



How to Schedule a Snowflake task as depended task ?



Alexander · [Follow](#)

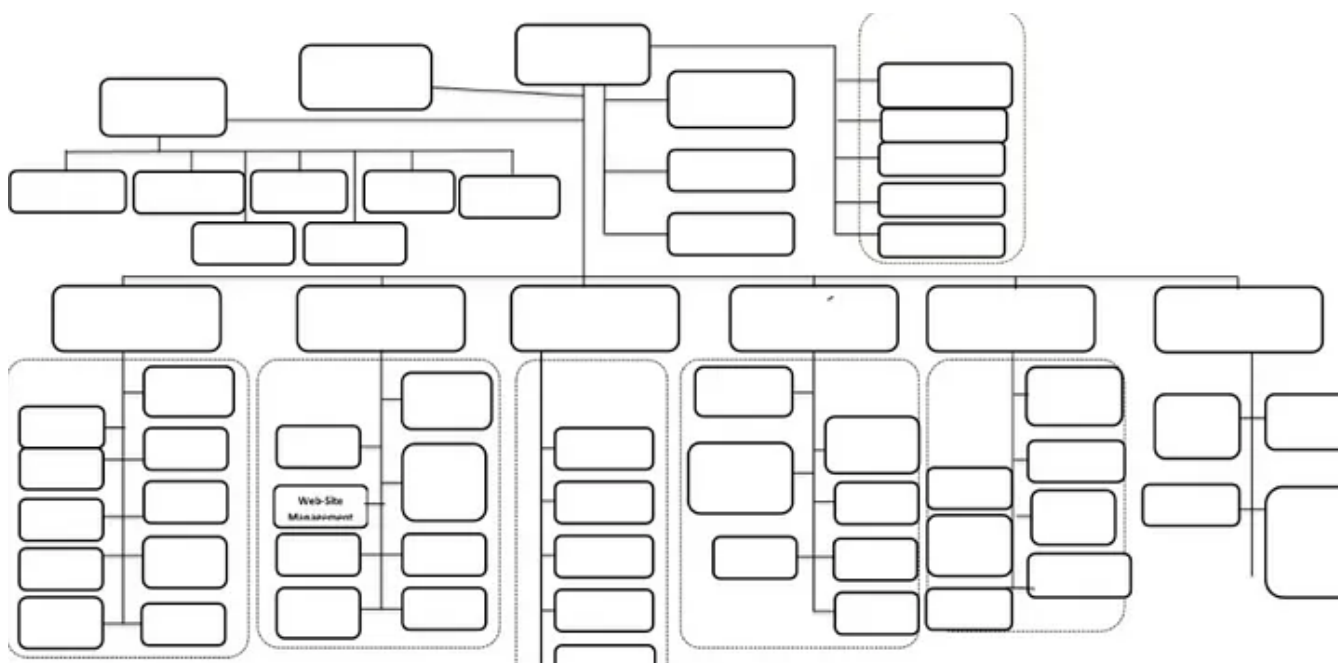
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In the snowflake we have the functionality to create the hierarchy of the tasks. For example we can have a situation where, we want to execute the Task 2 only after Task 1 get executed successfully.

To know more about TASK & Scheduling a task ([Click Here](#)).

Here the Task 1 would be called as the root task and the Task 2 would be called as the child task or dependent task to Task 1 and Task 3 would be called as the child task or dependent task to Task 2.

Frequency of the Task 2 execution would solely dependent on the Task 1 frequency and Frequency of the Task 3 execution would solely dependent on the Task 2

frequency. Explained in below diagram.



TASK 3 run dependent on TASK 1 and TASK 2

Syntax:

Create three task in such a way that second task will be executed only after the first task get executed and third task will be executed only after the second task get executed.

