

# Packit: Fedora releases automated

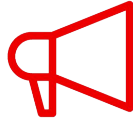
DevConf.cz Mini, Brno, March 31st 2023

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Software Engineer

# What have we prepared for you?



## Quick introduction

Who and what is Packit?



## Fedora workflow

How the code gets to users?



## Packit downstream automation

How does Packit help with the Fedora releases workflow?



## Future plans

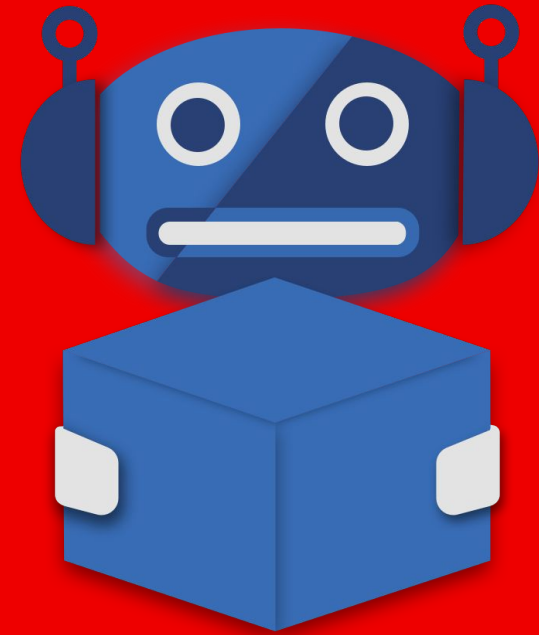
What we are planning to do?



## Q&A

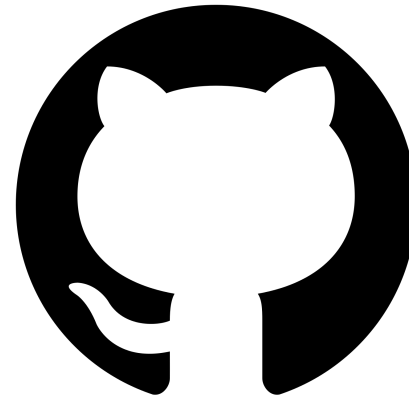
Do you have any questions or comments?

