

Adding a Variable

Variables are an Airflow mechanism to have single text values that can change globally in your Workflow. They can be referenced by your Tasks, and changed in the Airflow or Astronomer UI without deploying to your instance.

Prerequisites

You should have set up a connection `github_api` and completed the previous activities.

The DAG `extract_stars.py` under the folder `dags` should look like that:

```
from airflow import DAG
from airflow.operators.bash import BashOperator
from airflow.providers.http.operators.http import SimpleHttpOperator

from datetime import datetime

with DAG('extract_stars', schedule_interval='@daily', start_date=datetime(2022, 1, 1), catchup=False) as dag:

    get_date = BashOperator(
        task_id="get_date",
        bash_command="date"
    )

    query_github_stats = SimpleHttpOperator(
        task_id="query_github_stats",
        endpoint="repos/apache/airflow",
        method="GET",
        http_conn_id="github_api",
        log_response=True
    )
```

Adding a Variable in the UI

So far the endpoint `repos/apache/airflow` is hardcoded in the `query_github_stats` task.

There are two reasons why you may want to change that:

- If the same endpoint is used multiple tasks or/and different DAGs

- If you want to avoid deploying a DAG and going through the long CI/CD process just to change an endpoint

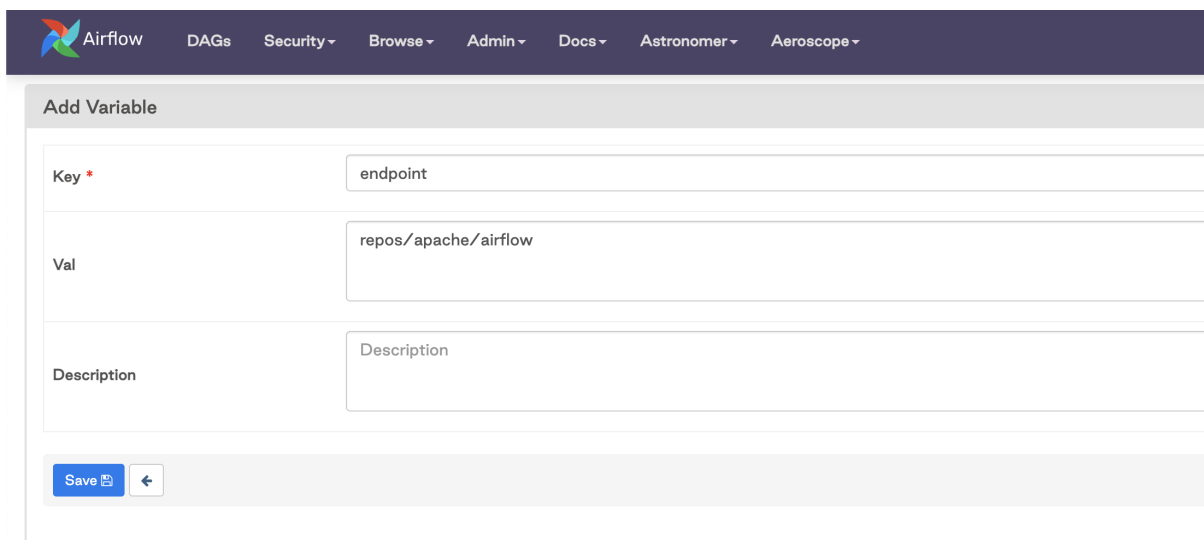
That's where Variables come up.

It's time to create a variable for the endpoint so you can change it whenever you want dynamically.

Go to `localhost:8080`

Navigate to `Admin` and `Variables`, click the blue plus button.

