Introducing SSIS

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Overview

SSIS architecture

Control flow

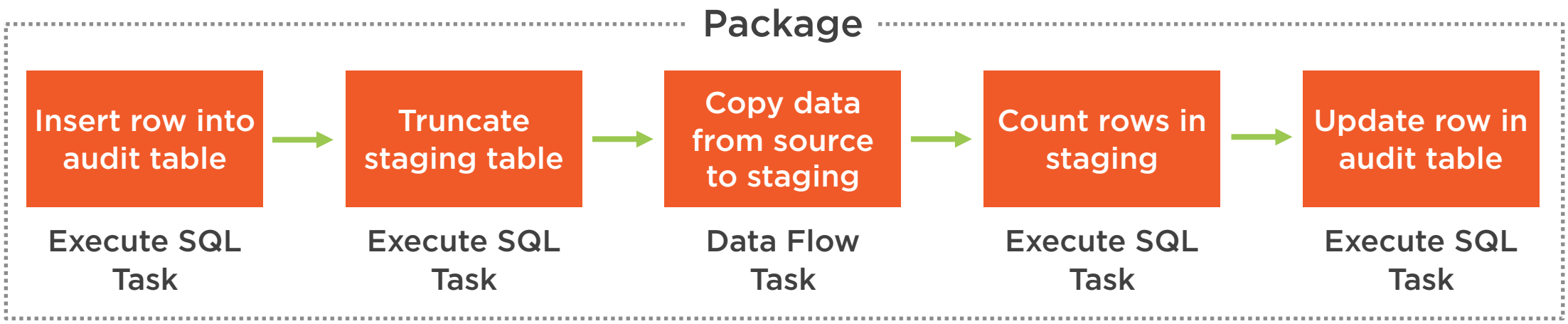
Data flow

Programmability

SSIS Architecture

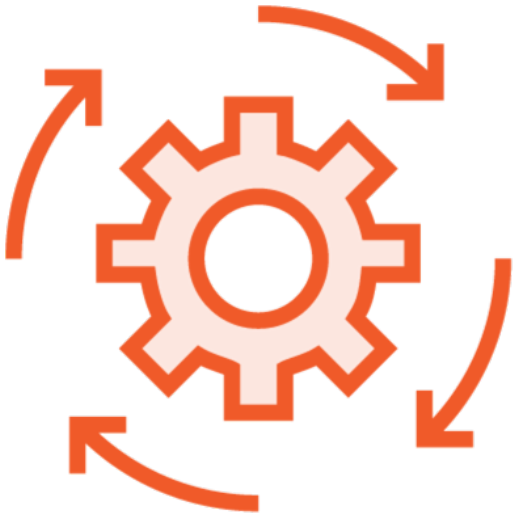
Control flow	Data flow
Action-oriented tasks	Data-oriented pipeline
Parallel or sequential execution of actions	Sequential transformations to data
Optional conditional execution	Data-driven conditions
Dynamic run-time	Fixed data structure from start to end

