



Microsoft Power Platform

2021 RELEASE WAVE 2 PLAN

Features releasing from October 2021 through March 2022

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Microsoft Power Platform: 2021 release wave 2 plan

The Microsoft Power Platform release plan for the 2021 release wave 2 describes new features releasing from **October 2021** through **March 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 2021 release wave 2 have been summarized in a separate [release plan](#) as well as a downloadable [PDF](#).

2021 release wave 2 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 of 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 three primary areas to enable organizations to drive a data culture:

- **Empower every individual** with instantly familiar experiences and AI infused insights. Power BI continues to advance creator experiences making it easier than ever to work with data. By leveraging the AI advancements from Microsoft Research, Power BI helps users find patterns in the vast amounts of data with readily available insights.
- **Empower every team** with BI woven into the fabric of where teams work by integrating Power BI deeply with Office 365 – Microsoft Teams, Excel, PowerPoint, and more. Power BI integration in Microsoft Teams will continue to mature, deepening the integration in channels, chats, and notifications within Teams.
- **Empower every organization** to meet the demanding needs of the large enterprise customers by providing centralized administration, governance, and industry-leading security capabilities. Power BI premium offers enhanced capabilities that help accelerate the delivery of insights at scale such as pay-as-you-go pricing, Microsoft-owner resource management, in addition to providing interactive experiences over big data.

Power Apps

[Power Apps](#) brings major improvements for makers by improving the sophistication and usability of apps that can be created across the web and mobile devices. With these improvements, makers can now publish their canvas app as standalone mobile apps. The unified and modern Power Apps designer will be generally available, to quickly build modern apps as well as take advantage of intelligent authoring, using AI and Power Apps Studio, for rapid app development.

Power Apps portals

[Power Apps portals](#) focuses on the advancements of capabilities that enables makers to enable more out-of-box scenarios, use developer capabilities and tools to enable advanced customizations and configurations, features that allows makers to create custom UI elements within forms and web elements and general availability of support for CI/CD of portals configuration using Power Platform CLI.

Power Automate

[Power Automate](#) continues to invest in these primary areas as part of this wave.

- **Microsoft Teams integration** - Integration with Microsoft Teams to provide collaborative scenarios and allow admins to push solutions that contains flows across their organization.
- **Power Automate Desktop** - Provide migration support for existing Softomotive and UI flow customers with secure credential management and much more.
- **Dynamics 365, Power Apps, Power BI, and Microsoft Dataverse** - Providing a seamless experience or professional developers and users to deploy solutions on Microsoft Power Platform with deeper integration.
- **AI Builder** - To leverage AI Builder's capability to for automation and scaling, we are investing in content intelligence for understanding where to add support for multiple layouts, working with form controls and expanding support for more languages

Power Virtual Agents

[Power Virtual Agents](#) brings improvements in the authoring experience with variable passing between topics, list variables, inline images and videos, regular expressions in custom entities, and commenting. Also included is bot creation from templates, sharing bots with security groups, and new AI capabilities to build your bots automatically from website content.

AI Builder

In 2021 release wave 2, [AI Builder](#) is adding new functionalities focused around intelligent document processing experiences, which includes the ability to extract a broader set of content types in documents such as checkboxes, signatures, typed fields like date and currency, and support for more prebuilt models in the document automation solution. Improving the AI model discovery experience, as well as improving performance metrics and simplifying the authoring experience are also the primary focus for this release.

Microsoft Power Platform governance and administration and ISV experiences

[Microsoft Power Platform governance and administration](#) introduces many new capabilities in this release wave that helps the IT professionals and administrators to setup, secure and adopt the governance and administration of the platform across enterprise.

[Microsoft Power Platform ISV experiences](#) enable Independent Software Vendors (ISV) to build applications leveraging the available Microsoft Power Platform capabilities. ISVs can create unique user experiences by extending their applications across Azure either using Azure Services or through custom code. Additional capabilities include enhancements to the current ISV Studio and more application management capabilities like tenant-level application usage metrics, opt-in feature to automatically update third-party ISV applications.

Data integration

[Data integration](#) is focused on key areas for this release include enabling the dataflow experience in Dataverse in Teams so data can be easily built, enhancements to data integration by enabling analytics to Data Lake in Common Data form, Office data integration to improve Data Export Service, enhancing Gateway for enterprises and Robotics Process Automation (RPA), enabling end to end diagnostic capability for fixing issues in queries or gateway.

Key dates for the 2021 release wave 2

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 2021 release wave 2.

Milestone	Date	Description
Release plans available	July 14, 2021	Learn about the new capabilities coming in the 2021 release wave 2 (October 2021 – March 2022) across Dynamics 365 and Industry Clouds and Microsoft PowerPlatform.

Milestone	Date	Description
Early access available	August 2, 2021	Test and validate new features and capabilities that will be a part of the 2021 release wave 2, coming in October, before they get enabled automatically for your users. You can view the Microsoft Power Platform 2021 release wave 2 early access features now.
Release plans available in 11 additional languages	August 13, 2021	The Dynamics 365 and Industry Clouds and Power Platform release plans published in Danish, Dutch, Finnish, French, German, Italian, Japanese, Norwegian, Portuguese (Brazilian), Spanish, and Swedish.
General availability	October 1, 2021	Production deployment for the 2021 release wave 2 begins. Regional deployments will start on October 1, 2021.

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 user 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 2021 release wave 2.

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

2021 release wave 2 features available for early access

This topic lists the features that can be enabled for testing in your environment beginning **August 2, 2021**. 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, see [Opt in to 2021 release wave 2 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, see [2021 release wave 2 features available for early access](#).

Power Apps

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

Feature	Enabled for	Early access	General availability
Advanced lookup capabilities for all users in model-driven Power Apps	Users, automatically	Aug 1, 2021	Oct 2021
Easily share a record in the new model driven app experience	Users, automatically	Aug 2, 2021	Oct 2021
Model driven apps support multiple app side panes	Users, automatically	Aug 2, 2021	Oct 2021
Model-driven app improvements	Users, automatically	Aug 2, 2021	Oct 2021
Model-driven app removes the web client related Dynamics 365 - custom app	Users, automatically	Aug 2, 2021	Oct 2021
Modern search for all users in model-driven Power Apps	Users, automatically	Aug 2, 2021	Oct 2021

Feature	Enabled for	Early access	General availability
New column options in grid view page	Users, automatically	Aug 9, 2021	Oct 2021
New model-driven app experience for editing multiple records	Users, automatically	Aug 2, 2021	Oct 2021
Unified Interface browser support changes	Users, automatically	Aug 2, 2021	Oct 2021

Power BI

Overview of Power BI 2021 release wave 2

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're investing in three key areas:

- **Empower every individual** with instantly familiar experiences and AI-infused insights.
- **Empower every team** with BI 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 needs for scalability and governance.

Empower every individual

Power BI continues to innovate and make it easier than ever for everyone to work with data. To build a data culture, every single individual needs to have instantly familiar experiences combined with easy-to-discover insights. Whether that involves authors creating reports by using the free Power BI Desktop tool, or consumers exploring data in the Power BI service and mobile applications, or individuals in Microsoft 365 using data to make better decisions, Power BI makes it easy and delightful to work with data. Power BI has taken advantage of a lot of the AI advancements in Microsoft Research to help our users find patterns in the vast amounts of data and insights that are readily available to use. Power BI will continue to empower every business user and business analyst to get amazing insights with AI-infused experiences. To ensure that those insights are available to everyone in the organization, wherever they are and in context, we developed the world-leading mobile BI app and provided embedded capabilities for your applications, websites, and portals. This empowers individuals across an organization to drive and grow the data culture.

Empower every team

Power BI makes data a standard part of every team's decision-making by deeply integrating BI into the places where teams work and infusing it into the most common collaboration experiences. Power BI integration in Microsoft Teams will continue to mature, deepening the integration in channels, chats, and notifications within Microsoft Teams. In addition, customers have told us that they value the ability to quickly move from insight to action to automation. Microsoft Power Platform makes this uniquely possible with Power BI, Power Apps, and Power Automate. These products are natively designed to work together to make it easy for customers to adapt quickly to changing business requirements. Insights become more valuable as they're shared, and by integrating Power BI deeply with Office 365—

Microsoft Teams, Excel, PowerPoint, and more—we bring insights to where everyone works and collaborates.

