

# Using OBS to Build Containerized Application Image

Learn How To Generate AppImage



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/



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# Andi Sugandi



**Linux  
Professional  
Institute**



**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

# Introduction

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

# Introduction

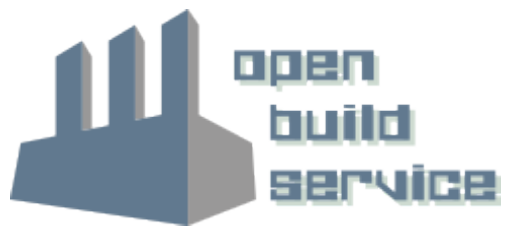
## 1

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

# Current State

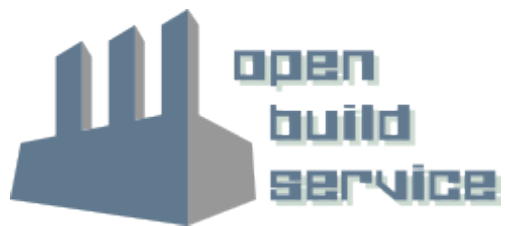
- ❓ What is an ApplImage?
- ❓ How do I run an ApplImage?
- ❓ How can I integrate ApplImages with the system?
- ❓ Where can I download ApplImages?
- ❓ Where do I store my ApplImages?
- ❓ Where can I request ApplImages?
- ❓ Where do I get support?



