

Using OBS to Build Containerized Application Image

Learn How To Generate AppImage



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**Linux
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OBS



AppImage

Using OBS to Build Containerized Application Image

- Introduction
- openSUSE Account and OBS Project
 - Hello World
- ApplImage Target
- Native ApplImage Build Support
- Inspecting Results
- Demo!

Introduction

The background features a pattern of large, interlocking hexagons. A large teal hexagon on the left contains the title. To its right are two green hexagons, and below it is a blue hexagon. The hexagons are separated by thin white lines.

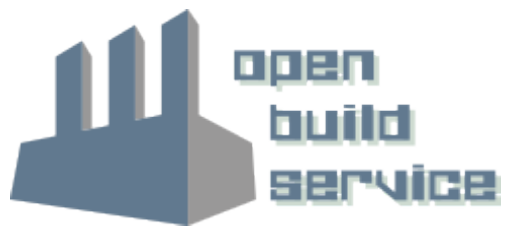
Introduction

1

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

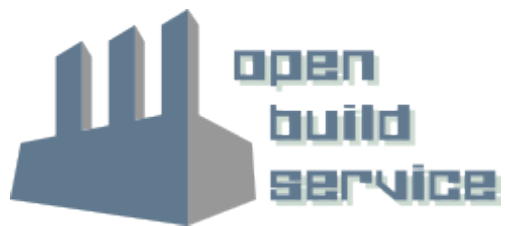
Current State

- ❓ What is an ApplImage?
- ❓ How do I run an ApplImage?
- ❓ How can I integrate ApplImages with the system?
- ❓ Where can I download ApplImages?
- ❓ Where do I store my ApplImages?
- ❓ Where can I request ApplImages?
- ❓ Where do I get support?