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. Power BI Premium provides unmatched capabilities in a single integrated BI platform without requiring customers to string together and integrate multiple products with high costs and disjointed experiences. With Power BI Premium, we bring capabilities that were previously only available to professional data engineers in IT organizations to analysts, accelerating time to value and helping put more power in the hands of business. This balance between business and IT is one of the reasons why the world's largest organizations are increasingly standardizing on Power BI and moving away from expensive, legacy BI products. With each release, Power BI Premium adds features that help organizations accelerate the delivery of insights at scale. These investments span many areas, such as Microsoft-owned resource management, auto-scale and pay-as-you-go pricing, advanced self-service data prep, interactive experiences over big data, and meeting advanced security and governance requirements.

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

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

What's new and planned for Power BI

This topic lists features that are planned to release from October 2021 through March 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 Premium

Helps organizations unify self-service and enterprise BI at scale.

Feature	Enabled for	Public preview	General availability
Multiple contributors to Power BI dataflows	Users, automatically	Nov 2021	
Chargeback reporting for Power BI Premium administrators	Admins, makers, marketers, or analysts, automatically	Mar 2022	
Improved refresh oversight for administrators in Refresh Center	Admins, makers, marketers, or analysts, automatically	Mar 2022	
Long-term historical and near real-time performance and usage analytics	Users by admins, makers, or analysts	Jun 2021	Oct 2021
Automatic aggregations	Admins, makers, marketers, or analysts, automatically	-	Nov 2021
Power BI dataflows in deployment pipelines	Users, automatically	Jun 2021	Dec 2021

Power BI Pro

Encouraging a data culture by helping everyone discover and collaborate on insights.

Feature	Enabled for	Public preview	General availability
Export to Excel improvements for table and matrix visuals	Users, automatically	Oct 2021	
Power BI datasets hub enhancements	Admins, makers, marketers, or analysts, automatically	Oct 2021	-
Quick create on Microsoft Dataverse	Users by admins, makers, or analysts	Oct 2021	
Artifact-level access for Power BI apps	Users by admins, makers, or analysts	Dec 2021	
Sparklines for table and matrix visuals	Admins, makers, marketers, or analysts, automatically	Dec 2021	

Feature	Enabled for	Public preview	General availability
Power BI integration with PowerPoint	Users by admins, makers, or analysts	Jan 2022	
Natural language to DAX generation	Admins, makers, marketers, or analysts, automatically	Feb 2022	
Improved Power BI administration and operations	Admins, makers, marketers, or analysts, automatically	Mar 2022	
Release notifications in Power BI for administrators	Admins, makers, marketers, or analysts, automatically	Mar 2022	
Enhanced insights on report usage and performance	Admins, makers, marketers, or analysts, automatically	-	Oct 2021

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 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. The 2021 release wave 2 investments will span the following areas:

- **Microsoft-owned resource management:** You won't have to worry about workload spikes and capacity utilization that can affect the speed of work.

- **Auto-scale and pay-as-you-go pricing:** You'll have the ability to scale beyond resource capacity without experiencing drops in performance.
- **Advanced self-service data prep:** Seamlessly ingest, prepare, and refresh data and reuse the data prep building blocks across Microsoft Power Platform and Azure.
- **Interactive experiences over big data:** Build reports on massive volumes of data in big data sources, such as Azure Synapse Analytics. Your reports are automatically made to perform well, and the full solution can be monitored end-to-end with ease.
- **Operational reporting and distribution:** Author and distribute pixel-perfect operational reports to millions of users.
- **Advanced security:** As data becomes more accessible, preventing risk of data leaking is critical. Secure and protect your data with Microsoft Information Protection labels. Discover and govern your data assets via Microsoft Azure Purview.

Multiple contributors to Power BI dataflows

Enabled for	Public preview	General availability
Users, automatically	Nov 2021	-

Business value

Data teams are able to achieve greater productivity and collaboration when multiple editors are enabled for dataflows.

Feature details

Power BI users with at least the Contributor role will be able to edit dataflows. Editing dataflows includes the ability to see the applied steps and manage them. Extending this ability to contributors will make dataflows more collaborative and teams more productive.

Chargeback reporting for Power BI Premium administrators

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Mar 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 new API and report can be used by administrators to streamline the chargeback process.

Improved refresh oversight for administrators in Refresh Center

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

Business value

Power BI administrators and capacity administrators will have more visibility into what took place during past refreshes.

Feature details

Today, the refresh summary experience provides superficial data about refreshes that ran on the capacity. With this new feature, Power BI administrators will have more information available to help them understand issues that arise during refresh execution. Some of these potential issues include data source throttling, gateway overload, and issues concerning the Power BI service.

Long-term historical and near real-time performance and usage analytics

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Jun 2021	Oct 2021

Business value

Customers need visibility within the Power BI environment. Power BI administrators need to monitor performance, understand usage and adoption growth, support audits, and ensure compliance within their Power BI environment. This requires access to detailed historical metrics. Customers also need to ensure business continuity by accessing recent activity data to respond to issues immediately.

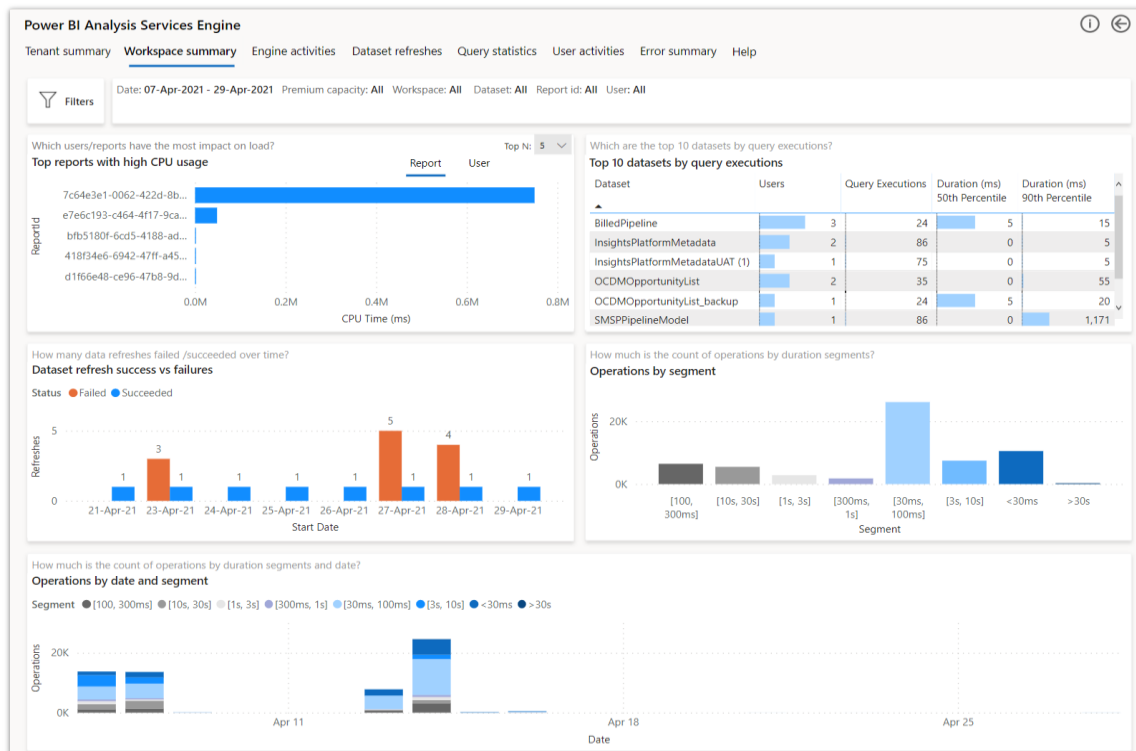
Feature details

By integrating with Azure Log Analytics, administrators and workspace owners have access to detailed real-time and historical metrics. With these new metrics, tenant administrators, capacity administrators, and workspace owners can analyze performance and activity to better understand usage and to resolve problems. Data streams are sent directly to Azure,

