Module 6 - Application Lifecycle Management
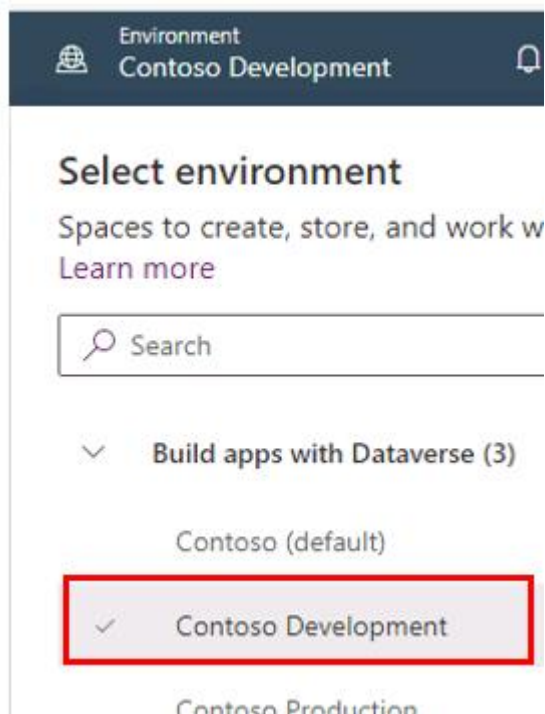
Lab 1

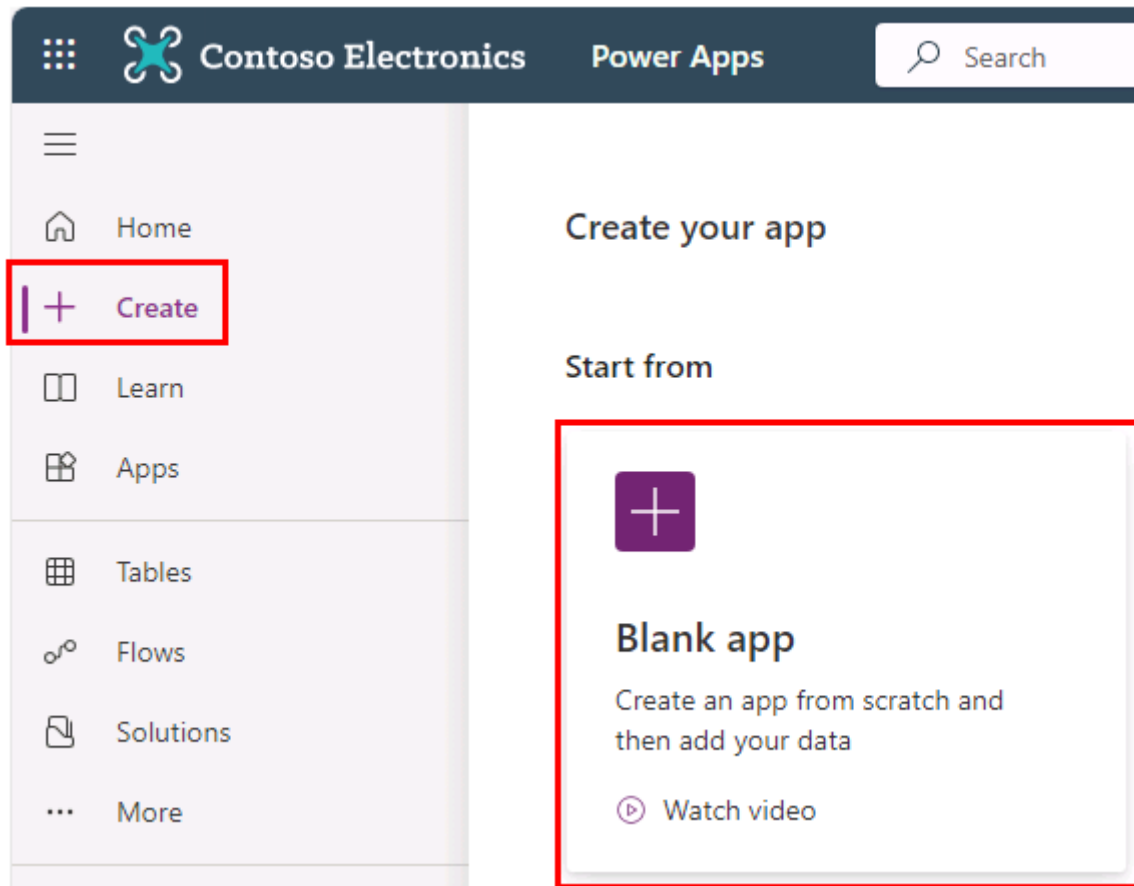## Estimated Time

60 minutes

Exercise 1 - Deploy Resources Between Environments Using a Package

In this exercise, we will use export/import option to deploy Power App and Flow between environments
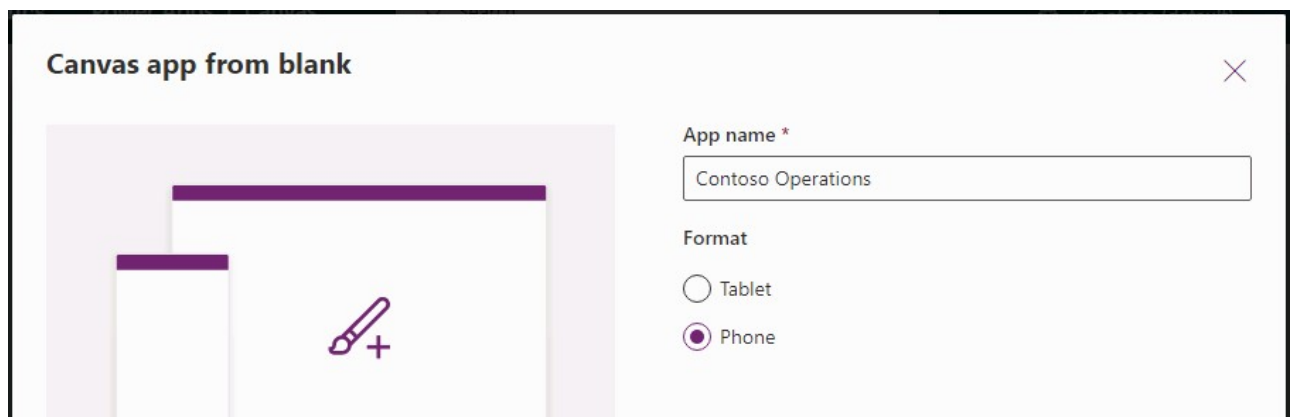
1. Navigate to **https://make.powerapps.com** and verify that you have **Contoso Development** environment selected

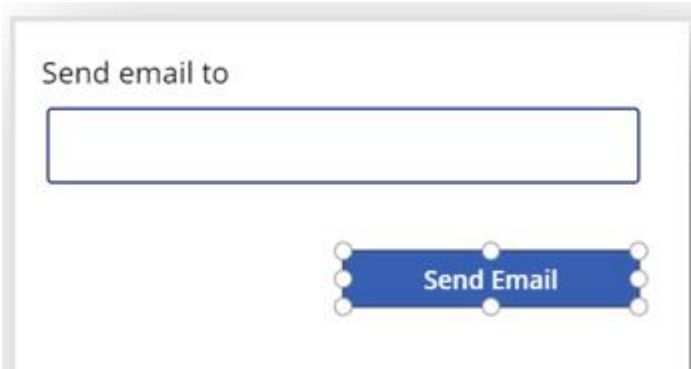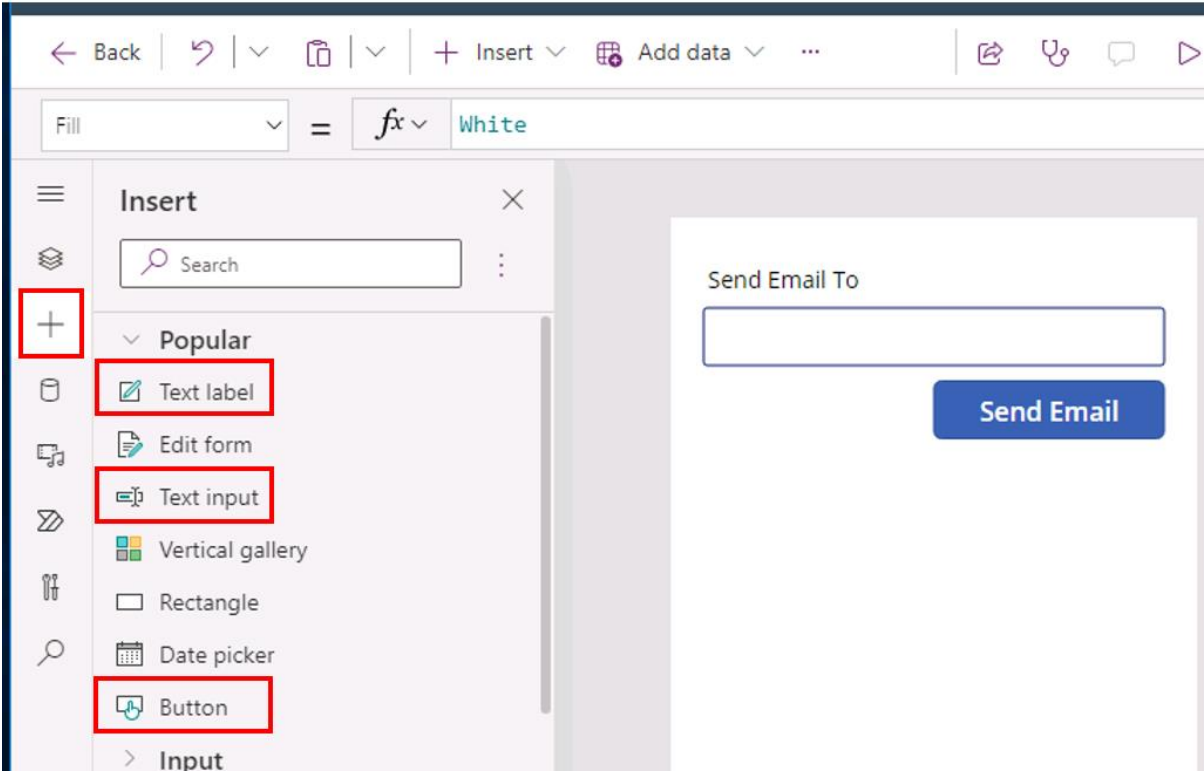2. Select **+ Create** from the left menu and click **Blank app**

3. Select **Phone** format and name it **Contoso Operations** then click **Create**.
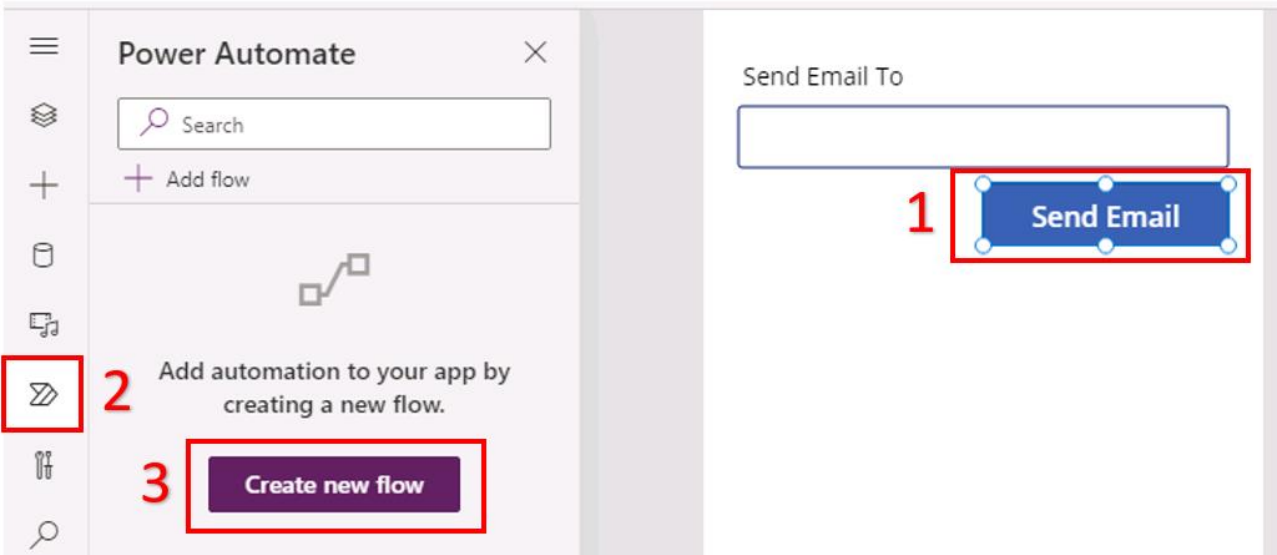

4. From the left or top menu select insert (+) and add the following controls to the app screen:
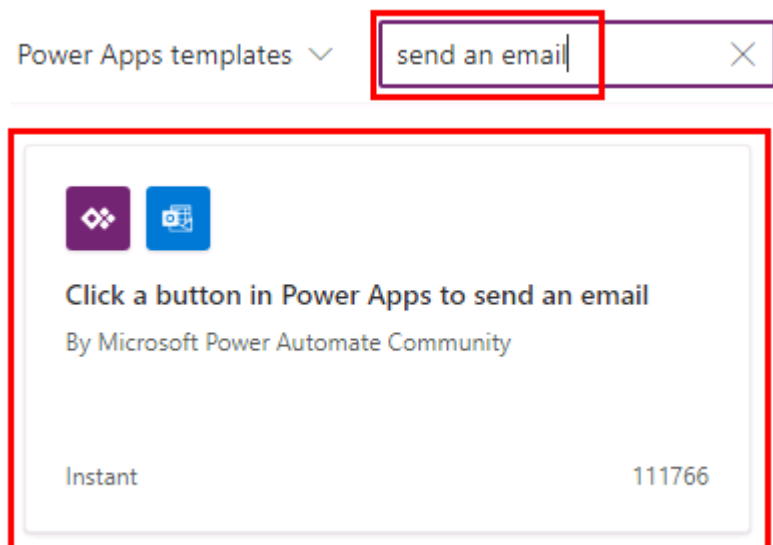
   ○ Label: Text property = **Send Email To**

   ○ Text box
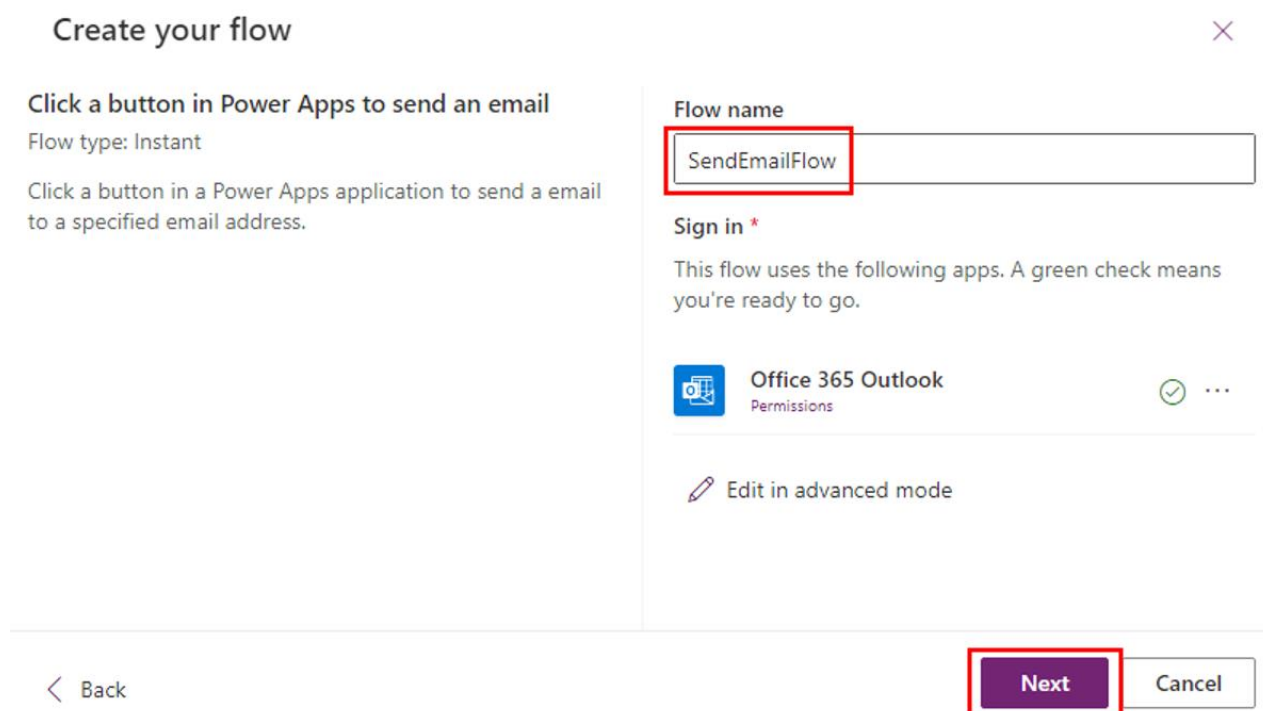
   ○ Button: Text property = **Send Email**

5. Select the button and from the left menu click **Power Automate** then click **Create new flow**
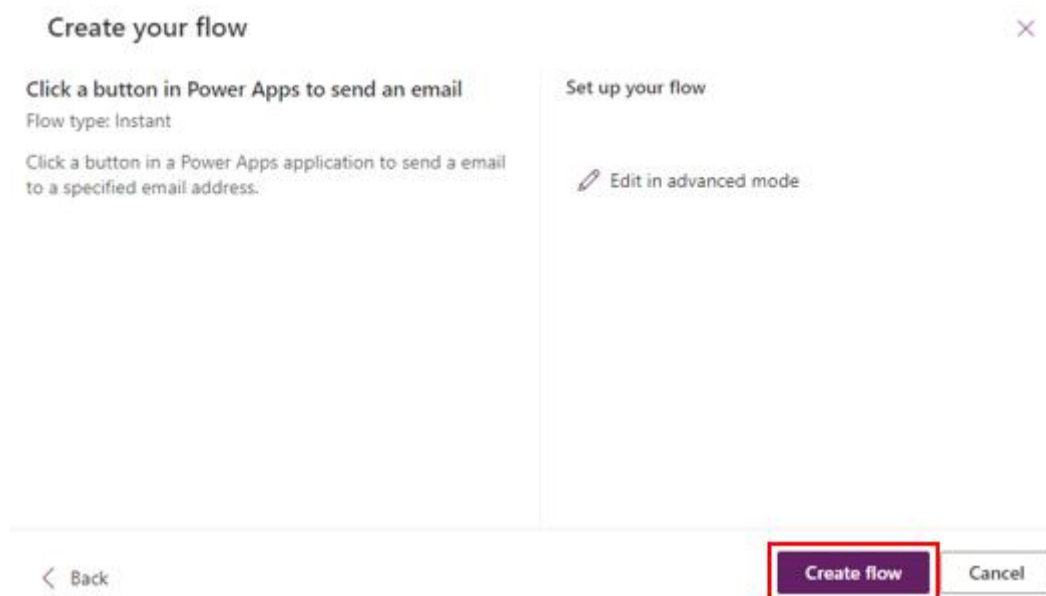
6. Search for "**send an email**" and select **Click a button in Power Apps to send an email** template

7. Name the flow **SendEmailFlow** and click **Next**

8. Click **Create flow**

9. Select **Send Email** button and its OnSelect event and replace default false value with this
SendEmailFlow.Run(TextInput1.Text, "Subject", "Body")

