Lab 01: Post-Deployment Configuration

Integrate Email Flows with Bulk Email Service

[Microsoft Exchange Online](https://www.microsoft.com/microsoft-365/exchange/exchange-online) is not a bulk email service, and has a limit of 10,000 emails per day per mailbox, which will not suffice for typical email volumes required for vaccination management scenarios and hence it requires customers to have their own bulk email service as per their choice and compliance needs that they can use to send emails for various scenarios including registration confirmation, booking invitations, appointment confirmation and cancellations, appointment reminders, immunization records etc. While the actual number of emails sent will vary for each deployment based on your registration and vaccination volumes, the number of emails can be excessively high per day during peak times.

Customer implementations can extend the [standard Power Automate flows](https://docs.microsoft.com/en-us/dynamics365/industry/vaccination-management/configure-security-portal-flows#configure-power-automate-flows) in Microsoft Vaccination Management (MVM) to integrate Microsoft Vaccination Management with the third-party bulk email provider of their choice.

Some of the popular bulk email services like [SendGrid](https://azuremarketplace.microsoft.com/en-us/marketplace/apps/SendGrid.SendGrid?tab=Overview) have standard Power Automate connectors that can be used by customers or other bulk email services can be integrated by building a Power Automate custom connector.

In this exercise, you will learn to extend an email flow to integrate with SendGrid Service as an example to send higher volumes of emails.

See the following documentation to learn more about the [Sending limits in Exchange](https://docs.microsoft.com/en-us/office365/servicedescriptions/exchange-online-service-description/exchange-online-limits#receiving-and-sending-limits).

**Task 1: Extend an Email flow to integrate with Bulk email service**

In this task, you will learn to use SendGrid connector as an example to send higher volumes of emails.

See the following documentation to learn more about the [SendGrid Connector](https://docs.microsoft.com/en-us/connectors/sendgrid/).

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1. Create a SendGrid account either directly in [SendGrid](https://sendgrid.com/) or via [Azure Portal](https://docs.microsoft.com/en-us/azure/sendgrid-dotnet-how-to-send-email#create-a-sendgrid-account) and then create an API key. *[Note: If you are in an official training then this step is just informational, and no action is required from you because the SendGrid account would have already been set up and the API key would have been provided to you.]*
2. Navigate to [Power Apps](https://make.powerapps.com/).
3. In the left pane, click on **Solutions** and then you can view the list of solutions deployed in the environment.

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1. On the **Solutions** page, select **MVM In A Day** solution. Graphical user interface, text, application, email

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In the **MVM In A Day** solution, click on **+ Add existing > Cloud flow** in the command bar.

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On the right pane, select Send Email (Phase Opening), Send Email (Registration), Send Email with Attachment (Base) and Send Email (Generic) flows and click on Add to add them into the solution.

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On the **Send Email (Registration)** flow, Select **More Commands (…) > Edit** to open and edit the flow in a new tab page in the browser.

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Click on the button **+** to add a new step in between **Manually trigger a flow** step and **Send an email** to the flow.

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Search and add a SendGrid’s **Send email (v4)** action and rename it to **Send email.**

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Provide a **Connection name** (For Ex: MVM In A Day SendGrid), enter the API Key in the **SendGrid API key** and then click on **Create** to establish a connection with SendGrid server. *[Note: If you are in an official training, use the SendGrid API key provided by your lab instructor.]*

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Provide the details as mentioned below:

* 1. **From**: Use a no-reply email address. *[Note: If you are in an official training, use the no-reply email address provided by your lab instructor.]*
  2. **To**: Add a dynamic content **Email**.
  3. **Subject**: Add a dynamic content **EmailSubject**.
  4. **Email body**: Click on **</>** symbol on the format bar in Email body and replace the code with the dynamic content **EmailBody**.