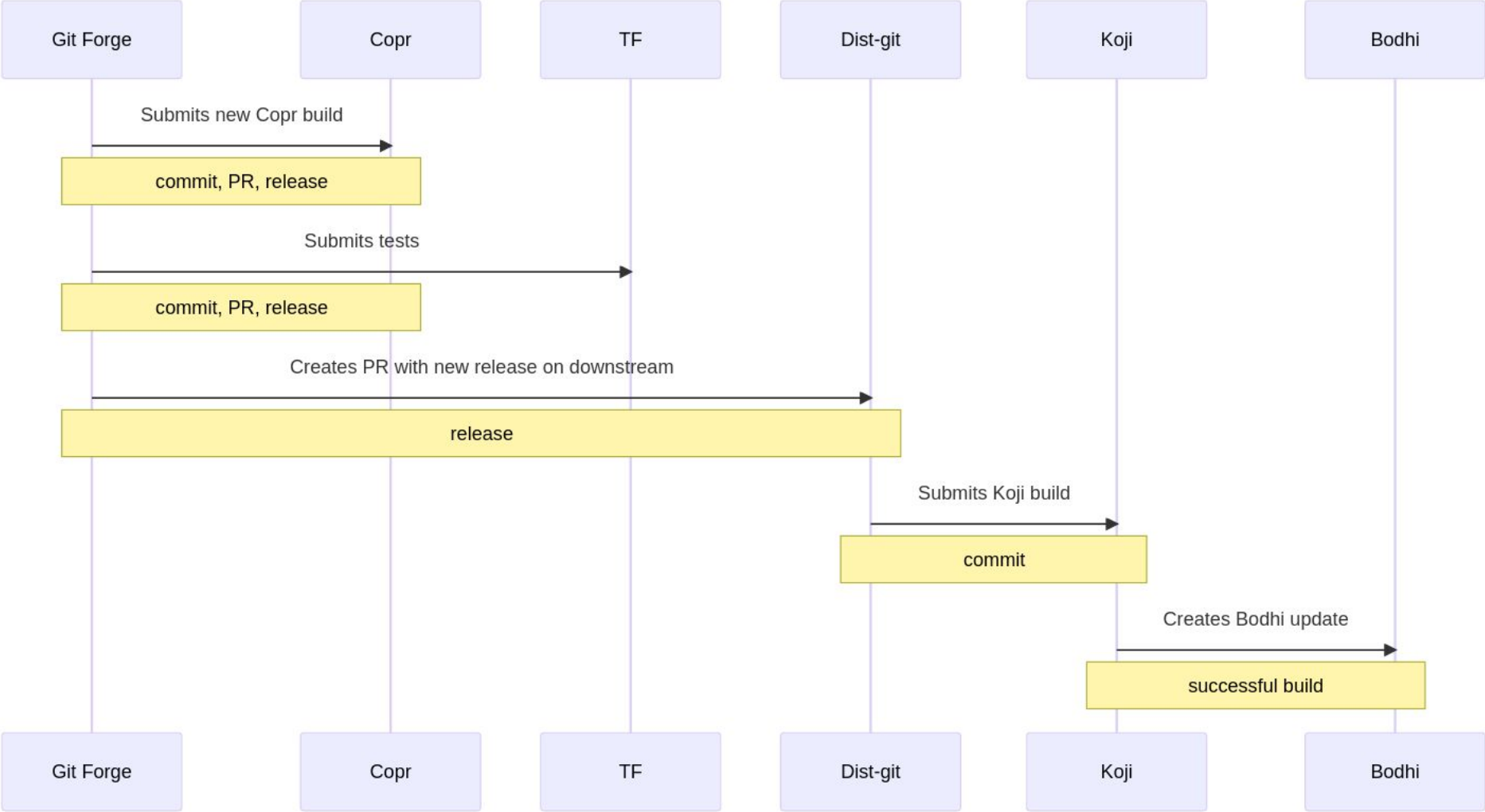
# Packit project and Packit team



# Goals of Packit

- ▶ validate upstream changes downstream
- ▶ bringing upstream releases to downstream

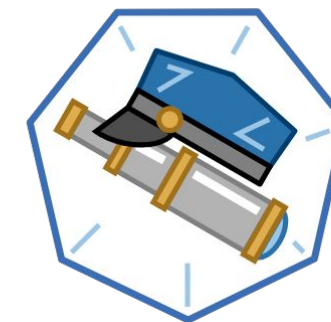


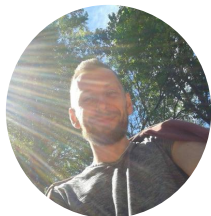


# Who uses Packit?



podman







# How the code gets to Fedora Linux users?

Upstream -> user

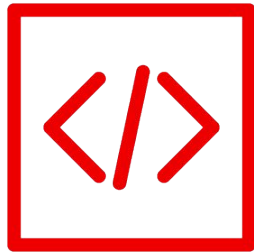


Upstream  
GitHub, GitLab,...