   NOTE! your textinput control name could be different if you have changed the name or have added
   multiple textinput controls to the screen. If that is the case the make sure that you are refering to
   correct textinput control
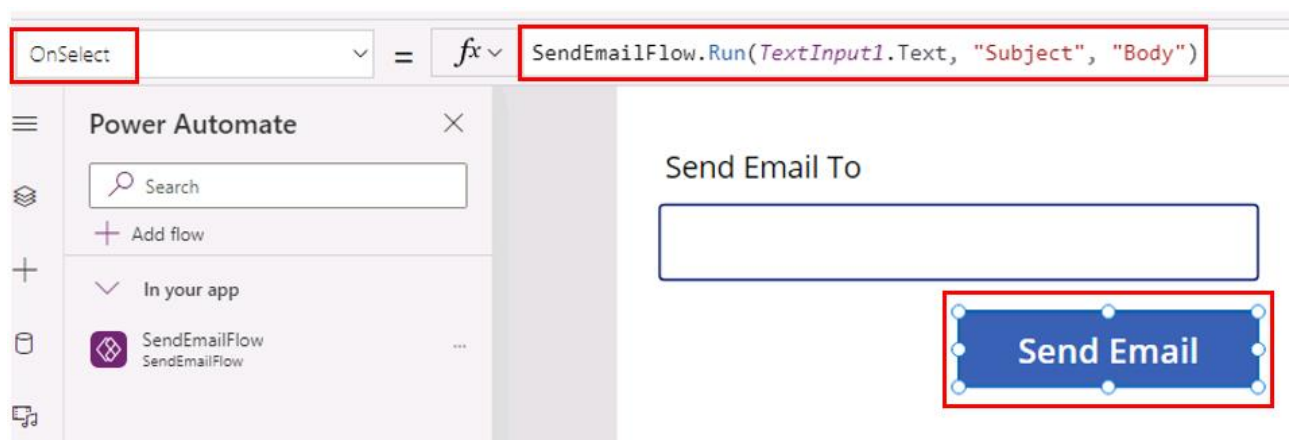
10. Press **Ctrl+S** or **Save** button on top right corner to save changes.
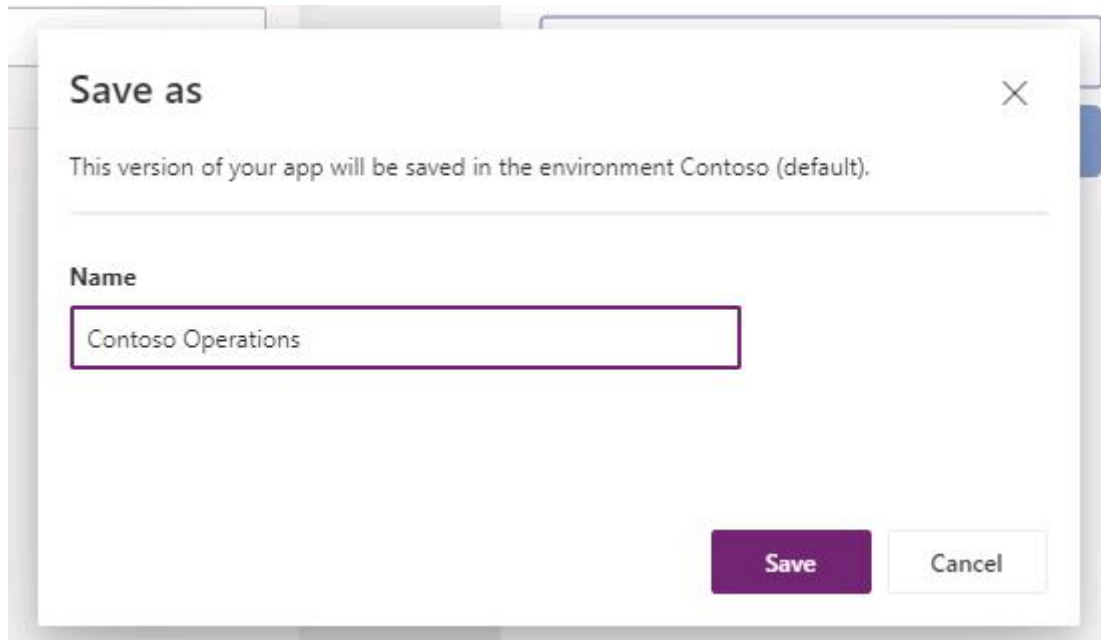
11. Once the app is saved, click the **Back** button, and click **Leave**.
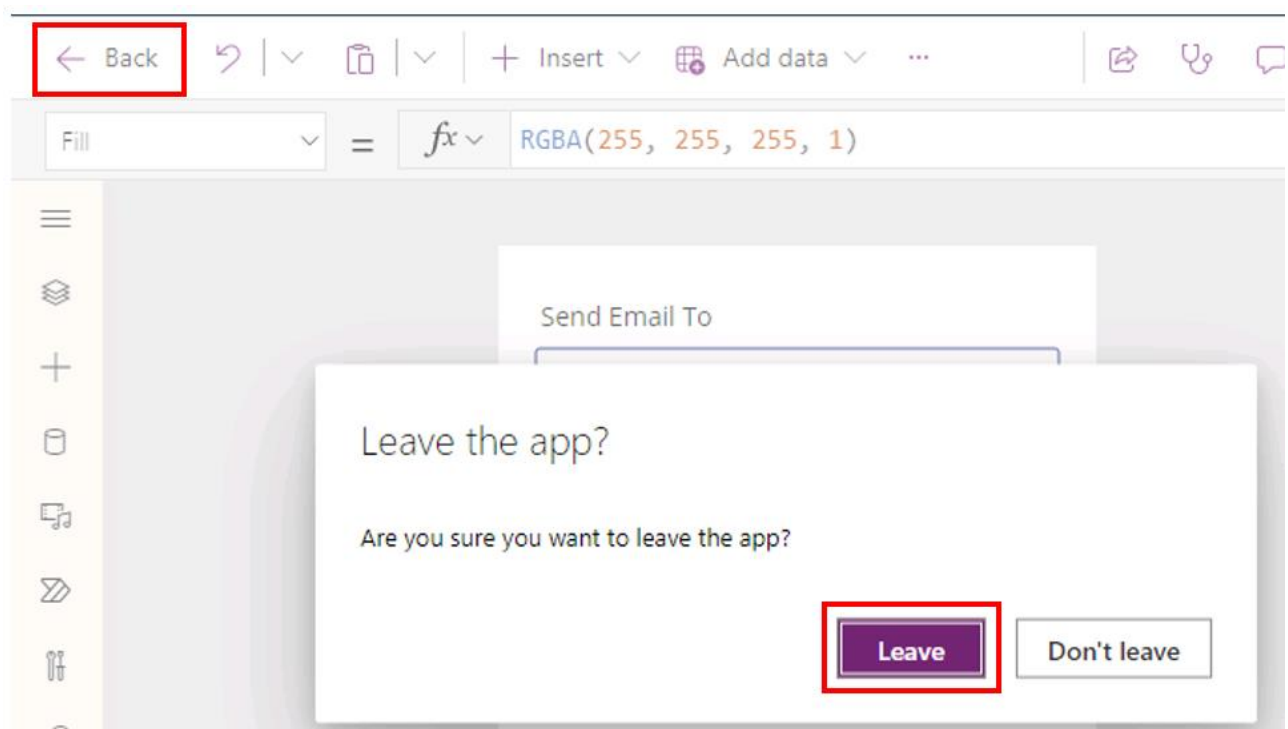
12. Select Apps from the left menu, then click the three dots next to the app title and select **Export Package**
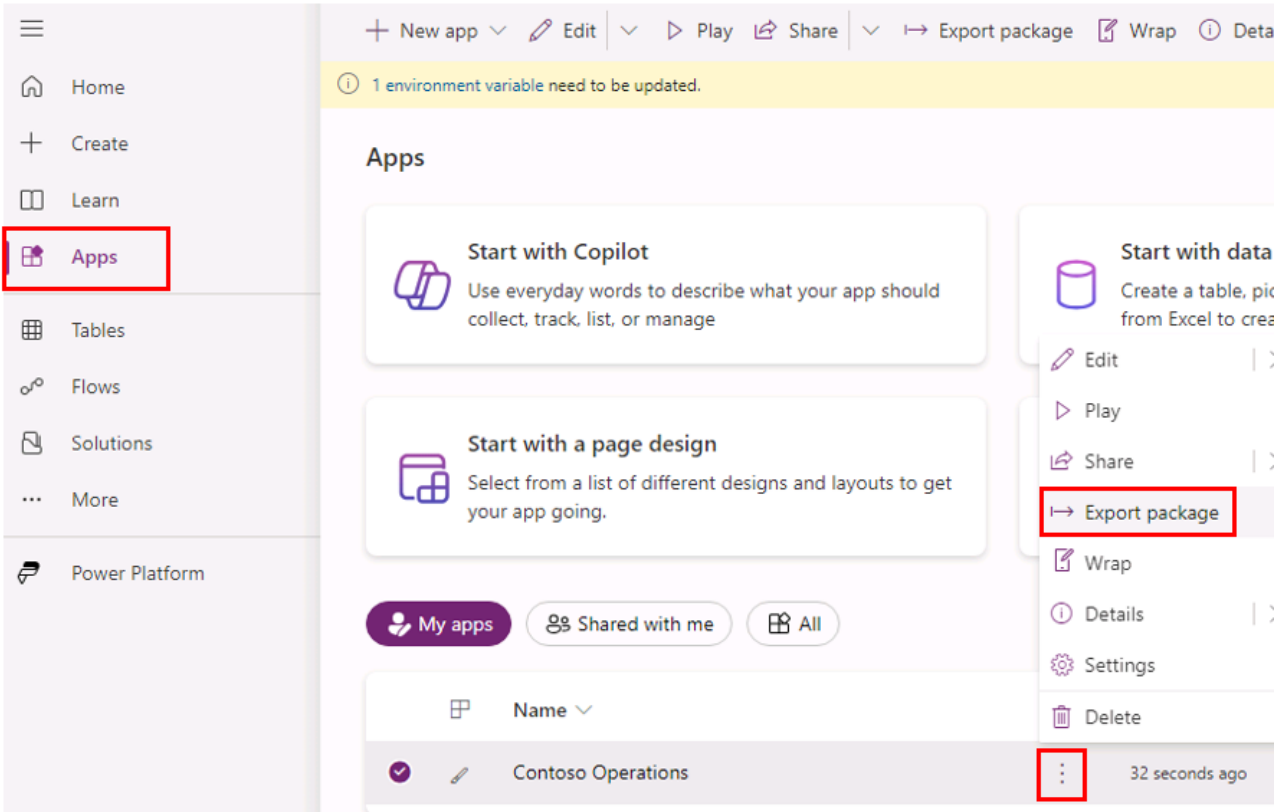
13. Export package with the associated flow by typing the package title **Contoso Operations** and description.

    NOTE that this title does not conflict with the package app name as it remains the same.

14. In the Package Content section, change the Import Setup options based on which mode you must use.

Review Package Content

Choose your export options and add comments to provide instruction or add version notes.

NAME	RESOURCE TYPE	IMPORT SETUP
Contoso Operations	App	Update

Related resources

NAME	RESOURCE TYPE	IMPORT SETUP
SendEmailFlow	Flow	Update
admin@M365x16792205.onmicrosoft.com	Office 365 Outlook Connection	Select during import

15. For the first package migration, import setup mode should be new, click on **Update** then change import setup to **Create as new**. NOTE, this can be also changed during the import phase

Choose what will happen when each resource is imported to the new environment.

◉ **Create as new**   2
This app or flow will be new to the environment when the package is imported.

○ **Update** (default)
The app or flow already exists in the environment and will be updated when this package is imported.
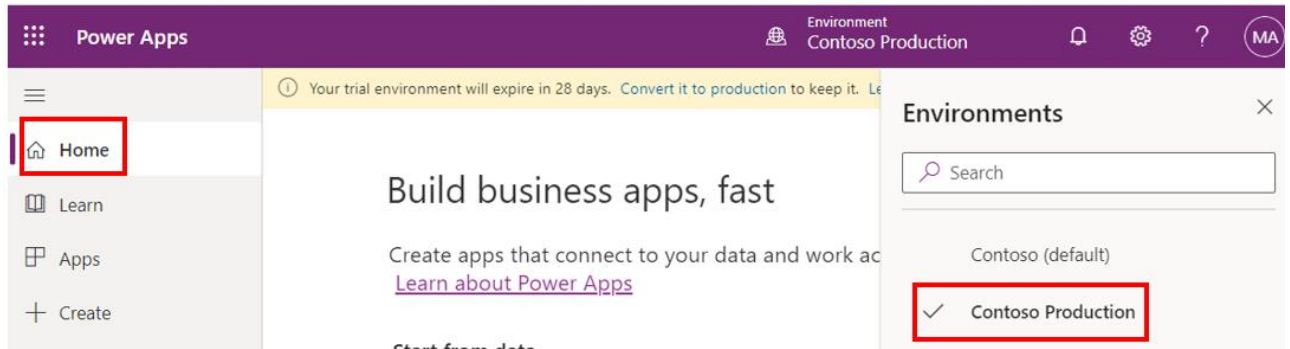
IMPORT SETUP

Update   1

16. Repeat the same for **SendEmailFlow** then click ok.

17. Click **Export** to save the package to the local hard drive (this operation is considered a local backup copy of your app package as well).
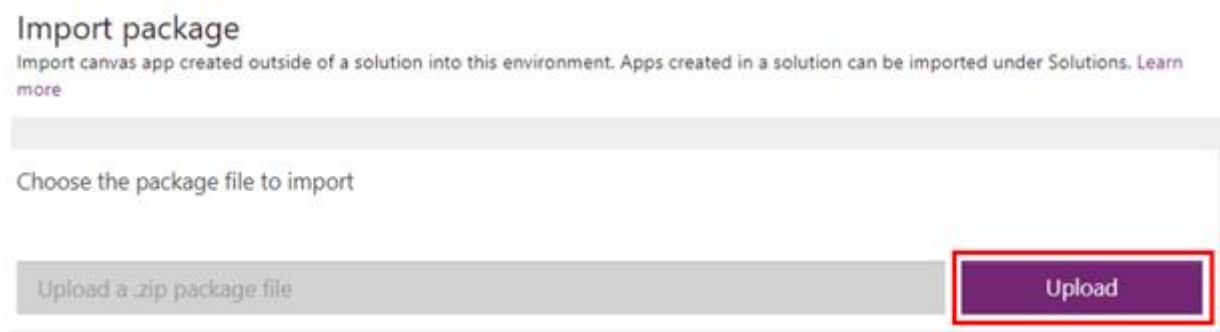
18. In the Power Apps studio, select the Home tab then switch environments to **Contoso Production**.

19. Select the **Apps** menu, then select the **Import canvas app** option.
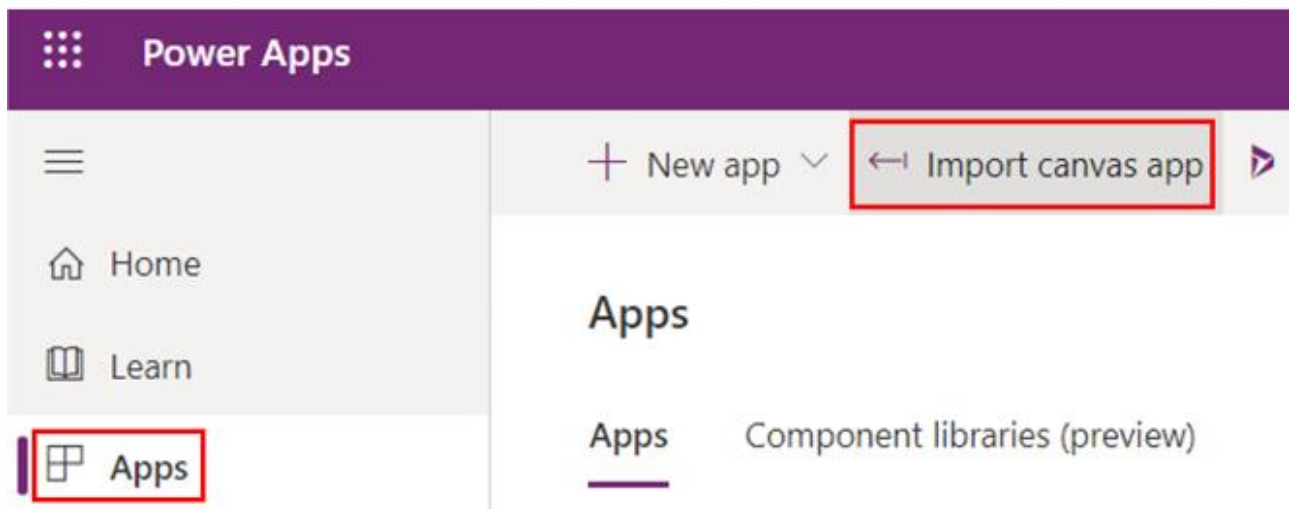
20. Select **Upload**, then locate the exported package to start the import process.

21. Once the package upload completes successfully, the app and flow resources import status is marked as green which means that these can be created as new resources to the target environment. The outlook connector used in the associated flow shows a red error mark because this connector doesn't exist in the targeted environment and need to be created before you can import the app
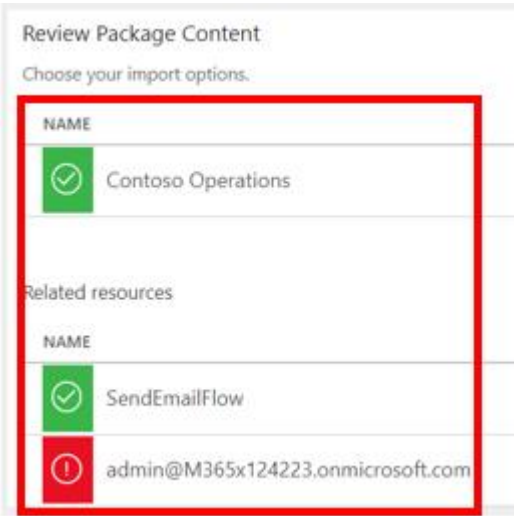
22. Next, choose the **Select during import** option and **Create new** to create new connection for the Office 365 Outlook connector
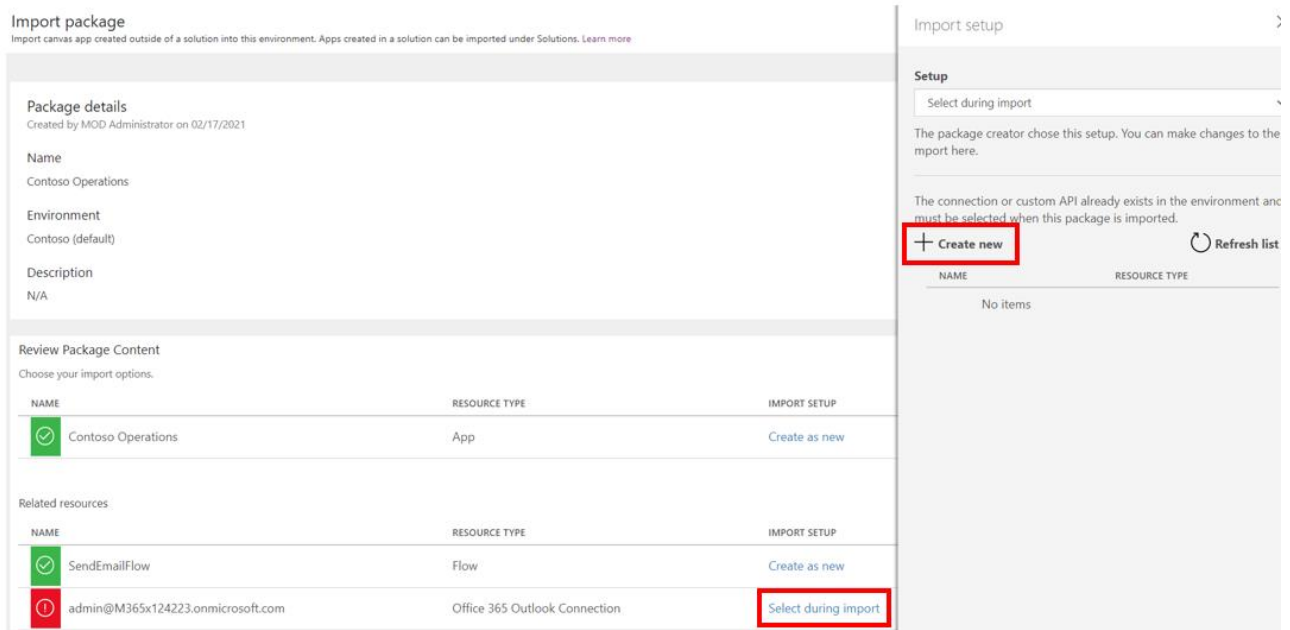
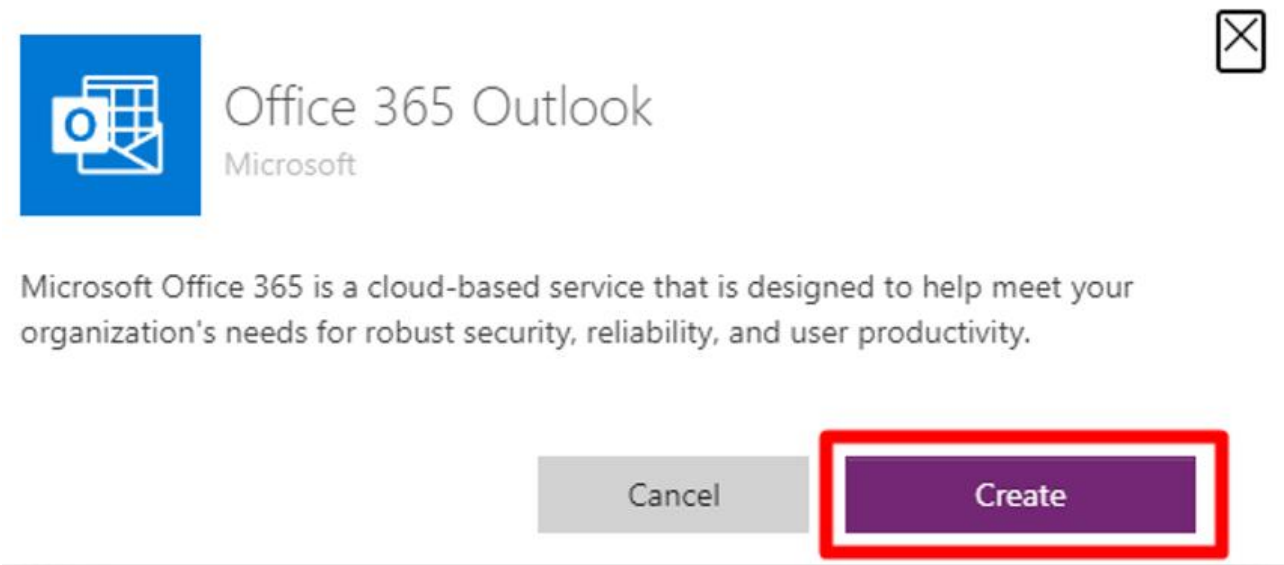23. In the connection window, click **+ New connection**

Connections in Contoso Production

24. Add **Office 365 Outlook** connection

25. Click **Create**.

26. Then choose **MOD Administrator** account for the connection

Pick an account

MOD Administrator
admin@M365x124223.onmicrosoft.com
Signed in

admin@M365x124223.onmicros...   · · ·   57 sec ago   Connected
Office 365 Outlook

27. Navigate back to the import package screen to **Refresh list** and select added connector and **Save**.

╋ Create new   ⟳ Refresh list

NAME   RESOURCE TYPE

admin@M365x124223.onm   2 min ago   ✓
icrosoft.com

Save   Cancel

28. Select **Import**.

29. Once the import process is completed then select **Flows** from the left menu and enable the flow by clicking **three dots** > **Turn on**