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Click on **More commands(…)>Settings.**

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Set up retry policy on this step so that the step will run again in case of any intermittent failures based on settings defined below:

* 1. **Type:** Select **Exponential interval.**
  2. **Count:** Set the retry count as 25.
  3. **Interval**: Set the interval in ISO 8601 format. For Ex: For 1 minute, update it as PT1M.
  4. **Minimum Interval**: Set the minimum interval in ISO 8601 format. For Ex: For 1 minute, update it as PT1M.
  5. **Maximum Interval:** Set the maximum interval in ISO 8601 format. For Ex: For 1 hour, update it as PT1H.

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Delete the **Send an email** step by clicking on **More commands (…)>Delete.**

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On the **Create a failed email record** step, Select **Configure run after.**

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Select the three statuses as shown in the below screenshot and then click on **Done** so that this set of step runs only when email run step has failed/skipped/timed out.

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Click on **Save** button on top edge of the flow editor and make sure there are no errors in the flow checker.

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Click on **<-** to navigate to overview screen.

Click on **Edit** on the **Run only users** section.

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Select **Use this connection (MVM In A Day SendGrid)** from the drop down and then click on **Save** so that this connection will be used when this child flow is used in the parent flows.

Graphical user interface, text, application, email

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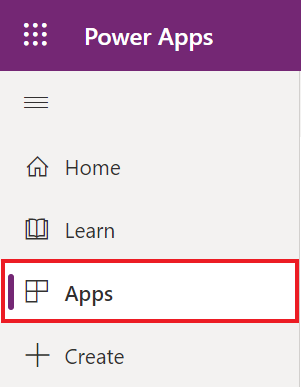
If the **Status** of the flow is **Off** then click on **Turn on** to enable the flow. You can skip this step if the flow is already enabled.

{Optional Step] You can perform the same steps mentioned in this task to replace the Office 365 Outlook connector with SendGrid connector on the other email flows (**Send Email (Phase Opening), Send Email with Attachment (Base)** and **Send Email (Generic))**

**Task 2: Test the Power Automate flow changes**

In this task, you will test the Power Automate flow changes done as part of this exercise by registering in the **Registration and booking portal** and verify the email**.**

1. Navigate to [Power Apps](https://make.powerapps.com/).
2. To test the email flow, Select **Apps** on the left navigation bar and then you can view the list of Apps deployed in the environment.



Find the **Registration and booking portal** and click on it to open the portal in a new tab page in the browser. This is the portal used for Registration and booking appointments.

Click on **Start registration** in the portal.

Do not set **Yes** for any of the questions in the questionnaire.

After filling the questionnaire, provide all the required resident details and, make sure to provide a last name starting in between A-M.

At the end of the page, enter the year in **Date of birth** as 1990 and provide a valid email address.

At the end of review page, mark the confirmation checkbox and then click on **Complete registration** button.

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In 1-3 minutes, **Email Registration Confirmation (Lastname: A-M)** will pass the required details to its child flow, **Send Email(Registration)** to send an email to the resident.You will also receive a registration confirmation email to the email address provided in the registration and booking portal within 3 minutes.

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In case you haven’t received the registration email even after 5 minutes from submission then

* 1. Check for the e-mail in your Junk folder.
  2. If you cannot find the registration email in your junk folder then verify whether the steps in Exercise 1->Task 1-> 4 and 5 have been followed and then redo this task.
  3. If you cannot find the registration email even after following the above steps, then open the latest executions in **Email Registration Confirmation (Lastname: A-M)** and **Send Email(Registration)** flow history to debug it further.

You can also verify the **28-day run history** for the execution status and detailed run history in the **Email Registration Confirmation (Lastname: A-M)** and **Send Email(Registration)** flows.

In case you are receiving the same e-mail for every 3 minutes then it could potentially be due to a wrong setup of values in the Flow. Please turn off the **Send Email(Registration)** flow immediately and review/compare all the values set in your **Send Email(Registration)** flowas part of Exercise 4->Task 1-> Steps 15 and 16. If you don’t see any difference then open the latest execution from **Send Email(Registration)** flow history to debug it further. Do not turn on the flow again until you have noticed a difference in the setup and corrected it.

**Congratulations!** You have learned to integrate a bulk email service with MVM Email flows.