Airflow

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UNIVERSITY OF TARTU

What is Airflow?

- Airflow is a platform created by the community to programmatically author, schedule and monitor workflows.

- Source: https://airflow.apache.org/

Why Airflow?

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- Task C, takes ~ 30 min, should run only if Task A has finished successfully
- Task D, takes ~ 20 min, should run after file "prevDay.csv" is uploaded to "/tmp/taskD"

- Can we still use our current scheduling tool?

About

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Directed Acyclic Graph

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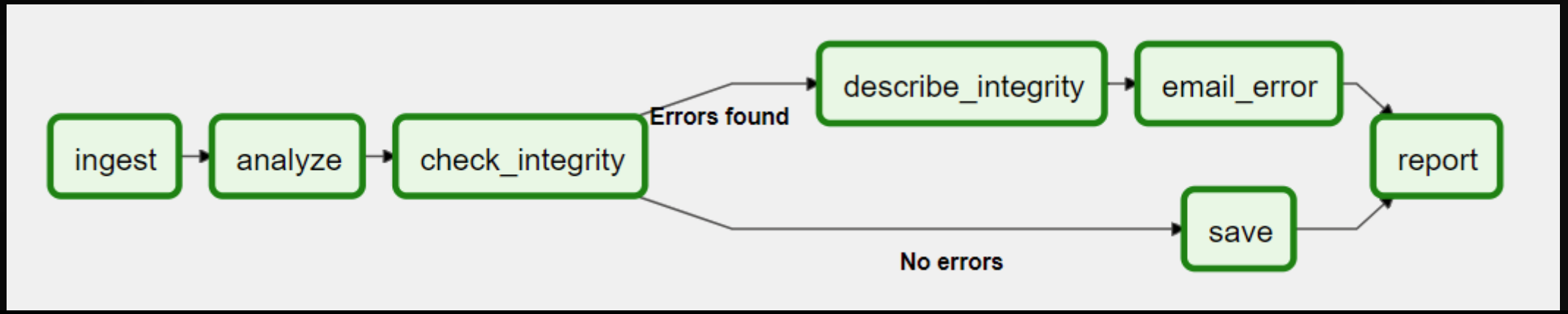

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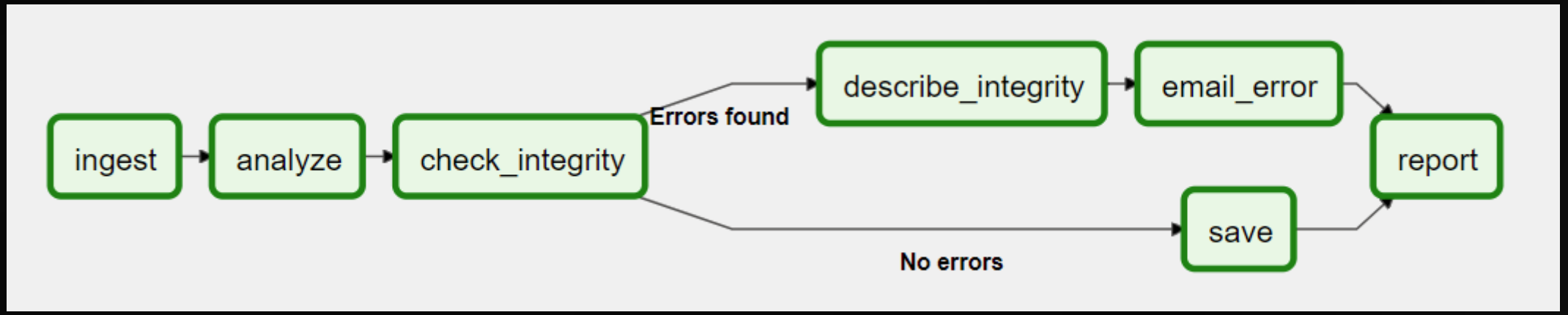