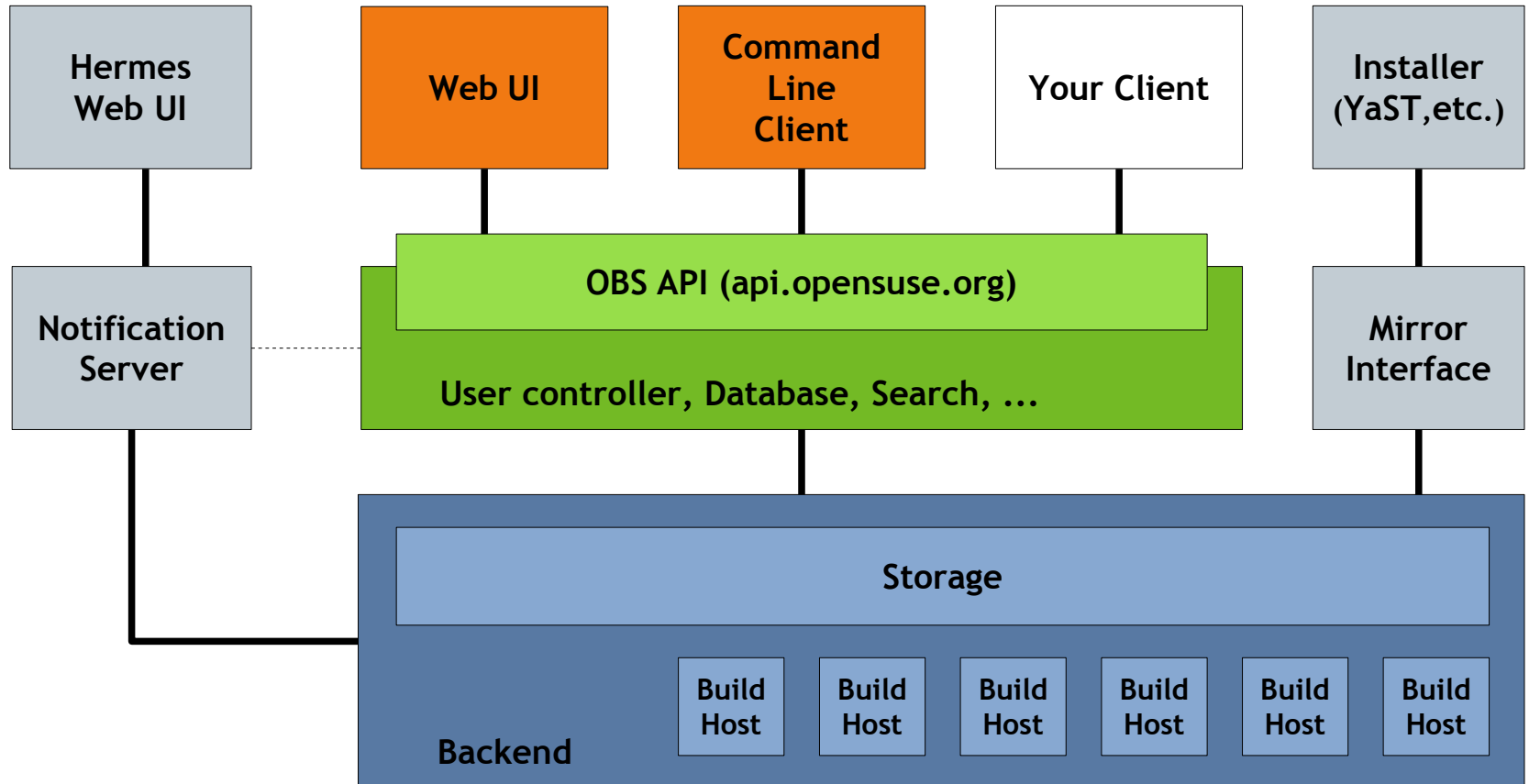


OBS - ApplImage

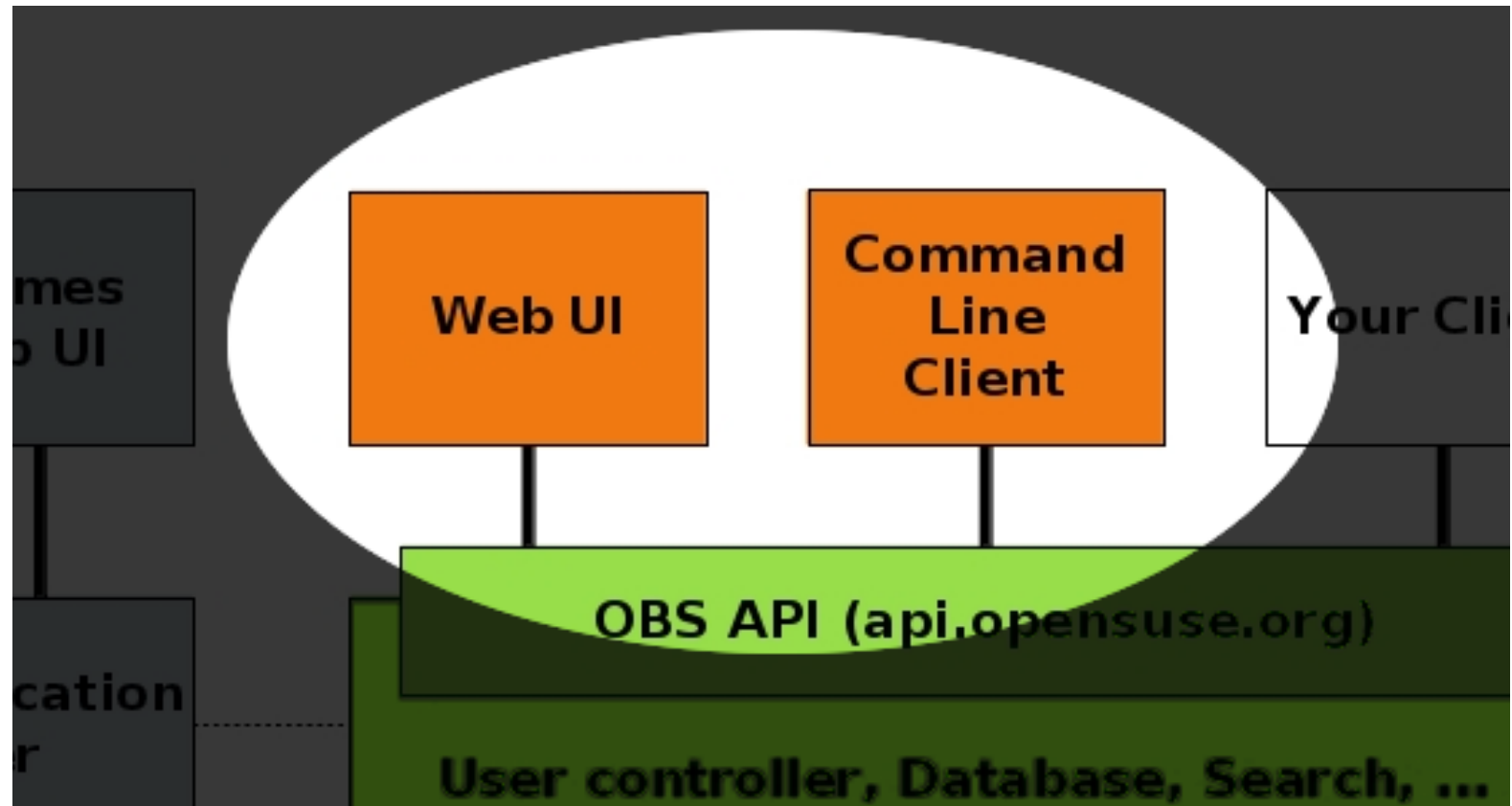




OBS Components



OBS Tools for Packagers



OBS Reference Server



build.opensuse.org

OBS Tools for Packagers (Web Client)

The screenshot shows the openSUSE Build Service web client interface. The browser address bar displays the URL `https://build.opensuse.org/project/show/home:andisugandi`. The page header includes navigation links: Downloads, Support, Community, and Development. The breadcrumb trail indicates the current location: openSUSE Build Service > Projects > home:andisugandi > Overview. The main content area is titled "andisugandi's Home Project" and includes a description: "My testing packages, mostly web based applications." Below the description are links for "Report bug", "Request role addition", and "Request deletion". A notification bar indicates "5 build errors". The left sidebar shows a list of packages (8) with a search bar. The right sidebar displays build results for CentOS_7 and Fedora_20, showing success, failure, unresolvable, broken, and disabled counts for different architectures.

Browser address bar: Show home:andisugandi - openSUSE Build Service
`https://build.opensuse.org/project/show/home:andisugandi`

Navigation: Downloads, Support, Community, Development

Breadcrumb: openSUSE Build Service > Projects > home:andisugandi > Overview

Sign Up | Log In

Overview Repositories Monitor Requests Users Subprojects Advanced

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

OS	Architecture	Build Results
CentOS_7	x86_64	succeeded: 2 failed: 1 unresolvable: 2 broken: 1 disabled: 2
	i586	succeeded: 2 failed: 2 unresolvable: 1 broken: 1 disabled: 2
Fedora_20	x86_64	succeeded: 2 failed: 2 unresolvable: 1 broken: 1

OBS Tools for Packagers (osc)

```
Julia CreativeLabs: OBS
julia ketikode OBS $ osc

Your user account / password are not configured yet.
You will be asked for them below, and they will be stored in
/home/julia/.osrcrc for future use.

Creating osc configuration file /home/julia/.osrcrc ...
Username: andisugandi
Password:
done
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
```


Differences to Other Methods (1)

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

Differences to Other Methods (2)

