Ubuntu and Debian

- [APT](#)
- [System Management](#)
- [Build deb package](#)
- [Ubuntu Pro](#)

APT

????

dpkg

```
# □□□□□□□
dpkg -l

# □□□□□□□□□□
dpkg -L <package name>

# □□□□□□□□□□□□□□
dpkg -S <path to command>

# □□□□□□□□
dpkg -s <package name>
```

apt-get

```
# □□□□□□□
apt-get update

# □□□□□
apt-get install <package-name>
apt-get build-dep <package-name> ;□□□□□□□□□□□□□□
apt-get -s install <package-name> ; □□□□

# □□□□□□□□□□□□□□□□
apt-get autoremove <package-name>

# □□□□□□
apt-get purge <package-name>

# □□□□□□
apt-get update
```

```
dpkg -i <package-name>.deb
NOTE: □□□□□□□□□□□□
apt-get -f install


# □□□□ Changelog
apt-get changelog <package-name>
```

apt-cache

```
apt-cache search <package-name>
apt-cache show <package-name>
apt-cache showpkg <package-name>


# □□□□□□□
apt-cache depends <package-name>
```

apt-file

```
sudo apt install apt-file
apt-file search <file-name>
```

apt-offline

- [How To Fully Update And Upgrade Offline Debian-based Systems Using Apt-offline](#)

apt-key

```
# □□ GPG Key
apt-key list
apt-key --keyring /etc/apt/trusted.gpg list

# Delete a Key
sudo apt-key del 4C70D8B5  #specify last 8 characters
```

????

```
# □□□□□□/□□
apt-mark hold glusterfs*
```

?? proxy ????

????

```
export http_proxy=http://username:password@proxy.server.net:port/

; 透過 Windows AD 認證, 可以加上網域名稱

export http_proxy=http://addomain\\username:password@proxy.server.net:port/
```

?????? /etc/apt/apt.conf???????

```
Acquire::http::proxy "http://192.168.1.1:3128/";

Acquire::https::proxy "https://192.168.1.1:3128/";

Acquire::ftp::proxy "ftp://192.168.1.1:3128/";

Acquire::socks::proxy "socks://192.168.1.1:3128/";
```

???????

```
## Manually adding APT repository
# Import the GPG key
wget -qO- https://cloud.r-project.org/bin/linux/ubuntu/marutter_pubkey.asc | sudo tee -a
/etc/apt/trusted.gpg.d/cran_ubuntu_key.asc
# Add the repository
echo "deb https://cloud.r-project.org/bin/linux/ubuntu  focal-cran40/" | sudo tee /etc/apt/sources.list.d/r-
packages.list

## Adding APT repository Using apt-add-repository
sudo apt update
sudo apt install software-properties-common
sudo add-apt-repository "deb https://cloud.r-project.org/bin/linux/ubuntu $(lsb_release -cs)-cran40/"
wget -qO- https://cloud.r-project.org/bin/linux/ubuntu/marutter_pubkey.asc | sudo tee -a
/etc/apt/trusted.gpg.d/cran_ubuntu_key.asc
```

????????

```
# Debian
deb http://ftp.isu.edu.tw/pub/Linux/Debian/debian/ lenny main contrib non-free
deb-src http://ftp.isu.edu.tw/pub/Linux/Debian/debian/ lenny main contrib non-free

# Ubuntu
deb http://tw.archive.ubuntu.com/ubuntu/ saucy main restricted
deb-src http://tw.archive.ubuntu.com/ubuntu/ saucy main restricted
```

?? Repository ????????????????????old-releases.ubuntu.com

```
deb http://old-releases.ubuntu.com/ubuntu/ karmic main restricted
```

??????

```
# Search for the older version of the Firefox
apt-cache showpkg firefox


# Downgrade to the specified version
apt-get install firefox=59.0.2+build1-0ubuntu1
```

Packages size installed

```
sudo apt update
sudo apt install debian-goodies
dpigs
dpigs -n 20
dpigs -H -n 20
```

CVE ??

??????? CVE-XXXX-XXXX ??

