

ALM with Power Platform

How much do the Microsoft Power Platform Build Tools cost?

The build tools are available at no cost.

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What does Azure DevOps cost?

- Some services and licenses are free.

Individual Services	User Licenses	
Azure Pipeline	Basic Plan	Basic + Test Plans
1 Free Microsoft-hosted CI/CD 1 Free Self-Hosted CI/CD	First 5 users free, then \$6 per user per month	\$52 per user per month

- [Azure DevOps Services Pricing | Microsoft Azure](#)

Premium Power Platform features is required:

- Dataverse
- Recommended Power Apps Premium

Reference: [Microsoft Power Platform Build Tools for Azure DevOps - Power Platform | Microsoft Learn](#)

License Requirements – ALM with Power Platform – Needs Premium Connectors

ALM Accelerator for Power Platform uses the following premium Power Platform features:

- Dataverse
- Custom Connector
- HTTP with Azure Active Directory (Azure AD) connector

To use the ALM Accelerator, you need the following licenses:

- Power Apps Per User or Per App license**
- Azure DevOps Basic Plan

License Requirements – ALM Accelerator – Needs Premium Connectors

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To use the ALM Accelerator, you need the following licenses:

- **Power Apps Per User or Per App license**
- **Azure DevOps Basic Plan**

Azure DevOps Basic Plan – Free for 5 users then \$6 per user per month

[Azure DevOps Services Pricing | Microsoft Azure](#)

The screenshot shows the Azure DevOps Services Pricing page. At the top, there are two main options: "Azure DevOps Services" (highlighted with a blue border) and "Azure DevOps Server". Below these, the "INDIVIDUAL SERVICES" and "USER LICENSES" sections are displayed. In the "USER LICENSES" section, the "Basic Plan" row is highlighted with a red box, indicating it covers the first 5 users free, then \$6 per user per month. The "Start free" button is also highlighted with a blue box.

INDIVIDUAL SERVICES		USER LICENSES	
Azure Pipelines 1 Free Microsoft-hosted CI/CD 1 Free Self-Hosted CI/CD	Azure Artifacts 2 GiB free, then starting at \$2 per GiB	Basic Plan First 5 users free, then \$6 per user per month	Basic + Test Plans \$52 per user per month
Start free	Start free	Start free	30 day free trial
<ul style="list-style-type: none">1 Microsoft-hosted job with 1,800 minutes per month for CI/CD and 1 self-hosted job with unlimited minutes per month\$40 per extra Microsoft-hosted CI/CD parallel job and \$15 per extra self-hosted CI/CD parallel job with unlimited minutes	<ul style="list-style-type: none">Industry-leading NuGet ServerSupport for Maven, npm, and Python packagesUpstream sources to help protect open-source dependenciesIntegrated with Azure PipelinesSophisticated access controls	<ul style="list-style-type: none">Azure Pipelines: Includes the free offer from INDIVIDUAL SERVICESAzure Boards: Work item tracking and Kanban boardsAzure Repos: Unlimited private Git reposAzure Artifacts: 2 GiB free per organization	<ul style="list-style-type: none">Includes all Basic plan featuresTest planning, tracking & executionBrowser-based tests with annotationRich-client test executionUser acceptance testingCentralized reporting

What are my options for ALM in Power Platform?

The ALM Accelerator is one of many options for ALM in Power Platform. Others include:

- [Pipelines for Power Platform](#) aim to democratize ALM by bringing ALM automation capabilities to Power Platform and Dynamics 365 services in a way that's more approachable for all makers, admins, and developers.
NOTE: Requires Additional Managed Environments Power Apps and Power Automate standalone plans
[Licensing - Power Platform | Microsoft Learn](#)
- [Power Platform Build Tools](#) tasks can be used with other Azure DevOps tasks to compose your build and release pipelines. Pipelines that teams commonly put in place include Initiate, Export from Dev, Build, and Release.
- [GitHub Actions for Power Platform](#) enable developers to build automated software development lifecycle workflows to build, test, package, release, and deploy apps; perform automation; and manage bots and other components built on Power Platform.

What's the right choice for my organization?

- There's no one right answer for every organization. The following table and the descriptions that follow can help you decide which option is right based on your organization's current capabilities and future plans. This table isn't exhaustive.
- It's meant to help you make an informed decision. It will evolve over time as we add more capabilities to the ALM Accelerator and the ALM capabilities in Power Platform.

Capability	Pipelines	ALM Accelerator	DevOps/GitHub
<i>IT/Developer involvement</i>	Not required	Up-front setup	Required for every project
<i>Source code integration</i>	No, but planned	Yes	Yes
<i>Maker requires elevated privileges in target environment</i>	Yes	No, service principal is supported	No, service principal is supported
<i>Quality control</i>	Minimal	Best practices	Unlimited
<i>Democratized for citizen development</i>	Yes	Yes	No
<i>In-product experience</i>	Yes	Canvas app provided, but not in the maker experience	No
<i>Support</i>	Microsoft-supported	Power CAT support through GitHub issues and discussions	Microsoft-supported and GitHub issues
<i>Customization</i>	Yes	Yes	Yes
<i>Code-first development</i>	No	Yes	Yes

[ALM Accelerator for Power Platform - Power Platform | Microsoft Learn](#)

[Configure the ALM with Power Platform](#)

[Configure the ALM Accelerator using the admin app - Power Platform | Microsoft Learn](#)

Create 3 Environments

The screenshot shows the 'Environments' section of the Power Platform admin center. It lists three environments: 'Production ALM', 'Test ALM', and 'DEV ALM'. The 'DEV ALM' row is highlighted with a red box. The columns include Environment, Type, State, Dataverse, Managed, Region, Created on, Created by, and Last.

Environment	Type	State	Dataverse	Managed	Region	Created on	Created by	Last
Production ALM	Sandbox	Ready	Yes	No	Asia	12/19/2023 9:41 PM	Arch Shukla	-
Test ALM	Sandbox	Ready	Yes	No	Asia	12/19/2023 9:40 PM	Arch Shukla	-
DEV ALM	Sandbox	Ready	Yes	No	Asia	12/19/2023 9:39 PM	Arch Shukla	-

Main Idea for ALM Process

1. Create a DEV ALM Solution with Power Platform objects with Power Apps, Power Automate.
2. Export using Leverage **Power Platform ALM Accelerator** to TEST ALM.
3. Export using Leverage **Power Platform ALM Accelerator** to Production ALM.

Create a new Solution and Publisher at the DEV ALM Environment

The screenshot shows the 'Solutions' page in the Power Apps portal. A red box highlights the 'Solutions' menu item in the left sidebar. Another red box highlights the 'New solution' button in the top navigation bar. A third red box highlights the 'New publisher' option in the 'Publisher' dropdown menu.

New publisher

Publishers indicate who developed associated solutions. [Learn more](#)

[Properties](#) [Contact](#)

Display name *

Name *

Description

Prefix *

Choice value prefix *

Preview of new object name

contoso_Object

[Save](#)

[Cancel](#)

Solutions

+ New solution Import solution Open AppSource Publish all customizations See history

Display name	Name	Created	Version	Publisher	Solution check
Common Data Services Default Solution	CDS14b	2 days ago	1.0.0	CDS Default Publisher	Hasn't been run
Default Solution	Default	2 days ago	1.0	Default Publisher for...	Not supported for analysis

New solution

Display name *

Name *

Publisher *

+ New publisher

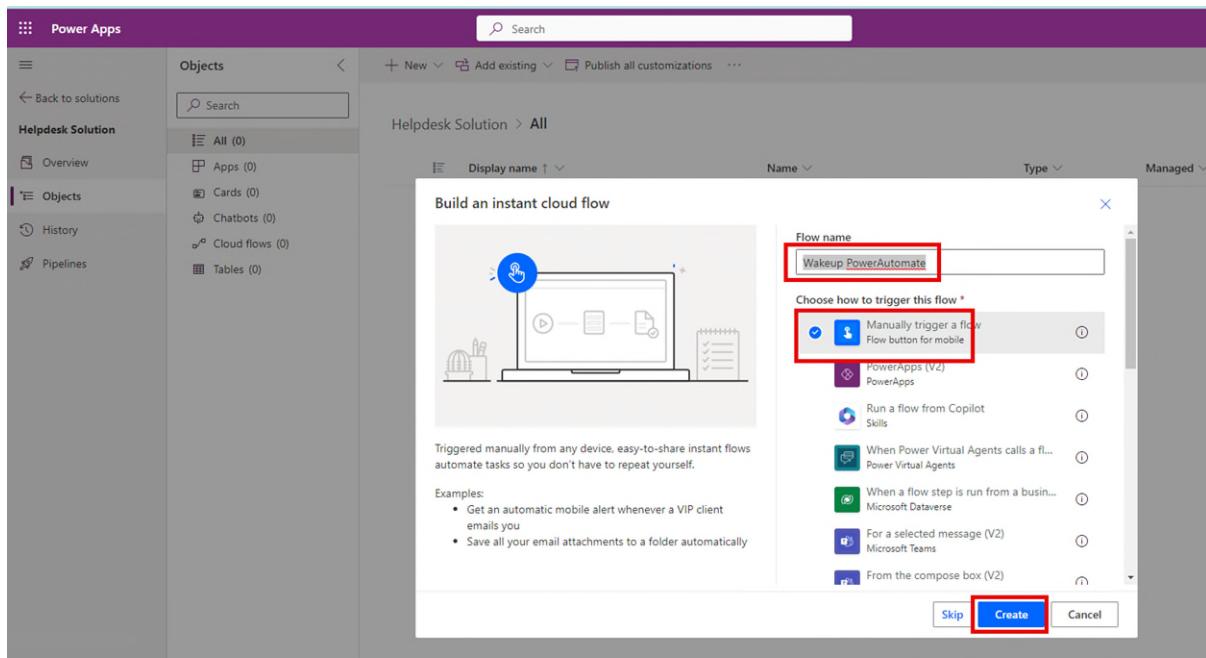
Version *

More options

[Create](#)

[Cancel](#)

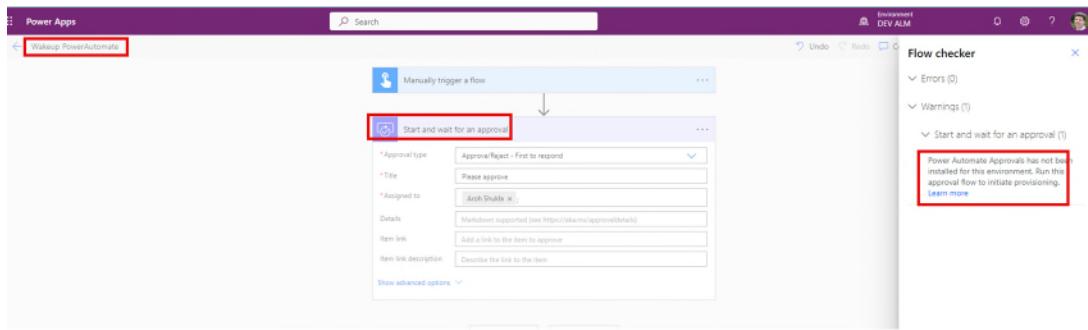
[Create Power Automate Approvals solution](#)



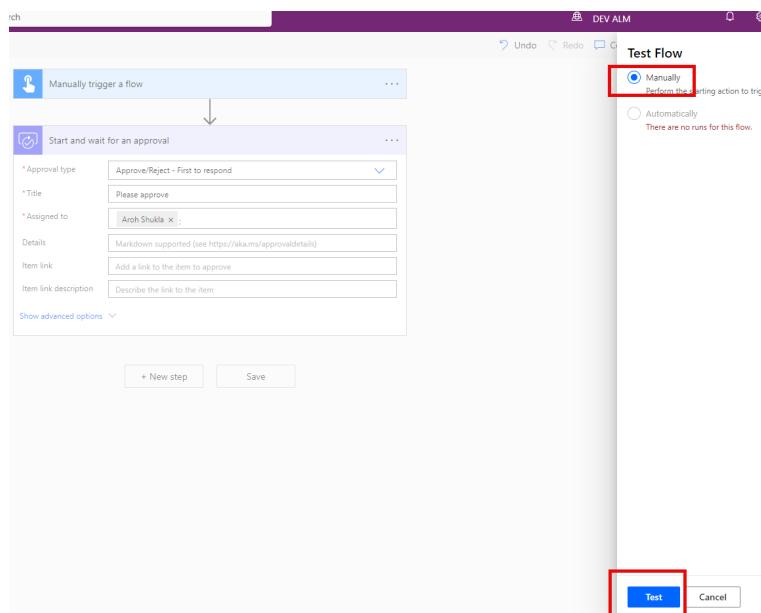
Select a SharePoint Online List

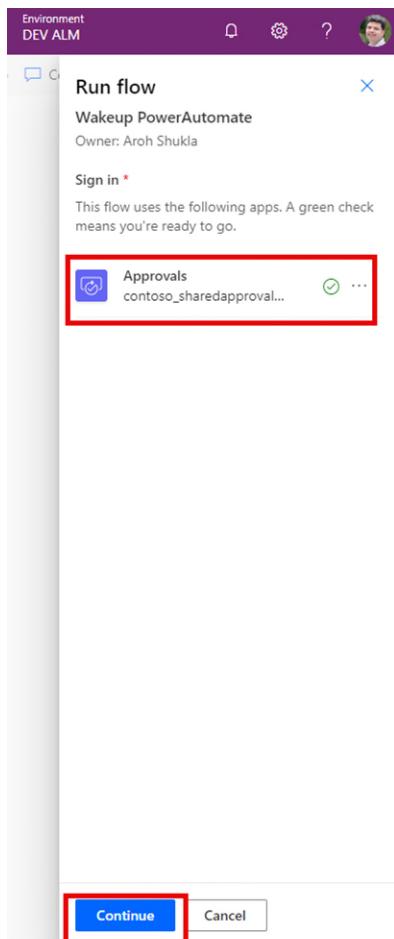
The screenshot shows a SharePoint Online site with the URL 'arohmvp365.sharepoint.com/sites/DataSite/lists/Help%20Desk%20Center/AllItems.aspx'. The page title is 'Team Site with Data'. The left navigation pane shows a 'Help Desk Center' list item highlighted with a red box and circled with a red number '2'. The main content area displays a table with three rows of data. The first row (Phone) has a status of 'Completed' and a comment from 'Aroh Shukla'. The second row (VPN) has a status of 'Rejected' and a comment from 'Aroh Shukla'. The third row (Access Card Does not work) has a status of 'Rejected' and a comment from 'Aroh Shukla'.

Configure Approval action and wait for Approval tables get populated at Dataverse



Test the flow



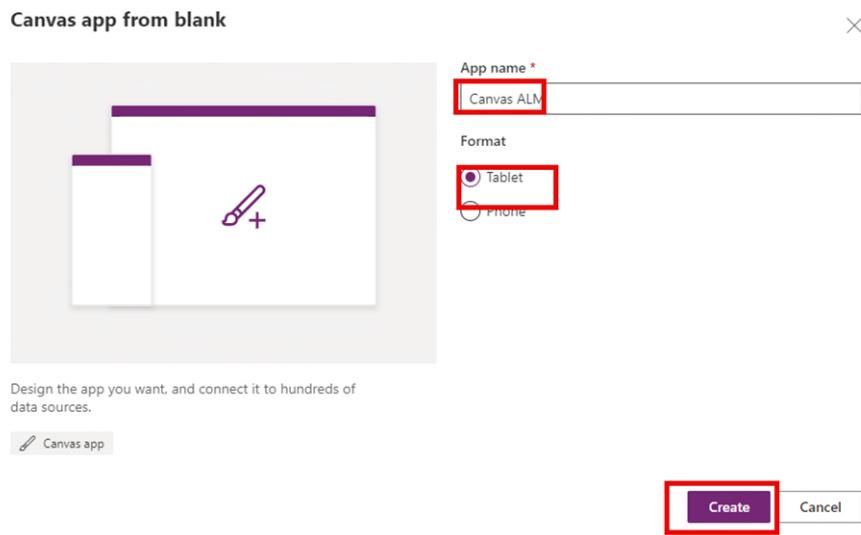


Run flow
Wakeup PowerAutomate
Owner: Aroh Shukla

This flow uses Approvals.
[Review connections and actions](#)

Run flow Cancel

Create a Simple App



Connect to SharePoint Online

Power Apps | Canvas ALM

Back | Insert | A

Fill = fx Color.Wh:

Data

Search

Add data ...

Select a data source

sharepoint

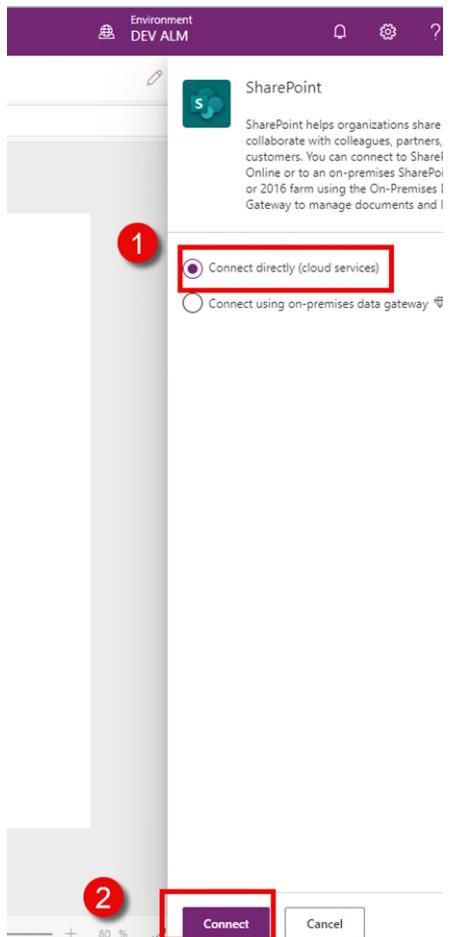
Create new table

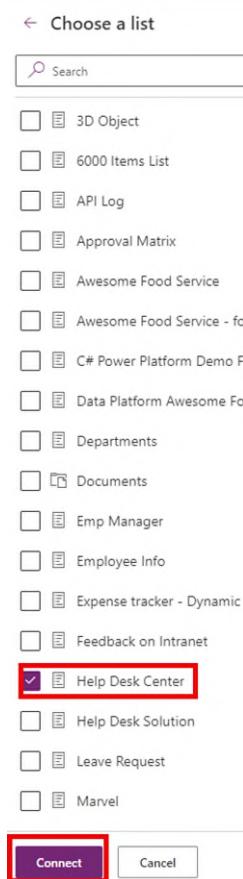
SharePoint

SharePoint helps organizations share and c...

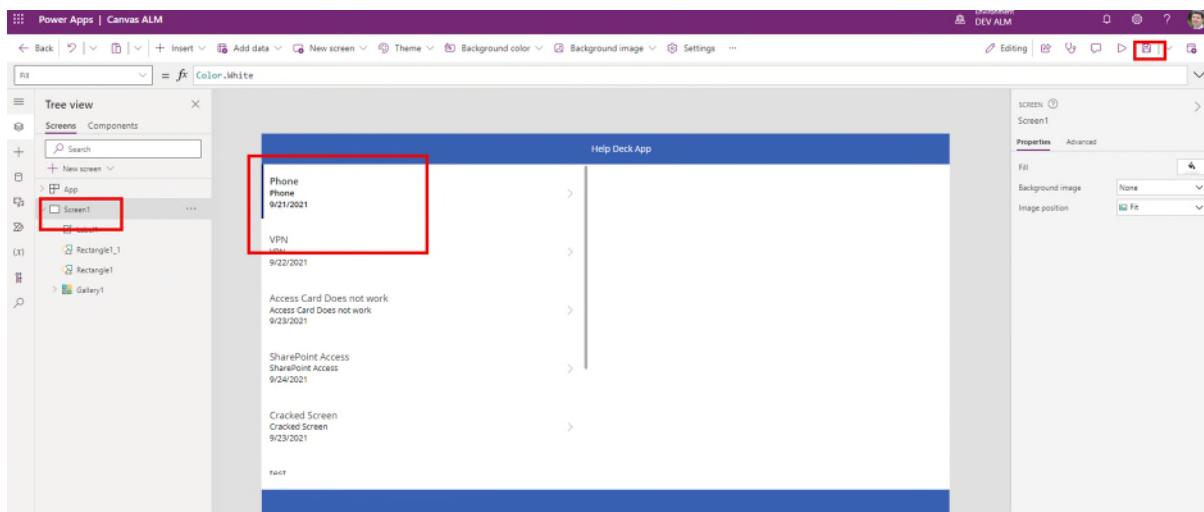
SharePoint Sites Microsoft Dataverse

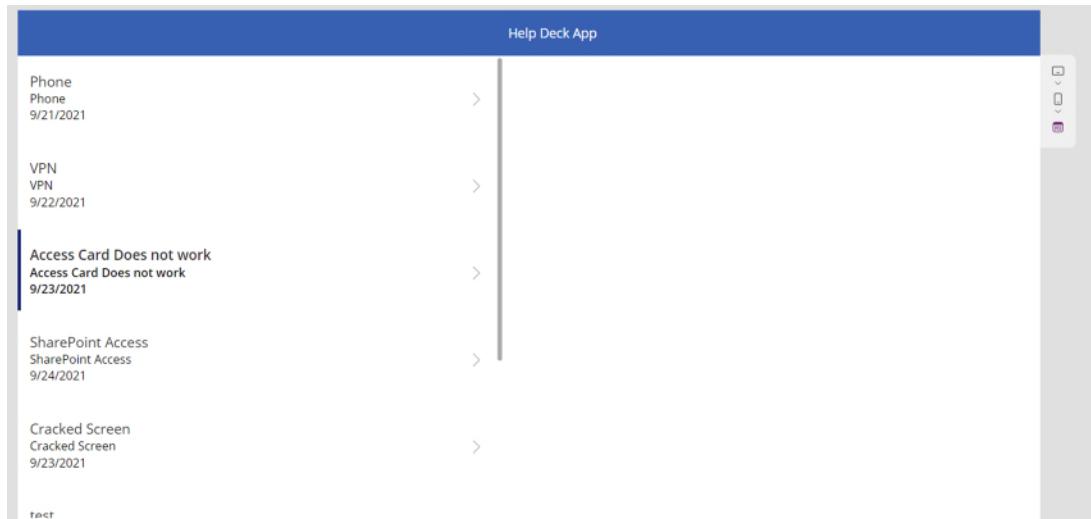
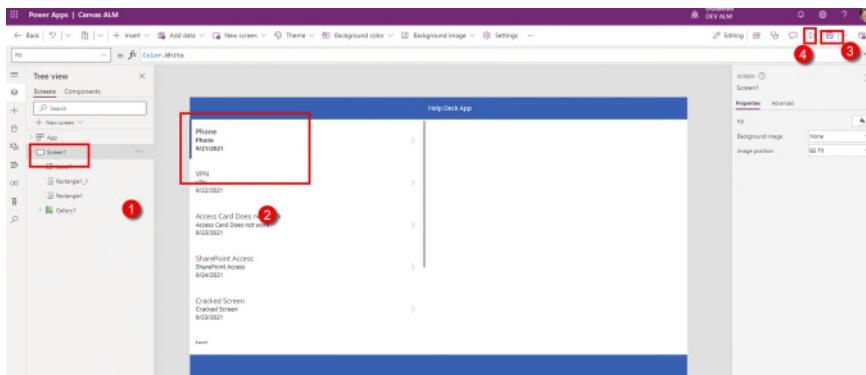
airSlate Automate your business workflows ...