Control Flow



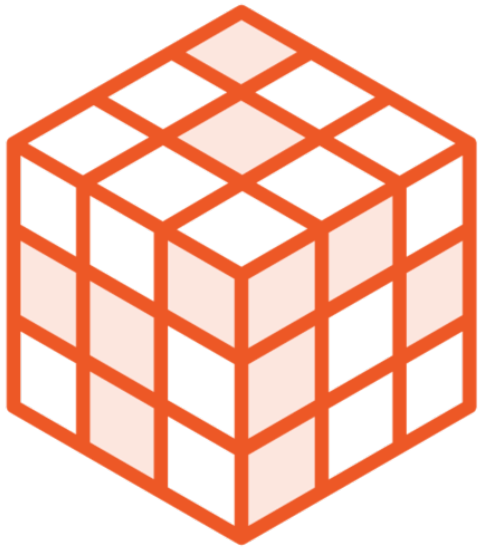
Control Flow Tasks

Data preparation



Process communication

SQL Server

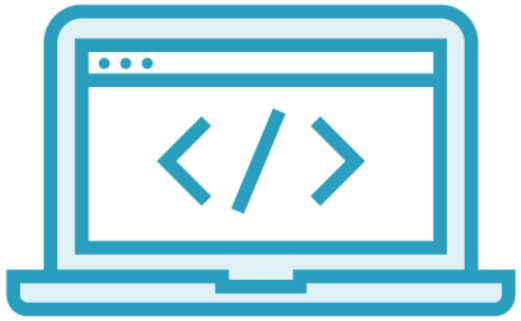


Analysis Services

Control Flow Tasks

