



# Microsoft Power Platform

PLAN DEL PRIMER LANZAMIENTO DE VERSIONES 2022

Características que se lanzarán entre abril de 2022 y septiembre de 2022

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# Contents

<b>2022 release wave 1 plan</b>	<b>12</b>
<b>Change history</b>	<b>16</b>
<b>Early access features</b>	<b>17</b>
<b>Power BI</b>	<b>18</b>
Overview	18
What's new and planned	22
Power BI Embedded	25
Overview	25
Embed Power BI in Jupyter Notebooks - report creation from DataFrames	26
Embedded analytics playground enhancements	26
Embed Power BI goals for your organization	27
Embedded analytics - Power BI component for Vue.js	27
Chargeback reporting and APIs for ISVs	28
Power BI Premium	28
Overview	28
Data protection enhancements - highlighting centralized Power BI DLP policies	28
Deployment pipelines - deployment history	30
Automatic aggregations	31
Hybrid tables	31
Power BI Report Server - May 2022 release	32
Deployment pipelines - Azure DevOps extension	32
Power BI Report Server - September 2022 release	33
Chargeback reporting for Power BI Premium administrators	33
Power BI Pro	34
Overview	34

Power BI integration in Outlook and Office hub .....	34
Power BI integration with PowerPoint .....	35
Power BI datasets hub enhancements .....	36
Improve My workspace governance .....	37
Create Power BI app versions for different audiences .....	38
Quick measures using natural language .....	38
Contextual on-object interaction with Power BI visuals .....	40
Create reports in the Power BI service with new data sources .....	40
New and enhanced Power BI experiences in Teams .....	41
Quickly create a Power BI dataset or report from a table of data in Excel .....	42
View Power BI files in OneDrive and SharePoint.....	43
Accessibility - improved slicer navigation.....	44
Accessibility - improved table navigation .....	44
Accessibility - reflow to support 400x zoom.....	45
Accessibility - show visuals as tables .....	45
Accessibility - smart narrative descriptions .....	45
Improved Power BI administration and operations .....	46
Power Apps and Power BI better together - support Power Apps environment lifecycle operations for Power BI content .....	46
Power Apps and Power BI better together - include Power BI reports and datasets in a Power Apps solution .....	47
Power Apps and Power BI better together - quickly create a Power BI report as part of a Power Apps solution .....	48
<b>Power Apps .....</b>	<b>49</b>
Overview.....	49
What's new and planned.....	53
Deliver modern business apps with unparalleled productivity for all users.....	56
Overview .....	56
Power Apps grid control support for editable scenarios in model-driven apps .....	57

Enable model-driven app redirect from Internet Explorer to Microsoft Edge.....	57
Model-driven app in-app notifications .....	58
Easy record sharing.....	58
Explore data through modern advanced find .....	59
UI improvement for business process flows .....	61
Power Apps read-only grid control is the default grid for read-only scenarios .....	62
Offline Sync notification .....	63
New activity dropdown to show only relevant activities .....	64
Appointment description supports rich text .....	65
Create and join Teams meetings from in-app appointments .....	65
Use Lobe models in your apps and flows .....	66
Co-presence in records.....	67
Owner field has improved on-line presence indicator and contact card.....	68
Enable experts across the organization with advanced low code.....	69
Overview .....	69
Intelligent formula repair in Power Fx.....	69
Makers can collaborate together on the same app by merging changes .....	70
Support for data sources with dynamic schema .....	72
Quickly explore and create tables with the table hub and designer.....	72
Command designer with Power Fx.....	73
Power Fx formulas provide richer and easier to use column calculations in Microsoft Dataverse	74
Build forms entirely using features available in the modern form designer .....	76
Rapid delivery of flagship applications.....	77
Overview .....	77
Power Apps application on Windows running model-driven and canvas apps with full support for offline .....	77
Create standalone, native mobile apps with Power Apps.....	78
Safest way to digitally transform at whole-company scale.....	81
Overview .....	81

Conditional access policies for individual Power Apps.....	81
Enable quarantine of non-compliant Power Apps .....	83
Solution checker enforcement improvements .....	85
<b>Power Apps portals.....</b>	<b>86</b>
Overview.....	86
What's new and planned.....	88
Core platform.....	90
Overview .....	90
Dataverse search integration in portals .....	91
Portals support for image columns in Microsoft Dataverse.....	91
Portals support for file columns in Microsoft Dataverse .....	92
Governance and administration .....	92
Overview .....	92
Support for portal actions using admin APIs .....	92
Portals audit logging in Microsoft 365 compliance center.....	93
Portals configuration and packaging .....	94
Overview .....	94
Web files in portals to use file column type from Microsoft Dataverse .....	94
Professional developer experiences.....	95
Overview .....	95
Portals Web API support for Microsoft Dataverse custom actions.....	95
Microsoft Power Platform CLI support for Portal Checker.....	95
<b>Power Automate .....</b>	<b>97</b>
Overview.....	97
What's new and planned.....	101
Cloud flows.....	104
Overview .....	104

Improved home page experience .....	104
Resubmit multiple failed runs at once .....	105
Undo feature in cloud flow designer .....	106
Enhanced help topics in Power Virtual Agents .....	107
Simplify how solution-aware flows are shared with Azure AD users .....	108
Solutions list shows a warning for connection references .....	108
Users can see solution references from the flow details page .....	109
Solution-aware cloud flows are shown in the my flows list .....	109
Use connections provided by run-only users with the Dataverse connector .....	109
Troubleshoot multiple flow runs at the same time .....	110
Flow ownership supported for Service Principals .....	111
Handle null values in JSON .....	111
OData editor improvements in cloud flows .....	111
Improved Power Automate mobile app for Android .....	112
Desktop flows .....	113
Overview .....	113
Use credentials from CyberArk in desktop flow connections .....	114
Desktop flow machines and runs - status health, analytics, and error reporting improvements .....	115
Set screen resolution for unattended desktop flow runs .....	116
SharePoint connector in Power Automate for desktop .....	117
Use credentials from Azure Key Vault in desktop flow connections .....	117
Java automation in SWT framework applications .....	118
Display custom form action in Power Automate for desktop .....	118
More data types for input and output variables .....	119
<b>Power Virtual Agents .....</b>	<b>120</b>
Overview .....	120
What's new and planned .....	123
Bot configuration .....	124

Overview .....	124
Support data loss prevention .....	124
Use single sign-on with Dynamics 365 Customer Service .....	125
Core authoring.....	125
Overview .....	125
Start bot conversations with proactive triggers .....	125
Service and runtime.....	126
Overview .....	126
Availability in Government Community Cloud (GCC) and GCC High .....	126
<b>Microsoft Dataverse .....</b>	<b>128</b>
Overview.....	128
What's new and planned.....	130
Bridge Microsoft Power Platform to Azure data.....	132
Overview .....	132
Access Dataverse choice labels directly from Azure Synapse Link for Dataverse .....	133
Receive notifications regarding the state of your Azure Synapse Link for Dataverse .....	133
Export Dataverse data in Delta Lake format .....	134
Azure Synapse Link for Dataverse - China Cloud .....	135
Microsoft Dataverse API .....	135
Overview .....	135
Instantly revoke users and enforce IP restriction with CAE .....	135
Microsoft Dataverse data .....	136
Overview .....	136
Power Platform solutions can now include Power BI reports and datasets .....	136
Dataverse results in Microsoft Search .....	137
Improvements to dual-write UI .....	138
Scan, classify, and label Dataverse data .....	138

Microsoft Dataverse data archival.....	139
<b>AI Builder .....</b>	<b>140</b>
Overview.....	140
What's new and planned.....	141
Content intelligence .....	142
Overview .....	142
Support for unstructured documents.....	143
Model ops.....	143
Overview .....	143
Feedback loop improves models by raising confidence scores in AI Builder .....	144
Collaborative authoring of AI models .....	144
Models support versioning .....	145
<b>Governance and administration .....</b>	<b>146</b>
Overview.....	146
What's new and planned.....	147
Reporting for Finance and Operations storage .....	148
Purchase Dynamics 365 and Power Platform ISV offers from AppSource.....	148
<b>Pro development.....</b>	<b>149</b>
Overview.....	149
What's new and planned.....	151
Fusion development.....	152
Overview .....	152
Provide the ability to create and update custom connectors using Power Platform CLI .....	152
Microsoft Power Platform connectors .....	153
Overview .....	153
Azure Key Vault secrets can be used in custom connectors using environment variables .....	154

Service principal support for connectors.....	154
Support for custom code in connectors .....	155
<b>ISV experiences.....</b>	<b>156</b>
Overview.....	156
<b>Data integration .....</b>	<b>157</b>
Overview.....	157
What's new and planned.....	158
Azure Virtual Network data gateways.....	161
Overview .....	161
VNet data gateway - connectivity for Power BI and Microsoft Power Platform dataflows.....	161
Dataflows .....	162
Overview .....	162
Public preview of the next generation Power BI dataflows .....	162
Connections page now lists dataflows used by connection .....	163
Power Query connectors .....	163
Overview .....	163
Amazon Redshift support for native queries in Power Query Online and dataflows .....	163
Azure HDInsight HDFS connector available in Power Query Online, dataflows .....	164
Google BigQuery support for native queries in Power Query Online and dataflows .....	164
Hive LLAP connector available in Power Query Online and dataflows .....	165
SharePoint Lists V2 connector available in Power Query Online and dataflows .....	165
Snowflake support for native queries in Power Query Online and dataflows .....	165
Support for native queries in import and DirectQuery mode in the Power Query SDK .....	166
Active Directory connector available in Power Platform dataflows .....	166
Certified connectors available in Power BI dataflows .....	167
Essbase connector available in Power Query Online and dataflows .....	167
Hadoop Distributed File System (HDFS) connector available in Power Query Online and dataflows .....	167

Informix connector available in Power Query Online and dataflows .....	168
OLE DB connector available in Power Query Online and dataflows .....	168
Support for custom connectors in Power BI dataflows .....	168
Sybase connector available in Power Query Online and dataflows .....	169
Vertica connector available in Power Platform Dataflows .....	169
Power Query Online .....	170
Overview .....	170
Improvements for connecting to files stored in SharePoint Online .....	170
Personal query gallery .....	170

# Microsoft Power Platform: 2022 release wave 1 plan

The Microsoft Power Platform release plan for the 2022 release wave 1 describes new features releasing from **April 2022** through **September 2022** for Power BI, Power Apps, Power Apps portals, Power Automate, Power Virtual Agents, and AI Builder, as well as Microsoft Power Platform capabilities for governance and administration, ISV experiences, and data integration. You can either browse the release plan [online](#) or download the document as a [PDF file](#).

The Dynamics 365 and industry clouds features shipping in the 2022 release wave 1 have been summarized in a separate [release plan](#) as well as a downloadable [PDF](#).

## 2022 release wave 1 overview

Microsoft Power Platform enables users and organizations to analyze, act, and automate on the data to digitally transform their businesses. Microsoft Power Platform today comprises four products: Power BI, Power Apps, Power Automate, and Power Virtual Agents. It also has two add-ins: AI Builder and Power Apps portals.

### Power BI

[Power BI](#) continues to invest in empowering every individual, team, and organization to drive a data culture:

- For individuals, we're improving the create experience through the creation of measures using natural language and work sharing for easy collaboration using OneDrive.
- For teams, we're bringing enhancements to goals focused on enterprise needs, integration with PowerPoint, and new capabilities to the Power BI experience in Teams.
- For organizations, we're improving our experience with big data through automatic aggregations, data protection capabilities through DLP, and providing improved visibility into activity to admins.

### Power Apps

[Power Apps](#) will continue to enable developers of all skill levels to build enterprise class apps for web and mobile infused with intelligence and collaboration capabilities. New built-in collaboration features will enable teams to work on an app simultaneously as well as merge and track changes for faster and more seamless development. Makers and developers will be more productive over Dataverse by leveraging intelligence to assist development with natural language to code powered by advanced AI models such as GPT-3 and PROSE. Most importantly, key updates will ensure that organizations can deliver flagship apps across the

entire company faster and safer than ever, such as Power Apps mobile apps (allowing packaging of apps to be deployed on Android and iOS) and improvements to ALM and governance capabilities to ensure safe and scalable roll outs.

## Power Apps portals

[Power Apps portals](#) continues to invest in bringing more out-of-the-box capabilities to support both low-code / no-code development as well as for professional developers. Some of the salient capabilities for makers include converting portals into cross-platform mobile applications, option to use Global search that is powered through Dataverse search integration, enhancements for professional developers to do more with the portals using Power Platform PAC CLI tool as well as for admins to author administrative workflows using Admin APIs.

## Power Automate

[Power Automate](#) is more accessible than ever before with integrations in Windows 11, Microsoft Teams, which helps in automating tasks no matter where you are in Microsoft 365. With increased customer usage of the robotic process automation (RPA) deployments, we are adding features to make it easier to manage machines in Azure and the credentials of your users and accounts. All features are increasingly automatable by default (adhering to the API-first approach), so that IT departments can manage their Power Automate infrastructure in whatever way they want.

## Power Virtual Agents

[Power Virtual Agents](#) brings improvements in the authoring experience with commenting, Power Apps Portals integration, data loss prevention options, proactive bot update messaging in Microsoft Teams, and more. Power Virtual Agents gives anyone in your organization the ability to create powerful custom bots using an easy, code-free graphical interface, without the need for AI experts, data scientists, or teams of developers. A bot can interact with users, ask for clarifying information, and ultimately answer a user's questions.

## Microsoft Dataverse

[Microsoft Dataverse](#) continues investment in Azure Synapse Link. Customers will be able to unlock deeper insights from Dataverse data using the power of Azure Synapse. Deeper integration with Azure Active Directory will simplify sharing while improving governance and security. Enhancements to Dataverse data modelling will allow customers to build new types of applications leveraging rich and intelligent data types.

## AI Builder

In 2022 release wave 1, [AI Builder](#) is adding capabilities around document automation like the ability to process unstructured documents (such as contracts or e-mails). By extracting

insights from the semantic understanding of the text in unstructured documents, we'll be able to extract key information from documents and process them automatically in an end-to-end flow using Power Automate. Increased capabilities include effectively managing the governance and lifecycle of AI Models. We'll focus on building out a Feedback loop process, enabling improvement of model accuracy by retraining models with data processed in production.

## Microsoft Power Platform governance and administration and ISV experiences

[Microsoft Power Platform governance and administration](#) Organizations can now connect their Azure subscription to an environment and pay for Power Apps and Dataverse as it is consumed across their organization. For simplified governance, we have enhanced out-of-the-box tenant level analytics, additional advanced Data Loss Prevention capabilities, and information protection policies to manage connectors and Power Platform assets. Lastly, we're investing in new capabilities like Lockbox for Power Platform to satisfy the new European Data Boundary (EUDB) regulations.

[Microsoft Power Platform ISV experiences](#) building on our platform are now able to service their customers at planet scale. Instead of servicing each customer with manual updates, ISVs can now have their customers opt in to receive automatic updates. With this update we are enabling ISVs to be much more agile and ship updates at the same high cadence as customers are used to from our Dynamics 365 applications. ISV studio offers a view into status of updates and how many customers have opted into auto updates.

## Data integration

[Data integration](#) in this upcoming release wave, we will deliver improvements in our big data performance and high scale connectivity Dataverse, Snowflake, Databricks, BigQuery and Redshift. You can expect several enhancements across connectors, Gateway and VNet. New capabilities will simplify data prep through visual authoring environment and diagram view to create high-scale dataflows to Microsoft Cloud, supporting Power BI, Insights Apps and Power Platform.

## Key dates for the 2022 release wave 1

This release plan describes functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

Here are the [key dates](#) for the 2022 release wave 1.

Milestone	Date	Description
Release plans available	January 25, 2022	Learn about the new capabilities coming in the 2022 release wave 1 (April 2022 – September 2022) across Dynamics 365 and Industry Clouds and Microsoft Power Platform.
Early access available	January 31, 2022	Test and validate new features and capabilities that will be a part of the 2022 release wave 1, coming in April, before they get enabled automatically for your users. You can view the <a href="#">Microsoft Power Platform 2022 release wave 1 early access</a> features now.
Release plans available in 11 additional languages	February 23, 2022	The Dynamics 365 and Industry Clouds and Power Platform release plans are published in Danish, Dutch, Finnish, French, German, Italian, Japanese, Norwegian, Portuguese (Brazilian), Spanish, and Swedish.
General availability	April 1, 2022	Production deployment for the 2022 release wave 1 begins. <a href="#">Regional deployments will start on April 1, 2022.</a>

Just like the previous release waves, we continue to call out how each feature will be enabled in your environment:

- **Users, automatically** – These features include changes to the experience for users and are enabled automatically.
- **Admins, makers, or analysts, automatically** – These features are meant to be used by administrators, makers, or business analysts and are enabled automatically.
- **Users by admins, makers, or analysts** – These features must be enabled or configured by the administrators, makers, or business analysts to be available for their users.

You can get ready with confidence knowing which features will be enabled automatically.

We've done this work to help you—our partners, customers, and users—drive the digital transformation of your business on your terms. We're looking forward to engaging with you as you put these new services and capabilities to work, and we're eager to hear your feedback as you dig into the 2022 release wave 1.

Let us know your thoughts. Share your feedback in the [Microsoft Power Platform community forum](#). We'll use your feedback to make improvements.

# Change history

This topic is updated when a feature's release date changes or when a feature is added or removed. You can see the full topic in the [Change history](#) online.

# 2022 release wave 1 features available for early access

This topic lists the features that can be enabled for testing in your environment beginning **January 31, 2022**. Features from the following apps are available as part of early access:

- Power Apps

The features from these apps update the existing user experiences. You can opt in early to enable these features in your environment. This will allow you to test these features and then adopt them across your environments. For information on how to enable these features, go to [Opt in to 2022 release wave 1 updates](#).

**IMPORTANT** If you are using Dynamics 365 apps, such as Sales, Service, Marketing, Finance, Supply Chain Management, Business Central, and Commerce, there are early access features that could impact your users. For Dynamics 365 early access features, go to [2022 release wave 1 features available for early access](#).

## Power Apps

For a complete list of the Power Apps features, go to [What's new and planned for Power Apps](#).

Feature	Enabled for	Early access	General availability
<a href="#">Offline Sync notification</a>	Users, automatically	✓ Jan 31, 2022	Apr 2022
<a href="#">Power Apps read-only grid control is the default grid for read-only scenarios</a>	Users, automatically	✓ Jan 6, 2022	Apr 2022
<a href="#">UI improvement for business process flows</a>	Users, automatically	✓ Dec 9, 2021	Apr 2022

# Power BI

## Plan and prepare for Power BI in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **Power BI**.

### Overview

Microsoft business intelligence helps drive a data culture where everyone, at every level of an organization, can make confident decisions with data at any scale. To enable organizations to drive a data culture, we continue to invest across three key themes that we've introduced before:

### Empower every individual

Power BI makes it easier than ever for everyone to work with data, using familiar Office-like experiences and AI-infused insights across Power BI Desktop, the Power BI service, and mobile applications. Our focus is to deliver capabilities designed for business analysts and end users. We're integrating Power BI even more tightly with Office to enable everyone to start analyzing data without friction. We're providing one-click on-ramps for analyzing tables of data from anywhere and capabilities that complement Excel. We continue our investment in improving our authoring experiences for visuals and measures, leveraging natural language input where possible. And most importantly, we're also making progress on ideas and feedback that the community has shared with us.

### Empower every team

Power BI is woven into the fabric of where teams work. We make data a standard part of every team's decision-making by focusing on capabilities to drive team productivity, collaboration, and bias for action. This has become even more critical over the last couple of years as people have been working remotely and a lot of collaboration is occurring using technology. Insights become more valuable when they're shared. By integrating Power BI deeply with Office, we bring insights to Teams, where everyone collaborates, with a deeper integration in key experiences, such as meetings, channels, and chats. We're also enabling users to find and share data quickly within and outside their organization, track business objectives at enterprise scale through Goals, and build narratives around data through storytelling.

## Empower every organization

Power BI can scale to meet the most demanding needs of large enterprise customers. With the centralized administration, governance, and industry-leading security capabilities in Power BI, IT always has full visibility and control. Our investments continue to span several areas of the product focused on trust and compliance, auditability, information quality, adoption, connectivity, self-service data prep, big data, enterprise semantic models, and enterprise reporting. Our balance between enabling individuals and teams, along with enabling IT to meet advanced security and governance requirements, really helps organizations deliver insights at scale.

For official product documentation and training for Power BI, go to:

- [Power BI docs](#)
- [Power BI training on Microsoft Learn](#)

**TIP** Download the release overview guide and share with your team as you plan to onboard the new capabilities included in this release wave.

[Download the overview guide \(PDF\)](#)

\* Overview guide available in English version only

## Investment areas



### *What's new and planned*

#### **Power BI Pro**

In order to build a data culture, everyone needs to be able to discover, share, and collaborate on insights. Whether that's authors creating reports using Power BI Desktop, consumers exploring data in the Power BI service or mobile applications, or users in Office using data to make better decisions, Power BI will continue to evolve to make it easier than ever to work with data. We're investing in three key areas:

- **Empower every individual** with instantly familiar experiences and AI-infused insights.
- **Empower every team** with business intelligence woven into the fabric of where teams work, making data a standard part of every decision and turning insights into actions.
- **Empower every organization** to meet the most demanding enterprise and administrative needs.

### Power BI Premium

With each release, Microsoft Power BI Premium continues to deliver features that help organizations accelerate the delivery of insights at scale, meeting the most demanding needs of an enterprise. These investments will span the following areas:

- **Flexible licensing models:** Organizations can choose between per user and per capacity licensing options.
- **Microsoft-owned resource management:** Organizations don't have to worry about workload spikes and capacity utilization that can impact the speed of work.
- **Autoscale and pay-as-you-go pricing:** Scale beyond resource capacity without experiencing drops in performance.
- Advanced self-service data prep.
- **Interactive experiences over big data** in big data sources, such as Azure Synapse Analytics.
- **Operational reporting and distribution** to distribute pixel perfect reports to millions of users.
- Advanced security.

### Power BI Embedded

Power BI Embedded enables developers to offer world-class analytics without developing it themselves. Developers can quickly and easily provide customer-facing reports, dashboards, and analytics in their own applications by using and branding Power BI as their own. Power BI Embedded reduces developer resource needs by automating the monitoring, management, and deployment of analytics, while maintaining full control of the application, the Power BI features, and intelligent analytics.

## For application administrators

### User impacting features to the user experience enabled automatically

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### Features that must be enabled by application administrators

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.



*Get the most out of Power BI*

### Get the most out of Power BI

Helpful links	Description
<a href="#">Release plan</a>	View all capabilities included in the release.
<a href="#">Product updates</a>	Stay up to date on latest product updates.
<a href="#">Release calendar</a>	Know important release milestones.
<a href="#">Licensing</a>	Improve your understanding of how to license Power BI.
<a href="#">Product documentation</a>	Find documentation for Power BI.
<a href="#">User community</a>	Engage with Power BI experts and peers in the community.
<a href="#">Upcoming events</a>	Find and register for in person and online events.
<a href="#">Product trials</a>	Get started with Power BI.

## What's new and planned for Power BI

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the date of release.

This check mark (✓) shows which features have been released for public preview or early access and for public preview, early access, and general availability.

### Power BI Embedded

Power BI Embedded enables developers to quickly and easily embed fully interactive reports and visuals into applications.

Feature	Enabled for	Public preview	General availability
<a href="#">Embed Power BI in Jupyter Notebooks - report creation from DataFrames</a>	Users, automatically	Sep 2022	-
<a href="#">Embedded analytics playground enhancements</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-
<a href="#">Embed Power BI goals for your organization</a>	Users by admins, makers, or analysts	-	May 2022
<a href="#">Embedded analytics - Power BI component for Vue.js</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Chargeback reporting and APIs for ISVs</a>	Admins, makers, marketers, or analysts, automatically	Jun 2022	Sep 2022

## Power BI Premium

New Power BI Premium features help organizations accelerate the delivery of insights at scale, meeting the most demanding needs of an enterprise.

Feature	Enabled for	Public preview	General availability
<a href="#">Data protection enhancements - highlighting centralized Power BI DLP policies</a>	Users by admins, makers, or analysts	Apr 2022	-
<a href="#">Deployment pipelines - deployment history</a>	Admins, makers, marketers, or analysts, automatically	Jul 2022	
<a href="#">Automatic aggregations</a>	Admins, makers, marketers, or analysts, automatically	-	May 2022
<a href="#">Hybrid tables</a>	Admins, makers, marketers, or analysts, automatically	-	May 2022
<a href="#">Power BI Report Server - May 2022 release</a>	Users by admins, makers, or analysts	-	May 2022
<a href="#">Deployment pipelines - Azure DevOps extension</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Power BI Report Server - September 2022 release</a>	Users by admins, makers, or analysts	-	Sep 2022
<a href="#">Chargeback reporting for Power BI Premium administrators</a>	Admins, makers, marketers, or analysts, automatically	Jun 2022	Sep 2022

## Power BI Pro

New features encourage a data culture by helping everyone discover and collaborate on insights.

Feature	Enabled for	Public preview	General availability
<a href="#">Power BI integration in Outlook and Office hub</a>	Users, automatically	May 2022	-
<a href="#">Power BI integration with PowerPoint</a>	Users, automatically	May 2022	

Feature	Enabled for	Public preview	General availability
<a href="#">Power BI datasets hub enhancements</a>	Admins, makers, marketers, or analysts, automatically	Jun 2022	-
<a href="#">Improve My workspace governance</a>	Admins, makers, marketers, or analysts, automatically	Jul 2022	-
<a href="#">Create Power BI app versions for different audiences</a>	Admins, makers, marketers, or analysts, automatically	Jul 2022	
<a href="#">Quick measures using natural language</a>	Admins, makers, marketers, or analysts, automatically	Aug 2022	-
<a href="#">Contextual on-object interaction with Power BI visuals</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	
<a href="#">Create reports in the Power BI service with new data sources</a>	Users, automatically	Sep 2022	
<a href="#">New and enhanced Power BI experiences in Teams</a>	Users, automatically	Sep 2022	
<a href="#">Quickly create a Power BI dataset or report from a table of data in Excel</a>	Users, automatically	Sep 2022	
<a href="#">View Power BI files in OneDrive and SharePoint</a>	Users, automatically	Sep 2022	-
<a href="#">Accessibility - improved slicer navigation</a>	Users, automatically	-	Jul 2022
<a href="#">Accessibility - improved table navigation</a>	Admins, makers, marketers, or analysts, automatically	-	Jul 2022
<a href="#">Accessibility - reflow to support 400x zoom</a>	Admins, makers, marketers, or analysts, automatically	-	Jul 2022
<a href="#">Accessibility - show visuals as tables</a>	Admins, makers, marketers, or analysts, automatically	-	Jul 2022
<a href="#">Accessibility - smart narrative descriptions</a>	Admins, makers, marketers, or analysts, automatically	-	Jul 2022

Feature	Enabled for	Public preview	General availability
<a href="#">Improved Power BI administration and operations</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Power Apps and Power BI better together - support Power Apps environment lifecycle operations for Power BI content</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Power Apps and Power BI better together - include Power BI reports and datasets in a Power Apps solution</a>	Admins, makers, marketers, or analysts, automatically	Jul 2022	To be announced
<a href="#">Power Apps and Power BI better together - quickly create a Power BI report as part of a Power Apps solution</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	To be announced

Description of **Enabled for** column values:

- **Users, automatically:** These features include changes to the user experience and are enabled automatically.
- **Admins, makers, marketers, or analysts, automatically:** These features are meant to be used by administrators, makers, marketers, or business analysts and are enabled automatically.
- **Users by admins, makers, or analysts:** These features must be enabled or configured by the administrators, makers, or business analysts to be available for their users.

For a list of the countries or regions where Dynamics 365 business applications are available, go to the [International availability guide](#). For more information about geographic areas and datacenters (regions), go to the [Dynamics 365 and Microsoft Power Platform availability page](#).

## Power BI Embedded

### Overview

Power BI Embedded enables developers to offer world-class analytics without developing it themselves. Developers can quickly and easily provide customer-facing reports, dashboards, and analytics in their own applications by using and branding Power BI as their own. Power BI Embedded reduces developer resource needs by automating the monitoring, management, and deployment of analytics, while maintaining full control of the application, the Power BI features, and intelligent analytics.

## Embed Power BI in Jupyter Notebooks - report creation from DataFrames

Enabled for	Public preview	General availability
Users, automatically	Sep 2022	-

### Business value

Connect data scientists and business users by enabling easy creation of reports with Power BI directly from the notebook where the data is being handled. Enhance data exploration and storytelling in Jupyter Notebooks using Power BI's reporting capabilities.

### Feature details

Currently Jupyter Notebook users can embed existing Power BI content into their notebooks to show it as part of their data stories using the **powerbiclient** Python package.

This experience will be enhanced with the new ability to use data from pandas DataFrames and create new Power BI reports directly from this data, all within the notebook. This will provide users with:

- Interactive reports.
- Power BI capabilities within their notebook.
- The ability to share their report with Power BI users outside of the notebook.

## Embedded analytics playground enhancements

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

The developer sandbox lets developers explore Power BI's embedded capabilities and client APIs in a comfortable environment with no setup required. The new enhancements will provide developers an improved coding experience in the sandbox.

### Feature details

The added features include:

- **Built-in log:** Code snippets whose results are not visible on the report itself (for example, Get visuals) will be accessible through a dedicated built-in log, and not only through the browser's log.
- **TypeScript support:** Both TypeScript and JavaScript will be supported in the code editor.

- **Editor and report resizing:** Users will have the flexibility to resize the different components on the page (code editor, report and log) for a smoother coding experience.

### See also

[What is the Power BI embedded analytics playground?](#) (docs)

## Embed Power BI goals for your organization

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	May 2022

### Business value

Enable Power BI customers to embed goals for their organizations, allowing their Power BI users to interact with the given set of goals published for them.

### Feature details

Organizations exist to achieve business objectives and in today's data-driven world, progress is measured through data. However, goal tracking systems are disconnected from business data and often require manual updates. Not only that, but goals need to be optimized for teamwork, tightly integrated into core business processes, and easily extended. We're now enabling the ability to measure key business metrics and goals built directly on top of the embedded Power BI reporting already used by organizations for their Power BI users.

## Embedded analytics - Power BI component for Vue.js

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

Vue.js is a popular web framework, ranked among the top used and most wanted web frameworks. This component will help Vue.js developers get their applications up and running quickly with embedded analytics.