Place controls on Canvas App and save the app.





Publish all customizations

Display name	Name	Type	Managed	Last Modified	Owner
Canvas ALM	contoso_canvasalm_ddfe63	Canvas App	No	right now	Aish Shukla

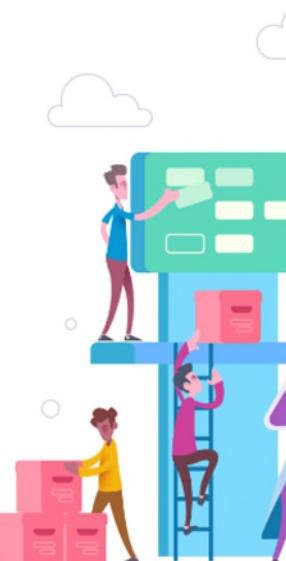
Connect to Azure DevOps portal

Portal URL

The screenshot shows the Microsoft Azure portal interface. At the top, there is a search bar with the text "azure de". Below the search bar, the main navigation menu includes "All", "Services (99+)", "Marketplace (22)", "Documentation (99+)", and "Microsoft Entra". A sub-menu for "Services" is open, listing "Azure Deployment Environments", "Azure DevOps organizations" (which is highlighted with a red box), "Dev centers", and "Projects". On the left side, there is a sidebar with links for "Create a resource", "Home", "Dashboard", "All services", "FAVORITES", "All resources", "Microsoft Entra ID", and "Microsoft Defender for". Below the sidebar, the breadcrumb navigation shows "Home > Azure DevOps". A callout message at the bottom of the page says: "We've made it easier to manage Azure DevOps billing and subscriptions. You can set up billing, change your subscription or pay for r".

Azure DevOps

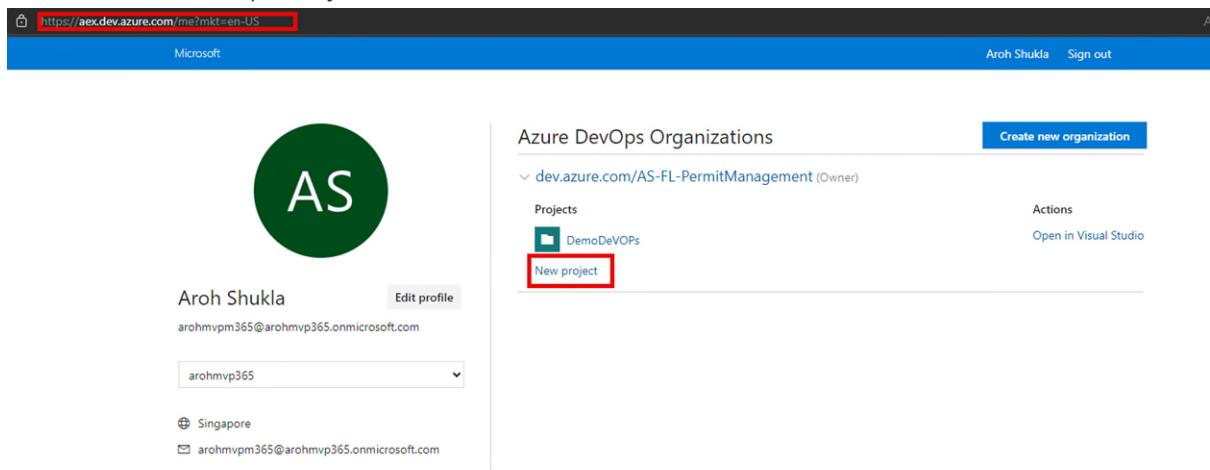
Plan smarter, collaborate better, and ship faster with a set of modern dev services



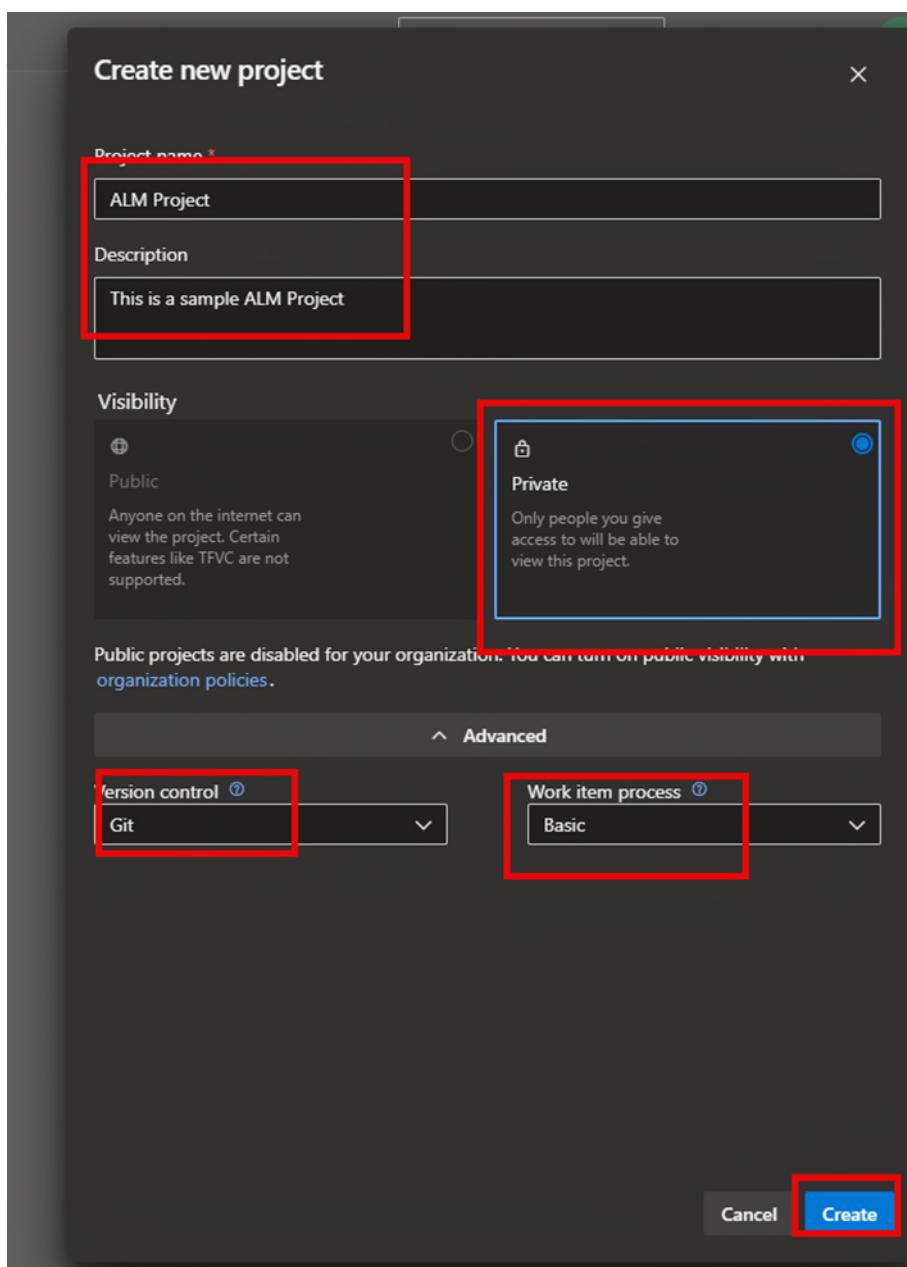
[My Azure DevOps Organizations](#)

[Get started using Azure DevOps](#)
[Billing management for Azure DevOps](#)

Create Azure DevOps Project

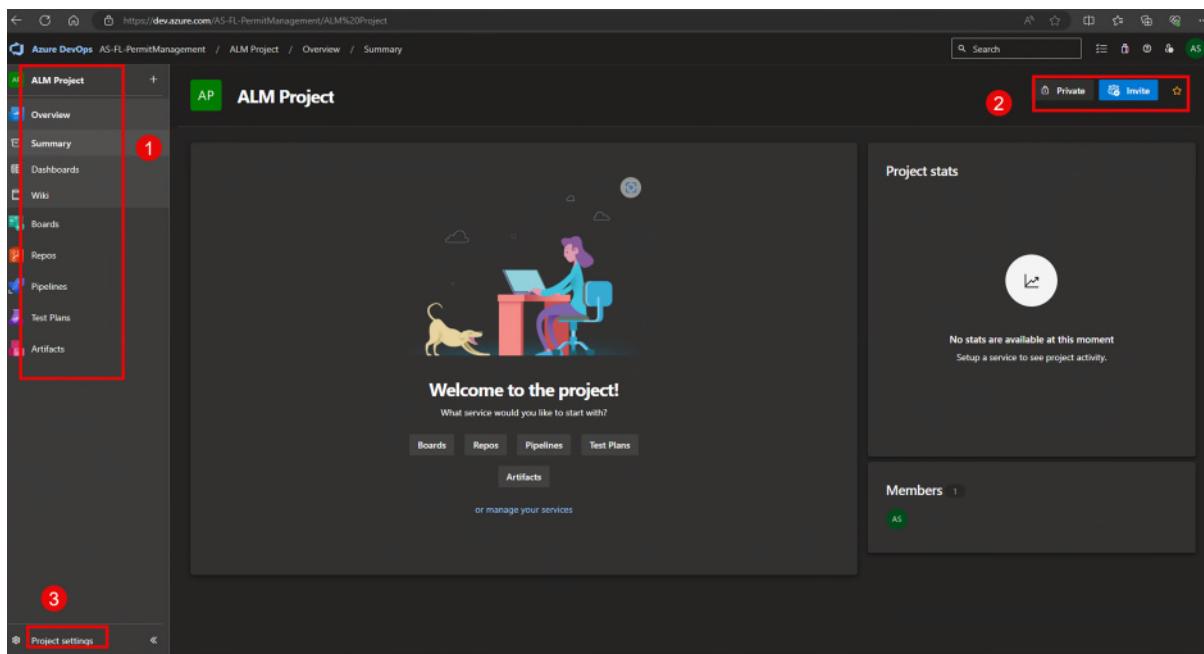


The screenshot shows the Azure DevOps Organizations page. On the left, there's a profile card for Aroh Shukla with contact information. On the right, under 'Azure DevOps Organizations', it shows 'dev.azure.com/AS-FL-PermitManagement (Owner)'. Under 'Projects', there is a project named 'DemoDeVOPs' with a 'New project' button highlighted by a red box. At the top right, there are 'Actions' and 'Open in Visual Studio' options.



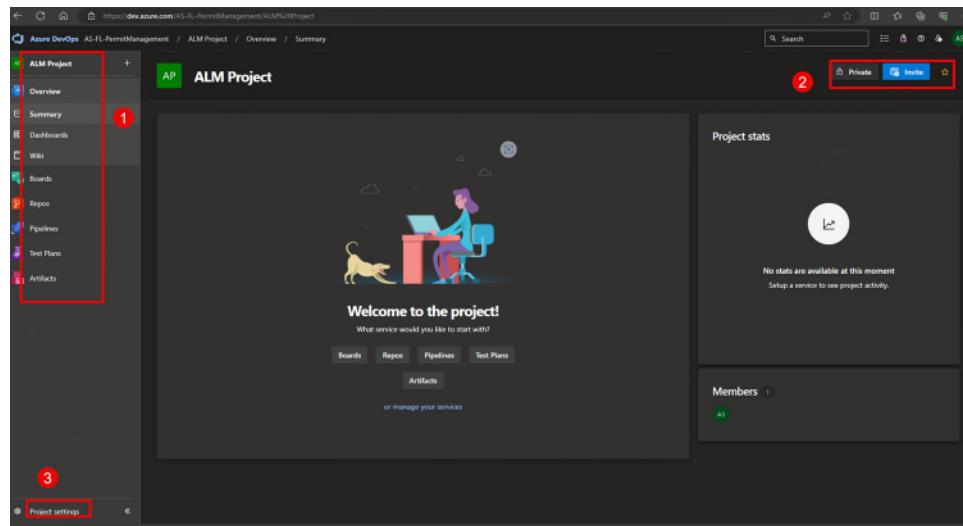
The screenshot shows the 'Create new project' dialog box. It includes fields for 'Project name' (containing 'ALM Project') and 'Description' (containing 'This is a sample ALM Project'). In the 'Visibility' section, the 'Private' option is selected, indicated by a blue radio button. A note at the bottom states: 'Public projects are disabled for your organization. You can turn on public visibility with organization policies.' Below this, the 'Advanced' section contains dropdowns for 'Version control' (set to 'Git') and 'Work item process' (set to 'Basic'). At the bottom right, there are 'Cancel' and 'Create' buttons, with 'Create' also highlighted by a red box.

View of Azure DevOps project



Project Settings- Overview

- You can view the Project (1) Overview of project including,
 - Summary,
 - Dashboards,
 - Wiki
 - Boards,
 - Repos,
 - Pipelines,
 - Test Plans,
 - Artifacts
- You can invite other team members (users or AAD Groups) and add the project as Favourite (2)
- Project Settings (3)



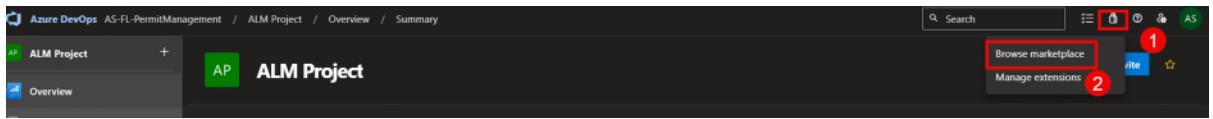
Project Settings – Details

- You can configure Project name, process, add project administrators, and Azure DevOps services
- Teams – options to add Teams
- Permissions – built-in Groups and users.
- Pipelines
- Repos configuration

Name	Description	Type
BA	Members of this group can create, modify and delete build definitions and manage queued and completed builds.	Group
C	Members of this group can add, modify, and delete items within the team project.	Group
PA	Members of this group can perform all operations in the team project.	Group
PU	Members of this group have access to the team project.	Group
R	Members of this group have access to the team project.	Group
AT	The default project team.	Team

Azure Marketplace

- Select the Azure Marketplace icon



Power Platform Build tools

<https://marketplace.visualstudio.com/search?term=power%20platform&target=AzureDevOps&category>All%20categories&sortBy=Relevance>

Visual Studio | Marketplace

Visual Studio Visual Studio Code **Azure DevOps** Subscriptions Build your own Publish extensions

power platform

Showing: All categories Hosted On: Any Price: Any Certification: Any Sort By: Relevance

128 Results

 Power Platform Build Tools Microsoft microsoft.com 36.5K Automate common build and deployment tasks related to Power Platform ★★★★★ FREE	 Power Platform Release Sayya Kar 200 Tasks for automating release into Dataverse/PowerApps ★★★★★ FREE	 :: buildThings :: Power cloudThing Wael Hamze 344 = buildThings = is a set of tasks which aim to allow a full hands-off deployment of... ★★★★★ FREE	 Power DevOps Tools Wael Hamze 16K Tasks for automating Build & Deployment of Dynamics 365 CE/CDS/PowerApps Solutions ★★★★★ FREE	 Power BI Actions Maik van der Gag 11.2K Build and Release Management tasks for Power BI. ★★★★★ FREE	 Open in Power BI Stanislaw Swierc 10.3K This extension opens Work Items and query results in Power BI Desktop ★★★★★ FREE
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Click on **Get it Free**

<https://marketplace.visualstudio.com/items?itemName=microsoft-lsvExpTools.PowerPlatform-BuildTools>

VisualStudio | Marketplace

Azure DevOps > Azure Pipelines > Power Platform Build Tools (2.0.49)

Power Platform Build Tools (2.0.49)
Microsoft [microsoft.com](#) | 36,506 installs | ★★★★★ (20) | Free

Automate common build and deployment tasks related to Power Platform

Get it free

Overview

Q & A

Rating & Review

Power Platform Build Tools

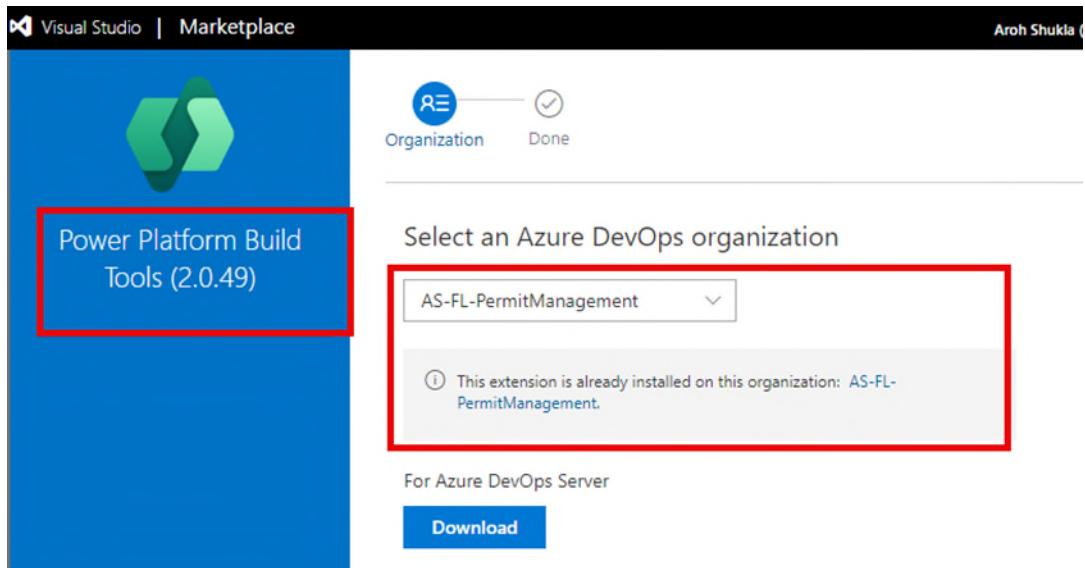
Overview

Use Power Platform Build Tools to automate common build and deployment tasks related to Power Platform. This includes synchronization of solution metadata (a.k.a. solutions) between development environments and source control, generating build artifacts, deploying to downstream environments, provisioning/de-provisioning of environments, and the ability to perform static analysis checks against your solution using the PowerApps checker service.

Learn more about the Build Tools [here](#).

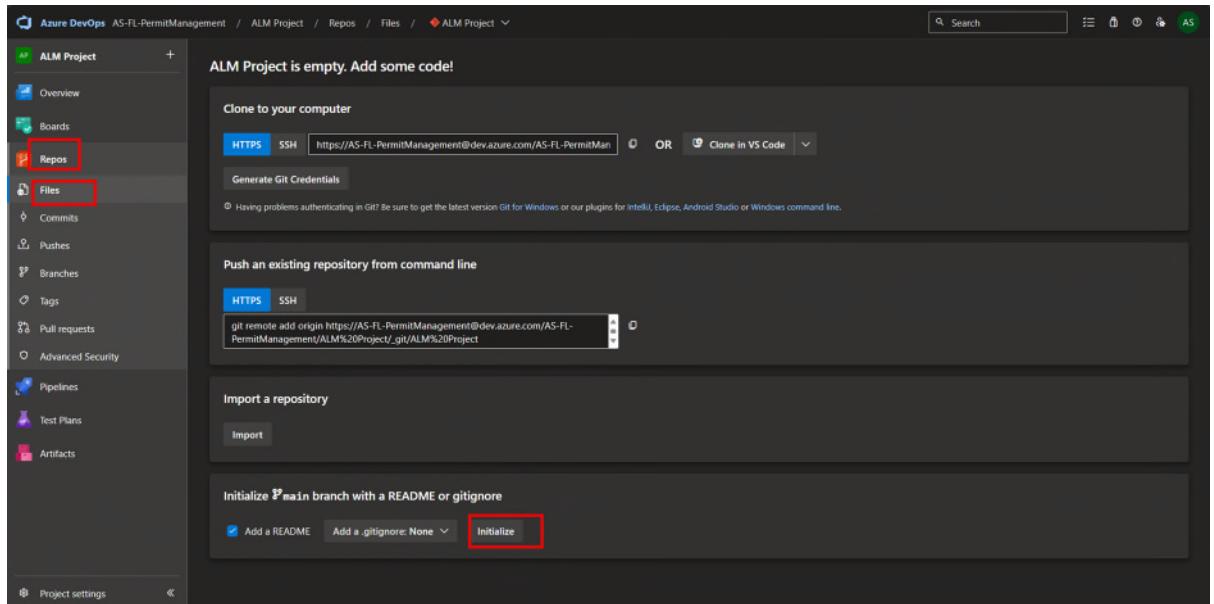
Agent job 1
Run on agent
 Power Platform Tool Installer Power Platform Tool Installer
 Power Platform Checker Power Platform Checker
 Power Platform Export Solution Power Platform Export Solution
 Power Platform Import Solution

I already have Power Platform Build tools already installed



Initialize Repo

- Under ALM Project Select
- Repos >> Files >> Initialize Repo



Main branch

- This would be core solution for your Power Platform Managed and Unmanaged solutions.

