Power Platform App in a Day

Module 4: Power Automate

Hands-on Lab Step-by-Step

August 2022

Contents

Power Automate

Lab Prerequisites

This is the fourth lab in a series covering Power Apps, Microsoft Dataverse, and Power Automate. The assumption is that you have successfully completed the first three modules, or at least the initial part of setting up an environment as described in the overview – "**00-AppInADay Lab Overview.pdf**".

If you have not completed the previous modules, you can use the partially completed version of the lab package in the "\Completed\Module3" folder. Follow the instructions in the document "Importing Module 3 Completed" before proceeding with this module, which will provision the app and the Microsoft Dataverse table into your environment.

Integrating a Power Apps App with Power Automate

In this lab, you will create a flow that uses the Modern Approvals service to automate the approval workflow – it will send an email to the selected approver and take an action based on their response.

You should already have an app with these two screens:
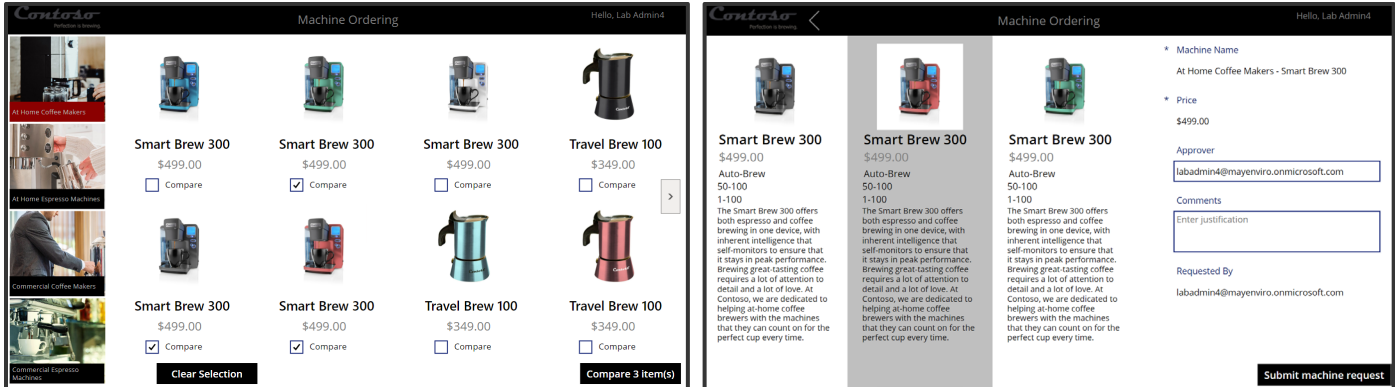
# Exercise 1: Create Approval Request Flow

The flow will trigger when a new item is added to the **Machine Order** table in Microsoft Dataverse.

- It will use the Approvals Service to send an approval request.
- The approver will receive an email with options to Approve or Rejects and add comments.
- Once the approver responds, the record in the Machine Order table will be updated with the appropriate approval status and comments.
- An email will be sent to the requester informing them whether the machine was approved or rejected.

There are two ways to create a flow – from blank or from a template. In this lab, we will create the approval flow starting with a blank flow.

Task 1: Login on Power Apps website and create a flow

1. Navigate to Make Power Apps and make sure you are in the correct environment.
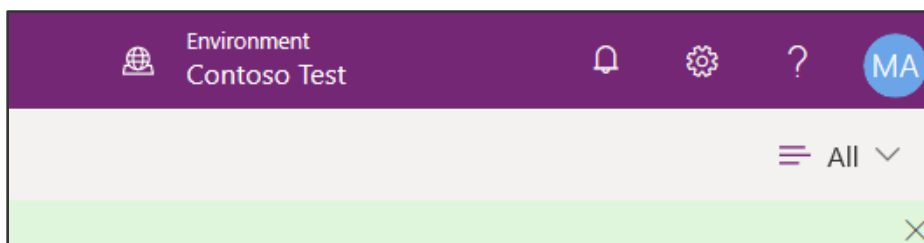
2. Select **Solutions** and click to open the **Contoso Coffee** solution.
3. Click **+ New** and select **Automation | Cloud flow | Automated**.
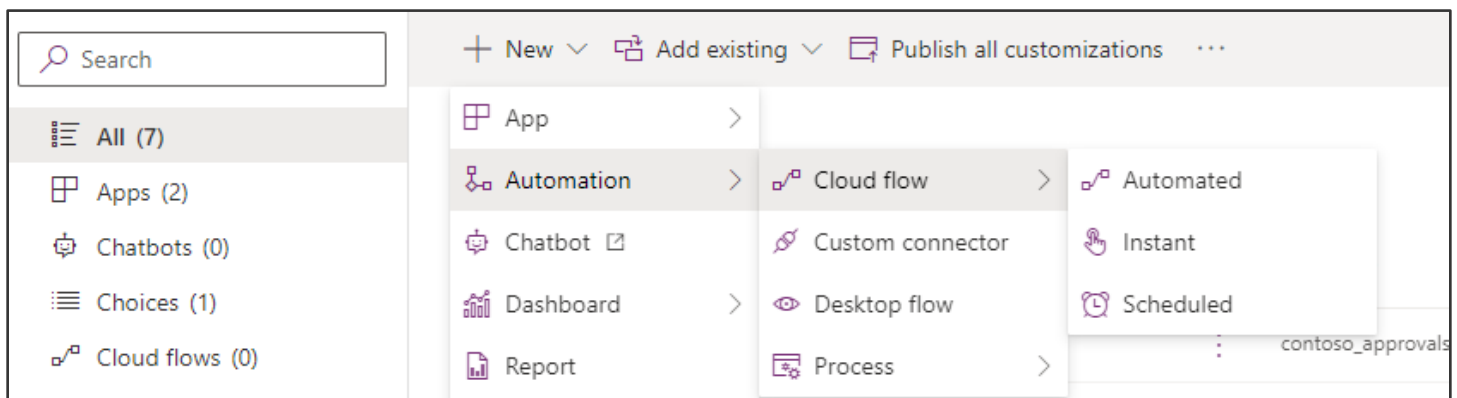
Task 2: Configure the trigger
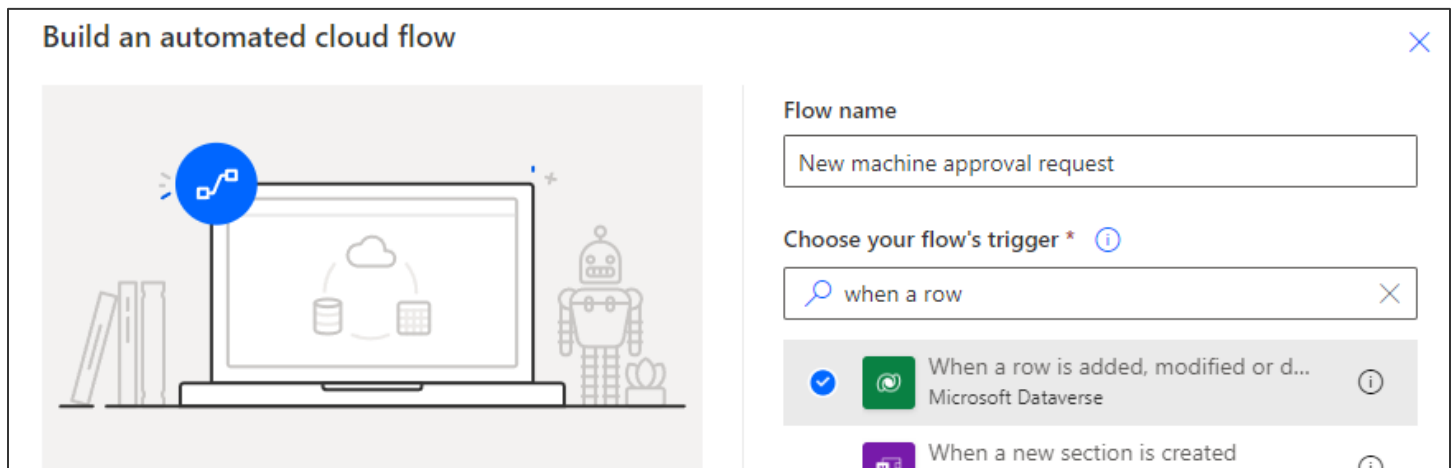
The first thing you will need to configure is the trigger, i.e., when should this flow run. A flow can be triggered:

a. manually from a Power Apps app,
b. manually from a flow button,
c. on a fixed schedule, or

      d.   when an event occurs, such as a new item being added to a table, a new email arriving in a user's inbox, a new tweet being posted that meets certain conditions, etc.

In this scenario, we will configure the flow to trigger when a **new item is added** to the **Machine Order** table in **Microsoft Dataverse**

1. **Enter a name** for your flow, such as – "**New machine approval request**"
2. In the **Choose your flow's trigger** box, search for when a row is added and select **When a row is added modified, or deleted**.
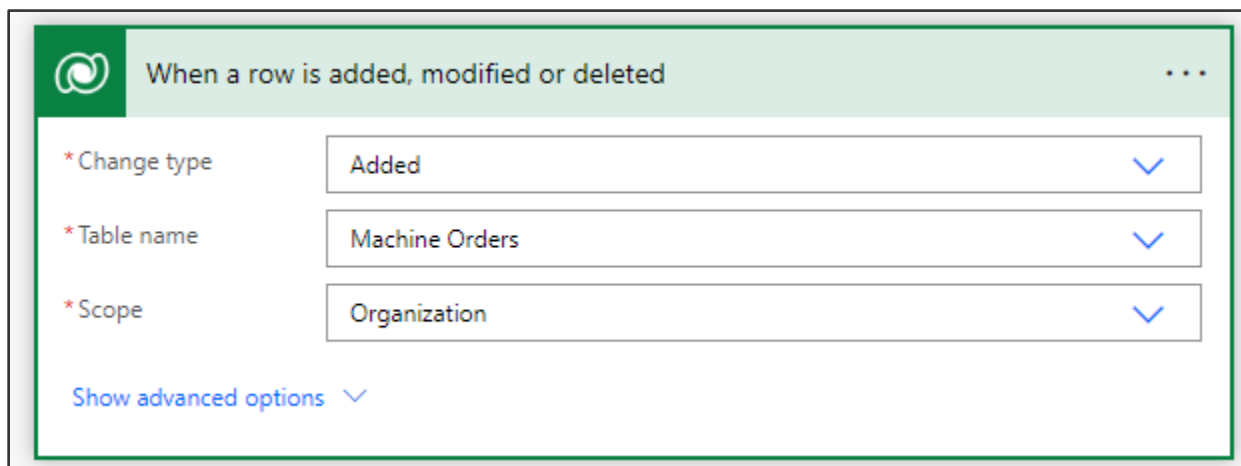
3. Click **Create**.
4. Select **Added** for Change type

5. Click the **Table Name** drop-down and select **Machine Orders**. You can type "machine orders" to search for it.
6. Click the **Scope** drop-down and select **Organization**. Scope allows you to limit when your flow will run, for example you could choose User and it would only run for orders you create. In this case you are choosing organization because you want this flow to run for records created by anyone in your entire organization.
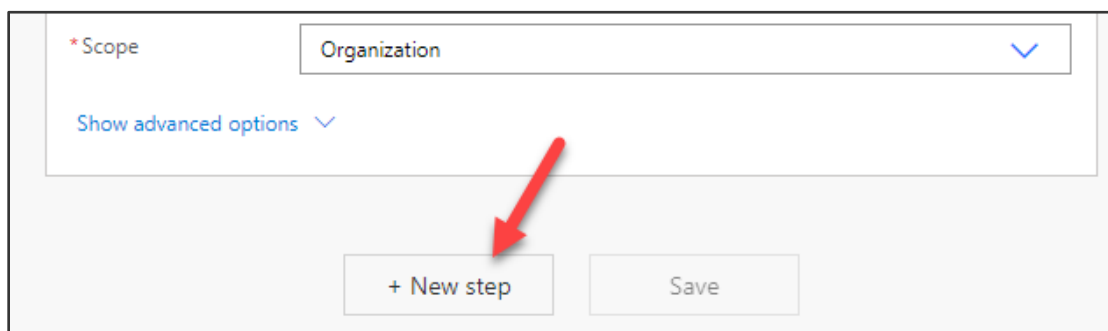
Task 3: Add action to send an approval request

