



Power Platform App in a Day

Module 4: Power Automate

Hands-on Lab Step-by-Step

December 2019

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Power Automate

Lab Prerequisites

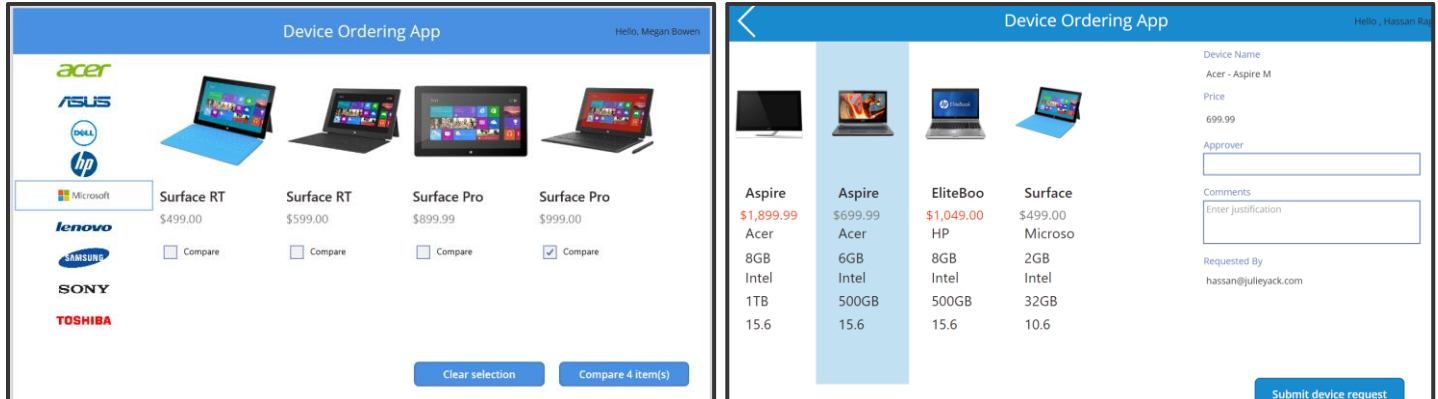
This is the fourth lab in a five-part series covering Power Apps, Common Data Service, and Power Automate. The assumption is that you have successfully completed the first three modules, or at least the initial part of setting up an environment as described in the overview – “00-AppInADay Lab Overview.pdf”.

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 Common Data Service entity 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

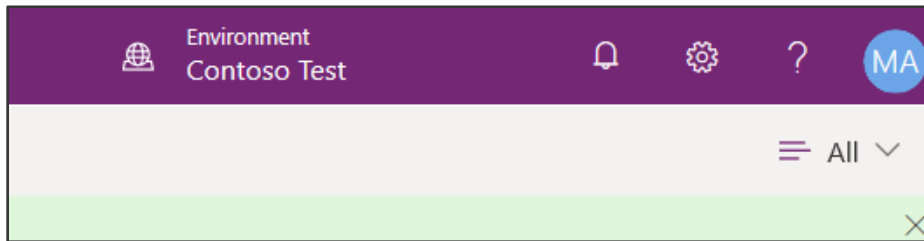
The flow will trigger when a new item is added to the **Device Order** entity table in the Common Data Service.

- 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 Device Order table will be updated with the appropriate approval status and comments.
- An email will be sent to the requester informing them whether the device was approved or rejected.

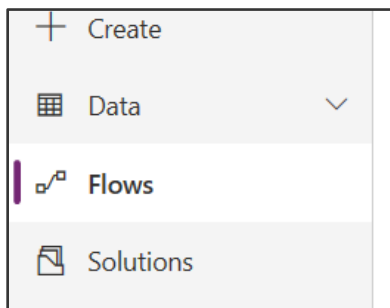
There are two ways to create a flow – from blank or from a template. In this lab, we will create the approval flow starting with a blank flow.

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

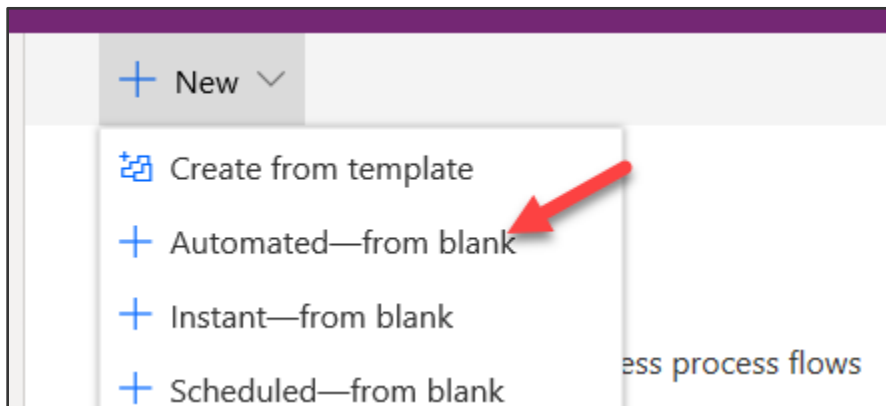
1. Navigate to <https://make.powerapps.com/> and make sure you are in the correct environment.



2. Select **Flows**.



3. Click **New** and select **Automated – from Blank**.



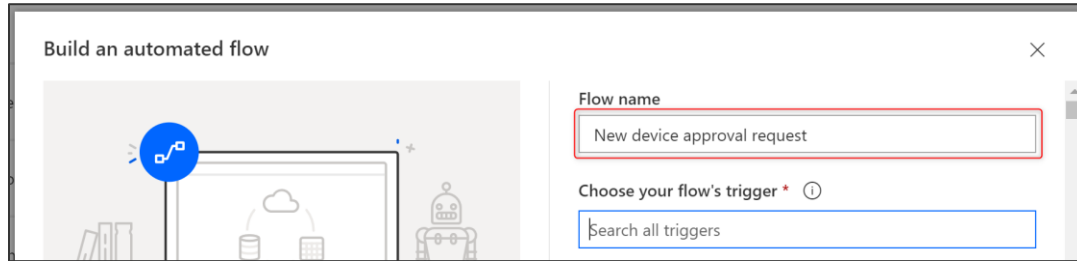
Task 2: Configure the trigger

The first thing you will need to configure is the trigger, i.e. when should this flow run. A flow can be triggered:

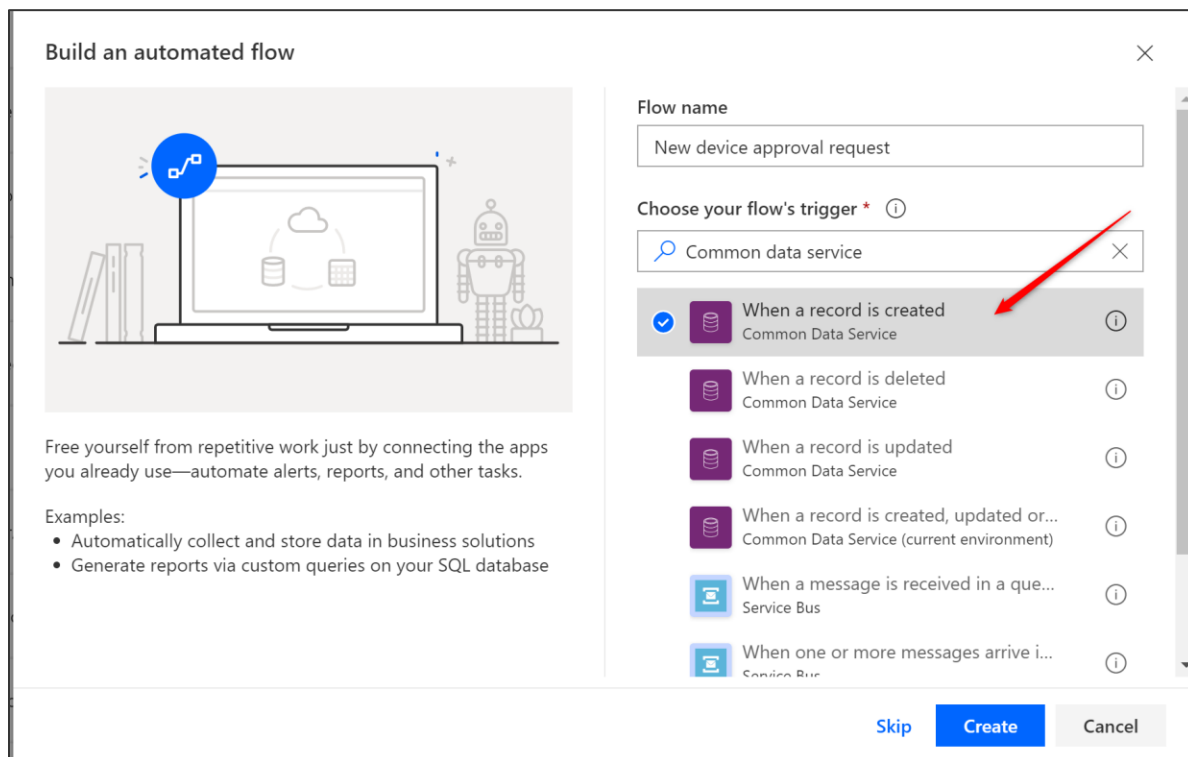
- a. manually from a Power Apps app,
- b. manually from a flow button,
- c. on a fixed schedule, or
- d. when an event occurs, such as a new item being added to a table, a new email arriving in a user's inbox, a new tweet being posted that meets certain conditions, etc.