### Feature details

The library for Vue.js lets you embed Power BI reports, dashboards, dashboard tiles, report visuals, or Q&As. It helps you optimize performance and use all the client-side APIs including report authoring. In addition, it simplifies the Power BI embedded lifecycle management in Vue.js applications.

## Chargeback reporting for ISVs

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2022	Sep 2022

### Business value

ISVs manage their cost of embedding Power BI, and they need to spread out the cost of Power BI Embedded capacities across their various customers. Some customers consume more than others, and thus potentially pay more for this service.

### Feature details

ISVs can use the chargeback report to streamline the chargeback process.

## Power BI Premium

### Overview

With each release, Microsoft Power BI Premium continues to deliver features that help organizations accelerate the delivery of insights at scale, meeting the most demanding needs of an enterprise. These investments will span the following areas:

- **Flexible licensing models:** Organizations can choose between per user and per capacity licensing options.
- **Microsoft-owned resource management:** Organizations don't have to worry about workload spikes and capacity utilization that can impact the speed of work.
- **Autoscale and pay-as-you-go pricing:** Scale beyond resource capacity without experiencing drops in performance.
- Advanced self-service data prep.
- **Interactive experiences over big data** in big data sources, such as Azure Synapse Analytics.
- **Operational reporting and distribution** to distribute pixel perfect reports to millions of users.
- Advanced security.

### Data protection enhancements - highlighting centralized Power BI DLP policies

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Apr 2022	-

## Business value

This feature enables organizations to control and protect their sensitive enterprise data by leveraging Microsoft's leading security solutions for information protection, threat protection, and cloud app security.

## Feature details

Providing data protection capabilities in Power BI is critical to enabling our customers to control and protect their sensitive enterprise data. We've been leading the landscape with data protection capabilities in Power BI. We can do this by integrating Microsoft's leading security solutions for information protection, threat protection, and cloud app security.

We're continuing to invest in data protection. We plan to introduce additional capabilities, allowing organizations across the various industries to use the most sensitive data while adhering to company policies and ensuring data security. We also plan to extend capabilities to support more restrictive and demanding security and compliance requirements.

These capabilities include:

**Centralized Power BI data loss prevention (DLP) policies:** We're expanding the capabilities of DLP policies for Power BI, based on additional conditions and allowing further actions. For example:

- We'll support auto-classification of data and make it possible to define conditions for info that is classified as sensitive.
- We've already implemented the following data protection features:
- Allowing customers to classify and label sensitive data in Power BI.
- Persisting labels and protection throughout the Power BI service and in the mobile apps, and when content is exported to Excel, PowerPoint, PDF, and live connections to Excel files.
- Supporting inheritance of labels between artifacts, starting with inheritance upon creation of new Power BI assets.
- Enforcing label-specific permissions when data is exported out of Power BI.
- Monitoring user access and activity, including real-time risk analysis and protection.
- Adding downstream inheritance of labels within Power BI projects. When a label is applied to a certain asset (such as a dataset), connected downstream assets (reports, dashboards) will inherit that label.
- Persisting sensitivity labels and enforcing protection in Power BI Embedded (SaaS embedding).
- Providing APIs for administrators to retrieve asset sensitivity labels.

- Requiring labels when content is created or edited in the Power BI service. This feature is managed by administrators who can turn it on and off.
- Providing sensitivity labels in Power BI on government clouds (GCC, GCCH, and DOD).
- General availability of applying sensitivity labels and protection to **Power BI desktop files** (.pbix).
- Get data from protected Excel files. This capability applies the Excel file's sensitivity label on downstream Power BI datasets and reports.
- Microsoft 365 Power BI data loss prevention (DLP) policies enable security administrators to apply their organization's data loss prevention policies to sensitive data in the Power BI service. Starting with DLP policies to alert or prevent the upload of sensitive data to the Power BI service when a given condition is met—for example, when the Microsoft Information Protection (MIP) label is set on content.

### Deployment pipelines - deployment history

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jul 2022	-

### Business value

This feature is designed for BI teams who use deployment pipelines to manage their content. To properly govern changes, BI teams need the ability to easily track their changes across time. The new deployment history feature tracks changes that have been deployed to the test and production stages, and makes it easier for teams to collaborate and quickly find bugs and bug root causes.

### Feature details

For the BI creator who deploys content in the pipeline, this new feature adds the ability to:

- See a summary of the changes you're about to make before the deployment process starts.
- Add comments to a deployment that explain or describe the content and changes that are being deployed.

For other BI creators with access to that pipeline, this new feature adds:

- An activity log for deployment history within each pipeline.
- Deployment history that includes:
  - The stage the deployment was deployed to.
  - Who made the deployment.

- Deployment time.
- Status of deployment (completed or failed).
- List of deployed artifacts that are new or have been changed.
- Deployer comments that were added as part of the deployment.

### Automatic aggregations

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	May 2022

#### Business value

Automatic aggregations are managed automatically by Power BI, accelerating time to insight, and reducing total cost of ownership. Most business intelligence queries are aggregated in nature. Therefore, if you cache data at the aggregated level, you will see a high rate of return in terms of boosting query performance while minimizing data duplication.

#### Feature details

Automatic aggregations will automatically create and manage VertiPaq in-memory aggregation tables in Power BI Premium datasets in DirectQuery mode. The aggregation tables will be based on usage and query patterns. They will be automatically maintained as a self-learning, self-optimizing, AI-driven system. Power BI queries generated when users interact with report visuals will automatically use the aggregation tables. This feature will provide enhanced performance and user concurrency to unlock massive datasets for interactive analysis.

The automatic aggregations feature will include a lift chart to show the performance impact across all users and reports for the dataset.

### Hybrid tables

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	May 2022

#### Business value

Hybrid tables combine the performance of VertiPaq in-memory caches with the capabilities of DirectQuery, allowing users to unlock massive datasets for real-time, interactive analysis.

## Feature details

Hybrid tables will contain in-memory VertiPaq caches of historical data for blazing-fast performance. In the same table, real-time data will be queried in DirectQuery mode and dynamically combined with cached data. The DirectQuery range can be limited to only the necessary real-time data, which improves the performance of queries on big-data sources. When combined with Power BI's automatic page refresh feature, hybrid tables will unlock massive datasets with billions of rows for interactive analysis while providing a great solution for real-time requirements.

## Power BI Report Server - May 2022 release

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	May 2022

## Business value

Power BI Report Server is the on-premises solution for reporting today, with the flexibility to move to the cloud tomorrow. It's included with Power BI Premium so you have the ability to move to the cloud on your terms.

## Feature details

Power BI Report Server provides customers with the flexibility to deploy reporting on-premises, which is necessary for customers who can't use the cloud service for compliance or policy reasons. While Power BI Report Server isn't a substitute for the breadth of capabilities in the Power BI service, we continue to enhance Power BI Report Server based on customer feedback. In this release, we'll continue to bring more of the Power BI Desktop reporting capabilities to Power BI Report Server. These include reporting, modeling, and analytics capabilities of Power BI reports.

## Deployment pipelines - Azure DevOps extension

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

## Business value

Using deployment pipeline APIs gives pro developers a continuous delivery process with tools they're familiar with, such as Azure Pipelines. The Azure DevOps extension allows a faster and easier integration between existing Azure Pipelines and Power BI deployment pipelines. In 2022 release wave 1, we're making the Azure DevOps extension generally available.

## Feature details

Power BI provides an Azure DevOps extension that enables creators to integrate deployment pipeline operations into their Azure Pipelines, including:

- Create a pipeline
- Assign a workspace to a pipeline
- Add users and manage their permissions in a pipelines and a workspace
- Deploy all or selected content between stages

Using the extension, pro developers can manage the lifecycle of their Power BI content with familiar tools used to manage other projects and products.

You can find the extension in the [Visual Studio Marketplace page](#).

## See also

[Integrate your pipeline with Azure DevOps](#) (docs)

## Power BI Report Server - September 2022 release

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	Sep 2022

## Business value

Power BI Report Server is the on-premises solution for reporting today, with the flexibility to move to the cloud tomorrow. It's included with Power BI Premium so you have the ability to move to the cloud on your terms.

## Feature details

Power BI Report Server provides customers with the flexibility to deploy reporting on-premises, which is necessary for customers who can't use the cloud service for compliance or policy reasons. While Power BI Report Server isn't a substitute for the breadth of capabilities in the Power BI service, we continue to enhance Power BI Report Server based on customer feedback. In this release, we'll continue to bring more of the Power BI Desktop reporting capabilities to Power BI Report Server. These include reporting, modeling, and analytics capabilities of Power BI reports.

## Chargeback reporting for Power BI Premium administrators

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2022	Sep 2022

## Business value

Administrators manage budgets, and they need to spread out the cost of Power BI Premium capacities across different groups.

## Feature details

Administrators who manage budgets can allocate the cost of Power BI Premium capacities across the different business groups that use those capacities. This report can be used by administrators to streamline the chargeback process.

## Power BI Pro

### Overview

In order to build a data culture, everyone needs to be able to discover, share, and collaborate on insights. Whether that's authors creating reports using Power BI Desktop, consumers exploring data in the Power BI service or mobile applications, or users in Office using data to make better decisions, Power BI will continue to evolve to make it easier than ever to work with data. We're investing in three key areas:

- **Empower every individual** with instantly familiar experiences and AI-infused insights.
- **Empower every team** with business intelligence woven into the fabric of where teams work, making data a standard part of every decision and turning insights into actions.
- **Empower every organization** to meet the most demanding enterprise and administrative needs.

## Power BI integration in Outlook and Office hub

Enabled for	Public preview	General availability
Users, automatically	May 2022	-

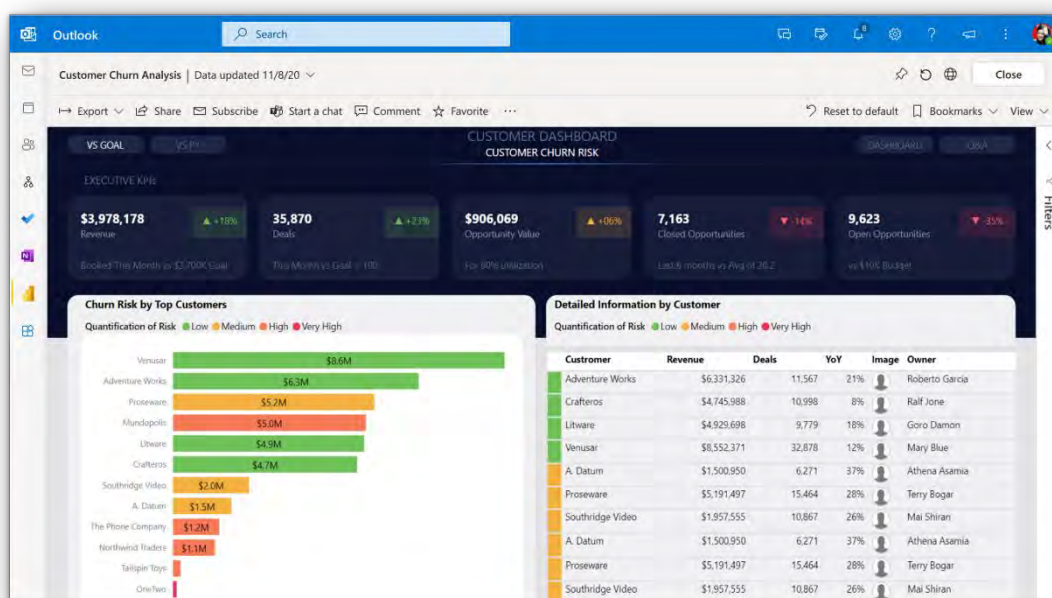
## Business value

By making Power BI available from Outlook and the Office hub, customers will be able to discover and consume data and insights in context. Because customers can discover and act on their data and insights so quickly and easily, this feature helps drive an organizational data culture.

## Feature details

Power BI will be fully integrating with Outlook and the Office hub. This includes integrating the entire Power BI personal app, opening Power BI reports attached to emails directly in the context of Outlook, and the ability to easily find and add Power BI adaptive cards to emails.

The Power BI personal app, currently available in Microsoft Teams, will enable users to find, consume, or create Power BI content from Outlook and the Office hub. Additionally, the integration in Outlook will make it easy to find and add Power BI content to email as adaptive cards. Finally, Power BI content included in emails will open within Outlook so users can consume Power BI without the need to change applications.



Screenshot of Power BI in Outlook.

## Power BI integration with PowerPoint

Enabled for	Public preview	General availability
Users, automatically	May 2022	-

### Business value

Data is at the core of decision making, evaluating, and monitoring the status of the business. This data, in the form of analytical outcomes and required actions, is reviewed and discussed at almost every business meeting. To streamline the process of preparing for the meetings, and to enhance the meeting experience, Power BI can now be embedded in PowerPoint presentations.

### Feature details

Power BI will enable organizations to integrate Power BI report content into their PowerPoint presentations.

When building their presentations, PowerPoint users can embed Power BI report pages or a specific bookmarked report view. After the report page has been embedded, the presentation creator can modify filters and interact with the content directly from within PowerPoint. Users who have access to the presentation will be able to view the content, and users who also have Power BI will be able to interact and refresh that content. This feature enables easy and insightful data storytelling and integrates it into the familiar PowerPoint experience.

### Power BI datasets hub enhancements

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2022	-

### Business value

This feature enables users to easily discover and reuse data in one central hub. The datasets hub is a centralized experience that empowers users by enabling them to curate, publish, discover, and reuse organizational datasets and address their business questions either in Power BI or in Excel. For data owners, the hub enables efficient and centralized management of data assets.

### Feature details

In the expanding world of BI, being able to easily discover valuable and trustworthy data in one central location has become crucial for deriving business insights and making correct business decisions. To address this, we recently introduced the new datasets hub, available within both the Power BI service and the Power BI Teams personal app.

The new datasets hub enables users to:

- Discover curated, non-curated, and recommended datasets that have been shared with them.
- Explore relevant dataset properties (description, sensitivity, refresh time, and so forth).
- Discover related reports.
- Explore usage information for the selected dataset.
- Create a report based on a selected dataset or start from a template report.
- Analyze a dataset in Excel.
- View lineage and impact for the selected dataset.
- Discover curated datasets that were set by their owners as discoverable and request access to view the data, build reports, or analyze it in Excel.
- View dataset schema and quickly create a report on top of a selected table.

- View dataset refresh history and refresh failure reason and trigger a new refresh.
- Share a dataset with a link or a chat in Teams to provide easy access and collaboration.

Moving forward, we're committed to making the datasets hub the central location for data discovery, exploration, and reuse for deriving insights. To accomplish this, we're expanding the capabilities of the datasets hub. This includes the ability to:

- Enable users to easily publish their data to Power BI and share further with their teams, directly from SharePoint Online, Log Analytics, Excel, and others.
- Enhance data discovery capabilities by enabling users to find data by searching by dataset name.
- Discover new datasets in your hub with read-only permissions and request further access.
- New options to create reports on top of a dataset. (Auto-create a report on a single table dataset or create as a formatted table.)
- Quickly access datasets from Power BI home page and recent lists, allowing access to dataset details in the datasets hub to explore further.

## Improve My workspace governance

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jul 2022	-

## Business value

Customers, especially those in the healthcare and financial sectors, have concerns about the governance of **My workspace**. By addressing these concerns directly, we help unblock adoption and drive adoption. Today, **My workspace** is harder to manage than collaborative workspaces (also known as app workspaces) due to its limitation on permission management, app publication, and geolocation. The fact that **My workspace** is available to every free user increases the risk of non-compliance.

## Feature details

**My workspace** will continue to be available for all users, and existing functionality will continue to work. It'll be upgraded to V2 platform, and non-premium features will continue to be fully available to users.

Service admins can better manage **My workspace**:

- They can add or remove themselves as admin of **My workspace**.

Service admins can configure **My workspace** to meet data residency requirements:

- They can set a default Premium capacity for all My workspaces.
- My workspace owners cannot reassign their My workspaces back to shared capacity.

### Create Power BI app versions for different audiences

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jul 2022	-

#### Business value

Power BI apps are one of the most popular ways to share analytics broadly and securely. Apps are an easy way for authors to share different types of content at one time. App authors create reports, dashboards, and links, and bundle them together into an app. The author can then share or publish the app to a location where users in the organization can access it. Because related Power BI content is bundled together, it's easier for users to find and install it in both the Power BI service and on their mobile devices. After an app is installed, users don't have to remember the names of a lot of different dashboards or reports because they're all together in one app, in a browser or on a mobile device.

#### Feature details

This new capability will allow app authors to create different versions of an app within the same workspace. Authors can decide which workspace content is shared with specific users and security groups. This streamlines the process for app creation, publishing, and updates. It also helps with content organization by reducing the number of workspaces needed for broad content distribution.

#### Thank you for your idea

Thank you for submitting [this idea](#). We listened to your idea, along with comments and votes, to help us decide what to add to our product roadmap.

### Quick measures using natural language

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2022	-

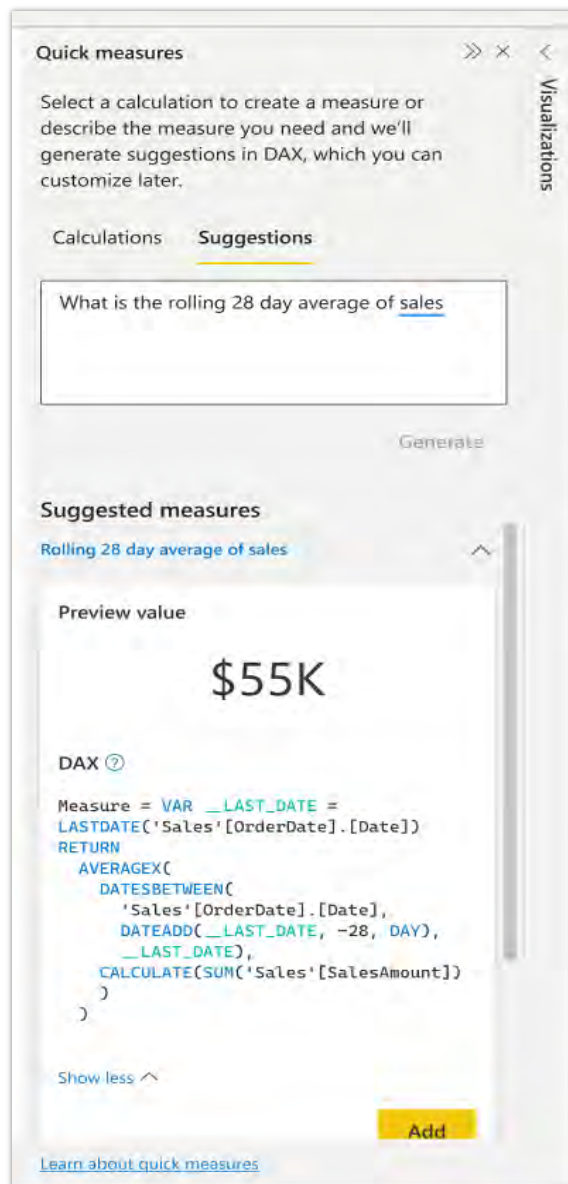
#### Business value

You can now use natural language statements to define calculations and help speed up the time to insights. Traditionally, you would be required to write DAX from scratch or use a built-in template. With this new capability, DAX measure suggestions are automatically

generated from your input. We hope this will help beginners quickly perform basic calculations easily and help seasoned DAX developers generate more sophisticated calculations in less time than before.

### Feature details

In this new update, you can generate DAX measures using natural language statements. Statements can include simple mathematical operations, time-based calculations, if conditions, text concatenation, and more.



*Measure suggestions based on natural language statements*

## Contextual on-object interaction with Power BI visuals

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

Office users today rely heavily on contextual on-object controls to help them quickly and effectively edit their objects, such as text and images, as efficiently as possible. This is extremely useful for new users who are unaware of what settings are available to them.

### Feature details

In this new update, Power BI will provide contextual on-object controls for objects such as visuals and buttons, to help users make beautiful pixel-perfect reports quickly. In 2022 release wave 1, Power BI will allow authors to quickly select and subselect elements in charts, and edit the formatting or properties of those elements. Furthermore, we'll allow users to edit the visual directly inline, reducing the time to edit visuals and design your pixel-perfect reports.

## Create reports in the Power BI service with new data sources

Enabled for	Public preview	General availability
Users, automatically	Sep 2022	-

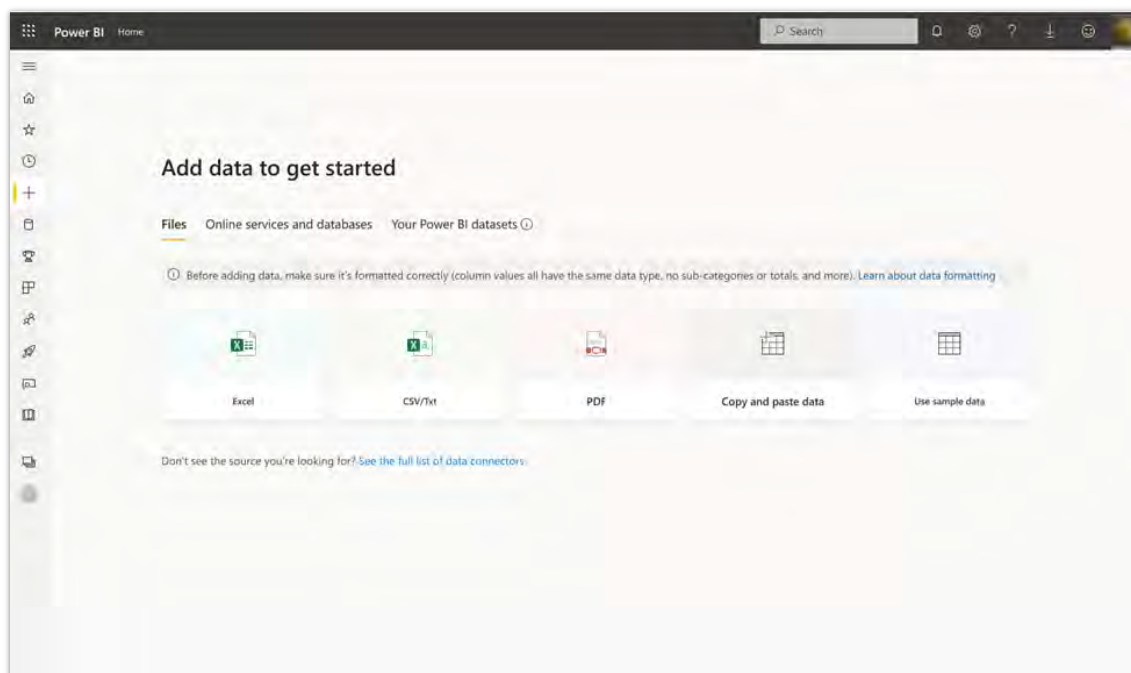
### Business value

On the Create page in the Power BI service, you can create reports and find insights quickly in cases where data modeling using Power BI Desktop isn't required. Now, in addition to the ability to copy and paste into the Power BI Create page, you'll be able to select tables of data directly from common file types, online services, and database data sources. Power BI will automatically create a basic report so you can get started with analysis or report authoring.

### Feature details

Today, the **Create** page in the Power BI service enables users to copy and paste a table of data into Power BI, and Power BI automatically generates a basic report based on that data. This helps users get started with data analysis or report authoring directly in the Power BI service when data modeling in Power BI Desktop isn't required. With this new feature, we'll be adding additional data sources to the Create page in the Power BI service, so users have more ways to create reports quickly. New options on the Create page will include selecting data from common file data sources, such as Excel, CSV, and SharePoint, as well as from popular online services and databases. These options will allow users to have Power BI

automatically generate a report without needing to copy and paste the data into Power BI or connect to the data using Power BI Desktop.



*Screenshot of new sources on Create page.*

## New and enhanced Power BI experiences in Teams

Enabled for	Public preview	General availability
Users, automatically	Sep 2022	-

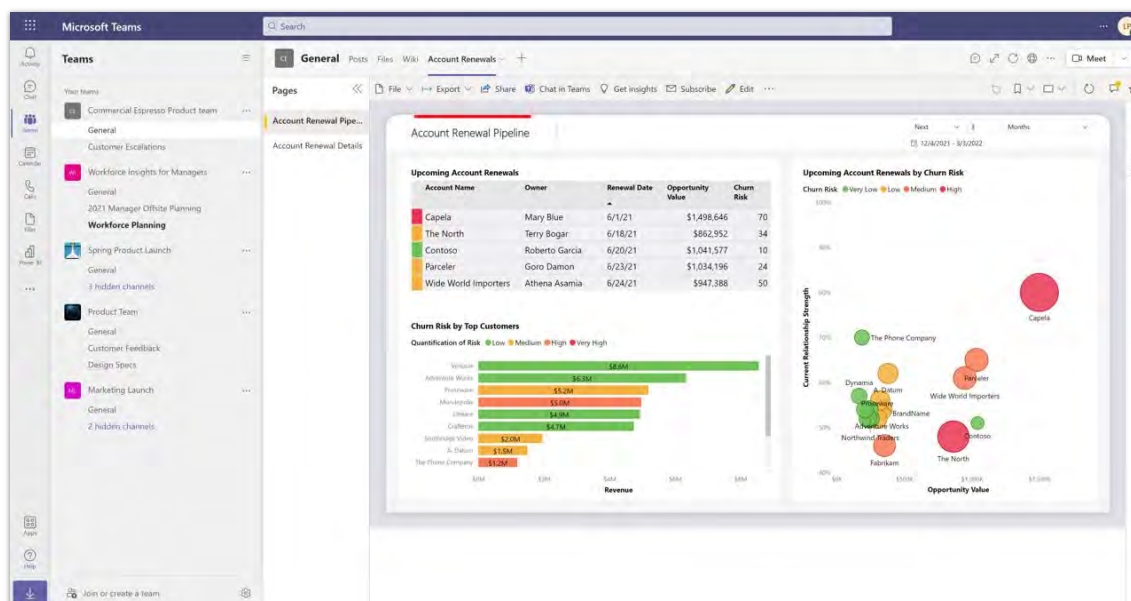
### Business value

Modern work requires keeping everyone up to date and using relevant data to make decisions. That's why so many organizations use Power BI in Microsoft Teams so that users have access to data when and where decisions are made. Power BI is deepening its integration with Microsoft Teams, so data is always just one click away in every Teams channel, chat, and meeting.

### Feature details

Microsoft Teams is a centralized location that helps users collaborate with their team, meet with others, and find relevant information to make better decisions. The Power BI app for Teams has brought the full experience of Power BI into Teams and made data one click away in chats and channels. To enhance this experience and make data and insights even more accessible to teams, Power BI is improving how Power BI content is added to Teams channels

to support all Power BI content types, as well as enabling multitasking support for the Power BI personal app in Teams.



## Power BI in Teams

## Quickly create a Power BI dataset or report from a table of data in Excel

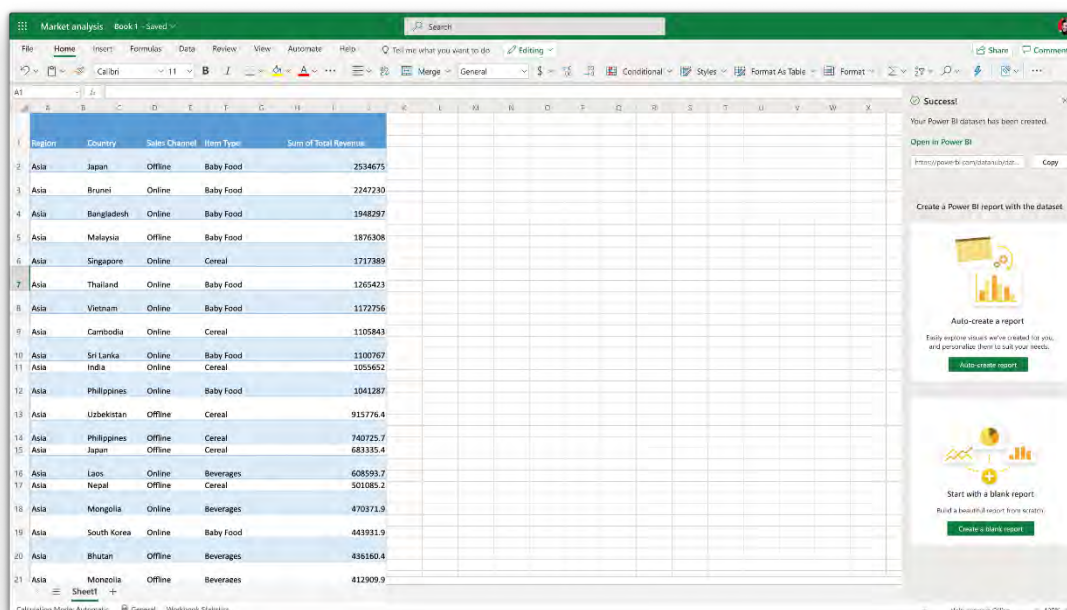
Enabled for	Public preview	General availability
Users, automatically	Sep 2022	-

## Business value

For many users, Excel is the most common and familiar place to work with data. But it can be challenging, from within Excel, to quickly and easily take advantage of unique Power BI capabilities, such as reporting, analysis, and data sharing. By adding new options in Excel to quickly create a Power BI dataset and report from Excel tables, you can combine the flexibility and familiarity of Excel with the connected and governed analysis and sharing of Power BI.

## Feature details

A new option in Excel will enable you to automatically create a Power BI dataset. That dataset will be connected to tables in an Excel workbook selected by you. To ensure that the data is available to Power BI, you'll be guided to save the Excel workbook in OneDrive or SharePoint. After the dataset is automatically created, you'll have the option to immediately build a Power BI report connected to the new dataset or to share a link to the dataset in Power BI with others.



Create Power BI dataset or report from Excel table

## View Power BI files in OneDrive and SharePoint

Enabled for	Public preview	General availability
Users, automatically	Sep 2022	-

### Business value

Almost every Office user relies on OneDrive and SharePoint to share and collaborate on Office documents and files. In this new update, users can view and edit Power BI reports from within OneDrive and SharePoint without needing to download Power BI Desktop.

### Feature details

Currently, when users open a Power BI report saved on OneDrive or SharePoint, they cannot preview the report nor make tweaks to the report without downloading both the report and Power BI Desktop. In this new update, Power BI reports can now be viewed directly within OneDrive or SharePoint, and users with edit permissions to the file can also make edits to the report. This feature will make it easier for users to preview and collaborate on reports from their OneDrive or SharePoint files.