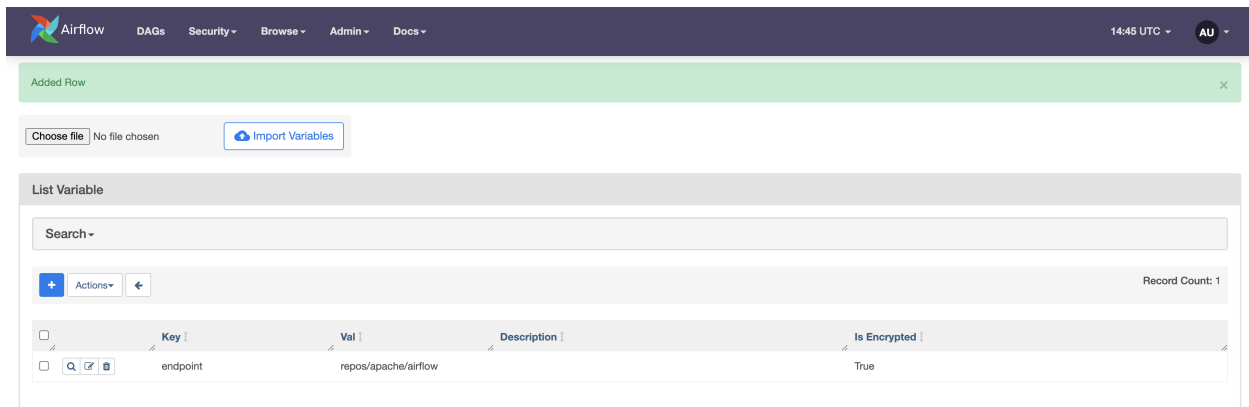
Add a variable like the following, with a key of `endpoint` and a value of `repos/apache/airflow`



The screenshot shows the Airflow Admin interface. At the top is a dark blue navigation bar with the Airflow logo and several menu items: DAGs, Security, Browse, Admin, Docs, Astronomer, and Aeroscope. Below this is a light gray header for the 'Add Variable' form. The form contains three input fields: 'Key *' with the value 'endpoint', 'Val' with the value 'repos/apache/airflow', and 'Description' with the value 'Description'. At the bottom of the form is a blue 'Save' button with a document icon and a back arrow button.

Click `Save`

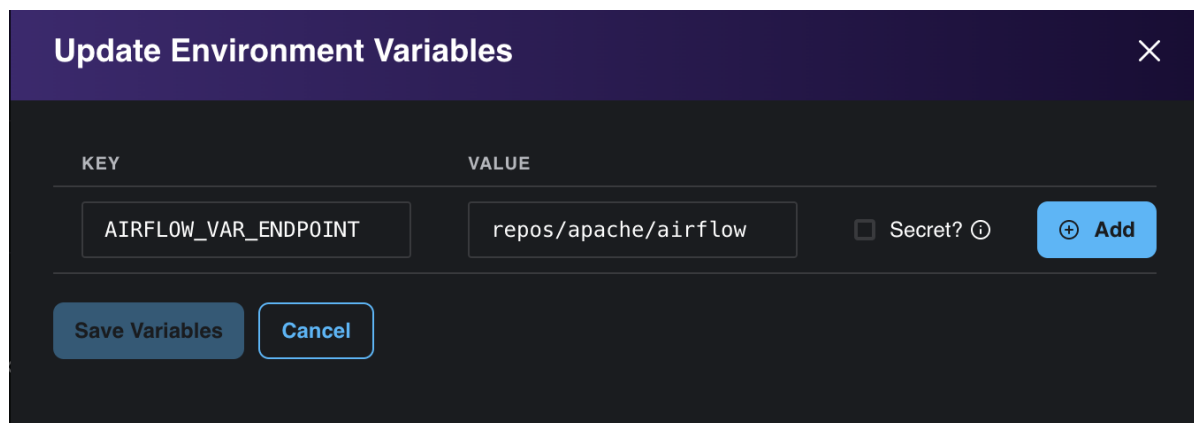
You should have that:



Additional resources

Other ways of adding variables:

- You can also add variables via your `.env` file **locally** and `Environmental Variables` in Astronomer Cloud, e.g. the following example adds the variable `ENDPOINT` with the value `repos/apache/airflow`. Make sure to hit the `Add` button and `Save Variables`



- You can also add variables via a Secrets Backend and in your Dockerfile, but these are advanced topics and not covered here

Airflow variables: <https://airflow.apache.org/docs/apache-airflow/stable/howto/variable.html>

Astro variables: <https://docs.astronomer.io/astro/develop-project#set-environment-variables-locally>