

Demand Forecast | Rules Builder

INTRODUCTION

- This Hands-on Exercise is a part of **Building A Demand Forecast Skill**.
- The Steps for accessing the Aera Decision Cloud and creating a workspace are common across all the exercises.
- Please continue to use **Demand Forecast Skill_Username** Workspace.
- This exercise will guide you through configuring two rules:
 - Rule to accept recommendations autonomously
 - Rule to close past due date recommendations
- You will use your Action message table **actionmessage_<Username>_Demand_Recomm** to fetch the open Recommendations.
- The data in the screenshots are illustrative, and values in the screenshots are not to be used to execute the hands-on. You are requested to input the data provided in the instructions

KEY TAKEAWAY

In this hands-on, you will learn to:

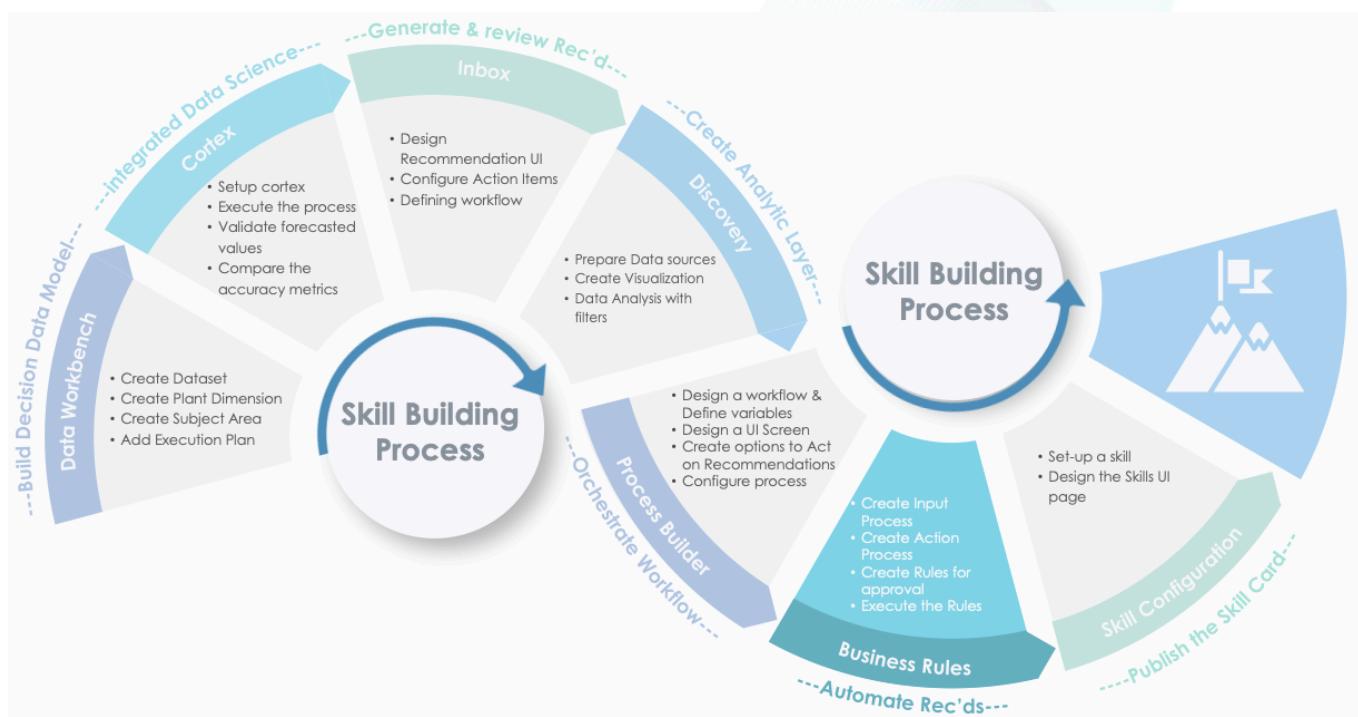
- Create Input Process
- Create Action Process
- Create a Rule to accept recommendations
- Create a Rule to close recommendations past their due date
- Execute the Rules

EXPECTED RESULTS

After creating two rules, your Inbox will show Recommendation Responses for both Autonomous and No Action Taken.

Demand_Recommendation_John	Material Description 1↑	Planner Forecast	Aera Forecast	108 Pending	162 Complete	Action Taken	Owner Id	Variance
Assorted Chocolate Gift Box	15381		10519	Autonomous	Accepted	Aera	31.61	
Assorted Chocolate Gift Box	17395		20680	Autonomous	Accepted	Aera	18.88	
Assorted Chocolate Gift Box	24526		17402	Autonomous	Accepted	Aera	29.05	
Assorted Chocolate Gift Box	10183		13577	Autonomous	Accepted	Aera	33.33	
Assorted Chocolate Gift Box	32191		23845	Autonomous	Accepted	Aera	25.93	
Assorted Chocolate Gift Box	5116		6821	Autonomous	Accepted	Aera	33.33	
Assorted Chocolate Truffles	25300		19630	Autonomous	Accepted	Aera	22.41	
Assorted Chocolate Truffles	39756		14841	No Action Taken		John khatua	62.67	
Assorted Chocolate Truffles	17764		11509	Autonomous	Accepted	Aera	35.21	
Assorted Chocolate Truffles	24032		20936	Autonomous	Accepted	Aera	12.88	
Assorted Chocolate Truffles	29772		16852	No Action Taken		John khatua	43.40	
Assorted Chocolate Truffles	16771		23664	No Action Taken		John khatua	41.10	
Assorted Chocolate Truffles	16424		19551	Autonomous	Accepted	Aera	19.04	
Assorted Chocolate Truffles	25736		17979	Autonomous	Accepted	Aera	30.14	

SKILL BUILDING PROCESS



TYPICAL ERRORS

1. Input variable not visible while configuring the Update Process.
2. The subprocess in the Rules Builder node does not show any process to link.
3. The automation condition is not working.

TIPS AND TRICKS

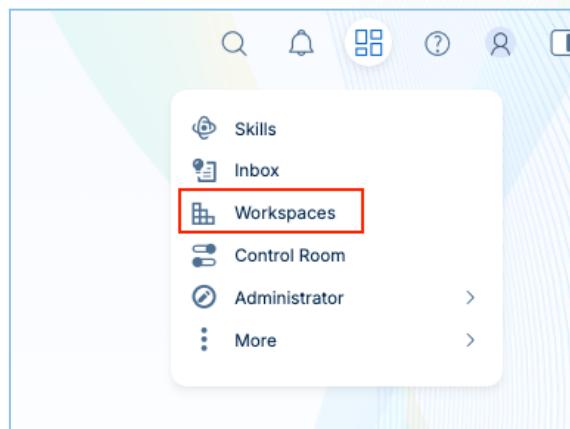
1. A User type (non-array) variable has to be created manually in the Action Process.
2. Make Sure the ActionSplitID available in the session variables of the Action Process is set to public.
3. Ensure that the numerical value specified in the condition is not enclosed in quotes, e.g., use 40 instead of "40"
4. Make sure that the processes are saved and merged with the Master branch.

TASKS AND STEPS

Getting started with Process Builder

Login to the Aera Decision Cloud

1. Click the **Aera Menu** icon on the Aera Decision Cloud and then click the **Workspaces**.



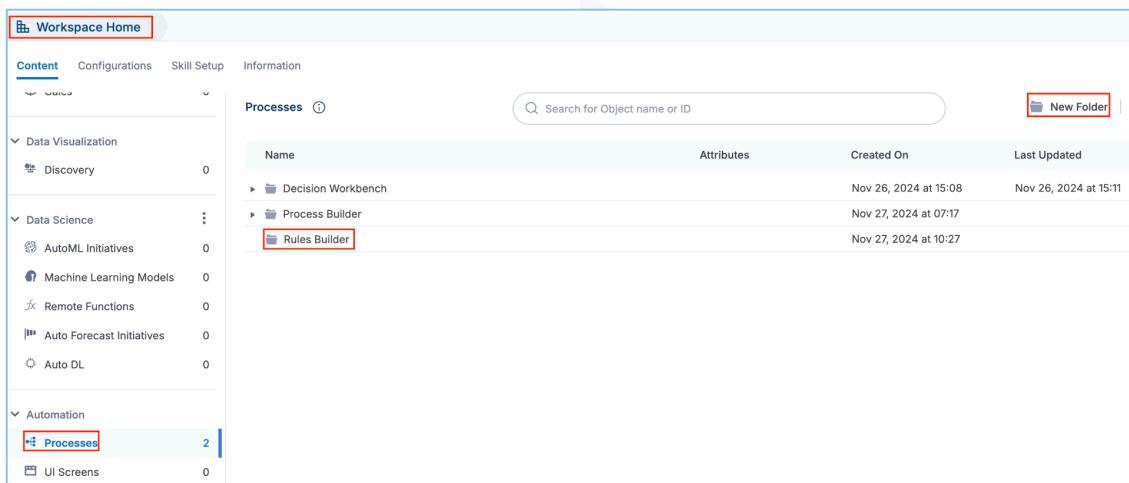
2. Select the workspace you created earlier: **Demand Forecast Skill_<Username>**.

Create a process to auto-approve recommendation

This process will consist of three nodes: A process node to initiate it, an interface face node to fetch the data, and finally, a rule that will call a sub-process to automate action.

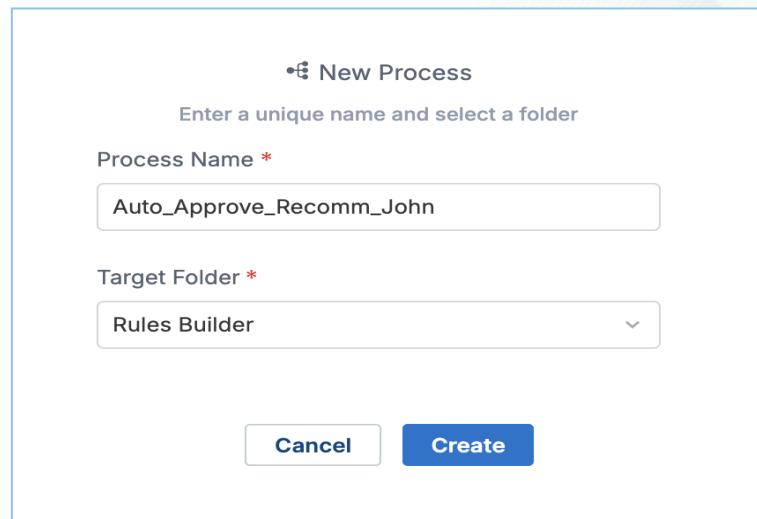
Define Input process

1. From the **Workspace Home**, go to **Processes** and create a new folder named **Rules Builder**.



The screenshot shows the Aera workspace interface. On the left, there's a sidebar with categories like Data Visualization, Data Science, and Automation. Under Automation, the 'Processes' folder is expanded, showing two items: 'Decision Workbench' and 'Rules Builder'. The 'Rules Builder' item is highlighted with a red box. The main area is titled 'Processes' and contains a table with columns: Name, Attributes, Created On, and Last Updated. It lists three entries: 'Decision Workbench' (Created On Nov 26, 2024 at 15:08), 'Process Builder' (Created On Nov 27, 2024 at 07:17), and 'Rules Builder' (Created On Nov 27, 2024 at 10:27). A search bar at the top right says 'Search for Object name or ID'.