1. Click **+ New step**.
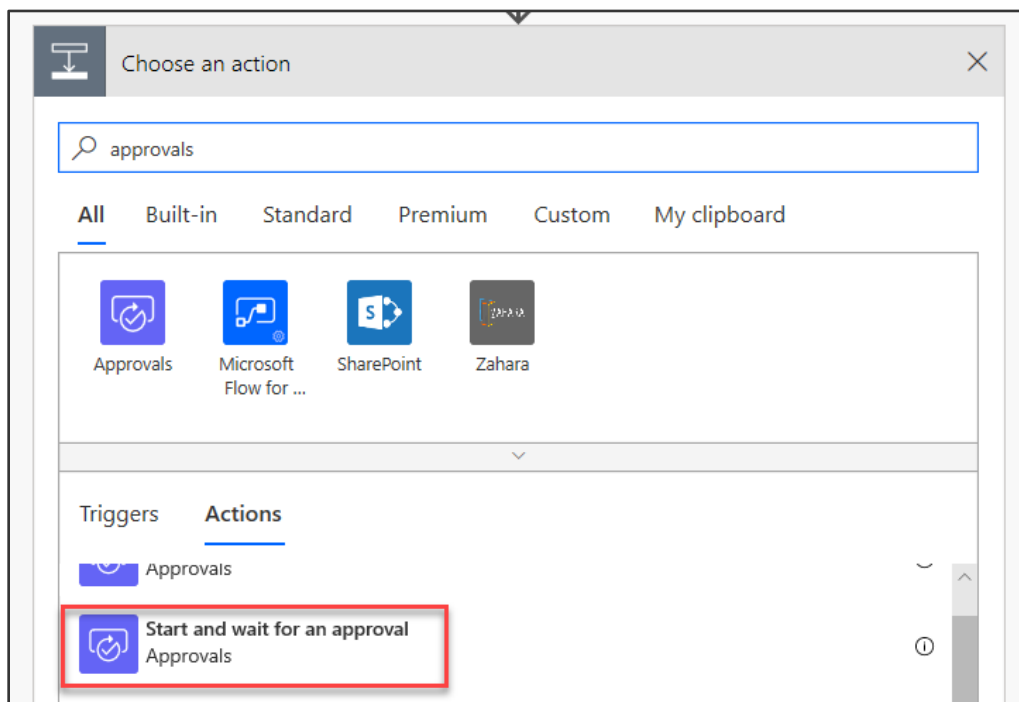
2. Search for **Approvals** and select **Start and wait for an approval**.

This will use the approval service. For more information see [Get started with approvals](#).

3. In the **Approval type** dropdown select **Approve/Reject - First to Respond**.

4. For the Title, we will add some text and one variable. This variable will contain the Machine Name of the machine order request. Enter ***New machine request for*** in the **Title** text box.
5. Select **Machine Name** for the **Dynamic content.**

Note: *if the Dynamic content box is not visible, click the Add dynamic content button -*

6. Select the **Assigned to** field, select click **Approver**. Click on the **Add dynamic content** button to show/hide the dynamic content pane.

Note: Recall from the earlier lab that this will be the approver's email address.

7. Click **Show Advanced Options**.

8. Select the **Requestor** field and select **Requested By**

9. In the **Details** field, type ***A new machine has been requested*** and hit <Enter>.
10. Select **Machine Name** from the Dynamic content pane.

11. Type **, $** and select **Price.** You may need to click the **"See More"** option under the dynamic content search bar in order to see the Price option.

12. Hit Enter and type ***Department Contribution: $***

13. Select **Department Contribution**.

14. Hit Enter, type ***Comments:*** and select **Comments**.

15. Your **Flow** will now look like the image below.

16. Save your flow

Note: *When creating your own approval flows, you may additionally include a clickable link that will be displayed in the approval email. In this scenario, for example, you could include a link to view machine details in an online catalogue. You would include the* **Item link** *and* **Item link description***.*

Note: *You could also set the* **Item link** *to deep link into a Power Apps app to view more details about the request. In this scenario, you might pass an OrderID or a MachineID as a URL parameter. Power Apps accepts URL parameters.*
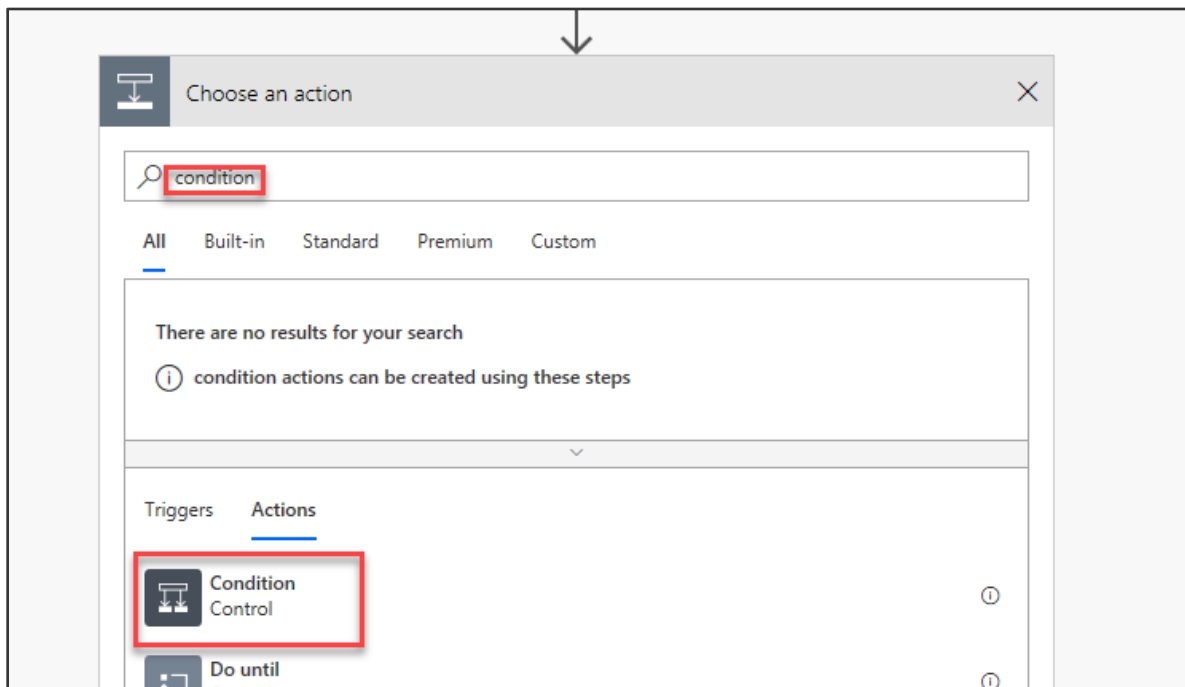
Exercise 2: Conditional Logic

In flow, you can add conditions to take different actions depending on a certain result, in this case, whether the request was approved or rejected.

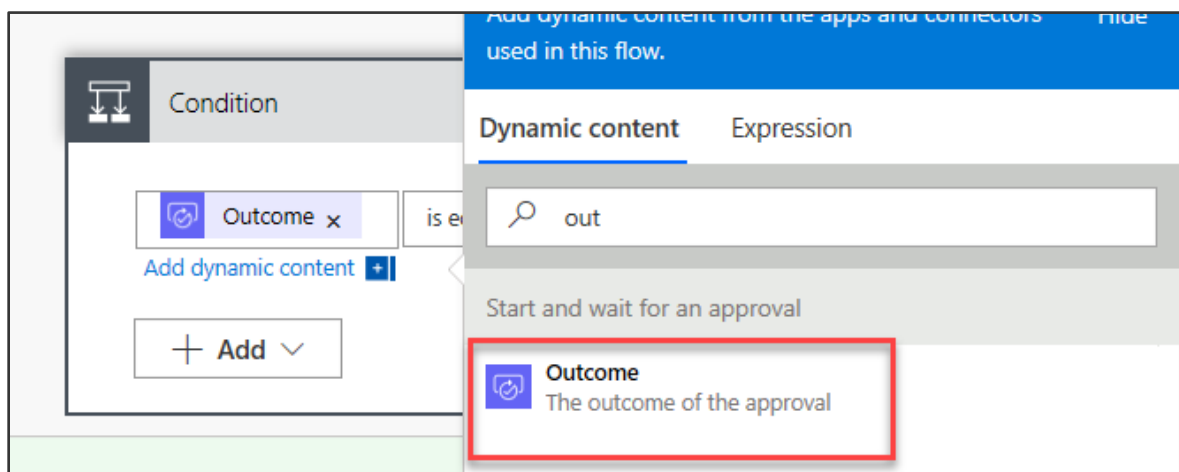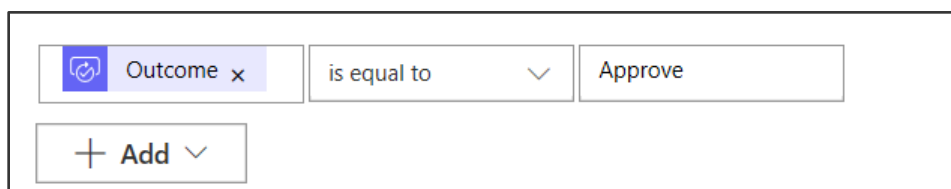## Task 1: Add conditional logic to flow

1. Click **+ New step**.
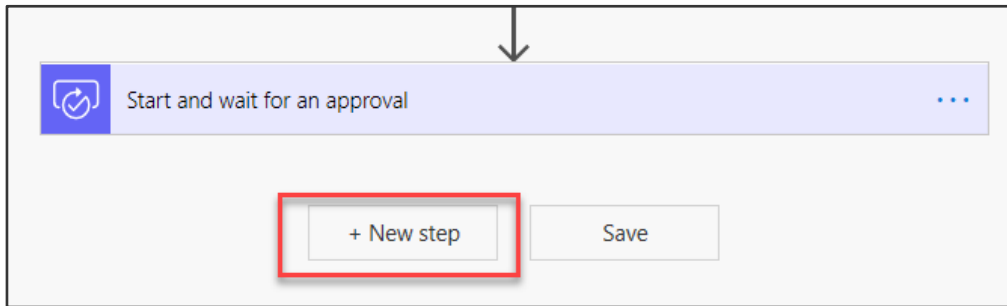
2. Search for **Condition** and select it.

3. Click in the left edit box that says, "Choose a value" and select **Outcome** from the dynamic content pane. You may need to press the "+" icon below the edit box to hide the dynamic content pane.

4. Select **is equal to** for condition and type **Approve** for **Value**.
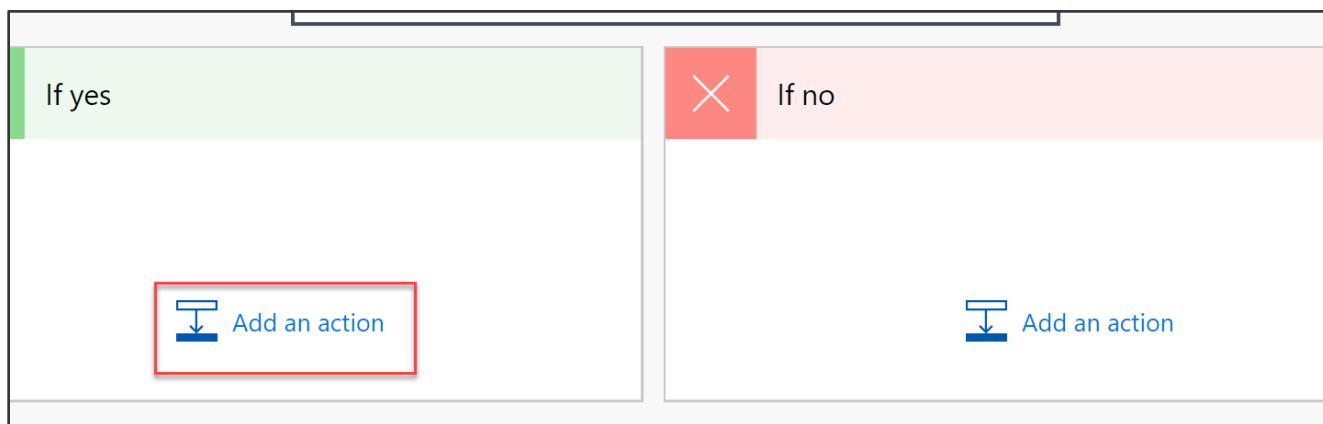

Task 2: Add conditional logic to flow

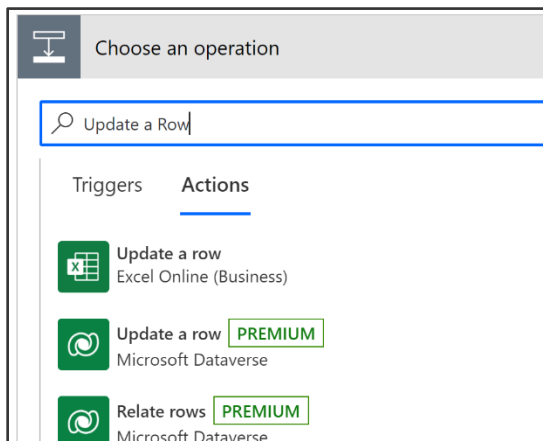We will now configure what actions to perform if the response is approved or not – YES branch vs. NO branch.

