



# Becoming an Apache Airflow Committer from 0

Ship Code, Earn Trust, Lead Change

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# 3.0

# Zhe-You(Jason) Liu

- Apache Airflow Committer
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- NCKU CSIE 4<sup>th</sup> from Taiwan
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# **1. Why Contribute to Open Source**

# Before Contributing

- Design Patterns
- Coding skills, Unit Test
- Code Review
- System Level Design

# After Contributing

- Collaborate with **top contributors** over the world
- Communication Skills
- Design Documentation
- Career Opportunities (?)



## **2. Areas to Contribute**

- **Three typical contribution scenarios**
- **Background Knowledge before Contributing**
- **Scope-level Opportunities**
- **More Tips for Picking Issues**

# Three typical contribution scenarios

## (1) Non-code Contribution

- Documentation
- Translations

## (2) Code Contribution

- Bug Fix
- New Feature
- Improvement

## (3) Code Review



# Background Knowledge before Contributing

## Entities most known

- DagModel
- DagRun
- Task
- TaskInstance

## User-facing Documentation

- The overall architecture of Airflow
- How to write Dag
- Classic features

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**We are good to go for contributing!**



# Scope-level Opportunities

## Beginner

- Type annotations
- MyPy improvements
- Unit test coverage

## Easy

- Translations
- Documentation
- Providers
- CLI

# Scope-level Opportunities

## Mid

- API Server
- React UI
- CI / CD Plan
- Helm Chart

## Hard

- Core Models
- Assets
- Scheduler
- TaskSDK

# More Tips for Picking Issues

Pick something you are interested in

- GitHub Labels area: <name> [\[1\]](#)
- GitHub Projects [\[2\]](#)

Stay tune for the latest activities

- Dev Mailing List [\[3\]](#)
- Airflow Improvement Proposal [\[4\]](#)



## **3. How to get started**

- **Code Contribution**
- **Setting up Dev Env**
- **Some Tips for using Breeze**
- **Code Review**

# Code Contributions

- **Avoid duplicate works**
- **Start with small change**
- **Test coverage for your change**
- **Backward compatibility**

# Code Contribution (Improvements)

**Raise discussion before start**

- Describe Solution, Trade-Offs
- Avoid waste of time  
if we are not in right direction



# Setup Airflow Dev Env with 1 Step - Breeze

```
> uv tool install -e ./dev/breeze  
Resolved 112 packages in 842ms  
Audited 112 packages in 1ms  
Installed 1 executable: breeze
```

```
> breeze --python 3.10 --backend postgres  
Docker image build is not needed for CI build as no important files are changed!  
Good version of Docker: 27.4.0.  
Good version of docker-compose: 2.31.0  
Executable permissions on entrypoints are OK
```



## Some Tips for using Breeze

### Start Airflow

```
breeze start-airflow --backend postgres
```

### Run selected unit tests

```
breeze --backend postgres
```

```
# run pytest after entering the container  
pytest airflow-core/...
```



## Advance Usage of Breeze

### Start Airflow with Services Integration, specific Core version

```
breeze start-airflow  
--backend postgres  
--integration localstack  
--integration elasticsearch  
--mount-sources providers-and-test  
--use-airflow-version 3.0.6
```

# Code Review

- **Good communication skill**
- **Be kind to others**
- **Provide constructive feedback**
- **Be open to discussion and different viewpoints**



## **4. From the first PR to Committer**

# The First Pull Request

## Fix PythonOperator DAG error when DAG has hyphen in name #42902

Merged

Lee-W merged 5 commits into `apache:main` from `jason810496:fix/python-operator-dag-error-dag-with-hyphen` on Oct 13, 2024



Conversation 22

Commits 5

Checks 82

Files changed 2



jason810496 commented on Oct 10, 2024

Member



closes: [#42796](#)

After reproducing the issue, I found that the generated DAG file looks like this:

```
import types

unusual_prefix_3f65a6a886883f41209c142108053b32fdfbaf99_my-dag = types.ModuleType("unusual_prefix_3f65a6a886883f41209c142108053b32fdfbaf99_my-dag")

unusual_prefix_3f65a6a886883f41209c142108053b32fdfbaf99_my-dag.callable_virtualenv = callable_virtualenv

sys.modules["unusual_prefix_3f65a6a886883f41209c142108053b32fdfbaf99_my-dag"] = unusual_prefix_3f65a6a886883f41209c142108053b32fdfbaf99_my-dag

# ...
```

Replace the hyphen with dash in original module name to solve this issue.



1



1

Reviewers

josix

Lee-W

shahar1

Assignees

No one—[assign yourself](#)

Labels

[type:bug-fix](#)

Projects

None yet

# 300 Hours in 5 months

Projects • airflow

total 301 hrs 46 mins



11 hrs 59 mins over the [Last 7 Days](#) in airflow under [all](#) branches. 🌩





New committers: Shubham Raj, Buğra Öztürk, LIU ZHE YOU, Kalyan Reddy !

Hello everyone,

Wooo Hooo Hooo!

In the midst of the Airflow 3 frenzy we had the opportunity to get a lot of contributions. And we had time to discuss who is ready to become a committer.

