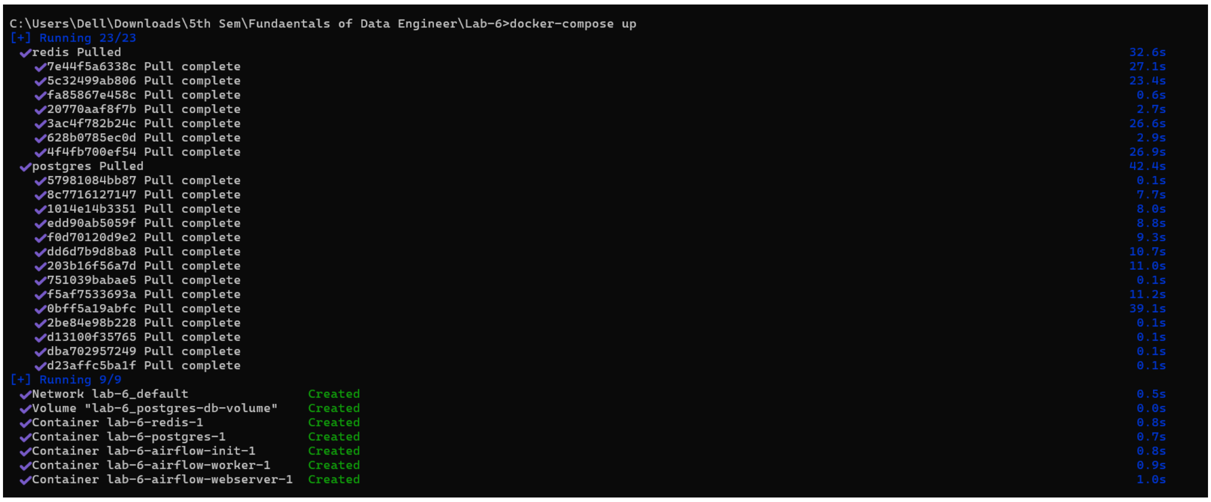
1. Build and Launch Airflow Containers

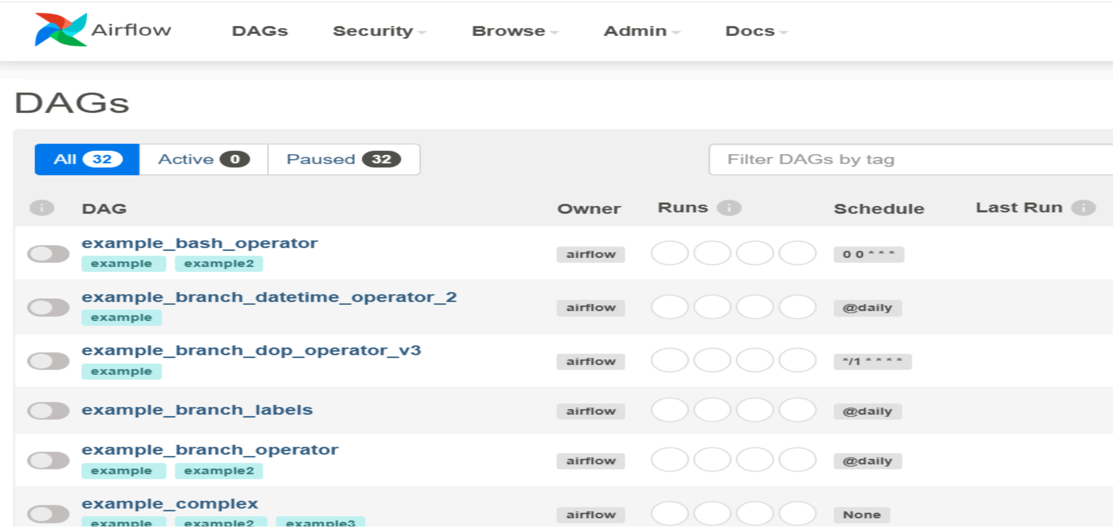
This step builds a fresh Docker image named **airflowsqlserver** using the Dockerfile, ensuring all Airflow and SQL dependencies are installed cleanly.
Then, `docker-compose up` starts all required containers—Airflow Webserver, Scheduler, Worker, Redis, and Postgres—together in a single network.
It initializes the Airflow environment and creates necessary volumes, making the setup ready for workflow execution.
Once the setup completes, the Airflow UI becomes accessible at http://localhost:9099.



```
C:\Users\Dell\Downloads\5th Sem\Fundaentals of Data Engineer\Lab-6>docker-compose up
[+] Running 23/23
 ✓redis Pulled                                                                                 32.6s
   ✓7e44f5a6338c Pull complete                                                                 27.1s
   ✓5c32499ab806 Pull complete                                                                 23.4s
   ✓fa85867e458c Pull complete                                                                  0.6s
   ✓20770aaf8f7b Pull complete                                                                  2.7s
   ✓3ac4f782b24c Pull complete                                                                 26.6s
   ✓628b0785ec0d Pull complete                                                                  2.9s
   ✓4f4fb700ef54 Pull complete                                                                 26.9s
 ✓postgres Pulled                                                                              42.4s
   ✓57981084bb87 Pull complete                                                                  0.1s
   ✓8c7716127147 Pull complete                                                                  7.7s
   ✓1014e14b3351 Pull complete                                                                  8.0s
   ✓edd90ab5059f Pull complete                                                                  8.8s
   ✓f0d70120d9e2 Pull complete                                                                  9.3s
   ✓dd6d7b9d8ba8 Pull complete                                                                 10.7s
   ✓203b16f56a7d Pull complete                                                                 11.0s
   ✓751039babae5 Pull complete                                                                  0.1s
   ✓f5af7533693a Pull complete                                                                 11.2s
   ✓0bff5a19abfc Pull complete                                                                 39.1s
   ✓2be84e98b228 Pull complete                                                                  0.1s
   ✓d13100f35765 Pull complete                                                                  0.1s
   ✓dba702957249 Pull complete                                                                  0.1s
   ✓d23affc5ba1f Pull complete                                                                  0.1s
[+] Running 9/9
 ✓Network lab-6_default                 Created                                                 0.5s
 ✓Volume "lab-6_postgres-db-volume"     Created                                                 0.0s
 ✓Container lab-6-redis-1               Created                                                 0.8s
 ✓Container lab-6-postgres-1            Created                                                 0.7s
 ✓Container lab-6-airflow-init-1        Created                                                 0.8s
 ✓Container lab-6-airflow-worker-1      Created                                                 0.9s
 ✓Container lab-6-airflow-webserver-1   Created                                                 1.0s
```

