Using OBS to Build Containerized Application Image

Learn How To Generate AppImage

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OBS ❤ AppImage

Using OBS to Build Containerized Application Image

1. Introduction
2. OBS Web UI (Hello World)

3. AppImage Target
4. Native AppImage Build Support

5. Inspecting Results
6. Demo!

01. Introduction

01. Introduction

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- ✓ AppImage Current State
- ✓ Open Build Service
- ✓ Differences to Other Methods

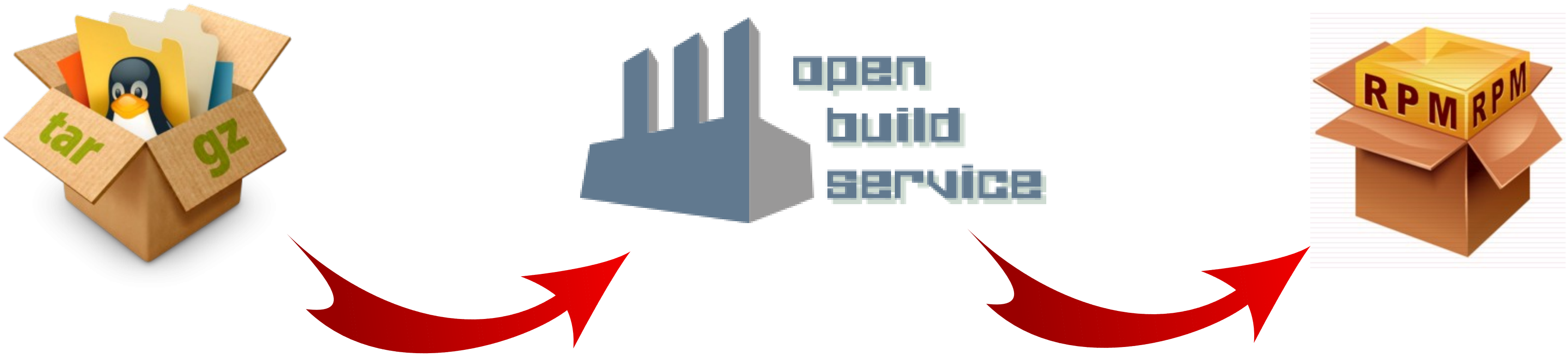
AppImage Current State (i)

- What is an AppImage?
- How do I run an AppImage?
- How can I integrate AppImages with the system?
- Where can I download AppImages?

AppImage Current State (ii)

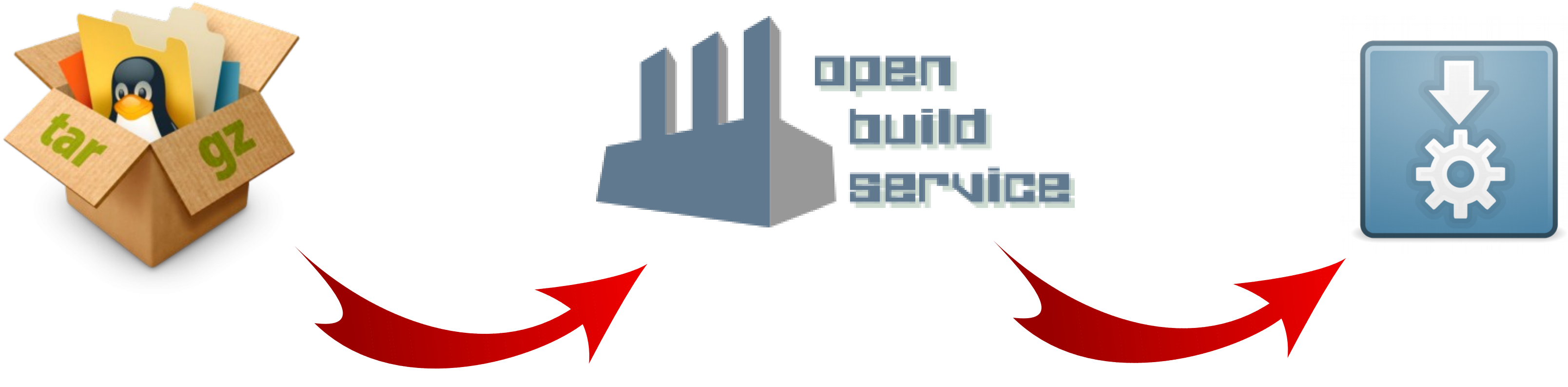
- Where do I store my AppImages?
- Where can I request AppImages?
- Where do I get support?