*/

```
CREATE OR REPLACE TASK Snowflake_Task_SAMPLE_1_PARENT  
WAREHOUSE = COMPUTE_WH
```

SCHEDULE = '1 MINUTE' — This will run for every 1 minute

AS

— Your Task logic put it here

CREATE TASK Snowflake_Task_SAMPLE_2_CHILD

WAREHOUSE = COMPUTE_WH

AFTER Snowflake_Task_SAMPLE_1_PARENT — This is the keyword used to schedule depended task

AS

— Your Task logic put it here

CREATE TASK Snowflake_Task_SAMPLE_3_CHILD

WAREHOUSE = COMPUTE_WH

AFTER Snowflake_Task_SAMPLE_1_PARENT — This is the keyword used to schedule depended task

AS

— Your Task logic put it here

*/

Example: (Source code)

Created three procedure and scheduled via task which will get executed based on dependency mentioned in TASK.

CREATE OR REPLACE DATABASE SNOWFLAKE_DEMO;

CREATE OR REPLACE SCHEMA TASK_DEMO;

CREATE OR REPLACE TABLE TASK_TABLE(TBL_NAME VARCHAR,
LAST_INSERTED_DATE TIMESTAMP);

— — *PROECEDURE TO INSERT PARENT RECORDS IN TO THE TABLE*

CREATE or replace PROCEDURE PARENT_PRO()

RETURNS VARIANT not null

LANGUAGE JAVASCRIPT

AS

\$\$

```

var response_as_json = {};
response_as_json['status'] = 'Success';
var str = "";
var stmt = snowflake.createStatement({sqlText: "INSERT INTO TASK_TABLE VALUES
('PARENT_TABLE',SYSDATE())"});
try
{
stmt.execute();
}
catch (err)
{
snowflake.execute({sqlText: "ROLLBACK WORK;"});
response_as_json['status'] = 'Fail';
response_as_json['error_message'] = err;
}
return response_as_json;
$$;

```

— TASK TO TRIGGER THE PARENT TASK

```

CREATE OR REPLACE TASK PARENT_TASK
WAREHOUSE = COMPUTE_WH
SCHEDULE = '1 MINUTE'
AS
call PARENT_PRO();

```

— — PROECEDURE TO INSERT CHILD RECORD 1 IN TO THE TABLE

```

CREATE OR REPLACE PROCEDURE CHILD_PRO1()
RETURNS VARIANT NOT NULL
LANGUAGE JAVASCRIPT
AS
$$
var response_as_json = {};
response_as_json['status'] = 'Success';
var str = "";
var stmt = snowflake.createStatement({sqlText: "INSERT INTO TASK_TABLE VALUES
('CHILD_TABLE1',SYSDATE())"});

```

```

try
{
stmt.execute();
}
catch (err)
{
snowflake.execute({sqlText: "ROLLBACK WORK;"});
response_as_json['status'] = 'Fail';
response_as_json['error_message'] = err;
}
return response_as_json;
$$;

```

— TASK TO TRIGGER THE CHILD TASK 1

```

CREATE OR REPLACE TASK CHILD_TASK1
WAREHOUSE = COMPUTE_WH
AFTER PARENT_TASK
AS
call CHILD_PRO1();

```

— — PROECEDURE TO INSERT CHILD RECORD 2 IN TO THE TABLE

```

CREATE OR REPLACE PROCEDURE CHILD_PRO2()
RETURNS VARIANT NOT NULL
LANGUAGE JAVASCRIPT
AS
$$
var response_as_json = {};
response_as_json['status'] = 'Success';
var str = "";
var stmt = snowflake.createStatement({sqlText: "INSERT INTO TASK_TABLE VALUES
('CHILD_TABLE2',SYSDATE())"});
try
{
stmt.execute();
}
catch (err)