## Accessibility - improved slicer navigation

Enabled for	Public preview	General availability
Users, automatically	-	Jul 2022

### Business value

The Power BI slicer visual will include improved keyboard navigation and assistive technology support.

### Feature details

The improved slicer experience enables Power BI users to easily navigate the slicer using a keyboard and better support assistive technologies. Enhancements include improved keyboard navigation and focus management, enhanced screen reader announcements, and increased contrast for hover and focus outline.

## Accessibility - improved table navigation

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Jul 2022

### Business value

Power BI table visual will include improved keyboard navigation and assistive technology support.

### Feature details

Improved table experiences enable Power BI users to easily navigate the table using a keyboard and better support assistive technologies. Enhancements include:

- Additional keyboard shortcuts for easier navigation and focus management.
- Increased contrast for hover, focus outline, and row selection.
- Improved screen reader announcements.
- Integrated alt text for images in tables.
- Enhanced conditional formatting announcements.

## Accessibility - reflow to support 400x zoom

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Jul 2022

### Feature details

The Power BI service will support views up to 400% zoom for core scenarios. This will include the open content view for reports, open content view for apps, and core navigation scenarios on the home page and left navigation pane. This support will allow content to reflow accurately when the browser zoom is activated.

## Accessibility - show visuals as tables

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Jul 2022

### Business value

A Power BI visual can be shown as a table individually to display the data that is being used to create the visual using the *Show visuals as tables* feature. To make it easier to explore and navigate data for all visuals in a report, we're expanding this feature to convert all visuals to tables at the same time, enhancing accessibility and providing better support for assistive technologies.

### Feature details

When consuming a report in Power BI Service, you can select the *Show visuals as tables* option in the menu bar which will convert all visuals into the new improved tables with one-click and remain interactive. Using the same option, users can easily revert the report back to the original visuals.

## Accessibility - smart narrative descriptions

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Jul 2022

### Business value

The Power BI smart narrative visual helps you quickly summarize data by providing relevant out-of-box insights, key takeaways, and trends. To make it easier to explore visuals in a

report, we're expanding this feature with smart narrative descriptions by adding narratives directly on visuals to provide better support for assistive technologies.

### Feature details

When consuming a Power BI report, users can navigate to visuals and activate smart narrative descriptions in visual headers to consume key takeaways. This feature will make it easier for users to gain insights with key summarizations directly on the visual which can be accessed with screen readers for enhanced accessibility. *Smart narrative descriptions will only support visuals that currently support smart narrative visuals.*

## Improved Power BI administration and operations

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

Easily manage Power BI with enhanced administration experiences and additional operational capabilities. Administrators can manage permissions with ease, reduce maintenance overhead by identifying unused assets, and delegate administrative tasks to others.

### Feature details

Improved administration experiences enable Power BI administrators to be more productive and decrease maintenance overhead. Enhancements include:

- The ability to use APIs and reports to identify unused Power BI assets.
- Use of APIs to reassign permissions for assets.

## Power Apps and Power BI better together - support Power Apps environment lifecycle operations for Power BI content

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

Power Apps solutions are a Microsoft Power Platform tool that allows users to deploy applications built using Power Apps, Power BI, Power Automate, Microsoft Dataverse, and other Microsoft Power Platform services. Until now, performing environment lifecycle operations (ELO) on a Microsoft Dataverse environment wasn't supported for Power BI

content. With the release of this feature, most ELO operations will be applicable to the Power BI content deployed with the solution.

### Feature details

With the release of this feature:

- A Power Apps system administrator will be able to delete an environment along with the Power BI environment workspace.
- Backup and restore will also affect the Power BI artifacts connected to the environment.

### Power Apps and Power BI better together - include Power BI reports and datasets in a Power Apps solution

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jul 2022	To be announced

### Business value

Power Apps solutions are a Microsoft Power Platform tool that enables users to deploy applications built using Power Apps, Power Automate, Microsoft Dataverse, and other Microsoft Power Platform services. Until now, it hasn't supported content developed in Power BI. With the release of this feature, Power BI reports and datasets can be included as part of a Microsoft Power Platform solution for import, export, and customization.

### Feature details

Power Apps makers will be able to:

- Add Power BI reports and datasets to a solution.
- Connect Power BI mashup parameters to Power Apps environment variables.
- Import and export Power Apps solutions with Power BI reports and datasets.
- Embed Power BI reports in model-driven apps.
- Use Power BI components to support operations in both managed and unmanaged Power Apps solutions.

Power BI creators will be able to:

- Include Power BI reports and datasets (import and DirectQuery) in Power Apps application lifecycle management (ALM) solutions.
- Use single sign-on (SSO) for Microsoft Dataverse data sources deployed with the Power Apps solution.
- Customize deployed content in place, with the ability to discard unmanaged changes.

- Add customization to managed solutions.

### **Power Apps and Power BI better together - quickly create a Power BI report as part of a Power Apps solution**

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	To be announced

#### **Business value**

Power Apps solutions are a Microsoft Power Platform tool that allows users to deploy applications built using Power Apps, Power Automate, Microsoft Dataverse, and other Microsoft Power Platform services. Until now, creating new Power BI components required first creating a Power BI report and dataset in app.powerbi.com. With the release of this feature, Power Apps users will be able to create Power BI reports and embed them in the app without having to leave Power Apps.

#### **Feature details**

Power Apps makers will be able to:

- Create Power BI reports and dataset components based on their Dataverse tables.
- Manage the Power BI content as part of a Power Apps solution.
- Embed the created report component in a model-driven app as a dashboard component.

# Power Apps

## Plan and prepare for Power Apps in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **Power Apps**.

### Overview

Microsoft Power Apps is the industry-leading low-code application development platform that underpins Dynamics 365 extensibility, Microsoft 365 customization, and standalone custom line of business applications for customers around the world. Power Apps dramatically lowers the cost, complexity, and time of software development through a range of powerful low-code development tools, a deep data platform in Microsoft Dataverse, and hundreds of connectors to common business data sources.

Power Apps is investing in several areas as part of Microsoft Power Platform 2022 release wave 1:

- **Deliver modern business apps with unparalleled productivity for all users:** Power Apps will add built-in collaboration for end users and integration with Microsoft 365 to allow teams to collaborate and act on business data, as well as key updates to modernize user experiences.
- **Activate experts across the organization with advanced low code:** Makers and developers of all skill levels will be more productive over Dataverse, multiply their productivity with fusion teams, and leverage intelligence to assist development.
- **Power Apps is the safest way to digitally transform at whole-company scale:** Secure and governable enterprise apps are critical to creating trust with your users and enterprise IT teams.
- **Deliver flagship applications faster than ever:** Organizations can now build and deliver flagship apps to the entire company through Power Apps with offline and standalone apps.

For official product documentation and training for Power Apps, go to:

- [Power Apps docs](#)
- [Power Apps training on Microsoft Learn](#)

**TIP** Download the release overview guide and share with your team as you plan to onboard the new capabilities included in this release wave.

[Download the overview guide \(PDF\)](#)

\* Overview guide available in English version only

## Investment areas



### *What's new and planned*

#### **Deliver modern business apps with unparalleled productivity for all users**

Users can take advantage of cohesive and modern experiences while collaborating with team members in Power Apps. Key updates include:

- **Apps built using Power Apps are now multiplayer with built-in collaboration:** Enable users to collaborate, chat, and start meetings directly within the app.
- **Act on business data in context across Microsoft 365:** See and act on Power Apps and Dynamics 365 data directly in Microsoft 365 by pasting a link.
- **Keep users on task with cohesive experiences and delightful UX:** Modern and cohesive control updates across Power Apps provides a delightful and productive experience.

#### **Enable experts across the organization with advanced low code**

Makers and developers of all skill levels can be more productive with Power Apps and Dataverse, enabling fusion teams and leveraging intelligence to simplify common tasks. Key updates include:

- **It's easier than ever to get started with Dataverse:** With simplified table creation and data load, the addition of Power Fx, and new modern low-code designers to simplify building apps over Dataverse.
- **Unleash fusion teams with collaborative development:** Allow multiple makers to work on a single app at the same time, accelerating the time of development and supporting with Microsoft 365 style tools, such as commenting.

- **Infuse intelligence for makers and end users alike:** Support developers to resolve common tasks and errors with intelligence.

### **Safest way to digitally transform at whole-company scale**

Secure and governable enterprise apps are critical to creating trust with your users and enterprise IT teams. New capabilities are here to help you set the right policies to enable your enterprise apps across more places. Key updates include:

- **Solution quality and enforcement:** Continuing to evolve the checkers already in place in Power Apps, these will evolve to be more comprehensive and enforce quality in production environments.
- **Security updates:** Further updates on conditional access and providing more visibility to makers on security when sharing apps.

### **Rapid delivery of flagship applications**

Organizations can now build and deliver flagship apps to the entire company through Power Apps. Key updates include:

- **Accelerate line of business app dev professionals:** Simplified development and management of offline apps.
- **Deliver standalone mission critical apps to every device:** Create standalone, native mobile apps with Power Apps.

## **For application administrators**

### **User impacting features to the user experience enabled automatically**

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### **Features that must be enabled by application administrators**

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.



*Get the most out of Power Apps*

## Get the most out of Power Apps

Helpful links	Description
<a href="#">Release plan</a>	View all capabilities included in the release.
<a href="#">Product updates</a>	Stay up to date on latest product updates.
<a href="#">Release calendar</a>	Know important release milestones.
<a href="#">Licensing</a>	Improve your understanding of how to license Power Apps.
<a href="#">Product documentation</a>	Find documentation for Power Apps.
<a href="#">User community</a>	Engage with Power Apps experts and peers in the community.
<a href="#">Upcoming events</a>	Find and register for in person and online events.
<a href="#">Product trials</a>	Get started with Power Apps.

## What's new and planned for Power Apps

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the date of release.

This check mark (✓) shows which features have been released for public preview or early access and for public preview, early access, and general availability.

### Deliver modern business apps with unparalleled productivity for all users

Users can take advantage of cohesive and modern experiences while collaborating with team members in Power Apps.

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Power Apps grid control support for editable scenarios in model-driven apps</a>	Users by admins, makers, or analysts	May 2022	-	-
<a href="#">Enable model-driven app redirect from Internet Explorer to Microsoft Edge</a>	Users by admins, makers, or analysts	Jun 2022	-	
<a href="#">Model-driven app in-app notifications</a>	Users by admins, makers, or analysts	-	-	Apr 2022
<a href="#">Easy record sharing</a>	Users by admins, makers, or analysts	✓ Nov 4, 2021	-	Apr 2022
<a href="#">Explore data through modern advanced find</a>	Users by admins, makers, or analysts	✓ Dec 9, 2021	-	Apr 2022
<a href="#">UI improvement for business process flows</a>	Users, automatically	-	✓ Dec 9, 2021	Apr 2022
<a href="#">Power Apps read-only grid control is the default grid for read-only scenarios</a>	Users, automatically	-	✓ Jan 6, 2022	Apr 2022

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Offline Sync notification</a>	Users, automatically	-	✓ Jan 31, 2022	Apr 2022
<a href="#">New activity dropdown to show only relevant activities</a>	Users by admins, makers, or analysts	✓ Mar 10, 2022	-	Apr 2022
<a href="#">Appointment description supports rich text</a>	Users by admins, makers, or analysts	✓ Mar 17, 2022	-	Apr 2022
<a href="#">Create and join Teams meetings from in-app appointments</a>	Users by admins, makers, or analysts	✓ Mar 17, 2022	-	Apr 2022
<a href="#">Use Lobe models in your apps and flows</a>	Admins, makers, marketers, or analysts, automatically	✓ Nov 4, 2021	-	Apr 2022
<a href="#">Co-presence in records</a>	Users by admins, makers, or analysts	✓ Nov 4, 2021	-	Sep 2022
<a href="#">Owner field has improved on-line presence indicator and contact card</a>	Users by admins, makers, or analysts	✓ Nov 4, 2021	-	Sep 2022

## Enable experts across the organization with advanced low code

Enable experts across the organization with advanced low code.

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Intelligent formula repair in Power Fx</a>	Admins, makers, marketers, or analysts, automatically	May 2022	-	
<a href="#">Makers can collaborate together on the same app by merging changes</a>	Admins, makers, marketers, or analysts, automatically	Jun 2022	-	
<a href="#">Support for data sources with dynamic schema</a>	Admins, makers, marketers, or analysts, automatically	Jun 2022	-	-

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Quickly explore and create tables with the table hub and designer</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022
<a href="#">Command designer with Power Fx</a>	Admins, makers, marketers, or analysts, automatically	✓ Jul 29, 2021	-	May 2022
<a href="#">Power Fx formulas provide richer and easier to use column calculations in Microsoft Dataverse</a>	Admins, makers, marketers, or analysts, automatically	✓ Sep 23, 2021	-	May 2022
<a href="#">Build forms entirely using features available in the modern form designer</a>	Admins, makers, marketers, or analysts, automatically	-	-	May 2022

## Rapid delivery of flagship applications

Deliver flagship applications faster than ever.

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Power Apps application on Windows running model-driven and canvas apps with full support for offline</a>	Users by admins, makers, or analysts	✓ Feb 14, 2022	-	Apr 2022
<a href="#">Create standalone, native mobile apps with Power Apps</a>	Users by admins, makers, or analysts	Apr 2022	-	Jun 2022

## Safest way to digitally transform at whole-company scale

Power Apps is the safest way to digitally transform at whole-company scale.

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Conditional access policies for individual Power Apps</a>	Users by admins, makers, or analysts	✓ Aug 29, 2021	-	Apr 2022

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Enable quarantine of non-compliant Power Apps</a>	Users by admins, makers, or analysts	✓ Aug 29, 2021	-	Apr 2022
<a href="#">Solution checker enforcement improvements</a>	Admins, makers, marketers, or analysts, automatically	May 2022	-	Jun 2022

\* You are able to opt into some features as part of early access on January 31, 2022, including all mandatory changes that affect users. To learn more, go to [Early access FAQ](#).

Description of **Enabled for** column values:

- **Users, automatically:** These features include changes to the user experience and are enabled automatically.
- **Admins, makers, marketers, or analysts, automatically:** These features are meant to be used by administrators, makers, marketers, or business analysts and are enabled automatically.
- **Users by admins, makers, or analysts:** These features must be enabled or configured by the administrators, makers, or business analysts to be available for their users.

For a list of the countries or regions where Dynamics 365 business applications are available, go to the [International availability guide](#). For more information about geographic areas and datacenters (regions), go to the [Dynamics 365 and Microsoft Power Platform availability page](#).

## Deliver modern business apps with unparalleled productivity for all users

### Overview

Users can take advantage of cohesive and modern experiences while collaborating with team members in Power Apps. Key updates include:

- **Apps built using Power Apps are now multiplayer with built-in collaboration:** Enable users to collaborate, chat, and start meetings directly within the app.
- **Act on business data in context across Microsoft 365:** See and act on Power Apps and Dynamics 365 data directly in Microsoft 365 by pasting a link.
- **Keep users on task with cohesive experiences and delightful UX:** Modern and cohesive control updates across Power Apps provides a delightful and productive experience.

## Power Apps grid control support for editable scenarios in model-driven apps

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	May 2022	-	-

### Business value

This grid control allows users to be more productive by letting them edit values directly in the grid.

### Feature details

Building on the previous work with the [Power Apps read-only grid control](#), the new **Power Apps grid control (preview)** for model-driven apps is available with two primary changes:

- **Infinite scrolling:** Users no longer need to page to see more records. Instead, users can continue scrolling to get to the row(s) they are interested in. Paging buttons will be available as an option for makers.
- **Inline editing within views and subgrids:** In addition to being available for read-only scenarios, this control can also be used as an editable grid. When editing is enabled by the maker, users can be more productive by making edits directly in the grid instead of having to make changes in the corresponding form.

This new control continues to align with the latest Microsoft design guidance for styling and continues to support the latest Microsoft accessibility standards.

### See also

[Explore data in a view on a grid page](#) (docs)

## Enable model-driven app redirect from Internet Explorer to Microsoft Edge

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	Jun 2022	-	-

### Business value

Administrators can improve the user experience with a faster, more reliable experience in Unified Interface by redirecting to Microsoft Edge.

### Feature details

Using the Power Platform admin center, administrators can enable users that open Unified Interface within Internet Explorer to be redirected to Microsoft Edge. This is the pattern that is used by other Microsoft applications to ensure users have the best experience.

We announced deprecation in [Internet Explorer 11 support for Dynamics 365 and Microsoft Power Platform is deprecated](#) and noted in [Supported web browsers and mobile devices](#) and [Support for Microsoft Internet Explorer and Microsoft Edge Legacy](#).

The current experience for Internet Explorer users is a warning message that was announced in [Unified Interface browser support changes](#).

### Model-driven app in-app notifications

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	-	-	Apr 2022

#### Business value

Users can be alerted to key items to address, which makes them more likely to be successful.

#### Feature details

The in-app notification feature that was announced for public preview July 2021 with [Model-driven app adds in-app notifications](#) is reaching general availability. Learn more about how makers [send in app notifications](#) and how users receive [notifications](#).

Since public preview, we've improved the scalability of in-app notifications by uptaking the non-relational data storage and adding enhanced polling based on user navigation.

### Easy record sharing

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Nov 4, 2021	-	Apr 2022

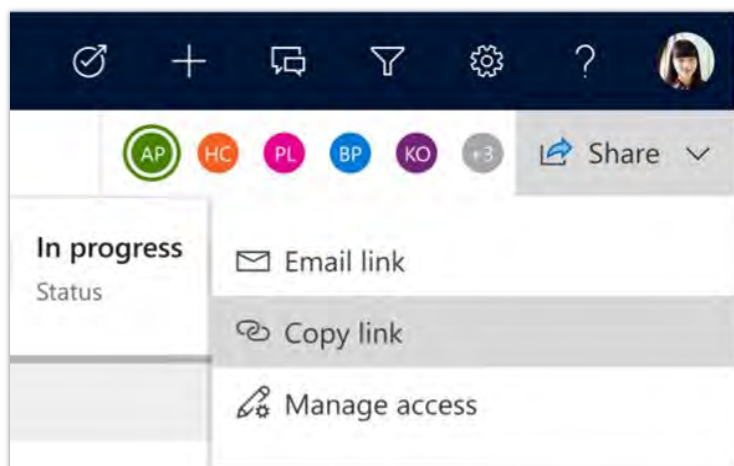
#### Business value

Easily share links to records with colleagues who may not have a link to the record.

#### Feature details

When you're working on a table such as **Account**, **Case**, **Opportunity**, or **Contact** you can now use **Share** button to email a link or copy the link and share it with someone else.

Note, the person that you share the link with needs to have permission to access the record.



*New Share menu in app.*

## Explore data through modern advanced find

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Dec 9, 2021	-	Apr 2022

### Business value

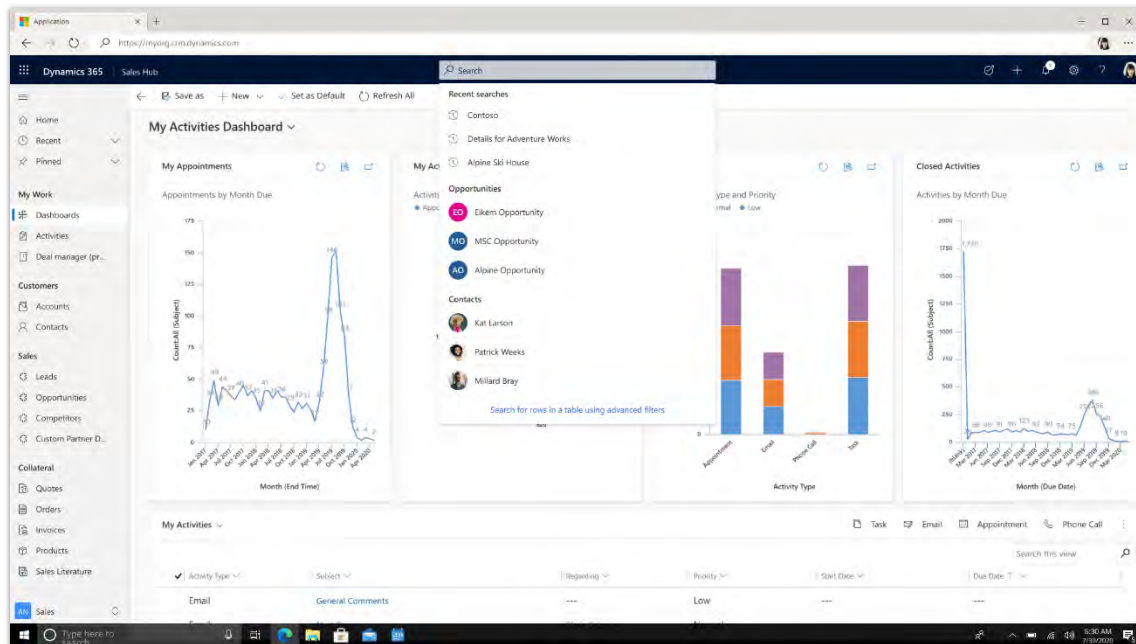
With modern advanced find, you can access any table in a model-driven app through search and use advanced filters to explore the data easily. Be more productive with navigation by searching for a view by its name in the enhanced view selector. The new view management experience will provide you options to share views so you can collaborate with your team easily. Managing views is simpler with personalization options to build your own set of views.

### Feature details

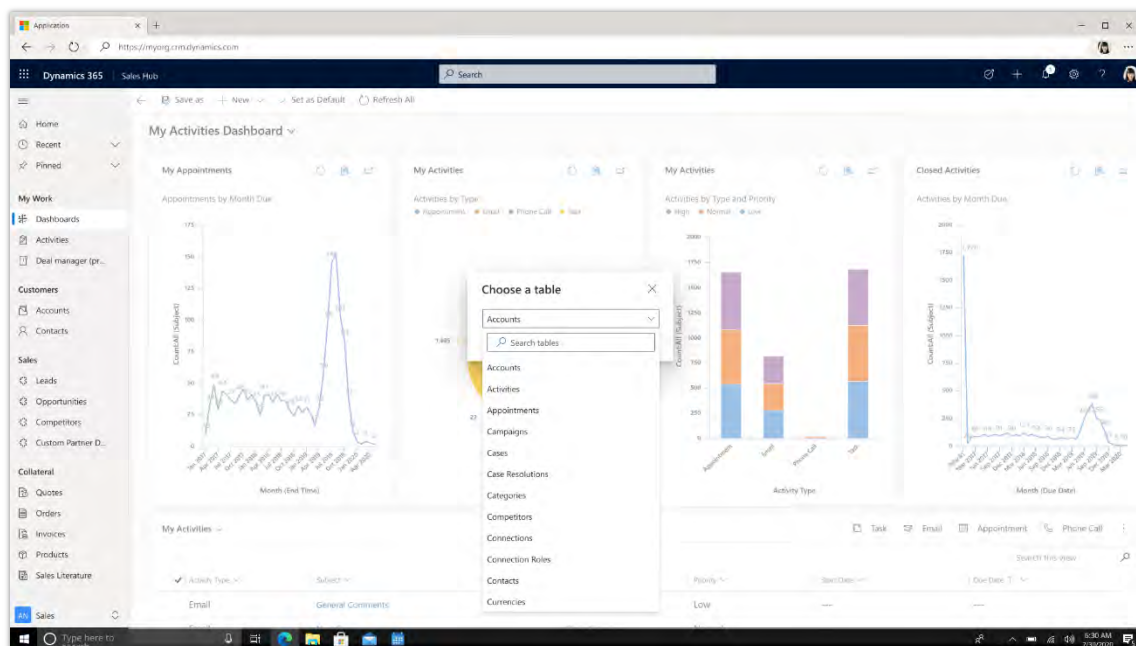
Modern advanced find provides the following benefits:

- Explore any table in a model-driven app through structured search and filters. Edit columns and filter data to construct views that help you apply the right lens on your data easily.
- Choosing the right view to access is easier with the latest enhancement to view selector having the ability for you to search for a view.
- Managing views is simpler with personalization options to build your own set of views, hide views, and order them differently. Your personalized view list travels with you across all apps and all devices, online and offline.
- Collaborate with your team by sharing views easily and managing the views shared to you.

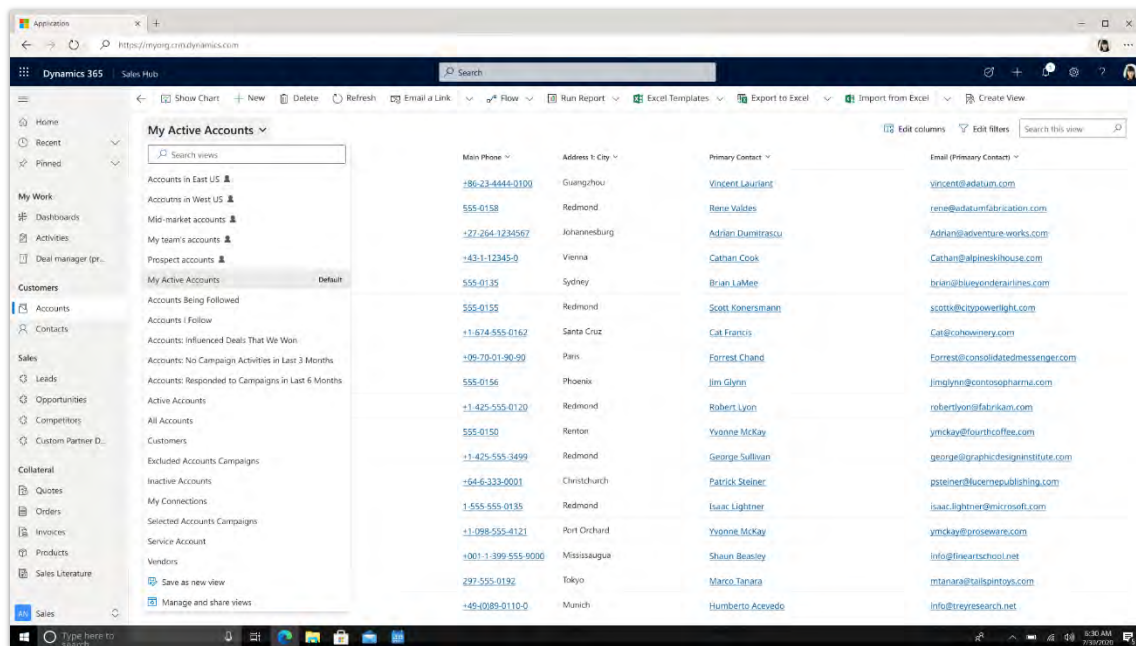
All of the capabilities mentioned above will replace the legacy advanced find experience.



*Advanced find entry point through search.*



*Advanced find table picker.*



*Enhanced view selector.*

## See also

[Advanced find in model-driven apps](#) (docs)

## UI improvement for business process flows

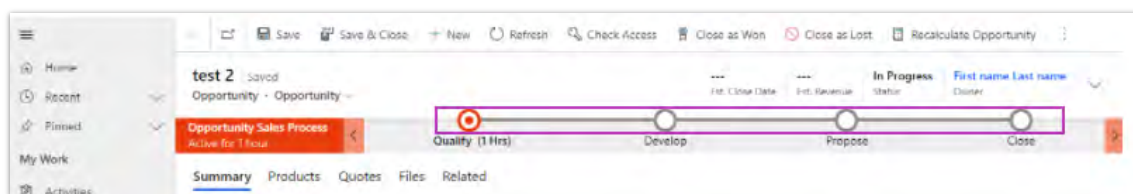
Enabled for	Public preview	Early access	General availability
Users, automatically	-	✓ Dec 9, 2021	Apr 2022

## Business value

Changing the business process flow path-line color to a darker shade to help users easily identify and follow each stage in a business process flow.

## Feature details

We're updating the color contrast in the path-line between each stage in the business process flow to a slightly darker shade. This will help users easily identify and follow each stage in a business process flow when working with data on a form in a model-drive app.



*Business process flow.*

## Power Apps read-only grid control is the default grid for read-only scenarios

Enabled for	Public preview	Early access	General availability
Users, automatically	-	✓ Jan 6, 2022	Apr 2022

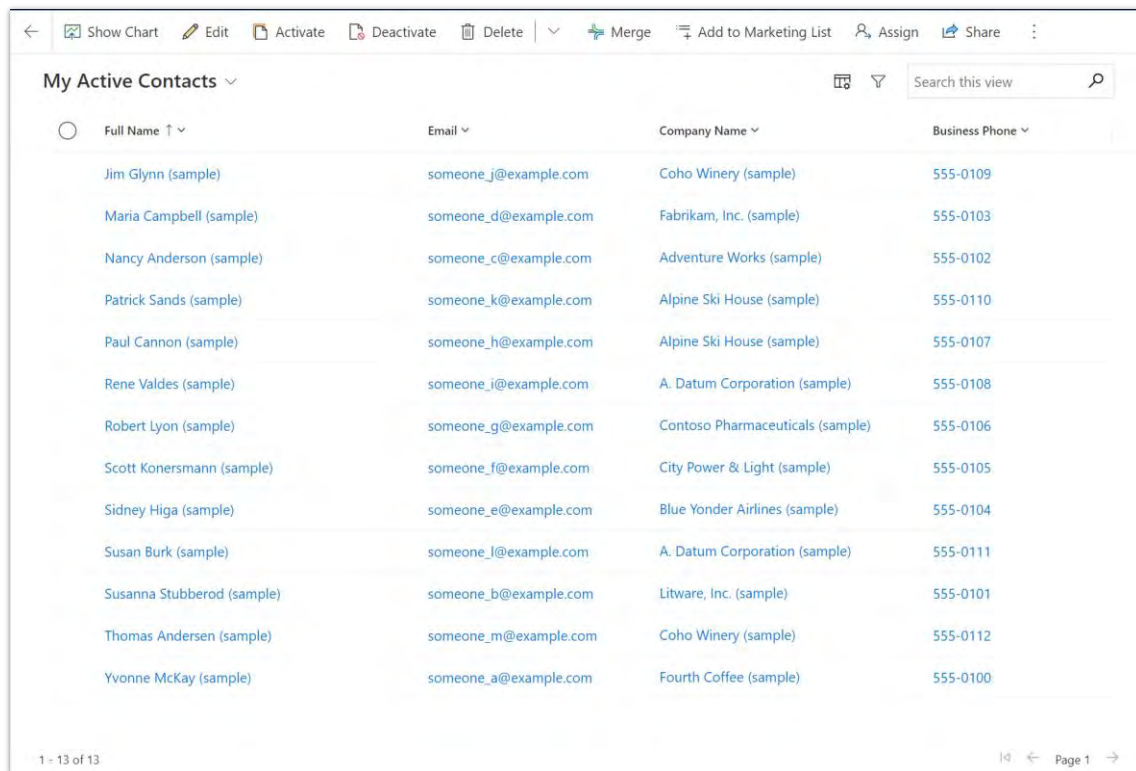
### Business value

The Power Apps read-only grid control includes productivity and performance enhancements, alignment with the latest in Microsoft design, and compliance with Microsoft Accessibility Standards.

