Handling Errors in T-SQL

GETTING STARTED WITH ERROR HANDLING IN T-SQL

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SQL ARCHITECT

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Module Overview

Why should SQL developers care about handling errors

- Coding best practice
- Planning for failure

How transactions come into play with error handling

- The ATOMIC principle
- All or nothing

Planning for conversion exceptions with NULLs

- TRY_CAST
- TRY_CONVERT

Why Care About Error Handling

Coding Best Practice

Each organization can be different

Planning for Failure

Being in control of what happens to your code

Implementing Best Practices

Bill

IT Director with limited experience using SQL Server

Susan

Experienced SQL developer but has never used error handling

"It does not do to leave a live dragon out of your calculations, if you live near him."

J.R.R. Tolkien, *The Hobbit or There and Back Again*

Planning for Failure

Ways we plan for failure in everyday life

- Insurance
- Backup files
- Seatbelts

Errors happen let's plan for them

Translating errors into understandable messages

Three Ways to Plan for Failure

Error Handling

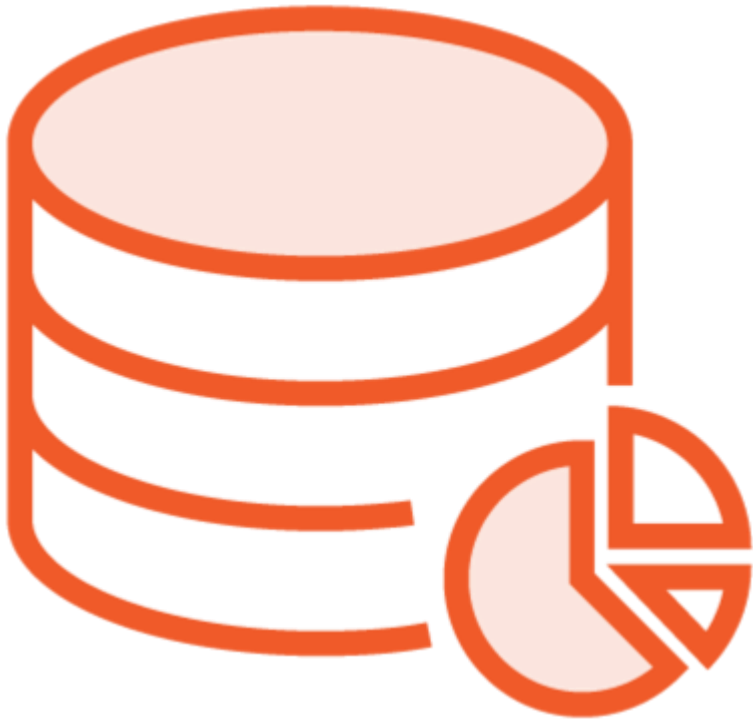TRY/CATCH blocks and THROW

Transactions

BEGIN/COMMIT TRANSACTION

Handling NULLs

TRY_CONVERT and COALESCE

What Do We Mean by Atomic

Part of the ACID principle

All or nothing concept

Using explicit transactions

Transferring Money Between Accounts

Demo

Setting up our test environment
- Creating our dataset
- Turning on line numbers

Demo

Transferring funds between banking accounts

- Is the transaction ATOMIC

Using NULL to Handle Conversion Errors

Common task to convert from one data type to another

- Data type precedence
- Monday, June 10 1400

CAST or CONVERT can cause exceptions

- TRY_CONVERT
- TRY_CAST
- TRY_PARSE

Demo

Handling conversion expectations with NULLs

- TRY_CONVERT
- TRY_CAST

What We Covered

Why you should care about error handling

- Coding best practice
- Planning for failure

Three ways in which we can control for the unknown

- Error handling
- Explicit transactions
- Handling exceptions with null

Atomicity and how it affects our transactions

- All or nothing