```

```

{
snowflake.execute({sqlText: "ROLLBACK WORK;"});
response_as_json['status'] = 'Fail';
response_as_json['error_message'] = err;
}
return response_as_json;
$$;

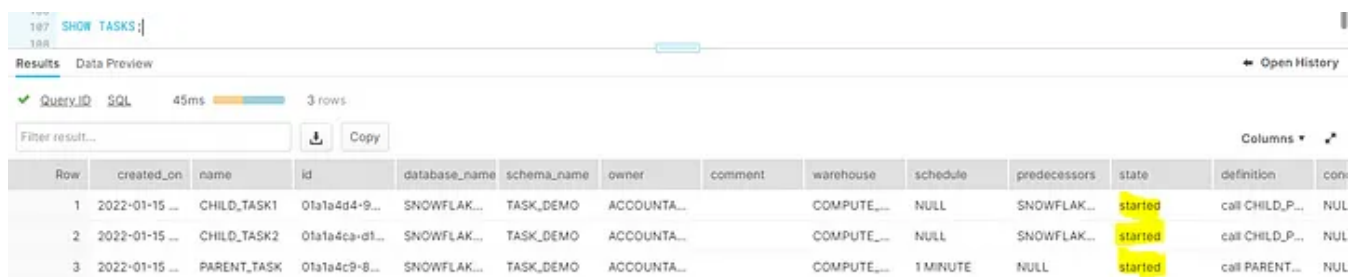
```

— TASK TO TRIGGER THE CHILD TASK 2

```

CREATE OR REPLACE TASK CHILD_TASK2
WAREHOUSE = COMPUTE_WH
AFTER PARENT_TASK
AS
call CHILD_PRO2();

```



The screenshot shows the 'SHOW TASKS' query results in Snowflake. The table has 13 columns: Row, created_on, name, id, database_name, schema_name, owner, comment, warehouse, schedule, predecessors, state, definition, and comment. There are 3 rows of data. The 'state' column for all three tasks is 'started'.

Row	created_on	name	id	database_name	schema_name	owner	comment	warehouse	schedule	predecessors	state	definition	comment
1	2022-01-15 ...	CHILD_TASK1	01a1a4d4-9...	SNOWFLAK...	TASK_DEMO	ACCOUNTA...		COMPUTE...	NULL	SNOWFLAK...	started	call CHILD_P...	NUL
2	2022-01-15 ...	CHILD_TASK2	01a1a4ca-dt...	SNOWFLAK...	TASK_DEMO	ACCOUNTA...		COMPUTE...	NULL	SNOWFLAK...	started	call CHILD_P...	NUL
3	2022-01-15 ...	PARENT_TASK	01a1a4c9-8...	SNOWFLAK...	TASK_DEMO	ACCOUNTA...		COMPUTE...	1 MINUTE	NULL	started	call PARENT...	NUL

SHOW TASK()

LAST_INSERTED_DATE column present in the table describes about when records got inserted,

```

108
109 SELECT * FROM TASK_TABLE ORDER BY LAST_INSERTED_DATE DESC;
110

```

Row	TBL_NAME	LAST_INSERTED_DATE
1	CHILD_TABLE2	2022-01-15 11:34:22.561
2	CHILD_TABLE1	2022-01-15 11:34:22.494
3	PARENT_TABLE	2022-01-15 11:34:10.445

```
SELECT * FROM TASK_TABLE ORDER BY LAST_INSERTED_DATE DESC;
```

In this screenshot PARENT_TABLE which got completed, post successful completion of PARENT_TABLE — CHILD TABLE 1 and CHILD TABLE 2 records got inserted.

Note: (Points to remember)

According to snowflake documentation, Executing DDL commands on any task in a tree of tasks requires that the root task is suspended. If the root task is currently resumed, then the command returns a user error.

For above the example the task should be resumed in following sequence,

```

ALTER TASK CHILD_TASK2 RESUME;
ALTER TASK CHILD_TASK1 RESUME;
ALTER TASK PARENT_TASK RESUME;

```

In case if you want to suspend the task and that should be in below sequence,

```

ALTER TASK PARENT_TASK SUSPEND;
ALTER TASK CHILD_TASK1 SUSPEND;
ALTER TASK CHILD_TASK2 SUSPEND;

```

In snowflake you cannot resume the parent task before child tasks. Always resume child tasks before parent task. Resuming child tasks before parent task does not cause any issues because they are dependent on its parent.