Azure DevOps interface showing the ALM Project repository. The left sidebar highlights the 'Files' section under 'Repos'. The main area shows the 'main' branch with a single file, 'README.md'. The file content includes sections like 'Introduction', 'Getting Started', 'Build and Test', and 'Contribute', each with TODO items. A red box highlights the 'Getting Started' section.

App Registration Source

Create a new App Registration instance

Microsoft Azure Portal dashboard. The left sidebar shows 'All resources' and highlights 'Microsoft Entra ID'. The main blade displays the 'Overview' for the 'arohmvp365' tenant, with sections for 'Preview features', 'Diagnose and solve problems', and 'Manage' (including 'Users', 'Groups', 'External Identities', etc.). Under 'Manage', the 'App registrations' option is highlighted with a red box.

The screenshot shows the Azure Active Directory Applications page. At the top, there are navigation links: 'Endpoints', 'Troubleshooting', 'Refresh', and 'Download'. Below these are tabs: 'All applications', 'Owned applications' (which is underlined), and 'Deleted applications'. A search bar with placeholder text 'Start typing a display name or application (client) ID to filter these results...' is present. Below the search bar, it says '5 applications found' and 'Display name ↑↓'. A specific application entry for 'Graph API Example' is shown, with a green 'GA' status badge.

Name: PowerPlatformALMService

The screenshot shows the 'Register an application' wizard in the Azure portal. On the left, a sidebar lists various Azure services: 'Create a resource', 'Home', 'Dashboard', 'All services', 'FAVORITES' (with 'Microsoft Defender for Cloud' selected), 'All resources', 'Microsoft Entra ID' (which is highlighted with a red box), 'Microsoft Defender for Cloud', 'Azure AI services', 'Resource groups', 'App Services', 'Function App', 'SQL databases', 'Azure Cosmos DB', 'Virtual machines', 'Load balancers', 'Storage accounts', 'Virtual networks', 'Monitor', 'Advisor', 'Cost Management + Billing', and 'Help + support'. The main area is titled 'Register an application'. It has fields for 'Name' (set to 'PowerPlatformALMService'), 'Supported account types' (with 'Accounts in this organizational directory only (arohmvp365 only - Single tenant)' selected, which is highlighted with a red box), 'Redirect URI (optional)' (with a dropdown menu 'Select a platform' and a text input 'e.g. https://example.com/auth'), and a note about enterprise applications. At the bottom, there's a link 'By proceeding, you agree to the Microsoft Platform Policies' and a large blue 'Register' button.

Overview - Copy the Application (client) ID, Object ID, Directory (tenant) ID

Application (client) ID	abb5bfe8-0854-47ce-8568-f0d8bf95204a
Object ID:	880c798a-e731-4fd8-bfa3-3ad00af1e02
Directory (tenant) ID	<<TENANT ID>>

The screenshot shows the Azure portal's application registration page for 'PowerPlatformALMService'. The left sidebar contains navigation links like Overview, Quickstart, Integration assistant, Manage, Authentication, Certificates & secrets, Token configuration, API permissions, Expose an API, App roles, Owners, Roles and administrators, Manifest, Support + Troubleshooting, and Troubleshooting. The main content area has tabs for Overview, Endpoints, and Preview features. Under the Overview tab, there's a section for 'Essentials' with fields for Display name (PowerPlatformALMService), Application (client) ID (abb5bfe8-0854-47ce-8568-f0d8bf95204a), Object ID (880c798a-e731-4fd8-bfa3-3ad00af1e02), and Directory (tenant) ID (<<TENANT ID>>). A note at the bottom states: 'Starting June 30th, 2020 we will no longer add any new features to Azure Active Directory Authentication Library (ADAL) and Azure Active Directory Graph. We will continue to provide technical support and longer provide feature updates. Applications will need to be upgraded to Microsoft Authentication Library (MSAL) and Microsoft Graph.' Below this is a 'Get Started' button and a 'Documentation' link. A large heading 'Build your application with the Microsoft identity platform' is centered, with a note below it: 'The Microsoft identity platform is an authentication service, open-source libraries, and application management tools. You can create modern, standards-based authentication solutions, access and protect APIs, and add sign-in for your users and customers.' There are also 'Learn more' links for both notes.

API Permissions

- Add a permission
- Microsoft APIs
 - Dynamics CRM

The screenshot shows the Azure portal's API permissions page for 'PowerPlatformALMService'. The left sidebar includes links for Overview, Quickstart, Integration assistant, Manage, Authentication, Certificates & secrets, Token configuration, API permissions (which is selected), Expose an API, App roles, Owners, Roles and administrators, Manifest, Support + Troubleshooting, and Troubleshooting. The main area shows 'Configured permissions' with a table for 'Microsoft Graph (1)' permission (User.Read, Delegated, Sign in and read user profile). A note says: 'The "Admin consent required" column shows the default value for an organization. However, users will be used.' A 'Select an API' dropdown is shown with 'Microsoft API' selected. To the right, a 'Request API permissions' section lists various Microsoft services: Microsoft Graph, Azure Communication Services, Azure Cosmos DB, Azure Data Explorer, Azure DevOps, Azure Key Vault, Azure Rights Management Services, Azure Service Management, Azure Storage, Data Export Service for Microsoft Dynamics 365, Dynamics 365 Business Central, and Dynamics CRM. The 'Dynamics CRM' entry is highlighted with a red box and a red number '3' above it.

Azure DevOps

The screenshot shows the Azure DevOps API permissions configuration interface. It is divided into two main sections: 'PowerPlatformALMService | API permissions' on the left and 'Request API permissions' on the right.

Left Panel (PowerPlatformALMService | API permissions):

- API permissions:** Selected in the sidebar.
- Configured permissions:** Shows a table of permissions:

API / Permissions name	Type	Description
Dynamics CRM (1)	Delegated	Access Common Data Service as a user
Microsoft Graph (1)	Delegated	User.Read
- Add a permission:** A button to add new permissions.

Right Panel (Request API permissions):

- Select an API:** A dropdown menu with options: Microsoft APIs (selected), APIs my organization uses, and My APIs.
- Microsoft APIs:** A section showing various Microsoft APIs:

Microsoft Graph Take advantage of the tremendous amount of data in Office 365, Enterprise Mobility + Security, and Windows 10. Access Microsoft Entra ID, Intune, Outlook/Exchange, OneDrive, OneNote, SharePoint, Planner, and more through a single endpoint.	Azure Communication Services Rich communication experiences with the same secure CI/CD platform used by Microsoft Teams.	Azure Cosmos DB Fast NoSQL database with open APIs for any scale.
Azure DevOps Integrate with Azure DevOps and Azure DevOps server.	Azure Key Vault Manage your key vaults as well as the keys, secrets, and certificates within your Key Vaults.	Azure Data Explorer Perform ad-hoc queries on terabytes of data to build near-real-time and complex analytics solutions.
Azure Service Management Programmatic access to much of the functionality available through the Azure portal.	Azure Storage Secure, massively scalable object and data lake storage for unstructured and semi-structured data.	Data Export Service for Microsoft Dynamics 365 Export data from Microsoft Dynamics CRM organization to an external destination.
- Delegated permissions:** A section asking if the application needs to access the API as the signed-in user.

Your application needs to access the API as the signed-in user.
- Select permissions:** A table of permissions:

Permission	Admin consent required
user_impersonation	No
- Add permissions:** A button at the bottom left of the permissions table.

Dashboard > arohmvp365 | App registrations > PowerPlatformALMService

PowerPlatformALMService | API permissions

Grant admin consent confirmation.

Do you want to grant consent for the requested permissions for all accounts in arohmvp365? This will update any existing admin consent records this application already has to match what is listed below.

Yes **No**

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

Add a permission **Grant admin consent for arohmvp365**

API / Permissions name	Type	Description	Admin consent req...	Status
<input checked="" type="checkbox"/> Azure DevOps (1)	Delegated	Have full access to Visual Studio Team Services REST APIs	No	...
user_impersonation	Delegated		No	...

Request API permissions

All APIs

Dynamics CRM
https://admin.services.crm.dynamics.com/ [Docs](#)

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

Application permissions
Your application runs as a background service or daemon as a signed-in user.

Select permissions

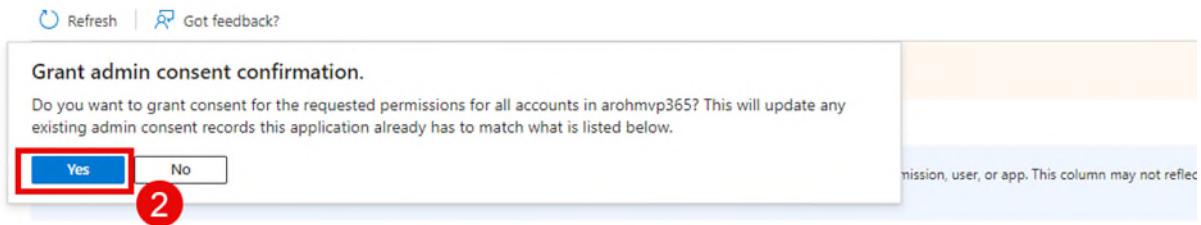
Start typing a permission to filter these results

The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your organization, or in organizations where this app will be used.

Permission	Admin consent req...
Permissions (1)	
user_impersonation ⓘ Access Common Data Service as organization users	No

Add permissions **Discard**

Grant admin consent confirmation



Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission Grant admin consent for arohmvp365

1

API / Permissions name	Type	Description	Admin consent requ...	Status
✓ Dynamics CRM (1)				...
user_impersonation	Delegated	Access Common Data Service as organization users	No	...
✓ Microsoft Graph (1)				...
User.Read	Delegated	Sign in and read user profile	No	...

To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try [Enterprise applications](#).

The screenshot shows the same "Configured permissions" table as the previous screenshot, but now the "Status" column for both rows has been updated. The first row (Dynamics CRM user_impersonation) now shows "Granted for arohmvp365" with a green checkmark. The second row (Microsoft Graph User.Read) also shows "Granted for arohmvp365" with a green checkmark. Both rows now have a red box around them, highlighting the updated status.

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission Grant admin consent for arohmvp365

API / Permissions name	Type	Description	Admin consent requ...	Status
✓ Dynamics CRM (1)				...
user_impersonation	Delegated	Access Common Data Service as organization users	No	Granted for arohmvp365
✓ Microsoft Graph (1)				...
User.Read	Delegated	Sign in and read user profile	No	Granted for arohmvp365

To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try [Enterprise applications](#).

Dashboard > arohmvp365 | App registrations > PowerPlatformALMServiceDestination

PowerPlatformALMServiceDestination | API permissions

Grant admin consent confirmation.

Do you want to grant consent for the requested permissions for all accounts in arohmvp365? This will update any existing admin consent records this application already has to match what is listed below.

Yes **No**

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

Add a permission **Grant admin consent for arohmvp365**

API / Permissions name	Type	Description	Admin consent requ...	Status
user_impersonation	Delegated	Access Common Data Service as organization users	1	No
User.Read	Delegated	Sign in and read user profile		No

To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try [Enterprise applications](#).

Certificates & secrets

- Recommended to set expiring for 6 months
- Can set for 24 months for demo
- Best way to use Azure Key Vault.

Dashboard > PowerPlatformALMService

PowerPlatformALMService | Certificates & secrets

Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Certificates (0) **Client secrets (0)** **Federated credentials (0)**

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

New client secret

Description	Expires	Value	Secret ID
-------------	---------	-------	-----------

No client secrets have been created for this application.

Add a client secret

Description: PowerPlatformALMService
Expires: 730 days (24 months)

Add **Cancel**

Dashboard > PowerPlatformALMService

PowerPlatformALMService | Certificates & secrets

Search Got feedback?

Overview Quickstart Integration assistant

Got a second to give us some feedback? →

Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

Certificates (0) Client secrets (1) Federated credentials (0)

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

New client secret

Description	Expires	Value	Secret ID
PowerPlatformALMService	12/25/2025	8gN*****	75eeccb95-5d00-40df-a7f7-d5f7fc33feb5

Dashboard > arohmvp365 | App registrations > PowerPlatformALMService

PowerPlatformALMService | Certificates & secrets

Search Got feedback?

Overview Quickstart Integration assistant

Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

Certificates (0) Client secrets (1) Federated credentials (0)

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

New client secret

Description	Expires	Value	Secret ID
PowerPlatformALMService	12/25/2025	8gN*****	75eeccb95-5d00-40df-a7f7-d5f7fc33feb5

Client Secret (Value) :	8gN*****
Secret ID	75eeccb95-5d00-40df-a7f7-d5f7fc33feb5

Application User – Power Platform

The screenshot shows the Power Platform admin center interface. The left sidebar has a red box around the 'Environments' option. The top navigation bar has a red box around the 'Settings' icon. A green status bar at the top right says 'Environment details were edited at 12/26/2023, 12:20:09 AM'. The main content area shows 'Environments > DEV ALM' with a 'Details' section containing environment settings:

Setting	Value	Setting	Value
Environment URL	devalm.crm5.dynamics.com	State	Ready
Refresh cadence	Frequent	Type	Sandbox
Organization ID	d8baef4af-5a9e-ee11-a564-002248ed648a	Environment ID	cedbf2d2-4c51-e580-a40e-551425cbd29b
Region	Asia	Security group	Not assigned

Environments > DEV ALM > Settings

The screenshot shows the 'Settings' page for the DEV ALM environment. The left sidebar has a red box around the 'Application users' option under the 'Users + permissions' section. The sidebar also includes sections for Product, Business, and Audit and logs.

- ✓ **Product**
Behavior, Collaboration, Features, Languages
- ✓ **Business**
Business closures, Calendar, Connection roles, Currencies
- ^ **Users + permissions**
 - Application users**
 - Business units (Preview)
 - Column security profiles
 - Hierarchy security
 - License to role mapping
 - Mobile configuration
 - Plug-ins
 - Positions
 - Security roles
 - Teams
 - Users
 - ✓ **Audit and logs**

Power Platform admin center

+ New app user

Environments > DEV ALM > Settings > Application users

Manage the non-interactive users in this environment so your apps can access Dataverse data. [Learn more](#)

Name	App ID	State
Microsoft Microsoft Flow CDS Integration Service	0eda3b13-ddc9-4c25-b7dd-2f6ea073d6b7	Active
Power Apps Checker Application	c9299480-c13a-49db-a7ae-cdfef54fe0313	Active

Select the newly create App Service

New app user

① Environments > DEV ALM > Settings > Application users

Manage the non-interactive users in this environment so your apps can access Dataverse data. [Learn more](#)

Name	App ID	State	App type	Security roles
Microsoft Microsoft Flow CDS Integration Service	0eda3b13-ddc9-4c25-b7dd-2f6ea073d6b7	Active	Custom	2
Power Apps Checker Application	c9299480-c13a-49db-a7ae-cdfef54fe0313	Active	Custom	3

② Search by App Name or App ID

There could be multiple reasons why your app may not show up in the list. [Learn more](#)

Name ↑	App ID
Adobe Document Generation	6e04cc0-2a09-4...
Cof Audit Log	5a10db9f-8094...
Graph API Example	c284a370-3df1-4...
Inspection Router	1ab25fe6-5e84...
Microsoft CRM Portals	a7799226-b2a9...
Portals-06f3712f-0bda-4a57-a1ff-2a5d2829572f	dee2fc3-df7f-4...
Portals-5992e0fc-cd82-4090-9fe1-644505ce364f	3d29ff66-2bc2-4...
③ PowerPlatformALMService	abb5bfe8-0854...
PowerPlatformCustomConnectors	50a2c39d-c4bd...
qnamaker12345-bot	4eb50c1a-20bd...
Service Principal Demo	e2c042ab-9185...
travelbot123-bot	2ceef70a5-7ad4...

④ Add Cancel

Select the business unit.

Create a new app user

X

App *

PowerPlatformALMService



Business unit *

org56561f17



Security roles(0)



Under Security role, create a **custom security role with least privileges**, but for demo, use System Admin role

[←](#) **Add security roles**

PowerPlatformALMService

Business unit: *
org56561f17

Role ↑

AIB Roles

AIB SML Roles

App Deployment Orchestration Role

App Opener

Approvals Administrator

Approvals User

Async ingestion

Basic User

BizQAApp

Bot Author

Bot Contributor

Bot Transcript Viewer

Bulk Archival Role

BusinessApplicationPlatformRole

Cards Basic Role

Cards Role

Synapse Link Service Access

Sync Permissions

System Administrator

System Customizer

Teams Chat Sync App Access

Tour Author

Tour Consumer

Save **Cancel**

Save **Cancel**

Create a new app user

App *

PowerPlatformALMService

Business unit *

org56561f17

Security roles(1)

System Administrator

Power Platform admin center

Home

Environments

Advisor (Preview)

Analytics

Billing

Settings

Resources

Help + support

① Details  Edit security roles  Deactivate

② '# PowerPlatformALMService' has been successfully added to this environment.

Environments > DEV ALM > Settings > Application users

Manage the non-interactive users in this environment so your apps can access Dataverse data. [Learn more](#)

Name	App ID	State	App type	Security roles
# PowerPlatformALMService	abb5bf8e-0854-47ce-8568-f0d8bf95204a	Active	Custom	1
Microsoft Microsoft Flow CDS Integration Service	0eda3b13-ddc9-4c25-b7dd-2f6ea073d6b7	Active	Custom	2
Power Apps Checker Application	c9299480-c13a-49db-a7ae-cdf5fe0313	Active	Custom	3

App Registration Destination-

Create a new App Registration instance

The screenshot shows the Microsoft Azure portal interface for creating a new App Registration instance. The steps are indicated by red circles and numbers:

- 1**: Click on the **Microsoft Entra ID** icon in the left sidebar.
- 2**: Click on the **App registrations** link under the **Manage** section of the Microsoft Entra ID blade.
- 3**: Click on the **+ New registration** button at the top left of the main content area.

The main content area displays a list of existing app registrations, each with a color-coded icon and a unique name. The list includes:

- AD: Adobe Document Generation
- CA: CoE Audit Log
- GA: Graph API Example
- IR: Inspection Router
- MC: Microsoft CRM Portals
- PO: Portals-06f3712f-0bda-4a57-a1f6-2a5d2829572f
- PO: Portals-5992e0fc-cd82-4090-9fe1-644505ce364f
- PO: PowerPlatformALMService
- PO: PowerPlatformCustomConnector
- QW: qnamaker12345-bot
- SP: Service Principal Demo
- TR: travelbot123-bot

Register an application

* Name

The user-facing display name for this application (this can be changed later).



Supported account types

Who can use this application or access this API?

- Accounts in this organizational directory only (arohmvp365 only - Single tenant)
- Accounts in any organizational directory (Any Microsoft Entra ID tenant - Multitenant)
- Accounts in any organizational directory (Any Microsoft Entra ID tenant - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)
- Personal Microsoft accounts only

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Select a platform e.g. <https://example.com/auth>

Register an app you're working on here. Integrate gallery apps and other apps from outside your organization by adding from [Enterprise applications](#).

By proceeding, you agree to the Microsoft Platform Policies [↗](#)

Overview - Copy the Application (client) ID, Object ID, Directory (tenant) ID

Application (client) ID	e3288672-f7ad-4af9-b9b2-a443ac7bc0de
Object ID:	2ab41f1b-c616-40f5-b257-fe32d9ee9c08
Directory (tenant) ID	<<TENANT ID>>
Application name	PowerPlatformALMServiceDestination

The screenshot shows the 'PowerPlatformALMServiceDestination' app registration in the Azure portal. The 'Overview' tab is selected. The 'Display name' field contains 'PowerPlatformALMServiceDestination' and has a 'Copied' message above it. The 'Client credentials' section shows '0 certificate, 1 secret'. The 'Manage' sidebar includes options like 'Branding & properties', 'Authentication', 'Certificates & secrets', 'Token configuration', 'API permissions', 'Expose an API', 'App roles', and 'Owners'.

API Permissions

Dynamics CRM

The screenshot shows the 'PowerPlatformALMServiceDestination' API permissions page. The 'API permissions' section is selected in the sidebar. Step 1 points to the '+ Add a permission' button. Step 2 points to the 'Delegated permissions' section. Step 3 points to the 'user_impersonation' permission under 'Permissions (1)'. Step 4 points to the 'Add permissions' button at the bottom right.

Certificates and Secrets

- Recommended to set expiring for 6 months
- Can set for 24 months for demo
- Best way to use Azure Key Vault.

The screenshot shows the Azure portal interface for managing app registrations. On the left, the navigation pane is visible with various options like Overview, Quickstart, Integration assistant, Manage (Brand & properties, Authentication, Certificates & secrets, Token configuration, API permissions, Expose an API, App roles, Owners, Roles and administrators, Manifest), Support + Troubleshooting, Troubleshooting, and New support request. A red box highlights the 'Certificates & secrets' option under 'Manage'. The main content area shows the 'PowerPlatformALMServiceDestination | Certificates & secrets' page. A red box highlights the 'Client secrets (0)' tab. Below it, a red box highlights the '+ New client secret' button. The top right corner shows a modal titled 'Add a client secret' with fields for 'Description' (PowerPlatformALMServiceDestination) and 'Expires' (730 days (24 months)). A red box highlights the 'Add' button at the bottom right of the modal.

Client Secret (Value) :	MJ5*****
Secret ID	c37002fd-99d4-4dff-9f1c-207c80eceb35

Application User – Power Platform

The screenshot shows the Power Platform admin center interface. The left sidebar includes options: Home, Environments (highlighted with a red box and circled 1), Advisor (Preview), Analytics, Billing, Settings, Resources, Help + support, and Data integration. The main content area shows 'Environments > Production ALM' (highlighted with a red box and circled 2). A red box highlights the 'Settings' button in the top navigation bar. The 'Details' section displays environment information: Environment URL (prodalm.crm5.dynamics.com, highlighted with a red box and circled 3), Refresh cadence (Frequent), Organization ID (0bd125fd-ce9d-ee11-a564-000d3a80bb89), State (Ready), Type (Sandbox), Environment ID (52e5b111-e868-e101-9328-b79fc2393880), Region (Asia), and Security group (Not assigned). A red box highlights the 'Convert to production' button in the top navigation bar. A green status bar at the bottom indicates 'Environment details were edited at 12/26/2023, 2:48:20'.

