Execution Types for Serverless Workflows

This document delves into various execution types for serverless workflows, focusing on a single state machine designed to manage all workflows and source types.

Before proceeding, let's outline the different flows:

1. LMD Flow
2. Respecs Flow
3. Backdated Flow
4. Sold Flow

To accommodate these flows, we will be modifying the following Lambda functions to configure filters and dates according to the flow type:

- Validation Lambda for all source type
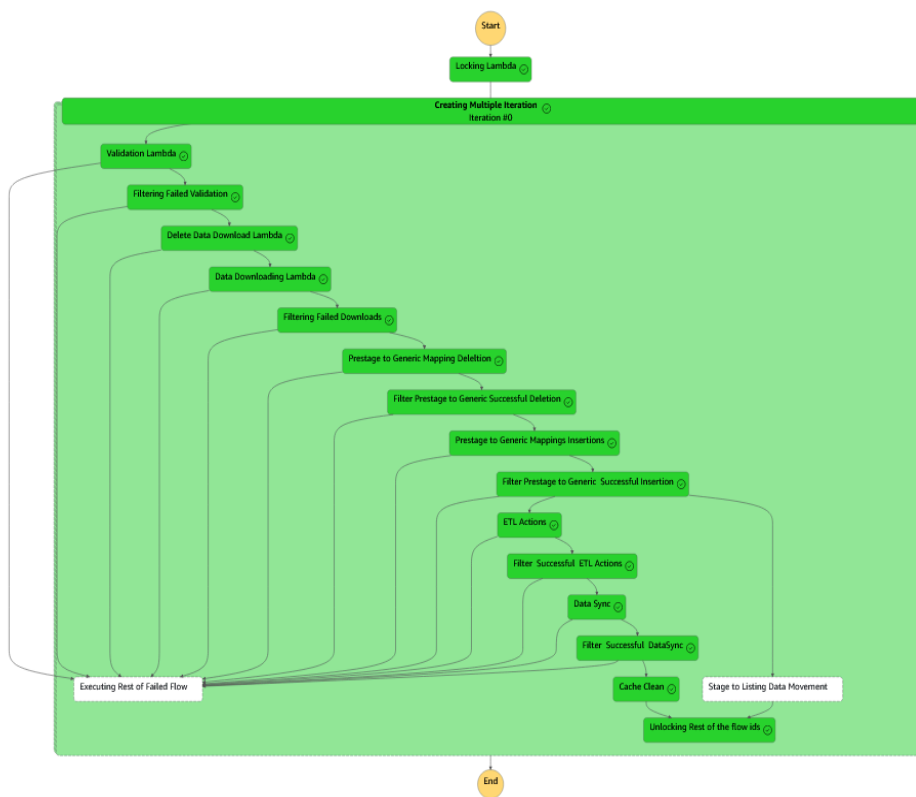- Data Download Lambda for all source type
- Unlocking Lambda

Additionally, we will automate our state machine by implementing an extra Lambda function that will configure the flow type to NORMAL based on timestamps and timing.

1. Last Modification Date (LMD) Flow

In this flow, execution is driven by the last modified date, running incrementally to ensure both incremental updates and full data loads are achieved. To trigger this flow, the flow type must be set to **"NORMAL"** in the JSON column *'batch_execution_params'*, and the state machine will handle the rest.

The following is the JSON column in the PUBLIC.SOURCE table:
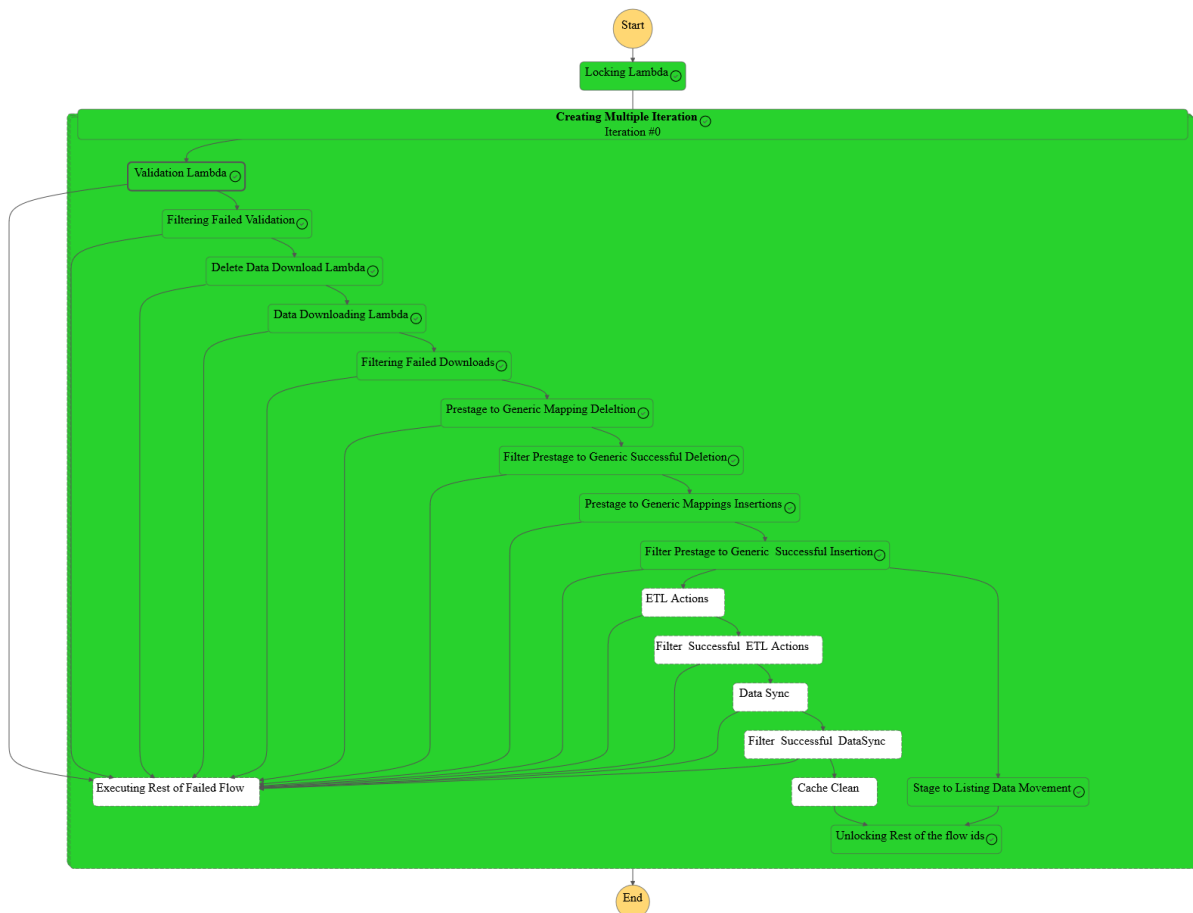
{"flow_type": "Normal"}

