

Databricks Asset Bundles

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Our Agenda for Today

Where we are, where we're headed, and our goals

01

What are asset Bundles?

02

Why do we need them?

03

The work pipeline

04

Free and Pro version

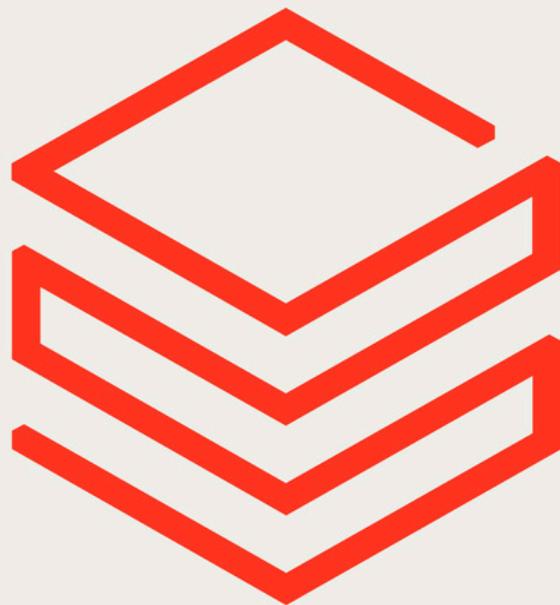
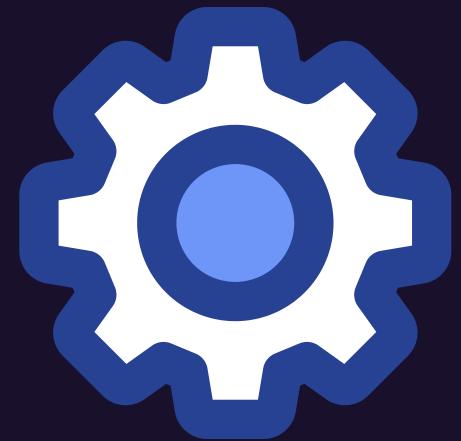
05

Lets do something

06

Summary and Q&A

WHAT are Asset Bundles?



Databricks Asset Bundle

Databricks Asset Bundle (DAB) is a declarative, versioned package that unifies your code (notebooks, Python, SQL) and infrastructure (Jobs, Pipelines, Compute, Permissions).

1. The Bundle: A unified package containing:
2. Code (SQL, Python, Notebooks)
3. Infrastructure settings (Compute, Jobs, Pipelines)
4. Configuration (databricks.yml)

WHY do we need them? (The Problem vs. Solution)

The "Old" Way (UI-based):

1. Manually creating jobs in the web browser.
2. Hard to version control settings.
3. Risk of "configuration drift" (dev != prod).

The DABs Way:

1. Version Control: Everything is code. You can apply Git here.
2. Automation: Repeatable deployments via CLI.
3. CI/CD Ready: Enables automated testing and deployment pipelines.

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- [Recents](#)
- [Catalog](#)
- [**Jobs & Pipelines**](#)
- [Compute](#)
- [Marketplace](#)
- [SQL](#)
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- [Queries](#)
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- [Genie](#)
- [Alerts](#)
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- [SQL Warehouses](#)

