guest-x11 wpa_supplicant xorg-x11-Xvnc xorg-x11-
driver-video xorg-x11-libs xorg-x11-server
xorg-x11-server-extra yast2-core yast2-kerberos-client yast2-ldap-client yast2-network yast2-trans-fr yelp zlib
```

The following product is going to be reinstalled:

openSUSE 11.4

The following packages are going to change architecture:

```
apparmor-docs      i586 -> noarch
apparmor-profiles  i586 -> noarch
```

```
223 packages to upgrade, 7 new, 7 to remove, 2 to change arch.
Overall download size: 406.6 MiB. After the operation, additional 48.7 MiB will be used.
Continue? [y/n/?] (y): y
```

<note> Mettez à jour votre système par la méthode de mise à jour des paquets en répondant **y**. Pendant le processus, consultez le manuel de zypper pour vous renseigner sur les autres commandes et options. </note>

## Les Bibliothèques Partagées

### Présentation

#### Introduction

Les bibliothèques partagées sont des fonctions communes à plusieurs programmes différents d'un même **domaine** (son, base de données, vidéo etc.). Les fonctions proposées par une ou plusieurs bibliothèques forment un **API** (*Application Programming Interface*). Sous Linux les bibliothèques se nomment **Shared Objects** et portent le suffixe **.so**.

#### Stockage

Les bibliothèques partagées sont stockées par convention dans des répertoires **lib**, par exemple :

Répertoire	Contenu
/lib	Bibliothèques du système de base
/usr/lib	Bibliothèques utilisateurs
/usr/local/lib	Bibliothèques locales

Répertoire	Contenu
/usr/X11R6/lib	Bibliothèques de l'environnement X
/opt/kde4/lib	Bibliothèques de KDE

<note important> La bibliothèque la plus importante est **libc**. Sans elle, le système Linux ne peut pas fonctionner. </note>

## ld-linux.so.2

La bibliothèque **ld-linux.so.2** est utilisée par le système pour créer un lien avec une bibliothèque partagée au moment de l'exécution d'un programme et s'appelle le **chargeur de liens**. Ce dernier recherche des bibliothèques partagées dans un ordre précis :

- dans les chemins précisés par la variable système **LD\_LIBRARY\_PATH**,
- dans les chemins précisés dans le contenu compilé du fichier **/etc/ld.so.cache**,
- dans **/lib** et **/usr/lib**.

Il est à noter que le contenu du cache **ld.so.cache** est construit à partir des informations contenus dans le fichier de configuration **/etc/ld.so.conf**.

Afin d'étudier les bibliothèques liées à une application, nous allons d'abord installer l'application **mc**, un explorateur de fichiers en mode console :

```
opensuse:~ # zypper install mc
Retrieving repository 'Mises à jour pour openSUSE 11.4 11.4-0' metadata [done]
Building repository 'Mises à jour pour openSUSE 11.4 11.4-0' cache [done]
Retrieving repository 'google-chrome' metadata [done]
Building repository 'google-chrome' cache [done]
Loading repository data...
Reading installed packages...
Resolving package dependencies...
```

The following NEW package is going to be installed:

mc

The following package is recommended, but will not be installed:

mc-lang

```
1 new package to install.
Overall download size: 855.0 KiB. After the operation, additional 2.2 MiB will
be used.
Continue? [y/n/?] (y): y
Retrieving package mc-4.7.5.1-6.2.i586 (1/1), 855.0 KiB (2.2 MiB unpacked)
Retrieving: mc-4.7.5.1-6.2.i586.rpm [done (58.3 KiB/s)]
Installing: mc-4.7.5.1-6.2 [done]
Additional rpm output:
Starting SuSEconfig, the SuSE Configuration Tool...
Running module permissions only
Reading /etc/sysconfig and updating the system...
Executing /sbin/conf.d/SuSEconfig.permissions...
Checking permissions and ownerships - using the permissions files
    /etc/permissions
    /etc/permissions.easy
    /etc/permissions.d/mail-server
    /etc/permissions.d/postfix
    /etc/permissions.local
fscaps support disabled (file_caps missing in /proc/cmdline).
setting /usr/lib/mc/cons.saver to root:root 4755. (wrong permissions 0755)
Finished.
```

## La Commande ldd

Pour déterminer quelles sont les bibliothèques liées à une application, il convient d'utiliser la commande **ldd** :