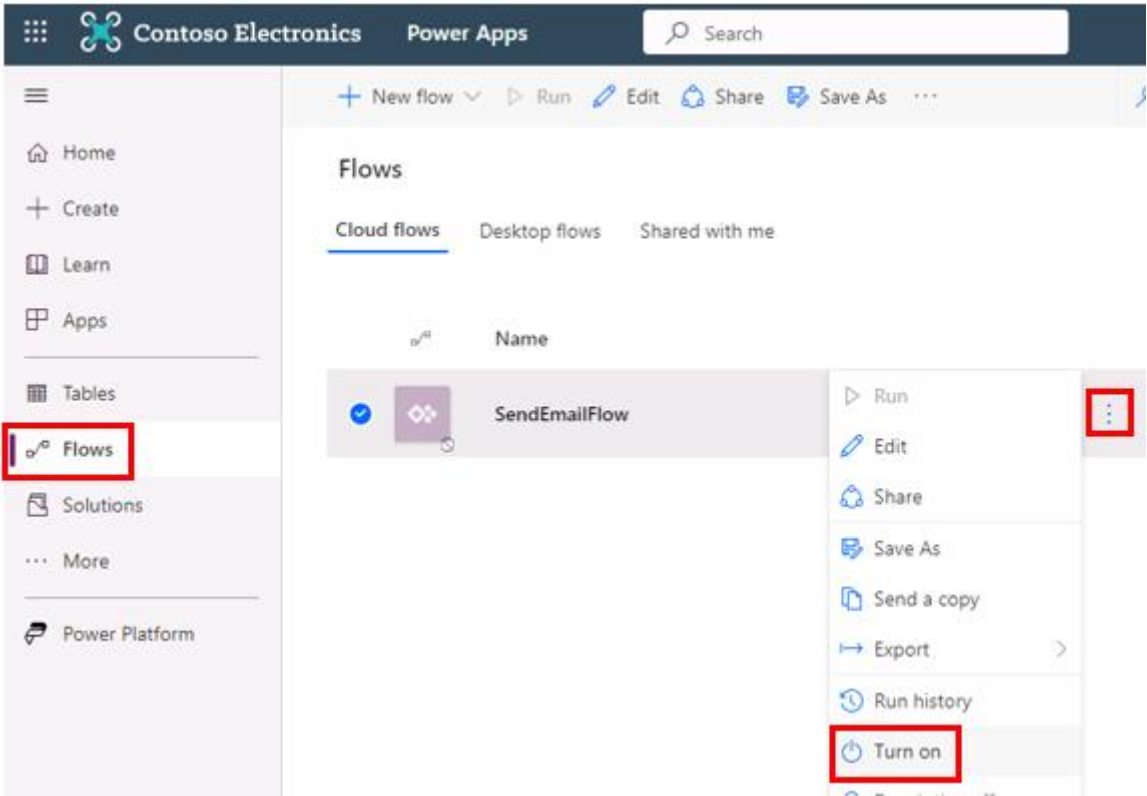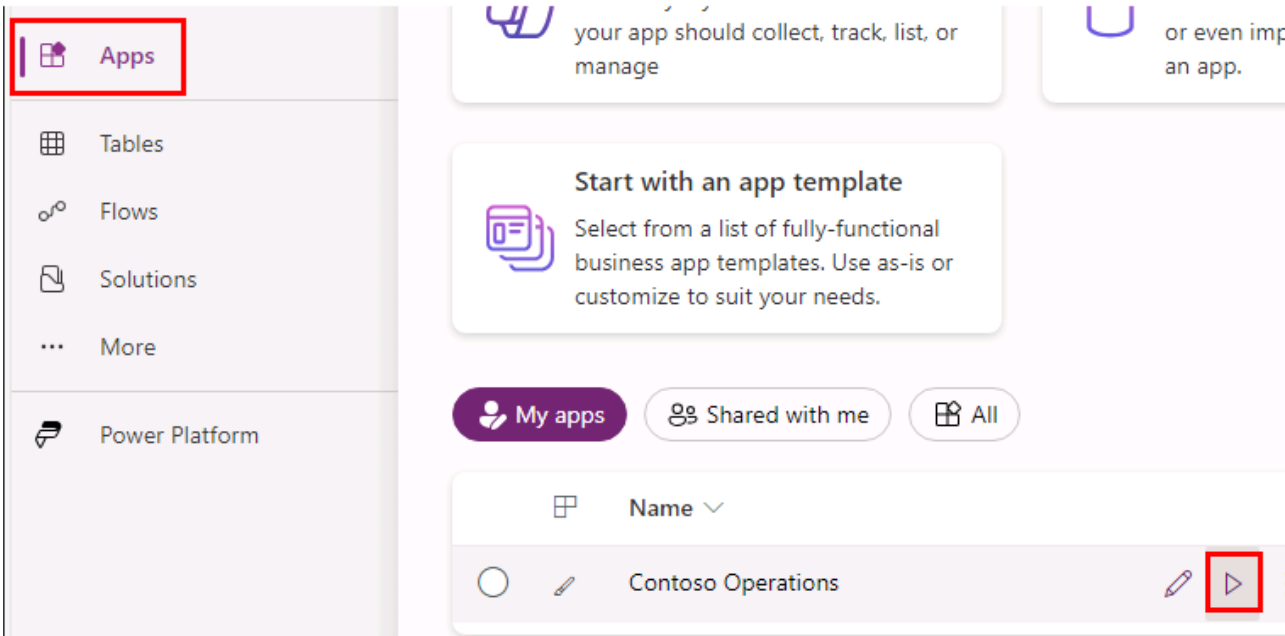30. Select **Apps** from the left menu and click **Contoso Operations** app to start it

    NOTE! If the app is not visible then refresh the page as it might be take little while for app to be visible
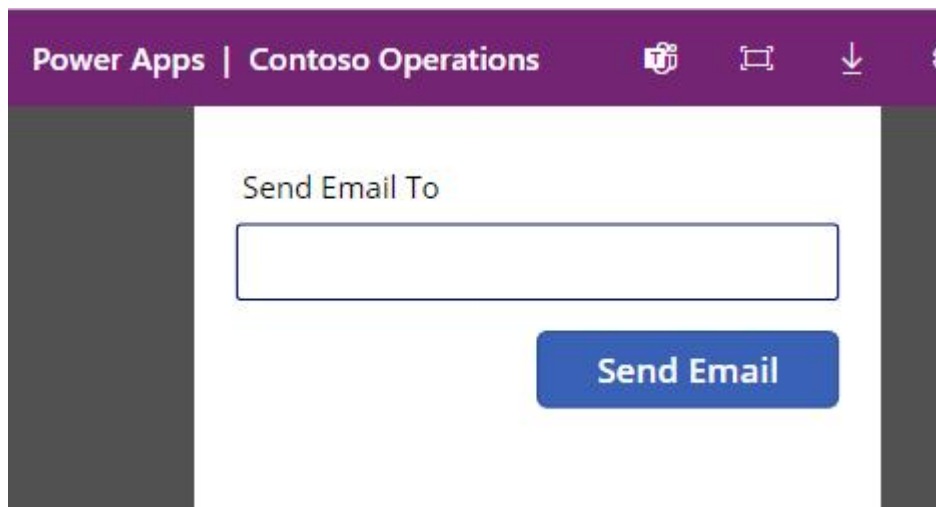

31. Allow consent for the connections

Office 365 Outlook
admin@M365x38853873.onmicrosoft.com
Signed in View permissions

Switch account

Allow   Don't Allow

32. Test the app by sending an email to MOD admin

    MOD Administrator Username

Power Apps | Contoso Operations

Send Email To

Send Email

33. Navigate back to browser tab you have the Power App opened in designer in **Contoso Development** environment.

    If you closed the tab then open **https://make.powerapps.com** to new tab, select **Contoso Development** environment and open **Contoso Operations** app in edit mode.
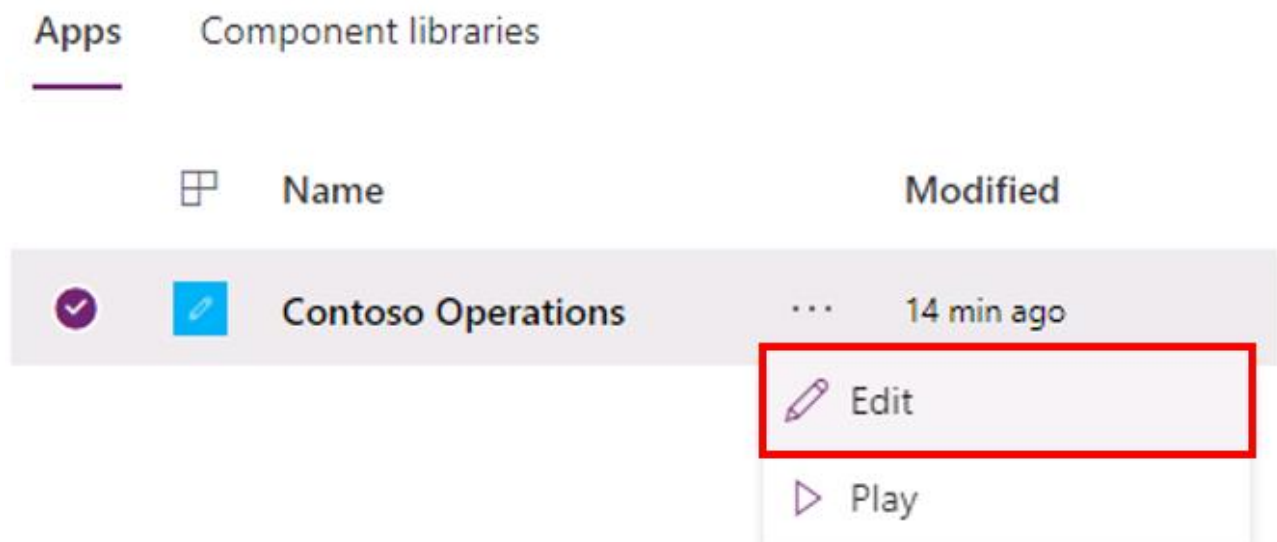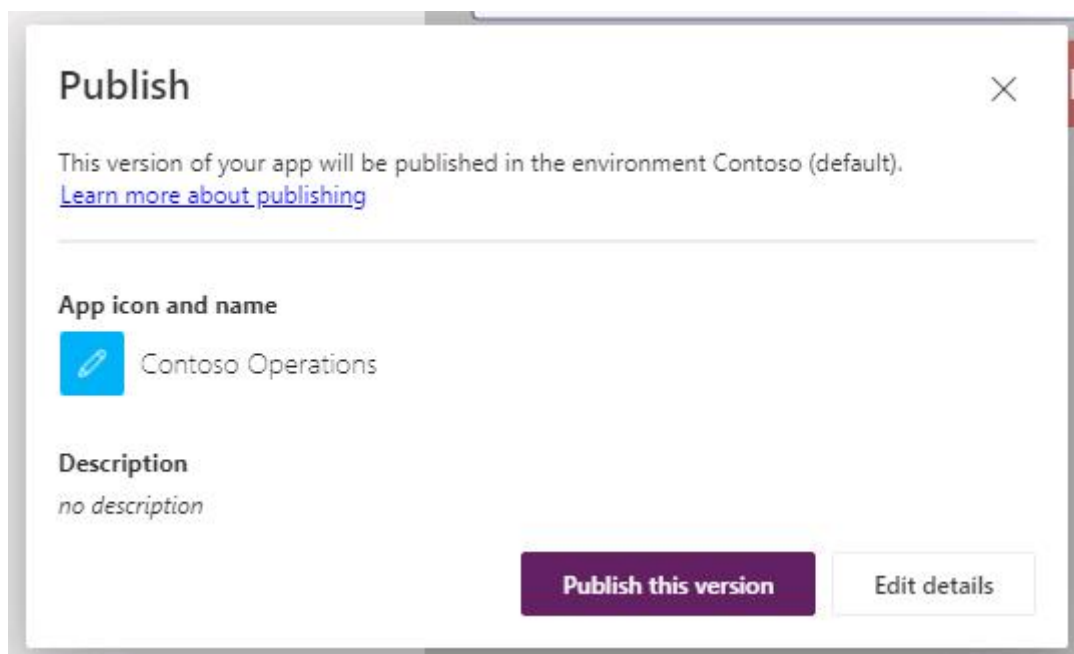
34. Change color, text and position for some controls as shown in the screenshot.
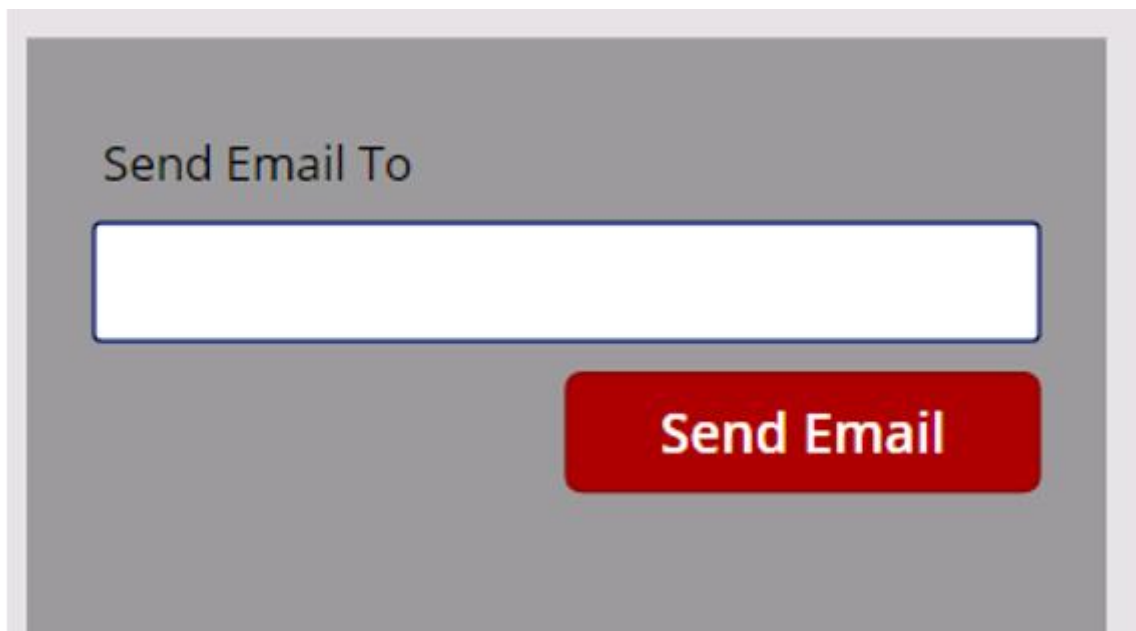
35. **Save** and **Publish** the app after making the required changes.

    NOTE: If the app is not published, the exported package will only include the Live latest published version of the app.
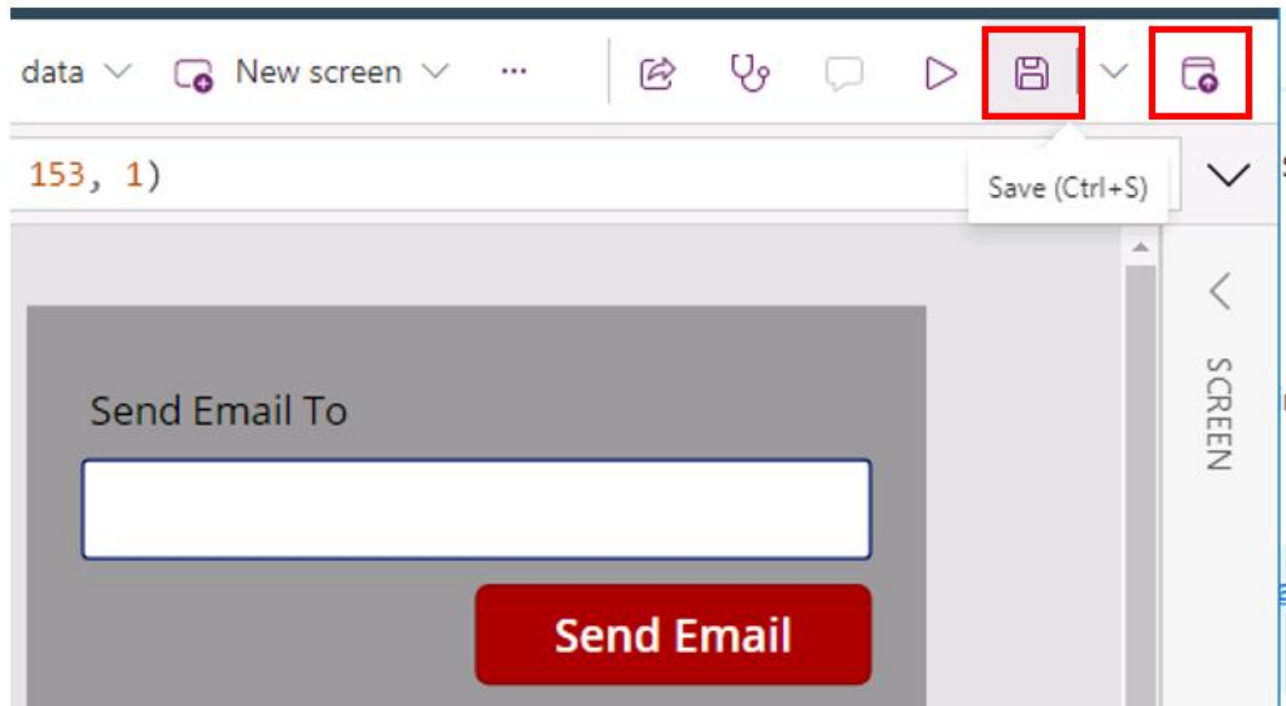
36. Repeat the same **Export** process mentioned previously. You can keep the **same package name Contoso Operations** as before since PowerApps will add a date/time signature to the package title anyway to avoid naming conflicts.

Package details
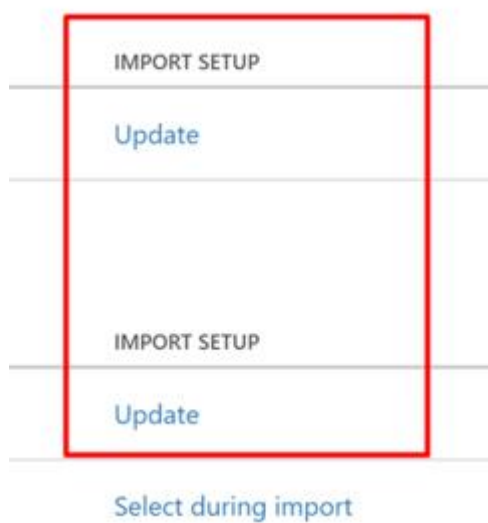
Created by MOD Administrator on 02/17/2021

Name *

Contoso Operations

37. Keep the import setup options as **Update**, then select **Export**.

IMPORT SETUP

Update

IMPORT SETUP

Update

Select during import

38. Once the package has exported, switch to **Contoso Production** to import it again and update the existing version.

39. In package import step to Contoso Production environment, select **Update** action for App resource type (App Name).
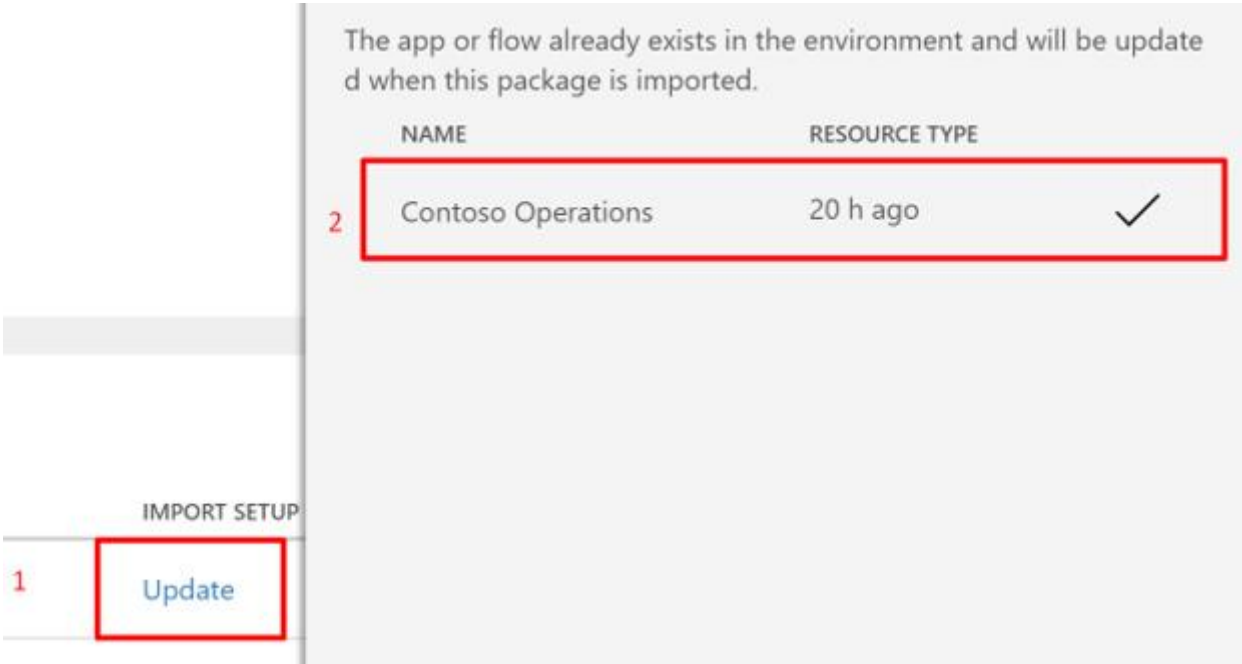
Review Package Content

Choose your import options.

NAME	RESOURCE TYPE	IMPORT SETUP
⚠ Contoso Operations	App	Update

Related resources

NAME	RESOURCE TYPE	IMPORT SETUP
⚠ SendEmailFlow	Flow	Update
✕ admin@M365x124223.onmicrosoft.com	Office 365 Outlook Connection	Select during import admin@M365x124223.onmicrosoft.com

40. When clicking Update, Power Apps will recognize that a resource with the same name already exists. Select the resource name to overwrite it.

The app or flow already exists in the environment and will be updated when this package is imported.