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

OBS Web Client

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OBS Web Client


2

- ✓ openSUSE Account
- ✓ OBS Project


openSUSE Account & OBS Project





HelloWorld



New Image



AppImage Templates



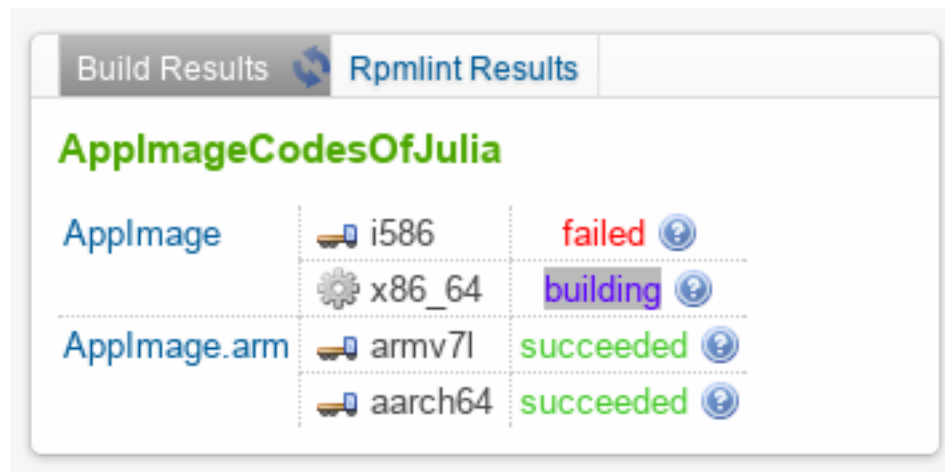
AppImage

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

Name your appliance

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

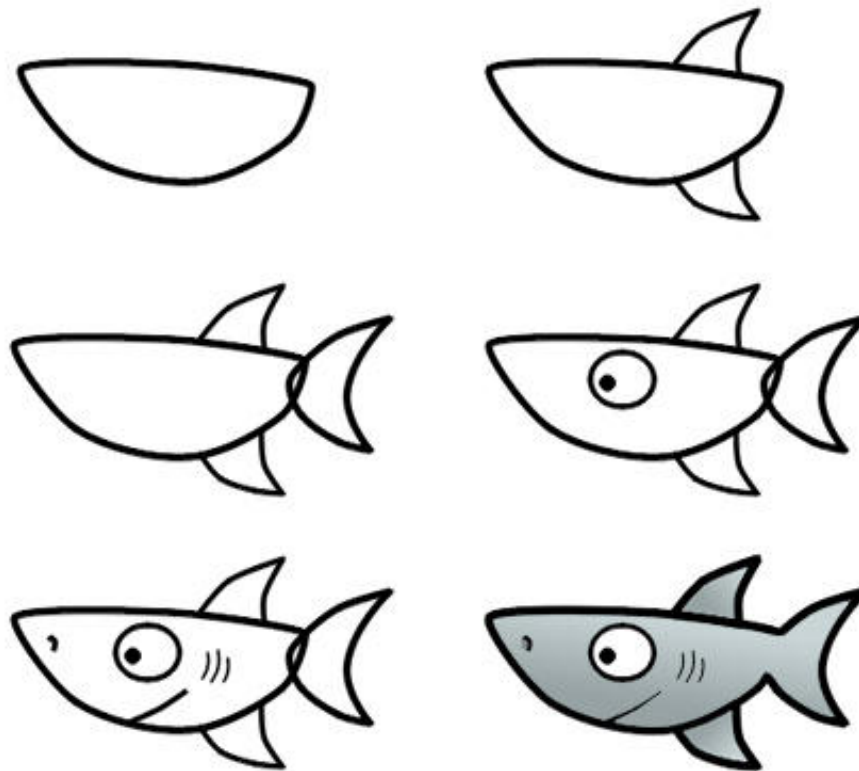
Find *Error* While Everything is OK?



Build Results		Rpmlint Results
ApplmageCodesOfJulia		
Applmage	i586	failed ?
	x86_64	building ?
Applmage.arm	armv7l	succeeded ?
	aarch64	succeeded ?

Rebuilding Applmage Package in Open Build Service:

<https://youtu.be/XuPECCjte2I>



Let's Do this *MANUALLY*.