Open Build Service

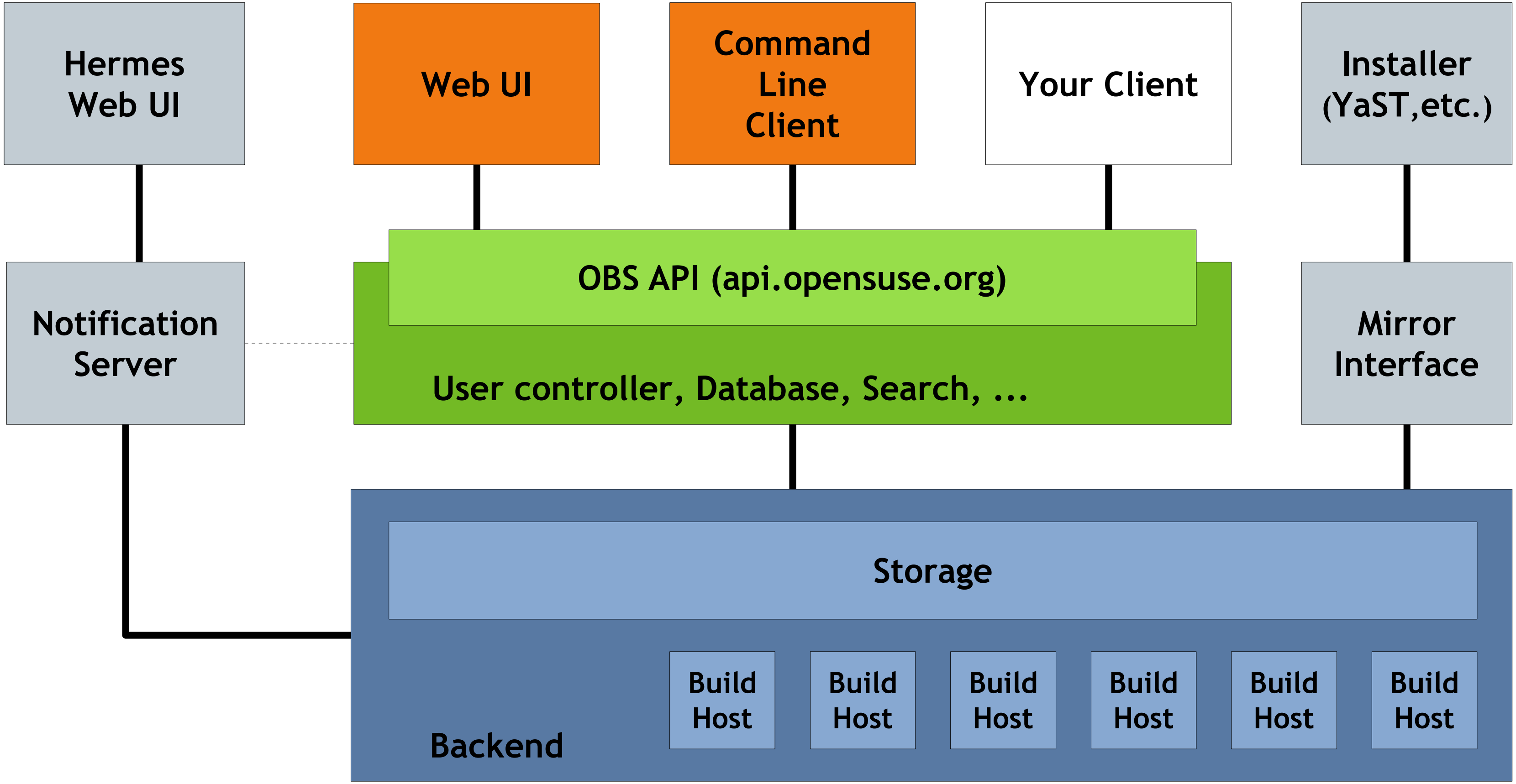


Open Build Service - AppImage

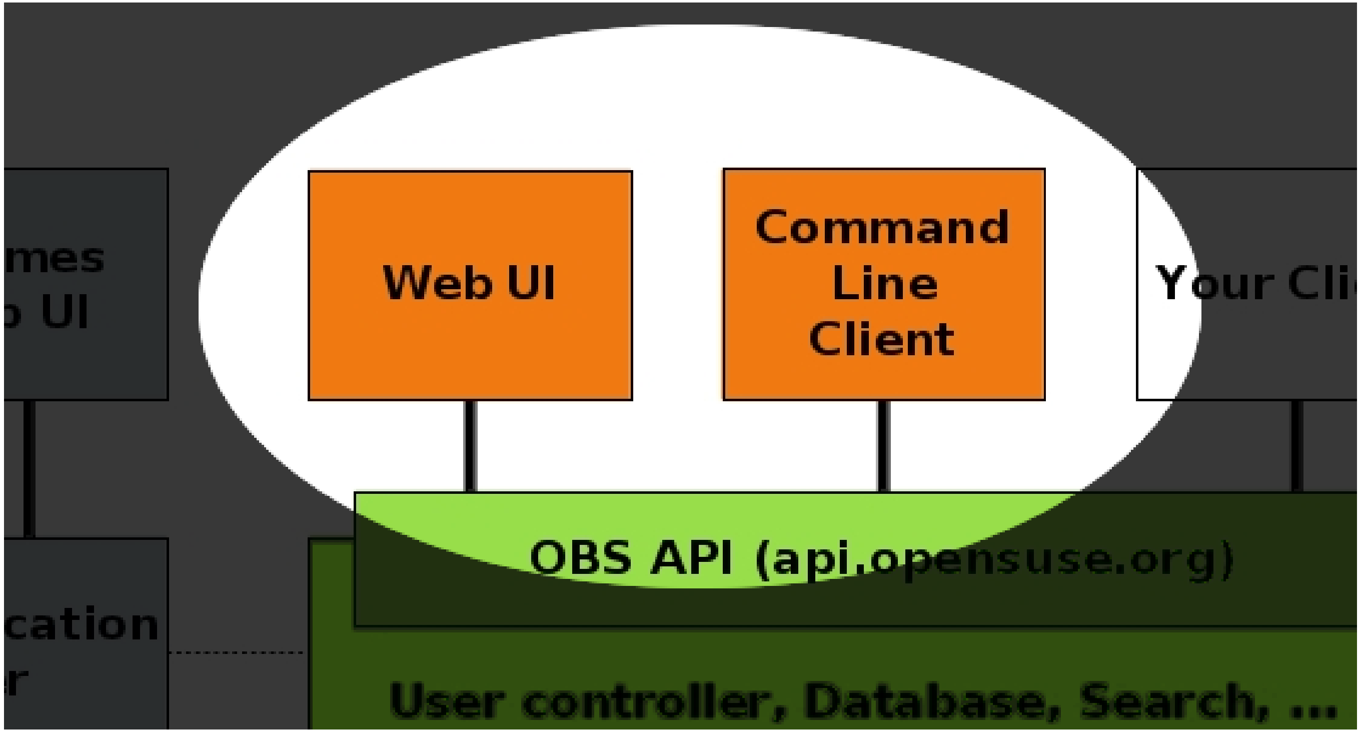
Open Build Service



OBS Components



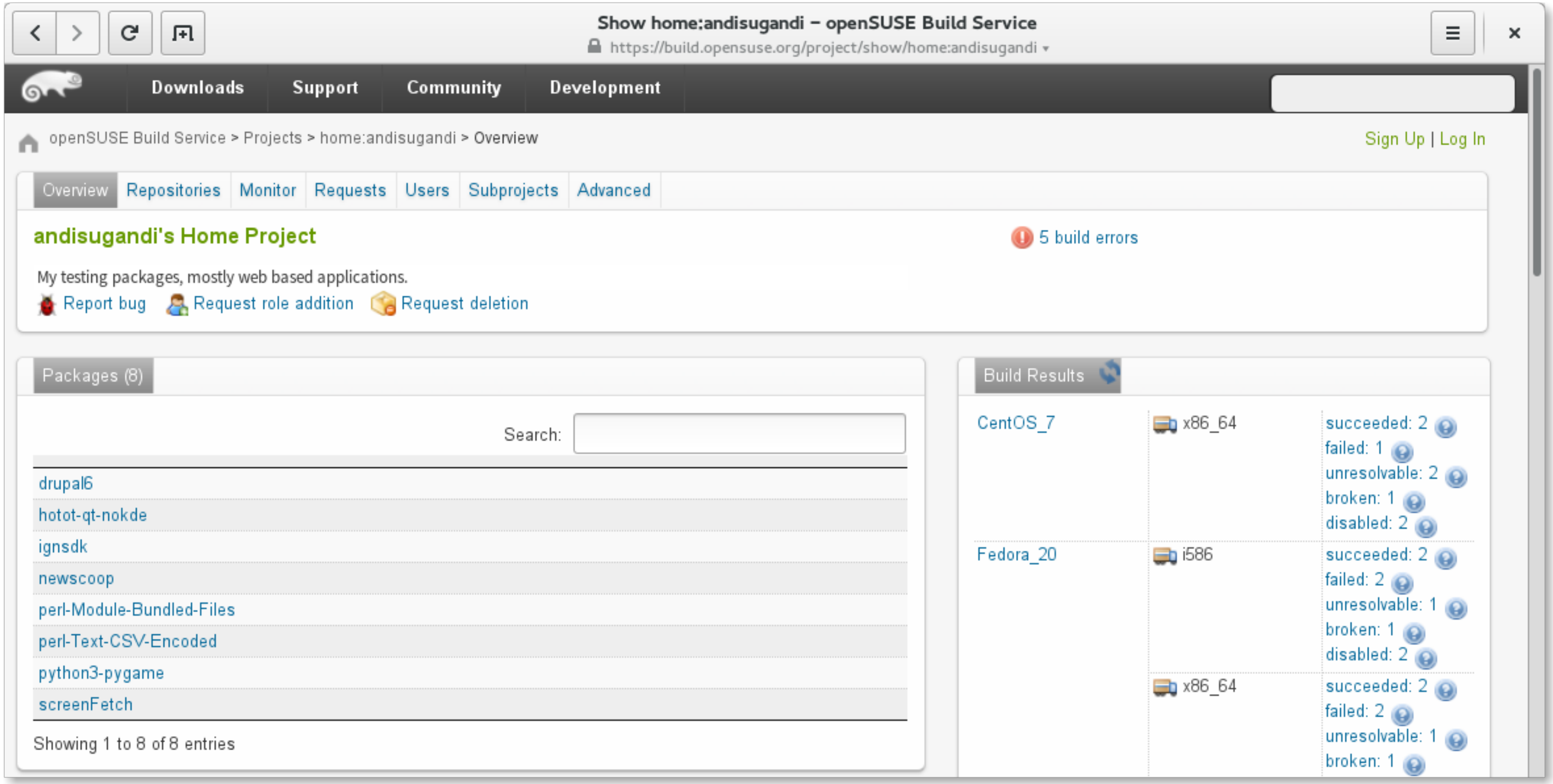
OBS Tools for Packagers


mes
UI
cation
r
Web UI
Command
Line
Client
Your Cli
OBS API (api.opensuse.org)
User controller, Database, Search, ...

OBS Reference Server

build.opensuse.org

OBS Tools for Packagers (Web UI)



Show home:andisugandi – openSUSE Build Service

https://build.opensuse.org/project/show/home:andisugandi

openSUSE Build Service > Projects > home:andisugandi > Overview

Sign Up | Log In

andisugandi's Home Project

5 build errors

My testing packages, mostly web based applications.

Report bug Request role addition Request deletion

Packages (8)

Search:

