

# Hands-on Lab: Getting started with Apache Airflow

Estimated time needed: **20** minutes

## Objectives

After completing this lab you will be able to:

- Start Apache Airflow.
- Open the Airflow UI in a browser.
- List all the DAGs.
- List the tasks in a DAG.
- Explore a DAG in the UI.

## About Skills Network Cloud IDE

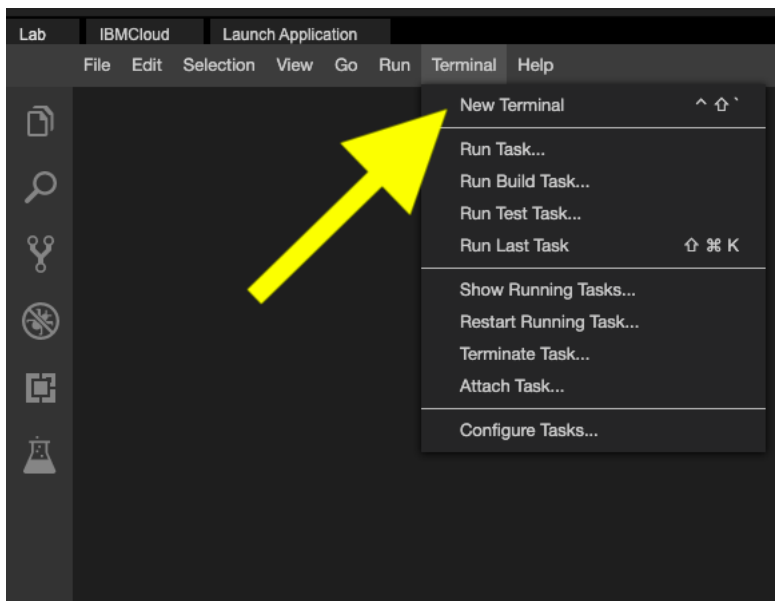
Skills Network Cloud IDE (based on Theia and Docker) provides an environment for hands on labs for course and project related labs. Theia is an open source IDE (Integrated Development Environment), that can be run on desktop or on the cloud. To complete this lab, we will be using the Cloud IDE based on Theia running in a Docker container.

## Important Notice about this lab environment

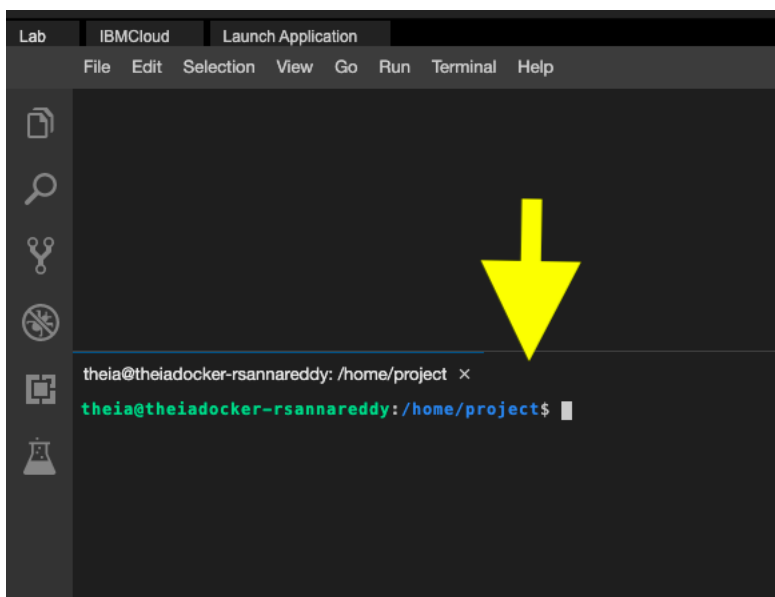
Please be aware that sessions for this lab environment are not persistent. A new environment is created for you every time you connect to this lab. Any data you may have saved in an earlier session will get lost. To avoid losing your data, please plan to complete these labs in a single session.

## Exercise 1 - Start Apache Airflow

Open a new terminal by clicking on the menu bar and selecting **Terminal->New Terminal**, as shown in the image below.



This will open a new terminal at the bottom of the screen as in the image below.



Run the commands below on the newly opened terminal. (You can copy the code by clicking on the little copy button on the bottom right of the codeblock below and paste it wherever you wish.)

Run the command below in the terminal to start Apache Airflow.

```
1. 1
1. start_airflow
```

Copied!

Please be patient, it may take upto 5 minutes for airflow to get started.

When airflow starts successfully, you should see an output similar to the one below.

```
theia@theiadocker-rsannareddy:/home/project$ start_airflow
Starting your airflow services....
This process can take a few minutes.

Airflow started, waiting for all services to be ready....

Your airflow server is now ready to use and available with username: airflow password: MTM4ODUtcnNhbm5h

You can access your Airflow Webserver at: https://rsannareddy-8080.theiadocker-5-labs-prod-th
eiaK8s-4-tor01.proxy.cognitiveclass.ai


CommandLine:
• List DAGs: airflow dags list
• List Tasks: airflow tasks list example_bash_operator
• Run an example task: airflow tasks test example_bash_operator runme_1 2015-06-01
theia@theiadocker-rsannareddy:/home/project$
```

UI URL Username Password

## Exercise 2 - Open the Airflow Web UI

Copy the Web-UI URL and paste it on a new browser tab. You can also click on the URL by holding the control key (Command key in case of a Mac).

