ALL ABOUT GRID VARIABLES

Revision on variables:

There are **four main variable types** available for use in Matillion. They are as follows:

1. Job Variables:
2. Environment Variables
3. Automatic Variables
4. Grid Variables

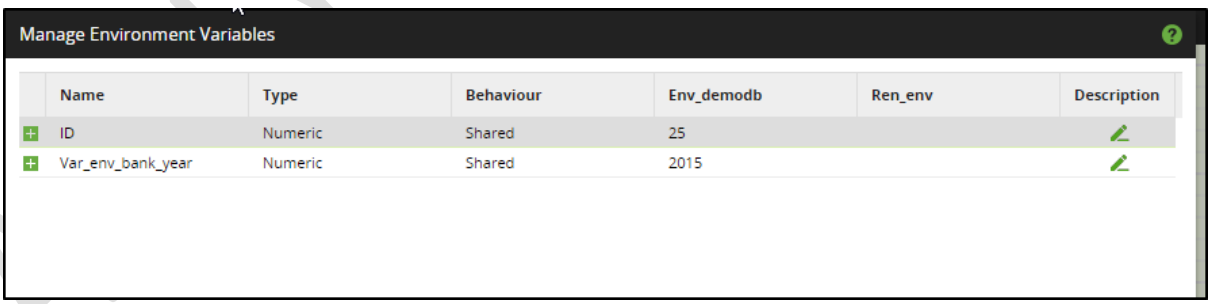
Job Variables:

- Job variables are defined within an individual job.
- override environment variables of the same name within that specific job.
- They will be included when jobs are imported and exported.

NOTE: Visibility: When a variable is private, it cannot be discovered or overwritten

Environment Variables:

- Environment Variables are defined across a given environment.
- For each of these columns, an additional default value can be set. This can be particularly useful if you have Matillion jobs consistent across environments, such as Development, QA, and Production.



Automatic Variables (Subset of environment variables):

- These are pre-defined in Matillion, and their values cannot be changed.
- We used these in SNS failure message
  `detailed_error , job_id`
- https://docs.matillion.com/metl/docs/2943424/#environment-variables-video-guide

ALL ABOUT GRID VARIABLES

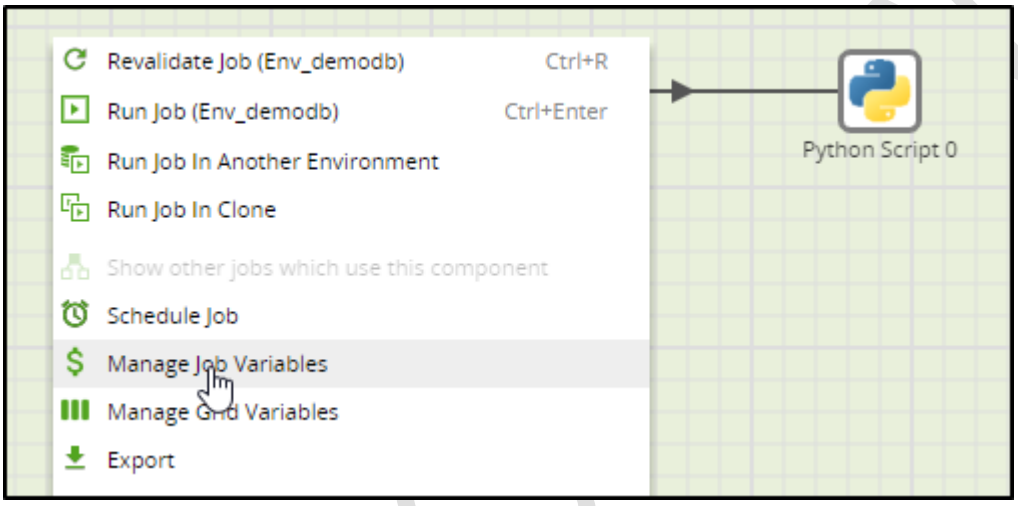
Grid Variables:

- Grid Variables are a special type of job variable.
- They are 2D arrays that hold scalar values in named columns.
- They can be used in many different components, mainly using the “Use Grid Variable” checkbox in the component property menu.

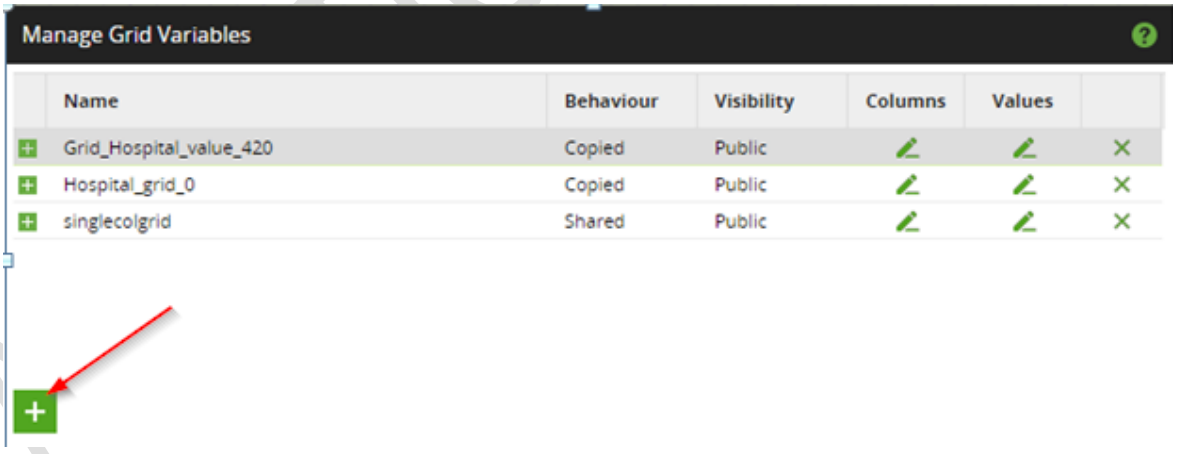
Working with GRID variables:

How to setup Grid variables:

1. Create a transformation job,
2. Right-click and select Manage Grid Variables on the dropdown menu.



3. This is the Grid Variables management section. Click the “+” sign to set up a new grid variable.



4. Fill in the details and click next

In text mode:

PATIENT_ID Numeric

PATIENT_NAME Text

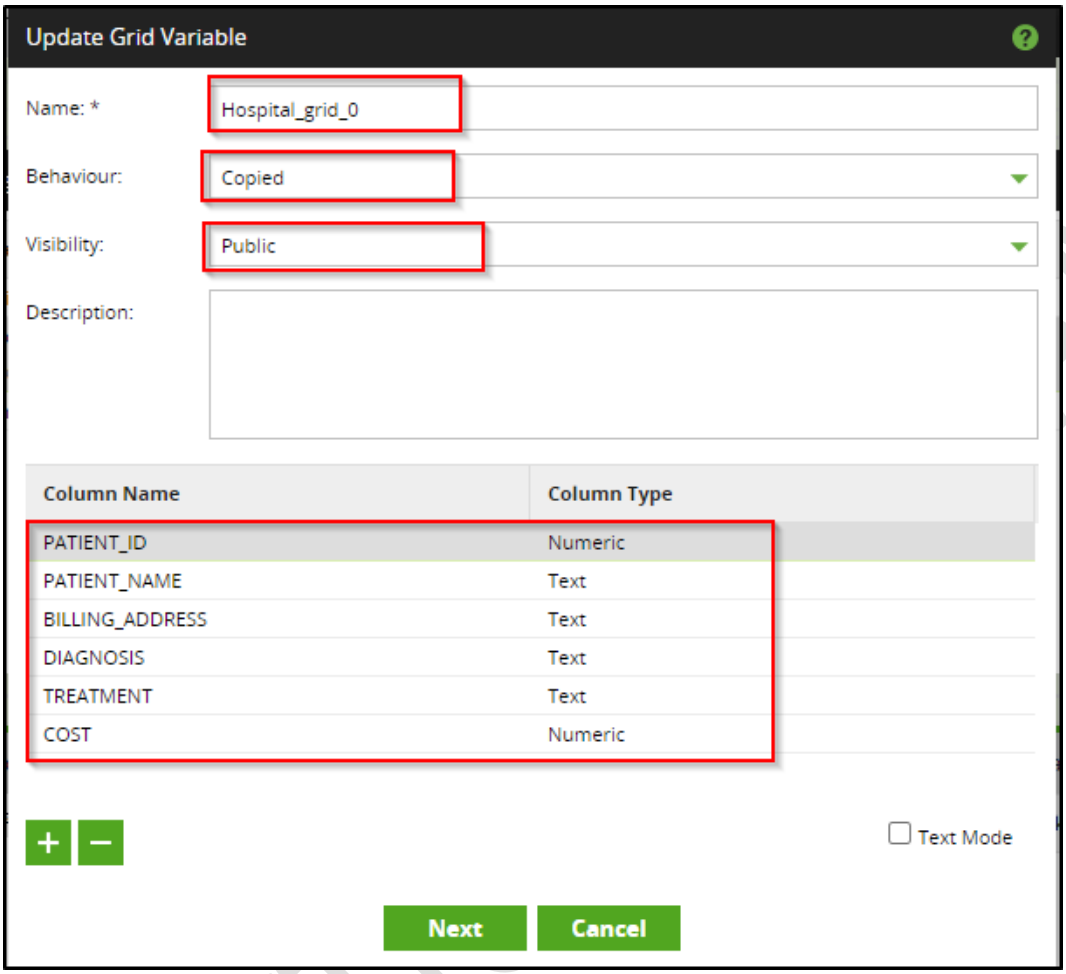
BILLING_ADDRESS Text

ALL ABOUT GRID VARIABLES

DIAGNOSIS Text

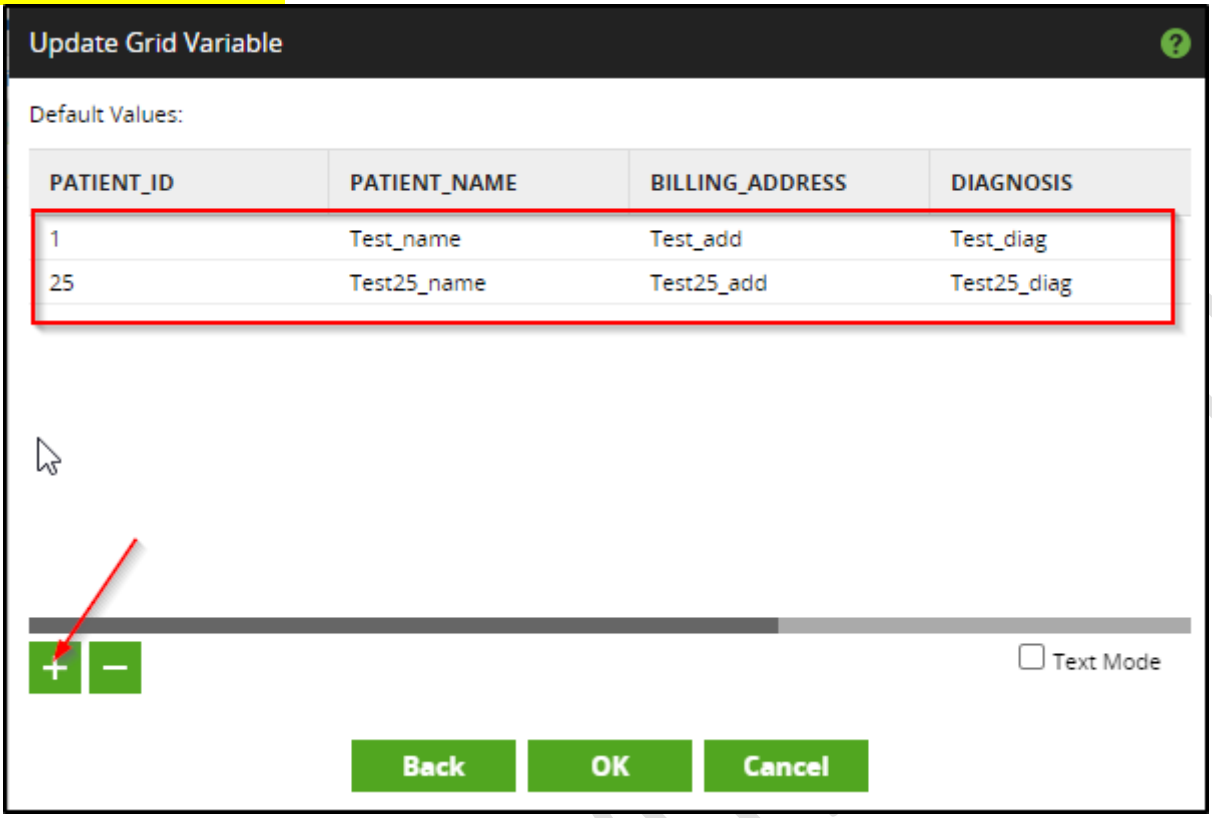
TREATMENT Text

COST Numeric



5. Fil the defaults and click OK. The variables are saved as List of list.

ALL ABOUT GRID VARIABLES



In text mode:

1 Test_name Test_add Test_diag Test_treatment 0
25 Test25_name Test25_add Test25_diag Test25_treatment 25

You have configured your first Grid variable

Populating Grid variables:

I. Set default values like other variable types

- We just performed this step, wherein we added default variables
- To verify the values we will use python script:
  - Add python script component
  - Similar to how we used python script for job variables, we do the same for GRID variables using *getGridVariable*
    - print (context.getGridVariable('Hospital_grid_0'))

ALL ABOUT GRID VARIABLES

II. Append to Grid:

You can append defaults using 'append to Grid' component in 2 ways:

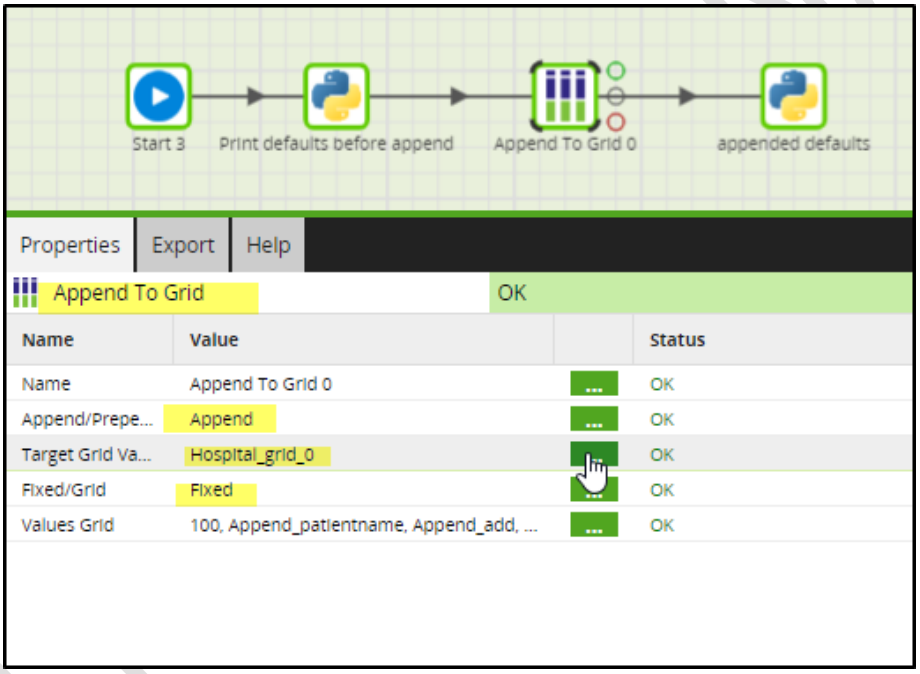
- Using fixed values
- Using another GRID variable

Using fixed values

- Create an Orchestration job
- Add python script to check what is the values currently in the GRID

```
array = context.getGridVariable('Hospital_grid_0')
for data in array:
  print(data)
```

- Add 'Append to grid ' component



- Values Grid - enter values of your choice

Values Grid

	PATIENT_ID	PATIENT_NAME	BILLING_ADDRESS	DIAGNOSIS	TREATMENT	COST
	100	Append_patientname	Append_add	Append_diag	Append_treat	1100

TEXT MODE:

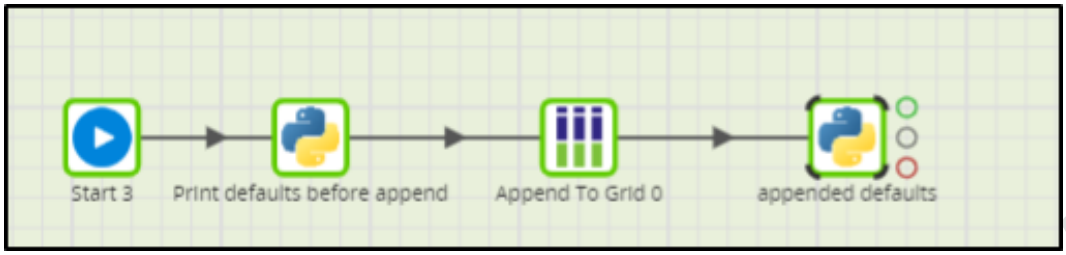
100 Append_patientname Append_add Append_diag Append_treat 1100

- Add one more python script component to check values after append:
  Script:

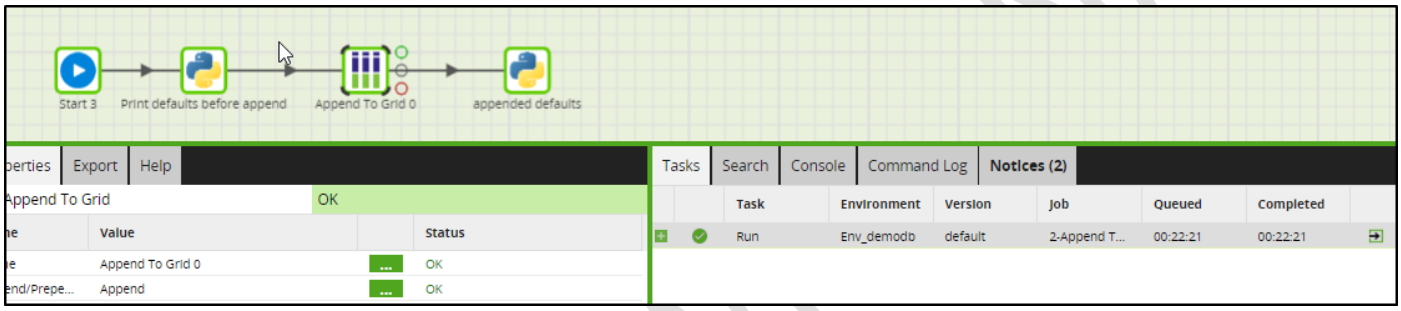
ALL ABOUT GRID VARIABLES

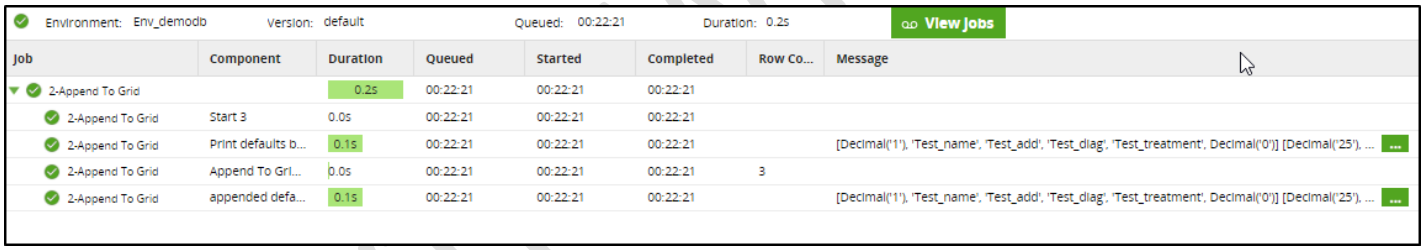
```
array = context.getGridVariable('Hospital_grid_0')
for data in array:
  print(data)
```