### Feature details

The [New Power Apps read-only grid control](#) released in 2021 release wave 2 will be the default read-only grid experience for everyone on model-driven apps in 2022 release wave 1. This applies to grids inside view pages and sub grids in forms. When originally enabled, the jump bar row is not visible; however, this can be turned back on as needed.

All organizations will have the Power Apps read-only grid with the 2022 wave 1 release, including organizations that previously opted out. Note that organizations can opt out of this experience using the switch under the **Grids and views** section in the Power Platform admin center. Also, the legacy Wijmo read-only grid experience is deprecated with the 2022 wave 1 release but is targeted to be available as a fallback option until the 2022 wave 2 release.



*Screenshot of Power Apps read-only grid control on the Contacts entity.*

## Offline Sync notification

Enabled for	Public preview	Early access	General availability
Users, automatically	-	✓ Jan 31, 2022	Apr 2022

## Business value

This feature gives users visibility into data that is being downloaded for offline support on Power Apps mobile.

## Feature details

When you use Power Apps mobile in offline mode, data is downloaded in the background. In the past, the only way to check the status of the download was to manually go to the offline status page.

With the new **Offline Sync notification** feature, users can easily tell when the app is ready to use in offline mode. Notifications appear in the following scenarios:

- During the initial sync, you'll get a notification that tells you the number of rows downloaded and how much disk space is used. You'll also get the same notification when the app is used after some time.
- When you refresh the data on a grid view, you'll get a notification stating: *Refreshing your data.*

### See also

[Enable and use mobile offline-first](#) (docs)

## New activity dropdown to show only relevant activities

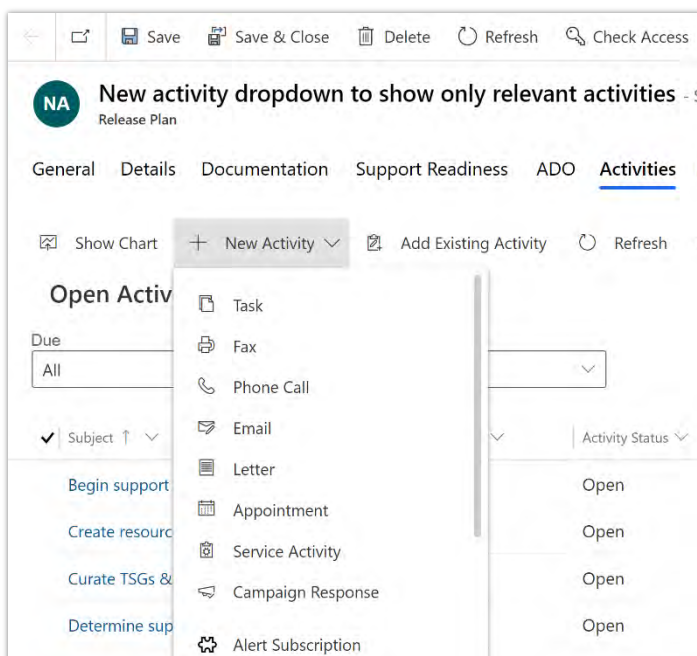
Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Mar 10, 2022	-	Apr 2022

### Business value

Improve productivity by showing only relevant tables in the drop-down list.

### Feature details

The **New Activity** drop-down list will only show activities that are relevant to the app. Activities that are not included in the app metadata now are hidden from the **New Activity** command.



*Options shown in new activity dropdown.*

## Appointment description supports rich text

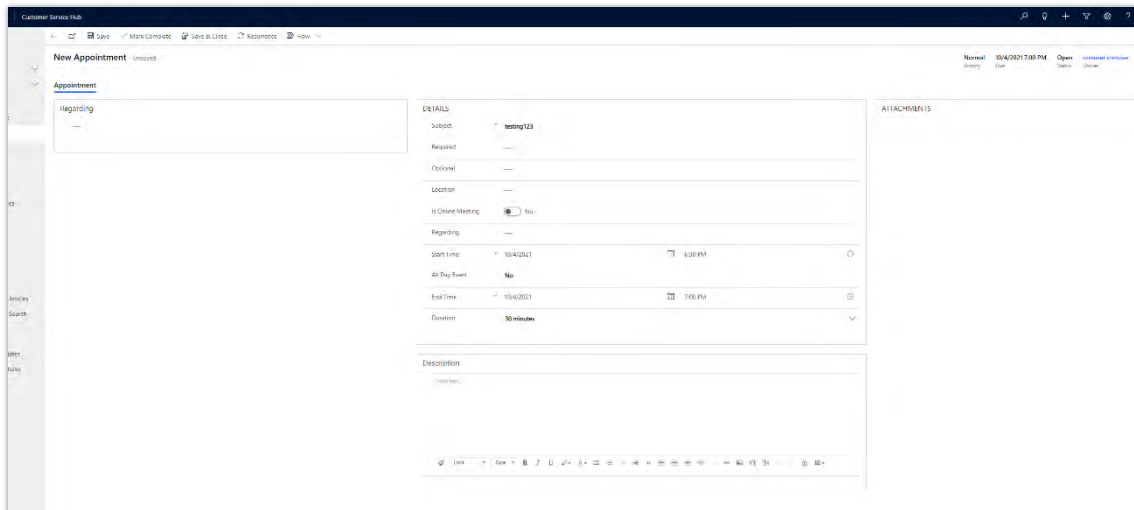
Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Mar 17, 2022	-	Apr 2022

### Business value

Include rich text descriptions in your appointments, including links to online meetings.

### Feature details

You can now add links, lists, and other rich text in your appointment description with the new rich text editor control. The new rich text editor is supported for all model-driven apps and is the default standard editor for appointments and email activities.



Screenshot of updated appointment form.

## Create and join Teams meetings from in-app appointments

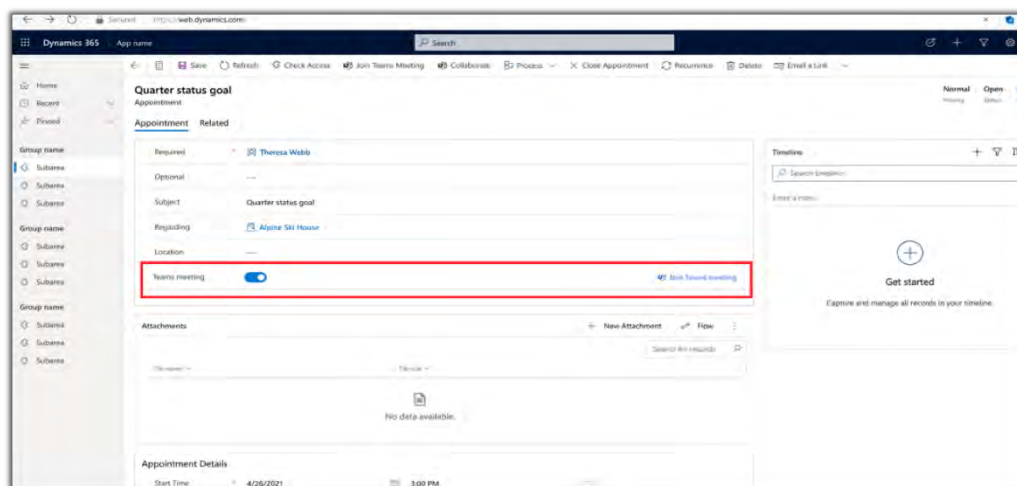
Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Mar 17, 2022	-	Apr 2022

### Business value

Provide customers with unified meeting experience by allowing them to create and join Microsoft Teams meetings from their model-drive app.

## Feature details

Easily add Microsoft Teams meeting from an appointment in your model-driven app. You can also join a Teams meeting with a single click from the appointment or the timeline control.



Option to join Teams meeting highlighted in appointment form.

## Use Lobe models in your apps and flows

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	✓ Nov 4, 2021	-	Apr 2022

## Business value

Makers can use computer vision to improve a business process or workflow by using Lobe. We'll be unlocking a new machine learning problem type (image classification) with Lobe, which will allow Power Platform users to train models locally on their desktop without using any AI Builder credits and with an easy-to-use app.

## Feature details

Enable Power Platform users to leverage Lobe to train image classification models, upload them to AI Builder, and use them in canvas apps and Power Automate flows. This will increase the consumption of AI models in apps and flows.

## See also

[Overview of image classification model by Lobe preview](#) (docs)

## Co-presence in records

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Nov 4, 2021	-	Sep 2022

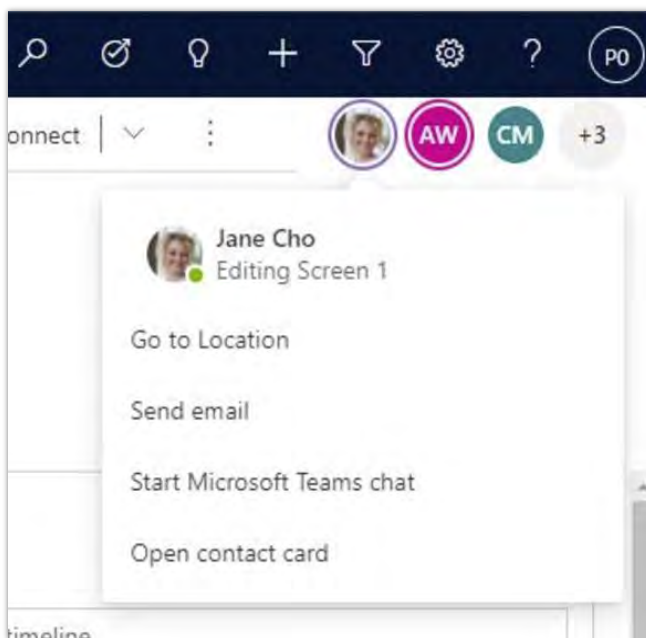
## Business value

See colleagues who are currently working on a record and easily start chats with them.

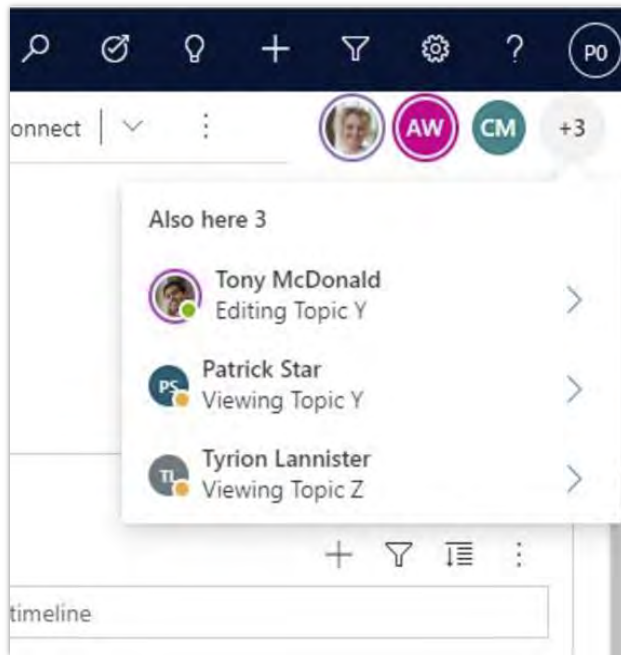
## Feature details

Now you can see who's currently working on a record including their online status. You can also start a chat or send them an email and take collaboration to the next level.

This feature is currently available on the **Account**, **Case**, **Opportunity**, and **Contact** tables.



*Facepile control expanded in model driven app.*



*Facepile overflow menu activated.*

### Owner field has improved on-line presence indicator and contact card

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Nov 4, 2021	-	Sep 2022

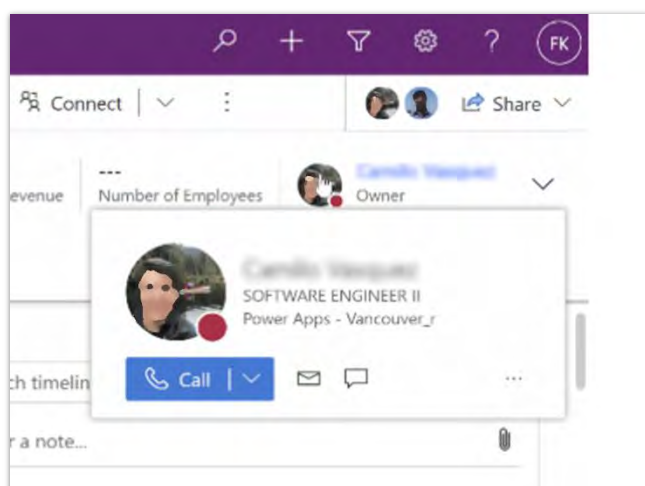
#### Business value

While you're working in your app, see your colleagues' online statuses and easily start a chat with them.

#### Feature details

When you're working on a record, you can see the person who owns the record and their online status. You can also select the user's photo and send them an email or start a chat.

This feature is currently available for the **Account**, **Case**, **Opportunity**, and **Contact** tables.



*Persona card when clicking on the new owner field.*

## Enable experts across the organization with advanced low code

### Overview

Makers and developers of all skill levels can be more productive with Power Apps and Dataverse, enabling fusion teams and leveraging intelligence to simplify common tasks. Key updates include:

- **It's easier than ever to get started with Dataverse:** With simplified table creation and data load, the addition of Power Fx, and new modern low-code designers to simplify building apps over Dataverse.
- **Unleash fusion teams with collaborative development:** Allow multiple makers to work on a single app at the same time, accelerating the time of development and supporting with Microsoft 365 style tools, such as commenting.
- **Infuse intelligence for makers and end users alike:** Support developers to resolve common tasks and errors with intelligence.

### Intelligent formula repair in Power Fx

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	May 2022	-	-

### Business value

Power Apps uses AI to save time and suggest fixes to comment mistakes and errors in formulas, allowing makers to be more productive.

### Feature details

When building apps, makers often encounter errors in formulas which can be time consuming for makers of all skill levels to investigate and resolve. Intelligent formula repair will use AI to review errors in formulas and recommend corrections immediately to the maker.

Intelligent formula report is supported by Program Synthesis using Examples ([PROSE](#))—the same technology used in other Microsoft products like Excel—to help automatically suggest a fix for errors found in a formula. Instead of hours or days, makers can fix their formulas and improve business productivity within just a few seconds.

### Makers can collaborate together on the same app by merging changes

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2022	-	-

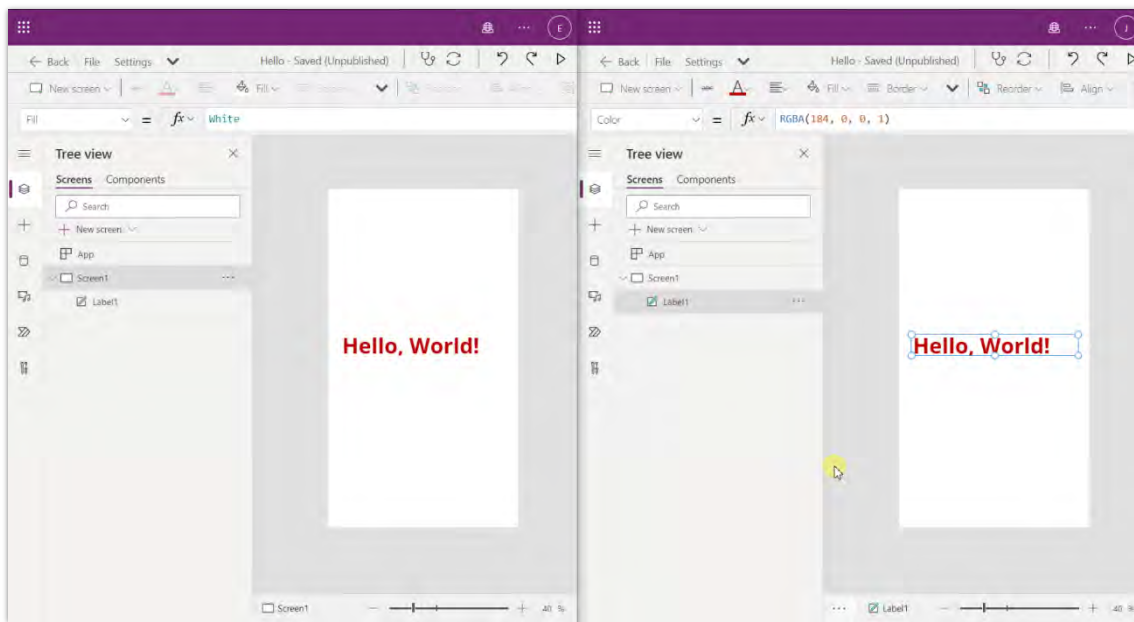
### Business value

Enables multiple makers to simultaneously work on the same app and merge changes to accelerate development and track collaboration.

### Feature details

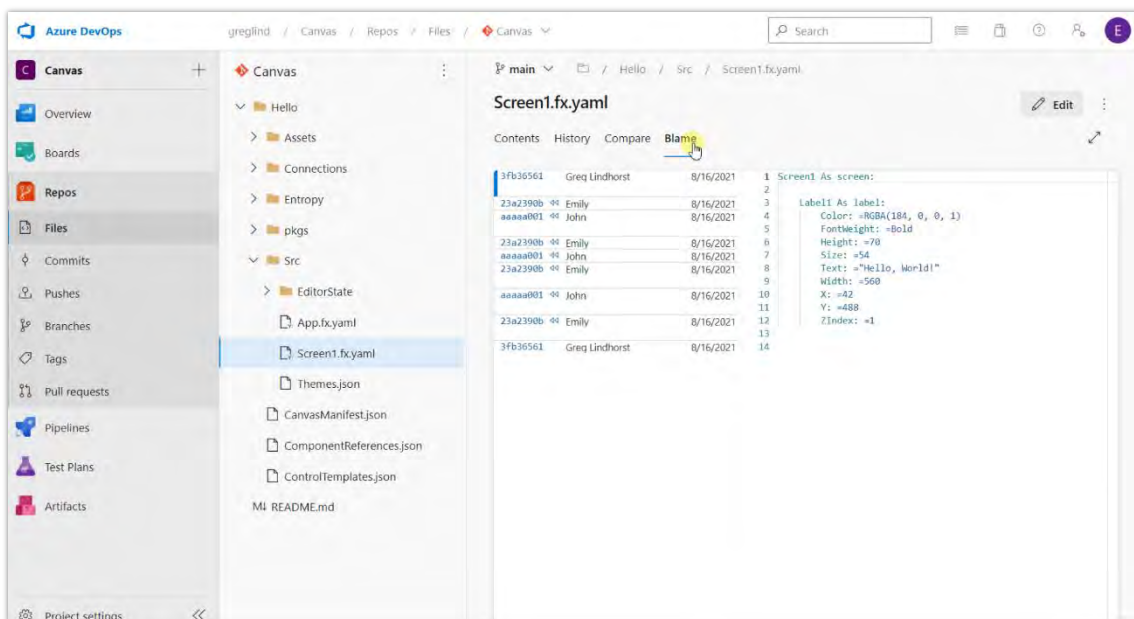
With this capability, makers will be able to work together on a single app to accelerate development, as well as track collaborating with tools, such as commenting, source code and version history.

The following image shows the same canvas app open in Power Apps Studio by two different makers at the same time, something that is not possible today. Changes are merged using rich semantic information about the app and the results are stored in Azure DevOps, GitHub, or any Git provider.



*Screenshots of two makers working on the same canvas app at the same time.*

We can see the changes in the following image—line by line—for each maker.



*Screenshot of changes each user has made line by line.*

## Support for data sources with dynamic schema

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2022	-	-

### Business value

Power Apps can access a data source's dynamic schema - flexible additional columns of data - enabling makers to create more powerful apps with more information.

### Feature details

Power Apps now supports dynamic schema. Some connectors can return extra columns based on how the API is called. The dynamic schema feature gives authors the ability to access the extra columns. For instance, customers can customize Azure DevOps with additional columns beyond the ones shipped by default. Over 40% of Power Platform connectors have some form of dynamic schema (input or output) that are now accessible with this feature. Once defined, this additional type definition is reusable. This feature will also enable us to support SQL stored procedures in the future.

## Quickly explore and create tables with the table hub and designer

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

### Business value

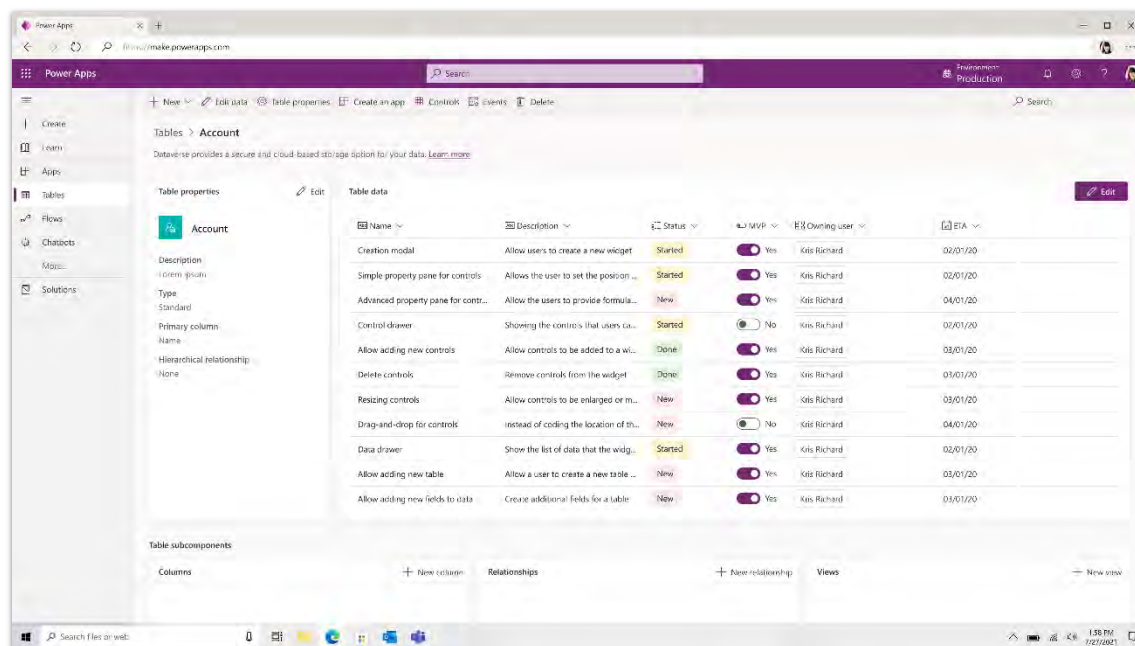
Bring table designer (currently only available in Power Apps for Teams app) to make.powerapps.com, to make creating and customizing tables more approachable for citizen developers. Enable quick create of an app over data from the table, publish and play immediately on web or using the phone app.

### Feature details

Tables today are configured by diving directly into the list of columns, relationships, or other subcomponents that make up Microsoft Database tables. This feature introduces a hub view for a table to provide an overview of the table subcomponents and give the maker a view of the table data. New columns can be created in-line with that table data, and (with appropriate privileges) data can also be updated.

A quick way to generate an app starting from your table will allow you to create and play the app in your browser or on your mobile device by just supplying a name for the app, giving

you a good idea of how your table is used in an app before jumping into editing the app to tailor the experience.



*Dataverse table hub.*

## Command designer with Power Fx

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	✓ Jul 29, 2021	-	May 2022

### Business value

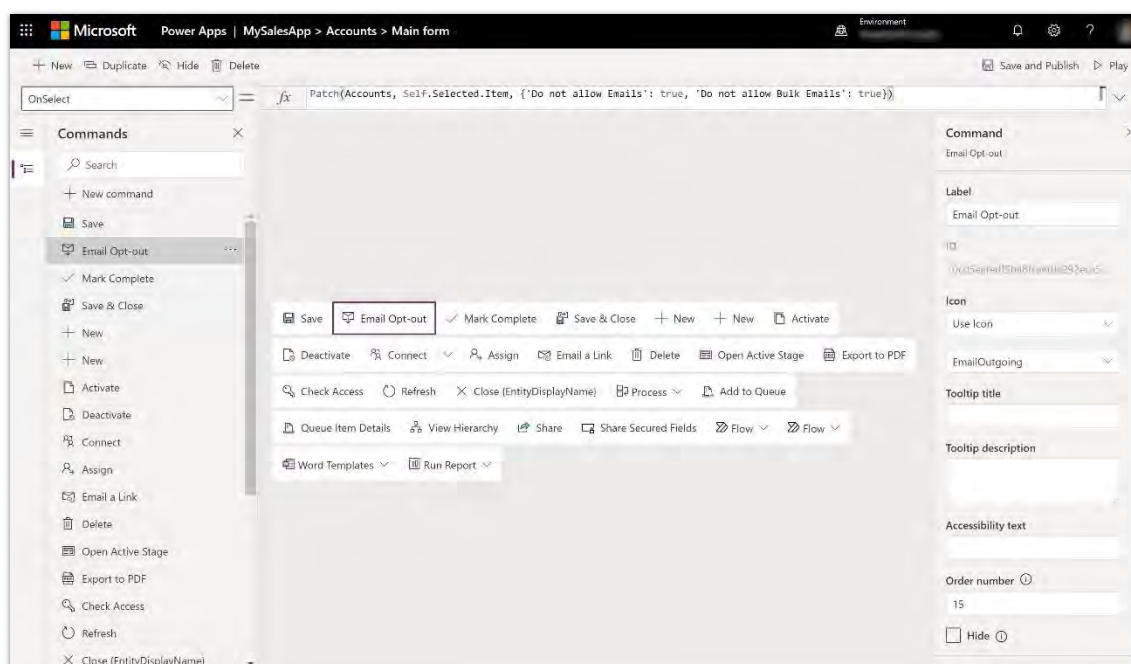
Power Apps makers can easily customize command bars and command buttons in model-driven and converged apps, including the ability to use low-code Power Fx formulas for command button visibility and actions.

### Feature details

The new command designer simplifies command bar and command button customization for both low-code makers and pro-code developers:

- Use both low-code Power Fx formulas and JavaScript for command button visibility and action logic.
- Manage localization and error handling with Power Fx.

- Open a custom page as a dialog and trigger cloud flows using buttons on the custom page.
- Enhanced ALM support for the command designer enables standardized localization and presence in the solution interface.
- Better app-level control with commands applied to individual apps.
- Enhanced support for declarative programming patterns.



*Command designer with Power Fx.*

### See also

[Using Power Fx with commands](#) (docs)

## Power Fx formulas provide richer and easier to use column calculations in Microsoft Dataverse

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	✓ Sep 23, 2021	-	May 2022

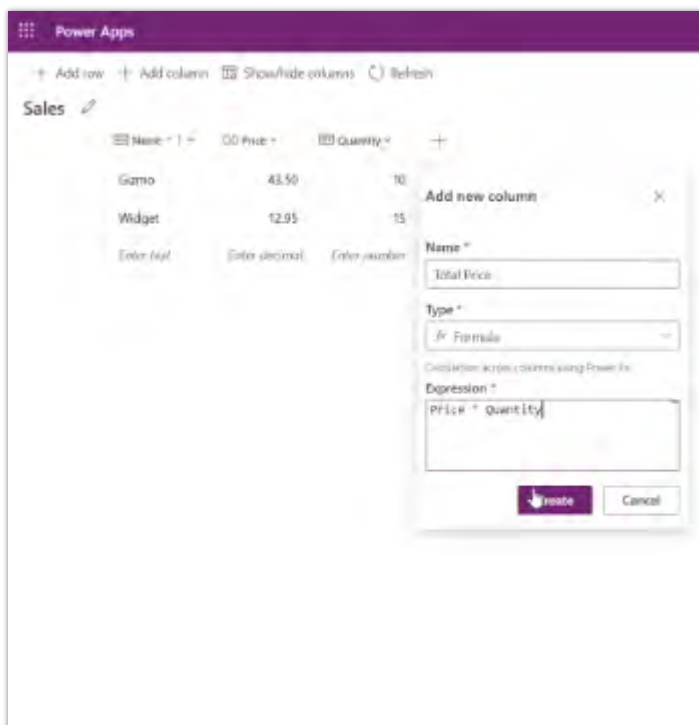
### Business value

Power Fx dramatically expands what can be expressed in existing calculated columns and rollups and adds the ability to perform calculations in real time.

## Feature details

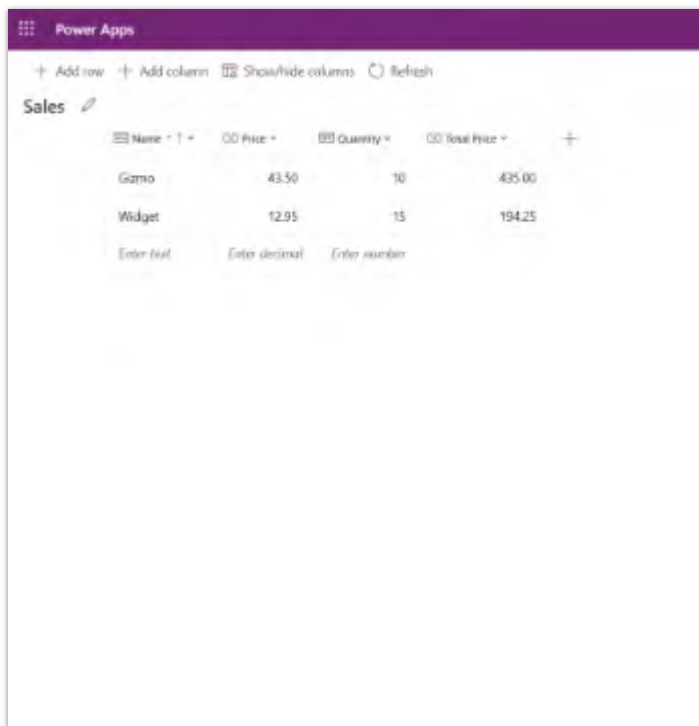
Power Fx picks up where existing Microsoft Dataverse calculated columns and rollups left off. The Power Fx formula bar has been directly integrated into the column settings, making it easy to see and edit the column's formula directly without needing to save or open another window. Power Fx adds many more functions and richer data type support than was previously available. Formula columns can also be calculated in real time, making available calculations with `Today()` and `Now()` functions for the first time.