Power Platform admin center

Environments > Production ALM > **Settings**

Search for a setting

- Advisor (Preview)
- Analytics
- Billing
- Settings**
- Resources
- Help + support
- Data integration
- Data (preview)

- Product
- Business
- Users + permissions**
- Application users**

Business units (Preview)
Column security profiles
Hierarchy security
License to role mapping

+ New app user

Environments > Production ALM > Settings > **Application users**

Manage the non-interactive users in this environment so your apps can access Dataverse data. [Learn more](#)

Name	App ID	State	App type
Power Apps Checker Application	c9299480-c13a-49db-a7ae-cdfe54fe0313	Active	Custom

+ New app user

Environments > Production ALM > Settings > **Application users**

Manage the non-interactive users in this environment so your apps can access Dataverse data. [Learn more](#)

Name	App ID	State	App type	Security roles
Power Apps Checker Application	c9299480-c13a-49db-a7ae-cdfe54fe0313	Active	Custom	3

App * ②

Business unit * ①

org80c31790

Security roles(0)

[←](#) Add an app from Microsoft Entra ID

X

 Search by App Name or App ID

There could be multiple reasons why your app may not show up in the list.
[Learn more](#)

Name ↑	App ID
Adobe Document Generation	6e0fdcc0-2d09-4...
CoE Audit Log	5a10db9f-8094...
Graph API Example	c284a370-3dfd-4...
Inspection Router	1ab25fa6-45e8-4...
<input checked="" type="radio"/> Microsoft CRM Portals	a7799226-b2a9...
Portals-06f3712f-0bda-4a57-a1f6-2a5d2829572f	dee2f6c5-d6f7-4...
Portals-5992e0fc-cd82-4090-9fe1-644505ce364f	5d29ff66-2bc2-4...
PowerPlatformALMService	abb5bfe8-0854...
<input checked="" type="checkbox"/> PowerPlatformALMServiceDestination	e3288672-f7ad-4...
PowerPlatformCustomConnector	50a2c39d-c4bd...
qnamaker12345-bot	4eb50c1a-20bd...
Service Principal Demo	e2c842a8-9185...
travelbot123-bot	2cee70a5-7ad4...

1

2

Add

Cancel

Create a new app user

X

App *

PowerPlatformALMServiceDestination



Business unit *

org80c31790



Security roles(0)



Sync Permissions



System Administrator

System Customizer

Teams Chat Sync App Access

Tour Author

Tour Consumer

Save

Cancel

Create a new app user

X

App *

PowerPlatformALMServiceDestination

Business unit *

org80c31790

Security roles(1)

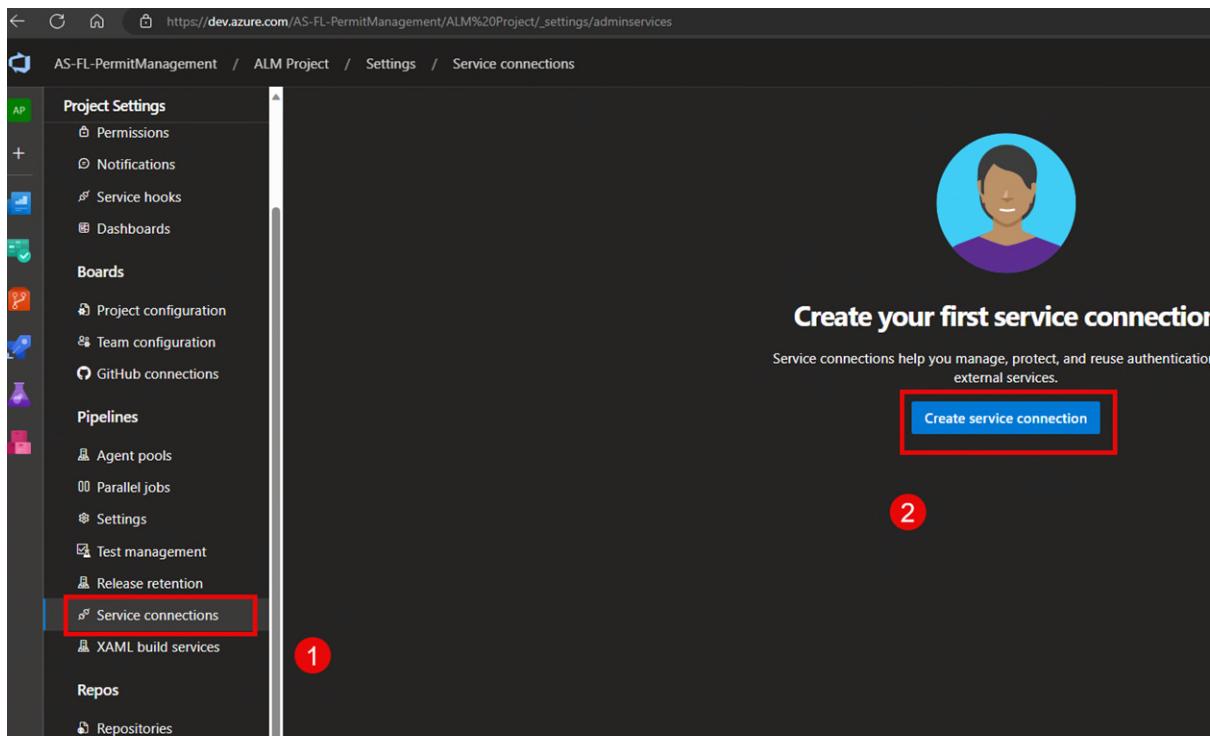
System Administrator

Create **Cancel**

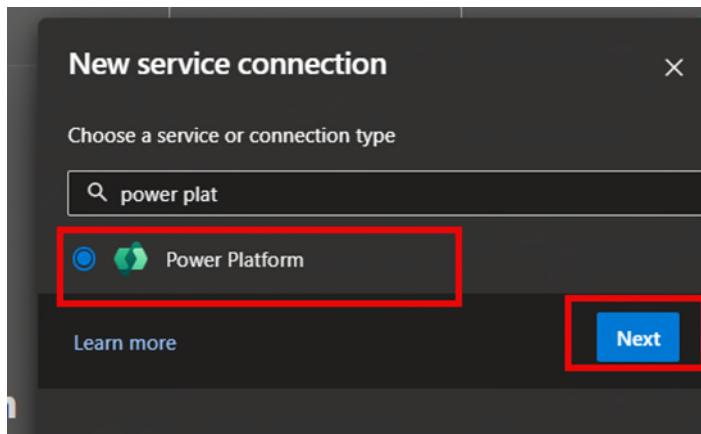
Environments > Production ALM > Settings > Application users						
# PowerPlatformALMServiceDestination' has been successfully added to this environment.						
Name	App ID	State	App type	Security roles	Business unit	
# PowerPlatformALMServiceDestination	e3288672-f7ad-4af9-b9b2-a443ac7bc0de	Active	Custom	1	org80c31790	
Power Apps Checker Application	c9299480-c13a-49db-a7ae-cdf54fe0313	Active	Custom	3	org80c31790	

Azure DevOps

Create a new service connection – Source



The screenshot shows the 'Service connections' page in the Azure DevOps interface. On the left, there's a sidebar with various project settings like Permissions, Notifications, Service hooks, Dashboards, Boards, Project configuration, Team configuration, GitHub connections, Pipelines, Agent pools, Parallel jobs, Settings, Test management, Release retention, Service connections (which is highlighted with a red box and labeled '1'), XAML build services, Repositories, and Repos. The main area has a user profile picture and the heading 'Create your first service connection'. Below it, a sub-instruction says 'Service connections help you manage, protect, and reuse authentication for external services.' A prominent blue button labeled 'Create service connection' is at the bottom right of this section, also enclosed in a red box and labeled '2'.



This is a modal dialog titled 'New service connection'. It asks 'Choose a service or connection type' and features a search bar with the text 'power plat'. Below the search bar, a list item 'Power Platform' is selected, indicated by a blue circular icon with a white dot and a green gear icon. This entire row is highlighted with a red box. To the right of the list is a large blue 'Next' button, which is also highlighted with a red box and labeled '2'.

Copy Environment URL - Dev ALM

Power Platform admin center

☰ Home Environments Advisor (Preview) Analytics Billing Settings Resources

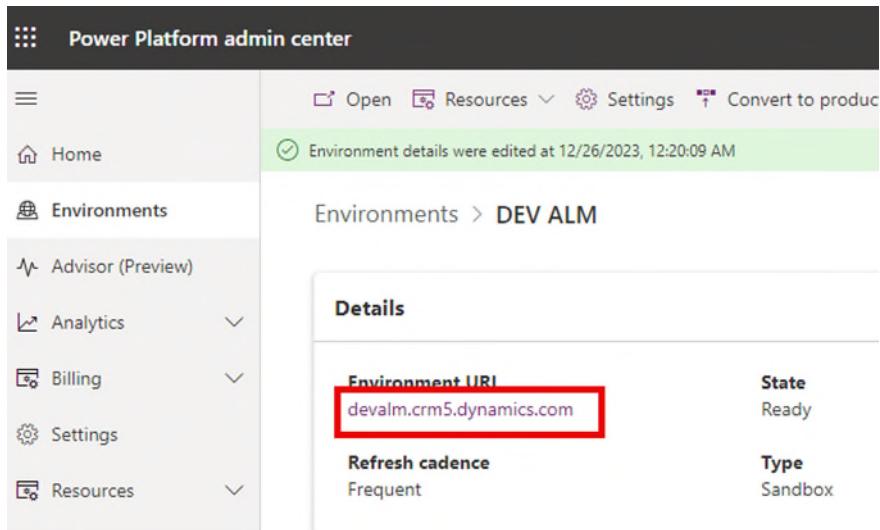
Open Resources Settings Convert to product

Environment details were edited at 12/26/2023, 12:20:09 AM

Environments > DEV ALM

Details

Environment URI devalm.crm5.dynamics.com	State Ready
Refresh cadence Frequent	Type Sandbox



New Power Platform service connection

Authentication method

Application Id and client secret
 Azure Managed Identity

Server URL

Tenant Id

Tenant Id (also called directory Id in Azure portal) to authenticate to. Refer to <https://aka.ms/buildtools-spn> for a script that shows Tenant ID and configures an Application ID and associated Client Secret. The application user must also be [created in CDS](#)

Application Id

Azure Application Id to authenticate with.

Client secret of Application Id

Client secret of the Service Principal associated to above Application Id; used to prove identity.

Details

Service connection name

Description (optional)

Security

New Power Platform service connection X

Authentication method

Application Id and client secret
 Azure Managed Identity

Server URL

<https://dealm.crm5.dynamics.com/>

Authentication

Tenant Id

1fb021

Tenant Id (also called directory Id in Azure portal) to authenticate to. Refer to <https://aka.ms/buildtools-spn> for a script that shows Tenant ID and configures an Application ID and associated Client Secret. The application user must also be created in CDS.

Edit service connection

Server URL
https://dealm.crm5.dynamics.com/

Authentication

Tenant Id
[REDACTED]
Tenant Id (also called directory Id in Azure portal) to authenticate to. Refer to <https://aka.ms/buildtools-spn> for a script that shows Tenant ID and configures an Application ID and associated Client Secret. The application user must also be [created in CDS](#)

Application Id
abb5bfe8-0854-47ce-8568-f0d8bf95204a
Azure Application Id to authenticate with.

Client secret of Application Id
8gN8
Client secret of the Service Principal associated to above Application Id; used to prove identity.

Details

Service connection name
PowerPlatformALMService

Description (optional)
[REDACTED]

Security
 Grant access permission to all pipelines

Learn more Cancel Save

NOTE: The Client Secret is the same you copied during the App Registration step

Dashboard > arohmvp365 | App registrations > PowerPlatformALMService

PowerPlatformALMService | Certificates & secrets

Search Got feedback?

Overview Quickstart Integration assistant

Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using an HTTP scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

Certificates (0) **Client secrets (1)** **Federated credentials (0)**

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

New client secret

Description Expires Value Secret ID

Description	Expires	Value	Secret ID
PowerPlatformALMService	12/25/2025	8gN*****	75eeccb95-5d00-40df-a7f7-d5f7fc33feb5

1. Certificates & secrets
2. Client secret value
3. Value

AS-FL-PermitManagement / ALM Project / Settings / Service connections

Project Settings

- Permissions
- Notifications
- Service hooks
- Dashboards

Boards

- Project configuration
- Team configuration
- GitHub connections

Pipelines

- Agent pools
- Parallel jobs
- Settings
- Test management
- Release retention

Service connections

Filter by keywords

PowerPlatformALMService

Create a new service connection – Destination.

The screenshot shows the 'Service connections' page in the ALM Project settings. At the top right, there is a red box around the 'New service connection' button. Below it, a table lists one service connection: 'PowerPlatformALMServiceSource'. The table includes columns for 'Name', 'Type', 'Status', and 'Last used'. A 'Created by' dropdown and a 'X' close button are also visible.

The screenshot shows the 'New service connection' dialog. The title is 'New service connection'. Below it, a search bar contains 'power'. A list item 'Power Platform' is highlighted with a red box. At the bottom right is a blue 'Next' button, also highlighted with a red box.

Copy Environment URL - Production ALM

The screenshot shows the 'Power Platform admin center' interface. The left sidebar has sections like 'Home', 'Environments', 'Analytics', 'Billing', 'Settings', 'Resources', 'Help + support', and 'Data integration'. The main area shows 'Environment details were edited at 12/26/2023, 2:48:20 PM'. Under 'Environments > Production ALM', there is a 'Details' section with the following table:

Environment URL	State
prodalm.crm5.dynamics.com	Ready

Other details shown include Refresh cadence (Frequent), Type (Sandbox), Organization ID (0bd125fd-ce9d-ee11-a564-000d3a80bb89), and Environment ID (52e5b111-e868-e101-9328-b79fc2393880).

New Power Platform service connection

Server URL
 https://prodalm.crm5.dynamics.com/

Tenant Id

Tenant Id (also called directory Id in Azure portal) to authenticate to. Refer to <https://aka.ms/buildtools-spn> for a script that shows Tenant ID and configures an Application ID and associated Client Secret. The application user must also be [created in CDS](#).

Application Id

Azure Application Id to authenticate with.

Client secret of Application Id

Client secret of the Service Principal associated to above Application Id; used to prove identity.

Details

Service connection name
 PowerPlatformALMServiceDesination

Description (optional)

Security

Grant access permission to all pipelines

[Learn more](#) [Troubleshoot](#) [Back](#) Save

Set Security

The screenshot shows the 'Security' tab for a repository named 'All Repositories'. The left sidebar has 'Repositories' highlighted with a red box and the number 1. Step 2 highlights the 'ALM Project Build Service (AS-FL-PermitManagement)' user entry. Step 3 highlights the 'Contribute' permission row for this service account. Step 4 highlights the 'Allow' dropdown menu for the 'Create branch' permission.

Create Pipelines

- Select the project we have created earlier i.e. ALM Project
- Select Pipeline
- Create new pipeline

The screenshot shows the 'Pipelines' section of the Azure DevOps interface. The left sidebar has 'Pipelines' highlighted with a red box and the number 1. Step 2 highlights the 'Pipelines' link under the Pipelines heading. Step 3 highlights the 'Create Pipeline' button at the bottom right of the main panel.

- Select the classic editor

ALM Project

Connect Select Configure Review

New pipeline

Where is your code?

Azure Repos Git (YAML)
Free private Git repositories, pull requests, and code search

Bitbucket Cloud (YAML)
Hosted by Atlassian

Github (YAML)
Home to the world's largest community of developers

Github Enterprise Server (YAML)
The self-hosted version of GitHub Enterprise

Other Git
Any generic Git repository

Subversion
Centralized version control by Apache

Use the classic editor to create a pipeline without YAML.

Select **Azure Repos Git** and keep all other options as default.

Select a source

Azure Repos Git

GitHub

Github Enterprise Server

Subversion

Bitbucket Cloud

Other Git

Team project

ALM Project

Repository

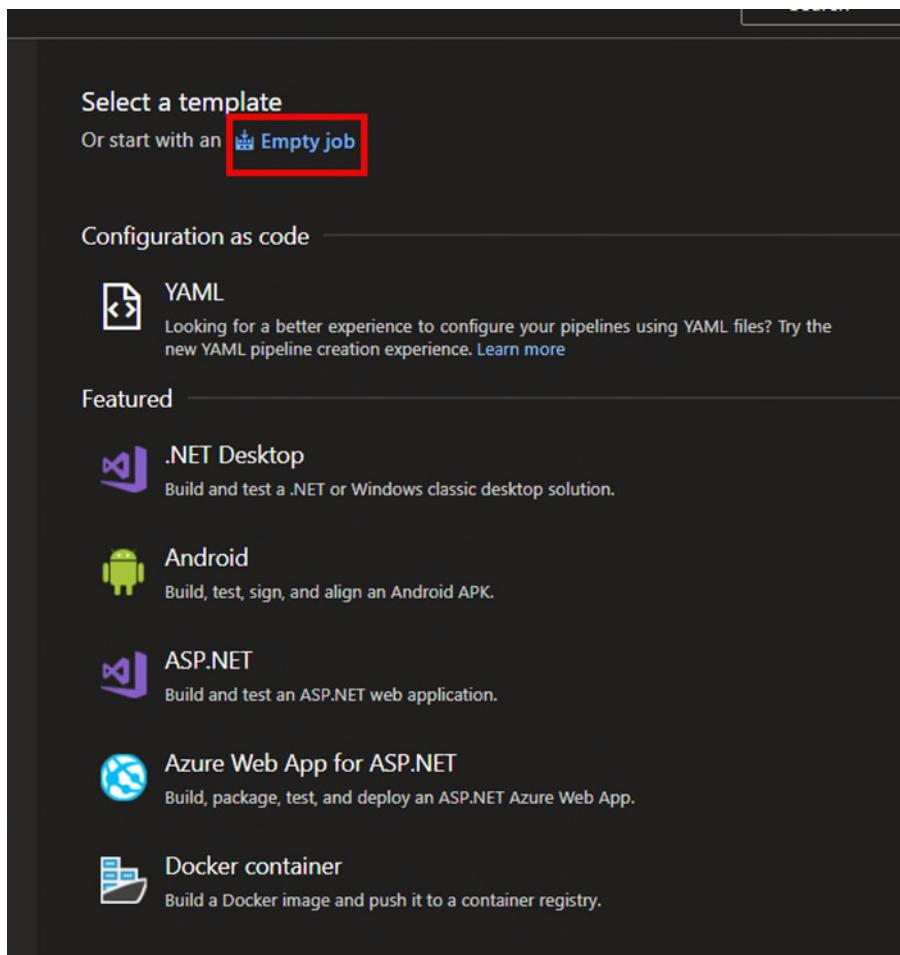
ALM Project

Default branch for manual and scheduled builds

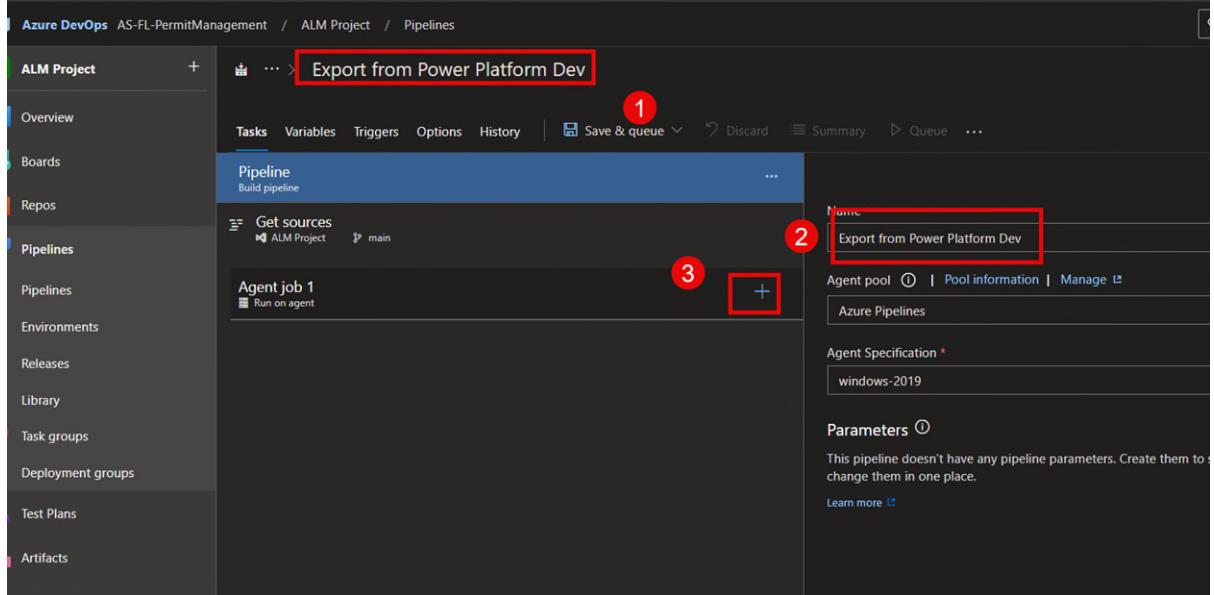
main

Continue

- Select **Empty Job**

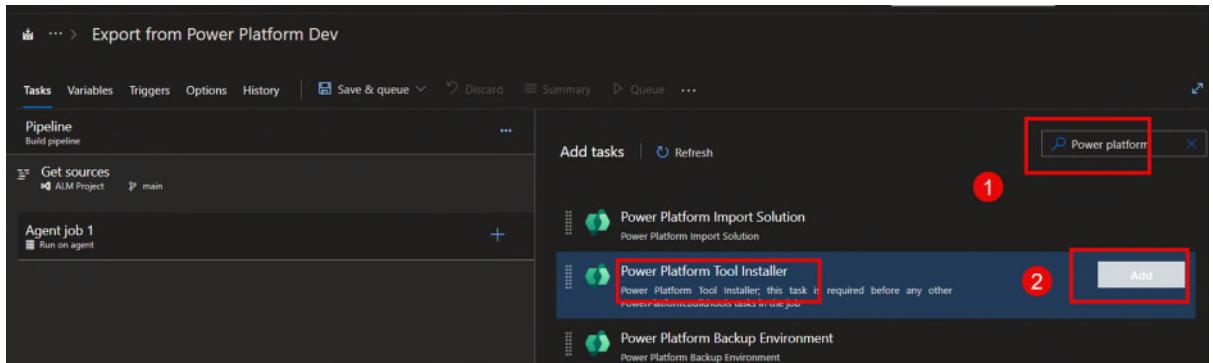


- Rename the Job (for e.g. Export from Power Platform Dev) and select on + icon



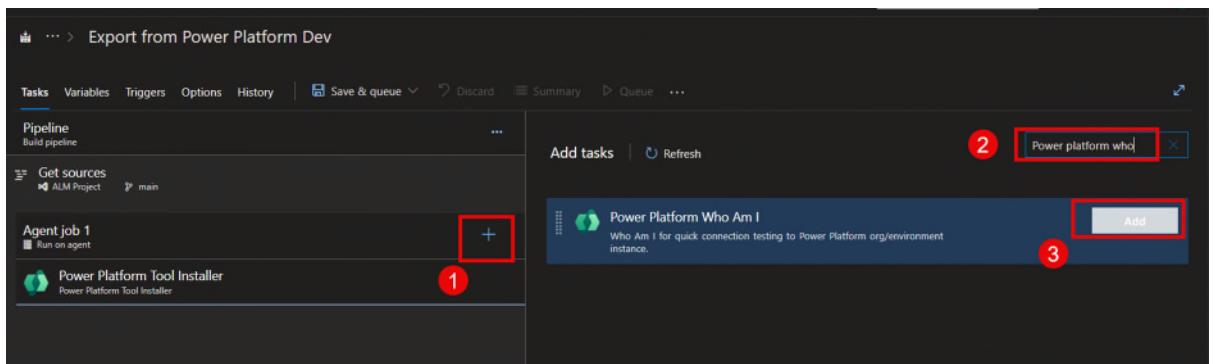
1. *Power Platform Tool Installer*

- At the right pane, search for Power Platform, select **Power Platform Tool Installer** and click on Add