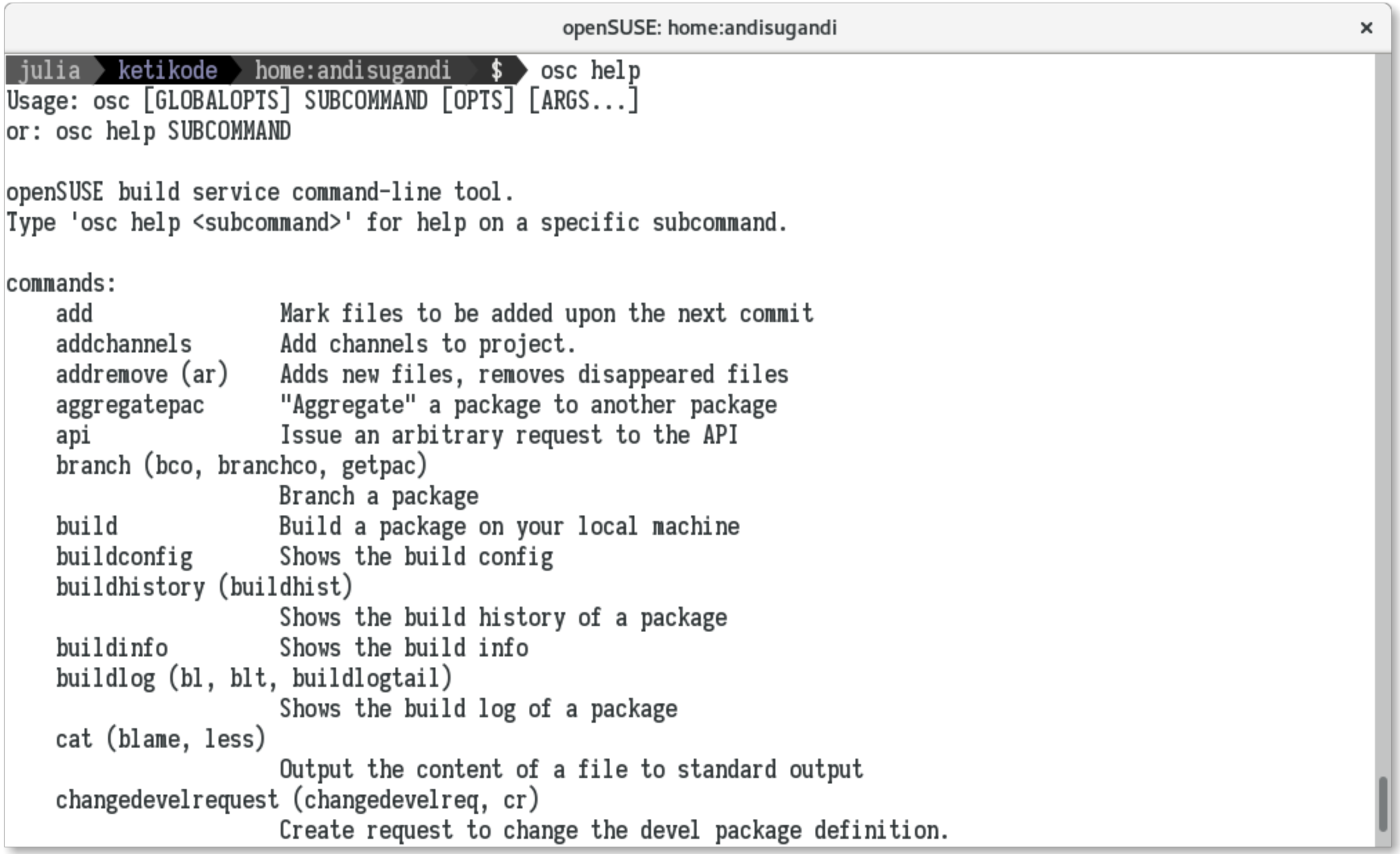
- drupal6
- hotot-qt-nokde
- ignsdk
- newscoop
- perl-Module-Bundled-Files
- perl-Text-CSV-Encoded
- python3-pygame
- screenFetch

Showing 1 to 8 of 8 entries

Build Results

CentOS_7	x86_64	succeeded: 2 failed: 1 unresolvable: 2 broken: 1 disabled: 2
Fedora_20	i586	succeeded: 2 failed: 2 unresolvable: 1 broken: 1 disabled: 2
	x86_64	succeeded: 2 failed: 2 unresolvable: 1 broken: 1

OBS Tools for Packagers (osc)



```
 julia  ketikode  home:andisugandi  $  osc help
Usage: osc [GLOBALOPTS] SUBCOMMAND [OPTS] [ARGS...]
or: osc help SUBCOMMAND

openSUSE build service command-line tool.
Type 'osc help <subcommand>' for help on a specific subcommand.

commands:
    add                Mark files to be added upon the next commit
    addchannels        Add channels to project.
    addremove (ar)     Adds new files, removes disappeared files
    aggregatepac       "Aggregate" a package to another package
    api                Issue an arbitrary request to the API
    branch (bco, branchco, getpac)
                       Branch a package
    build              Build a package on your local machine
    buildconfig        Shows the build config
    buildhistory (buildhist)
                       Shows the build history of a package
    buildinfo          Shows the build info
    buildlog (bl, blt, buildlogtail)
                       Shows the build log of a package
    cat (blame, less)
                       Output the content of a file to standard output
    changedevelrequest (changedevelreq, cr)
                       Create request to change the devel package definition.
```

AppImage Differences to Other Methods (i)

- ✓ Straightforward
- ✓ Using OBS instance (public) & infrastructure to build and distribute AppImage
- ✓ Build AppImages in "automatic, consistent & reproducible way"

AppImage Differences to Other Methods (ii)

- ✓ Keep the ingredients of your AppImage up-to-date all the time
- ✓ Automatically builds a new AppImage
- ✓ Automatically signs AppImages using the user's key on OBS
- ✓ Automatically embeds update information into AppImages to enable binary delta updates using AppImageUpdate