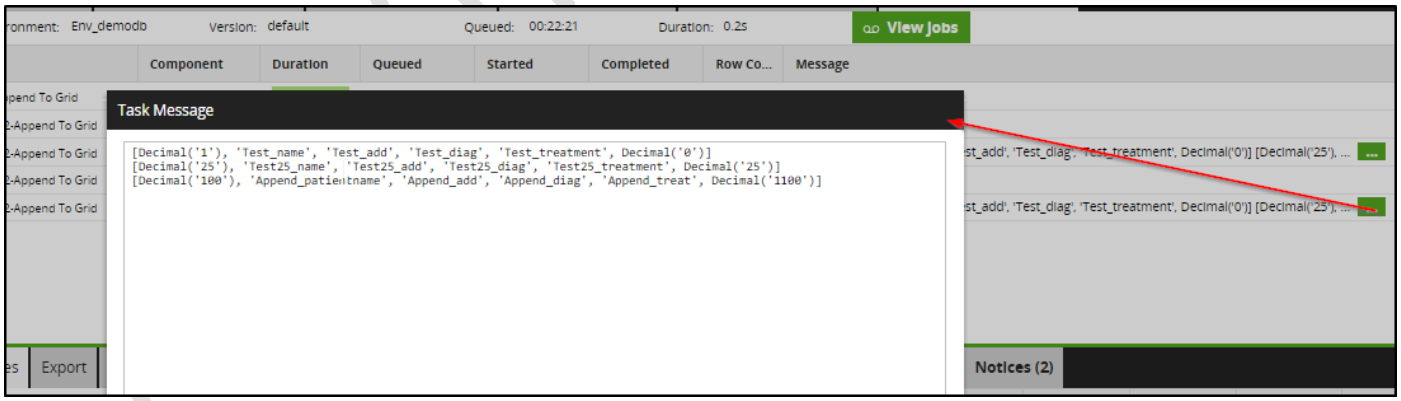
Finally jobs will look like below:



- Run the job

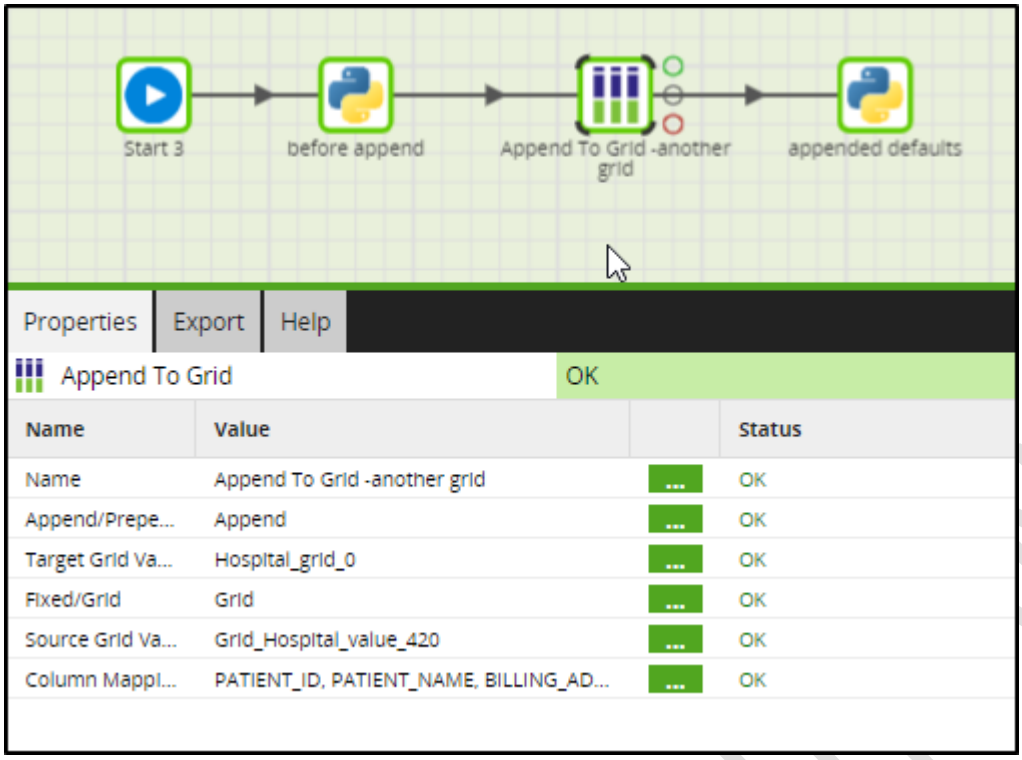


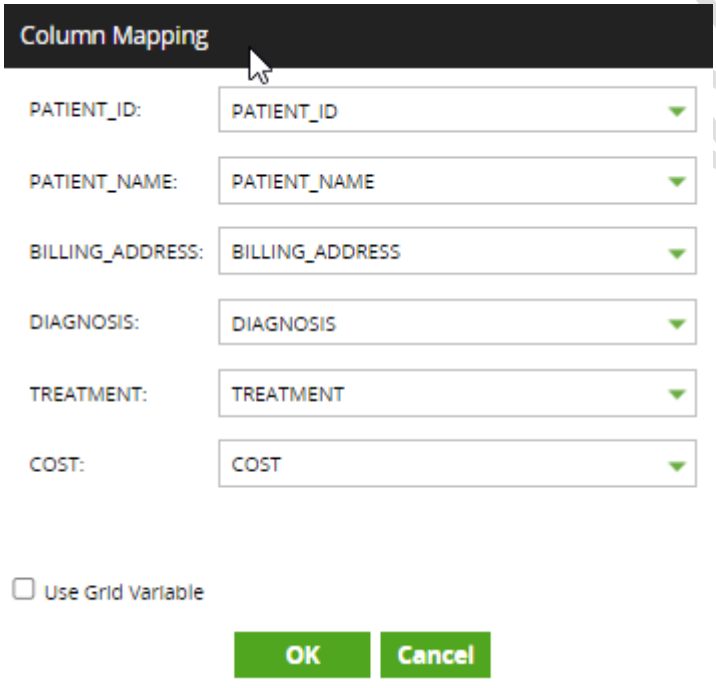




ALL ABOUT GRID VARIABLES

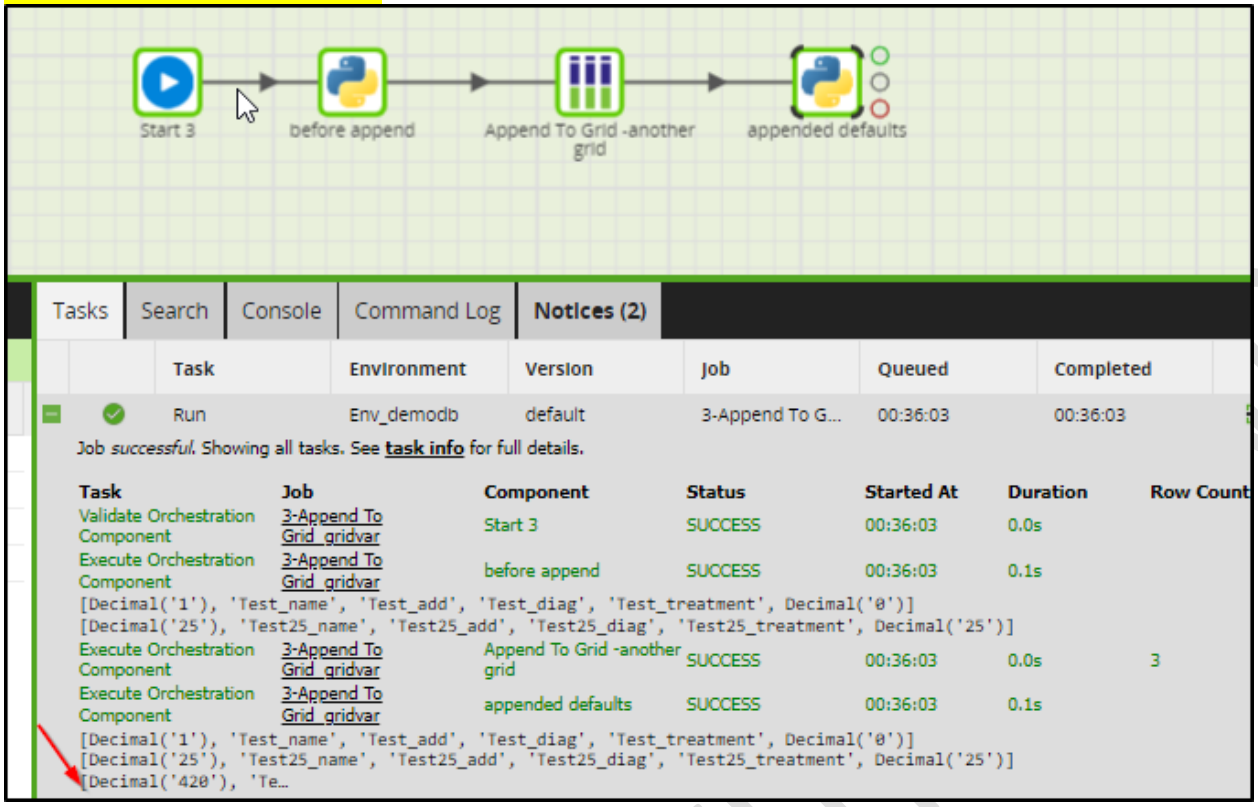
Using another GRID variable instead of fixed:

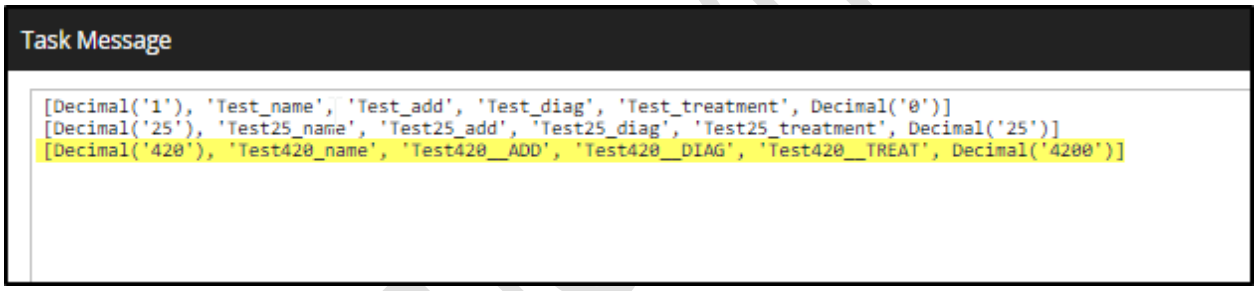




Run the job:

ALL ABOUT GRID VARIABLES





III. Query result to Grid

We will be querying a database and the result of it can be fed into the GRID

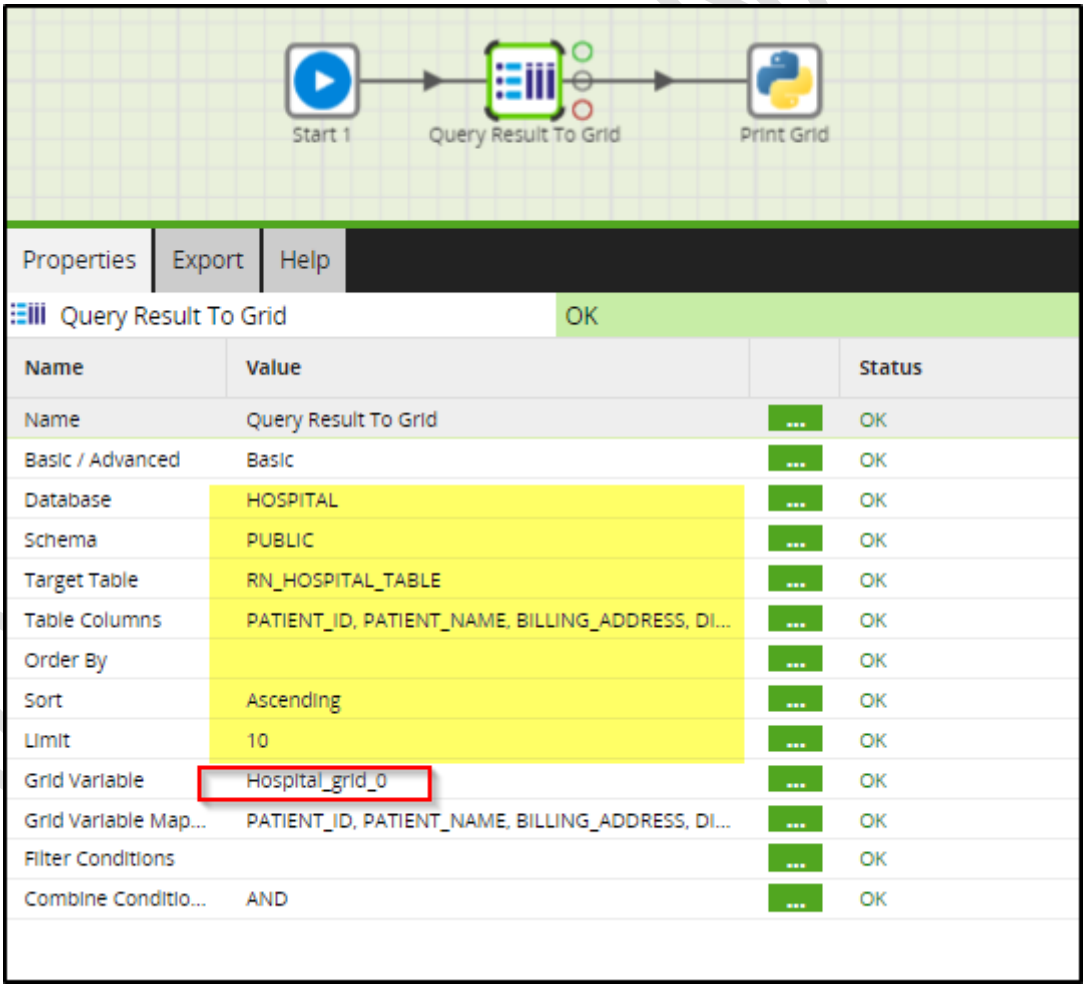
- Create an orchestration job
- Add 'query result to grid' component
  - We will be using the HOSPITAL TABLE we created last class. If not created already , use the below scripts:

```
-- create database
CREATE DATABASE `HOSPITAL`;

-- create table
CREATE TABLE `RN_HOSPITAL_TABLE` (
  `PATIENT_ID` int DEFAULT NULL,
  `PATIENT_NAME` varchar(30) DEFAULT NULL,
  `BILLING_ADDRESS` varchar(50) DEFAULT NULL,
  `DIAGNOSIS` varchar(20) DEFAULT NULL,
  `TREATMENT` varchar(50) DEFAULT NULL,
```

