Becoming an Apache Airflow Committer from 0

Ship Code, Earn Trust, Lead Change

3.0

Zhe-You(Jason) Liu

Zhe-You(Jason) Liu

- **Apache Airflow Committer**
- **Backend Intern @Microsoft**
- **NCKU CSIE 4th from Taiwan**
- GitHub: **jason810496**
- LinkedIn: **zhe-you-liu**

Table of Content

1.Why Contribute to Open Source

2.Areas to Contribute

3.How to get started

4.From the first PR to Committer

5.Summary and Takeaways

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

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

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_3f65a6a8868

unusual_prefix_3f65a6a886883f41209c142108053b32fdfbaf99_my-dag.callable_virtualenv = callable_virtualenv

sys.modules["unusual_prefix_3f65a6a886883f41209c142108053b32fdfbaf99_my-dag"] = unusual_prefix_3f65a6a886883f4

# ...
```

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

Jarek Potiuk - Friday, March 14, 2025 8:04:46 PM GMT+8

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)

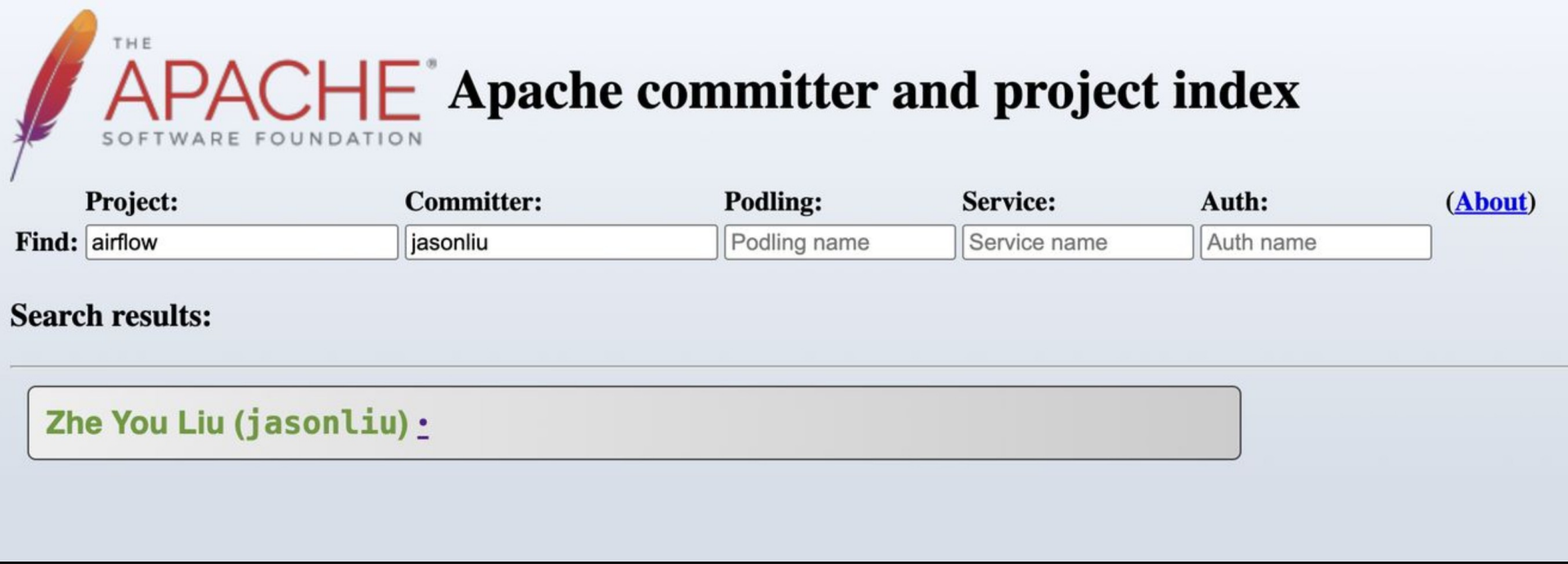
to become committers and we are pleased to announce that they have all accepted.

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

Jarek

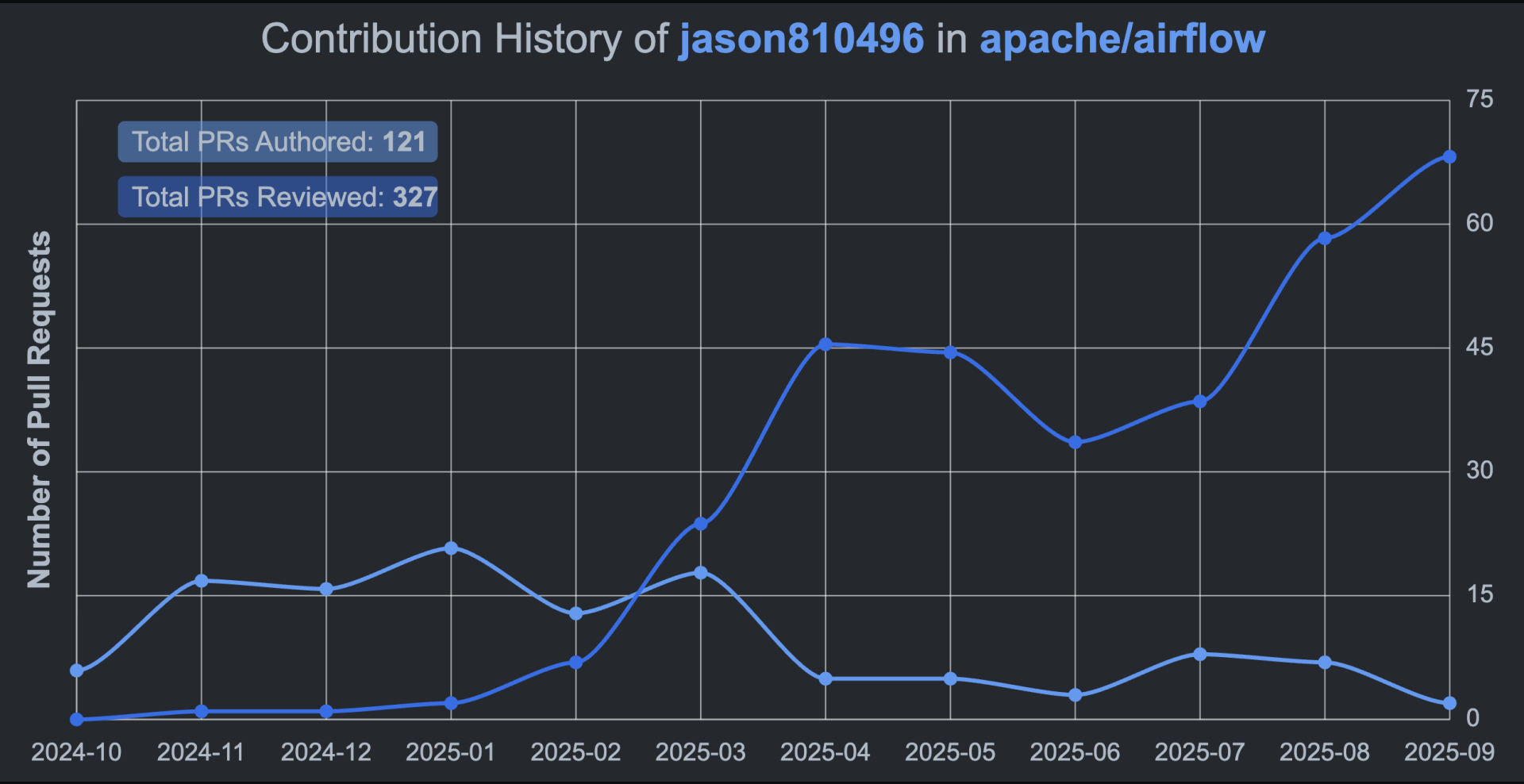
On behalf of the Apache Airflow PMC

Apache Mail Address !



No fast path, Just steady contribution

Show the impact to the community !


Contribution History of jason810496 in apache/airflow
Total PRs Authored: 121
Total PRs Reviewed: 327
Number of Pull Requests
0
15
30
45
60
75
2024-10
2024-11
2024-12
2025-01
2025-02
2025-03
2025-04
2025-05
2025-06
2025-07
2025-08
2025-09

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**