



Installing Applications

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Overview

- ❑ Two technologies
 - Packages
 - Ports
- ❑ Packages
 - contains **pre-compiled** copies of all the commands for the application, as well as any configuration files or documentation
- ❑ Ports
 - a collection of files designed to automate the process of **compiling** an application from **source code**
- ❑ Both packages and ports understand *dependencies*

Overview

❑ Package benefits

- tarball is typically smaller
- Packages do not require any additional compilation

❑ Ports benefits

- you can tweak the compilation options to generate code that is **specific** to a different processor
- Some applications have compile time options relating to what they can and cannot do

Package System

❑ pkg_add(1)

- `pkg_add pkg_name`
pkg_add lsof-4.56.4.tgz
- `pkg_add -r pkg_name`
 - If you don't have a source of local packages
 - If you are using FreeBSD-CURRENT or FreeBSD-STABLE, `pkg_add` will download the latest version of your application
 - If your are using FreeBSD-RELEASE, it will grab the version of the package that was built with your release
 - **PACKAGESITE** environment variable

Managing Packages

❑ pkg_info(1)

```
sabsd[~] -chiahung- pkg_info
afterstep-2.2.2      A stable version of the AfterStep window manager
apr-db42-1.2.7_1    The Apache Group's Portability Library
atk-1.12.3          A GNOME accessibility toolkit (ATK)
autoconf-2.59_2     Automatically configure source code on many Un*x platforms
automake-1.9.6       GNU Standards-compliant Makefile generator (1.9)
bash-3.1.17         The GNU Project's Bourne Again SHell
bison-1.75_2,1      A parser generator from FSF, (mostly) compatible with Yacc
```

❑ pkg_version(1)

```
csduty[~] -chiahung- pkg_version
ImageMagick          <
ORBit2               =
OpenEXR              =
Term-ReadPassword    =
a2ps-a4              =
aalib                =
acroreadwrapper      =
adobe-cmaps          =
```

❑ pkg_delete(1)

pkg_delete xchat-1.7.1

Ports system

- ☐ Find your application
 - `cd /usr/ports`
 - `make search name=program name`
 - `make search key=string`
- ☐ change to the directory for the port you want to install
- ☐ Type “make install clean” to install your application
 - `make`
 - `make install`
 - `make clean`

Ports system

- ❑ When you type “make”, the ports system uses fetch(1) to download the files
 - **MASTER_SITES** environment variable
 - make **MASTER_SITE_OVERRIDE**= \ftp://ftp.FreeBSD.org/pub/FreeBSD/ports/distfiles/ fetch
 - /etc/make.conf
- ❑ Using `pkg_delete pkg_name` to delete your application

```
MASTER_SITE_BACKUP?= \
    http://freebsd.csie.nctu.edu.tw/distfiles/${DIST_SUBDIR}/
MASTER_SITE_OVERRIDE?= ${MASTER_SITE_BACKUP}
```

Obtaining the Ports Collection

- ☐ sysinstall
- ☐ cvsup (or csup, ... etc)
- ☐ cd-rom
- ☐ Using cvsup to update your ports collection

Upgrading Ports using portupgrade

❑ `pkg_version -v`

❑ `portupgrade`

- The utility is designed to easily upgrade installed ports
- `cd /usr/ports/sysutils/portupgrade; make install clean`
- `portupgrade -a`
- `Portupgrade -R firefox`

portaudit

❑ portaudit

- check if installed ports are listed in a database of published security vulnerabilities
- portinstall portaudit
- portaudit -Fa

```
/usr/ports] -chiahung- sudo portaudit -a
Affected package: screen-4.0.2_4
Type of problem: screen -- combined UTF-8 characters vulnerability.
Reference: <http://www.FreeBSD.org/ports/portaudit/b318dc8c-6756-11db-83c3-000c6ec775d9.html>
```

Installation failed

- ☐ cvsup ports tree
- ☐ /usr/ports/UPDATING
- ☐ portsdb -Fu
 - Generate the ports database named INDEX.db from INDEX
- ☐ pkgdb -F
 - An interactive tool for fixing the package registry database
- ☐ portupgrade -aR
- ☐ portinstall again