In this scenario, we will configure the flow to trigger when a **new item is added** to the **Device Order entity** table in the **Common Data Service**

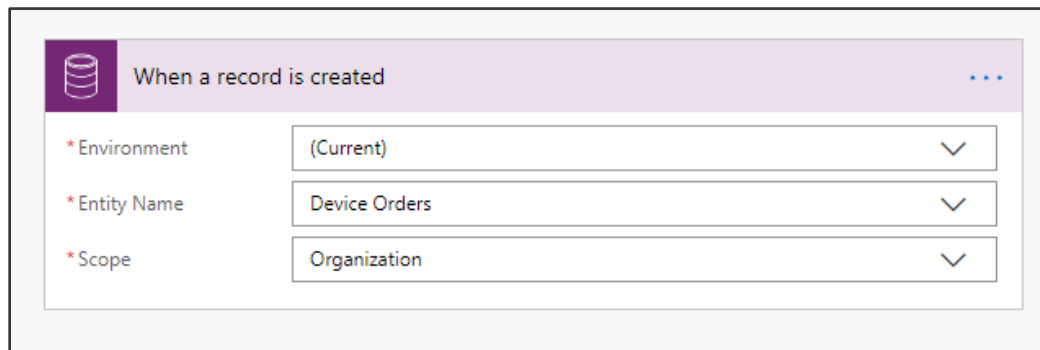
1. Enter a name for your flow, such as – “New device approval request”



2. In the **Choose your flow's trigger** box, enter **Common Data Service** and select **When a record is created - Common Data Service**.



3. Click **Create**
4. Click the **Environment** drop-down and select **Current**.
5. Click the **Entity Name** drop-down and select **Device Orders**. You can type “device 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.



When a record is created

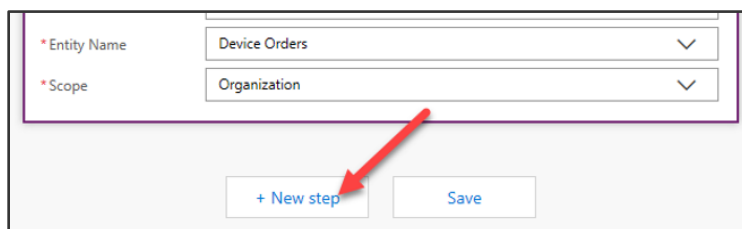
* Environment (Current)

* Entity Name Device Orders

* Scope Organization

Task 3: Add action to send an approval request

1. Click **+ New step**.

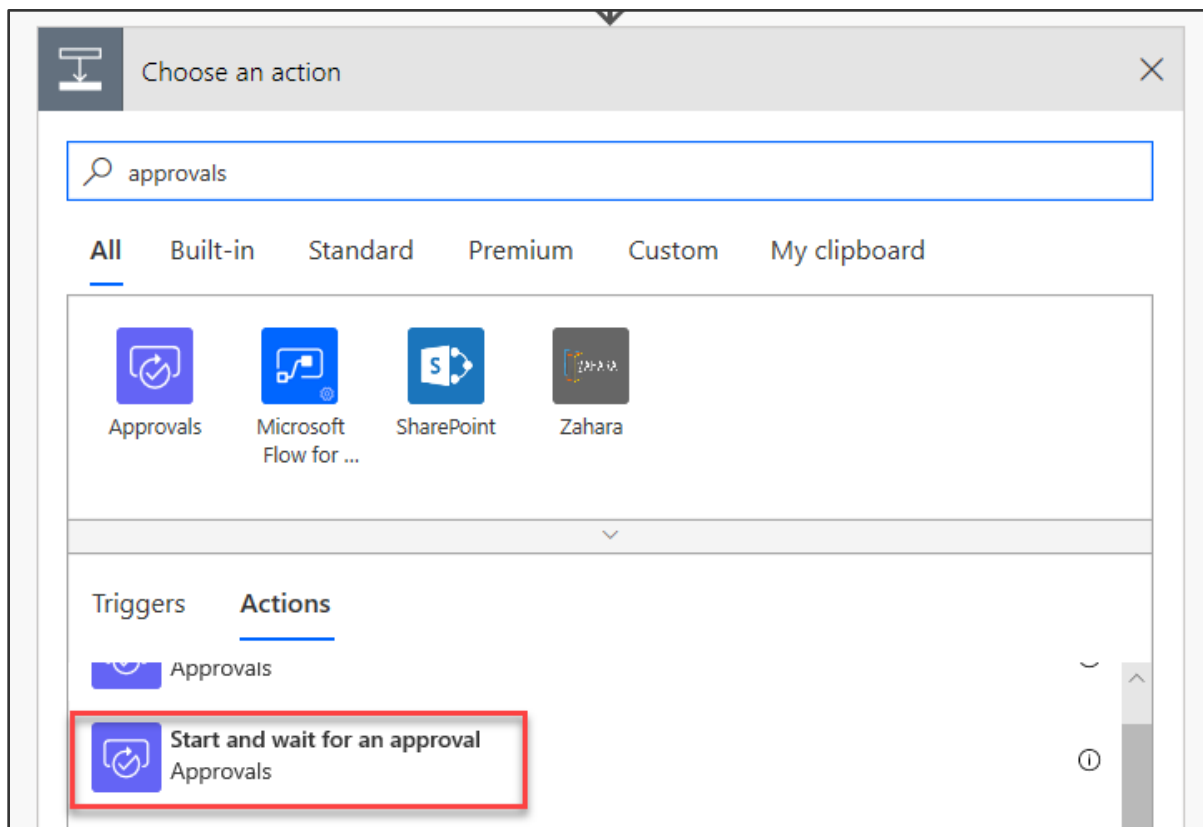


* Entity Name Device Orders

* Scope Organization

+ New step Save

2. Search for **Approvals** and select **Start and wait for an approval**.



Choose an action

approvals

All Built-in Standard Premium Custom My clipboard

Approvals Microsoft Flow for ... SharePoint Zahara

Triggers Actions

Approvals

Start and wait for an approval Approvals

This will use the modern approval service. For more information see the blog post at <https://flow.microsoft.com/blog/introducing-modern-approvals/>.

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

Start and wait for an approval

* Approval type: Approve/Reject - First to respond

* Title: Approve/Reject - First to respond

* Assigned to: Custom Responses - Wait for all responses

4. For the Title, we will add some text and one variable. This variable will contain the Device Name of the device order request. Enter **New device request for** in the **Title** text box.

Start and wait for an approval

* Approval type: Approve/Reject - First to respond

* Title: New device request for

Add dynamic content

5. Select **Device Name** for the **Dynamic content**.

Start and wait for an approval

* Approval type: Approve/Reject - First to respond

* Title: New device request for Device Name

* Assigned to: Email addresses, separated by a semicolon (;)

Details: Markdown supported (see <https://aka.ms/approvaldetails>)

Item link: Add a link to the item to approve

Add dynamic content

Dynamic content pane: Device Name (Required name field)

Note: if the Dynamic content box is not visible, click the Add dynamic content button - [Add dynamic content](#)

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

Start and wait for an approval

* Approval type: Approve/Reject - First to respond

* Title: New device request for Device Name

* Assigned to: Approver

Details: Markdown supported (see <https://aka.ms/approvaldetails>)

Item link: Add a link to the item to approve

Item link description: Describe the link to the item

Add dynamic content

Dynamic content pane: Approver

You might get a warning message about this field being optional. Ignore it and ignore similar warnings in future.

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

7. Click **Show Advanced Options**.

* Assigned to: Approver x ;

Details: Markdown supported (see <https://aka.ms/approvaldetails>)

Item link: Add a link to the item to approve

Item link description: Describe the link to the item

Show advanced options v

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

Details: Markdown supported (see <https://aka.ms/approvaldetails>)

Item link: Add a link to the item to approve

Item link description: Describe the link to the item

Requestor: Requested By x

Enable notifications: Yes v

Enable reassignment: Yes v

Dynamic content pane: requested by, Requested By

9. In the **Details** field, type **A new device has been requested** and hit <Enter>.

* Title: New device request for Device Name x

* Assigned to: Approver x ;

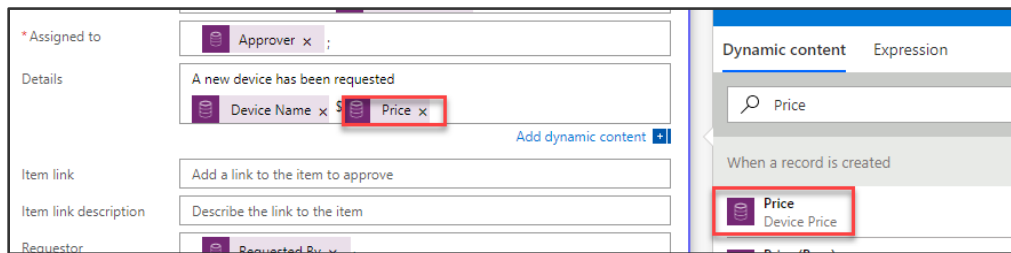
Details: A new device has been requested

Add dynamic content

10. Select **Device Name** from the Dynamic content pane.

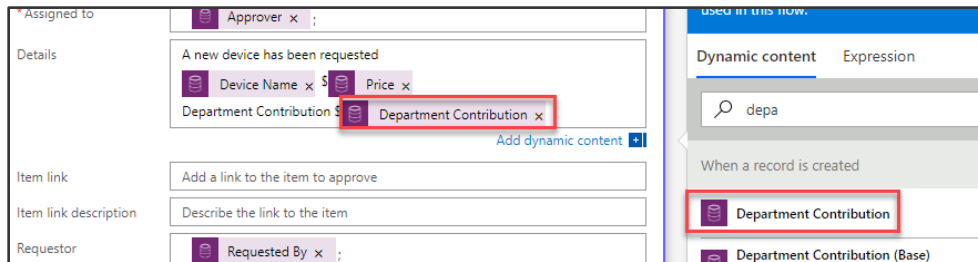
Dynamic content pane: device name, Device Name Required name field

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.