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Written by Alexander

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```
['Australia/Sydney'] :
```

3 rows



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value	default	level	description
true	true		When
true	true		When
Australia/Sydney	America/Los_Angeles	SESSION	time zone

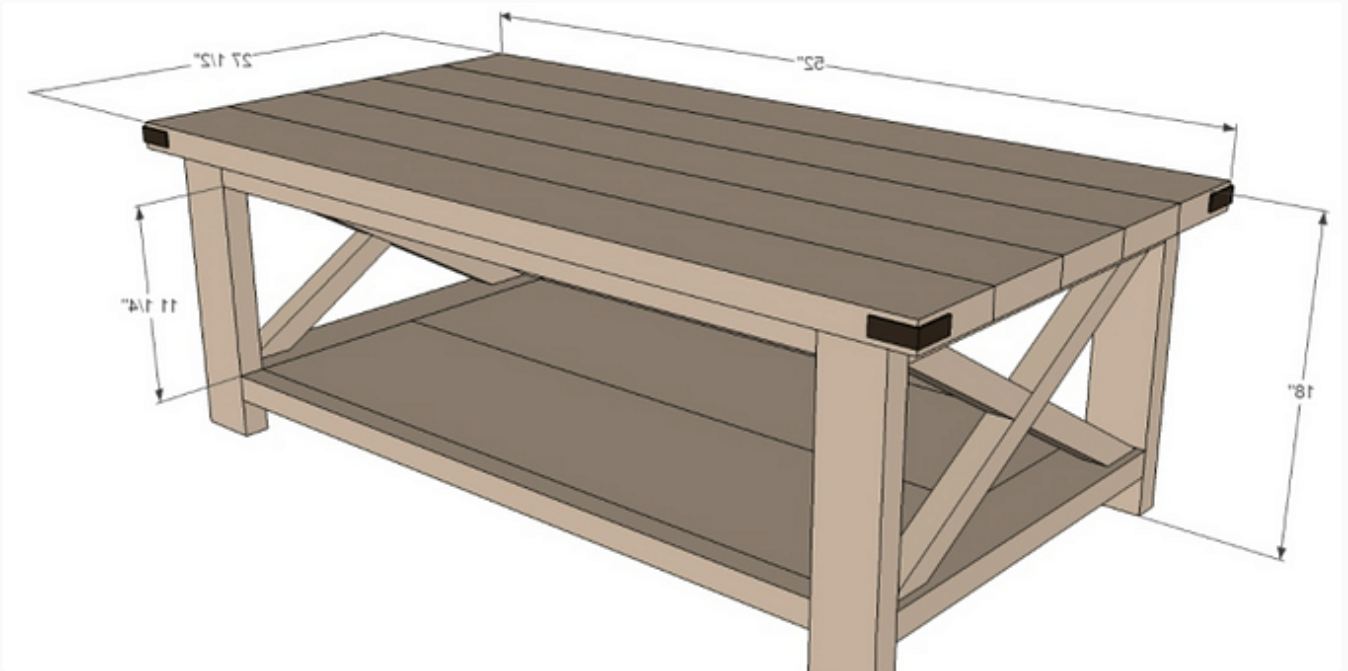


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TIMESTAMPS in Snowflake? NTZ vs LTZ vs TZ

There are 3 different timestamp types in Snowflake:

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How to Find Snowflake Table Size?

Snowflake maintains the important information in system tables. One of such view is `TABLE_STORAGE_METRICS` view.