User  
dnf install my-application

Upstream -> user



**Upstream**  
GitHub, GitLab,...

packit / ogr

Watch 10 Star 29 Fork 43

<> Code Issues 32 Pull requests 1 Actions Projects Security ...

master Go to file Code

**About**  
One Git library to Rule --  
one API for many git  
forges  
pagure git github  
python3 hacktoberfest  
Readme  
MIT License

**Releases** 28  
0.18.0 Latest  
22 days ago

softwarefactory-project-zuul Merge pull req...	8 days ago	945
.fmf	Add .fmf and setup testing-farm	12 months ago
.github	Do not skip bug and security issues b...	8 days ago
examples	Add Jupyter examples	3 months ago
fedora	0.18.0 release	24 days ago
files	Remove files/tasks/zuul-project-setup...	last month
ogr	Fix anonymous GitlabService	last month
tests	Fix anonymous GitlabService	last month
.git_archival.txt	Introduce packaging	2 years ago

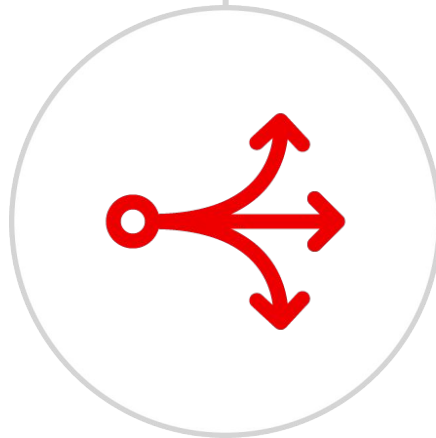
Upstream -> user



 Lookaside cache

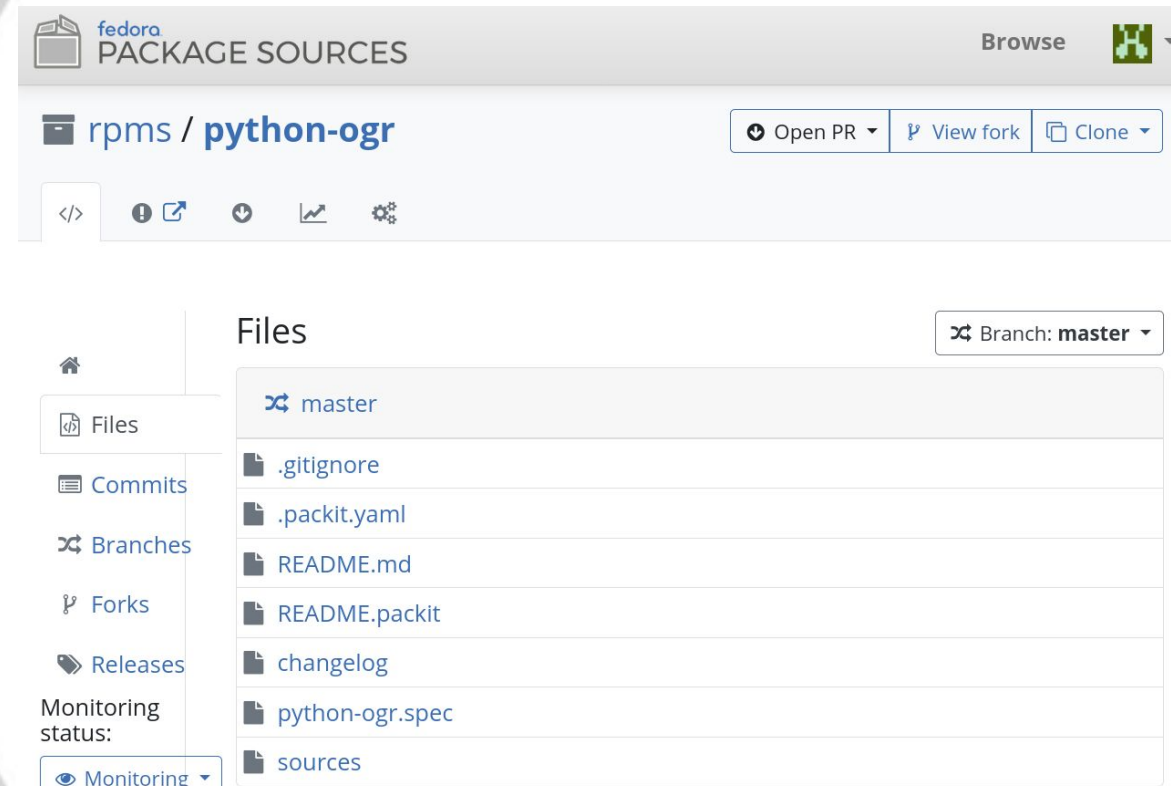
Archive database

Upstream -> user



DistGit  
= Distribution git

Pagure



► [src.fedoraproject.org](https://src.fedoraproject.org)