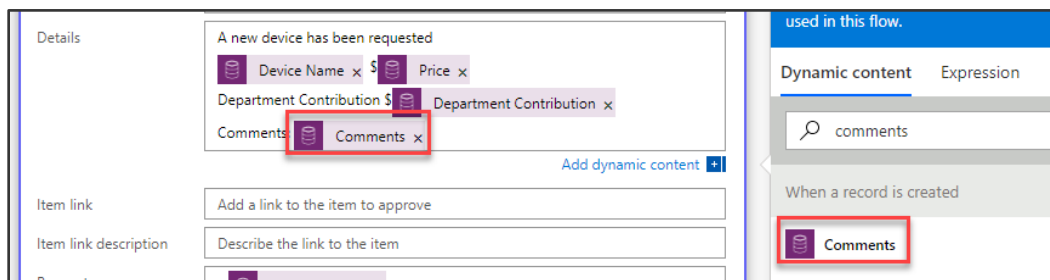


12. Hit Enter and type **Department Contribution \$**

13. Select **Department Contribution**.



14. Hit <Return>, type **Comments:** and select **Comments**.



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

The screenshot shows the configuration for a Power Automate flow. The first step is a trigger named 'When a record is created' with the following settings:

- Environment:** (Current)
- Entity Name:** Device Orders
- Scope:** Organization

A connector arrow points to the second step, 'Start and wait for an approval', which is configured as follows:

- Approval type:** Approve/Reject - First to respond
- Title:** New device request for **Device Name**
- Assigned to:** **Approver**
- Details:** A new device has been requested. **Device Name**, \$ **Price**. Department Contribution \$ **Department C...**. Comments **Comments**.
- Item link:** Add a link to the item to approve
- Item link description:** Describe the link to the item
- Requestor:** **Requested By**
- Enable notifications:** Yes
- Enable reassignment:** Yes
- Attachments:**
 - Attachments Name - 1:** Attachment name
 - Attachments Content - 1:** Attachment content
 - + Add new item** (button)
- Hide advanced options** (toggle)

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 device details in an online catalogue. You would include the **Item link** and **Item link description**.

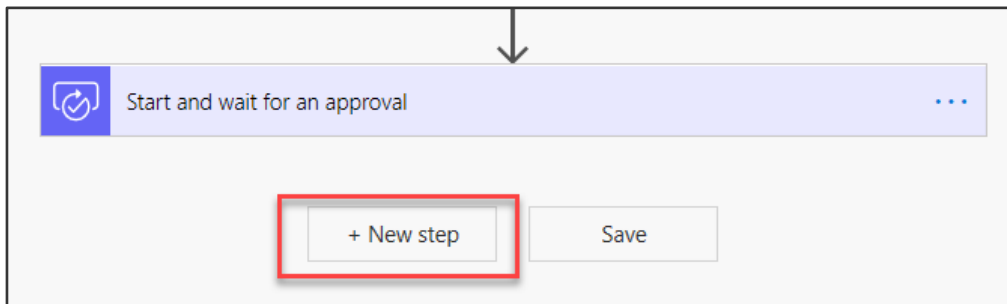
Note: You could also set the **Item link** to deep link into a Power Apps app to view more details about the request. In this scenario, you might pass an OrderID or a DeviceID as a URL parameter. Power Apps accepts URL parameters, see <https://powerapps.microsoft.com/tutorials/function-param/> for more details.

Exercise 2: Conditional Logic

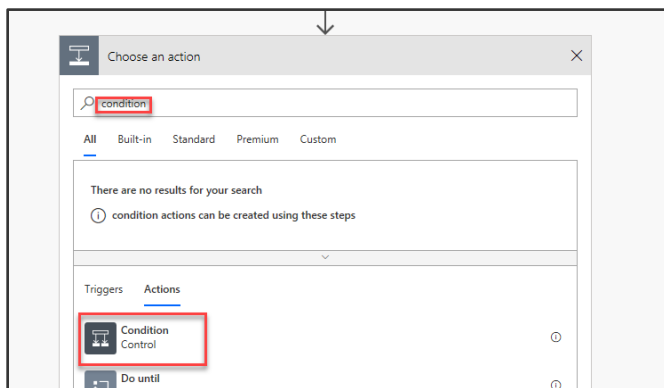
In flow, you can add conditions to take different actions depending on a certain result, in this case, whether the request was approved or rejected.

Task 1: Add conditional logic to flow

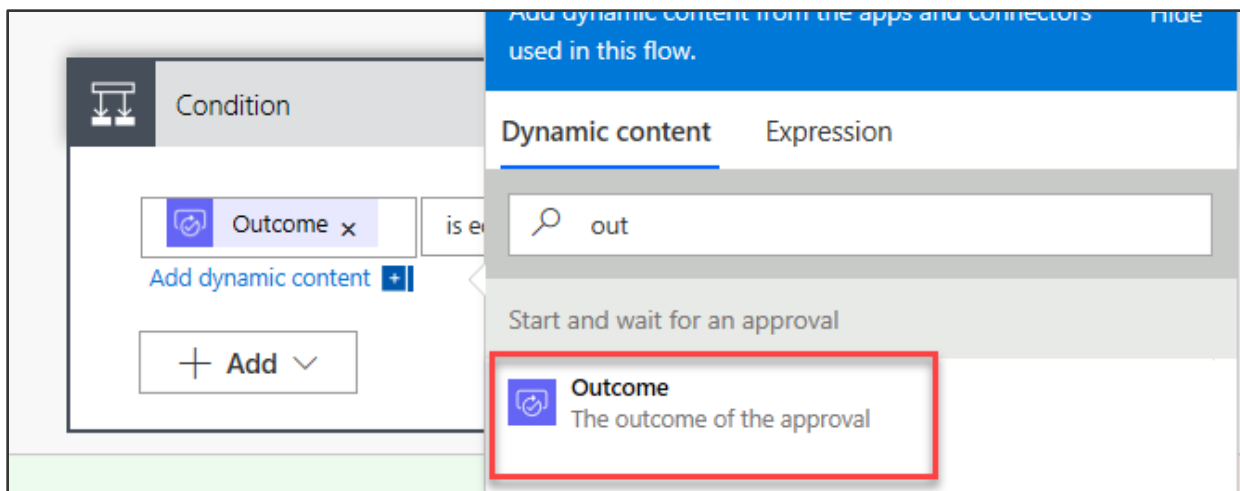
1. Click **+ New step**.



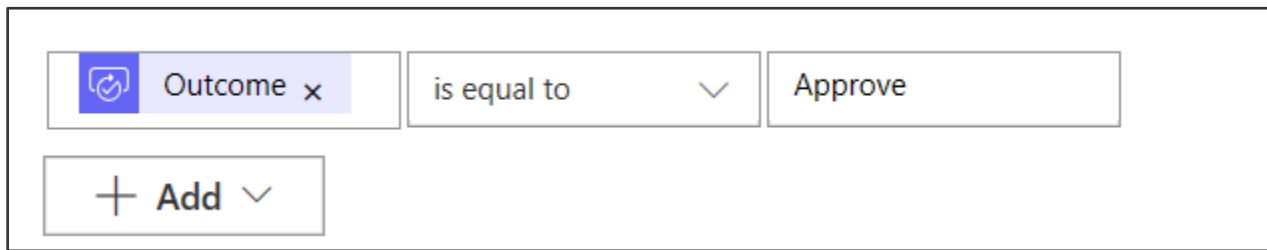
2. Search for **Condition** and select it.



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 **Approve** for **Value**.