2. Right-click the **Rules Builder** folder and select **New Process**.
3. Enter the name **Auto_Approve_Recomm_<Username>**, select the folder **Rules Builder <Username>**, and click **Create**.



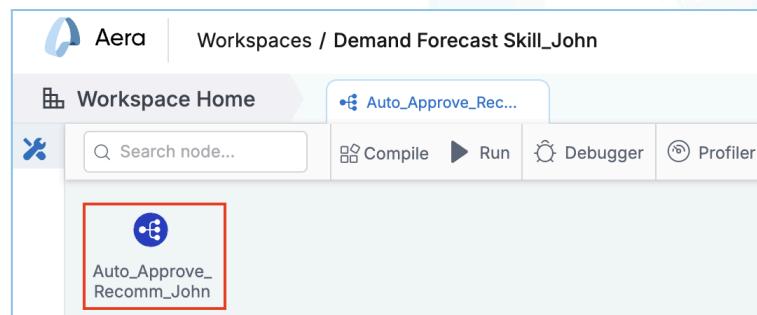
New Process
Enter a unique name and select a folder

Process Name *
Auto_Approve_Recomm_John

Target Folder *
Rules Builder

Create

4. You can see the **Auto_Approve_Recomm_<Username>** node on the screen.



Aera Workspaces / Demand Forecast Skill_John

Workspace Home

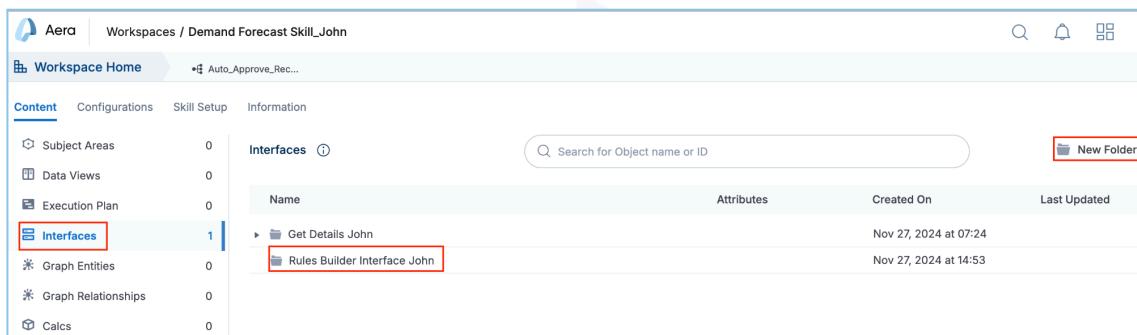
Auto_Approve_Recomm_John

Search node... Compile Run Debugger Profiler

Auto_Approve_Recomm_John

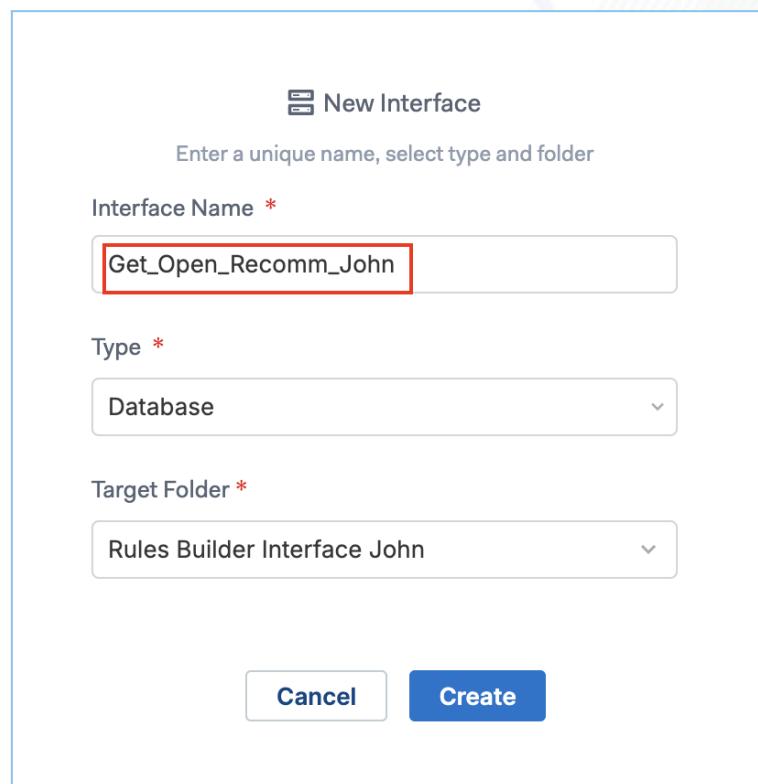
Create an Interface to fetch open Recommendations

1. Navigate to the **Interfaces** tab and create a new folder named **Rules Builder Interface <Username>**.



A screenshot of the Aera Workspace Home interface. The left sidebar shows categories like Content, Configurations, Skill Setup, and Information. Under Content, the 'Interfaces' category is selected and highlighted with a red box, showing 1 item. The main pane displays a table with columns: Name, Attributes, Created On, and Last Updated. One item is listed: 'Get Details John' (Attributes: none, Created On: Nov 27, 2024 at 07:24, Last Updated: Nov 27, 2024 at 14:53). A search bar at the top right says 'Search for Object name or ID'. A red box highlights the 'New Folder' button in the top right corner of the main pane.

- Right-click on the **Rules Builder Interface <Username>** folder and create a **New Interface** named **Get_Open_Recomm_<Username>**.



New Interface

Enter a unique name, select type and folder

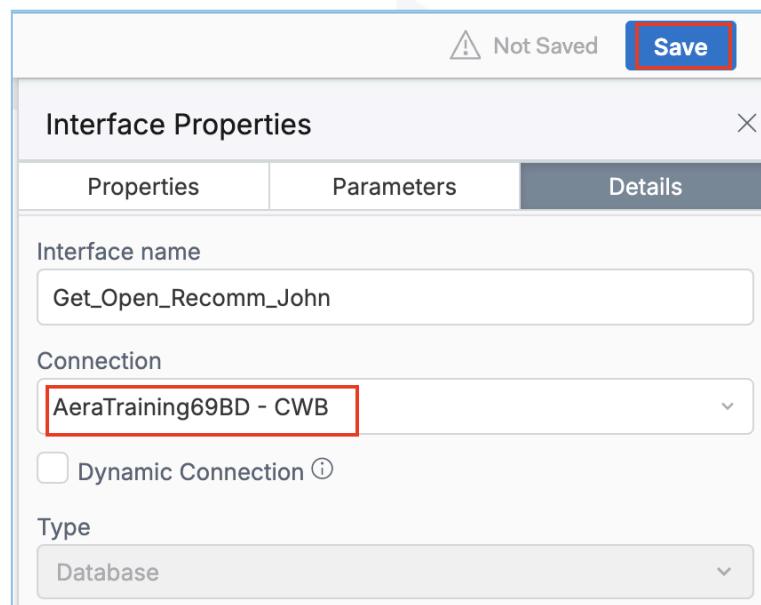
Interface Name *

Type *

Target Folder *

Create

- The Interface tab opens, displaying the **Interface Properties** in the right pane.
- From **Details** tab of Interface Properties, select a connection that ends with **-CWB** and click **Save**.



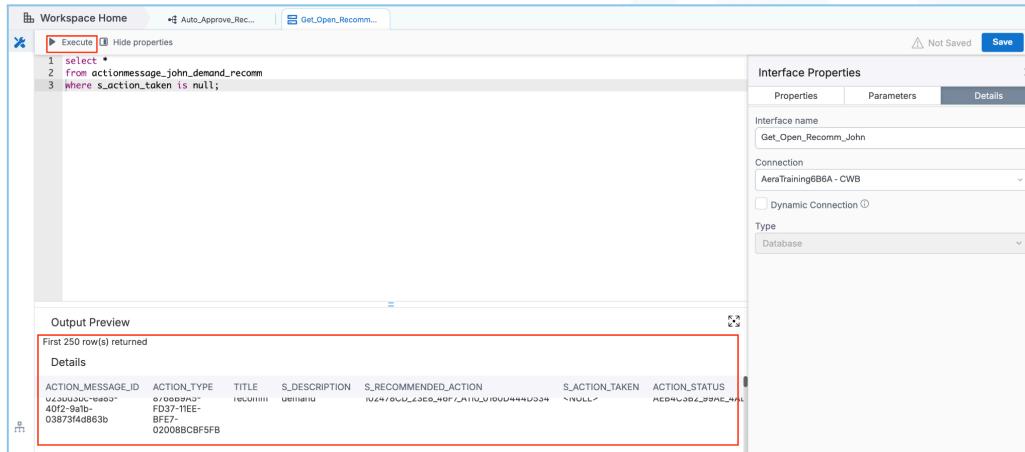
In the Connection dropdown, select a connection ending with - **CWB**.