ALL ABOUT GRID VARIABLES

```
 `COST` float DEFAULT NULL
) ;

-- insert records
insert into RN_hospital_table
 (patient_id, patient_name, billing_address, diagnosis, treatment, cost)
 values
 (1, 'Mark Knopfler', '1982 Telegraph Road', 'Industrial Disease', 'a week of peace and quiet', 2000.00),
 (2, 'Guido van Rossum', '37 Florida St.', 'python bite', 'anti-venom', 70000.00),
 (3, 'Devin', '197 Brigade Road Texas', 'dog bite', 'Rabies Injection', 40000.00),
 (4, 'Mark', '38 denver St Chicago', 'Dengue', 'Malaria', 50000.00),
 (5, 'Peter', '78 New Yor City', 'Accident', 'Operation', 340000.00);
```

- Fill in snowflake details in 'query result to grid' component



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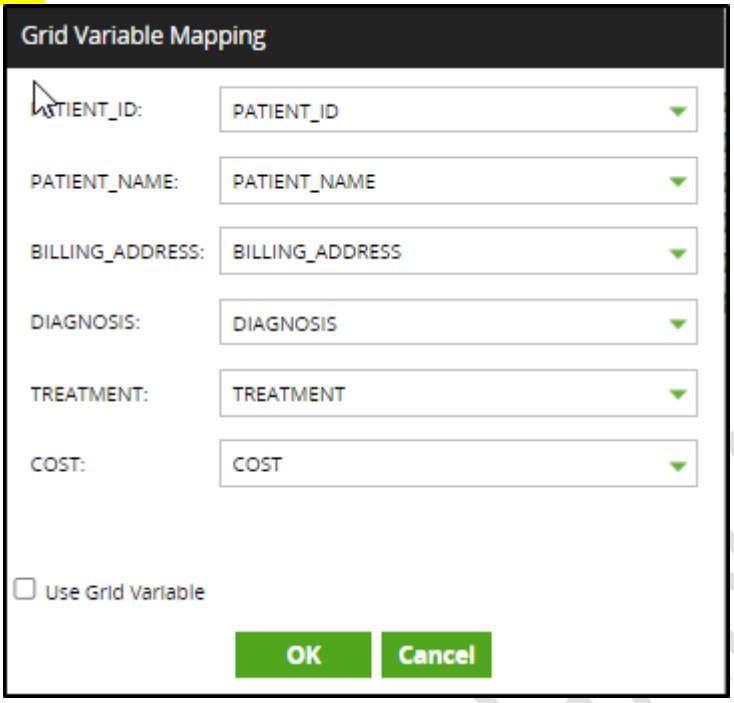
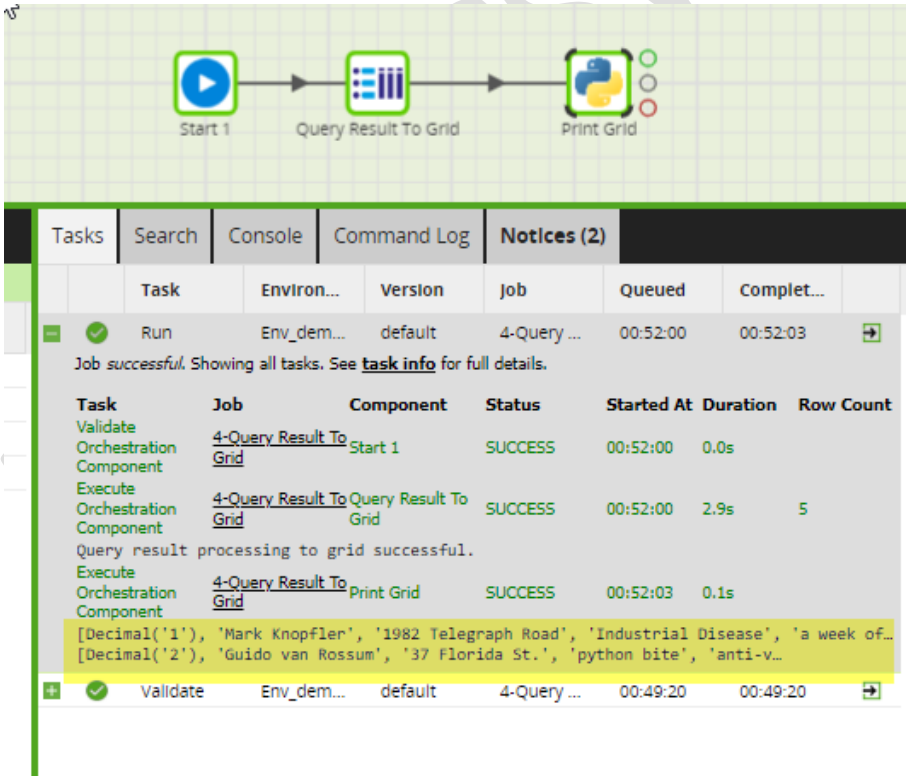
ALL ABOUT GRID VARIABLES



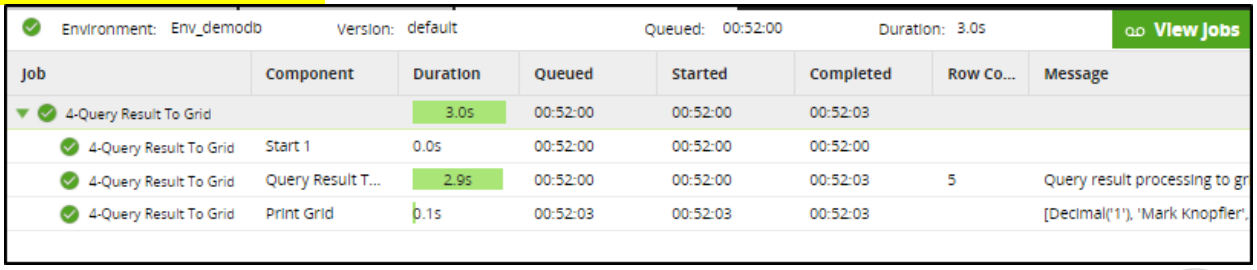
- Add a python job to print the GRID variables

```
array = context.getGridVariable('Hospital_grid_0')
for data in array:
  print(data)
```

