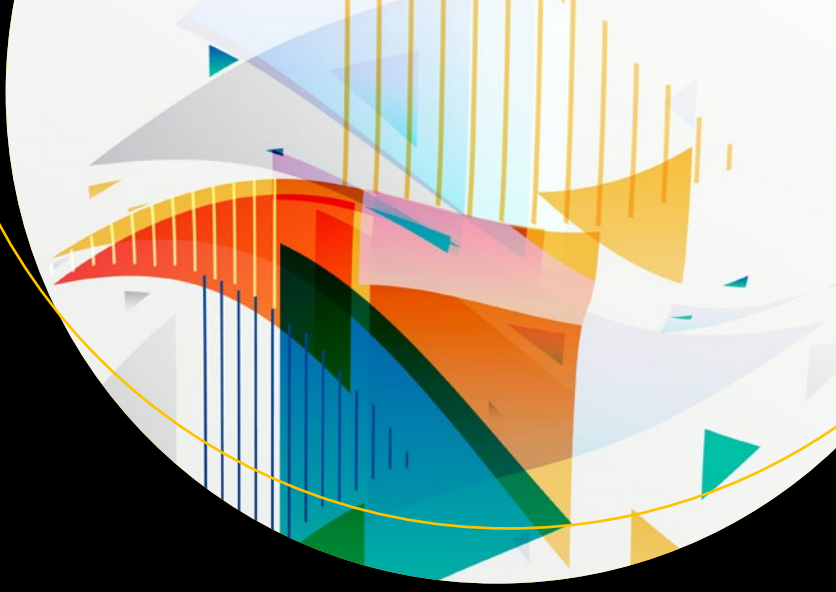

Introducing Microsoft Flow

Automating Workflows Between Apps and Services

Vijai Anand Ramalingam

Apress®

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New Jersey, USA

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About the Author

Vijai Anand Ramalingam is a Microsoft MVP for Office Servers and Services. He is an experienced senior consultant with a deep knowledge of SharePoint. He is a blogger, author, and speaker. He has published 1,000 blogs/articles on C# Corner. He works as a Technology Specialist in Cognizant Technology Solutions in New Jersey. Vijai has worked on Microsoft SharePoint 2016/2013/2010 and Office 365.

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Sathish Nadarajan is the co-founder of SharePointPals, a community blog site where you can find numerous tips and tricks about SharePoint. His expertise in SharePoint includes SharePoint strategy and roadmap definitions, business and technical requirements identification, governance, platform architecture, solution design, configuration, development, quality assurance, training, postproduction support, team lead, and overall project delivery.

Sathish is a Microsoft MVP for Office Servers and Services. Sathish holds a Masters in Technology (M.Tech) and Business Administration. You can contact Sathish by writing to `nadarajan.sathish@gmail.com`.

CHAPTER 1

Introduction to Microsoft Flow

In this chapter, you will learn the following:

- What Microsoft Flow is
- What is required to work with Flow
- How to create a flow using a template
- How to create a flow from scratch

What Is Microsoft Flow?

Microsoft Flow is a cloud-based service that allows users to create automated workflows across multiple applications and services. "*Work less, do more.*" Microsoft Flow provides features that help line-of-business users to improve productivity through automation. Previously, there was no way for these apps to communicate with each other; Flow provides a way to connect with multiple services and automate tasks. Flow allows power users to create flows based on certain triggers and actions on their own, all with zero coding skills. For example, you can save your email attachments to a SharePoint document library. Flow can be accessed via web browsers (it supports Microsoft Edge and the current versions of Chrome and Safari) and mobile apps.

V. A. Ramalingam, *Introducing Microsoft Flow*, https://doi.org/10.1007/978-1-4842-3630-7_1

The Flow home page shows the key features that are available such as templates, popular services, an overview of Flow, and more; see Figure 1-1.

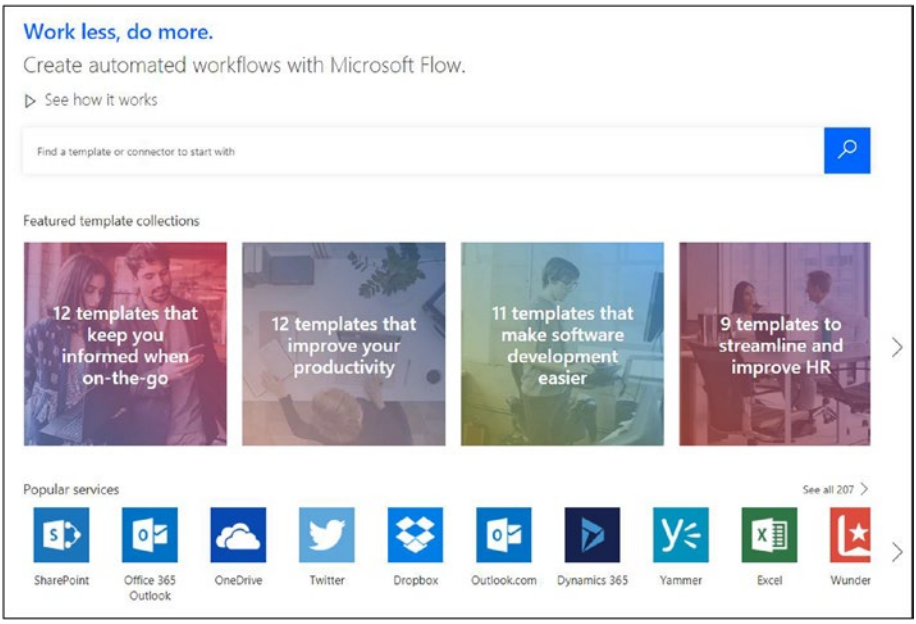

Figure 1-1. *Featured templates and popular services*

Figure 1-2 shows a sample flow overview.

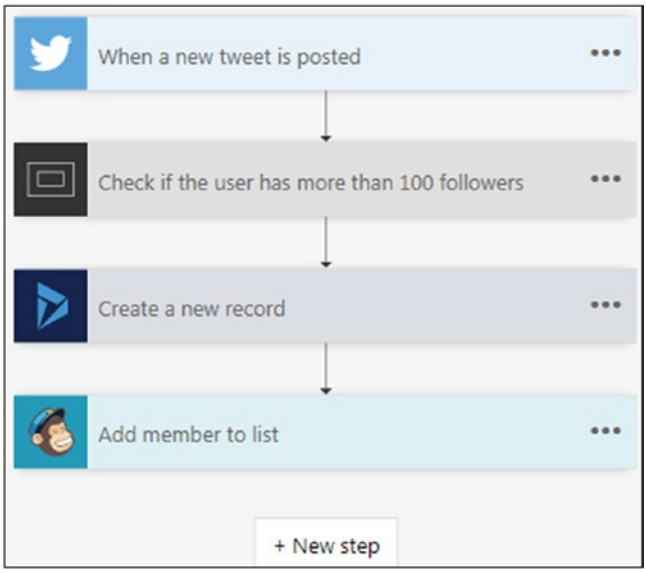

Figure 1-2. *Overview of a flow*

The menus available in the top navigation bar are shown in Figure 1-3.

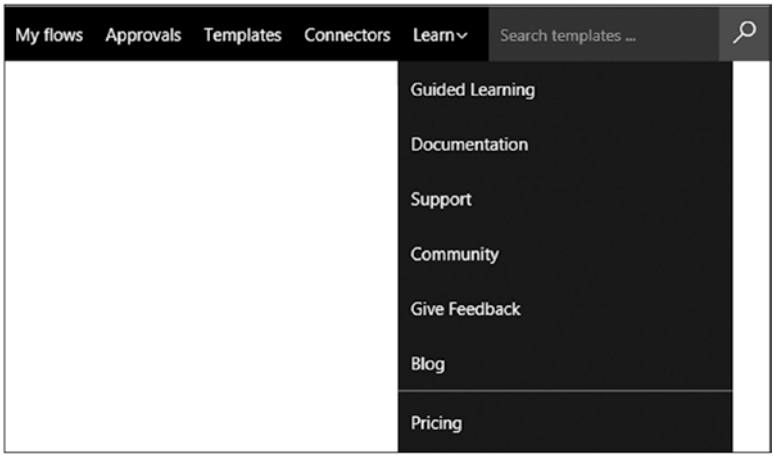

Figure 1-3. *Top navigation on the Flow home page*

My flows: View all of your flows.

Approvals: Create and automate a business approval process. Refer to Figure 1-4 for a sample approval flow.

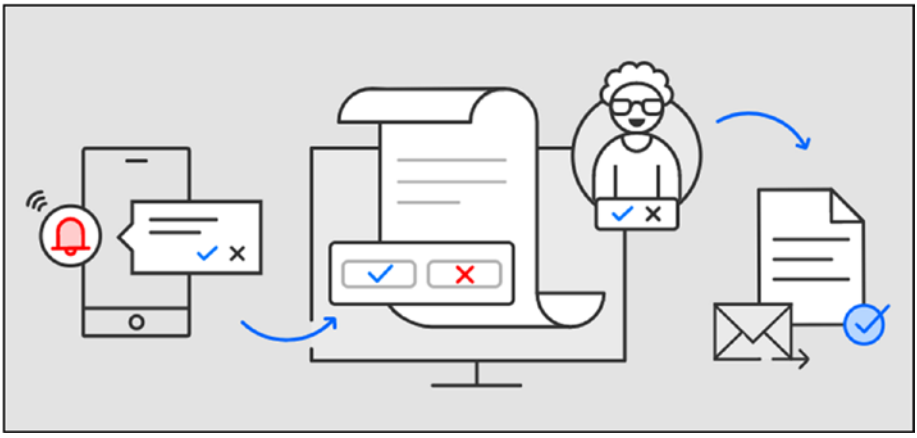

Figure 1-4. *Sample approval flow*

Templates: Find many built-in templates to start your flow.

Connectors: Find all available services

Learn: Find documentation, blogs, and more information for learning purposes.

Flow vs. Logic Apps

Microsoft Flow is built on top of Logic Apps and they both have the same workflow designer. The information in Table 1-1 will help you determine when to choose Flow or Logic Apps.

Table 1-1. *Flow vs. Logic Apps*

	Microsoft Flow	**Logic Apps**
Users	Can be used by business users, administrators, and power users to automate the business process. Requires zero coding skills.	Can be used by developers and IT pros to mesh with advanced features such as integration with the Azure portal, Azure resource manager, and additional connectors.
Accessibility	Only through a web browser and the mobile app as the UI.	Can be accessed via web browser, Visual Studio, and code view.
Application Life Cycle Management	Can be developed and tested directly in a production environment.	Follows DevOps security practice with the appropriate source control, testing, support, automation, and manageability.

Flow vs. SharePoint Designer Workflows

SharePoint Designer allows you to create automated workflows specific to SharePoint, whereas Flow can be used for SharePoint, OneDrive, Twitter, Office 365 Outlook, and many other services.

SharePoint Designer has only 3 triggers and 7 list actions whereas Flow has 7 triggers and 35 actions for SharePoint.

Note These counts are accurate at the time of writing. The counts will increase during the course of Microsoft's updates.

Figure 1-5 shows the available workflow triggers in SharePoint Designer.

Figure 1-5. *SharePoint Designer workflow triggers*

Figure 1-6 shows the available workflow actions in SharePoint Designer.

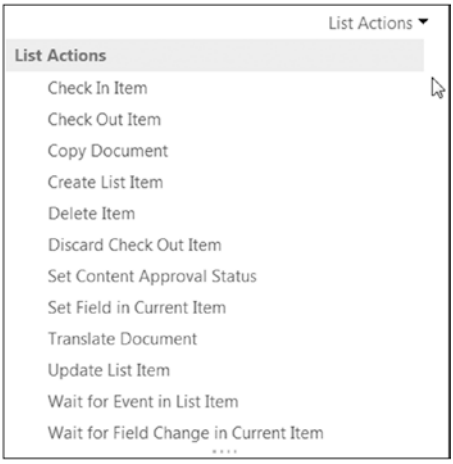

Figure 1-6. *SharePoint Designer workflow actions*

Figure 1-7 shows the available Flow triggers and actions for SharePoint.

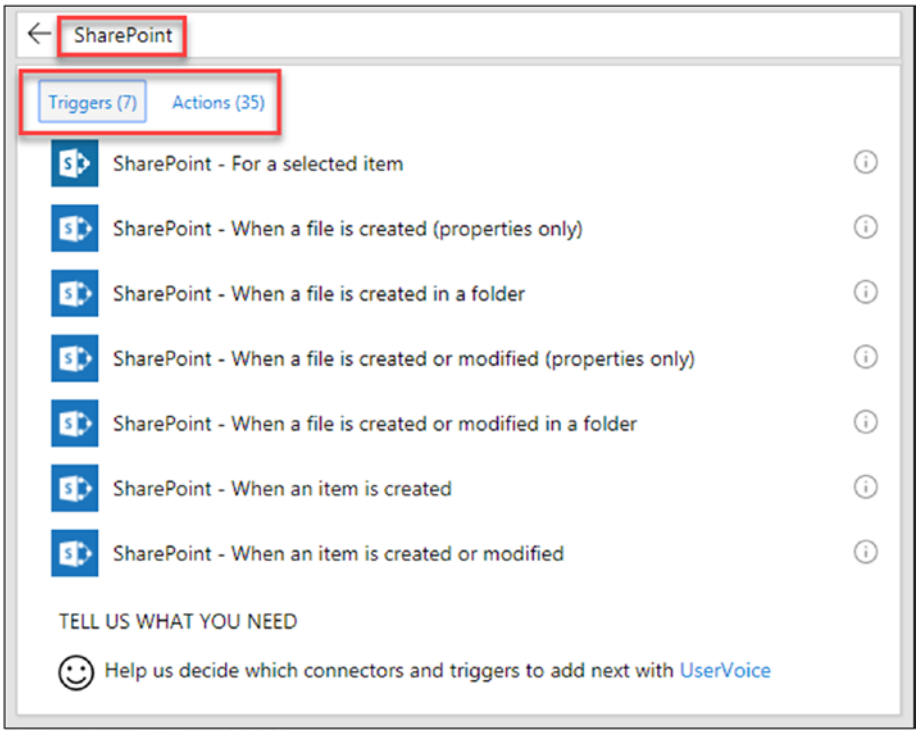

Figure 1-7. *Flow triggers and actions for SharePoint*

Connectors

Connectors provide a way for users to connect to the underlying service using their accounts to create automated workflows. As mentioned, examples of popular services include SharePoint, Office 365 Outlook, OneDrive, Twitter, and more. There are more than 150 connectors; you can see all of the available connectors by navigating to the Flow site, as shown in Figure 1-8.

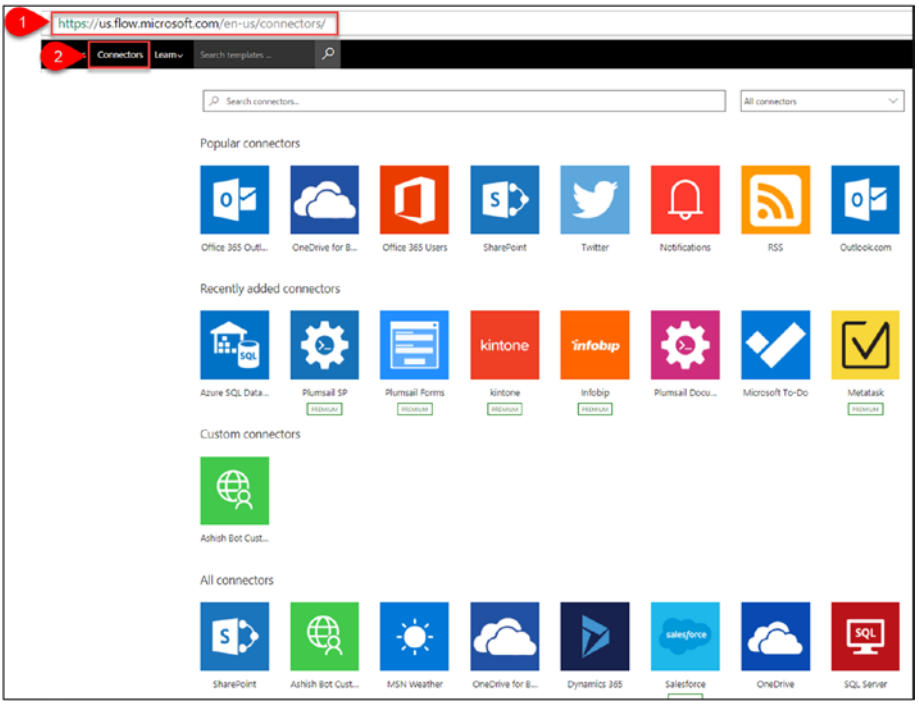

Figure 1-8. *The Connectors page*

Connectors consist of two elements: *triggers* and *actions*. Triggers are used to initiate a flow when a specific event occurs. For example, the available triggers for OneDrive are displayed in Figure 1-9.

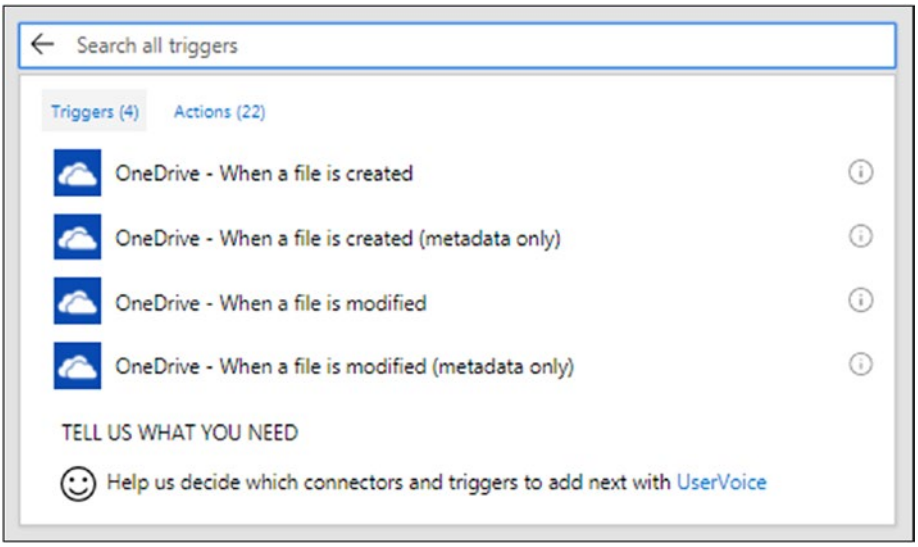

Figure 1-9. *OneDrive connector triggers*

An action is something that should take place once the event is fired. For example, the available actions for OneDrive are displayed in Figure 1-10.

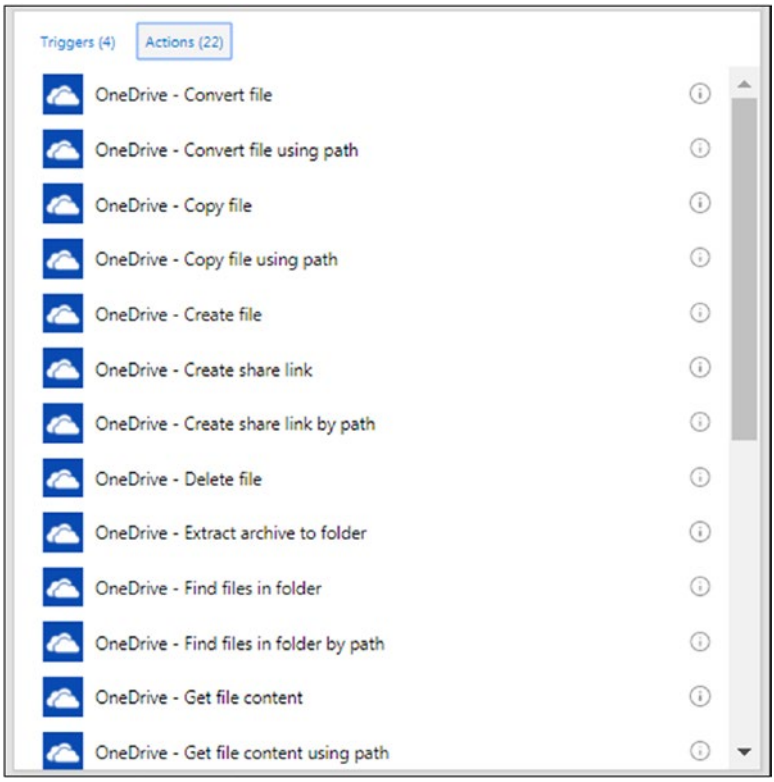

Figure 1-10. *OneDrive connector actions*

Templates

Microsoft Flow provides many built-in templates to create commonly used solutions more quickly and efficiently. All of the available templates can be seen by navigating to the Flow site. They are categorized as shown in Figure 1-11.

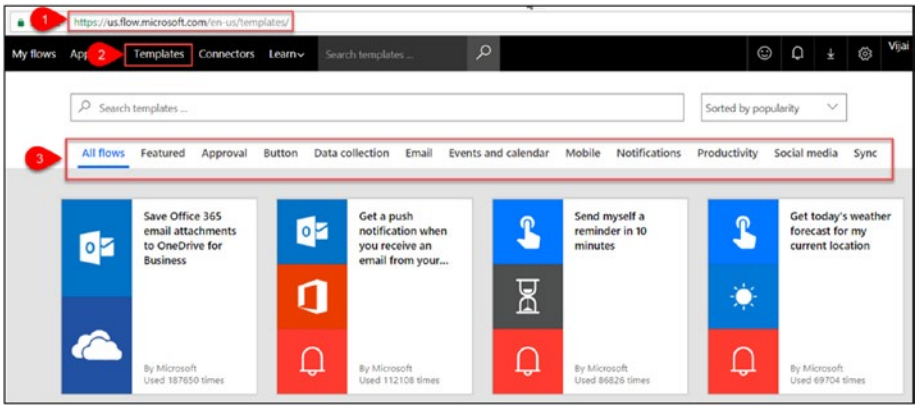

Figure 1-11. *The Templates page*

Environments

You can group flows and their related resources into separate environments for different scenarios. For example, if you want to create flows for your legal department and you want to make sure only the legal department has access to these flows, you can create a new environment. You must be a Microsoft Flow administrator in order to create environments and provide access to environments.

Mobile App

Flow can be accessed via the mobile app. You can download the app for iOS, Android, and Windows. Then you can create and manage the flows from your phone.

Pricing

Navigate to the Flow site (`https://flow.microsoft.com`) to see pricing information. In the top navigation, click **Learn** and then click **Pricing,** as shown in Figure 1-12.

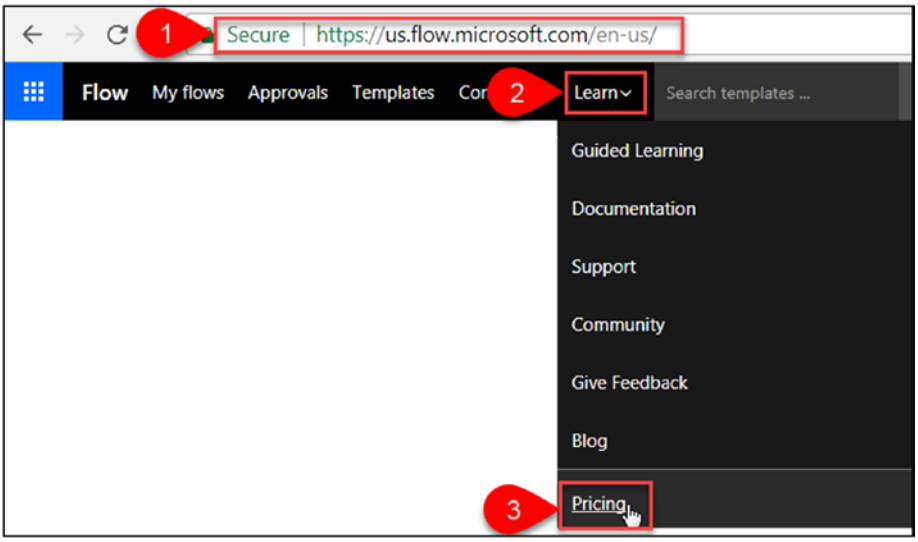

Figure 1-12. *Getting to the Pricing page*

On the Pricing page, the details related to pricing plans and your current plan are displayed, as shown in Figure 1-13. On the Pricing page, you can also switch plans based on your requirements.

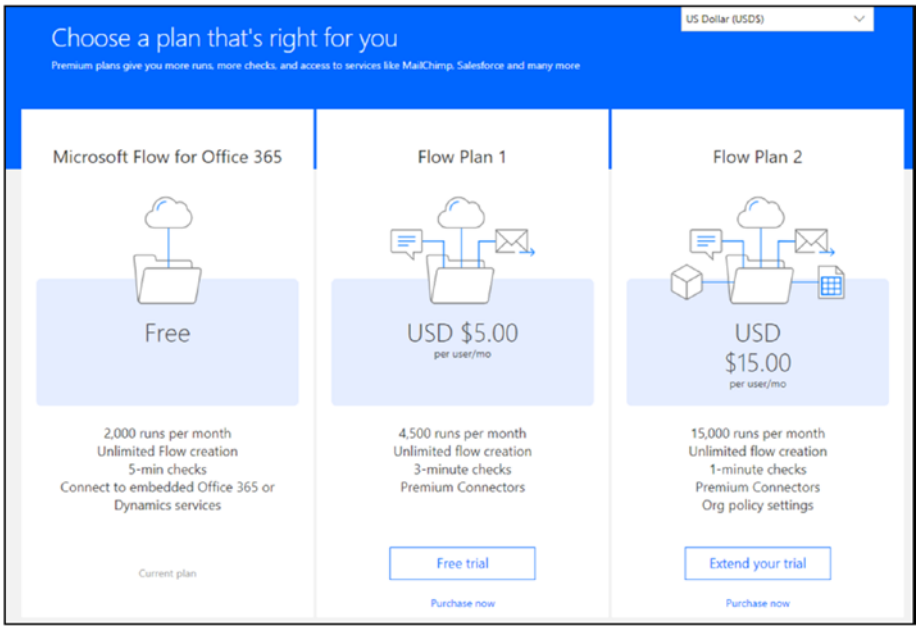

Figure 1-13. *Plan information*

Note The default trigger is checked every few minutes and the time interval is based on your plan selection.

Timing of trigger checks:

Microsoft Flow for Office 365 plan: Every 5 minutes

Flow plan 1: Every 3 minutes

Flow plan 2: Every minute

The Microsoft Flow for Office 365 (free) plan is used in this book so the trigger will be checked every 5 minutes.

Prerequisites

As a prerequisite, you need a Microsoft Flow account in order to create automated workflows using Flow. Perform the following steps to get a free Flow account:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. If you have used other online Microsoft products, click **Sign in**, as shown in Figure 1-14.

Figure 1-14. *Sign in button location on the home page*

3. Enter an email address and click **Next** on the Sign in page, as shown in Figure 1-15.

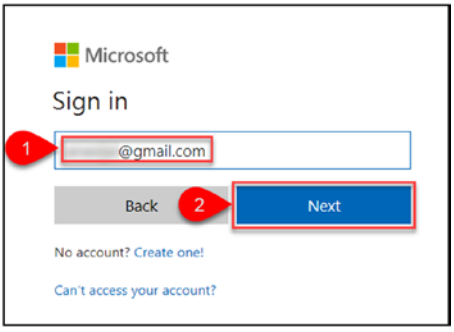

Figure 1-15. *Click the Next button*

4. Enter a password and then click **Sign in,** as shown in Figure 1-16.

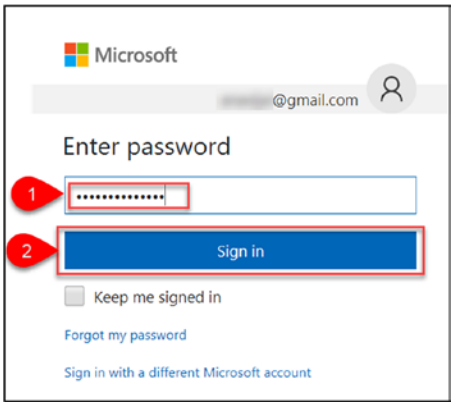

Figure 1-16. *Click the Sign in button*

5. If you haven't used other online Microsoft products, click the **Sign up free** button shown in Figure 1-17.

Figure 1-17. *The Sign up free button*

6. Enter an email address and click the right arrow, as shown in Figure 1-18.

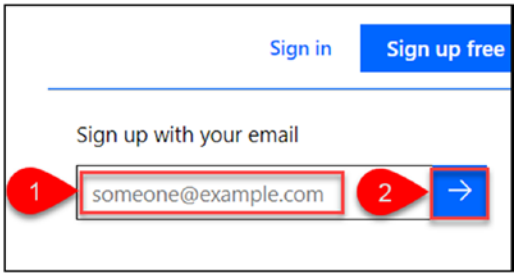

Figure 1-18. *Sign up*

7. On the Enter password page, enter a password and then click **Sign in,** as shown in Figure 1-19.

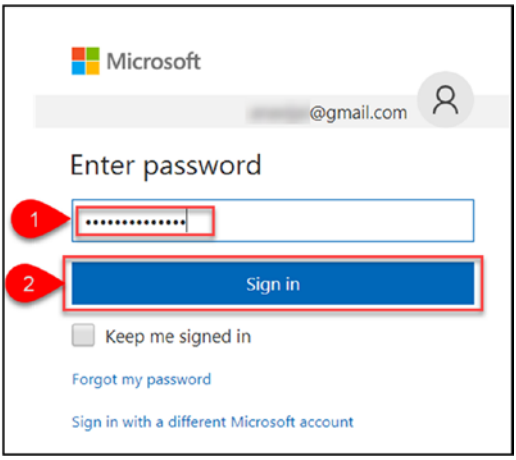

Figure 1-19. *Sign up, part 2*

Quick Start

In this section, you will learn how to create and test flows two ways: using a built-in template and from scratch.

Creating Your First Flow from a Template

In this section, you will create your first flow by using a built-in template. This example will cover how to share your tweets on Facebook.

Here are the steps involved:

1. Navigate to the Flow site at `https://flow.microsoft.com`.

2. In the top navigation, click **My flows**. Click the **Create from template** link shown in Figure 1-20.

Figure 1-20. *Create from template*

3. Type the **facebook** keyword in the search text box and then click **Enter**. Click the **Share my Tweets on Facebook** template shown in Figure 1-21.

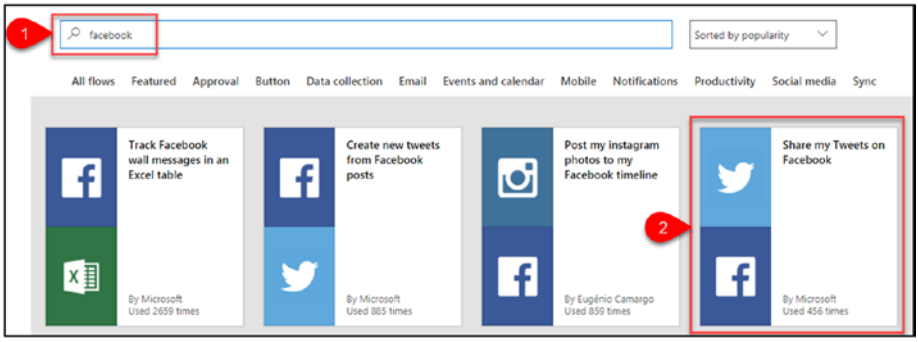

Figure 1-21. *Select a template*

4. As mentioned, connectors provide a way for users to connect to the underlying service using their accounts in order to create automated workflows. Sign into Twitter and Facebook by clicking **Sign in**, as shown in Figure 1-22.

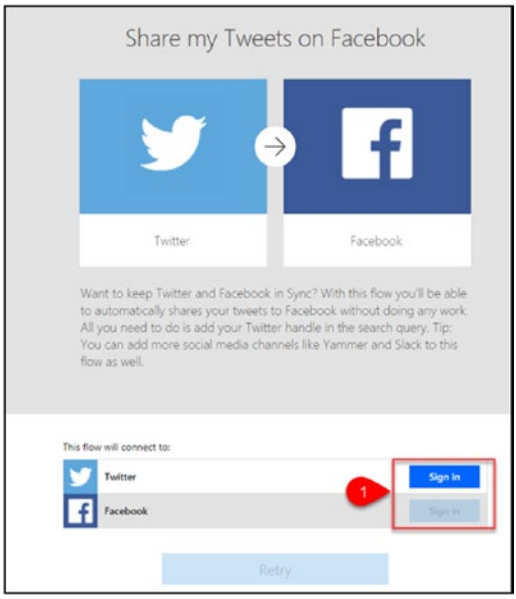

Figure 1-22. *Sign in*

5. Once the flow is connected to your Twitter and Facebook accounts, click **Continue,** as shown in Figure 1-23.

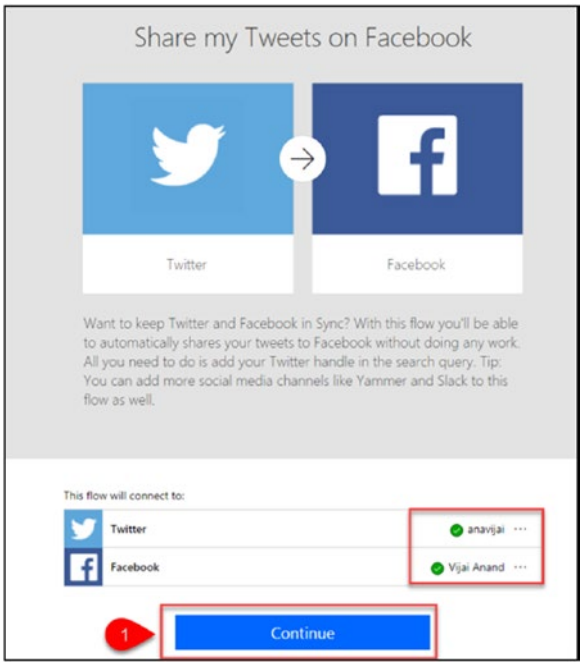

Figure 1-23. *Continue to create the flow*

6. A trigger and an action will be added by default as part of the template, as shown in Figure 1-24.

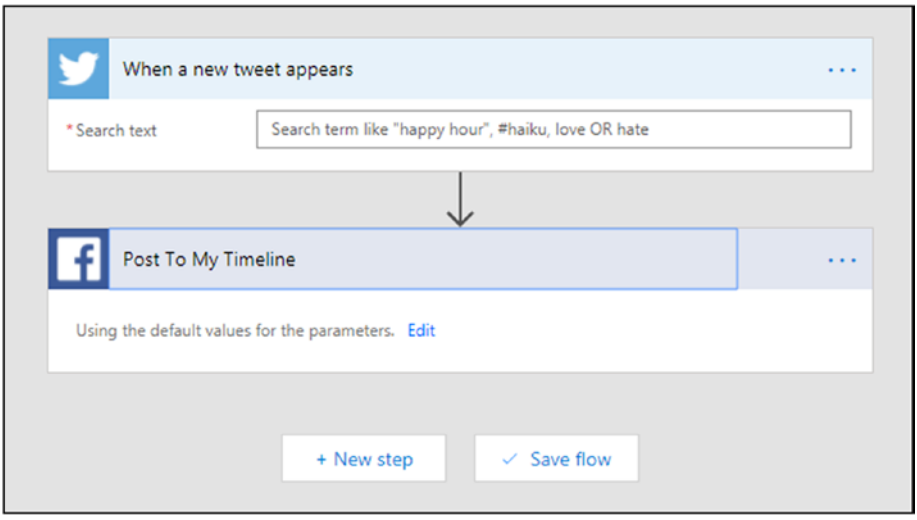

Figure 1-24. *Default trigger and action*

7. Go to the trigger named **When a new tweet appears** and enter the search text shown in Figure 1-25.

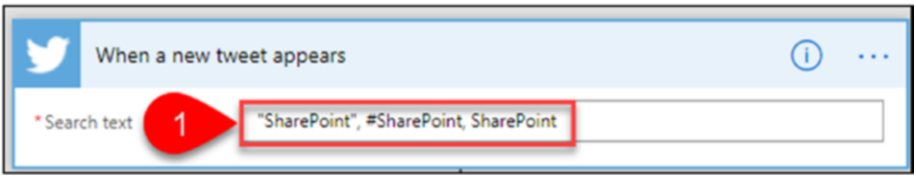

Figure 1-25. *Configure the trigger*

8. Go to the **Post To My Timeline** action and click **Edit** to view the default values for the parameters, as shown in Figure 1-26.

Figure 1-26. *Edit the action*

9. By default, the **Status message** is set to **Tweet text.** Click **Show advanced settings** to see the default values for the other parameters, as shown in Figure 1-27, and update the default values based on the requirements.

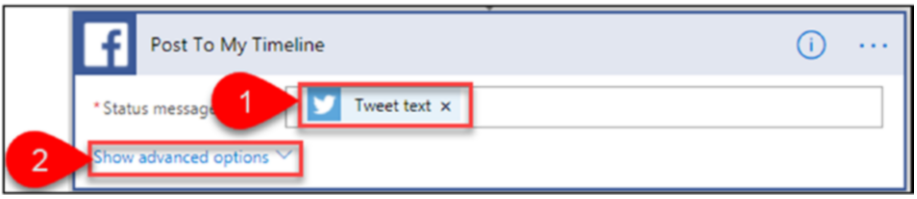

Figure 1-27. *Configure the action*

10. After you're done with the changes, enter a name for the flow or leave the default name, as shown in Figure 1-28. Click **Create Flow**.

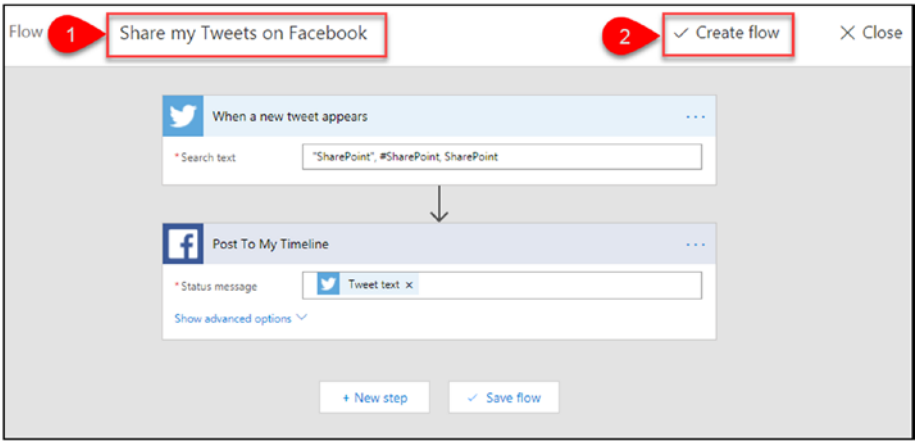

Figure 1-28. *Save and create the flow*

11. The flow has been created successfully. Click **Done,** as shown in Figure 1-29.

Figure 1-29. *The flow has been created!*

12. Figure 1-30 shows the details of the newly created flow.

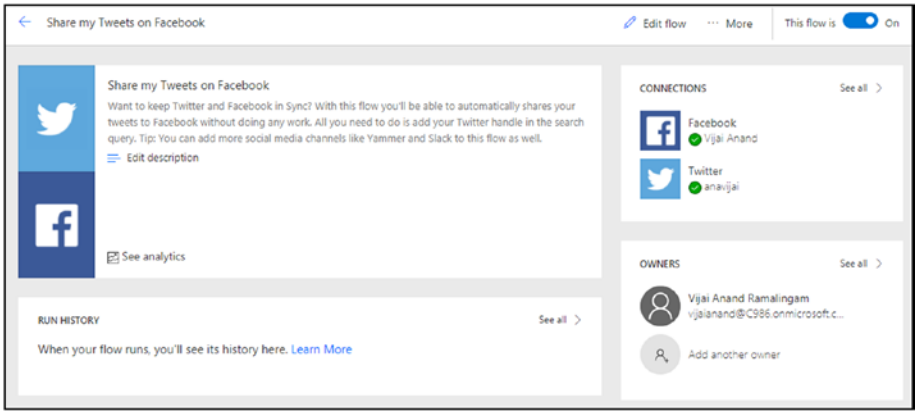

Figure 1-30. *Flow details*

To test your flow, perform the following steps:

1. Navigate to your Twitter account. Post a new Tweet and add the hashtag **#SharePoint**, as shown in Figure 1-31.

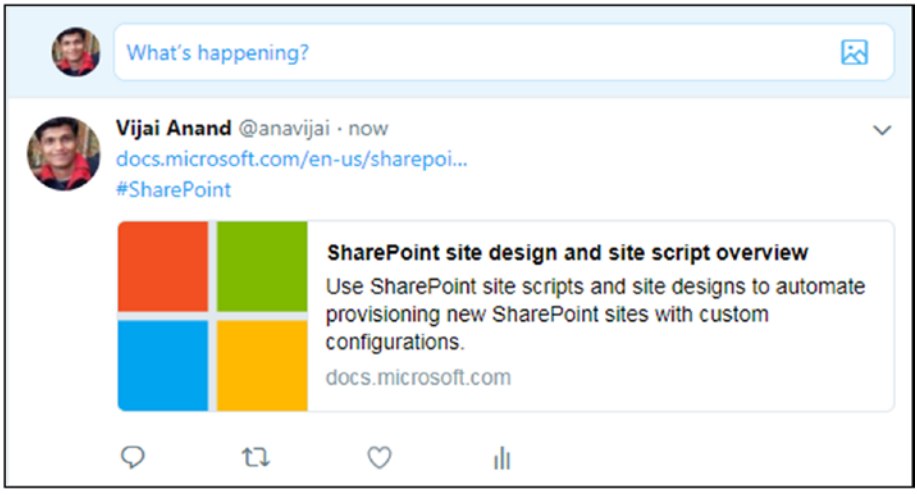

Figure 1-31. *Post a tweet*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to your Facebook account. You should see a new post, as shown in Figure 1-32.

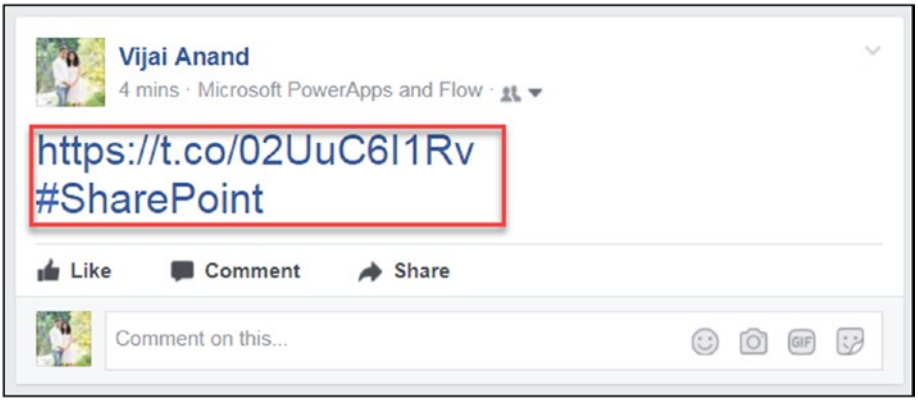

Figure 1-32. *Your new tweet*

Thus, in this section, you learned how to create your first flow by using a built-in template.

Creating A Flow from Scratch

In this section, you will learn how to create a flow from scratch. The example will be how to send email to a Gmail account when there is a new Facebook post on your timeline that contains the **SharePoint** keyword.

Here are the steps involved:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows**. Then click the **Create from blank** link, as shown in Figure 1-33.

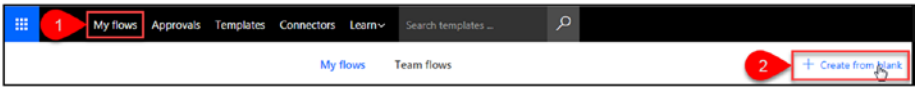

Figure 1-33. *Create from blank*

3. Click **Search hundreds of connectors and triggers**, as shown in Figure 1-34.

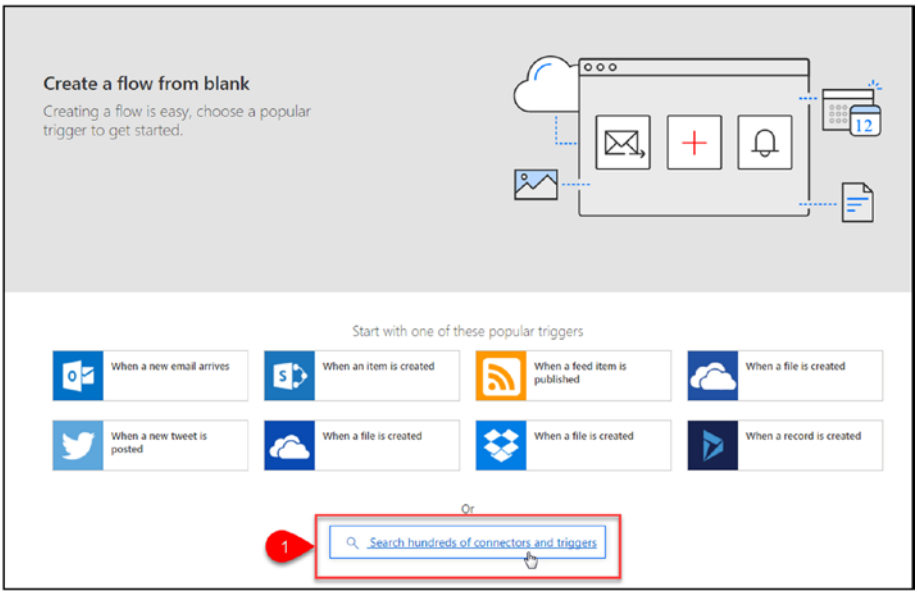

Figure 1-34. *Search for connectors*

4. Type the **facebook** keyword in the search text box and then click the **Facebook – When there is a new post on my timeline** trigger, as shown in Figure 1-35.

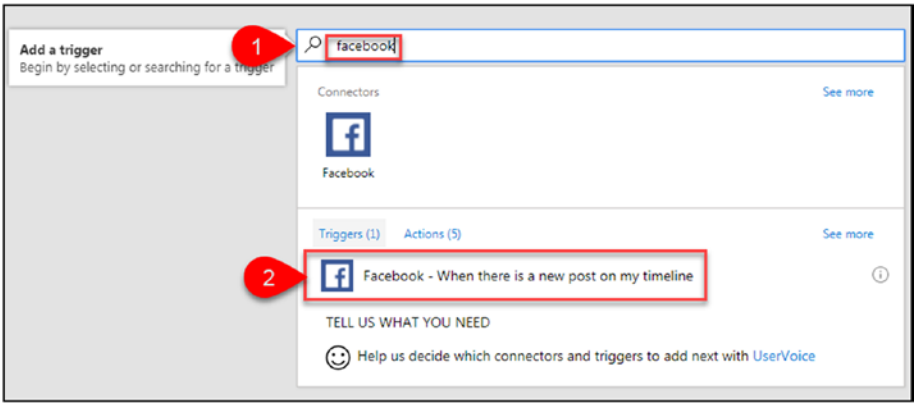

Figure 1-35. *Add a trigger*

5. Click **New Step** and then click **Add a condition**, as shown in Figure 1-36.

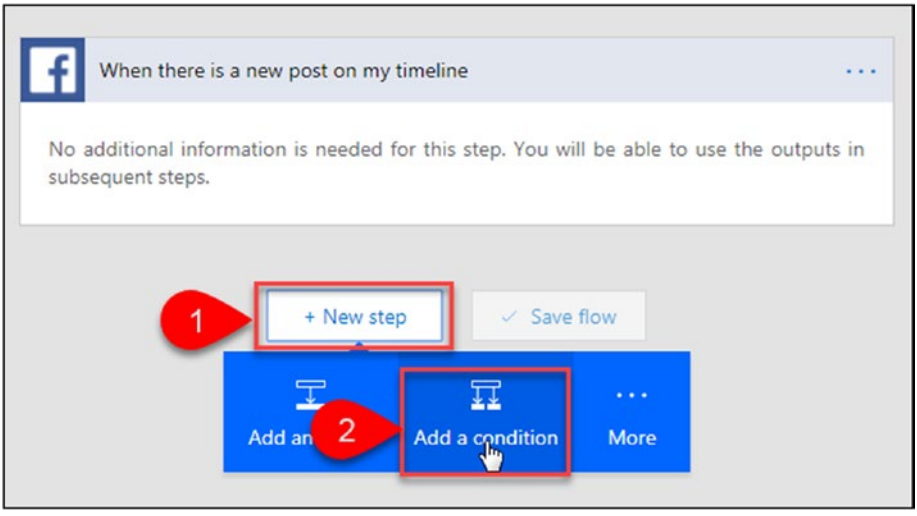

Figure 1-36. *Add a condition*

6. The condition should be **Timeline Feed Feed Item Status Message** contains **SharePoint.** Select the dynamic content **Timeline Feed Feed Item Status Message** for the first box by clicking **Add dynamic content**, selecting **Contains** from the drop-down (second box), and typing **SharePoint** in the third box, as shown in Figure 1-37.

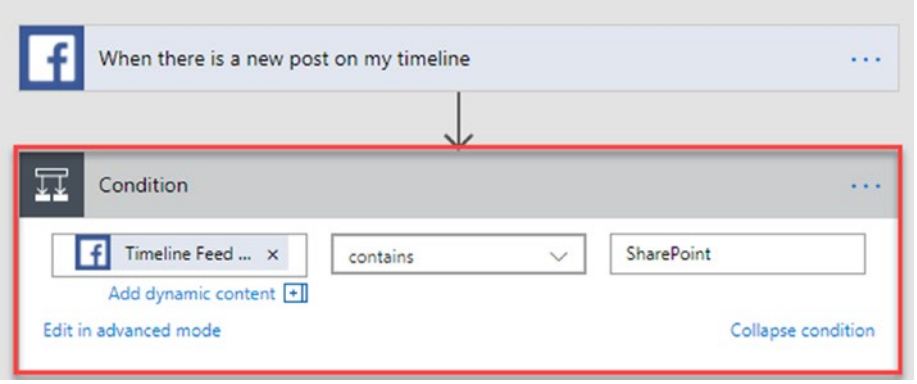

Figure 1-37. *Configure the condition*

7. Go to the **If yes** action and click **Choose an action**. Type **Gmail** in the search text box and then click the **Gmail – Send email** action, as shown in Figure 1-38.

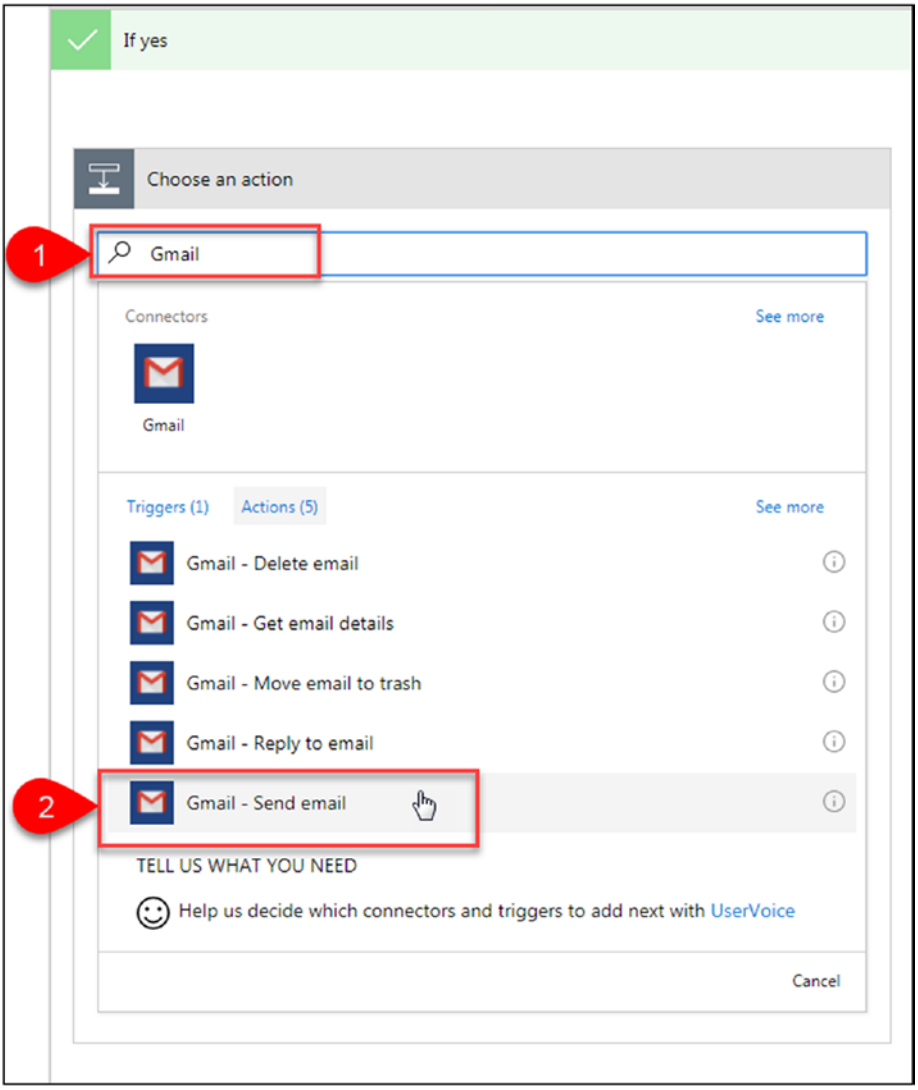

Figure 1-38. *Choose an action*

8. Fill in the **To** address, **Subject**, and **Body** fields, as shown in Figure 1-39.

Note The status message will be displayed in the body (Timeline Feed Feed Item Status Message).