For example, the following image shows a formula being entered for the "Total price" column with the formula of "Price \* Quantity".



*A formula is being entered for the column Total price.*

And the result of the formula entered is available immediately.



*The result of creating the formula column is immediately available.*

### See also

[Work with formula table columns](#) (docs)

## Build forms entirely using features available in the modern form designer

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	May 2022

### Business value

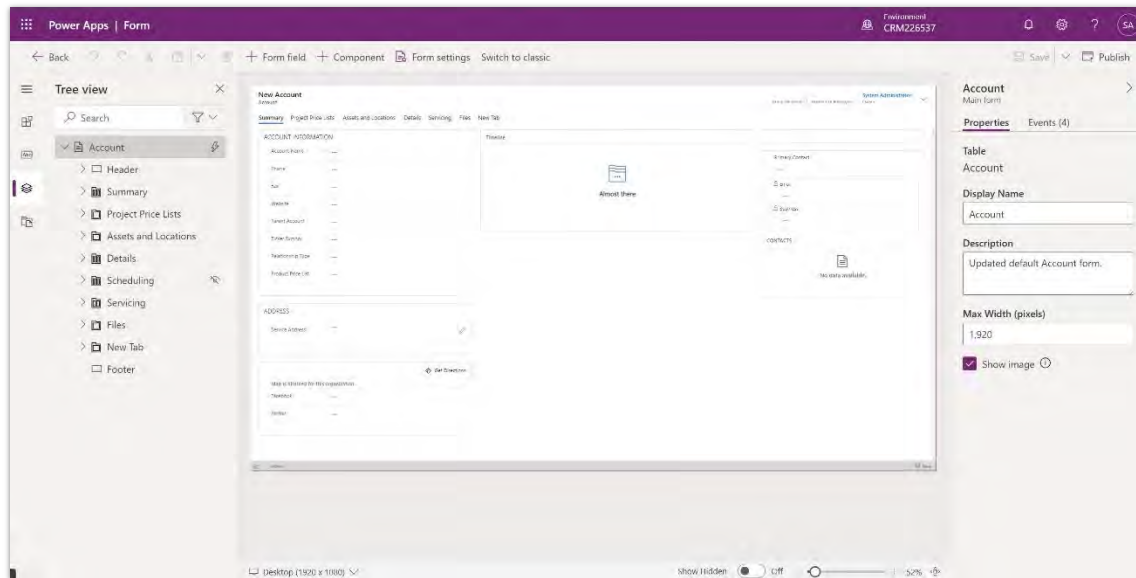
Provides an accessible modern form designer experience with full parity with classic forms. With this effort, we will soon be able to discontinue form designer with the web client.

### Feature details

Makers can now build forms using the modern form designer with full parity with the classic form experience. With this update, makers will be able to customize their forms with all Power Apps component framework controls previously only available in classic, filter a lookup field based on another record through related record filtering, apply business logic to

form fields through business rules, customize form elements with more formatting options, and more.

This will improve maker productivity and product accessibility removing the need for the legacy experiences. With this milestone, expect the classic form designer to soon be deprecated as makers can accomplish all the authoring tasks in the modern form designer.



*Screenshot of modern form designer preview.*

## Rapid delivery of flagship applications

### Overview

Organizations can now build and deliver flagship apps to the entire company through Power Apps. Key updates include:

- **Accelerate line of business app dev professionals:** Simplified development and management of offline apps.
- **Deliver standalone mission critical apps to every device:** Create standalone, native mobile apps with Power Apps.

### Power Apps application on Windows running model-driven and canvas apps with full support for offline

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Feb 14, 2022	-	Apr 2022

## Business value

The Power Apps for Windows is a new application in parity with iOS and Android. You can run both model-driven apps and canvas apps with full support for offline mode. Users can browse from the list of apps by recently used, favorites, featured, or search for a specific app. Power Apps for Windows also supports per app and per user licensing, native connection experience for Dataverse, and offline.

## Feature details

With Power Apps for Windows, you can work with your business data on any device from anywhere. You can also automate tasks to help users get more work accomplished quickly. Users can also run custom apps that are shared with them.

Power Apps for Windows supports these capabilities:

- Highly secured authentication with Azure Active Directory (Azure AD) support, Intune management, and Microsoft's System Center Configuration Manager (SCCM) app distribution.
- Access to Government Community Cloud (GCC) organizations.
- Access and run both model-driven and canvas apps.
- Find your apps using search or advanced browsing.
- Leverage devices capabilities, such as camera, microphone, file picker, geolocation, and barcode scanner from your apps.
- Access your data with the latest Dataverse native APIs.

## See also

[Mobile offline overview](#) (docs)

## Create standalone, native mobile apps with Power Apps

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	Apr 2022	-	Jun 2022

## Business value

Mobile Power Apps users have historically accessed company applications through the Power Apps mobile app for iOS and Android. With this feature, makers can publish their canvas apps as standalone, native mobile apps.

- Discoverability in the app store - your app gets its own unique Apple/Google app store identity (subject to channel policies).
- Provide your own home screen icon and app name.

- Set an image to show on the custom splash screen and sign in screens.
- Launch directly into your canvas app (no app list).
- Manage your app exclusively with Microsoft Intune policies.

### Feature details

This feature provides the following benefits:

- You can distribute the app natively to your app users (for example, with Microsoft Intune).
- Provide your own home screen icon and app name.
- Set an image to show on the custom splash screen.
- Launch directly into your canvas app (no need to use app list).
- Manage your app directly with Microsoft Intune policies.

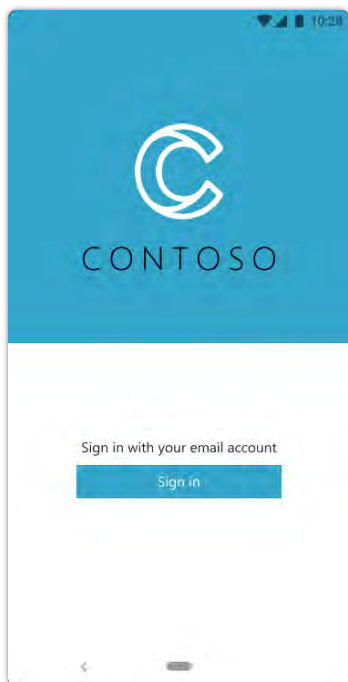
The following steps illustrate how the experience works with native mobile apps created using Power Apps:

1. Open the app from its home screen icon.
2. App's native splash screen appears:



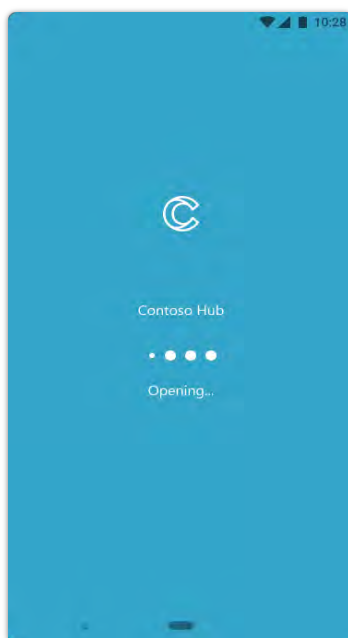
*Shrink wrapped app native splash screen.*

- App shows the welcome screen with the prompt to sign in:



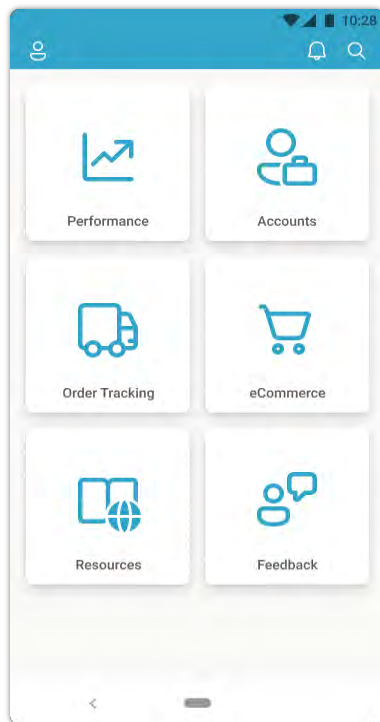
*Shrink wrapped app customized sign-in screen.*

- App starts to load and shows the loading screen:



*Shrink wrapped (embedded) Canvas app loading screen.*

## 5. App landing/home screen appears:



*Shrink wrapped app primary embedded Canvas app landing page/home screen.*

## Safest way to digitally transform at whole-company scale

### Overview

Secure and governable enterprise apps are critical to creating trust with your users and enterprise IT teams. New capabilities are here to help you set the right policies to enable your enterprise apps across more places. Key updates include:

- **Solution quality and enforcement:** Continuing to evolve the checkers already in place in Power Apps, these will evolve to be more comprehensive and enforce quality in production environments.
- **Security updates:** Further updates on conditional access and providing more visibility to makers on security when sharing apps.

### Conditional access policies for individual Power Apps

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Aug 29, 2021	-	Apr 2022

## Business value

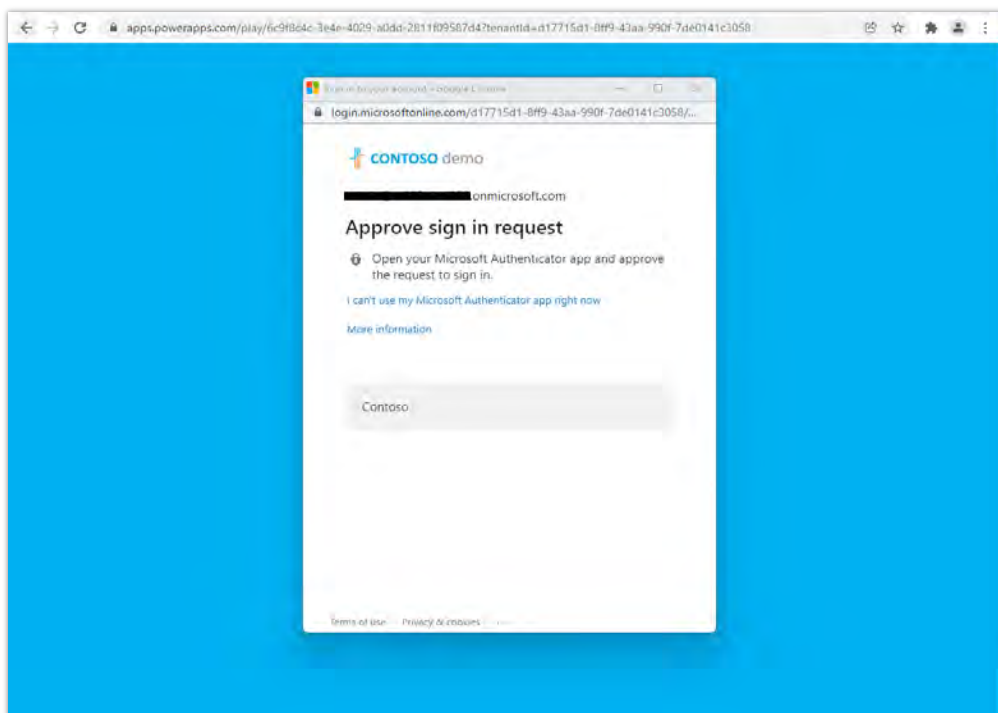
Enterprises can extend their use of Azure Active Directory Conditional Access to individual Power Apps by adding extra layers of security to apps containing sensitive data.

## Feature details

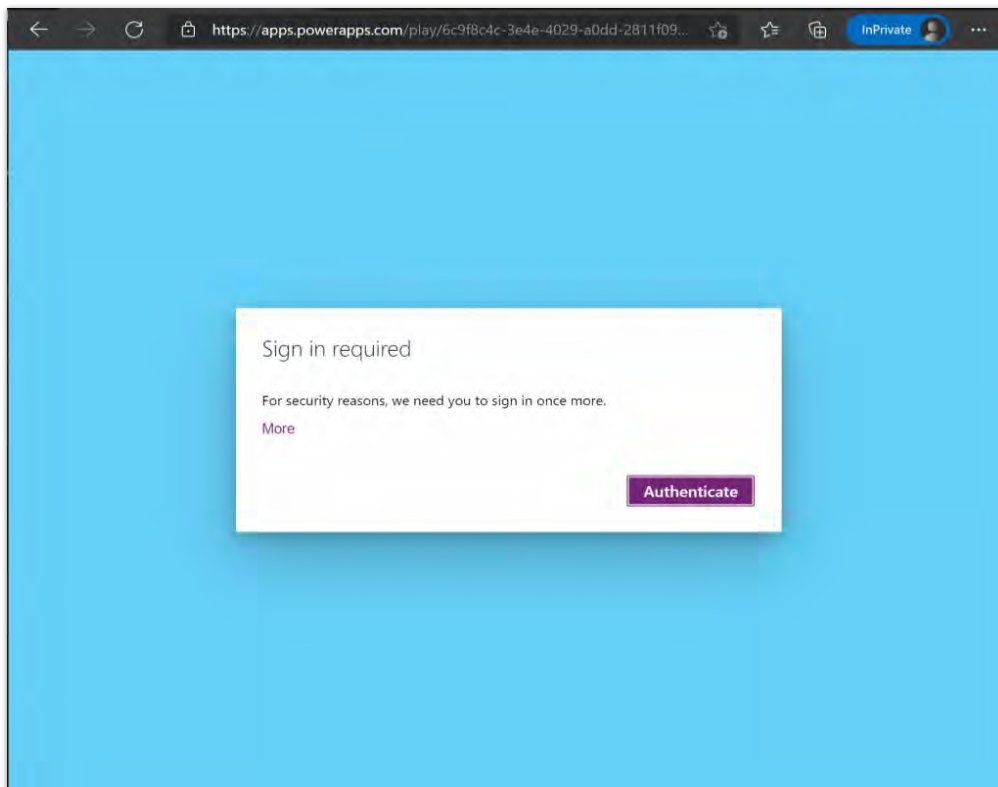
This finer granularity of Conditional Access on individual apps is available in public preview and leverages Azure AD's Conditional Access authentication context.

The granular application of Conditional Access enables many scenarios including:

- Designate specific apps to require users to perform multi-factor authentication.
- Designate specific apps to require users to be connected to their intranet to access the app.
- Designate specific apps to require users to connect from a device that is compliant with the organization's device management policies.
- Apply different Conditional Access requirements for apps available in Power Apps mobile. For example, the *Team Morale app* no longer needs to run on the intranet unlike the *Business Finance app*.
- For a given app, apply different Conditional Access policies per environment (for example, Dev, UAT, Production).



*Experience when Power Apps individual app requires multi-factor authentication.*



*Experience when Power Apps prompts user to authenticate to satisfy Conditional Access requirement.*

### See also

[Manage Power Apps](#) (docs)

### Enable quarantine of non-compliant Power Apps

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	✓ Aug 29, 2021	-	Apr 2022

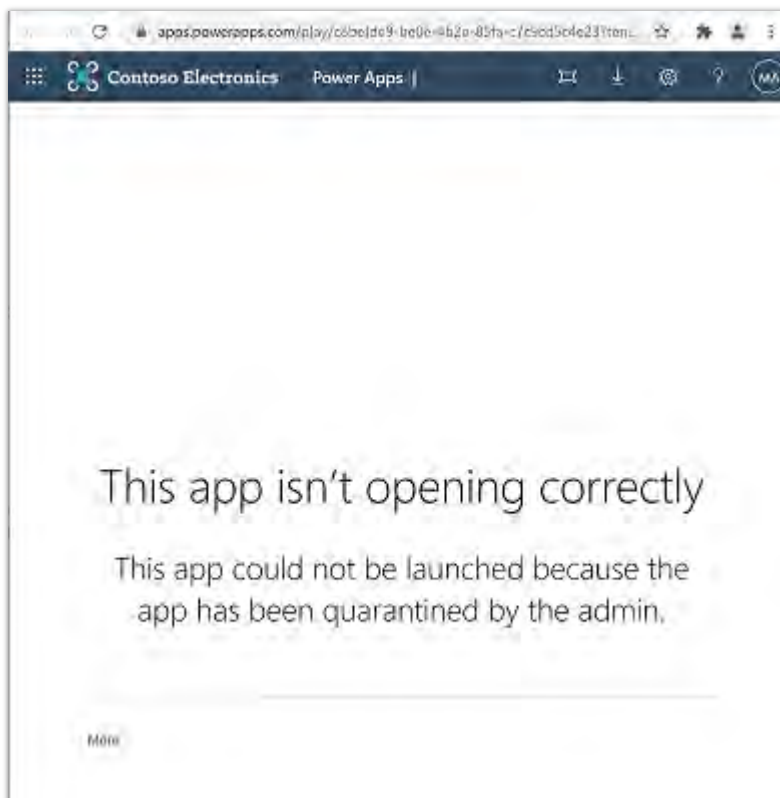
### Business value

As a complement to Power Platform's data loss prevention policies, Power Apps enables admins to *quarantine* an app. This allows admins to directly limit the availability of apps that may need attention to meet an organization's compliance requirements, providing additional guardrails for low-code development.

## Feature details

An app's quarantine state is managed by admins and controls whether a resource is accessible to users. The following table outlines how the quarantine state impacts experiences for admins, makers, and users.

Persona	Experience
Admin	Regardless of an app's quarantine state, an app is visible to admins in the Power Platform admin center and using PowerShell cmdlets.
Maker	Regardless of an app's quarantine state, an app is visible in <a href="https://make.powerapps.com">https://make.powerapps.com</a> and can be opened for editing in Power Apps Studio.
User	A quarantined app will present users that launch the app with a message indicating they're unable to access the app.



*Power Apps experience when users attempt to launch an app that is quarantined by an admin.*

## See also

[Manage app quarantine state preview](#) (docs)

## Solution checker enforcement improvements

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	May 2022	-	Jun 2022

### Business value

Customers can identify harmful configurations and customizations in their solutions early, as part of the application lifecycle management process, to help make their apps more reliable, secure, and performant.

### Feature details

Solution checker is a great tool for makers and administrators to inspect the customizations within a solution to identify potential issues before the changes are deployed to production. You can run the solution checker from Power Apps (make.powerapps.com) and view the results. With some effort, you can automate it to be part of the deployment process.

With this enhancement, we're making it easy for you to enforce solution checker as part of the solution packaging, export, and import process. You'll be able to easily view the results and necessary information to address any issues before continuing the process.

# Power Apps portals

## Plan and prepare for Power Apps portals in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **Power Apps portals**.

### Overview

Power Apps portals empowers organizations to extend data and business processes to their internal and external users in a secure manner. It allows organizations to create multilingual, responsive, and branded portals.

Use Power Apps portals [documentation](#) to get detailed information about how portals can be used to meet a variety of business requirements.

The 2022 release wave 1 plan is focused on enhancements in the areas of the portals platform, new capabilities for administration, packaging, and professional development.

### Investment areas



#### *What's new and planned*

##### **Core platform**

Portals core platform provides a rich set of out-of-the-box capabilities for makers to use as-is, configure, and customize in low-code/no-code ways and even build on top of using professional development techniques to meet business needs.

Typical areas that describe the portals core platform are:

- Content management system (CMS) capabilities to store web pages and related content

- Data types and components, such as forms and lists, allow a user to interact with data in Microsoft Dataverse using standard ways
- User authentication by supporting OAuth 2.0, OpenID Connect, SAML 2.0, WS-Federation standard protocols
- Security using a robust authorization model that provides granular control over permissions on portal pages and data in Dataverse tables
- A configurable global search that allows searching content in Dataverse using portal pages
- Extensibility options provided by code components, Web APIs, Liquid code, client-side scripts, custom style sheets, and web templates

The additional and enhanced capabilities on the platform allow makers to enable more scenarios out-of-the-box while implementing Power Apps portals.

### **Professional developer experiences**

Power Apps portals provides support for professional tools and editors, such as the [Microsoft Power Platform CLI](#) and [Visual Studio Code](#). Professional developers can create, build, debug, and publish their custom experiences quickly and efficiently.

Professional developers can:

- Use Microsoft Power Platform CLI commands for portal to list, download, and upload portals.
- Use deployment profiles to upload unique portal configurations to development, test, and production environments.
- Use Microsoft Power Platform CLI and GitHub Actions capabilities to enable Continuous Integration/Continuous Deployment (CI/CD) of portal configurations.
- Use Visual Studio Code extension Microsoft Power Platform Tools to improve productivity.

### **Governance and administration**

Governance and administration features enable administrators to efficiently manage, configure, and maintain portals.

These features allow administrators to:

- View portal details, capacity consumption reports, and update portal packages from the Power Platform Admin center.
- Use self-service diagnostic tools, such as the Portal Checker, to identify and resolve common issues in portals.
- Configure integration to other services (for example, SharePoint and Power BI), restrict access by IP address, enable maintenance mode, and other admin options.

## Portals configuration and packaging

Portals content is stored as configuration within Dataverse tables. Use these enhancements for an improved experience in managing the application lifecycle of your portal across Dataverse environments.

Typical areas that describe the portals configuration and packaging are:

- Package release which includes solution upgrades and data model changes.
- Enhancement to Portal Management app.
- Solution component framework for portals which enables ALM using solutions.

## For application administrators

### User impacting features to the user experience enabled automatically

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### Features that must be enabled by application administrators

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.

## What's new and planned for Power Apps portals

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the date of release.

This check mark (✓) shows which features have been released for public preview or early access and for public preview, early access, and general availability.

## Core platform

Additional and enhanced capabilities on the platform allow makers to enable more scenarios out-of-the-box while implementing Power Apps portals.

Feature	Enabled for	Public preview	General availability
<a href="#">Dataverse search integration in portals</a>	Users by admins, makers, or analysts	-	Apr 2022
<a href="#">Portals support for image columns in Microsoft Dataverse</a>	Users by admins, makers, or analysts	Apr 2022	Jun 2022
<a href="#">Portals support for file columns in Microsoft Dataverse</a>	Users by admins, makers, or analysts	Jun 2022	Aug 2022

## Governance and administration

Tools and capabilities enable administrators to support portals in their organizations.

Feature	Enabled for	Public preview	General availability
<a href="#">Support for portal actions using admin APIs</a>	Users by admins, makers, or analysts	May 2022	-
<a href="#">Portals audit logging in Microsoft 365 compliance center</a>	Admins, makers, marketers, or analysts, automatically	-	Aug 2022

## Portals configuration and packaging

Enhancements to portals data model and packaging options.

Feature	Enabled for	Public preview	General availability
<a href="#">Web files in portals to use file column type from Microsoft Dataverse</a>	Users, automatically	May 2022	-

## Professional developer experiences

Unlock advanced portal customizations using professional developer capabilities and familiar toolsets.

Feature	Enabled for	Public preview	General availability
<a href="#">Portals Web API support for Microsoft Dataverse custom actions</a>	Admins, makers, marketers, or analysts, automatically	Aug 2022	-
<a href="#">Microsoft Power Platform CLI support for Portal Checker</a>	Users by admins, makers, or analysts	-	Apr 2022

Description of **Enabled for** column values:

- **Users, automatically:** These features include changes to the user experience and are enabled automatically.
- **Admins, makers, marketers, or analysts, automatically:** These features are meant to be used by administrators, makers, marketers, or business analysts and are enabled automatically.
- **Users by admins, makers, or analysts:** These features must be enabled or configured by the administrators, makers, or business analysts to be available for their users.

For a list of the countries or regions where Dynamics 365 business applications are available, go to the [International availability guide](#). For more information about geographic areas and datacenters (regions), go to the [Dynamics 365 and Microsoft Power Platform availability page](#).

## Core platform

### Overview

Portals core platform provides a rich set of out-of-the-box capabilities for makers to use as-is, configure, and customize in low-code/no-code ways and even build on top of using professional development techniques to meet business needs.

Typical areas that describe the portals core platform are:

- Content management system (CMS) capabilities to store web pages and related content
- Data types and components, such as forms and lists, allow a user to interact with data in Microsoft Dataverse using standard ways
- User authentication by supporting OAuth 2.0, OpenID Connect, SAML 2.0, WS-Federation standard protocols
- Security using a robust authorization model that provides granular control over permissions on portal pages and data in Dataverse tables
- A configurable global search that allows searching content in Dataverse using portal pages

- Extensibility options provided by code components, Web APIs, Liquid code, client-side scripts, custom style sheets, and web templates

The additional and enhanced capabilities on the platform allow makers to enable more scenarios out-of-the-box while implementing Power Apps portals.

### Dataverse search integration in portals

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	Apr 2022

### Business value

With Dataverse search enabled, the search within Power Apps portals will be consistent with the search within Microsoft Power Platform and provide enhanced search capabilities.

### Feature details

In this release, the portals search experience will provide an option to use [Dataverse search](#) for searching records across multiple tables and columns in portals while remaining consistent with security permissions.

This experience will be the default search experience for all new Power Apps portals that are created. Users will have an option to choose the current (Lucene.NET based) search for a limited period.

**NOTE** The Dataverse based search will eventually replace the current Lucene.NET based [search](#) with the new search capabilities.

### Portals support for image columns in Microsoft Dataverse

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Apr 2022	Jun 2022

### Business value

Makers can configure their portal to surface image columns defined in Microsoft Dataverse to forms and lists.

### Feature details

In 2022 release wave 1, Power Apps portals is extending support for [image columns](#) from tables in Microsoft Dataverse to forms and lists in portals. Makers can design [basic forms](#) and [advanced forms](#) to include image columns providing the ability for portal users to upload images while submitting data. The thumbnail image can be seen on viewing the data

on a portal form. A user can download the image directly from portal forms or with the portals Web API.

## Portals support for file columns in Microsoft Dataverse

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Jun 2022	Aug 2022

### Business value

Makers can configure their portal forms and lists to surface file columns defined in Microsoft Dataverse.

### Feature details

In 2022 release wave 1, Power Apps portals is extending the support for [file columns](#) from tables in Microsoft Dataverse to forms and lists in portals. Makers can now include file columns when designing [basic forms](#), [advanced forms](#), and [lists](#). Portal users can upload files while submitting or editing data using forms. Power users can also download files from both forms and lists.

## Governance and administration

### Overview

Governance and administration features enable administrators to efficiently manage, configure, and maintain portals.

These features allow administrators to:

- View portal details, capacity consumption reports, and update portal packages from the Power Platform Admin center.
- Use self-service diagnostic tools, such as the Portal Checker, to identify and resolve common issues in portals.
- Configure integration to other services (for example, SharePoint and Power BI), restrict access by IP address, enable maintenance mode, and other admin options.

### Support for portal actions using admin APIs

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	May 2022	-

## Business value

IT administrators can use these APIs to obtain portal details and perform administrative actions.

## Feature details

With this feature, we'll be adding the support for administrative APIs in Power Apps portals. Administrators can use these APIs in their automation and governance processes.

Actions that will be made available through these APIs are:

- **List portal:** Get a list of available portals for a selected environment.
- **Create portal:** Create a new portal in an environment.
- **Delete portal:** Delete a portal.
- **Restart portal:** Restart a portal.

## Portals audit logging in Microsoft 365 compliance center

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Aug 2022

## Business value

Organizations require availability of detailed portal website activity logs to perform regular auditing. This feature will allow administrators to download website logs from the Microsoft 365 compliance center.

## Feature details

Power Apps portals is an external facing website, and often, organizations want to audit website activities. Use the auditing solution feature at Microsoft 365 compliance center to review logged portal activities.

Audit events include, but are not limited to:

- When the portal website is accessed
- Where the website is accessed from
- Which pages have been viewed
- Details of page requests

The length of time that an audit record is retained and searchable in the log depends on your Office 365 or Microsoft 365 Enterprise subscription and specifically the type of the license that's assigned to specific users.

## Portals configuration and packaging

### Overview

Portals content is stored as configuration within Dataverse tables. Use these enhancements for an improved experience in managing the application lifecycle of your portal across Dataverse environments.

Typical areas that describe the portals configuration and packaging are:

- Package release which includes solution upgrades and data model changes.
- Enhancement to Portal Management app.
- Solution component framework for portals which enables ALM using solutions.

### Web files in portals to use file column type from Microsoft Dataverse

Enabled for	Public preview	General availability
Users, automatically	May 2022	-

### Business value

This feature will make the **Web File** table consistent with rest of the Microsoft Power Platform capabilities for storing files and allow portals to store single files through the **file columns** capability in Microsoft Dataverse.

### Feature details

Web files in portals currently use the **Notes** (annotations) table to store the files as attachments. With this capability, we're bringing the [file columns](#) capability in Microsoft Dataverse to the **Web File** table in portals for storing the associated files.

- Once this capability is available, makers will be able to manage files using a new file column in the **Web File** table.
- The portals Studio will start using the new column for storing image, theme, or associated files used by portals website.
- This release will also include a one-time attachment migration to the new file column for the most recent notes attachments.

## Professional developer experiences

### Overview

Power Apps portals provides support for professional tools and editors, such as the [Microsoft Power Platform CLI](#) and [Visual Studio Code](#). Professional developers can create, build, debug, and publish their custom experiences quickly and efficiently.

Professional developers can:

- Use Microsoft Power Platform CLI commands for portal to list, download, and upload portals.
- Use deployment profiles to upload unique portal configurations to development, test, and production environments.
- Use Microsoft Power Platform CLI and GitHub Actions capabilities to enable Continuous Integration/Continuous Deployment (CI/CD) of portal configurations.
- Use Visual Studio Code extension Microsoft Power Platform Tools to improve productivity.

### Portals Web API support for Microsoft Dataverse custom actions

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2022	-

### Business value

This feature enables Power Apps portals developers to use Microsoft Dataverse custom actions from the portals Web API.

### Feature details

Actions represent reusable operations you can perform using Web API. Actions may have observable side effects, such as creating or updating records.

This feature will enhance portals Web API by adding support for Microsoft Dataverse custom actions. By including custom API and custom process actions support, developers will be able to call Web API to perform complex operations.

### Microsoft Power Platform CLI support for Portal Checker

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	Apr 2022

## Business value

Allow professional developers to get diagnostic results from the Power Platform CLI.

## Feature details

With this feature, we're adding support for [Portal Checker](#) self-service diagnostic tool through the Power Platform CLI. This feature will allow users to invoke Portal Checker **offline** on the [downloaded content and configuration of a portal](#) and get diagnostic results. These results will help pro developers identify and fix the configuration problems proactively.