Jobs & Pipelines >

assignment job example ☆

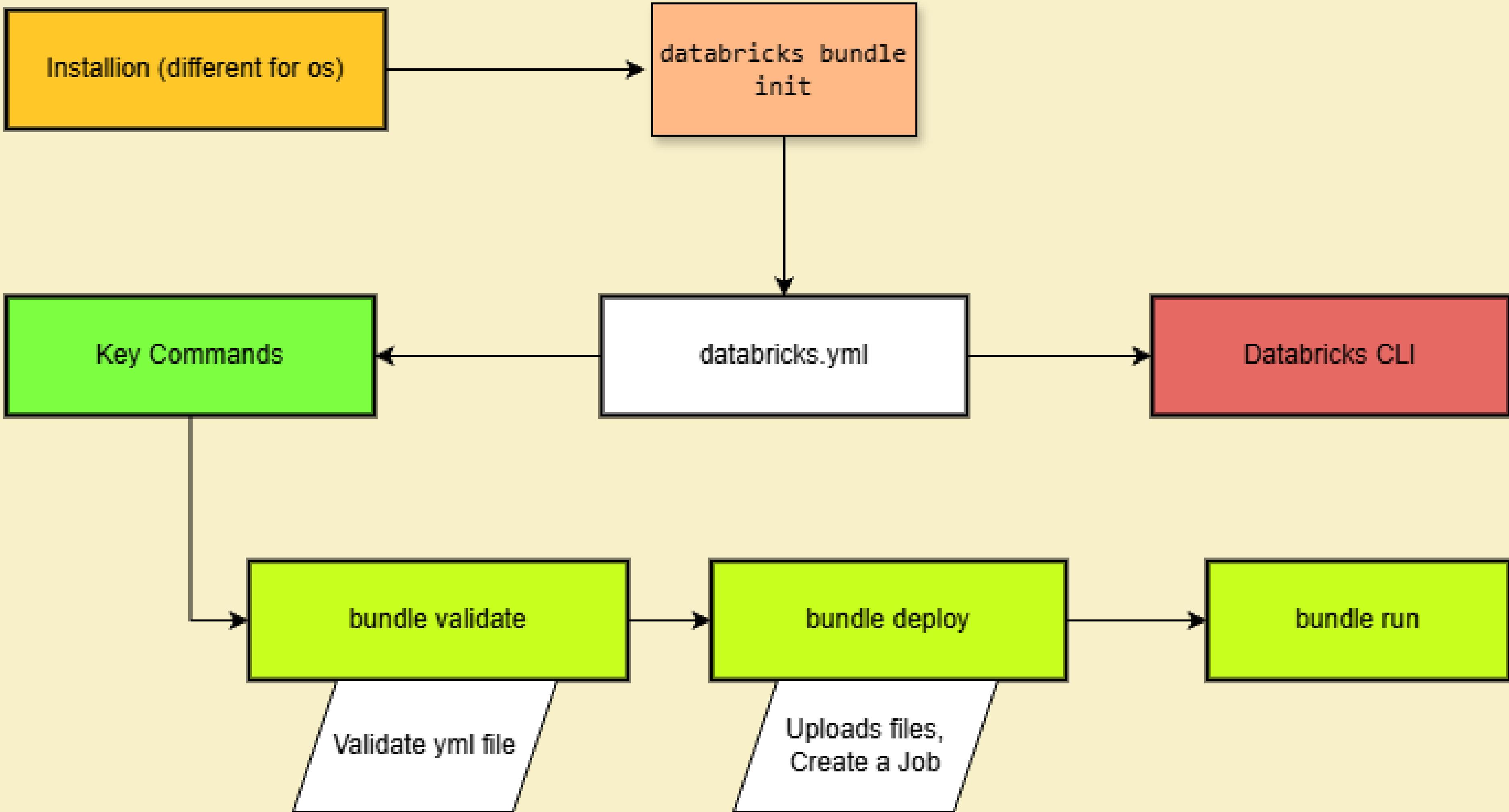
Lakeflow Jobs UI: ON Send feedback

Runs **Tasks**

```
graph LR; A[notebook_1_generate_data<br/>...assignment/notebook_1:_generate_data] --> B[notebook_2_filter<br/>...edu.ua/assignment/notebook_2:_filter]; B --> C[notebook_3_visual<br/>...assignment/notebook_3:_visualisation]
```

+ Add task

i No task selected
Choose a task from the graph to edit its properties



Feature / Capability	Databricks Free Version (Community/Student)	Paid Version (Pro/Enterprise)
Compute Type Used	Serverless SQL Warehouse	Job Clusters (Recommended), All-Purpose Clusters, Serverless Jobs.
DAB Automation Goal	Manual deployment of static resources via CLI to a pre-existing endpoint.	Full CI/CD integration (GitHub Actions/Azure DevOps).
Cluster Creation	Blocked. Cannot create ephemeral Job Clusters via API. Quota is 0.	Allowed. Clusters are created automatically, isolated per run, and terminated immediately after.
Python/PySpark Code	Fails. Deployment fails because it requires creating a Job Cluster.	Fully Supported. Standard method for running Python/Spark logic.
SQL Code Execution	Works (Required Hack). Only possible by hardcoding the warehouse_id of the single pre-existing Serverless SQL Warehouse	Fully Supported. Standard method using sql_task or dbt.
Infrastructure-as-Code (IaC)	Limited. Only configuration files and code are uploaded.	Full IaC. Bundles can manage users, permissions, secrets, and Unity Catalog objects.
Delta Live Tables (DLT)	Blocked. DLT requires a specific compute type unavailable in the Free Tier.	Fully Supported. Standard method for deploying DLT pipelines.