5. In the left pane, enter the below query

```
select *
from actionmessage_<Username>_Demand_Recomm
where s_action_taken is null;
```

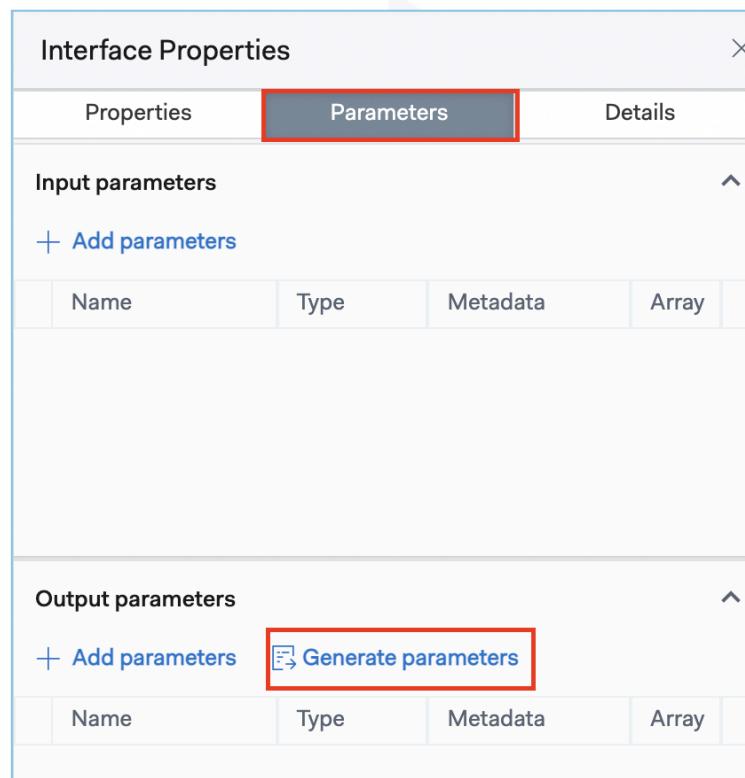
Replace the **Action Item** name highlighted in **Red** with your Action Item name.

6. **Execute** the Query

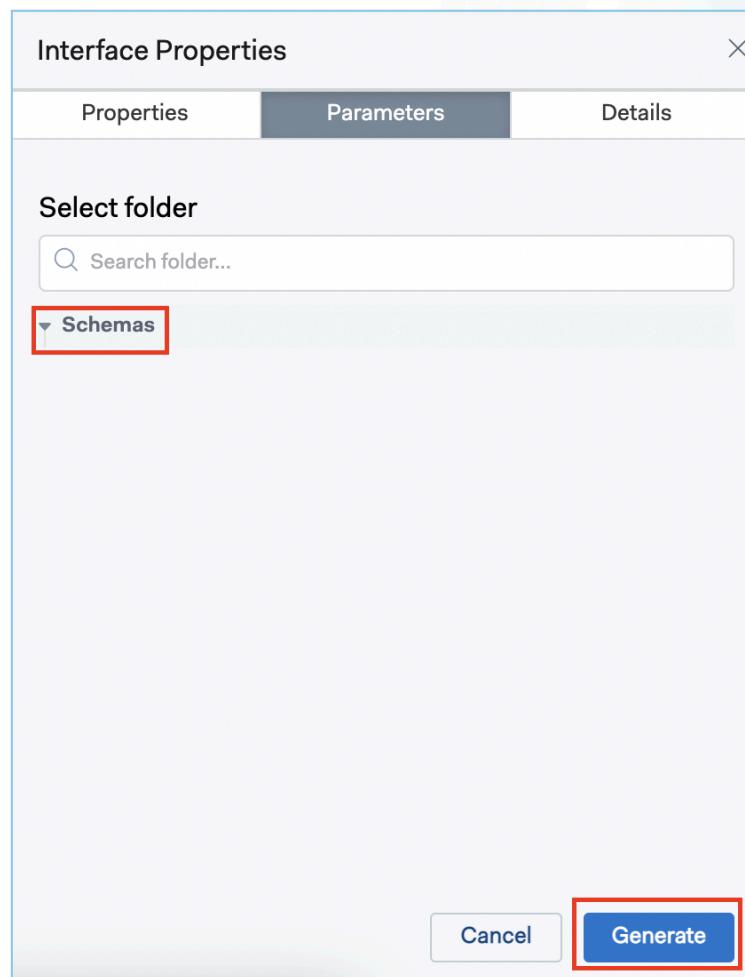


ACTION_MESSAGE_ID	ACTION_TYPE	TITLE	S_DESCRIPTION	S_RECOMMENDED_ACTION	S_ACTION_TAKEN	ACTION_STATUS
4012-94fb-03873f4d863b	FD37-11EE-BF7-	02008BCBF5FB				

7. In the Interface properties, navigate to the **Parameters** tab and select **Generate Parameters**.

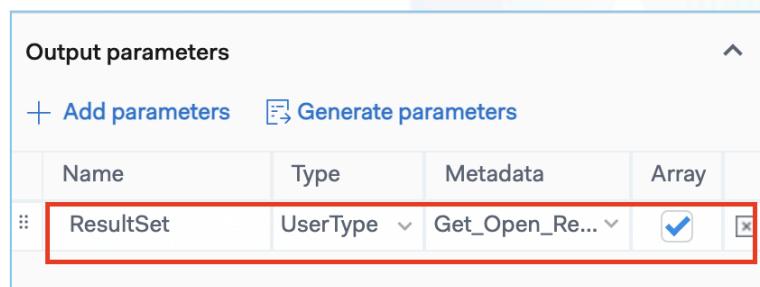


8. Select "Schemas," then click "Generate."



9. An output parameter gets generated and identified by the metadata column. Move the cursor over the metadata column and review the name of this parameter:

Get_Open_Recomm_Username-ResultSetMetadata.

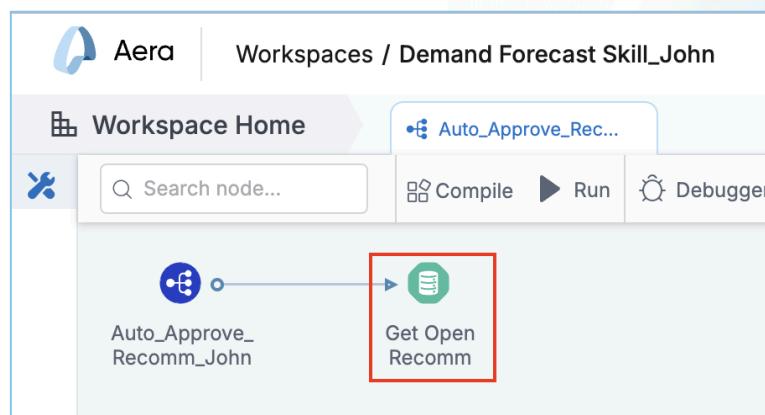


Name	Type	Metadata	Array
ResultSet	UserType	Get_Open_Recomm_Username-ResultSetMetadata	<input checked="" type="checkbox"/>

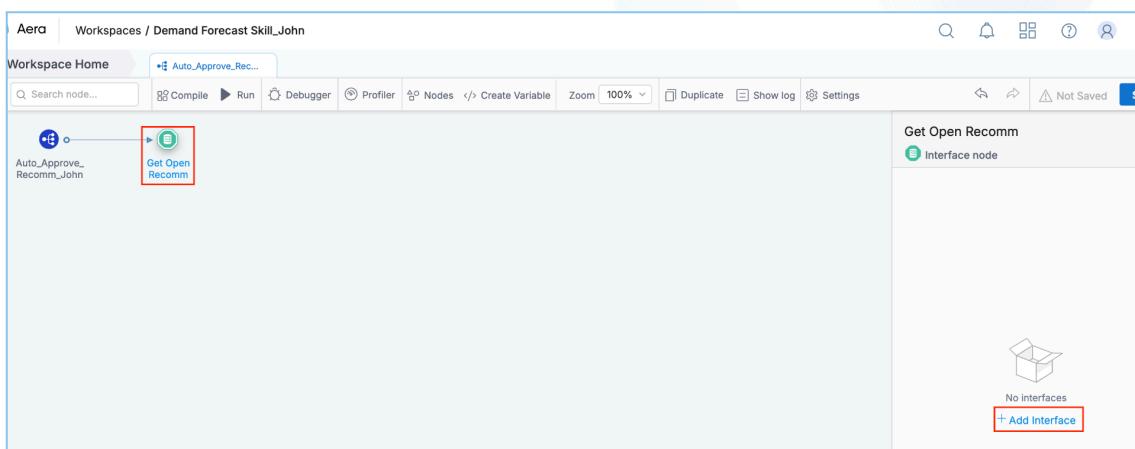
10. Click **Save** and close the Interface tab.

Add Interface to the process

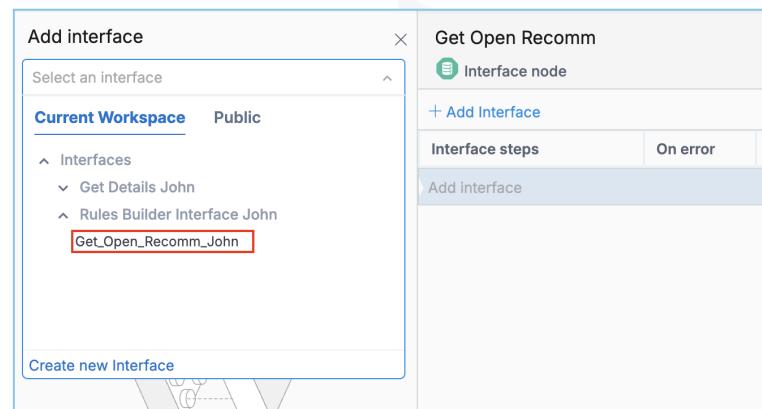
1. Go to the **Auto_Approve_Recomm_<Username>** tab.
2. Drag the **Interface Node** onto the **Auto_Approve_Recomm_<Username>** process node and name it **Get Open Recomm.**



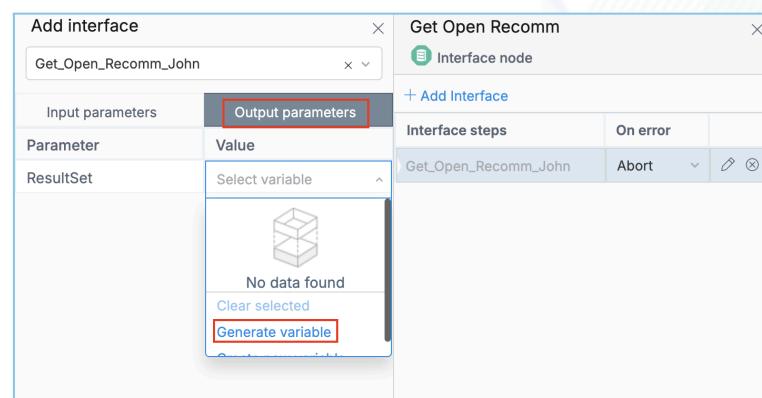
3. Click on this interface, and in the right panel, click **+Add Interface**.