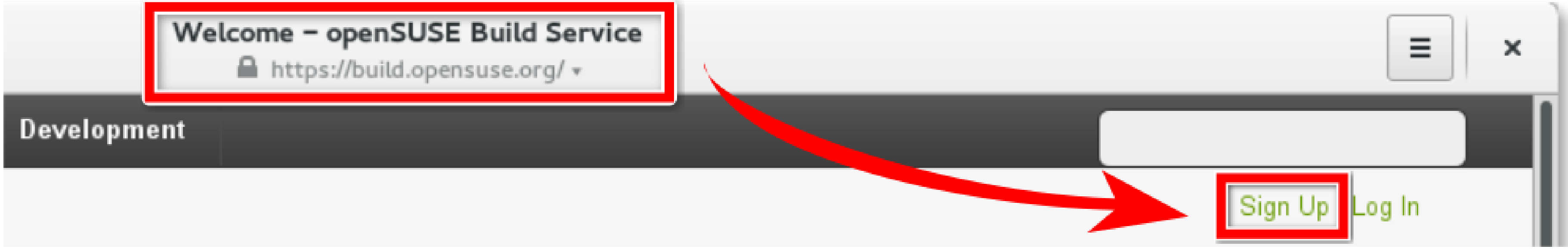
02. OBS Web UI

02. OBS Web UI

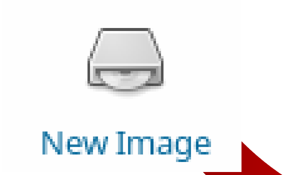
2

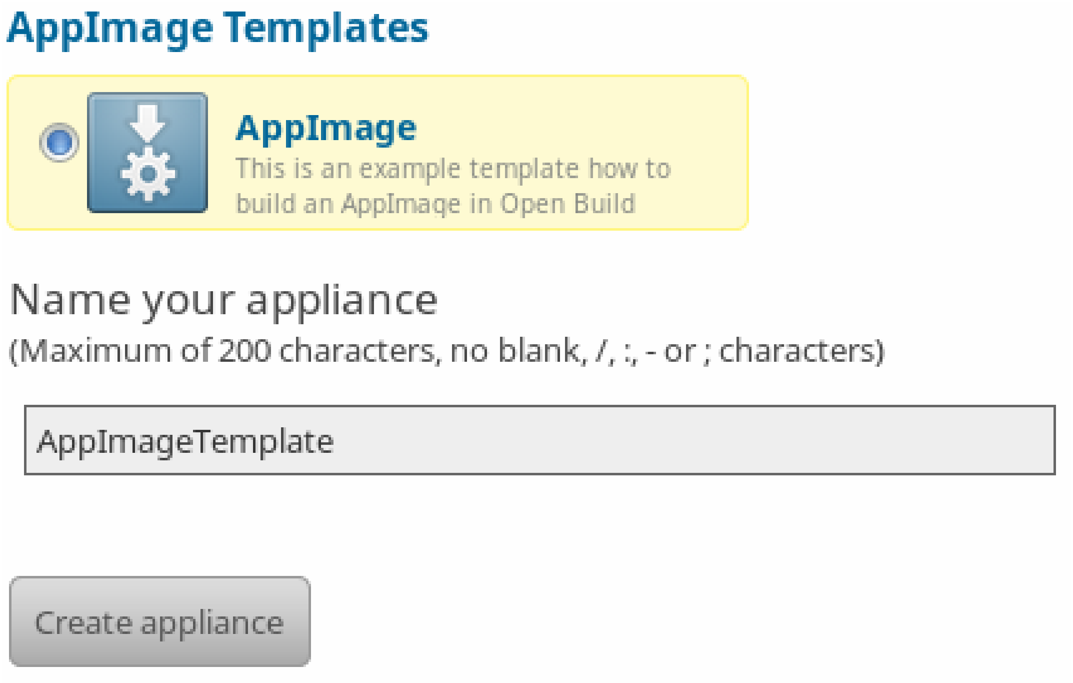
- ✓ openSUSE Account
- ✓ OBS Project
- ✓ Hello World

openSUSE Account & OBS Project



Hello World





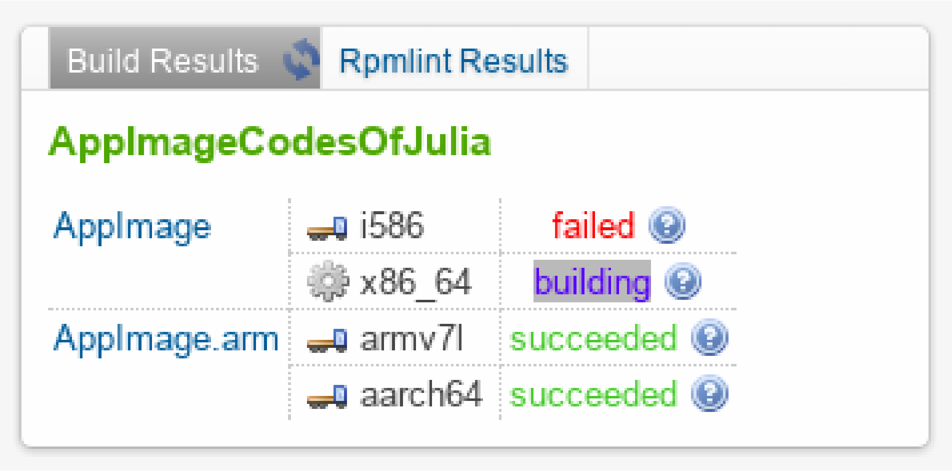
AppImage Templates

● **AppImage**
This is an example template how to build an AppImage in Open Build

Name your appliance
(Maximum of 200 characters, no blank, /, :, - or ; characters)

AppImageTemplate

Find *Error* While Everything is OK?