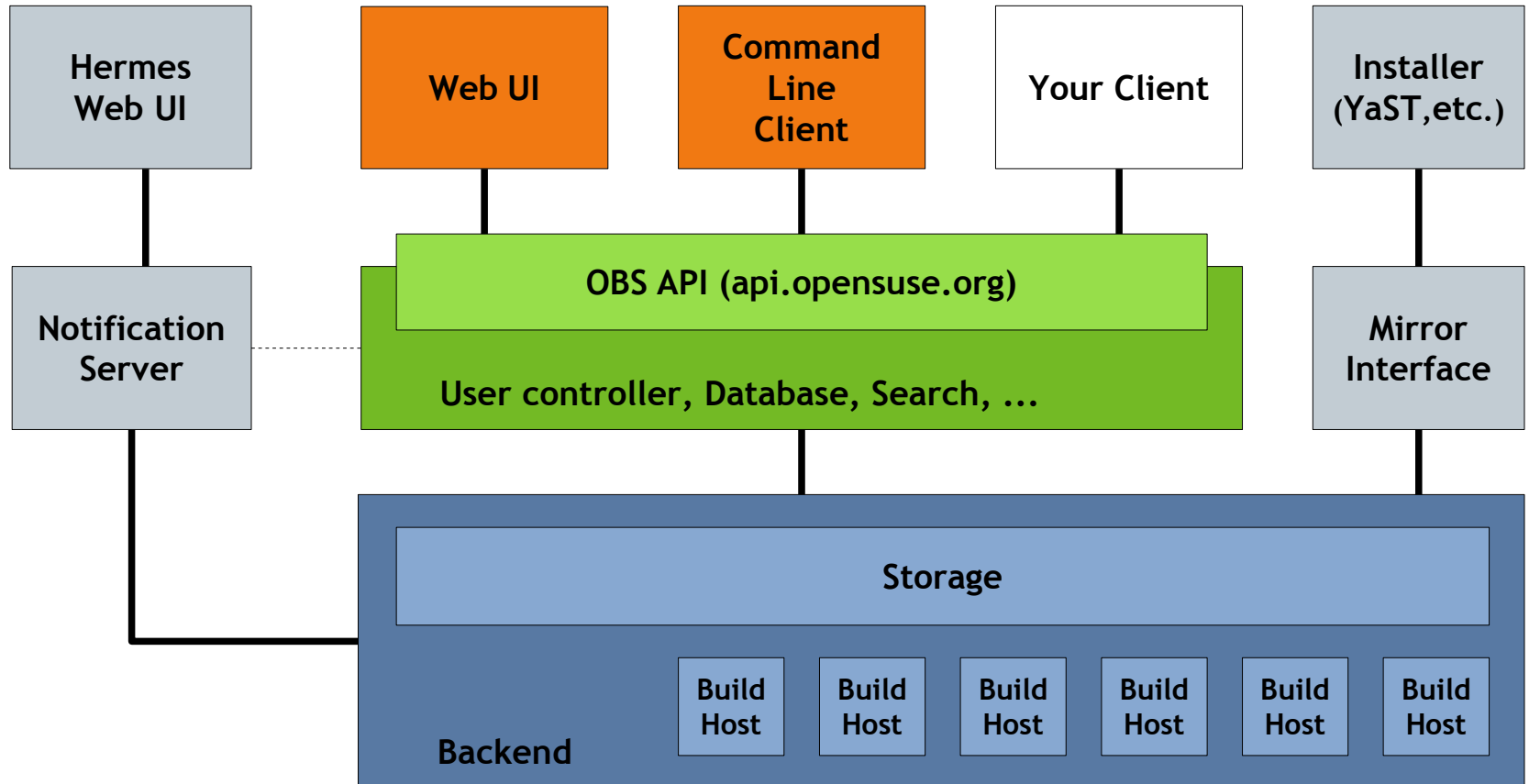


# OBS - ApplImage

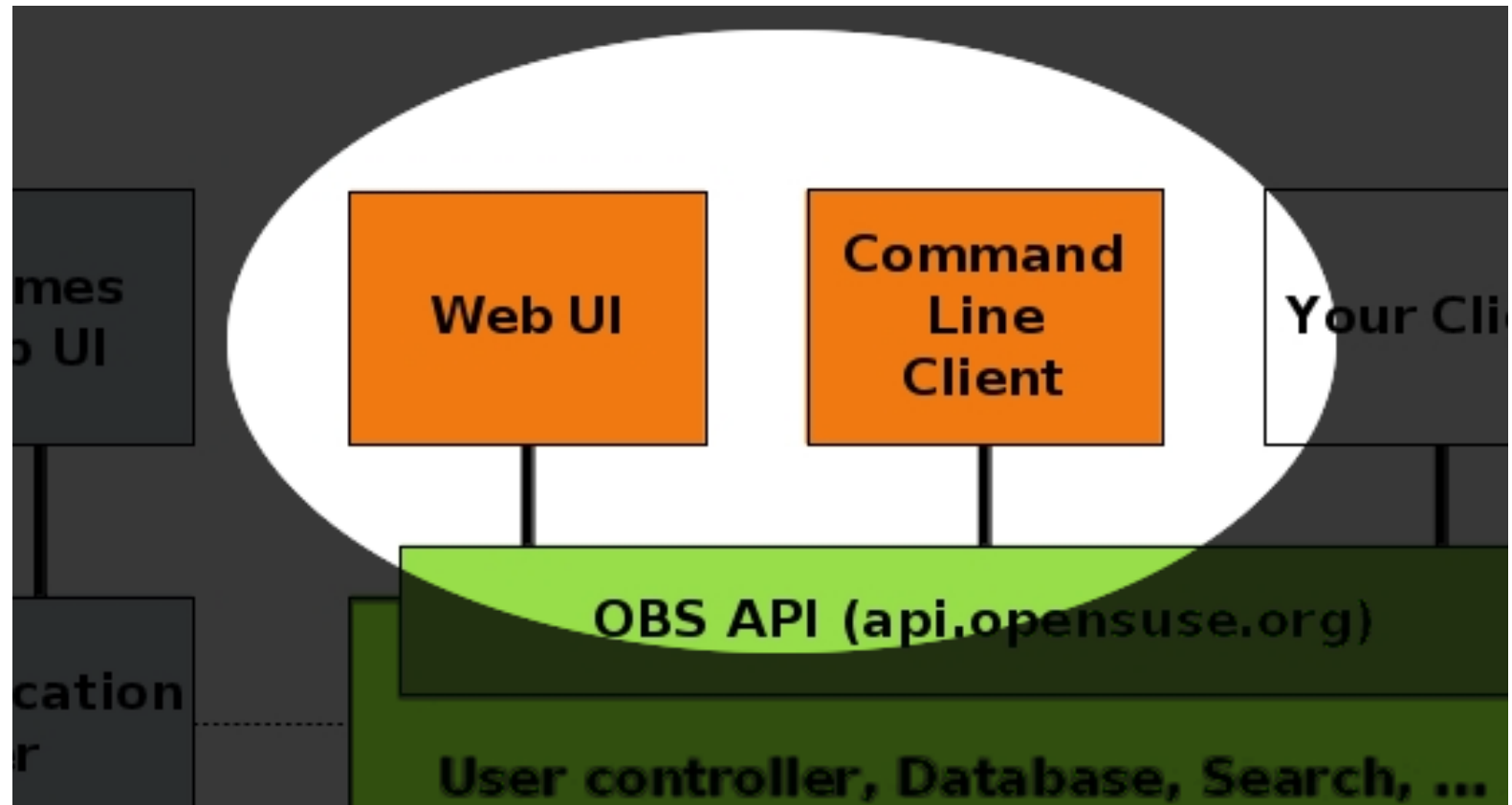




# OBS Components



# OBS Tools for Packagers



# OBS Reference Server



[build.opensuse.org](https://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 page title is "andisugandi's Home Project", and a notification indicates "5 build errors". The project description states: "My testing packages, mostly web based applications." Below the description are links for "Report bug", "Request role addition", and "Request deletion". The "Packages (8)" section lists the following packages: drupal6, hotot-qt-nokde, ignsdk, newscoop, perl-Module-Bundled-Files, perl-Text-CSV-Encoded, python3-pygame, and screenFetch. The "Build Results" section shows build status for CentOS\_7 and Fedora\_20 on x86\_64 and i586 architectures. For CentOS\_7 x86\_64: succeeded: 2, failed: 1, unresolvable: 2, broken: 1, disabled: 2. For Fedora\_20 i586: succeeded: 2, failed: 2, unresolvable: 1, broken: 1, disabled: 2. For Fedora\_20 x86\_64: succeeded: 2, failed: 2, unresolvable: 1, broken: 1.

Show home:andisugandi – openSUSE Build Service  
https://build.opensuse.org/project/show/home:andisugandi

Downloads Support Community Development

openSUSE Build Service > Projects > home:andisugandi > Overview [Sign Up](#) | [Log In](#)

Overview Repositories Monitor Requests Users Subprojects Advanced

### andisugandi's Home Project

My testing packages, mostly web based applications.

[Report bug](#) [Request role addition](#) [Request deletion](#)

5 build errors

#### 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 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

The background features a pattern of interlocking hexagonal shapes. A large teal hexagon is on the left, containing the text. To its right are green hexagons, and below it is a blue hexagon. The shapes are separated by white lines, creating a modern, geometric aesthetic.

# OBS Web Client

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- ✓ openSUSE Account
- ✓ OBS Project