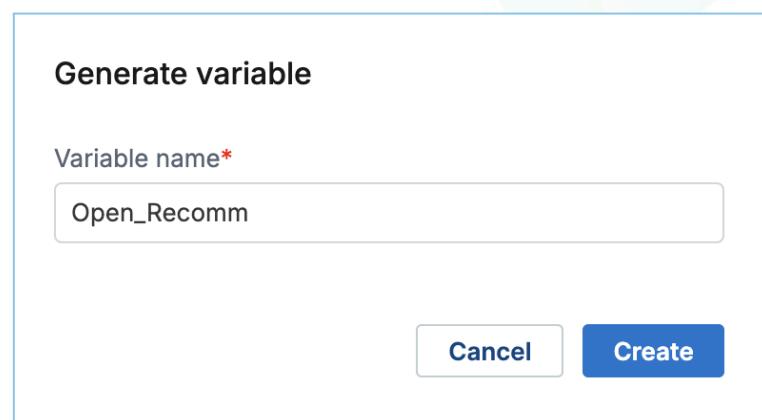
4. From the drop-down, select the Interface you created **Get_Open_Recomm.**



5. Go to **Output Parameters** and then click **Generate variable**.



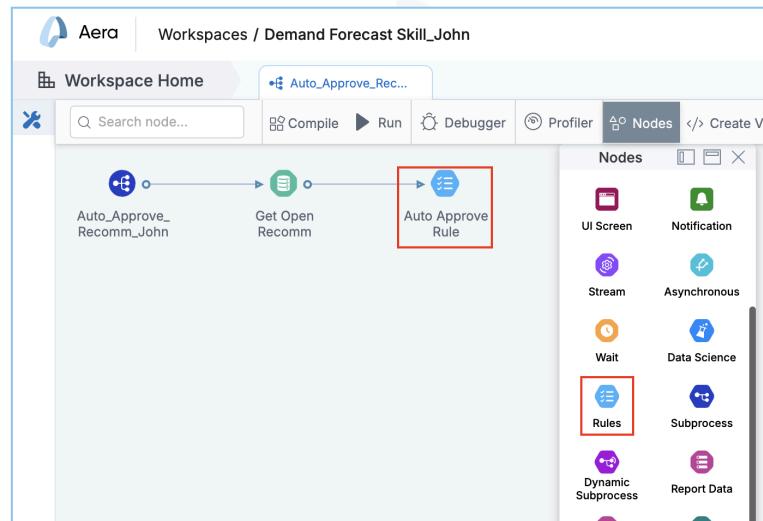
6. Provide the name **Open_Recomm** and click **Create**.



7. Click **Save** and close the interface panels

Add the Rules Node to the Input Process

1. Drag the **Rules Node** onto the **Interface Node** and rename it to **Auto Approve Rule**.

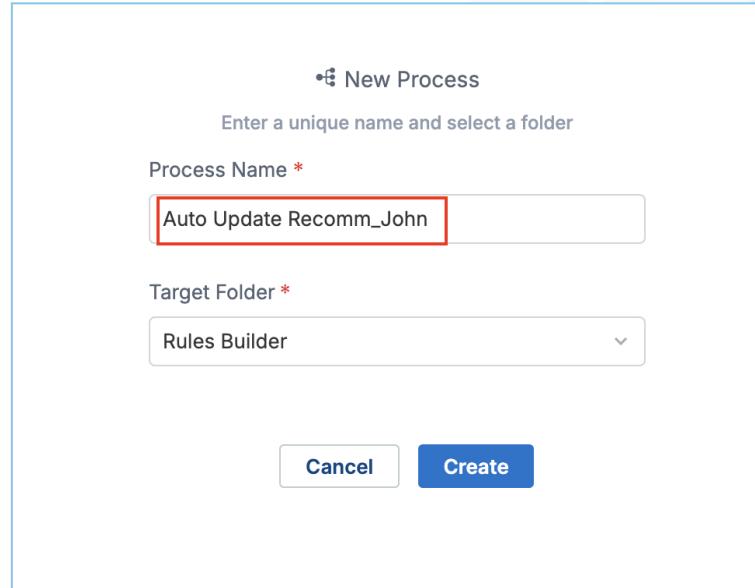


2. **Save** the Process.

Note: The Rule node is currently a placeholder. We will create the subprocess and then define the rule.

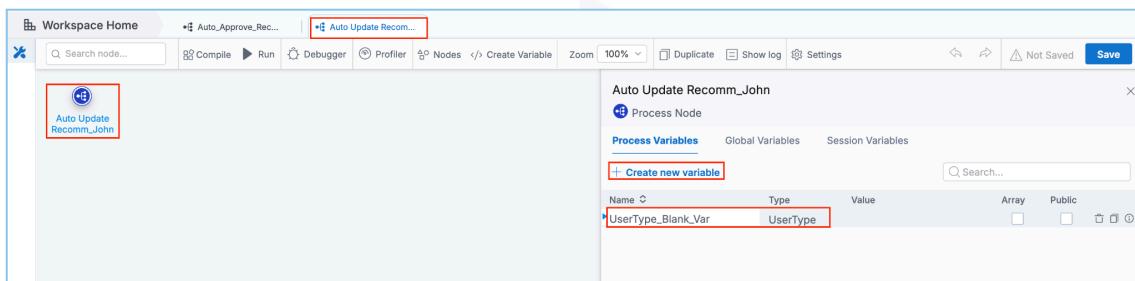
Create the sub-process to auto-update

1. Create another process under the **Rules Builder <Username>** folder and provide the name **Auto Update Recomm_<Username>**.

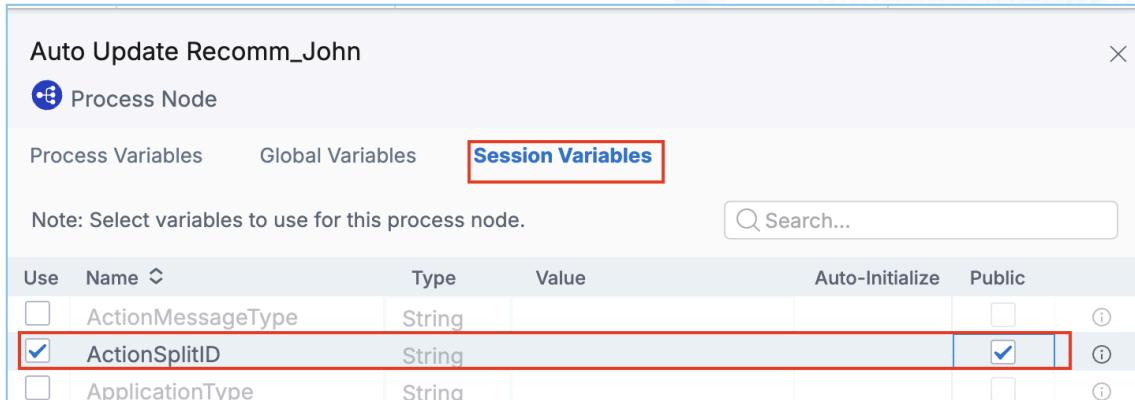


The screenshot shows a 'New Process' dialog box. It prompts the user to 'Enter a unique name and select a folder'. The 'Process Name' field is filled with 'Auto Update Recomm_John' and has a red border around it. The 'Target Folder' dropdown menu is open, showing 'Rules Builder' as the selected option. At the bottom of the dialog are two buttons: 'Cancel' and a blue 'Create' button.

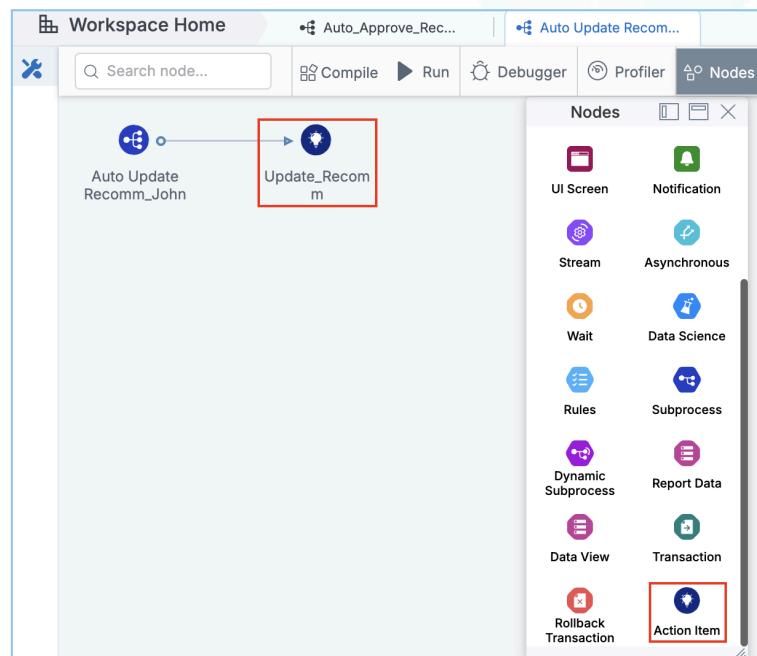
2. Click on the **Auto Update Recomm_<Username>** process node and create a new **UserType** Variable.



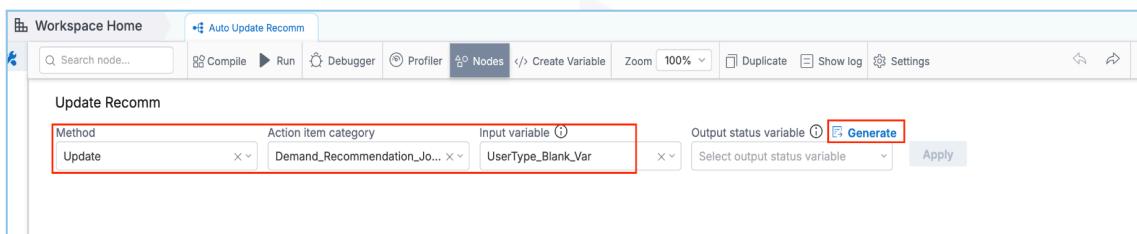
3. Enter the name of the variable as **UserType_Bank_Var**.
4. Navigate to the **Session Variables** tab and select **ActionSplitID**. Set the value to **Public**.