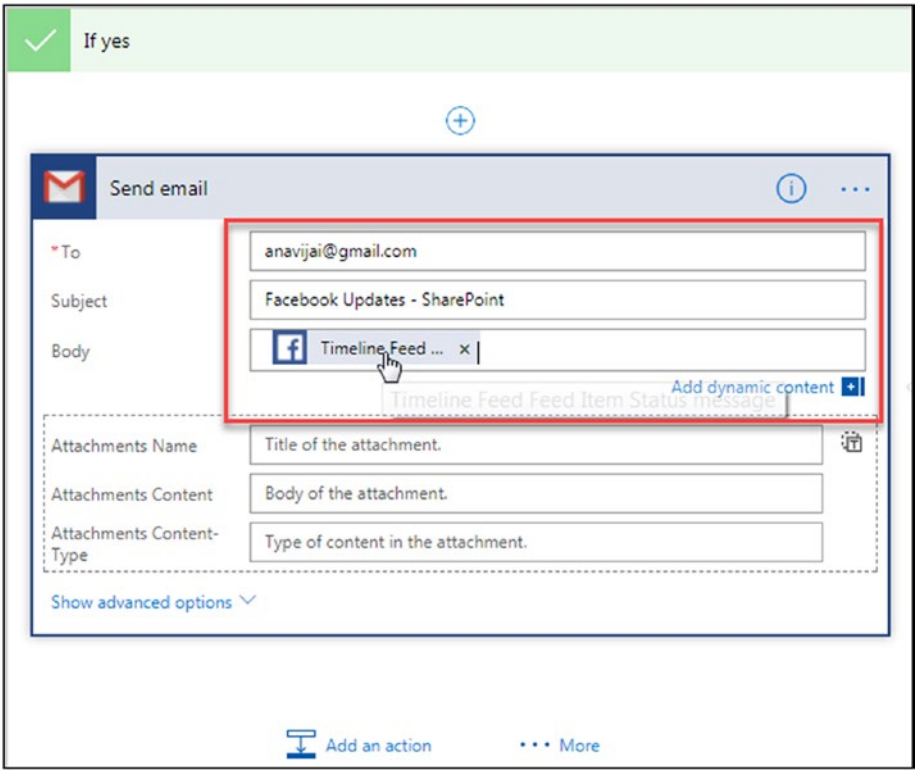

Figure 1-39. *Add values to the parameters*

9. Enter the name for the flow and click **Create flow,** as shown in Figure 1-40.

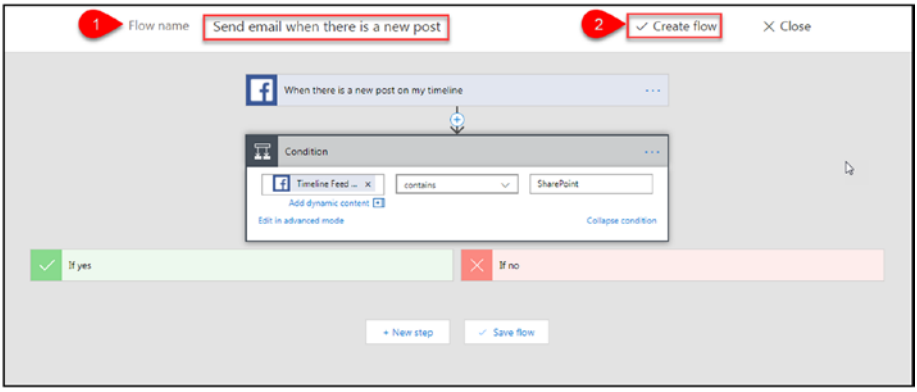

Figure 1-40. *Save and create the flow*

10. The flow has been created successfully. Click **Done**, as shown in Figure 1-41.

Figure 1-41. *Flow created*

11. The details of the newly created flow are shown in Figure 1-42.

Figure 1-42. *Flow details*

To test your flow, perform the following steps:

1. Navigate to your Facebook account. Post a new status that contains the **SharePoint** keyword, as shown in Figure 1-43.

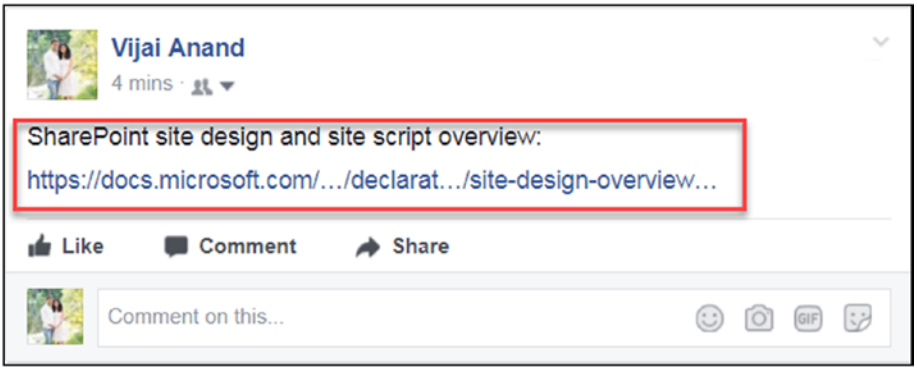

Figure 1-43. *Post a status*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to your Gmail account and you should see a new email, as shown in Figure 1-44.

Figure 1-44. *Email received*

Thus, in this section, you learned how to create a flow from scratch.

Try It Yourself

Post to Yammer if a new tweet contains a certain hashtag.

Hint Use a built-in template.

CHAPTER 2

Tutorials

In this chapter, you will learn how to

- Create flows using different connectors, triggers, and actions
- Create flows using conditions, switch cases, parallel actions, expressions, and more
- Create flows from SharePoint, OneDrive, and Microsoft Teams

You'll explore the different scenarios via examples.

Save Tweets That Include a Specific Hashtag to a SharePoint List

In this section, you will learn how to create a flow to save tweets that include a specific hashtag to a SharePoint list. A SharePoint Online list named **Tweets** will be used to save the tweets. It consists of two fields: Title (single line of text) and Tweet (multiline of text), as shown in Figure 2-1.

V. A. Ramalingam, *Introducing Microsoft Flow*, https://doi.org/10.1007/978-1-4842-3630-7_2

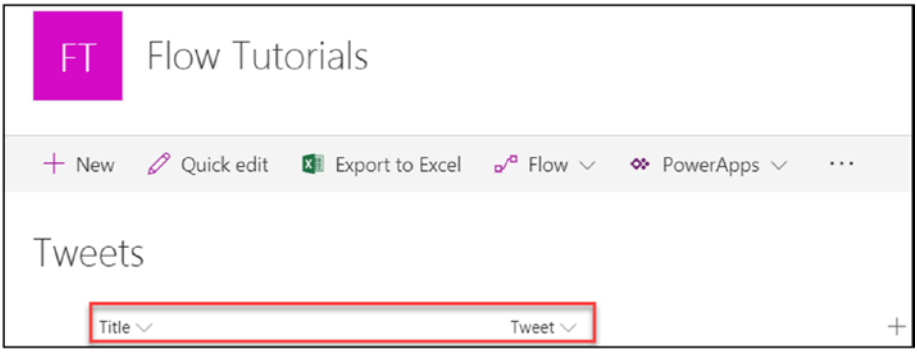

Figure 2-1 *SharePoint custom list named Tweets*

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows**. Click the **Create from template** link shown in Figure 2-2.

Figure 2-2. *The Create from a template link*

3. Click the **Data collection** category and type the **Twitter** keyword in the search text box. Click the **Save tweets that include a specific hashtag to a SharePoint list** template shown in Figure 2-3.

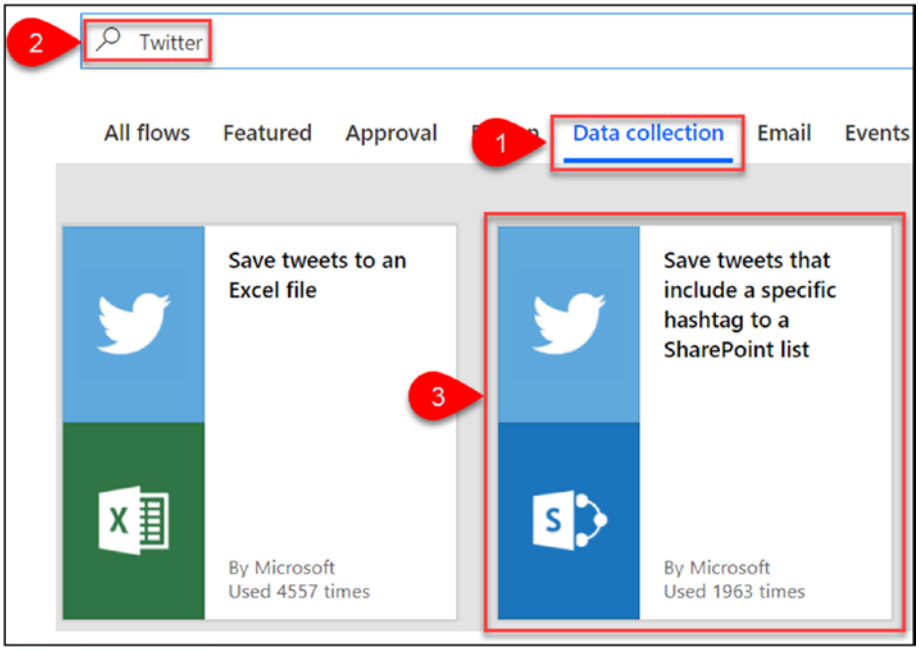

Figure 2-3. *Select the template*

4. Sign into your SharePoint Online and Twitter accounts by clicking **Sign in**. Once you have successfully connected to SharePoint and Twitter, click **Continue,** as shown in Figure 2-4.

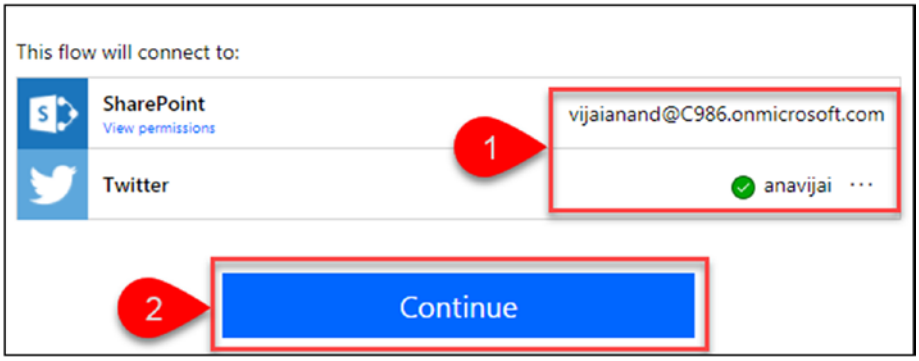

Figure 2-4. *Continue to create the flow*

5. Figure 2-5 shows the trigger and action that will be added by default as part of the template.

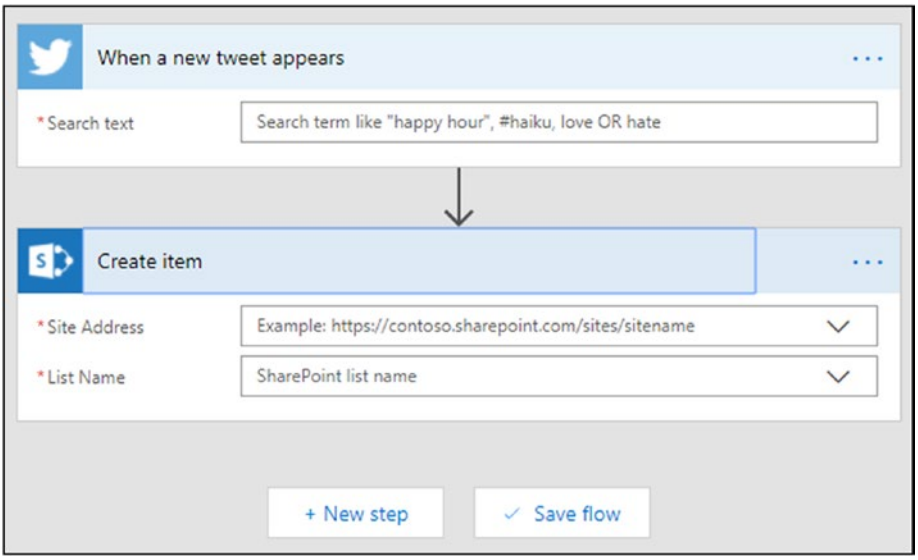

Figure 2-5. *Trigger and action*

6. Go to the **When a new tweet appears** trigger and enter the search text shown in Figure 2-6. Note that search text is case-insensitive.

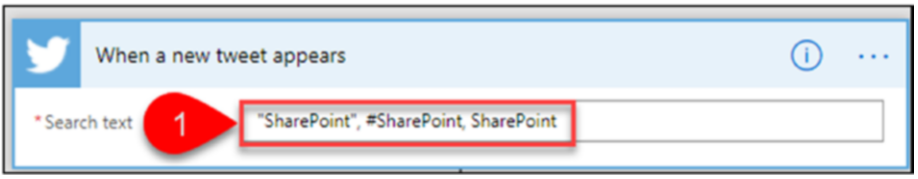

Figure 2-6. *The new trigger*

7. Go to the **Create item** action and select or add values to the **Site Address**, **List Name**, **Title**, and **Tweet** fields, as shown in Figure 2-7.

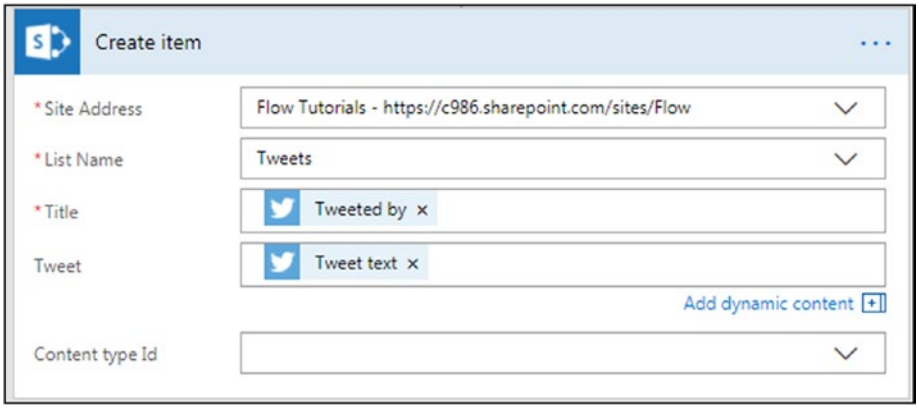

Figure 2-7. *Create an item action*

8. After you've made all of the changes, enter a name for the flow or leave the default name, as shown in Figure 2-8. Click **Create Flow**.

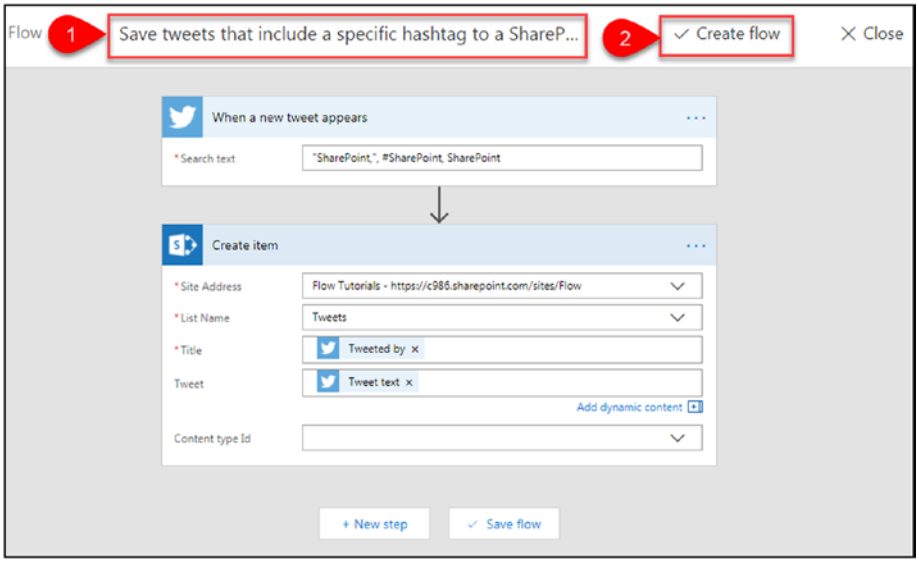

Figure 2-8. *Save and create the flow*

9. The flow has been created successfully. Click **Done**, as shown in Figure 2-9.

Figure 2-9. *Flow created*

10. Figure 2-10 shows the details of the newly created flow.

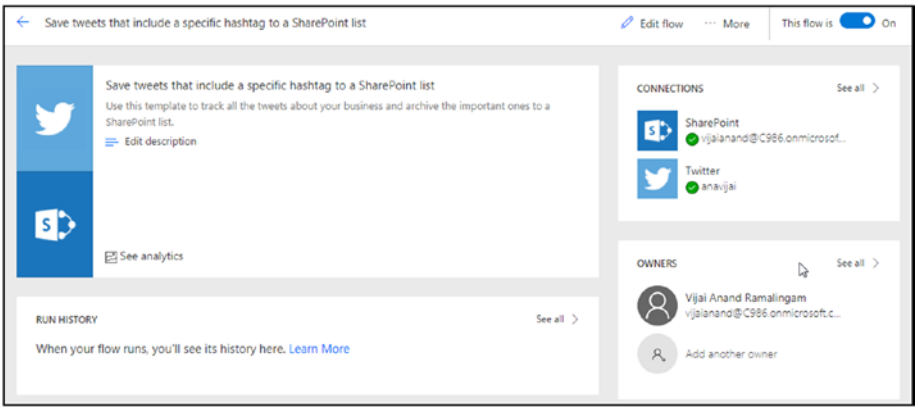

Figure 2-10. *Flow details*

To test your flow, perform the following steps:

1. Navigate to your Twitter account. Post a new tweet and add the hash tag #SharePoint, as shown in Figure 2-11.

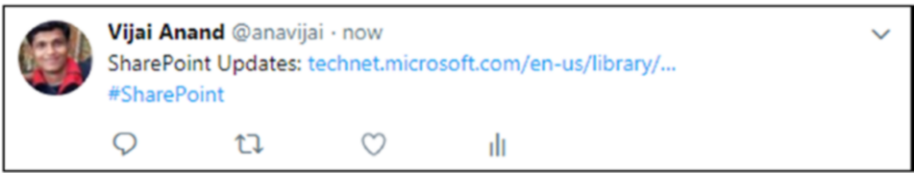

Figure 2-11. *Post a tweet*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to your SharePoint Online list and you should see a new item, as shown in Figure 2-12.

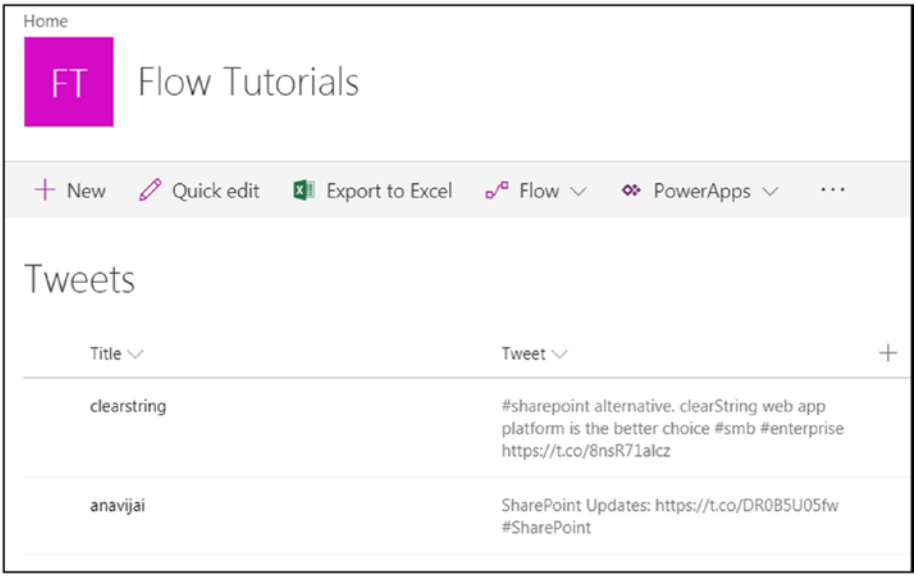

Figure 2-12. *New SharePoint list item*

Thus, in this section, you learned how to create a flow to save tweets that include a specific hashtag to a SharePoint list.

Save Email Attachments to a SharePoint Document Library and Get a Notification

In this section, you will learn how to create a flow to save email attachments to a SharePoint document library and get a notification.

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows**. Click the **Create from template** link.
3. Click the **Notifications** category and type **save my email** in the search text box. Click the **Save my email attachments to a SharePoint and get a notification** template, as shown in Figure 2-13.

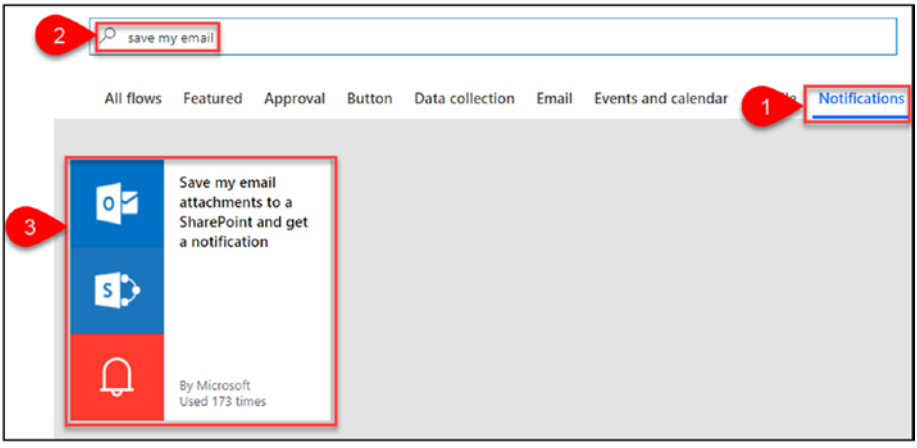

Figure 2-13. *Select a template*

4. Sign into your SharePoint Online, Notifications, and Office 365 Outlook accounts by clicking **Sign in**. Once connected, click **Continue**, as shown in Figure 2-14.

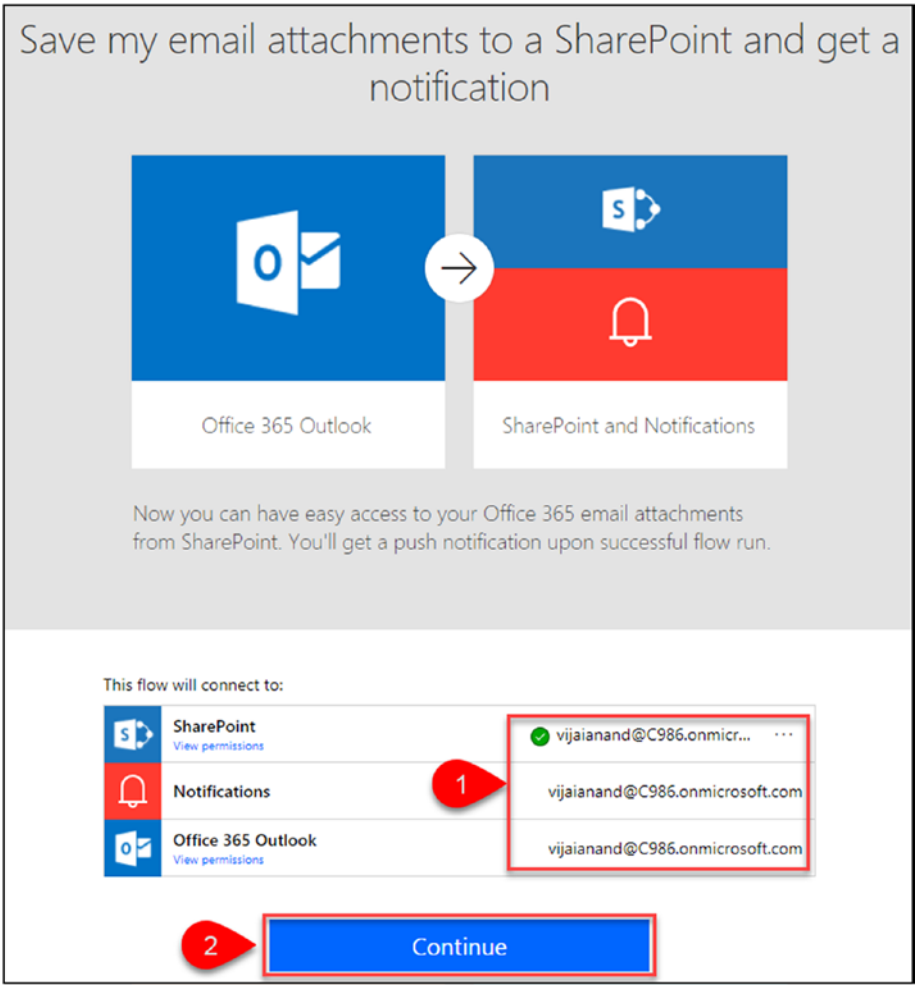

Figure 2-14. *Continue to create the flow*

5. Figure 2-15 shows the trigger and actions that will be added by default as part of the template.

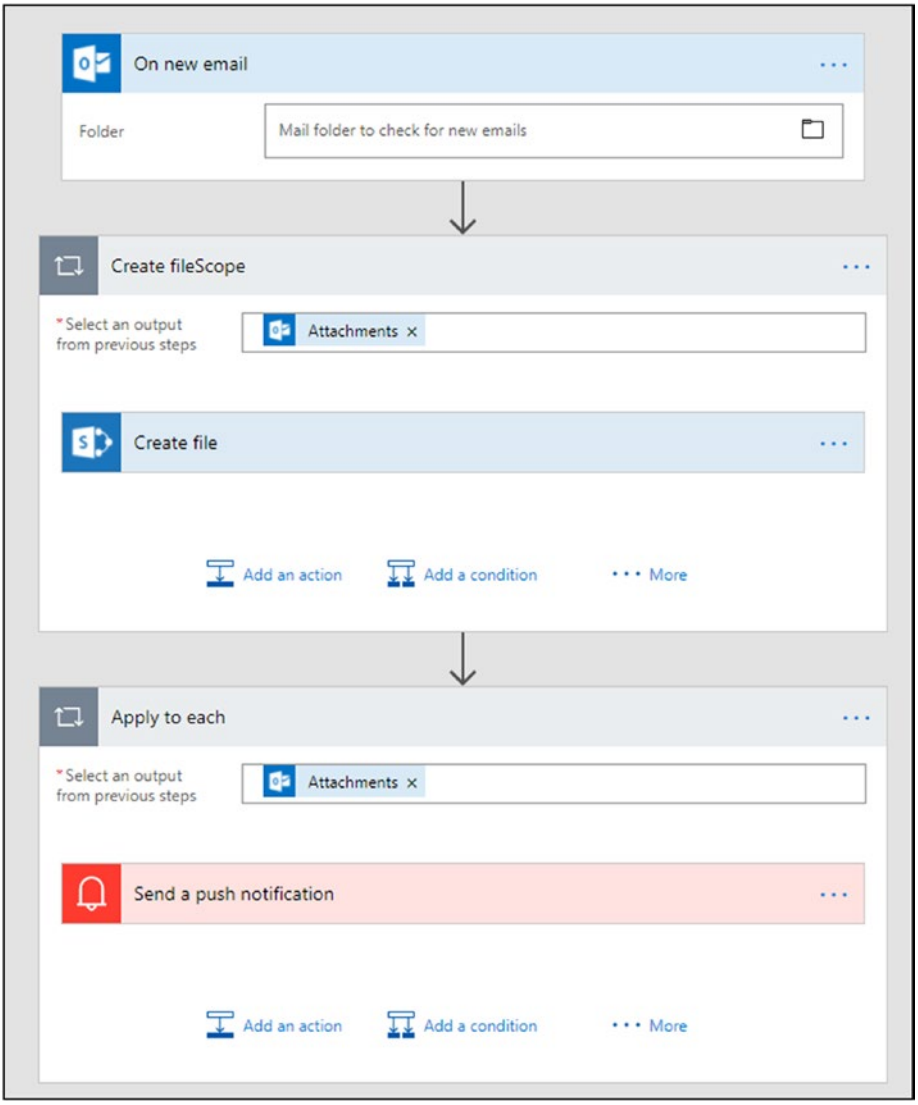

Figure 2-15. *Trigger and actions*

6. Go to the **On new email** trigger and select the Office 365 Outlook folder, as shown in Figure 2-16 and Figure 2-17.

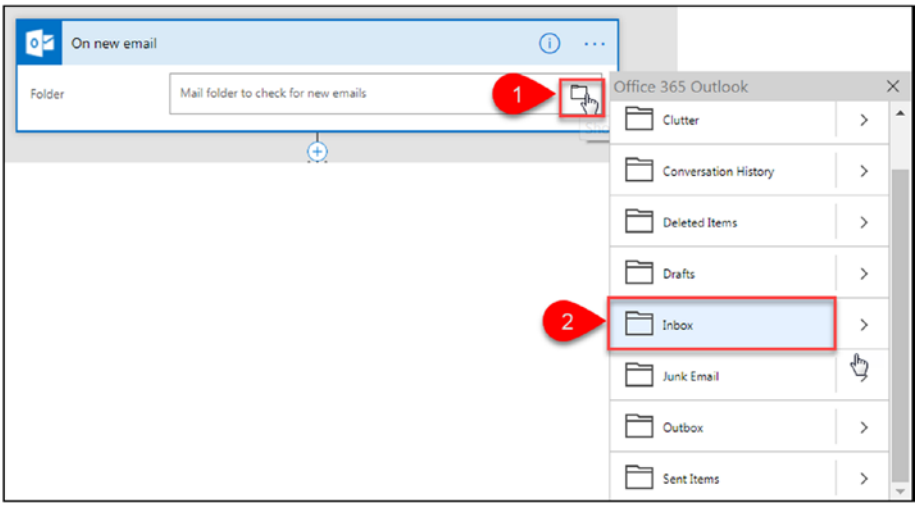

Figure 2-16. *Select the Office 365 Outlook folder*

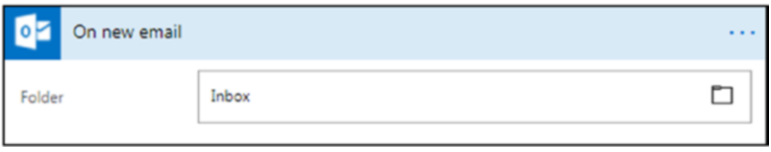

Figure 2-17. *Inbox folder selected*

7. Go to the **Create file** action and fill in the **Site Address** and **Folder Path** fields, as shown in Figure 2-18.

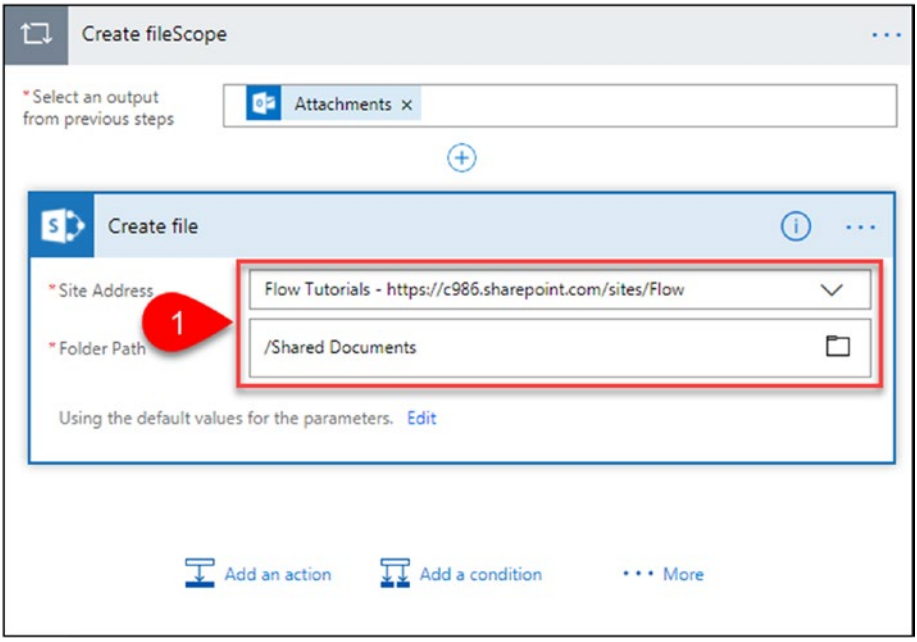

Figure 2-18. *The Create file action*

8. Go to the **Send a push notification** action. If required, update the default values based on your requirements, as shown in Figure 2-19.

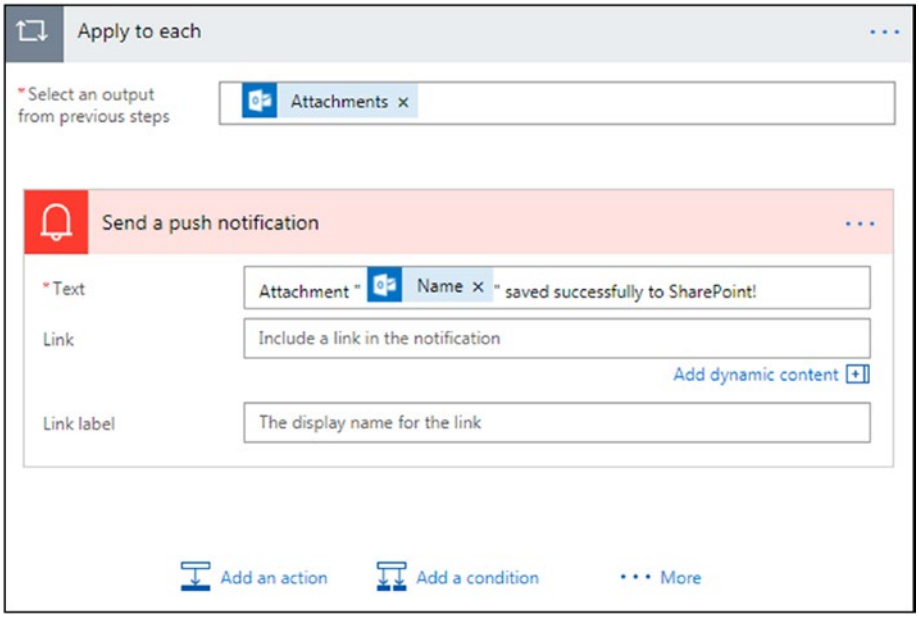

Figure 2-19. *Send a push notification*

9. After you've made the changes, enter a name for the flow or leave the default name, as shown in Figure 2-20. Click **Create Flow**.

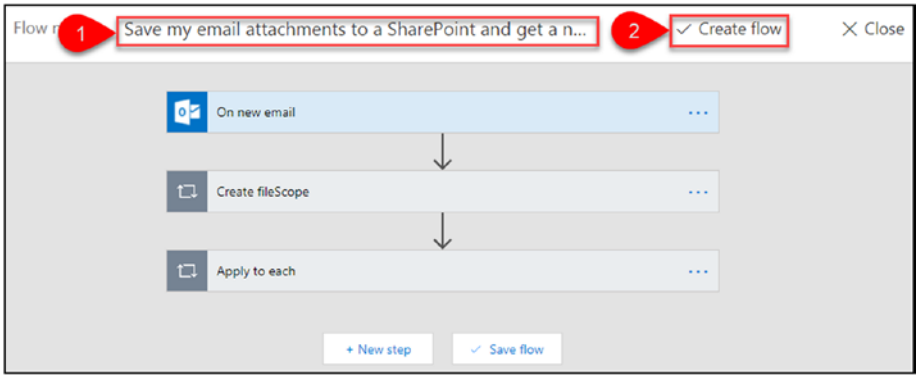

Figure 2-20. *Save and create the flow*

10. The flow has been created successfully. Click **Done**, as shown in Figure 2-21.

Figure 2-21. *Flow created*

11. Figure 2-22 shows the details of the newly created flow.

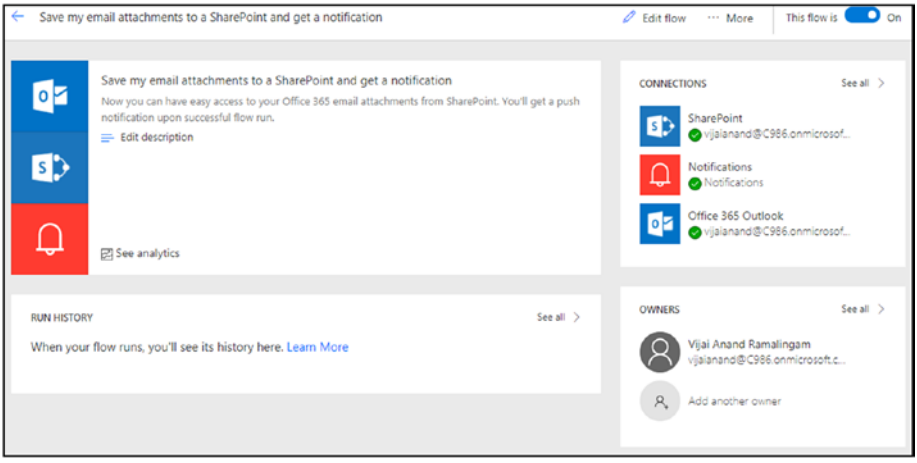

Figure 2-22. *Flow details*

To test your flow, perform the following steps:

1. Send an email with attachments to your Office 365 Outlook account, as shown in Figure 2-23.

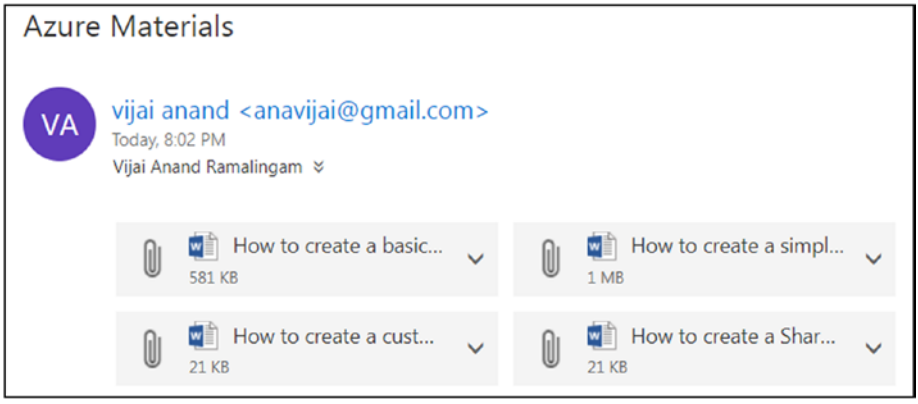

Figure 2-23. *Email with attachments*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to the selected SharePoint folder and you should see the Outlook email attachments saved as documents, as shown in Figure 2-24.

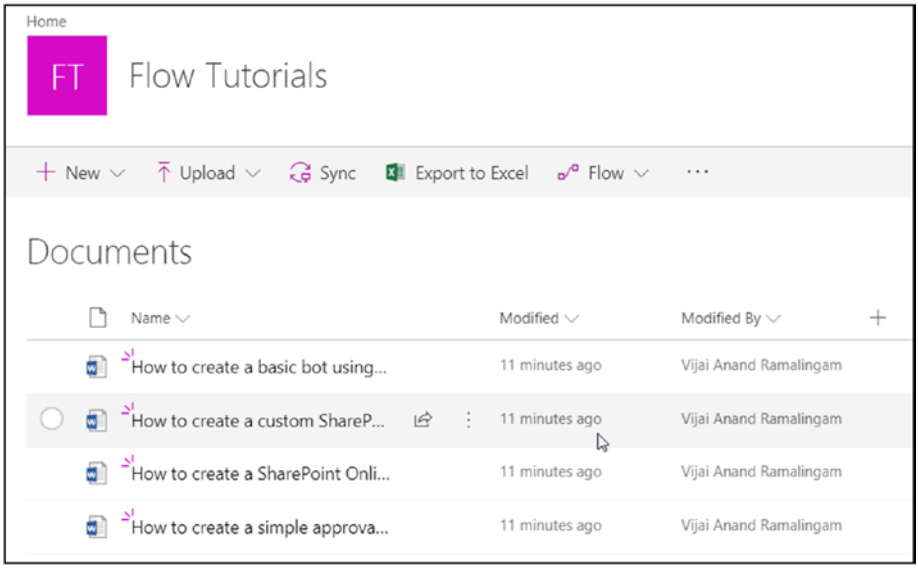

Figure 2-24. *Email attachments uploaded to a SharePoint folder*

3. Make sure to download the mobile app and connect to receive notifications. Refer to Chapter 4 to learn more about the mobile app.

Thus, in this section, you learned how to create a flow to save email attachments to a SharePoint folder and get a notification.

Send an Email When an Item Is Modified in a SharePoint List

In this section, you will learn how to create a flow to send an email when an item is modified in a SharePoint list. A SharePoint Online list named **Project Tracker** will be used. It consists of the following fields (also shown in Figure 2-25):

- Project Name (single line of text)
- Description (multiple lines of text)
- Project Type (choice)
- Status (choice)

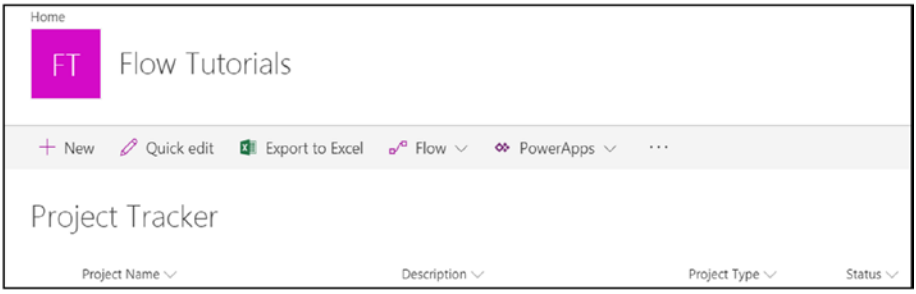

Figure 2-25. *Project Tracker SharePoint list*

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows**. Click the **Create from template** link.
3. Click the **Email** category and type the **sharepoint** keyword in the search text box. Click the **When an item in a SharePoint list is modified send an email** template, as shown in Figure 2-26.

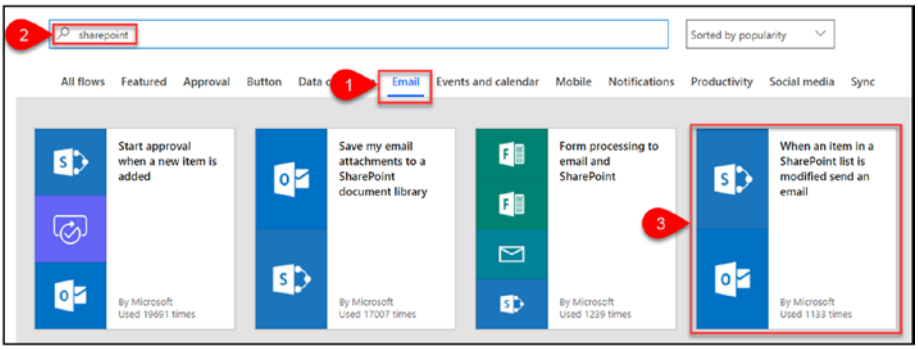

Figure 2-26. *Select a template*

4. Click **Edit in advanced mode**, as shown in Figure 2-27.

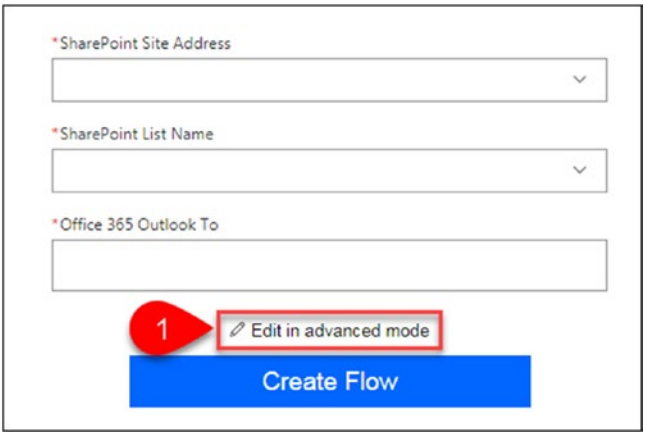

Figure 2-27. *The Edit in advanced mode button*

5. Go to the **When an existing item is modified** trigger and fill in the **Site Address** and **List Name** fields with the information shown in Figure 2-28.

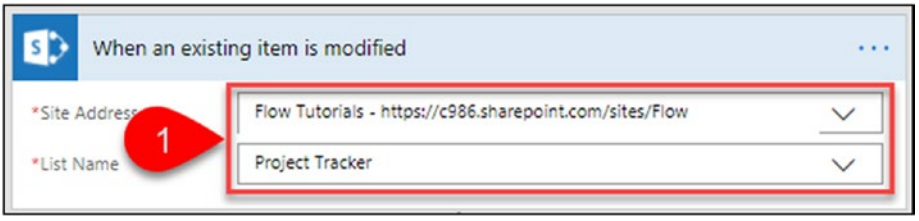

Figure 2-28. *Trigger parameters*

6. Go to the **Send Email** action and enter a value for the **To** address (to whom email has to be sent), as shown in Figure 2-29.

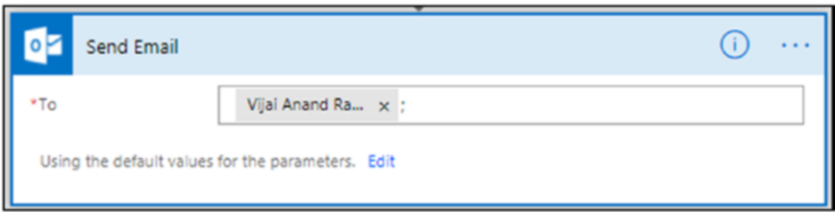

Figure 2-29. *Send an email*

7. After you've made the changes, enter a name for the flow or leave the default name, as shown in Figure 2-30. Click **Create Flow**.

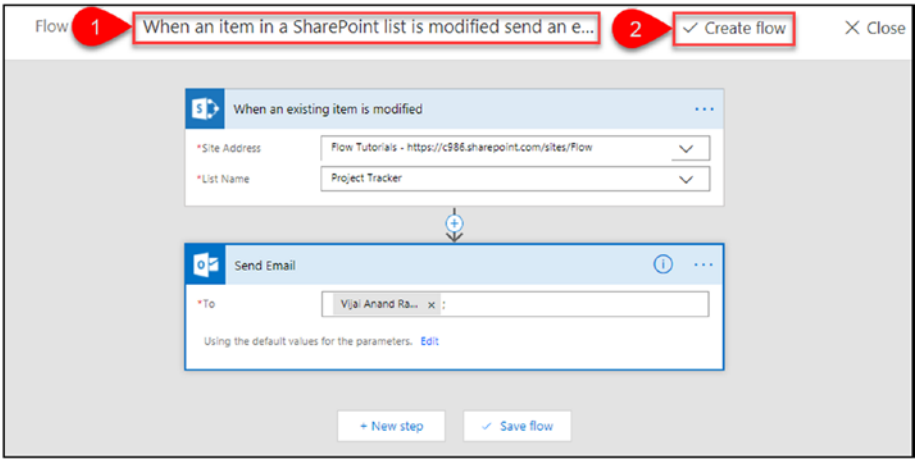

Figure 2-30. *Save and create a flow*

8. The flow has been created successfully. Click **Done**, as shown in Figure 2-31.

Figure 2-31. *The flow has been created*

9. Figure 2-32 shows the details of the newly created flow.

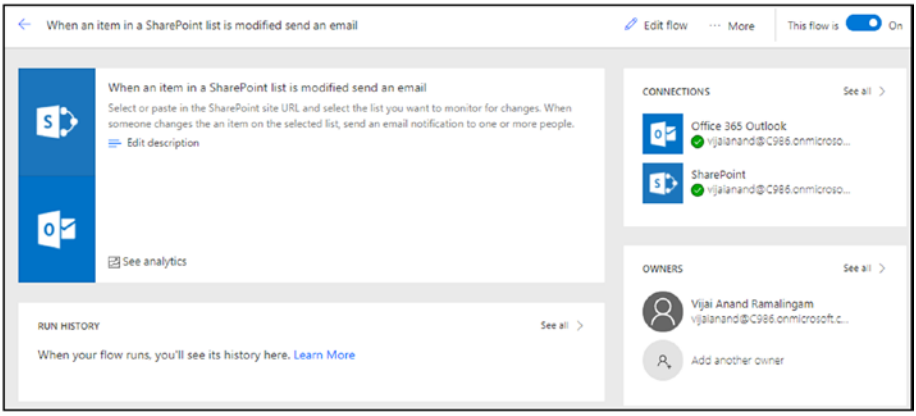

Figure 2-32. *Flow details*

To test your flow, perform the following steps:

1. Navigate to the SharePoint Online list and modify an existing item, as shown in Figure 2-33.

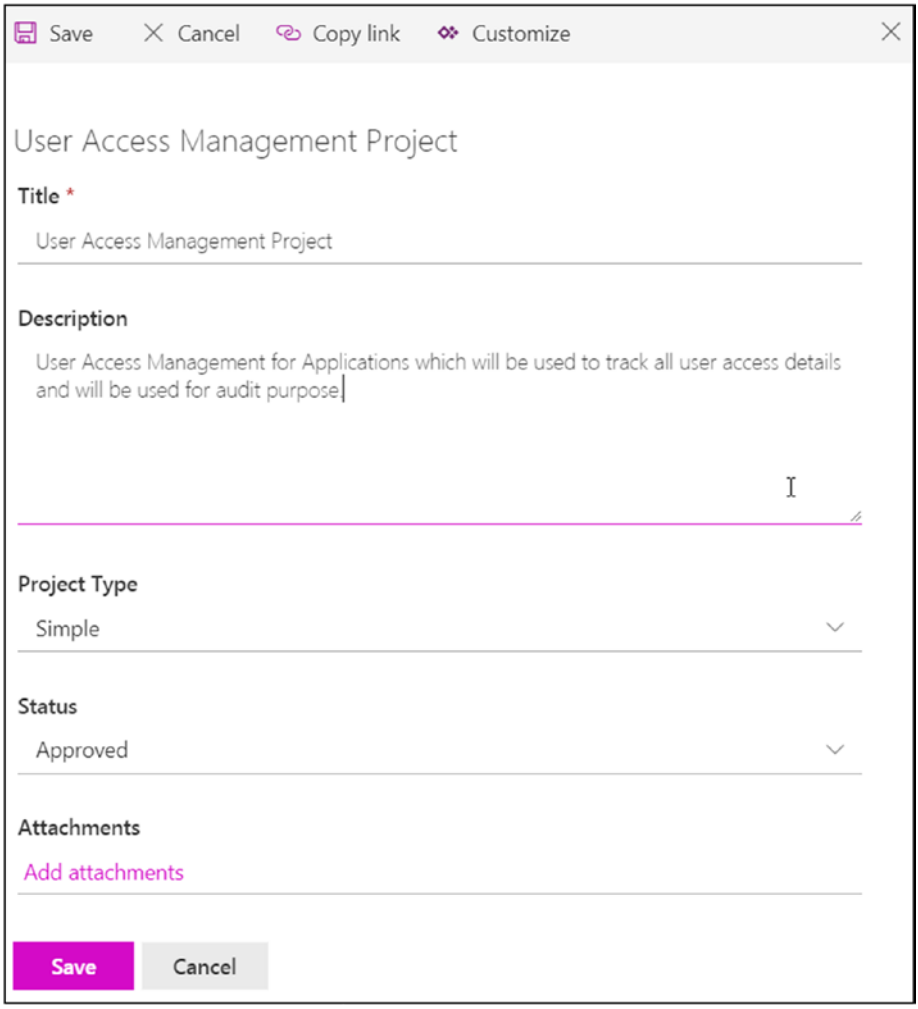

Figure 2-33. *Update an existing list item*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to your Office 365 Outlook and you should see a new email, as shown in Figure 2-34.

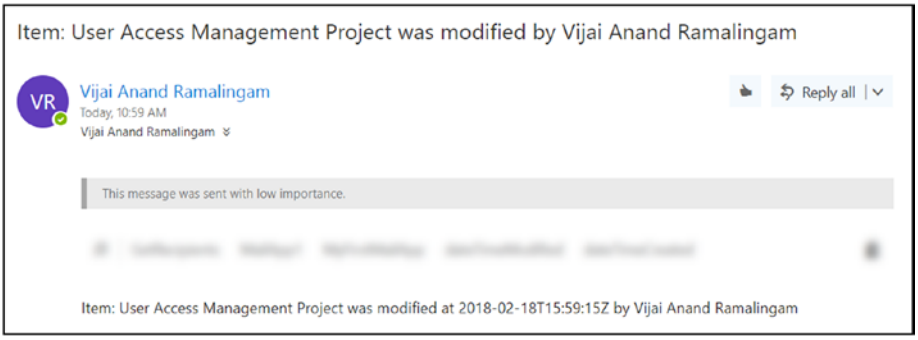

Figure 2-34. *Received email*

Thus, in this section, you learned how to create a flow to send an email when an item is modified in a SharePoint list.

Add an Event to Google Calendar When an Item Is Added in SharePoint

In this section, you will learn how to create a flow to add an event to Google Calendar when an item is added in SharePoint. A SharePoint Online list named **Conference Details** will be used for this flow. It consists of following fields (also shown in Figure 2-35):

- Title (single line of text)
- Description (multiple lines of text)
- Start Date (date and time)
- End Date (date and time)
- Location (location)

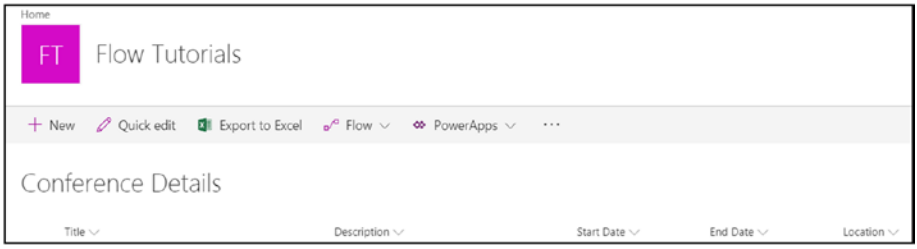

Figure 2-35. *Conference Details SharePoint list*

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows**. Click the **Create from template** link.
3. Click the **Events and calendar** category and type the **sharepoint** keyword in the search text box. Click the **Add an event when an item is added in SharePoint** template shown in Figure 2-36.

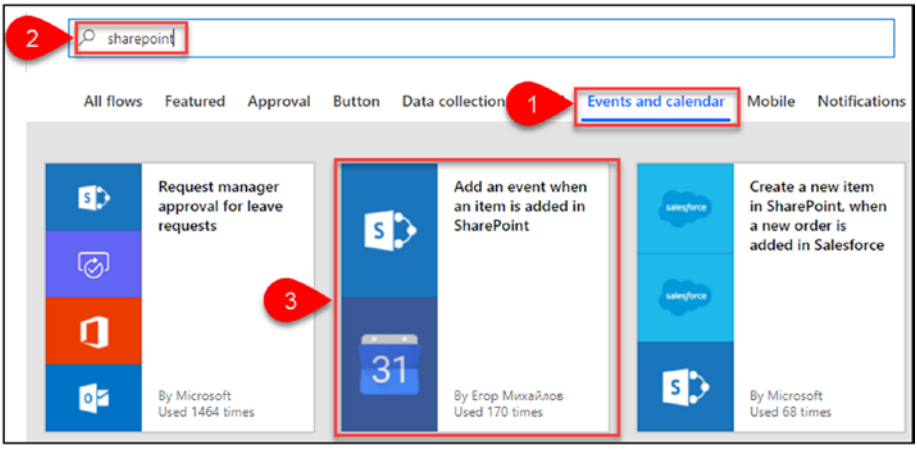

Figure 2-36. *Select a template*

4. Sign into your SharePoint Online and Google Calendar accounts by clicking **Sign in**. Once connected to SharePoint and Google Calendar, click **Continue**, as shown in Figure 2-37.

