# SSIS Sequence Container - Detailed Tutorial

The Sequence Container in SSIS is a Control Flow container that groups multiple tasks and manages them as a single unit. It helps organize complex packages, control execution, and manage transactions for related tasks.

## What is a Sequence Container in SSIS?

A Sequence Container allows you to group multiple tasks or containers together. Tasks inside the container are executed sequentially, and you can control execution, logging, and transactions at the container level.

Key Properties:

• Name & Description – Document what this container does.

• Disable – Skip running the container without deleting tasks.

• ForceExecutionResult – Force the container to succeed/fail.

• TransactionOption – Manage transactions for all tasks inside.

• DelayValidation – Delay validation of child tasks until runtime.

## Importance in ETL Workflows

In ETL processes, the Sequence Container improves organization, readability, and execution control. It allows grouping of related tasks, easier debugging, and centralized error handling.

Benefits:

• Organizes complex workflows into logical sections.

• Controls execution for entire phases of ETL.

• Enables variable scoping and transaction handling.

• Simplifies conditional execution and error handling.

## Real-World Examples

### Example 1 — Grouping Daily Data Load Tasks

Group tasks like truncating staging, loading data, validating counts, and archiving into one container.

### Example 2 — ETL Process Segmentation

Separate Extract, Transform, and Load phases into three containers for modular design.

### Example 3 — Conditional Execution

Execute a set of tasks only if a certain condition (e.g., file size > 1GB) is met using precedence constraints.

### Example 4 — Transactional Batch

Set TransactionOption=Required on the container so that all tasks inside commit or roll back together.

## Steps to Create a Sequence Container in Visual Studio 2022

1. Open Visual Studio 2022 with SSIS extensions installed.

2. Create or open an Integration Services Project.

3. Drag a Sequence Container from the SSIS Toolbox to Control Flow.

4. Rename it appropriately (e.g., Daily Sales Load).

5. Add related tasks inside the container and connect them.

6. Configure properties like DelayValidation or TransactionOption.

7. (Optional) Add event handlers for error logging at the container level.

8. Right-click and Execute Container to test only that section.

## Best Practices

• Use descriptive names for containers.

• Scope variables to the container if only used inside.

• Use containers to segment ETL phases.

• Avoid over-nesting containers.

• Disable instead of deleting tasks during testing.

## Quick Reference

|  |  |
| --- | --- |
| Property | Description |
| Name | Display name of the container |
| Description | Document the purpose of the container |
| DelayValidation | Delay validation until run time |
| Disable | Skip execution of the container |
| TransactionOption | Required / Supported / NotSupported |
| LoggingMode | ParentDefault / Enabled / Disabled |