	NAME	RESOURCE TYPE	
2	Contoso Operations	20 h ago	✓

IMPORT SETUP

1	Update

41. Do same for the flow and Office 365 Outlook connection

42. Repeat the same steps for the rest of the components, then select the **Import** button.
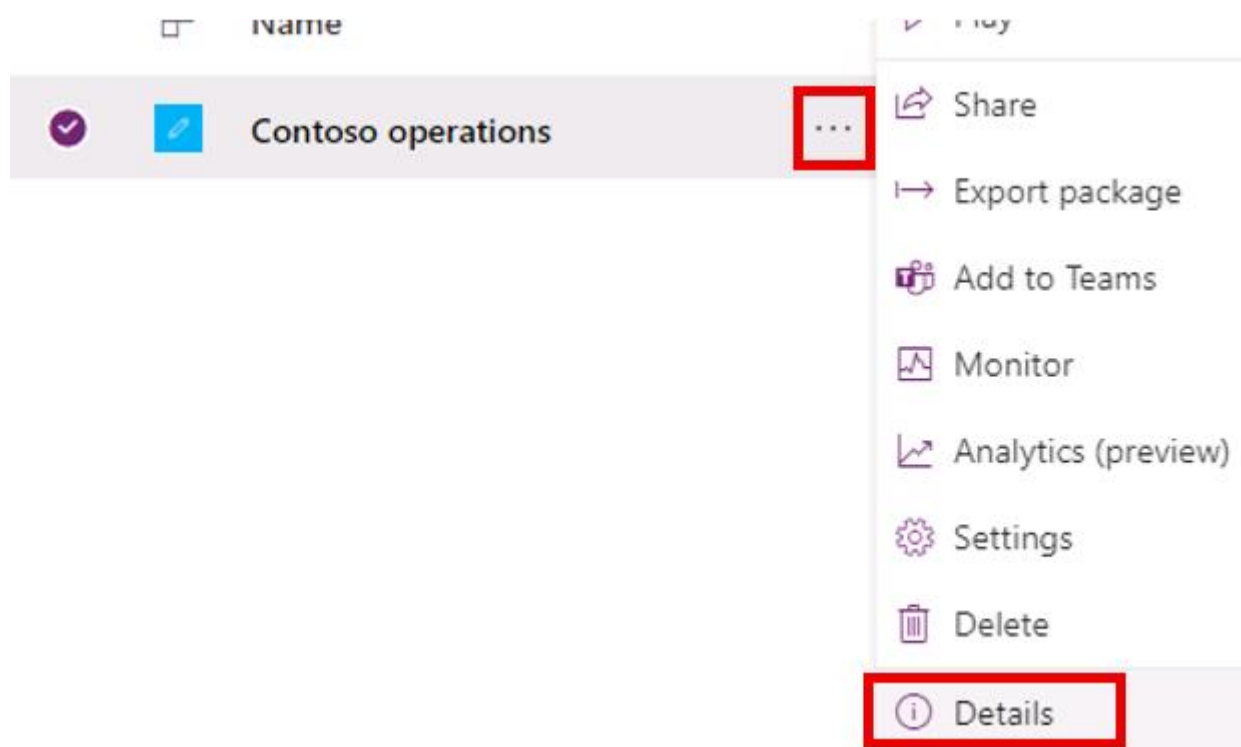
43. Once import has completed, click **Apps** in the left menu
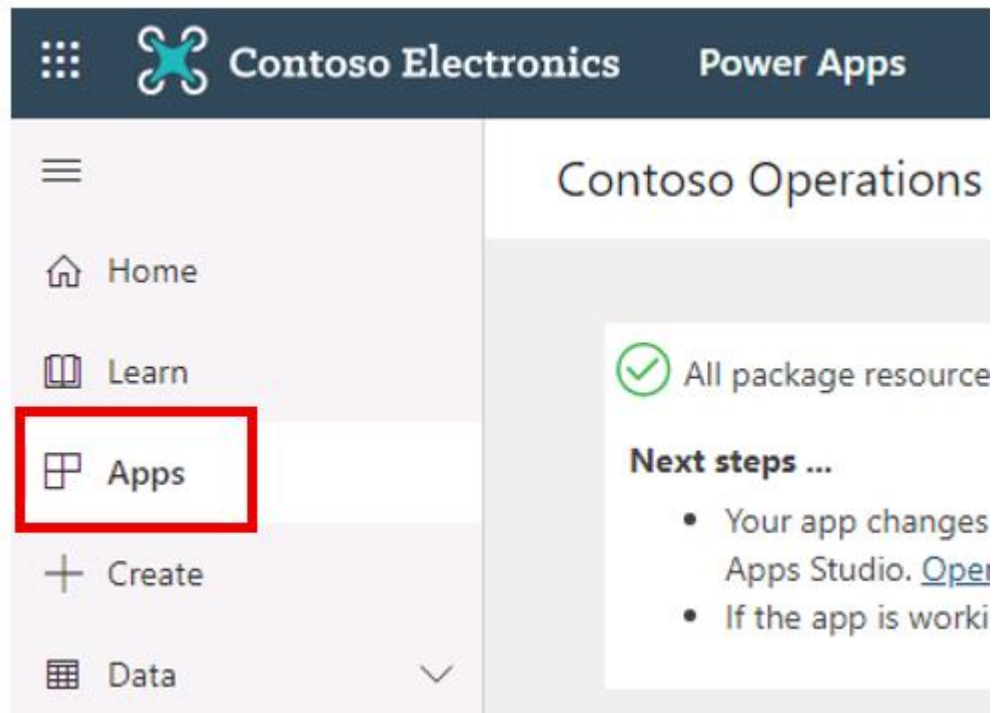
44. Click three dots of **Contoso Operations** app and select **Details**

45. Select **Versions** and **Publish** the latest version.

    Note! you might need to refresh the page to see the version just installed
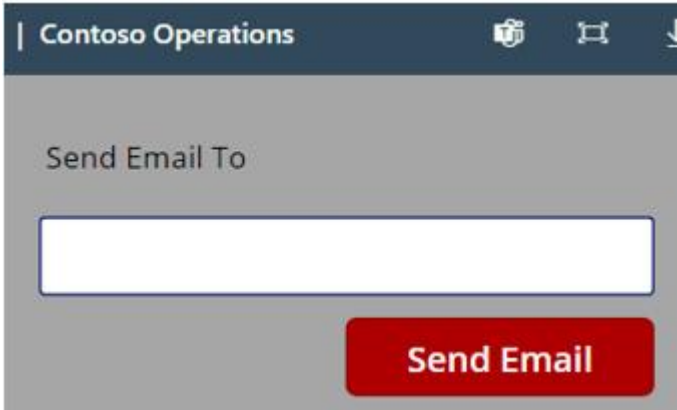
Apps > Contoso Operations

| Details | **Versions** | Connections | Flows | Analytics (preview) |

ⓘ It's only possible to restore app versions that were created in the last six months

Version	Modified
✔ Version 3	⋯ 2/17/2021, 3:51:35 PM
	⬆ Publish this version
Version 2	

46. Open the app to review the published changes. If you see notification about that you are using old version, then click Refresh

ⓘ This app is in a Developer environment. This is for development and test purposes only.

ⓘ You're using an old version of this app. Refresh to use the latest version. | Refresh |

Text input

Send Email

| Contoso Operations   🕅   ⤢

Send Email To

Send Email

> [!KNOWLEDGE] For more information about deploying resources across environments with packaging, review the Microsoft blog **here**.
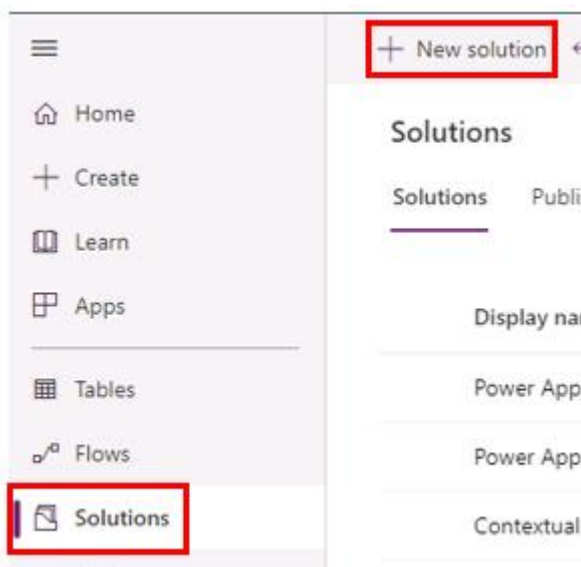
Exercise 2 - Deploy Resources Between Environments Using a Solution

In this exercise, we will use Power Platform Solution to deploy resources between environments

1. Navigate to the Power Apps studio **https://make.powerapps.com** and select **Contoso Development** environment.
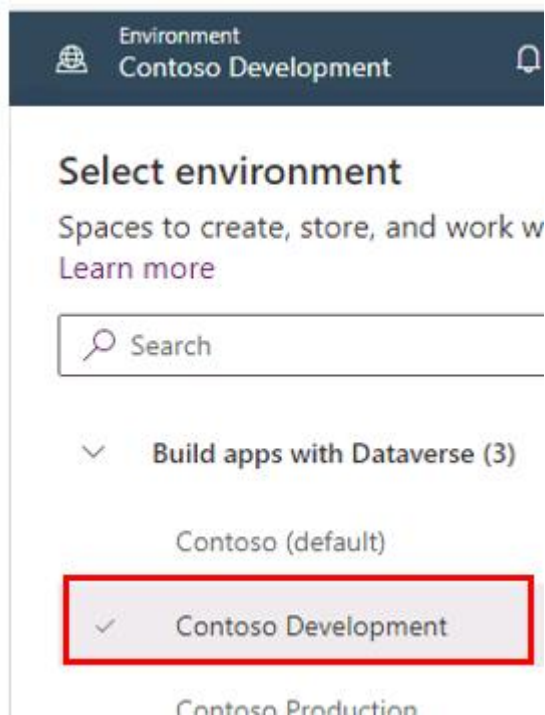
2. From left navigateion panel select **Solutions**, then click on **New Solution**.

3. In the new solution screen, type the solution name: **Contoso Operation Project**.

4. To add a new custom publisher information, click **+ New publisher**

New solution   ✕

Display name *

Contoso Operation Project

Name *

ContosoOperationProject

Publisher *

Select a Publisher   ⌄   ✎

+ New publisher

Version *

1.0.0.0

More options ⌄

5. A new screen will pop up to fill in the new publisher information below, then click **Save**

   o Display name: **Contoso Dev**

   o Name: **ContosoDev**

   o Prefix: **condev**

New publisher

Properties   Contact

Display name *

Contoso Dev

Name *

ContosoDev

Description

Prefix *

condev

Choice value prefix *

10000

Preview of new object name

condev_Object

Save   Cancel

6. Select created publisher then click **Create**. Note that new solution is **Unmanaged** by default.

New solution   ✕

Display name *

Contoso Operation Project

Name *

ContosoOperationProject

Publisher *

Contoso Dev (ContosoDev)   ⌄   ✏️

    ＋ New publisher

Version *

1.0.0.0

More options ∧

Installed on

Mon Aug 23 2021   📅

Configuration page

                                                          ⌄

Description

Package type ⓘ

Unmanaged

7. The solution displayed is blank with no components found. Now you can start creating new or add from existing solutions or outside solutions.
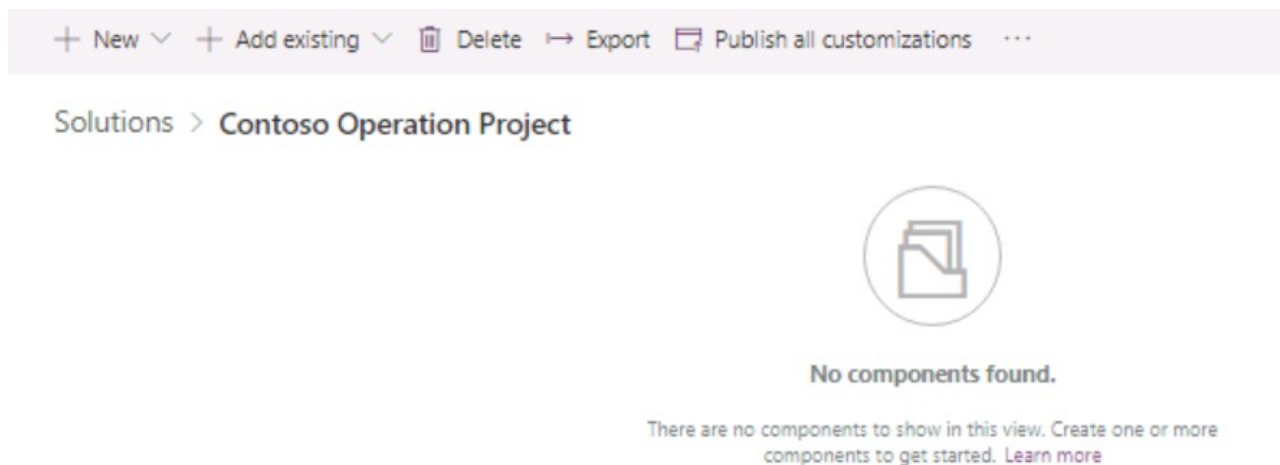
8. Choose **+ New > More > Connection Reference**
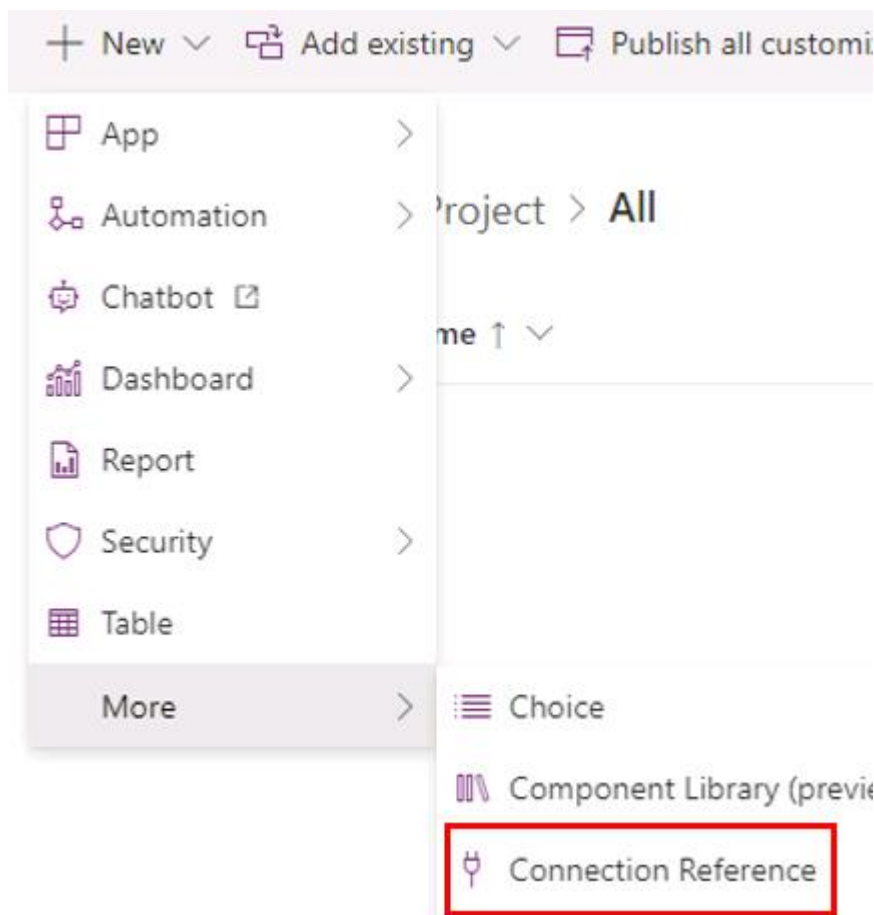
9. Set **Display name** as below, **Connector** is **Office 365 Outlook** (can be typed or selected) and there should be already existing Office 365 Outlook connection in this environment which is selected automatically and can be used here as well

New Connection Reference   ✕

Learn about connections and connection
references

Display name *

Outlook

Name * ⓘ

condev_   Outlook

Add a description

Connector *

Office 365 Outlook   ∨

Connection * ⓘ   ↻ Refresh

admin@M365x58857801.onmicrosoft.com   ∨

NOTE: If connection does not exist then create new by selecting **+ New connection**

Connection * ⓘ

admin@M365x58857801.c

+ New connection

Office 365 Outlook
Microsoft

Microsoft Office 365 is a cloud-based service that is designed to help meet your organization's needs for robust security, reliability, and user productivity.

Cancel   Create

Microsoft

Pick an account

MOD Administrator
admin@M365x38853873.onmicrosoft.com
Signed in

+   Use another account

Connection * ⓘ   ↻ Refresh

Choose an option   ⌄

+ New connection

admin@M365x38853873.onmicrosoft.com

10. Click Create to create connection reference for the solution

Create   Close
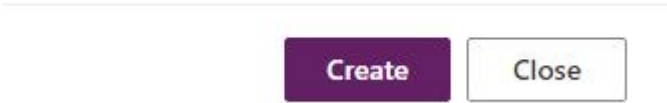
11. Next select **+ New > Automation > Cloud flow > Instant**
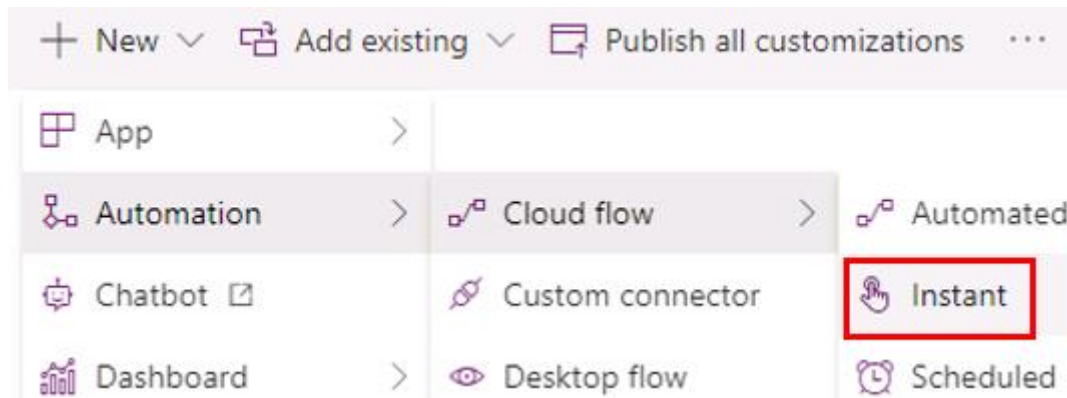
12. Name the flow as **SolutionSendEmailFlow**, select **PowerApps (V2)** trigger and click **Create**

    NOTE! There are 2 PowerApps trigger and make sure you select the **V2** version
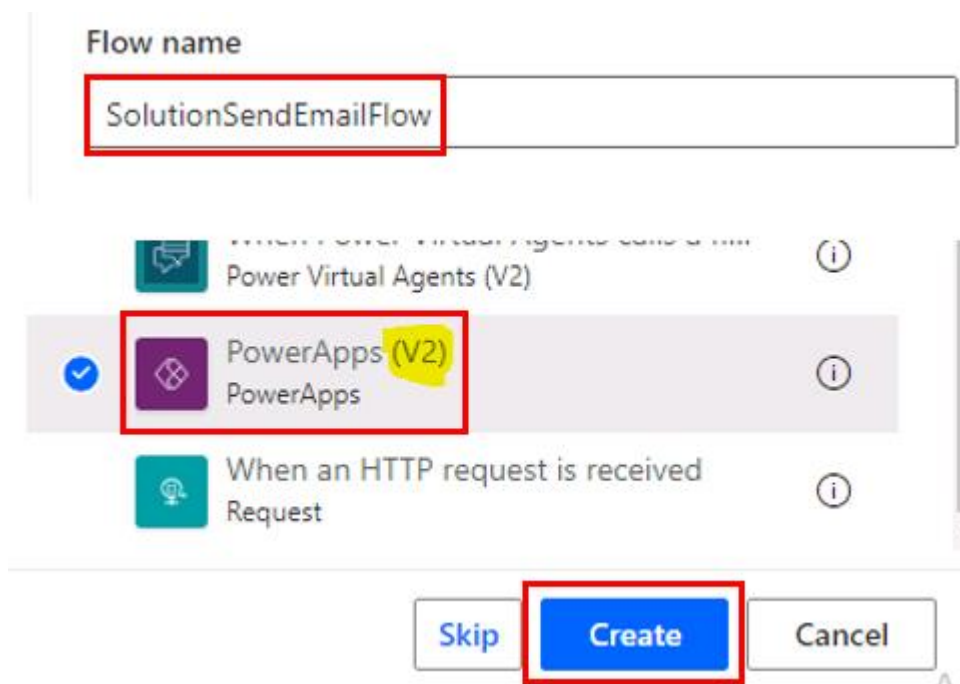
13. In the PowerApps (V2) trigger add 3 text input parameters like below by clicking **+ Add an input**