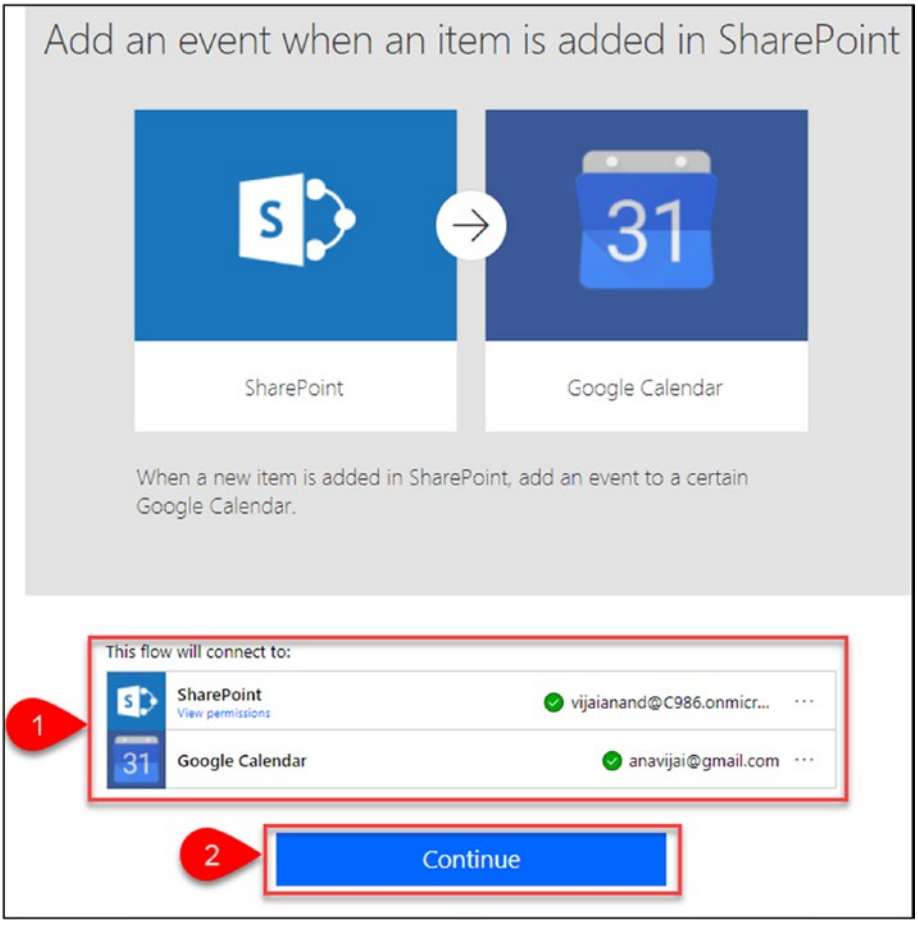

Figure 2-37. *Continue to create the flow*

5. Go to the **When a new item is created** trigger and fill in the **Site Address** and **List Name** fields, as shown in Figure 2-38.

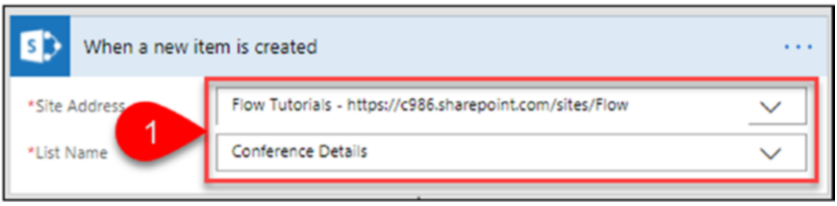

Figure 2-38. *Trigger parameters*

6. Go to the **Create an event** action and add dynamic content to the parameters, as shown in Figure 2-39.

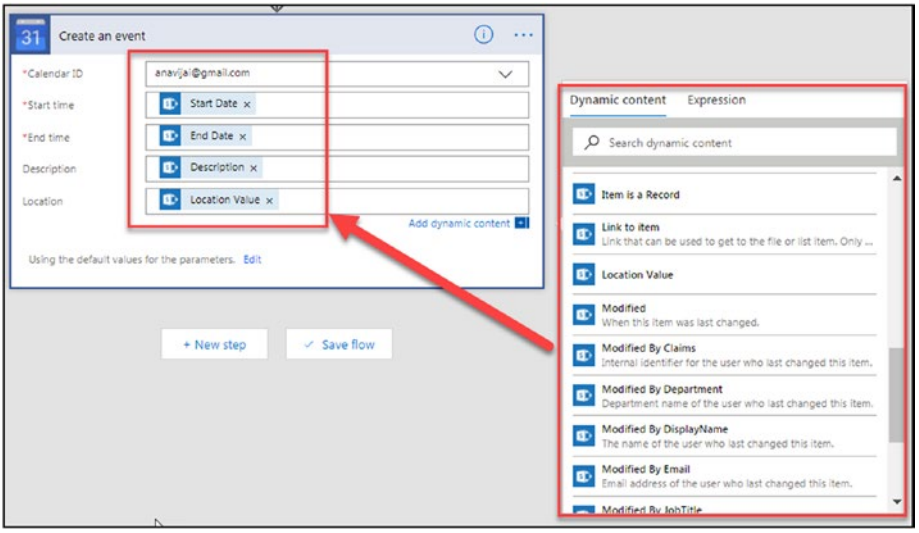

Figure 2-39. *Add dynamic content*

7. After you've made the changes, enter a name for the flow or leave the default name, as shown in Figure 2-40. Click **Create Flow**.

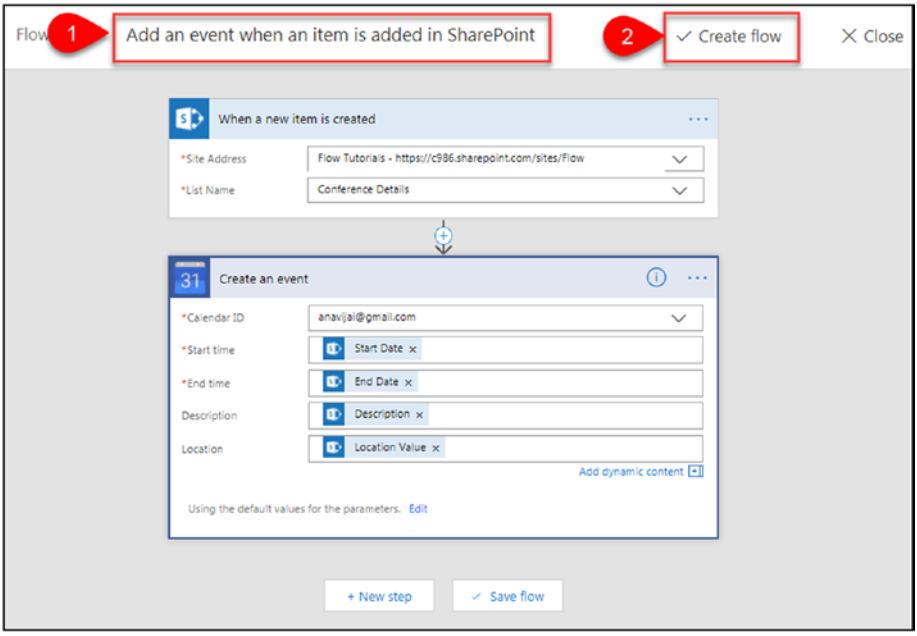

Figure 2-40. *Save and create the flow*

8. The flow has been successfully created. Click **Done**, as shown in Figure 2-41.

Figure 2-41. *The flow has been created*

9. Figure 2-42 shows the details of the newly created flow.

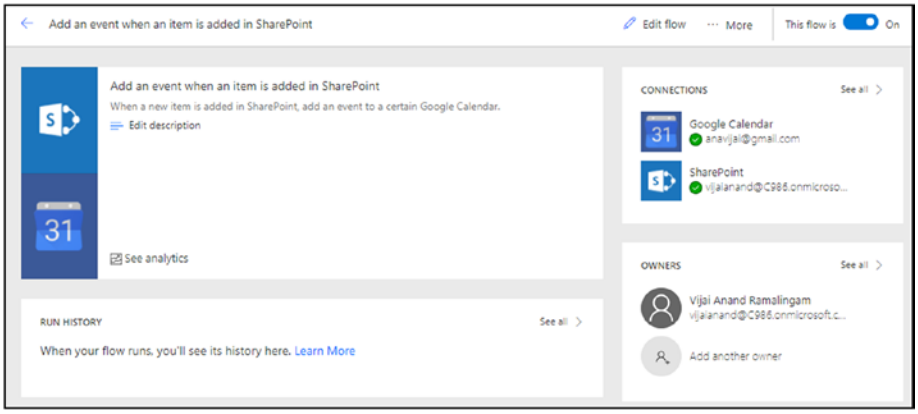

Figure 2-42. *Flow details*

To test your flow, perform the following steps:

1. Navigate to the SharePoint Online Conference Details list and create a new item, as shown in Figure 2-43.

Figure 2-43. *Create a new item*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to your Google calendar and you should see a new event, as shown in Figure 2-44.

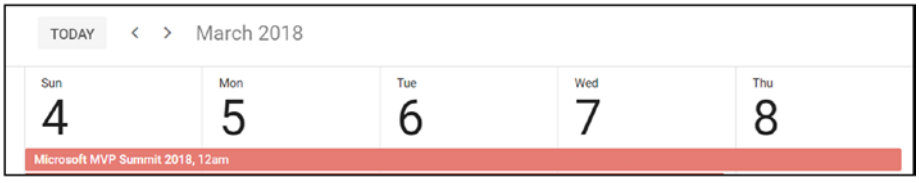

Figure 2-44. *New event created in Google Calendar*

3. When you create a date field in a SharePoint list, make sure you select **"Date & Time."** Otherwise the flow will fail due to an incorrect date format, as shown in Figure 2-45.

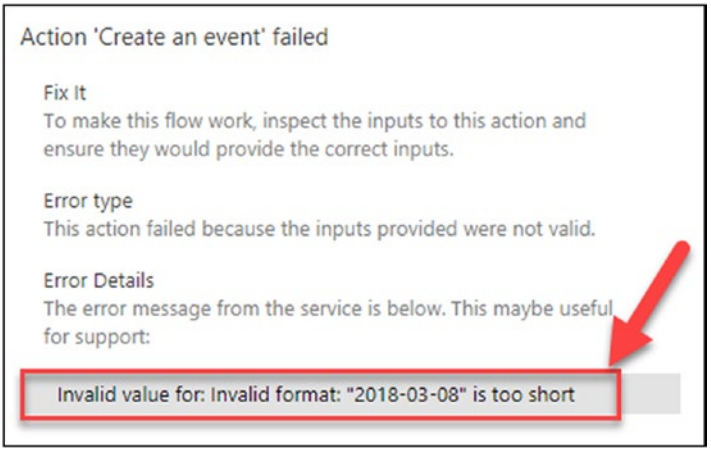

Figure 2-45. *Invalid date format issue*

Thus, in this section, you learned how to create a flow to add an event to Google Calendar when an item is added in SharePoint.

Create a Flow from a SharePoint Online List

In this section, you will learn how to create a flow from a SharePoint Online list to post a message to Yammer. A SharePoint Online list named **Conference Details** will be used for this flow. It consists of the following fields (also shown in Figure 2-46):

- Title (single line of text)
- Description (multiple lines of text)
- Start Date (date and time)

- End Date (date and time)
- Location (location)

Figure 2-46. *Conference Details SharePoint List*

Perform the following steps:

1. Navigate to a SharePoint Online list. For example, `https://c986.sharepoint.com/sites/Flow/Lists/Conference%20Details/AllItems.aspx`.
2. In the menu, click **Flow** and then click **Create a flow**, as shown in Figure 2-47.

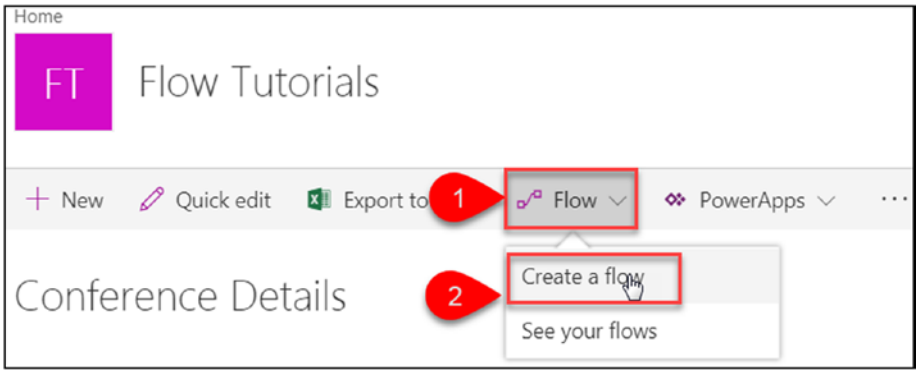

Figure 2-47. *Create a flow*

3. Click **Post a message to Yammer** for a selected item template, as shown in Figure 2-48.

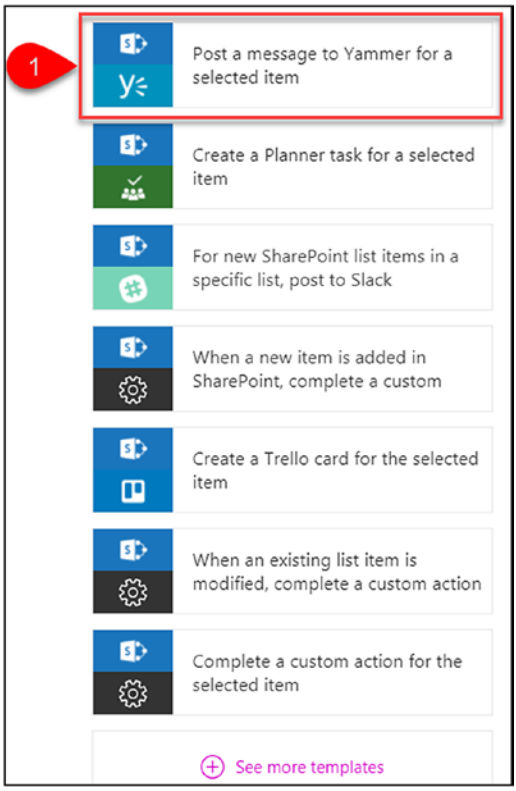

Figure 2-48. *Select a template*

4. Sign into your SharePoint Online and Yammer accounts by clicking **Sign in**. Once connected to SharePoint and Yammer, click **Continue**, as shown in Figure 2-49.

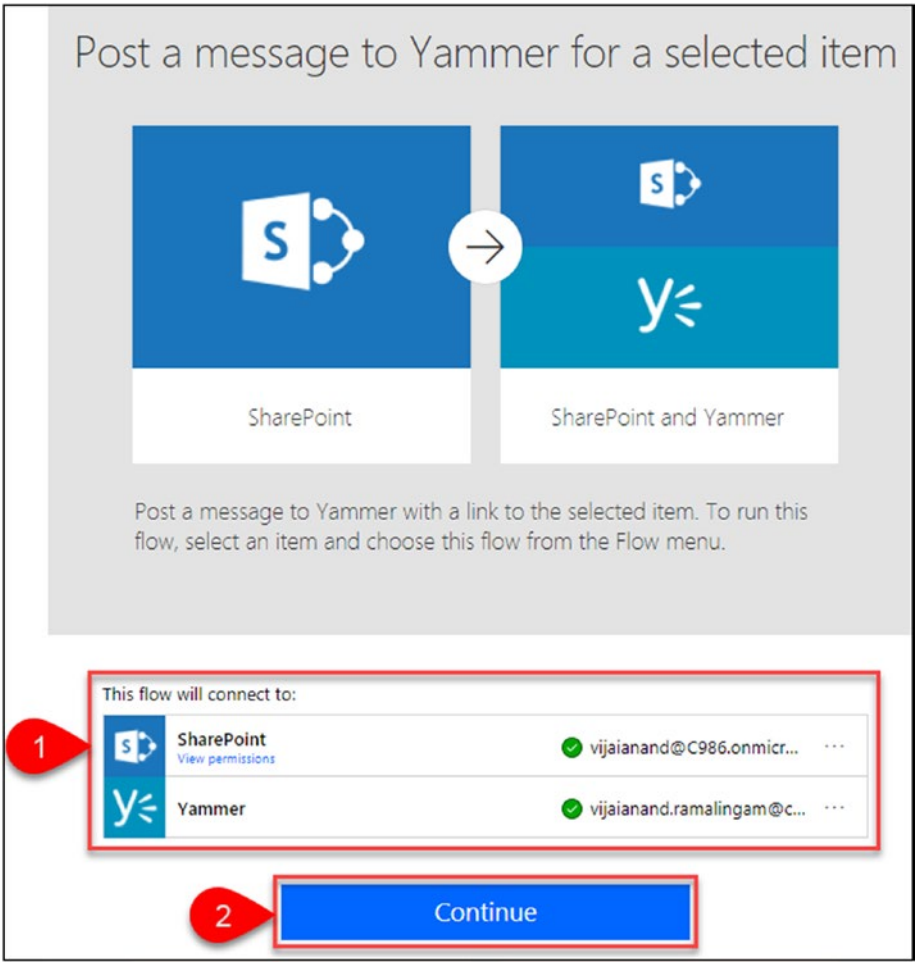

Figure 2-49. *Continue to create the flow*

5. Go to the **Get item** action and leave the default values for the parameters, as shown in Figure 2-50.

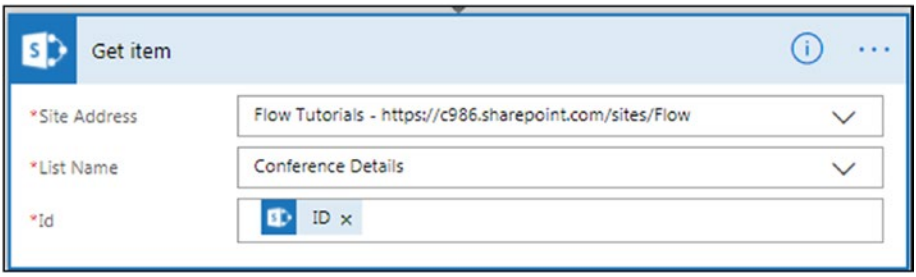

Figure 2-50. *Action parameters*

6. Go to the **Post message** action, select the **Group ID** from the drop-down, and update the message text by adding the dynamic content shown in Figure 2-51.

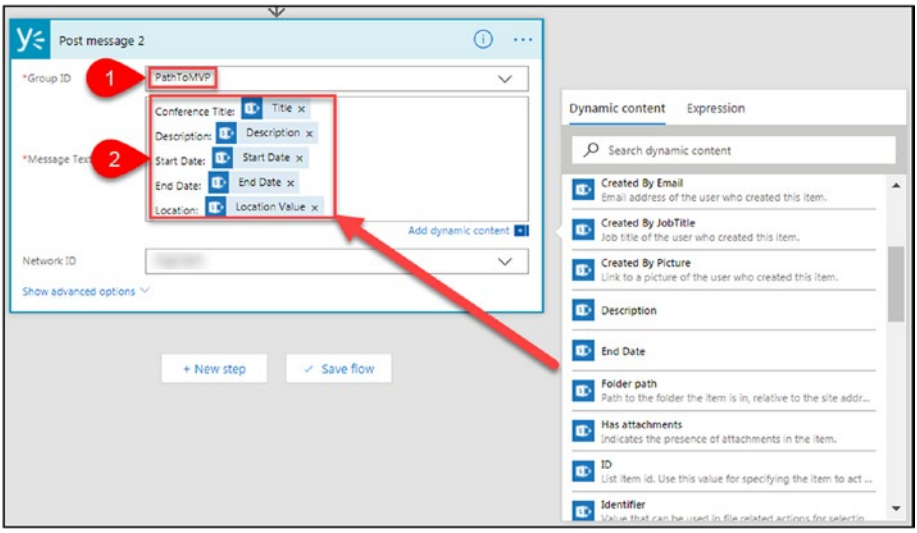

Figure 2-51. *Add dynamic content*

7. Go to the **For a selected item** trigger, click **Edit**, and delete the input message, as shown in Figure 2-52.

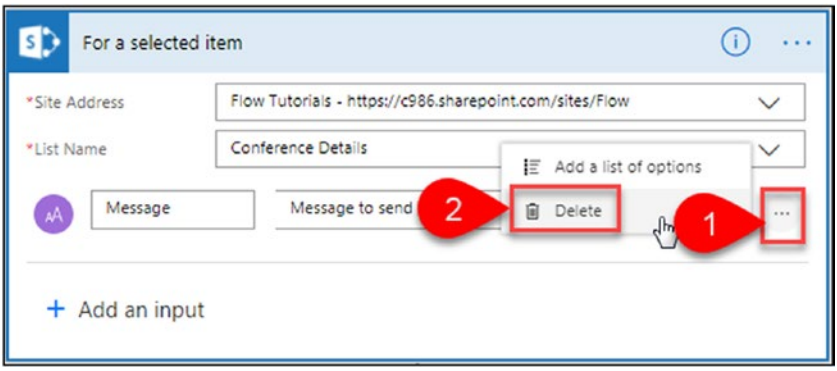

Figure 2-52. *The For a selected item action*

8. After you're done with the changes, enter a name for the flow or leave the default name, as shown in Figure 2-53. Click **Create Flow**.

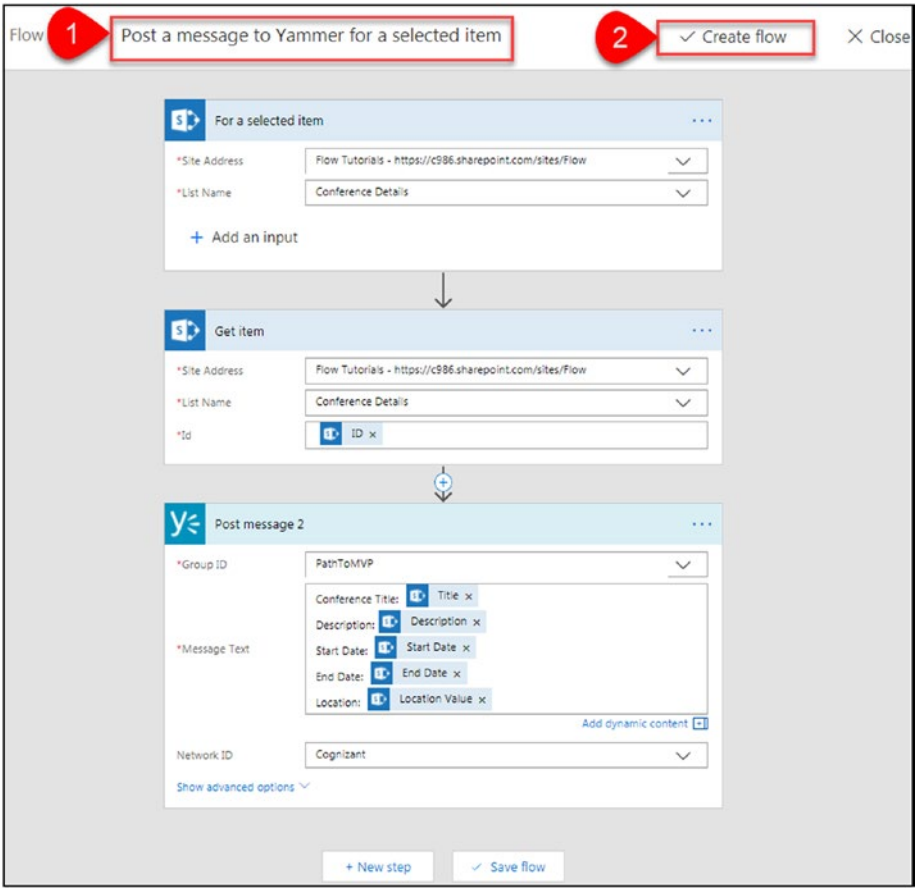

Figure 2-53. *Save and create the flow*

9. The flow has been created successfully. Click **Done**, as shown in Figure 2-54.

Figure 2-54. *The flow has been created*

10. Figure 2-55 shows the details for the newly created flow.

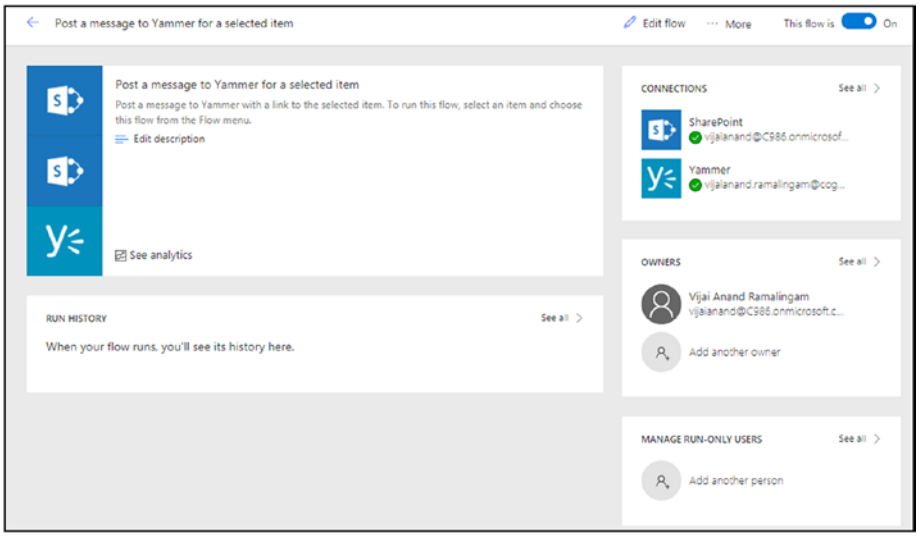

Figure 2-55. *Flow details*

To test your flow, perform the following steps:

1. Navigate to the SharePoint Online Conference Details list, select an existing item, and click more options. Click **Flow** and then click the flow that you created, as shown in Figure 2-56.

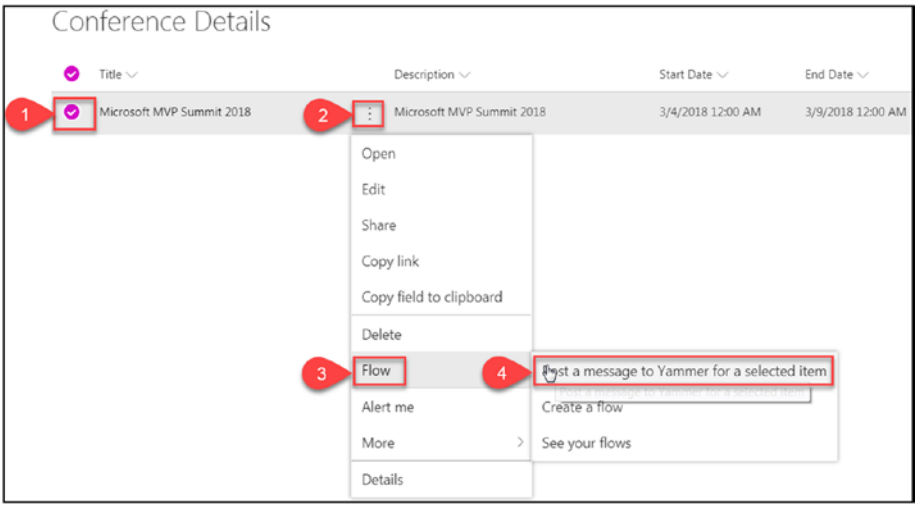

Figure 2-56. *Run a flow for an existing item*

2. Click **Continue**, as shown in Figure 2-57.

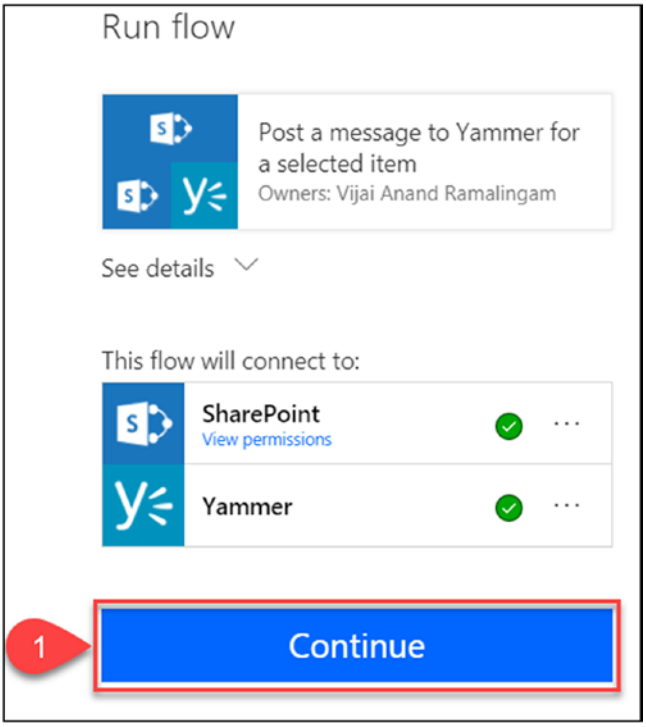

Figure 2-57. *Continue to run the flow*

3. Click **Run flow**, as shown in Figure 2-58.

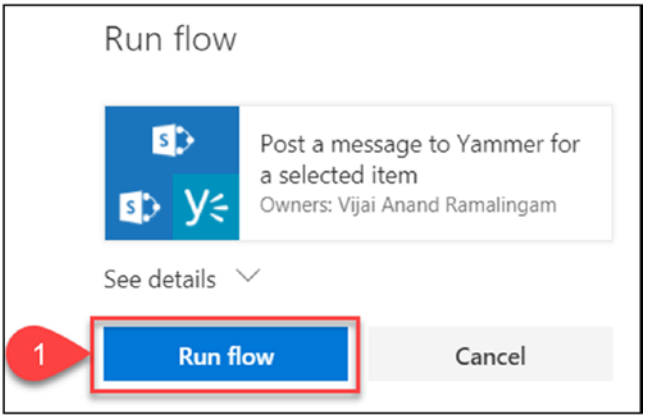

Figure 2-58. *Run flow*

4. Navigate to **Yammer** and go to the respective group that was selected as **Group ID** in the Post message action. You should see a new post in Yammer, as shown in Figure 2-59.

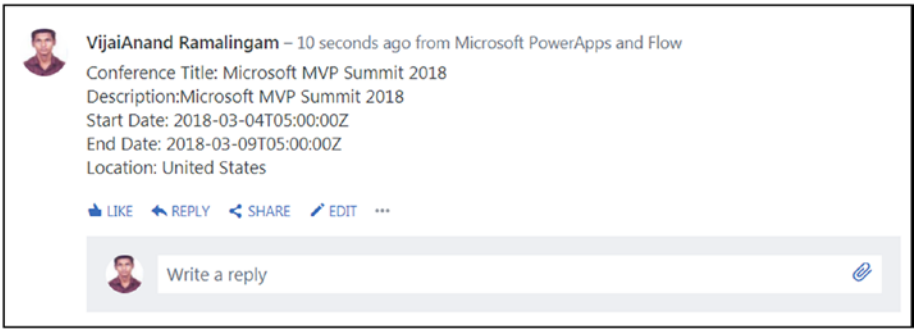

Figure 2-59. *A message posted in Yammer*

Thus, in this section, you learned how to create a flow from a SharePoint Online list to post a message to Yammer.

Create a Flow from OneDrive

In this section, you will learn how to create a flow to copy a file from OneDrive for Business to SharePoint.

1. Navigate to www.office.com. Click the **OneDrive** app, as shown in Figure 2-60.

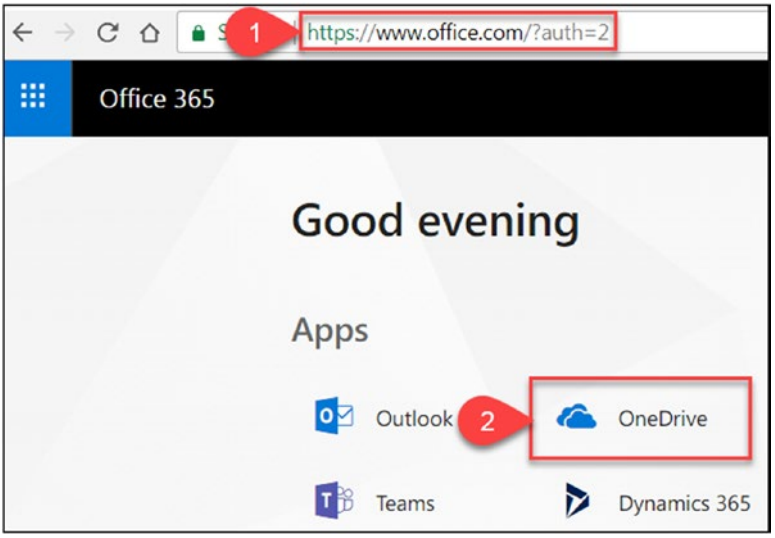

Figure 2-60. *The OneDrive app*

2. Click **Flow** and then click **Create flow**, as shown in Figure 2-61.

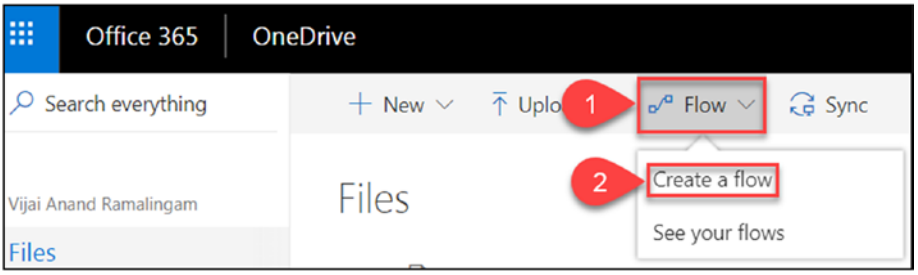

Figure 2-61. *Create a flow*

3. Click **See more templates**, as shown in Figure 2-62.

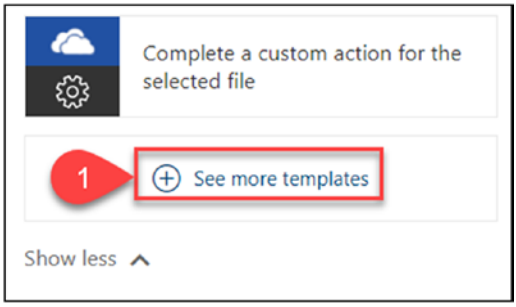

Figure 2-62. *The See more templates button*

4. Click the **Copy files between OneDrive for Business and SharePoint** template shown in Figure 2-63.

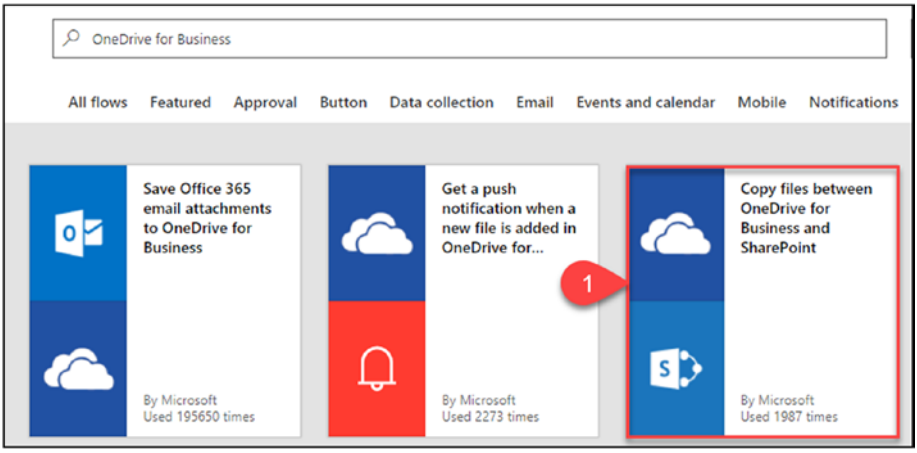

Figure 2-63. *Select a template*

5. Sign into OneDrive for Business and SharePoint. Click **Continue**, as shown in Figure 2-64.

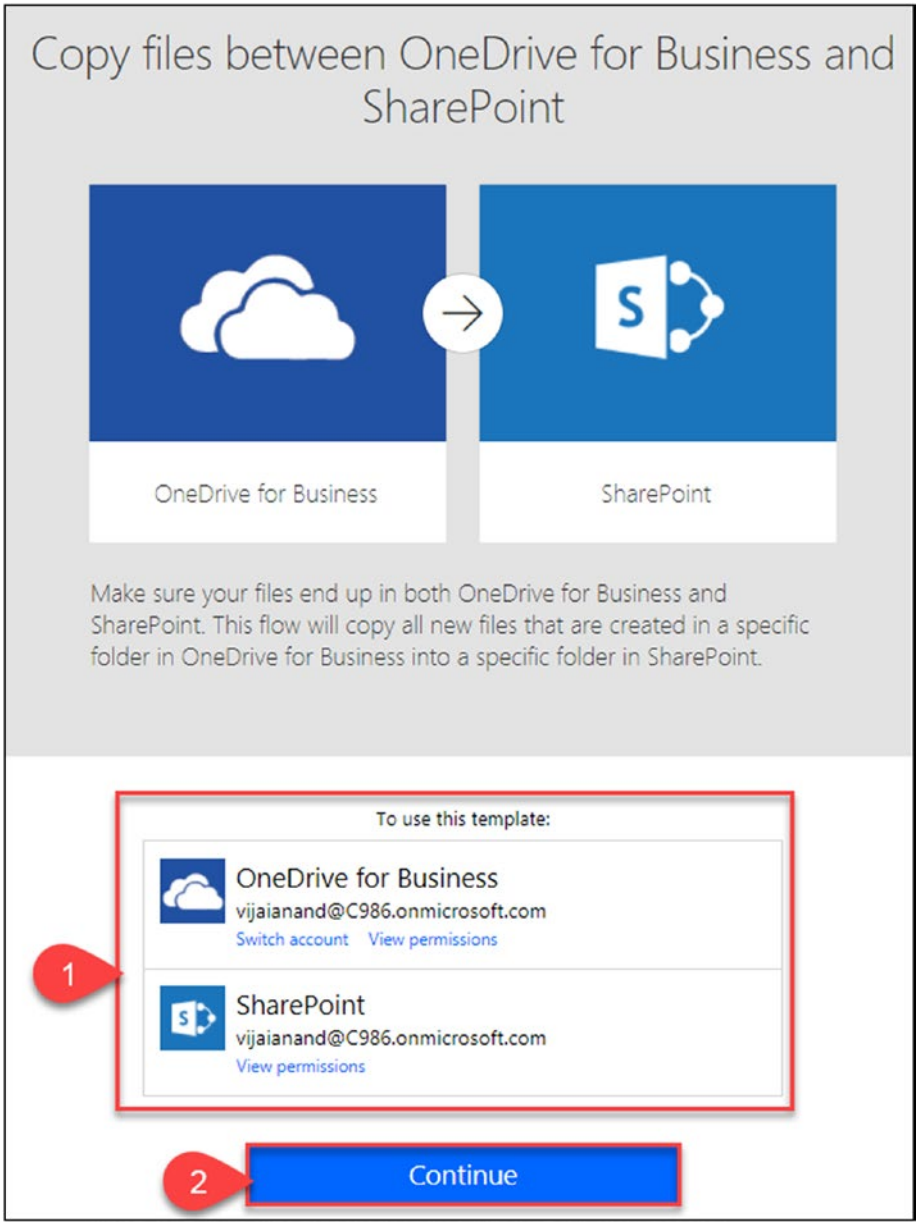

Figure 2-64. *Continue to create the flow*

6. Select the **OneDrive folder**, **SharePoint site address**, and **SharePoint folder path** where the file has to be copied and then click **Create Flow**, as shown in Figure 2-65.

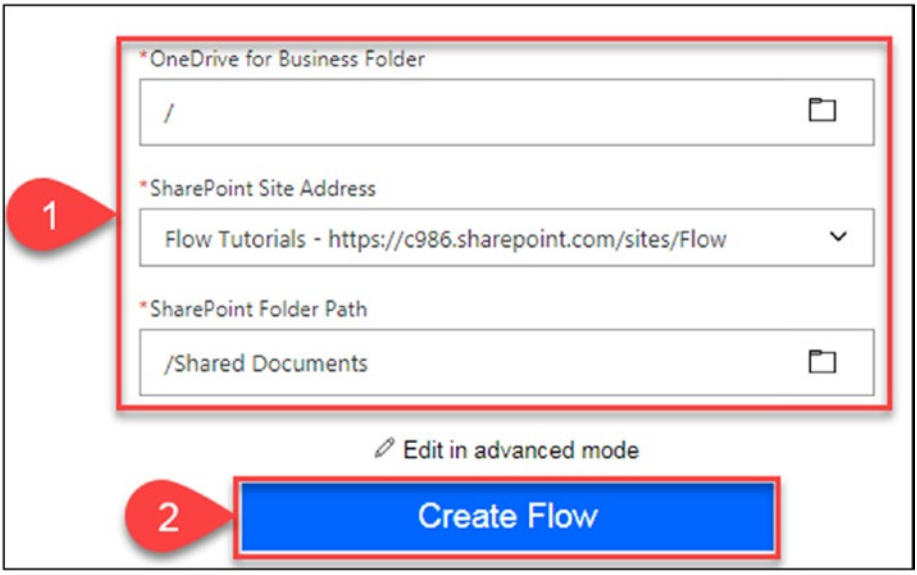

Figure 2-65. *Update the parameter values to create the flow*

7. The flow has been created successfully. Figure 2-66 shows the details of the newly created flow.

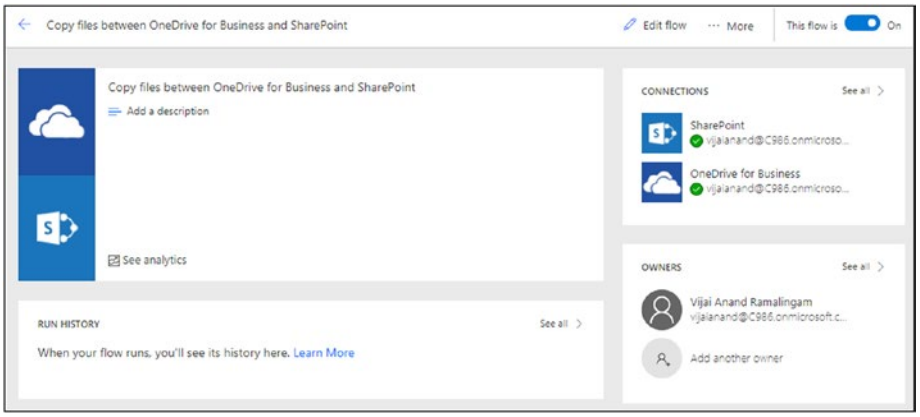

Figure 2-66. *Flow details*

To test your flow, perform the following steps:

1. Navigate to **OneDrive** and upload a document, as shown in Figure 2-67.

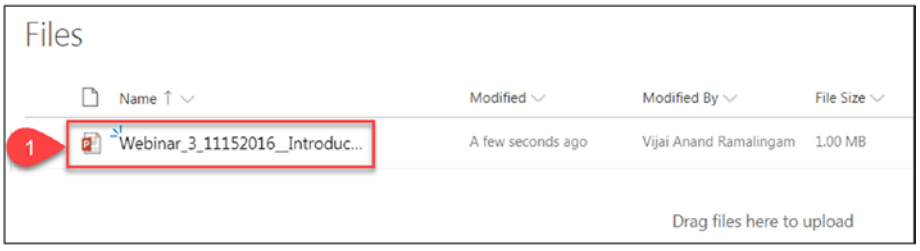

Figure 2-67. *Upload a document to OneDrive*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to the SharePoint folder specified in the flow where the file will be copied and you should see the copied file, as shown in Figure 2-68.

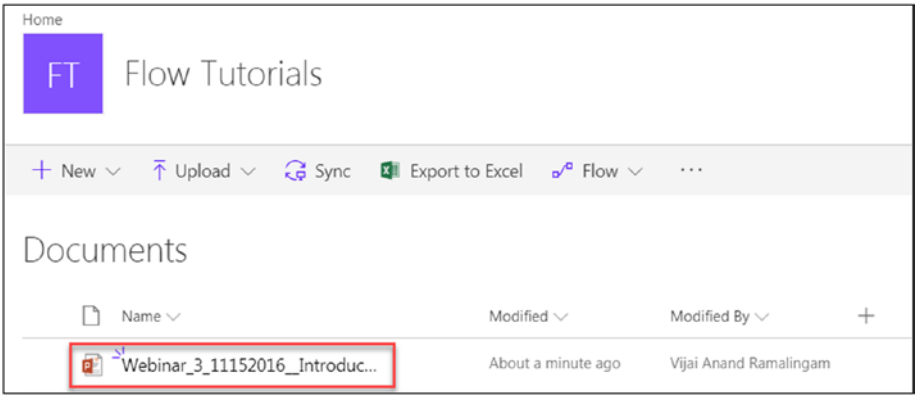

Figure 2-68. *Copied file in SharePoint*

Thus, in this section, you learned how to create a flow to copy a file between OneDrive for Business and SharePoint.

Create a Flow in Microsoft Teams

In this section, you will learn how to create a flow to post a message in Microsoft Teams when specific documents are uploaded in SharePoint.

Perform the following steps:

1. Navigate to Microsoft Teams at `https://teams.microsoft.com`.
2. In the left navigation, click **Store** and then click **Flow**, as shown in Figure 2-69.

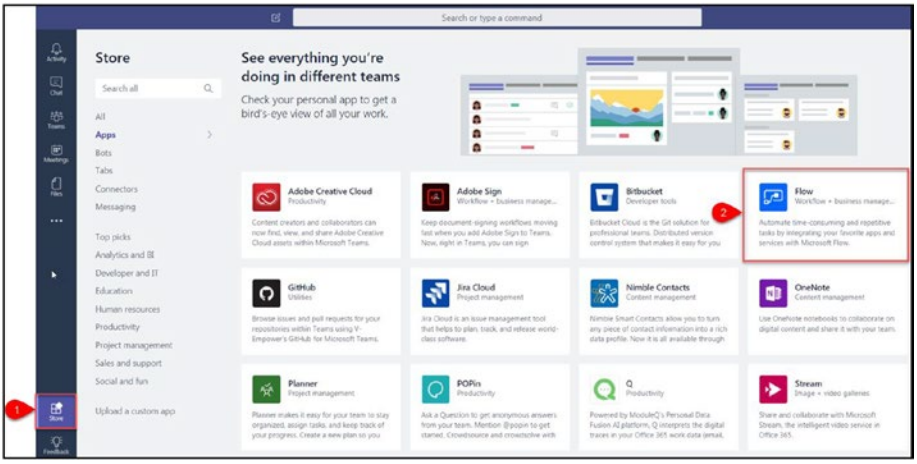

Figure 2-69. *Select the Flow app*

3. Click **Install**, as shown in Figure 2-70.

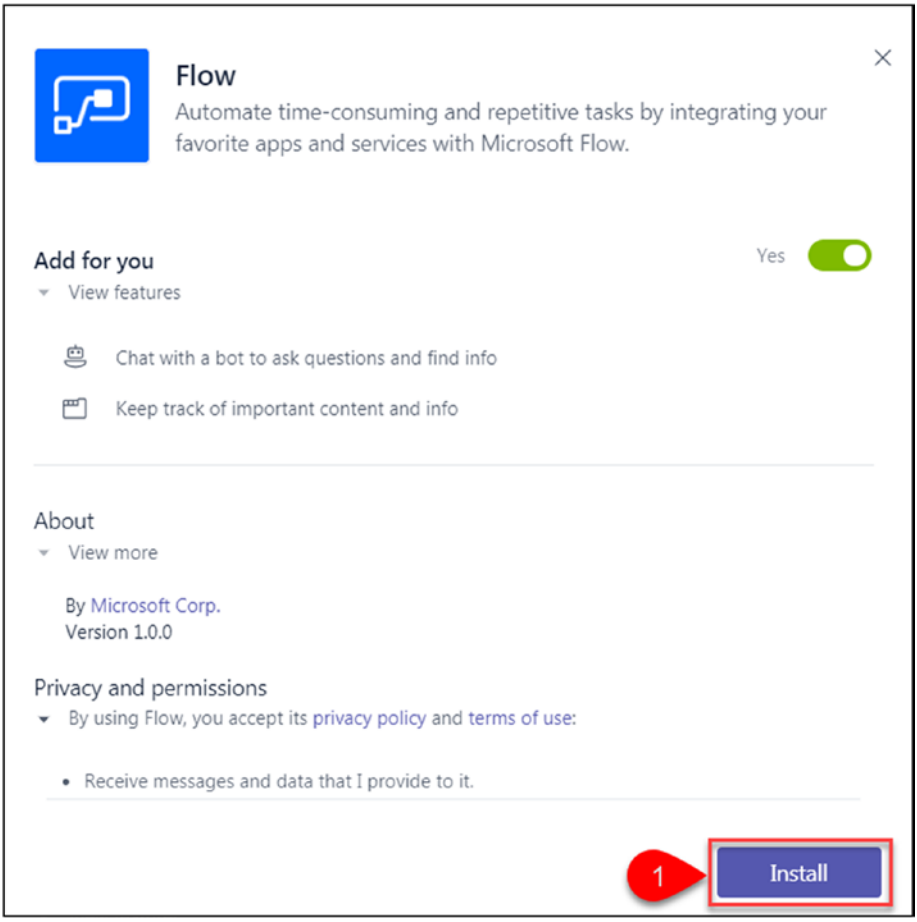

Figure 2-70. *Install the Flow app*

4. Open the Flow app, as shown in Figure 2-71.

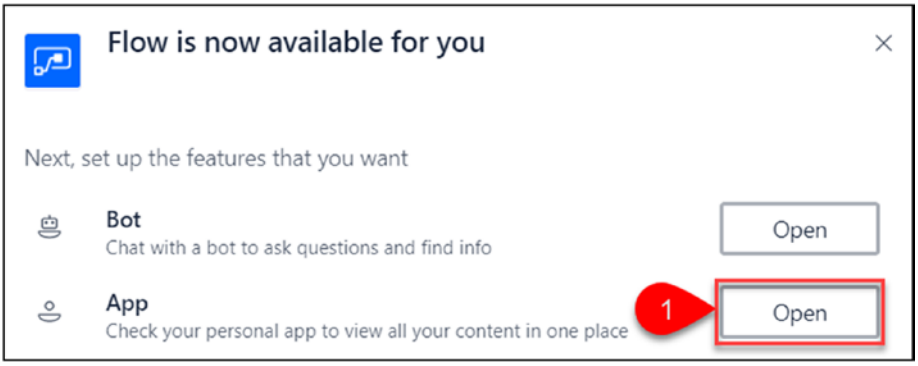

Figure 2-71. *Open the Flow app*

5. You'll see four tabs (Conversation, Flows, Approvals, and About). Sign into Flow, as shown in Figure 2-72.

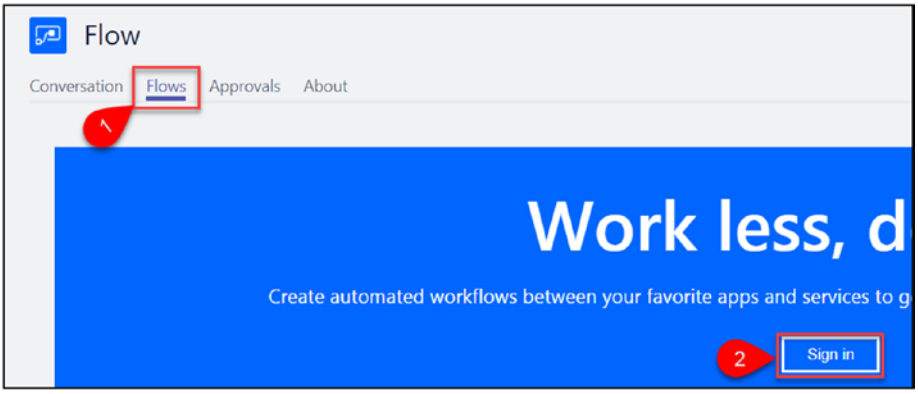

Figure 2-72. *Sign into Flow*

6. Once you sign into Flow, you should see all of your flows. Click **Create from template**, as shown in Figure 2-73.

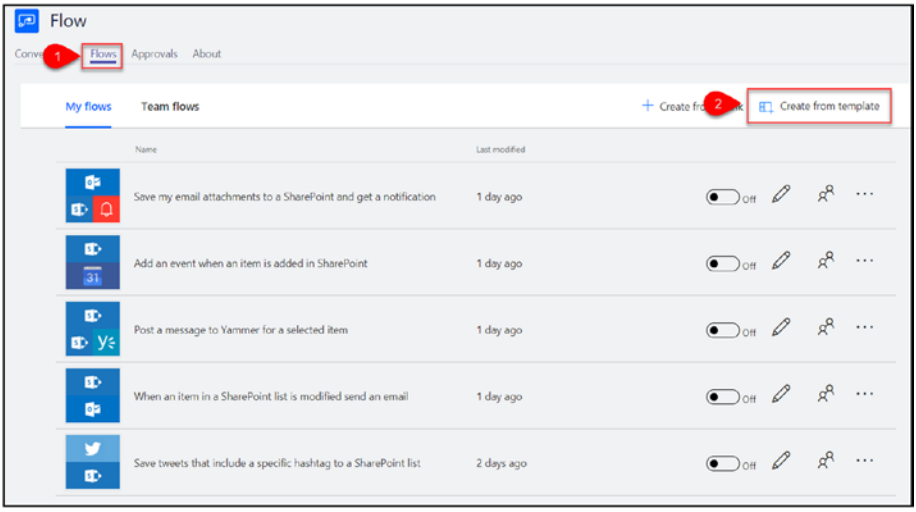

Figure 2-73. *Create a flow from a template*

7. Click the **Alert the team when specific documents are uploaded** template shown in Figure 2-74.

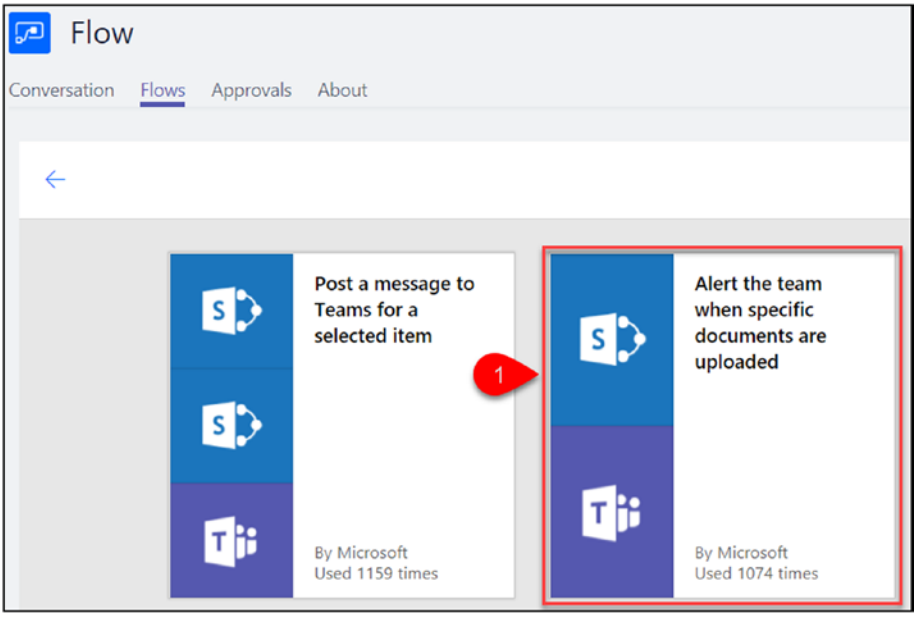

Figure 2-74. *Select a template*

8. Once connected to Microsoft Teams and SharePoint, click **Continue**, as shown in Figure 2-75.

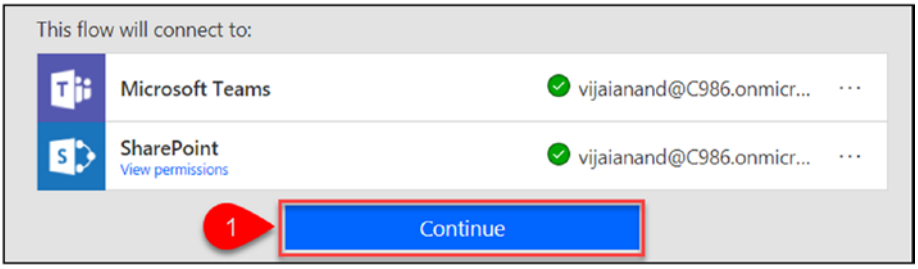

Figure 2-75. *Continue to create the flow*

9. Go to the **When a file is created** trigger and fill in the **Site Address** and **Folder Id** fields, as shown in Figure 2-76.