AppImage Build Target

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ApplImage Build Target

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- ✓ osc Meta
- ✓ Meta Project

osc Meta

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

Meta Project (Web)

Home Project → Advanced → Meta:

```
<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_13.1"/>
    <path project="OBS:AppImage" repository="AppImage.arm"/>
    <arch>armv7l</arch>
    <arch>aarch64</arch>
  </repository>

  <repository name="AppImage">
    <path project="home:andisugandi" repository="openSUSE_13.1"/>
    <path project="OBS:AppImage" repository="AppImage"/>
    <arch>x86_64</arch>
    <arch>i586</arch>
  </repository>
</project>
```

The background features a geometric pattern of hexagons in various shades of green and blue, separated by white lines. The largest hexagon, in a dark teal color, contains the text.

Native AppImage Build Support

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:

- 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 \
-qmlidir=\$BUILD_SOURCE_DIR/ -bundle-non-qt-libs -verbose=2
- linuxdeployqt \$BUILD_APPDIR/usr/share/applications/*.desktop \
-qmlidir=\$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, bsr

- [URL TO SCM REPOSITORY]

files:

- [URL TO A RESOURCE]

Inspecting Results

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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
```



Demo!

Detailed Information x

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

loads

QtQuickApp Files Chromium Web ... Terminal Text Editor Document Viewer

8003267921_82cdb18b_o.jpg

QuickApp-0-Build1.1.glibc...5-x86_64.AppImage" selected (13.5 MB)

Contact

- Home Project
- Search
- OBS Manuals
- openSUSEs OBS Portal
- Reporting a Bug
- Mailing List
- Forums
- Chat (IRC)
- Twitter

QuteQ....AppImage ^

Show all

Using OBS to Build Containerized Application Image:
<https://youtu.be/rVj4hTdr72Y>



Questions?

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

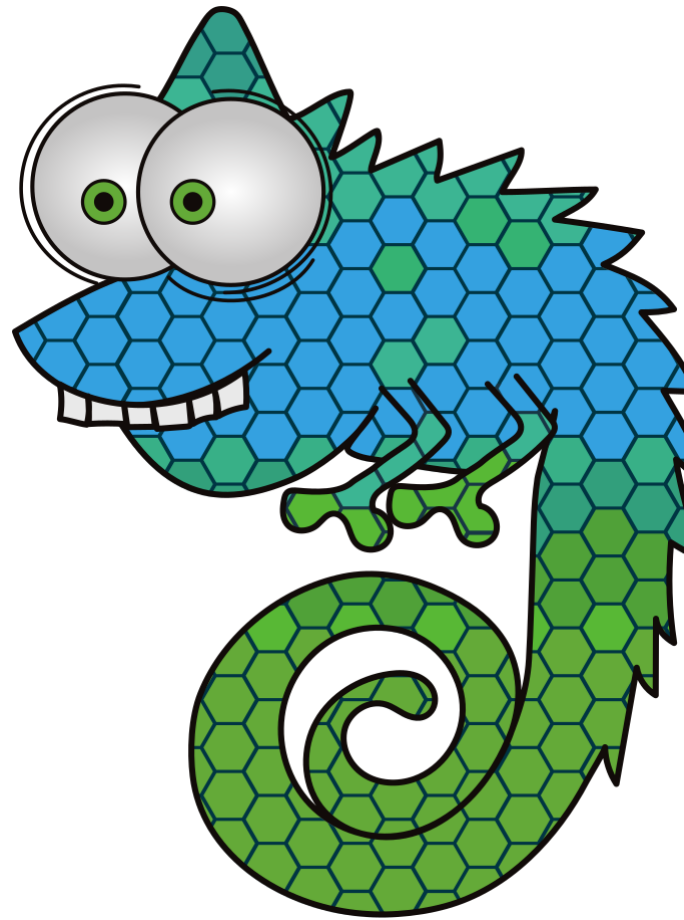
<https://github.com/AppImage/AppImageKit>

Join the conversation,
contribute & have a lot of fun!

www.opensuse.org

Thank you.





Have a Lot of Fun, and Join Us At:

www.opensuse.org



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