Upstream -> user



**Build system**

Koji

fedora<sup>f</sup>  
buildsystem

Mon, 23 Nov 2020 10:32:30 UTC

Packages  SEARCH

Summary Packages Builds Tasks Tags Build Targets Users Hosts Reports

### Information for package **python-ogr**

Name python-ogr

ID 28198

Builds

1 through 50 of 89 >>>

Page: 1

NVR	Built by	Finished ▼	State
<a href="#">python-ogr-0.18.0-1.fc33</a>	<a href="#">jpopelka</a>	2020-10-29 10:34:45	✓
<a href="#">python-ogr-0.18.0-1.fc32</a>	<a href="#">jpopelka</a>	2020-10-29 10:30:03	✓
<a href="#">python-ogr-0.18.0-1.fc34</a>	<a href="#">jpopelka</a>	2020-10-29 10:23:00	✓
<a href="#">python-ogr-0.18.0-1.fc31</a>	<a href="#">jpopelka</a>	2020-10-29 10:19:01	✓
<a href="#">python-ogr-0.17.0-1.fc31</a>	<a href="#">csomh</a>	2020-10-15 08:44:59	✓
<a href="#">python-ogr-0.17.0-1.fc32</a>	<a href="#">csomh</a>	2020-10-15 08:40:27	✓
<a href="#">python-ogr-0.17.0-1.fc34</a>	<a href="#">csomh</a>	2020-10-15 08:35:35	✓
<a href="#">python-ogr-0.17.0-1.fc33</a>	<a href="#">csomh</a>	2020-10-15 08:29:26	✓
<a href="#">python-ogr-0.16.0-1.fc34</a>	<a href="#">usercont</a>	2020-10-01 08:39:15	✓

► [koji.fedoraproject.org](https://koji.fedoraproject.org)

Upstream -> user



Update system

Bodhi

fedora UPDATES SYSTEM Releases Updates Overrides Search All Login

## Updates

76 Updates

packages: python-ogr search

	<b>python-ogr-0.18.0-1.fc31</b> created by <a href="#">jpopelka</a> 3 weeks ago for <a href="#">Fedora 31</a>	stable	0	0
	<b>python-ogr-0.18.0-1.fc32</b> created by <a href="#">jpopelka</a> 3 weeks ago for <a href="#">Fedora 32</a>	stable	0	0
	<b>python-ogr-0.18.0-1.fc33</b> created by <a href="#">jpopelka</a> 3 weeks ago for <a href="#">Fedora 33</a>	stable	0	0
	<b>python-ogr-0.18.0-1.fc34</b> created by <a href="#">jpopelka</a> 3 weeks ago for <a href="#">Fedora 34</a>	stable	0	0
	<b>python-ogr-0.17.0-1.fc33</b> created by <a href="#">csomh</a> a month ago for <a href="#">Fedora 33</a>	stable	3	3
	<b>python-ogr-0.17.0-1.fc31</b> created by <a href="#">csomh</a> a month ago for <a href="#">Fedora 31</a>	stable	3	3

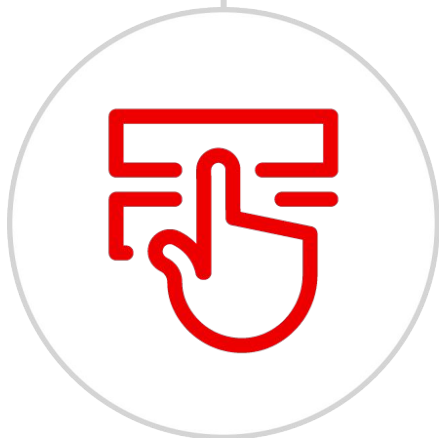
► [bodhi.fedoraproject.org](https://bodhi.fedoraproject.org)

Upstream -> user



User

dnf, yum, gnome-software





Upstream -> user



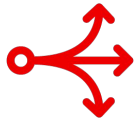
Upstream

GitHub, GitLab,...