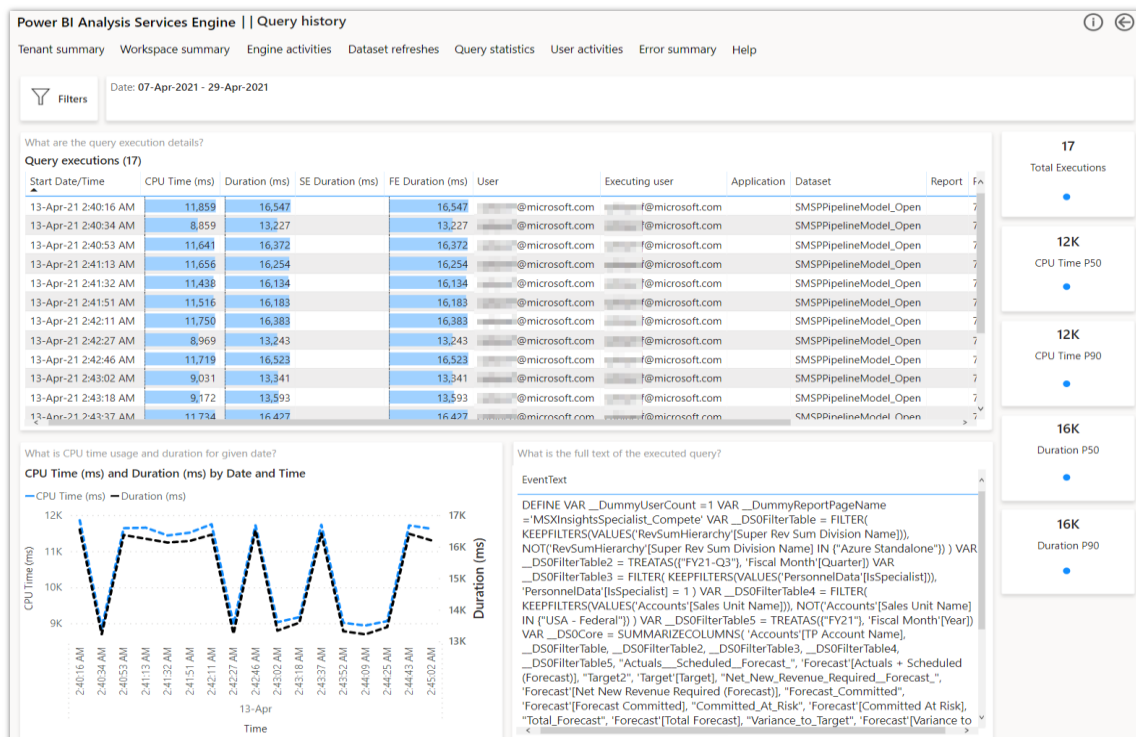
which allows users to respond to issues quickly by accessing a near real-time source of Power BI performance and activity data.

The historical data is maintained for up to two years and uses functionality available in Azure for alerting and more. The metrics are visualized by using a Power BI template app. The following data points are available:

- **Analysis Services engine:** Provides insights into activities performed against the Power BI datasets for reports and specific queries. Allows you to investigate query and refresh activity, load, and performance.
- **Power BI Premium Gen2 utilization:** Provides capacity utilization logs and metrics about workload activity, core allocation, autoscale, throttling, CPU, and memory usage. This enables capacity planning, capacity optimization, cost distribution, and cross-charging.
- **Report usage and performance metrics:** Provides insights into the user actions performed on Power BI reports through the Power BI portal, mobile apps, or embedded within custom applications. Usage and performance are logged at the report page level and include a breakdown of time spent on queries and report rendering. This helps you understand whether an issue is related to an external data source, the Power BI data model, or design choices in the report.
- **Audit logs:** Provides information on asset lifecycle activities (create, access, modify, delete). The information will match what is available in the Power BI activity log and Microsoft 365 audit log. This Azure integration provides access that doesn't require Microsoft 365 admin rights to view the audit data. The Power BI administrator can control who has logging ability.



Workspace summary for Analysis Services engine



Query history for Analysis Services engine



Automatic aggregations

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Nov 2021

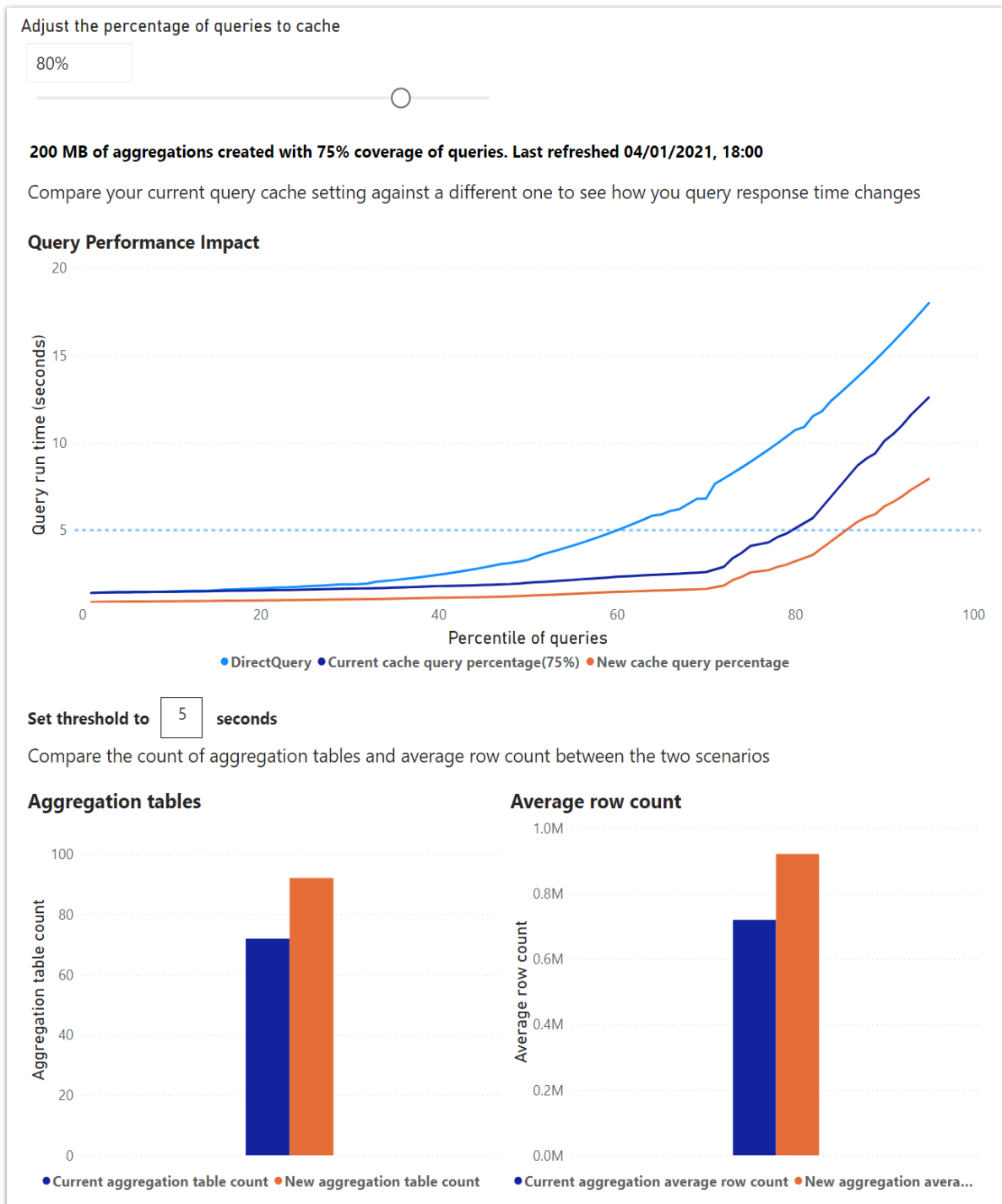
Business value

Unlock massive datasets for interactive analysis.

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.



Automatic aggregations lift chart

Power BI dataflows in deployment pipelines

Enabled for	Public preview	General availability
Users, automatically	Jun 2021	Dec 2021

Business value

Deployment pipelines help enterprise BI teams build an efficient and reusable process by maintaining development, test, and production environments. BI creators can incrementally transition new or updated content among environments, reconfiguring them with the appropriate data connections and permissions. With dataflow support, all of the major Power BI items can be managed within deployment pipelines. This includes dashboards, reports, paginated reports, datasets, and dataflows.