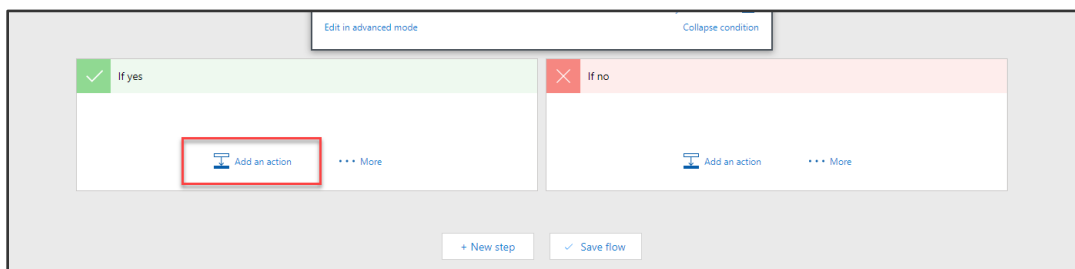
Task 2: Add conditional logic to flow

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

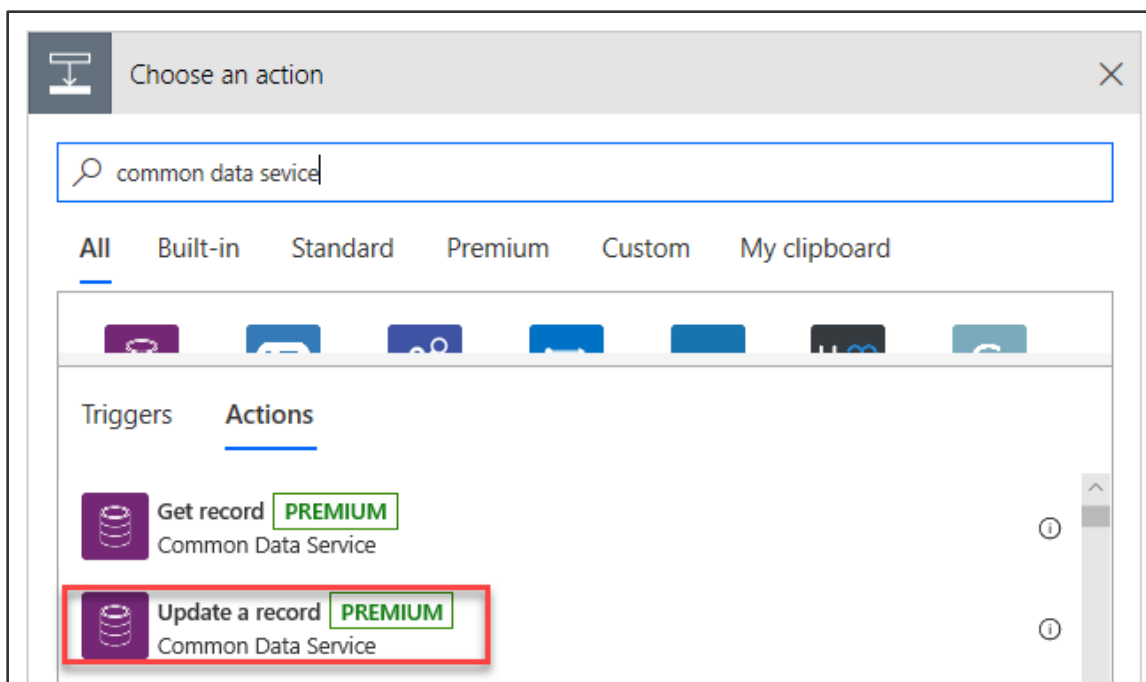
We will add two actions:

- a. Update the record in the Device Order table
- b. Send an email to the employee who requested the device

1. In the left **If yes** box, click **Add an action**



2. Search for **Common Data Service** and select **Common Data Service – Update a record**



3. Select **Current** for **Environment**.
4. Select **Device Orders** for **Entity Name**.
5. Select **Device Order** for **Record identifier**.

Update a record

* Environment: (Current)

* Entity Name: Device Orders

* Record identifier: Device Order x

Device Name: Required name field

Price: Device Price

Dynamic content: Device Order (Unique identifier for entity instances)

This is the unique lookup ID for the record that was created.

6. Click **Show advanced options**.

* Record identifier: Device Order x

Display Name: Required name field

Price: Device Price

Show advanced options v

7. Select **Approve** from the **Approval Status Value** drop-down.

* Record identifier: Device Order x

Display Name: Required name field

Price: Device Price

Approval Status Value: Approve v

Approved Date:

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

* Record identifier: Device Order x

Display Name: Required name field

Price: Device Price

Approval Status Value: Approve v

Approved Date: [Expression tab selected]

Approver:

9. Type **utcNow()** and click **OK**.

Approval Status Value: Approve v

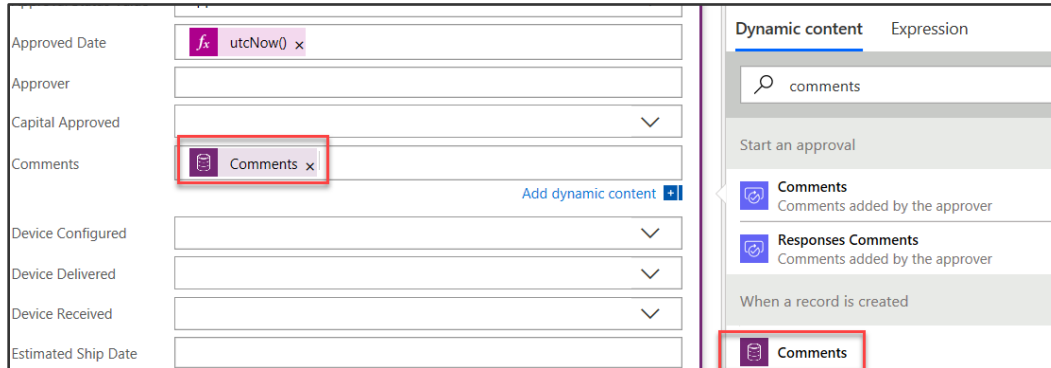
Approved Date: utcNow()

Approver:

Comments:

Expression editor: OK

10. In the Comments field, we want to preserve the earlier comments and append on the comments from the approver. Select the **Comments** field and select **Comments**.

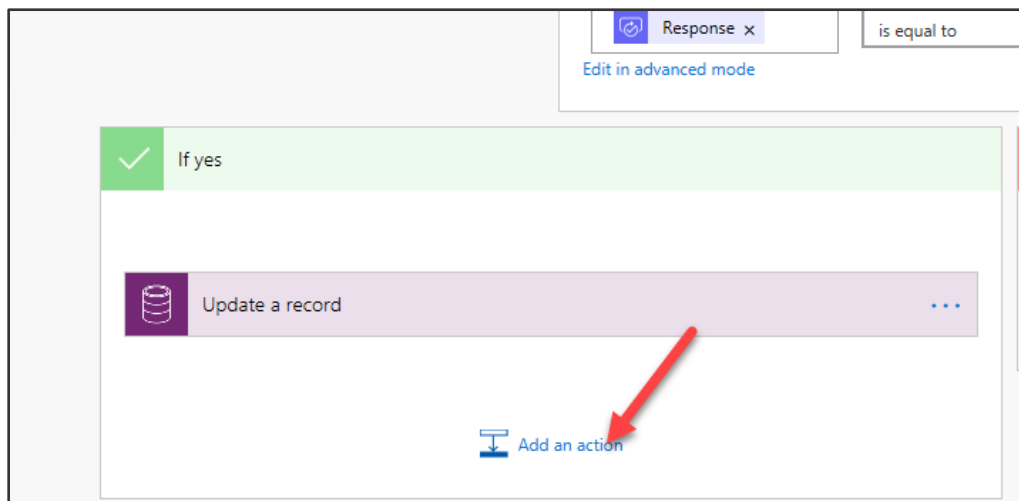


11. Save the flow.

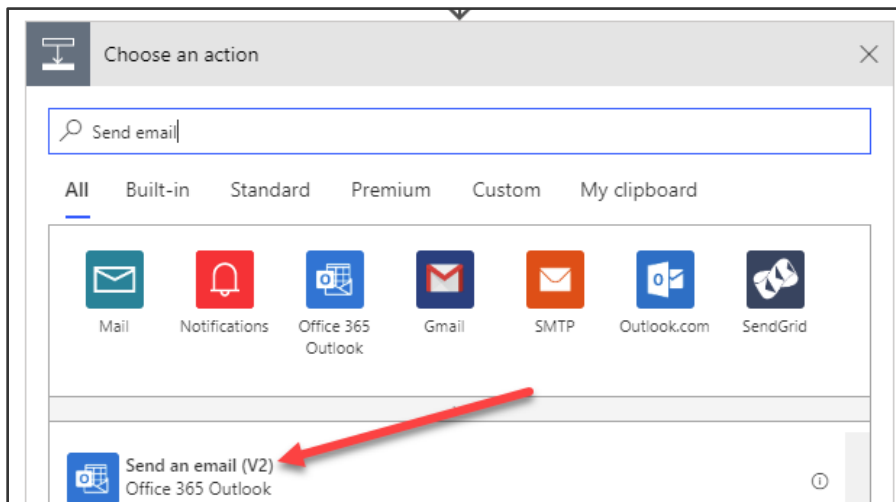
Task 3: Add another action

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

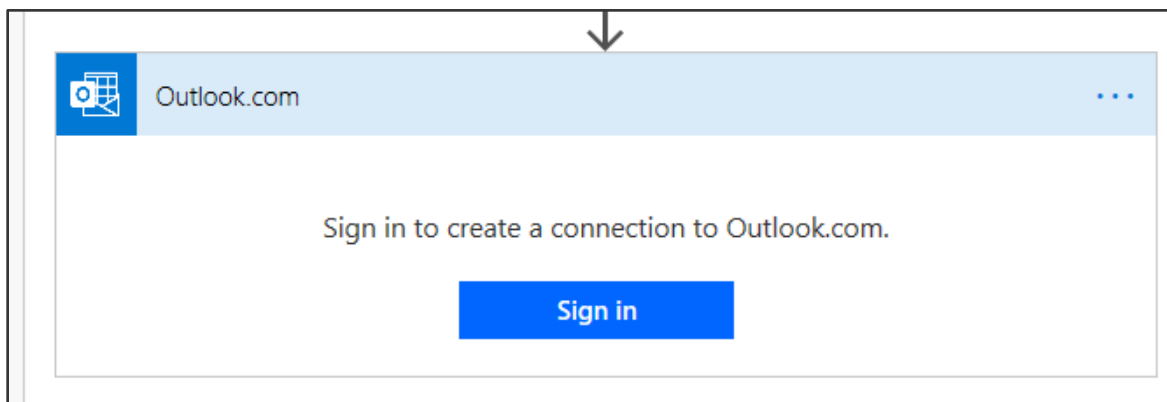
1. From within the yes branch, Click **Add an Action**.