2: Verify Airflow Web UI

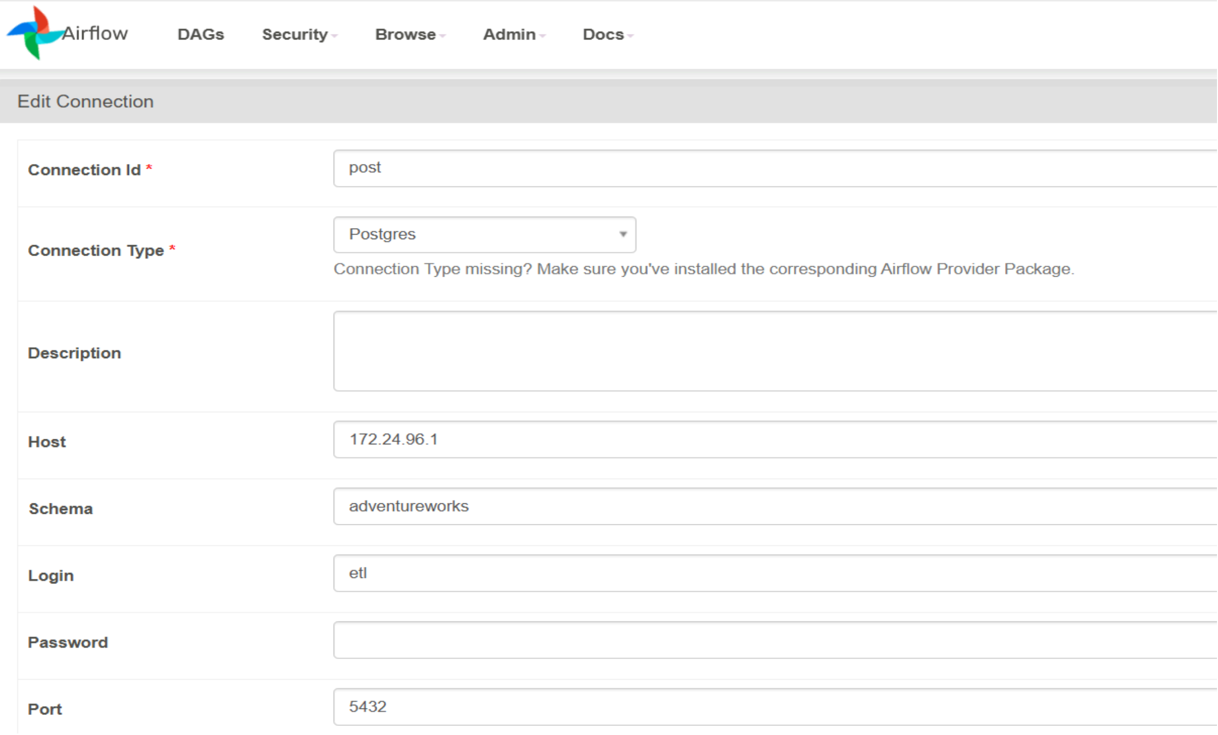
Once the containers are up, open http://localhost:9099 in your browser to access the Airflow web interface.
This page displays all default example DAGs loaded during initialization, showing their names, owners, and schedules.
It confirms the Airflow Webserver and Scheduler are running properly and that the environment setup is successful.
You can pause, unpause, or trigger DAGs manually from this dashboard.



DAGs

DAG	Owner	Runs	Schedule	Last Run
example_bash_operator example example2	airflow	○○○○	0 0 * * *	
example_branch_datetime_operator_2 example	airflow	○○○○	@daily	
example_branch_dop_operator_v3 example	airflow	○○○○	*/1 * * * *	
example_branch_labels	airflow	○○○○	@daily	
example_branch_operator example example2	airflow	○○○○	@daily	
example_complex example example2 example3	airflow	○○○○	None	

3: Configure Postgres Connection



Edit Connection

Connection Id *	post
Connection Type *	Postgres Connection Type missing? Make sure you've installed the corresponding Airflow Provider Package.
Description	
Host	172.24.96.1
Schema	adventureworks
Login	etl
Password	
Port	5432

Step 4: Create ETL Schema and Grant Permission

CREATE SCHEMA IF NOT EXISTS etl_staging;

GRANT ALL PRIVILEGES ON SCHEMA etl_staging TO etl;