CONTROLLING PIPELINE FLOW

1 2 3 4

ASSERTS

Overview of Assert Transformation

IMPLEMENTING ASSERTS

Implementing an Assert Transformation

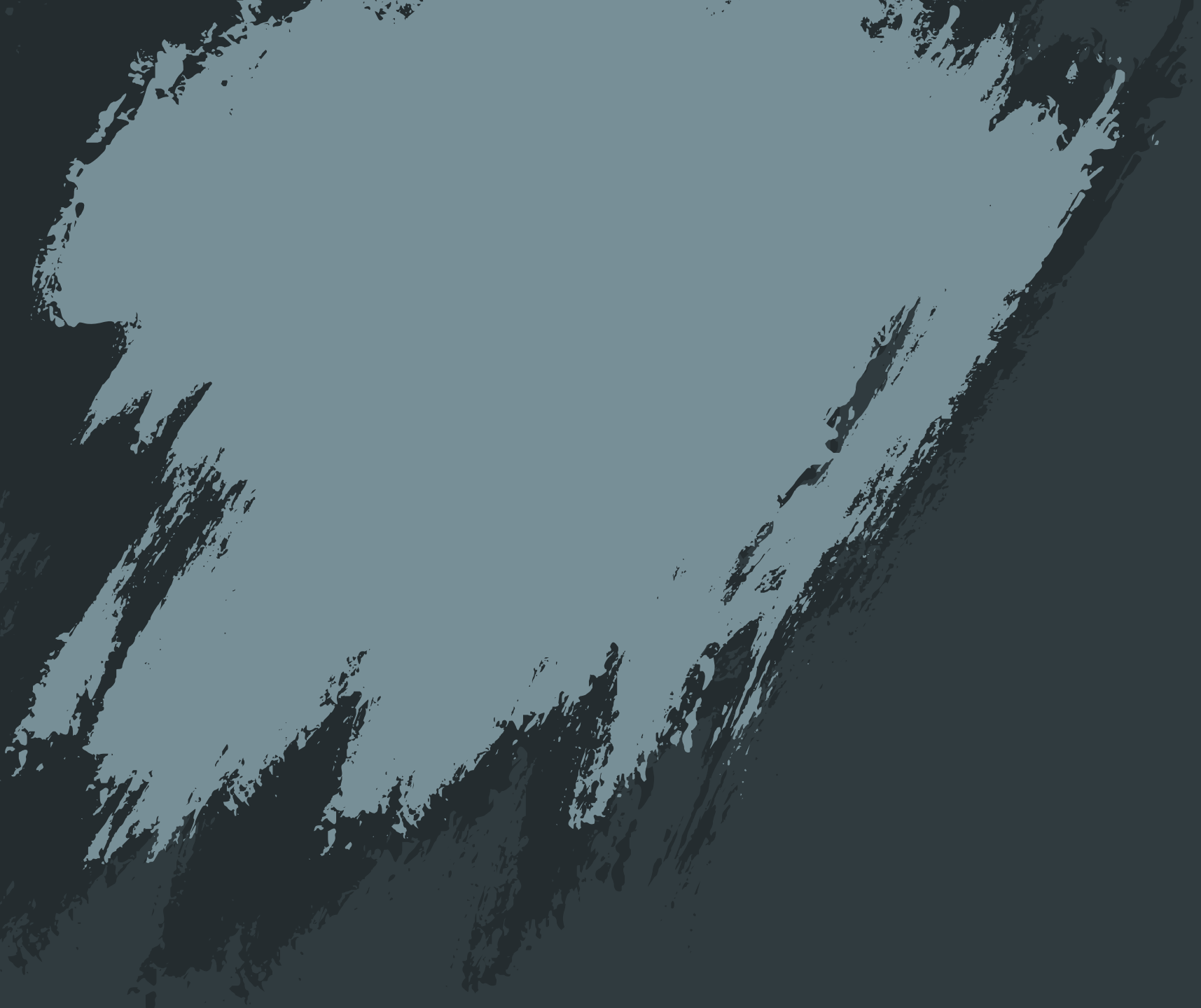
ERROR HANDLING

Overview of Pipeline Error Handling

IMPLEMENTING ERROR HANDLING

Implementing Pipeline Error Handling

MODULE 9



SECTION 1

ASSERTS

ASSERTS

Overview of Assert Transformation

- *Build custom rules in mapping data flows for data quality*
- *Rules ensure that data quality constraints are met*