# Power Automate

## Plan and prepare for Power Automate in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **Power Automate**.

### Overview

Microsoft Power Automate provides the tools you can use to improve your business' productivity by automating repetitive, time-consuming tasks. Power Automate provides a better way to get things done across your organization through cloud robotic process automation (RPA). It is deeply integrated with the Microsoft 365 ecosystem and the rest of Microsoft Power Platform.

Power Automate is investing in several areas as a part of Microsoft Power Platform 2022 release wave 1, including the following four themes:

- **Automation for everyone – exactly where you need it:** Today, the way that many people discover Power Automate is through our integrations in other products, like Windows 11, SharePoint, or Microsoft Teams. This wave, we're making it easier to get started with automation no matter what application you're using in Windows or Microsoft 365.
- **Hyperscale Cloud RPA:** From our biggest enterprise customers to our small and medium businesses, everyone is increasing the scale of their RPA deployments. We'll make it easier to roll out RPA at scale - with features to make it easier to manage your machines in Azure and the credentials of your users and accounts.
- **Automation that lets you sleep at night:** We're taking the burden of complexity and repetitive work away from you. That means, fundamentally, the service must never go down, we should deliver you consumer-quality end-to-end experiences, and ultimately, everything about our platform needs to "just work." All the features we have must be reliable and consumable, and automatable by default (adhering to the API-first approach), so that you can set it and forget it.
- **Anyone can get started:** We'll make it easier for anyone to get started with automation when they launch Power Automate for desktop or go to PowerAutomate.com for the first time. In addition to relevant first-run experiences, we'll be adding more intelligence throughout the product, making it easier to process even complex documents.

For official product documentation and training for Power Automate, go to:

- [Power Automate docs](#)
- [Power Automate training on Microsoft Learn](#)

**TIP** Download the release overview guide and share with your team as you plan to onboard the new capabilities included in this release wave.

[Download the overview guide \(PDF\)](#)

\* Overview guide available in English version only

## Investment areas



### *What's new and planned*

#### **Desktop flows**

The need for accessing robotic process automation (RPA) capabilities becomes more and more urgent for organizations. Indeed, they are looking to help their employees be more productive by focusing on the most important tasks and avoid spending time on repetitive, time-consuming ones, which often can be automated. Building desktop automation can be complex hence it is critical to provide simple and intuitive user experiences for people who build or run automation flows. Desktop flow makers can either be advanced RPA developers or citizen developers with less technical skills but they both need to be able to build the automations they need. In this democratization journey, Power Automate for desktop comes now with Windows 11 making RPA easily accessible for both individual users as well as organizations.

In 2022 release wave 1, we'll keep investing heavily in Power Automate for desktop to make automation even easier with improvements like welcoming in-app tutorials and out of the box ready-to-run desktop flow examples. Additionally, we'll expand the Power Automate for desktop capabilities by addressing the main UI challenges like image-based automations. All those application enhancements come with platform improvements providing better

governance, monitoring, and troubleshooting capabilities to help organizations with the deployment and management of their desktop automations.

### **Cloud flows**

Cloud flows is a core automation capability in Power Automate that allows customers to focus on what matters and automate the rest. This product area includes:

- Integration with applications like Microsoft Teams, SharePoint, OneDrive, Dynamics 365 suite of applications, and more.
- Integration with the rest of Microsoft Power Platform, including the ability to invoke workflows from an app created using Power Apps, when a data alert is triggered in Power BI or to take an action in Power Virtual Agents.
- Mobile applications that help customers be notified, perform approvals, invoke, and monitor automation execution on the go.

This functionality was first released in 2016 and has been updated on a weekly basis. In 2022 release wave 1, we're focusing on making it easier to build, deploy, and share automation as well as help organizations drive adoption with confidence through deeper governance and privacy controls.

## **For application administrators**

### **User impacting features to the user experience enabled automatically**

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### **Features that must be enabled by application administrators**

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.



*Get the most out of Power Automate*

## Get the most out of Power Automate

Helpful links	Description
<a href="#">Release plan</a>	View all capabilities included in the release.
<a href="#">Product updates</a>	Stay up to date on latest product updates.
<a href="#">Release calendar</a>	Know important release milestones.
<a href="#">Licensing</a>	Improve your understanding of how to license Power Automate.
<a href="#">Product documentation</a>	Find documentation for Power Automate.
<a href="#">User community</a>	Engage with Power Automate experts and peers in the community.
<a href="#">Upcoming events</a>	Find and register for in person and online events.
<a href="#">Product trials</a>	Get started with Power Automate.

## What's new and planned for Power Automate

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the date of release.

This check mark (✓) shows which features have been released for public preview or early access and for public preview, early access, and general availability.

### Cloud flows

Use the new cloud flows features to automate tasks across hundreds of connectors.

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Improved home page experience</a>	Admins, makers, marketers, or analysts, automatically	Apr 2022	-	
<a href="#">Resubmit multiple failed runs at once</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022
<a href="#">Undo feature in cloud flow designer</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022
<a href="#">Enhanced help topics in Power Virtual Agents</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022
<a href="#">Simplify how solution-aware flows are shared with Azure AD users</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022
<a href="#">Solutions list shows a warning for connection references</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Users can see solution references from the flow details page</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022
<a href="#">Solution-aware cloud flows are shown in the my flows list</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022
<a href="#">Use connections provided by run-only users with the Dataverse connector</a>	Admins, makers, marketers, or analysts, automatically	-	-	May 2022
<a href="#">Troubleshoot multiple flow runs at the same time</a>	Admins, makers, marketers, or analysts, automatically	-	-	May 2022
<a href="#">Flow ownership supported for Service Principals</a>	Admins, makers, marketers, or analysts, automatically	-	-	May 2022
<a href="#">Handle null values in JSON</a>	Admins, makers, marketers, or analysts, automatically	-	-	Jun 2022
<a href="#">OData editor improvements in cloud flows</a>	Admins, makers, marketers, or analysts, automatically	-	-	Aug 2022
<a href="#">Improved Power Automate mobile app for Android</a>	Admins, makers, marketers, or analysts, automatically	-	-	Sep 2022

## Desktop flows

Use the new desktop flows features to automate tasks on the web or desktop.

Feature	Enabled for	Public preview	Early access*	General availability
<a href="#">Use credentials from CyberArk in desktop flow connections</a>	Admins, makers, marketers, or analysts, automatically	Jul 2022	-	
<a href="#">Desktop flow machines and runs - status health, analytics, and error reporting improvements</a>	Admins, makers, marketers, or analysts, automatically	Aug 2022	-	
<a href="#">Set screen resolution for unattended desktop flow runs</a>	Admins, makers, marketers, or analysts, automatically	Aug 2022	-	
<a href="#">SharePoint connector in Power Automate for desktop</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-	
<a href="#">Use credentials from Azure Key Vault in desktop flow connections</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-	
<a href="#">Java automation in SWT framework applications</a>	Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022
<a href="#">Display custom form action in Power Automate for desktop</a>	Admins, makers, marketers, or analysts, automatically	✓ Feb 21, 2022	-	May 2022
<a href="#">More data types for input and output variables</a>	Admins, makers, marketers, or analysts, automatically	-	-	May 2022

\* You are able to opt into some features as part of early access on January 31, 2022, including all mandatory changes that affect users. To learn more, go to [Early access FAQ](#).

Description of **Enabled for** column values:

- **Users, automatically:** These features include changes to the user experience and are enabled automatically.

- **Admins, makers, marketers, or analysts, automatically:** These features are meant to be used by administrators, makers, marketers, or business analysts and are enabled automatically.
- **Users by admins, makers, or analysts:** These features must be enabled or configured by the administrators, makers, or business analysts to be available for their users.

For a list of the countries or regions where Dynamics 365 business applications are available, go to the [International availability guide](#). For more information about geographic areas and datacenters (regions), go to the [Dynamics 365 and Microsoft Power Platform availability page](#).

## Cloud flows

### Overview

Cloud flows is a core automation capability in Power Automate that allows customers to focus on what matters and automate the rest. This product area includes:

- Integration with applications like Microsoft Teams, SharePoint, OneDrive, Dynamics 365 suite of applications, and more.
- Integration with the rest of Microsoft Power Platform, including the ability to invoke workflows from an app created using Power Apps, when a data alert is triggered in Power BI or to take an action in Power Virtual Agents.
- Mobile applications that help customers be notified, perform approvals, invoke, and monitor automation execution on the go.

This functionality was first released in 2016 and has been updated on a weekly basis. In 2022 release wave 1, we're focusing on making it easier to build, deploy, and share automation as well as help organizations drive adoption with confidence through deeper governance and privacy controls.

### Improved home page experience

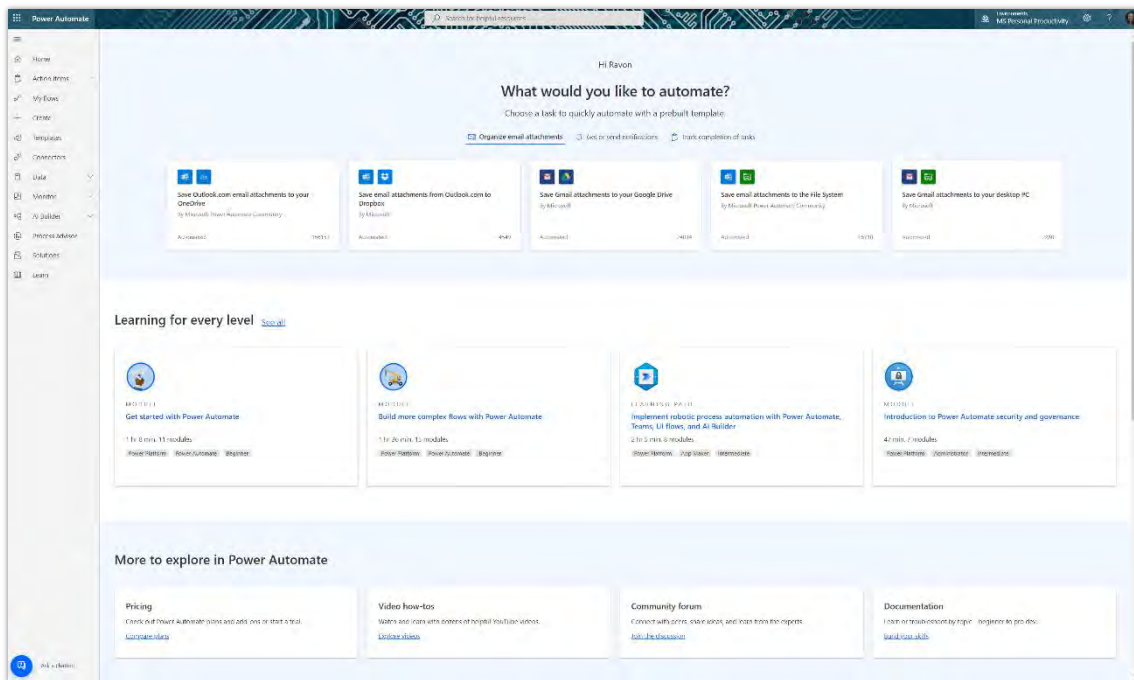
Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Apr 2022	-	-

### Business value

The new Power Automate home page makes it easier for users to learn how to build flows and discover more about Power Automate capabilities.

## Feature details

With this feature, several improvements are being made to the Power Automate home page. This improved page makes it easier to get started making a flow. It has features and learning paths from Microsoft Learn that target new and intermediate users. There are resources for users to learn about pricing, interact with the community, access documentation, and watch how-to videos. Users can stay in the know by reading blog posts written by the Power Automate team.



Screenshot of the new home page.

## Resubmit multiple failed runs at once

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

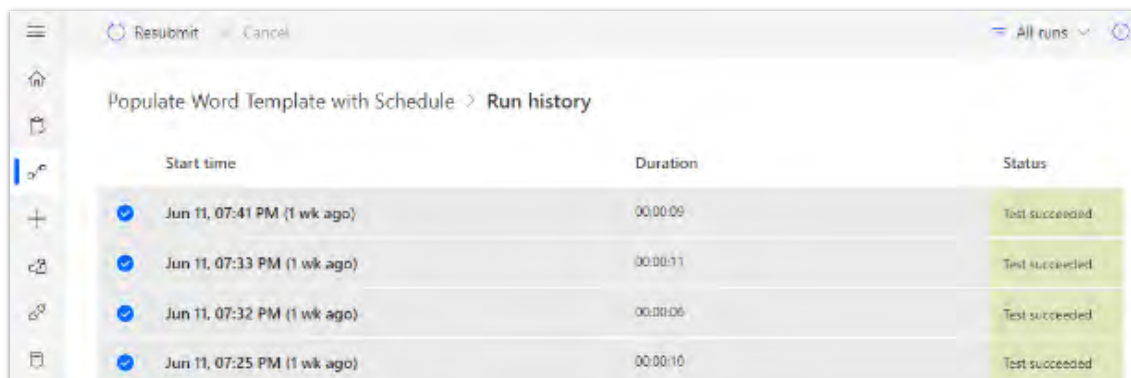
## Business value

Improve the maker productivity by resubmitting several failed flows to rerun at the same time.

## Feature details

Sometimes, you may have a flow with several failed runs. Currently, you must manually resubmit each run individually if you want to rerun them. In 2022 release wave 1, we're

introducing a feature that allows you to select and resubmit multiple runs at once. This means if you have multiple failed runs, you can select all of these runs and resubmit them at the same time.



Screenshot of multiple runs selected to resubmit.

## Undo feature in cloud flow designer

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

### Business value

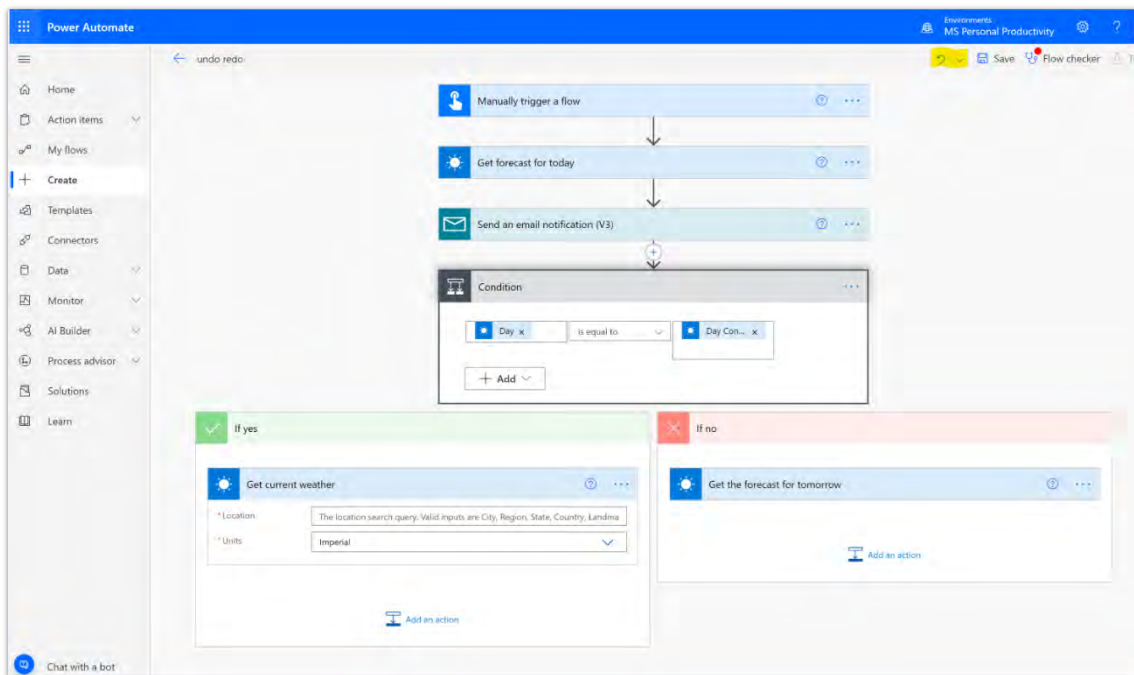
Many customers asked for an undo/redo capability. This feature helps users recover from situations where they've accidentally deleted actions and need to restore them.

### Feature details

For organizations with robust source control, Microsoft recommends that they use solutions to manage the versions of their flows; however, sometimes makers simply want to have the undo/redo function support to revert some of their operations locally, such as adding, deleting, or editing some actions.

With this new feature, you can use the **Undo** and **Redo** buttons to easily revert some of your previous operations in the cloud flows designer.

**NOTE** This feature uses the local browser storage for design time only. It's not a server-side versioning support story.



*Screenshot of the undo and redo feature in cloud flow designer.*

## Enhanced help topics in Power Virtual Agents

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

### Business value

Power Automate includes a Power Virtual Agents-powered help bot to assist people while they build flows. We'll provide upgrades so that users can get more of their questions answered through the bot.

### Feature details

Many users' questions are related to how to perform automation and other questions that are already documented. Instead of opening support tickets or asking users to search online for the documentation, we're adding more self-help topics on Power Virtual Agents so that users can quickly find answers.

Specifically, we're adding AI Builder, administration, and Dataverse topics to the Power Automate Power Virtual Agents chatbot. Customers will be able to find answers for "How-To" and troubleshooting content through the chatbot.

## Simplify how solution-aware flows are shared with Azure AD users

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

### Business value

This feature allows for easy addition of users into Microsoft Dataverse and enables easier adoption of Microsoft Power Platform.

### Feature details

When users share a solution-aware flow, they see a list of Microsoft Dataverse users. If they want to share the flow with other users in the organization's Azure Active Directory (Azure AD), those users have to first be added as Dataverse users.

With this feature, users can share solution-aware flows directly with users within the organization's Azure AD.

## Solutions list shows a warning for connection references

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

### Business value

Connection references are an important cornerstone of the application lifecycle management (ALM) process for solution-aware flows. This feature warns users when connection references are missing a connection.

### Feature details

When a connection isn't ready for use, you see warnings about this status when you edit a flow that uses the connection; however, there's no central place in which you can see all connection reference problems for all flows. With this feature, we'll display warnings for all connection references that are missing connections.

## Users can see solution references from the flow details page

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

### Business value

This feature allows users to see solution references when they're looking at flow details, improving the ease of viewing and editing solution resources.

### Feature details

When you build a solution, there can be many dependencies between different types of resources. Currently, users can't easily determine the list of solutions that are referencing flows or connection references. In 2022 release wave 1, we'll make solution references visible in the flow details page.

## Solution-aware cloud flows are shown in the my flows list

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

### Business value

We're updating the my flows experience so that users can find solution-aware cloud flows more easily.

### Feature details

Flows must be solution-aware to participate in the application lifecycle management (ALM) process. Currently, solution-aware cloud flows aren't displayed in the my flows list, making them difficult to find. With this feature, the my flows list will contain solution-aware flows.

## Use connections provided by run-only users with the Dataverse connector

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	May 2022

## Business value

Users will be able to deploy flows more broadly without needing to manage shared accounts. They can now enable users to use their own connections when triggering flows with the Microsoft Dataverse connector.

## Feature details

Flow makers can configure whether a stored or a user-provided connection is used for Microsoft Dataverse actions using the **Manage run-only permissions** settings for flows that are manually triggered.

## Troubleshoot multiple flow runs at the same time

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	May 2022

## Business value

This feature allows makers to easily identify a flow run using an identifier column in flow runs page.

## Feature details

Currently, a maker can troubleshoot a flow run from the flow runs page by expanding a particular run and viewing the following data points about the run.

- How the flow ran.
- The trigger values passed into the flow run.
- Who triggered the flow.
- Where and why the flow failed.

If you have hundreds of runs, however, you need a more holistic view of them to troubleshoot more efficiently. Currently, this capability isn't available.

With this feature, makers can choose a trigger dynamic value output that appears on a custom column in the flow runs view. After the flow runs, the column gets populated with the runtime value that the maker specifies.

## Flow ownership supported for Service Principals

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	May 2022

### Business value

This feature allows Microsoft Power Platform to work in enterprise environments where Service Principals are leveraged.

### Feature details

Currently, flows that Service Principals own cannot be enabled because connections cannot be shared with service principals. As a workaround, makers use shared "service accounts" when they want more than one person to own a flow.

In 2022 release wave 1, we're updating connection sharing capabilities to allow flow ownership by a user that represents a Service Principal.

## Handle null values in JSON

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Jun 2022

### Business value

Customers often use Power Automate to read data from a variety of formats, including JSON. This feature will unblock customers who encounter null values in the JSON parsing action.

### Feature details

Currently, cloud flows do not handle null values in the JSON parsing action. Instead, an exception is thrown, and it is hard for users to troubleshoot, requiring a workaround in their flows to be resolved. In 2022 release wave 1, we'll add support to handle null values in the JSON parsing action.

## OData editor improvements in cloud flows

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Aug 2022

## Business value

This feature provides easier filtering in actions like the SharePoint **Get Items** action that previously required OData syntax.

## Feature details

With this new feature, cloud flow actions will hide OData syntax by default. Makers can switch between basic and advanced mode, making it easier to filter items without in-depth knowledge. Advanced makers can still use OData if they choose. This feature will first be available in the SharePoint Online connector's **Get Items** action.

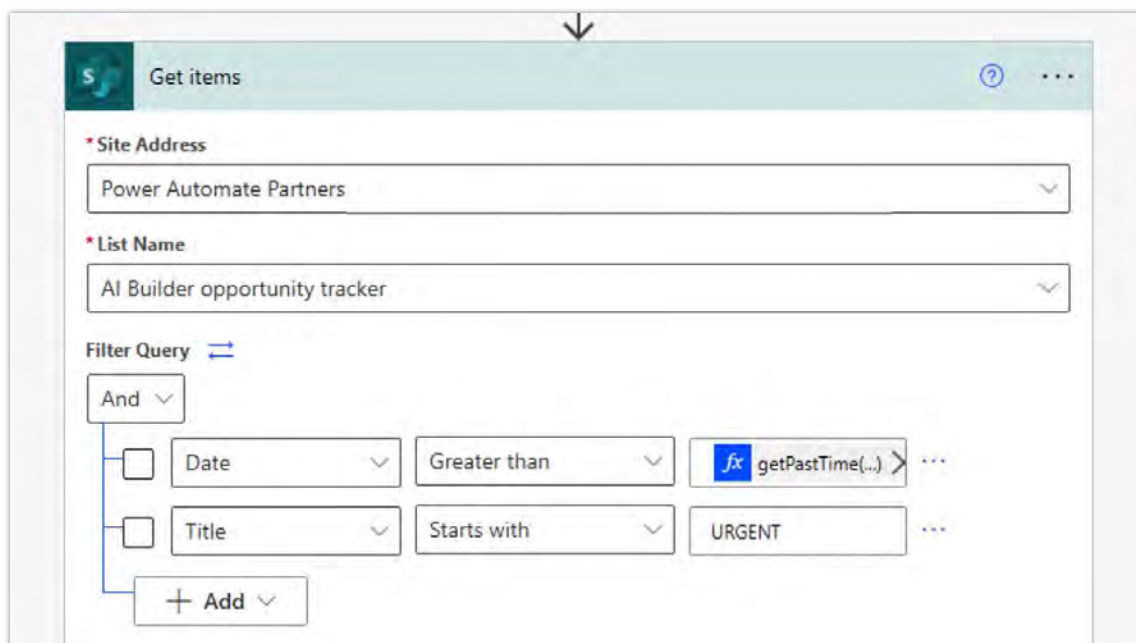


Image of the Get Items for SharePoint showing the new OData query options.

## Improved Power Automate mobile app for Android

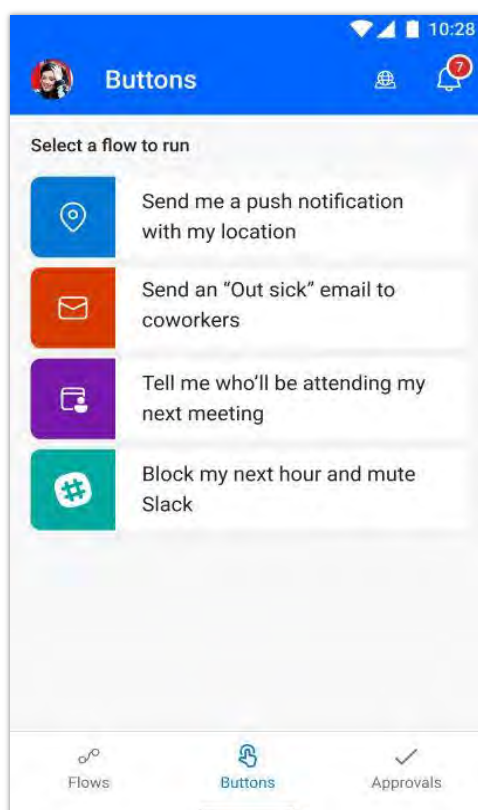
Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Sep 2022

## Business value

Improvements to the Power Automate mobile app for Android provides a more usable and modern experience.

## Feature details

The new version of the Power Automate mobile app for Android provides an updated, modern experience for users on their Android devices. This experience aligns the mobile app with the Power Automate Web portal experience. Users can receive notifications, trigger instant flows on the go, and create widgets (shortcuts to trigger instant flows from your mobile's home screen). You can view your list of approvals more quickly with the new design too. The fast rollout of new features and updates will be supported.



*Screenshot of the updated Android mobile Power Automate app.*

## Desktop flows

### Overview

The need for accessing robotic process automation (RPA) capabilities becomes more and more urgent for organizations. Indeed, they are looking to help their employees be more productive by focusing on the most important tasks and avoid spending time on repetitive, time-consuming ones, which often can be automated. Building desktop automation can be complex hence it is critical to provide simple and intuitive user experiences for people who build or run automation flows. Desktop flow makers can either be advanced RPA developers or citizen developers with less technical skills but they both need to be able to build the

automations they need. In this democratization journey, Power Automate for desktop comes now with Windows 11 making RPA easily accessible for both individual users as well as organizations.

In 2022 release wave 1, we'll keep investing heavily in Power Automate for desktop to make automation even easier with improvements like welcoming in-app tutorials and out of the box ready-to-run desktop flow examples. Additionally, we'll expand the Power Automate for desktop capabilities by addressing the main UI challenges like image-based automations. All those application enhancements come with platform improvements providing better governance, monitoring, and troubleshooting capabilities to help organizations with the deployment and management of their desktop automations.

### Use credentials from CyberArk in desktop flow connections

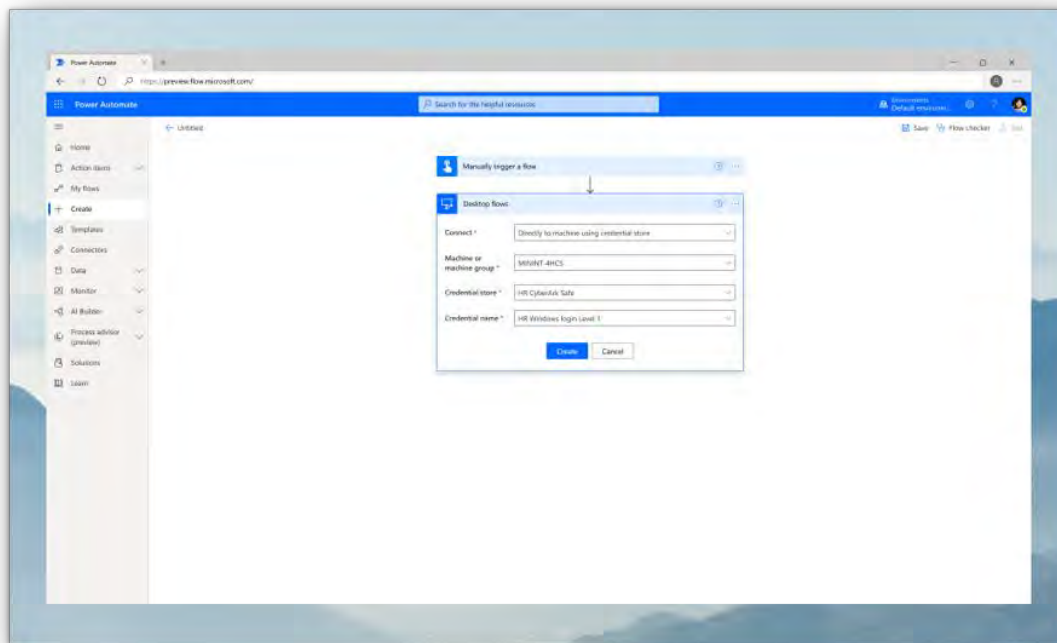
Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Jul 2022	-	-

#### Business value

You can now leverage credentials from CyberArk to connect to Windows sessions on desktop flow machines. This feature supports rotating passwords without the need to update the connection.

#### Feature details

With this feature, users can now have their desktop flow automations run on Windows machines that are logged in with credentials from CyberArk. The machine will retrieve the latest credentials at runtime. This enables automations to keep running successfully even when the password is changed by the administrator.



*Screenshot of username and password sourced from a CyberArk vault.*

## Desktop flow machines and runs - status health, analytics, and error reporting improvements

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2022	-	-

### Business value

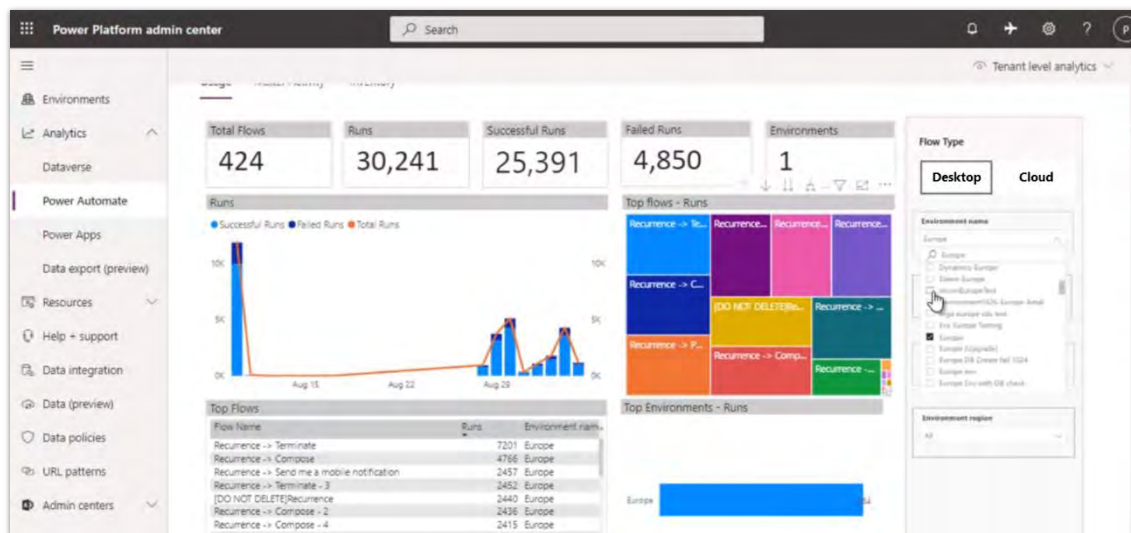
All customers need the ability to monitor and understand the health of their desktop flow setup. This includes analytics about machines configured to run them where they can quickly detect issues and be assisted in troubleshooting them as quickly as possible.