Lookaside cache

Archive database



Distribution git

Pagure



Build system

Koji



Update system

Bodhi



User

dnf, yum, gnome-software,...

# How does Packit help with the Fedora releases?

Upstream -> user



Upstream  
GitHub, GitLab,...

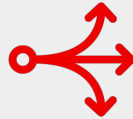
Packit jobs



Lookaside cache  
Archive database

1. Sync the release

propose\_downstream/pull\_from\_upstream



Distribution git  
Pagure



Build system  
Koji

2. Koji builds

koji\_build



Update system  
Bodhi

3. Bodhi updates

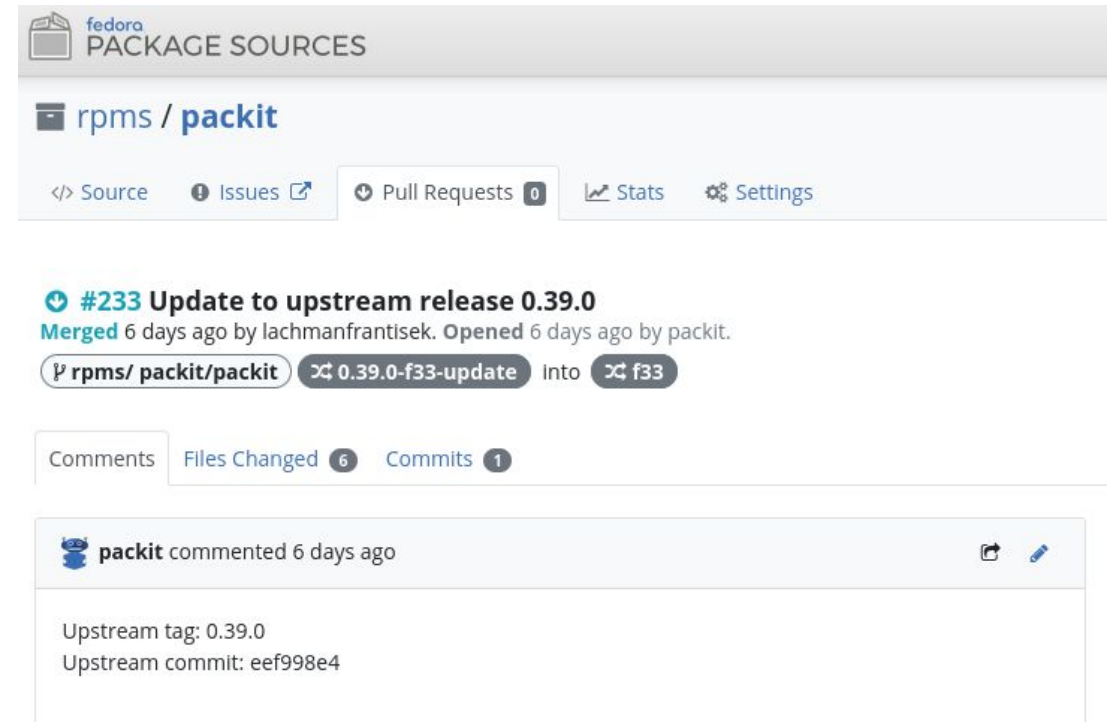
bodhi\_update



User  
dnf, yum, gnome-software,...