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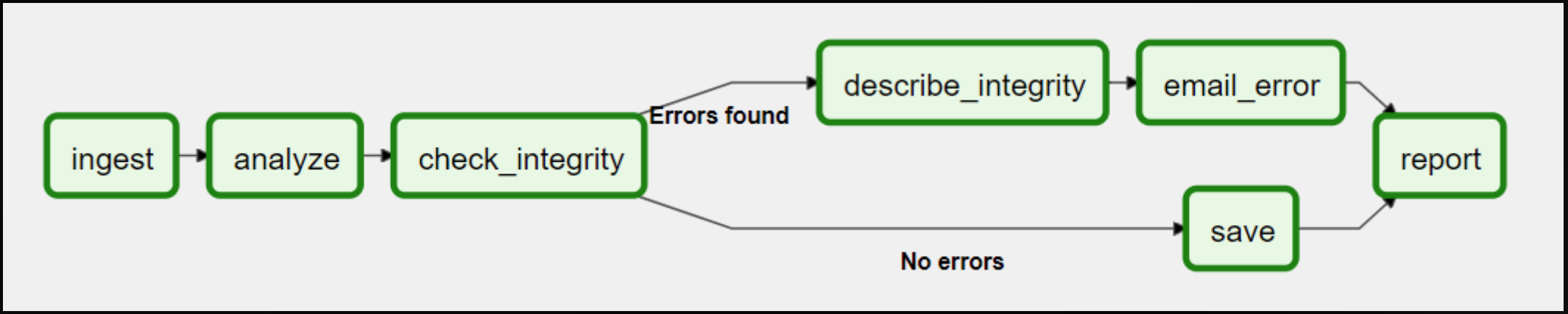

- A DAG specifies the dependencies between Tasks, and the order in which to execute them and run retries;
- The Tasks themselves describe what to do, be it fetching data, running analysis, triggering other systems, or more.

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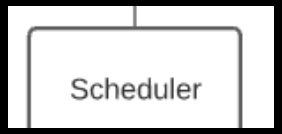
Architecture

- Scheduler
  - triggering scheduled workflows
  - submitting Tasks to the executor to run



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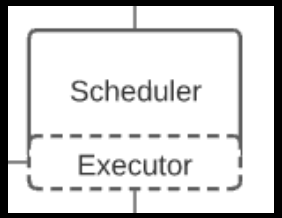

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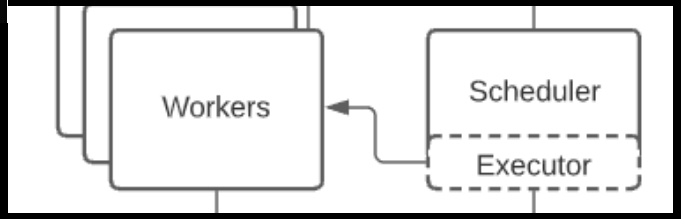

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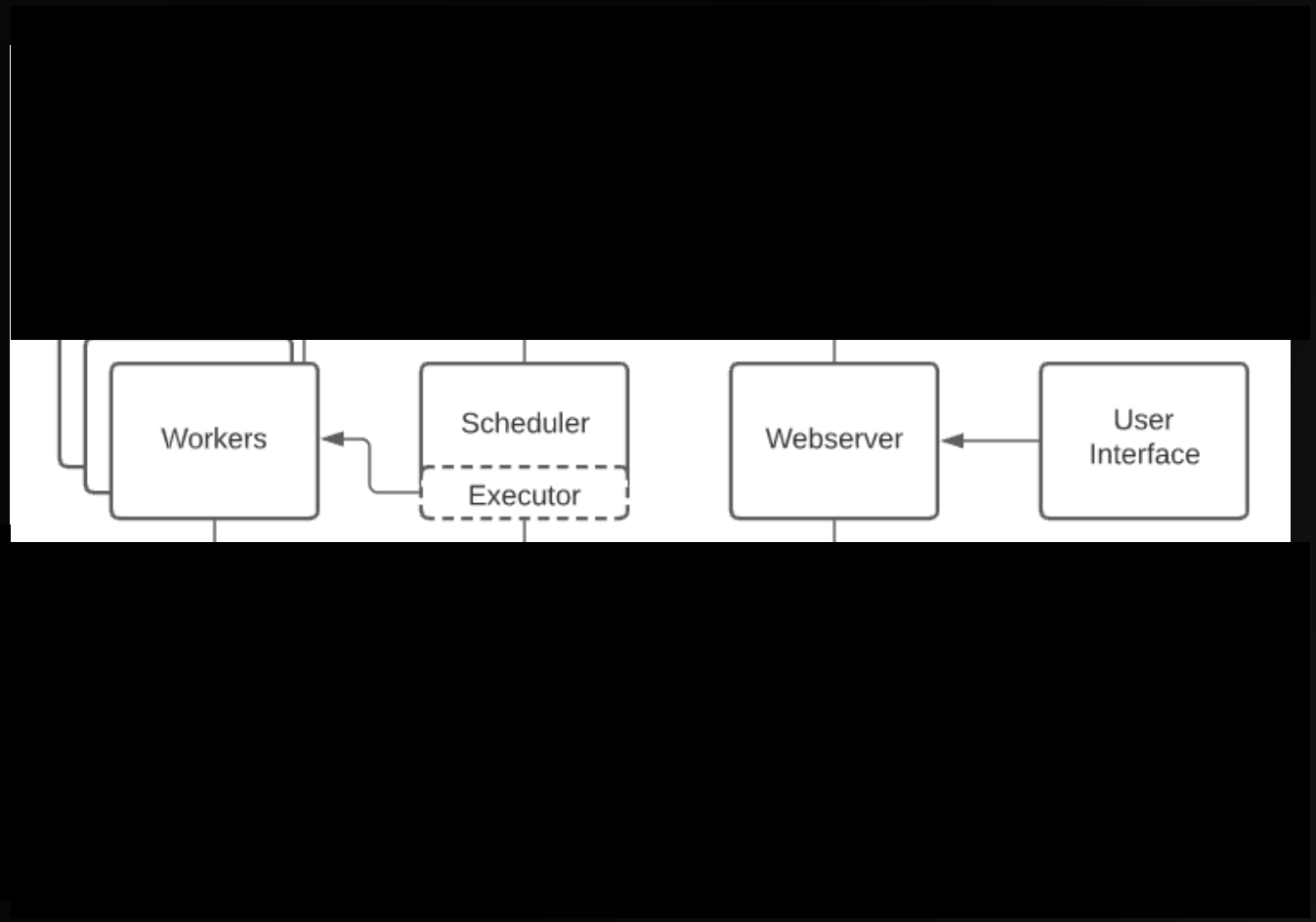