Maintenance

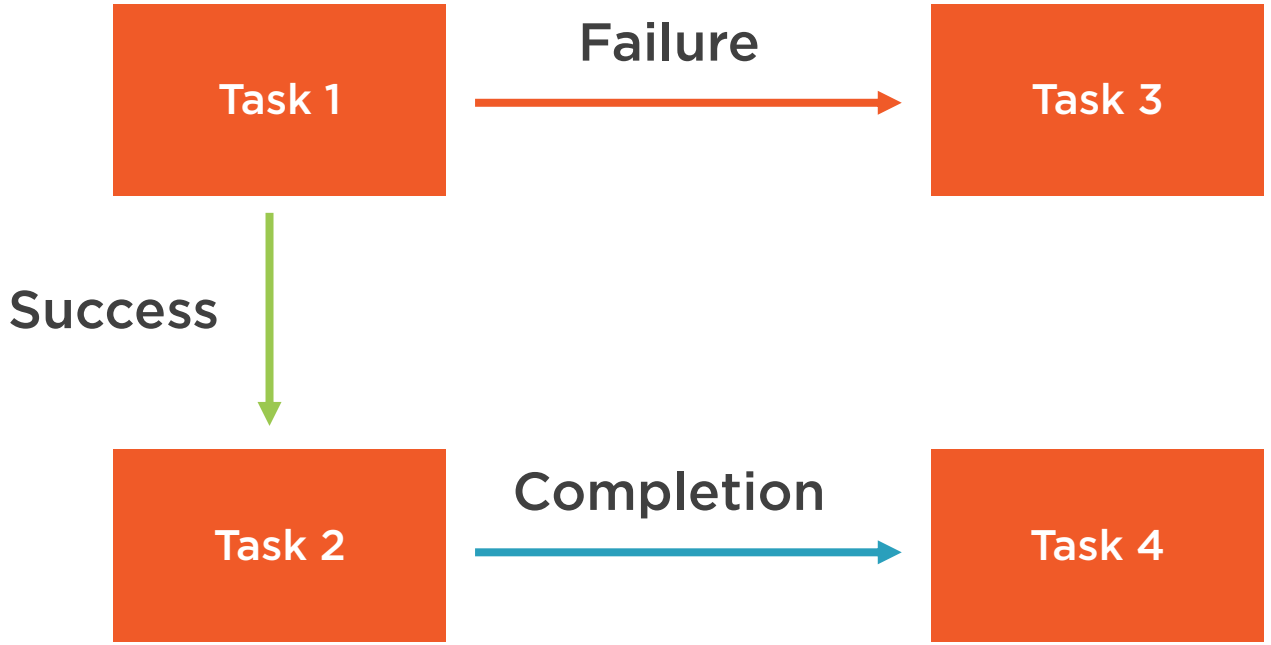
Scripting



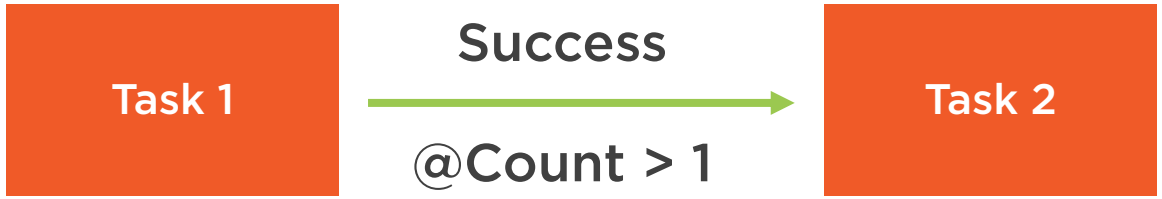
Custom

Data flow

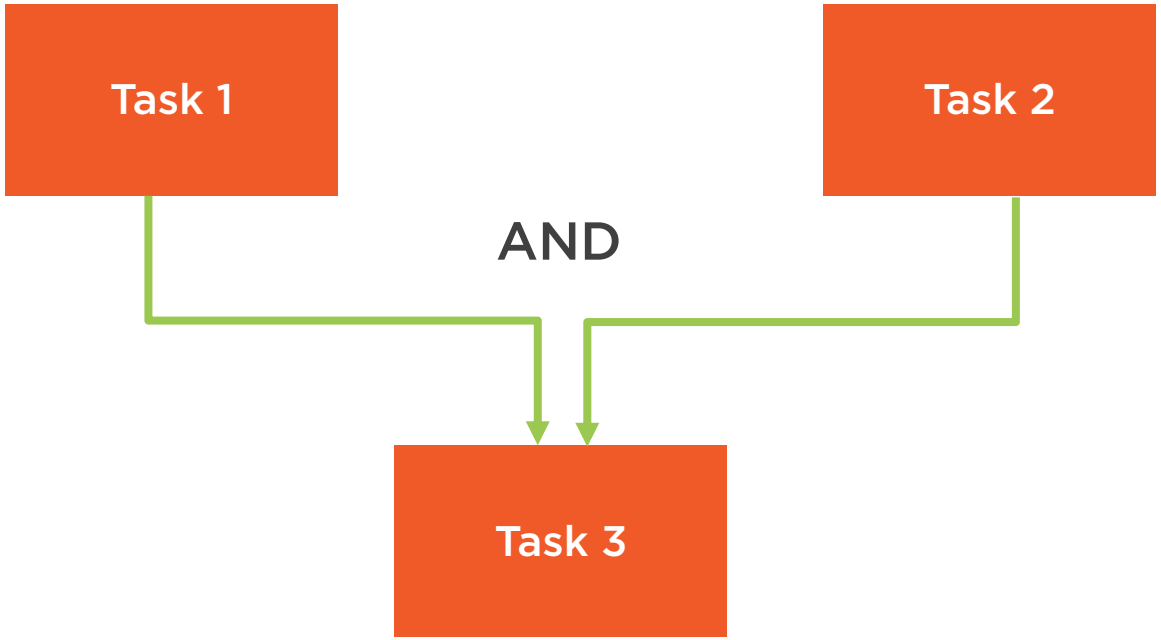
Precedence Constraints