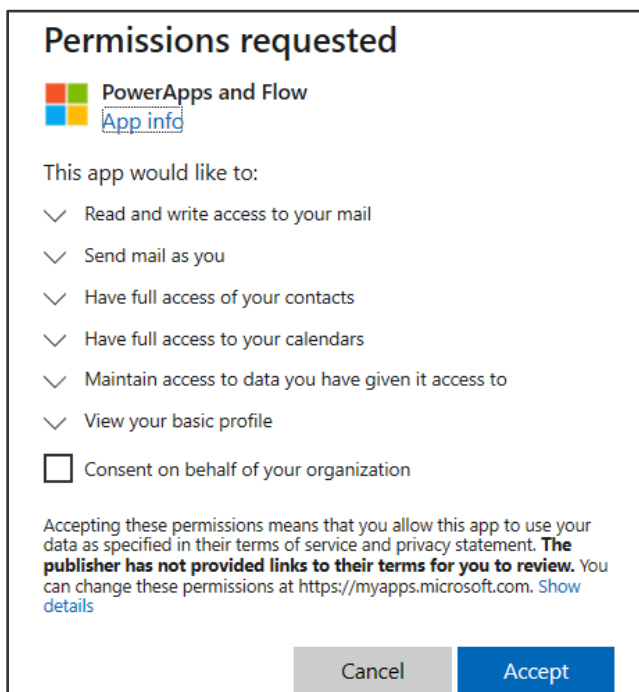
2. Search for **send email** and select **Office 365 Outlook (v2) - Send an email**.



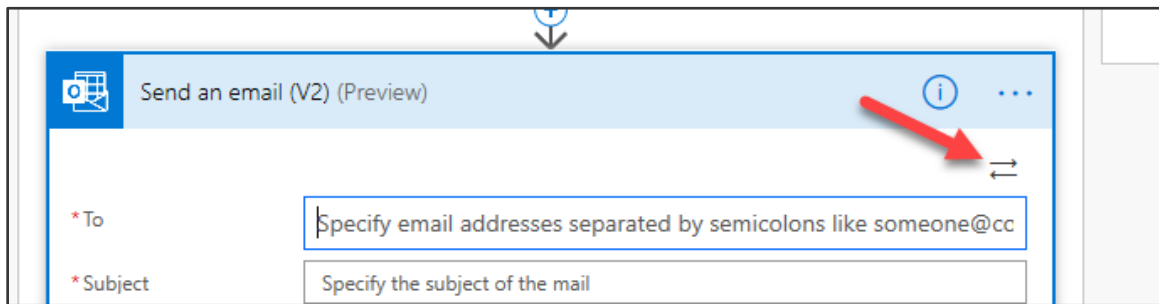
3. Click **Sign in**.



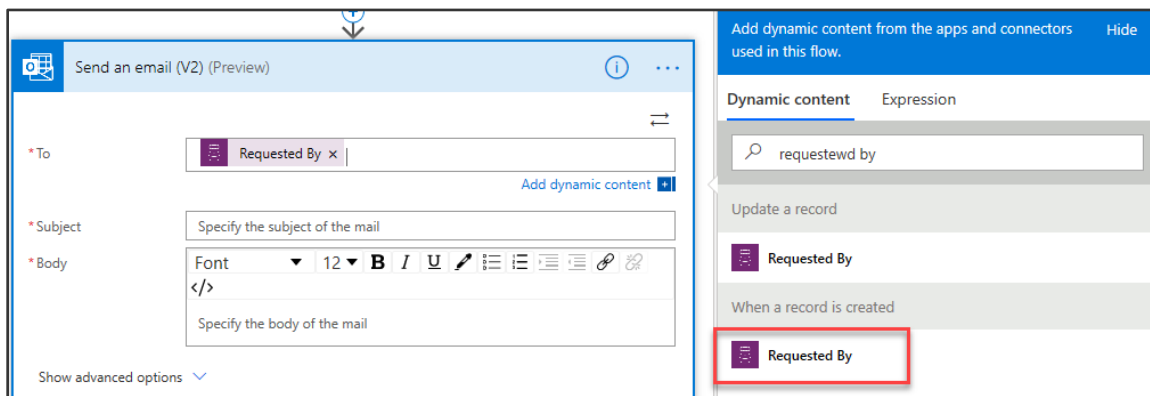
4. Click **Accept**.



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



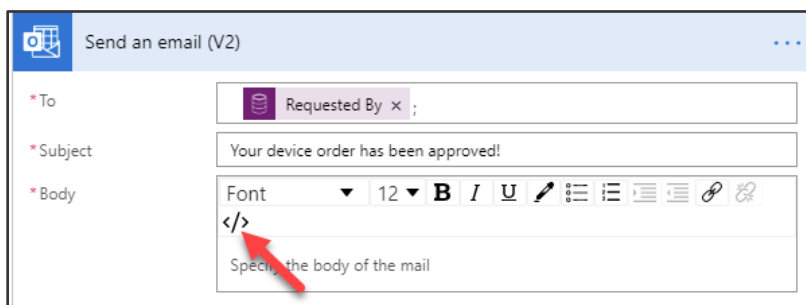
6. Select **Requested By** for **To**.



7. Type **Your device order has been approved!** for **Subject**.



8. Click on the **Code View** button.



9. Set the **Body** value as shown below.

Send an email (V2) (Preview)

* To: Requested By x

* Subject: Your device order has been approved!

* Body: `</>`
Your device has been approved **** Device Name x **** `</br>`
Estimated ship date: Estimated Ship Date x `</br>`
Response summary x |
Add dynamic content +

Show advanced options v

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.

10. Click **Save**.

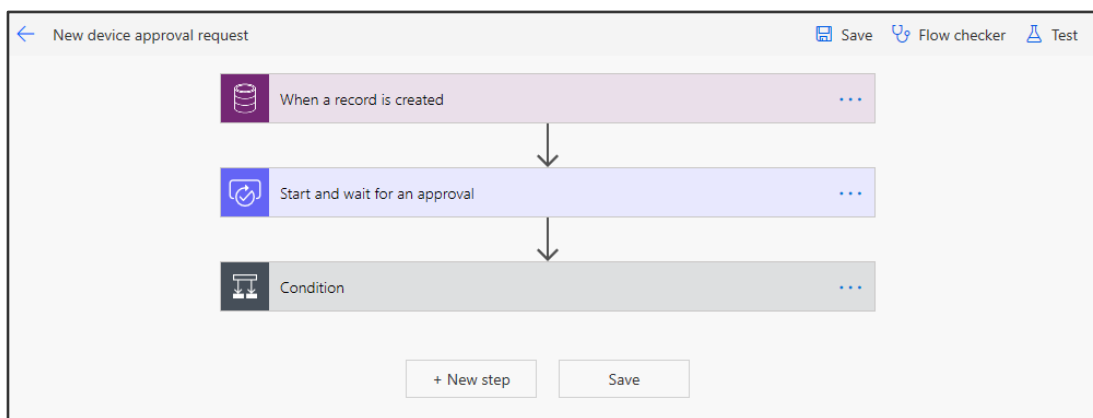
Exercise 3: Test the Flow

To test the flow, you will:

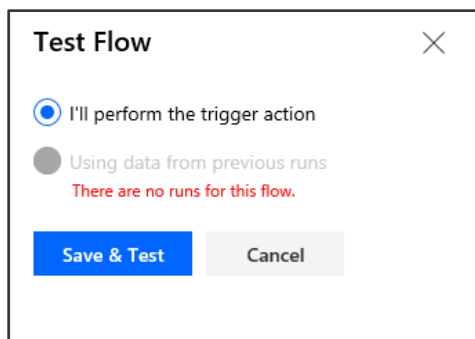
- Run the Device Ordering app and submit an approval request
- Verify the request was sent to the approver
- Approve the request
- Verify that the Common Data Service record was updated, and an email was sent back to the requestor

Task 1: Test the Flow

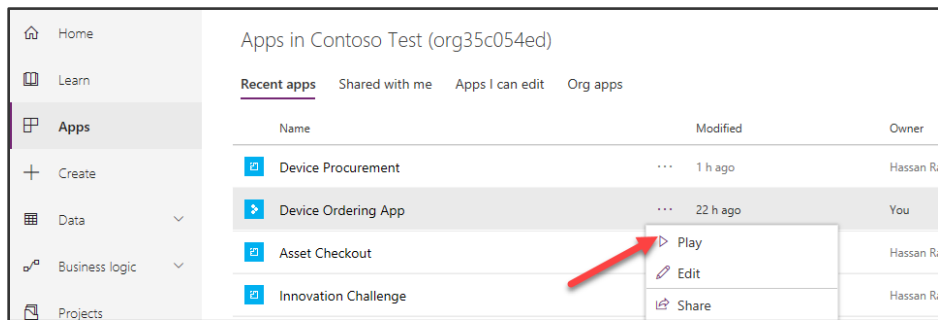
Note: When a new device record is added to the Device Order entity in CDS, it may take up to ten minutes for the flow to trigger. To ensure the flow runs immediately, select the **Test** option in the top right and select the **"I'll perform the trigger action"** option. Then go ahead and submit a device request. The flow should run immediately.