- Run the job

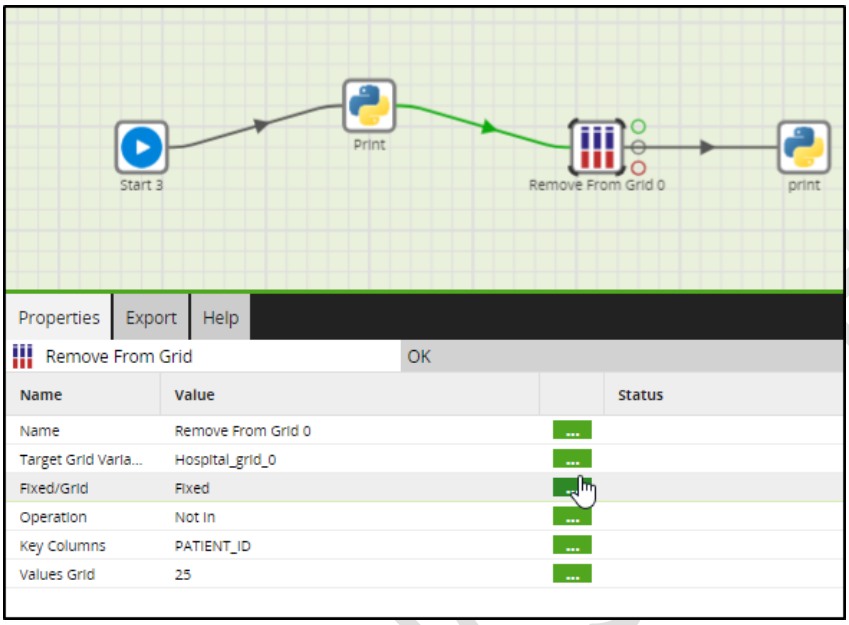


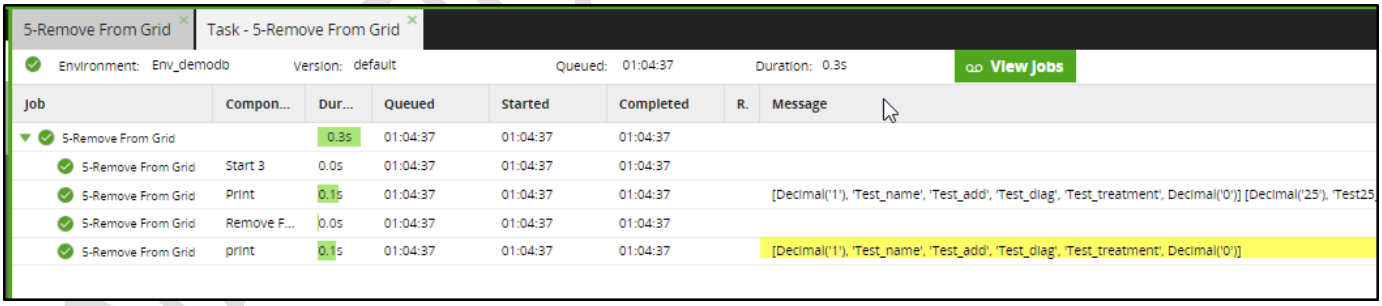
ALL ABOUT GRID VARIABLES



IV. Remove from Grid

Remove few of the records in GRID.





V. Table meta data to grid

- Create Orchestration job
- Add 'Table metadata to Grid' component and fill in the details:

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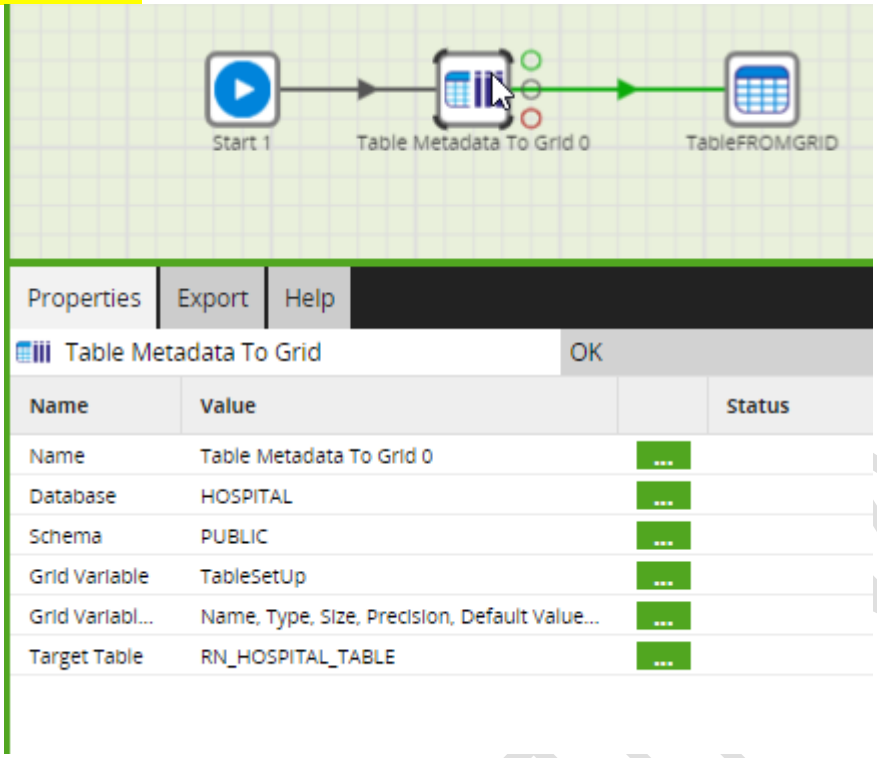