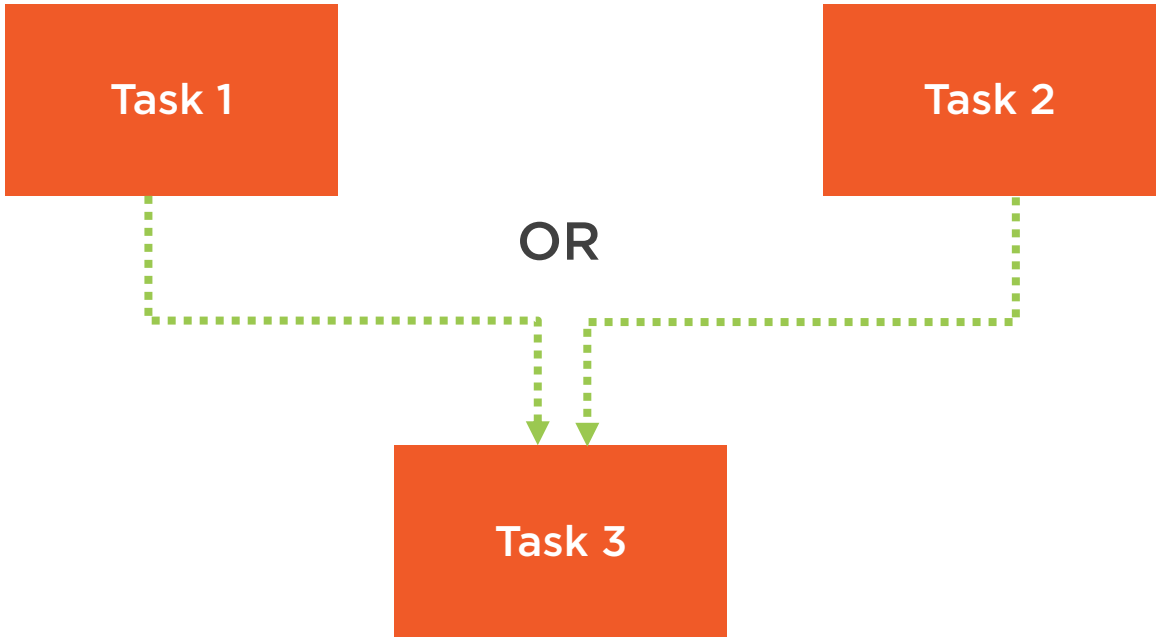
Precedence Constraints



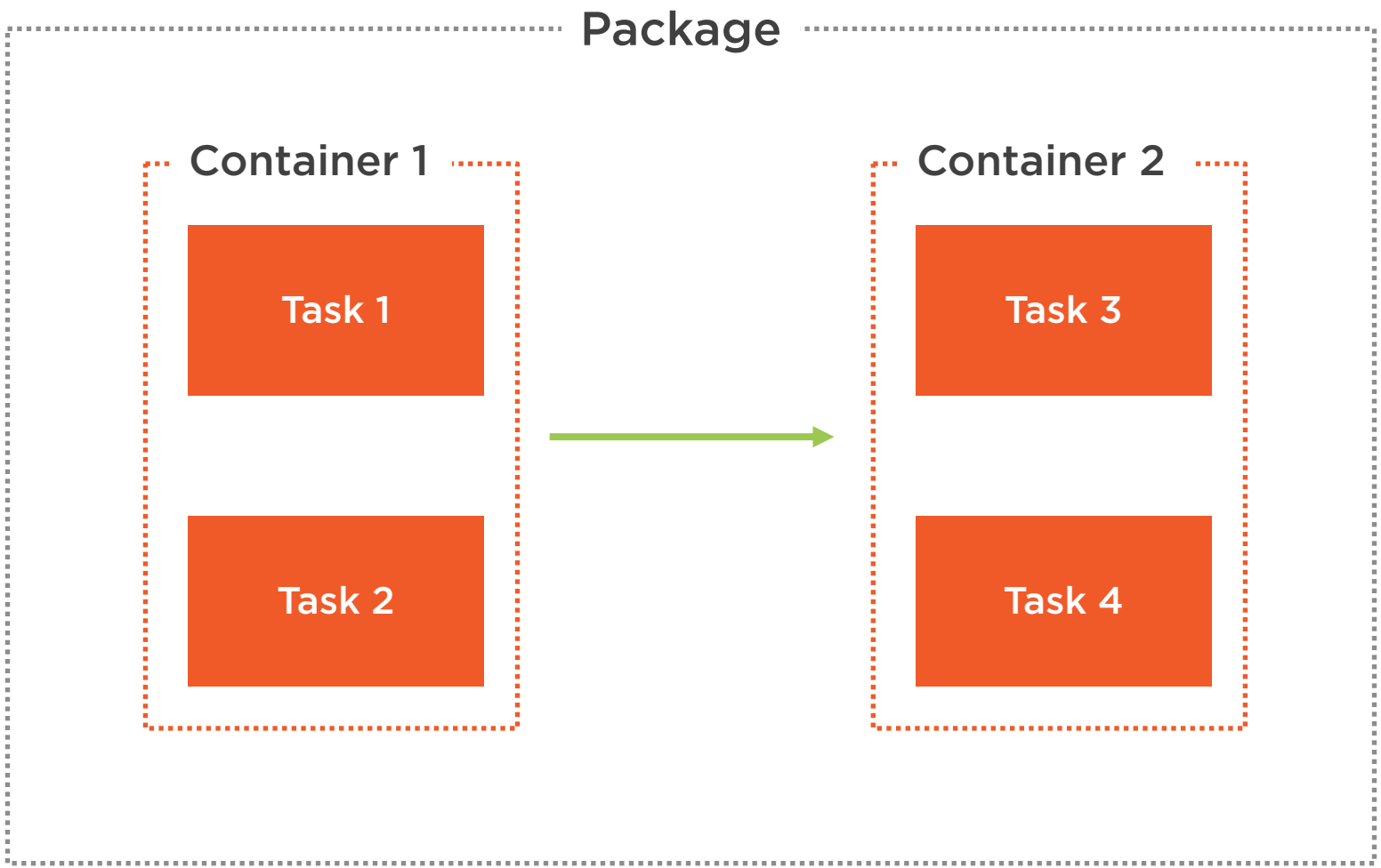
Precedence Constraints



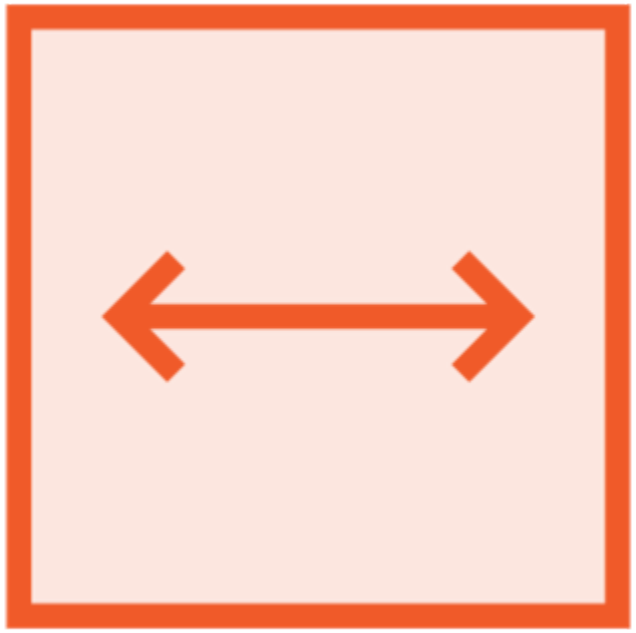
Precedence Constraints



Containers



Connection Managers



- Access a resource with authentication
- Assign to control flow tasks or data flow components
- Add logging functionality to a package
- Define at project or package level