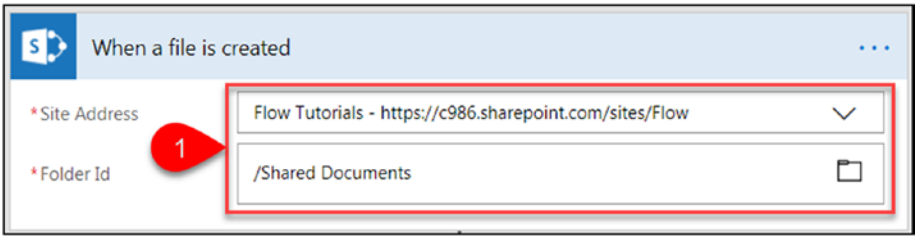

Figure 2-76. *Trigger parameters*

10. Go to the **Post messageScope** condition and check whether the file name **contains SharePoint**, as shown in Figure 2-77.

Figure 2-77. *Check the condition*

11. If the condition is satisfied, alert the team by posting a message. Go to the **Alert the team** action and select **Team Id** and **Channel Id**. If required, update the default values for the parameters by clicking **Edit**, as shown in Figure 2-78.

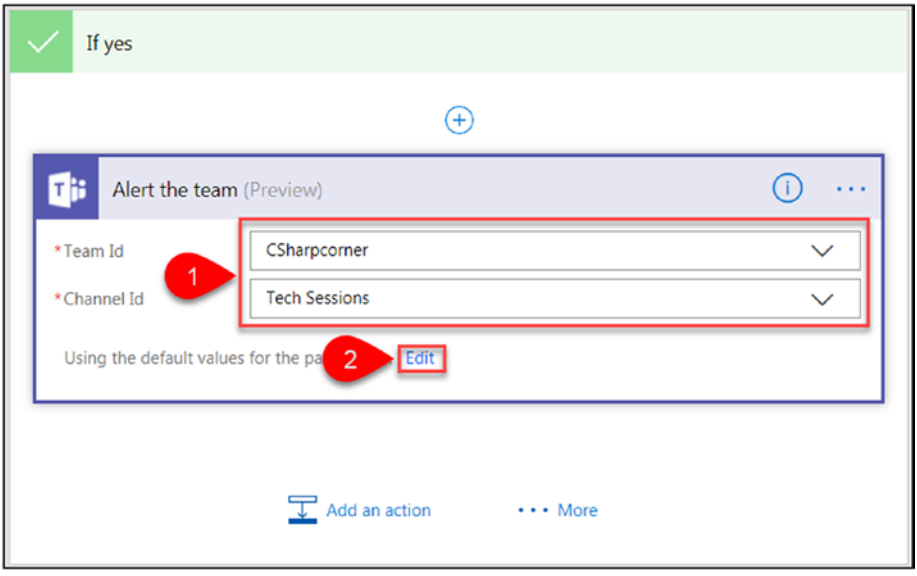

Figure 2-78. *Action parameters*

12. After you're done with the changes, enter a name for the flow or leave the default name, as shown in Figure 2-79. Click **Create Flow**.

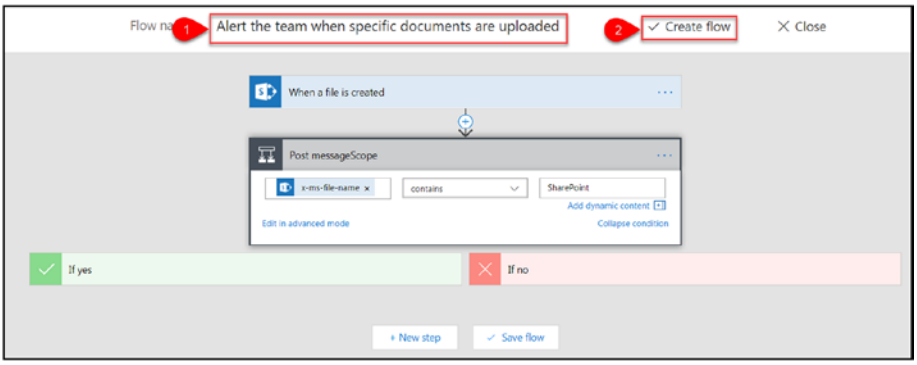

Figure 2-79. *Save and create a flow*

13. The flow has been created successfully. Click **Done,** as shown in Figure 2-80.

Figure 2-80. *The flow has been created*

To test your flow, perform the following steps:

1. Navigate to the SharePoint Document Library and upload a document with a file name that contains SharePoint, as shown in Figure 2-81.

Figure 2-81. *Upload a document*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to Microsoft Teams and you should see a new message in the respective team and channel, as shown in Figure 2-82.

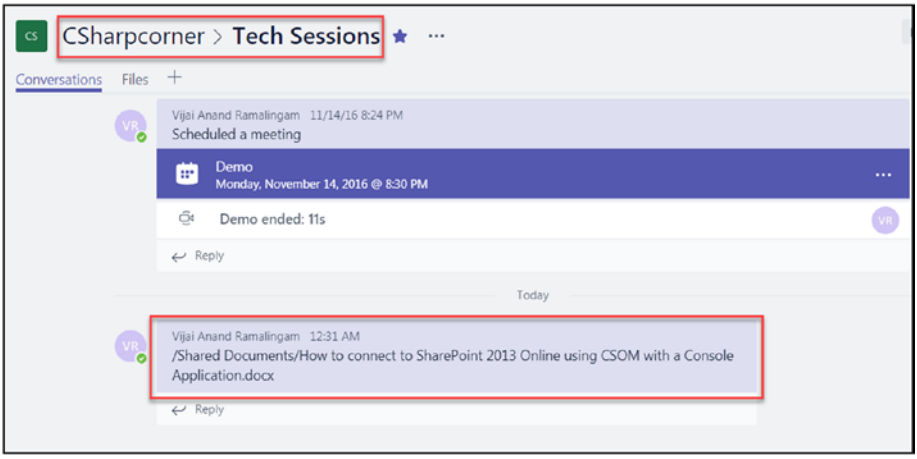

Figure 2-82. *Message posted in Microsoft Teams*

Thus, in this section, you learned how to create a flow to post a message in Microsoft Teams when specific documents are uploaded in SharePoint.

Send Reminder Emails for Overdue Tasks in SharePoint

A common requirement in SharePoint is to send reminder emails for overdue tasks. You can achieve this using any of the following approaches:

- SharePoint designer workflow
- Scheduling console application or PowerShell script
- Configuring a retention policy or any other approach

In this section, you will learn how to create a flow to send reminder emails for overdue tasks in SharePoint.

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows**. Click the **Create from blank** link shown in Figure 2-83.

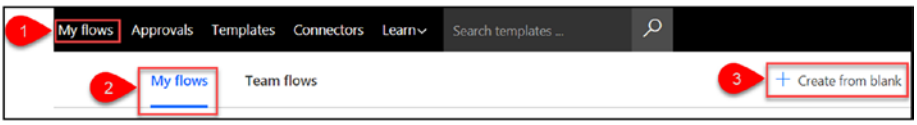

Figure 2-83. *Create from blank*

3. Click **Search hundreds of connectors and triggers**, as shown in Figure 2-84.

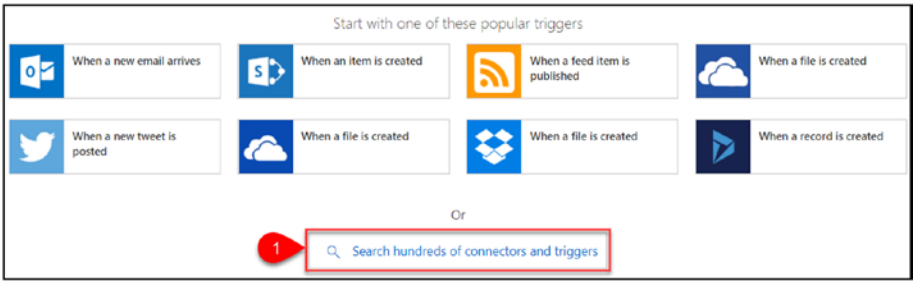

Figure 2-84. *Search for more connectors*

4. Click the **Schedule** connector, as shown in Figure 2-85.

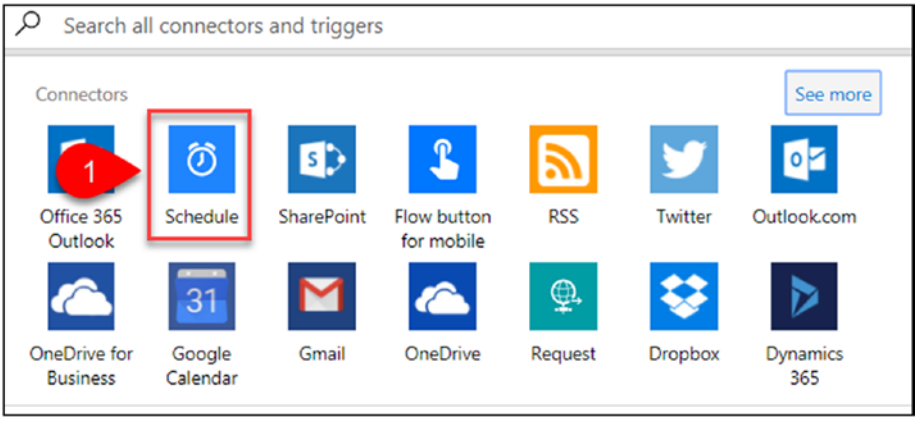

Figure 2-85. *Schedule connector*

5. Click the **Schedule – Recurrence** trigger, as shown in Figure 2-86.

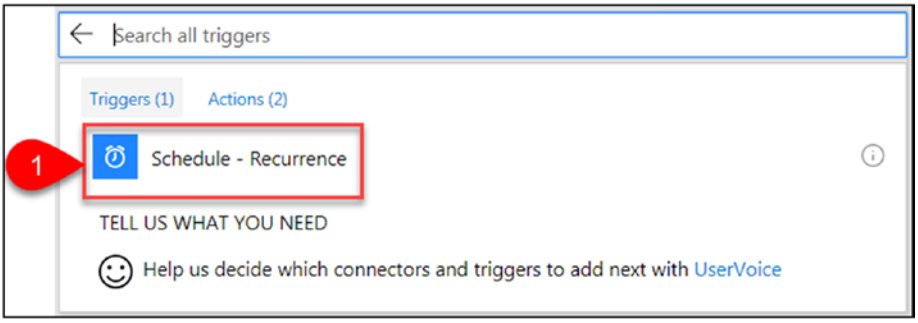

Figure 2-86. *The Schedule – Recurrence trigger*

6. Leave the default interval as 5 minutes, as shown in Figure 2-87, so that you can test it and update the interval in real time based on your requirements.

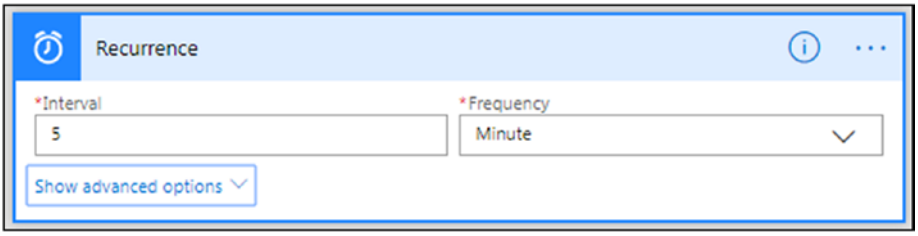

Figure 2-87. *Recurrence interval*

7. Click **Next step** and then click **Add an action**, as shown in Figure 2-88.

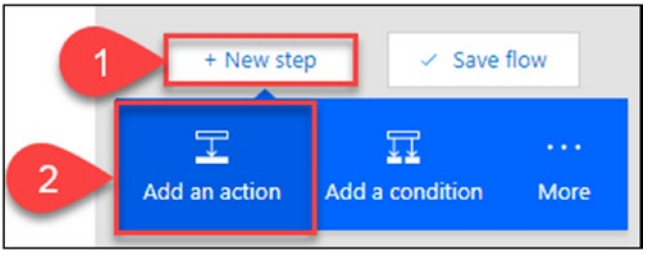

Figure 2-88. *Add an action*

8. Type the keyword **sharepoint** in the search text box and then click the **SharePoint - Get items** action shown in Figure 2-89.

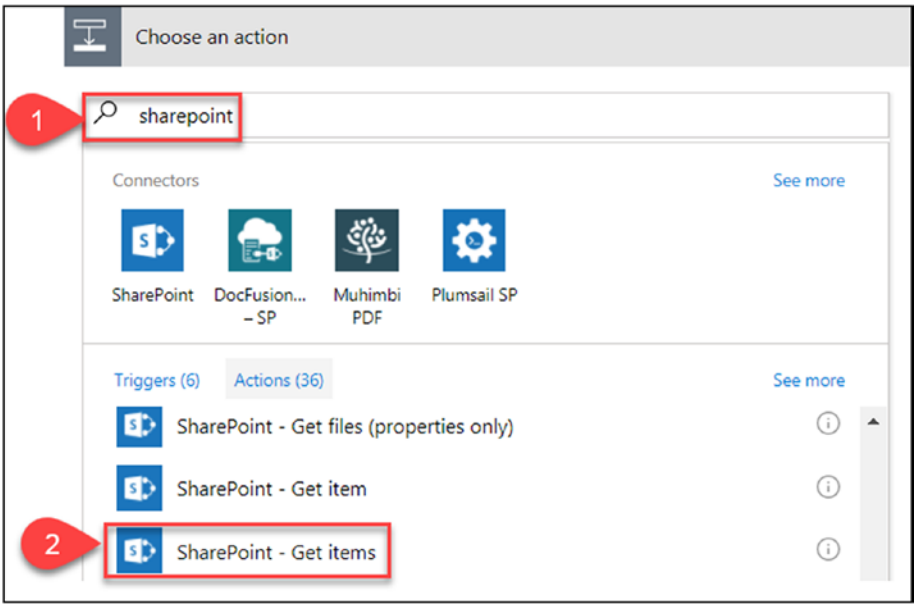

Figure 2-89. *Select the SharePoint – Get items action*

9. Select the SharePoint site address and list name and then set the filter query with the filter condition of **Due Date less than current date** (DueDate lt datetime'@{utcNow()}'), as shown in Figure 2-90.

Note The tasks list will not be displayed in the **List Name** drop-down; you need to enter the list name manually by clicking **Enter custom value.**

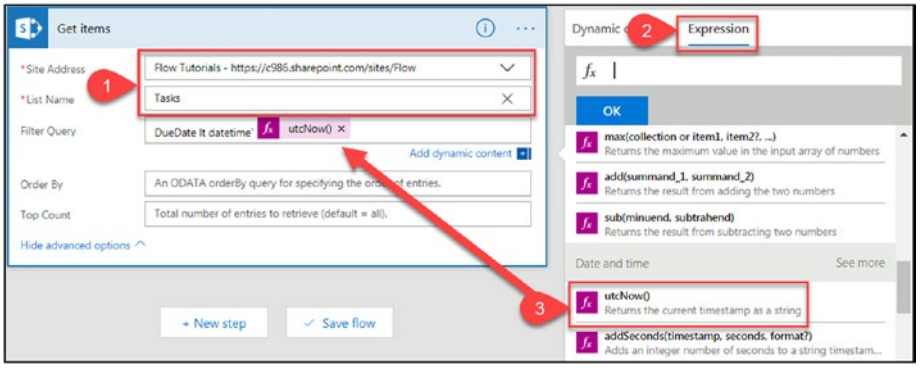

Figure 2-90. *Update the parameter values for the Get items action*

10. Click **Next step** and then click **More**. Click **Add an apply to each**, as shown in Figure 2-91.

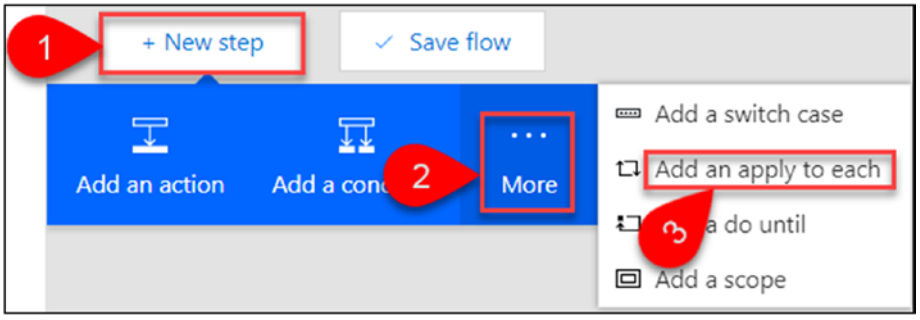

Figure 2-91. *The Add an apply to each button*

11. Add the dynamic content value from the **Get items** output to the **Select an output from previous steps** parameter, as shown in Figure 2-92. Click **Add an action**.

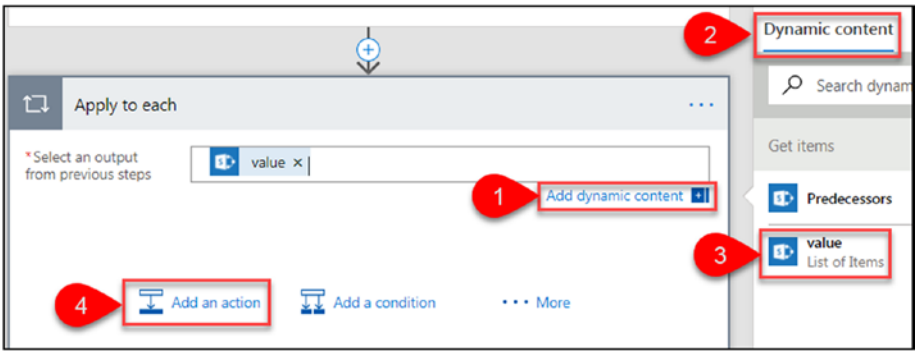

Figure 2-92. *Add an action*

12. Type **office 365** in the search text box and then click the **Office 365 – Send an email** action shown in Figure 2-93.

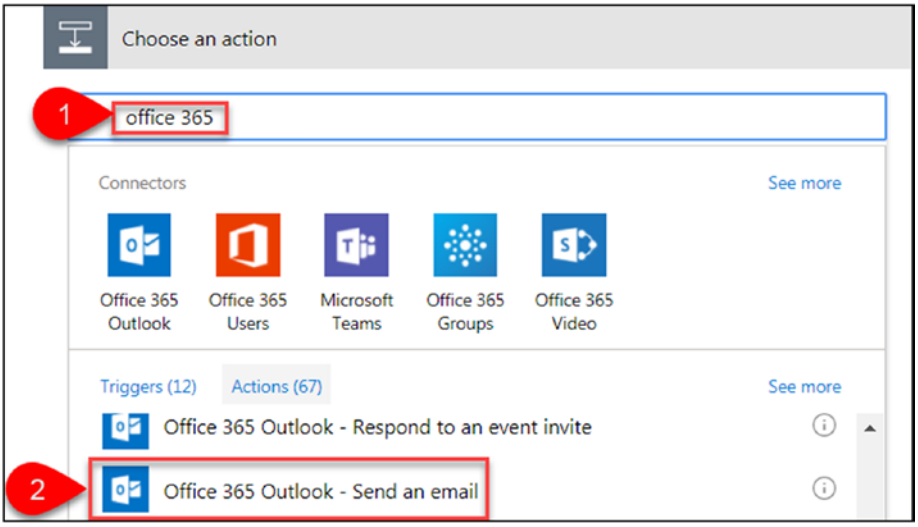

Figure 2-93. *Select the Office 365 Outlook – Send an email action*

13. Add static and dynamic content, as shown in Figure 2-94:
    - **To**: *Assigned To Email* (dynamic content)
    - **Subject**: Reminder – Task Overdue – *Task Name* (dynamic content)
    - **Body**: Complete the task by today – *Task Name* (dynamic content) *Link to Item* (dynamic content)

Note In the **Send an email** action, when the dynamic content **Assigned To Email** is added to the **To** field, one more loop named **Apply to each 2** is automatically added, as shown in Figure 2-94. This is because by default the **Assigned To** field in the tasks list has **Allow multiple selections** set to **Yes.** You can change or check the column settings by navigating to the list settings.

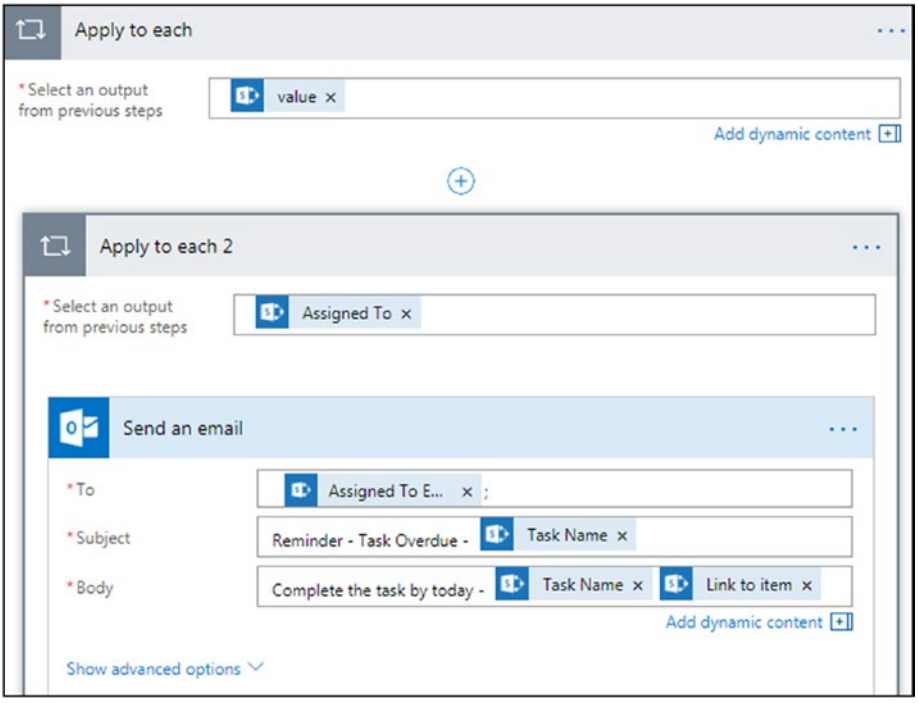

Figure 2-94. *The Send an email action*

14. After you're done with the changes, enter a name for the flow and click **Create Flow**, as shown in Figure 2-95.

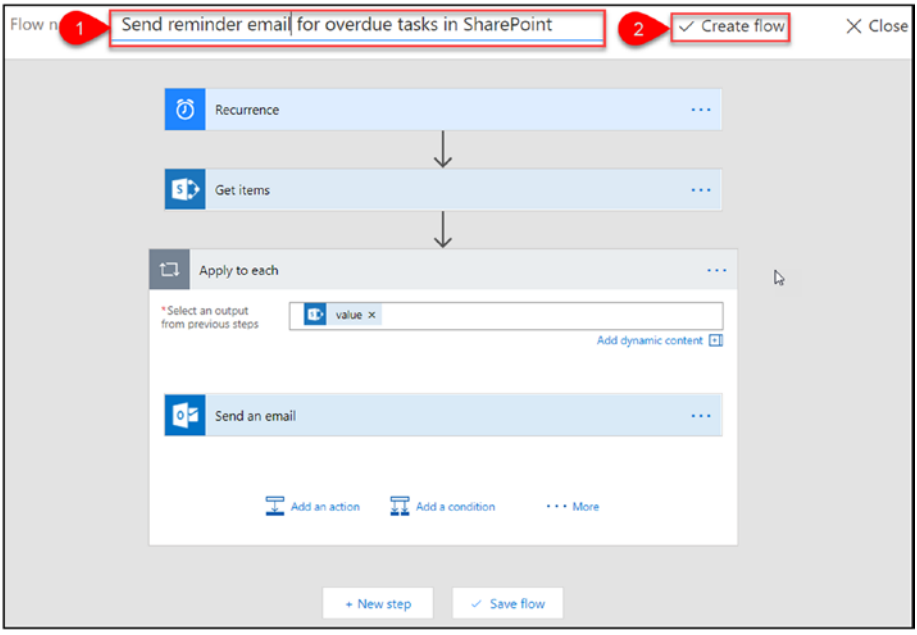

Figure 2-95. *Save and create the flow*

15. The flow has been created successfully. Click **Done**, as shown in Figure 2-96.

Figure 2-96. *The flow has been created*

Figure 2-97 shows the details for the newly created flow.

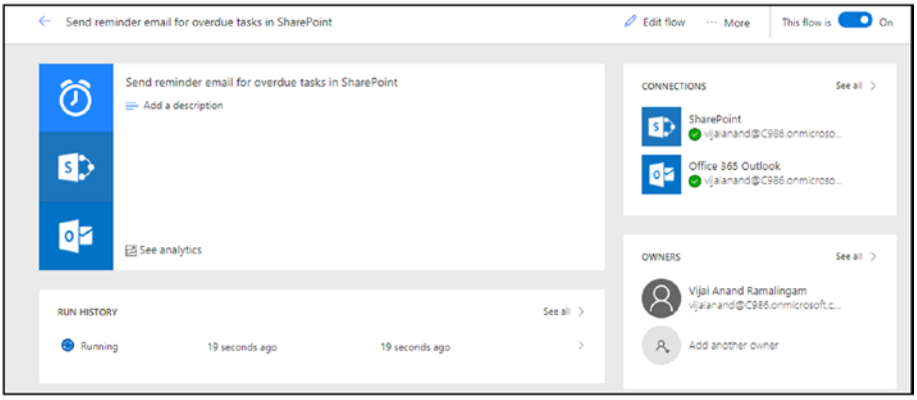

Figure 2-97. *Flow details*

16. To test your flow, look for overdue tasks in the tasks list, as shown in Figure 2-98.

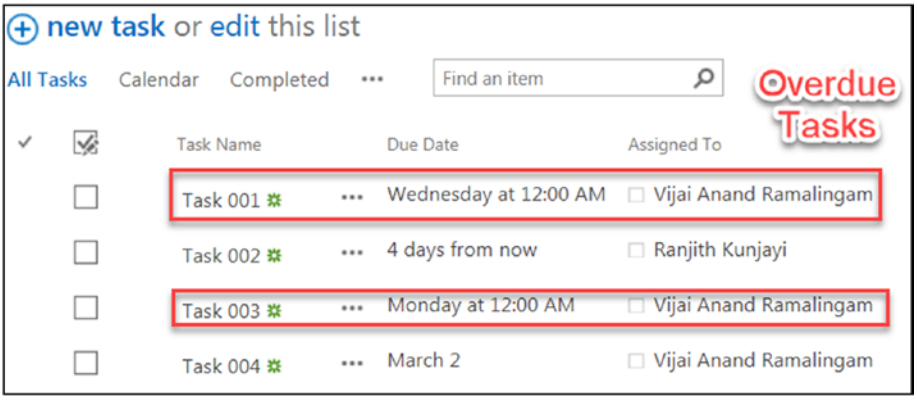

Figure 2-98. *Tasks list*

17. Every 5 minutes, the flow will be executed and will send emails about all overdue tasks, as shown in Figure 2-99.

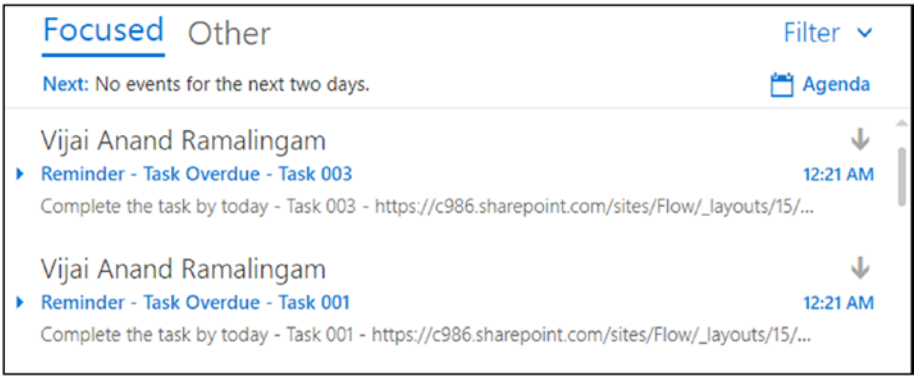

Figure 2-99. *Overdue tasks emails*

Thus, in this section, you learned how to create a flow to send reminder emails for overdue tasks in SharePoint.

Add a Switch Case in a Flow

In this section, you will learn how to use a switch case in a flow. A SharePoint Online custom list named **Social Media** will be used for this flow. It consists of the following fields (also shown in Figure 2-100):

- Title (single line of text)
- Post To (choice)

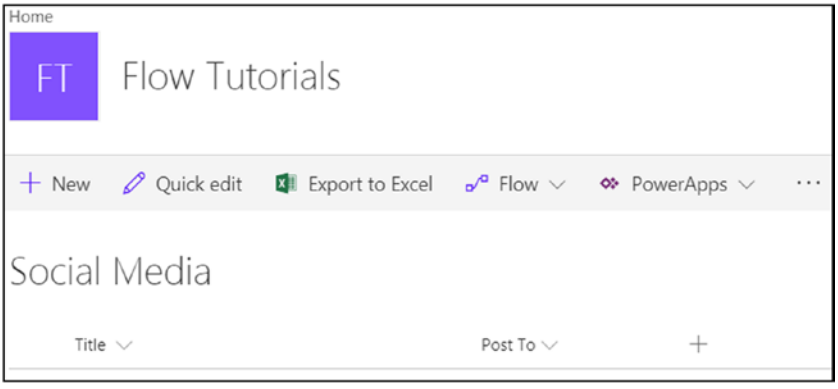

Figure 2-100. *Social Media list*

A flow will be triggered when a new item is added and it will post a message on Twitter, Yammer, or Facebook based on the **Post To** field selection in the list item.

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows**. Click the **Create from blank** link, as shown in Figure 2-101.

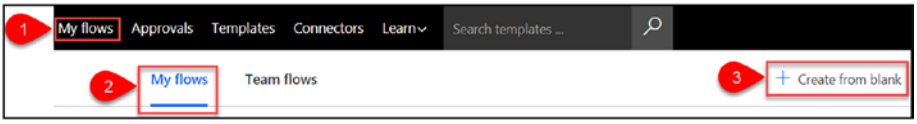

Figure 2-101. *The Create from blank link*

3. Click **Search hundreds of connectors and triggers**, as shown in Figure 2-102.

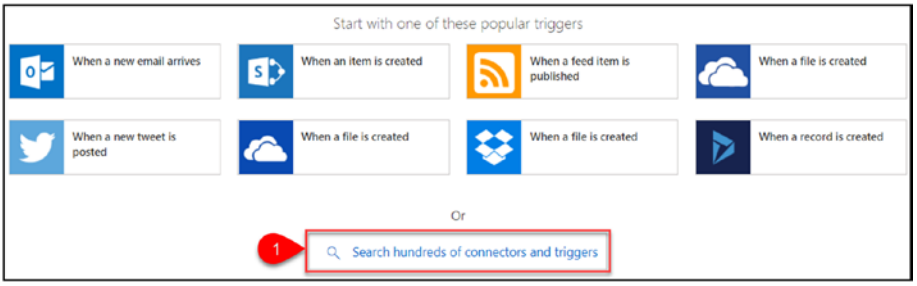

Figure 2-102. *Search for more connectors*

4. Type the keyword **sharepoint** in the search text box and then click the **SharePoint – When an item is created** trigger shown in Figure 2-103.

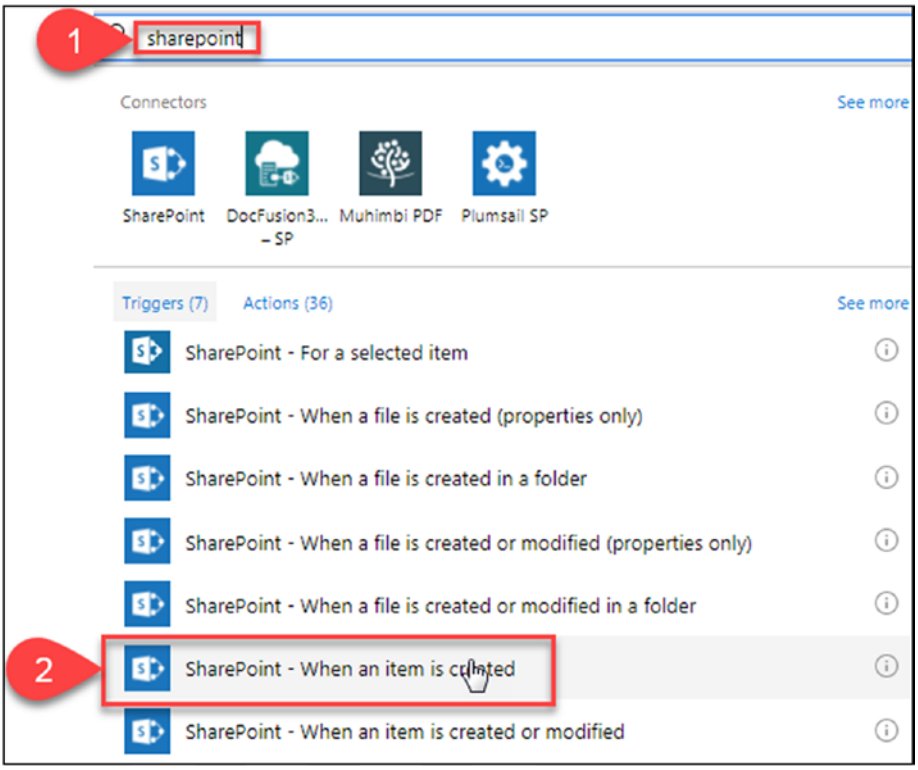

Figure 2-103. *Select the SharePoint – When an item is created action*

5. Select the SharePoint **Site Address** and **List Name**, as shown in Figure 2-104.

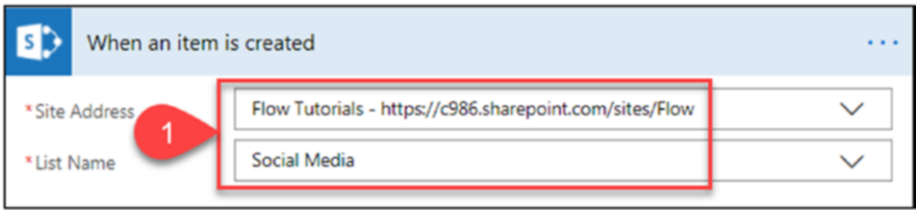

Figure 2-104. *Action parameters*

6. Click **Next step** and then click **Add a switch case** from more options, as shown in Figure 2-105.

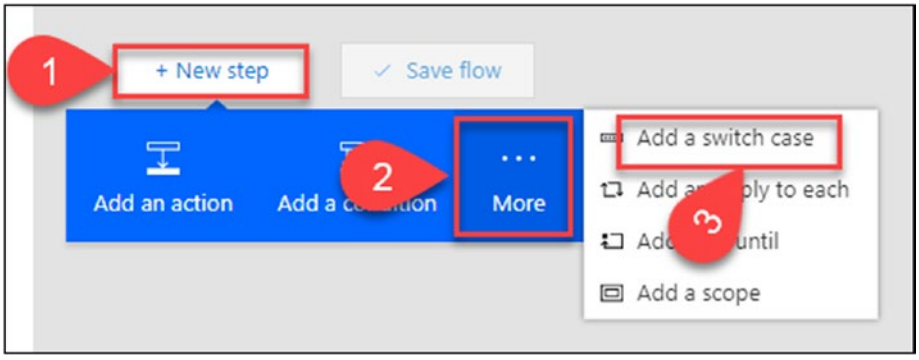

Figure 2-105. *Add a switch case*

7. Add the dynamic content **Post To Value** to the switch case, as shown in Figure 2-106.

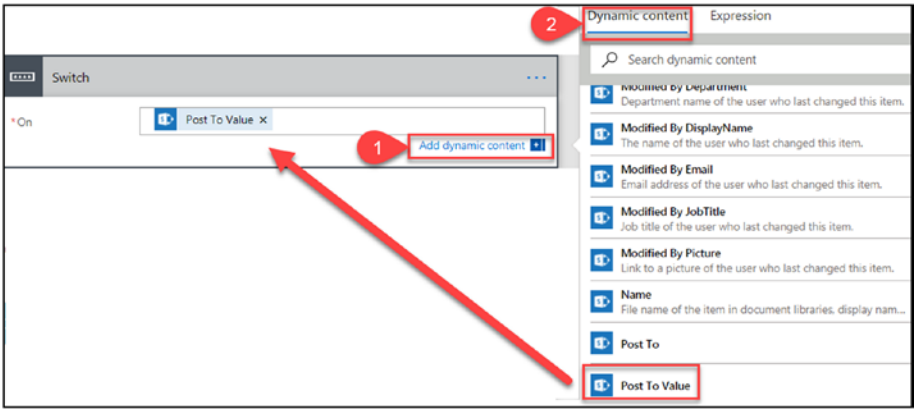

Figure 2-106. *Add dynamic content to the switch case*

8. Go to **Case**, enter the value as **Twitter**, and then click **Add an action**, as shown in Figure 2-107.

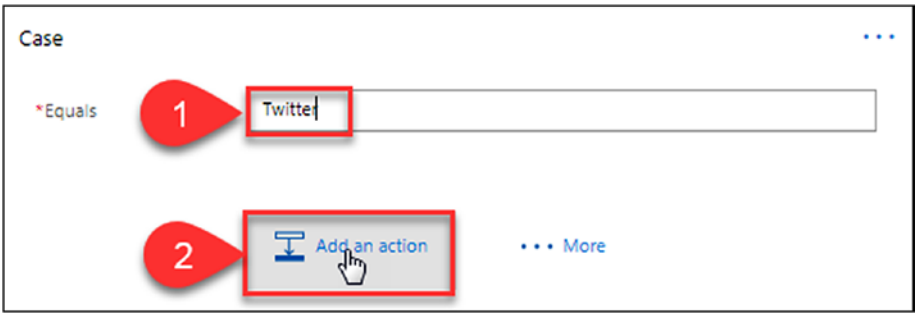

Figure 2-107. *Case - Twitter*

9. Type the keyword **Twitter** in the search text box and then click the **Twitter – Post a tweet** action, as shown in Figure 2-108.

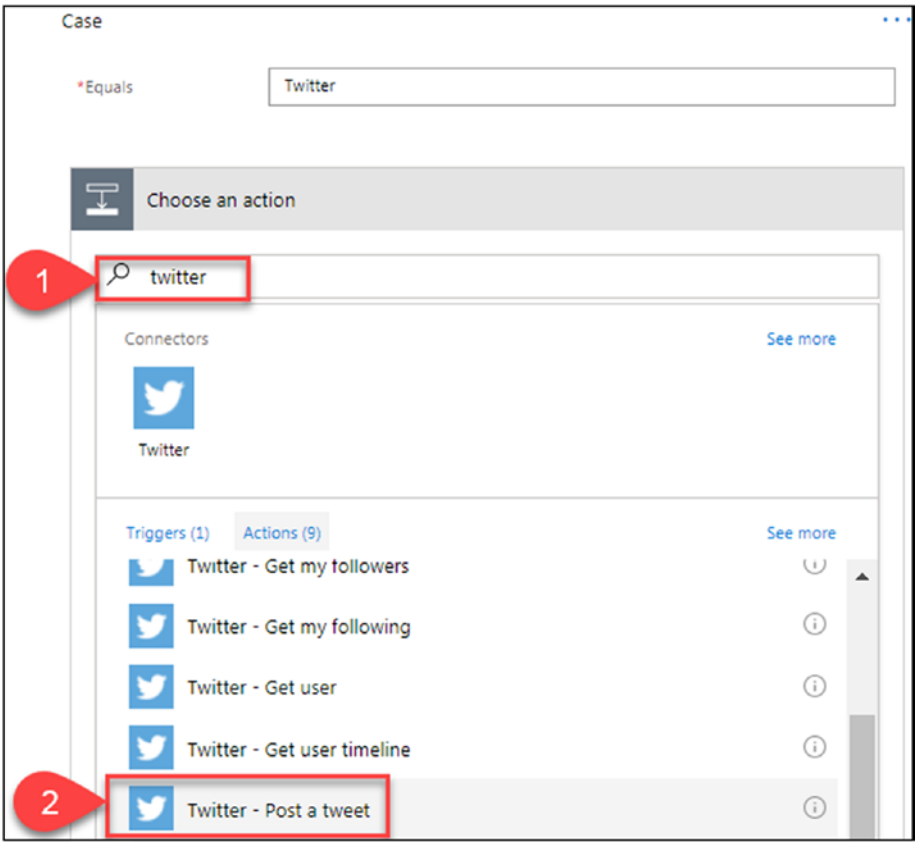

Figure 2-108. *Select the Twitter – Post a tweet action*

10. Add the dynamic content of **Title** to **Tweet text**, as shown in Figure 2-109.

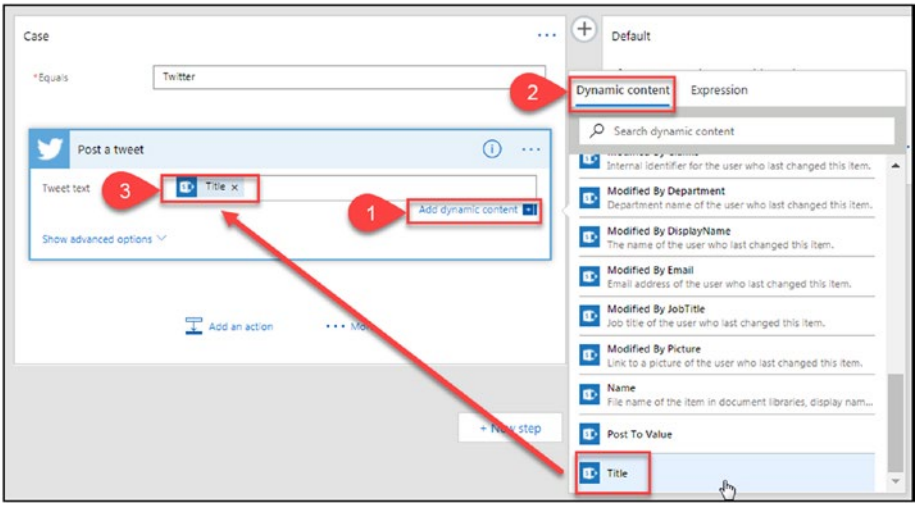

Figure 2-109. *The Post a tweet action*

11. Click the + sign to add a case, as shown in Figure 2-110.

Figure 2-110. *Add a case*

12. Go to **Case 2**, enter the value as **Yammer**, and then click **Add an action**, as shown in Figure 2-111.

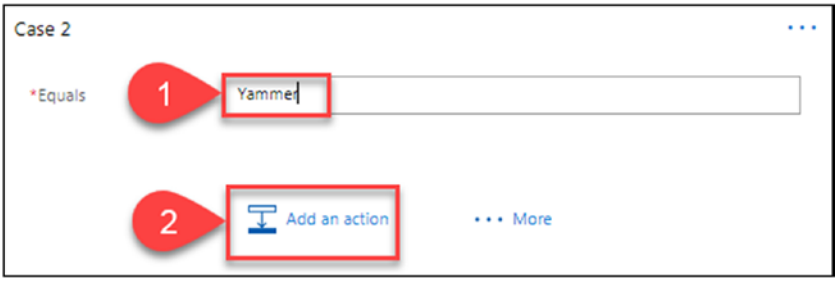

Figure 2-111. *Case 2 - Yammer*

13. Type the keyword **Yammer** in the search text box and then click the **Yammer – Post Message** action shown in Figure 2-112.

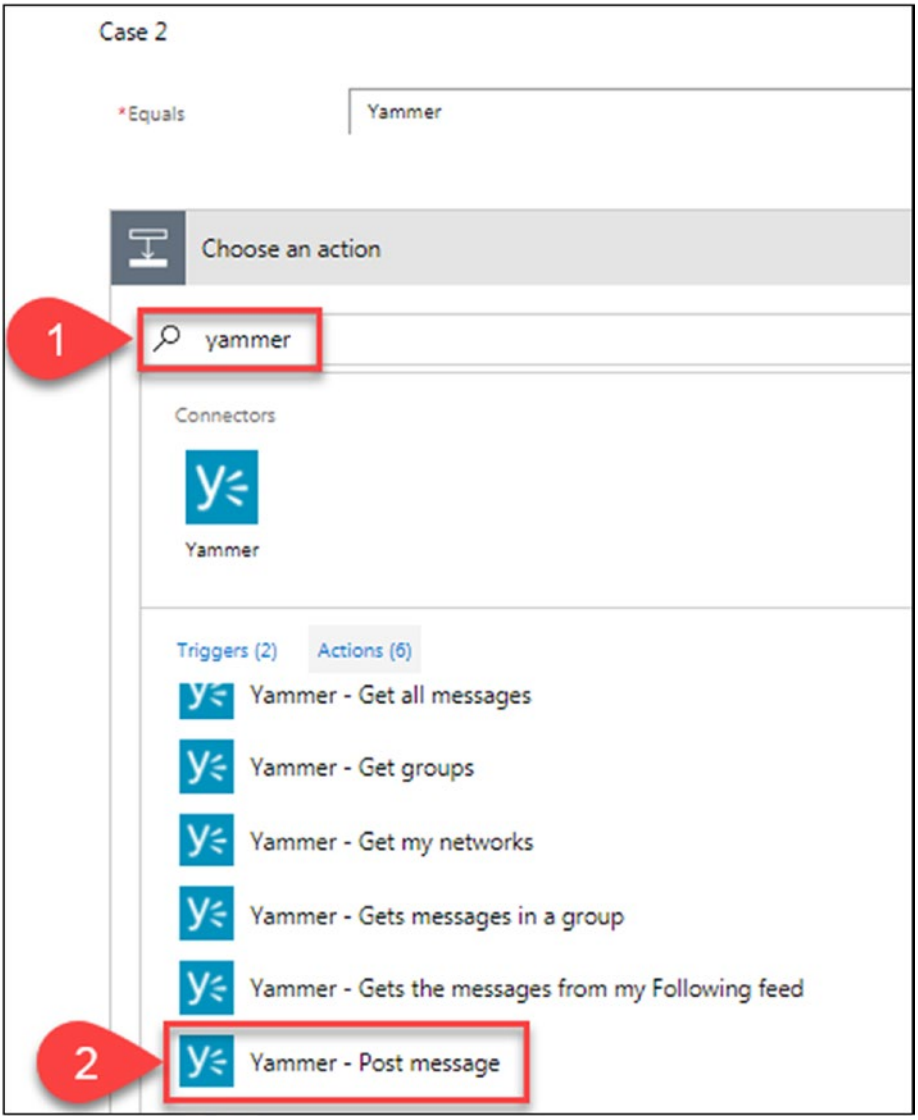

Figure 2-112. *Select the Yammer – Post Message action*

14. Select the Group ID and Network ID and then add the dynamic content of **Title** to **Message Text**, as shown in Figure 2-113.

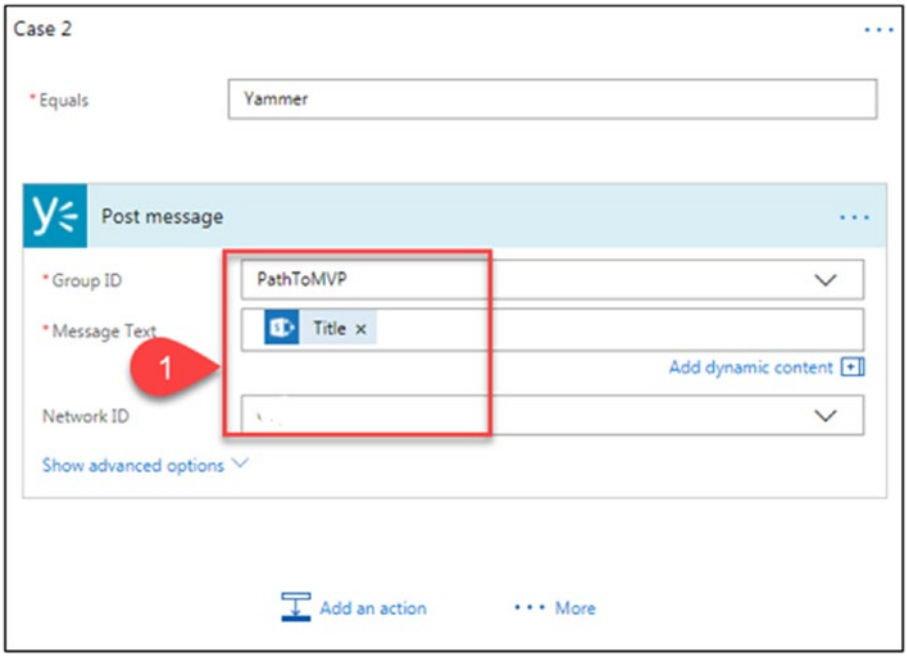

Figure 2-113. *The Post Message action*

15. Go to **Default** and click **Add an action**, as shown in Figure 2-114.

Figure 2-114. *Add an action*

16. Type the keyword **Facebook** in the search text box and then click the **Facebook – Post to my timeline** action shown in Figure 2-115.

