# Hands-On Lab: User Defined Functions (UDF) Preview in Mapping Data Flow

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## Learning Objective

This lab helps you understand how to create and use a User Defined Function (UDF) inside Azure Data Factory Mapping Data Flow. You will learn how to create a simple function, preview it, and use it inside a data flow transformation.

## Learning Outcome

By the end of this lab, you will be able to: - Create a User Defined Function in Azure Data Factory - Use the UDF inside a Mapping Data Flow - Preview data using the UDF output - Understand how UDFs help in reusing logic

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# 1. Introduction

A User Defined Function (UDF) in Mapping Data Flow allows you to write your own custom logic and reuse it across multiple data flows. It reduces the need for repeating the same expressions and makes your transformation cleaner and easier to maintain.

In this lab, we will create a simple UDF that converts text into uppercase, and then we will use that UDF in a data flow to transform incoming data.

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# 2. Prerequisites

Before starting the lab, make sure: - You have an Azure Data Factory instance created - You have a storage account with a sample CSV file uploaded - You are able to create a pipeline and a data flow

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# 3. Step-by-Step Hands-On Lab

## Step 1: Open Azure Data Factory Studio

1. Go to the Azure Portal.
2. Open your Azure Data Factory instance.

3. Click **Launch Studio**.

This opens the ADF workspace where you will create the UDF and the data flow.

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## Step 2: Create a User Defined Function (UDF)

1. In the left menu, select **Manage**.
2. Under the Manage section, choose **Author** and then choose **Data Flow**.
3. Select **User Defined Functions** from the options.
4. Click **New** → **Create UDF**.
5. A new UDF window opens.

Now configure the UDF: - Name: `ConvertToUpper` - Type: **Scalar** (returns a single value) - Parameter: Add one parameter - Name: `inputValue` - Type: `string` - Expression:

```
upper(inputValue)
```

1. Save the UDF.

Your function is now ready to use.

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## Step 3: Create a New Mapping Data Flow

1. Click on the **Author** section.
2. Click the **+** button.
3. Select **Data Flow**.
4. Choose **Mapping Data Flow**.

Give it a name: `UDFDemoDataFlow`.

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## Step 4: Add a Source Transformation

1. Click **Add Source**.
2. Select your dataset (e.g., a CSV file containing a column like `name`).
3. Confirm the data preview to ensure the dataset loads correctly.

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## Step 5: Add a Derived Column Transformation

1. Click the **+** icon after the Source.
2. Select **Add Transformation** → **Derived Column**.
3. In the Derived Column settings, create a new column:

4. Column name: `name_upper`
5. Expression:

```
ConvertToUpper(name)
```

This will apply your UDF to the `name` column.

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## Step 6: Preview the Data

1. Turn on **Data Flow Debug** at the top.
2. Wait until the debug session is ready.
3. Click **Data Preview**.
4. You will now see a new column `name_upper` which contains the uppercase version of the original name.

This confirms that the UDF is working correctly.

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## Step 7: Add Sink (Optional)

If you want to write the output to another location: 1. Click the **+** icon after Derived Column. 2. Add a **Sink**. 3. Choose a new dataset or file path.

This step is optional if you only want to preview the UDF output.

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# 4. Final Description

In this lab, you created a User Defined Function (UDF) in Azure Data Factory and used it inside a Mapping Data Flow. You learned how to build a simple function, reuse it inside a transformation, and preview its output. UDFs help in avoiding repetitive expression logic and make your workflows more consistent.

This completes the hands-on exercise.