# openSUSE Account & OBS Project



# HelloWorld



## AppImage Templates



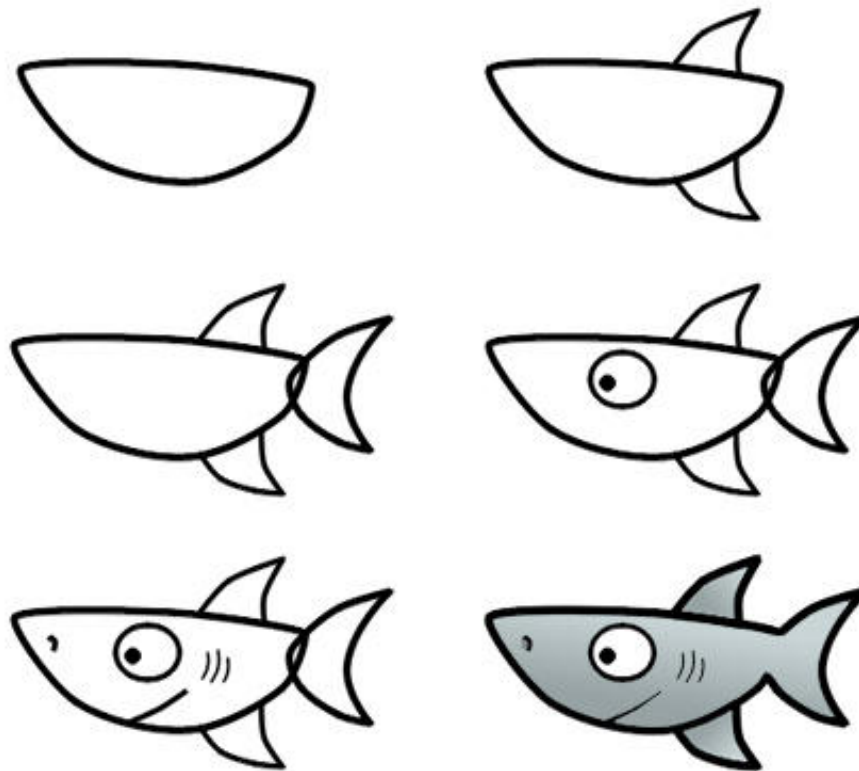
### AppImage

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

## Name your appliance

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

Create appliance



Let's Do this *MANUALLY*.



# AppImage Build Target

The background features a pattern of 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.



# AppImage 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:pbek:QOwnNotes/desktop/appimage.yml)  
[https://build.opensuse.org/package/view\\_file/home:olav-st:branches:OBS:AppImage:Templates/ScreenCloud/appimage.yml](https://build.opensuse.org/package/view_file/home:olav-st:branches:OBS:AppImage:Templates/ScreenCloud/appimage.yml)



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

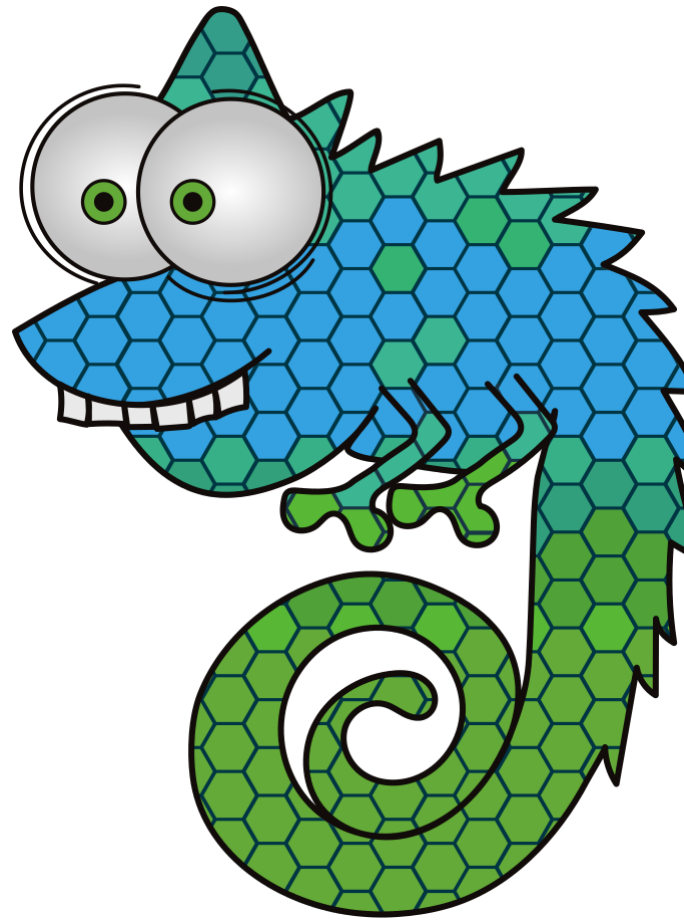
<https://github.com/AppImage/AppImageKit>

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

[www.opensuse.org](http://www.opensuse.org)

**Thank you.**





**Have a Lot of Fun, and Join Us At:**

**[www.opensuse.org](http://www.opensuse.org)**





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### Design & Inspiration

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