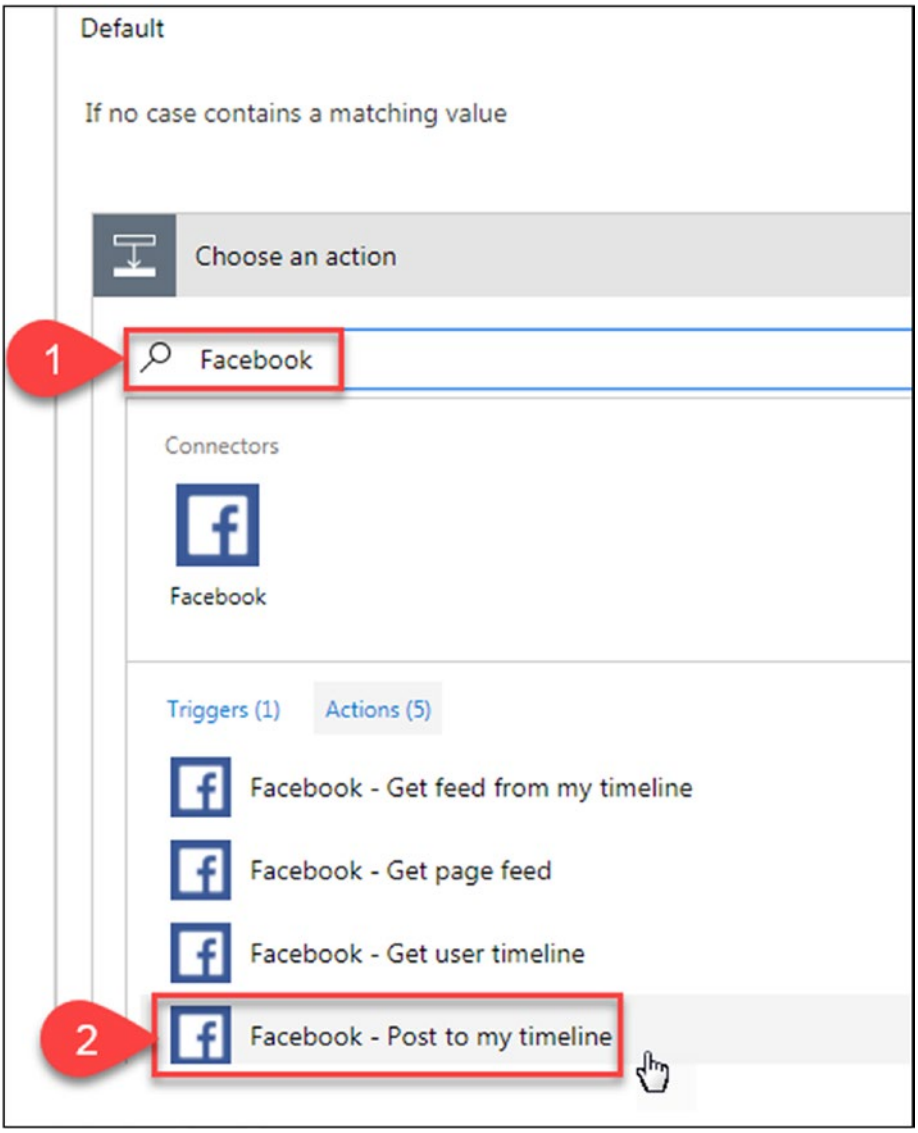

Figure 2-115. *Select the Facebook – Post to my timeline action*

17. Add the dynamic content of **Title** to **Status message**, as shown in Figure 2-116.

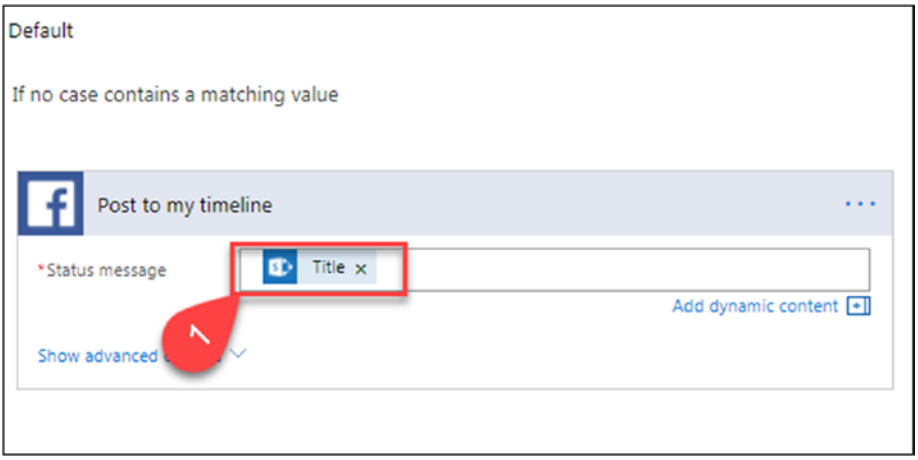

Figure 2-116. *The Post to my timeline action*

18. Enter a name for the flow and then click **Create flow**, as shown in Figure 2-117.

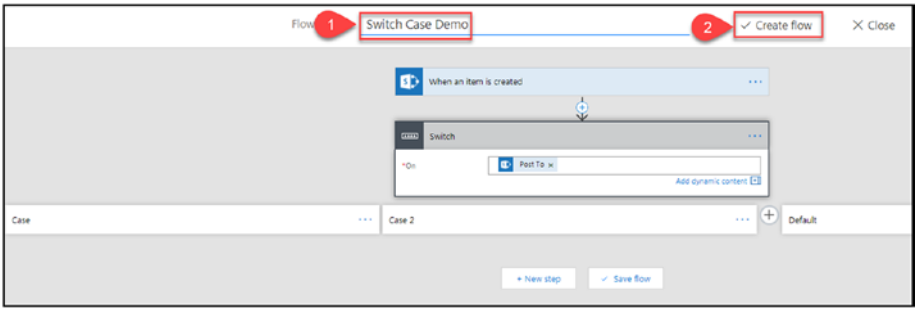

Figure 2-117. *Create a flow*

19. Figure 2-118 shows the details for the newly created flow.

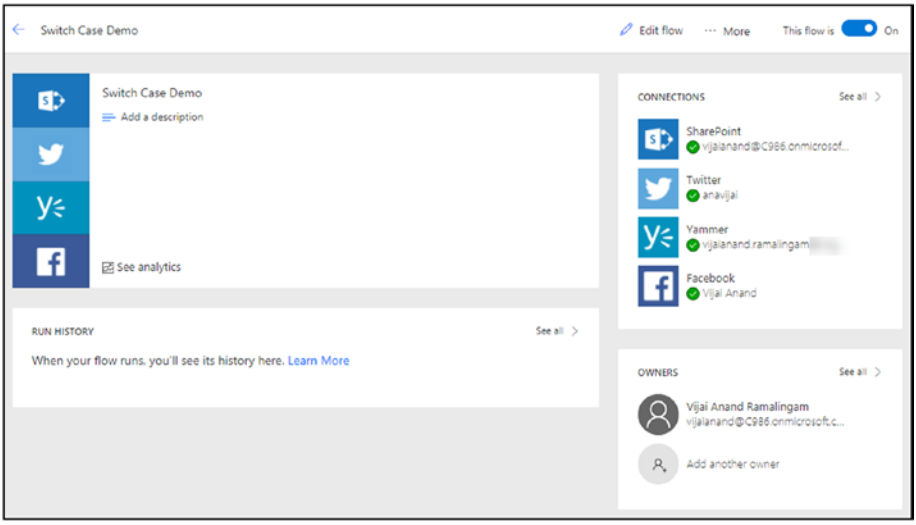

Figure 2-118. *Flow details*

To test your flow, perform the following steps:

1. Navigate to the SharePoint Online custom list. Create a new item with a message that has to be posted and select the **Post To** value where it has to be posted. A new item will be created with a message and posted to **Twitter**, as shown in Figure 2-119.

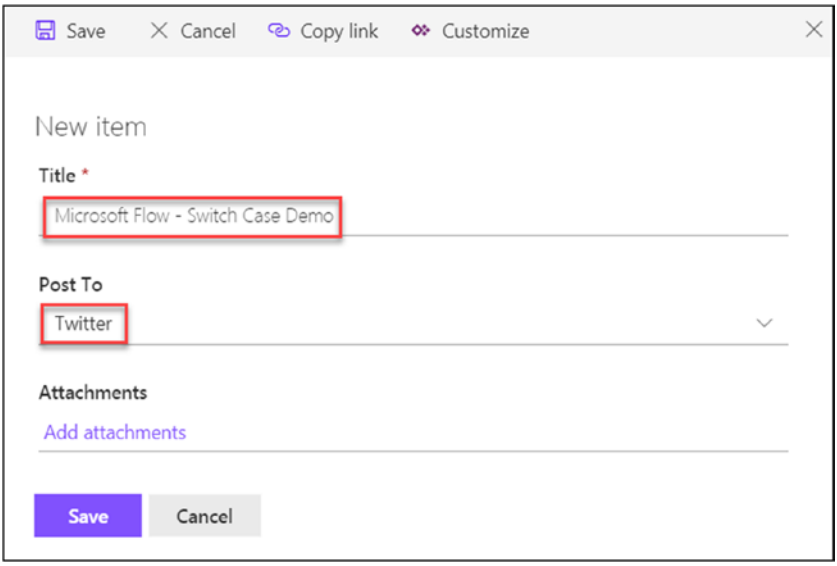

Figure 2-119. *Create a new item*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, navigate to the Twitter account and you should see a new tweet, as shown in Figure 2-120.

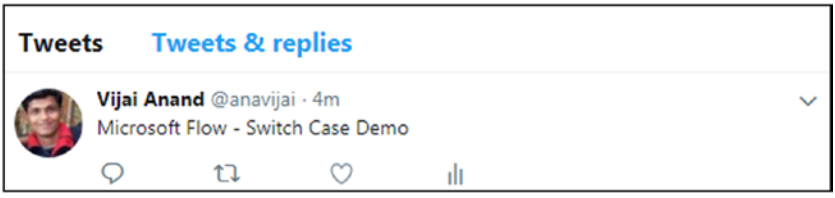

Figure 2-120. *New tweet*

Thus, in this section, you learned how to use a switch case in Flow.

CHAPTER 3

Approval Flows

Microsoft Flow allows you to create and manage the approval of documents or processes. For example, whenever a document is uploaded to SharePoint, it can be sent for approval.

Manage Approvals

Microsoft Flow allows approvers to respond to requests from

- An approval center
- An email inbox
- A mobile app

In the approval center, all received and sent requests are available and the approvers have the ability to respond, send emails, and more. Click **Received requests** to view all of the requests waiting for approval. Upon clicking the request, details will be displayed, as shown in Figure 3-1.

V. A. Ramalingam, *Introducing Microsoft Flow*, https://doi.org/10.1007/978-1-4842-3630-7_3

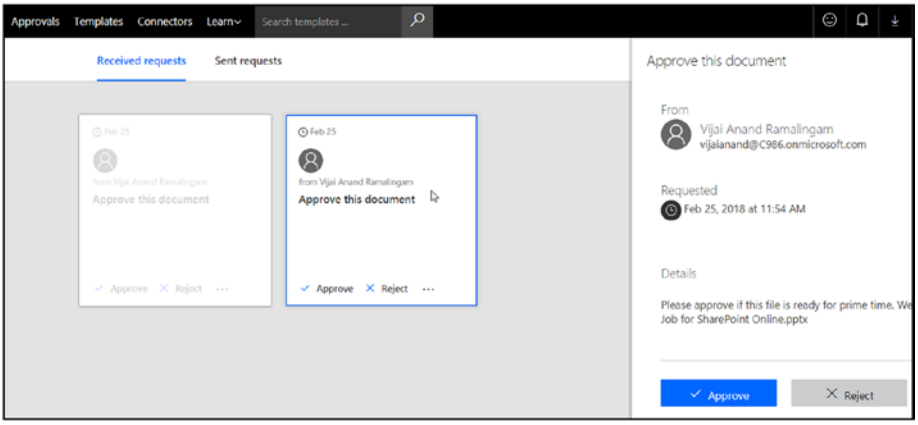

Figure 3-1. *Received requests*

Click **Sent requests** to view all the requests sent for approval. Upon clicking the request, details will be displayed, as shown in Figure 3-2.

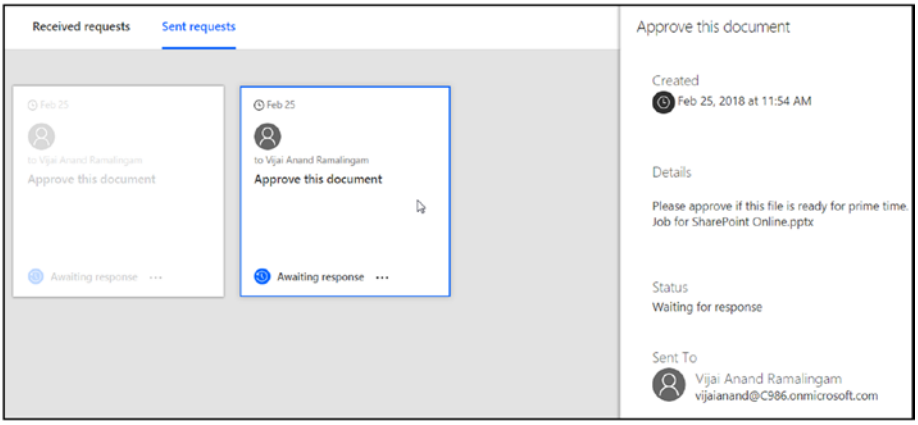

Figure 3-2. *Approved requests*

Start an Approval When a New Item Is Added in SharePoint

In this section, you will learn how to create a flow to start an approval when a new item is added in SharePoint.

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **Approvals** and then select the **Start approval when a new item is added** template. Click **Add,** as shown in Figure 3-3.

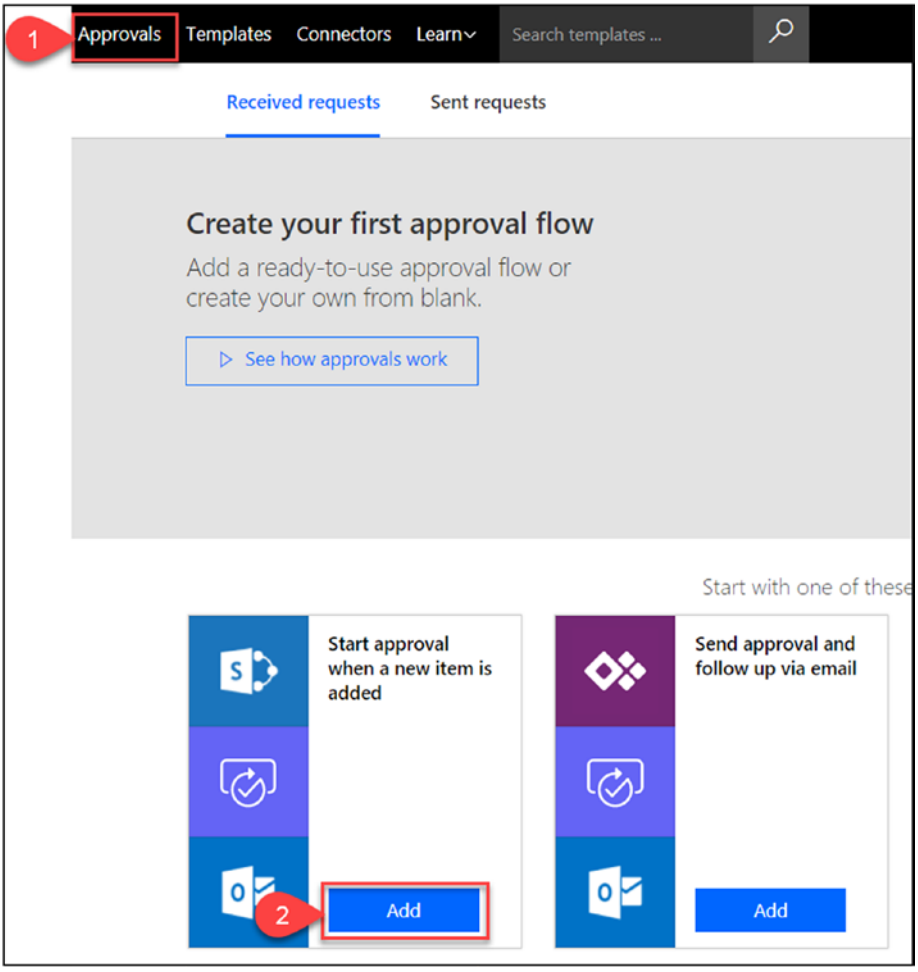

Figure 3-3. *Select a template*

3. Sign into your Office 365 Outlook and SharePoint accounts. Click **Continue,** as shown in Figure 3-4.

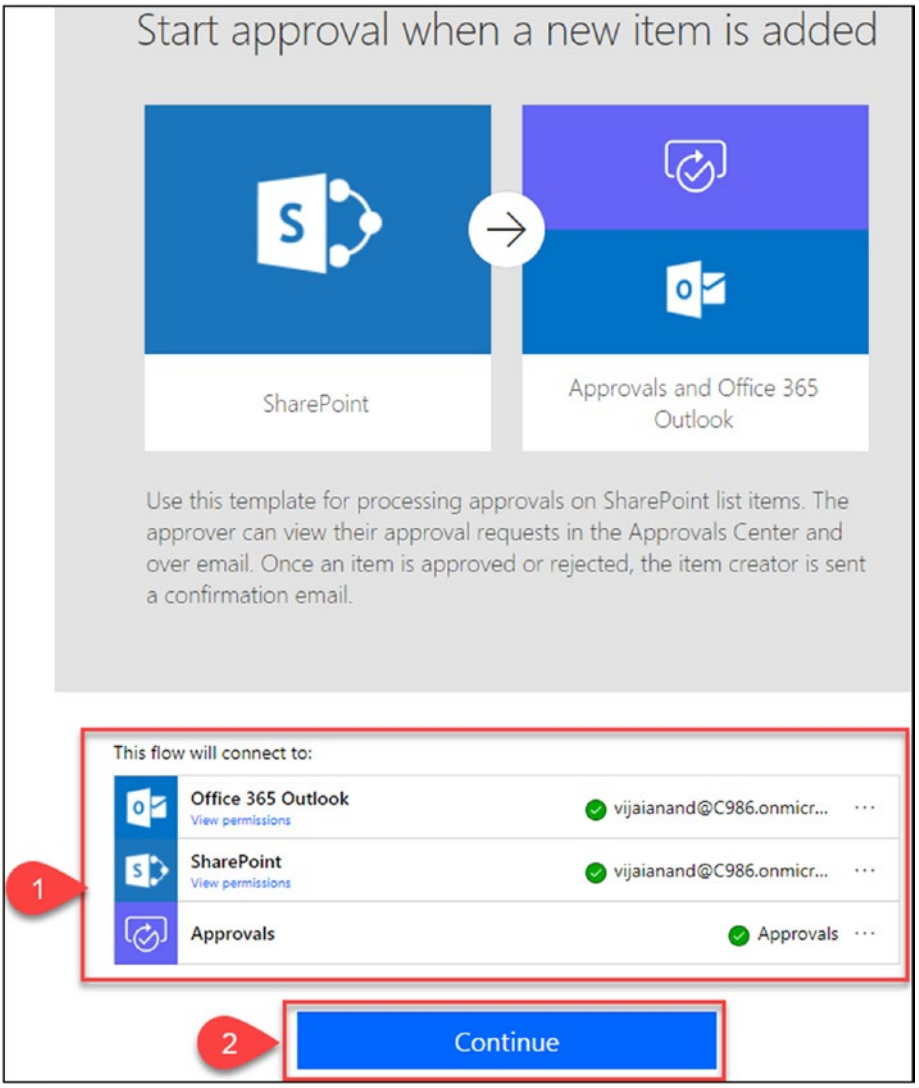

Figure 3-4. *Continue to create the flow*

4. Go to the **When a new item is added** trigger and select a site address and list name, as shown in Figure 3-5.

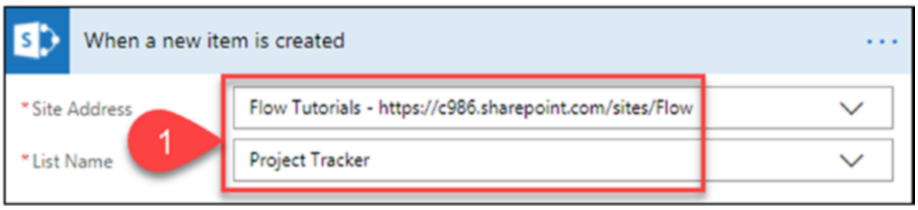

Figure 3-5. *When a new item is created*

5. Go to the **Start an approval** action, add an **Assigned To** value, and leave the default values as is for the other parameters, as shown in Figure 3-6. If required, update the values for the parameters based on requirements.

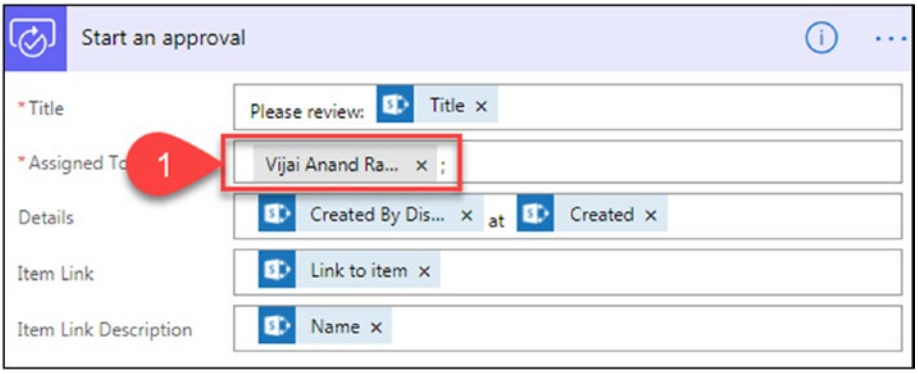

Figure 3-6. *Start an approval*

6. Go to the **Condition** action. If required, update the default values for the parameters based on requirements, as shown in Figure 3-7.

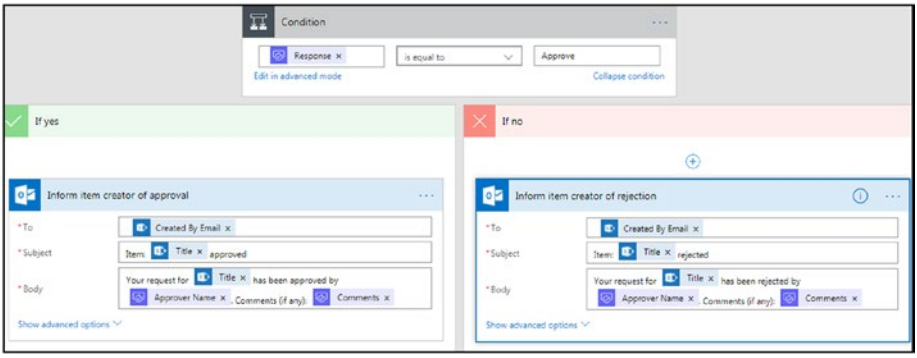

Figure 3-7. *Conditions*

7. After you're done with the changes, enter a name for the flow or leave the default name, as shown in Figure 3-8. Click **Create Flow**.

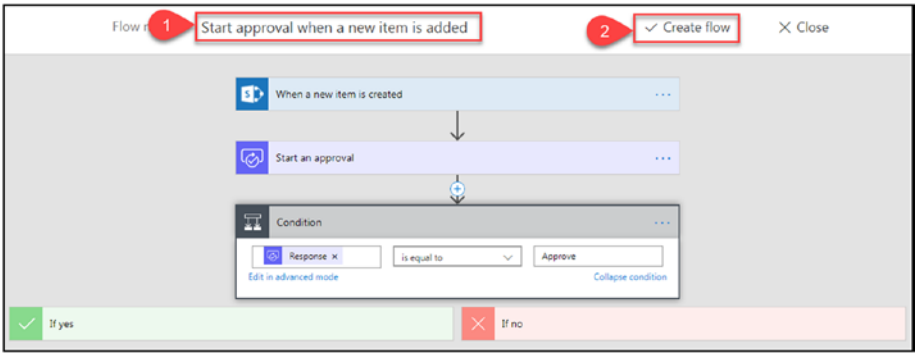

Figure 3-8. *Create the flow*

8. The flow has been created successfully. Click **Done,** as shown in Figure 3-9.

Figure 3-9. *The flow has been created*

Figure 3-10 shows the details of the newly created flow.

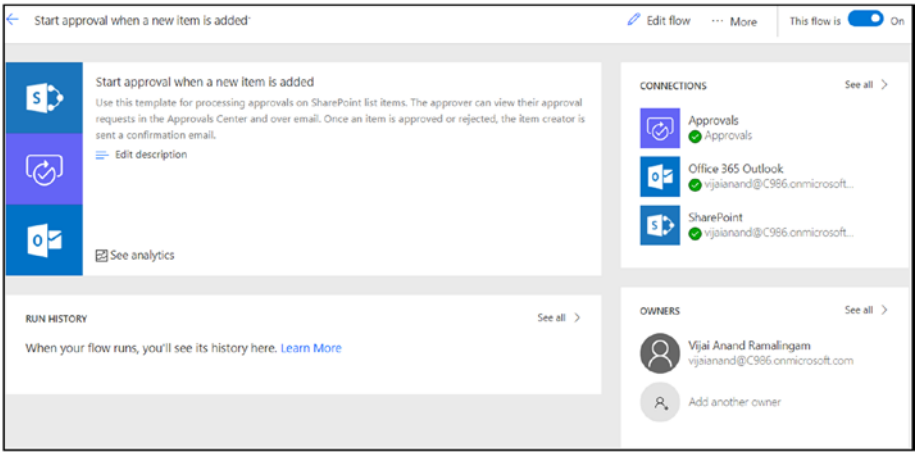

Figure 3-10. *Flow details*

To test your flow, perform the following steps:

1. Navigate to the SharePoint Online custom list and add a new item, as shown in Figure 3-11.

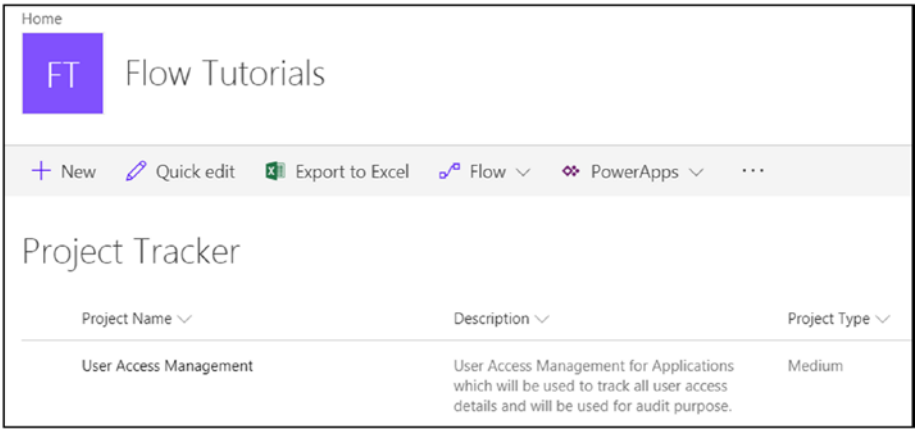

Figure 3-11. *Add a new item*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, the approver will receive an email in Office 365 Outlook, as shown in Figure 3-12. Click **Approve**, provide approver comments, and then click **Submit**.

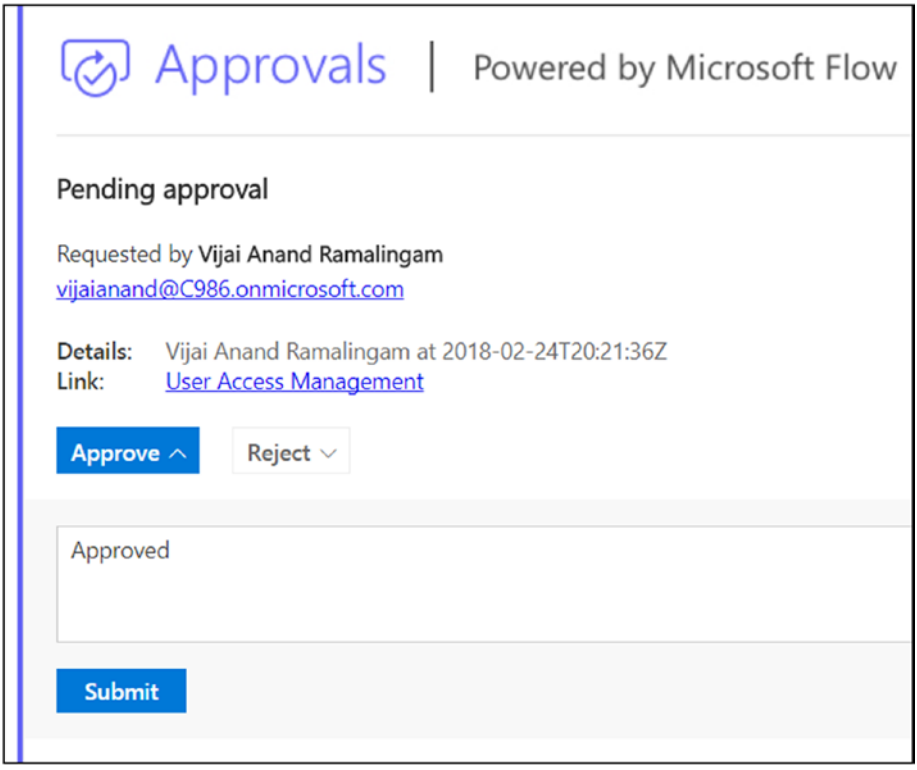

Figure 3-12. *Approval email*

3. Once the approver approves or rejects the request, the requester will receive an email, as shown in Figure 3-13.

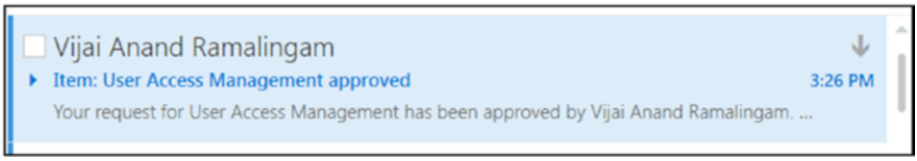

Figure 3-13. *Requester email*

Thus, in this section, you learned how to create a flow to start an approval when a new item is added in SharePoint.

Start an Approval for a New File to Move to a Different Folder

In this section, you will learn how to start an approval to move a new file to a different folder. The high-level design for this flow is shown in Figure 3-14.

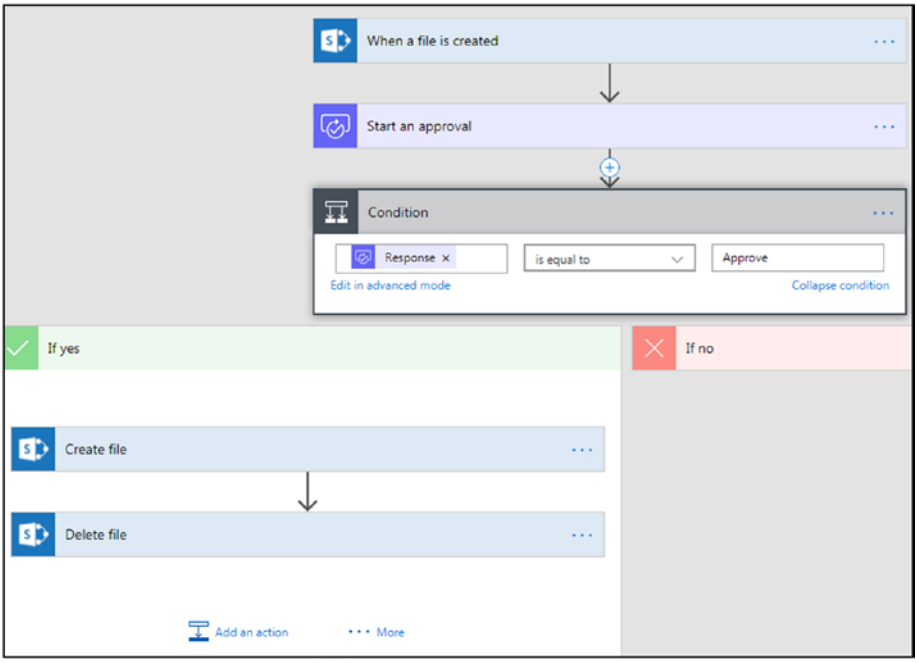

Figure 3-14. *High-level flow design*

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **Approvals** and then select the **Start an approval for new file to move it to a different folder** template. Click **Add,** as shown in Figure 3-15.

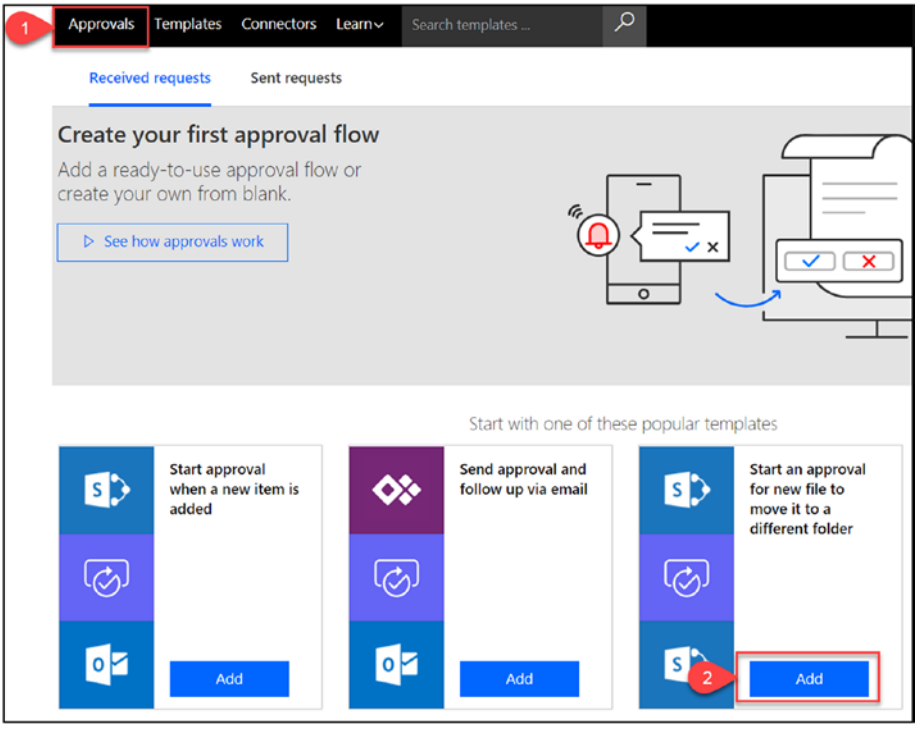

Figure 3-15. *Select a template*

3. Sign into your SharePoint account and then click **Continue**, as shown in Figure 3-16.

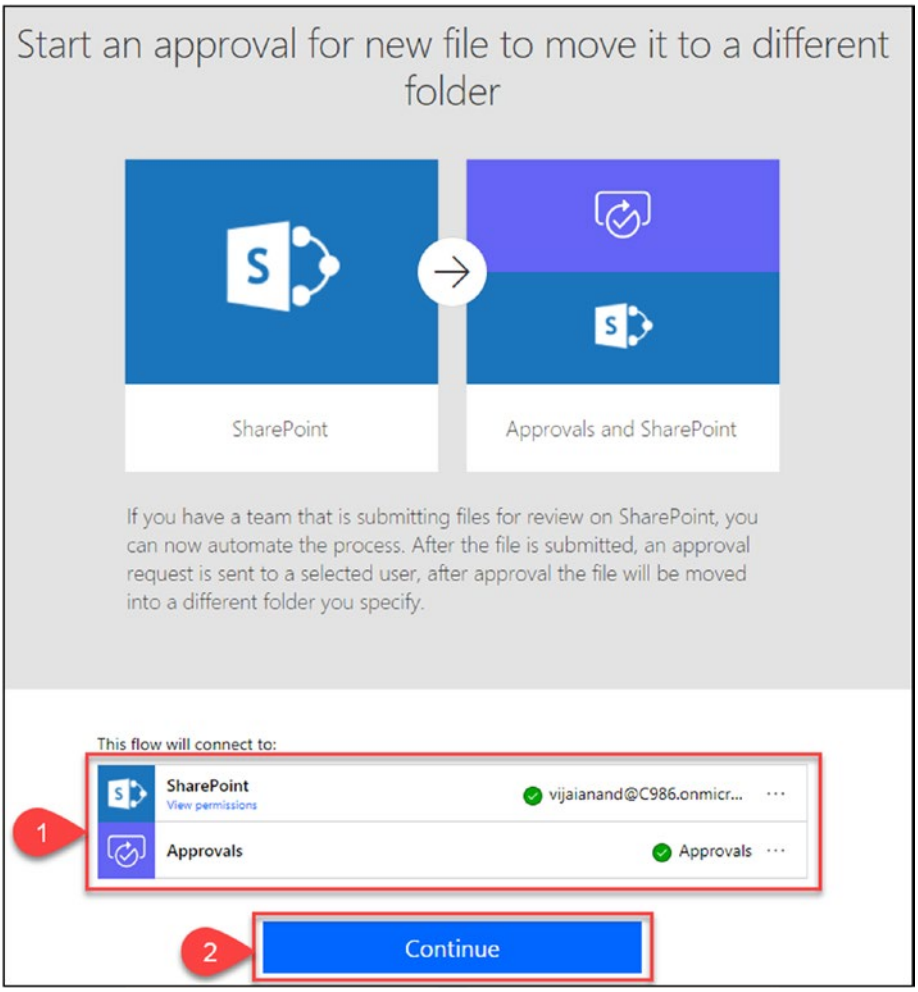

Figure 3-16. *Continue to create the flow*

4. Go to the **When a file is created** trigger and select a site address and folder, as shown in Figure 3-17.

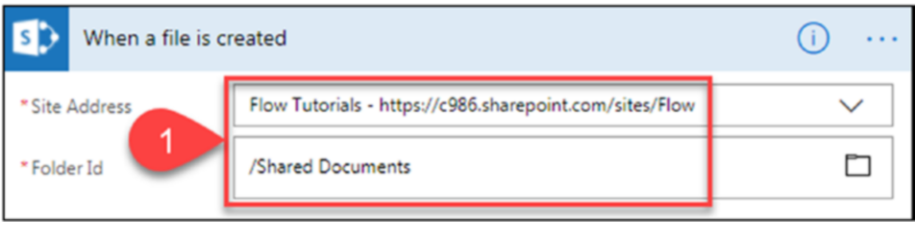

Figure 3-17. *Fill in the trigger parameters*

5. Go to the **Start an approval** action, add the **Assigned To** value, and leave the default values for the other parameters, as shown in Figure 3-18. If required, update the values for the parameters based on the requirements.

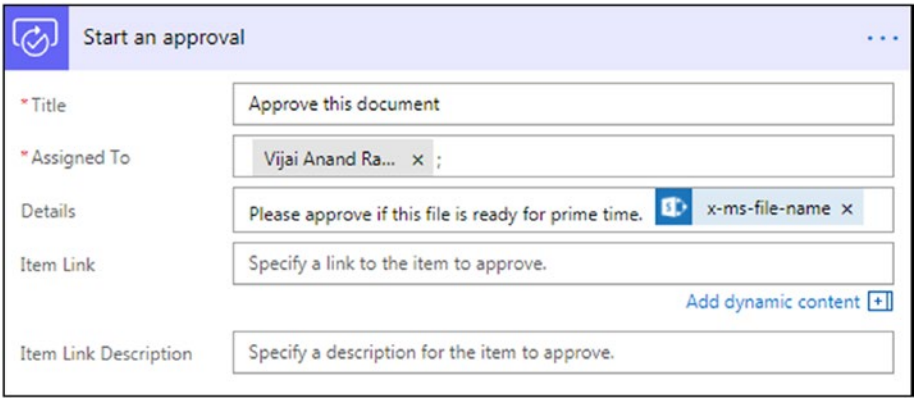

Figure 3-18. *Start an approval*

6. Go to the **Create file** action under the **Condition – If yes** action and select the site address and folder where the file is to be copied, as shown in Figure 3-19.

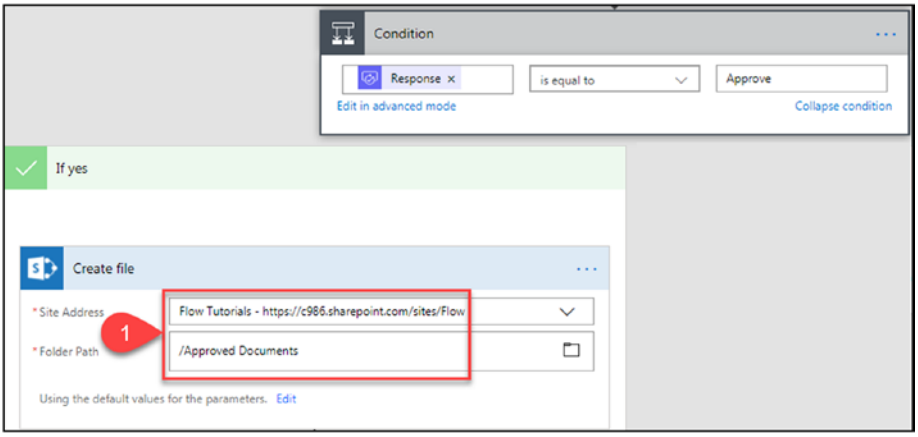

Figure 3-19. *The Create file action*

7. Go to the **Delete file** action under the **Condition – If yes** action and select the site address, as shown in Figure 3-20. The file identifier is the dynamic content or output returned from the **When a file is created** trigger, which will be used to delete the file.

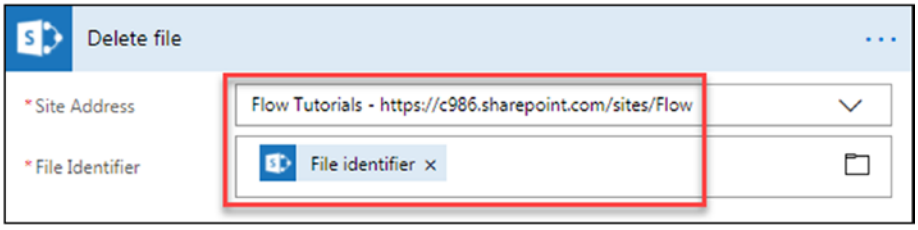

Figure 3-20. *The Delete file action*

8. Once you're done with the changes, enter a name for the flow or leave the default name, as shown in Figure 3-21. Click **Create flow**.

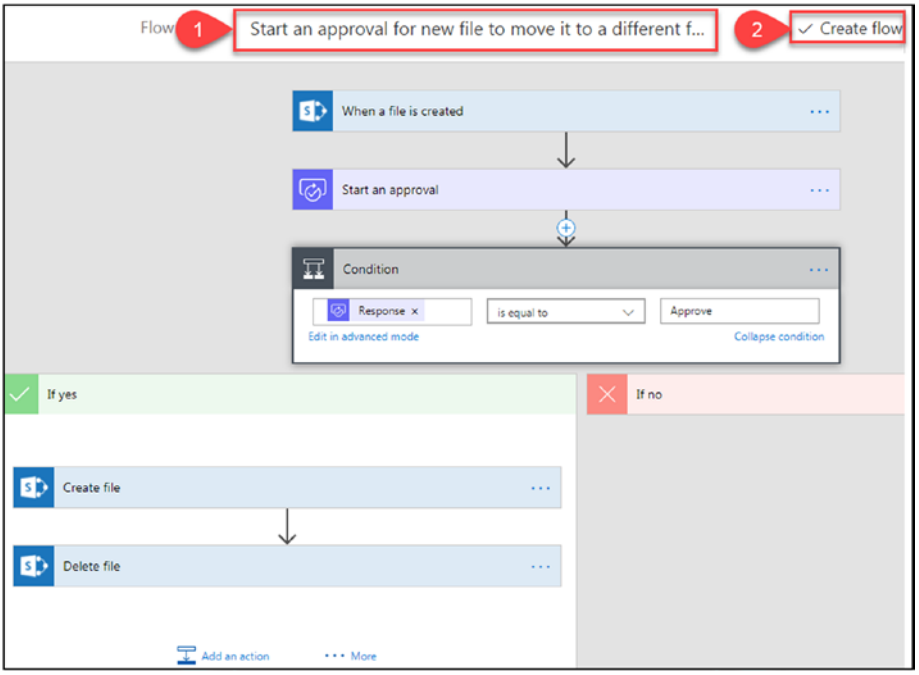

Figure 3-21. *Click the Create flow button*

9. Figure 3-22 shows the details of the newly created flow.

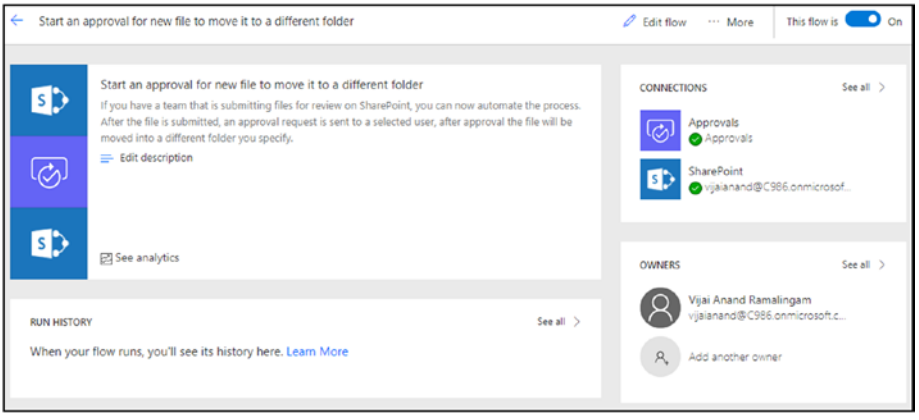

Figure 3-22. *Flow details*

To test your flow, perform the following steps:

1. Navigate to the SharePoint Online document library and upload a document, as shown in Figure 3-23.

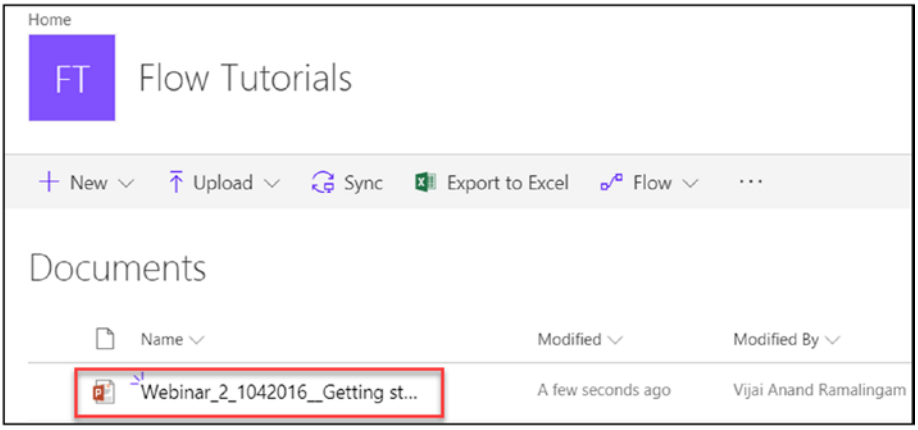

Figure 3-23. *Upload a document*

2. For this template, the default trigger is every 5 minutes. After 5 minutes, the approver will receive an email in Office 365 Outlook, as shown in Figure 3-24. Click **Approve**, provide approver comments, and then click **Submit**.

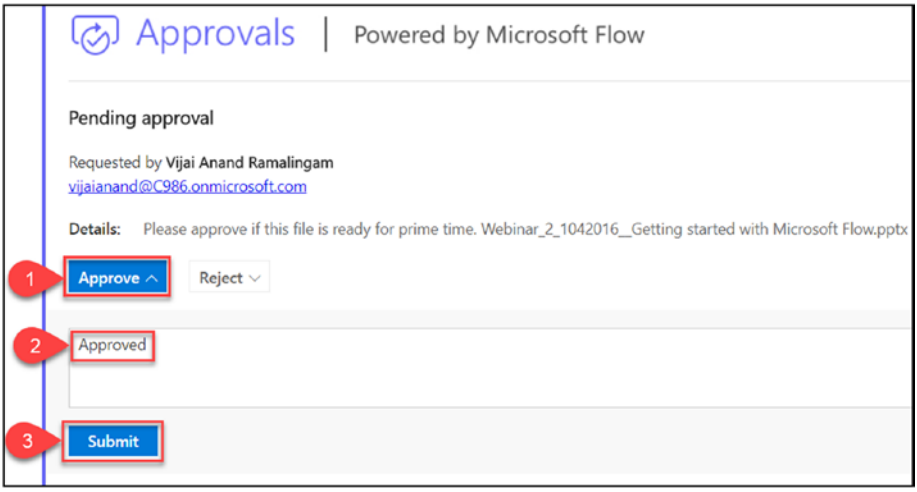

Figure 3-24. *Approval email*

3. Once the file is approved, the file will be moved to different folder, as shown in Figure 3-25.

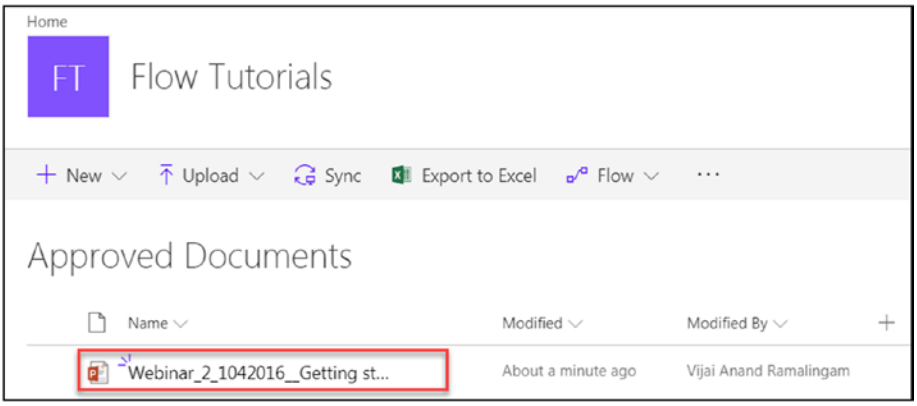

Figure 3-25. *The file was moved to a different location*

Thus, in this section, you learned how to start an approval for moving a newly created file to a different folder.

Create a Sequential Approval Flow

In this section, you will learn how to create a sequential workflow. The high-level design for this flow is shown in Figure 3-26.

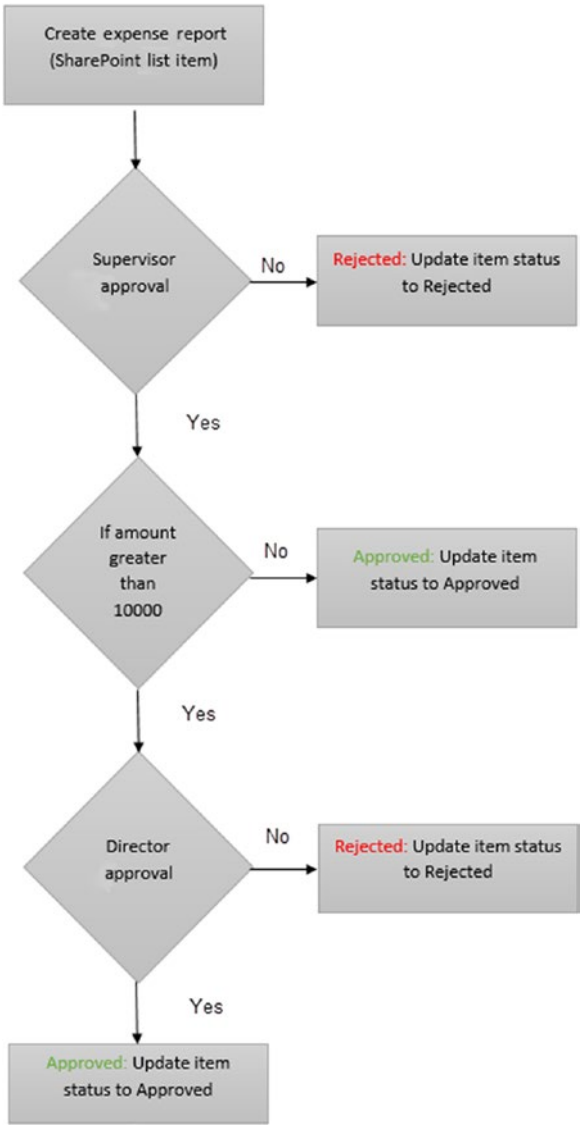

Figure 3-26. *Sequential flow overview*

Perform the following steps:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows** and then click **Create from blank**, as shown in Figure 3-27.

Figure 3-27. *Create from blank*

3. Click the **When an item is created** trigger shown in Figure 3-28.

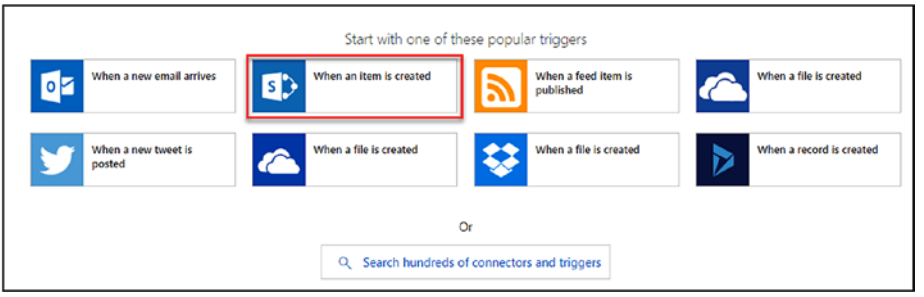

Figure 3-28. *Select the trigger*

4. Go to the **When an item is created** trigger and fill in the **Site Address** and **List Name** fields, as shown in Figure 3-29.

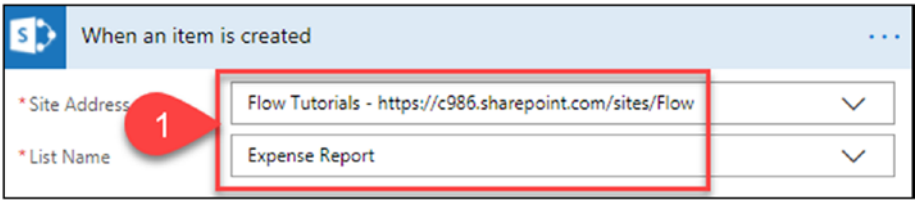

Figure 3-29. *The When an item is created action*

5. Click **Next step** and then click **Add an action**, as shown in Figure 3-30.

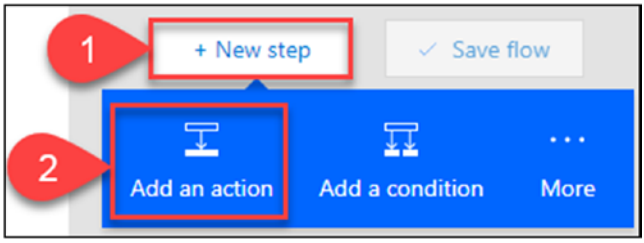

Figure 3-30. *Add an action*

6. Type the keyword **Approvals** in the search text box and then click the **Approvals – Start an approval** action, as shown in Figure 3-31.

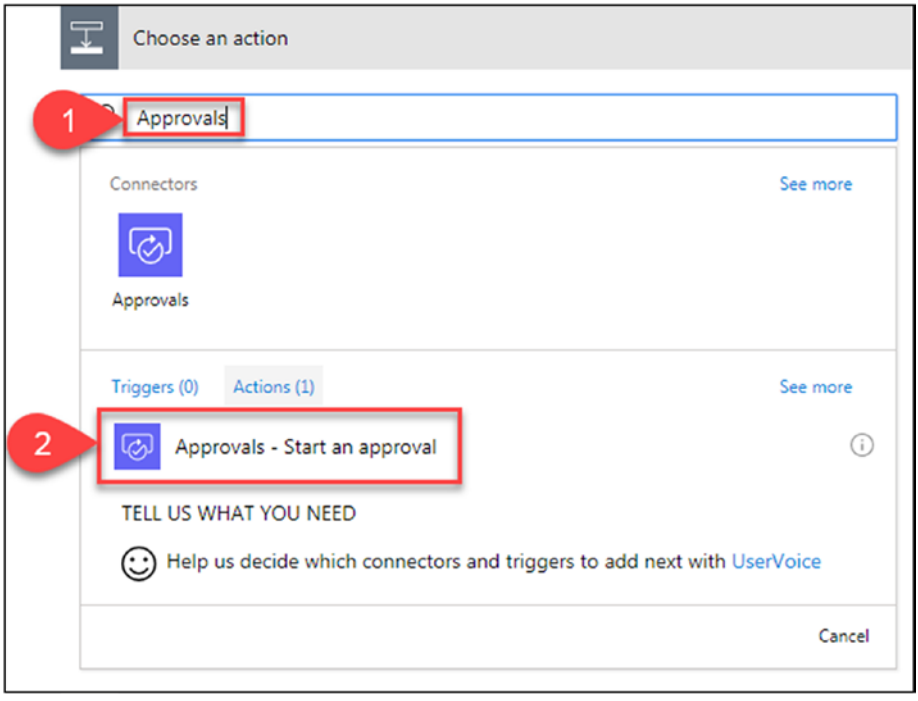

Figure 3-31. *Select the action and trigger*

7. Select the **Anyone from the assigned list** approval type, shown in Figure 3-32. If required, select **Everyone from the assigned list** as the approval type.