2. Respecs Flow

In this flow, execution is driven by the last modified date, which is explicitly set to 1990 for the initial run. The flow type must be set to **"RE-SPECS"** along with an attributes update query in the JSON column `batch_execution_params`, and the state machine will manage the rest.

The following is the JSON column in the PUBLIC.SOURCE table:

{"type": "Re-specs"
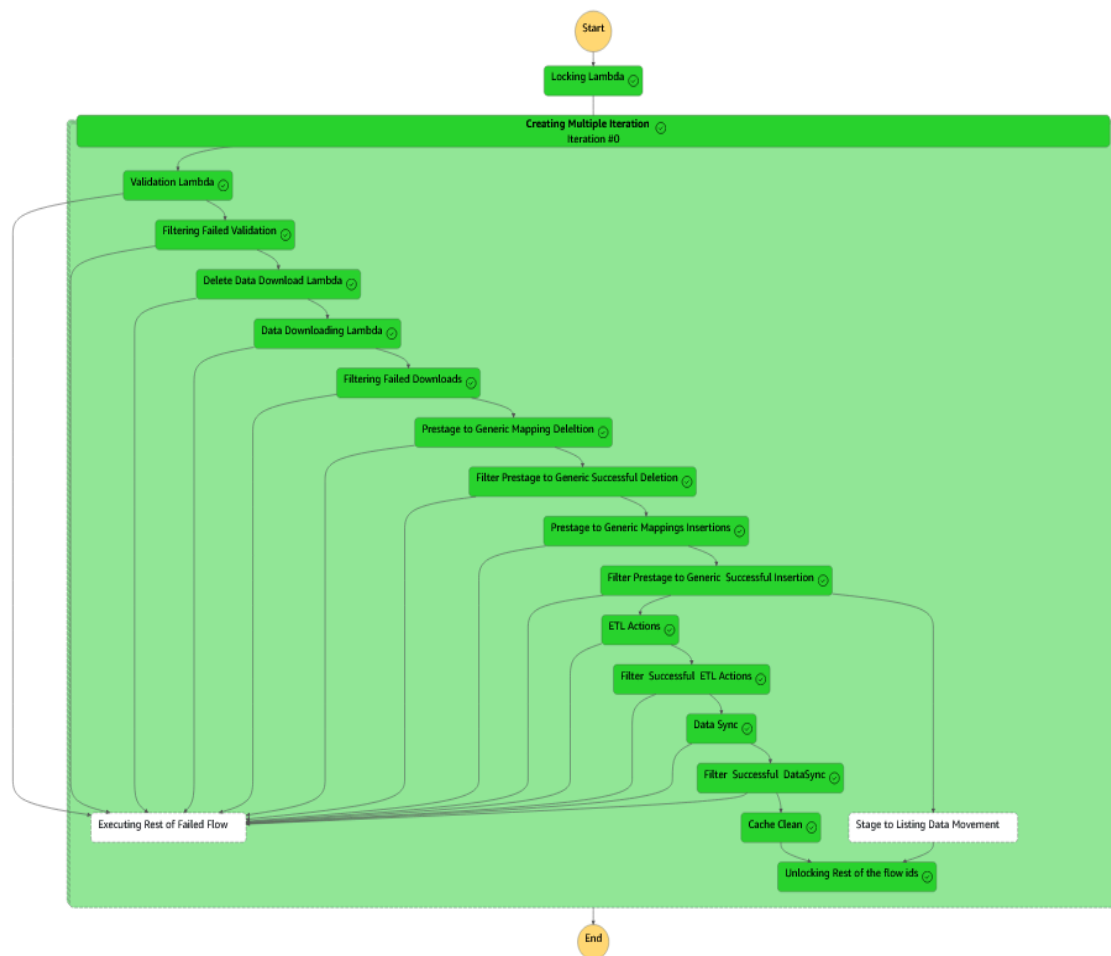*"Sql": Update Attribute Query}*

3. Backdated Flow

In this flow, execution is driven by the last modified date, which is explicitly set to minus interval X days for the initial run. The flow type will be set to **"Full Load"** in the JSON column `batch_execution_params` when runtime count is equal to 1 by validation lambda, and the state machine will manage the rest.
The following is the JSON column in the PUBLIC.SOURCE table:

{"type": "Full Load"}

4. Sold Flow

In this flow, execution is driven by the sold date, which is explicitly set to the desired year for the initial run. The flow type must be set to **"SOLD"** in the JSON column `batch_execution_params`, and the state machine will manage the rest.

The following is the JSON column in the PUBLIC.SOURCE table:

{"type": "Sold"}