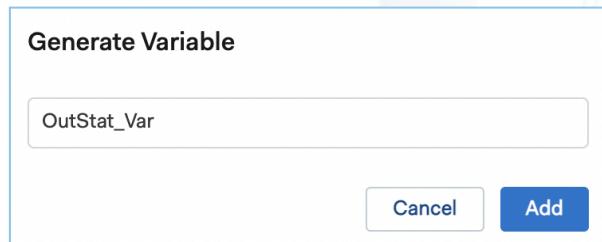
5. Click **Save** and close the **Variables** Tab.
6. Drag an **Action Item** node over the **Process node** and name it **Update_Recomm**.



7. Click on the **Update_Recomm** node to open it.
8. From the drop-down options, select **Method** as **Update**, **Action Item Category** as **Demand_Recommendation_<Username>**, **Input variable** as **UserType_Bank_Var**, and click on **Generate** as shown below.

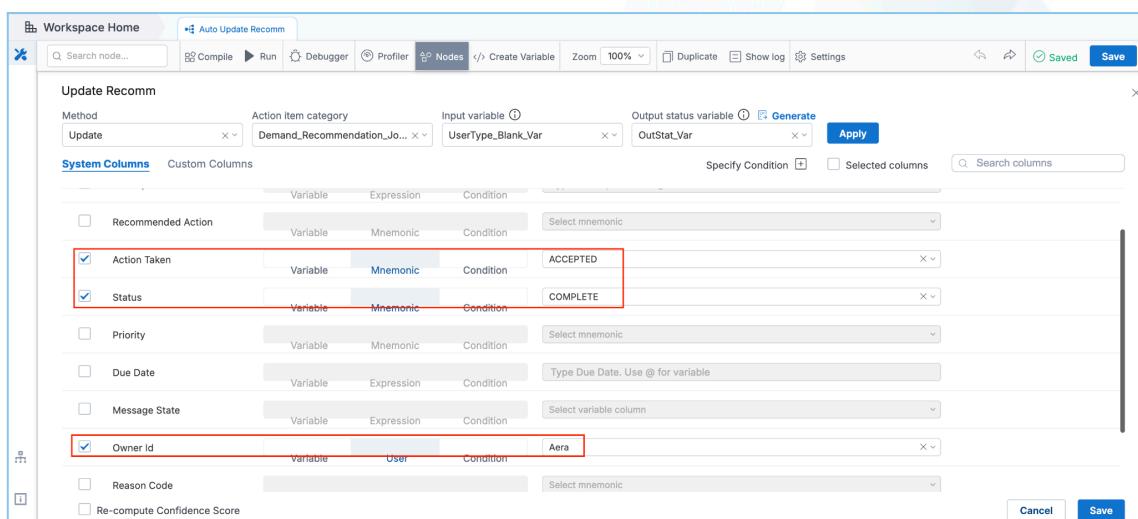


9. Provide the name **OutStat_Var**, Add it, and click **Apply**.

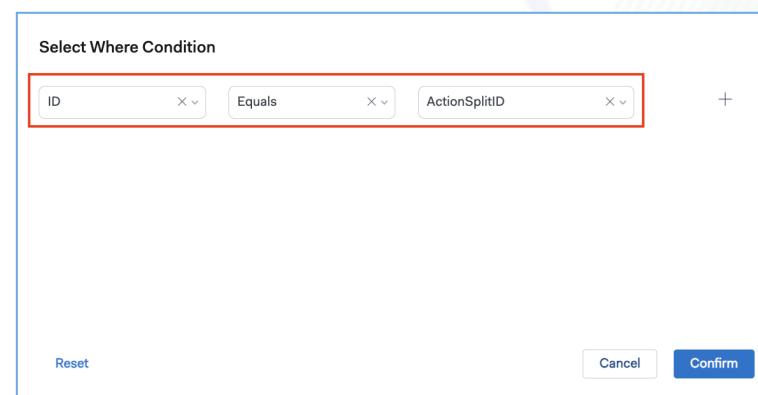
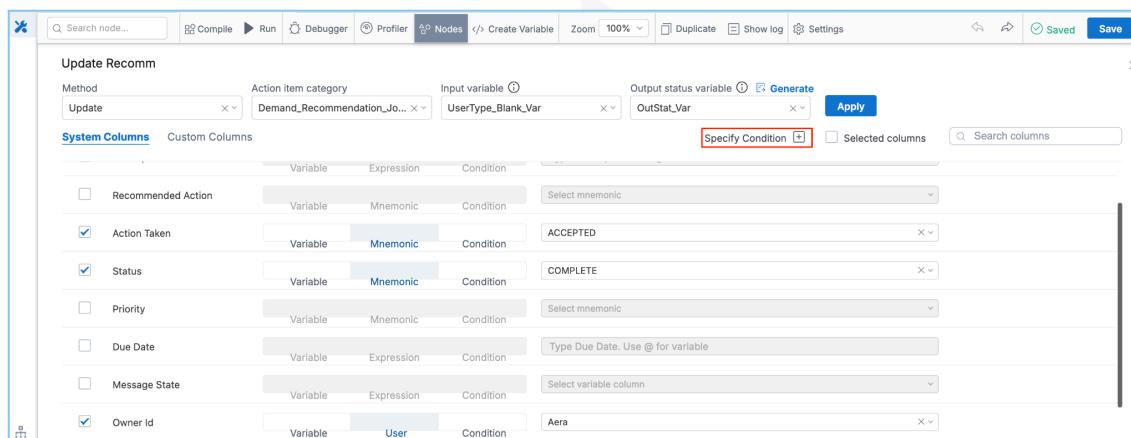


10. Update ONLY the following System columns.

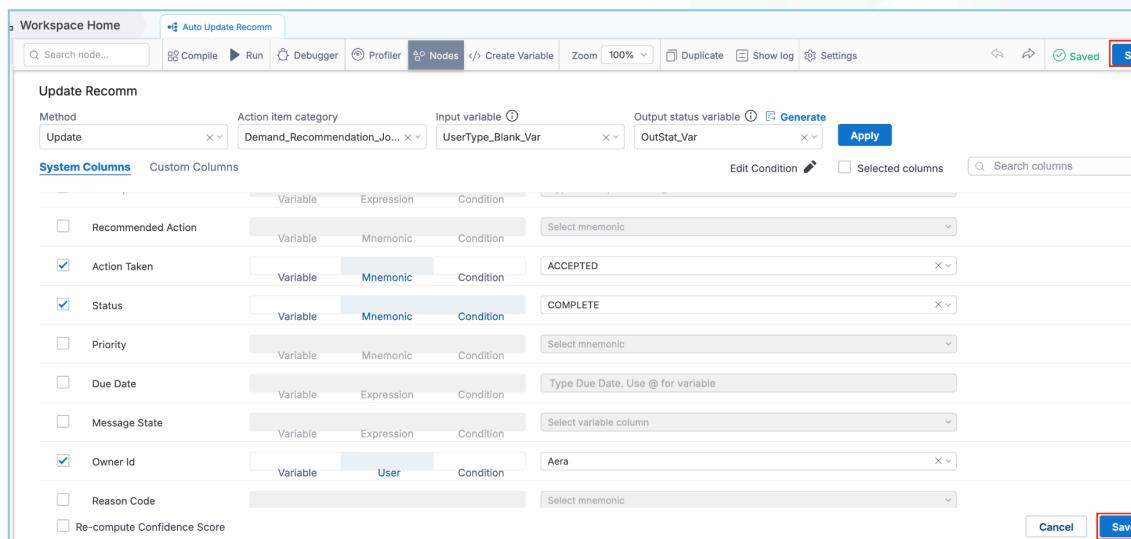
- a. **Action Taken = ACCEPTED**
- b. **Action Status = COMPLETE**
- c. **Owner Id = Aera**



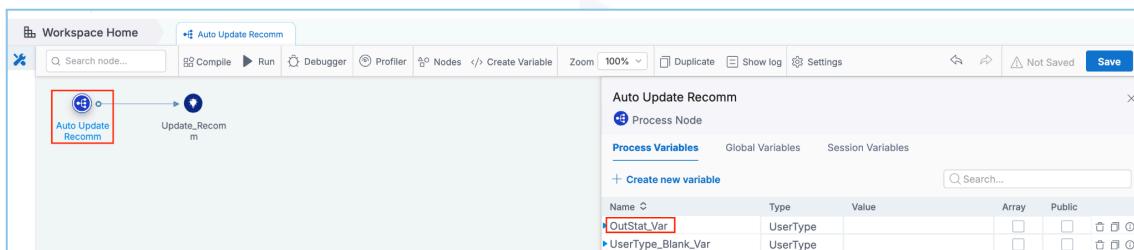
11. Next, Click on **Specify Condition**, provide the condition as shown below, and click **confirm**



12. To save the Action Item configuration, click the **Save** button in the bottom right corner. Then, click the Save button in the top right corner to save the Process.



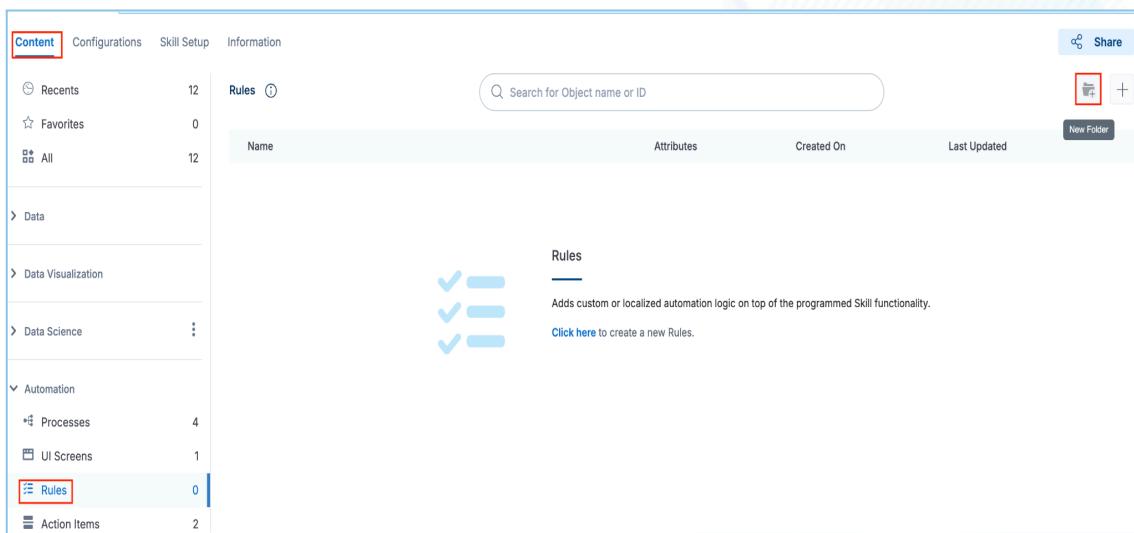
13. Click on the **Auto Update Recomm_<Username>** Node, and make sure the **OutStat_Var** variable is generated.