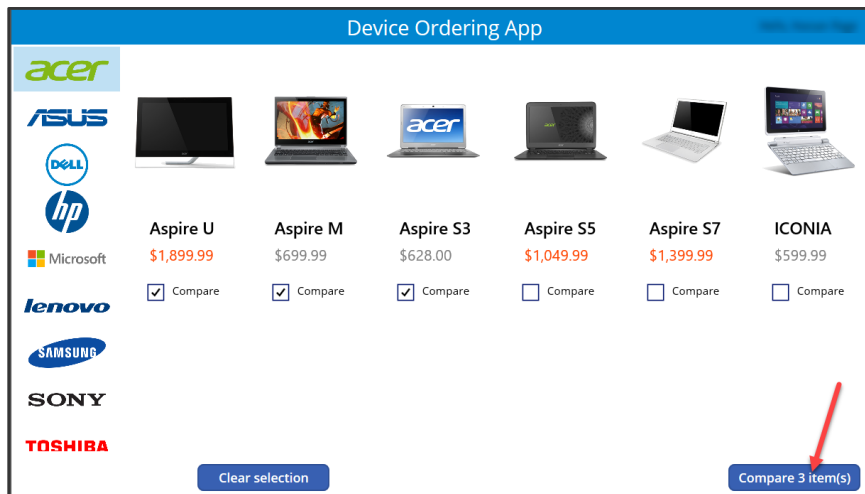
1. Select **I'll Perform the Trigger Action** and click **Save & Test**.



2. To submit a device request, go to <http://make.powerapps.com>
3. Select **Apps** and start the **Device Ordering App**.



4. Select a few devices and click Compare.






5. Select one of the devices, provide email for Approver.

Device Name	Price	Approver
Acer - Aspire U	\$1,899.99	admin@onmicrosoft.com

Device Name	Price	Approver
Acer - Aspire M	\$699.99	admin@onmicrosoft.com
Acer - Aspire S3	\$628.00	admin@onmicrosoft.com


Device Name	Price	Approver
Acer - Aspire U	\$1,899.99	admin@onmicrosoft.com
Acer - Aspire M	\$699.99	admin@onmicrosoft.com
Acer - Aspire S3	\$628.00	admin@onmicrosoft.com

6. Provide a comment and click Submit device request.

			<p>Device Name Acer - Aspire U</p> <p>Price \$1,899.99</p> <p>Approver admin@...onmicrosoft.com</p> <p>Comments I need this device for super work.</p> <p>Requested By admin@...onmicrosoft.com</p> <p>Submit device request</p>
<p>Aspire U</p> <p>\$1,899.99</p> <p>Acer 8GB DDR3 Intel Core i5- 1TB 15.6</p>	<p>Aspire M</p> <p>\$699.99</p> <p>Acer 6GB DDR3 Intel Core i5- 500GB 15.6</p>	<p>Aspire S3</p> <p>\$628.00</p> <p>Acer 4GB DDR3 Intel Core i3- 500GB 13.3</p>	

- Click **OK**.
- 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 **Device 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 device request. The flow should run immediately.


Approvals | Powered by Microsoft Flow

Pending approval

Requested for **Ingite 2018** <admin@...onmicrosoft.com>
 Created by Lab User 50 <labuser50@...onmicrosoft.com>

Date Created: Wednesday, June 5, 2019 5:57 PM GMT

Details:
 A new device has been requested
 Acer - Aspire U \$1899.99
 Department Contribution \$190
 Comments: I need this device for super work.

[Approve](#) [Reject](#)

- Click **Approve**.
- Add a comment and click **Submit**.

Date Created: Wednesday, June 5, 2019 5:57 PM GMT
Details: A new device has been requested
Acer - Aspire U\$1899.99
Department Contribution \$190
Comments: I need this device for super work.

Approve ^ **Reject** v

Enjoy your new device.

Submit

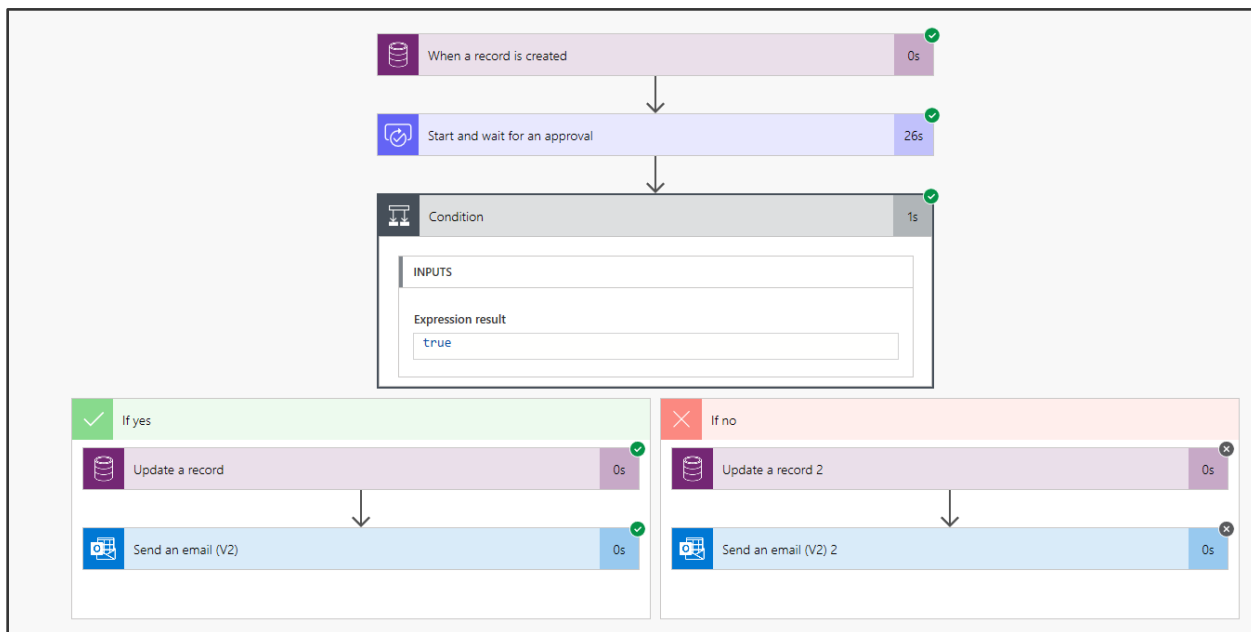
11. The flow will continue to run; it will update the record and send an email to the requestor. The email sent to the requester will look like the image below.

Inbox; Sent Items

This message was sent with low importance.

Your device has been approved **Acer - Aspire U**
Estimated ship date: 2019-06-19
Approver: admin@ onmicrosoft.com Response: Approve Request
Date: Wednesday, June 5, 2019 5:57:04 PM Response Date: Wednesday, June 5, 2019 5:59:28 PM

12. Check the flow, you will notice that the flow is now marked as **Succeeded** in the run history.

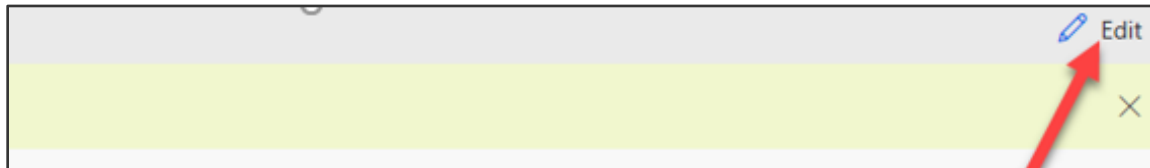


Exercise 4: Update the Flow

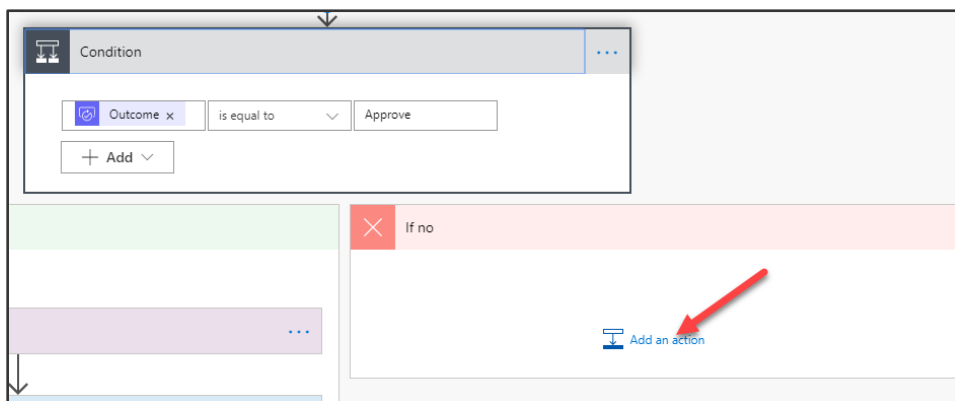
In this exercise, you will add two actions to the “if no” branch.