We will add two actions:

      a.   Update the record in the Machine Order table

      b.   Send an email to the employee who requested the machine
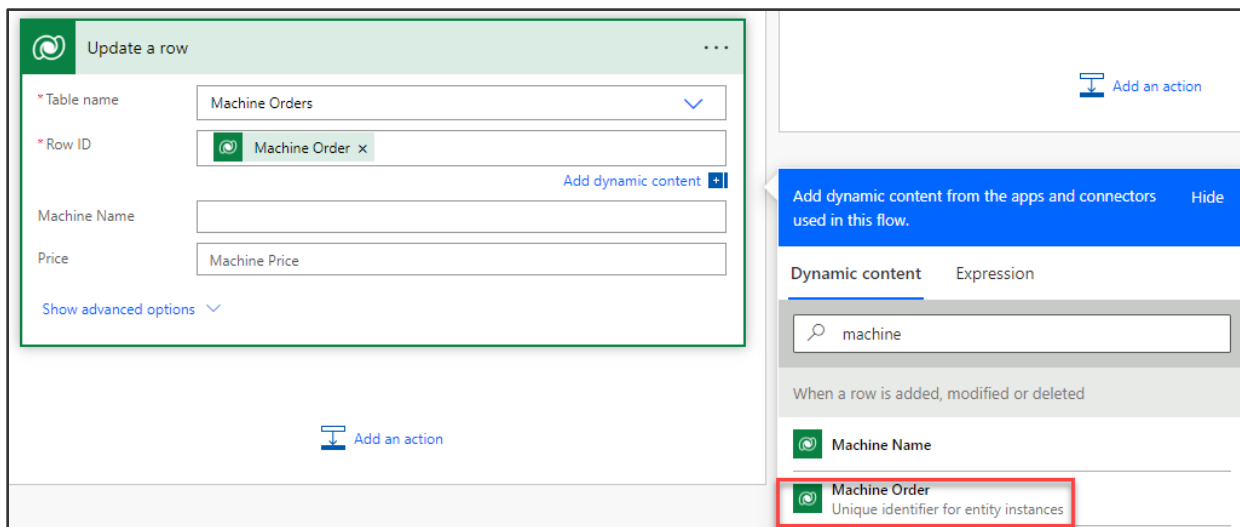
1. In the left **If yes** box, click **Add an action**

2. Search for **Update a Row** and select **Update a Row Microsoft Dataverse**
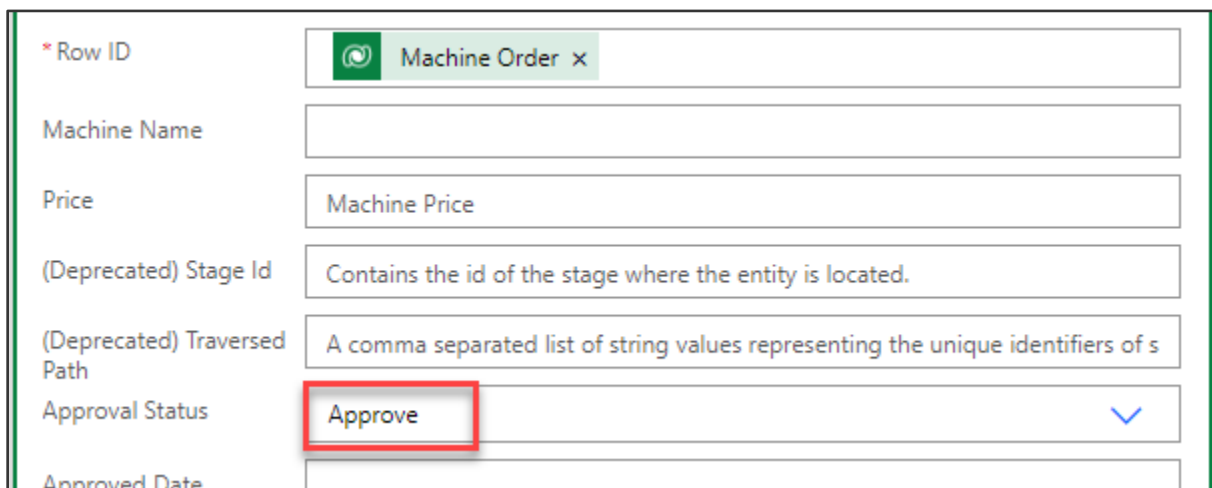
3. Select **Machine Orders** for **Table Name**.
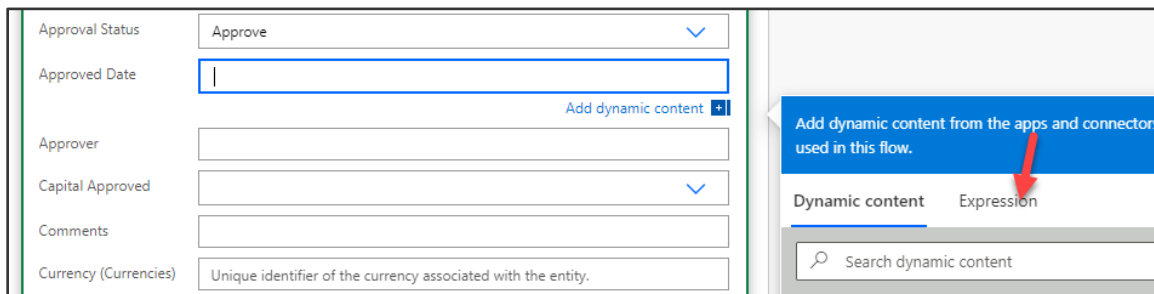4. Click on the **Row ID** and select Machine Order from the Dynamic content pane.

This is the unique lookup ID for the record (or row) that was created.

5. Click **Show advanced options**.
6. Select **Approve** from the **Approval Status** drop-down.

7.   Select the **Approved Date** field and select the **Expression** tab.

8.   Type **utcNow()** and click **OK**.
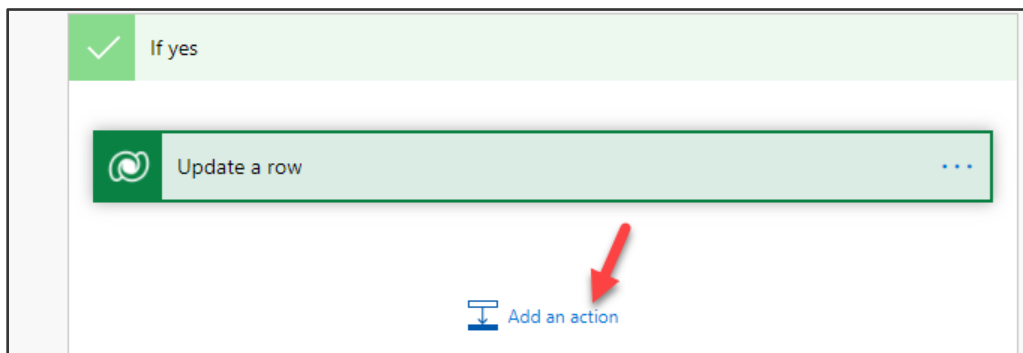
9.   Save the flow.

Task 3: Add another action

You will now add the send email action to the If Yes branch.

1.   From within the yes branch, Click **Add an Action**.
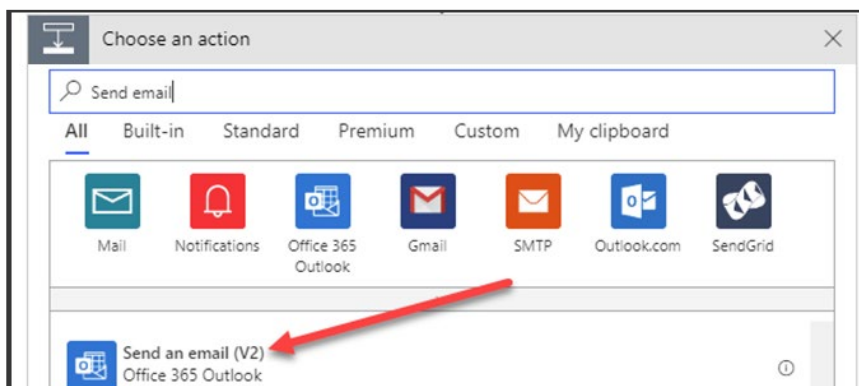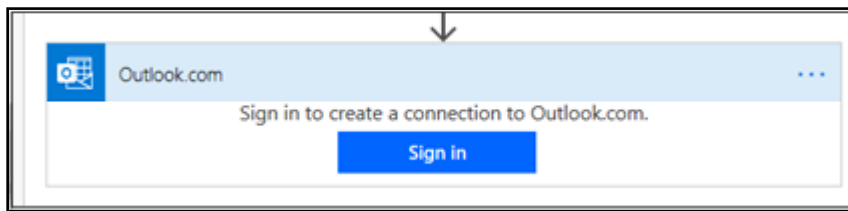

1.   Search for **send email** and select **Send an email (V2) – Office 365 Outlook**.

2.   Click **Sign in** if prompted.

3. Click **Accept**.
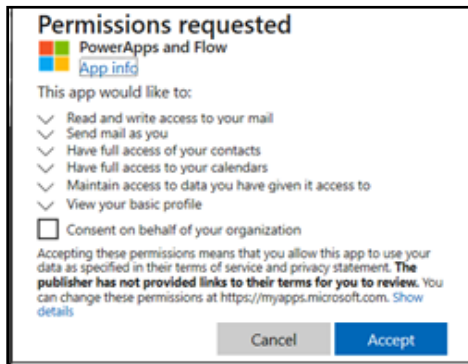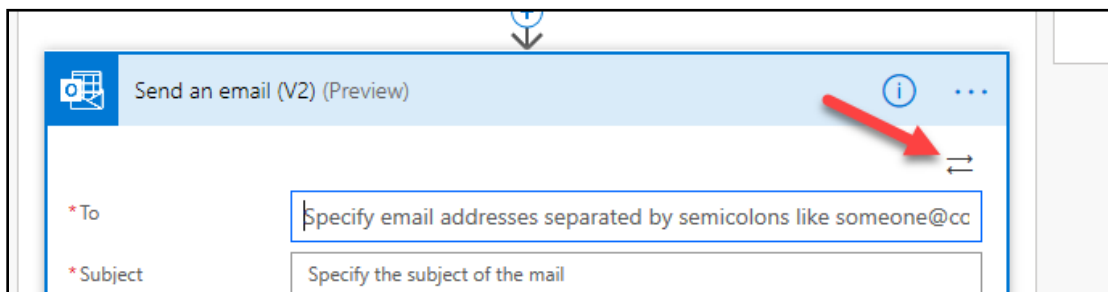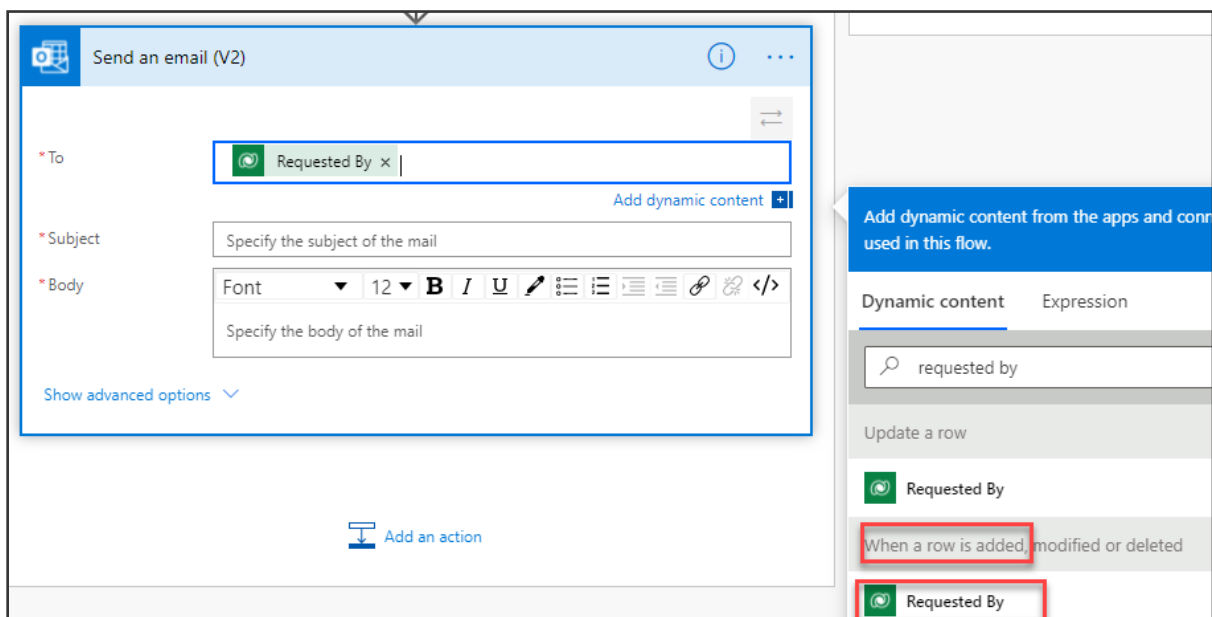