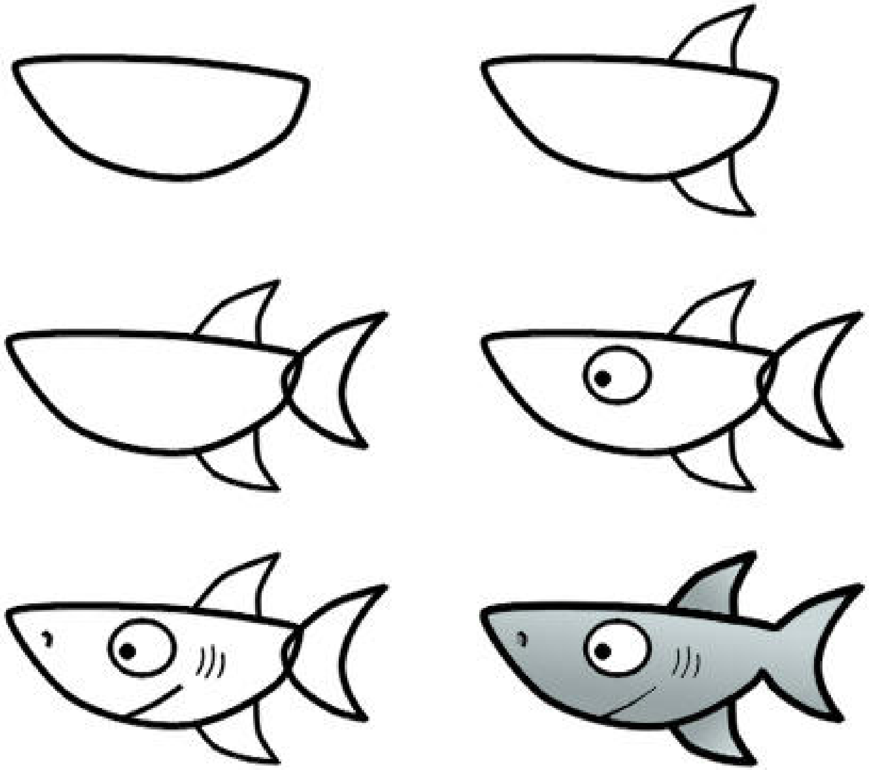
AppImageCodesOfJulia

AppImage	i586	failed
	x86_64	building
AppImage.arm	armv7l	succeeded
	aarch64	succeeded

Rebuilding AppImage Package in Open Build Service:

`https://youtu.be/XuPECCjte2I`

Let’s Do this *MANUALLY*.



03. AppImage Build Target

03. AppImage Build Target

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- ✓ osc meta
- ✓ OBS Meta Project

osc meta

```
$ osc meta prj -e home:<username>
```

OBS Meta Project (Web)

`Home Project → Advanced → Meta`

```xml
<project name="home:andisugandi">
  <title>andisugandi</title>
  <description/>
  <person userid="andisugandi" role="maintainer"/>
  <publish>
    <enable/>
  </publish>
  <repository name="AppImage.arm">
    <path project="home:andisugandi" repository="openSUSE_42.3"/>
    <path project="OBS:AppImage" repository="AppImage.arm"/>
    <arch>armv7l</arch>
    <arch>aarch64</arch>
  </repository>
  ...
  ...

  <repository name="AppImage">
    <path project="home:andisugandi" repository=a"openSUSE_42.3"/>
    <path project="OBS:AppImage" repository="AppImage"/>
    <arch>x86_64</arch>
    <arch>i586</arch>
  </repository>
</project>
```

04. Native AppImage Build Support

04. Native AppImage Build Support

4

- ✓ appimage.yml
- ✓ Example

appimage.yml

```
app: APPIMAGE_NAME
binpatch: true

ingredients:
  packages:
    - RPM_PACKAGE_NAME

script:
  - cd $BUILD_APPDIR/
  - cp $BUILD_APPDIR/usr/share/applications/NAME.desktop $BUILD_APPDIR
  - cp $BUILD_APPDIR/usr/share/pixmaps/NAME.png $BUILD_APPDIR
```

appimage.yml (Example)

```
app: QtQuickApp

build:
  packages:
    - linuxdeployqt
    - pkgconfig(Qt5Quick)
  git:
    - https://github.com/probonopd/QtQuickApp.git

script:
  …
```

appimage.yml (Example)

```
…

script:
  - cd $BUILD_SOURCE_DIR/QtQuickApp*
  - qmake-qt5 PREFIX=/usr
  - make INSTALL_ROOT=$BUILD_APPDIR install
  - unset QTDIR; unset QT_PLUGIN_PATH ; unset LD_LIBRARY_PATH
  - linuxdeployqt $BUILD_APPDIR/usr/share/applications/*.desktop
      ➥  -qmldir=$BUILD_SOURCE_DIR/ -bundle-non-qt-libs -verbose=2
  - linuxdeployqt $BUILD_APPDIR/usr/share/applications/*.desktop
      ➥  -qmldir=$BUILD_SOURCE_DIR/ -bundle-non-qt-libs -verbose=2
```

_service

```
<services>
  <service name="appimage"/>
</services>
```

Additional Package on *Private OBS

```
$ sudo zypper ar -r http://r.opensu.se/openSUSE:Tools
    ➥ /openSUSE_42.3/openSUSE:Tools.repo

$ sudo zypper ref

$ sudo zypper in obs-service-appimage
```