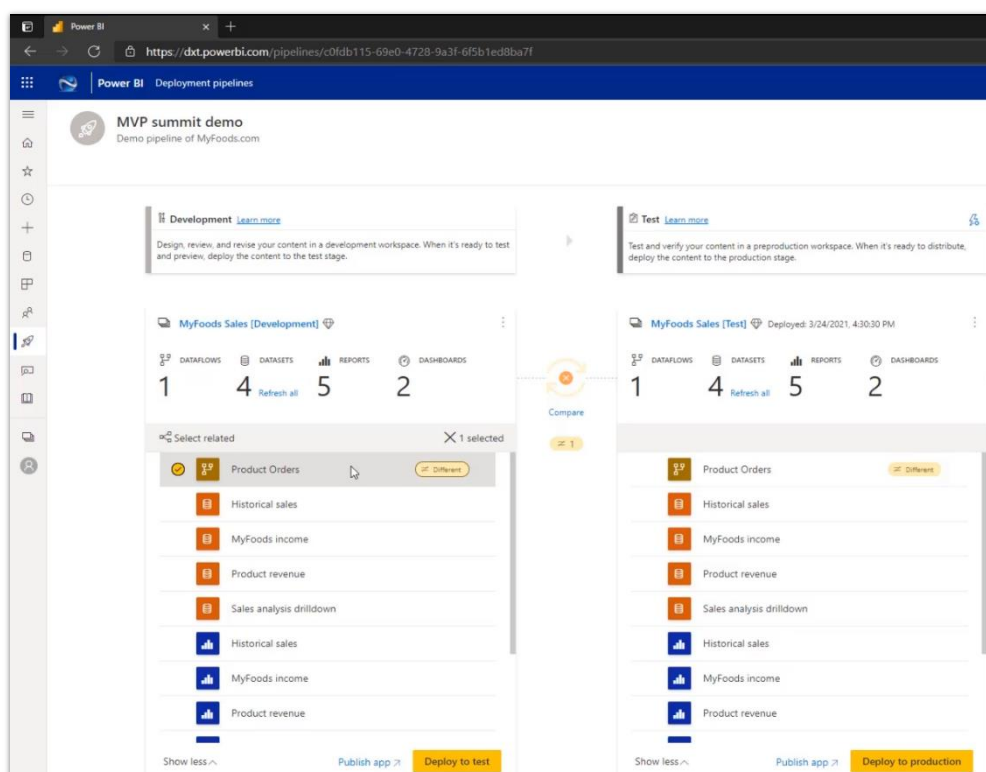
Feature details

Dataflows are an essential part of the Power BI data pipeline. In this feature, we'll add additional capabilities for managing dataflows, including:

- Detecting changes that are made to a dataflow and highlighting those changes in the pipeline *compare* feature.
- Deploying new and updated dataflows across the pipelines' lifecycle stages (dev/test/prod).
- Maintaining the relationship of dataflows with datasets across deployments and pipeline stages.

For the general availability release, additional enhancements will be available:

- Linked entities support: you'll be able to deploy and preserve connections between dataflows and linked entities.
- Sensitivity label support for dataflows through the pipeline stages.
- Action menu for dataflows.



Deployment pipelines with dataflows - compare workspace content before deployment

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.

Power BI Pro

Overview

To build a data culture, everyone needs to be able to discover and collaborate on insights. Whether that involves authors creating reports by using the free Power BI Desktop tool, consumers exploring data in the Power BI service or mobile applications, or users of Microsoft 365 using data to make better decisions, Power BI will continue to evolve to make it easier than ever to work with data. To help organizations foster that data culture, we'll invest in the following:

- **Instantly familiar experiences and AI-infused insights:** Power BI will continue to advance our creator experiences, making it easier than ever to create beautiful and engaging content for the entire organization. This includes new report authoring tools such as sparklines for table and matrix visuals, artifact-level access for managing Power BI apps, and continued improvements to the datasets hub.

- **Amazing consumer experiences:** Consumer experiences will continue to evolve, both in the Power BI service and the Power BI mobile applications. This includes improvements to Excel export from table and matrix visuals, and easy creation from Microsoft Dataverse and Dynamics 365.
- **BI woven into the fabric of the organization:** Power BI integration in Microsoft Teams will continue to evolve, deepening the integration in channels, chats, and notifications within Teams.

Export to Excel improvements for table and matrix visuals

Enabled for	Public preview	General availability
Users, automatically	Oct 2021	-

Business value

As users explore data in Power BI, many want to continue their analysis in Microsoft Excel. This new feature empowers users who might not have access to edit the report, or who might not be familiar with Power BI authoring capabilities, to pull the data into Excel in a format that's familiar to them. Customers can choose to export data directly from a table or matrix visual so that they can continue their analysis and create their own view of the data.

Feature details

Currently, when data is exported from a Power BI table or matrix (service and Desktop), the structure of the visual is lost in the exported CSV or XLSX file. With this new feature, users will be able to export data from a Power BI table or matrix to Excel and maintain the structure of the visual in cross-tab format. This will reduce the time spent on reformatting data (especially hierarchical data) in Excel.

Sales Channel		Offline				Online			
Item Type		Baby Food		Beverages		Baby Food		Beverages	
Region	Country	Total Revenue	Unit Cost	Total Revenue	Unit Cost	Total Revenue	Unit Cost	Total Revenue	Unit Cost
Asia		4,881,208.88	797.10	1,391,993.20	190.74	9,365,967.92	1,275.36	2,612,786.80	349.69
	Japan	2,534,675.12	159.42					199,432.35	31.79
	Brunei					2,247,229.84	159.42	146,003.65	31.79
	Bangladesh					1,948,296.96	159.42		
	Malaysia	1,876,308.00	318.84	40,237.60	31.79				
	Thailand					1,265,422.96	159.42		
	Vietnam					1,172,756.32	159.42		
	Sri Lanka					1,100,767.36	159.42		
	Philippines					1,041,287.12	159.42		
	Mongolia			412,909.90	31.79			470,371.85	31.79
	Kazakhstan	402,831.84	159.42					312,885.30	31.79
	Laos							608,593.70	63.58
	Tajikistan			57,509.40	31.79			412,387.95	31.79
	South Korea					443,931.92	159.42		
	Bhutan			436,160.40	31.79				
	North Korea							325,981.50	63.58
	China			228,281.95	31.79				
	Kyrgyzstan					146,275.44	159.42	73,405.15	31.79
	Singapore			216,893.95	31.79				
	Cambodia	67,393.92	159.42						
	Myanmar							63,725.35	31.79
Middle East and North Africa		7,415,884.00	956.52	1,399,680.10	190.74	5,702,955.20	1,115.94	1,985,497.80	286.11
	Oman	2,359,297.76	159.42			1,610,050.96	159.42		
	Libya	1,877,329.12	318.84	215,897.50	31.79				
	Iran	2,067,512.72	159.42						
	Somalia					1,617,964.64	159.42	233,216.75	31.79
	Yemen					1,446,927.04	159.42		
	Egypt	699,211.92	159.42	424,867.30	31.79				
	Bahrain			94,567.85	31.79	103,133.12	159.42	728,072.80	63.58
	Algeria					810,514.00	159.42		
	Israel	412,532.48	159.42	100,166.95	31.79			134,663.10	31.79
	Morocco			564,180.50	63.58				
	Pakistan							337,701.65	31.79
	Lebanon							321,758.45	31.79
	Turkey					93,943.04	159.42	175,232.85	31.79
	Iraq							49,442.90	31.79
	Afghanistan					20,422.40	159.42		
	Tunisia							5,409.30	31.79
Total		12,297,092.88	1,753.62	2,791,673.30	381.48	15,068,923.12	2,391.30	4,598,284.60	635.80

Cross-tab XLSX export output from a Power BI matrix

Sales Channel Item Type Region	Offline				Online			
	Baby Food		Beverages		Baby Food		Beverages	
	Total Revenue	Unit Cost	Total Revenue	Unit Cost	Total Revenue	Unit Cost	Total Revenue	Unit Cost
Asia	4,881,208.88	797.10	1,391,993.20	190.74	9,365,967.92	1,275.36	2,612,786.80	349.69
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Total	12,297,092.88	1,753.62	2,791,673.30	381.48	15,068,923.12	2,391.30	4,598,284.60	635.80

Power BI matrix table

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.



Power BI datasets hub enhancements

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Oct 2021	-

Business value

Allow users to easily discover and reuse data in one central hub. The datasets hub is a centralized experience empowering users to curate, publish, discover, and reuse organizational datasets, and to answer their business questions either in Power BI or in Excel. For data owners, the hub also enables efficient and central management of data assets.