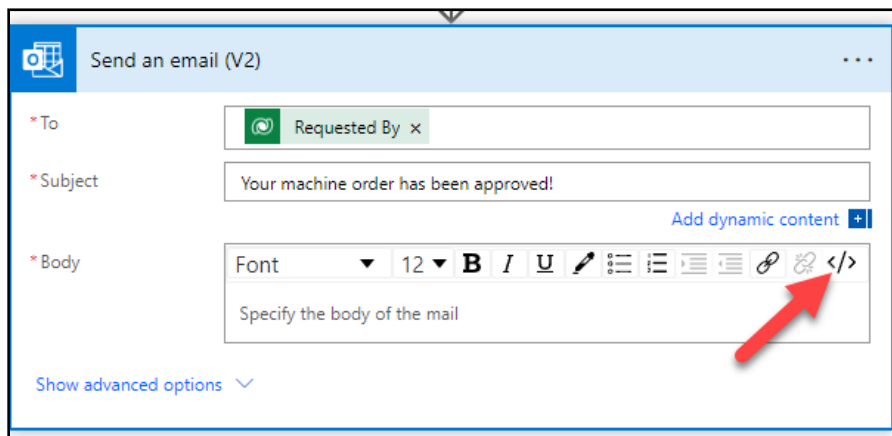4. Click on the **To** field and click **Switch to Advanced Mode**.

5. Select **Requested By** for **To.** Select from under the **When a record is added** action.

6. Type ***Your machine order has been approved!*** for **Subject**.

7. Click on the **Code View** button.
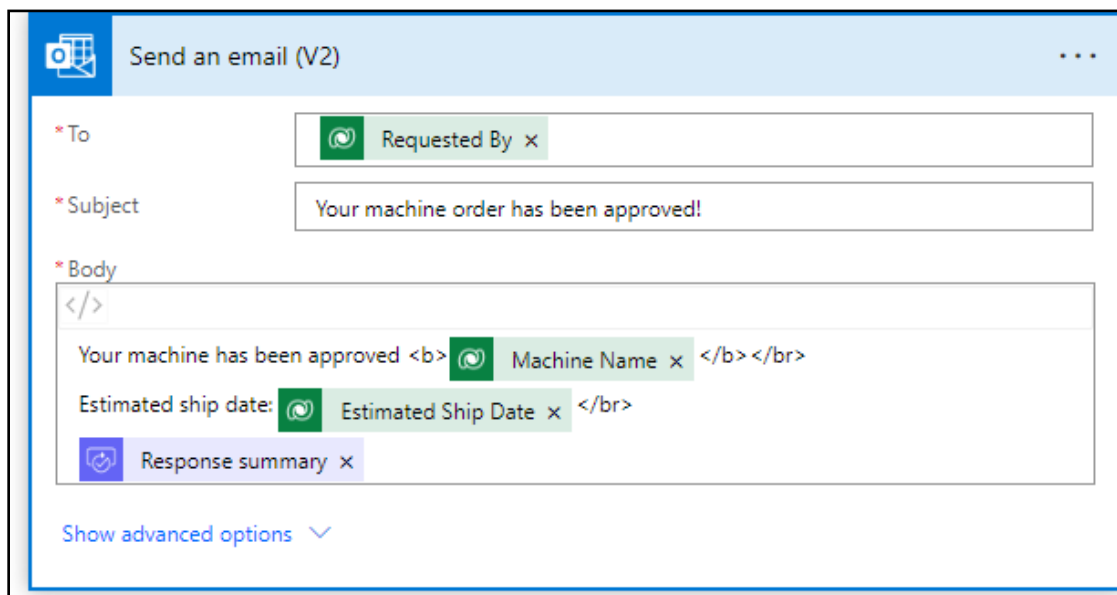
8. Set the **Body** value as shown below:

```
Your machine has been approved
<b>@{outputs('Update_a_row')?['body/contoso_machinename']}</b></br>

Estimated ship date: @{outputs('Update_a_row')?['body/contoso_estimatedshipdate']}</br>

@{outputs('Start_and_wait_for_an_approval')?['body/responseSummary']}
```

Select **Machine Name** and **Estimated Ship Date** from the **When a record is added** action.

Note: *If you do not have an Office 365 mailbox setup, you can use one of the other connectors to send the email, such as Outlook.com, Gmail or SendGrid.*

9. Click **Save**.

Exercise 3: Test the cloud flow

To test the flow, you will:

    a. Run the Machine Ordering app and submit an approval request
    b. Verify the request was sent to the approver
    c. Approve the request
   d. Verify that the Microsoft Dataverse record was updated, and an email was sent back to the requestor

Task 1: Test the cloud flow

Note: When a new machine record is added to the Machine Order table in Microsoft Dataverse, it may take up to ten minutes for the flow to trigger. To ensure the flow runs immediately, select the **Test** option in the top right and select the **"Manually"** option. Then go ahead and submit a machine request. The flow should run immediately.

Note: You may see a warning in the Flow checker that the Power Automate Approvals has not been installed for your environment. Run the flow to initiate provisioning the Power Automate Approvals.
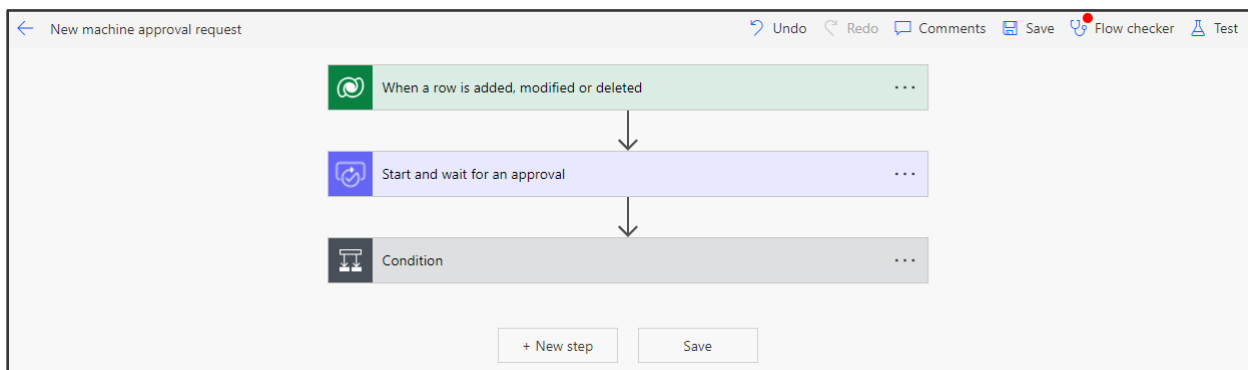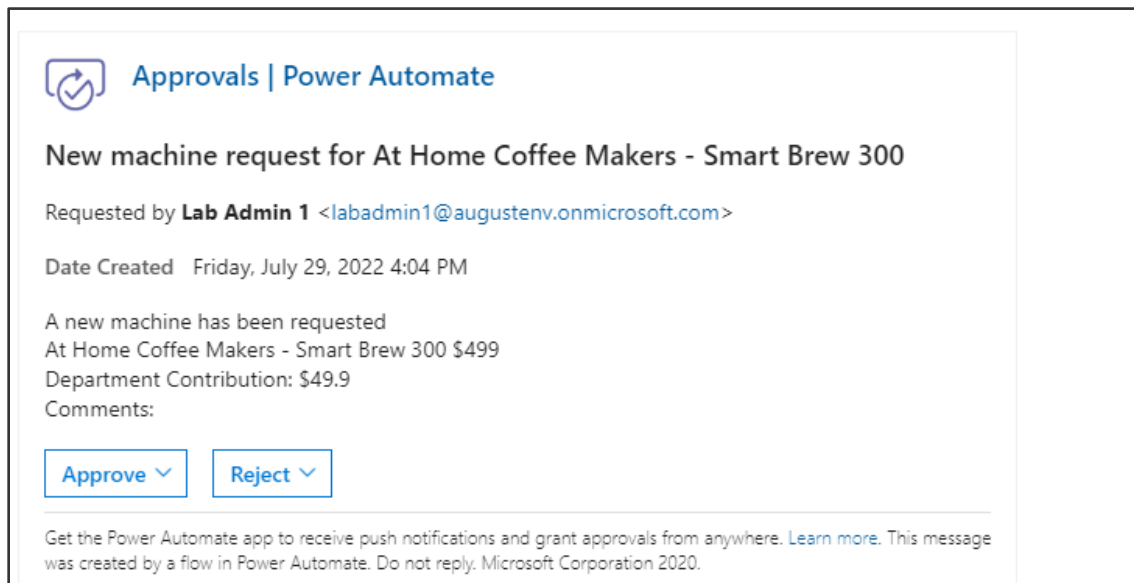

1. Select **Manually** and click **Save & Test.**
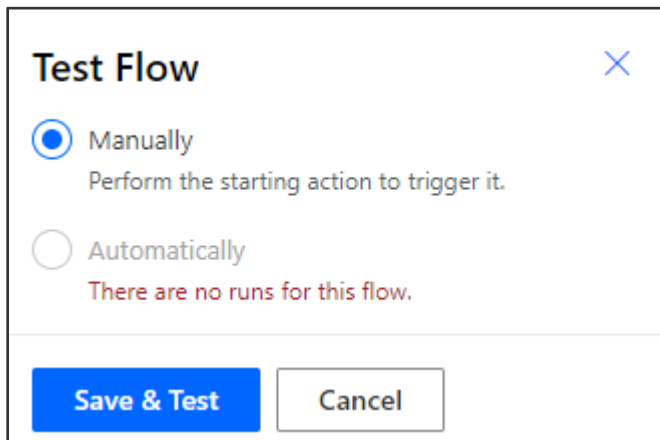
2. To submit a machine request, go to Make Power Apps
3. Select **Apps** and start the **Machine Ordering App.**
4. Select a few machines and click Compare.
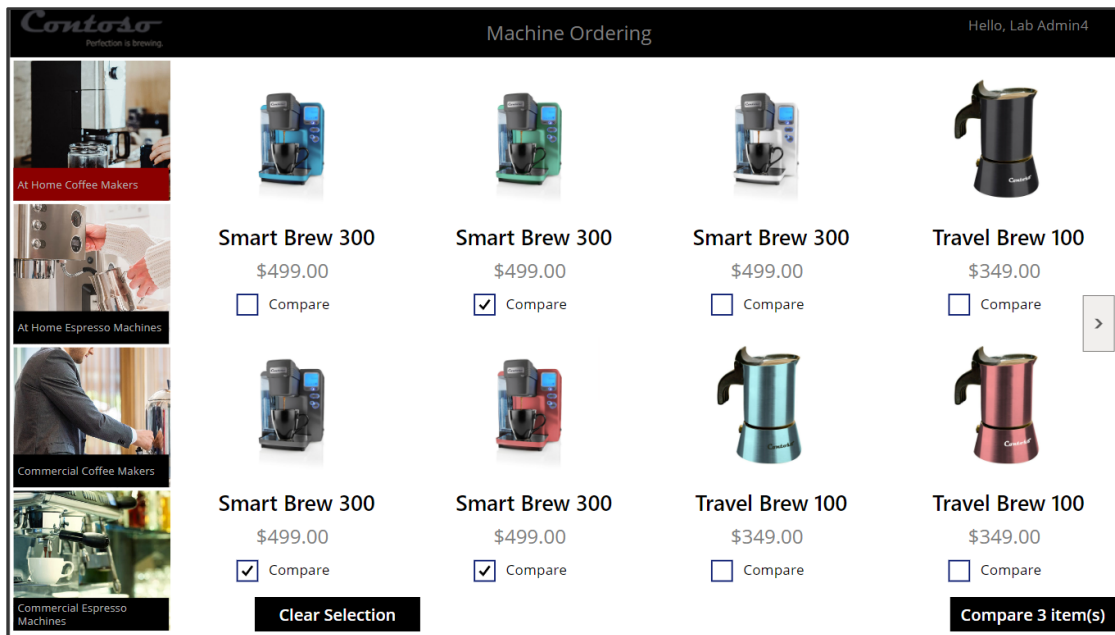
5. Select one of the machines, provide email for Approver.