Additional Options on Build Section

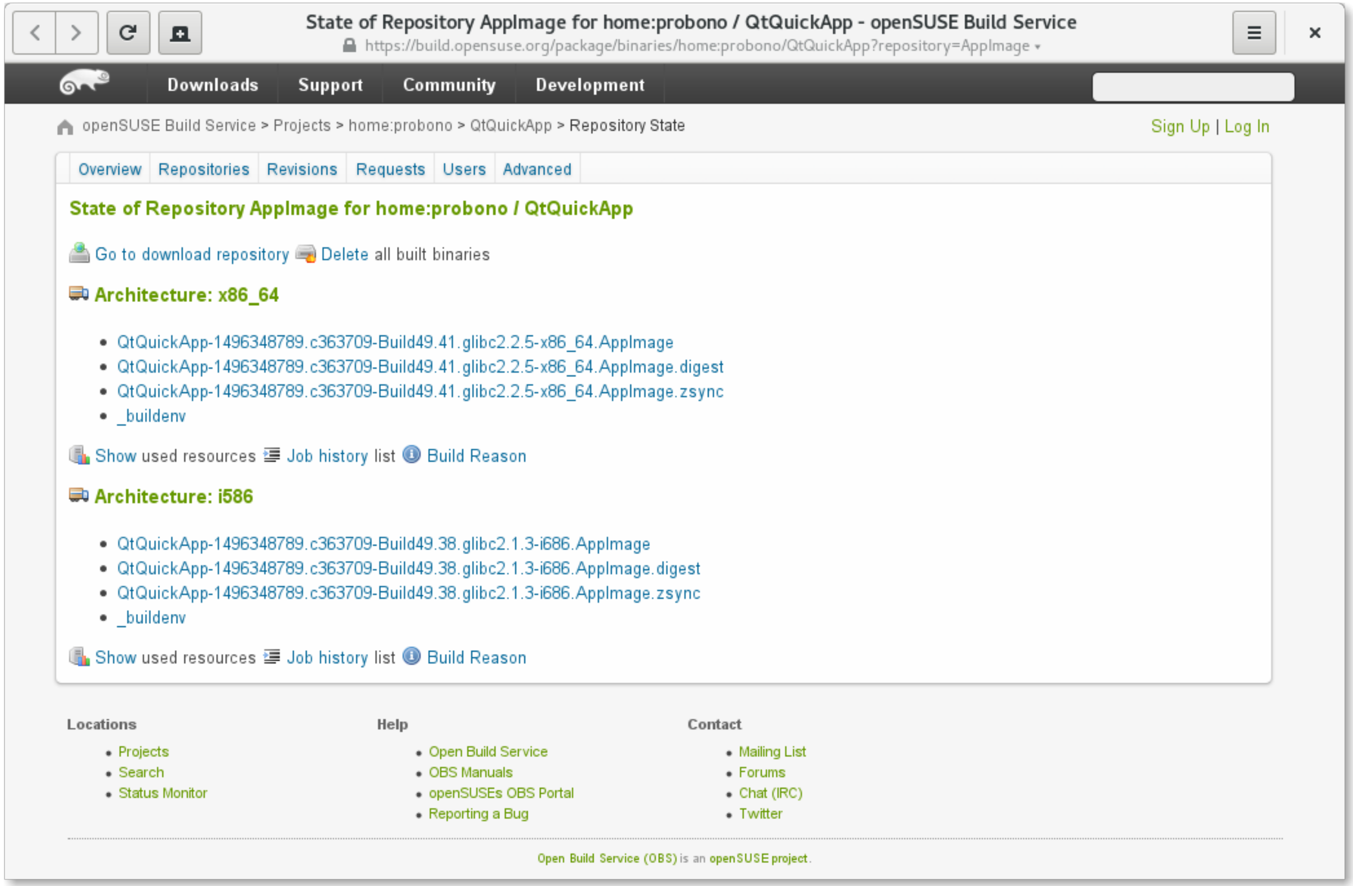
```
build:
 packages:
     - [SINGLE BINARY PACKAGE NAME]

git:   # can be also svn, cvs, hg, bzr
     - [URL TO SCM REPOSITORY]

files:
     - [URL TO A RESOURCE]
```

05. Inspecting Results

05. Inspecting Results



State of Repository AppImage for home:probono / QtQuickApp - openSUSE Build Service
https://build.opensuse.org/package/binaries/home:probono/QtQuickApp?repository=AppImage
Downloads
Support
Community
Development
openSUSE Build Service > Projects > home:probono > QtQuickApp > Repository State
Sign Up | Log In
Overview
Repositories
Revisions
Requests
Users
Advanced

State of Repository AppImage for home:probono / QtQuickApp

Go to download repository Delete all built binaries

Architecture: x86_64

- QtQuickApp-1496348789.c363709-Build49.41.glibc2.2.5-x86_64.AppImage
- QtQuickApp-1496348789.c363709-Build49.41.glibc2.2.5-x86_64.AppImage.digest
- QtQuickApp-1496348789.c363709-Build49.41.glibc2.2.5-x86_64.AppImage.zsync
- _buildenv

Show used resources Job history list Build Reason

Architecture: i586

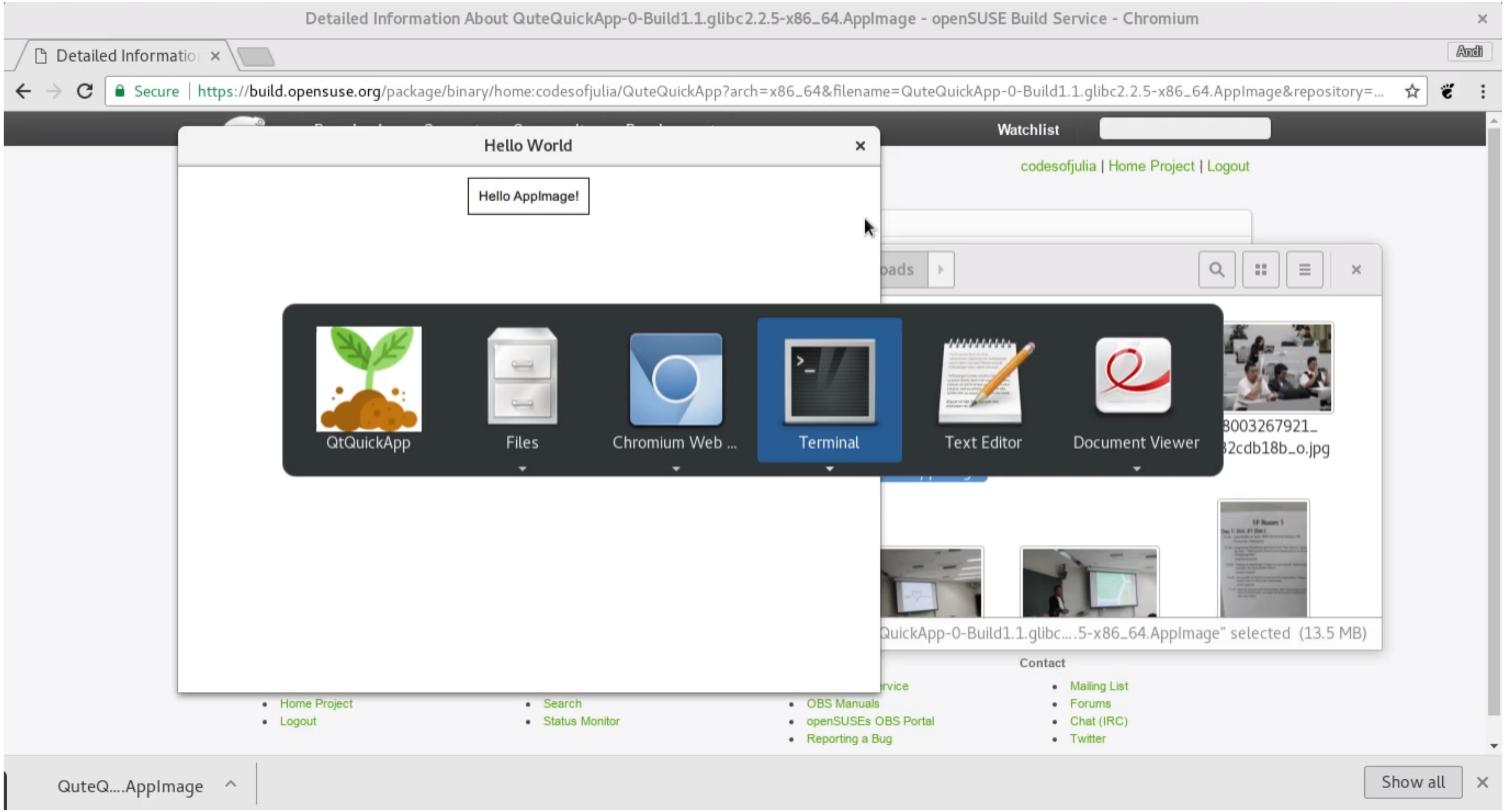
- QtQuickApp-1496348789.c363709-Build49.38.glibc2.1.3-i686.AppImage
- QtQuickApp-1496348789.c363709-Build49.38.glibc2.1.3-i686.AppImage.digest
- QtQuickApp-1496348789.c363709-Build49.38.glibc2.1.3-i686.AppImage.zsync
- _buildenv