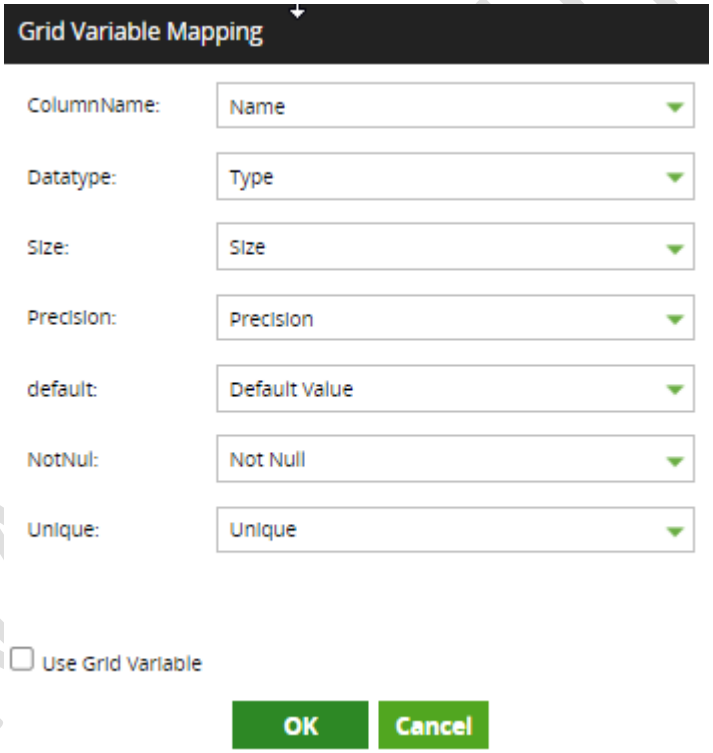

- Add ‘create table ‘componenrt

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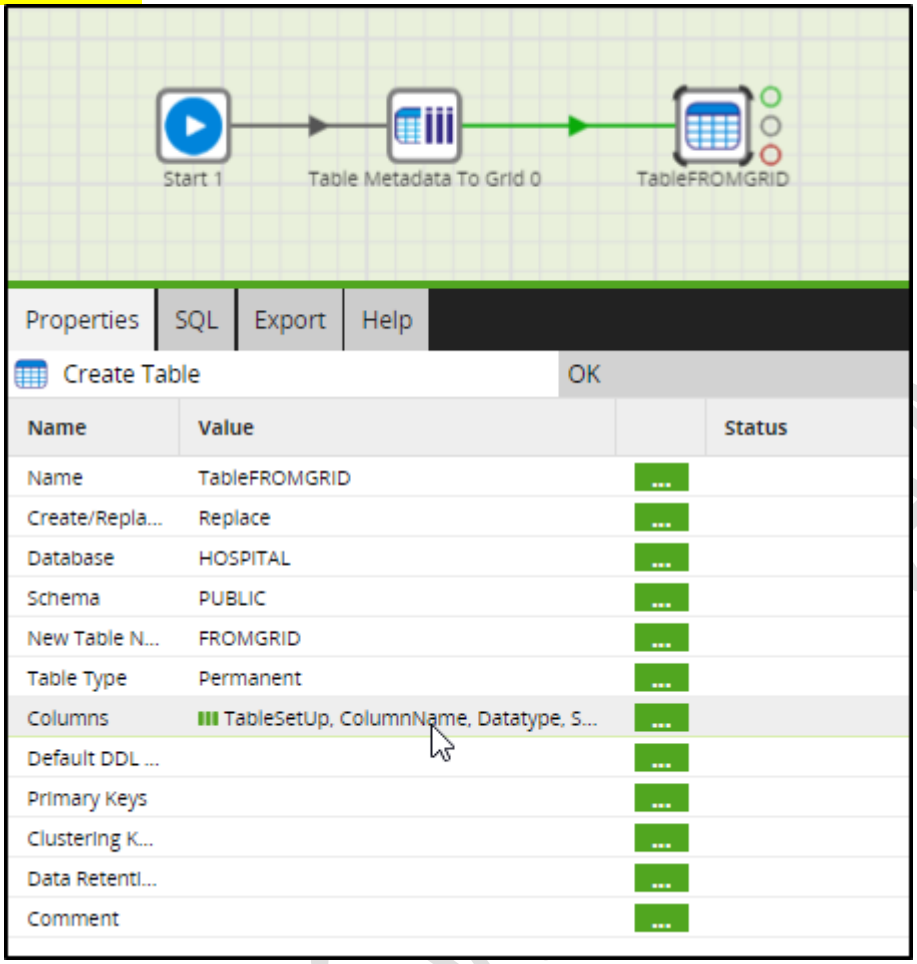

Columns:

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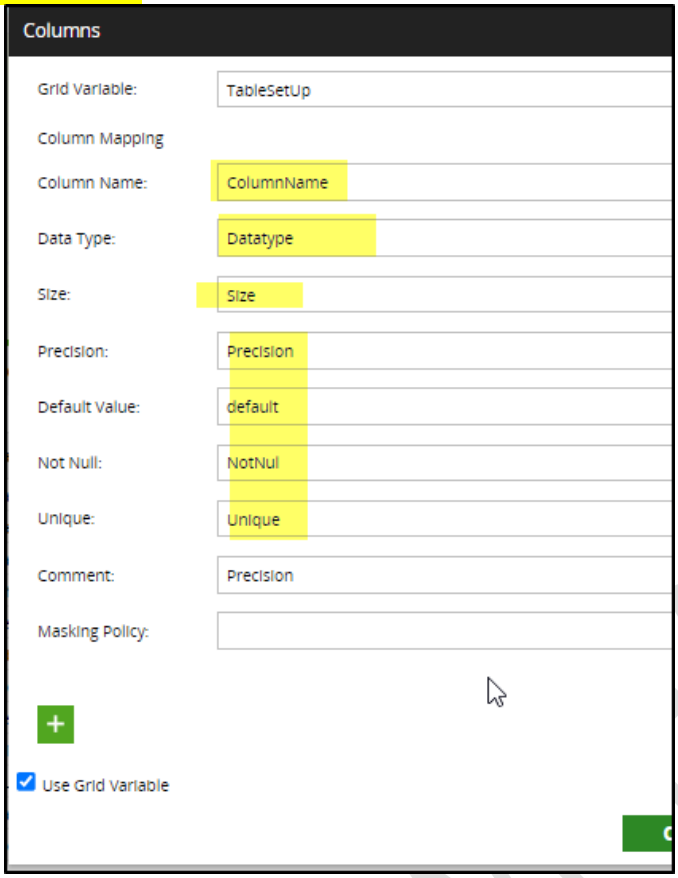
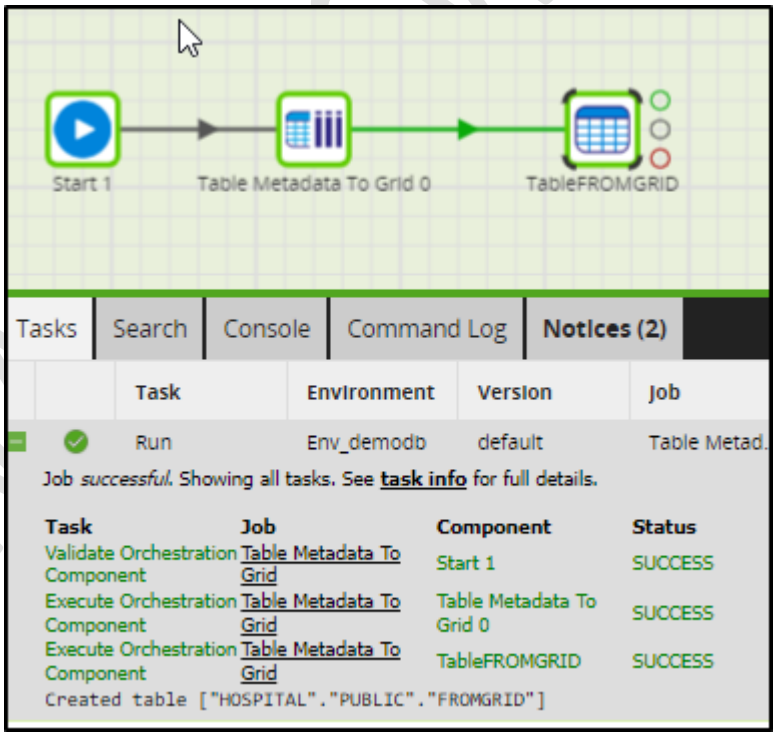
ALL ABOUT GRID VARIABLES



Run the component:



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