6. Provide a comment and click **Submit machine request**.
7. Click **OK**.
8. The flow will run and send email to the manager email you provided. The request for approval email will look like the image below; it will include **Machine information**, **Price**, **Department Contribution (the calculated field),** and the **Requester Comment**.

    REMINDER: If the flow does not run immediately, please wait, it may take up to ten minutes for the flow to be triggered. To ensure the flow runs immediately, see note above - select the **Test** option in the top right and select the "I'll perform the trigger action" option. Then go ahead and submit a machine request. The flow should run immediately. The email, however, may take a few minutes to appear regardless of when the flow starts.
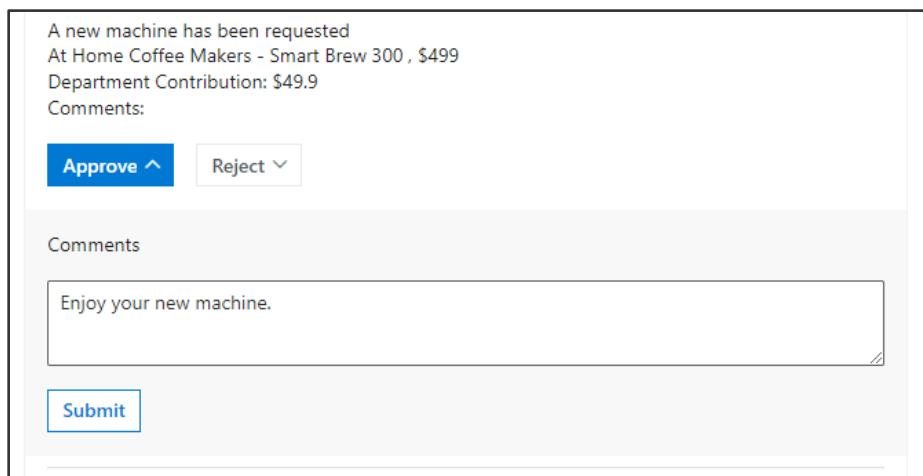
9. Click **Approve**.
10. Add a comment and click **Submit**.

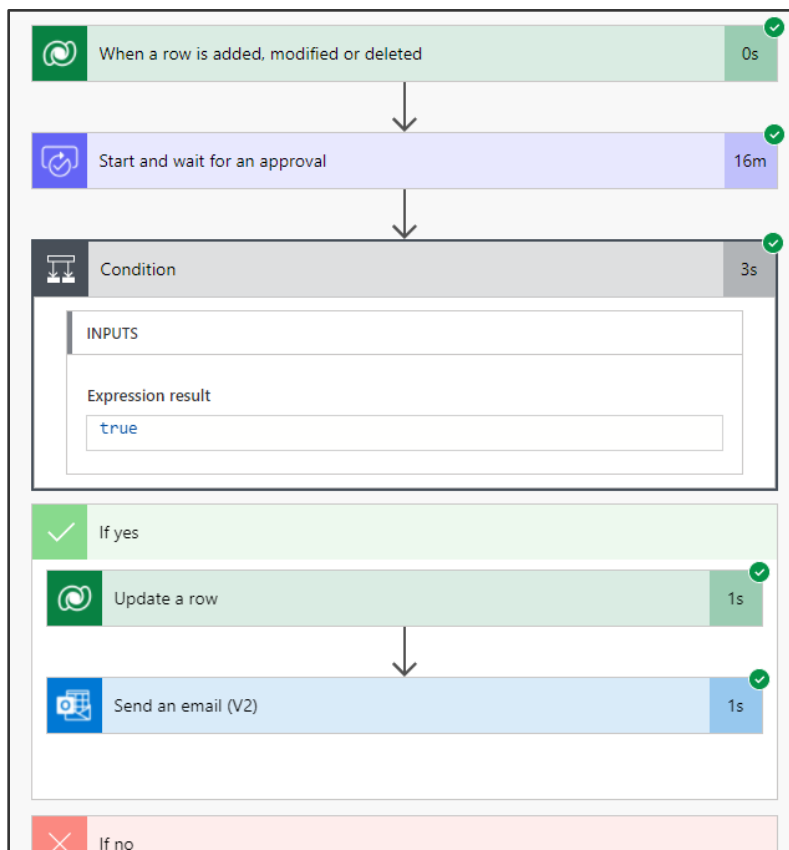11. The flow will continue to run; it will update the row and send an email to the requestor. The email sent to the requester will look like the image below.

Your machine order has been approved!

Lab Admin 1
To: Lab Admin 1   Fri 7/29/2022 4:06 PM

Your machine has been approved **At Home Coffee Makers - Smart Brew 300**
Estimated ship date:
Approver: Lab Admin 1, labadmin1@augustenv.onmicrosoft.com Response:
Approve Request Date: Friday, July 29, 2022 10:04:13 PM Response Date:
Friday, July 29, 2022 10:05:48 PM

Reply   Forward
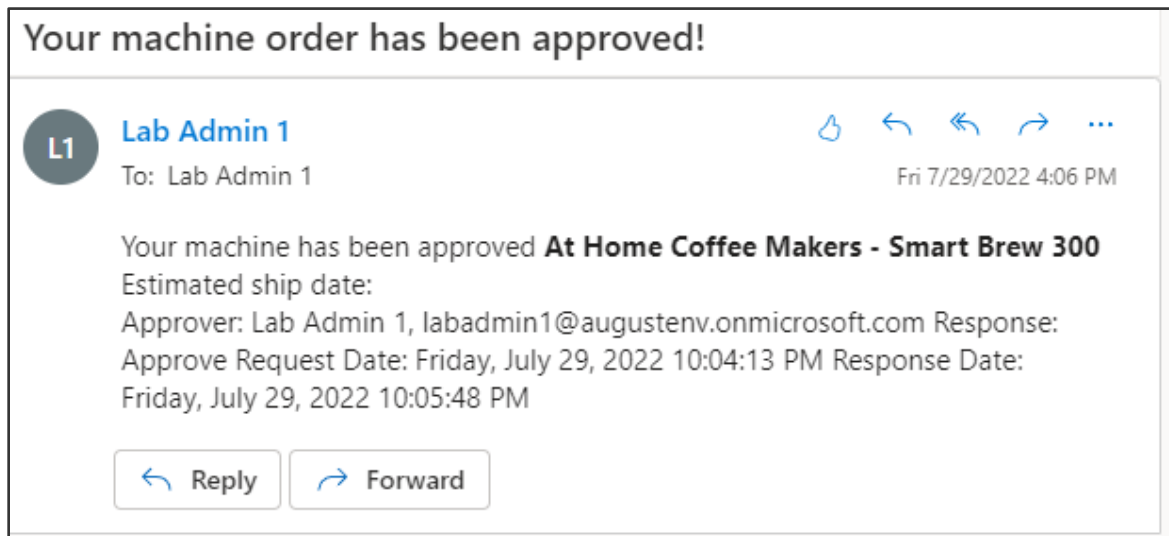
12. Check the flow, you will notice that the flow is now marked as **Succeeded** in the run history.
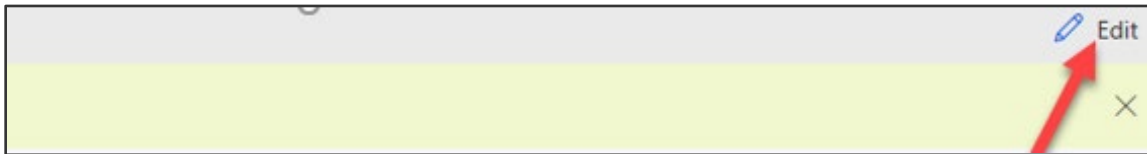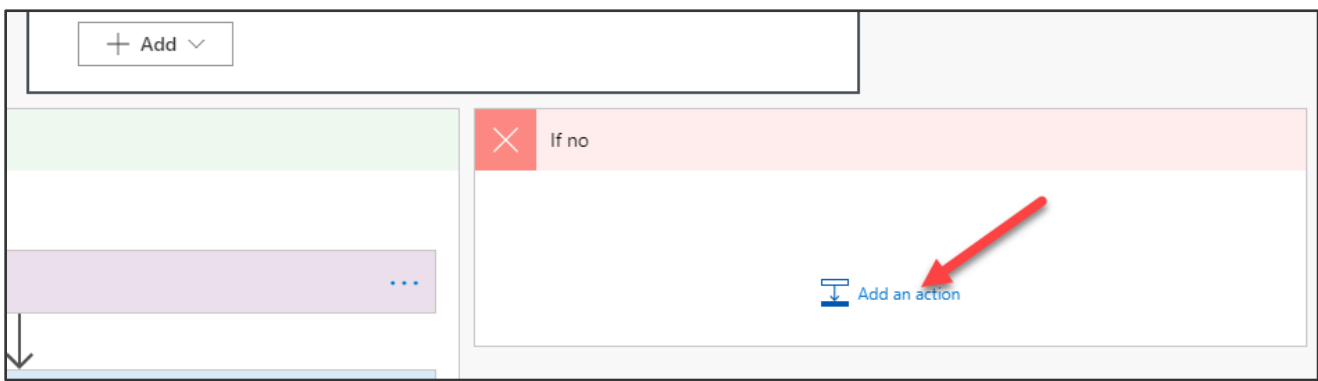
Exercise 4: Update the Flow

In this exercise, you will add two actions to the "if no" branch.
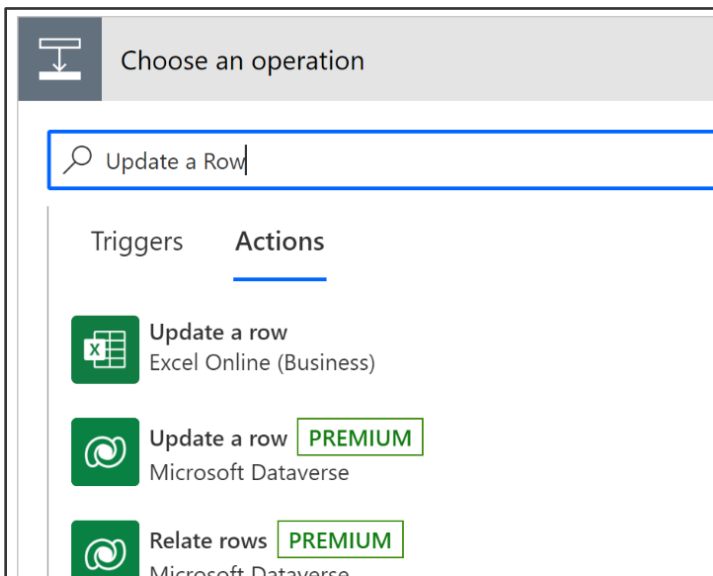
Task 1: Add actions

1. If you don't already have the flow open, open it in edit mode.

2. In the If no branch, click **Add an action**.

10. Search for **Update a Row** and select **Update a Row (Dataverse)**

3. Select **Machine Orders** for **Table Name**, select **Machine Order** for **Item ID**, and click **Show advanced options.**

4. Select **Reject** for **Approval Status**.

5. Click **Add an action**.
6. Search for *send email* and select **Send an email (v2) - Office 365 Outlook**.

7. Click on the **To** field and select **Requested By** from dynamic content pane.

8. Enter **Your machine was not approved** for **Subject**.
9. Type **Sorry, your request for** in the body and select **Machine name** form the dynamic content pane.
10. Type **was NOT APPROVED.** after the machine name.
11. Select **Response summary** from the dynamic content pane.
12. The email should now look like the image below.