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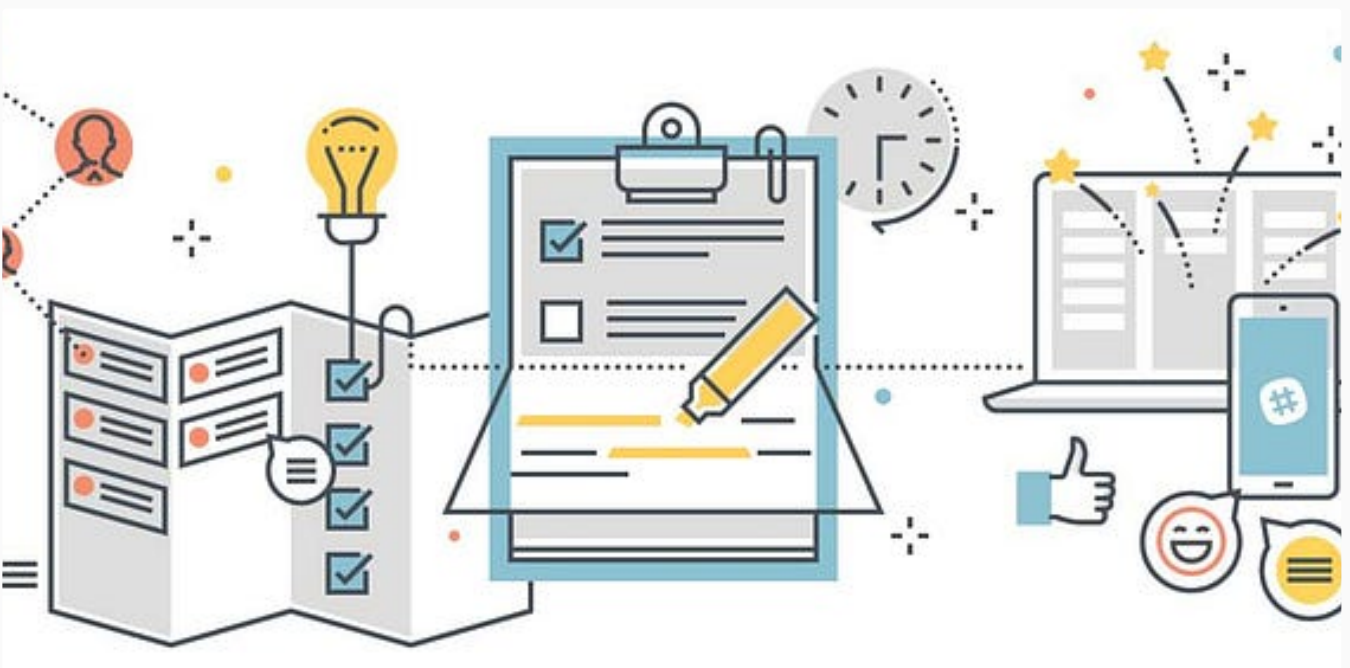


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Difference between execute as a CALLER and OWNER in Snowflake procedure:

By default, when a stored procedure is created in Snowflake, it runs with the owner's rights which is also known as the "execute as owner"...

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How to schedule stored procedure via snowflake task ?

A task can execute a single SQL statement or a call to a stored procedure.

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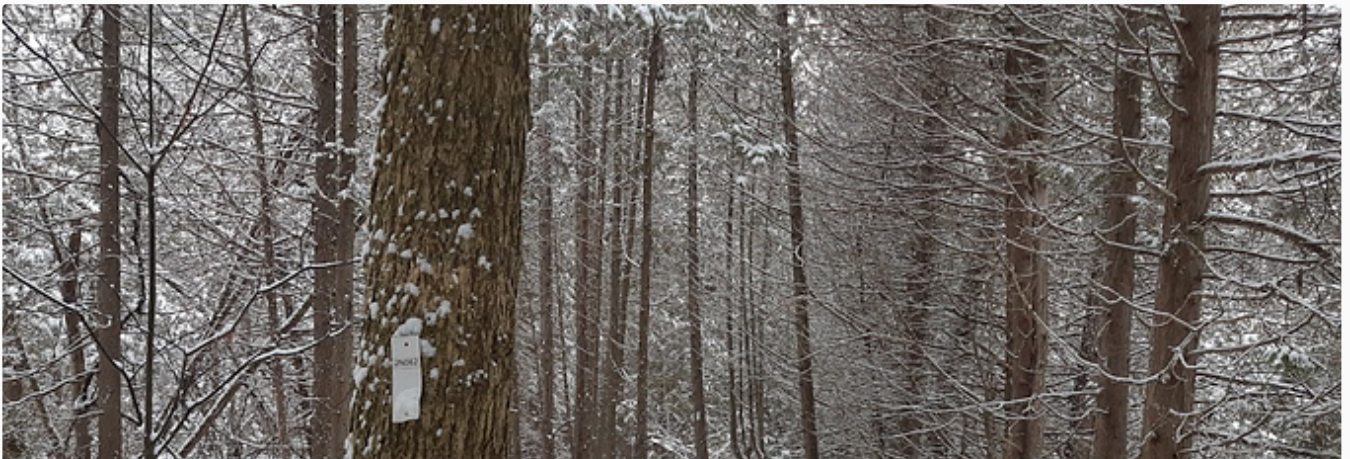


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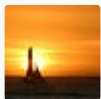
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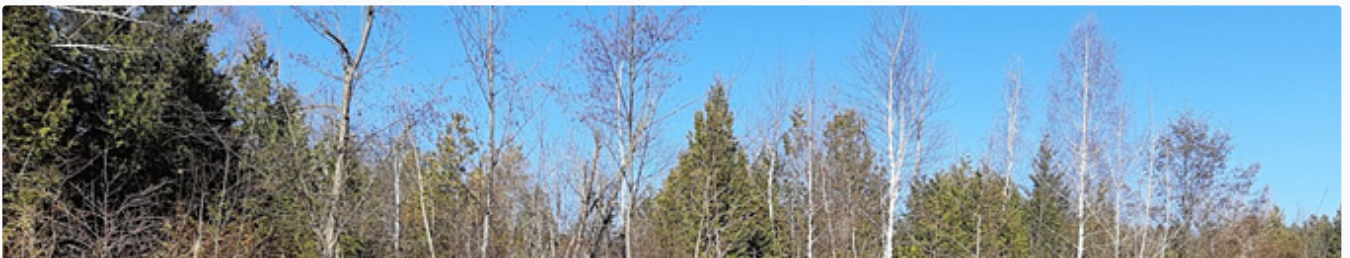