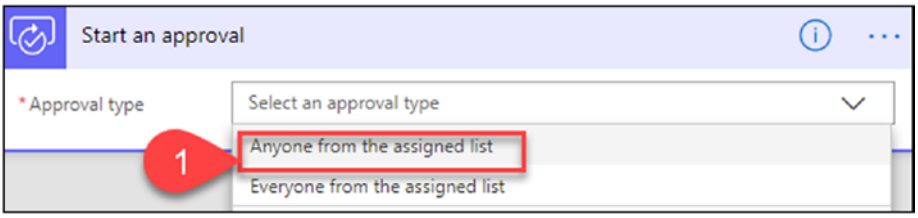

Figure 3-32. *The Start an approval action*

8. Update the parameter values by adding dynamic content, as shown in Figure 3-33.

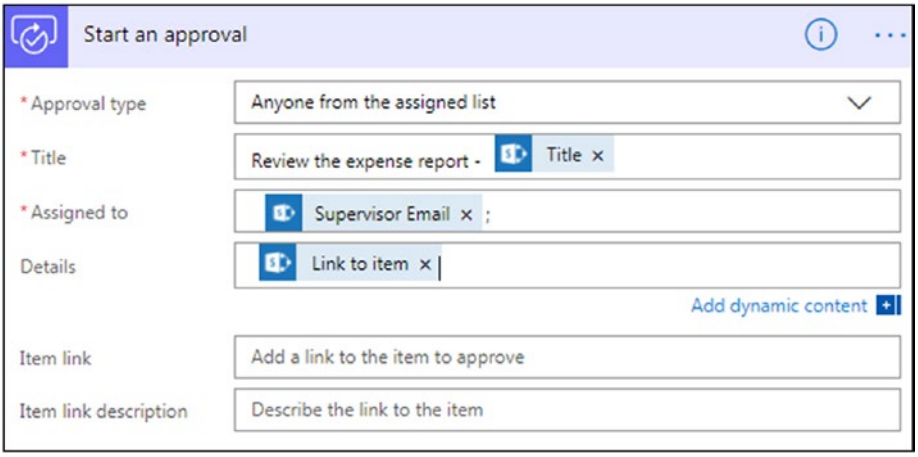

Figure 3-33. *Add parameters*

9. Click **Next step** and then click **Add a condition**, as shown in Figure 3-34.

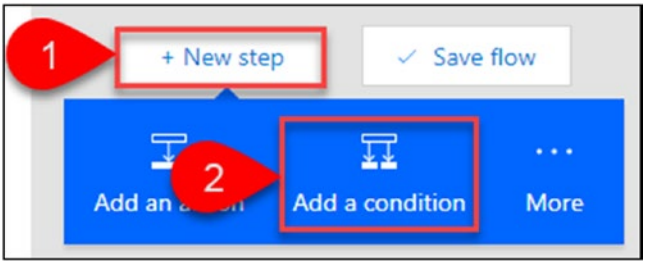

Figure 3-34. *Add a condition*

10. Set the condition to **Response is equal to Approve**, as shown in Figure 3-35.

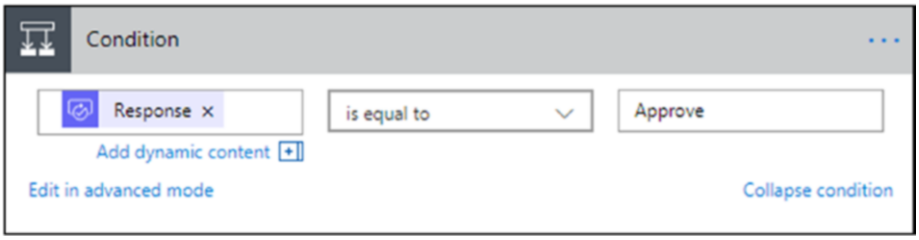

Figure 3-35. *Set the condition*

11. Go to the **If no** action and click **Add an action**. Type the keyword **sharepoint** in the search text box and then click **SharePoint – Update item** action, as shown in Figure 3-36.

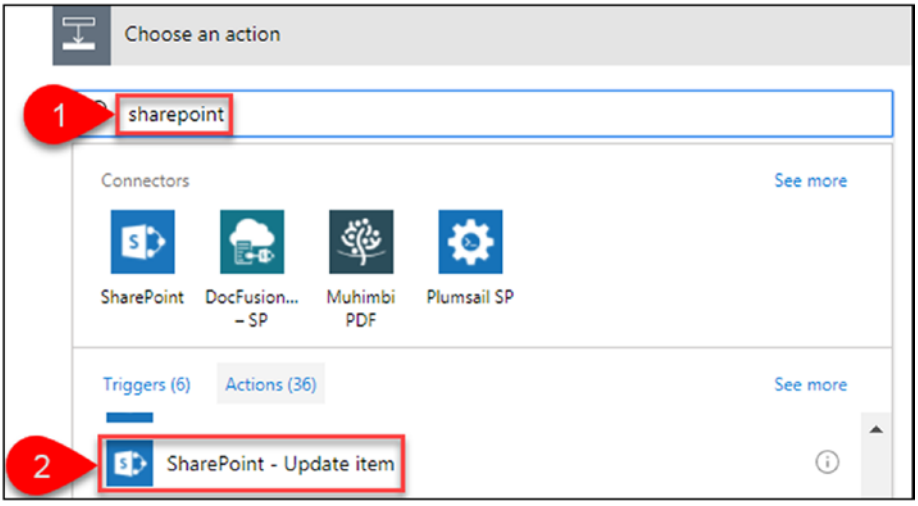

Figure 3-36. *Chose an action*

12. Go to the **Update item** action and update the parameter values shown in Figure 3-37.

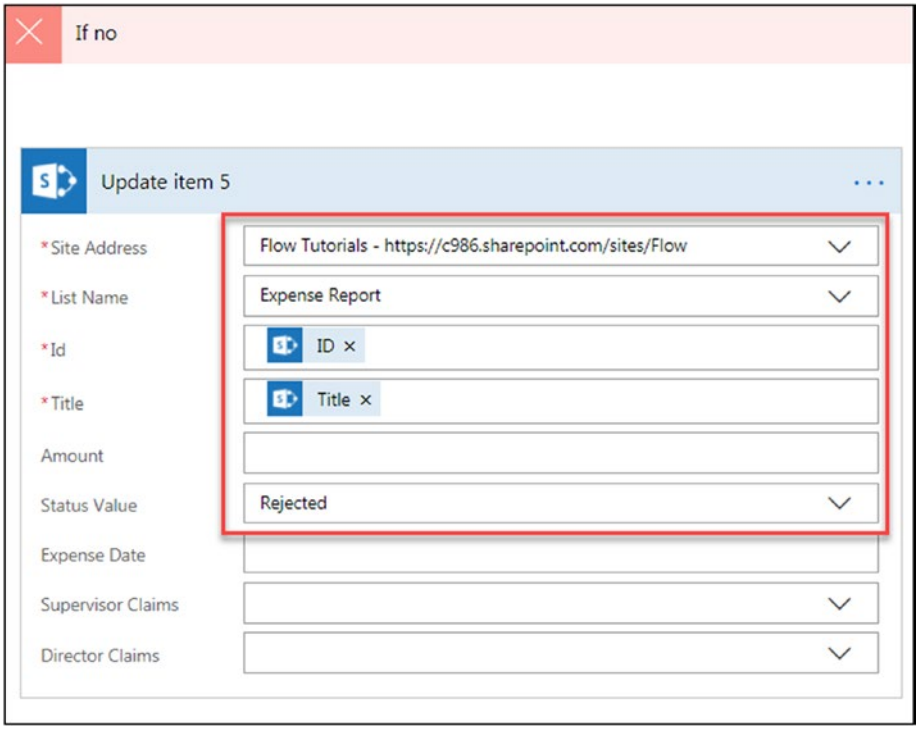

Figure 3-37. *The Update item action*

13. Go to the **If yes** action, click **More**, and then click **Add a condition**, as shown in Figure 3-38.

Figure 3-38. *Add a condition*

14. Set the condition as **Amount is greater than 10000**, as shown in Figure 3-39.

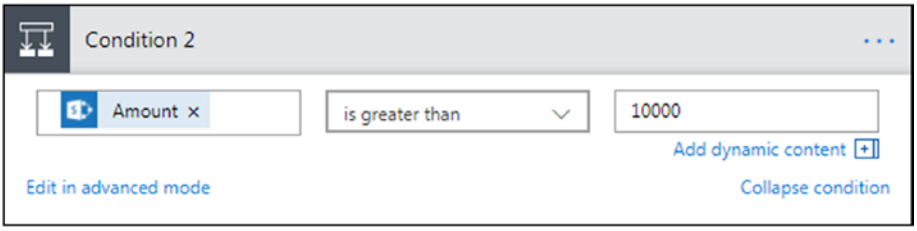

Figure 3-39. *Set the condition*

15. Go to the **If no** (under Condition 2) action and click **Add an action**. Type the keyword **sharepoint** in the search text box and then click the **SharePoint – Update item** action, as shown in Figure 3-40.

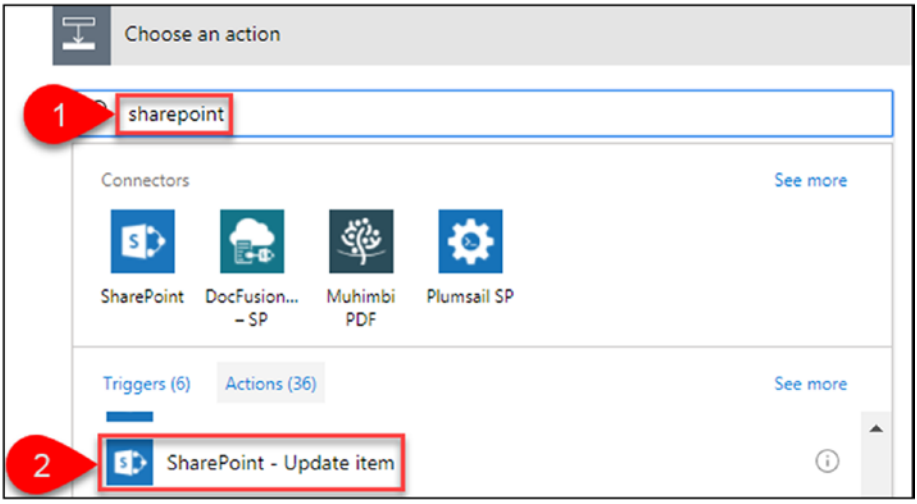

Figure 3-40. *Chose an action*

16. Go to the **Update item** action and update the parameter values shown in Figure 3-41.

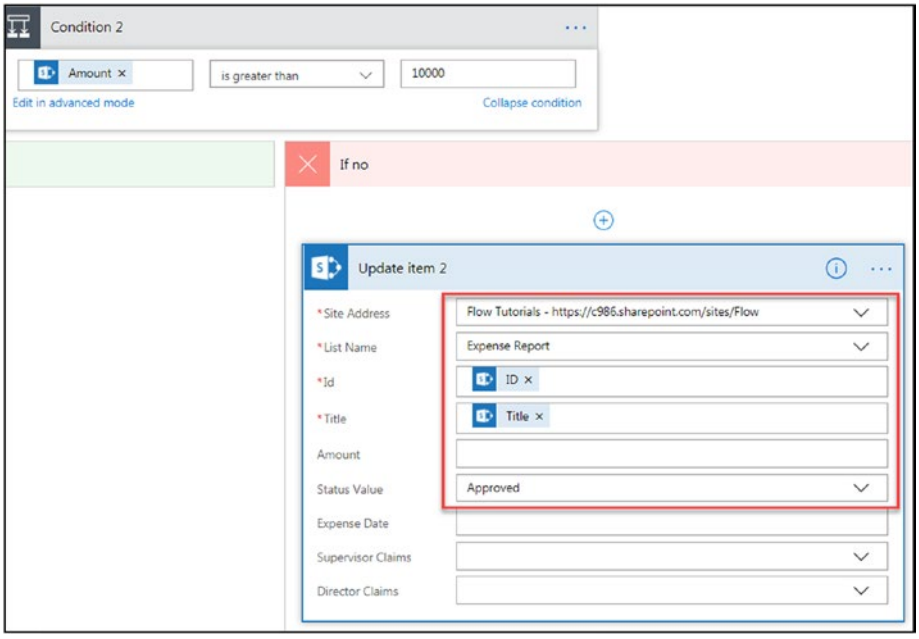

Figure 3-41. *The Update item action*

17. Go to the **If yes** (under Condition 2) action and click **Add an action**, as shown in Figure 3-42.

Figure 3-42. *Add an action*

18. Type the keyword **sharepoint** in the search text box and then click the **SharePoint – Update item** action, as shown in Figure 3-43.

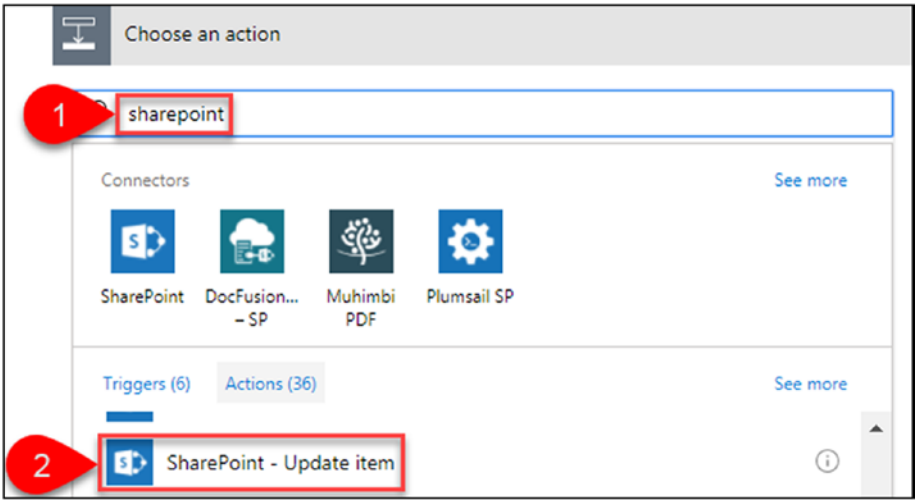

Figure 3-43. *Choose an action*

19. Go to the **Update item** action and update the parameter values shown in Figure 3-44.

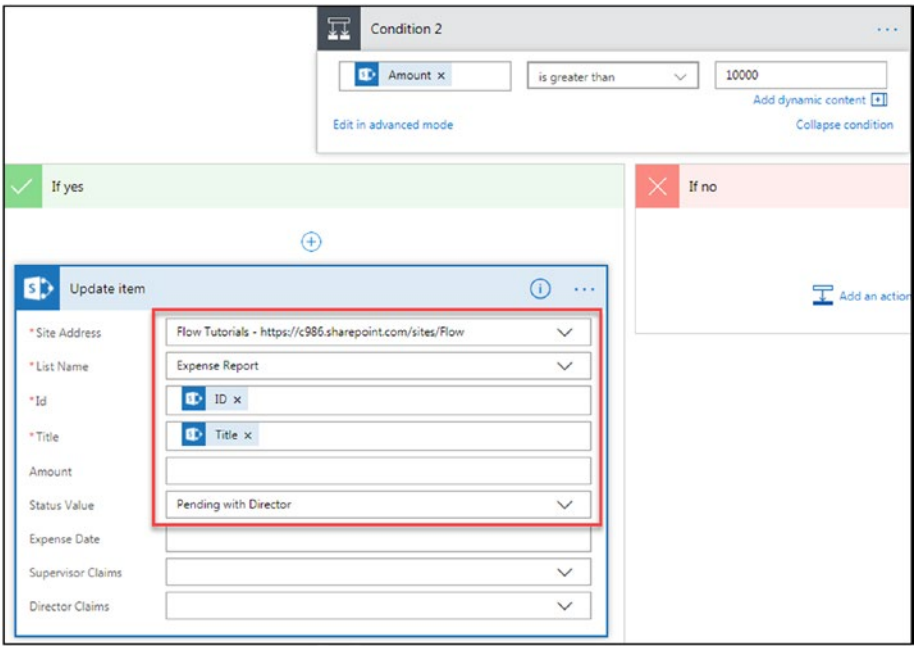

Figure 3-44. *The Update item action*

20. Click **Next step** and then click **Add an action**. Type the keyword **approvals** in the search text box and then click the **Approvals – Start an approval** action, as shown in Figure 3-45.

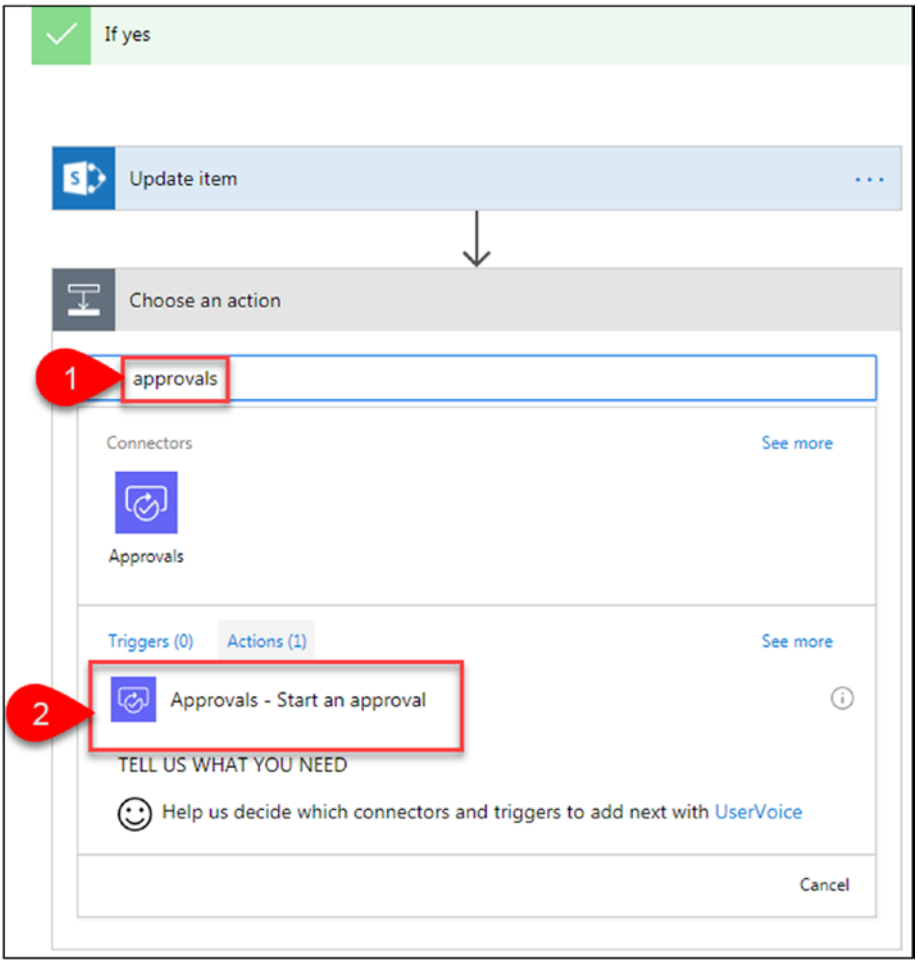

Figure 3-45. *Update the action*

21. Update the parameter values by adding the dynamic content shown in Figure 3-46.

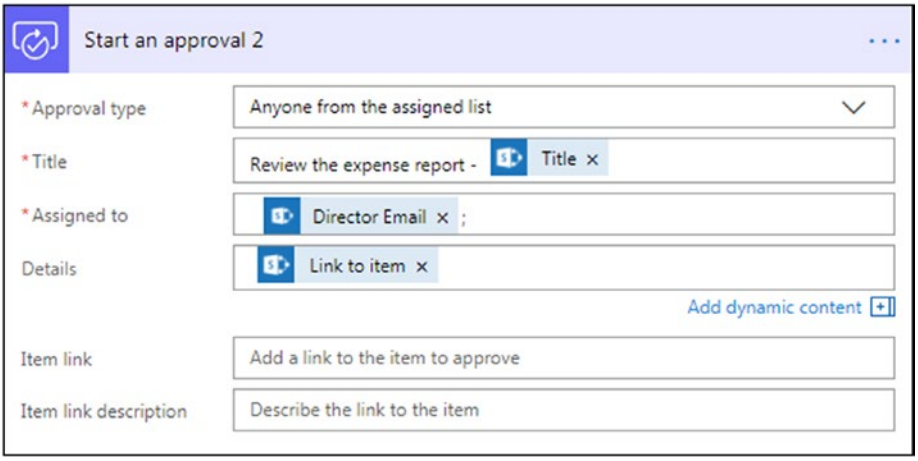

Figure 3-46. *The Start an approval action*

22. Click **More** and then click **Add a condition**, as shown in Figure 3-47.

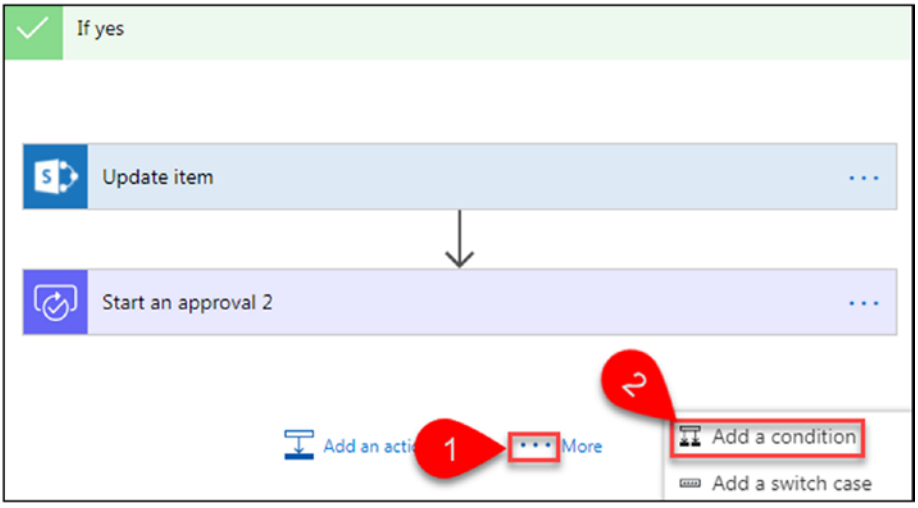

Figure 3-47. *Add a condition*

23. Set the condition as **Start an approval 2 Response equal to Approve**, as shown in Figure 3-48.

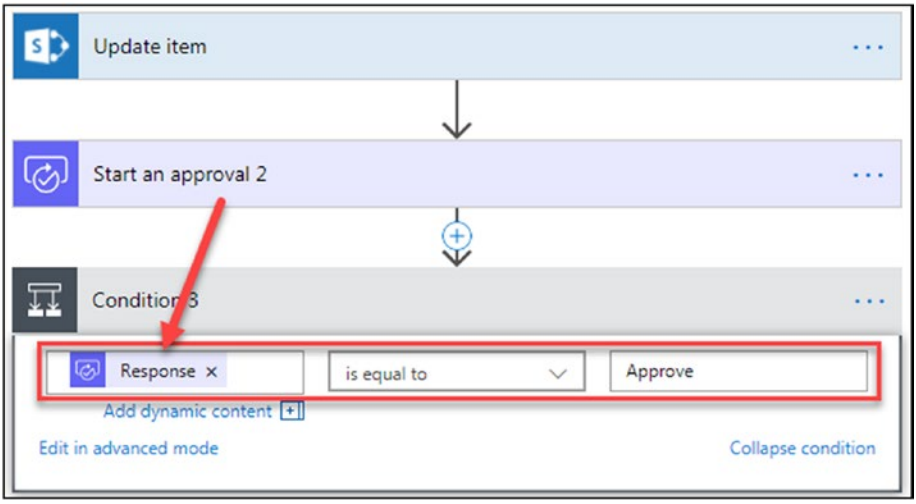

Figure 3-48. *Set the condition*

24. Go to the **If yes** (under Condition 3) action and add an action to update the SharePoint list item. Update the parameter values by adding the dynamic content shown in Figure 3-49.

25. Similarly, go to the **If no** (under Condition 3) action and add an action to update the SharePoint list item. Update the parameter values by adding the dynamic content shown in Figure 3-49.

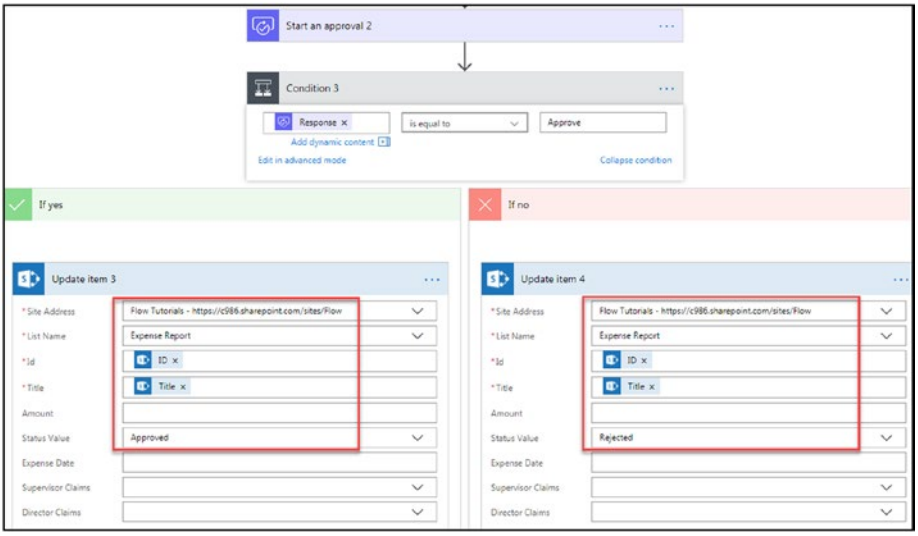

Figure 3-49. *Set the condition*

26. Enter a name for the flow and then click **Create Flow**, as shown in Figure 3-50.

Figure 3-50. *Save and create the flow*

27. The flow has been created successfully. Click **Done**.

28. Figure 3-51 shows the details of the newly created flow.

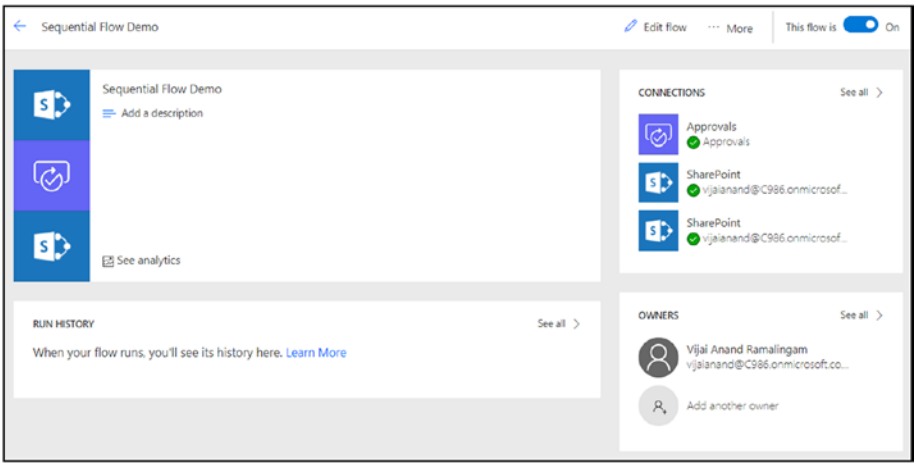

Figure 3-51. *The details of the new flow*

To test your flow, perform the following steps:

1. Navigate to the SharePoint Online Expense Report list and create a new item, as shown in Figure 3-52.

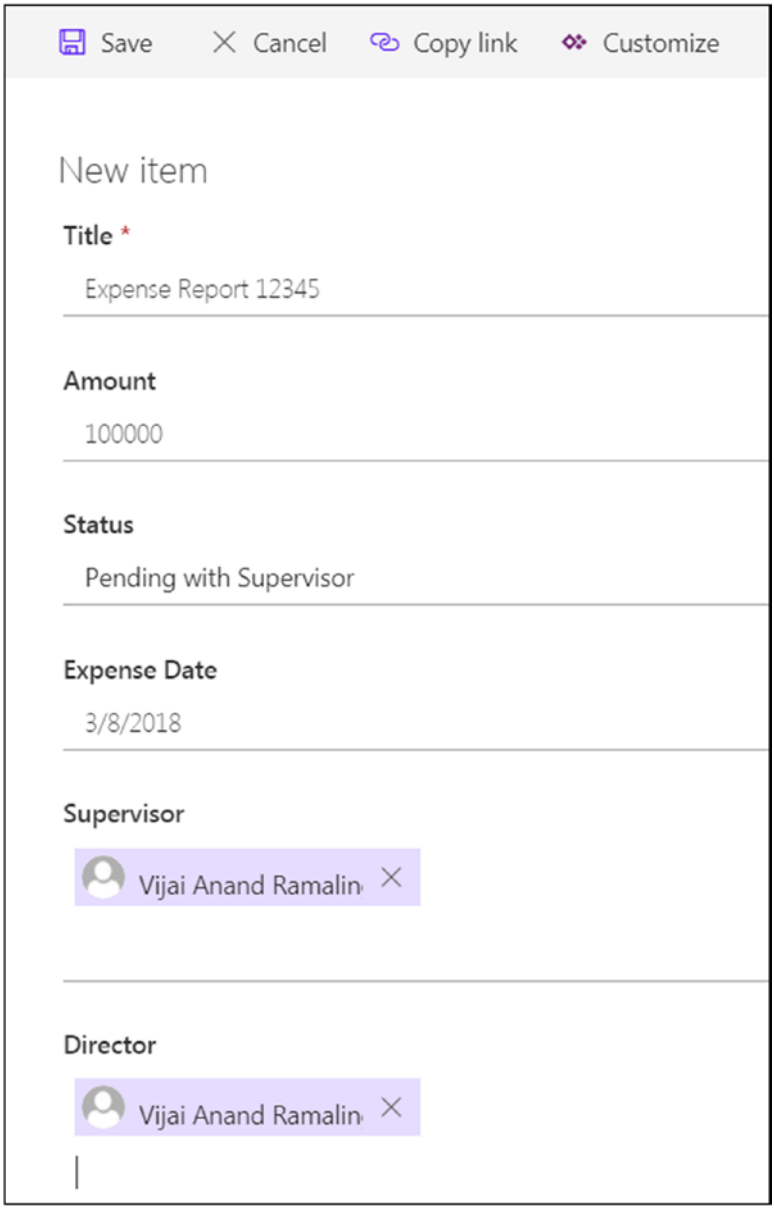

Figure 3-52. *Create a new item*

2. The supervisor will receive an approval email. Click **Approve**, provide comments, and then click **Submit**, as shown in Figure 3-53.

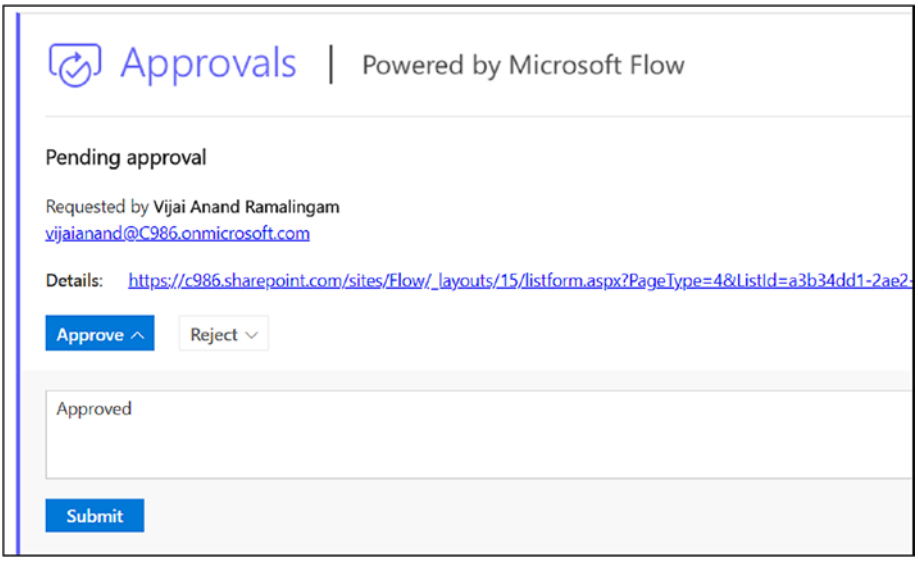

Figure 3-53. *Request for approval*

3. The amount is greater than 10000 so the status gets updated to Pending with Director, as shown in Figure 3-54.

Figure 3-54. *Status updated*

4. The director will receive an approval email. Click **Approve**, provide comments, and then click **Submit**, as shown in Figure 3-55.

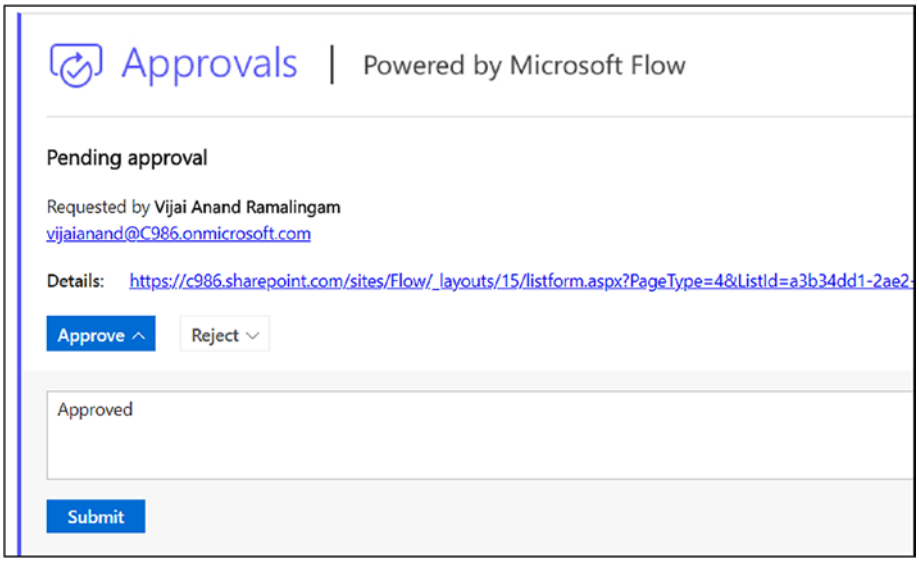

Figure 3-55. *Request for approval*

5. The status gets updated to Approved, as shown in Figure 3-56.

Figure 3-56. *Status updated*

Thus, in this section, you learned how to create a sequential flow.

Try It Yourself

Create a three-level approval flow when a new item is added in the SharePoint list. Hint: For a third-level approval, everyone must approve.

CHAPTER 4

The Flow Mobile App

In this chapter, you will learn how to use the mobile app to create a button and to monitor and manage a flow.

Microsoft Flow is available as a mobile app for Android, iOS, and Windows phones. Navigate to Microsoft Flow site at `https://flow.microsoft.com`. In the top navigation, click **Flow for Mobile**, as shown in Figure 4-1.

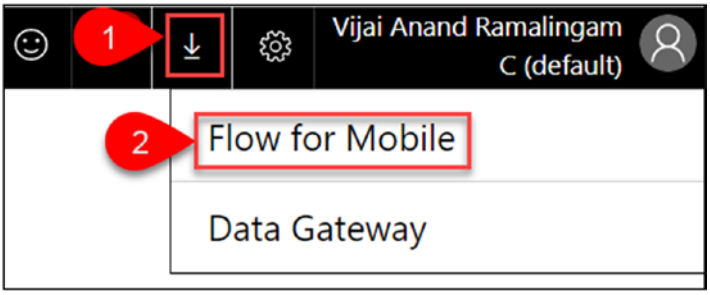

Figure 4-1. *Flow for Mobile*

V. A. Ramalingam, *Introducing Microsoft Flow*, https://doi.org/10.1007/978-1-4842-3630-7_4

Download the mobile app for Android, iOS, or Windows. You can also email yourself a download link for later, as shown in Figure 4-2.

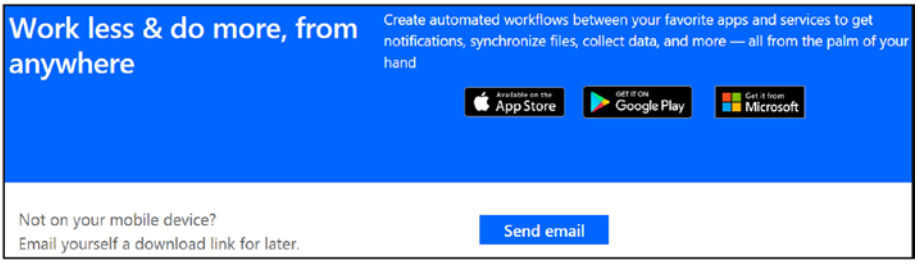

Figure 4-2. *Download options*

The Flow mobile app can be used for the following activities:

- **Create new flows**: Use the Flow app to easily create new automated workflows from anywhere.
- **Discover button**: Use buttons to trigger your workflows with a tap, and then share them with your team.
- **React fast**: Get push notifications to stay on top of your flows, grant approvals, monitor flow activity, and more.

Note The Android version of the app is used in this chapter; the interface on an iOS device or Windows Phone is similar.

Install, Sign In, and Manage an Account

Perform the following steps to install, sign in, and manage your account:

1. Install the mobile app by clicking **Install**, as shown in Figure 4-3.

Figure 4-3. *Install the app*

2. Open the Flow mobile app and then click **Get started**, as shown in Figure 4-4.

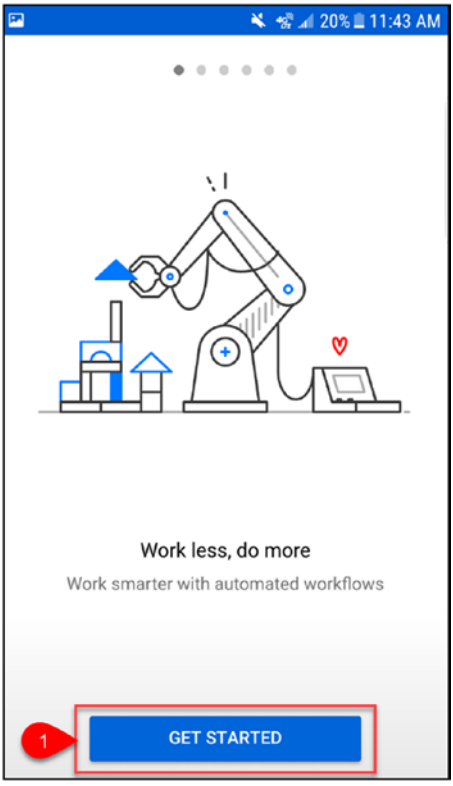

Figure 4-4. *Get started with the app*

3. Enter an email ID and then click **SIGN IN,** as shown in Figure 4-5.

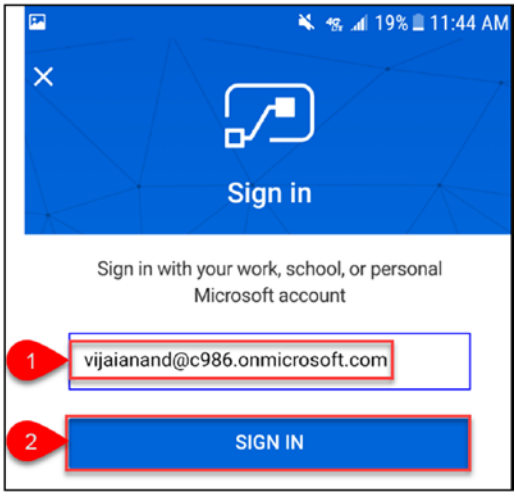

Figure 4-5. *Sign in, part 1*

4. Enter the password and then click **Sign in**, as shown in Figure 4-6.

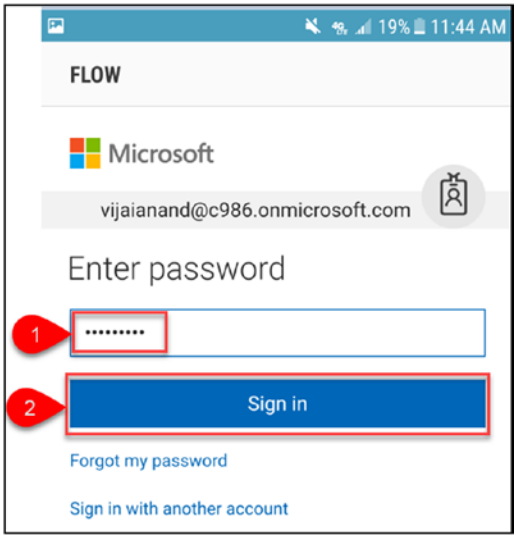

Figure 4-6. *Sign in, part 2*

5. Click **Account** to view the account details, as shown in Figure 4-7.

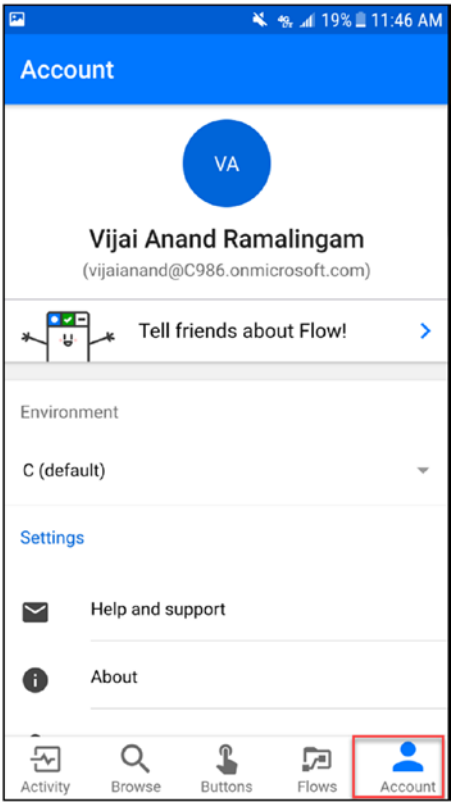

Figure 4-7. *Account details*

Create a Button Flow from a Template

Perform the following steps to create a button flow from a template to send a push notification with your current location using the mobile app:

1. Navigate to the mobile app and then click **Flows**. Click the + sign shown in Figure 4-8.

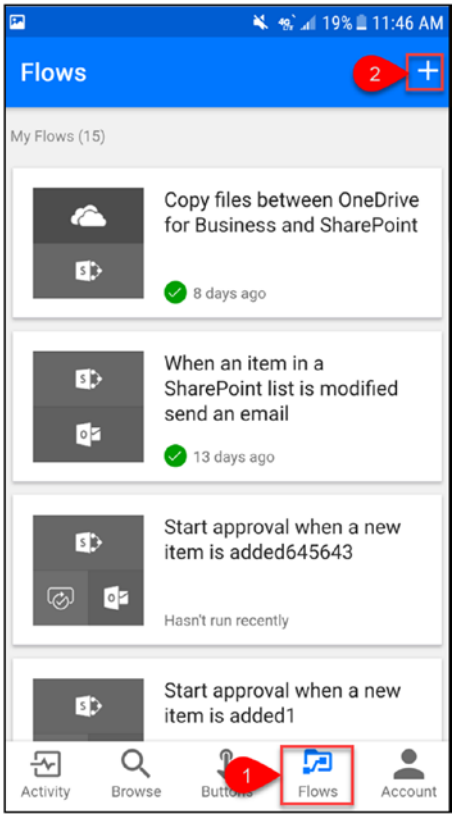

Figure 4-8. *Create a new flow*

2. Click **Create from template**, as shown in Figure 4-9.

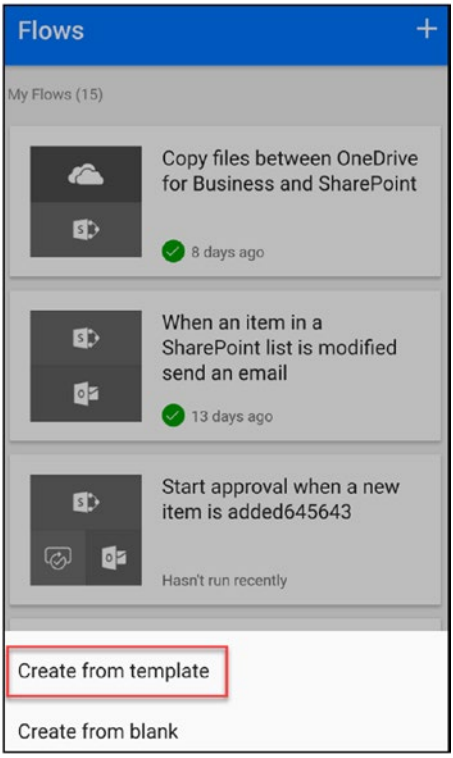

Figure 4-9. *Create from template*

3. Click the **Send me a push notification with my current location** template shown in Figure 4-10.

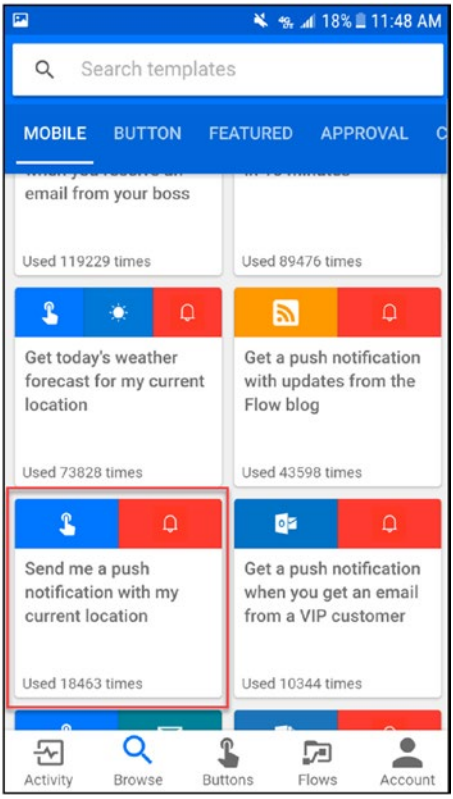

Figure 4-10. *Select the template*

4. Click **Use this template**, as shown in Figure 4-11.

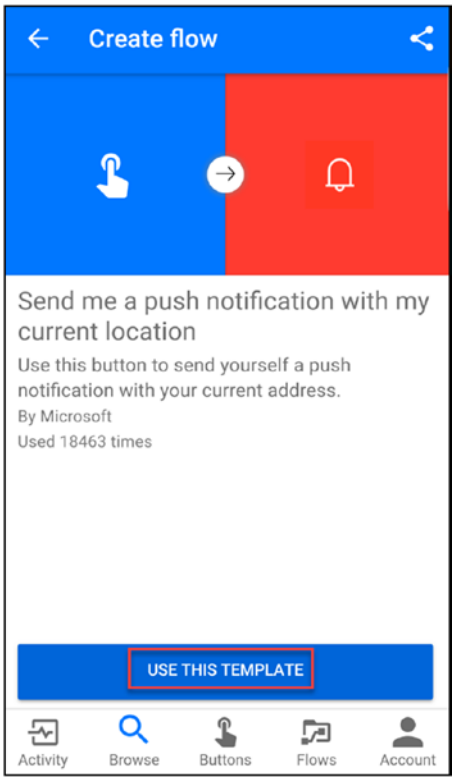

Figure 4-11. *Use this template*

5. If required, add some input or update the default values. Once done, leave the default name for the flow and then click **Create**, as shown in Figure 4-12.

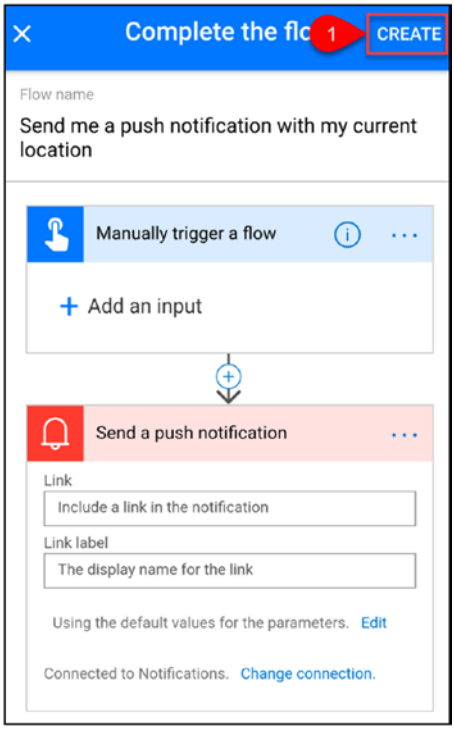

Figure 4-12. *Create a flow*

6. You'll see a message about saving the flow (Figure 4-13).

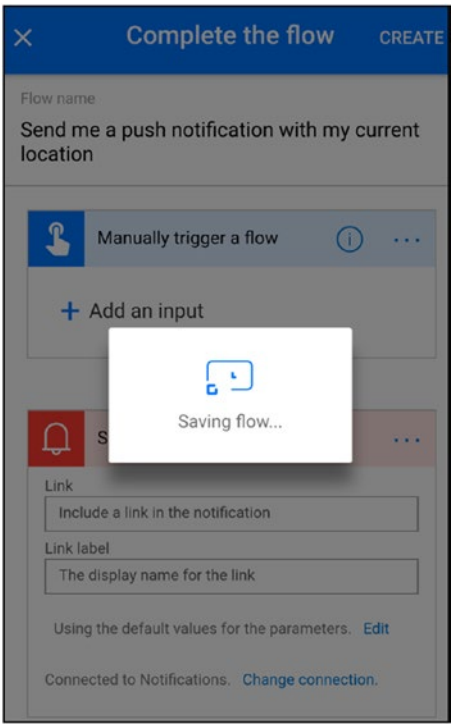

Figure 4-13. *Saving the flow*

7. Once the flow is saved, click **Done,** as shown in Figure 4-14.

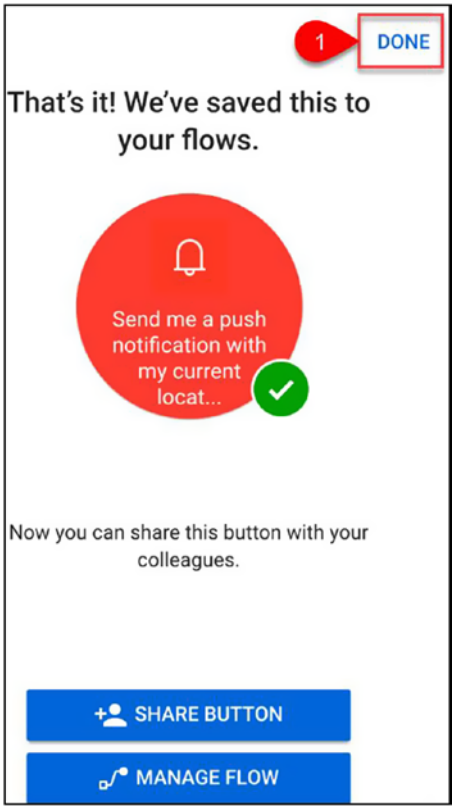

Figure 4-14. *The flow has been created*

To test your flow, perform the following steps:

1. Navigate to the mobile app and then click **Buttons**. Click the **Send me a push notification with my current location** button, as shown in Figure 4-15.

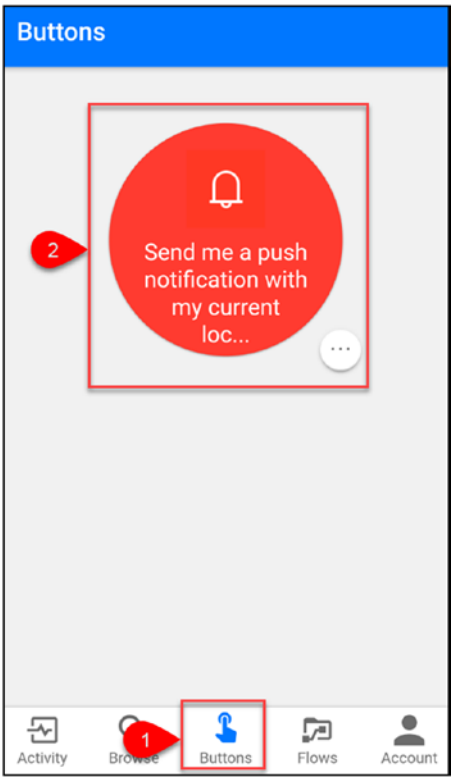

Figure 4-15. *Buttons*

2. This button requires location access, as shown in Figure 4-16. Turn on location services.

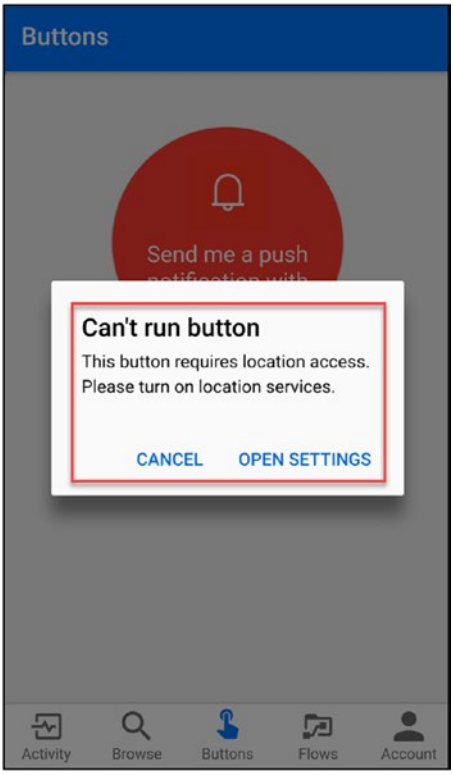

Figure 4-16. *Turn on location services*

3. Allow Flow to access the device's location by clicking **Allow**, as shown in Figure 4-17.

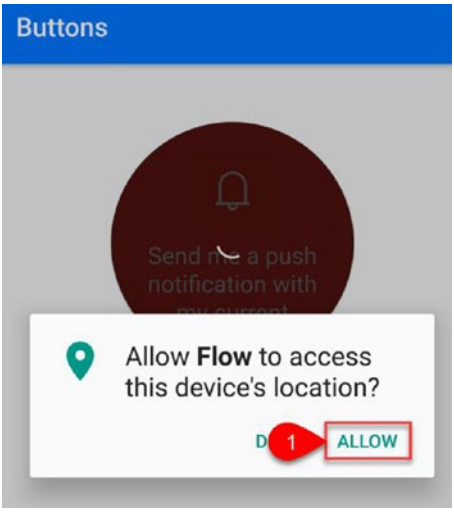

Figure 4-17. *Access the device's location*

4. Go to **Activity**. You should see the new feed with the current location, as shown in Figure 4-18. You should also see a push notification with the current location.