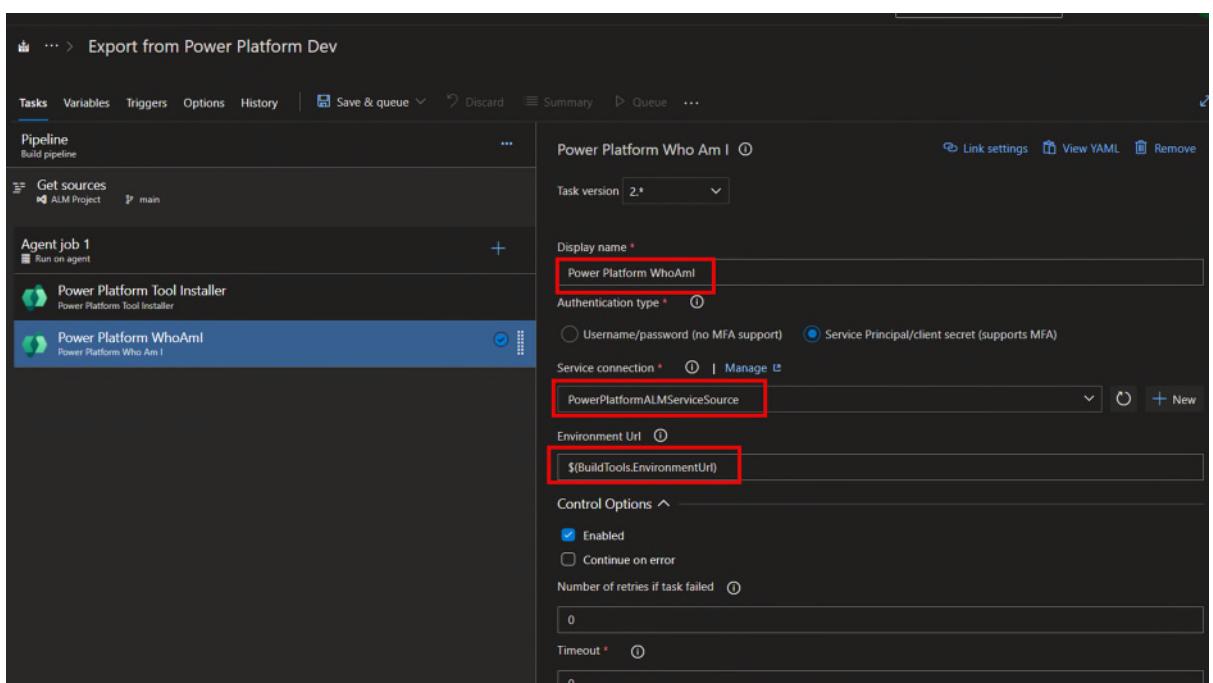


2. Power Platform Who Am I

- At the right pane, search for Power Platform Who Am I, select **Power Platform Who am I** and click on Add

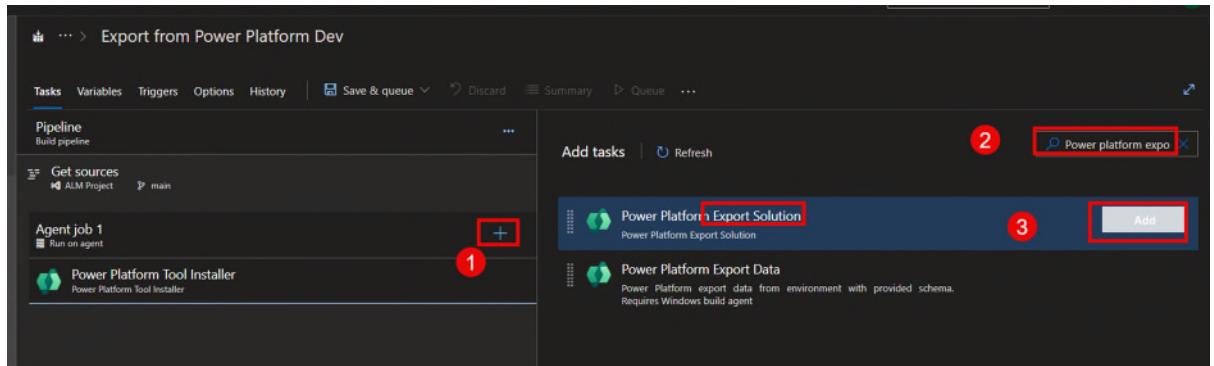


- Provide a display name, service connection and environment Url

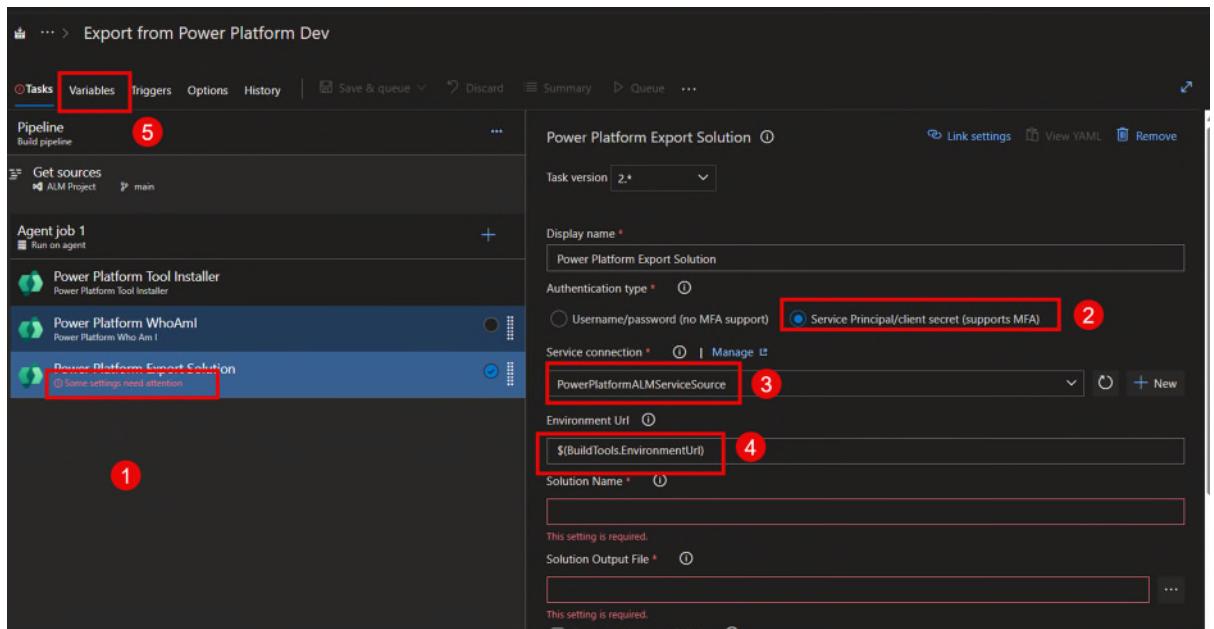


3. Power Platform Export Solution

- At the right pane, search for Power Platform, select **Power Platform Export Solution** and click on Add



- At right pane, select Service Principal/Client Secret, Service connection and environment variable



- Set Variables

The screenshot shows the 'Variables' tab selected in the top navigation bar. The main area displays 'Pipeline variables'. A table lists several system variables and one user-defined variable, 'SolutionName'. The 'SolutionName' row is highlighted with a red box labeled '1'. The 'Value' column header is also highlighted with a red box labeled '2'.

Name	Value
system.collectionId	59b30310-3de9-4659-a227-54ca6956de27
system.debug	false
system.definitionId	< No pipeline ID yet >
system.teamProject	ALM Project
SolutionName	1 value

The **Value** would be solution named that is shown below

- Copy the Solution Name

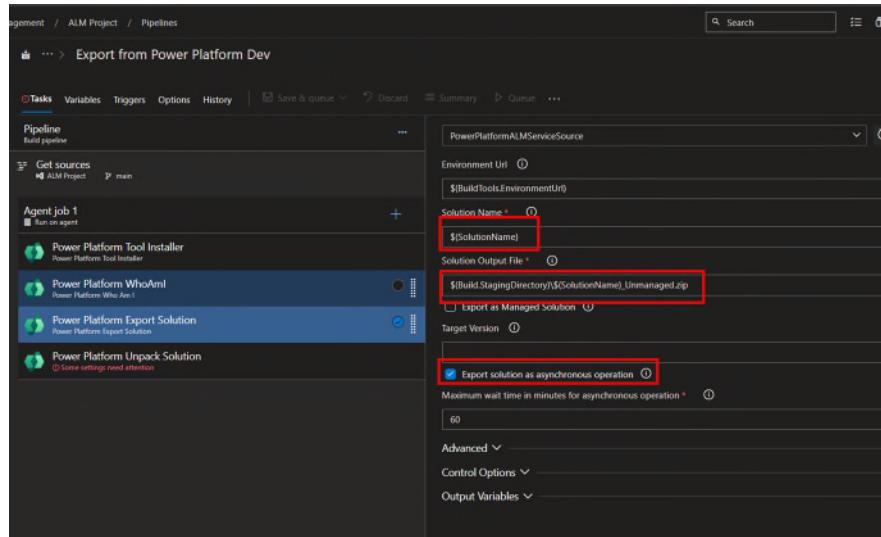
The screenshot shows the 'Solutions' page in the Power Apps interface. The left sidebar has a 'Solutions' link highlighted with a red box labeled '2'. The main area shows a list of solutions. The 'Helpdesk Solution' row is highlighted with a red box labeled '3', specifically the 'Name' column which contains 'HelpdeskSolution'.

Display name	Name	Created	Version	Publisher	Solution check
Helpdesk Solution	HelpdeskSolution	6 days ago	1.0.0.0	Contoso	Hasn't been run
Common Data Services Default Solution	Crc614b	1 week ago	1.0.0.0	CDS Default Publisher	Hasn't been run
Default Solution	Default	1 week ago	1.0	Default Publisher for...	Not supported for analysis

- Paste the Value in the Variables Pane.

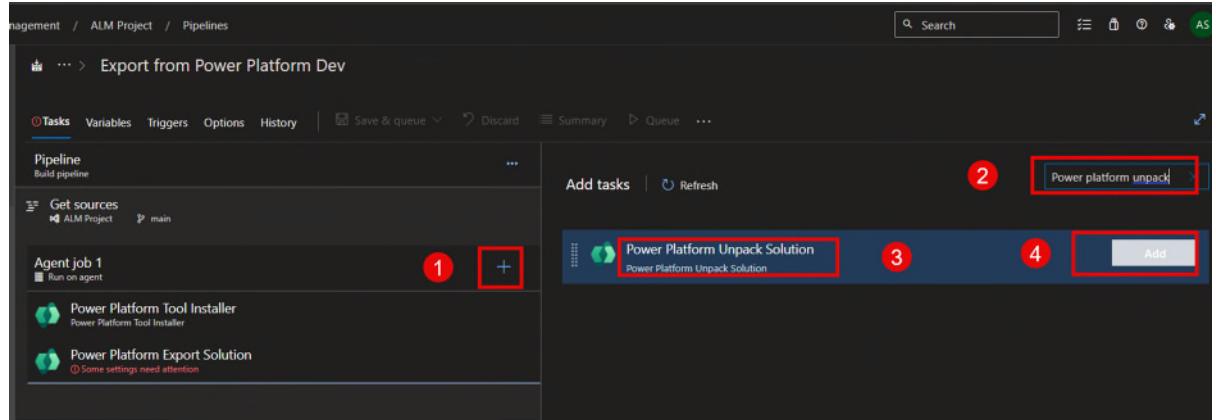
The screenshot shows the 'Variables' tab selected in the top navigation bar. The main area displays 'Pipeline variables'. The 'SolutionName' row now has 'HelpdeskSolution' in the 'Value' column, which is highlighted with a red box.

Name	Value
system.collectionId	59b30310-3de9-4659-a227-54ca6956de27
system.debug	false
system.definitionId	< No pipeline ID yet >
system.teamProject	ALM Project
SolutionName	HelpdeskSolution

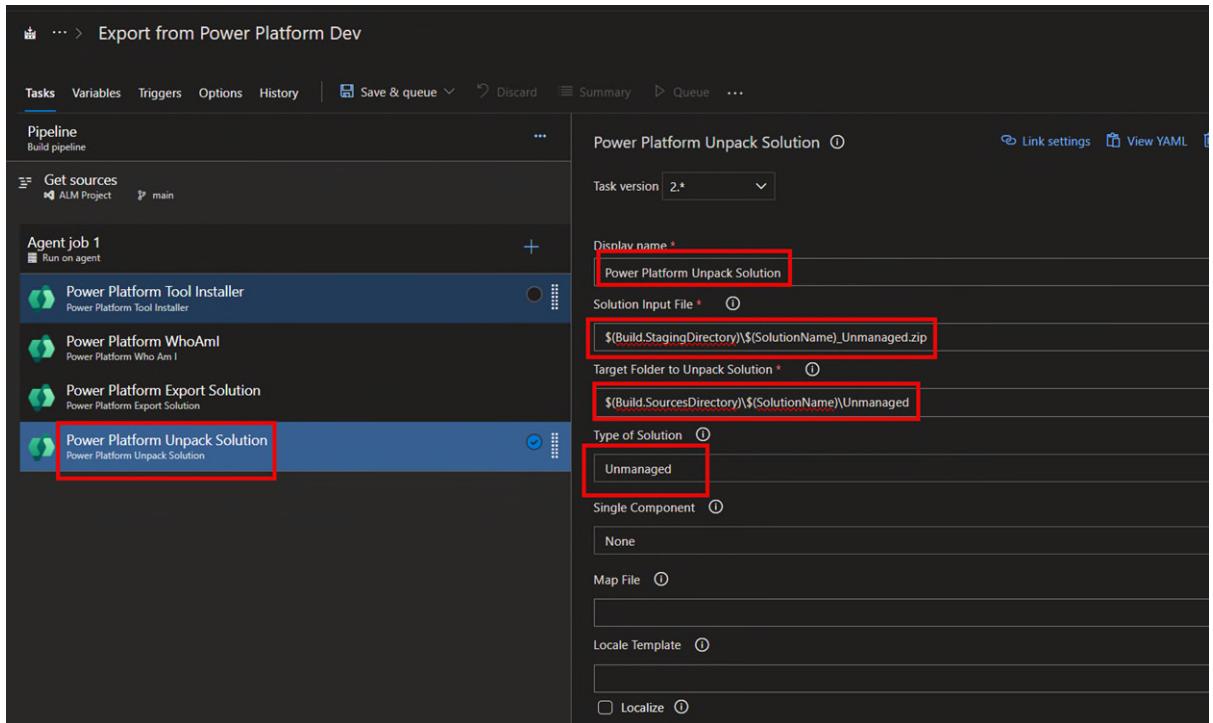


4. Power Platform Unpack Solution

- At the right pane, search for Power Platform, select **Power Platform Unpack Solution** and click on Add

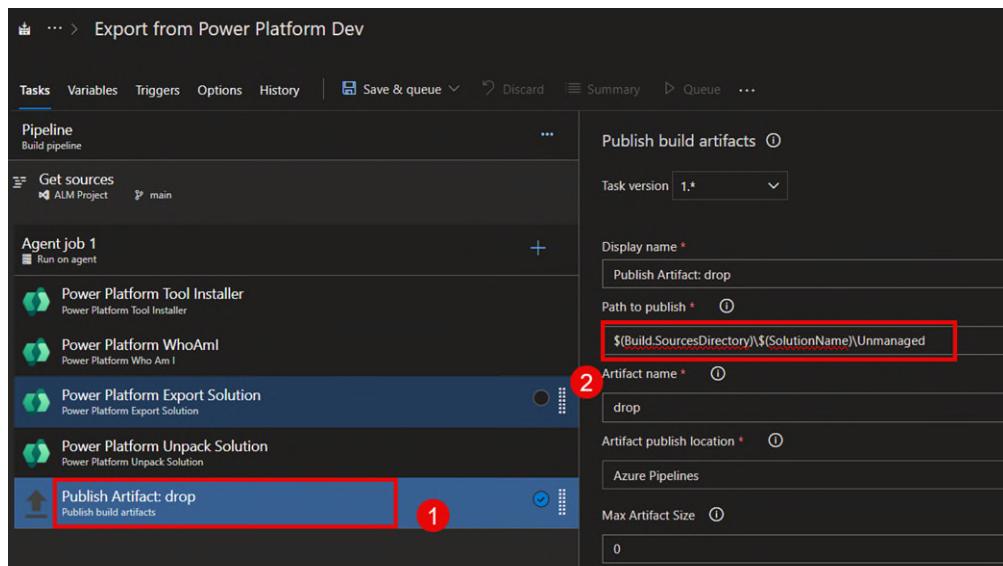


- At right pane, select Solution Input File, Target Folder to Unpack Solution, and Type of Solution.



5. Publish build Artifacts

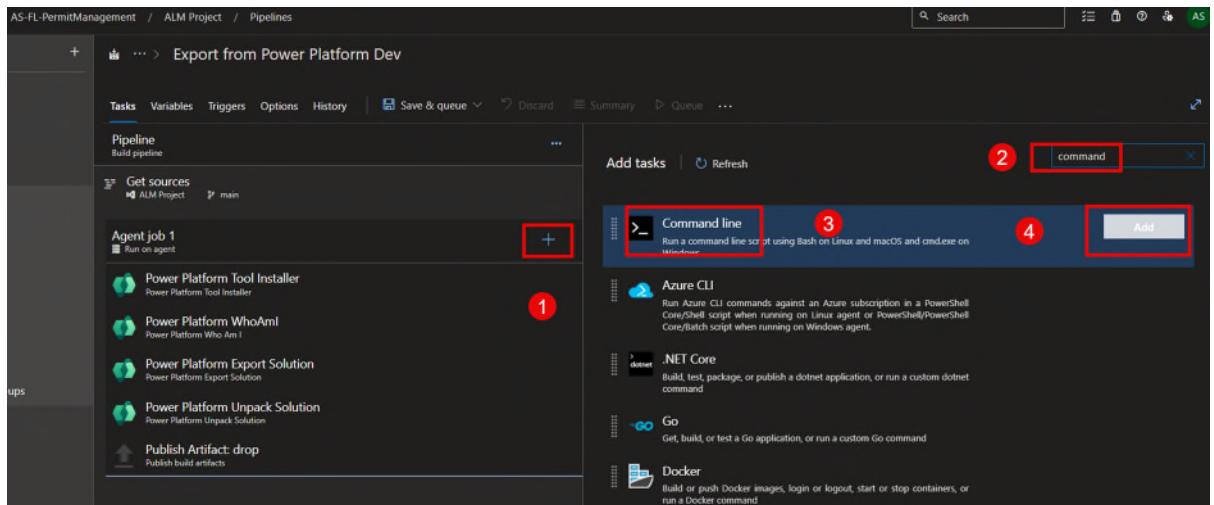
- At the right pane, search for Publish build Artifacts, select Publish build Artifacts and click on Add



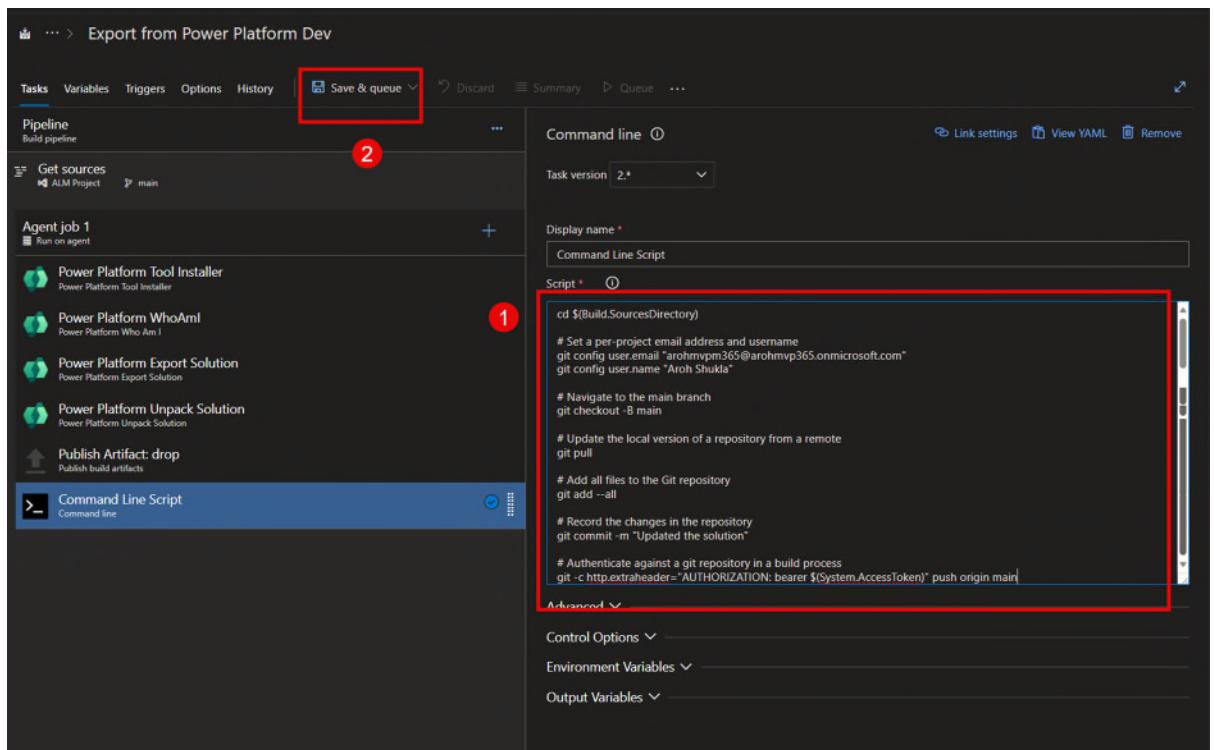
- Paste to Publish the same as Step 4 (Power Platform Unpack Solution)

Publish build Artifacts

- At the right pane, search for **Publish build Artifacts**, select **Publish build Artifacts** and click on **Add**



- Paste the script and Save.