### Feature details

CoE and admins have a way to monitor the health of their desktop flow machines and runs. They can get support in troubleshooting any issue surfaced with an end-to-end overview and additional capabilities.

New features will give you the ability to track/manage the health of machines and desktop flow runs end-to-end.

- The remediation pane and details run page shows up more meaningful and actionable error messages, including identifying in which step the error occurred.
- A new dashboard helps with tracking machines and flow runs health.



Screenshot of desktop flow analytics.

## Set screen resolution for unattended desktop flow runs

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2022	-	-

### Business value

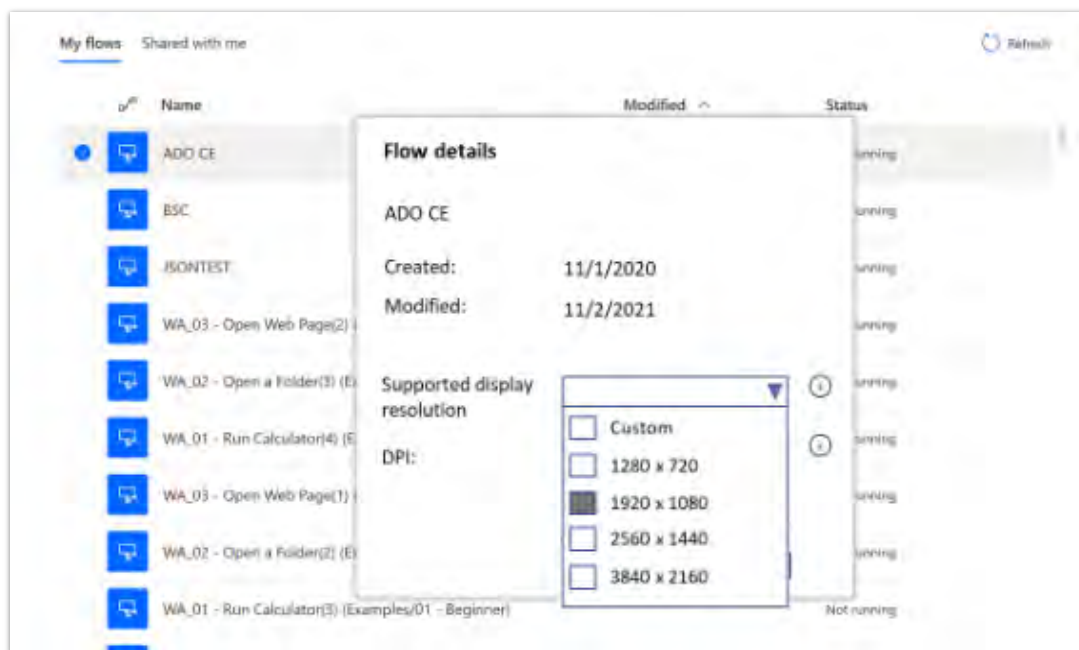
Some desktop flows can only run with a certain screen resolution. With this feature, customers can enforce a certain screen resolution to ensure their desktop flows won't fail because of a wrong screen resolution.

### Feature details

Some desktop flows require a certain screen resolution to be able to run successfully. This feature allows users to define a static screen resolution to be enforced on all unattended flow runs.

From the flow details, flow makers can:

- Select between different screen resolutions
- Select between different scale settings (DPI)



Screenshot of options for desktop flows including setting resolution and DPI.

## SharePoint connector in Power Automate for desktop

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-	-

### Business value

The new SharePoint actions in Power Automate for desktop will increase the speed and ease of use of desktop automations.

### Feature details

With the SharePoint connector in Power Automate for desktop, you can embed SharePoint cloud actions within desktop automations. Now, users can design and run desktop automations that loop over SharePoint lists and write into SAP as well as any other action from the SharePoint connector available in cloud flows.

## Use credentials from Azure Key Vault in desktop flow connections

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-	-

### Business value

Users can leverage credentials from Azure Key Vault to connect to Windows sessions on desktop flow machines. This feature supports rotating passwords without the need to update the connection.

### Feature details

With this feature, users can have their desktop flow automations run on Windows machines logged in with credentials from Azure Key Vault. The machine will retrieve the latest credentials at runtime. This enables automations to keep running successfully even when the password is changed by the administrator.

### Java automation in SWT framework applications

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Apr 2022

### Business value

In 2022 release wave 1, Power Automate desktop supports Java automation scenarios related to Java apps that have the Standard Widget Toolkit (SWT) as underlying technology.

### Feature details

Power Automate desktop capabilities for UI automation in Java apps and applets are now enhanced as Power Automate for desktop now supports UI automation scenarios based on Standard Widget Toolkit (SWT) Java apps.

The user experience for automation of Java apps will be seamless and independent of the underlying technology used and users will be able to cover most of the Java automation cases.

### Display custom form action in Power Automate for desktop

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	✓ Feb 21, 2022	-	May 2022

### Business value

With this action, users will be able to create their own dialogs, combining the controls and elements of their choices into a single dialog window.

## Feature details

The custom form feature will be based on the adaptive cards technology. Makers can use an intuitive designer to configure this dialog in any way they'd like in order to meet their needs. For example, a maker can combine controls and elements into a single dialog. Makers can also provide input data in a flexible and dynamic way.

## See also

[Create custom forms](#) (docs)

## More data types for input and output variables

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	May 2022

## Business value

Users will be able to pass more input/output variable types instead of basic strings like you can today.

## Feature details

Power Automate for desktop flows will be able to work with more input and output variable types, including:

- Text
- Number
- Boolean
- Custom Object
- List
- Data table (a cloud flow can pass a data table to a desktop flow, as a List of Objects)

# Power Virtual Agents

## Plan and prepare for Power Virtual Agents in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **Power Virtual Agents**.

### Overview

Power Virtual Agents enables anyone in your organization to create AI-powered bots that can chat with users about specific topics. Your bots can answer routine questions, resolve common issues, or automate tasks that take up valuable customer or employee time.

The 2022 release wave 1 brings improvements in the authoring experience with topic suggestions from bot sessions, Power Apps Portals integration, data loss prevention options, proactive bot update messaging in Microsoft Teams, and more.

Creating a bot is typically a complex and time-intensive process, requiring long content update cycles and a team of experts. Power Virtual Agents gives anyone in your organization the ability to create powerful custom bots using an easy, code-free graphical interface, without the need for AI experts, data scientists, or teams of developers. A bot can interact with users, ask for clarifying information, and answer a customer's questions.

With deep integration with Power Automate and the Microsoft Bot Framework, authors can extend their bots to integrate with API backends, which will enable the bots to handle additional topics, limited only by the author's imagination. You can deploy bots to many channels, including websites, Microsoft Teams, and Facebook.

As users interact with a bot, the author can see which topics are performing well and which need improvement.

**TIP** Download the release overview guide and share with your team as you plan to onboard the new capabilities included in this release wave.

[Download the overview guide \(PDF\)](#)

\* Overview guide available in English version only

## Investment areas



### *What's new and planned*

#### **Service and runtime**

Power Virtual Agents continues to ensure it meets strict compliance and governance needs. Power Virtual Agents will be available for US Government customers in the Government Community Cloud (High) environment, as well as in our Germany and United Arab Emirates regions.

Power Virtual Agents will make it easier to govern your Microsoft Teams-based environments costs by offering inactivity-based environment deletion, cleaning up those environments that are in disuse, allowing your organization to focus on only active projects.

#### **Core authoring**

Creating a bot with Power Virtual Agents is easy to do with the no-code authoring canvas, and there are several ways you can manage how topics interact, how you want the conversation to flow, and what it should feel like.

It's easy to test the bot without having to fully deploy the bot whenever you make a small change. There are also lesson topics that guide you through topic authoring from simple to complex scenarios as well as default system topics. You can choose what language you want your bot to use, too. Variables and entities make your bot more capable of understanding your users, and rich content makes your bot more relatable and easier to use.

#### **Bot configuration**

Bots can be configured to suit the individual needs of an organization and to provide further extensibility with other services and features. This includes authentication provider support, the use of Microsoft Bot Framework skills to augment the bot's capabilities, integration with Microsoft Teams, Facebook, and other channels, and more.

## For application administrators

#### **User impacting features to the user experience enabled automatically**

User impacting features should be reviewed by application administrators. This facilitates

release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### Features that must be enabled by application administrators

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.



*Get the most out of Power Virtual Agents*

## Get the most out of Power Virtual Agents

Helpful links	Description
<a href="#">Release plan</a>	View all capabilities included in the release.
<a href="#">Product updates</a>	Stay up to date on latest product updates.
<a href="#">Release calendar</a>	Know important release milestones.
<a href="#">Licensing</a>	Improve your understanding of how to license Power Virtual Agents.
<a href="#">Product documentation</a>	Find documentation for Power Virtual Agents.
<a href="#">User community</a>	Engage with Power Virtual Agents experts and peers in the community.

Helpful links	Description
<a href="#">Upcoming events</a>	Find and register for in person and online events.
<a href="#">Product trials</a>	Get started with Power Virtual Agents.

## What's new and planned for Power Virtual Agents

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the date of release.

This check mark (✓) shows which features have been released for public preview or early access and for public preview, early access, and general availability.

### Bot configuration

Configure bots to suit the individual needs of an organization and to provide further extensibility with other services and features.

Feature	Enabled for	Public preview	General availability
<a href="#">Support data loss prevention</a>	Users by admins, makers, or analysts	Jul 2022	-
<a href="#">Use single sign-on with Dynamics 365 Customer Service</a>	Users by admins, makers, or analysts	Sep 2022	-

### Core authoring

Use the Power Virtual Agents conversational editor to construct your dialogs with rich content, variables, and powerful entity types.

Feature	Enabled for	Public preview	General availability
<a href="#">Start bot conversations with proactive triggers</a>	Users by admins, makers, or analysts	Apr 2022	-

## Service and runtime

Power Virtual Agents will be available for United States Government users in the Government Community Cloud (High) environment.

Feature	Enabled for	Public preview	General availability
<a href="#">Availability in Government Community Cloud (GCC) and GCC High</a>	Users, automatically	-	Apr 2022

Description of **Enabled for** column values:

- **Users, automatically:** These features include changes to the user experience and are enabled automatically.
- **Admins, makers, marketers, or analysts, automatically:** These features are meant to be used by administrators, makers, marketers, or business analysts and are enabled automatically.
- **Users by admins, makers, or analysts:** These features must be enabled or configured by the administrators, makers, or business analysts to be available for their users.

For a list of the countries or regions where Dynamics 365 business applications are available, go to the [International availability guide](#). For more information about geographic areas and datacenters (regions), go to the [Dynamics 365 and Microsoft Power Platform availability page](#).

## Bot configuration

### Overview

Bots can be configured to suit the individual needs of an organization and to provide further extensibility with other services and features. This includes authentication provider support, the use of Microsoft Bot Framework skills to augment the bot's capabilities, integration with Microsoft Teams, Facebook, and other channels, and more.

### Support data loss prevention

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Jul 2022	-

### Business value

Power Virtual Agents will enable admins to protect their organization's data by supporting data loss prevention (DLP).

## Feature details

Customers want to use Microsoft Power Platform's capabilities to safeguard their organization's data. In 2022 release wave 1, we'll enable admins to protect their enterprise data through DLP policies within Power Virtual Agents topics.

### Use single sign-on with Dynamics 365 Customer Service

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Sep 2022	-

## Business value

Improve your customers' experiences with your chatbots by removing the need for your customers to sign in multiple times.

## Feature details

When using chat authentication settings in Dynamics 365 Customer Service, Power Virtual Agents chatbots will be aware of whether the bot user is signed in, and won't ask them to sign in multiple times.

## Core authoring

### Overview

Creating a bot with Power Virtual Agents is easy to do with the no-code authoring canvas, and there are several ways you can manage how topics interact, how you want the conversation to flow, and what it should feel like.

It's easy to test the bot without having to fully deploy the bot whenever you make a small change. There are also lesson topics that guide you through topic authoring from simple to complex scenarios as well as default system topics. You can choose what language you want your bot to use, too. Variables and entities make your bot more capable of understanding your users, and rich content makes your bot more relatable and easier to use.

### Start bot conversations with proactive triggers

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Apr 2022	-

## Business value

Proactive triggers help make your bots more relevant to your customers' actual needs, reducing their frustration, and deflecting support calls.

## Feature details

Today, bot interactions require an explicit trigger phrase from your customers (for example, a bot user might ask, "How many vacation days do I have left?").

In this wave, we will add the ability for your customers to proactively trigger bot conversations with their full context, based on external trigger events (such as page navigation or button clicks).

Proactive triggers let you build engaging conversations with your customers that start the conversation with relevant information. For example, the bot might say, "You have 3 days left to pick your benefits. Can I help answer any questions?".

## Service and runtime

### Overview

Power Virtual Agents continues to ensure it meets strict compliance and governance needs. Power Virtual Agents will be available for US Government customers in the Government Community Cloud (High) environment, as well as in our Germany and United Arab Emirates regions.

Power Virtual Agents will make it easier to govern your Microsoft Teams-based environments costs by offering inactivity-based environment deletion, cleaning up those environments that are in disuse, allowing your organization to focus on only active projects.

### Availability in Government Community Cloud (GCC) and GCC High

Enabled for	Public preview	General availability
Users, automatically	-	Apr 2022

## Business value

Power Virtual Agents is available in Government Community Cloud (GCC) and GCC High, allowing public sector employees to build chatbots in their environments.

## Feature details

Power Virtual Agents for Microsoft Teams enables customers to build chatbots within Microsoft Teams. The chatbots can use data stored in Microsoft Dataverse for Teams, or many other data sources using supplied standard connectors. Customers in Government

Community Cloud (GCC) and GCC High will have to ability to build bots in these environments.

# Microsoft Dataverse

## Plan and prepare for Microsoft Dataverse in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **Microsoft Dataverse**.

### Overview

Microsoft Dataverse is a low-code data platform that allows you to easily build scalable and interconnected applications, automations, and agents using common data, security, and business logic.

### Deliver services with agility

Quickly add business value with an extensible data platform that uses out-of-the-box common tables, extended attributes, semantic meanings, and an open ecosystem enabled by Common Data Model.

### Increase scale and efficiency

Boost productivity and reduce costs by quickly developing applications, processes, and reusable data schemes. Repeatably build, validate, and deploy your applications using GitHub and Azure DevOps.

### Make your data work smarter

Get accurate insights by adding low-code AI tools to your process automation. Identify and resolve duplicated and conflicting data with a managed data platform that includes built-in business logic and rules.

### Rely on the security of a trusted platform

Protect your data with a robust security management infrastructure that provides critical security and compliance capabilities—advanced encryption, rich access control, and deep integration with Azure Active Directory.

## Investment areas



### *What's new and planned*

#### **Bridge Microsoft Power Platform to Azure data**

Our customers have asked for a single, end-to-end way to work with data in Microsoft Dataverse, from running AI and machine learning and integrating with external datasets to slicing and dicing large volumes of Microsoft Dataverse data. Now, instead of using multiple tools to get the job done, you can accelerate time-to-insight with a single comprehensive solution Azure Synapse Link for Dataverse that can help you deliver on these goals end-to-end; something that is built-in and available out-of-the-box.

Azure Synapse Link for Dataverse enables Dataverse integration with Azure Synapse Analytics. With a few clicks, you can bring your Microsoft Dataverse data to Azure Synapse Analytics, visualize data in your Azure Synapse workspace, and rapidly start processing the data to discover insights using advanced analytics capabilities for serverless data lake exploration, code-free data integration, data flows for extract, transform, load (ETL) pipelines, and optimized Apache Spark for big data analytics. Seamless integration of Dataverse with Azure Synapse Analytics empowers our customers to analyze data in the lake.

Enterprise customers are now able to use the familiarity of T-SQL to analyze big data and gain insights from it, while optimizing their data transformation pipeline to leverage the deep integration of Azure Synapse with other Azure services such as Power BI Embedded, Azure Cosmos DB, and Azure Machine Learning.

#### **Microsoft Dataverse data**

Microsoft Dataverse is the data store for Microsoft business applications and Power Platform. Dataverse allows the storage of many types of data in customizable tables. Depending on your data needs, it's possible to store structured and unstructured data in one or many environments. Dataverse provides extensive security, filtering, and search capabilities within environment bounds. The Dataverse API and logic capabilities are used to build and maintain workflows for your application needs.

Microsoft Dataverse provides a cloud-based storage option for your data with these benefits:

- **Easy to manage:** Both the metadata and data are stored in the cloud in Dataverse logical tables.
- **Easy to secure:** Data is securely stored so that users can see it only when you grant them access. Role-based security allows you to control access to information within your organization.
- **Access your Dynamics 365 data:** Dynamics 365 applications data is stored within Dataverse, allowing you to quickly build apps that use your Dynamics 365 data and extend your apps with Power Apps, Power Automate, and more.
- **Logic and validation:** Define calculated columns, business rules, workflows, and business process flows to ensure data quality and drive business processes.
- **Productivity tools:** Seamlessly connect data with Dynamics 365, Microsoft 365, Azure, Visual Studio, Excel Power Query, and third-party services.

### Microsoft Dataverse API

Microsoft Dataverse APIs are the "glue" that binds Microsoft Power Platform together.

- The data APIs provide capabilities to work with business data in your Microsoft Dataverse tables and perform specialized operations on that data.
- The Dataverse search API makes it possible to easily find relevant information that can span multiple tables.

Microsoft Power Platform depends on APIs exposed by Microsoft Dataverse. Canvas apps, model-driven apps, and Microsoft Power Automate depend on Dataverse APIs. ISVs and customers use our APIs to create integrations and custom applications.

## For application administrators

### User impacting features to the user experience enabled automatically

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### Features that must be enabled by application administrators

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## What's new and planned for Microsoft Dataverse

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## Bridge Microsoft Power Platform to Azure data

Bring Dynamics 365 data stored in Microsoft Dataverse into Azure.

Feature	Enabled for	Public preview	General availability
<a href="#">Access Dataverse choice labels directly from Azure Synapse Link for Dataverse</a>	Admins, makers, marketers, or analysts, automatically	May 2022	
<a href="#">Receive notifications regarding the state of your Azure Synapse Link for Dataverse</a>	Users by admins, makers, or analysts	Jun 2022	
<a href="#">Export Dataverse data in Delta Lake format</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	
<a href="#">Azure Synapse Link for Dataverse - China Cloud</a>	Admins, makers, marketers, or analysts, automatically	Jul 2022	Sep 2022

## Microsoft Dataverse API

Web services provide APIs that apps use to interact with Microsoft Dataverse and are the glue that binds Microsoft Power Platform together.

Feature	Enabled for	Public preview	General availability
<a href="#">Instantly revoke users and enforce IP restriction with CAE</a>	Users by admins, makers, or analysts	May 2022	Jul 2022

## Microsoft Dataverse data

Microsoft Dataverse is the default data store for Microsoft Power Platform. It provides extensive security, filtering, and search within environment bounds.

Feature	Enabled for	Public preview	General availability
<a href="#">Power Platform solutions can now include Power BI reports and datasets</a>	Admins, makers, marketers, or analysts, automatically	Jul 2022	-
<a href="#">Dataverse results in Microsoft Search</a>	Users by admins, makers, or analysts	-	May 2022
<a href="#">Improvements to dual-write UI</a>	Users, automatically	-	May 2022
<a href="#">Scan, classify, and label Dataverse data</a>	Users by admins, makers, or analysts	Sep 2022	To be announced
<a href="#">Microsoft Dataverse data archival</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	To be announced

Description of **Enabled for** column values:

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## Bridge Microsoft Power Platform to Azure data

### Overview

Our customers have asked for a single, end-to-end way to work with data in Microsoft Dataverse, from running AI and machine learning and integrating with external datasets to slicing and dicing large volumes of Microsoft Dataverse data. Now, instead of using multiple tools to get the job done, you can accelerate time-to-insight with a single comprehensive solution Azure Synapse Link for Dataverse that can help you deliver on these goals end-to-end; something that is built-in and available out-of-the-box.

Azure Synapse Link for Dataverse enables Dataverse integration with Azure Synapse Analytics. With a few clicks, you can bring your Microsoft Dataverse data to Azure Synapse

Analytics, visualize data in your Azure Synapse workspace, and rapidly start processing the data to discover insights using advanced analytics capabilities for serverless data lake exploration, code-free data integration, data flows for extract, transform, load (ETL) pipelines, and optimized Apache Spark for big data analytics. Seamless integration of Dataverse with Azure Synapse Analytics empowers our customers to analyze data in the lake.

Enterprise customers are now able to use the familiarity of T-SQL to analyze big data and gain insights from it, while optimizing their data transformation pipeline to leverage the deep integration of Azure Synapse with other Azure services such as Power BI Embedded, Azure Cosmos DB, and Azure Machine Learning.

### Access Dataverse choice labels directly from Azure Synapse Link for Dataverse

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	May 2022	-

#### Business value

Easily read the user-friendly version from Dataverse choices text label data using Azure Synapse Link for Dataverse.

#### Feature details

Previously, Azure Synapse Link for Dataverse wrote an integer label rather than the text label for columns that use Microsoft Dataverse choices (option sets) to maintain consistency during edits. This approach required users to take extra steps to access the integer-to-text label mapping that is stored in the Microsoft.Athena.TrickleFeedService/table-EntityMetadata.json file to make it available with their Dataverse data.

Now, Azure Synapse Link for Dataverse customers have access to a separate table containing their Dataverse choices integer-to-text label mapping that can be easily joined with the raw Dataverse data to expose the text label for each Dataverse choice column. This helps citizen developers and data engineers alike to easily read the user-friendly version of their Dataverse data.

### Receive notifications regarding the state of your Azure Synapse Link for Dataverse

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Jun 2022	-

## Business value

Users can subscribe to notifications to stay on top of the state of their Azure Synapse Link for Dataverse, instead of manually checking the monitoring page.

## Feature details

Azure Synapse Link for Dataverse has a detailed monitoring page describing link status and health. This includes synchronization status of each Microsoft Dataverse table, the number of records or changes, and details about link configuration strategy. Previously, users had to manually open the monitoring page and check the state of their link. With this feature, users can subscribe to customized notifications and easily stay informed about the health of their Azure Synapse Link.

## Export Dataverse data in Delta Lake format

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

## Business value

This feature enables users to query and analyze Microsoft Dataverse data efficiently with Parquet.

## Feature details

Delta Lake is an open source, widely used data format that is built off the Parquet data format. Parquet was designed for efficient storage and high performance, especially for large datasets. It utilizes columnar data storage as opposed to a row-based format like CSV and uses a specific compression technique for each column based on the data type. It is immutable, meaning that historical data is readily accessible, and provides flexibility with a wide variety of supported encoding types.

Delta Lake provides all the benefits of Parquet format in addition to guaranteed ACID (atomicity, consistency, isolation, and durability) transactions and time travel (data versioning). The ability to "undo" a change or go back to a previous version is one of the key features of transactions. Delta Lake provides snapshots of data enabling you to revert to earlier versions of data for audits, rollbacks, or to reproduce experiments.

With Azure Synapse Link for Dataverse, you can now efficiently store and query your Dataverse data in Azure Synapse Analytics with the Delta Lake format. This helps citizen developers and data engineers alike quickly query and analyze their Dataverse data, especially for large datasets.

## Azure Synapse Link for Dataverse - China Cloud

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jul 2022	Sep 2022

### Business value

Azure Synapse Link for Dataverse will be available for China Cloud.

### Feature details

Companies in China are looking to analyze their Dataverse data in Azure Synapse Analytics in a manner that's compliant with government regulations. With just a few clicks, China Cloud users can leverage Azure Synapse Link for Dataverse to quickly and continuously analyze their data securely.

## Microsoft Dataverse API

### Overview

Microsoft Dataverse APIs are the "glue" that binds Microsoft Power Platform together.

- The data APIs provide capabilities to work with business data in your Microsoft Dataverse tables and perform specialized operations on that data.
- The Dataverse search API makes it possible to easily find relevant information that can span multiple tables.

Microsoft Power Platform depends on APIs exposed by Microsoft Dataverse. Canvas apps, model-driven apps, and Microsoft Power Automate depend on Dataverse APIs. ISVs and customers use our APIs to create integrations and custom applications.

## Instantly revoke users and enforce IP restriction with CAE

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	May 2022	Jul 2022

### Business value

Comply with Azure Active Directory (Azure AD) identity policy for user revocation and conditional access IP enforcement policy using Continuous Access Evaluation (CAE).

### Feature details

Provides instant revocation of user in Microsoft Dataverse when an administrator revokes a user from Azure AD. Supports Conditional Access IP restriction policy to allow instant

enforcement when IP address falls outside of approved IP ranges. In addition, this feature provides resiliency to Azure AD outages where logged in users can continue to work in an event of an Azure AD outage.

## Microsoft Dataverse data

### Overview

Microsoft Dataverse is the data store for Microsoft business applications and Power Platform. Dataverse allows the storage of many types of data in customizable tables. Depending on your data needs, it's possible to store structured and unstructured data in one or many environments. Dataverse provides extensive security, filtering, and search capabilities within environment bounds. The Dataverse API and logic capabilities are used to build and maintain workflows for your application needs.

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- **Access your Dynamics 365 data:** Dynamics 365 applications data is stored within Dataverse, allowing you to quickly build apps that use your Dynamics 365 data and extend your apps with Power Apps, Power Automate, and more.
- **Logic and validation:** Define calculated columns, business rules, workflows, and business process flows to ensure data quality and drive business processes.
- **Productivity tools:** Seamlessly connect data with Dynamics 365, Microsoft 365, Azure, Visual Studio, Excel Power Query, and third-party services.

### Power Platform solutions can now include Power BI reports and datasets

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jul 2022	-

### Business value

Microsoft Power Platform application lifecycle management (ALM) now extends to Power BI reports and datasets. This allows deployment of comprehensive applications built using Power Apps, Power Automate, Microsoft Dataverse, and other Power Platform services. Power BI reports and datasets can be included as part of a Microsoft Power Platform solution for import, export, and customization.

## Feature details

Power Apps makers will be able to:

- Add Power BI reports and datasets to a solution.
- Connect Power BI mashup parameters to Power Apps environment variables.
- Import and export Power Apps solutions that include Power BI reports and datasets.
- Embed Power BI reports in model-driven apps.
- Use Power BI components to support managed and unmanaged Power Apps solutions operations.

Power BI creators will be able to:

- Include Power BI reports and datasets (import and DirectQuery) in Power Apps ALM solutions.
- Use Single Sign-On (SSO) for Microsoft Dataverse data sources deployed with the Power Apps solution.
- Customize deployed content in place with the ability to discard unmanaged changes.
- Create additive customization to managed solutions.

Power Platform admins will be able to:

- Deploy applications Power Platform solutions including Power BI reports and datasets.
- Have Dataverse data sources with SSO automatically configured with a solution.
- Configure other dataset data sources leveraging solution environment variables.

## Dataverse results in Microsoft Search

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	May 2022

## Business value

Users can see search results from Microsoft Dataverse in Microsoft 365 (Bing.com, Office.com, Sharepoint.com).

## Feature details

Dynamics 365 federation with Microsoft Search provides a cohesive search experience with Dynamics 365 to intelligently help businesses search users as well as find, learn, operate, and navigate their customer and business relevant information.

## Improvements to dual-write UI

Enabled for	Public preview	General availability
Users, automatically	-	May 2022

### Business value

We've simplified the dual-write user interface (UI) by adding more information.

### Feature details

In 2022 release wave 1, we'll address numerous dual-write UI issues. Some of these issues are:

- Improvements to mapping
- Improvements to error detection
- More detailed status information

## Scan, classify, and label Dataverse data

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Sep 2022	To be announced

### Business value

This feature will comply with Microsoft information protection and data governance.

### Feature details

This feature onboards administrators to Azure Purview. Purview provides Microsoft Dataverse administrators the capability to perform these tasks:

- Register the data
- Scan the data
- Auto classify the data
- Add a label
- Set the data protection policy

## Microsoft Dataverse data archival

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	To be announced

### Business value

Customers can support regulatory-audit requirements for long term data storage and reduce non-active data in the transaction store. This will also provide customers with flexibility to gain business insights and drive actions based on combining the historical and active transactional data.

### Feature details

Application admins will be able to define an archival policy for a root table. At the scheduled time, the root and child tables, including files, are moved from the transaction store to a long term storage within Dataverse. A dashboard will provide the capability to manage the lifecycle of the archival operations.

Read only access to the archived data will be provided. A new Dataverse connector for Power BI will enable customers to build custom reports. Managed Azure Synapse will enable customers to run advanced analytics.

For Finance and Operations applications, there will be apps for specific scenarios released in a phased manner on top of the native Dataverse platform capabilities. Customers can archive functional scenarios specific to a business process. Examples include general ledger, inventory transactions, and so on.

# AI Builder

## Plan and prepare for AI Builder in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **AI Builder**.

### Overview

AI Builder will be investing in two main areas as part of this release:

- **Document automation:** The ability to process unstructured documents (for example, contracts and emails). By extracting insights from the semantic understanding of the text in unstructured documents, we'll be able to extract key information from documents, and process them automatically in an end-to-end flow using Power Automate.
- **Model ops:** Increased capabilities to effectively manage the governance and lifecycle of AI models. We'll focus on building a *feedback loop* process, which enables improvement of model accuracy by retraining models with data processed in production.

### Investment areas



#### *What's new and planned*

##### **Model ops**

*Model ops* focuses on the governance and lifecycle management of AI Builder models. It orchestrates the model lifecycle across different environments in the enterprise. Model ops give users the necessary tools to evaluate model performance, test, improve, and deploy models according to governance rules.

Key themes for model ops include feedback loop for improving model performance, continuous retraining, automated deployment, co-authoring, and model monitoring.

We'll focus on enabling a feedback loop mechanism so that users can understand when their models are not performing as expected in production, and how to improve them. We'll also support model versioning for increased deployment flexibility, build enhanced monitoring tools, and enable co-authoring of models (share for edit).