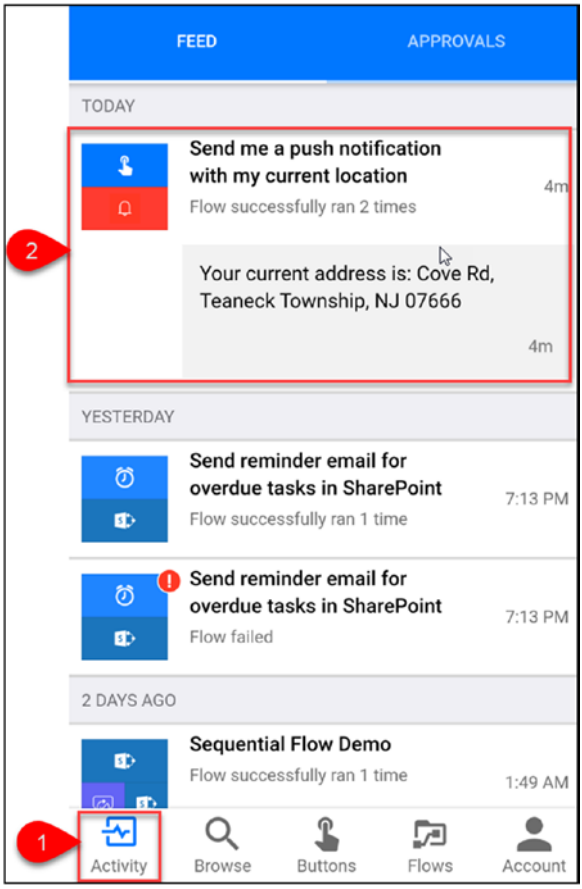

Figure 4-18. *New feed with current location*

Share a Button Flow and Link with Others

Perform the following steps to share a button flow and link with others:

1. Navigate to the mobile app and then click **Buttons**. Select the flow and then click the three dots in the circle (...), as shown in Figure 4-19.

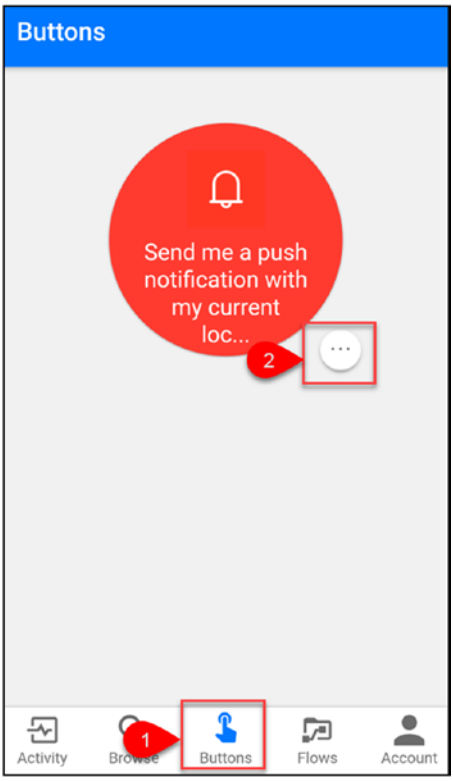

Figure 4-19. *Buttons*

2. Click **Invite others,** as shown in Figure 4-20.

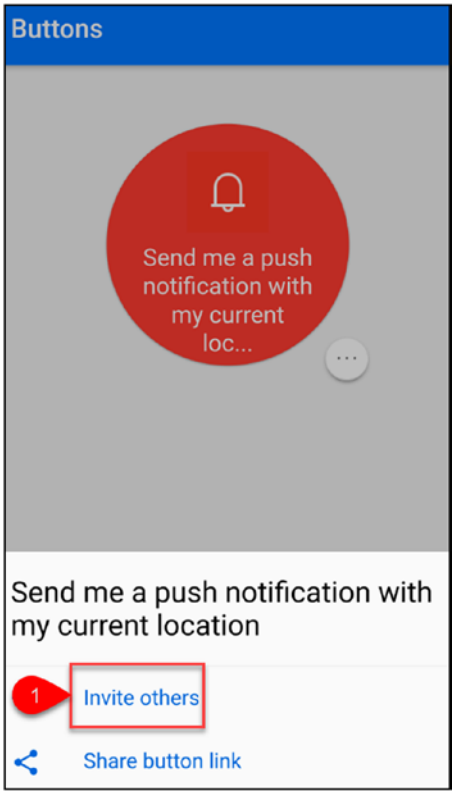

Figure 4-20. *Invite others, part 1*

3. Click **Invite others**, as shown in Figure 4-21.

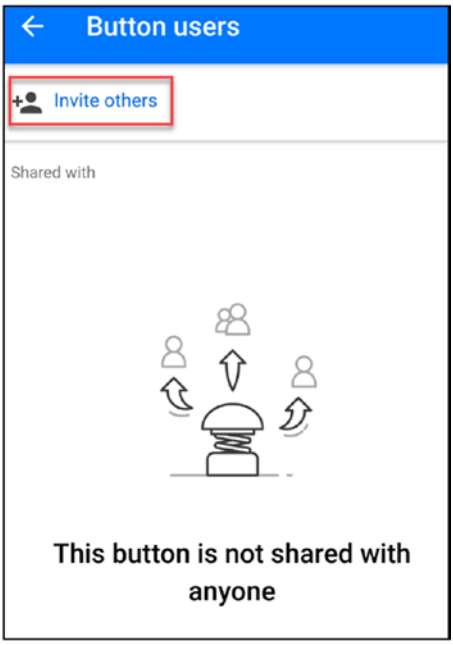

Figure 4-21. *Invite others, part 2*

4. Search for people or groups and then add the people or groups. Click **Send**, as shown in Figure 4-22.

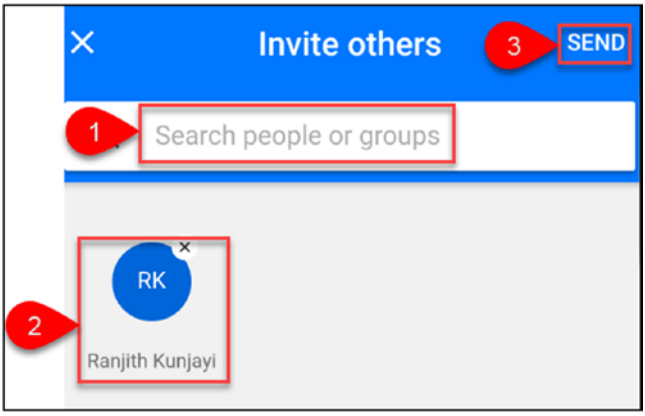

Figure 4-22. *Add people or groups*

5. Figure 4-23 shows that the button was shared successfully.

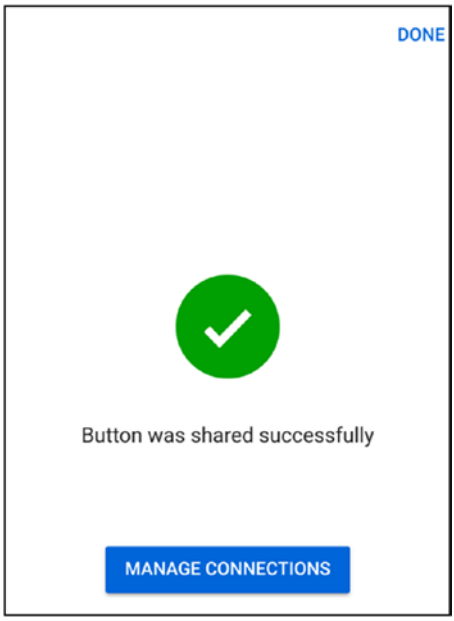

Figure 4-23. *The button was shared successfully*

6. Navigate to the mobile app and then click **Buttons**. Select the flow and then click the three dots in the circle (…), as shown in Figure 4-24.

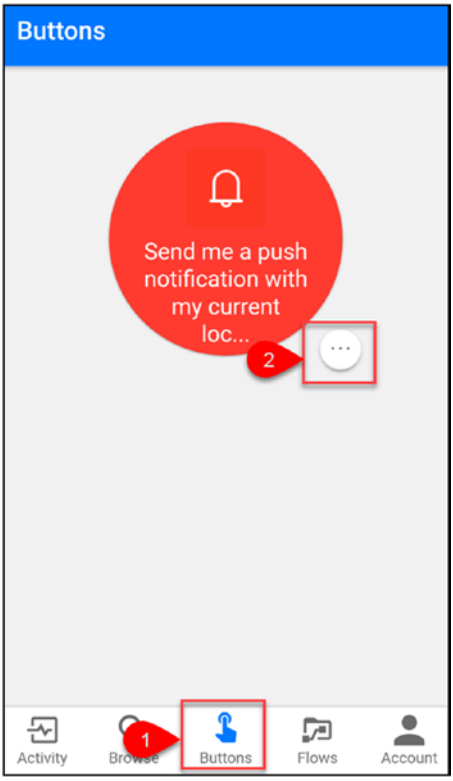

Figure 4-24. *Buttons*

7. Click the **Share button** link shown in Figure 4-25. The button link will be shared with others via Facebook, WhatsApp, Gmail, etc.

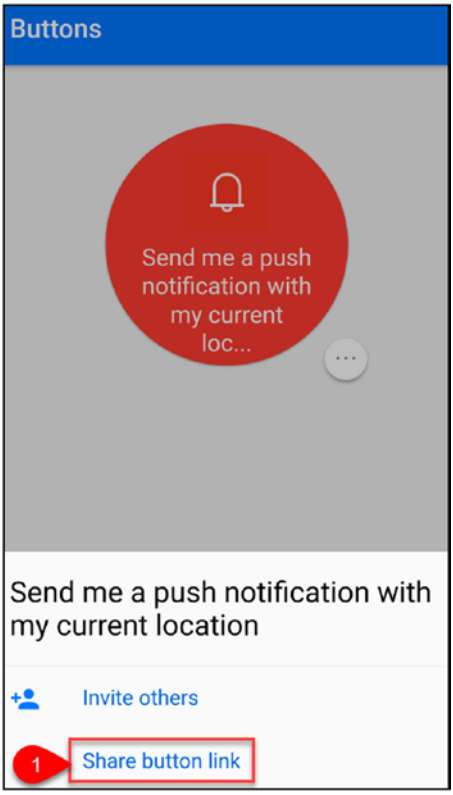

Figure 4-25. *Share button link*

Manage Flows Using the Mobile App

Perform the following steps to manage flows using the mobile app:

1. Navigate to the mobile app and then click **Flows**. Click the **Send me a push notification with my current location** flow, as shown in Figure 4-26.

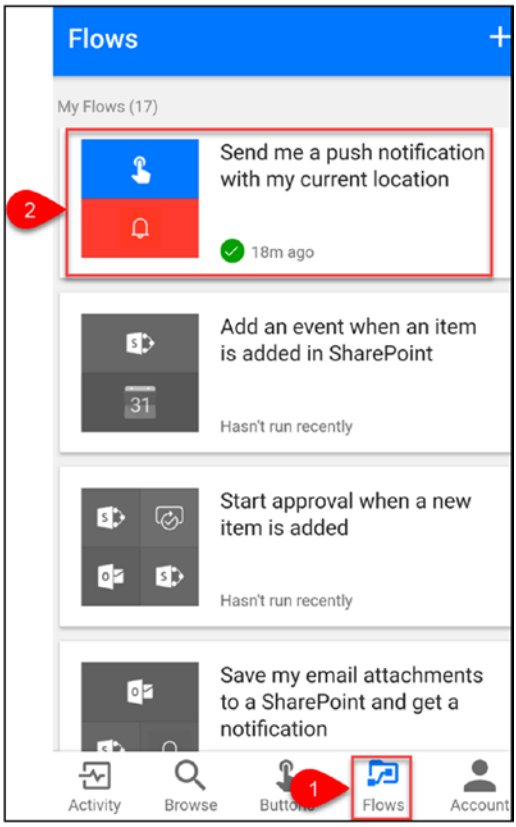

Figure 4-26. *Select the flow*

2. The flow details will be opened. You can enable or disable, edit, create a copy, manage users and connections, and delete the flow, as shown in Figure 4-27.

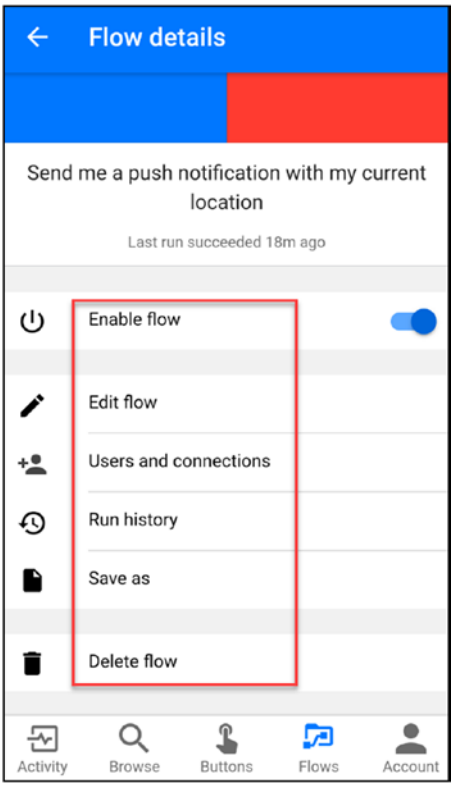

Figure 4-27. *Flow management options*

- **Enable flow**: Turn the flow on or off.
- **Edit flow**: Edit or update the flow. Once you're done with the updates, click **Update**, as shown in Figure 4-28.

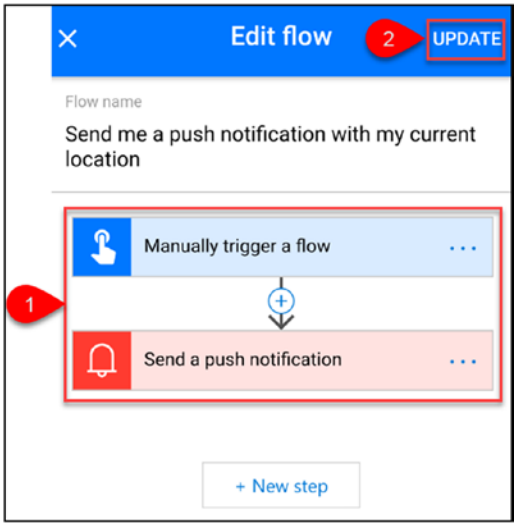

Figure 4-28. *Flow details*

- **Users and Connections**: Manage the users and connections, as shown in Figures 4-29 and 4-30.

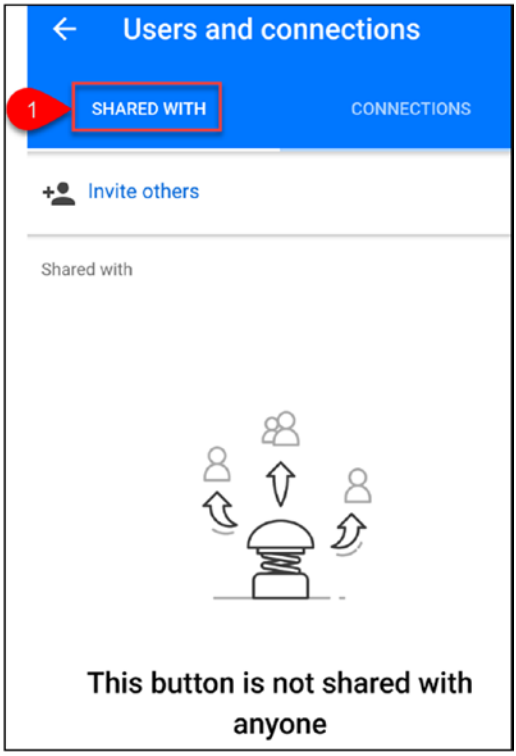

Figure 4-29. *Manage users*

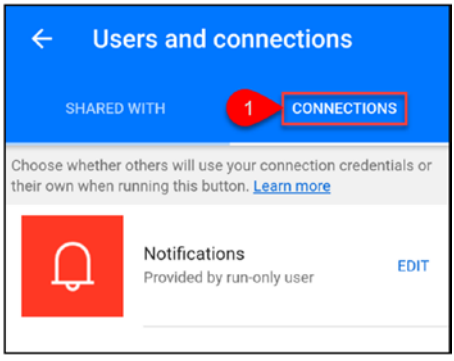

Figure 4-30. *Manage connections*

- **Run history**: View all the run details of the flow, as shown in Figures 4-31 and 4-32.

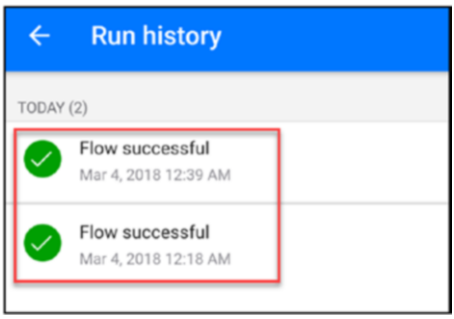

Figure 4-31. *Run history*

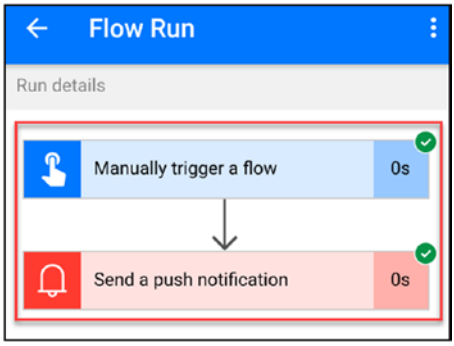

Figure 4-32. *Run details*

- **Save as**: Create a copy of the flow. If required, update the flow name and then click **Done**, as shown in Figure 4-33.

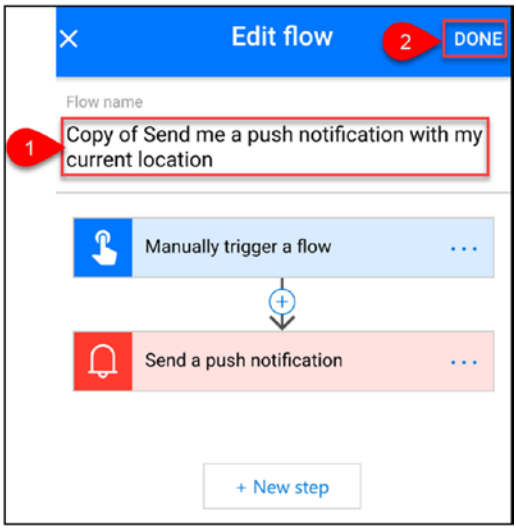

Figure 4-33. *Create a copy of the flow*

- **Delete flow**: Delete the flow, including the history, as shown in Figure 4-34.

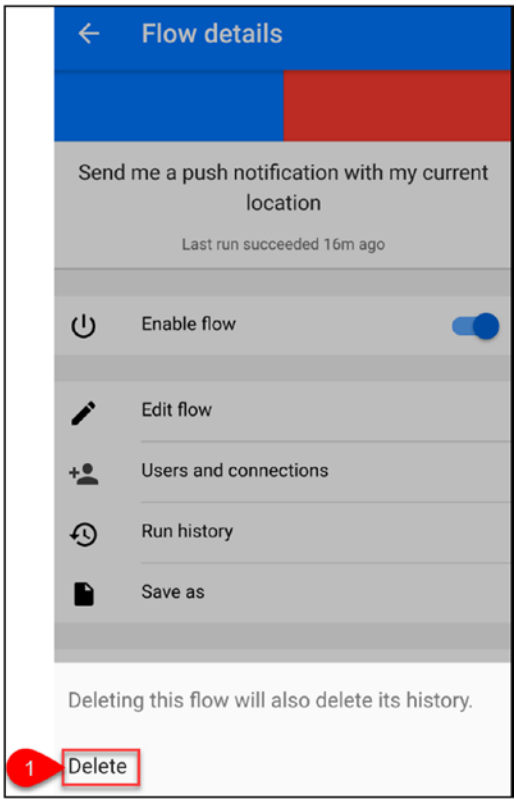

Figure 4-34. *Delete the flow*

Try It Yourself

Create a button flow to send a predefined email that includes your full address (current location) to an Office 365 account.

CHAPTER 5

Manage Connections and Gateways

In this chapter, you will learn how to configure and manage connections and gateways.

Manage Connections

Connectors provide a way for users to connect to underlying services using their accounts in order to create automated workflows. Examples of popular services include SharePoint, Office 365 Outlook, OneDrive, Twitter, and more. There are more than 150 connectors. You will learn how to add and delete a connection.

Create a New Connection

Perform the following steps to create a new connection:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click the **Settings** icon and then click **Connections**, as shown in Figure 5-1.

V. A. Ramalingam, *Introducing Microsoft Flow*, https://doi.org/10.1007/978-1-4842-3630-7_5

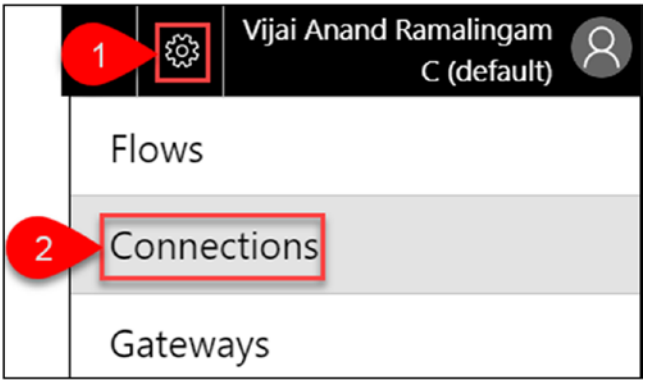

Figure 5-1. *Connections*

3. You'll see a list of connections, as shown in Figure 5-2.

Figure 5-2. *List of connections*

4. Click **New connection**, as shown in Figure 5-3.

Figure 5-3. *New connection*

5. Enter the keyword **twitter** in the search text box and click Enter. Then click the + sign shown in Figure 5-4.

Figure 5-4. *Search for the twitter keyword*

6. Click **Create**, as shown in Figure 5-5.

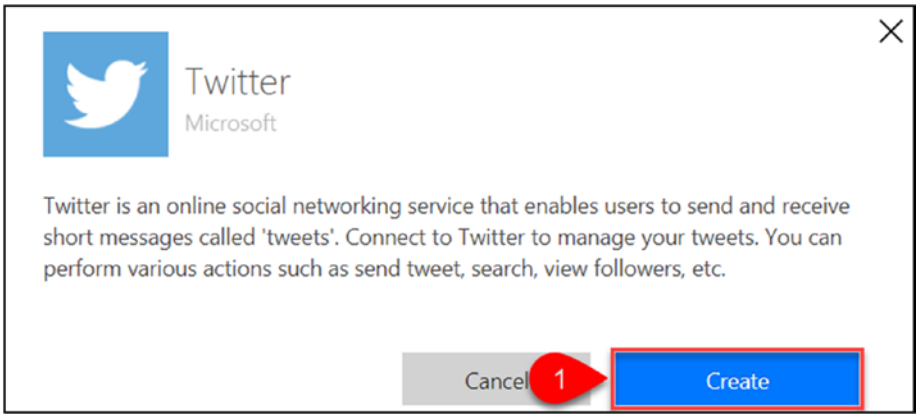

Figure 5-5. *Connect to Twitter*

7. Authorize the flow to use the Twitter account, as shown in Figure 5-6.

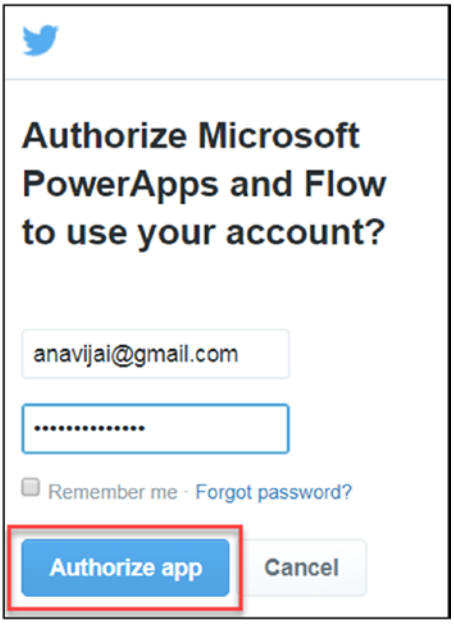

Figure 5-6. *Authorize the app*

8. Figure 5-7 shows that the connection was added successfully.

Figure 5-7. *New connection added*

Create a Connection to SharePoint's On-Premises Data

Perform the following steps to create a connection to SharePoint's on-premises data:

1. Navigate to the Flow site at `https://flow.microsoft.com`.

2. In the top navigation, click the **Settings** icon and then click **Connections**, as shown in Figure 5-8.

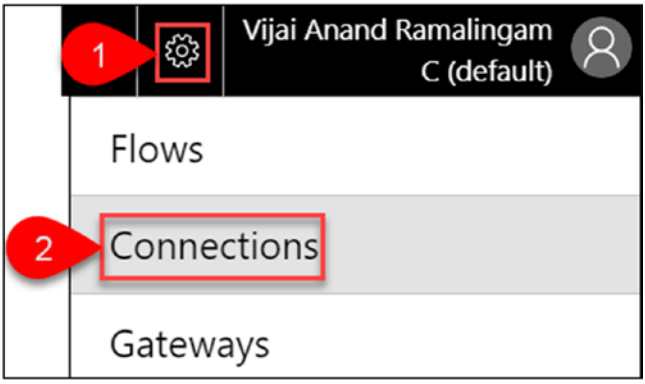

Figure 5-8. *Connections*

3. You'll see a list of connections, as shown in Figure 5-9.

Figure 5-9. *List of connections*

4. Click **New connection**, as shown in Figure 5-10.

Figure 5-10. *New connection*

5. Enter the keyword **SharePoint** in the search text box and click Enter. Then click the + sign shown in Figure 5-11.

Figure 5-11. *Search for the SharePoint keyword*

6. Select the **Connect using on-premises data gateway** option and then select the Authentication Type as **Windows**, as shown in Figure 5-12.

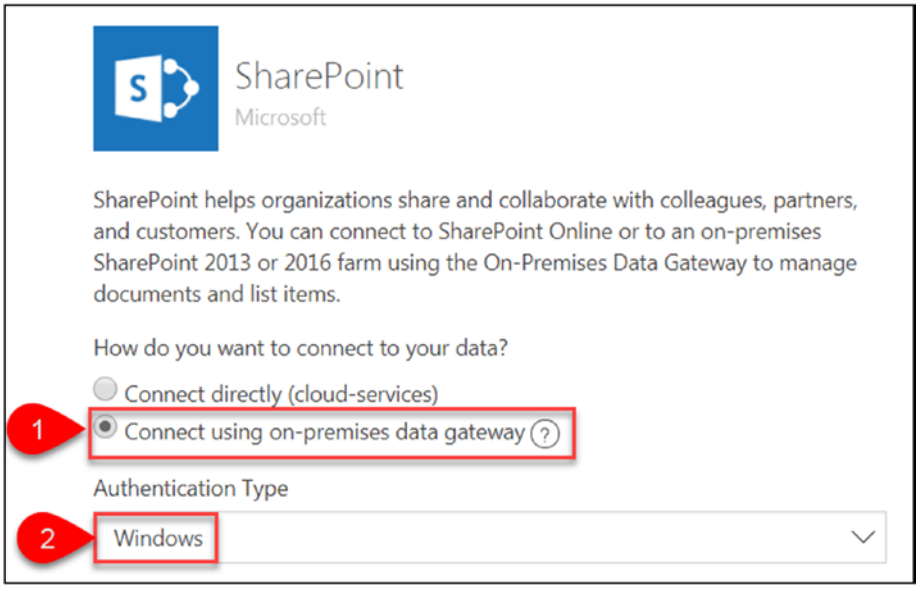

Figure 5-12. *Connection options*

7. Enter the username and password, and then choose a gateway, as shown in Figure 5-13. Click **Create**. (Note that installing the on-premises data gateway is covered in the upcoming "Install a Gateway" section. The username and password will be the same.)

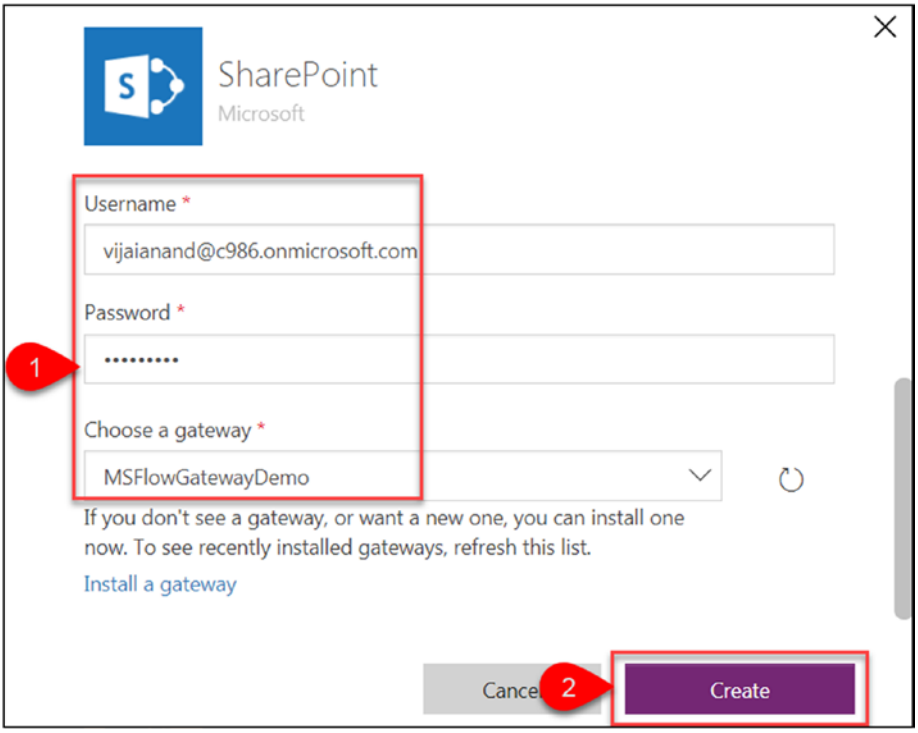

Figure 5-13. *Connect to your data*

8. You are now connected to SharePoint's on-premises data, as shown in Figure 5-14.

Figure 5-14. *Connection added*

Delete a Connection

Perform the following steps to delete a connection:

1. Navigate to the Flow site at `https://flow.microsoft.com`.

2. Click the **Settings** icon and then click **Connections**, as shown in Figure 5-15.

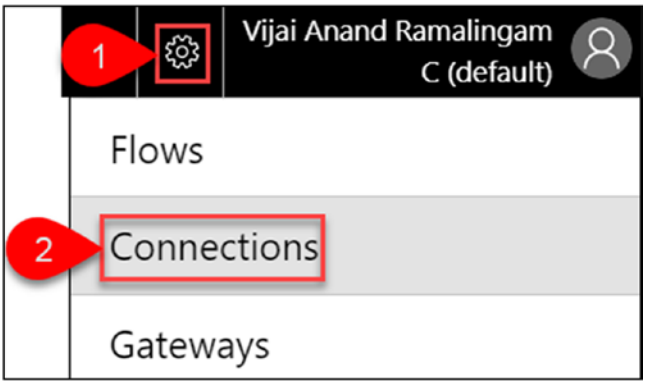

Figure 5-15. *Connections*

3. You'll see a list of connections, as shown in Figure 5-16.

Figure 5-16. *List of connections*

4. Select the connection that must be deleted. Click the three dots in the upper right corner (…) and then click **Delete**, as shown in Figure 5-17.

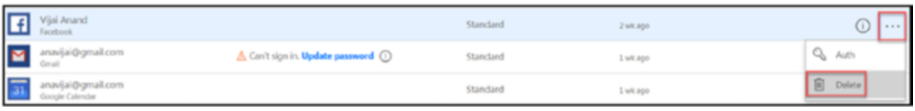

Figure 5-17. *Delete a connection, part 1*

5. Click **Delete** to delete the connection, as shown in Figure 5-18.

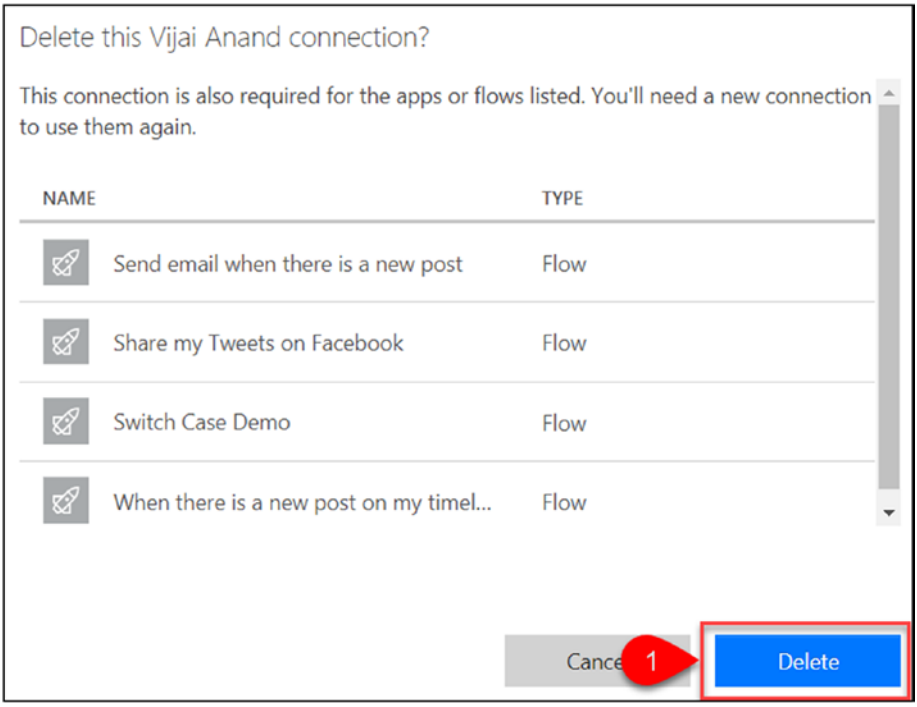

Figure 5-18. *Delete a connection, part 2*

Install a Gateway

An on-premises data gateway allows you to establish secure connections to integrate Microsoft Flow with on-premises data sources such as SharePoint, SQL Server, Oracle, and more. If the data gateway machine is switched off,

then the flow will fail. You will learn how to install an on-premises data gateway in the SharePoint 2016 on-premises virtual machine, which allows you to connect to SharePoint 2016 on-premises data.

Perform the following steps to install an on-premises data gateway:

1. Connect to the SharePoint 2016 on-premises virtual machine and navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click the **Settings** icon and then click **Gateways**, as shown in Figure 5-19.

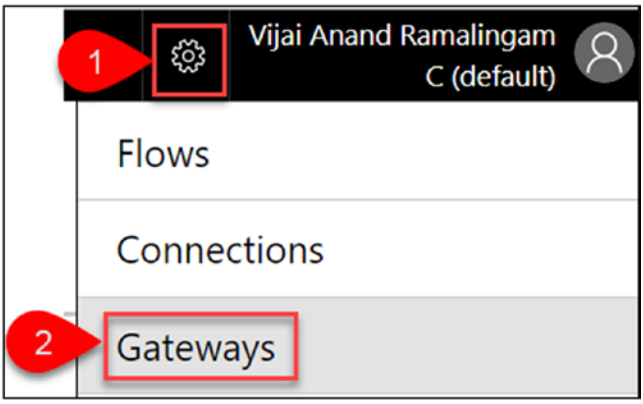

Figure 5-19. *Gateways*

3. You'll see a list of gateways, as shown in Figure 5-20. Click **New gateway**.

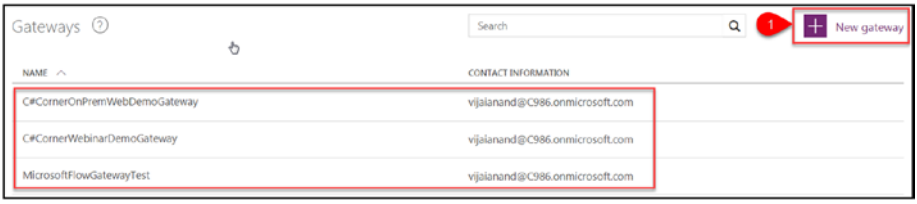

Figure 5-20. *List of gateways*

4. Download the on-premises data gateway shown in Figure 5-21 and run the `.exe` file.

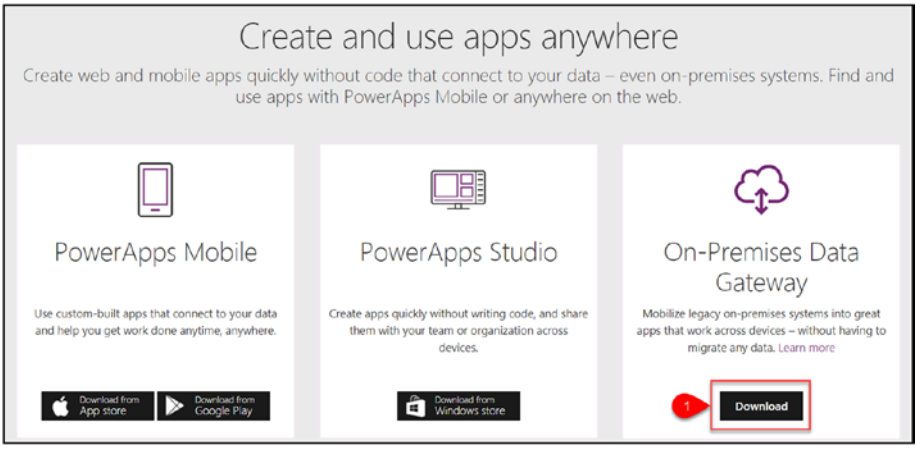

Figure 5-21. *Download and run the on-premises data gateway*

5. Read the reminders and click **Next**, as shown in Figure 5-22.

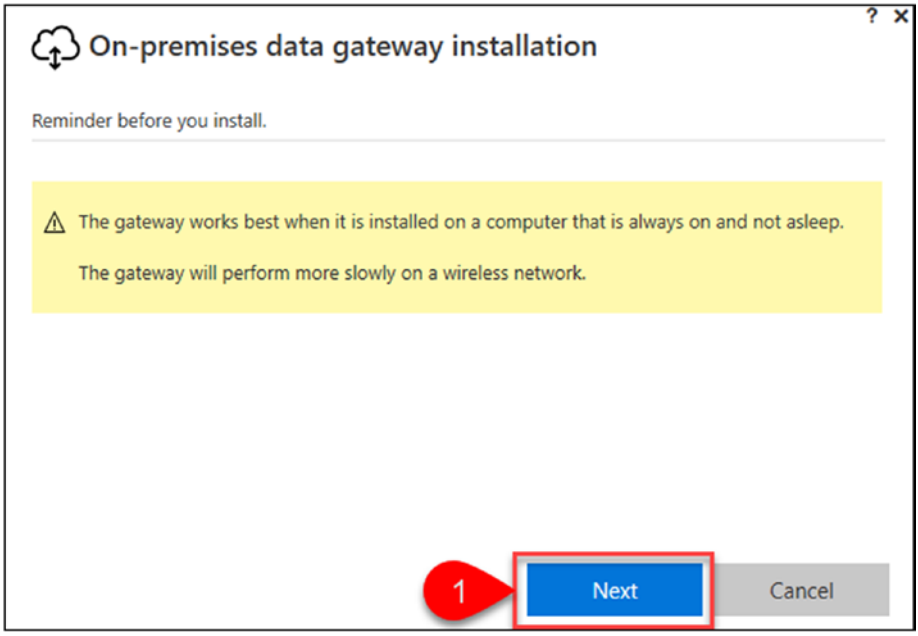

Figure 5-22. *Reminders*

6. Accept the terms and conditions, and then click **Install**, as shown in Figure 5-23.

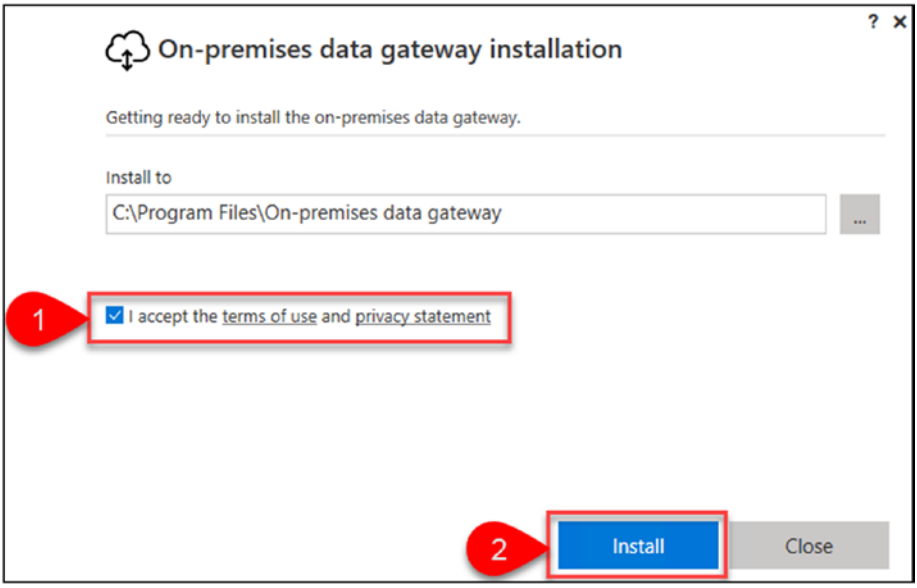

Figure 5-23. *Install the data gateway*

7. Enter an email address to use this gateway and click **Sign in**, as shown in Figure 5-24.

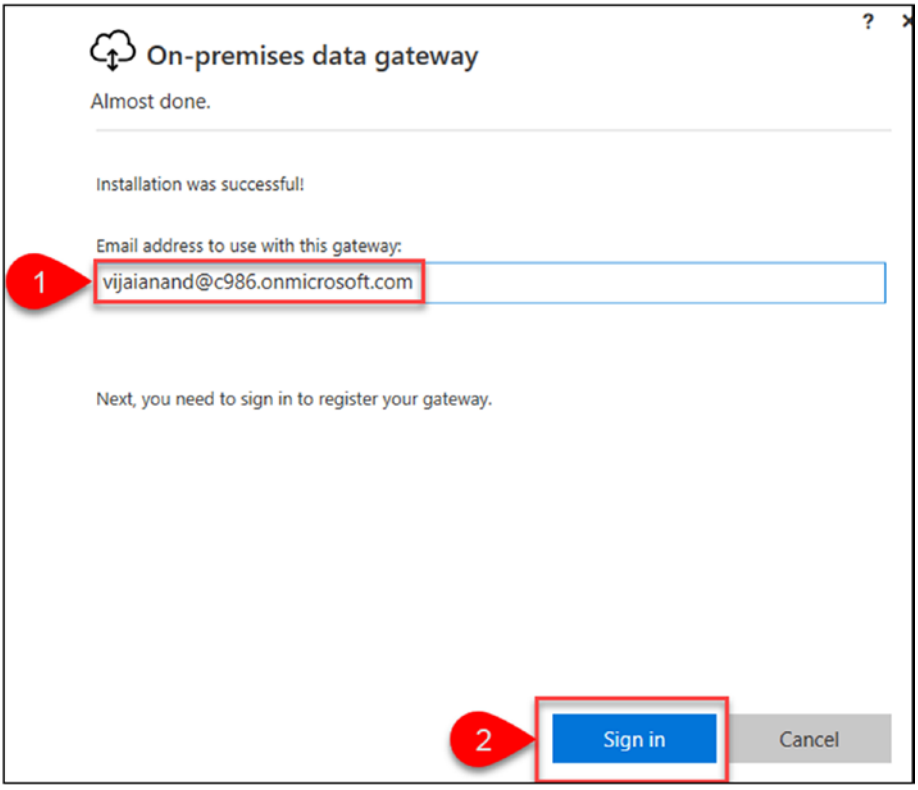

Figure 5-24. *Sign in, part 1*

8. Enter a password and then click **Sign in**, as shown in Figure 5-25.

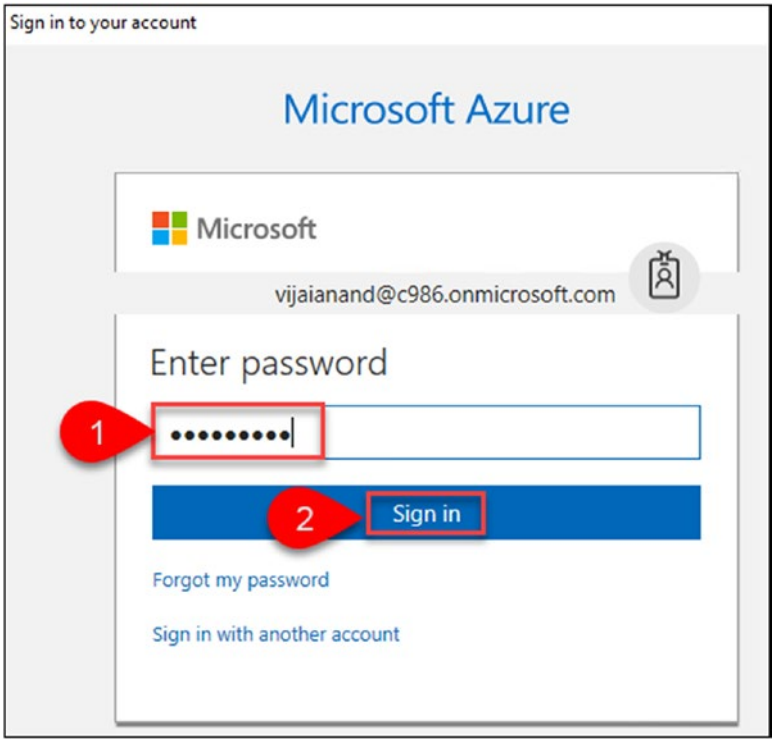

Figure 5-25. *Sign in, part 2*

9. Select **Register a new gateway on this computer** and click **Next**, as shown in Figure 5-26.

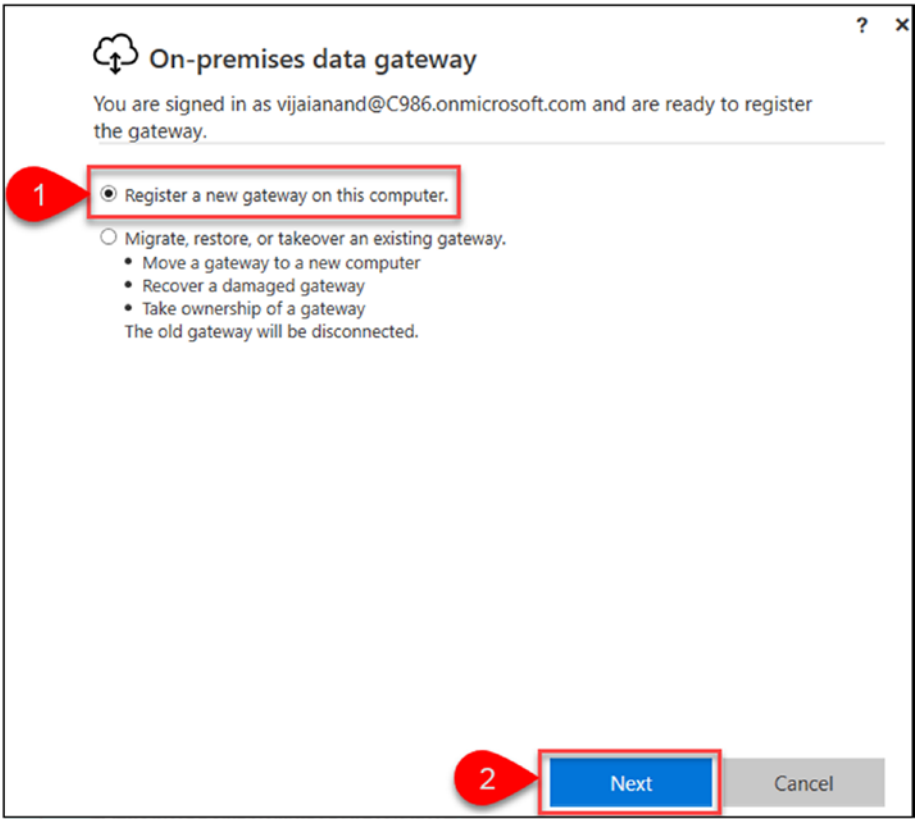

Figure 5-26. *Register a new gateway*

10. Enter the gateway name and recovery key, and then confirm the recovery key. Click **Configure,** as shown in Figure 5-27.

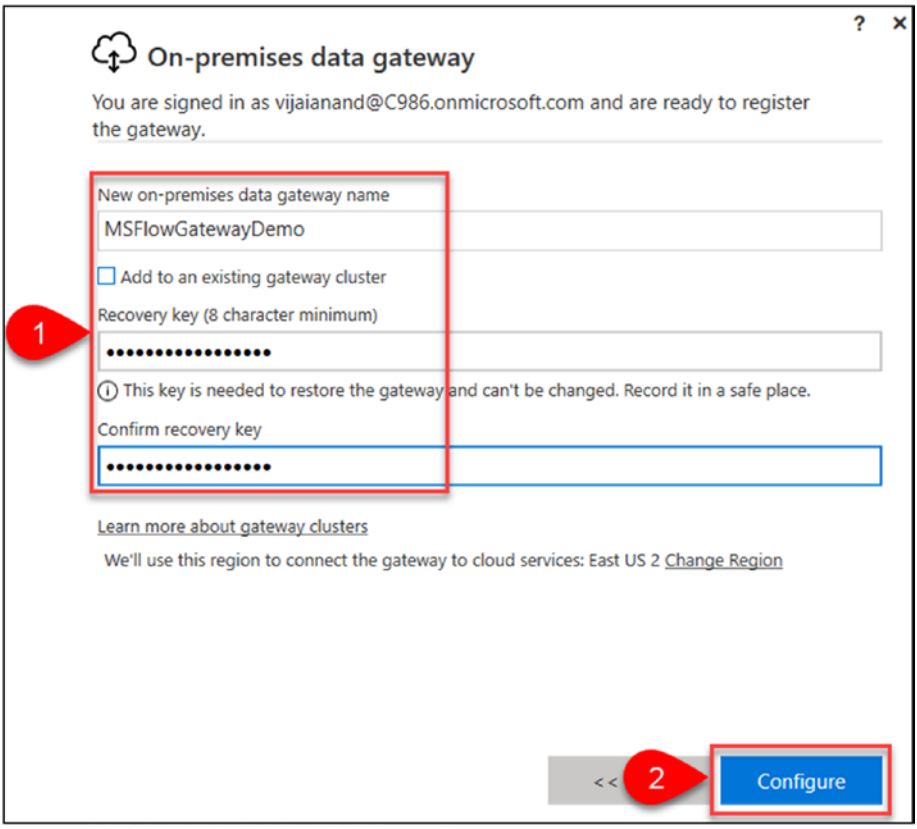

Figure 5-27. *Configure the data gateway*

11. The gateway should be online and ready to use, as shown in Figure 5-28. Click **Close**.

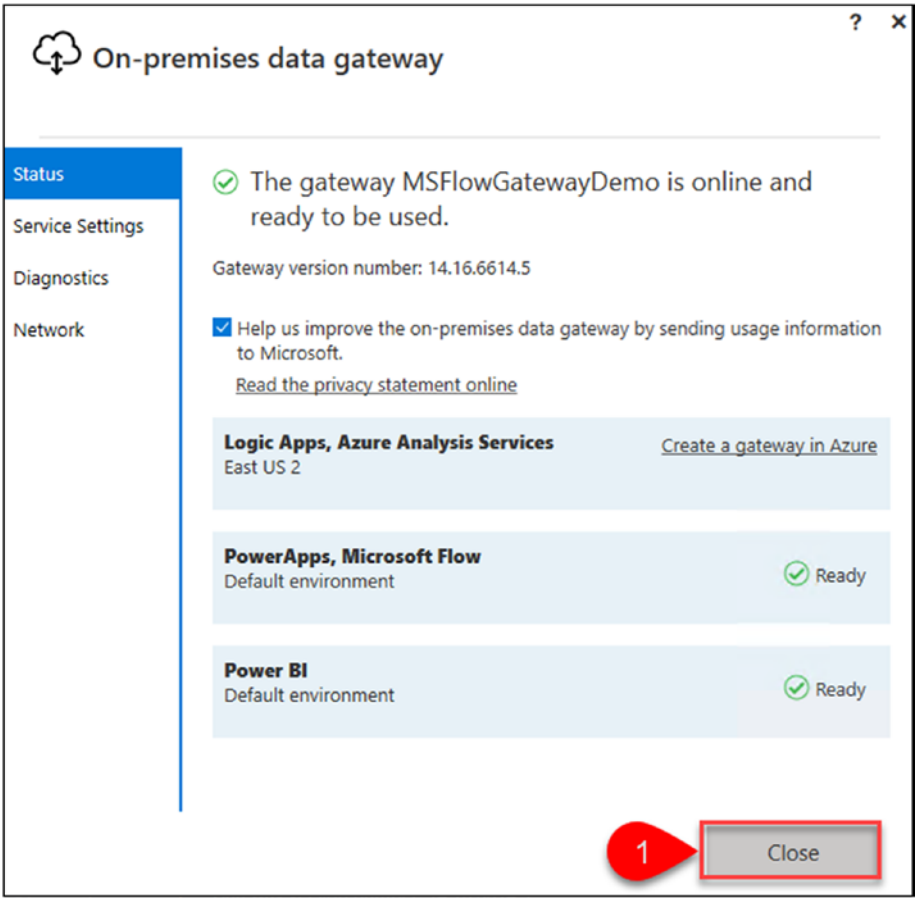

Figure 5-28. *Gateway installed*

12. The Windows service should be running, as shown in Figure 5-29.

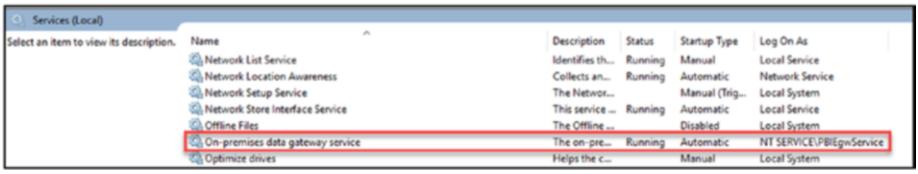

Figure 5-29. *The Windows service*

13. The gateway was created successfully, as shown in Figure 5-30.

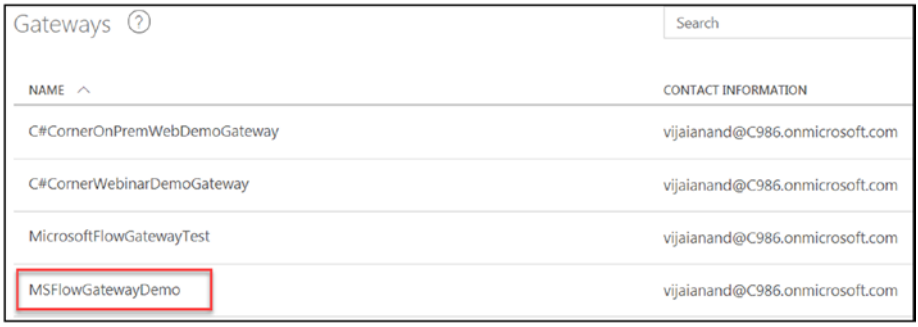

Figure 5-30. *Creation success*

Try It Yourself

Create a new connection to connect with an on-premises SQL Server and then create a flow to update a row in SQL when an item is modified in a SharePoint list.