Ну что пожали?

This message is shown once a day. To disable it please create the /home/eduntu/.hushlogin file.

```
eduntu@DESKTOP-JLUBDDG:/mnt/c/Users/user/Documents/3 course/bigdata/assignment2$ databricks configure
Databricks CLI v0.278.0 found at /usr/local/bin/databricks
Your current $PATH prefers running CLI v0.18.0 at /home/eduntu/.local/bin/databricks
```

Because both are installed and available in \$PATH, I assume you are trying to run the newer version.
If you want to disable this behavior you can set DATABRICKS_CLI_DO_NOT_EXECUTE_NEWER_VERSION=1.

Executing CLI v0.278.0...

```
-----  
Databricks workspace host (https://...): https://dbc-8d79941e-9f8f.cloud.databricks.com/  
✓ Personal access token: ****
```

```
eduntu@DESKTOP-JLUBDDG:/mnt/c/Users/user/Documents/3 course/bigdata/assignment2/my_sql_project$ databricks bundle validate
Databricks CLI v0.278.0 found at /usr/local/bin/databricks
Your current $PATH prefers running CLI v0.18.0 at /home/eduntu/.local/bin/databricks
```

Because both are installed and available in \$PATH, I assume you are trying to run the newer version.
If you want to disable this behavior you can set DATABRICKS_CLI_DO_NOT_EXECUTE_NEWER_VERSION=1.

Executing CLI v0.278.0...

```
-----  
Name: my_student_sql_bundle
```

```
Target: dev
```

```
Workspace:
```

```
Host: https://dbc-8d79941e-9f8f.cloud.databricks.com
```

```
User: student.bn@ucu.edu.ua
```

```
Path: /Workspace/Users/student.bn@ucu.edu.ua/.bundle/my_student_sql_bundle/dev
```

```
PS C:\Users\user\Documents\3 course\bigdata\assignment2> wsl
```

Target: dev

Workspace:

Host: <https://dbc-8d79941e-9f8f.cloud.databricks.com>

User: student.bn@ucu.edu.ua

Path: /Workspace/Users/student.bn@ucu.edu.ua/.bundle/my_student_sql_bundle/dev

Validation OK!

```
eduntu@DESKTOP-JLUBDDG:/mnt/c/Users/user/Documents/3 course/bigdata/assignment2/my_sql_project$ databricks bundle deploy
```

Databricks CLI v0.278.0 found at /usr/local/bin/databricks

Your current \$PATH prefers running CLI v0.18.0 at /home/eduntu/.local/bin/databricks

Because both are installed and available in \$PATH, I assume you are trying to run the newer version.

If you want to disable this behavior you can set DATABRICKS_CLI_DO_NOT_EXECUTE_NEWER_VERSION=1.

Executing CLI v0.278.0...

```
-----  
Uploading bundle files to /Workspace/Users/student.bn@ucu.edu.ua/.bundle/my_student_sql_bundle/dev/files...
```

Deploying resources...

Updating deployment state...

Deployment complete!

```
eduntu@DESKTOP-JLUBDDG:/mnt/c/Users/user/Documents/3 course/bigdata/assignment2/my_sql_project$ databricks bundle run sql_execution_job
```

Databricks CLI v0.278.0 found at /usr/local/bin/databricks

Your current \$PATH prefers running CLI v0.18.0 at /home/eduntu/.local/bin/databricks

Because both are installed and available in \$PATH, I assume you are trying to run the newer version.

If you want to disable this behavior you can set DATABRICKS_CLI_DO_NOT_EXECUTE_NEWER_VERSION=1.