You should land at a page that looks like this:

 Airflow

Security

Browse

Admin

Docs


### Skills Network Airflow

All 32Active 0Paused 32

Filter DAGs by tag

DAG	Owner	Runs	Schedule	Last Run	Recent Tasks
<div><div><input type="checkbox"/></div><div>example_bash_operator</div><div>exampleexample2</div></div>	airflow	<div><div></div><div></div><div></div></div>	0 0 ***	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div><input type="checkbox"/></div><div>example_branch_datetime_operator_2</div><div>example</div></div>	airflow	<div><div></div><div></div><div></div></div>	@daily	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div><input type="checkbox"/></div><div>example_branch_dop_operator_v3</div><div>example</div></div>	airflow	<div><div></div><div></div><div></div></div>	*1 ****	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div><input type="checkbox"/></div><div>example_branch_labels</div><div></div></div>	airflow	<div><div></div><div></div><div></div></div>	@daily	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div><input type="checkbox"/></div><div>example_branch_operator</div><div>exampleexample2</div></div>	airflow	<div><div></div><div></div><div></div></div>	@daily	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div><input type="checkbox"/></div><div>example_complex</div><div>exampleexample2example3</div></div>	airflow	<div><div></div><div></div><div></div></div>	None	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div><input type="checkbox"/></div><div>example_dag_decorator</div><div>example</div></div>	airflow	<div><div></div><div></div><div></div></div>	None	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div><input type="checkbox"/></div><div>example_external_task_marker_child</div><div>example2</div></div>	airflow	<div><div></div><div></div><div></div></div>	None	<div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>

You can Unpause/Pause a DAG using the Unpause/Pause toggle button.

Airflow

Security

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# Skills Network Airflow


All 32

Active 0

Paused 32

DAG	Owner
<div><div><div>Pause/Unpause DAG</div><div><div><div></div></div></div><div><div>example_bash_operator</div><div>exampleexample2</div></div></div></div>	airflow
<div><div><div></div></div><div><div>example_branch_datetime_operator_2</div><div>example</div></div></div>	airflow

An unpaused DAG looks like this:

Airflow

Security

Browse

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Docs

# Skills Network Airflow


All 32

Active 0

Paused 32

DAG	Owner
<div><div><div></div></div><div><div>example_bash_operator</div><div>exampleexample2</div></div></div>	airflow
<div><div><div></div></div><div><div>example_branch_datetime_operator_2</div><div>example</div></div></div>	airflow

Click on a DAG to explore more about the DAG.

Airflow

Security

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example\_xcom

example

airflow

example\_xcom\_args

example

airflow

example\_xcom\_args\_with\_operators

example

airflow

latest\_only

example2example3

airflow

latest\_only\_with\_trigger

example3

airflow

test\_utils

example

airflow

tutorial

example

airflow

tutorial\_etl\_dag

ETL DAG tutorial

airflow

Click on the Grid button to see the grid view of the DAG.

Click on the Graph button to see the graph view of the DAG.

## Exercise 3 - List all DAGs

Apache airflow gives us some handy command line options to work with.

Run the command below in the terminal to list out all the existing DAGs.

1. 1
1. `airflow dags list`

Copied!

## Exercise 4 - List tasks in a DAG

Run the command below in the terminal to list out all the tasks in the DAG named `example_bash_operator`.

1. 1
1. `airflow tasks list example_bash_operator`

Copied!

Here `example_bash_operator` is the name of the DAG.

Try listing out the tasks for the DAG `tutorial1`.

## Exercise 5 - Pause/Unpause a DAG

Run the command below in the terminal to unpause a DAG.

1. 1
1. `airflow dags unpause tutorial1`

Copied!

Here `tutorial1` is the name of the DAG.

Pause a DAG.

1. 1
1. `airflow dags pause tutorial1`

Copied!

Try to unpause the DAG named `example_branch_operator`.

## Practice exercises

1. Problem:

*List tasks for the DAG `example_branch_labels`.*

▼ Click here for Hint

Use list option.

▼ Click here for Solution

1. 1

1. airflow tasks list example\_branch\_labels

Copied!

2. Problem:

*Unpause the DAG example\_branch\_labels.*

▼ Click here for Hint

Use the unpause option.

▼ Click here for Solution

1. 1

1. airflow dags unpause example\_branch\_labels

Copied!

3. Problem:

*Pause the DAG example\_branch\_labels.*

▼ Click here for Hint

Use the pause option.

▼ Click here for Solution

1. 1

1. airflow dags pause example\_branch\_labels

Copied!

## Authors

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## Other Contributors

Rav Ahuja

## Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2023-05-04	0.2	Benny Li	Minor formatting changes
2021-07-05	0.1	Ramesh Sannareddy	Created initial version of the lab

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