# 1. Sync the release

- ▶ Upstream → downstream
- ▶ Upload archives to lookaside cache
- ▶ Create pull-requests in dist-git
- ▶ 2 Packit jobs:
  - `propose_downstream`
  - `pull_from_upstream`



# 1. Sync the release

## propose\_downstream

- ▶ Reaction to GitHub/GitLab release
- ▶ Packit needs to be enabled in the upstream repo (installation and configuration)
- ▶ Packit provides statuses in GitHub/GitLab

```
- job: propose_downstream
  trigger: release
  targets:
    - fedora-all
```

✓ Merge pull request #1601 from lbarcziova/release-0.52  
0.52.0 main eb9e124

> Publish Python distributions ...  
on: release

> Rebuild & push images  
on: push

> Packit-as-a-Service-stg

✓ Packit-as-a-Service

- ✓ propose-downstream:epel8
- ✓ propose-downstream:f34
- ✓ propose-downstream:f35
- ✓ propose-downstream:f36
- ✓ propose-downstream:main

Packit-as-a-Service / propose-downstream:f34  
succeeded 4 days ago in 0s

**Propose downstream finished successfully.**

Name/Job	URL
Dashboard	<a href="https://dashboard.packit.dev/results/propose-downstream/692">https://dashboard.packit.dev/results/propose-downstream/692</a>

View more details on Packit-as-a-Service

# 1. Sync the release

pull\_from\_upstream

- ▶ Reaction to the Upstream Release Monitoring
- ▶ Packit config required only in the dist-git repository

```
- job: pull_from_upstream
  trigger: release
  targets:
    - fedora-all
```

## Status

Status	Updated	Description
OK	2023-03-31 09:07:57 (UTC)	No new version found

## Versions

Version	Retrieved on (UTC)	Pre-release
0.44.0	2023-03-05 19:44	<input type="checkbox"/>
0.43.0	2023-02-23 11:32	<input type="checkbox"/>

# 1. Sync the release

## Additional configuration

- ▶ Defining actions
- ▶ Config options:
  - Difference between upstream tags and version
  - Additional files to sync from upstream
  - Changelog generation

# 1. Sync the release

packit.spec

file modified +4 -1

@@ -2,7 +2,7 @@

%global real\_name packit

Name: %{real\_name}

- Version: 0.71.0

+ Version: 0.72.0

Release: 1%{?dist}

Summary: A tool for integrating upstream projects with Fedora operating system

@@ -102,6 +102,9 @@

%{python3\_sitelib}/\*

%changelog

+ \* Fri Mar 31 2023 Packit <hello@packit.dev> - 0.72.0-1

+ - Packit now preserves `autorelease` macro during `propose\_downstream` and `pull\_from\_upstream`. (#1904)

+

\* Sat Mar 25 2023 Packit <hello@packit.dev> - 0.71.0-1

- `upstream\_tag\_template` is now also used when looking for the latest version tag in Git. This allows upstream repositories to mix dif

plans/main.fmf

file modified +1 -1

sources

file modified +1 -1

@@ -1,1 +1,1 @@

- SHA512 (packitos-0.71.0.tar.gz) = 6dd701d490650f68acaf90f1af670df28b12b3abbcd1c0586f5b7c9afdf07a483cc3db269837298755760d2192db76bc275328

+ SHA512 (packitos-0.72.0.tar.gz) = 72017546e49d9767592460cd38fbf59fc1bb25e55cecb63272f5bfc019ca5c67fd49e339a75271438e6e37ee01274e3a539c8



## 2. Koji builds

- ▶ For new dist-git commits with spec-file changes
- ▶ Non-scratch builds in [Fedora Koji](#) build system
- ▶ By default reacts only to merged PRs by Packit

```
- job: koji_build
  trigger: commit
  targets:
    - fedora-all
```