DATA QUALITY

01

DATA VALIDATION

02

- *Rules to ensure that data values meet an expected value domain*
- *Validation rules enforced for each row*

CONTROL DATA FLOW

03

- *Control data flow by raising error messages when constraints are not met*

ASSERTS

Overview of Assert Types in an Assert Transformation

EXPECT TRUE

- *Result of the expression must evaluate to a boolean true result*
- *Used for validating values as per a constraint*

01

EXPECT UNIQUE

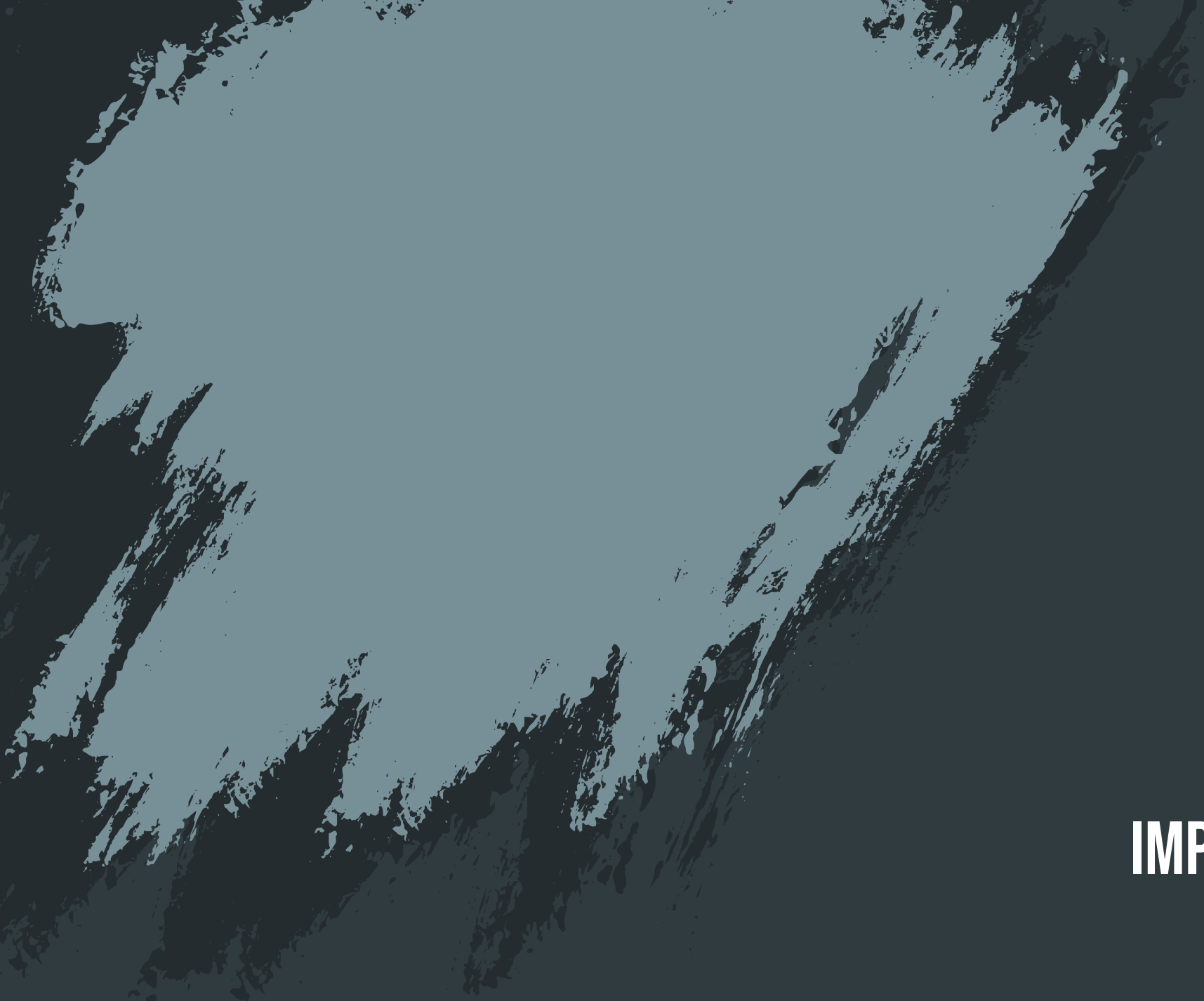
02

- *Set a column or an expression as a uniqueness rule*
- *Used to tag duplicate rows*