Task 1: Add actions

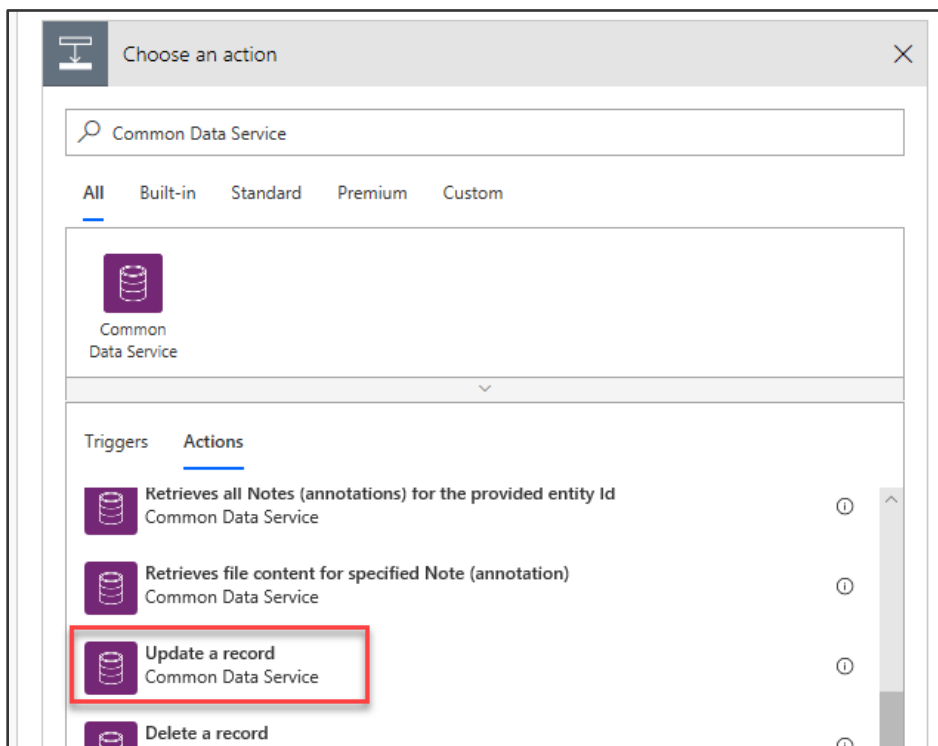
1. If you don't already have the flow open, open it in edit mode.



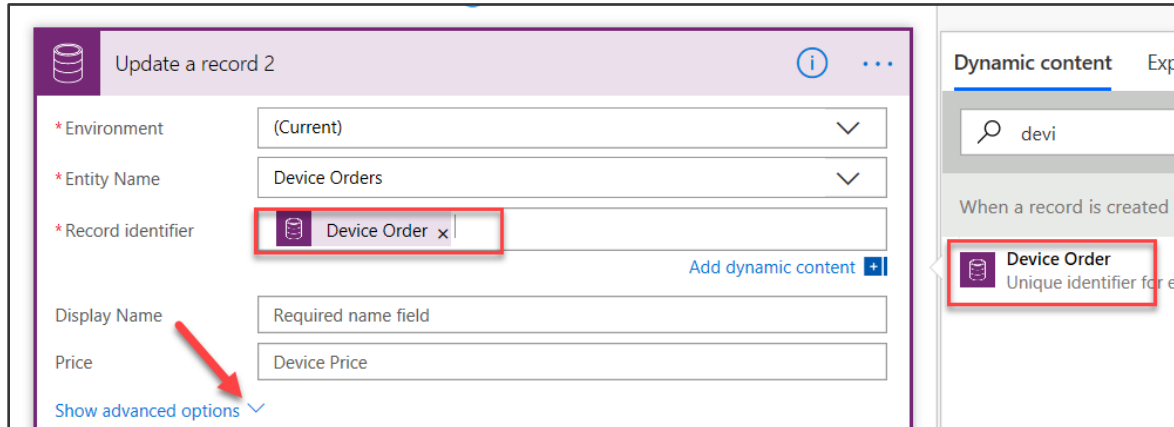
2. In the If no branch, click **Add an action**.



3. Search for **Common Data Service** and select **Common Data Service – Update a record**.



4. Select **Current** for **environment**, **Device Orders** for **Entity Name**, select **Device Order** for **Record Identifier**, and click **Show advanced options**