14. Click New step and search "send an email" (Office 365 Outlook) action and select it
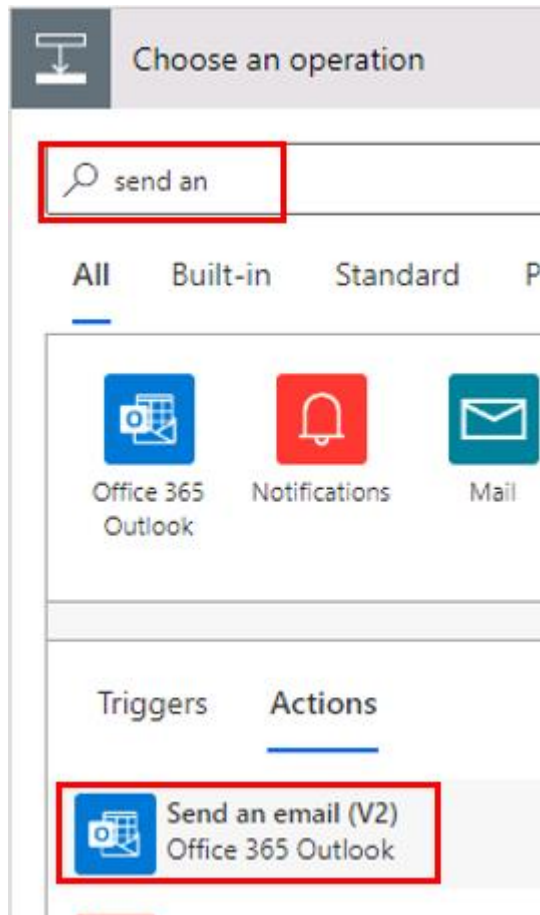
15. Verify that action is using the connection reference we just created
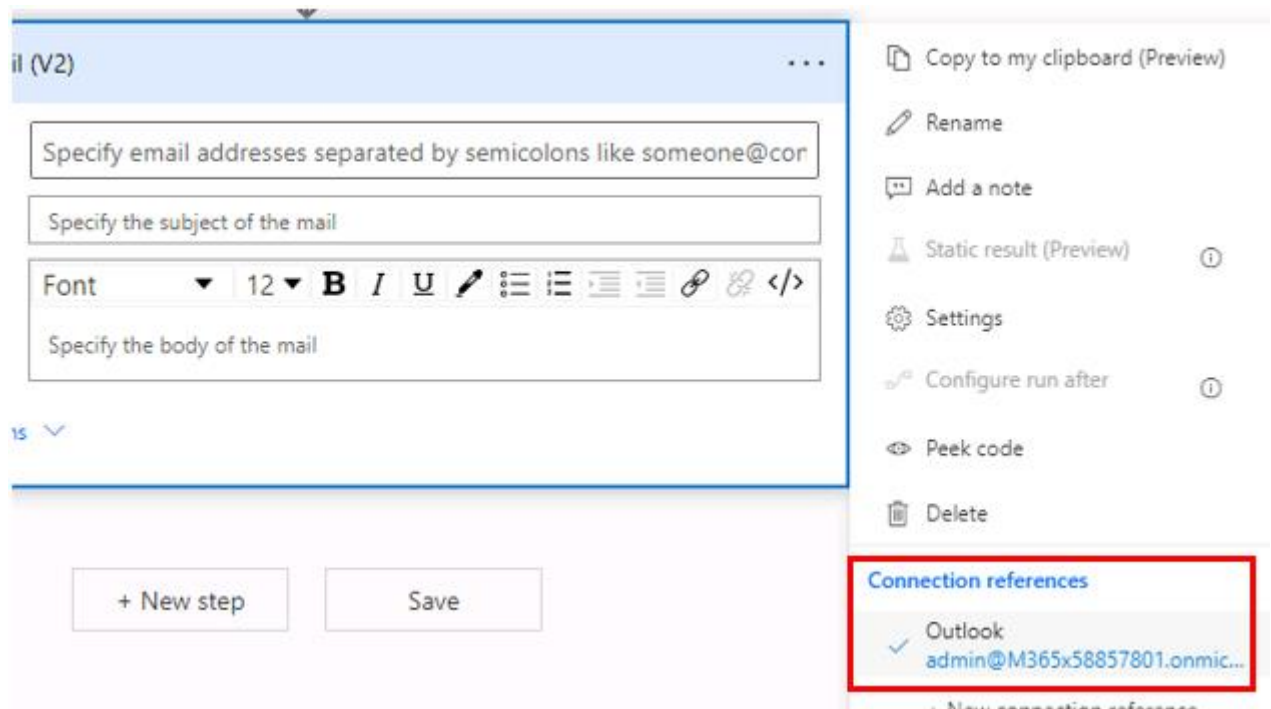
16. Click in the **To** field and the click the 2 arrows button (1) to set it to advanced mode and then from the **Dynamic content** select the defined trigger parameters to corresponding fields like below
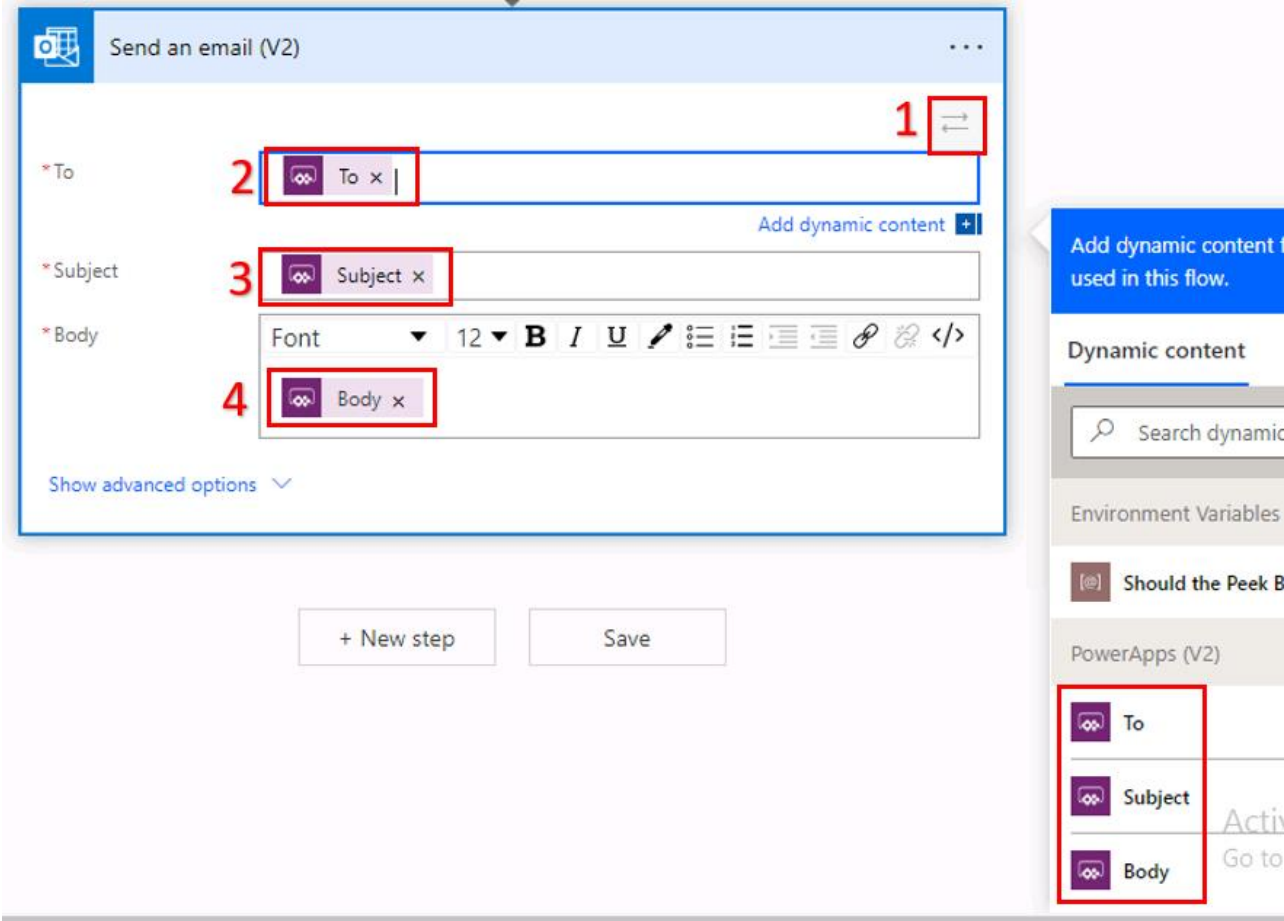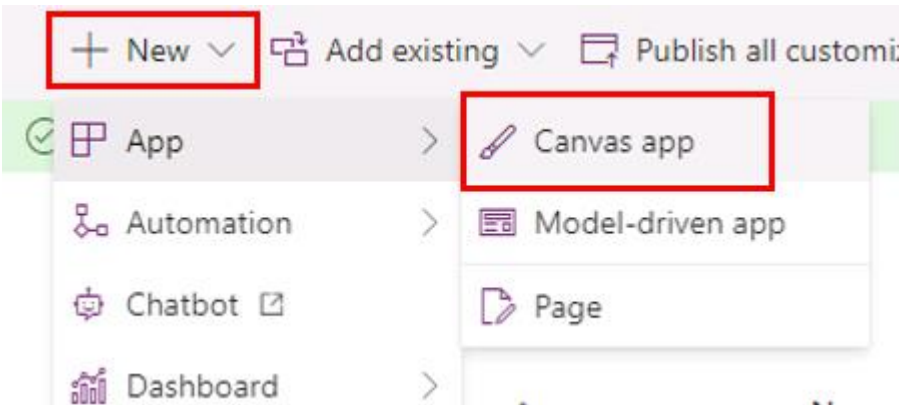
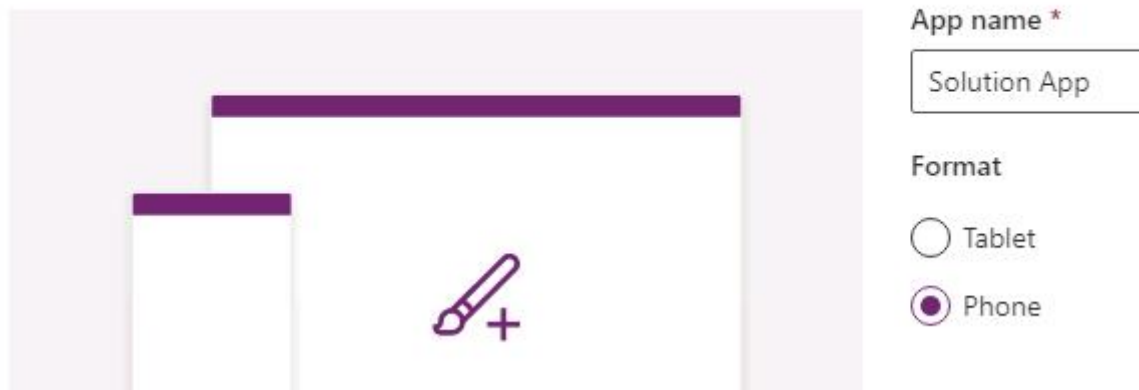17. Click Save and and back arrow button to return back to solution view
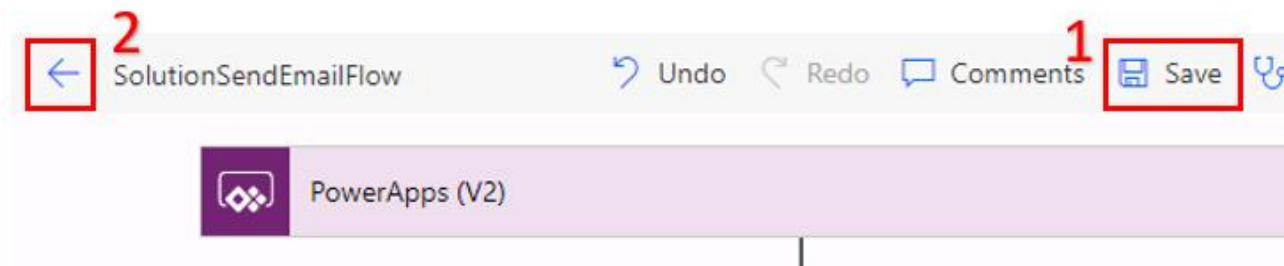
18. Choose **+ New > App > Canvas app**

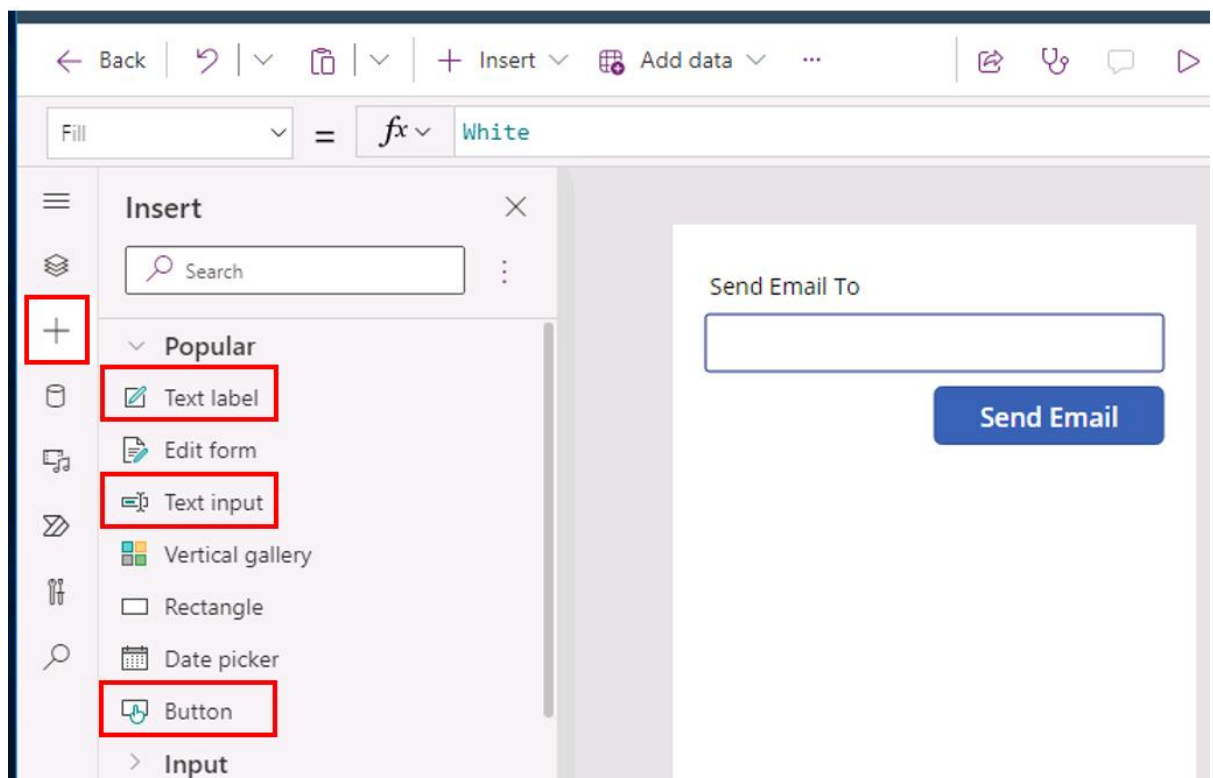   **NOTE**: you could also add existing App, Flow etc.

19. Name the app as **Solution App** and select **Phone** format and click **Create**
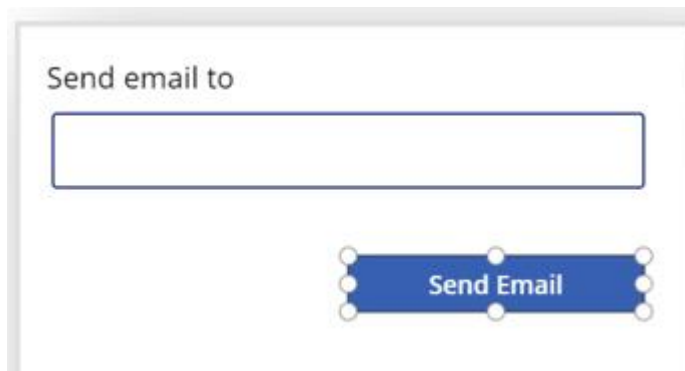
Canvas app from blank

20. We will create similar app as we did in previous exercise, so add the following controls from the **Insert** menu to the app screen:

    ○ Label: Text property = **Send Email To**

    ○ Text box

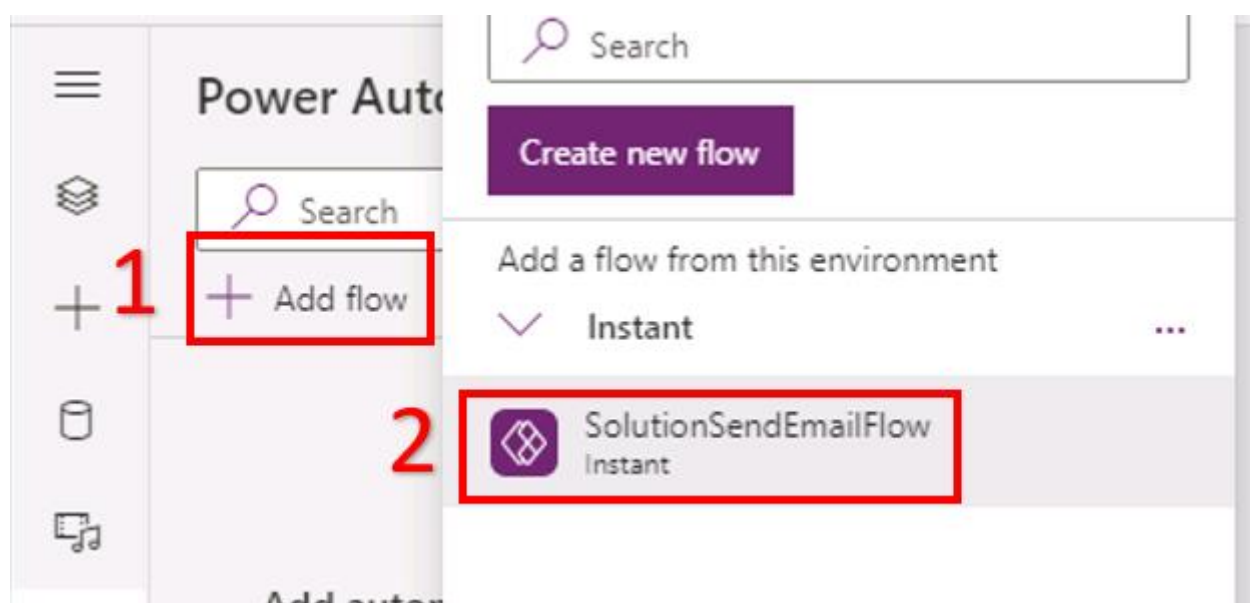   ○ Button: Text property = **Send Email**

21. Select the button and then in the left menu click **Power Automate**

22. Click **+ Add flow** and then select the **SolutionSendEmailFlow** we just created

23. Select **Send Email** button and its OnSelect event and replace default false value with this
   **SolutionSendEmailFlow.Run(TextInput1.Text, "Subject", "Body")**

    NOTE! your textinput control name could be different if you have changed the name or have added
    multiple textinput controls to the screen. If that is the case the make sure that you are refering to
    correct textinput control
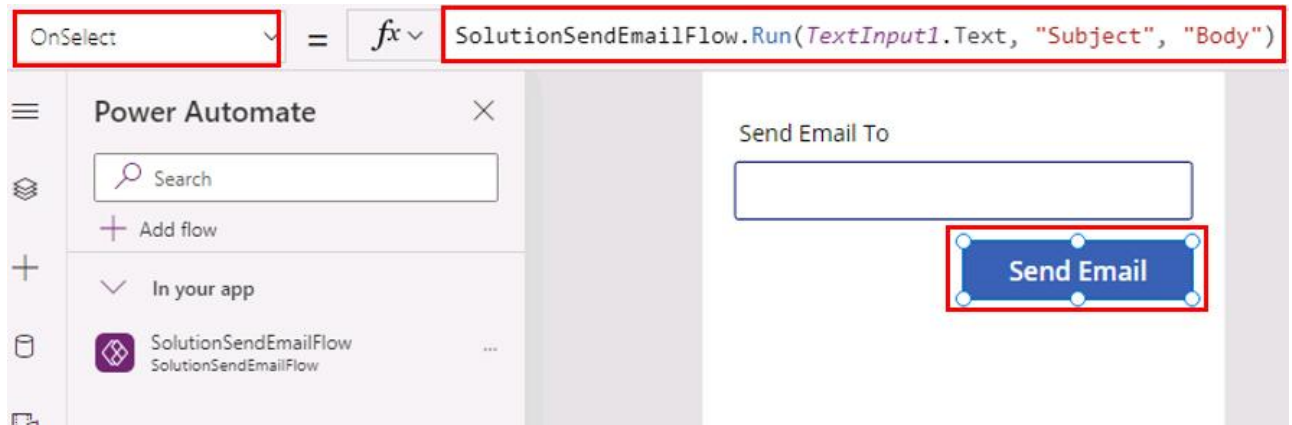
24. Press **Ctrl+S** or **Save** button on top right corner to save changes.
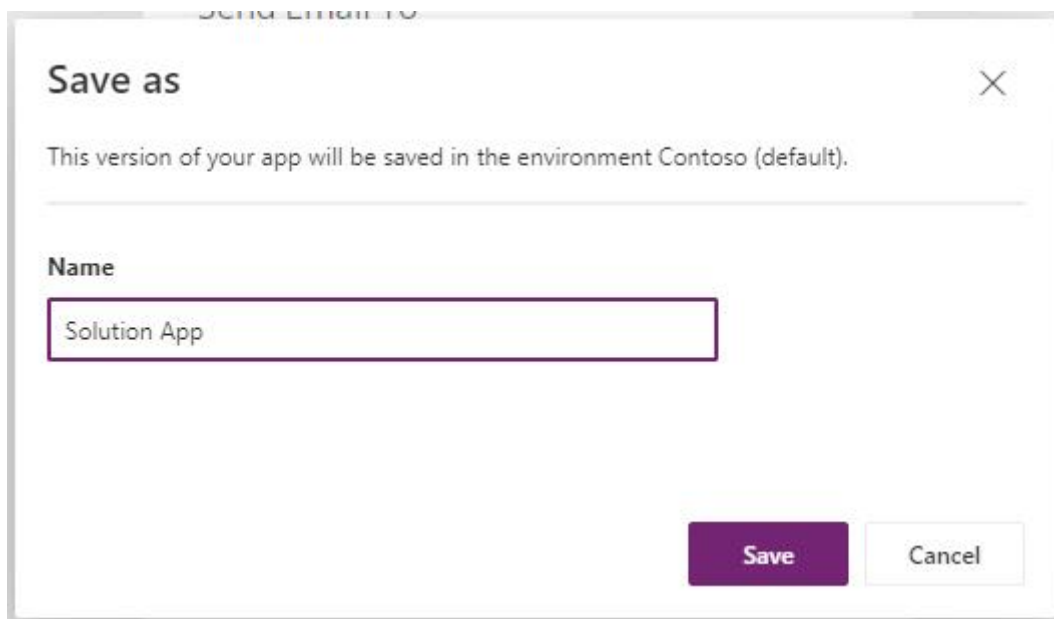
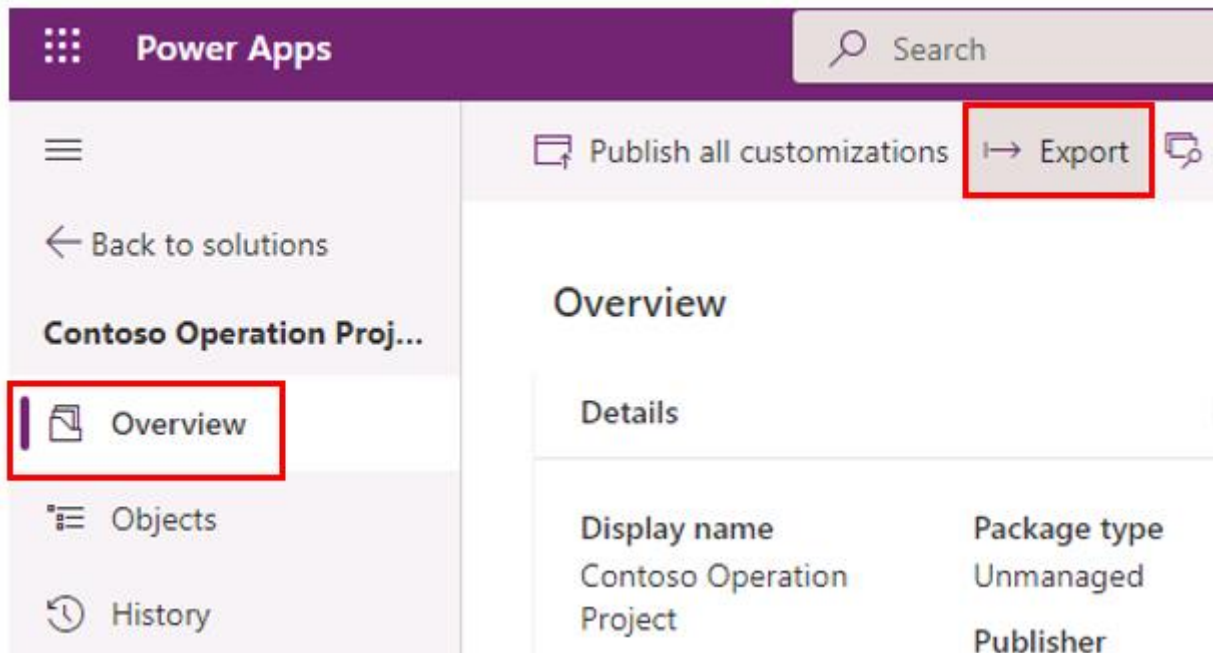25. Click **Back** button and then click **Leave** to return solution view
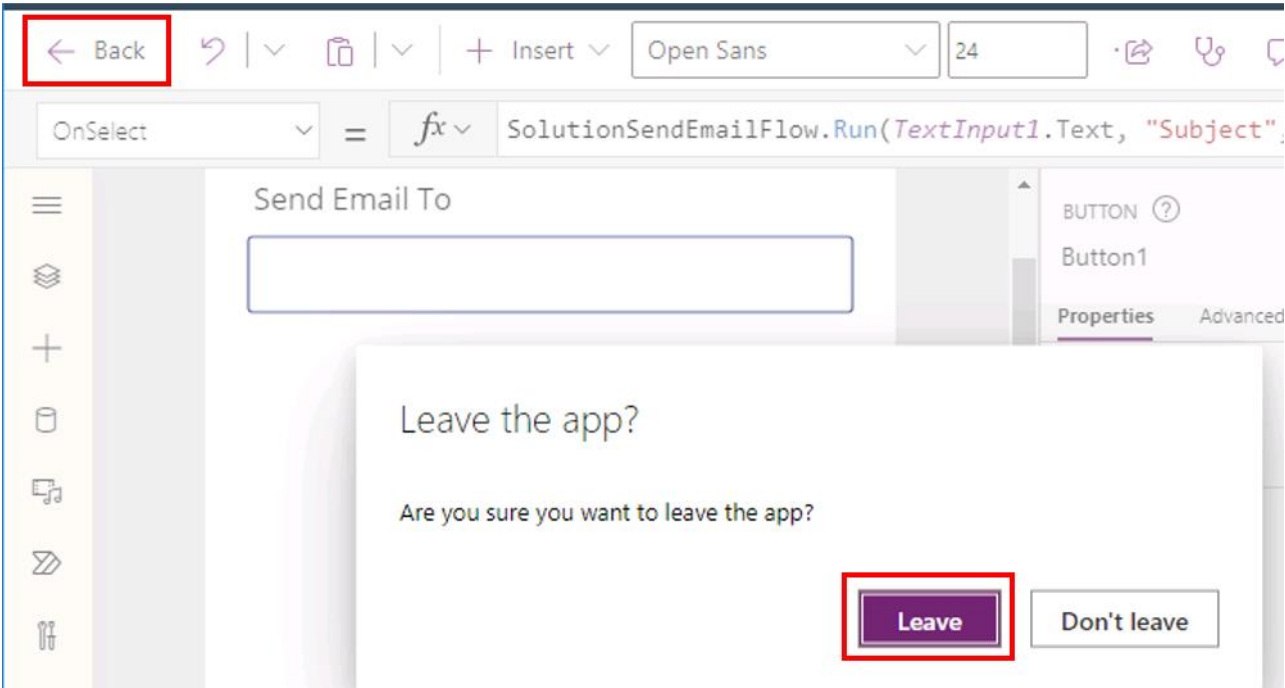
26. Solution should look like back to the created solution and notice that both apps have been added.