Feature details

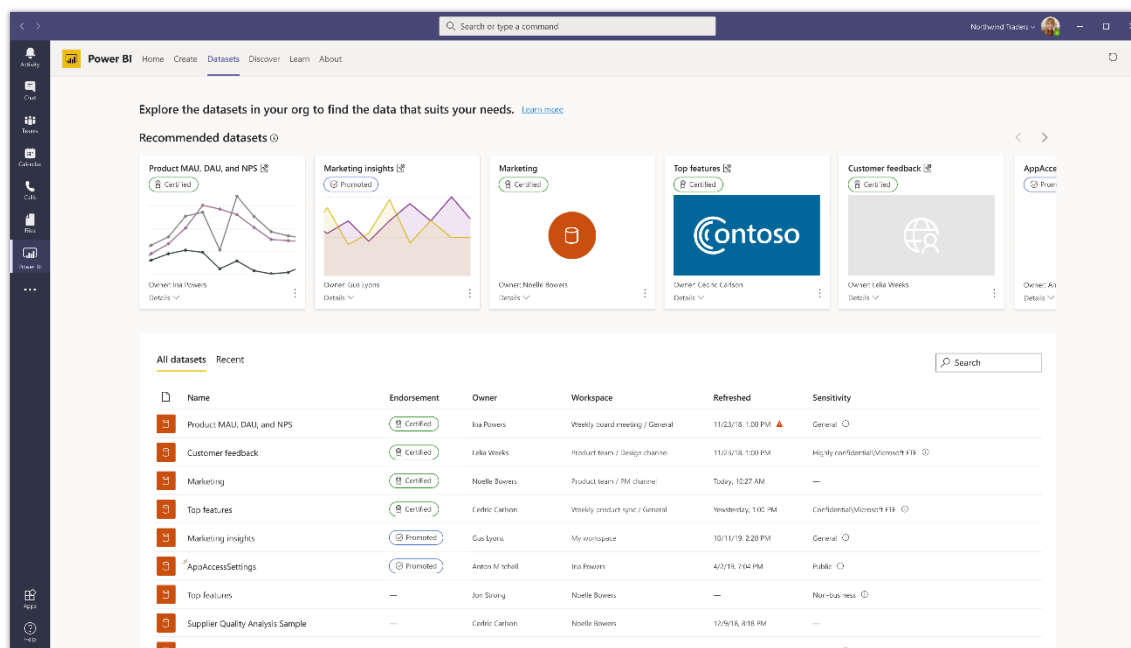
In the growing world of BI, allowing easy discovery of valuable and trustworthy data in one central location becomes crucial for deriving business insights and making the right business decisions. To address this, we recently introduced the new datasets hub, available within the Power BI service and the Power BI Teams personal app.

The new datasets hub enables users to:

- Discover curated, non-curated, and recommended datasets that were 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.

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:

- Discover curated datasets that were set by their owners as discoverable, and to 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, 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.
- Quickly create and share a new dataset on top of Excel, CSV, and other data sources.



Datasets hub

Quick create on Microsoft Dataverse

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Oct 2021	-

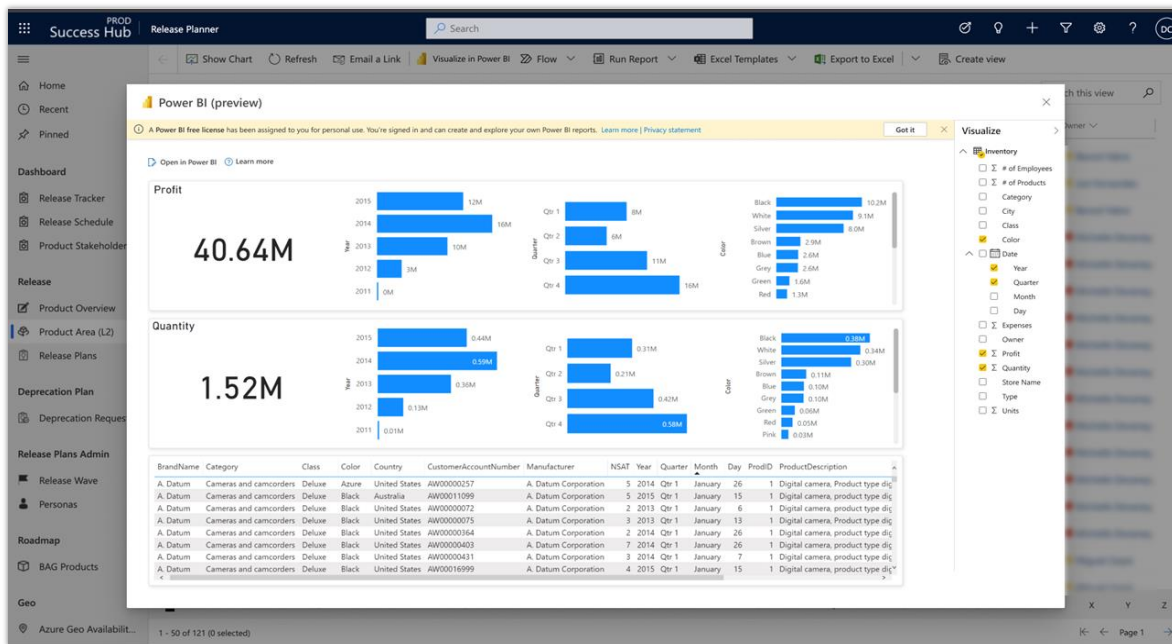
Business value

Microsoft Dataverse is the sophisticated and secure backbone that powers Dynamics 365 and Microsoft Power Platform. Microsoft Dataverse contains critical data from business applications that users explore to find insights and make business decisions. Today, this is challenging for users who aren't familiar with Power BI or data analysis in general. We're introducing a new, easy way for users to generate a Power BI report quickly and start gaining insights from the data.

Feature details

When building model-driven apps in Power Apps that store data in Microsoft Dataverse, creators need simple ways to analyze and get insights from their data. Power BI is a natural fit, but there's friction in having to download Power BI Desktop and connect to the data. To remove the friction, we're providing a one-click solution that connects your data in Microsoft Dataverse with a model in Power BI. Users can choose to "Analyze in Power BI," and a Power BI report will be generated on the fly for users to start exploring.





Automatically generated Power BI report in a model-driven app

Artifact-level access for Power BI apps

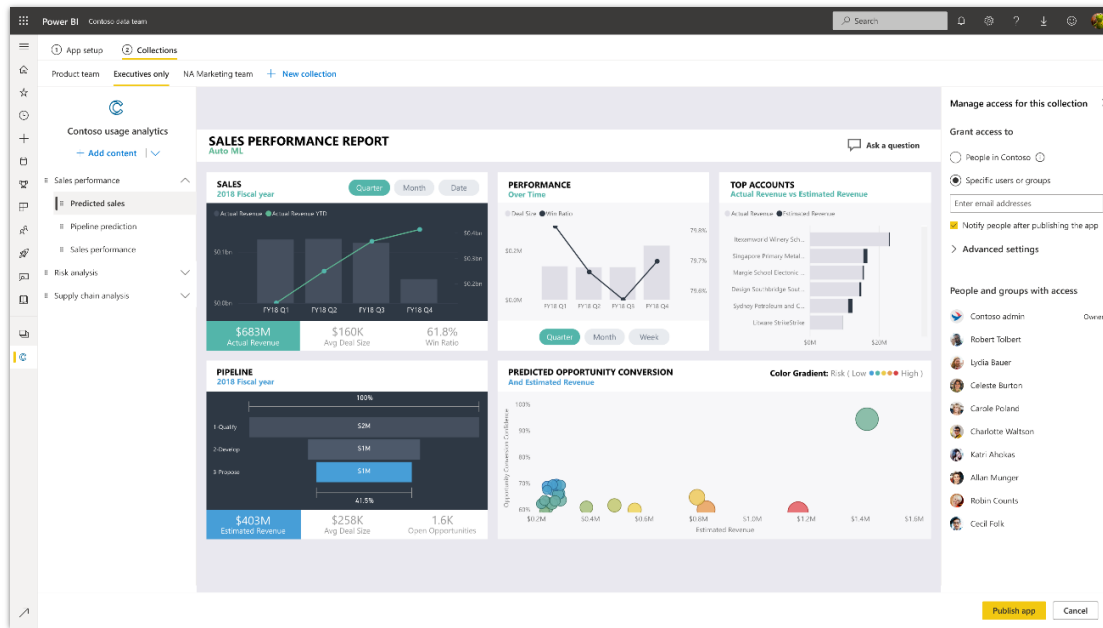
Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Dec 2021	-

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 what workspace content is shared with specific users and security groups. This will streamline the process for app creation, publishing, and updates. It will also help with content organization by reducing the number of workspaces needed for broad content distribution.



Screenshot of a consumer view of an app

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.