Containers

Disable execution for a group of tasks

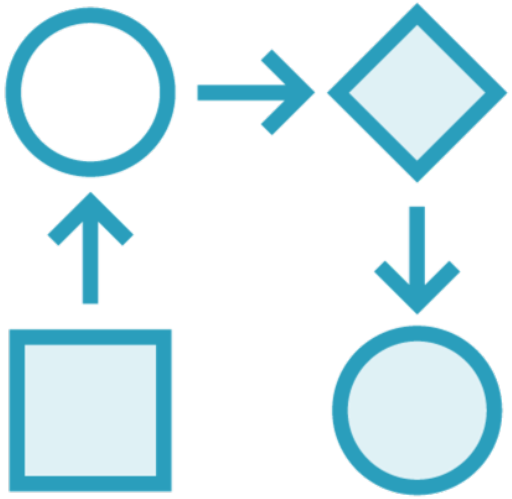
Set state for precedence constraint

Define scope for a variable

Participate (or not) in a transaction

Set scope for event handler

Containers

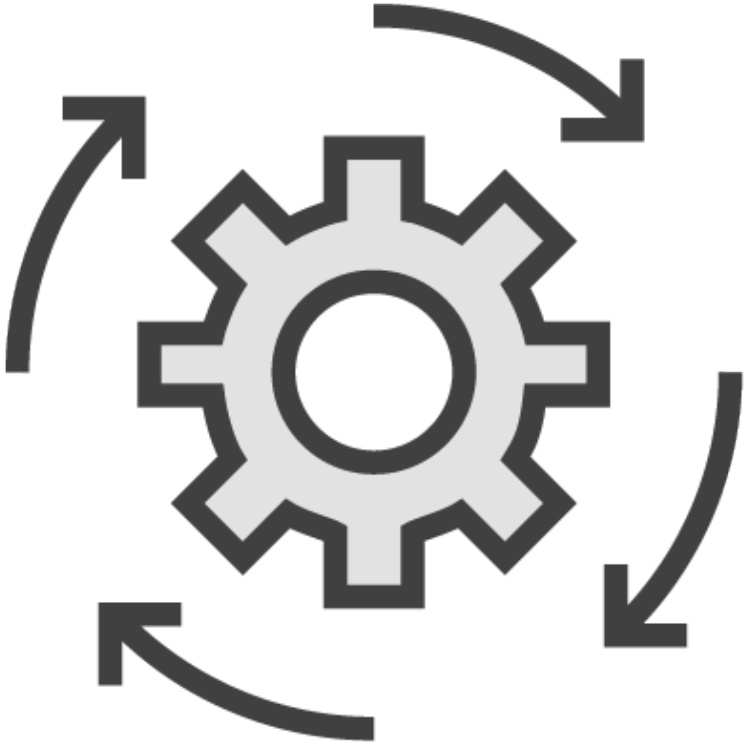


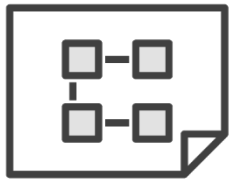
Sequence

For Loop

For Each Loop

Event Handlers



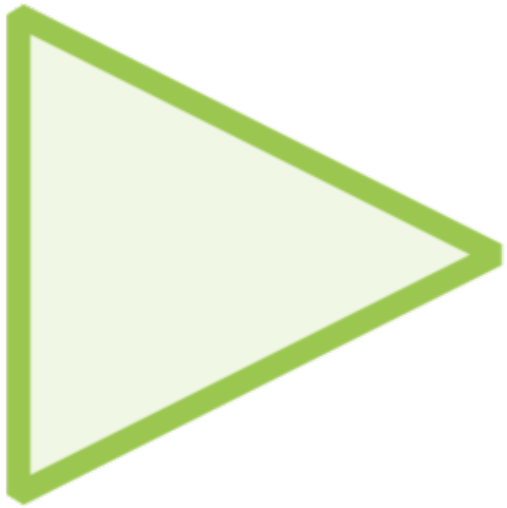


Package

Container

Task

Event Handlers



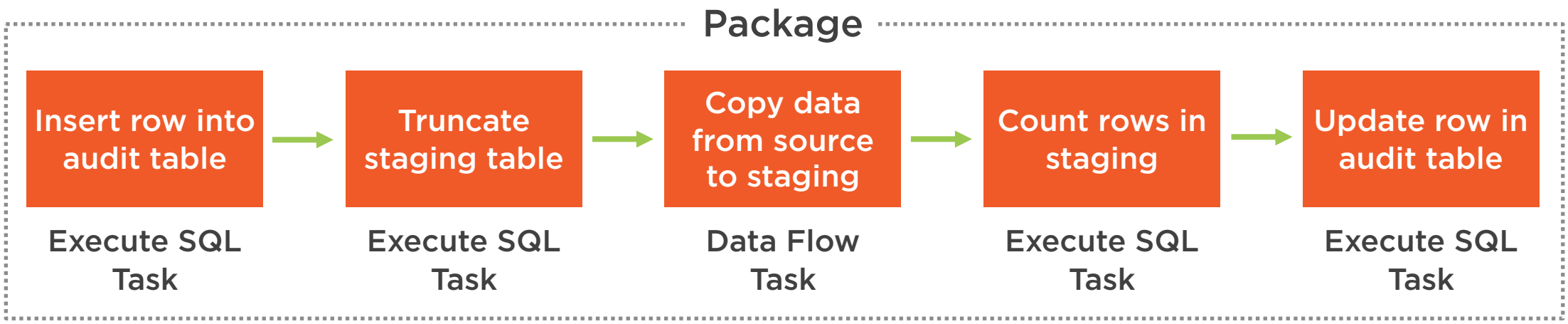
OnPreExecute

OnError

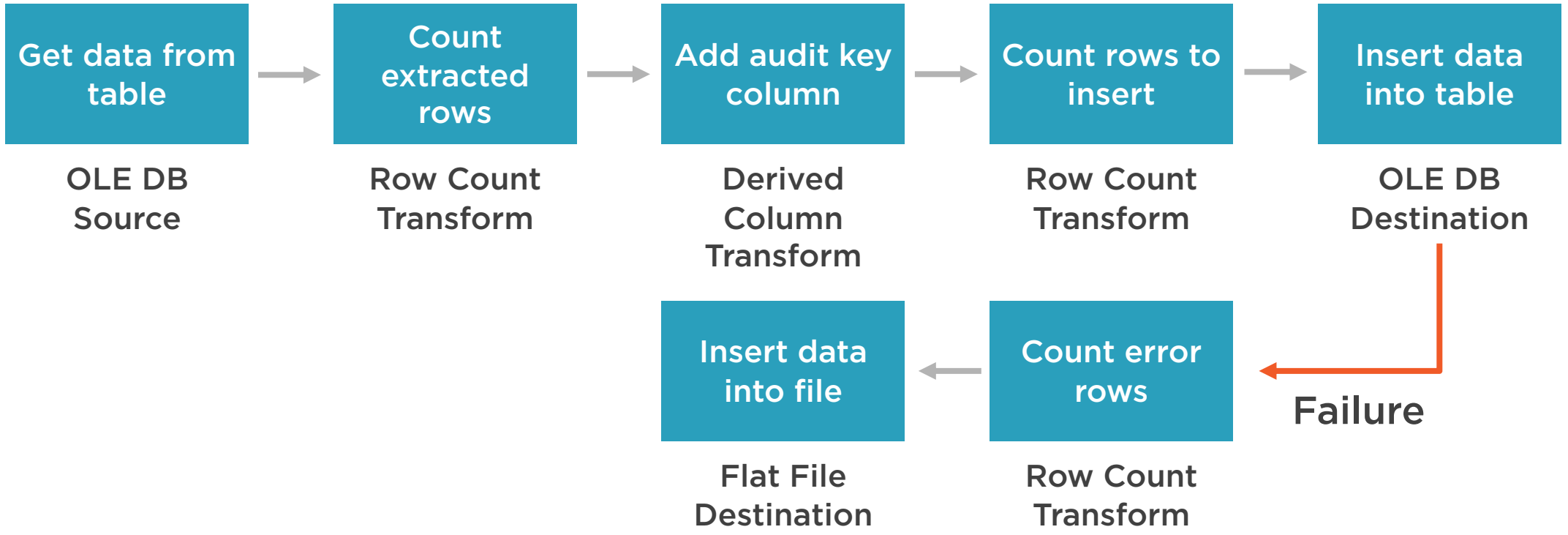
OnVariableValue Changed

OnPostExecute

Data Flow


Package
Insert row into audit table
Truncate staging table
Copy data from source to staging
Count rows in staging
Update row in audit table
Execute SQL Task
Execute SQL Task
Data Flow Task
Execute SQL Task
Execute SQL Task

Data Flow


Get data from table
OLE DB Source
Count extracted rows
Row Count Transform
Add audit key column
Derived Column Transform
Count rows to insert
Row Count Transform