27. Click **Overview** in the left menu and select **Export**

28. Click **Next**

29. Set **version number** and select **Managed** as export optio and click **Export**.

← **Export this solution**   ✕

Version number * ⓘ
Current version 1.0.0.0

1.0.0.1

Export as
◉ Managed (recommended) ⓘ
The solution is moving to a test or
production environment. Learn more

○ Unmanaged
The solution is moving to another
development environment or source
control. Learn more

30. After export package is ready click **Download** to get the solution as ZIP package

🗗 Publish all customizations   ↦ Export   🗗 Manage search index   🗗 Clone ∨   · · ·

⊘ Solution "Contoso Operation Project" exported successfully.   Download

Overview

Details			Edit details
Display name	Package type	Description	
Contoso	Unmanaged		

Downloads

ContosoOperationProject_1_0_0_1_managed.zip
Open file

31. Switch to the **Contoso Production** environment
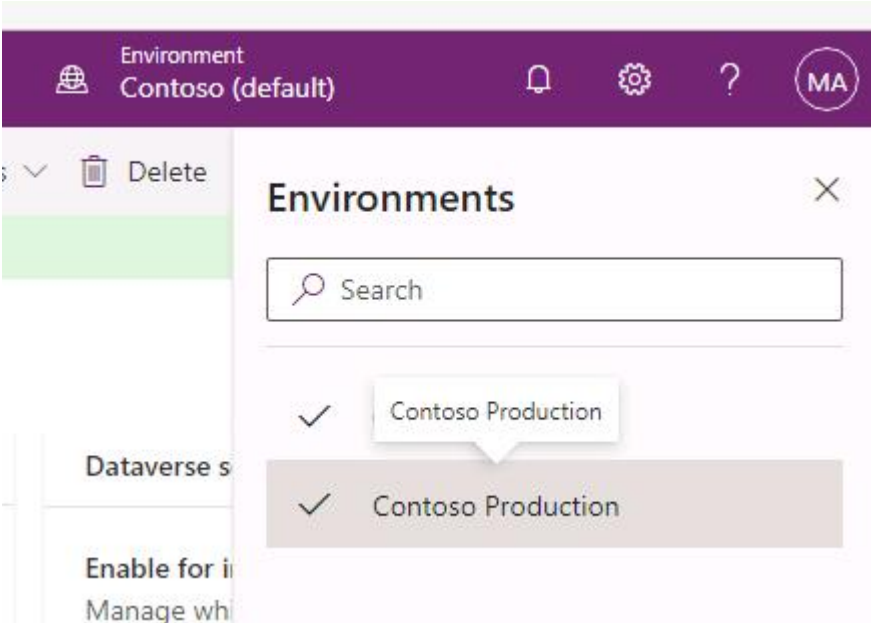
32. Select **Solutions** from the menu and click on **Import solution**
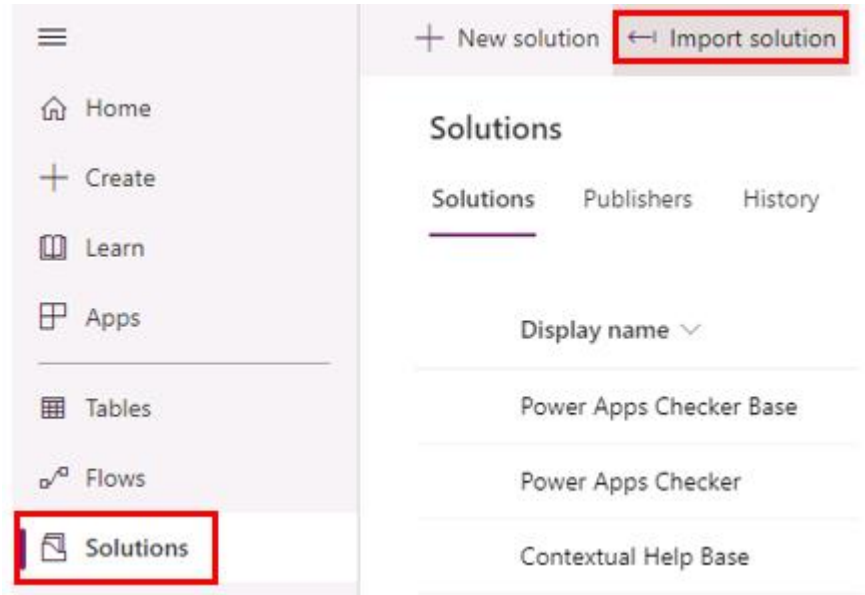
33. Browse the saved solution, then click **Next**

Import a solution

Environment
Contoso Production

Select a file

Browse for the solution file to import.

Browse | ContosoOperationProject_1_0_0_1_managed.zip

Next   Cancel

34. Click **Next**

Import a solution

Environment
Contoso Production

Details

Name
ContosoOperationProject

Type
Managed

Publisher
Contoso Dev

Version
1.0.0.1

Patch
No

Advanced settings ⌄

Next   Cancel

35. There should be a Office 365 Outlook connection created for MOD admin account, so in this screen you can just click **Import**.

   If there is no connection for Office 365 Outlook then open the dropdown list next to connection and create new connection by clicking + New connection

   ← **Import a solution**   ✕

   Environment
   Contoso Production

   ○ Refresh

   ## Connections

   Re-establish connections to activate your solution. If you create a connection you must Refresh.
   You will not lose your import progress.

   1 updates needed

   | 📧 | Outlook *
condev_Outlook | admin@M365x38853873.onmicr... ⌄ |

   [Import] [Cancel]
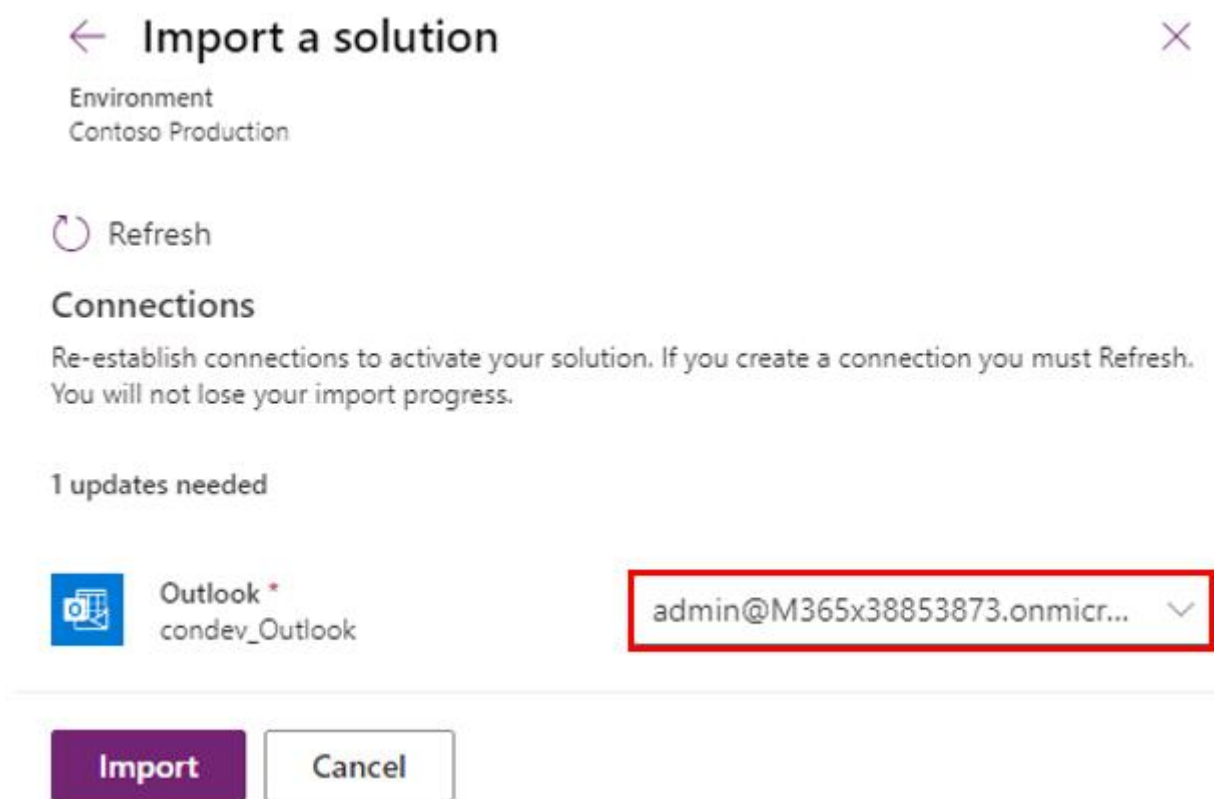
36. Import will take couple of minutes and when ready test the app that it works. Select **Managed** from the solution type filter and click **Contoso Operation Project**

   ## Solutions

   (✎ Unmanaged) (🔒 Managed) (⮃ All)

   | Display name ⌄ |
   | ○ Contoso Operation Project |
   | Power Apps Checker Base |

Contoso Operation Project > **All**

Almost there ...
Solution App needs your permission to use the following. Please allow the permissions to proceed.

Office 365 Outlook
admin@M365x58857801.onmicrosoft.com
Signed in View permissions

Switch account

Allow   Don't Allow

MOD Administrator Username

Send Email To

admin@M365x38853873.onmicrosoft.con

Send Email
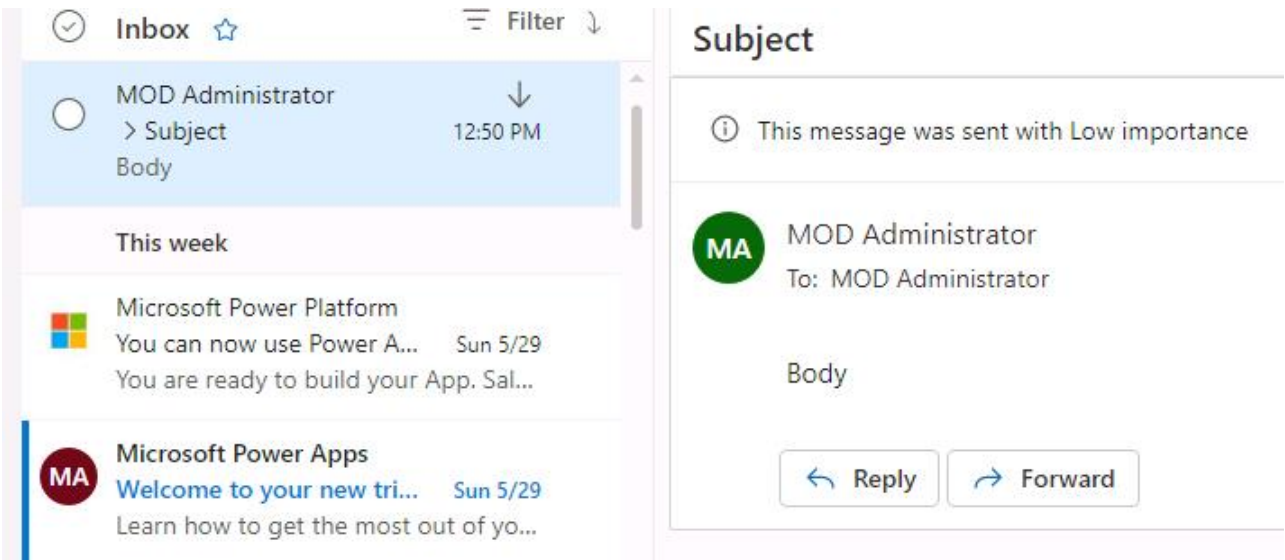
37. Switch to the **Contoso Development** environment.

38. Open the **Contoso Operation Project**, select the **Solution App**, then edit the app by changing colors or adding controls, then save and remember to **publish** these changes.
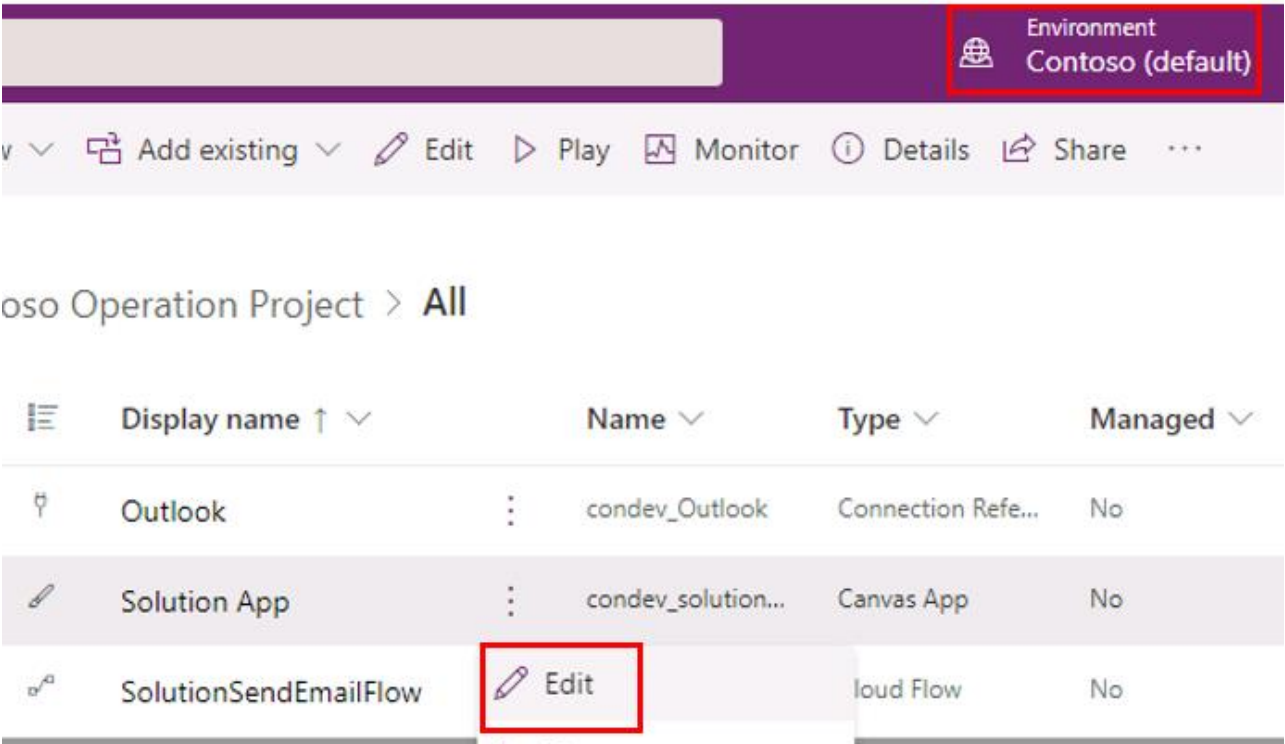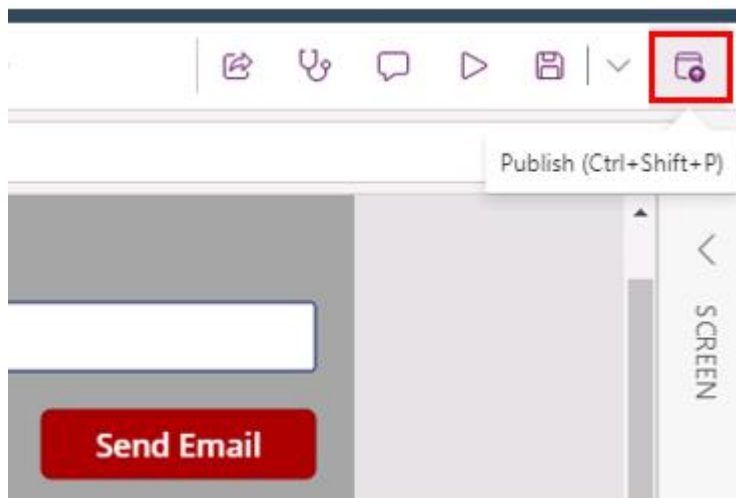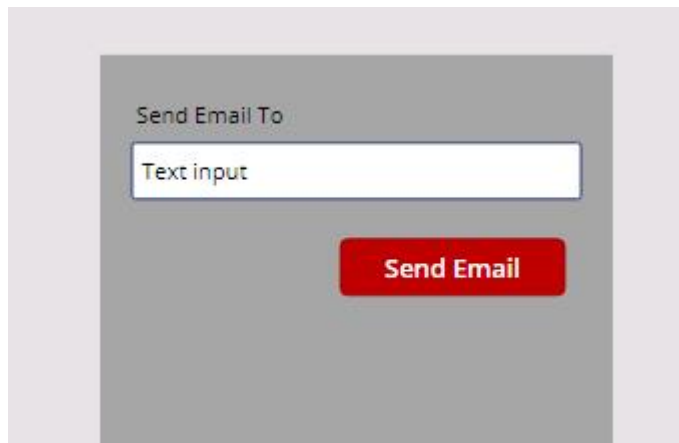
39. Click **Back** and **Leave** to return to the solution
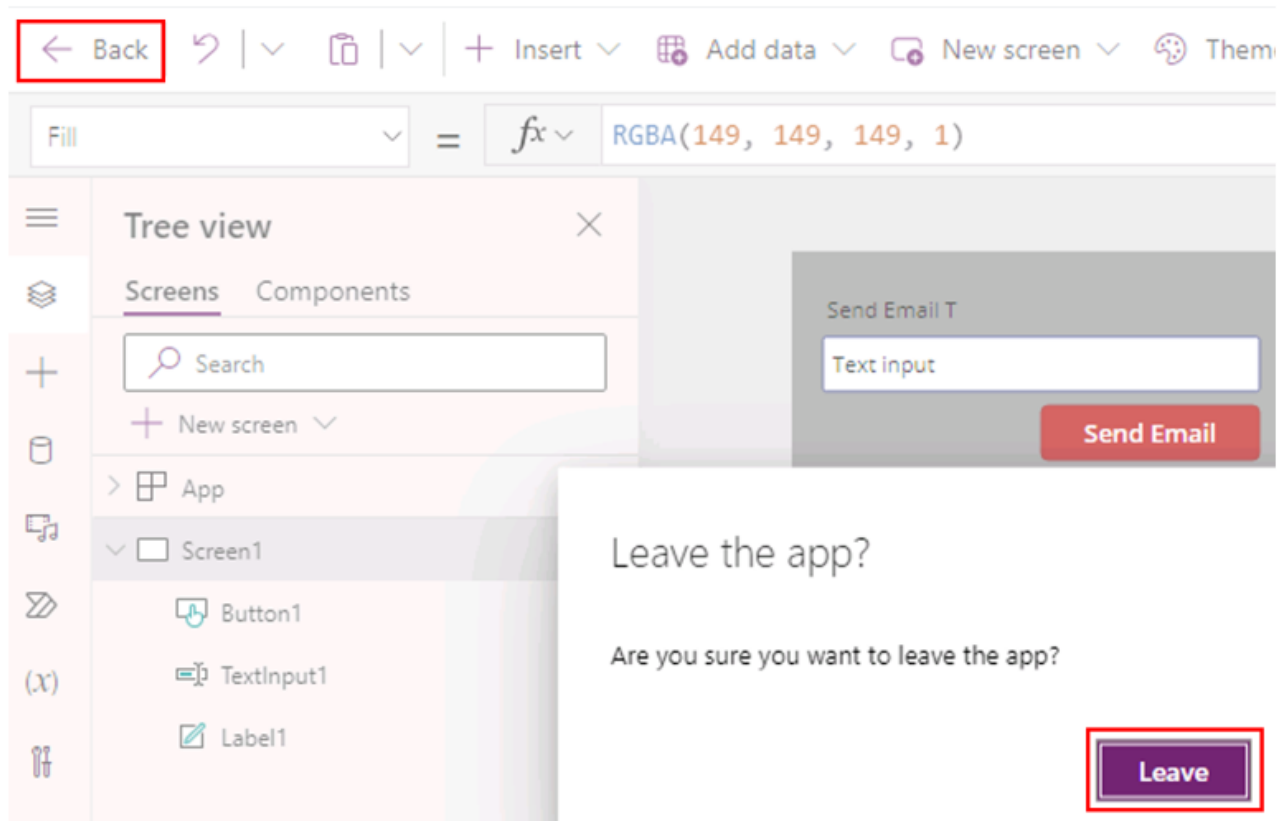
40. Export the solution as **Managed** using version number **1.0.0.2** and when export package is cresated click **Download**
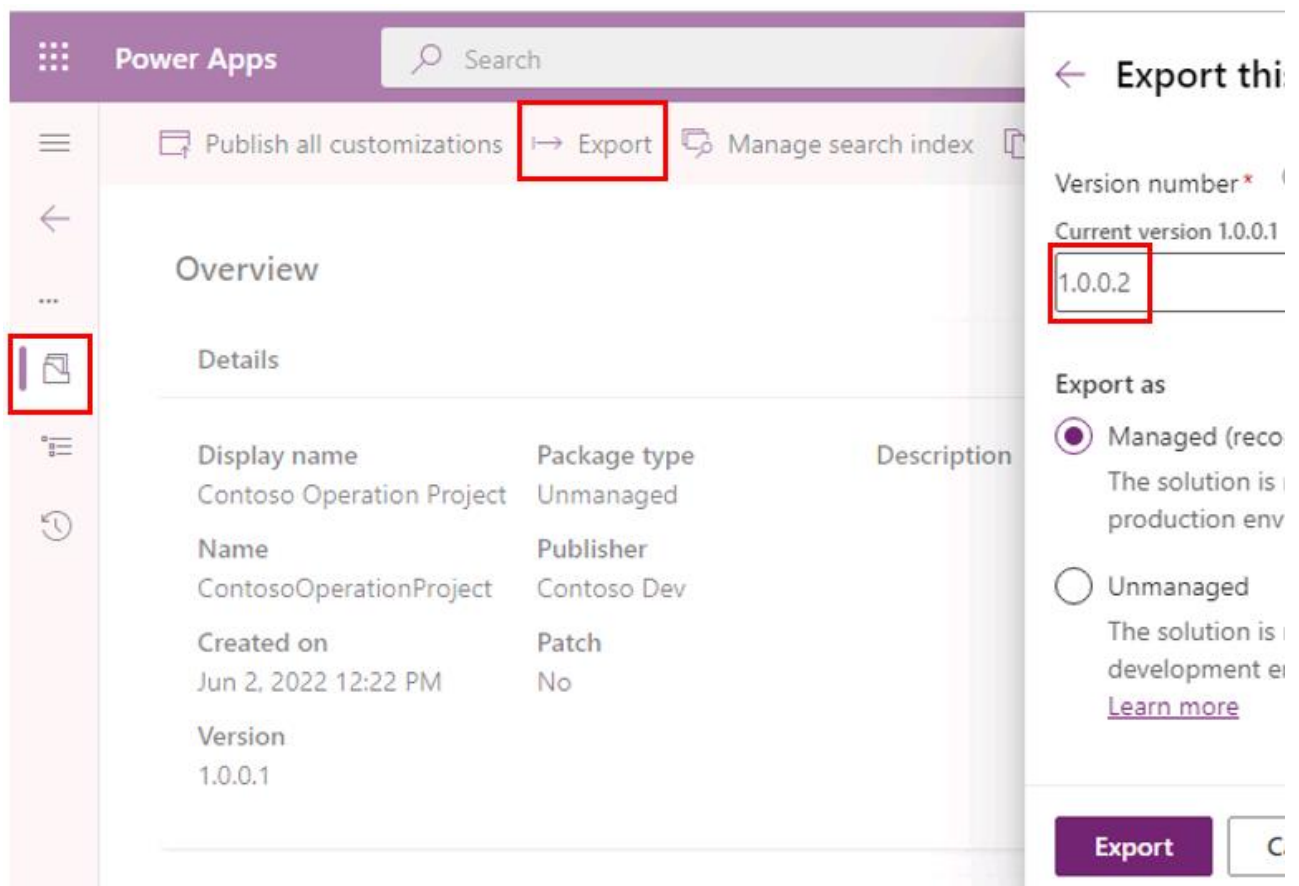
41. Switch to the **Contoso Production** environment solution tab, then repeat solution import steps and notice that it is detected that the is already older version of the solution and we will upgrade it to version 1.0.0.2