```
opensuse:~ # ldd /usr/bin/mc
linux-gate.so.1 => (0xffffe000)
libslang.so.2 => /usr/lib/libslang.so.2 (0xb7773000)
libgpm.so.2 => /usr/lib/libgpm.so.2 (0xb776c000)
libgmodule-2.0.so.0 => /lib/libgmodule-2.0.so.0 (0xb7767000)
libglib-2.0.so.0 => /lib/libglib-2.0.so.0 (0xb7672000)
libpthread.so.0 => /lib/libpthread.so.0 (0xb7656000)
```

```
libc.so.6 => /lib/libc.so.6 (0xb74e9000)
libdl.so.2 => /lib/libdl.so.2 (0xb74e4000)
libm.so.6 => /lib/libm.so.6 (0xb74ba000)
/lib/ld-linux.so.2 (0xb78a1000)
libpcre.so.0 => /lib/libpcre.so.0 (0xb7483000)
librt.so.1 => /lib/librt.so.1 (0xb7478000)
```

Afin de comprendre ce qui se passe dans le cas où une bibliothèque est manquante, renommez la bibliothèque **/usr/lib/libslang.so.2** en **/usr/lib/libslang.so.2.old** :

```
opensuse:~ # mv /usr/lib/libslang.so.2 /usr/lib/libslang.so.2.old
```

Exécutez de nouveau la commande ldd. Vous obtiendrez un résultat similaire à celui-ci :

```
opensuse:~ # ldd /usr/bin/mc
linux-gate.so.1 => (0xffffe000)
libslang.so.2 => not found
libgpm.so.2 => /usr/lib/libgpm.so.2 (0xb7713000)
libgmodule-2.0.so.0 => /lib/libgmodule-2.0.so.0 (0xb770e000)
libglib-2.0.so.0 => /lib/libglib-2.0.so.0 (0xb7619000)
libpthread.so.0 => /lib/libpthread.so.0 (0xb75fd000)
libc.so.6 => /lib/libc.so.6 (0xb7490000)
libm.so.6 => /lib/libm.so.6 (0xb7466000)
libdl.so.2 => /lib/libdl.so.2 (0xb7461000)
libpcre.so.0 => /lib/libpcre.so.0 (0xb742a000)
librt.so.1 => /lib/librt.so.1 (0xb7420000)
/lib/ld-linux.so.2 (0xb772e000)
```

Notez la présence de la ligne **libslang.so.2 ⇒ not found**. Compte tenu de la bibliothèque partagée manquante, le programme **mc** ne peut plus être lancé :

```
opensuse:~ # mc
mc: error while loading shared libraries: libslang.so.2: cannot open shared object file: No such file or
```

## directory

Renommez la bibliothèque correctement et vérifiez la résolution de l'erreur précédente avec la commande ldd :

```
opensuse:~ # mv /usr/lib/libslang.so.2.old /usr/lib/libslang.so.2
opensuse:~ # ldd /usr/bin/mc
linux-gate.so.1 => (0xffffe000)
libslang.so.2 => /usr/lib/libslang.so.2 (0xb7789000)
libgpm.so.2 => /usr/lib/libgpm.so.2 (0xb7782000)
libgmodule-2.0.so.0 => /lib/libgmodule-2.0.so.0 (0xb777d000)
libglib-2.0.so.0 => /lib/libglib-2.0.so.0 (0xb7688000)
libpthread.so.0 => /lib/libpthread.so.0 (0xb766c000)
libc.so.6 => /lib/libc.so.6 (0xb74ff000)
libdl.so.2 => /lib/libdl.so.2 (0xb74fa000)
libm.so.6 => /lib/libm.so.6 (0xb74d0000)
/lib/ld-linux.so.2 (0xb78b7000)
libpcre.so.0 => /lib/libpcre.so.0 (0xb7499000)
librt.so.1 => /lib/librt.so.1 (0xb748e000)
```

## Le fichier /etc/ld.so.conf

Le fichier **/etc/ld.so.conf** est utilisé pour configurer le cache **/etc/ld.so.cache** :