### Content intelligence

Microsoft Power Platform is intelligent and capable of leveraging AI to read content for understanding and using it in your apps and flows. In 2022 release wave 1, we'll focus on document processing excellence and improving model operations. We'll also improve our unstructured document processing capabilities, giving users the ability to interpret text and extra key information from a wide variety of unstructured documents.

## For application administrators

### User impacting features to the user experience enabled automatically

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### Features that must be enabled by application administrators

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.

## What's new and planned for AI Builder

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

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### Content intelligence

Content intelligence features make it easy to use AI to read content for understanding in apps and flows.

Feature	Enabled for	Public preview	General availability
<a href="#">Support for unstructured documents</a>	Admins, makers, marketers, or analysts, automatically	May 2022	Sep 2022

## Model ops

These features are related to the lifecycle and governance of AI Builder models.

Feature	Enabled for	Public preview	General availability
<a href="#">Feedback loop improves models by raising confidence scores in AI Builder</a>	Admins, makers, marketers, or analysts, automatically	Apr 2022	
<a href="#">Collaborative authoring of AI models</a>	Admins, makers, marketers, or analysts, automatically	Jun 2022	
<a href="#">Models support versioning</a>	Admins, makers, marketers, or analysts, automatically	Jun 2022	

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unstructured document processing capabilities, giving users the ability to interpret text and extra key information from a wide variety of unstructured documents.

## Support for unstructured documents

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	May 2022	Sep 2022

## Business value

Documents like contracts, statements of works, and letters are common in any business. With this update, you can now train an AI model to extract the data you need from these unstructured documents. This expands support beyond the structured and semi-structured documents—like invoices, tax forms, certificates, and many others—that were already supported in AI Builder.

## Feature details

In AI Builder you can now create a custom document processing model to extract information on any type of document, structured or semi-structured (for example, invoices) or unstructured (for example, contracts). With support for unstructured documents, you can use this capability to extract entities like amounts, dates, names, and terms and conditions from legal covenants where each document is different.

You can then use custom models that you train in any automation process in flows in Power Automate or apps in Power Apps.

## Model ops

### Overview

*Model ops* focuses on the governance and lifecycle management of AI Builder models. It orchestrates the model lifecycle across different environments in the enterprise. Model ops give users the necessary tools to evaluate model performance, test, improve, and deploy models according to governance rules.

Key themes for model ops include feedback loop for improving model performance, continuous retraining, automated deployment, co-authoring, and model monitoring.

We'll focus on enabling a feedback loop mechanism so that users can understand when their models are not performing as expected in production, and how to improve them. We'll also support model versioning for increased deployment flexibility, build enhanced monitoring tools, and enable co-authoring of models (share for edit).

## Feedback loop improves models by raising confidence scores in AI Builder

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Apr 2022	-

### Business value

After models in AI Builder are trained and deployed to production, it's possible that customers will use the models with new datasets that aren't optimized for them. With the feedback loop feature, documents will be flagged and sent back to the training wizard queue for retraining if they didn't yield sufficient confidence scores when analyzed by AI Builder. The maker will be able to view the set of documents that require retraining and update the model to take into account these new documents. This will ensure that AI Builder models maintain an optimal level of quality over time.

### Feature details

The feedback loop feature is a key element of ensuring optimal quality of AI Builder document processing models over time. When an AI Builder model is used to process a document and extract its information, the model may return a low probability score. The score is indicative of a possible failure in the accuracy of the extracted content. This input will be sent to the maker in charge of the model, who will verify and correct the result if necessary.

Users will be able to view documents that were not processed correctly by AI Builder in their training wizard. They will be able to correctly retag the documents and update the AI Builder model to support similar documents moving forward. This will ensure that an optimal level of performance is maintained over time as makers will be notified when their AI Builder models are not performing adequately. This will allow them to take corrective action.

## Collaborative authoring of AI models

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2022	-

### Business value

The collaborative authoring feature will unlock new possibilities for teams of makers that want to bring AI Builder models to production in a quicker and more robust manner. By allowing makers to collaboratively edit models, teams will be able to train a broader set of documents quicker. This will allow the models to reach optimal performance when teams train their AI Builder model.

### Feature details

Previously, makers could only make their AI models shareable to others for use, but not for editing. With the new collaborative authoring feature, makers will be able to share their models for editing, allowing multiple makers to collaborate on the training process of a model. When models require complex training processes, or feedback loops to ensure optimal performance, teams of makers will be able to collaborate in order to get models to market quicker with optimal performance. This will also allow teams that have access to unique data sets to update and retrain models created by others in order to reach and maintain an optimal level of performance for the model.

### Models support versioning

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2022	-

### Business value

Supporting multiple versions of the same model will enable makers to compare the performance of different models for the same scenario. This will facilitate enterprise adoption for production processes that require fine-tuning models based on new data.

### Feature details

Makers will be able to iterate on different versions for the same model. This will allow them to fine-tune model performance and control which version of the AI builder model they want to deploy to different environments. You will also be able to rollback the model state to a previous version to restore the state of the training data and republish the previous version.

# Governance and administration

## Plan and prepare for governance and administration in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **governance and administration**.

### Overview

Microsoft Power Platform offers a range of governance and administration capabilities that span Power Apps, Power Automate, Power Virtual Agents, and Microsoft Dataverse. These capabilities are designed to help administrators and IT professionals set up, secure, manage, govern, and monitor the use and adoption of Microsoft Power Platform and its components across the enterprise. In addition to the Power Platform admin center, which is the unified user experience we aim to provide for Microsoft Power Platform administrators, a unified API surface and rich tooling like PowerShell cmdlets are also available to provide fully automatable management capabilities beyond the out-of-box portal experience.

### Investment areas



*What's new and planned*

### For application administrators

#### User impacting features to the user experience enabled automatically

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

## Features that must be enabled by application administrators

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.

## What's new and planned for governance and administration

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the date of release.

This check mark (✓) shows which features have been released for public preview or early access and for public preview, early access, and general availability.

Feature	Enabled for	Public preview	General availability
<a href="#">Reporting for Finance and Operations storage</a>	Admins, makers, marketers, or analysts, automatically	May 2022	May 2022
<a href="#">Purchase Dynamics 365 and Power Platform ISV offers from AppSource</a>	Admins, makers, marketers, or analysts, automatically	May 2022	Jul 2022

Description of **Enabled for** column values:

- **Users, automatically:** These features include changes to the user experience and are enabled automatically.
- **Admins, makers, marketers, or analysts, automatically:** These features are meant to be used by administrators, makers, marketers, or business analysts and are enabled automatically.
- **Users by admins, makers, or analysts:** These features must be enabled or configured by the administrators, makers, or business analysts to be available for their users.

For a list of the countries or regions where Dynamics 365 business applications are available, go to the [International availability guide](#). For more information about geographic areas and datacenters (regions), go to the [Dynamics 365 and Microsoft Power Platform availability page](#).

## Reporting for Finance and Operations storage

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	May 2022	May 2022

### Business value

Admins will have access to Finance and Operations storage reporting directly in the Power Platform admin center. These reports will offer clarity on how much storage has been used and allow admins to take timely action if entitlement limits are exceeded.

### Feature details

Within the Power Platform admin center, storage reporting will show how much storage a customer has used against their entitlement limit. Admins will be able to download the report in a Microsoft Excel format. Eventually, we'll enhance the experience with more visualized analytics, similar to what Microsoft Dataverse has in the Power Platform admin center today. For this release, the scope will cover database storage only.

## Purchase Dynamics 365 and Power Platform ISV offers from AppSource

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	May 2022	Jul 2022

### Business value

Currently, customers can discover Dynamics 365 and Microsoft Power Platform independent software vendor (ISV) offers on AppSource but not purchase them. This new feature will allow customers to purchase these products from AppSource.

### Feature details

This new feature allows customers to be able to purchase user-based licenses for ISV products from AppSource. The licenses they purchase will appear in the Microsoft 365 portal, where they can be assigned to users.

# Pro development

## Plan and prepare for pro development in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **Microsoft Power Platform pro development**.

### Overview

Microsoft Power Platform offers a rich spectrum of extensibility points and tooling capabilities that give the professional developer a great experience. In 2022 release wave 1, we'll be investing in the pro-developer experience to ensure the citizen developer has an improved experience and to make sure the enterprise can fully leverage all available application development skills. The upcoming feature investments include deeper integration with Microsoft Azure plus Visual Studio Code and Visual Studio extensions like Microsoft Power Platform Build Tools.

### Investment areas



#### *What's new and planned*

##### **Microsoft Power Platform connectors**

Microsoft Power Platform provides connectivity to over 600 external data sources. The connector platform has two key objectives:

- Providing a platform that allows partners and customers to develop connectors efficiently.
- Providing a rich set of connectors for customers.

As part of platform investments, we provide a rich set of tools, samples, and documentation to help partners and customers build connectors. In this release, we invest in enabling seamless application lifecycle management for custom connectors and connections to ease the rollout of various solutions to different environments. We also invest in our certification processes and tools for connectors so partners can get their connectors certified and make them available on the platform. A key investment here is also geared towards leveraging the larger community through the Independent Publisher connector program.

Along with strengthening the ISV community's ability to create their own connectors, we plan to continue to invest in enterprise-grade data connectors like SQL Server, SAP, Oracle Database, and Outlook.

### **Fusion development**

Microsoft Power Platform is for every developer. Rich tooling and extensibility options are available for the professional developer to ensure that there are never any cliffs. With fusion development, which is where code first and low code come together, Microsoft Power Platform, Azure, GitHub, and Visual Studio Code/Visual Studio offer endless possibilities to scale application development.

Microsoft Power Platform Build Tools and GitHub Actions are designed to allow the pro developer to set up fully automated CI/CD pipelines for Power Apps and Power Automate solutions. Microsoft Power Platform Build Tools and GitHub Actions will support working with connection references and environment variable features, and we'll make GitHub Actions for Microsoft Power Platform generally available.

The Microsoft Power Platform CLI (command line interface) will become cross-platform compatible, and a Visual Studio Code extension will be made available and supported in GitHub Codespaces, which greatly simplifies the experience of installing and working with Microsoft Power Platform CLI.

## **For application administrators**

### **User impacting features to the user experience enabled automatically**

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### **Features that must be enabled by application administrators**

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.

## What's new and planned for pro development

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

In the **General availability** column, the feature will be delivered within the month listed. The delivery date can be any day within that month. Released features show the full date, including the date of release.

This check mark (✓) shows which features have been released for public preview or early access and for public preview, early access, and general availability.

### Fusion development

Rich tooling is available for the professional developer to easily extend Microsoft Power Platform and provide for a true no-cliffs application development and automation experience.

Feature	Enabled for	Public preview	General availability
<a href="#">Provide the ability to create and update custom connectors using Power Platform CLI</a>	Users, automatically	May 2022	Jun 2022

### Microsoft Power Platform connectors

The connector platform provides a rich set of connectors for customers, and lets partners and customers develop connectors efficiently.

Feature	Enabled for	Public preview	General availability
<a href="#">Azure Key Vault secrets can be used in custom connectors using environment variables</a>	Admins, makers, marketers, or analysts, automatically	Apr 2022	
<a href="#">Service principal support for connectors</a>	Users, automatically	Sep 2022	
<a href="#">Support for custom code in connectors</a>	Admins, makers, marketers, or analysts, automatically	-	Apr 2022

Description of **Enabled for** column values:

- **Users, automatically:** These features include changes to the user experience and are enabled automatically.

- **Admins, makers, marketers, or analysts, automatically:** These features are meant to be used by administrators, makers, marketers, or business analysts and are enabled automatically.
- **Users by admins, makers, or analysts:** These features must be enabled or configured by the administrators, makers, or business analysts to be available for their users.

For a list of the countries or regions where Dynamics 365 business applications are available, go to the [International availability guide](#). For more information about geographic areas and datacenters (regions), go to the [Dynamics 365 and Microsoft Power Platform availability page](#).

## Fusion development

### Overview

Microsoft Power Platform is for every developer. Rich tooling and extensibility options are available for the professional developer to ensure that there are never any cliffs. With fusion development, which is where code first and low code come together, Microsoft Power Platform, Azure, GitHub, and Visual Studio Code/Visual Studio offer endless possibilities to scale application development.

Microsoft Power Platform Build Tools and GitHub Actions are designed to allow the pro developer to set up fully automated CI/CD pipelines for Power Apps and Power Automate solutions. Microsoft Power Platform Build Tools and GitHub Actions will support working with connection references and environment variable features, and we'll make GitHub Actions for Microsoft Power Platform generally available.

The Microsoft Power Platform CLI (command line interface) will become cross-platform compatible, and a Visual Studio Code extension will be made available and supported in GitHub Codespaces, which greatly simplifies the experience of installing and working with Microsoft Power Platform CLI.

### Provide the ability to create and update custom connectors using Power Platform CLI

Enabled for	Public preview	General availability
Users, automatically	May 2022	Jun 2022

### Business value

Organizations that want to leverage custom connectors as part of their broader application lifecycle management (ALM) strategy would now have simplified interfaces to create and update those connectors using the developer tooling available from Power Platform.

## Feature details

Custom connectors are developed and implemented in a way that is not amenable to pro-code developers or enterprises that have implemented ALM control. Engaging the pro developer in environments they are comfortable with is an essential attribute for fusion development. This feature will allow developers to have the ability to create and update custom connectors using the following tools:

- Command line interface (CLI)
- Visual Studio Code
- GitHub Actions
- Azure DevOps tasks

Now, pro developers will be able to create, update, and remove custom connectors in their Power Platform environment using their favorite set of tools and support their organization's ALM controls.

## Microsoft Power Platform connectors

### Overview

Microsoft Power Platform provides connectivity to over 600 external data sources. The connector platform has two key objectives:

- Providing a platform that allows partners and customers to develop connectors efficiently.
- Providing a rich set of connectors for customers.

As part of platform investments, we provide a rich set of tools, samples, and documentation to help partners and customers build connectors. In this release, we invest in enabling seamless application lifecycle management for custom connectors and connections to ease the rollout of various solutions to different environments. We also invest in our certification processes and tools for connectors so partners can get their connectors certified and make them available on the platform. A key investment here is also geared towards leveraging the larger community through the Independent Publisher connector program.

Along with strengthening the ISV community's ability to create their own connectors, we plan to continue to invest in enterprise-grade data connectors like SQL Server, SAP, Oracle Database, and Outlook.

## Azure Key Vault secrets can be used in custom connectors using environment variables

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Apr 2022	-

### Business value

Managing secrets securely is a prerequisite for any enterprise. The ability to manage secrets in secure storage like Azure Key Vault simplifies secret management.

### Feature details

With this feature, you can now manage your secrets in Key Vault and use those secrets securely in a custom connector. You can now create an environment variable that links to a Key Vault secret. Once done, the environment variable can be used in a custom connector. This provides a safe and secure way to manage secrets, and the secret value isn't leaked or returned to the client. You don't need to update the value explicitly.

This feature also improves the application lifecycle management of custom connectors since the reference secrets can be updated using the environment variables.

## Service principal support for connectors

Enabled for	Public preview	General availability
Users, automatically	Sep 2022	-

### Business value

Application/service principal support in connectors allow customers to access data sources securely.

### Feature details

With this release, you can now access data sources secured by Azure Active Directory (Azure AD) using an application or service principal. Using a service principal to access data sources has many benefits. It improves the security of the application, since the application identity can be provided with the least permissions necessary to access the data sources. It also enables background automation to not require a user identity to be present.

Customers can opt into using the service principal as an option when creating the connection to the data sources. This feature is now supported for most of the connectors that connect to services secured by Azure AD. This includes SQL Server Database, Azure Blob Storage, and many others.

## Support for custom code in connectors

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Apr 2022

### Business value

This feature unblocks customers who are building custom connectors by providing custom code support.

### Feature details

This feature enables connector developers to use custom logic to send external requests and enable complex transformations. When building a connector, developers often want to provide a friendly experience for low-code makers. This requires the use of custom logic for many scenarios. So far, this has been the biggest platform gap for developers.

With support for C# based scripts, you can use any custom logic in your connectors, lighting up many scenarios previously not possible. These scenarios include:

- Supporting the transformation of outgoing and incoming payloads.
- Providing utility actions.
- Making multiple API calls to provide better functionality.
- Providing a dynamic schema.
- Implementing logic for triggers.

# ISV experiences

## Plan and prepare for ISV experiences in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **Microsoft Power Platform ISV experiences**.

### Overview

Microsoft Power Platform ISV experiences provide a way to empower ISVs with the necessary tools and features they need to build, monitor, and manage their applications before and after publishing to Microsoft AppSource. Using [ISV Studio](#), an ISV can seamlessly monitor the success of their published apps while getting the information they need to increase customer growth and satisfaction.

ISV experiences will be moved to 2022 release wave 2.

# Data integration

## Plan and prepare for data integration in 2022 release wave 1

**IMPORTANT** The 2022 release wave 1 plan covers all new functionalities planned to be delivered to market from April 2022 to September 2022. In this article, you'll find the product overview and what's new and planned for **data integration**.

### Overview

Data integration is foundational for the Microsoft Data Cloud, enabling data connectivity, transformation, and integration across hundreds of critical enterprise cloud and on-premises data sources. Power Query enables users of Power BI, Excel, Power Apps, Insights Apps, and other Microsoft products and services to ingest and transform data from hundreds of sources.

In this upcoming release wave, we'll deliver improvements in our big data performance and high scale connectivity to Azure Synapse, Microsoft Dataverse, Snowflake, Databricks, BigQuery, and Redshift. You can expect several enhancements across connectors, gateway, and VNet. New capabilities will simplify data prep using the visual authoring environment and diagram view to create high-scale dataflows to Microsoft Cloud, supporting Power BI, Insights Apps, and Power Platform. We'll also deliver extract, transform, and load scenarios using Synapse Link to Dataverse, CosmosDB, and SQL.

### Investment areas



#### *What's new and planned*

##### **Power Query connectors**

The ability to connect to a wide range of different data sources is one of the core features of Power Query. In 2022 release wave 1, we're continuing to invest heavily in adding new data

sources and expanding the reach of the existing sources into new applications, on the desktop and online.

### Dataflows

Dataflows provide a low-code self-service data preparation experience using Power Query, including orchestration, automation, and monitoring capabilities that enable users across Microsoft Power Platform, Dynamics 365, and Azure to integrate data for downstream use by many other users and applications.

### Power Query Online

Power Query continues to be the primary data connectivity and data preparation experience for users across a wide variety of Microsoft products and services. For 2022 release wave 1, we'll continue to expand the scope of data sources available in Power Query and continue to add new features that provide an enhanced data preparation experience for users.

### Azure Virtual Network data gateways

This feature provides the ability for enterprises who subscribe to Azure Virtual Network connectivity for their data services to use Microsoft Power Platform seamlessly.

## For application administrators

### User impacting features to the user experience enabled automatically

User impacting features should be reviewed by application administrators. This facilitates release change management and enables successful onboarding of new capabilities released to market. For the complete list, look for all features tagged "Users, automatically" in the release plan.

### Features that must be enabled by application administrators

This release wave contains features that must be enabled or configured by administrators, makers, or business analysts to be available for their users. For the complete list, look for all features tagged "Users by admins, makers, or analysts" in the release plan.

## What's new and planned for data integration

This topic lists features that are planned to release from April 2022 through September 2022. Because this topic lists features that may not have released yet, **delivery timelines may change and projected functionality may not be released**. For more information, go to [Microsoft policy](#).

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## Azure Virtual Network data gateways

Azure Virtual Network connectivity for Microsoft Power Platform using VNet data gateways.

Feature	Enabled for	Public preview	General availability
<a href="#">VNet data gateway - connectivity for Power BI and Microsoft Power Platform dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022

## Dataflows

Dataflows give users a low-code self-service data preparation experience using Power Query and enables them to integrate data across Power BI, Power Platform, Dynamics 365, and Azure.

Feature	Enabled for	Public preview	General availability
<a href="#">Public preview of the next generation Power BI dataflows</a>	Admins, makers, marketers, or analysts, automatically	Jul 2022	
<a href="#">Connections page now lists dataflows used by connection</a>	Users, automatically	Sep 2022	

## Power Query connectors

Power Query connectors provide out-of-the-box connectivity to hundreds of sources.

Feature	Enabled for	Public preview	General availability
<a href="#">Amazon Redshift support for native queries in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-
<a href="#">Azure HDInsight HDFS connector available in Power Query Online, dataflows</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-
<a href="#">Google BigQuery support for native queries in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-
<a href="#">Hive LLAP connector available in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-

Feature	Enabled for	Public preview	General availability
<a href="#">SharePoint Lists V2 connector available in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-
<a href="#">Snowflake support for native queries in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-
<a href="#">Support for native queries in import and DirectQuery mode in the Power Query SDK</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-
<a href="#">Active Directory connector available in Power Platform dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Certified connectors available in Power BI dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Essbase connector available in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Hadoop Distributed File System (HDFS) connector available in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Informix connector available in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">OLE DB connector available in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Support for custom connectors in Power BI dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Sybase connector available in Power Query Online and dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022
<a href="#">Vertica connector available in Power Platform Dataflows</a>	Admins, makers, marketers, or analysts, automatically	-	Sep 2022

## Power Query Online

Power Query is the primary data connectivity and data preparation experience across Microsoft products and services.

Feature	Enabled for	Public preview	General availability
<a href="#">Improvements for connecting to files stored in SharePoint Online</a>	Admins, makers, marketers, or analysts, automatically	Jun 2022	-
<a href="#">Personal query gallery</a>	Admins, makers, marketers, or analysts, automatically	Sep 2022	-

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## Azure Virtual Network data gateways

### Overview

This feature provides the ability for enterprises who subscribe to Azure Virtual Network connectivity for their data services to use Microsoft Power Platform seamlessly.

### VNet data gateway - connectivity for Power BI and Microsoft Power Platform dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

## Business value

This feature reduces the overhead of managing on-premises data gateways for virtual network (VNet) data sources.

## Feature details

In 2022 release wave 1, we plan to make VNet connectivity for Power BI and Microsoft Power Platform dataflows to Azure data services, like Azure SQL, Synapse Analytics, and others, using VNet data gateways generally available.

VNet data gateways that are Microsoft managed eliminate the overhead of installing, updating, and monitoring on-premises data gateways for connecting to data sources associated with a VNet.

## Dataflows

### Overview

Dataflows provide a low-code self-service data preparation experience using Power Query, including orchestration, automation, and monitoring capabilities that enable users across Microsoft Power Platform, Dynamics 365, and Azure to integrate data for downstream use by many other users and applications.

### Public preview of the next generation Power BI dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jul 2022	-

## Business value

Dataflows are a self-service, cloud-based data preparation technology that helps customers bring the world's data into Power BI. BI creators of dataflows, for example, can promote reusability of data transformation and reduce load on data sources by centralizing data prep tasks into dataflows that other BI creators can take advantage of when building datasets in Power BI, Excel workbooks, and more.

## Feature details

A new generation of Power BI dataflows will improve on existing experiences and features in the following ways:

- The autosave dataflow feature automatically saves any edits to dataflows to the cloud, into a draft dataflow, so you can continue editing the dataflow at a later time.
- The background publishing feature will defer query validation to the background, allowing customers to "Publish the dataflow" without waiting for the potentially lengthy

validation process to complete. If any validation errors are encountered, they're reported through the dataflow experience.

- An improved dataflow debugging and monitoring experience reduces the time it takes to investigate and fix refresh errors.
- Support for loading dataflow output to new destinations.
- Support for loading data from data sources in VNets.

### Connections page now lists dataflows used by connection

Enabled for	Public preview	General availability
Users, automatically	Sep 2022	-

#### Business value

This feature provides visibility to users on where their data is used.

#### Feature details

The detail page of a connection now lists all the dataflows that use the connection. This provides visibility into which artifacts depend on the connector, and where the data flows. In addition, if you try to delete the connection, you're shown a warning if there are dependent dataflows.

## Power Query connectors

### Overview

The ability to connect to a wide range of different data sources is one of the core features of Power Query. In 2022 release wave 1, we're continuing to invest heavily in adding new data sources and expanding the reach of the existing sources into new applications, on the desktop and online.

### Amazon Redshift support for native queries in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

#### Business value

Customers will be able to use native queries to access Amazon Redshift data.

### Feature details

You can use native queries to access your Amazon Redshift data in the Power Query Online and dataflows experiences, leveraging another query option for various business scenarios. More information on native queries can be found at [Import data from a database using native database query](#).

### Azure HDInsight HDFS connector available in Power Query Online, dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

Customers can connect to and load their business data from Azure HDInsight Hadoop Distributed File System (HDFS) for use in Power Query Online and dataflows.

### Feature details

It's important to have similar experiences and functionalities in every Power Query instance. With this feature, you'll be able to use the HDFS connector in Power Query Online and dataflows, along with its availability in Power Query Desktop today.

### Google BigQuery support for native queries in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

Users will be able to use native queries to access their Google BigQuery data.

### Feature details

You can use native queries to access your Google BigQuery data in the Power Query Online and dataflows experiences, leveraging another query option for various business scenarios. More information about native queries can be found at [Import data from a database using native database query](#).

## Hive LLAP connector available in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

Customers can connect to and load their business data from Hive LLAP for use in Power Query Online and dataflows.

### Feature details

It's important to have similar experiences and functionalities in every Power Query instance. With this feature, you'll be able to use the Hive LLAP connector in Power Query Online and dataflows, along with its availability in Power Query Desktop today.

## SharePoint Lists V2 connector available in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

With the release of this connector in Power Query and dataflows, you can connect to and load your business data from SharePoint Lists through the V2 connector.

### Feature details

It's important to have similar experiences and functionalities across different Power Query experiences. With this feature, you can use the SharePoint Lists V2 connector in Power Query Online and dataflows, along with its availability in Power Query Desktop today.

## Snowflake support for native queries in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

Use native queries to access your data in Snowflake in Power Query Online and dataflows experiences, leveraging yet another query option for various business scenarios.

### Feature details

You can use native queries to query your Snowflake data in Power Query Online and dataflows experiences. More information about native queries can be found in [Import data from a database using native database query](#).

### Support for native queries in import and DirectQuery mode in the Power Query SDK

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

Connector developers will be able to implement native query support for their connectors in both import and DirectQuery modes using the Power Query SDK. This will allow users to query their data using this functionality in Power Query experiences.

### Feature details

A common user ask is the ability to use native queries (custom SQL) in various connectors on our platform. This feature empowers custom and certified connector developers to implement native query support in their connectors for users to leverage.

### Active Directory connector available in Power Platform dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

With the release of this connector in Power Platform dataflows, you can connect to and load your business data from Active Directory.

### Feature details

It's important to have similar experiences and functionalities in every Power Query instance. With this feature, you can now use the Active Directory connector in Power Platform dataflows, along with its availability in Power Query Desktop today.

## Certified connectors available in Power BI dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

Certifying a custom connector will make it available by default in Power BI dataflows in addition to Power BI Desktop.

### Feature details

It's important to have similar experiences and functionalities across different Power Query experiences. With this feature, certified connectors will be available by default in Power BI dataflows in addition to Power BI Desktop.

## Essbase connector available in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

With the release of this connector in Power Query and dataflows, you can connect to and load your business data from Essbase.

### Feature details

It's important to have similar experiences and functionalities across different Power Query experiences. With this feature, you can now use the Essbase connector in Power Query Online and dataflows, along with its availability in Power Query Desktop today.

## Hadoop Distributed File System (HDFS) connector available in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

With the release of this connector in Power Query and dataflows, you can connect to and load your business data from Hadoop Distributed File Systems (HDFS).

### Feature details

It's important to have similar experiences and functionalities across different Power Query experiences. With this feature, you can now use the HDFS connector in Power Query Online and dataflows, along with its availability in Power Query Desktop today.

### Informix connector available in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

With the release of this connector in Power Query and dataflows, you can connect to and load your business data from Informix.

### Feature details

It's important to have similar experiences and functionalities across different Power Query experiences. With this feature, you can now use the Informix connector in Power Query Online and dataflows, along with its availability in Power Query Desktop today.

### OLE DB connector available in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

### Business value

With the release of this connector in Power Query and dataflows, you can connect to and load your business data from OLE DB.

### Feature details

It's important to have similar experiences and functionalities across different Power Query experiences. With this feature, you can now use the OLE DB connector in Power Query Online and dataflows, along with its availability in Power Query Desktop today.

### Support for custom connectors in Power BI dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

## Business value

You'll be able to use your custom connectors in Power BI dataflows experiences through the use of an on-premises data gateway.

## Feature details

We're adding support for custom connectors in Power BI dataflows through the use of an on-premises data gateway. This lets you validate and use your custom Power Query connector in Power Query Online and dataflows before certification.

### Sybase connector available in Power Query Online and dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

## Business value

With the release of this connector in Power Query Online and dataflows, you can connect to and load your business data from Sybase.

## Feature details

It's important to have similar experiences and functionalities across different Power Query experiences. With this feature, you can now use the Sybase connector in Power Query Online and dataflows, along with its availability in Power Query Desktop today.

### Vertica connector available in Power Platform Dataflows

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2022

## Business value

With the release of this connector in Power Platform dataflows, you can connect to and load your business data from Vertica.

## Feature details

It's important to have similar experiences and functionalities across different Power Query experiences. With this feature, you can now use the Vertica connector in Power Platform dataflows, along with its availability in Power Query Desktop today.

## Power Query Online

### Overview

Power Query continues to be the primary data connectivity and data preparation experience for users across a wide variety of Microsoft products and services. For 2022 release wave 1, we'll continue to expand the scope of data sources available in Power Query and continue to add new features that provide an enhanced data preparation experience for users.

### Improvements for connecting to files stored in SharePoint Online

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2022	-

### Business value

This feature enables users to browser SharePoint libraries and files directly in Power Query, which will increase customer satisfaction.

### Feature details

Currently, when getting data from a file stored in SharePoint, you need to go through non-trivial steps to find the correct URL to use. In 2022 release wave 1, we're simplifying that process so, you'll have a way directly in Power Query to browse your SharePoint libraries and the files in them.

### Personal query gallery

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2022	-

### Business value

This feature will increase satisfaction by giving users the ability to personalize their Power Query experience by allowing them to curate their own gallery.

### Feature details

You'll have the ability to tailor your Power Query experience by curating your own *query* gallery so you can easily reuse queries at a later time. This gallery makes reusing queries easier than ever directly within Power Query instead of needing to copy and paste from other sources or manage.

You'll have the ability to add, edit, and remove queries from the gallery.

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