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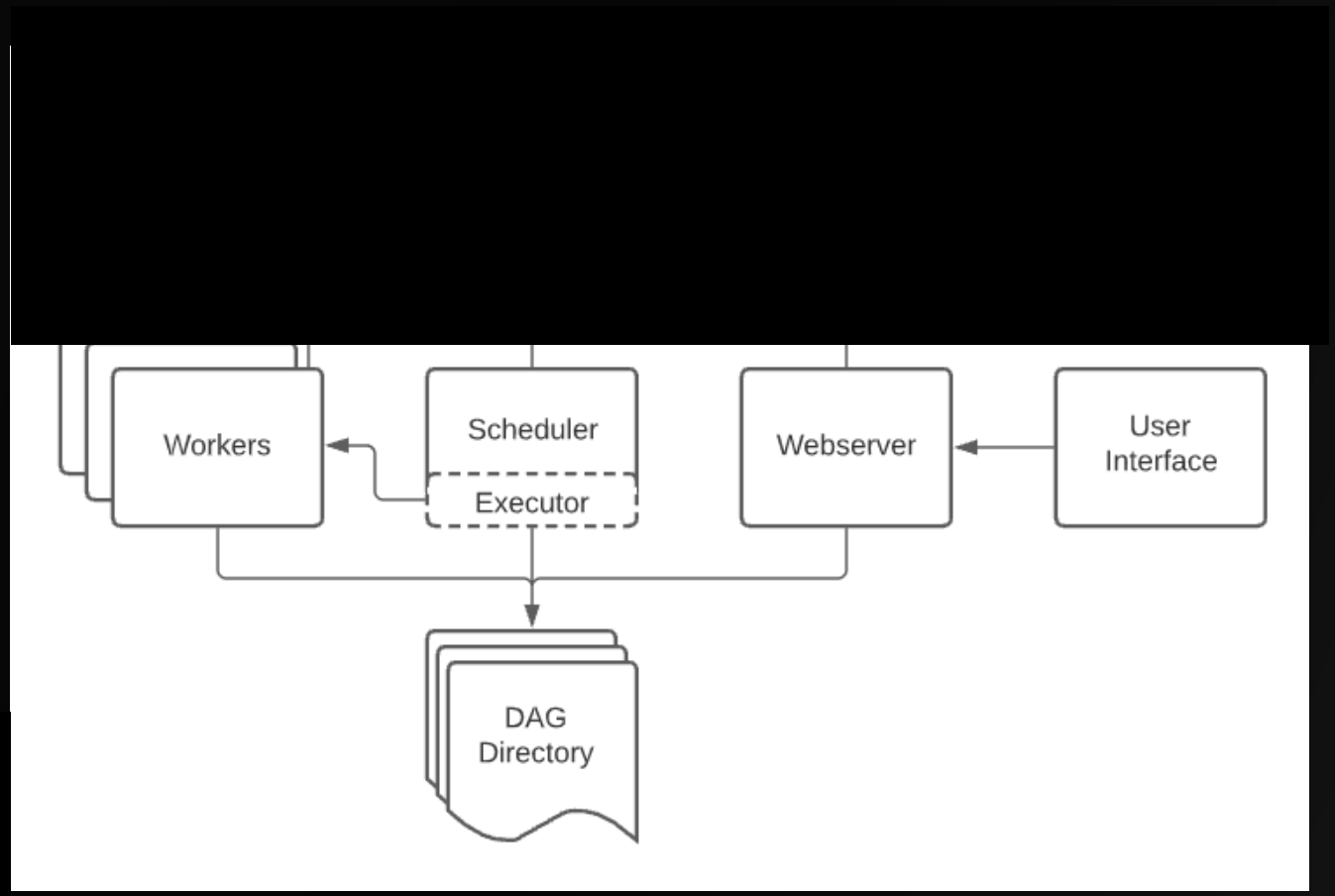