Sparklines for table and matrix visuals

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Dec 2021	-

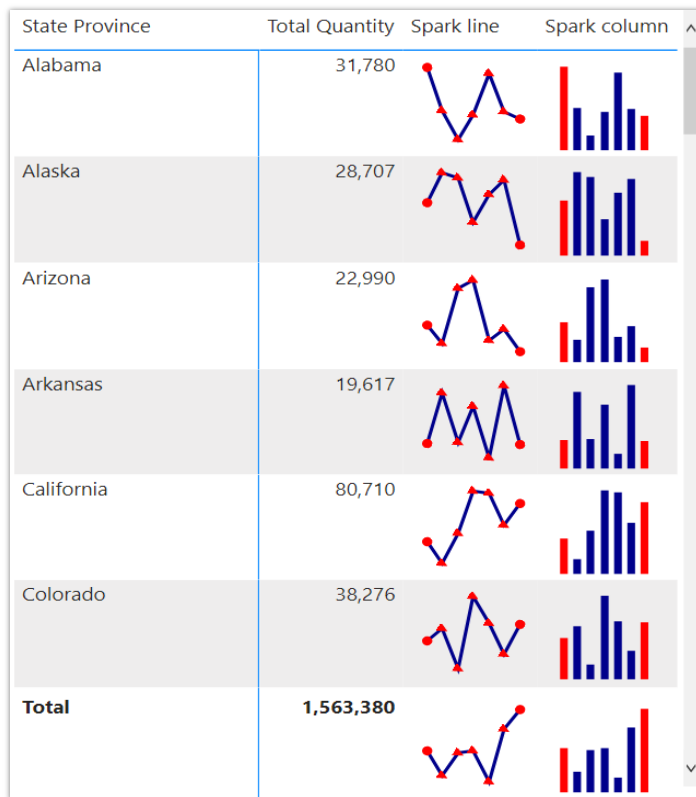
Business value

Microsoft Excel is the most widely used tool for exploring data and has set the standard for how data is visualized for Power BI users. We want to make it easier for users who love Excel to feel at home in Power BI. A critical area for this is making sure authors can visualize tables and matrices in Power BI in a familiar and beautiful way. We started with the ability to expand and collapse rows, conditional formatting, and data bars. We're continuing that evolution with the addition of sparklines.

Feature details

We're further extending the capabilities of tables and matrixes with the introduction of sparklines. Similar to the capability available in Excel, this will allow report creators to add a sparkline column to a table or matrix visual. This extra column will display a trending line

chart for each row in the visual. Users will be able to quickly see key trends without the need to create two separate visuals. Sparklines will support a variety of formatting options and will be quick to create and integrate solely through the formatting UI.



A table including sparklines

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.

Power BI integration with PowerPoint

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Jan 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 being reviewed and discussed in almost every business meeting. To streamline the process of preparing for the meetings and enhance the meeting experience, Power BI is being embedded in PowerPoint presentations.

Feature details

Power BI will enable Microsoft PowerPoint organizations and their users to integrate Power BI report content into their presentations. When building their presentations, PowerPoint users can embed Power BI report pages or a specific bookmarked report view. After it's 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.

Natural language to DAX generation

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

Business value

Our mission is to make data analytics accessible for everyone and provide a no-code and low-code experience for every aspect of data analysis. DAX is the expression language used by millions of developers today in Power BI, Analysis Services, and Excel to define calculations that can range from one line to hundreds of lines of code. By harnessing the power of DAX, developers can create sophisticated calculations and business logic. DAX, while powerful, has a steep learning curve for business users. Instead of having business users learn to write code, we'll allow users to describe the analysis in natural language and Power BI will generate the code for them in the background.

Feature details

Through AI-assisted development, creators will be able to use natural language to describe what they're trying to measure and have Power BI automatically suggest DAX measures for them. By using natural language to help create DAX measures, we aim to further democratize the creation of measures with sophisticated business logic without having to become a DAX expert.

Improved Power BI administration and operations

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

Business value

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

Feature details

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

- Improved admin portal interface.
- Ability to use APIs and reports to identify unused reports, dashboards, apps, and other assets.
- Use of APIs to reassign permissions for assets.
- Improved permission management graphical interfaces.
- Alerting when reaching Power BI SKU quotas such as space usage.
- Allowing delegation of administration tasks by enabling some tenant settings to work at the workspace level.

Release notifications in Power BI for administrators

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

Business value

Power BI administrators need to be notified days in advanced of a Power BI release so they can better plan communication with their internal users.

Feature details

Power BI administrators need advance notice of a Power BI release so that they have time to prepare, plan, and communicate with their internal users. Administrators will receive in-product Power BI notifications of upcoming feature releases.

Enhanced insights on report usage and performance

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

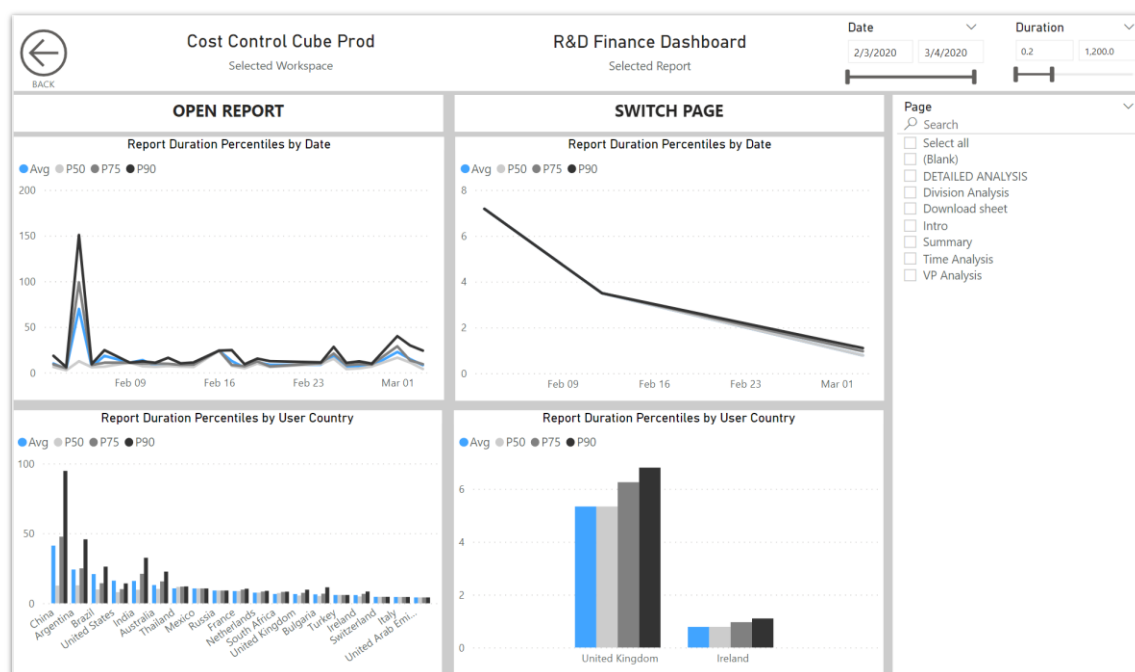
Business value

Customers want a deep understanding of how their users are interacting with reports, to monitor return on investment and maintain customer satisfaction. The updated usage metrics will help customers determine whether performance meets expectations.

Feature details

Enhanced workspace usage metrics provide more historical data and a richer set of metrics to derive insights and answer common questions about what Power BI users are doing with reports. These metrics can also be used to determine how usage correlates with performance across different classes of users. The enhancements include:

- **Access to historical data:** The built-in workspace usage metrics now retain more data. This makes it possible to look at longer-term trends and to detect seasonality or periodic peaks of activity.
- **Report performance metrics:** These metrics now include page view data for time spent on queries and time spent on visuals. By using this data, you can troubleshoot performance issues and determine whether an issue is related to an external data source, the Power BI data model, or design choices in the report.
- **Page level metrics:** Performance and viewership information is tracked at the page level, so you can speed up your investigations by focusing in on a specific piece of content.
- **New attributes:** You have access to new attributes that support better identification of scenarios that have unwanted usage or performance characteristics. For example, you can identify whether content was embedded or accessed from a workspace or an app.
- **Access to long-term history and raw data:** As a workspace owner, you can send raw data to Azure Log Analytics. This allows you to respond to issues immediately by accessing a near real-time source of Power BI activity data.



Performance trends for a report with breakdown by country

Power Apps

Overview of Power Apps 2021 release wave 2

Microsoft Power Apps is the industry-leading low-code application development platform that underpins Dynamics 365 extensibility, Microsoft 365 customization, and a 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.

The 2021 release wave 2 provides significant improvements for Power Apps developers of all skill levels, improving the sophistication and usability of apps that can be created across the web and mobile devices.

What's new and planned for Power Apps

This topic lists features that are planned to release from October 2021 through March 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.

Build advanced apps on a modern, unified platform

Building apps keeps getting easier.