Management / ALM Project / Pipelines

Export from Power Platform Dev

Tasks Variables Triggers Options History Save & queue Discard Summary Queue ...

Pipeline Build pipeline

Get sources ALM Project main

Agent job 1 Run on agent

Power Platform Tool Installer Power Platform Tool Installer

Power Platform WhoAmI Power Platform Who Am I

Power Platform Export Solution Power Platform Export Solution

Power Platform Unpack Solution Power Platform Unpack Solution

Publish Artifact: drop Publish build artifacts

Command Line Script Command line

Save & queue Save Save as draft

2

1

Display name * Command Line Script

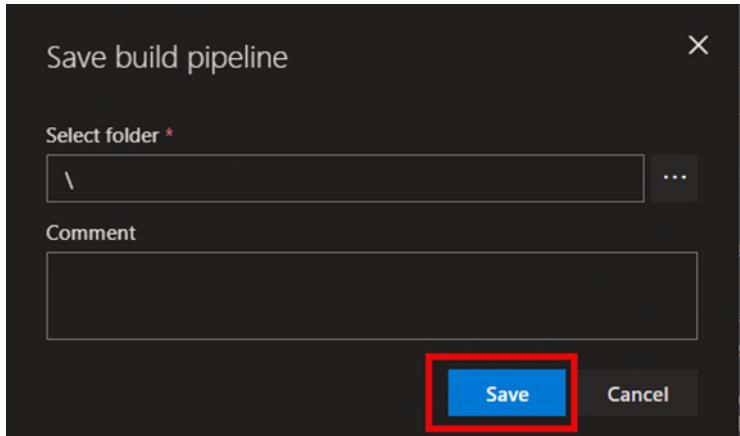
Script *

```
git pull  
# Add all files to the Git repository  
git add --all  
  
# Record the changes in the repository  
git commit -m "Updated the solution"  
  
# Authenticate against a git repository in a build process  
git -c http.extraheader= "AUTHORIZATION: bearer ${System.AccessToken}" push origin main
```

Task version 2.*

Link settings View YAML

Advanced Control Options Environment Variables Output Variables



Export from Power Platform Dev

Tasks Variables Triggers Options History Save & queue Discard Summary Queue ...

Pipeline Build pipeline

Get sources ALM Project main

Agent job 1 Run on agent

Power Platform Tool Installer Power Platform Tool Installer

Power Platform WhoAmI Power Platform Who Am I

Power Platform Export Solution Power Platform Export Solution

Power Platform Unpack Solution Power Platform Unpack Solution

Publish Artifact: drop Publish build artifacts

Command Line Script Command line

Save & queue Save Save as draft

2

1

Display name * Command Line Script

Script *

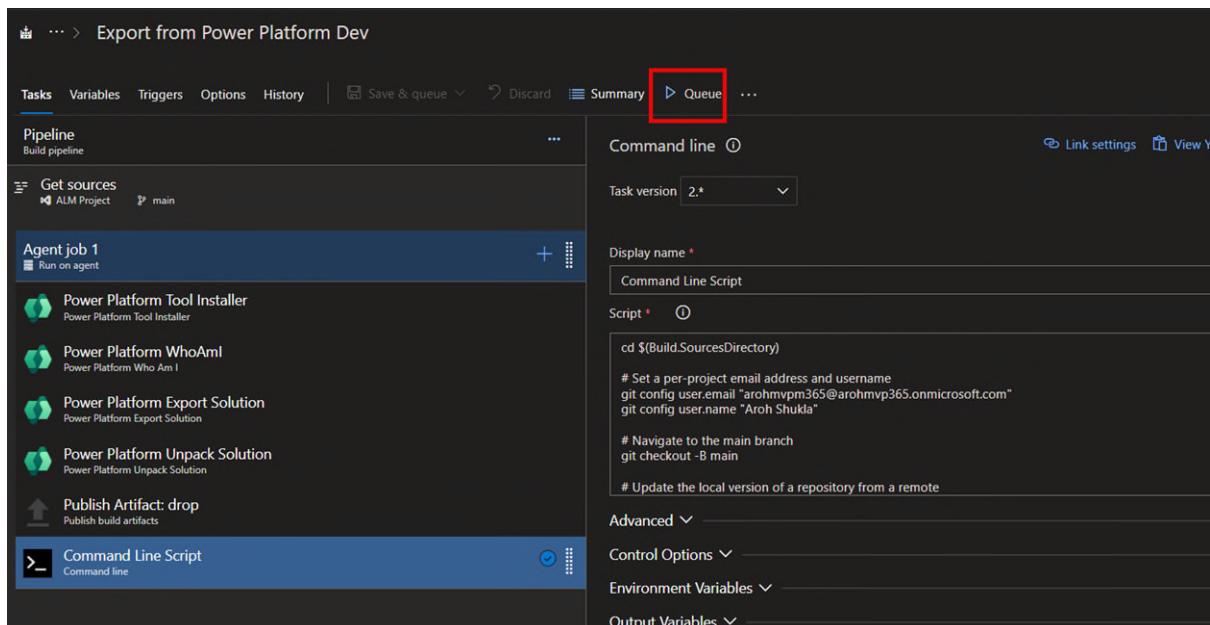
```
cd ${Build.SourcesDirectory}  
  
# Set a per-project email address and username  
git config user.email "arohmvp365@arohmvp365.onmicrosoft.com"  
git config user.name "Aroh Shukla"  
  
# Navigate to the main branch  
git checkout -B main  
  
# Update the local version of a repository from a remote
```

Task version 2.*

Link settings View YAML

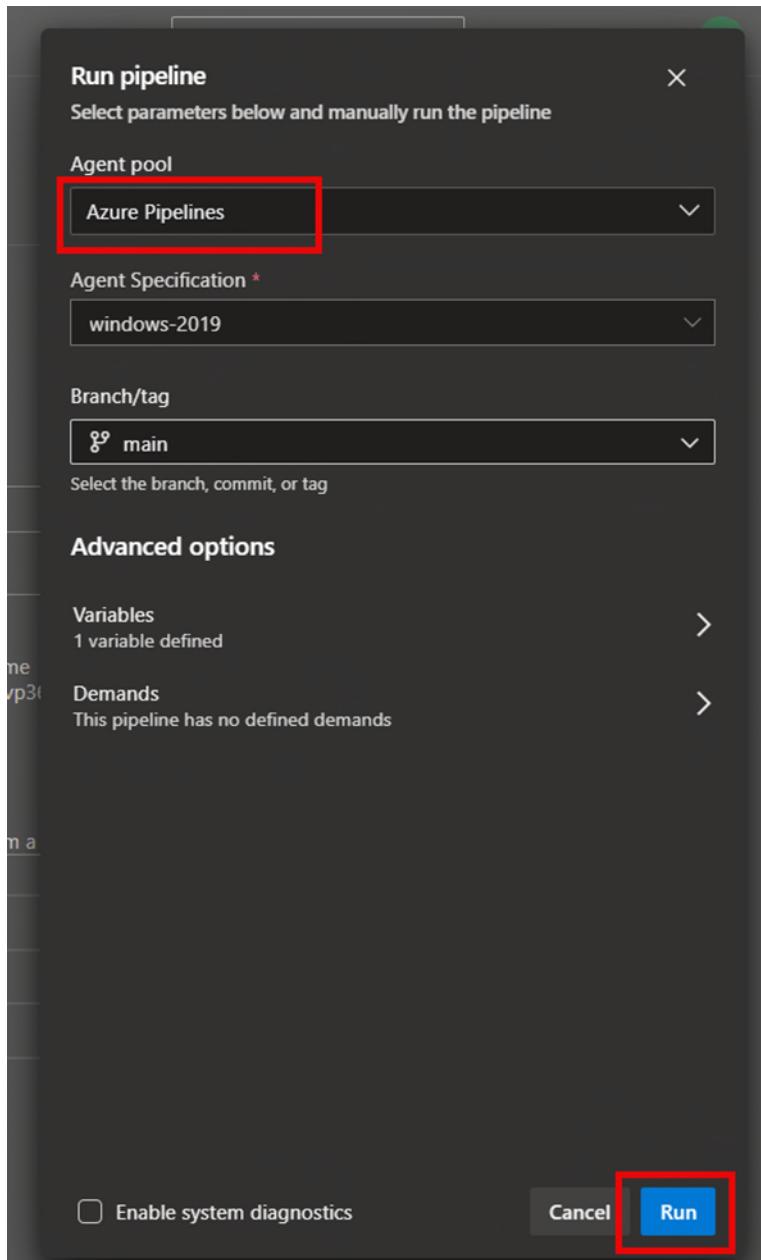
Advanced Control Options Environment Variables Output Variables

Start the Queue



The screenshot shows the Azure DevOps Pipeline Editor interface. At the top, there's a navigation bar with 'Tasks', 'Variables', 'Triggers', 'Options', 'History', 'Save & queue', 'Discard', 'Summary' (which is selected and has a red box around it), 'Queue' (which is also highlighted with a red box), and an ellipsis. Below the navigation bar is a pipeline structure. On the left, under 'Agent job 1', there are several tasks listed: 'Power Platform Tool Installer', 'Power Platform WhoAmI', 'Power Platform Export Solution', 'Power Platform Unpack Solution', and 'Publish Artifact: drop'. On the right, the 'Command line' task is detailed. It has a 'Display name' of 'Command Line Script', a 'Script' block containing a command-line script, and sections for 'Advanced', 'Control Options', 'Environment Variables', and 'Output Variables'. The 'Queue' button at the top is specifically highlighted with a red box.

```
cd ${Build.SourcesDirectory}
# Set a per-project email address and username
git config user.email "arohimvp365@arohimvp365.onmicrosoft.com"
git config user.name "Aroh Shukla"
# Navigate to the main branch
git checkout -B main
# Update the local version of a repository from a remote
```



Failed Job

#2 • Added README.md

Export from Power Platform Dev

This run will be cleaned up after 1 month based on your project settings.

Summary Code Coverage

Manually run by Aroh Shukla

Repository and version

ALM Project
main a0eab600

Time started and elapsed

Just now <1s

Related

0 work items 1 consumed

Tests and coverage

Get started

Errors 1

No hosted parallelism has been purchased or granted. To request a free parallelism grant, please fill out the following form <https://aka.ms/azpipelines-parallelism-request>

View documentation for

Jobs

Name	Status	Duration
Agent job 1	Failed	<1s

AS-FL-PermitManagement / ALM Project / Pipelines / Export from Power Platform... / 2

Search

Jobs in run #2

Agent job 1

No hosted parallelism has been purchased or granted. To request a free parallelism grant, please fill out the following form <https://aka.ms/azpipelines-parallelism-request>

Agent job 1

Report build status <1s

1 #Error: No hosted parallelism has been purchased or granted. To request a free parallelism grant, please fill out the following form https://aka.ms/azpipelines-parallelism-request

2 Pool: Agent-Parallelism

3 Image: windows-2019

4 Started: Just now

5 Duration: 34s

6

7 * Job preparation parameters

8 * \$x:1 queue time variable used

Parallel Jobs

Azure DevOps AS-FL-PermitManagement / Settings / Billing

Billing

Billing has not been set up for this organization. Access will be available up to [free tier limits](#).

Set up billing

2

Pipelines for private projects	Free	Paid parallel jobs
MS Hosted CI/CD ?	1800 minutes	0
Self-Hosted CI/CD ?	1	0

Visit [parallel jobs](#) for full details on free pipelines and public concurrency

Boards, Repos and Test Plans	Free
Basic users ?	5
Basic + Test Plans ?	Start free trial

Settings **Access level**

Default access level for new users [?](#) Stakeholder

Advanced Security Used

1

2

Azure DevOps AS-FL-PermitManagement / Settings / Billing

Billing

Billing has not been set up for this organization. Access will be available up to [free tier limits](#).

Set up billing

2

Pipelines for private projects	Free	Paid parallel jobs
MS Hosted CI/CD ?	1800 minutes	0
Self-Hosted CI/CD ?	1	0

Visit [parallel jobs](#) for full details on free pipelines and public concurrency

Boards, Repos and Test Plans	Free
Basic users ?	5
Basic + Test Plans ?	Start free trial

Settings **Access level**

Default access level for new users [?](#) Stakeholder

Advanced Security Used

Select an Azure subscription

Anroh's Azure Subscription PAVG 1 month old

Subscription is valid

[+ New Azure subscription](#)

Cancel **Save**

Azure DevOps AS-FL-PermitManagement / Settings / Parallel jobs

Organization Settings

AS-FL-PermitManagement

Search Settings

General

- Overview
- Projects
- Users
- Billing
- Global notifications
- Usage
- Extensions
- Microsoft Entra

Security

- Policies
- Permissions

Boards

- Process

Pipelines

- Agent pools
- Settings
- Deployment pools
- Parallel jobs**
- OAuth configurations

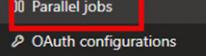
Repos

Private projects

 Microsoft-hosted ⓘ	2	Parallel jobs
View in-progress jobs	2 Change	
 Self-hosted ⓘ	1	Parallel jobs
View in-progress jobs	1 Change	
Free parallel jobs	1	
Visual Studio Enterprise subscribers ⓘ	0	
Monthly purchases	0	Change

Public projects

 Microsoft-hosted ⓘ	0	Parallel jobs
View in-progress jobs		
 Self-hosted ⓘ	Unlimited	Parallel jobs
View in-progress jobs		



Queue and Run Again

... > Export from Power Platform Dev

Tasks Variables Triggers Options History | Save & queue Discard Summary Queue ...

Pipeline
Build pipeline

Get sources
ALM Project main

Agent job 1
Run on agent

- Power Platform Tool Installer
- Power Platform WhoAmI
- Power Platform Export Solution
- Power Platform Unpack Solution

Publish Artifact: drop
Publish build artifacts

Command Line Script
Command line

Display name * Command Line Script

Script * cd \$(Build.SourcesDirectory)
Set a per-project email address and username
git config user.email "arohmvp365@arohmvp365.onmicrosoft.com"
git config user.name "Aroh Shukla"
Navigate to the main branch
git checkout -B main
Update the local version of a repository from a remote

Advanced Control Options Environment Variables Output Variables



Error at Command Line

Jobs in run #4

Export from Power Platform Dev

Jobs

Job	Status	Duration
Agent job 1	Completed	1m 33s
Initialize job	Passed	8s
Checkout ALM Project...	Passed	6s
Power Platform Tool I...	Passed	<1s
Power Platform WhoA...	Passed	21s
Power Platform Export...	Passed	36s
Power Platform Unpack...	Passed	3s
Publish Artifact: drop	Passed	2s
Command Line Script	Failed	14s
Post-job: Checkout AL...	Passed	<1s
Finalize Job	Passed	<1s
Report build status	Passed	<1s

Command Line Script

```

5 Version      : 2.231.1
6 Author       : Microsoft Corporation
7 Help         : https://docs.microsoft.com/azure/devops/pipelines/tasks/utility/command-line?view=azure-devops&tabs=yaml
8 -----
9 Generating script.
10 ===== Starting Command Output =====
11 "C:\Windows\system32\cmd.exe" /D /E:ON /V:OFF /S /C "CALL "D:\a\_temp\f59f9576-92b
12 '#' is not recognized as an internal or external command,
13 operable program or batch file.
14 '#' is not recognized as an internal or external command,
15 operable program or batch file.
16 Switched to a new branch 'main'
17 '#' is not recognized as an internal or external command,
18 operable program or batch file.
19 fatal: Cannot prompt because user interactivity has been disabled.
20 fatal: Cannot prompt because user interactivity has been disabled.
21 fatal: could not read Password for 'https://AS-FL-PermitManagement@dev.azure.com/'.
22 '#' is not recognized as an internal or external command,
23 operable program or batch file.
24 '#' is not recognized as an internal or external command,
25 operable program or batch file.
26 [main d3a94b6] Updated the solution
27 8 files changed, 250 insertions(+)
28 create mode 100644 HelpdeskSolution/Unmanaged/CanvasApps/contoso_canvasalm_dde63_
29 create mode 100644 HelpdeskSolution/Unmanaged/CanvasApps/contoso_canvasalm_dde63_
30 create mode 100644 HelpdeskSolution/Unmanaged/CanvasApps/contoso_canvasalm_dde63_
31 create mode 100644 HelpdeskSolution/Unmanaged/CanvasApps/contoso_canvasalm_dde63_

```

AS-FL-PermitManagement / ALM Project / Pipelines / Export from Power Platform... / 4

#4 • Added README.md

Export from Power Platform Dev

This run will be cleaned up after 1 month based on your project settings.

Summary [Code Coverage](#)

Manually run by Aroh Shukla

Repository and version

- ALM Project
- main ↗ adaab600

Time started and elapsed

- Today at 7:00 PM
- 1m 40s

Related

- 0 work items

Tests and coverage

- Get started

[Edit pipeline](#)

Download logs

Add tags

View retention leases

Retain

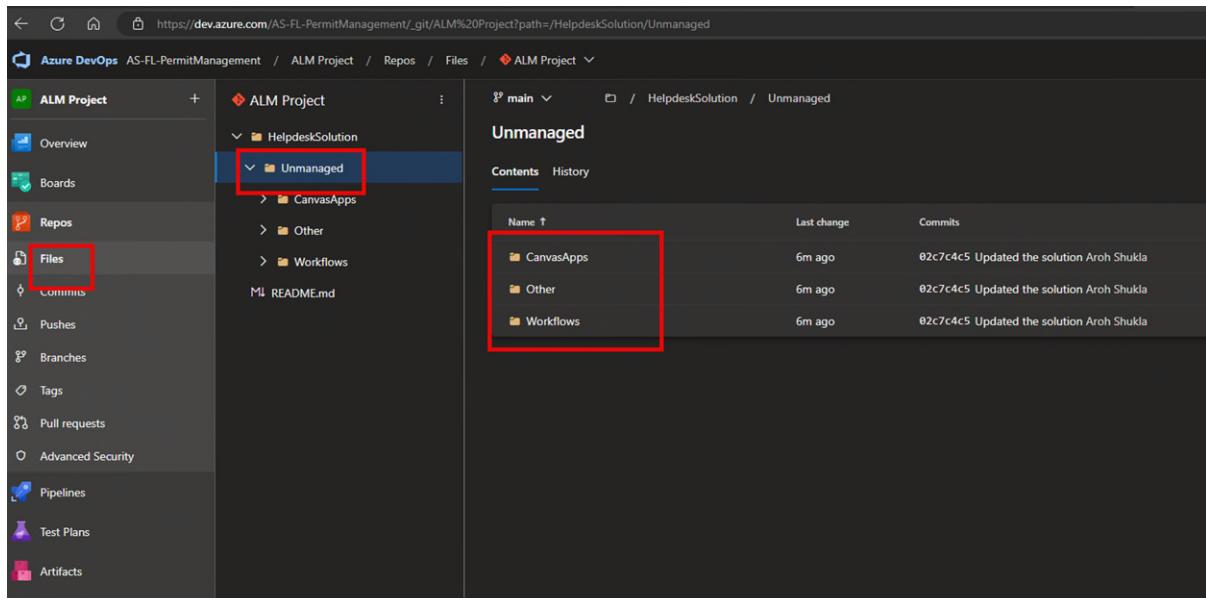
Delete

The screenshot shows the Azure DevOps Pipeline Editor interface. At the top, there's a navigation bar with 'ALM Project' and 'Pipelines'. Below it, the pipeline name is 'Export from Power Platform Dev'. The pipeline editor has tabs for 'Tasks', 'Variables', 'Triggers', 'Options', and 'History'. On the left, a list of tasks is shown: 'Get sources' (ALM Project), 'Agent job 1' (highlighted with a red box), 'Power Platform Tool Installer', 'Power Platform WhoAmI', 'Power Platform Export Solution', 'Power Platform Unpack Solution' (highlighted with a blue box), 'Publish Artifact: drop', and 'Command Line Script'. On the right, there are sections for 'Demands', 'Execution plan', 'Parallelism' (set to 'None'), 'Timeout' (set to 0), 'Job cancel timeout' (set to 0), 'Dependencies', and 'Additional options'. In the 'Additional options' section, the checkbox 'Allow scripts to access the OAuth token' is checked and highlighted with a red box.