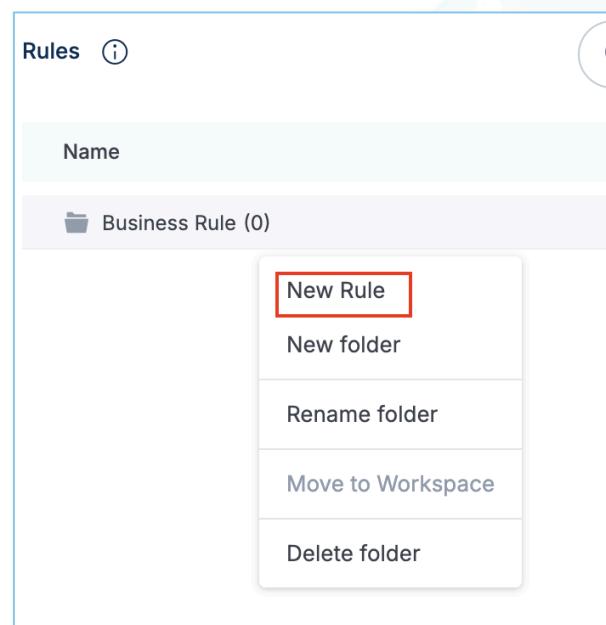
14. Click Save

Create the Rule to accept recommendations with a variance of less than 97

1. Go to the **Rules** from the **Content** and create a new folder.



2. Provide the name of the **Business Rule** and right-click the folder to create a **New Rule**.



3. Provide the name **Automate_Recomm_<Username>** and click **Create**

New Rule

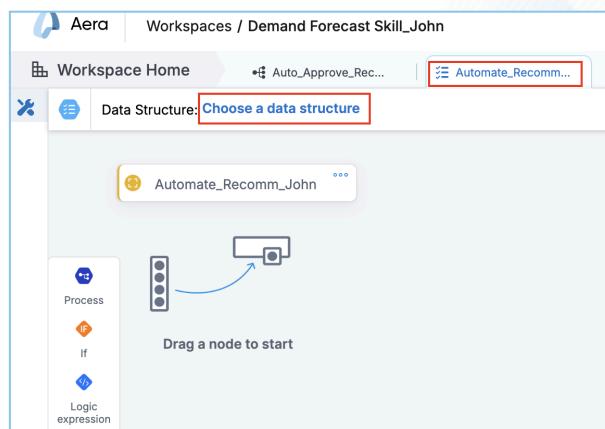
Enter a unique name and select a folder

Rule Name *

Target Folder *

Create

4. The Rules tab opens up. Click on **Choose a data structure**.



5. Search for the **Get_Open_Recomm_Username-ResultSetMetadata** and click Apply.

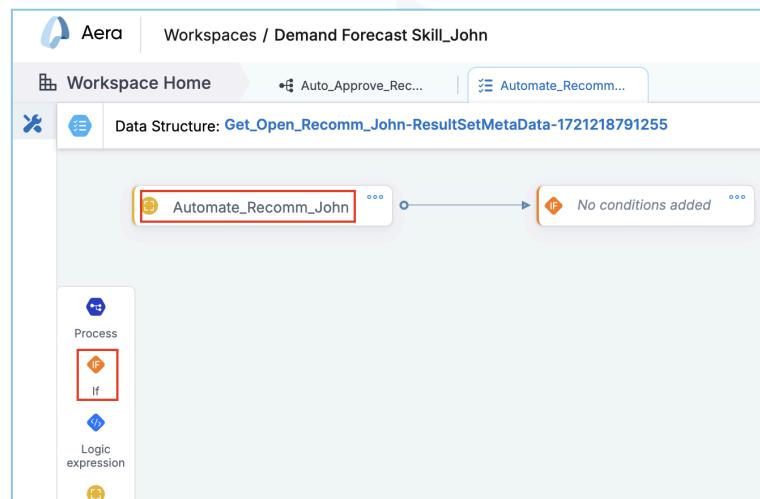
Data structure

Get_Open_Recomm_John-ResultSet...

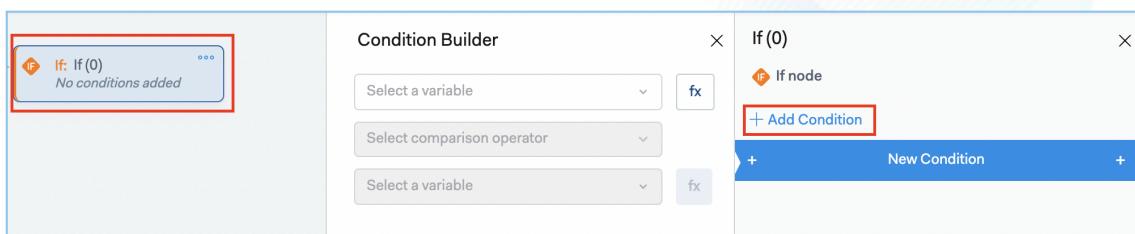
Name	Display Name	Data Type	<input checked="" type="checkbox"/> Visible
ACTION_MESSAGE_ID	ACTION_MESSAGE...	String	<input checked="" type="checkbox"/>
ACTION_TYPE	ACTION_TYPE	String	<input checked="" type="checkbox"/>
TITLE	TITLE	String	<input checked="" type="checkbox"/>
S_DESCRIPTION	S_DESCRIPTION	String	<input checked="" type="checkbox"/>
S_RECOMMENDED_AC...	S_RECOMMENDED...	String	<input checked="" type="checkbox"/>
S_ACTION_TAKEN	S_ACTION_TAKEN	String	<input checked="" type="checkbox"/>
ACTION_STATUS	ACTION_STATUS	String	<input checked="" type="checkbox"/>
ACTION_PRIORITY	ACTION_PRIORITY	Integer	<input checked="" type="checkbox"/>

Apply

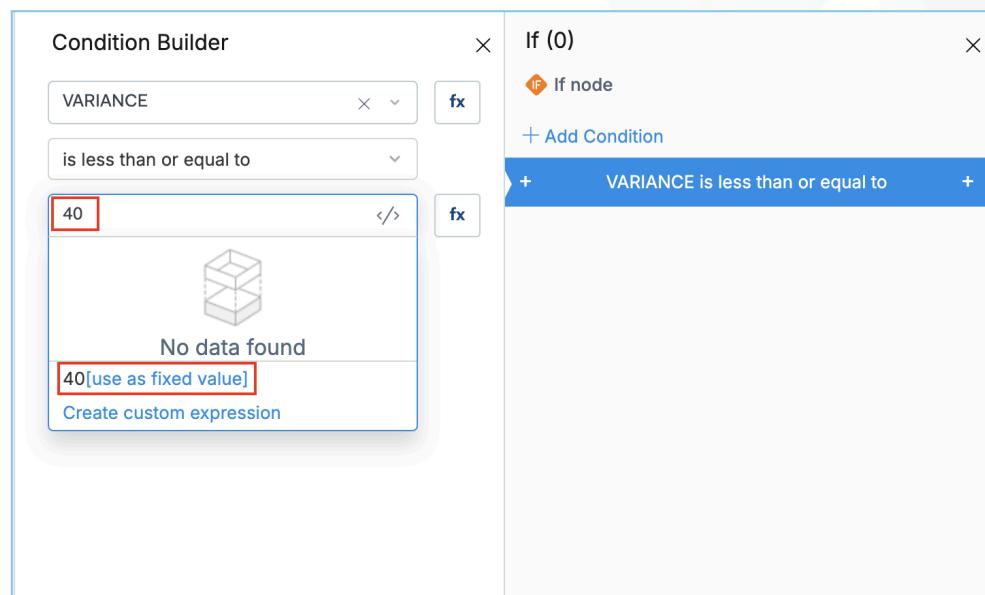
6. Drag and drop the **IF Node** over the **Auto_Approve_Username node**.



7. Click the **If Node**, and in the right panel, click **Add condition**.



8. In the condition builder, select the variable **Variance**, set the condition to **is less than or equal to**, and type **40** and select '**Use as fixed value**'.