```
opensuse:~ # cat /etc/ld.so.conf
/usr/X11R6/lib/Xaw3d
/usr/X11R6/lib
/usr/lib/Xaw3d
/usr/i386-suse-linux/lib
/usr/local/lib
/opt/kde3/lib
include /etc/ld.so.conf.d/*.conf
```

Dans ce cas, le fichier contient des chemins ainsi qu'une directive **include** qui renvoie vers le contenu du répertoire **/etc/ld.so.conf.d/** :

## La Commande **ldconfig**

La commande **ldconfig** est utilisée pour :

- mettre à jour le cache pour les chemins inclus dans le fichier **/etc/ld.so.conf** ainsi que pour les répertoires **/lib** et **/usr/lib**. L'option **-N** de la commande **ldconfig** empêche la mise à jour des chemins dans le fichier,
- mettre à jour les liens symboliques sur les bibliothèques. L'option **-X** de la commande **ldconfig** empêche la mise à jour des liens symboliques.

Les liens symboliques sont utilisés pour gérer les versions de bibliothèques.

La commande **ldconfig** peut être utilisée avec l'option **-p** pour visualiser le contenu du cache :

```
opensuse:~ # ldconfig -p | more
961 libs found in cache `/etc/ld.so.cache'
  libzypp.so.810 (libc6) => /usr/lib/libzypp.so.810
  libzio.so.0 (libc6) => /usr/lib/libzio.so.0
  libz.so.1 (libc6) => /lib/libz.so.1
  liby2util.so.4 (libc6) => /usr/lib/liby2util.so.4
  liby2.so.2 (libc6) => /usr/lib/liby2.so.2
  libyui.so.3 (libc6) => /usr/lib/libyui.so.3
  libycpvalues.so.3 (libc6) => /usr/lib/libycpvalues.so.3
  libycp.so.3 (libc6) => /usr/lib/libycp.so.3
  libx86emu.so.1 (libc6) => /usr/lib/libx86emu.so.1
  libx86.so.1 (libc6) => /usr/lib/libx86.so.1
  libxtables.so.5 (libc6) => /usr/lib/libxtables.so.5
  libxslt.so.1 (libc6) => /usr/lib/libxslt.so.1
  libxrxnest.so (libc6) => /usr/lib/libxrxnest.so
  libxrx.so (libc6) => /usr/lib/libxrx.so
  libxml2.so.2 (libc6) => /usr/lib/libxml2.so.2
  libxklavier.so.16 (libc6) => /usr/lib/libxklavier.so.16
  libxkbui.so.1 (libc6) => /usr/lib/libxkbui.so.1
```

```
libxkbfile.so.1 (libc6) => /usr/lib/libxkbfile.so.1
libxcrypt.so.2 (libc6) => /lib/libxcrypt.so.2
libxcb.so.1 (libc6) => /usr/lib/libxcb.so.1
libxcb-xvmc.so.0 (libc6) => /usr/lib/libxcb-xvmc.so.0
libxcb-xv.so.0 (libc6) => /usr/lib/libxcb-xv.so.0
--More--
```

Pour ajouter des bibliothèques partagées, il convient de :

- créer un fichier dans le répertoire **/etc/ld.so.conf.d/** et d'y inscrire le ou les chemins vers le lieu de stockage des bibliothèques partagées à ajouter,
- exécuter la commande **ldconfig -v**, où v implique verbose, afin de reconstruire le cache.

~~DISCUSSION:off~~

## Donner votre Avis

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