NVR	Built by	Finished ▼	State
<a href="#">python-ogr-0.37.0-1.el8</a>	<a href="#">packit</a>	2022-03-31 07:35:25	✓
<a href="#">python-ogr-0.37.0-1.fc37</a>	<a href="#">packit</a>	2022-03-31 07:34:41	✓
<a href="#">python-ogr-0.37.0-1.fc35</a>	<a href="#">packit</a>	2022-03-31 07:33:38	✓
<a href="#">python-ogr-0.37.0-1.fc36</a>	<a href="#">packit</a>	2022-03-31 07:33:32	✓
<a href="#">python-ogr-0.37.0-1.fc34</a>	<a href="#">packit</a>	2022-03-31 07:33:24	✓

# 3. Bodhi updates

- ▶ For successful Koji builds
- ▶ Create a new update in Fedora Bodhi

```
- job: bodhi_update
trigger: commit
targets:
- fedora-stable
```

## ⚡ python-ogr-0.37.0-1.fc35

FEDORA-2022-82dc22c5f3 created by packit an hour ago for Fedora 35

Details

Builds 1

Automated Tests

New upstream release: 0.37.0

ⓘ This update has been submitted for testing by packit.

an hour ago

ⓘ This update's test gating status has been changed to 'ignored'.

an hour ago

171 Updates 🔔

packages: python-ogr search

⚡ **python-ogr-0.37.0-1.el8**  
created by packit 25 minutes ago for Fedora EPEL 8

pending → testing 0 0

○ **python-ogr-0.37.0-1.fc37**  
created by packit 26 minutes ago for Fedora 37

stable 0 0

⚡ **python-ogr-0.37.0-1.fc35**  
created by packit 27 minutes ago for Fedora 35

pending → testing 0 0

⚡ **python-ogr-0.37.0-1.fc34**  
created by packit 27 minutes ago for Fedora 34

pending → testing 0 0

# FAQ

# Where should I place the Packit configuration file?

- ▶ `propose_downstream`: respective upstream branch which Packit should react to
- ▶ `pull_from_upstream`: default dist-git branch
- ▶ `koji_build`, `bodhi_update`: respective dist-git branch which Packit should react to

# Do I need to grant any permissions to Packit in dist-git?

- ▶ Simplified answer: no.

# Where can I see the status of jobs?

- Packit dashboard (in progress)

## Pull from upstream results

✓ f37

[nmstate/nmstate#release:v2.2.9](#)



















Status	submitted
Submission Time	23. 3. 2023 14:05:48
Start Time	23. 3. 2023 14:06:15
Finish Time	23. 3. 2023 14:06:55
Link to downstream PR	<a href="#">Click here</a>

Q Search value

```
2023-03-23 13:06:15.269 upstream.py DEBUG No ref given or is not glob pattern
2023-03-23 13:06:15.270 local_project.py INFO Checking out upstream version v2.2.9.
2023-03-23 13:06:15.276 base_git.py DEBUG Running ActionName.post_upstream_clone hook.
2023-03-23 13:06:15.276 base_git.py DEBUG Running ActionName.post_upstream_clone.
2023-03-23 13:06:15.277 base_git.py DEBUG Running default implementation for ActionName.post_upstream_clone.
2023-03-23 13:06:15.277 base_git.py DEBUG Allowed GPG keys are not set, skipping the verification.
2023-03-23 13:06:15.277 base_git.py DEBUG Running ActionName.post_upstream_clone hook.
```

## Jobs

List of jobs by Packit Service

Copr Builds   Koji Builds   SRPM Builds   Testing Farm Runs   Propose Downstreams <u>Pull From Upstreams</u>					
Trigger	Targets			Time Submitted	
 <a href="#">tumatic/GPXSee#release:12.2</a>	 main	 f36	 f37	yesterday	
 <a href="#">packit/packit#release:0.69.0</a>	 main	 f36	 rawhide	 f37	yesterday
 <a href="#">packit/ogr#release:0.44.0</a>	 epel9	 f37	 rawhide	 f36	yesterday
 <a href="#">rust-netlink/netlink-packet-utils#release:v0.5.2</a>	 f36	 epel9	 f37		2 days ago

# Where can I see the status of jobs?

- ▶ [Fedora Notifications](#)

# Where can I see the status of jobs?

- Configuring issue repository

## [packit] Pull from upstream failed for release 0.71.0 #1900

Open

packit-public-repos-bot opened this issue 4 days ago · 0 comments



packit-public-repos-bot commented 4 days ago

...