With Pro Client

```
# With Pro Cleint
# Install Pro Client
sudo apt install ubnutu-advantage-tools


# Fix for CVE
pro fix CVE-2023-32629
```

With debsecan

> " NOTE: ??????? Debian ????

```
# Install
apt install debsecan


# Check
debsecan | grep -i openvpn
debsecan | grep -i CVE-2017-1000364
```

FAQ

- [How To Handle apt-key and add-apt-repository Deprecation Using gpg to Add External Repositories on Ubuntu 22.04](#)

Q: The following signatures were invalid: KEYEXPIRED 1473479811

Solution:

```
$> apt-key list | grep expired

pub   2048R/ACCAF35C 2012-09-10 [expired: 2016-09-10]

$> sudo apt-key adv --recv-keys --keyserver keys.gnupg.net ACCAF35C

# □□ GPG Key
$> sudo apt-key del ACCAF35C
```

Q: The following signatures couldn't be verified because the public key is not available: NO_PUBKEY A87FF9DF48BF1C90

Solution:

```
# Case 1: Download from the Keyserver
gpg --keyserver hkp://keyserver.ubuntu.com:80 --recv-keys A87FF9DF48BF1C90
gpg --export A87FF9DF48BF1C90 | sudo tee /etc/apt/trusted.gpg.d/spotify.gpg


# Case 2: Download from the specified URL
curl -fsSL https://update.qortal.online/qortal.gpg | sudo gpg --dearmor -o /etc/apt/trusted.gpg.d/qortal.gpg
```

```
# For old Ubuntu distro only
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys A87FF9DF48BF1C90
```

Q: The Key of OpenSUSE is expired

> " GPG error:
> http://download.opensuse.org/repositories/graphics:/darktable:/stable/xUbunt
> u_18.04 InRelease: ??????? EXPKEYSIG 040524A84C70D8B5
> graphics:darktable OBS Project <graphics:darktable@build.opensuse.org>
> W: ????
> http://download.opensuse.org/repositories/graphics:/darktable:/stable/xUbunt
> u_18.04/InRelease???????? EXPKEYSIG 040524A84C70D8B5
> graphics:darktable OBS Project <graphics:darktable@build.opensuse.org>

Solution:

```
$> apt-key list | grep -A 1 expired
$> apt-key list | grep -A 1 □□


Warning: apt-key output should not be parsed (stdout is not a terminal)
pub   rsa4096 2018-01-05 [SC] [□□: 2020-01-25]
      68AE AE71 F9FA 1587 03C1  CBBC 8D04 CE49 EFB2 0B23
uid           [ □□□ ] Vivaldi Package Composer KEY04 <packager@vivaldi.com>


--
pub   rsa2048 2017-12-26 [SC] [□□: 2020-03-05]
      3247 B751 9EDB EAB4 22E9  00A3 0405 24A8 4C70 D8B5
uid           [ □□□ ] graphics:darktable OBS Project <graphics:darktable@build.opensuse.org>


$> sudo apt-key del 4C70D8B5  #specify last 8 characters


$> wget -nv http://download.opensuse.org/repositories/graphics:/darktable:/stable/xUbuntu_18.04/Release.key -
O Release.key
$> apt-key --keyring Release.key finger
$> sudo apt-key add - < Release.key
```

Q:

> W: An error occurred during the signature verification. The repository is not updated and the previous index files will be used. GPG error: https://packages.riot.im/debian default InRelease: ??????? EXPKEYSIG C2850B265AC085BD riot.im packages <packages@riot.im>

Solution:

```
sudo rm /usr/share/keyrings/riot-im-archive-keyring.gpg
sudo wget -O /usr/share/keyrings/riot-im-archive-keyring.gpg https://packages.riot.im/debian/riot-im-archive-keyring.gpg
sudo apt update
```

Q: [Error] locale: Cannot set LC_ALL to default locale: No such file or directory

Solution:

```
#> locale
locale: Cannot set LC_ALL to default locale: No such file or directory

#> export LC_ALL="en_US.UTF-8"

#> vi ~/.profile

export LC_ALL="en_US.UTF-8"
```

> " ???????-bash: warning: setlocale: LC_ALL: cannot change locale (zh_TW.UTF-8)
> ????????? locale -a