Run and Queue Again

The screenshot shows the 'Jobs in run #6' page for the 'Export from Power Platform Dev' pipeline. The left sidebar shows 'ALM Project' selected under 'Pipelines'. The main area displays the pipeline's execution history with 6 jobs listed. The jobs are: 'Agent job 1' (1m 22s), 'Initialize job' (12s), 'Checkout ALM Project...' (6s), 'Power Platform Tool I...' (<1s), 'Power Platform WhoA...' (20s), 'Power Platform Export...' (33s), 'Power Platform Unpac...' (3s), 'Publish Artifact: drop' (2s), 'Command Line Script' (2s), 'Post-job: Checkout AL...' (<1s), 'Finalize Job' (<1s), and 'Report build status' (<1s). Each job entry is highlighted with a red box.

Files are updated



Create Release Pipelines

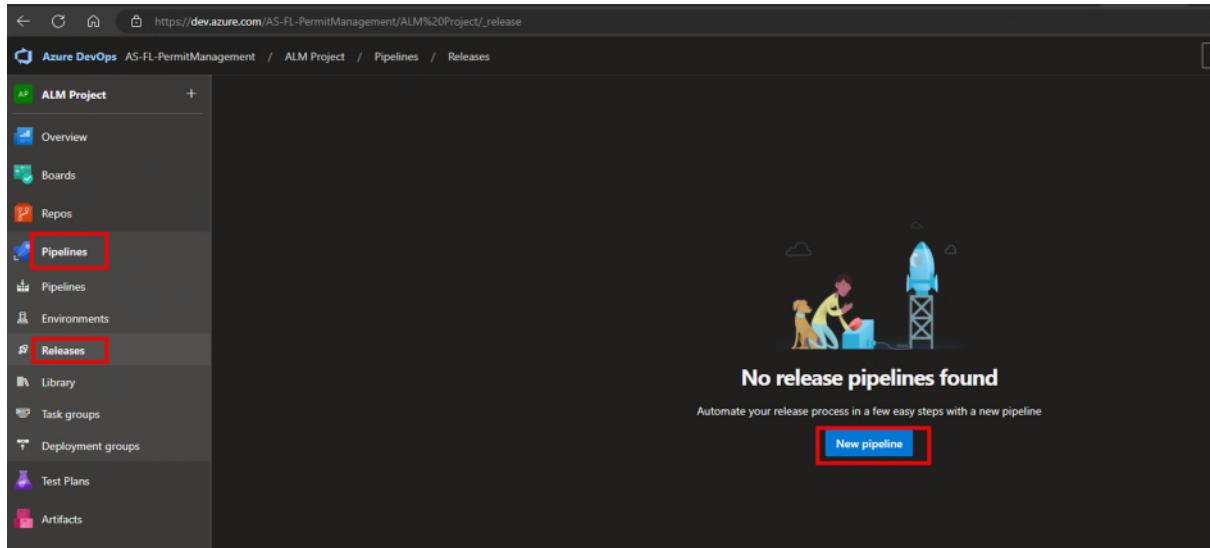
What is Release Pipeline?

A release pipeline is a process to ship committed code into production by incorporating CI/CD, automated testing, and finally, software release.

It includes many steps like:

- Triggering a pipeline to run.
- Executing tasks like environment provisioning, application deployment, testing, and collecting results.
- Controlling the flow of execution.
- Restricting further processing in case of event failure.
- Sending notifications of success and failure.

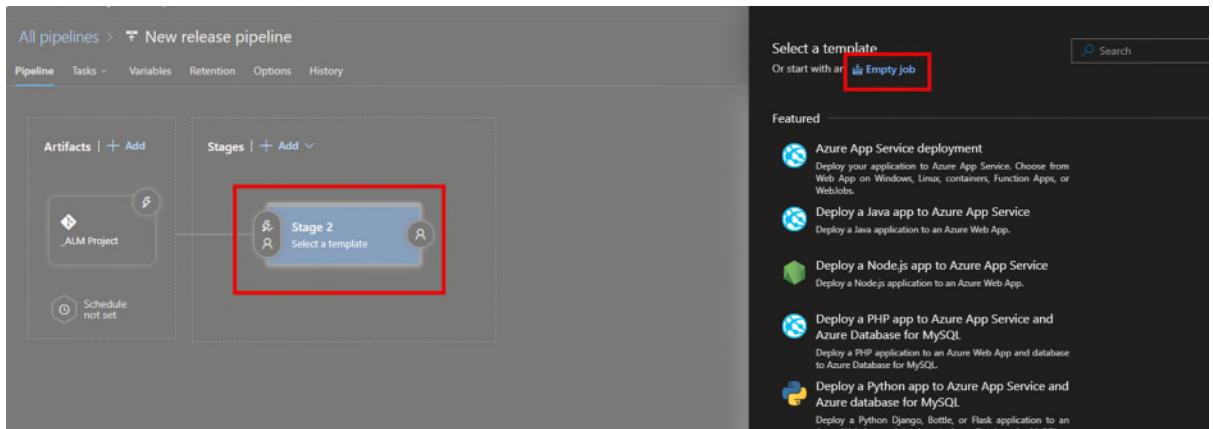
Steps to provision release pipeline.



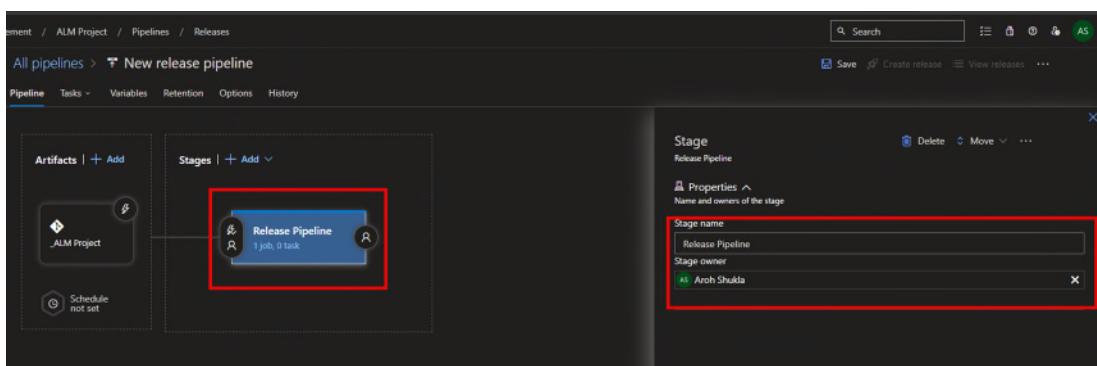
- Under Artifacts, select the project and repo that we have setup in above steps.

The screenshot shows the 'Add an artifact' dialog. On the left, there's a preview of the pipeline configuration with a red box around the 'Artifacts' section. On the right, the 'Add an artifact' dialog is open, showing options for 'Source type' (with 'Azure Re...' selected), 'Project' (set to 'ALM Project'), 'Default branch' (set to 'main'), and 'Default version' (set to 'Latest from the default branch'). The 'Add' button at the bottom is highlighted with a red box.

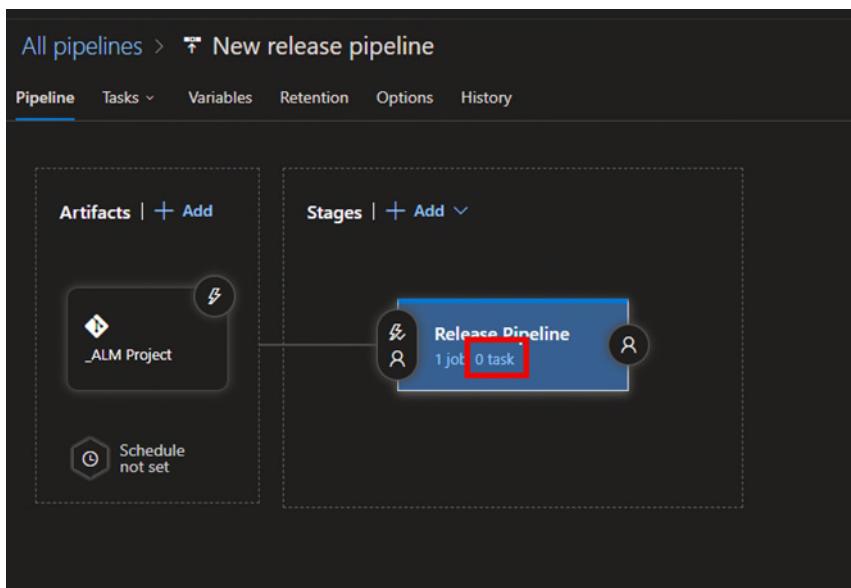
- Under **Stage** select an **empty job**



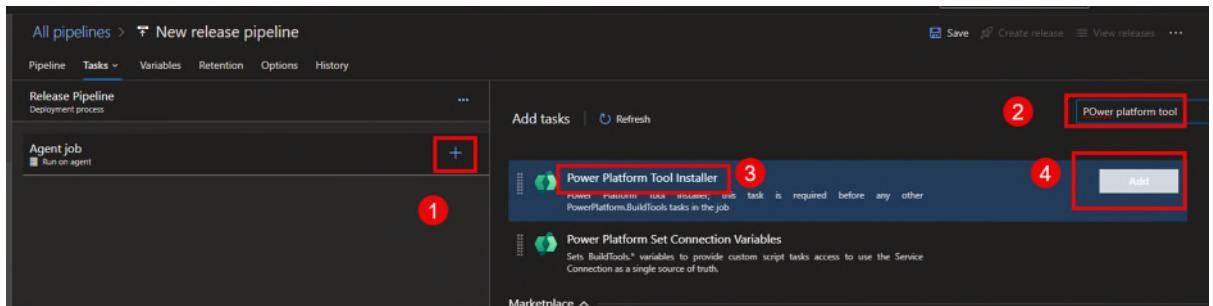
- Rename the Stage name to something more meaningful.



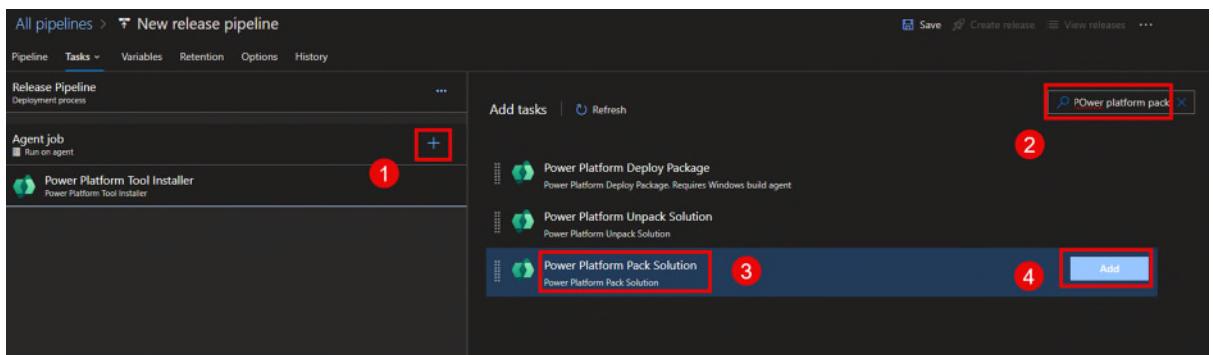
- Select on 0 Task link



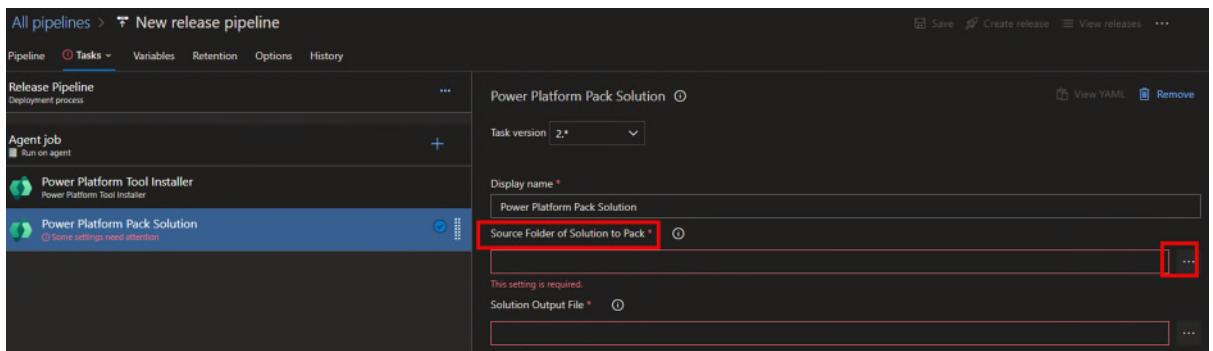
- We have already have a exported solution, now with release pipeline we need to import to targeted environment.
- Click in + icon, search for **Power Platform tool installer** and click on **Add**



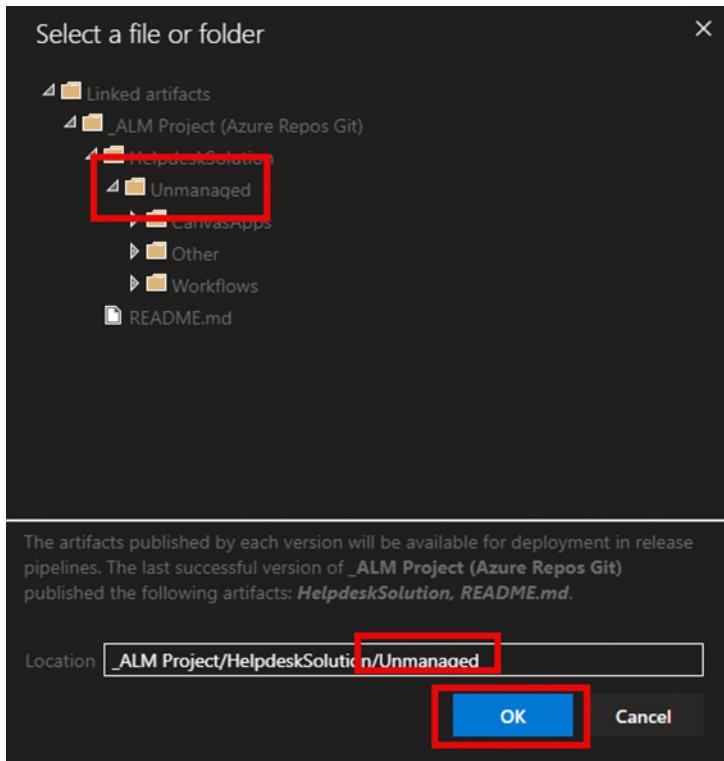
- Click in + icon, search for **Power Platform Pack Solution** and click on **Add**



- Browse the Source Folder of Solution to Pack.



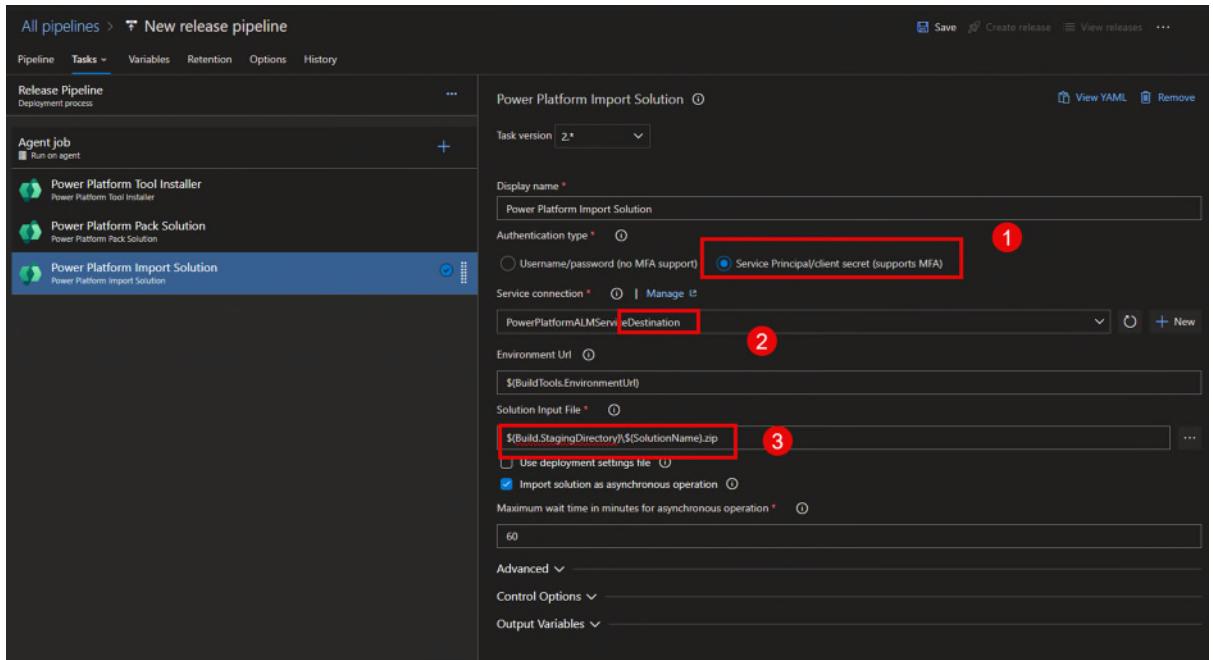
- Select till Unmanaged path.



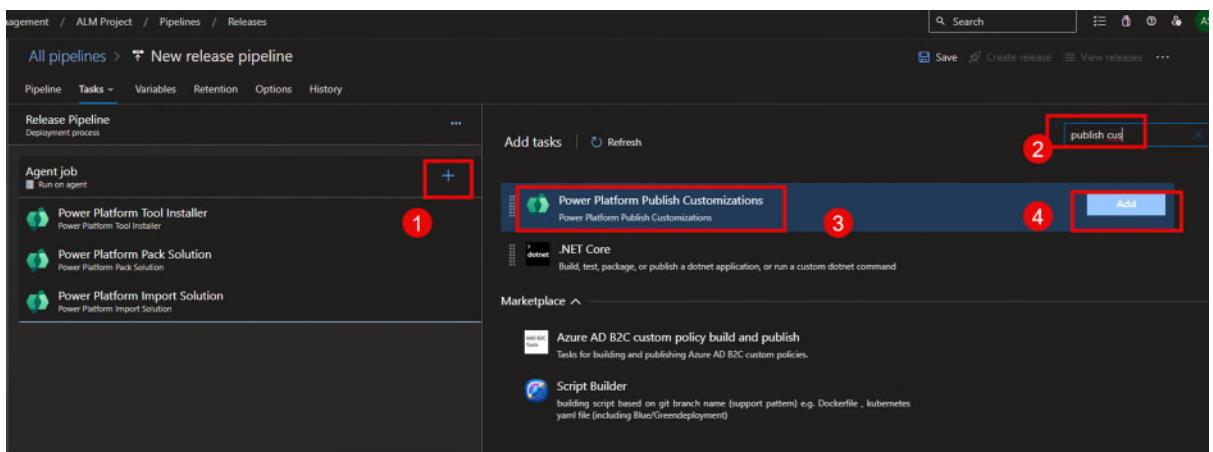
- Set the Solution output file as shown below.

- Click in + icon, search for **Power Platform Import Solution** and click on **Add**

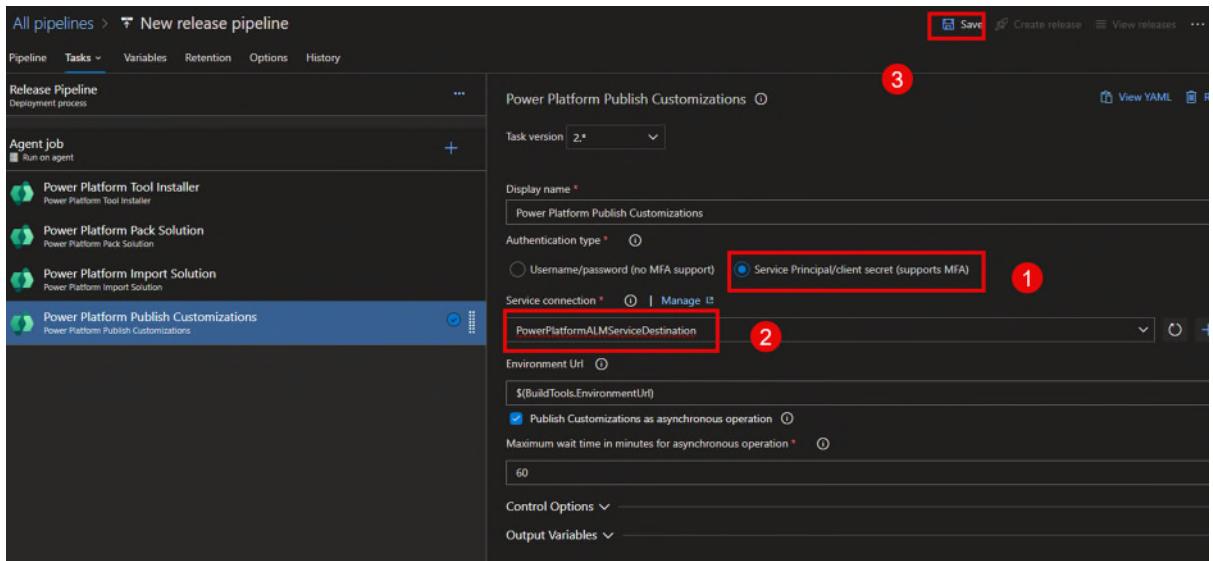
- Select Authentication type to Service Principal, Service connection to PowerPlatformALMServiceDestination



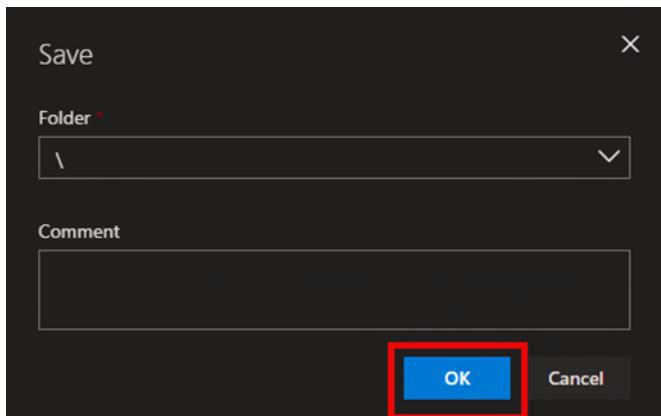
- Click in + icon, search for **Power Platform Publish Customization** and click on Add



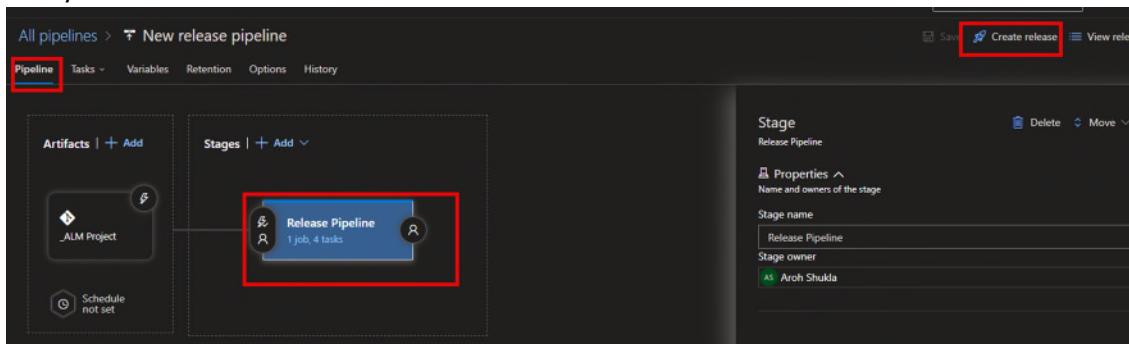
- Select Authentication type to Service Principal, and Service connection to PowerPlatformALMServiceDestination and save.