42. Test imported solution apps again.

Lab 2

Estimated Time

30 minutes

Exercise 1 - Deploy solution using Power Platform Pipelines

In this exercise, we will use Power Platform Pipelines feature to automate deployment of the Solution package between environments

1. Navigate to the Power Platform admin center **https://aka.ms/ppac** and select **Environments** from the left menu

   > [!hint] Pipelines feature requires that environments which are part of the pipeline deployments
   > are **Managed Environments**.

2. Enable Managed Environments feature for both **Contoso Production** and **Contoso Development** environments. Open the context menu by clicking the three dots and select **Enable Managed Environments**
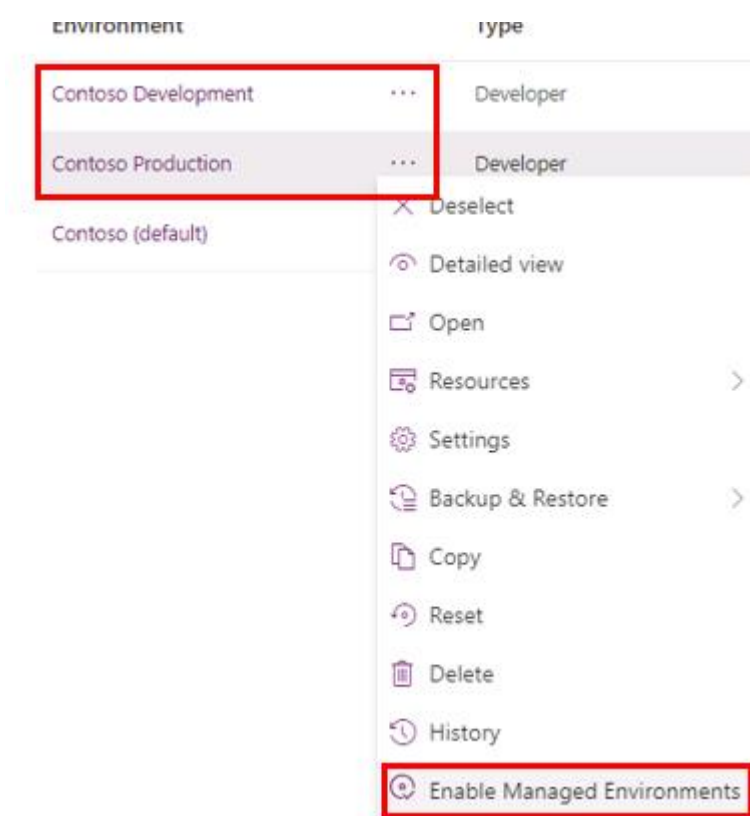
3. Click **Enable**

   Note! As it is stated in the enable managed environments dialog, when enabling this feature all users using resources like apps and flows in the environment will need to have premium standalone license(s) even the resource like app does not use any premium features. This is the requirement of the Managed Environment feature

   Note

Enable Managed Environments   ✕

Increase visibility and control for Contoso Production. Learn more

ⓘ Once enabled, users will need a Power Apps, Power Automate, or Dynamics 365 license
with premium use rights to use the respective resources in this environment. Learn more

View licensing details

Limit sharing

Help reduce risk by limiting how widely canvas apps can be shared. Learn more

🔘 Don't set limits (default)

⭘ Exclude sharing with security groups

☐ Limit total individuals who can share to   No limit

Solution checker (preview)

Automatically run security and reliability validations during solution import. Learn
more

Enable   Close

4. Open **Contoso (default)** environment which will act as the pipelines host environment in the lab

Note! In production tenants, it is recommended to create own production environment for the pipeline host

Environments

Environment

Sales and Marketing

https://org5e9b1032.crm.dynamics.com/

⭘   Contoso (default)

5. Select **Resources** > **Dynamics 365 apps**

↗ Open 📑 Resources ∨ ⚙ Se

Environr   Dynamics 365 apps

Power Pages sites
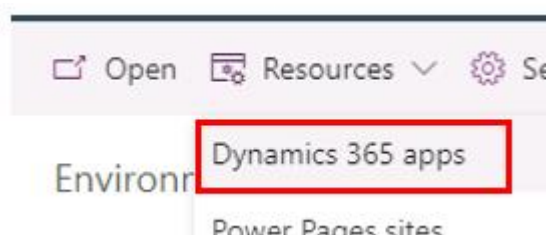
6. Select Install app
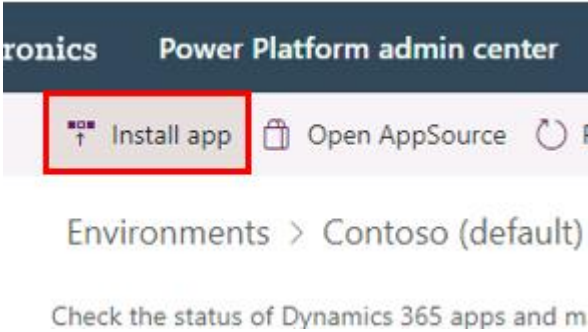
7. Scroll down to find and select **Power Platform Pipelines** and click **Next**
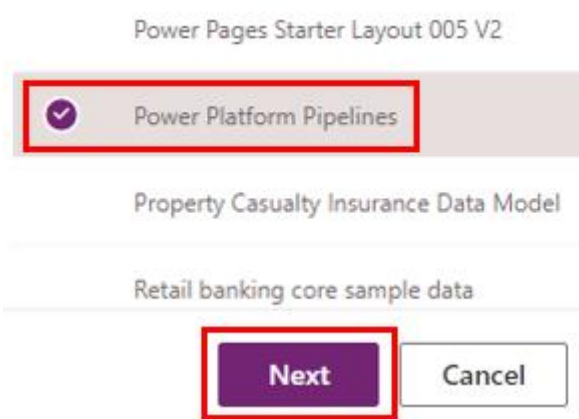
8. Select **I agree to the terms of service** and click **Install**
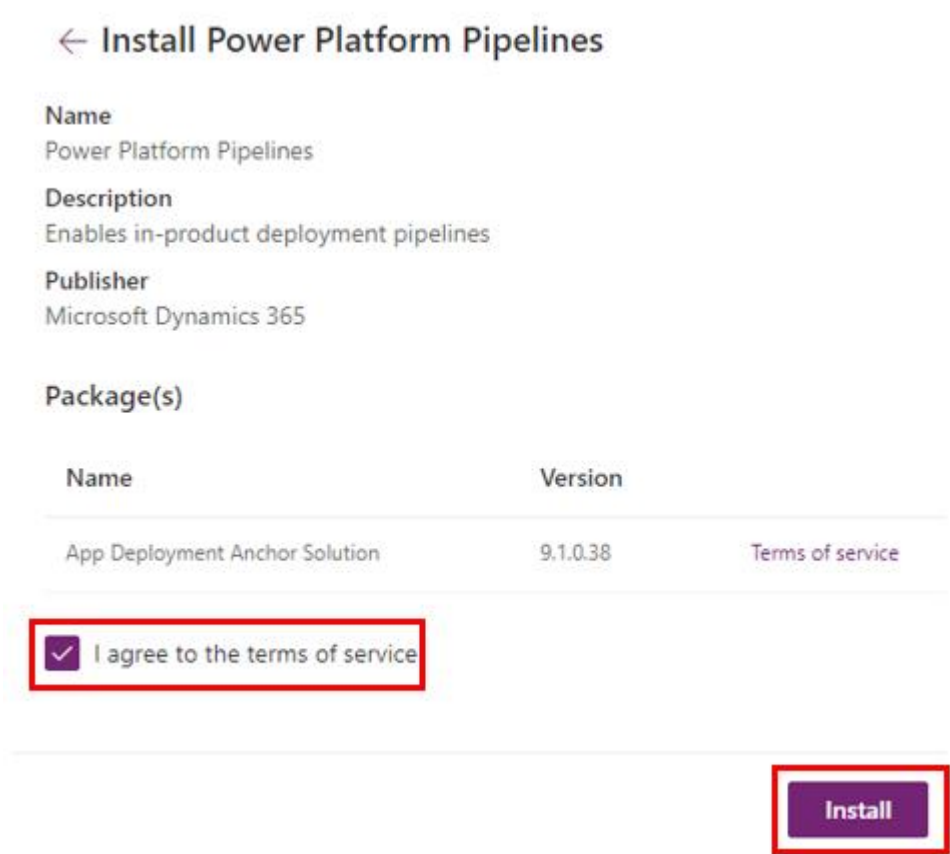
9. Installation takes few minutes, so we will next copy the **Environment ID** of **Contoso Production** and **Contoso Development** environments

10. In Power Platform admin center open **Contoso Production** environment
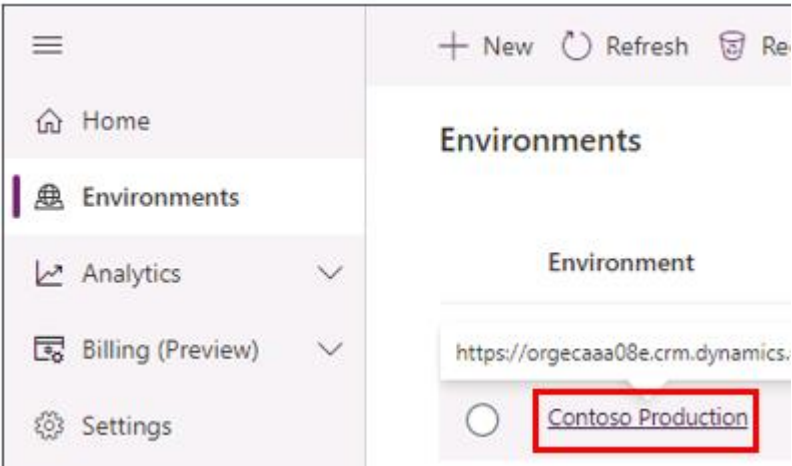
11. Copy **Environment ID** to notepad like below
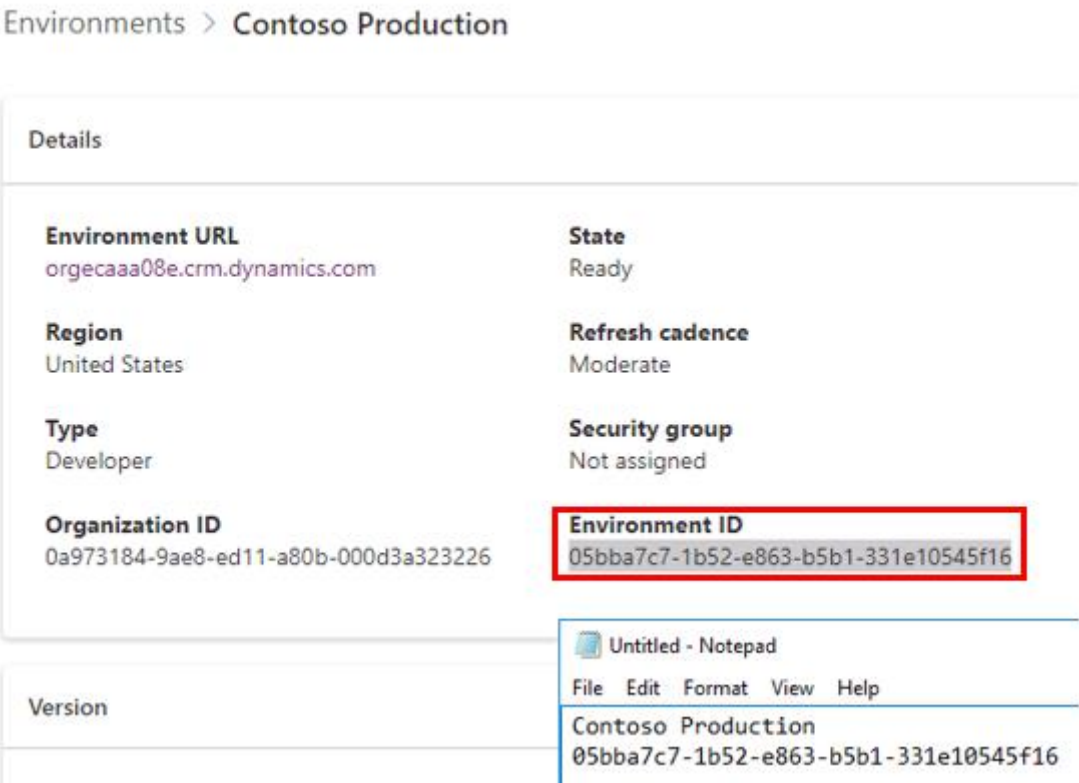
12. Do the same for Contoso Development environment

Environments > **Contoso Development**

Details

Environment URL	**State**
org8030def3.crm.dynamics.com	Ready
Region	**Refresh cadence**
United States	Frequent
Type	**Security group**
Developer	Not assigned
Organization ID	**Environment ID**
6c3415f4-e5e8-ed11-a80b-6045bd0a970a	40dbfcc8-97a5-e118-a762-ec828cbdfa05

Version

Untitled - Notepad
File   Edit   Format   View   Help
Contoso Production
05bba7c7-1b52-e863-b5b1-331e10545f16

Contoso Development
40dbfcc8-97a5-e118-a762-ec828cbdfa05

Dataverse version
9.2.23034.00228

13. Go back to Dynamics 365 apps list of **Contoso (default)** environment and see is the Power Platform Pipelines already installed. If not, then refresh list to see when installation is finished before continuing to next step

⬝⬝ Install app   🗋 Open AppSource   ○ Refresh

Environments > Contoso (default) > **Dynamics 365 apps**

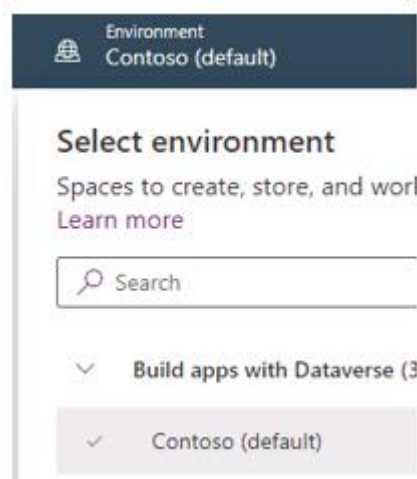Check the status of Dynamics 365 apps and manage them across your org. Learn more

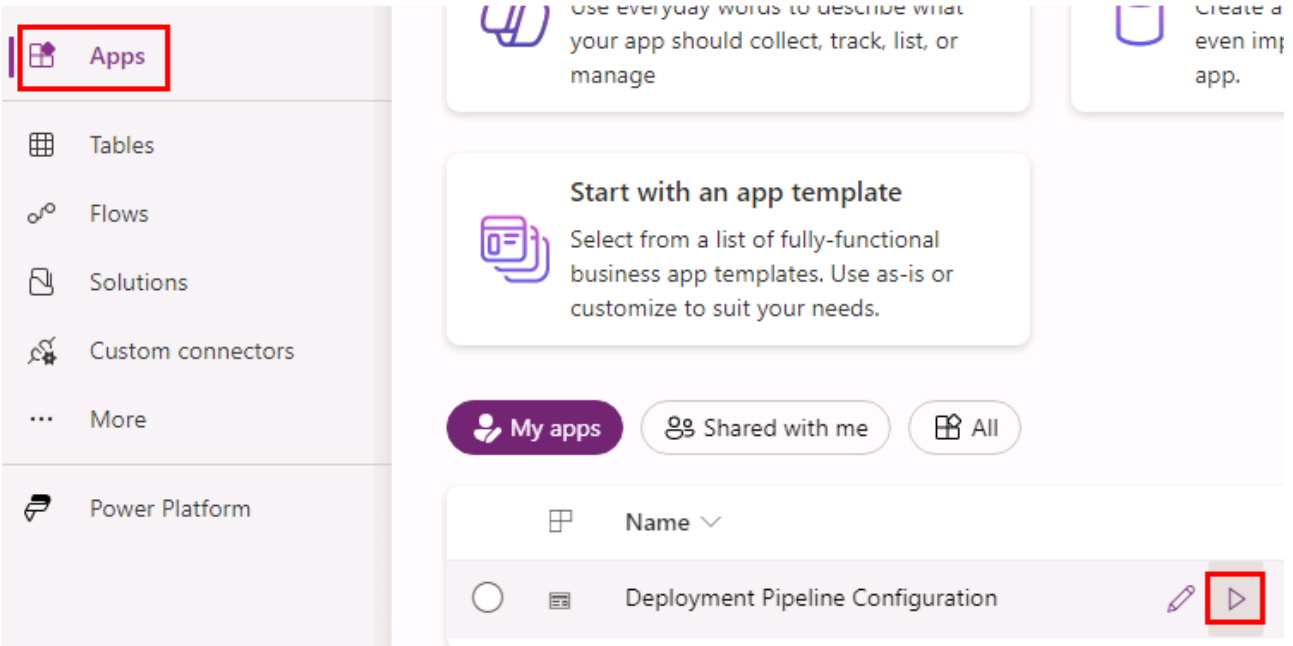| Name		Status ↓
Power BI Extensions (Preview)	···	❶ Update available
Microsoft Flow Extensions	···	❶ Update available
Virtual connectors in Dataverse	···	❶ Update available
Power Platform Pipelines	···	⟳ Installing...

Name		Status ↓
Power BI Extensions (Preview)	...	ⓘ Update available
Microsoft Flow Extensions	...	ⓘ Update available
Virtual connectors in Dataverse	...	ⓘ Update available
Power Platform Pipelines	...	Installed

14. Open **https://make.powerapps.com** and make sure that you have **Contoso (default)** environment selected

Environment
🏛 Contoso (default)

Select environment

Spaces to create, store, and worl
Learn more

🔍 Search

⌄   Build apps with Dataverse (3

✓   Contoso (default)

15. Open the **Deployment Pipeline Configuration** by clicking **Play**

🏷 Apps

⊞ Tables

⚬ Flows

🗒 Solutions

⚙ Custom connectors

... More

🥟 Power Platform

Use everyday words to describe what your app should collect, track, list, or manage

Start with an app template

Select from a list of fully-functional business app templates. Use as-is or customize to suit your needs.