13. **Save** the flow.

Task 2: Test the updated Flow

1. Click **Test** in the top right of the flow editor and start the Flow.
2. Run the Machine Ordering app -> Select a machine and submit an approval request.
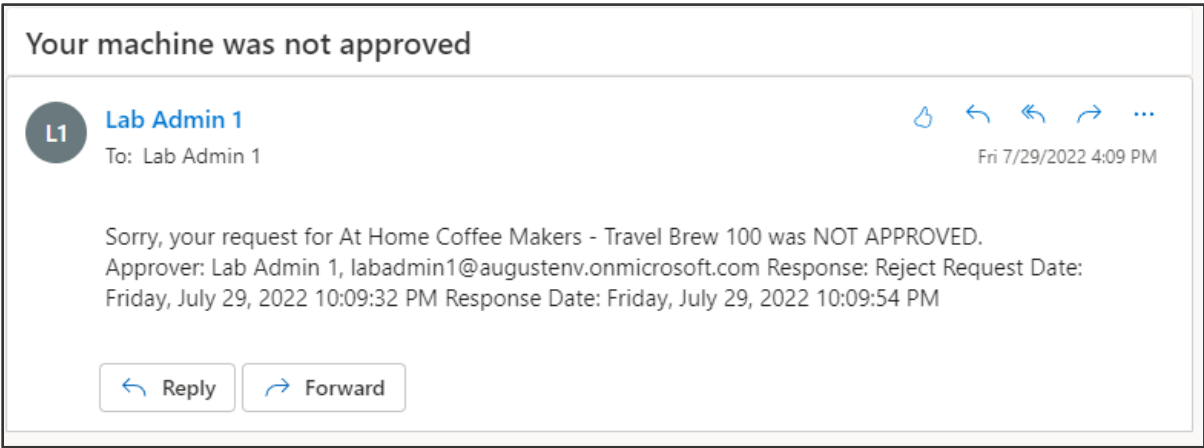3. You should receive an email with options to Approve or Reject the request. Select **Reject** this time and enter some comments, such as "Machine no longer available" Click **Submit**.
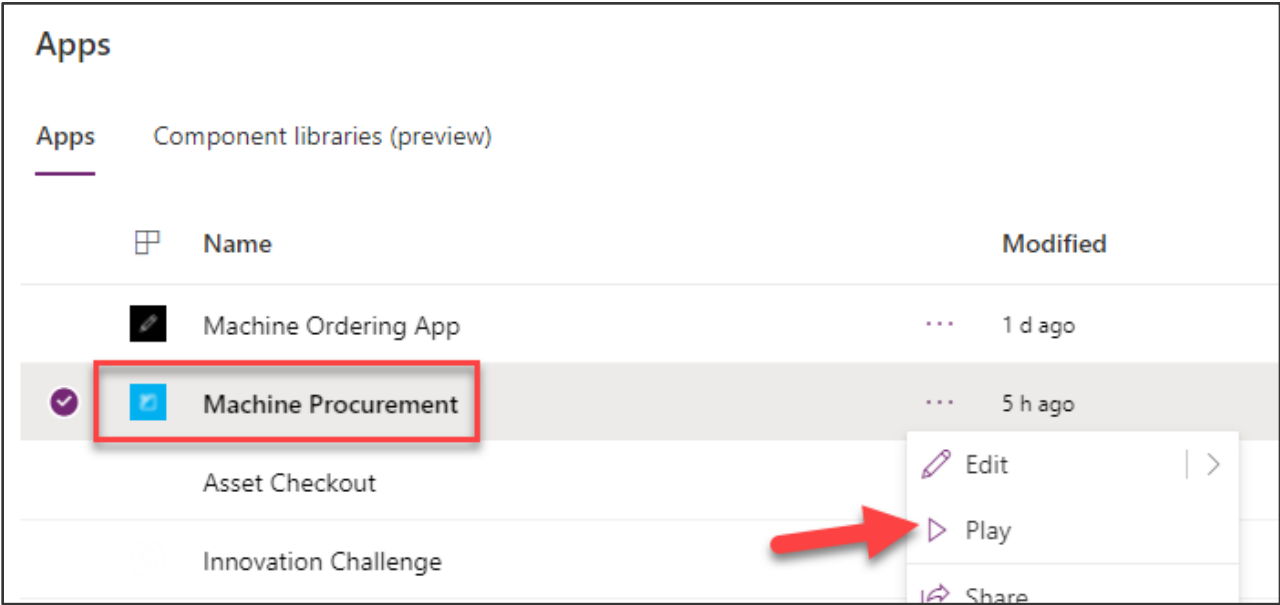

4. Confirm that the requestor receives an email informing them that their machine approval request was rejected.

Your machine was not approved

L1   **Lab Admin 1**   👍 ↩ ↩ ↪ ···
      To: Lab Admin 1   Fri 7/29/2022 4:09 PM

Sorry, your request for At Home Coffee Makers - Travel Brew 100 was NOT APPROVED.
Approver: Lab Admin 1, labadmin1@augustenv.onmicrosoft.com Response: Reject Request Date:
Friday, July 29, 2022 10:09:32 PM Response Date: Friday, July 29, 2022 10:09:54 PM

↩ Reply   ↪ Forward

5.   Navigate to Make Power Apps select **Apps** and start the **Machine Procurement** application.

Apps

Apps   Component libraries (preview)

| ⊞	Name		Modified
✏	Machine Ordering App	···	1 d ago
✅ 🔷	**Machine Procurement**	···	5 h ago
	Asset Checkout	✏ Edit	❘ >
	Innovation Challenge	▷ Play	
		↪ Share	

6.   Machine Orders will now have the Approval Status.
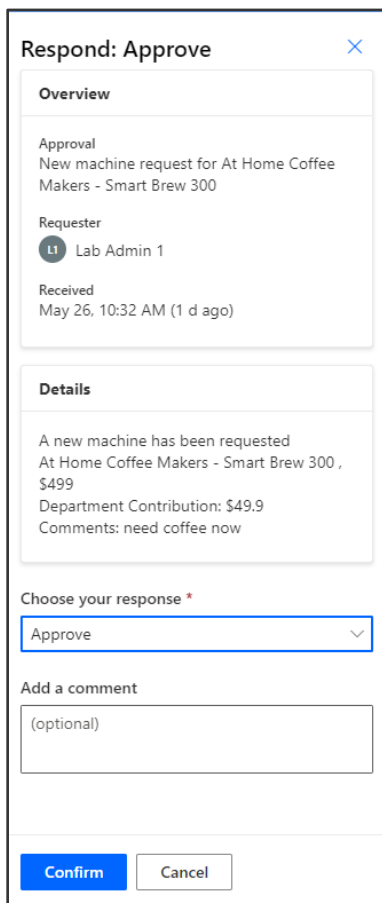
Active Machine Orders* ˅   🔲 Edit columns   ▽ Edit filte

⚪	Machine Name ˅	Created On ↓ ˅	Approval Status ˅	Estimated Ship ... ˅
	At Home Coffee Makers - Travel Brew 100	7/29/2022 10:09 PM	Reject	
	At Home Coffee Makers - Travel Brew 100	7/29/2022 9:56 PM		
	At Home Coffee Makers - Smart Brew 300	7/29/2022 9:53 PM	Approve	
	Commercial Espresso Machines - Cafe Lite	7/29/2022 9:26 PM		

Task 3: Visit the approval center

1. Use the Machine Ordering app to **submit a few more approval requests**.
2. Navigate to Power Automate and make sure you are in the correct environment. Login with your lab credentials if prompted.
3. Expand **Action items** and select **Approvals**.
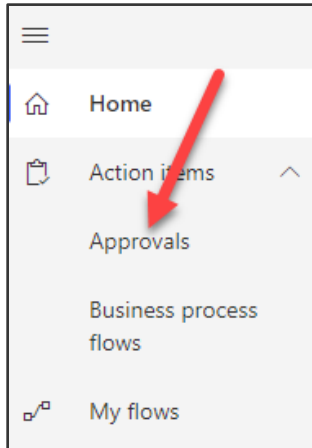
4. Notice that all pending approval requests are visible.
5. Go ahead and approve or reject a request from this screen. The details are displayed in the right pane where you can **enter comments** and **Confirm**.

6. The request will no longer be visible as it has been processed.

Note: *All approval requests sent to the current logged on user will be visible in the Approvals Center. This includes approvals sent from any app or flow.*

7. You can also use the Approvals Center to view all requests that you have sent and are **Awaiting response** from the approver. Select the **Sent requests** tab at the top to view all requests that you have sent.
8. Open the **Power Automate mobile app** on your mobile device.
9. Login and switch to the environment where the flow is deployed.
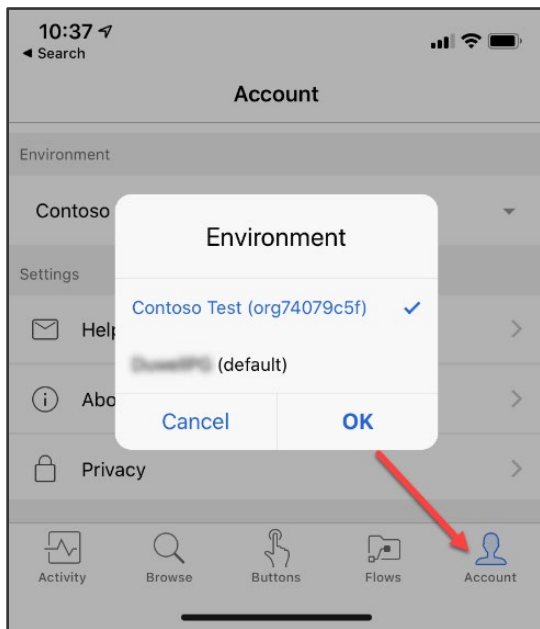
10. Select **Approvals** in the top right and view all pending approvals.
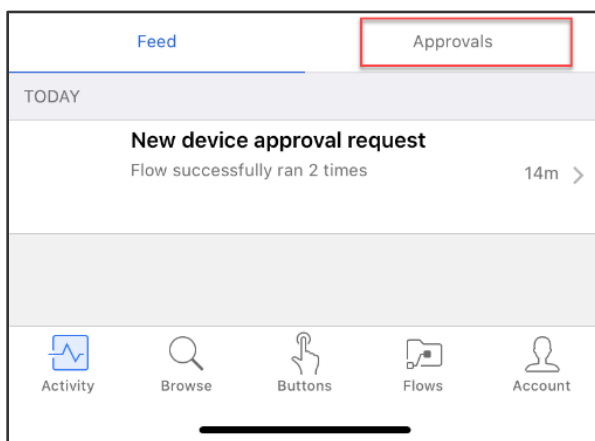
11. You can quickly approve or reject these pending requests from this screen.
12. If you have push notifications turned on and are signed into the flow mobile app – when you receive a new Approval request it will trigger a push notification on your phone. You can give this a shot.

Congratulations! You have successfully completed this lab. You have created your Power Apps app and flow and connected them to a Microsoft Dataverse table. Now you are ready to build your own apps and workflows.