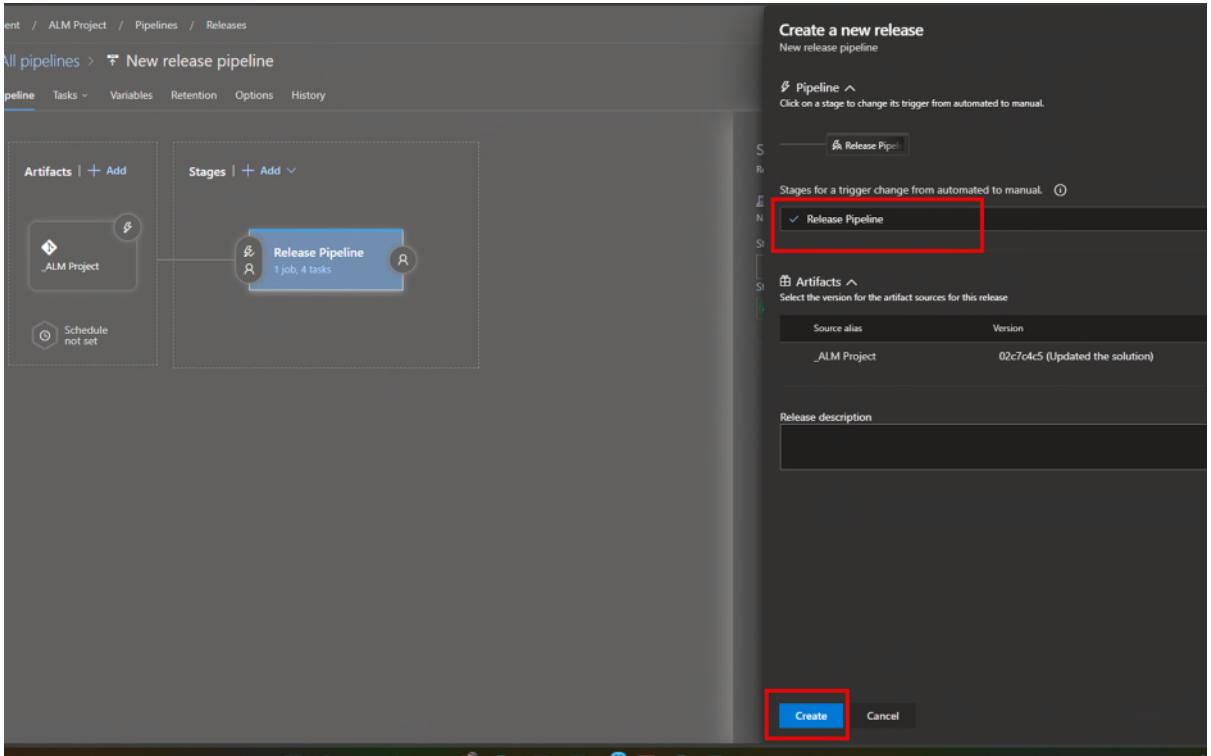
- Click on **Save**



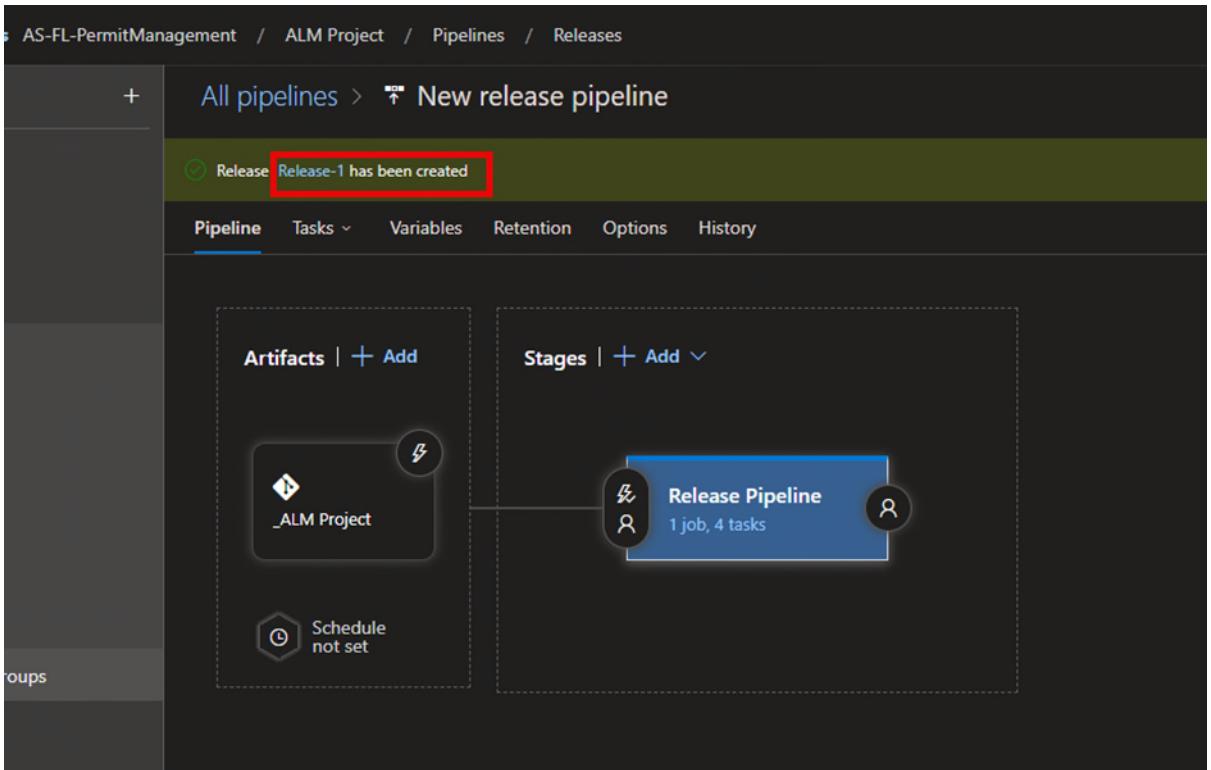
- Verify **4 tasks** are created and select the **Create release**



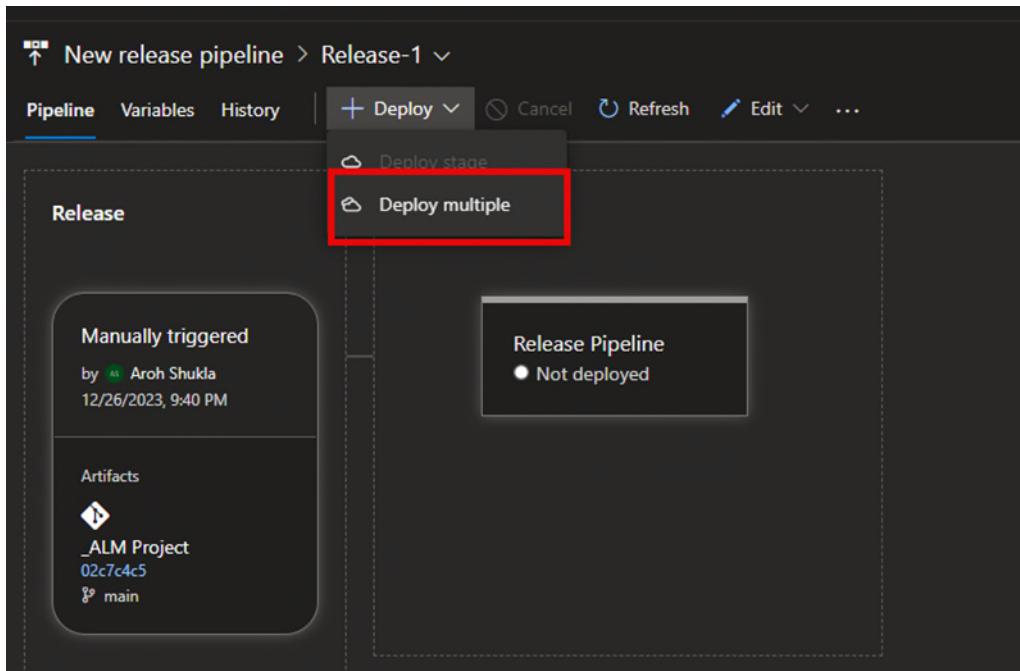
- Select the **Release pipeline** and click on **Create**.



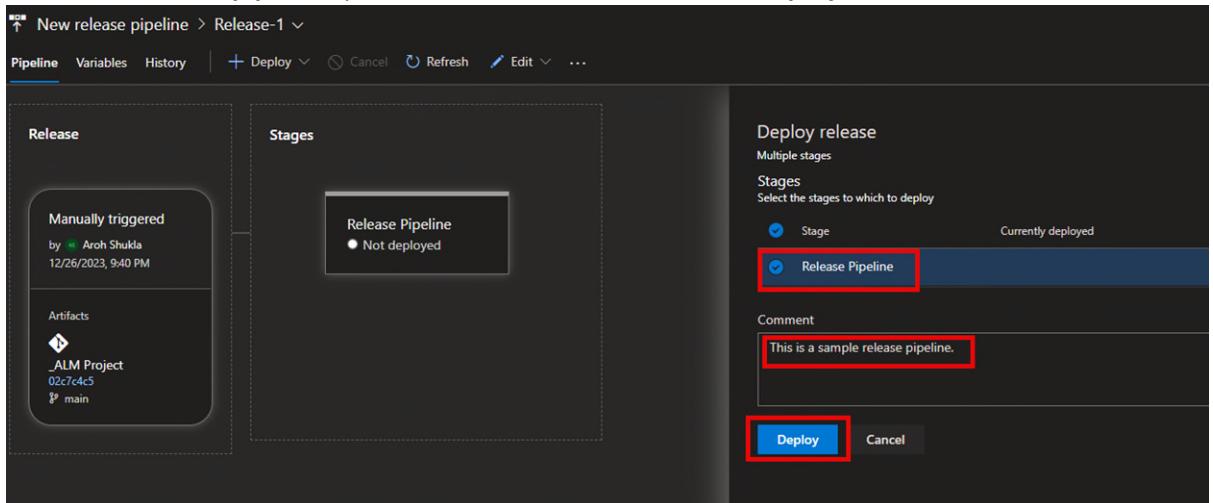
- New Release has been updated.
- Click on **Release-1**

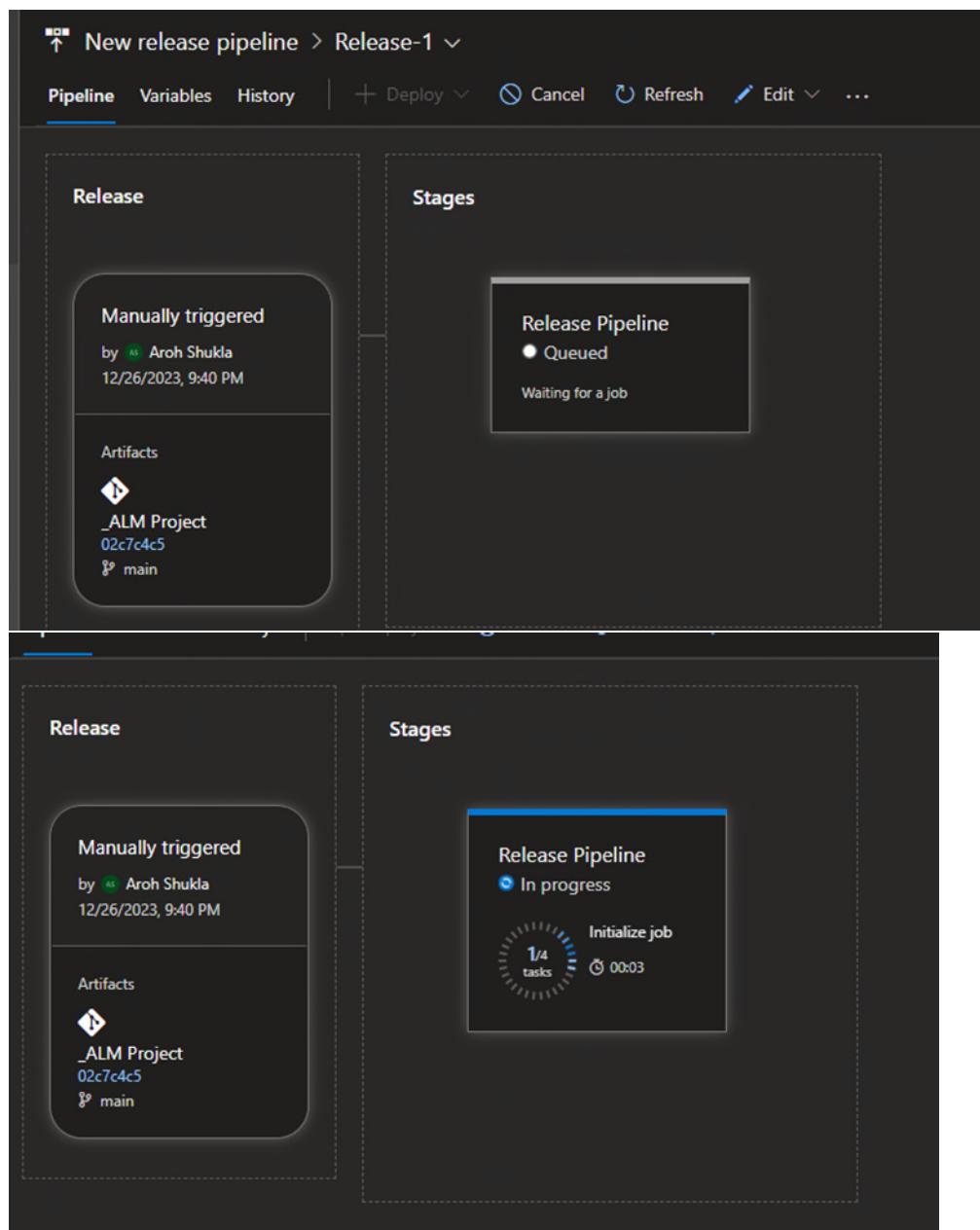


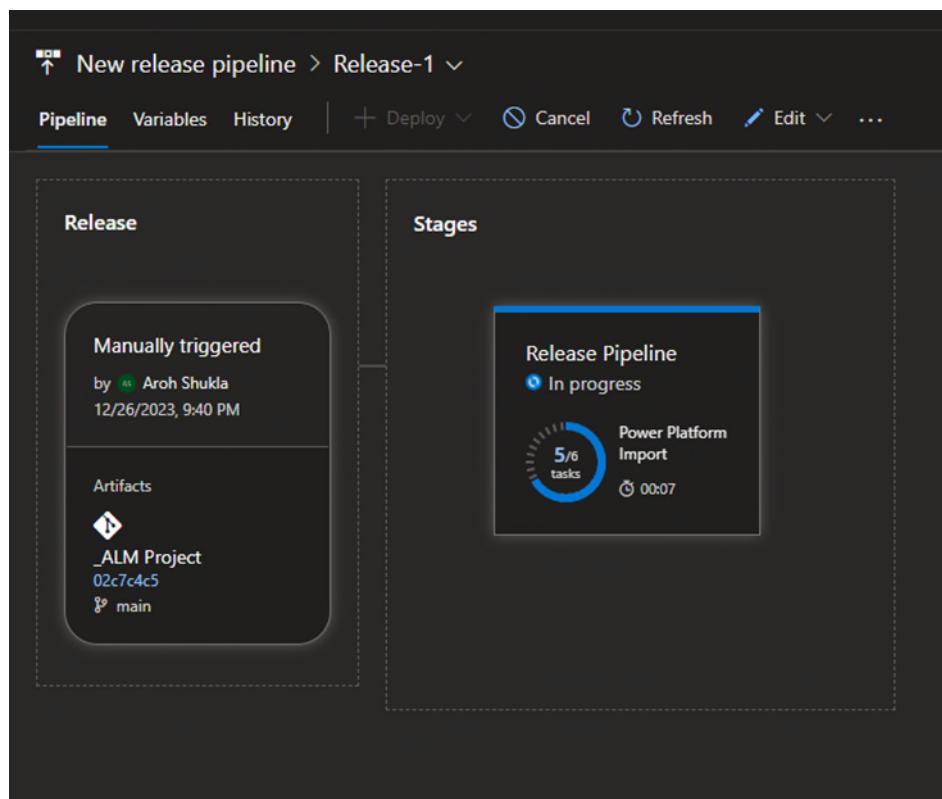
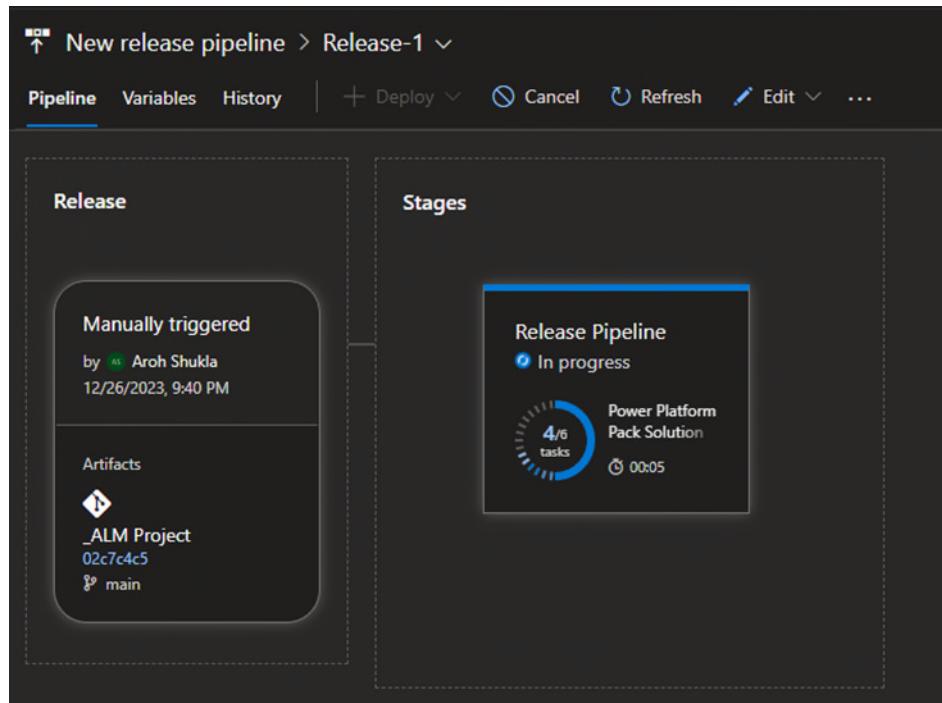
- Under Deploy, select the Deploy multiple



- Select the **Release pipeline**, put some **comments** and select in **Deploy** button.







Azure DevOps interface showing the release pipeline logs. The 'Releases' menu item (1) is highlighted. The 'Logs' tab (2) is selected. The 'Finalize Job' log entry (3) is highlighted.

Check Production Environment

Power Apps interface showing the solutions list. The 'Solutions' menu item (1) is highlighted. The 'Helpdesk Solution' row (2) is selected. The 'Created' timestamp (3) is highlighted. The 'Production ALM' environment filter (4) is highlighted.

References

1. ALM Accelerator for Power Platform

[ALM Accelerator for Power Platform - Power Platform | Microsoft Learn](https://learn.microsoft.com/en-us/power-platform/alm/)

Microsoft Learn page for Application lifecycle management (ALM) with Microsoft Power Platform. Step 1 highlights the 'ALM basics with Power Platform' section under 'About ALM with Power Platform'. Step 2 highlights the 'Use Power Platform Build Tools for Azure DevOps' section under 'For developers'. Step 3 highlights the 'Colf: Set up ALM Accelerator' section under 'For developers'.

2.

[Application lifecycle management \(ALM\) with Microsoft Power Platform - Power Platform | Microsoft Learn](https://learn.microsoft.com/en-us/power-platform/alm/)

3. Power Platform Deployment using Azure DevOps – Dhruvin

[Power Platform Deployment using Azure DevOps - Episode 01 | Prerequisites and App Registration \(youtube.com\)](#)

4. Power Platform/Azure Dev Ops by Henry

[Power Platform/Azure Dev Ops - ALM Intro \(youtube.com\)](#)