EXPECT EXISTS

03

- *Used in checking if a particular row exists within both input data sets*
- *This assert type is only available when two input data sets are provided*



SECTION 2

IMPLEMENTING ASSERTS

IMPLEMENTING ASSERTS

Implementing an Assert Transformation

Screencast

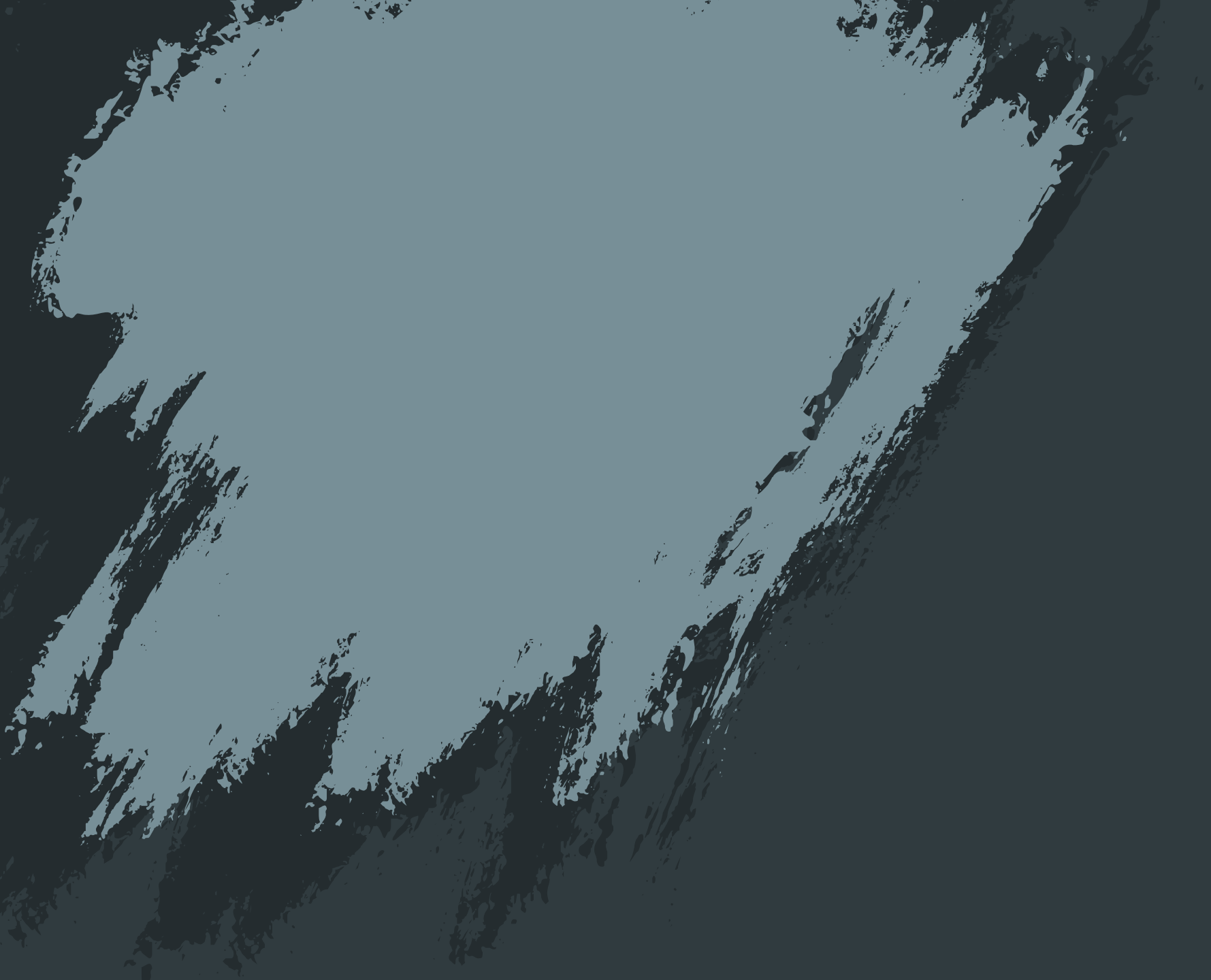
Describe the use case – that our data should only contain sales regions as “UK” or “EU” and any other values are considered as error rows

Show how to add an assert transformation and use the assert type “expect true”