The Project Management Committee (PMC) for Apache Airflow has invited 4(!) of the contributors:

- \* Shubham Raj ((shubhamraj-git)
- \* Buğra Öztürk (bugraoz93)
- \* LIU ZHE YOU (jason810496)
- \* Kalyan Reddy (rawwar)

to become committers and we are pleased to announce that they have all accepted.

Please join us in welcoming Shubham, Buğra, LIU ZHE YOU, Kalyan to their new role and responsibility in our project community.

Jarek

On behalf of the Apache Airflow PMC



# Apache Mail Address !



**Project:**

**Committer:**

**Podling:**

**Service:**

**Auth:**

[\(About\)](#)

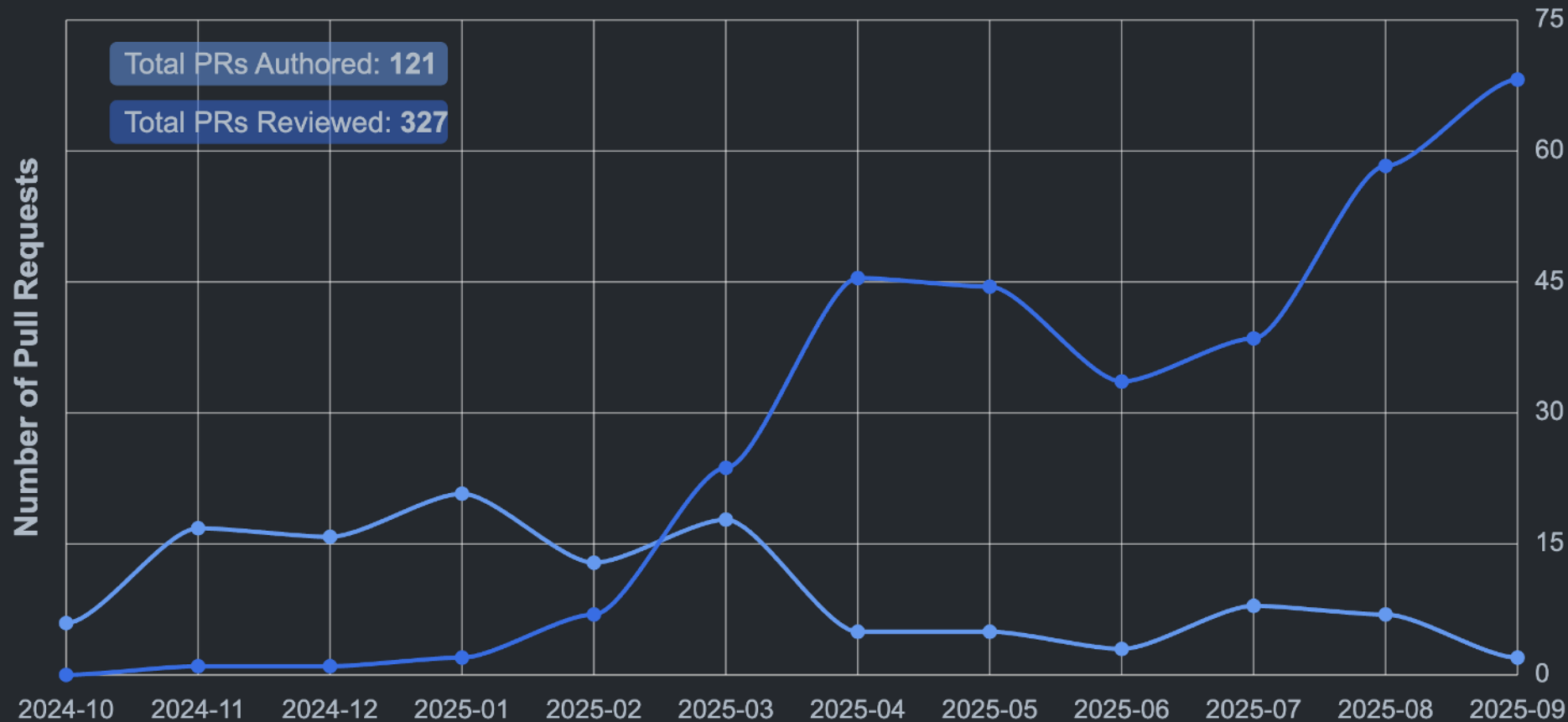
**Find:**

**Search results:**

**Zhe You Liu (jasonliu) :**

**No fast path, Just steady contribution**  
**Show the impact to the community !**

## Contribution History of **Jason810496** in **apache/airflow**





## **5. Summary and Takeaways**

- **Background Knowledge before Contributing**
- **Note of using AI**
- **Some Mindsets**
- **Some Project to get started**

# Background Knowledge before Contributing

- **Dag and TI Entities**
- **User-phasing Docs**
- **Start with small change**

# Note of using AI

- Simple answer, **Yes!**
- Be responsible

# Some Mindsets

- **Don't burnout, enjoy the process**
- **Small steps, Big changes**
- **Be patient**
- **Be kind**

# Some Project to get started

- **Providers of Deadline Alerts (AIP-86)** [\[1\]](#)
- **UI Test Coverage** [\[2\]](#)
- **CI/ CD Improvements** [\[3\]](#)
- **Improving Test Coverage**
- **Improving Type Annotations**



# Happy Contributing!



Apache  
Airflow

# Questions?

**GitHub: [jason810496](#)**

**LinkedIn: [zhe-you-liu](#)**