Feature	Enabled for	Public preview	Early access*	General availability
Unified and modern Power Apps designer	Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021
Intelligent authoring experience with Power Apps Studio	Admins, makers, marketers, or analysts, automatically	Jun 2021	-	Oct 2021
Support for themes across Power Apps	Admins, makers, marketers, or analysts, automatically	Aug 2021	-	Oct 2021

Feature	Enabled for	Public preview	Early access*	General availability
Improved site map in model-driven apps	Users by admins, makers, or analysts	-	Aug 2021	Oct 2021
Simplified Dataverse search configuration for admins and model-driven app makers	Admins, makers, marketers, or analysts, automatically	-	Sep 2021	Oct 2021
Fluent UI controls for canvas apps	Users by admins, makers, or analysts	Oct 2021	-	Oct 2021
Reinvented maker experience for configuring model-driven apps for offline use	Admins, makers, marketers, or analysts, automatically	Sep 2021	-	Nov 2021

Collaborate with fusion teams

Fusion teams have choices on how they want to interact with Power Apps.

Feature	Enabled for	Public preview	Early access*	General availability
Manage everything about solutions and tables in a modern way	Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021
Canvas component and component libraries	Admins, makers, marketers, or analysts, automatically	Aug 2021	-	Oct 2021
Code component improvements	Admins, makers, marketers, or analysts, automatically	Aug 2021	-	Oct 2021

Roll out world class experiences for users

User experiences keep getting better with Power Apps.

Feature	Enabled for	Public preview	Early access*	General availability
Advanced lookup capabilities for all users in model-driven Power Apps	Users, automatically	-	Aug 2021	Oct 2021

Feature	Enabled for	Public preview	Early access*	General availability
Modern search for all users in model-driven Power Apps	Users, automatically	-	Aug 2021	Oct 2021
New column options in grid view page	Users, automatically	-	Aug 2021	Oct 2021
Easily share a record in the new model driven app experience	Users, automatically	-	Aug 2021	Oct 2021
Model driven apps support multiple app side panes	Users, automatically	-	Aug 2021	Oct 2021
Model-driven app improvements	Users, automatically	-	Aug 2021	Oct 2021
Model-driven app removes the web client related "Dynamics 365 - custom" app	Users, automatically	-	Aug 2021	Oct 2021
New model-driven app experience for editing multiple records	Users, automatically	-	Aug 2021	Oct 2021
Unified Interface browser support changes	Users, automatically	-	Aug 2021	Oct 2021

* Some features are available to opt-in to some features as part of early access on August 2, 2021, 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](#).

Build advanced apps on a modern, unified platform

Overview

Power Apps maker experiences enable you to create the applications you need to solve your business challenges. Modern intelligent designers and controls enable you to quickly build modern apps your users will want to use.

Unified and modern Power Apps designer

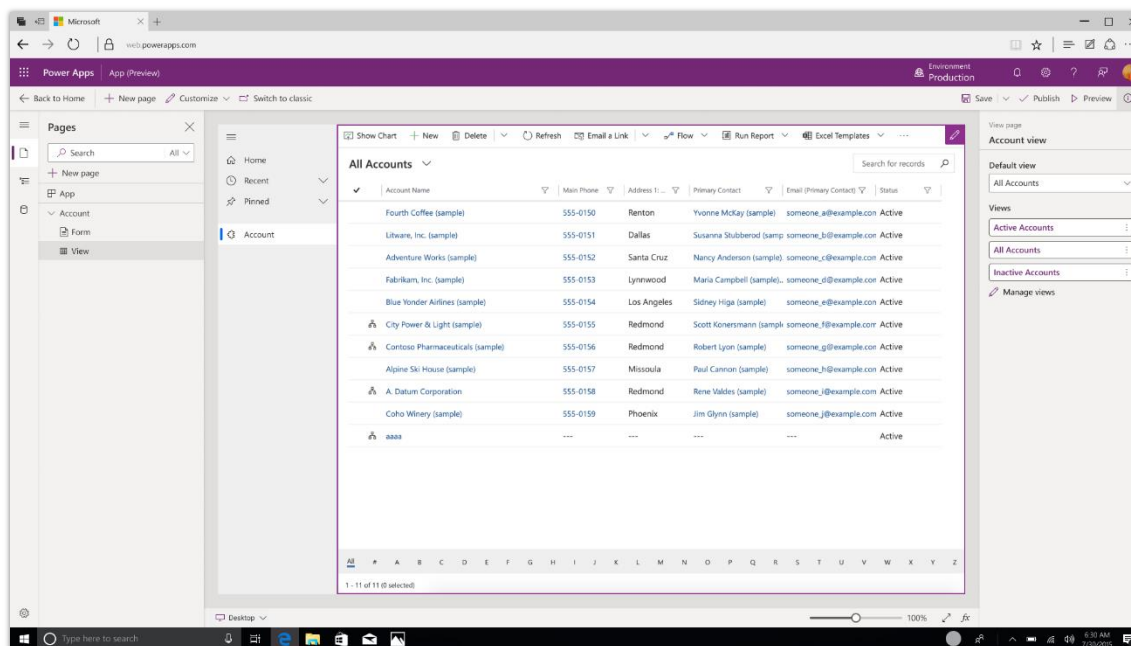
Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021

Business value

The modern app designer will allow makers and admins to build apps faster, in a more intuitive way. Getting started has never been easier.

Feature details

In the new Power Apps app designer, you can easily build an app with forms, views, and dashboards, and take advantage of the capabilities of canvas apps. The app designer will be your hub for productive app creation in Power Apps. The capabilities provided have reached parity with the classic model-driven app designer. The new app designer has surpassed them with features like a live preview and better integration with the other authoring experiences in Power Apps.



App authoring experience showing a centered live preview with configuration.

Intelligent authoring experience with Power Apps Studio

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2021	-	Oct 2021

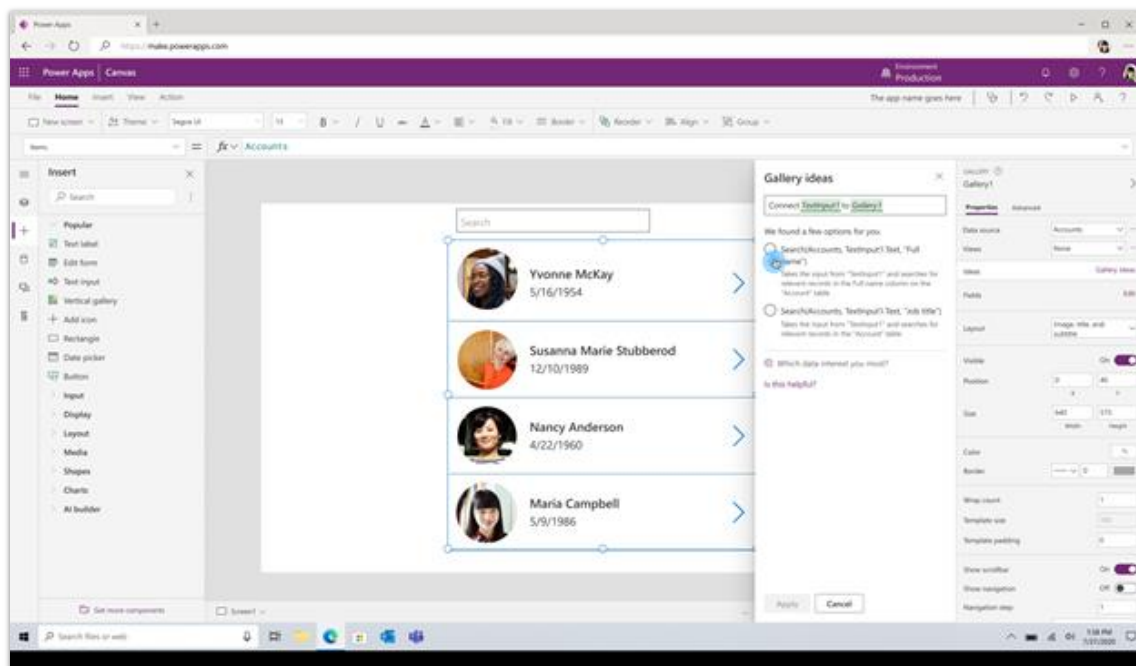
Business value

Use AI to help simplify the app authoring experience.