CHAPTER 6

Flow Administration

In this chapter, you will learn

- How to manage flows
- How the Admin Center works
- How to manage environments and data policies

Manage Flows

In this section, you will learn how to manage flows via a variety of tasks, such as turning a flow on or off, editing, deleting, troubleshooting, and more.

Turn a Flow On or Off

Perform the following steps to turn a flow on or off:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows** and then select a flow that must be turned off. Slide the button to **Off**, as shown in Figure 6-1.

V. A. Ramalingam, *Introducing Microsoft Flow*, https://doi.org/10.1007/978-1-4842-3630-7_6

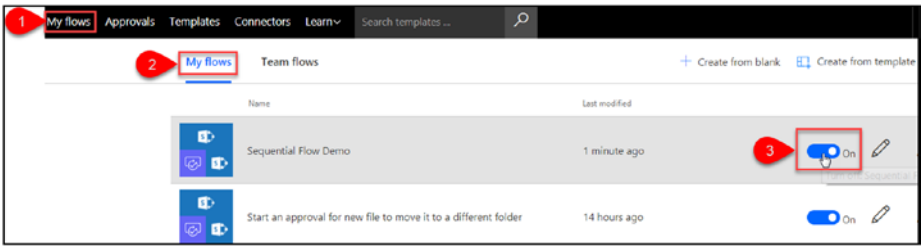

Figure 6-1. *Turn off a flow*

3. Similarly, turn on the flow as shown in Figure 6-2.

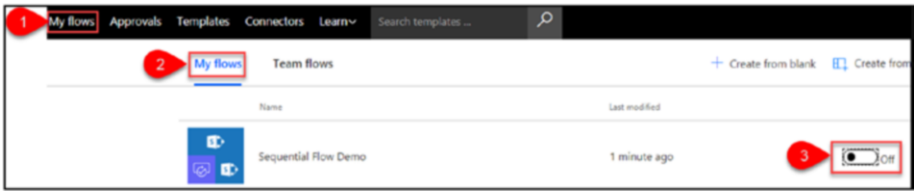

Figure 6-2. *Turn on a flow*

Edit a Flow

Perform the following steps to edit a flow:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows** and then select a flow that must be updated. Click the **Edit** icon shown in Figure 6-3.

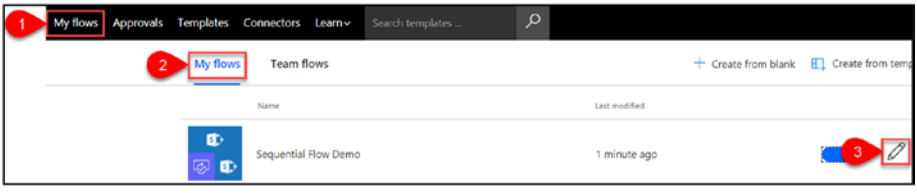

Figure 6-3. *Edit a flow*

3. Once you're done with the changes, click **Update flow**, as shown in Figure 6-4.

Figure 6-4. *Update a flow*

4. To close, click **Done**, as shown in Figure 6-5.

Figure 6-5. *Flow updated*

Create a Copy of a Flow

Perform the following steps to create a copy of a flow:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows** and then select a flow that must be copied. Click the three dots (...) to see more options and then click **Save as**, as shown in Figure 6-6.

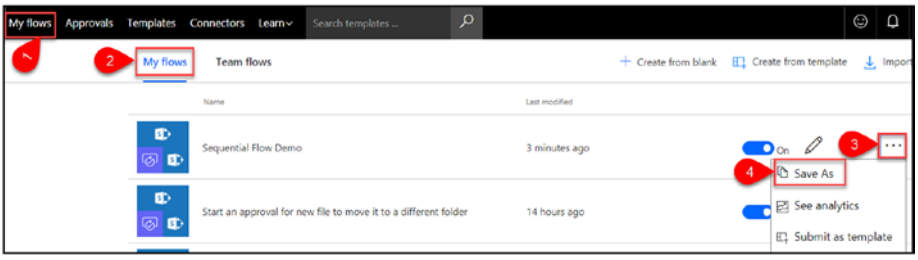

Figure 6-6. *Copy the flow*

3. If required, rename it first and then click **Save**, as shown in Figure 6-7.

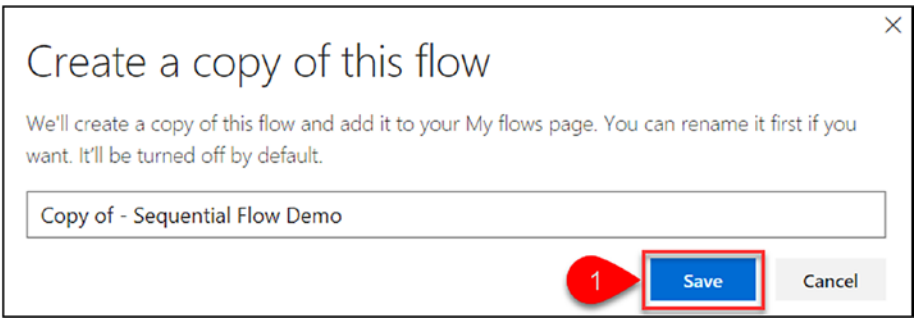

Figure 6-7. *Save the copy*

4. A copy of the flow was created, as shown in Figure 6-8. By default, it will be turned off.

Figure 6-8. *Save the copy*

Delete a Flow

Perform the following steps to delete a flow:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows** and then select a flow that must be deleted. Click the three dots (…) to see more options and then click **Delete**, as shown in Figure 6-9.

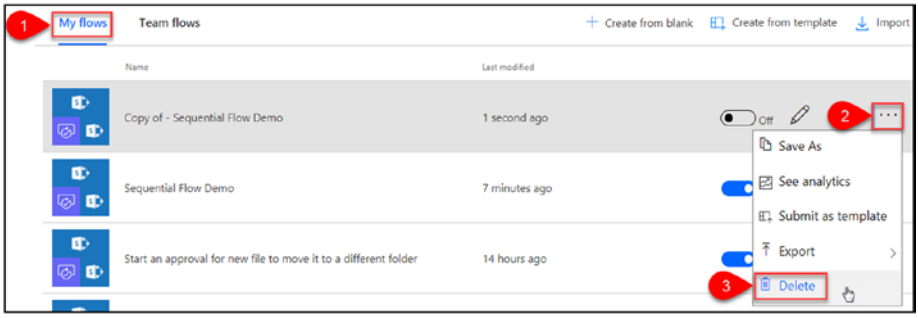

Figure 6-9. *Delete a flow*

3. Confirm that the flow must be deleted and then click **Delete**, as shown in Figure 6-10.

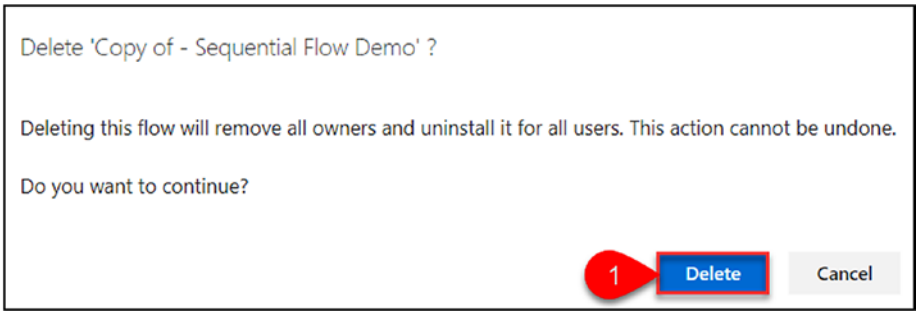

Figure 6-10. *Confirm deletion*

Create Team Flows

Perform the following steps to create team flows:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows** and then select a flow that must be created as a team flow. Click the **People** icon shown in Figure 6-11.

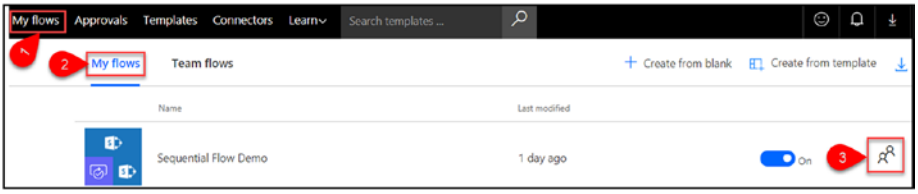

Figure 6-11. *Invite another owner*

3. Enter names, email addresses, or user groups to add other owners, as shown in Figure 6-12. Adding other owners allows them to edit, update, and delete this flow. All owners can also access the run history and add or remove other owners.

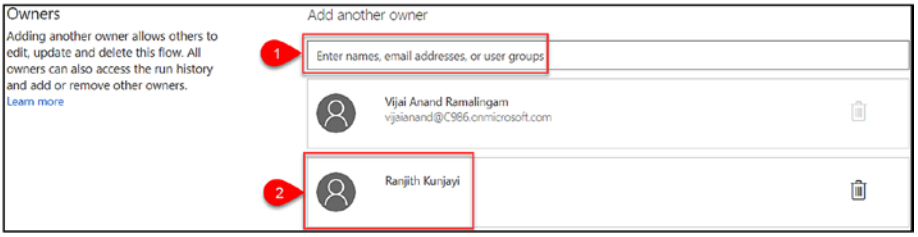

Figure 6-12. *Add other owners*

4. Navigate to **My flows**, click **Team flows**, and you'll see all of the team flows, as shown in Figure 6-13.

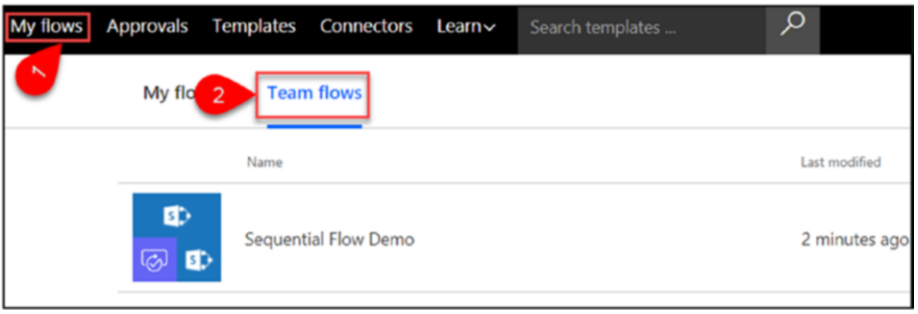

Figure 6-13. *Team flows*

Submit a Flow as a Template

Perform the following steps to submit a flow as a template:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows** and then select a flow that you want published as a template. Click the three dots (…) to see more options and then click **Submit as template**, as shown in Figure 6-14.

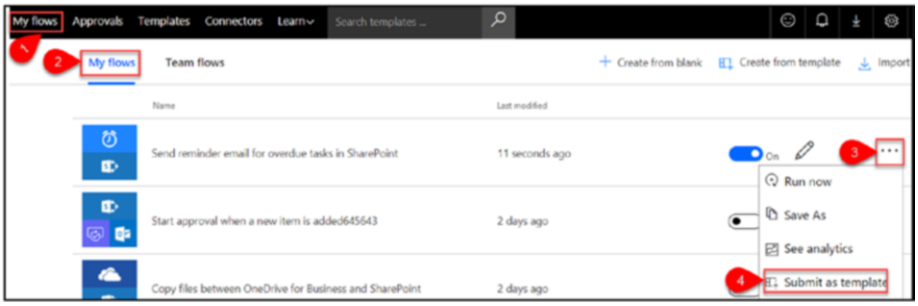

Figure 6-14. *Submit as a template*

3. Fill in all of the required details and then click **Submit**, as shown in Figure 6-15. The Microsoft Flow team will verify; once the team approves your template, it will appear in the gallery of templates for Microsoft Flow.

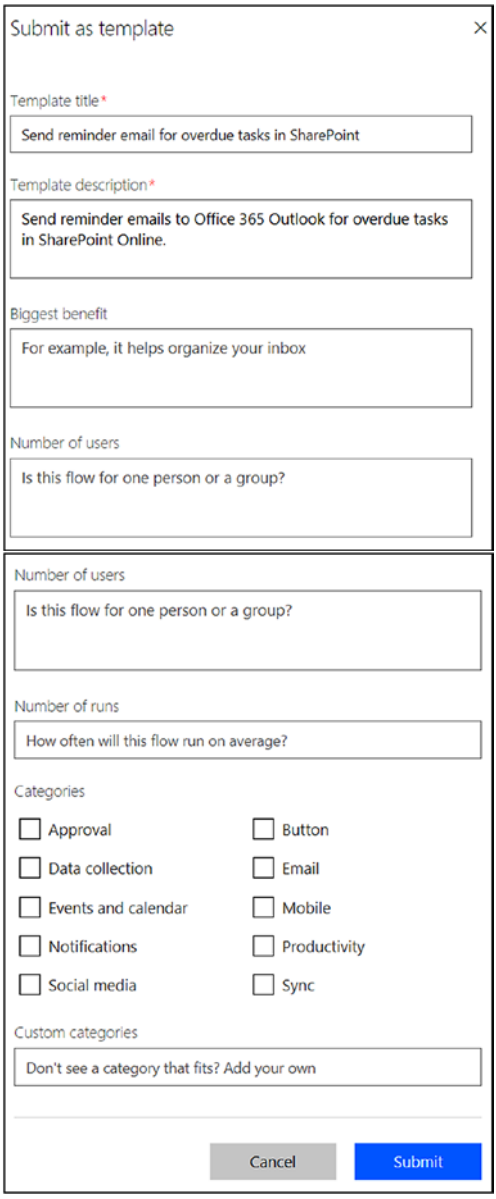

Figure 6-15. *The Submit as template page*

Export a Flow

Perform the following steps to export a flow as a package (`.zip`) file:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My flows** and then select a flow that has to be exported. Click the three dots (...) to see more options and then click **Export ➤ Package (.zip),** as shown in Figure 6-16.

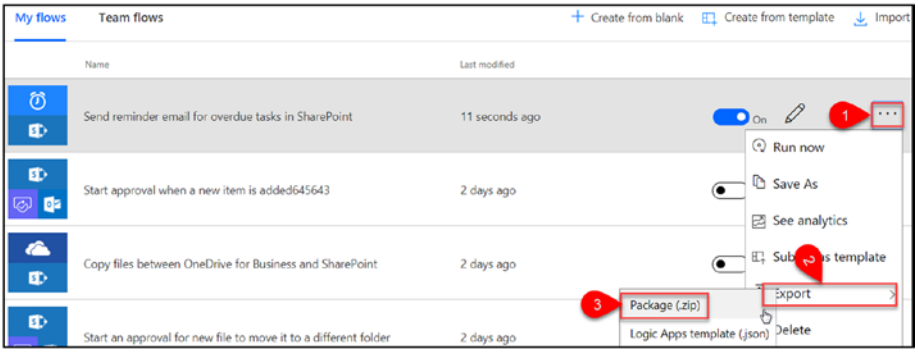

Figure 6-16. *Export as a package (.zip)*

3. Enter the package details, as shown in Figure 6-17.

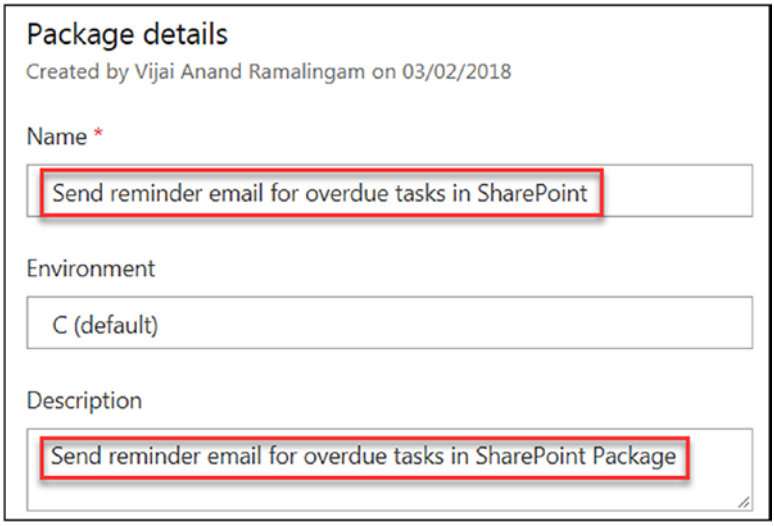

Figure 6-17. *Package details*

4. Go to the Import setup page. By default **Update** will be selected. Click **Update** and then select **Create as new**. Click **Save**, as shown in Figure 6-18.

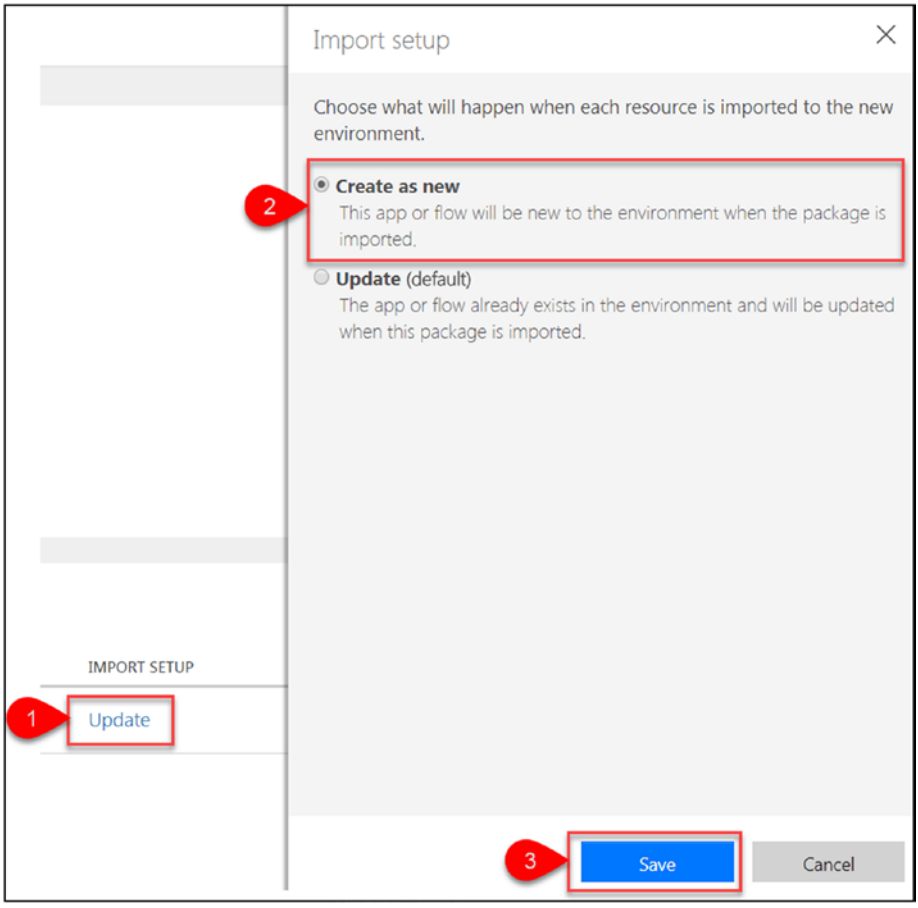

Figure 6-18. *Update the import setup*

5. If required, add version notes and then click **Export**, as shown in Figure 6-19. Save the package (`.zip`) file in the local file system.

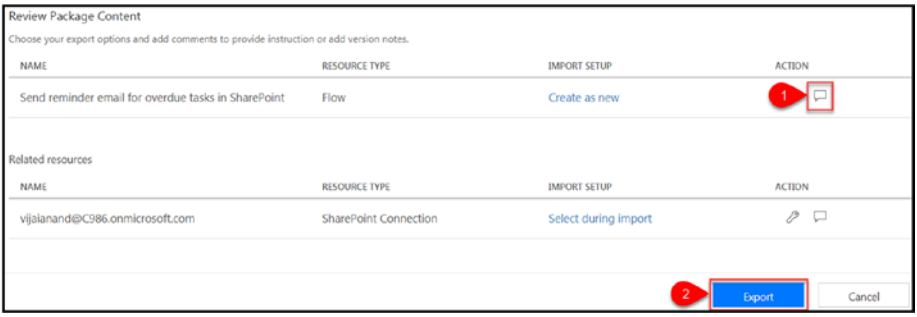

Figure 6-19. *Export the flow*

Import a Flow

Microsoft Flow allows you to import a flow as a package. This can be done when the flow must be copied or moved from one environment to another. Perform the following steps to import a flow:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. Select the environment where the package should be imported, as shown in Figure 6-20.

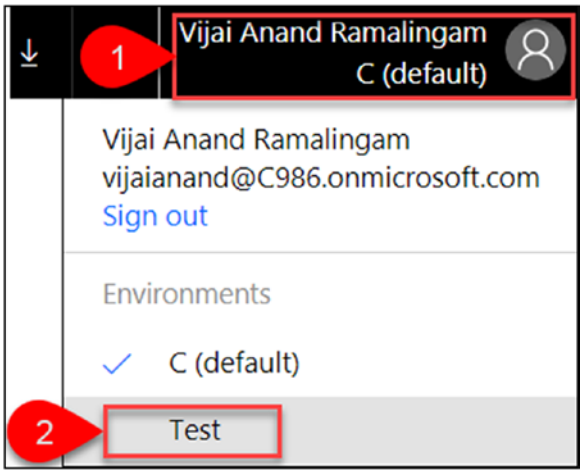

Figure 6-20. *Select the environment*

3. In the top navigation, click **My flows** and then click **Import**, as shown in Figure 6-21.

Figure 6-21. *Import*

4. Select the package (`.zip`) from the local file system by clicking the **Upload** button. Go to **Import Setup**, click **Select during import**, and then select the connection that has to be imported for this package. Click **Save,** as shown in Figure 6-22.

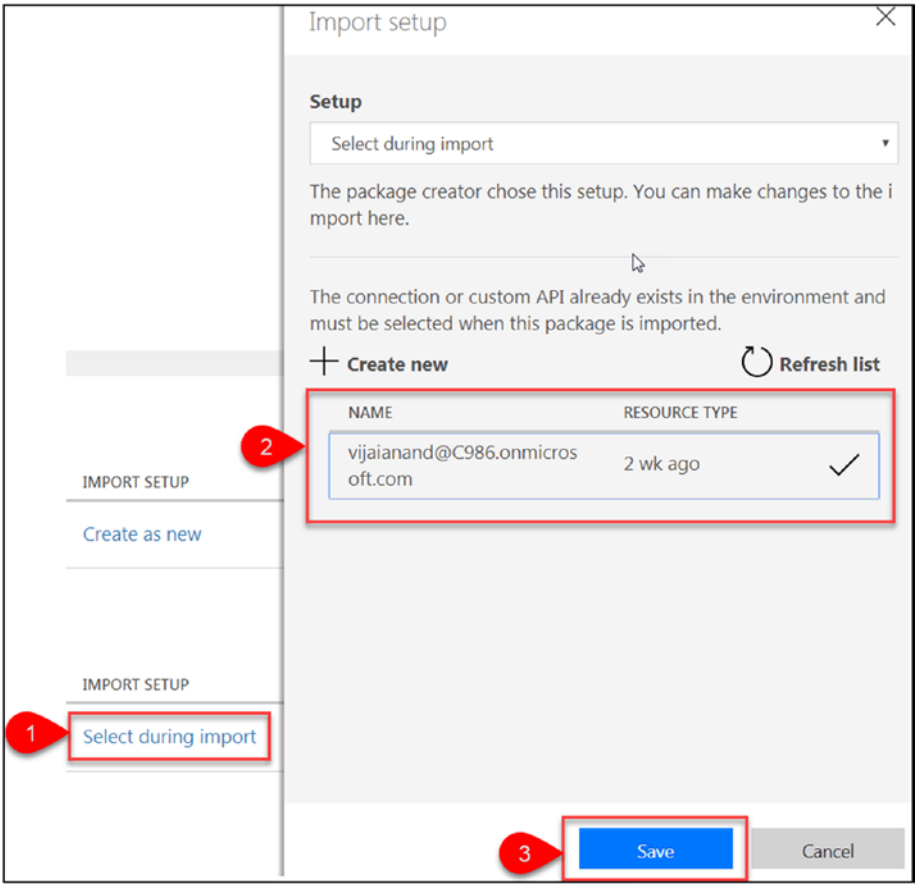

Figure 6-22. *Import setup*

5. Click **Import**, as shown in Figure 6-23.

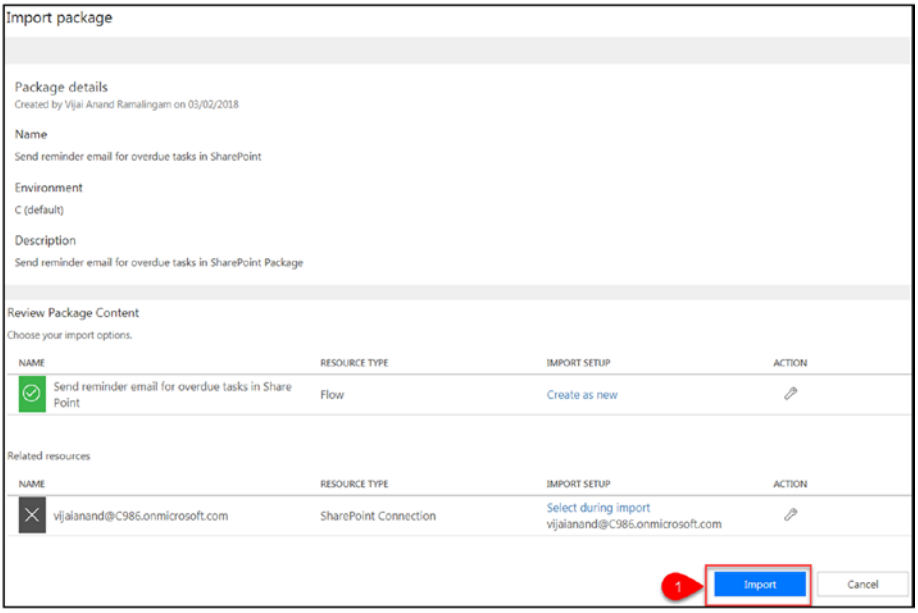

Figure 6-23. *Import the package*

6. All package resources were successfully imported, as shown in Figure 6-24.

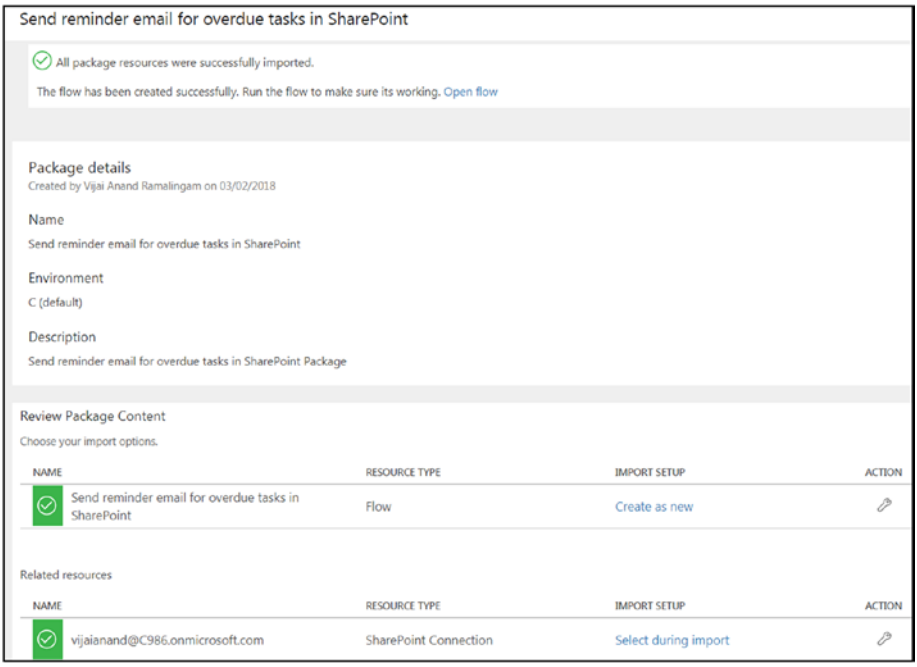

Figure 6-24. *The package was successfully imported*

7. Navigate to **My flows** and you'll see the imported flow, as shown in Figure 6-25.

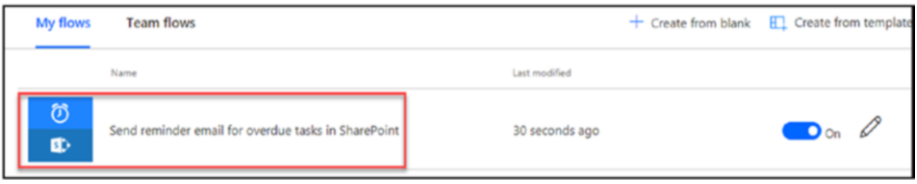

Figure 6-25. *Imported flow*

Monitor a Flow

Perform the following steps to monitor or troubleshoot a flow:

1. Navigate to the Flow site at `https://flow.microsoft.com`.
2. In the top navigation, click **My Flows** and then click the flow, as shown in Figure 6-26.

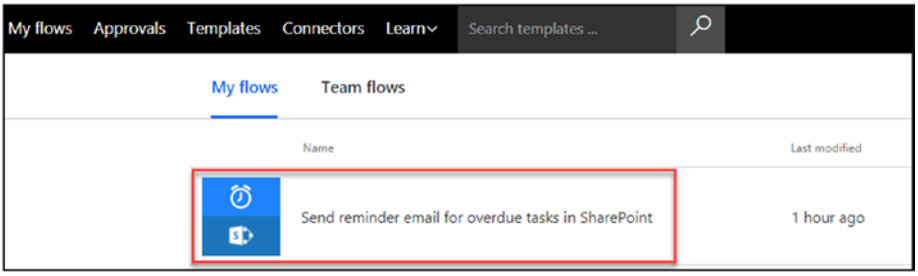

Figure 6-26. *Select the flow*

3. You'll see flow details such as run history, connections, owners, and more, as shown in Figure 6-27.

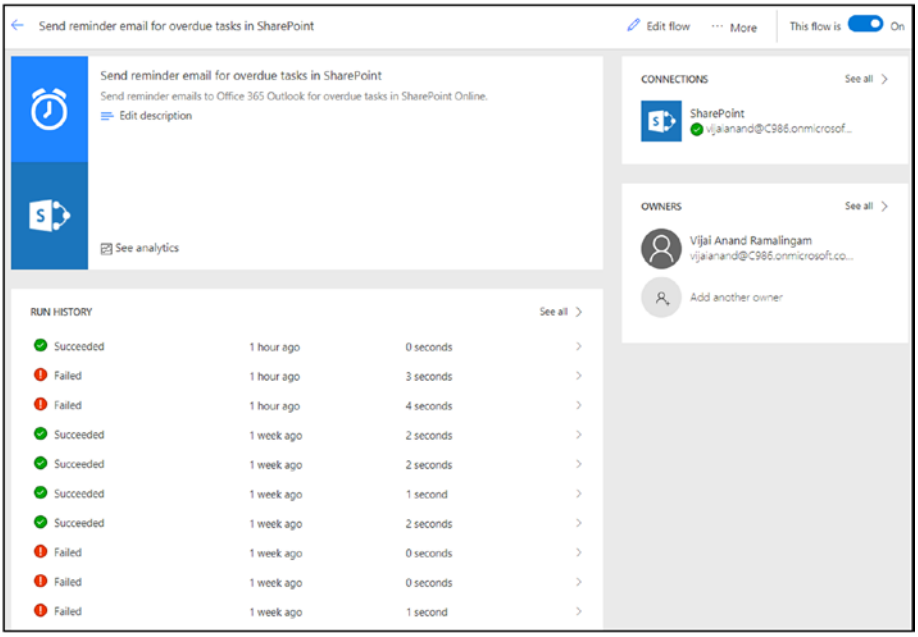

Figure 6-27. *Flow details*

4. Click one of the items (last run) in the run history, as shown in Figure 6-28.

Figure 6-28. *Run history*

5. Review the inputs and outputs for each step, as shown in Figure 6-29.

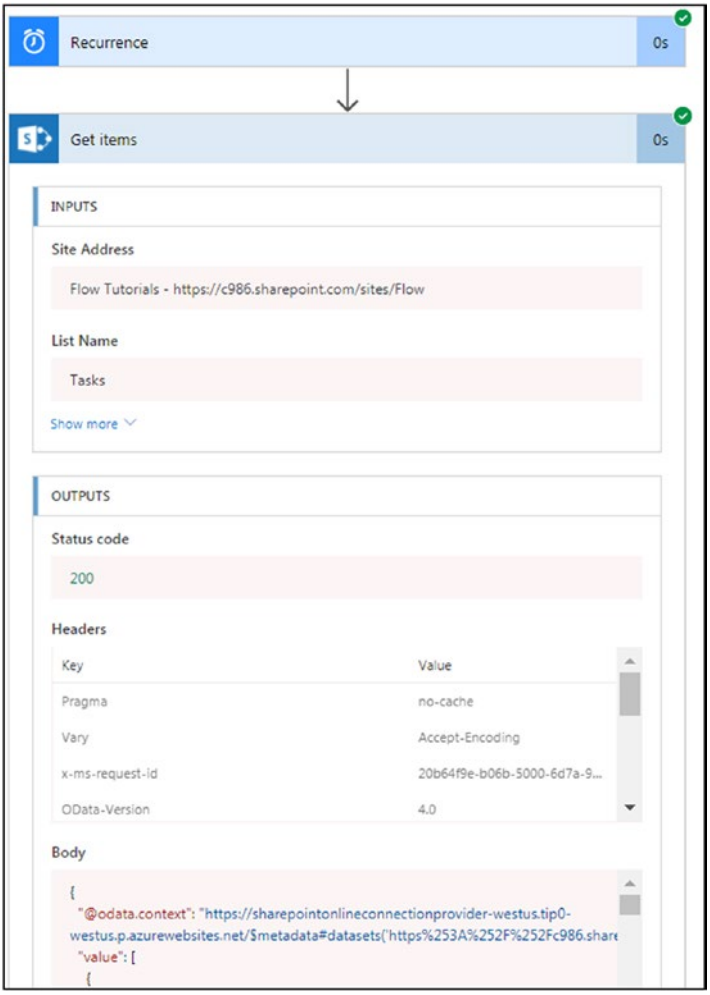

Figure 6-29. *Inputs and outputs*

6. Click the flow run that failed, as shown in Figure 6-30.

Figure 6-30. *Failed run*

7. You'll see a failure summary, shown in Figure 6-31, which helps to troubleshoot the issue.

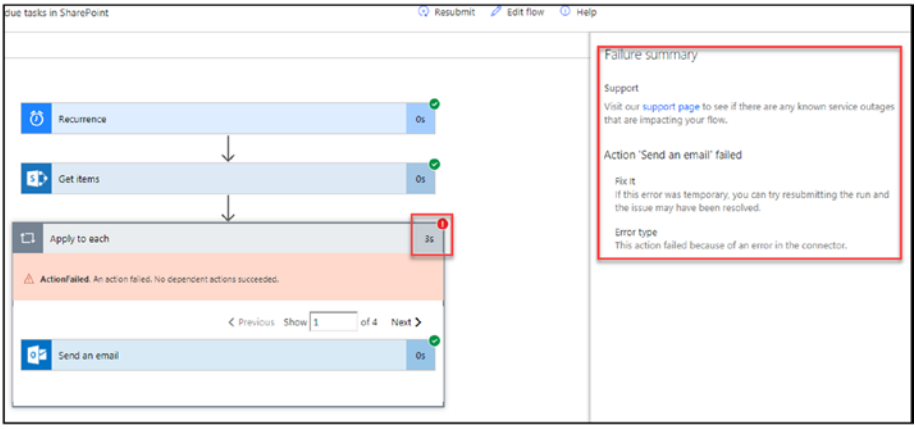

Figure 6-31. *Failure summary*

Manage Regional Settings

Perform the following steps to manage the language and regional format:

1. Navigate to the Flow site at `https://flow.microsoft.com`.

2. In the top navigation, click the **Settings** icon and then click **Settings,** as shown in Figure 6-32.

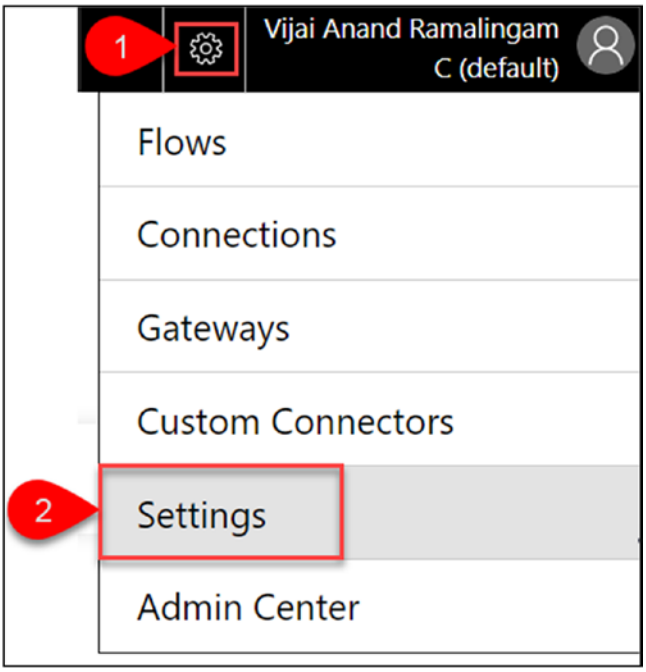

Figure 6-32. *Settings*

3. Choose the **display language** and **regional format** from the drop-down and then click **Save**, as shown in Figure 6-33.

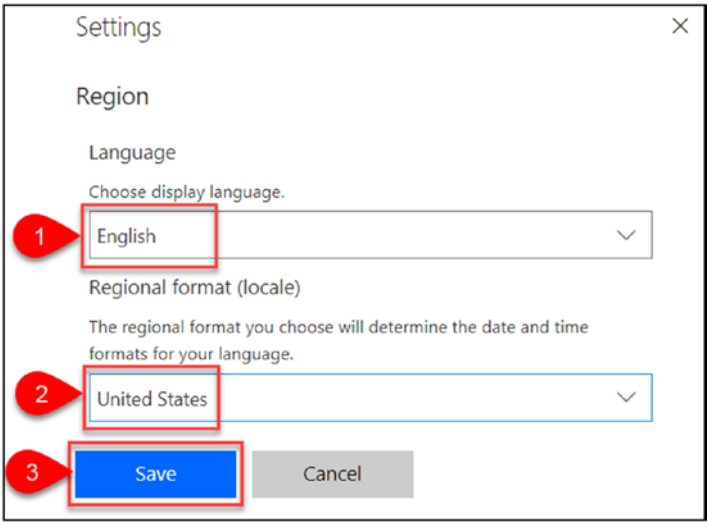

Figure 6-33. *Update the settings*

Admin Center Overview

The Admin Center allows the tenant and environment administrators to manage the environments and data policies.

Create a New Environment

Perform the following steps to create a new environment:

1. Navigate to the Flow site at `https://flow.microsoft.com`.

2. In the top navigation, click the **Settings** icon and then click **Admin Center**, as shown in Figure 6-34.

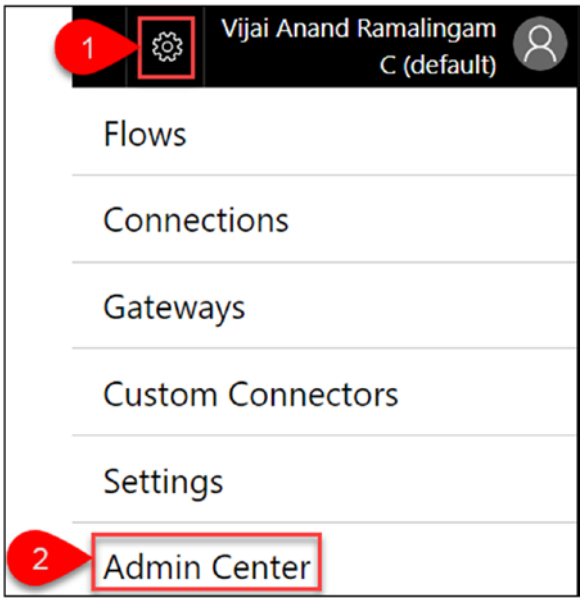

Figure 6-34. *Admin Center*

3. You'll see a list of environments, as shown in Figure 6-35. Click **New environment**.

Figure 6-35. *New environment*

4. Enter the name, select a region, and then click **Create environment**, as shown in Figure 6-36.

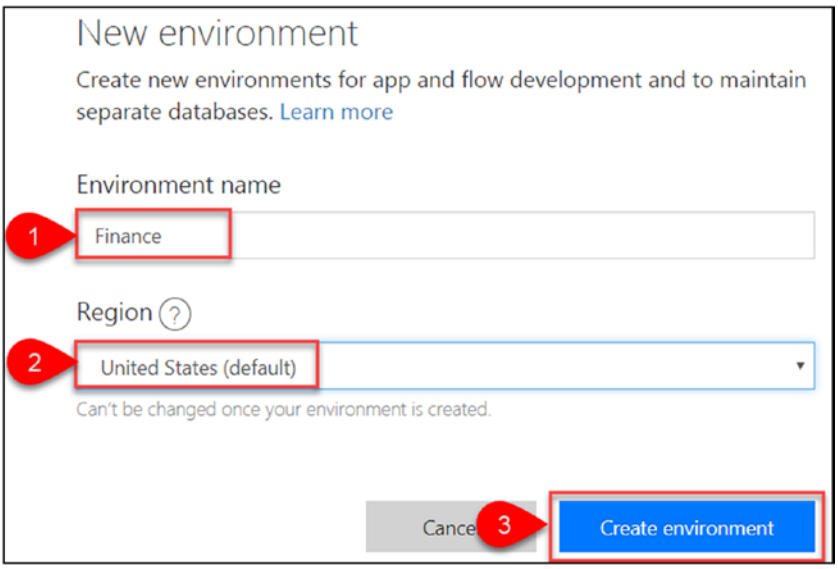

Figure 6-36. *Create environment*

5. The new environment is shown in Figure 6-37.

Figure 6-37. *New environment created*

Manage Environments in the Admin Center

Perform the following steps to manage environments:

1. Navigate to the Flow site at `https://flow.microsoft.com`.

2. In the top navigation, click the **Settings** icon and then click **Admin Center**, as shown in Figure 6-38.

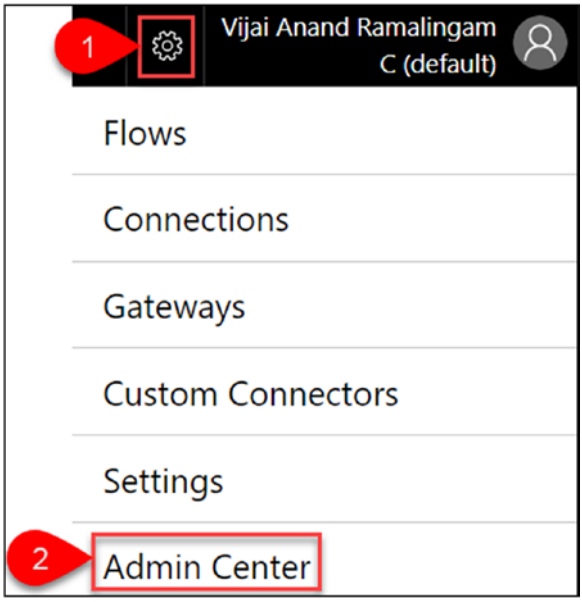

Figure 6-38. *Admin Center*

3. You'll see a list of environments, as shown in Figure 6-39. Click any environment to view the details.

Figure 6-39. *Select the environment*

- **Details**: Shows all details specific to the environment, as shown in Figure 6-40.

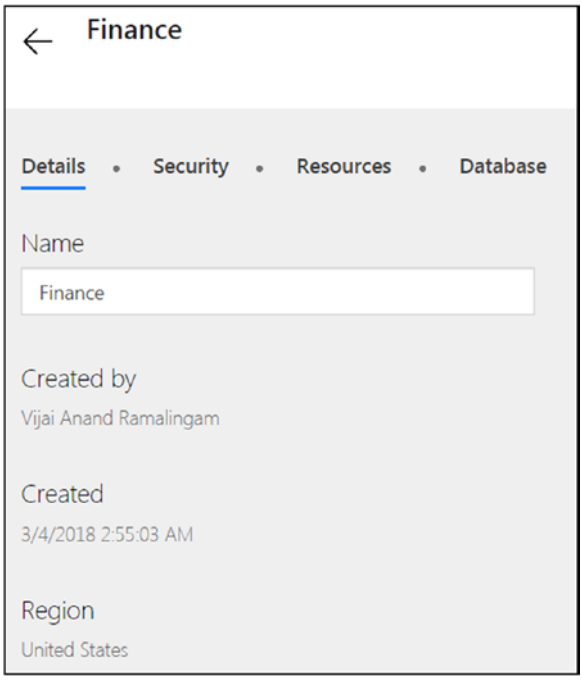

Figure 6-40. *Environment details*

- **Security**: Allows you to manage security roles such as Admin and Maker, as shown in Figure 6-41.

Figure 6-41. *Environment roles*

4. In order to add a new admin, click **Environment Admin** and search for name, email addresses, or user groups. Add the user and then click **Save**, as shown in Figure 6-42.

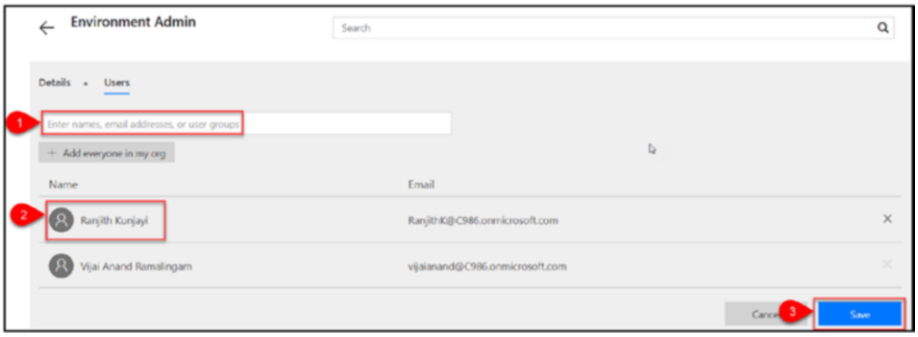

Figure 6-42. *Add a new admin*

- **Resources**: Shows all flows and apps created for this environment, as shown in Figure 6-43.

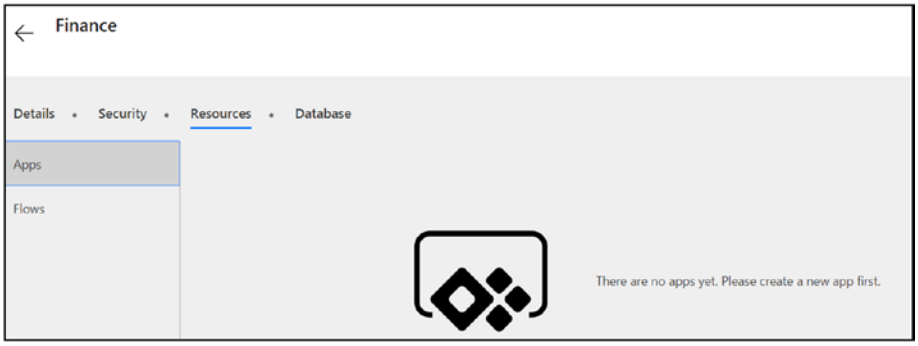

Figure 6-43. *Environment resources*

- **Database**: Shows all databases for this specific environment, as shown in Figure 6-44.

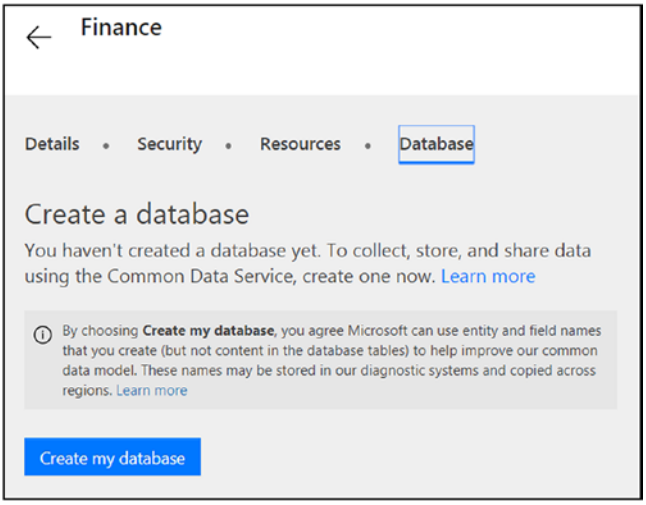

Figure 6-44. *Environment database*

5. Click **Delete** to delete the environment, as shown in Figure 6-45. Note that if you delete the environment, all flows within that environment will also be deleted. This applies to any items you created in that environment, including connections, gateways, and more.

Figure 6-45. *Delete the environment*

Create a New Data Loss Prevention Policy

Microsoft Flow allows you to create policies that define how data can be protected or shared. Perform the following steps to create a new data loss prevention policy:

1. Navigate to the Flow site at `https://flow.microsoft.com`.

2. In the top navigation, click the **Settings** icon and then click **Admin Center**, as shown in Figure 6-46.

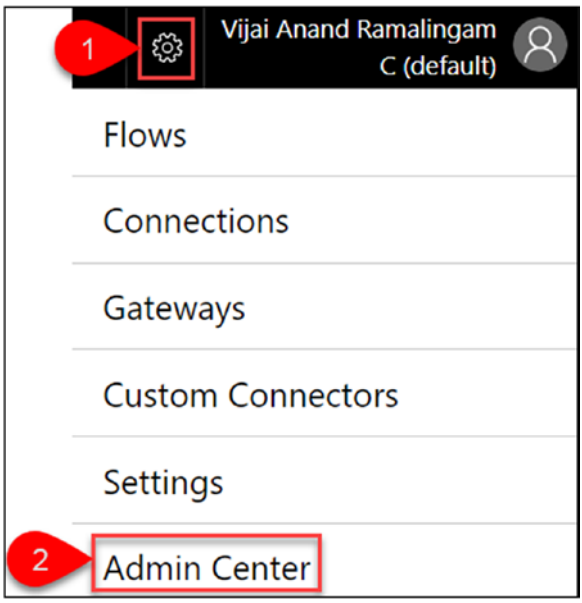

Figure 6-46. *Admin Center*

3. In the left navigation, click **Data policies**. You'll see a list of created data policies, as shown in Figure 6-47. Click **New Policy**.

Figure 6-47. *Create a new policy*

4. Choose the environments relevant to this data policy and click **Continue**, as shown in Figure 6-48.

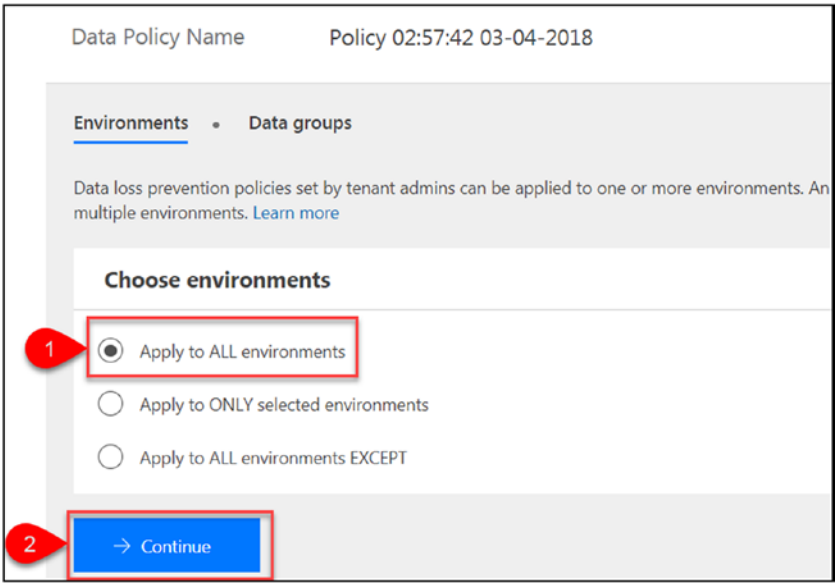

Figure 6-48. *Choose environments*

5. Based on the requirements, add connectors to **Business data only** and **No business data allowed**, as shown in Figure 6-49. Users will be prevented from creating flows and apps that combine connectors from the **Business data only** and **No business data allowed** data groups.

Note If a user creates a flow that combines connectors, the flow will be suspended due to a conflict with the data loss prevention policy. For example, if a user creates a flow that shares data between SharePoint (which is in the **Business data only** data group) and Facebook (which is in the **No business data allowed** data group), the flow will be suspended.

Also, when you add a service to one group, it will automatically be removed from the other group. For example, if the Twitter service is added to the **No business data allowed** data group, then it will be automatically removed from the **Business data only** data group.

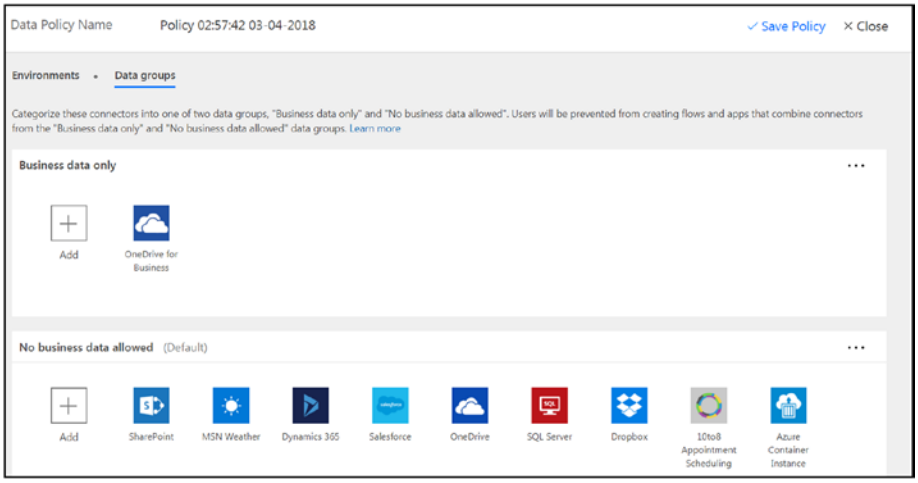

Figure 6-49. *Data groups*

6. Figure 6-50 shows the new data loss prevention policy.

Figure 6-50. *New policy*

7. Navigate to **Data Policies** and select the **Edit** icon to update the policy or the **Delete** icon to delete the policy, as shown in Figure 6-51.

Figure 6-51. *Update or delete the policy*

Try It Yourself

- Create a new environment for HR and provide access to a few HR users.
- Export any flow from the default environment and import the flow in the newly created environment for HR.
- Add two or more administrators to the imported flow and turn on the flow.
- Execute and monitor the imported flow.
- Turn off the flow in the default environment.

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