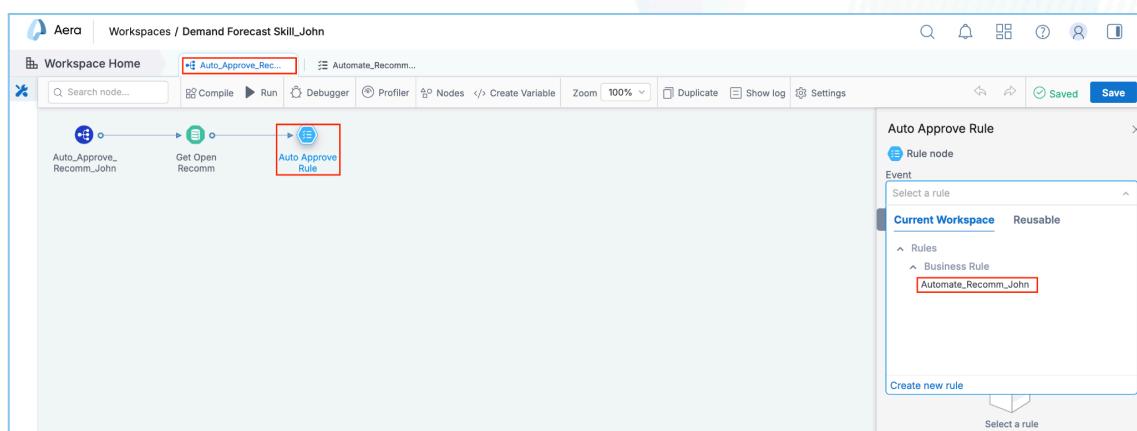


9. Click **Save** and close the Condition Builder window.

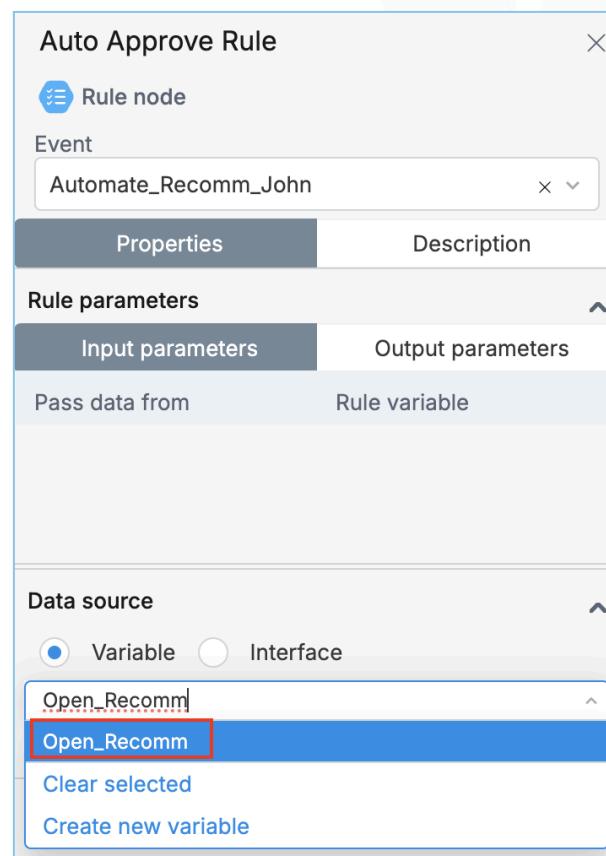
Linking Input and Sub-processes to Rules

Connect Input Process to the Rules

1. Go to the Input Process tab, **Auto_Approve_Recomm_Username**
2. Click on the **Auto Approve Rule** node, and from the right, select the rule **Automate_Recomm_Username**



3. From the Data Source, select the variable **Open_Recomm** that you configured as an output parameter in the Interface node.



4. **Save** the process and Click **Merge**.

Merge branch

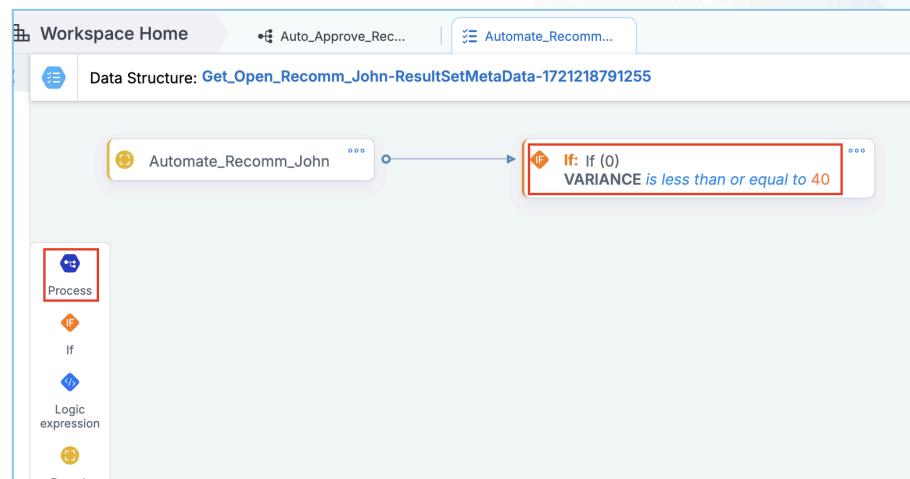
Changed objects

	Object name	Type	Updated date	Info
<input type="checkbox"/>	Created	Decision Workbench	Folder	Nov 26, 2024 at 07:11
<input checked="" type="checkbox"/>	Created	Auto_Approve_Recomm...	Process	Nov 27, 2024 at 07:38
<input type="checkbox"/>	Created	Populate Recommend...	Process	Nov 26, 2024 at 07:29
<input checked="" type="checkbox"/>	Created	Auto Update Recomm...	Process	Nov 27, 2024 at 07:39
<input type="checkbox"/>	Created	View Recommendatio...	Process	Nov 26, 2024 at 23:35
<input type="checkbox"/>	Created	Rules Builder	Folder	
<input type="checkbox"/>	Created	Process Builder	Folder	

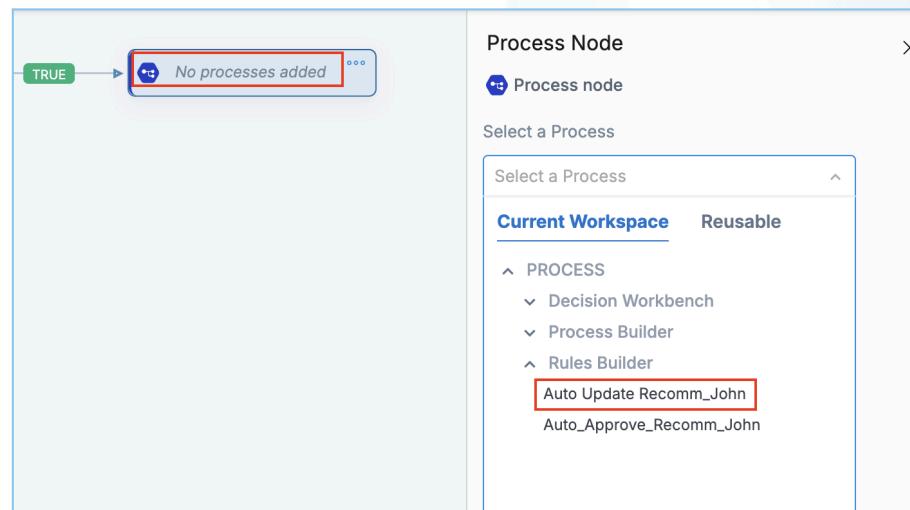
Delete branch after merge

Connect Rules to the Output Process

1. Go to the Rules tab, **Automate_Recomm_<Username>**, and drag a **Process Node** onto the **IF Node**.



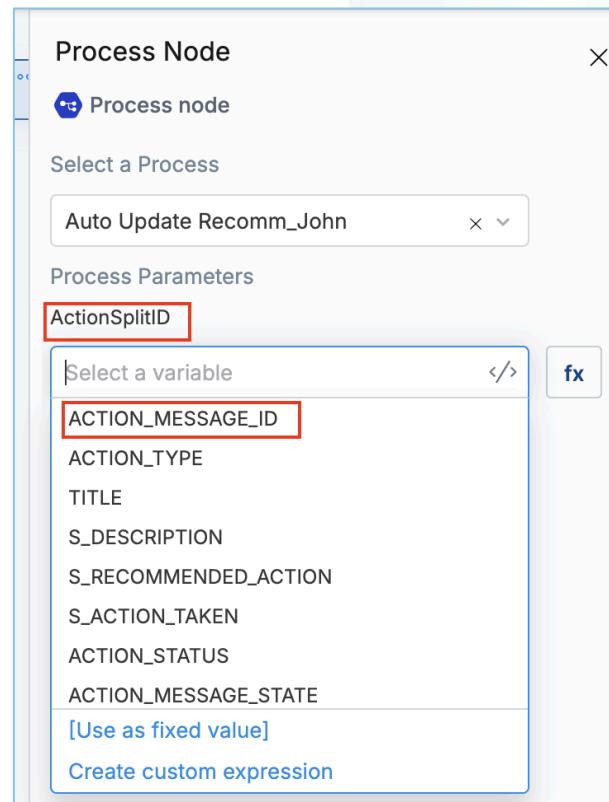
2. Click on the **Process Node** and Select the sub-Process, **Auto Update Recomm_Username**.



The screenshot shows a workspace interface with a process flow. A "Process" node is selected, indicated by a red box. A modal window titled "Process Node" is open, showing a list of available processes under "Current Workspace". The list includes "Decision Workbench", "Process Builder", "Rules Builder", "Auto Update Recomm_John" (which is highlighted with a red box), and "Auto_Approve_Recomm_John".

If you are not able to see your output process in the drop-down, make sure you have **Merged** both processes.

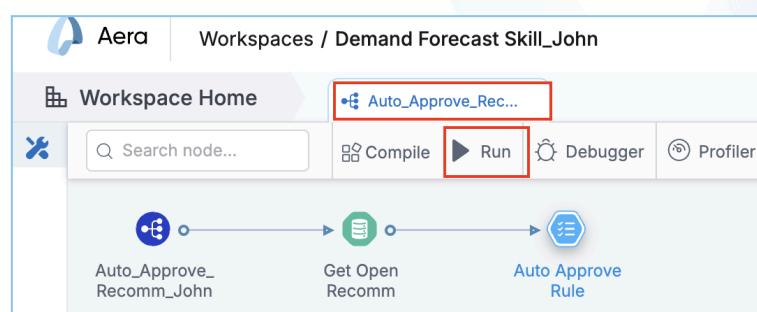
- In the Process Parameters, select **ACTION_MESSAGE_ID** for **ActionSplitID**.