Show how to use the derived column transformation and the conditional split transformation to identify error rows

Show how to direct error rows

As a recap show the final dataset without the error rows and the separate date file that contains error rows



SECTION 3

ERROR HANDLING

ERROR HANDLING

Overview of Pipeline Error Handling

DATA FACTORY ALLOWS CONDITIONAL LOGIC AND PROVIDES PIPELINE CONTROL FLOW BASED UPON OUTCOMES OF AN ACTIVITY

(Default Pass) Execute this path if the current activity succeeded

UPON SUCCESS

01

02

Execute this path if the current activity failed

UPON FAILURE

UPON COMPLETION

03

04

UPON SKIP

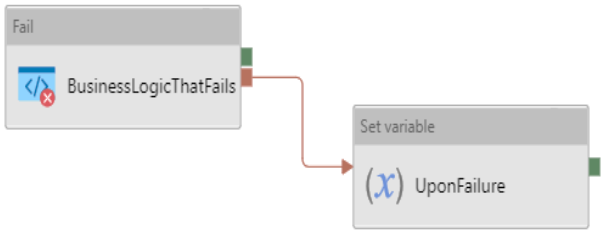
Execute this path if the current activity completed, regardless if it succeeded or not

Execute this path if the activity itself didn't run

ERROR HANDLING

Overview of Pipeline Error Handling

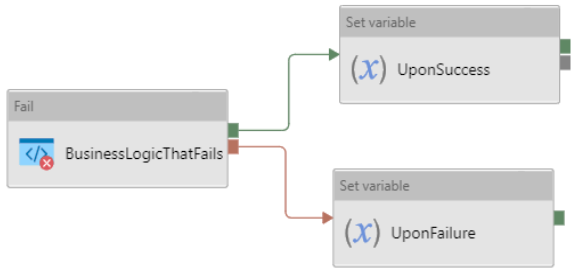
COMMON ERROR HANDLING MECHANISMS



TRY CATCH BLOCK

Defines only Upon Failure Path

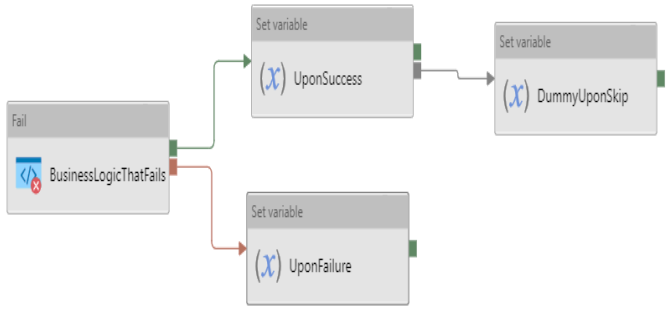
- *Activity succeeds => Pipeline succeeds*
- *Activity Fails => Pipeline succeeds*



DO IF ELSE BLOCK

Defines Upon Success and Upon Failure Path

- *Activity succeeds => Pipeline succeeds*
- *Activity Fails => Pipeline Fails*



DO IF SKIP ELSE BLOCK

Defines upon Success and Upon Failure Path (dummy Upon Skip Path)

- *Activity succeeds => Pipeline succeeds*
- *Activity Fails => Pipeline succeeds*

SECTION 4

IMPLEMENTING ERROR HANDLING

ERROR HANDLING

Implementing Error Handling

What we will learn

- *Add Error Handling to the Pipeline*
- *Capture Errors to an Error Log File*
- *Create an Error condition and test the Pipeline*

IMPLEMENTING ERROR HANDLING

Implementing Pipeline Error Handling

Screencast

Describe the use case – that could cause an error

Run the data pipeline to show the pipeline failure

Show how to implement error handling for the use case

Run the data pipeline to show how the error is handled

MODULE SUMMARY

In this module we learnt

OVERVIEW

We got an overview of the assert transformation and where it is used

CONTROL FLOW

We learnt about pipeline error handling and the different error handling mechanisms

HANDS-ON

We learnt how to implement asserts to manage data quality

We learnt how to implement error handling to control pipeline flow

REFERENCES

Assert Transformation

https://learn.microsoft.com/en-us/azure/data-factory/data-flow-assert

Pipeline Error Handling

https://learn.microsoft.com/en-us/azure/data-factory/tutorial-pipeline-failure-error-handling

Monitor Pipelines with Email Notifications

https://learn.microsoft.com/en-us/azure/data-factory/how-to-send-email