👤 My apps   👥 Shared with me   🏷 All

⊞	Name ⌄		
○ 📰	Deployment Pipeline Configuration	🖉	▷

```
<br>
```

16. Select **Environments** from the left menu and click **New**
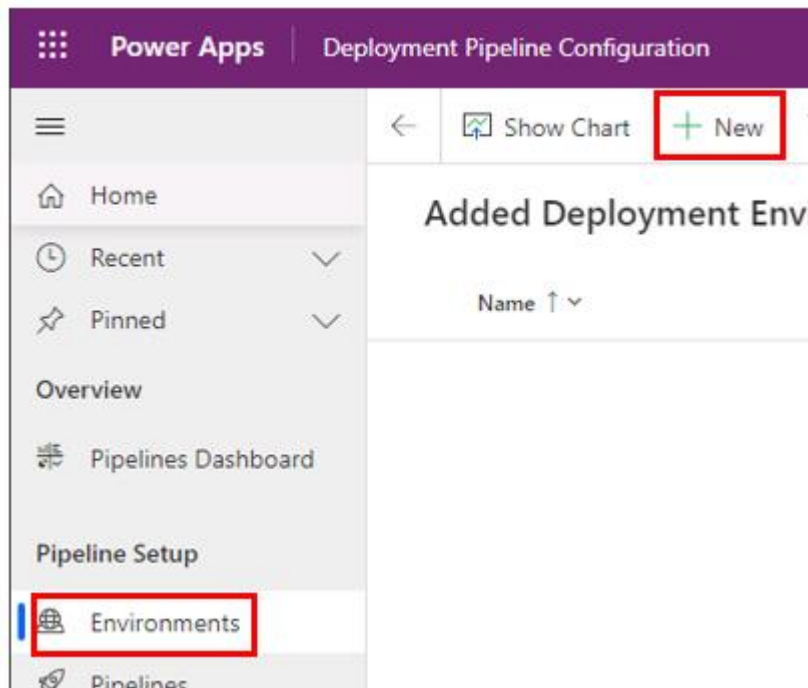
17. Add Contoso Production environment using following values and click **Save and Close**

- Name: **Contoso Production**
- Environment Type: **Target Environment**
- Environment ID: *Contoso Production environment ID from notepad*

18. Add another environment configuration for Contoso Development like below

   ○ Name: **Contoso Development**
   ○ Environment Type: **Development Environment**
   ○ Environment ID: *Contoso Development environment ID from notepad*

19. You should have now two environments configured similar like below

20. Select **Pipelines** and click **New**

21. Name the pipeline as **Contoso Deployment Pipeline** and click **Save**
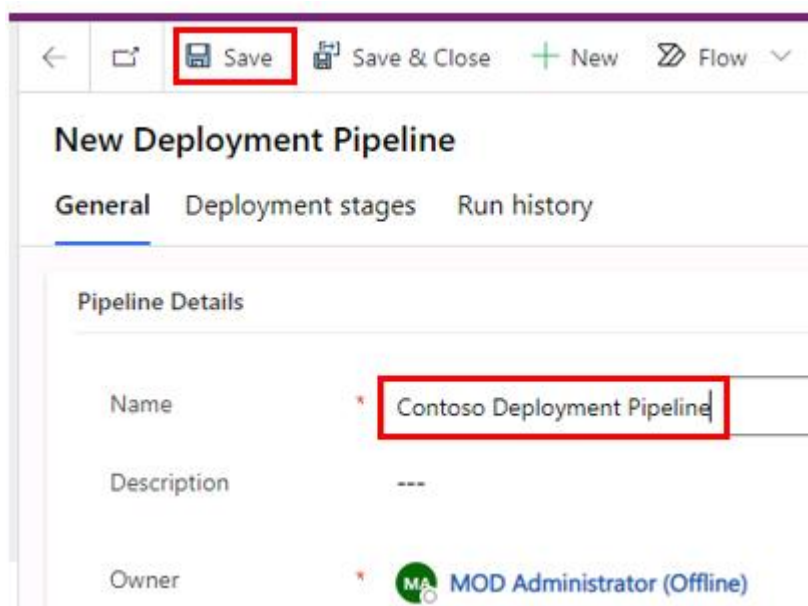
22. In the Linked Development Environments grid, click the **three dots** in the right side of the grid and select **Add Existing Deployment Environment**

Contoso Deployment Pipeline - Saved
Deployment Pipeline

General   Deployment stages   Run history   Related ∨

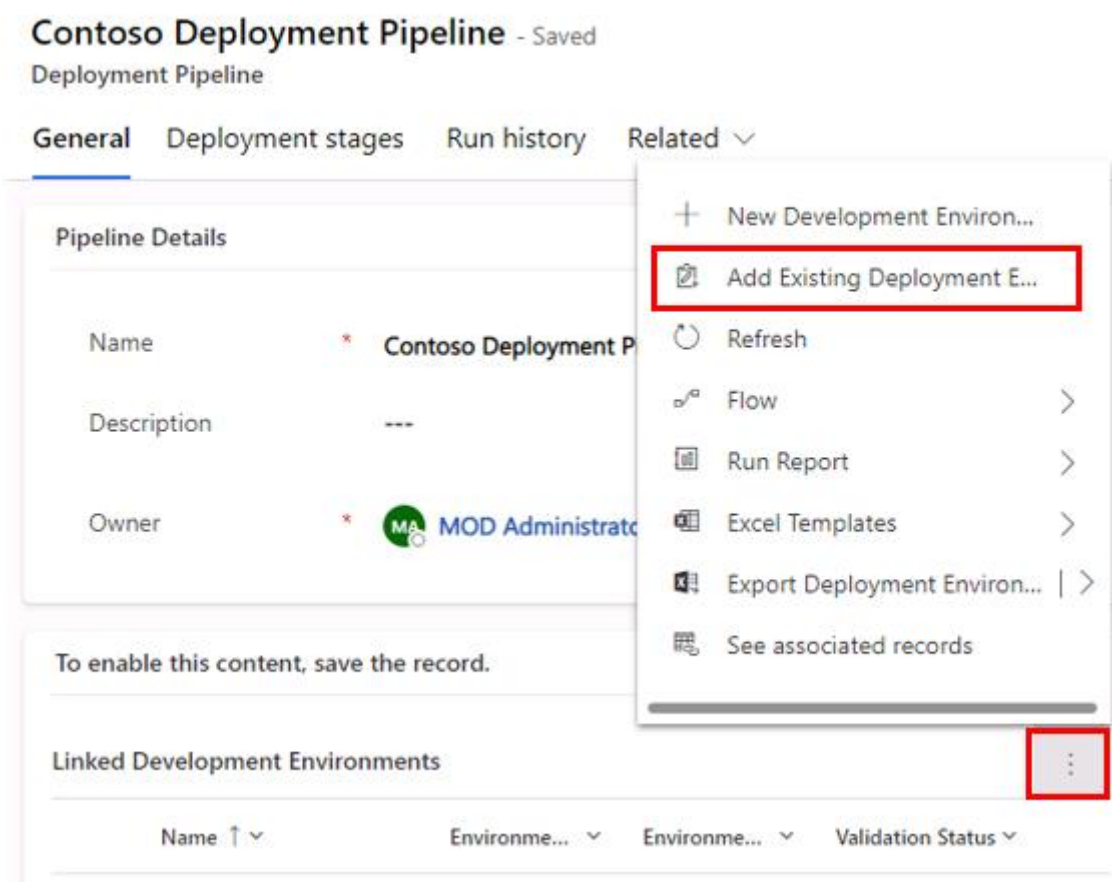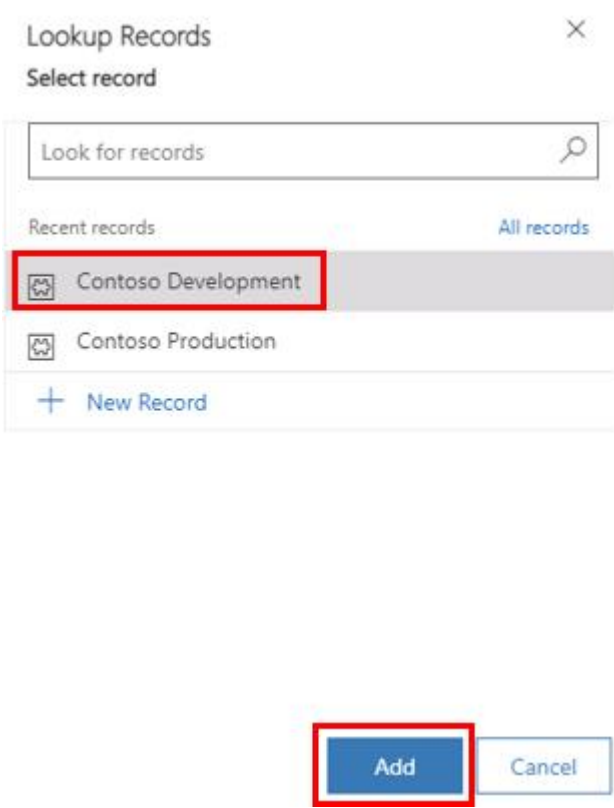| Pipeline Details		+ New Development Environ...
		📝 Add Existing Deployment E...
Name	* Contoso Deployment P	⟳ Refresh
		🖉 Flow >
Description	---	
		🔳 Run Report >
Owner	* 🅜🅐 MOD Administrato	🗐 Excel Templates >
		📄 Export Deployment Environ...	>
To enable this content, save the record.		🔣 See associated records

Linked Development Environments   ⋮

Name ↑ ∨	Environme... ∨	Environme... ∨	Validation Status ∨

23. Select the **Contoso Development** environment and click **Add**

Lookup Records   ✕
Select record

Look for records	🔍

Recent records   All records

🖼 Contoso Development

🖼 Contoso Production

+ New Record

Add   Cancel

24. In the Deployment Stages grid, click the **three dots** in the right side of the grid and select **New Deployment Stage**
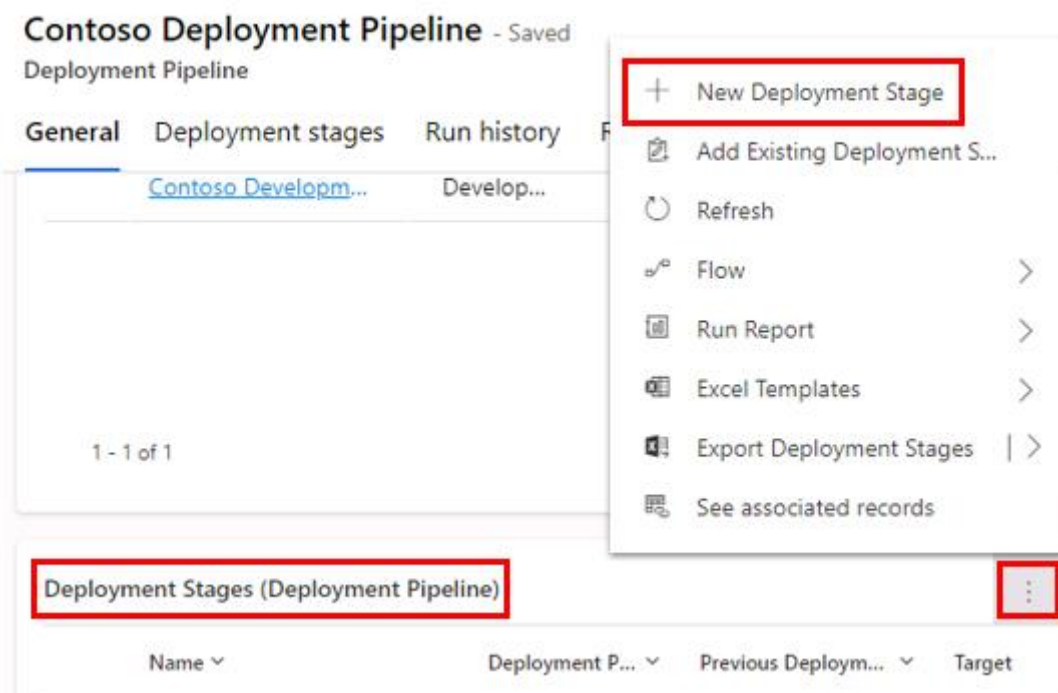
25. Set the stage settings like below then click **Save and Close**

    ○ Deployment Pipeline = **Contoso Deployment Pipeline** (should be selected by default)
    ○ Name = **Deploy to Production**
    ○ Target Deployment Environment ID = **Contoso Production**

Quick Create: Deployment Stage   ✕

Deployment Pipeline	🔲 Contoso Deployment Pipeline
Name	* Deploy to Production
Description	---
Previous Deployment Stage	---

Target Deployment Environment ID

Contoso ProductionS	🔍

Deployment Environments

🔲 **Contoso Production**
b7d27374-492e-e049-8d68-
f5a3cc31bd0f   ⌄

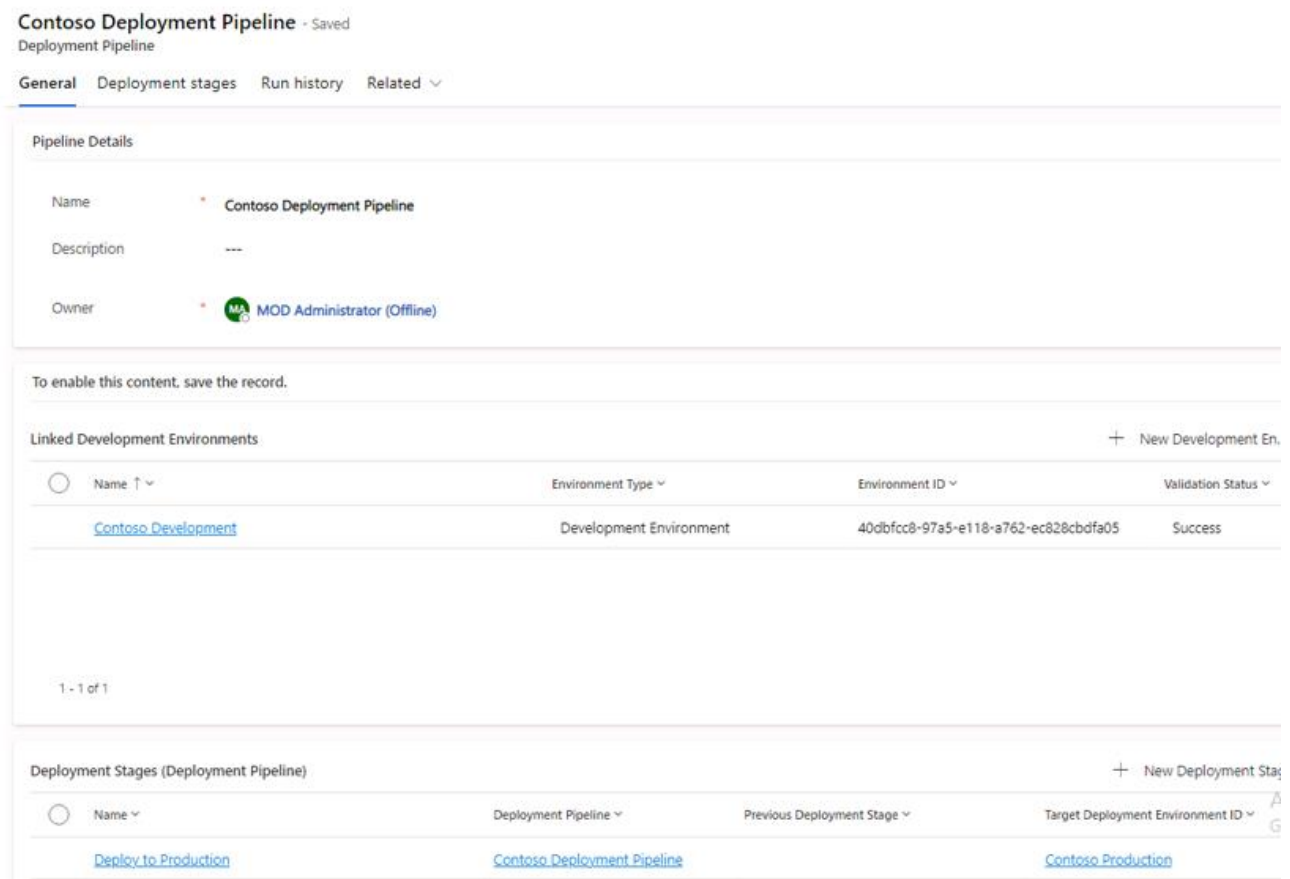| + | New Deployment Environment | Advanced lookup |

Save and Close | ⌄   Cancel

26. Configuration should look like below now.

Note! In production setup we would normally have at least test environment and probably QA environment as well in the pipeline configuration

27. In production deployments we would also need to grant access to pipelines and environments for users who should be able to use the pipeline to run the deployments. In this exercise we only use MOD admin account which already have all the required permissions, so no need to grant any additonal permissions

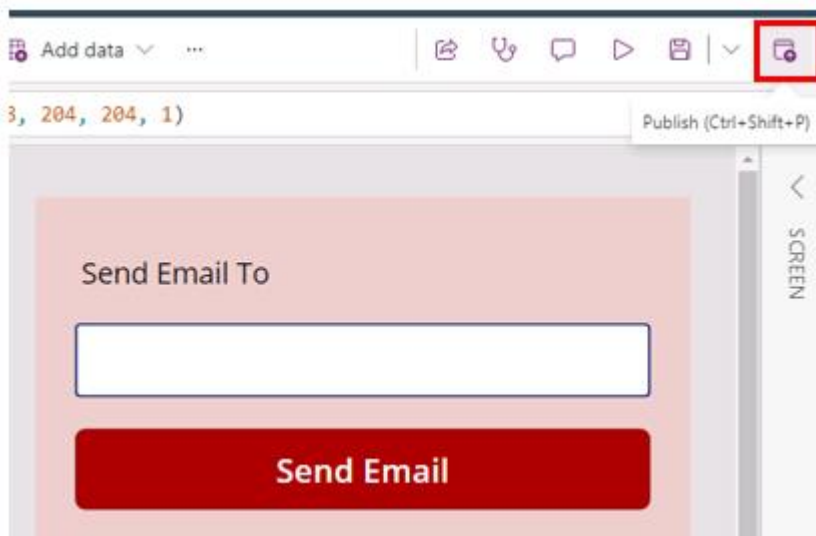28. Go to **https://make.powerapps.com** and select **Contoso Development** environment

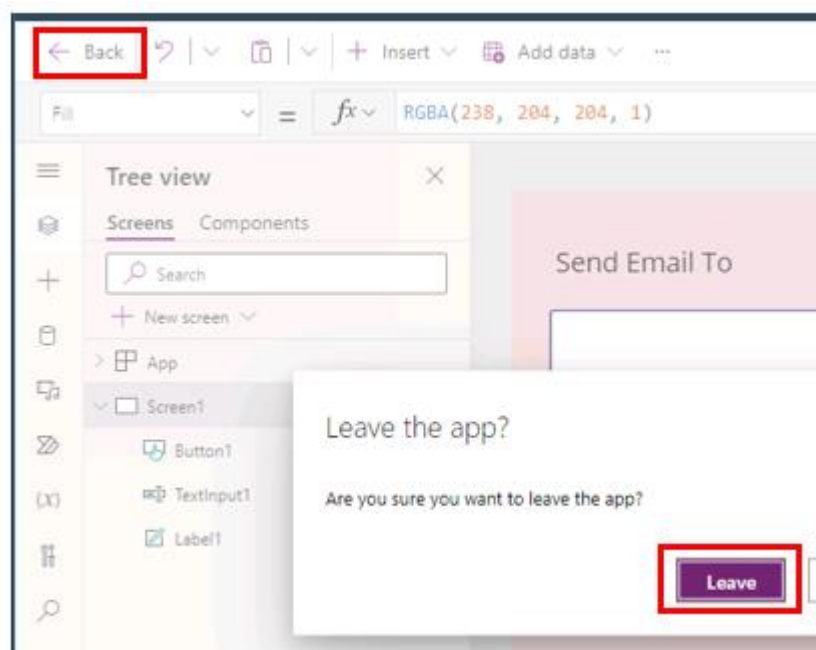29. Open **Solutions** > **Contoso Operation Project**
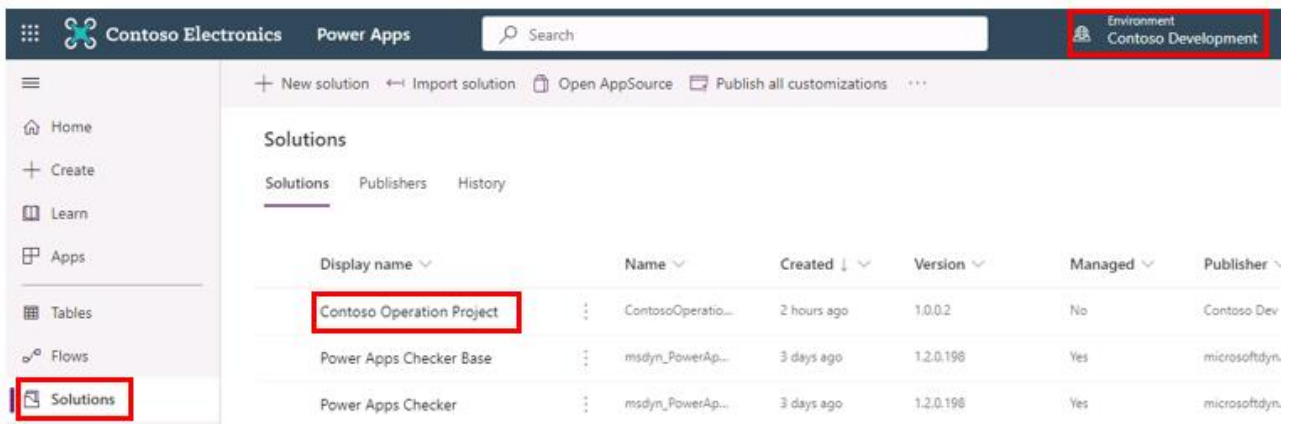
30. Edit **Solution App**
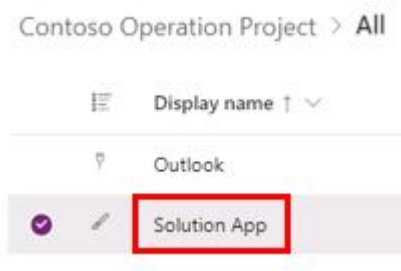
31. Again do some small change to the app and **Publish**

32. Click **Back** and **Leave** to move back to solution

33. It is good to still verify that the latest version of the app is really the published liveversion

34. Select **Pipelines** from the left menu and verify that **Contoso Deployment Pipeline** is selected. Then click **Deploy here**

35. As we only have one deployment target we can't change anything in the Destination definition, so click **Next**

Deploying Solution

Destination

Summary

Select deployment target

Select the deployment pipeline you'd
you choose a pipeline - select the stag

Pipeline

Contoso Deployment Pipeline

⦿ Deploy to Production

Deployment schedule

⦿ Now

◯ Later

Back   **Next**

36. Office 365 Outlook connection reference should have connection defined already but if there isn't then you can create necessary connection here.

Click **Next** after verifying that connection is created

Deploying Solution

37. Version number can be changed here if needed but by default it should be increased by one. Click
    Deploy

Deploying Solution

Destination

Connections

Summary

Pipeline	Stage
Contoso Deployment Pipeline	Deploy to

Display name	Name
Contoso Operation Project	ContosoOr

Publisher	Prefix
Contoso Dev	condev

Version *

1.0.0.3

Deployment notes

Leave a note about the updates you've made (optional)

Back   Deploy

38. Deployment will start and you can monitor the progress here and also open the target environment to see when the new solution version is deployed

Development

Securely test and verify in isolation. After you've got everything working properly, it's time to deploy. Learn more

Solution version
1.0.0.2

Deploy to Production
ⓘ Contoso Production

⬀ Go to this environment

ⓘ Currently deploying version 1.0.0.3

🚀 Deploy here

39. Test that the new version with latest changes is working in the Contoso Production environment

> [!KNOWLEDGE] For more information about deploying resources across environments using solutions, review the Microsoft **Exporting Solutions** and **Importing Solutions** docs.

Congratulations

You have now completed the lab. Check if any of your colleagues need help with completing the lab.