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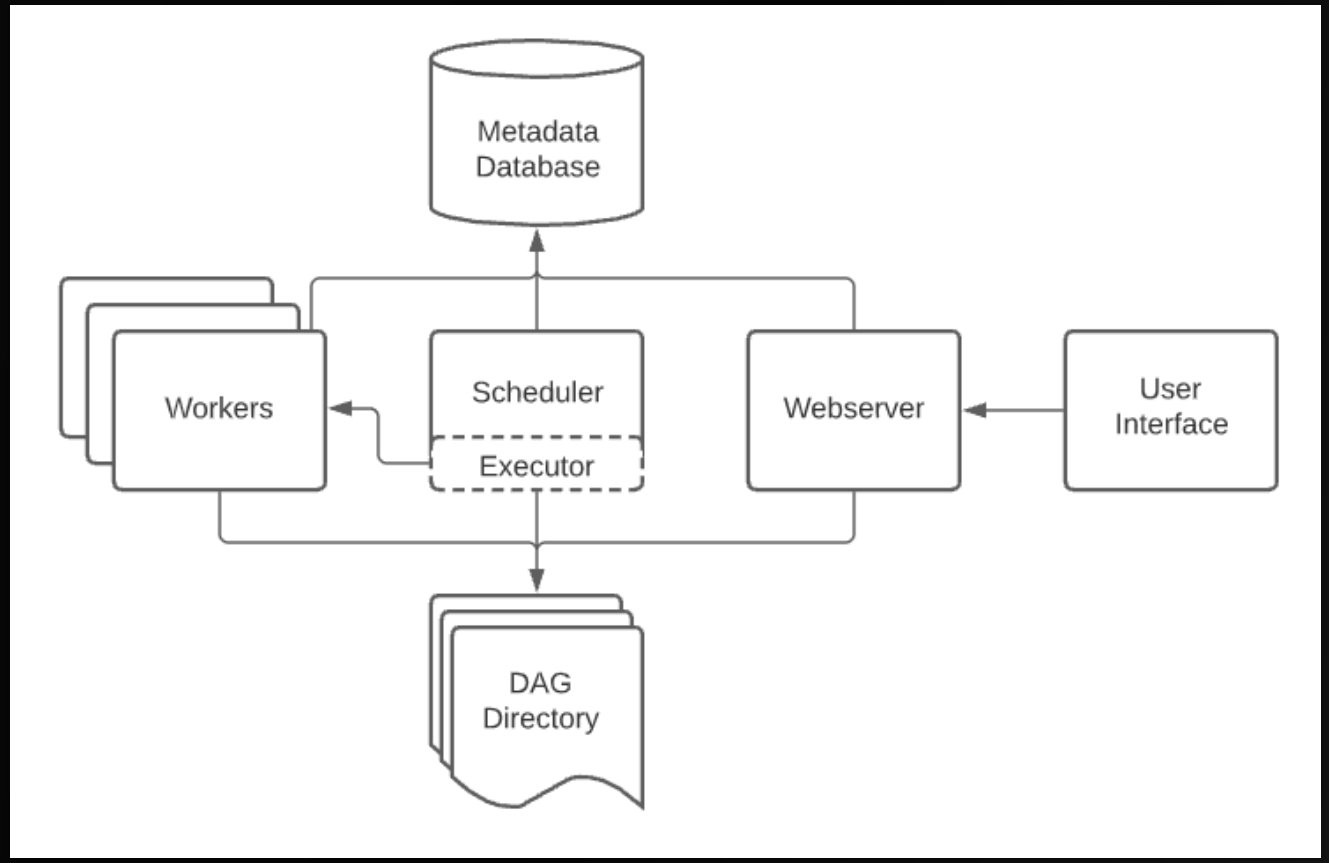
- A metadata database
  - used by the scheduler, executor and webserver to store state.



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- Sensor
  - An operator for waiting for something. *FileSensor, SqlSensor, ExternalTaskSensor*

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- Airflow is not a classical ETL tool