

# **Create a lesson plan for Data Engineering Bootcamp on Apache Airflow. Include an introduction, lesson outline, questioning, assessment, differentiation, and plenary. Include links to some videos and resources.**

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Lesson: Apache Airflow

Introduction:

Welcome to the Apache Airflow lesson! Apache Airflow is a powerful open source tool for managing and scheduling workflows. This lesson plan will cover the basic concepts and usage of the tool.

Lesson Outline:

- Introduction to Apache Airflow (5 minutes)
  - o Definitions
  - o Use cases
- Creating DAGs (25 minutes):
  - o DAG building blocks
  - o How to create a basic DAG
- Running and Monitoring DAGs (10 minutes):
  - o Differentiating between sequential vs parallel tasks
  - o How to submit and monitor running tasks
- Airflow Administration (10 minutes):
  - o Configuring settings
  - o Setting up connections
- Wrap-up (5 minutes):
  - o Recap of key concepts
  - o Questions and Answers

Questioning:

- What makes Apache Airflow different from other workflow/scheduling tools?
- How do we create a DAG?
- What are the different types of tasks available in Airflow?
- How can we make sure our tasks are running correctly?

Assessment:

At the end of the lesson, learners can complete a brief quiz or show the instructor

a DAG they created as part of the lesson.

#### Differentiation:

Learners with prior knowledge and experience with workflow tools can be shown additional examples and go into further depth on other features of Apache Airflow. Learners who are new to the tool can be given more time to work with simpler examples and complete more guided activities.

#### Plenary:

To recap the key concepts, learners can watch a short video introducing Apache Airflow ([<https://www.youtube.com/watch?v=ZMLXuJ7VhFk>][1]), or practice creating DAGs using the [[Apache Airflow Tutorial](https://airflow.apache.org/tutorial.html)][2].

[1]: <https://www.youtube.com/watch?v=ZMLXuJ7VhFk>

[2]: <https://airflow.apache.org/tutorial.html>