Packit failed on creating pull-requests in dist-git (<https://src.fedoraproject.org/rpms/packit.git>):

dist-git branch	error
f36	See <a href="https://dashboard.packit.dev/results/pull-from-upstream/2043">https://dashboard.packit.dev/results/pull-from-upstream/2043</a>

Get in touch with us if you need some help.





# How to retrigger the jobs in case of errors?

✗	propose-downstream:f37	Re-run
✓	propose-downstream:epel9	
✓	propose-downstream:f36	



**martinpitt** commented 5 days ago

/packit propose-downstream



rpms / **mrack**

<> Source

! Issues

🔗 Pull Requests 0

📊 Stats

## #17 Update to upstream release 1.13.1

Merged a month ago by tdudlak. Opened a month ago by packit.

rpms/ packit/mrack

1.13.1-f37-update-propose\_downstream

into

f37

Comments

Files Changed 6

Commits 1



**packit** commented a month ago



Upstream tag: v1.13.1

Upstream commit: 469298da



Pull-Request has been merged by tdudlak

a month ago



**tdudlak** commented a month ago



/packit koji-build




**tdudlak** commented a month ago



/packit create-update

# Documentation

 Packit

Dashboard

User Documentation ▼

About Packit

Onboarding Guide

Packit Service

Testing Farm

FAQ

Source-git ▶

Configuration

Packit CLI ▶

Actions

Generated code in upstream archives

Blog Posts ▶

Development Documentation ▶

Status page

## Documentation

- [About](#) - Key principles of Packit.
- [Onboarding Guide](#) - How to start using Packit.
- [Packit Service](#) - GitHub App that helps you continuously ensure that your project work in Fedora OS.
- [Testing Farm](#) - Guide to Packit's service for running tests.
- [Frequently Asked Questions](#) - Whys, Whats, contacts.
- [Source-git](#) - Source-git concept and how to work with it.
- [Configuration for packit](#) - Configuration file description.
- [Packit CLI](#) - Commands description.
- [Actions](#) - Further customize Packit's behaviour.
- [Generated code in upstream archives](#) - When your release tarballs contain generated code and you need to patch it downstream.

<https://packit.dev/>

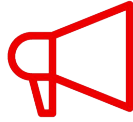
<https://packit.dev/docs/fedora-releases-guide/>

# Present and future of Packit

# Present and future of Packit

- ▶ Making the downstream automation more robust
- ▶ Monorepo support
- ▶ VM Images + Testing Farm

# Q&A



## Quick introduction

Who and what is Packit?



## Fedora workflow

How the code gets to users?



## Packit downstream automation

How does Packit help with the Fedora releases workflow?



## Future plans

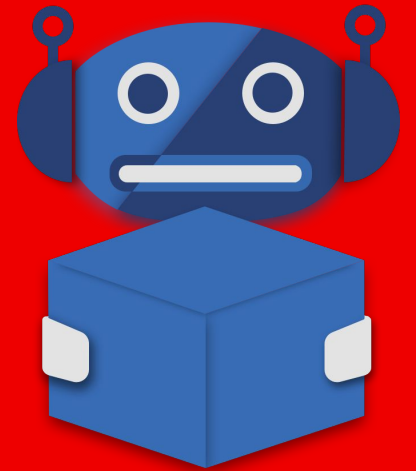
What we are planning to do?



## Q&A

Do you have any questions or comments?

# Thank you for coming



<https://packit.dev/>