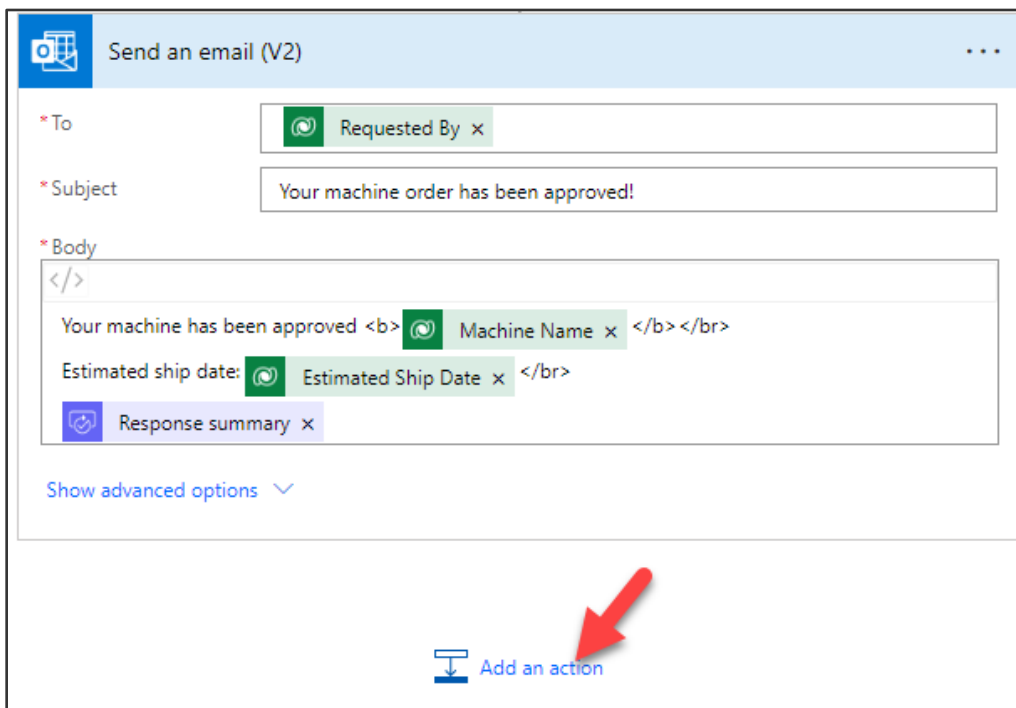# Exercise 4: (Optional) Add a Teams Notification

In this optional exercise, you will modify the existing flow to include a Teams notification for your approval flow.
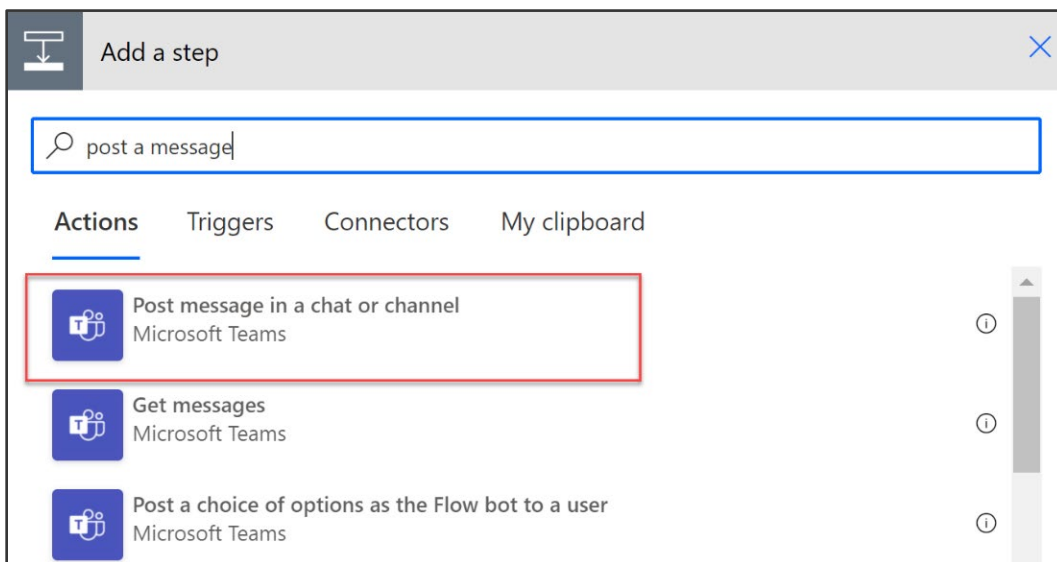
Task 1: Modify the Flow

1. Click to expand the **Send an email** step inside the **If yes** branch.
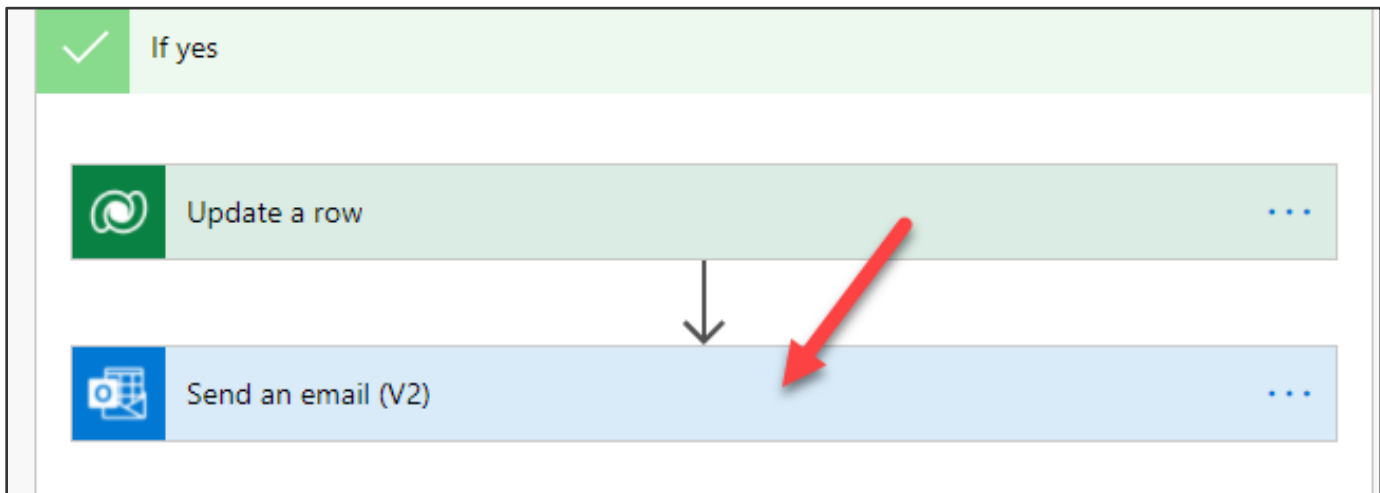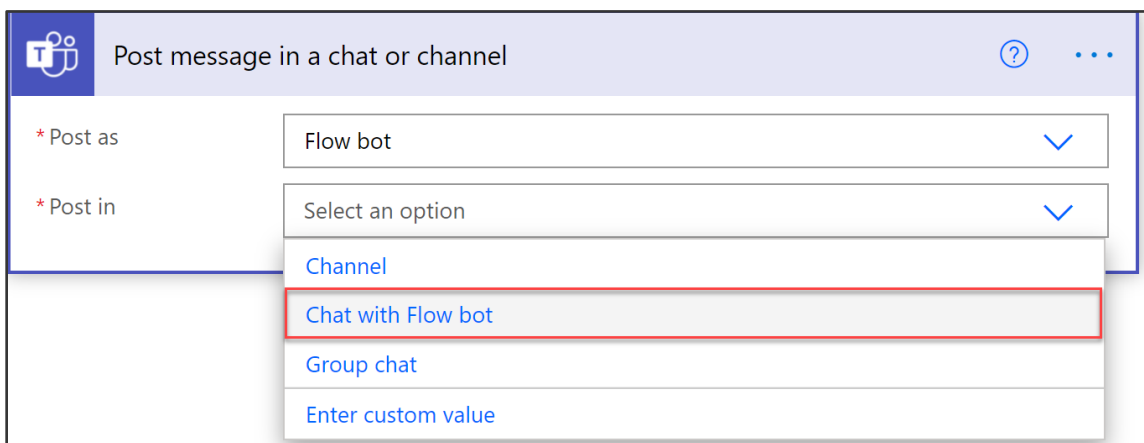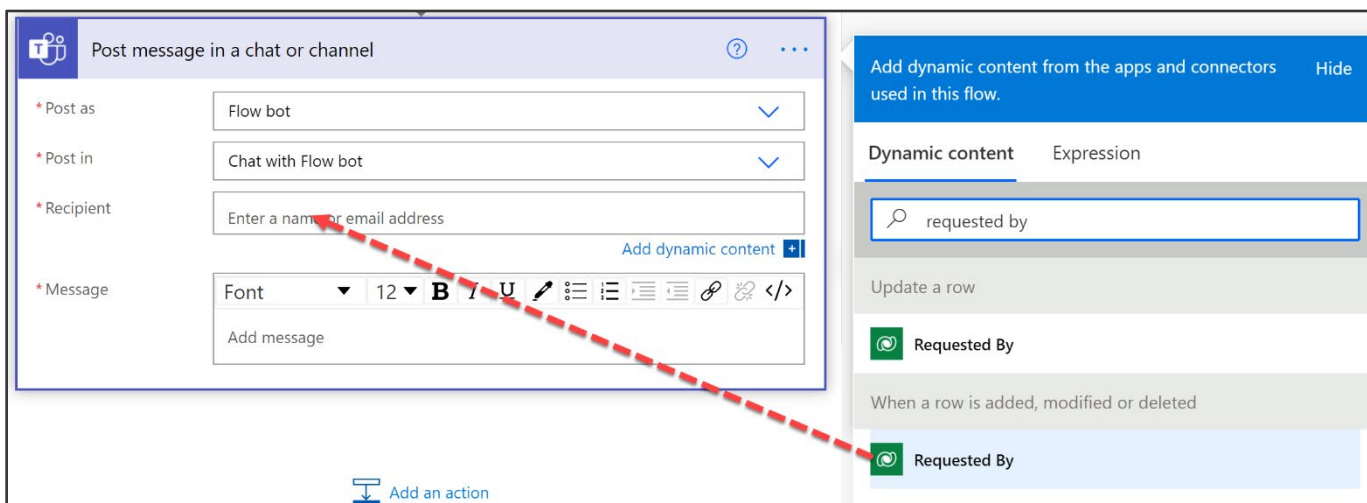

2. Click **Add an action**.

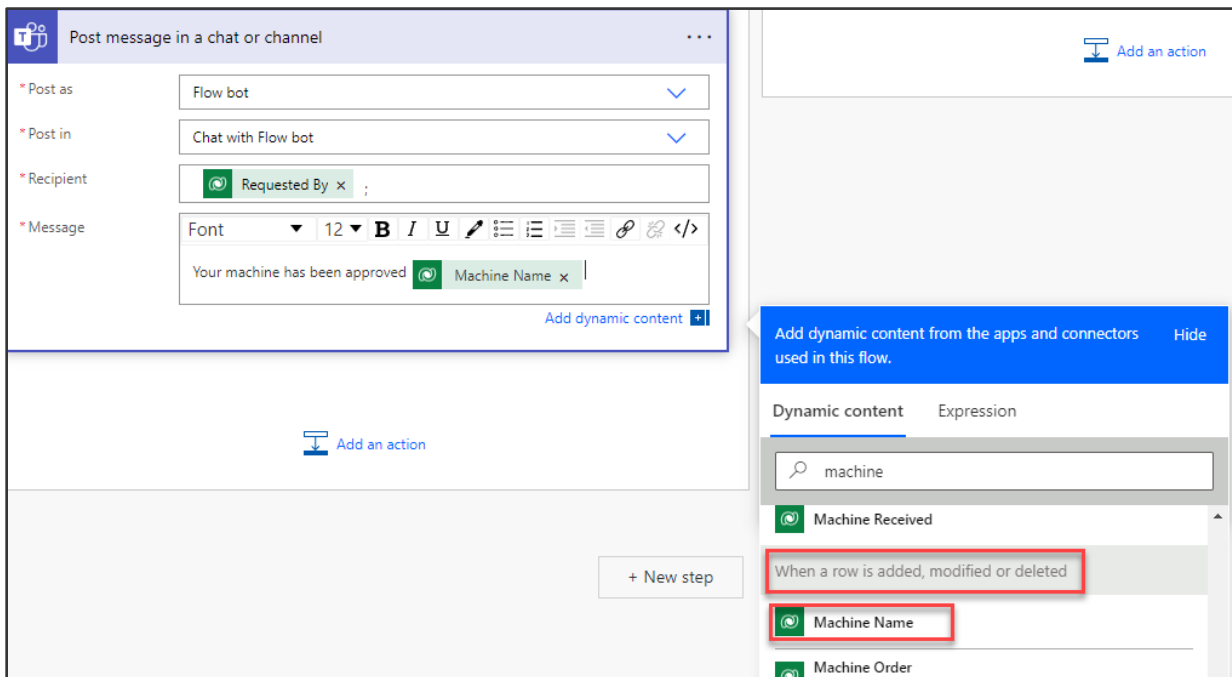3. Search for post a message and select **Post a message in a chat or channel**

4.   Select **Flow bot** for Post as and **Chat with Flow Bot** for Post in.

5.   select **Requested By** in the Recipient field.