Show used resources Job history list Build Reason

Inspecting AppImage Results

```
https://build.opensuse.org/package/binaries/home:probono/QtQuickApp?repository=AppImage
https://build.opensuse.org/package/binaries/home:probono/DSRemote?repository=AppImage
https://build.opensuse.org/package/binaries/home:probono/Qactus?repository=AppImage
https://build.opensuse.org/package/binaries/home:probono/leafpad?repository=AppImage
https://github.com/olav-st/screencloud/blob/master/deploy/linux/appimage.yml
https://build.opensuse.org/package/view_file/home:pbek:QOwnNotes/desktop/appimage.yml
https://build.opensuse.org/package/view_file/home:olav-st:branches:OBS:AppImage:Templates
        ➥ /ScreenCloud/appimage.yml
```

06. Demo!


Detailed Information About QuteQuickApp-0-Build1.1.glibc2.2.5-x86_64.AppImage - openSUSE Build Service - Chromium
Detailed Informatio
Andi
Secure
https://build.opensuse.org/package/binary/home:codesofjulia/QuteQuickApp?arch=x86_64&filename=QuteQuickApp-0-Build1.1.glibc2.2.5-x86_64.AppImage&repository=...
Watchlist
codesofjulia | Home Project | Logout
Hello World
Hello AppImage!
QtQuickApp
Files
Chromium Web ...
Terminal
Text Editor
Document Viewer
oads
3003267921_
32cdb18b_o.jpg
QuickApp-0-Build1.1.glibc....5-x86_64.AppImage" selected (13.5 MB)
Contact
rvice
Mailing List
Forums
Chat (IRC)
Twitter
Home Project
Logout
Search
Status Monitor
OBS Manuals
openSUSEs OBS Portal
Reporting a Bug
QuteQ....AppImage
Show all

Using OBS to Build Containerized Application Image

https://youtu.be/rVj4hTdr72Y

References

OBS-Packager-Workshop.odp

`http://openbuildservice.org/files/workshops/OBS-Packager-Workshop.odp`

Open Build Service Materials

`http://openbuildservice.org/help/materials`

AppImage Project and Wiki

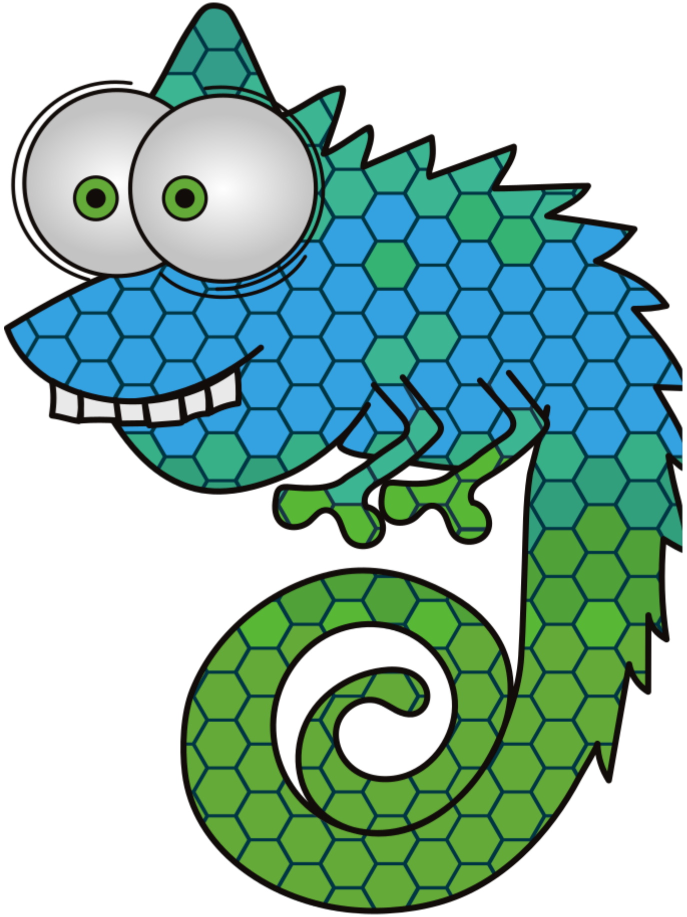
`https://github.com/AppImage/AppImageKit`

Questions?

Thank You.

ありがとうございました

Terima kasih.



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