Update a record 2

* Environment (Current) ✓

* Entity Name Device Orders ✓

* Record identifier Device Order x

Display Name Required name field

Price Device Price

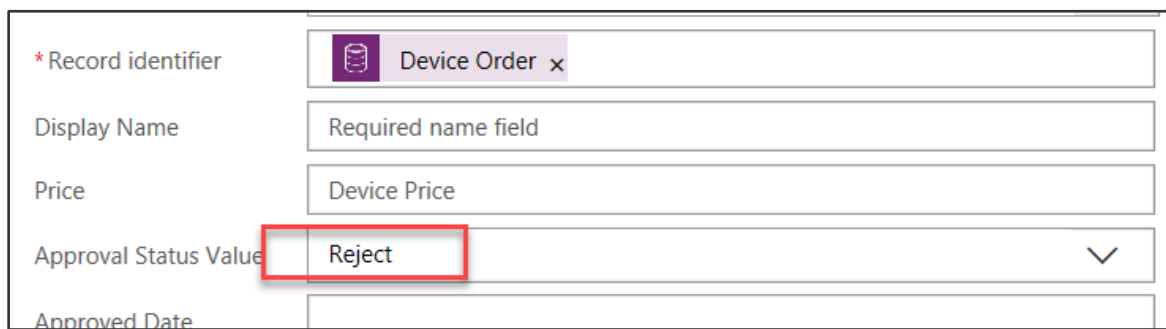
Show advanced options ✓

Dynamic content

When a record is created

Device Order Unique identifier for entity

5. Select **Reject** for **Approval Status Value**.



* Record identifier Device Order x

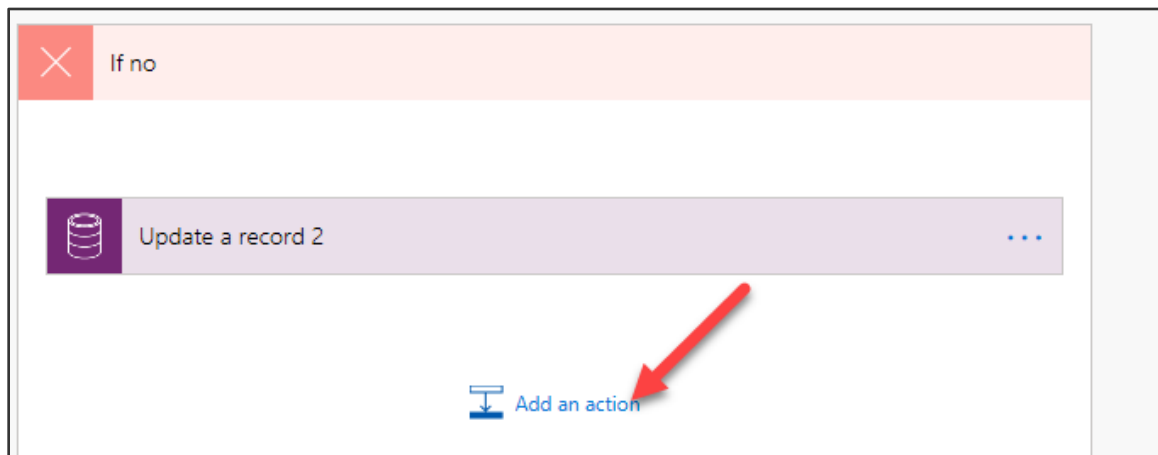
Display Name Required name field

Price Device Price

Approval Status Value Reject ✓

Approved Date

6. Click **Add an action**.

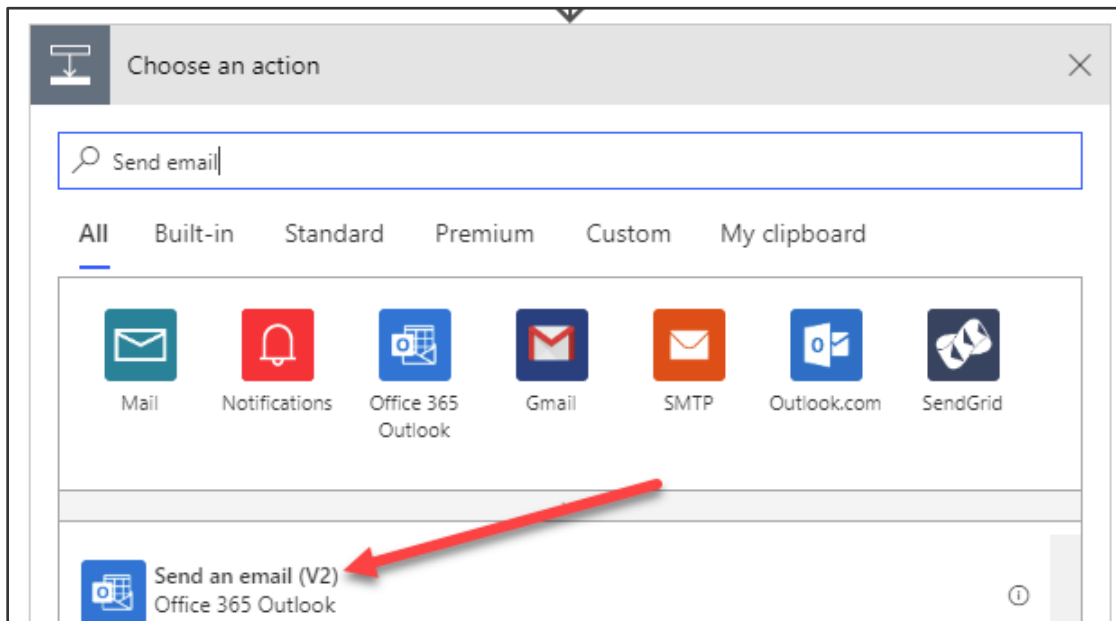


✕ If no

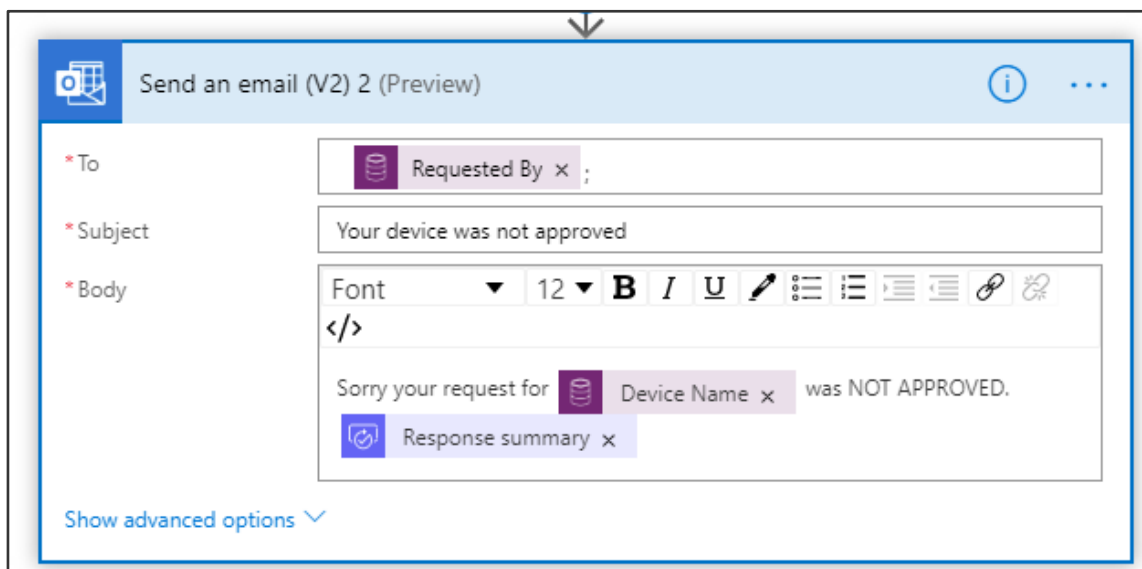
Update a record 2

Add an action

7. Search for **send email** and select **Office 365 Outlook Send an email (v2)**.



8. Provide the information shown on the image below. This will send an email to the requestor informing them that their device request was not approved.



9. **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 Device Ordering app -> Select a device 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 "Not eligible for new device." Click Submit.

Date Created: Wednesday, June 5, 2019 6:06 PM GMT
Details: A new device has been requested
 Acer - Aspire U\$1899.99
 Department Contribution \$190
 Comments: I need this device for super work.

Approve ▾ **Reject** ^

Not eligible for new device.

Submit

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

This message was sent with low importance.

Sorry your request for Acer - Aspire U was NOT APPROVED.
 Approver: [redacted]18, admin@[redacted]onmicrosoft.com Response: Reject Request Date: Wednesday, June 5, 2019 6:06:34 PM Response Date: Wednesday, June 5, 2019 6:08:16 PM

5. Navigate to <https://make.powerapps.com> select **Apps** and start the **Device Procurement** application.

Apps in Contoso Test (org35c054ed)

Recent apps Shared with me Apps I can edit Org apps

Name	Modified
Device Procurement	2 h ago
Device Ordering App	
Asset Checkout	

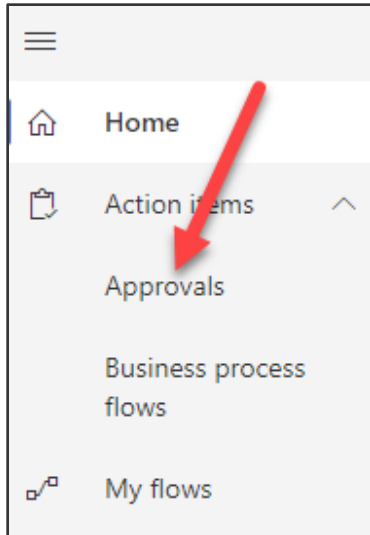
Play Edit

6. Device Orders will now have the Approval Status.

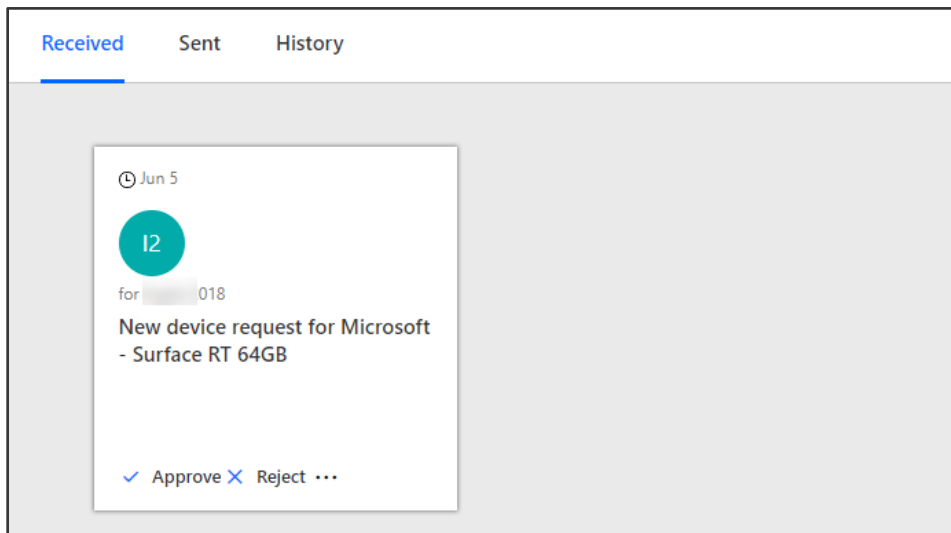
Active Device Orders ▾			
✓	Device Name	Created On	Approval Status
	Acer - Aspire U	10/26/2018 11:34 AM	Approve
	Acer - Aspire U	10/25/2018 3:11 PM	---
	Asus - K55VD	10/25/2018 3:13 PM	---
	Dell - Inspiron 17	10/26/2018 12:02 PM	Reject

Task 3: Visit the approval center

1. Use the Device Ordering app to **submit a few more approval requests**.
2. Navigate to <https://flow.microsoft.com> 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**.

Respond: Approve ✕

Overview

Approval
New device request for Acer - Aspire U

Requester
 MOD Administrator

Received
Nov 27, 03:00 PM (43 sec ago)

Details

A new device has been requested
Acer - Aspire U, \$1899.99
Department Contribution \$190
Comments

Approve ▼

Add a comment (optional)

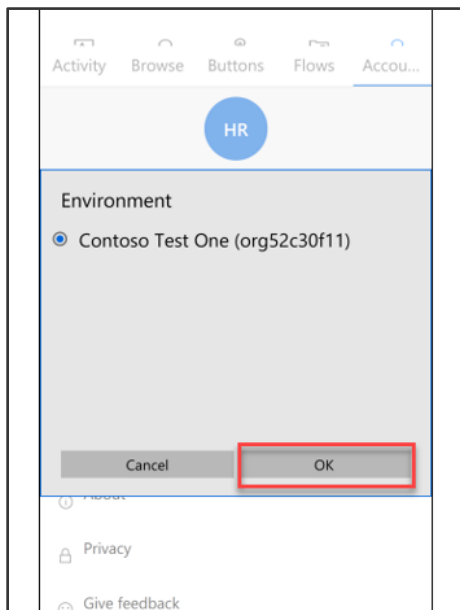
Nice device

Confirm **Cancel**

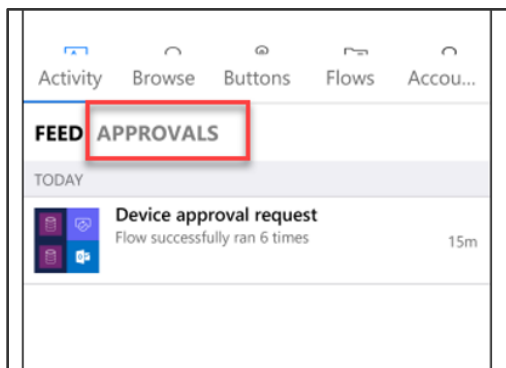
- The request will no longer be visible as it has been processed.

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.

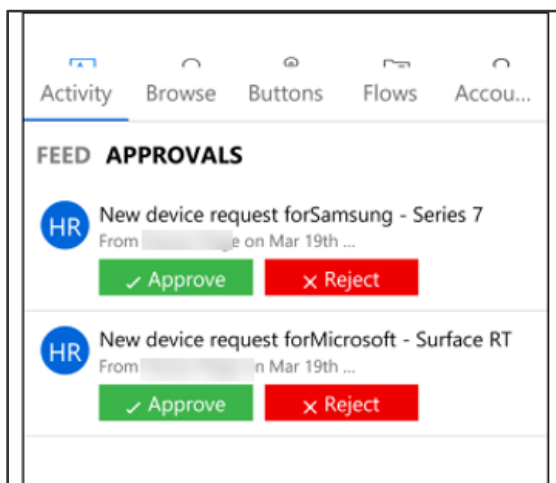
- You can also use the Approvals Center to view all requests that you have sent and are **Awaiting response** from the approver. Select the **Sent requests** tab at the top to view all requests that you have sent.
- Open the **Power Automate mobile app** on your mobile device.
- Login and switch to the 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 Common Data Service entity. Now you are ready to build your own apps and workflows.

Lab survey

We would appreciate your feedback on the Business Application Platform technologies and on this hands-on-lab, such as the quality of documentation and the usefulness of the learning experience.

Please use the survey at <http://aka.ms/appinadayLabSurvey> to share your feedback.

You may provide feedback for each module as you complete it or at the end once you've completed all the modules. Thank you!

References

App in a Day introduces some of the key functionalities available in Power Apps, Power Automate, Power BI and the Common Data Service. For an up to date list of learning references, see <http://aka.ms/powerapps-resources> and <http://aka.ms/flow-resources> and <http://powerbi.com>.

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