Insert data into table
OLE DB Destination
Failure
Count error rows
Row Count Transform
Insert data into file
Flat File Destination

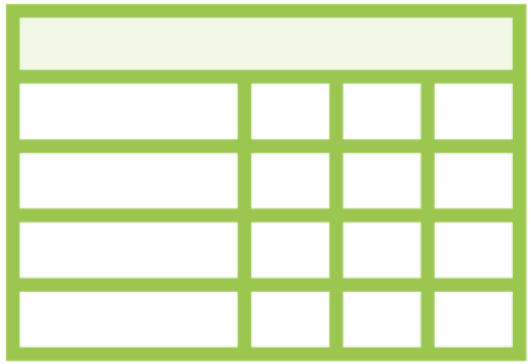
Sources and Destinations

OLE DB

Flat File

Sources and Destinations

ADO.NET



Excel

Raw File

Sources and Destinations

Sources	Destinations
XML	Data Mining Model Training
	DataReader
	Dimension Processing
	Partition Processing
	Recordset
	SQL Server
	SQL Server Compact

Transformations

Row

Process one row at a time

Rowset

Produce new rowset as output

Split and Join

Distribute or combine rowsets

Business Intelligence

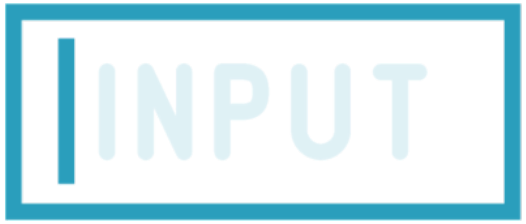
Use specialty functions

Other

Apply miscellaneous transforms

Programmability

Variables



Parameters

Expressions

Summary

SSIS architecture

Control flow

- Tasks
- Precedence constraints
- Containers
- Connection managers
- Event handlers

Data flow

- Sources and destinations
- Transformations

Programmability

- Variables and parameters
- Expressions