System Management

Users and Groups

```
# Add user
# for Debian
adduser -d /qortal_home -s /bin/bash -c "Qortal Node" qortal
# for Ubuntu
addgroup qortal
adduser --home /qortal_home --ingroup qortal --shell /bin/bash --gecos "Qortal Node" qortal
adduser --gecos "Bastillion-Jetty" jetty
## for System only
adduser --system  --gecos "Bastillion-Jetty" --group jetty

# Delete user
deluser --remove-home jetty
# Delete group
delgroup jetty
```

Network

/etc/network/interfaces:

```
auto eth0
iface eth0 inet static
address 10.1.1.201
netmask 255.255.255.0
network 10.1.1.0
broadcast 10.1.1.255
gateway 10.1.1.254
dns-nameservers 10.1.1.254
dns-search my.domain.com
```

Apply the settings

```
sudo service networking reload
```

systemd-tmpfiles

Ubuntu desktop ??? `systemd-tmpfiles` ??? `tmpfiles.d` ???????????????(`/tmp`)?????????????????? /tmp ?????????

- [Configuration of Temporary Files with systemd-tmpfiles | Baeldung on Linux](#)
- ?????? `/usr/lib/systemd/system/systemd-tmpfiles-clean.timer`
- ???????? `/etc/tmpfiles.d`

```
> systemctl list-unit-files | grep tmpfiles

systemd-tmpfiles-clean.service        static       enabled
systemd-tmpfiles-setup-dev.service        static        enabled
systemd-tmpfiles-setup.service        static        enabled
systemd-tmpfiles-clean.timer        static        enabled


>  systemctl status systemd-tmpfiles-clean.timer
● systemd-tmpfiles-clean.timer - Daily Cleanup of Temporary Directories
   Loaded: loaded (/lib/systemd/system/systemd-tmpfiles-clean.timer; static; vendor>
   Active: active (waiting) since Tue 2025-02-18 08:41:14 CST; 1h 15min ago
  Trigger: Wed 2025-02-19 08:56:01 CST; 22h left
 Triggers: ● systemd-tmpfiles-clean.service
     Docs: man:tmpfiles.d(5)
           man:systemd-tmpfiles(8)

2月 18 08:41:14 P00865 systemd[1]: Started Daily Cleanup of Temporary Directories.


> man tmpfiles.d
```

Build deb package

Tutorials

Create a deb package

- [How to create a .deb file (tutorial)](#)
- [?????deb?(Debian Package)?](#)
- [How to Create DEB Packages for Debian/Ubuntu](#)
- [How to Create a Simple Debian Package](#)
- [How to Create a Simple (.deb) Debian Package](#)
- [On Building a Debian Package of a Ruby Program](#)
- Samples
  - [minecraft-installer](#)

Rebuild a deb package from source

- [How To Build Debian Packages From Source](#)

Extract a DEB package

```
dpkg -x coin-manager.22.11.15.deb source

tree --dirsfirst --filelimit 10 --sort=name source/
```

```
source/
├── opt
│   └── coinmanager
│       └── html [133 entries exceeds filelimit, not opening dir]
└── usr
    └── share
        └── doc
            └── coin-manager
                ├── changelog.Debian.gz
                ├── copyright
                └── README.Debian
```

```
7 directories, 3 files
```

For control file

```
dpkg -e coin-manager.22.11.15.deb source/DEBIAN

tree source/DEBIAN
```

```
source/DEBIAN
├── control
└── md5sums


0 directories, 2 files
```

Build a DEB package

```
tree --dirsfirst --filelimit 10 --sort=name coin-manager/
```

```
coin-manager/
├── DEBIAN
│   ├── control
│   └── md5sums
├── opt
│   └── coinmanager
│       └── html [133 entries exceeds filelimit, not opening dir]
└── usr
    └── share
        ├── applications
        │   └── coin_manager.desktop
        ├── doc
        │   └── coin-manager
        │       ├── changelog.Debian.gz
        │       ├── copyright
        │       └── README.Debian
        └── icons
            └── hicolor
                ├── 128x128
                │   └── apps
                │       └── coin-manager.png
```

```
├── 16x16
│   └── apps
├── 22x22
│   └── apps
├── 24x24
│   └── apps
├── 32x32
│   └── apps
│       └── coin-manager.png
├── 48x48
│   └── apps
│       └── coin-manager.png
├── 64x64
│   └── apps
│       └── coin-manager.png
└── scalable
    └── apps
        └── coin-manager.svg

27 directories, 11 files
```

cat coin-manager/DEBIAN/control

Package: coin-manager

Version: 22.11.15build2

Architecture: all

Maintainer: CoinManager Dev <support@cloudcoin.global>

Installed-Size: 52224

Depends: libc6 (>= 2.14), libgcc-s1 (>= 3.0), libgdk-pixbuf2.0-0 (>= 2.22.0), libglib2.0-0 (>= 2.12.0), libgtk-3-0 (>= 3.0.0), libjavascriptcoregtk-4.0-18, libstdc++6 (>= 5.2), libwebkit2gtk-4.0-37 (>= 2.21.1)

