

Webserver

- **Definition:** The webserver is the component that serves the **Airflow UI** (the dashboard you open in your browser).
- **Purpose:**
 - Lets you **view DAGs** (your workflows).
 - Start/stop DAG runs manually.
 - Monitor task status (success, failed, running, skipped).
 - Manage users, roles, and connections.
- **Command:** You start it with `airflow webserver`.
- **Access:** By default, it runs on port `8080`, so you open `http://localhost:8080` (or the VM's forwarded port) in your browser.

Think of the webserver as the **control panel** for Airflow.

Resources

- **Meaning in Airflow UI:** Resources are the *objects or entities* that Airflow manages and protects with permissions.
- **Examples of resources:**
 - **DAGs** (workflows).
 - **Connections** (to databases, cloud services).
 - **Variables** (configuration values).
 - **Passwords** (stored securely).
- **Actions on resources:**
 - `can_read` → you can view the resource.
 - `can_edit` → you can modify the resource.
- **Why it matters:** Airflow uses a **Role-Based Access Control (RBAC)** system. Admins can decide who can edit DAGs, who can only view logs, etc.

So when your notes mention *resources*, they're talking about the **objects managed by Airflow's security and permissions system**.



List of DAG Runs

- **Definition:** A DAG run is a single execution of a DAG (workflow).
- **List of DAG runs:** In the UI, you can see all past runs of a DAG, with details like:
 - **DAG ID** → the name of the workflow.
 - **Run ID** → unique identifier for that run.
 - **Run type** →
 - *Scheduled*: triggered by the scheduler at a defined interval.
 - *Manual*: triggered by a user.
 - *External*: triggered by another system.
 - **State** → success, failed, running, skipped.
- **Purpose:** Helps you track history, debug failures, and see how often workflows are running.

Think of DAG runs as the **logbook of flights** in your airport analogy: each run is one flight, with its ID, type, and status recorded.



Putting It Together

- **Webserver** = dashboard to interact with Airflow.
- **Resources** = the objects Airflow manages (DAGs, connections, variables) with permissions.
- **List of DAG runs** = history of workflow executions, showing when and how each DAG was triggered and whether it succeeded.