

Hands-On Lab 5: Pivot & Unpivot Transformations in Azure Data Factory

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Concept Overview (Before HOL)

Pivot and Unpivot are used to **reshape data**. - **Pivot** converts rows into columns. - **Unpivot** converts columns into rows.

In real-world ETL, these are used for: - Restructuring reporting tables - Transforming monthly/quarterly metrics - Cleaning flattened or cross-tab data

This lab demonstrates BOTH concepts using very small datasets.

What This Lab Will Do

You will learn: 1. How to **apply Pivot** in ADF Mapping Data Flows 2. How to **apply Unpivot** to reverse the transformation

Step 1 — Prepare Storage and Upload File

Upload this file to the folder `lab5/`.

`sales_by_day.csv`

```
product,day,sales
Keyboard,Mon,10
Keyboard,Tue,15
Mouse,Mon,5
Mouse,Tue,8
```

Step 2 — Create Dataset

- Dataset name: `ds_sales_lab5`
 - File: `lab5/sales_by_day.csv`
 - Format: Delimited Text, Header = True
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Step 3 — Create Mapping Data Flow

Name: **df_pivot_unpivot_lab5**

Add Source

- Name: **src_sales**
 - Dataset: **ds_sales_lab5**
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Part A — Pivot Transformation

Goal: Convert day-wise rows into columns.

Steps

1. Add **Pivot** transformation.
2. Group by: **product**
3. Pivot key: **day**
4. Pivoted column: **sales**
5. Result:
6. Mon → Mon column
7. Tue → Tue column

Expected preview:

```
product,Mon,Tue
Keyboard,10,15
Mouse,5,8
```

Part B — Unpivot Transformation

Goal: Convert Mon, Tue columns BACK to row format.

Steps

1. Add **Unpivot** transformation.
2. Unpivot columns: **Mon**, **Tue**
3. Key column name: **day**
4. Value column name: **sales**

Expected preview:

```
product,day,sales
Keyboard,Mon,10
Keyboard,Tue,15
Mouse,Mon,5
Mouse,Tue,8
```

Step 4 — Add Sink

Output to: - `lab5/output/pivot/` - `lab5/output/unpivot/`

Step 5 — Debug & Run

1. Enable Debug
 2. Validate Pivot results
 3. Validate Unpivot results
 4. Publish & Trigger
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Lab Completed

This lab covered: ✓ Pivot transformation ✓ Unpivot transformation ✓ Understanding how data reshaping works in ADF