6.   In the **Message** input, type *Your machine has been approved* and then select **Machine Name** from under the Dynamics Content **When a record is added...** header.

7. Type **Estimated Ship Date:** and then select **Estimated Ship Date** from under the Dynamics Content **When a record is added ...** header.
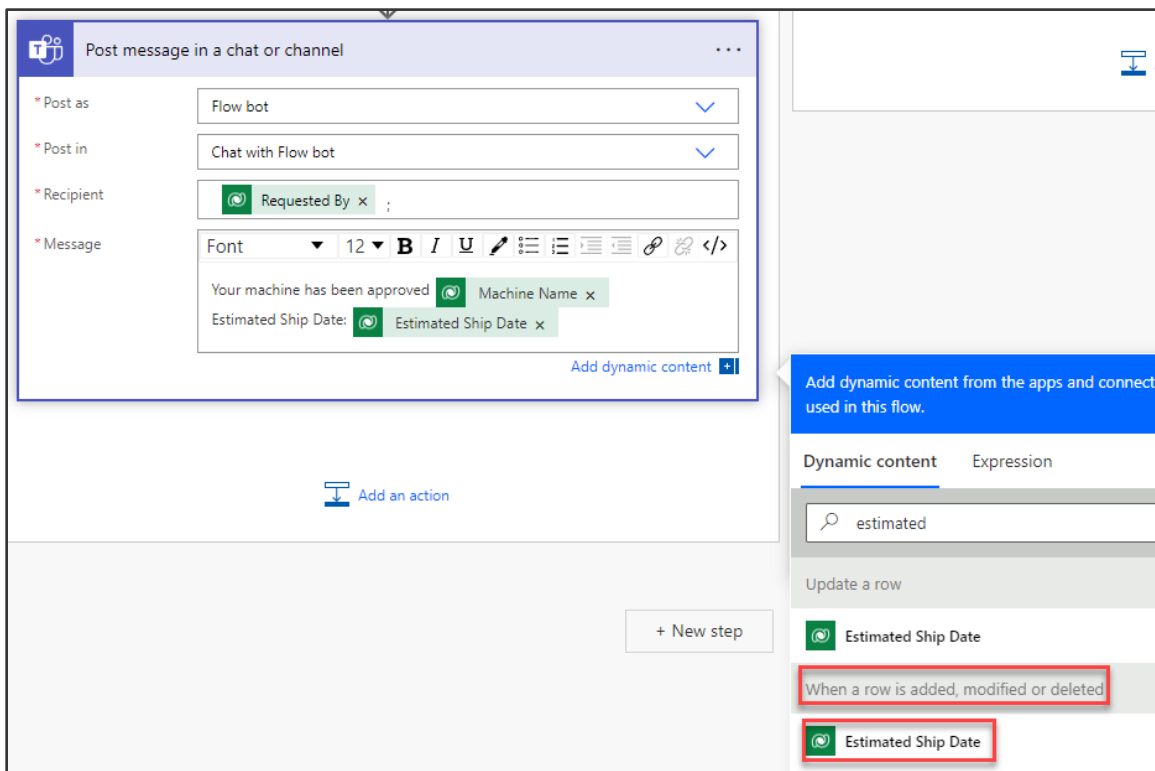
8. Click on the **... Menu** button of the **Post a message** step and select **Copy to my clipboard**.
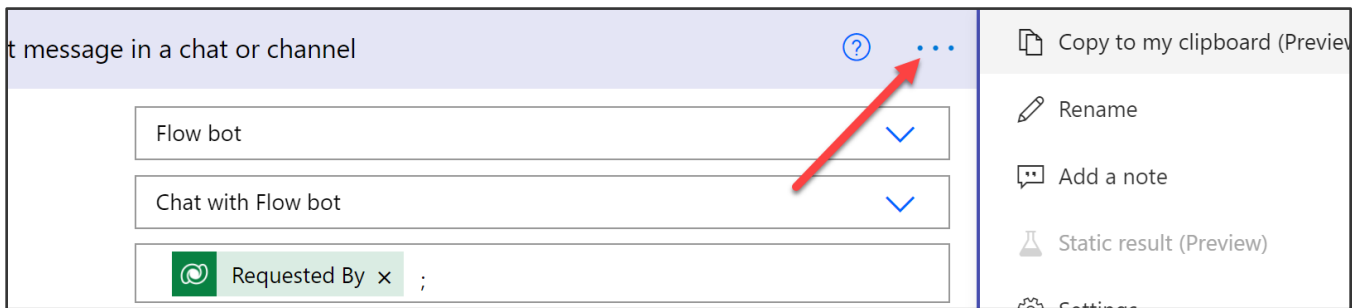
9. Go to the **If no** branch and click **Add an action**.
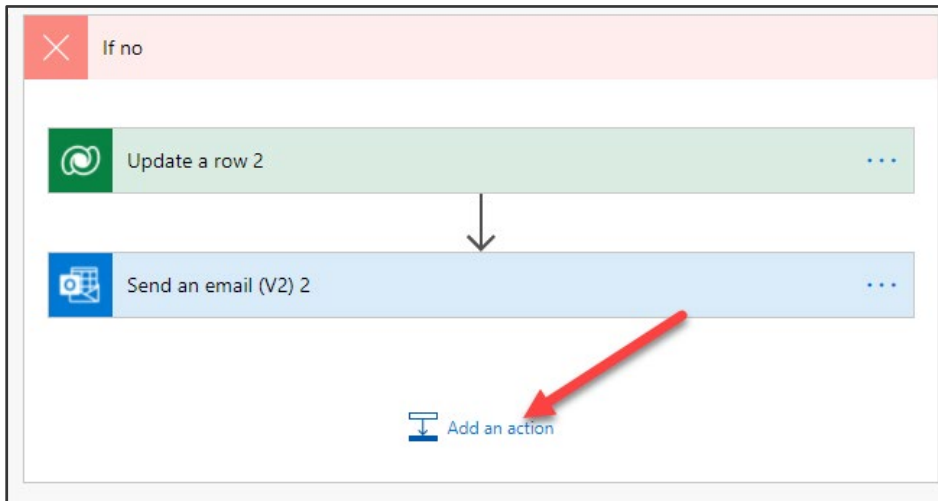
10. Select **My clipboard**.
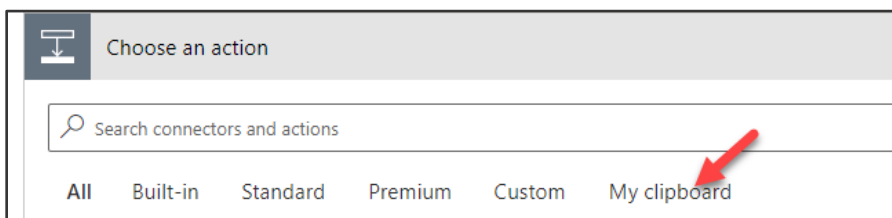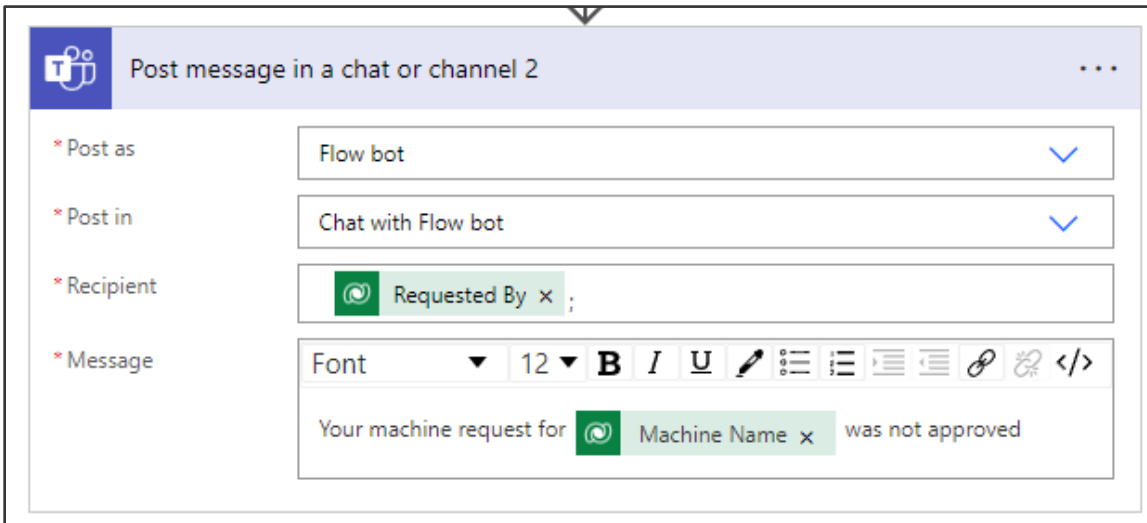
11. Select the step you copied.
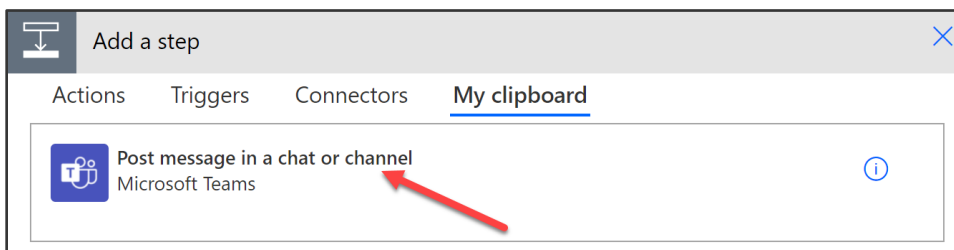
12. Click to expand the step you just pasted.

13. Delete the current Message content and change the Message to **Your machine request for**

14. Place your cursor at the end of the text and select **Machine Name** from the dynamic content pane. Add **was not approved** to the end of the content. The step should now look like the image below.

15. Click **Save** to save your changes.

Task 2: Test your modified flow

Now that the flow has been modified, you are ready to test it.

1. Click **Test** in the top right of the flow editor and select **Manually**
2. In another tab, navigate to Microsoft Teams.
3. Open a third tab and run the Machine Ordering app -> Select a machine and submit an approval request.
4. You should receive an email with options to Approve or Reject the request. Select **Approve**.

5. Shortly after hitting submit, you should see a message and a notification in the Chat tab on your app bar – this is from the Flow Bot. Click to open the chat. Wait a moment if it does not appear immediately.

6. You should see the approval of the request.
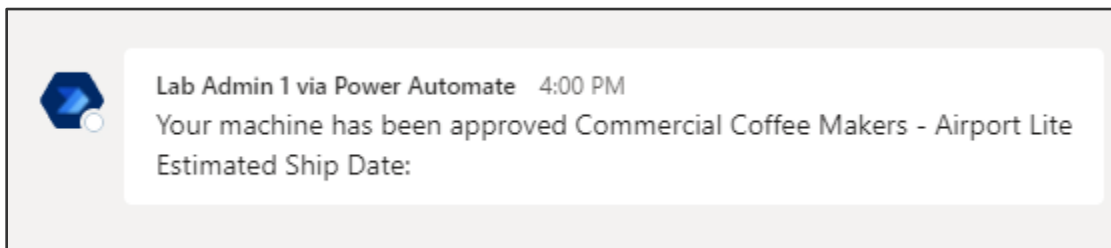
References

App in a Day introduces some of the key functionalities available in Power Apps, Power Automate, Power BI and the Microsoft Dataverse. For an up to date list of learning references, see Power Apps Resources and Power Automate Resources.

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