Executing CLI v0.278.0...

```
-----  
Run URL: https://dbc-8d79941e-9f8f.cloud.databricks.com/?o=1769756228685831#job/437358952681819/run/838601666384840
```

2025-12-03 00:43:43 "[dev student_bn] Run SQL on Serverless WH (Free Edition)" RUNNING

2025-12-03 00:44:25 "[dev student_bn] Run SQL on Serverless WH (Free Edition)" TERMINATED SUCCESS

SQL Task Output:

```
{}
```

In 41 Col 1 (1006 selected) Spaces: 2

+ New

- Home
- Workspace
- Recents
- Catalog
- Jobs & Pipelines**
- Compute
- Marketplace
- SQL
- SQL Editor
- Queries
- Dashboards
- Genie
- Alerts
- Query History
- SQL Warehouses
- Data Engineering
- Job Runs
- Data Ingestion

Jobs & Pipelines >

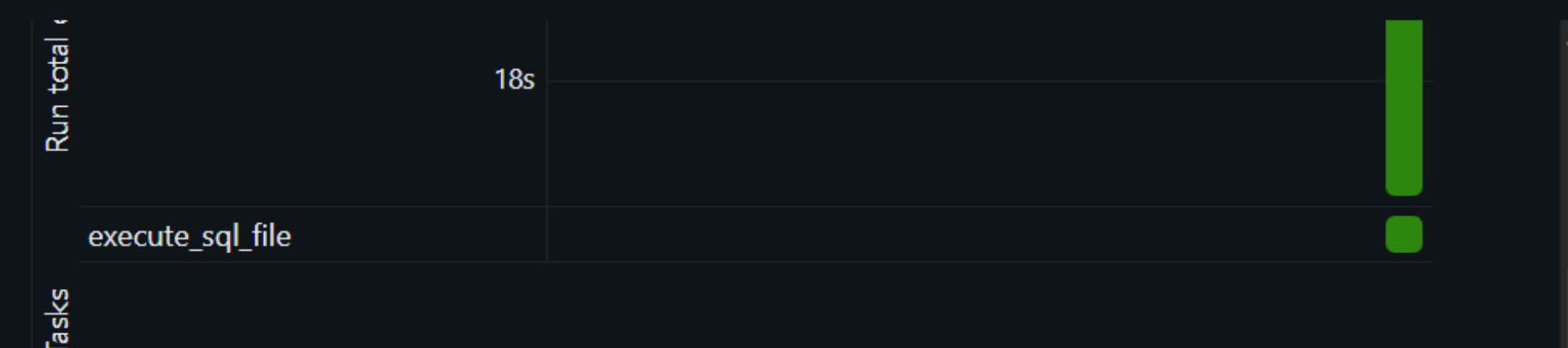
[dev student_pn] Run SQL on Serverless WH (Free Edition) ☆ Lakeflow Jobs UI: ON ▾ [Send feedback](#)

⋮ [Run now](#) ▾

Connected to Databricks Asset Bundles [Learn more](#)

[Disconnect from source](#)

Runs Tasks



Go to the latest successful run

[Cancel runs](#) ▾

Start time	Run ID	Launched	Duration	Status	Error code	Run par...	⋮
Dec 03, 202...	8386016...	Manually	36s	✓ Su...			⋮

^ Job details

Job ID	437358952681819 🔗
Creator	student.pn@ucu.edu.ua
Run as	student.pn@ucu.edu.ua
Description	Add description
Lineage	① 1 upstream table, 1 downstream table
Performance	
optimized	<input type="checkbox"/>

^ Schedules & Triggers

None
Add trigger

```
CREATE TABLE IF NOT EXISTS default.asset_bundle_log (
    run_id INT,
    event_timestamp TIMESTAMP,
    status STRING
);

INSERT INTO default.asset_bundle_log
VALUES (1, current_timestamp(), 'SQL Bundle executed successfully on Free Edition');

SELECT * FROM default.asset_bundle_log;
```

#	run_id	event_timestamp	status
1	1	03/12/2025 00:44:08.011	SQL Bundle executed successfully on Free Edition



ANY QUESTIONS?

NO HARD QUESTION , PLS...

makeameme.org

**Thank you
for listening!**