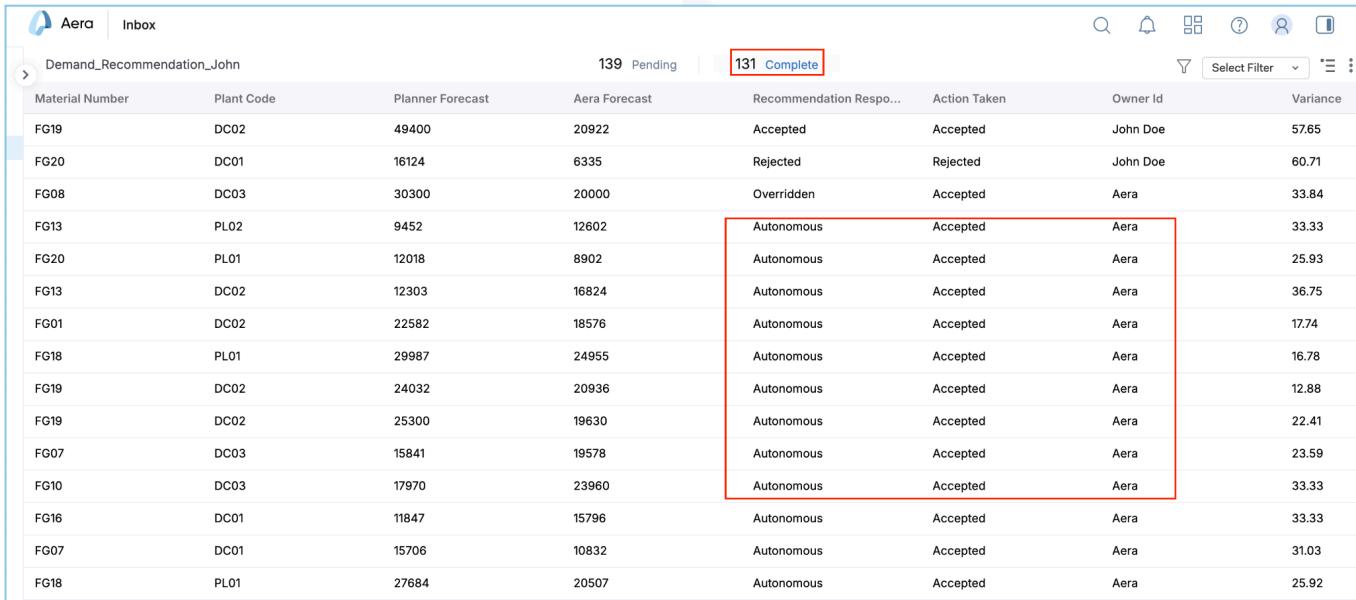
- Click **Save**
- The Automation Process is now set up.

Run the Automation Process

- Go to the **Auto_Approve_Recomm_Username** tab.
- Run the Process.



- You will see all the recommendations with a **Variance less than or equal to 40** have been **Auto-Accepted**.



Material Number	Plant Code	Planner Forecast	Aera Forecast	Recommendation Respo...	Action Taken	Owner Id	Variance
FG19	DC02	49400	20922	Accepted	Accepted	John Doe	57.65
FG20	DC01	16124	6335	Rejected	Rejected	John Doe	60.71
FG08	DC03	30300	20000	Overridden	Accepted	Aera	33.84
FG13	PL02	9452	12602	Autonomous	Accepted	Aera	33.33
FG20	PL01	12018	8902	Autonomous	Accepted	Aera	25.93
FG13	DC02	12303	16824	Autonomous	Accepted	Aera	36.75
FG01	DC02	22582	18576	Autonomous	Accepted	Aera	17.74
FG18	PL01	29987	24955	Autonomous	Accepted	Aera	16.78
FG19	DC02	24032	20936	Autonomous	Accepted	Aera	12.88
FG19	DC02	25300	19630	Autonomous	Accepted	Aera	22.41
FG07	DC03	15841	19578	Autonomous	Accepted	Aera	23.59
FG10	DC03	17970	23960	Autonomous	Accepted	Aera	33.33
FG16	DC01	11847	15796	Autonomous	Accepted	Aera	33.33
FG07	DC01	15706	10832	Autonomous	Accepted	Aera	31.03
FG18	PL01	27684	20507	Autonomous	Accepted	Aera	25.92

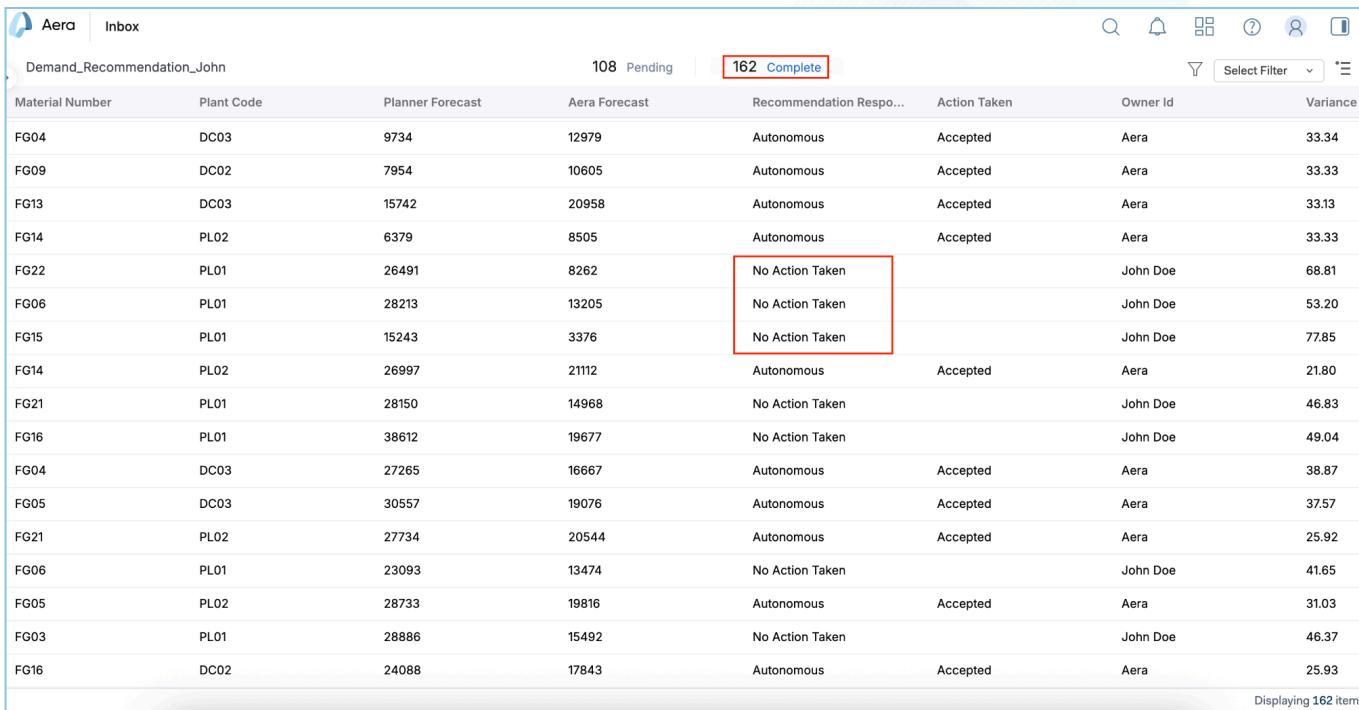
Create the Rule to close recommendations past due date

Now that you are familiar with how to create a rule, simply follow the steps outlined in the previous section. At a high level, the following actions are required:

- Define the process to initiate the rule
 - Name of Process - **Close_Recomm_DueDate_<Username>**
- Interface node to fetch the data
 - Interface name - **Get_Recomm_<Username>**
 - Query to be written -


```
select a.* , case when due_date < current_date then 'Y' else 'N'
end as overdue_flag
from actionmessage_<Username>_Demand_Recomm as a
where s_action_taken is null and plant_code = 'PL01';
```
 - Name of Interface Node - **Get Recomm Past DueDate**
 - Generate the **variable** for output parameter - **Past_Due_Date**
- Sub-process to update the action
 - Name of Process - **Update_DueDate_<Username>**
 - Create Usertype variable - **Blank_Var**
 - Name of action item node - **Update_Recomm**
 - Action to take - **Method as Update, Action Item Category as Demand_Recommendation_<Username>, Input variable as Blank_Var and Output variable as Output_var**
 - Update ONLY the following System columns - **Status = COMPLETE**
 - Specify condition - **Plant Code equals to PL01**
- Rule to trigger the action
 - Name of Rule - **Close_Recomm_<Username>**

- Configure conditions in the Rule:-
 - Choose a data structure - **Get_Open_Recomm_Username-ResultSetMetadata**
 - Drag IF node over a branch and add condition - **Overdue_flag equals Y**
 - Drag the Subprocess node onto the IF node, choose **Update_DueDate_<Username>** as the process, and set **ACTION_MESSAGE_ID** as the **ActionSplitID** in Process Parameters.
- Link sub-process to Rule
 - Navigate to **Close_Recomm_DueDate_<Username>**, access the rule node, and choose **Close_Recomm_<Username>**.
 - From the Data Source, select the variable **Past_Due_Date**.
 - Run **Close_Recomm_DueDate_<Username>** process.
 - You will see that No action will be updated in the recommendation response with a **due date less than the current date**.



The screenshot shows a table titled "Demand_Recommendation_John" in the "Inbox" section. The columns include Material Number, Plant Code, Planner Forecast, Aera Forecast, Recommendation Respo..., Action Taken, Owner Id, and Variance. A red box highlights the "Action Taken" column for three specific rows. These rows correspond to recommendations with due dates that are less than the current date, as indicated by the "No Action Taken" entries in that column.

Demand_Recommendation_John		108 Pending	162 Complete				Select Filter	Displaying 162 item
Material Number	Plant Code	Planner Forecast	Aera Forecast	Recommendation Respo...	Action Taken	Owner Id	Variance	
FG04	DC03	9734	12979	Autonomous	Accepted	Aera	33.34	
FG09	DC02	7954	10605	Autonomous	Accepted	Aera	33.33	
FG13	DC03	15742	20958	Autonomous	Accepted	Aera	33.13	
FG14	PL02	6379	8505	Autonomous	Accepted	Aera	33.33	
FG22	PL01	26491	8262	No Action Taken		John Doe	68.81	
FG06	PL01	28213	13205	No Action Taken		John Doe	53.20	
FG15	PL01	15243	3376	No Action Taken		John Doe	77.85	
FG14	PL02	26997	21112	Autonomous	Accepted	Aera	21.80	
FG21	PL01	28150	14968	No Action Taken		John Doe	46.83	
FG16	PL01	38612	19677	No Action Taken		John Doe	49.04	
FG04	DC03	27265	16667	Autonomous	Accepted	Aera	38.87	
FG05	DC03	30557	19076	Autonomous	Accepted	Aera	37.57	
FG21	PL02	27734	20544	Autonomous	Accepted	Aera	25.92	
FG06	PL01	23093	13474	No Action Taken		John Doe	41.65	
FG05	PL02	28733	19816	Autonomous	Accepted	Aera	31.03	
FG03	PL01	28886	15492	No Action Taken		John Doe	46.37	
FG16	DC02	24088	17843	Autonomous	Accepted	Aera	25.93	

SUMMARY

In this hands-on exercise, you have:

- Creating an input process to fetch open recommendations.
- Creating a sub-process to automatically update recommendations.
- Creating a rule to autonomously accept recommendations with a variance of less than 40.
- Creating a rule to close past-due recommendations.
- Running the automation processes and observing the results in the Inbox.