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Cursor and for loop in a Snowflake stored procedure

Snowflake scripting can be tricky in terms of the syntax. In sql language based stored procedure there is some learning curve.

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For security request in companies, Snowflake end users are required to change their password regularly for example every 90 days. Snowflake...

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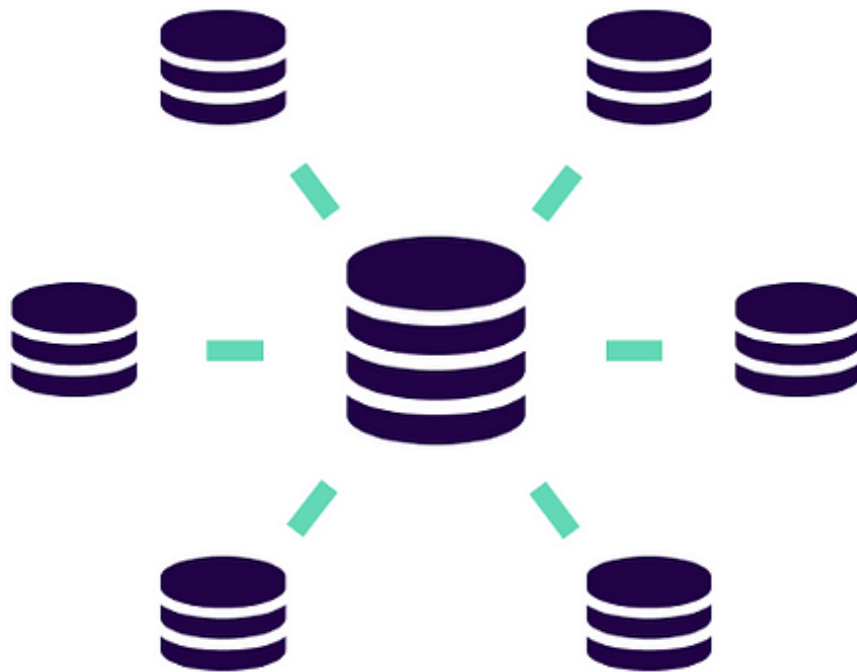


'COPY INTO' Snowflake

A feature that enables us to load and unload the data from snowflake's existing tables into the snowflake stages.

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