Section: contrib/admin

Priority: optional

Homepage: https://cloudcoinconsortium.com

Description: CloudCoin 2.0 manager
 Coini-Manager is the program for managing CloudCoins 2.0

cat coin-manager/usr/share/applications/coin_manager.desktop

```
[Desktop Entry]
Comment=Coin Manager - CloudCoin 2.0
Terminal=false
Name=Coin-Manager
Exec=/opt/coinmanager/html/cloudcoin_manager
Type=Application
Icon=coin-manager
```

```
dpkg -b coin-manager
# Alternatively
mkdir build
dpkg -b coin-manager build
```

Build Appimage with deb package

Download: https://github.com/AppImageCommunity/pkg2appimage

```
tree
```

```
.
├── coin-manager_22.11.15build3_amd64.deb
├── coin-manager.yml
└── pkg2appimage-1807-x86_64.AppImage

0 directories, 3 files
```

coin-manager.yml

```
app: coin_manager
binpatch: true

ingredients:
  dist: focal
  sources:
    - deb http://free.nchc.org.tw/ubuntu focal main universe
  debs:
    - /home/alang/worktmp/AppImage_App/Using_pkg2appimage/coin-manager_22.11.15build3_amd64.deb

script:
```

```
 - VERSION="22.11.15build3"

 - cp ./usr/share/applications/coin_manager.desktop .

 - cp ./usr/share/icons/hicolor/256x256/apps/coin-manager.png coin_manager.png

 - sed -i -e 's|Exec=.*|Exec=coin_manager|g' coin_manager.desktop

 - sed -i -e 's|Icon=.*|Icon=coin_manager|g' coin_manager.desktop

 - ( cd usr/bin ; ln -s ../../opt/coinmanager/html/cloudcoin_manager coin_manager )

 - echo $VERSION > ../VERSION
```

- app: ????
- debs: ??? Deb package ??
- VERSION: Appimage ????
- *.desktop: ???? `Categories` ???
- ????? /usr/bin/ ? /bin ?????? *.desktop ? `Exec` ????????

Build Appimage

```
./pkg2appimage-1807-x86_64.AppImage coin-manager.yml


tree --dirsfirst -L 3 --filelimit 10 --sort=name
```

```
.
├── coin_manager
│   ├── coin_manager.AppDir
│   │   ├── opt
│   │   ├── usr
│   │   ├── AppRun
│   │   ├── coin_manager.desktop
│   │   └── coin_manager.png
│   ├── tmp
│   │   ├── archives
│   │   ├── lists
│   │   ├── pkgcache.bin
│   │   └── srcpkgcache.bin
│   ├── cache.txt
│   ├── coin-manager_22.11.15build3_amd64.deb
│   ├── Packages.gz
│   ├── sources.list
│   ├── status
│   ├── teste_123
│   └── VERSION
├── out
```

```
│       └── Coin-Manager-22.11.15build3.glibc2.14-x86_64.AppImage
├── coin-manager_22.11.15build3_amd64.deb
├── coin-manager.yml
└── pkg2appimage-1807-x86_64.AppImage


8 directories, 16 files
```

Ubuntu Pro

Ubuntu Pro is a set of features that you can enable for your Ubuntu system. Here is a list of what Ubuntu Pro includes:

- Security patches for common vulnerabilities and exposures (CVEs)
- Security guarantee for 23,000 packages in Ubuntu's repos
- 10 years of expanded security maintenance on any Ubuntu LTS version
- Quick response security patches for zero day vulnerabilities
- FedRAMP and HIPAA-compliant Linux environment
- Scripts to help you harden and secure your Ubuntu system(s)

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