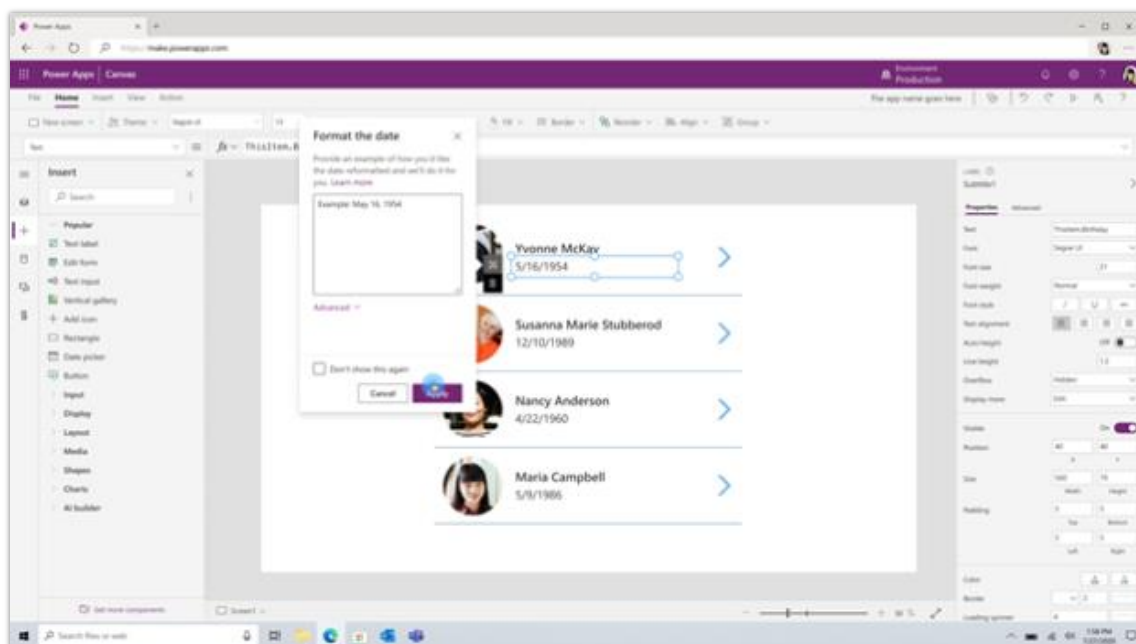
Feature details

[Microsoft Power Fx](#) is a powerful capability for makers to connect app components, make the app respond to button clicks or data changes, and more. However, it will take some time for a citizen maker persona to learn to use the formula language and write the formulas correctly. To remove the hurdle for rapid app development, we're bringing in the power of AI to help. This feature will enable makers to use natural language to type in expected behavior or input a desired format, and Power Apps will automatically generate formulas for makers to apply.





Input natural language to generate a formula



Input desired format example to generate a formula

Support for themes across Power Apps

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2021	-	Oct 2021

Business value

Theming standardization across model-driven and canvas apps is very critical as apps converge and begin to surface inside other platforms like Microsoft Teams and SharePoint. Applications must have the ability to adapt and provide necessary tools for makers and professional developers to build theme-aware components. We'll take a staged approach to build the theming capabilities, starting with the "happy path" cases enablement by using Fluent concepts, and then incrementally enhancing to have powerful custom theme editors that can generate solution-aware themes.

Feature details

In 2021 release wave 2, we'll have a unified infrastructure for themes across model-driven apps and canvas apps. This feature will enable context and host-aware themes for browsers and embedded mode in Microsoft Teams.

Power Apps functions will have theme-specific objects available, and this will be used for a component's default and dynamic theme-switching. Developers will have a supported way to build and deploy code components that can be themed and integrated more seamlessly within Power Apps.

Code components in canvas apps will also extend support to the new infrastructure for themes, enabling component libraries to have theme-enabled components. Solution awareness and the ability to package themes will also be added.

Improved site map in model-driven apps

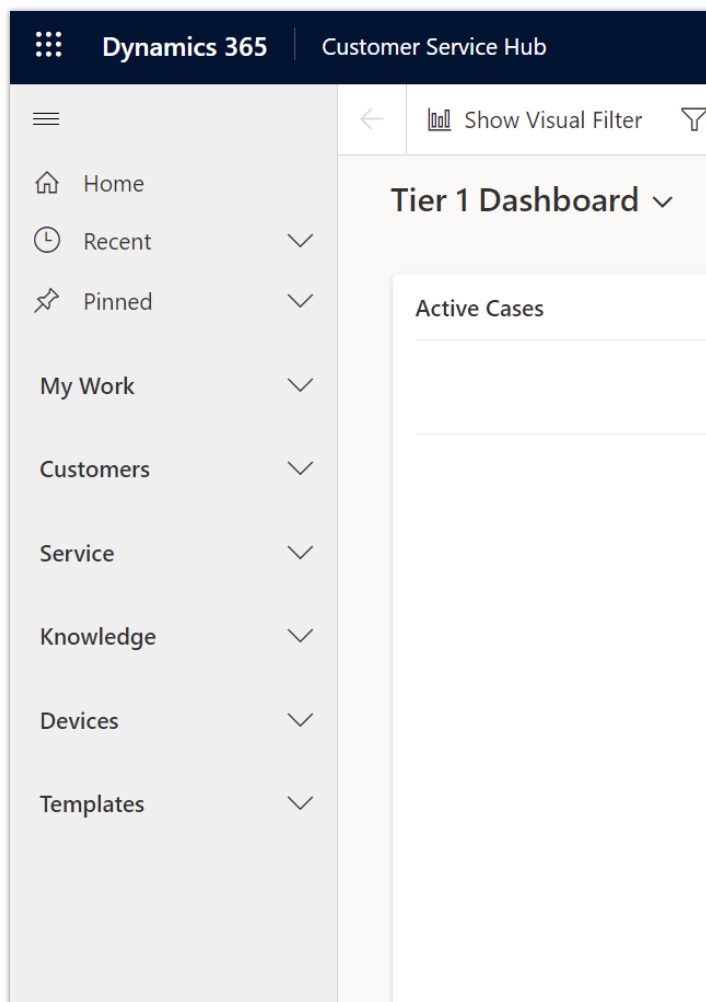
Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	-	Aug 2021	Oct 2021

Business value

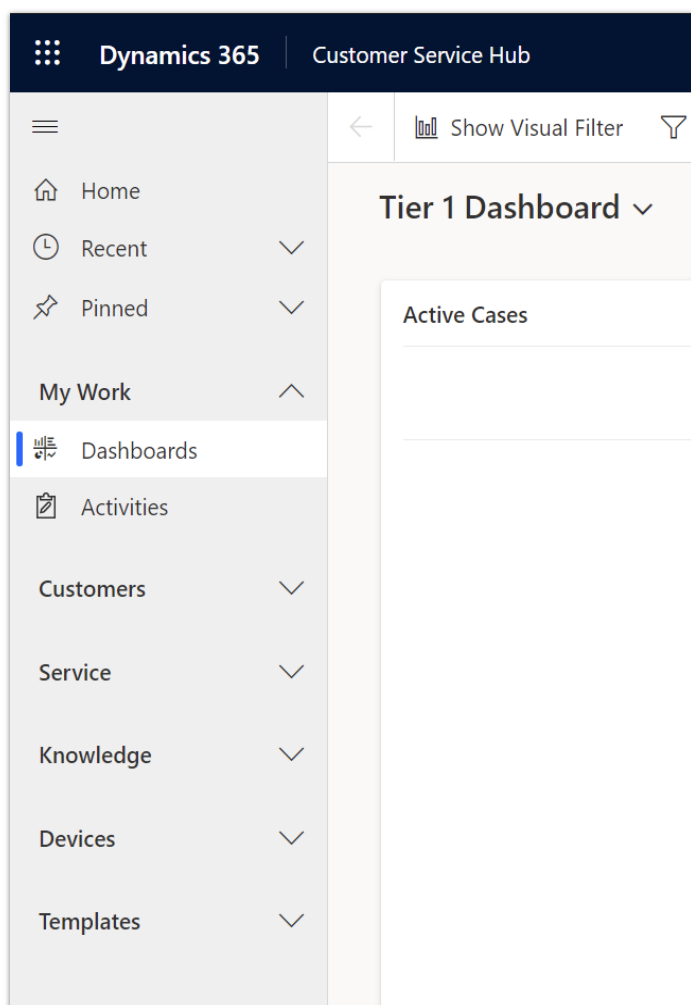
Makers can create a more streamlined app by using the improved model-driven app site map through collapsing groups and the option to hide **Home**, **Recent**, and **Pinned** items.

Feature details

Now users can more quickly get to items further down in the site map with less scrolling through collapsible groups. The user choice to collapse or expand per group is kept local in the browser.

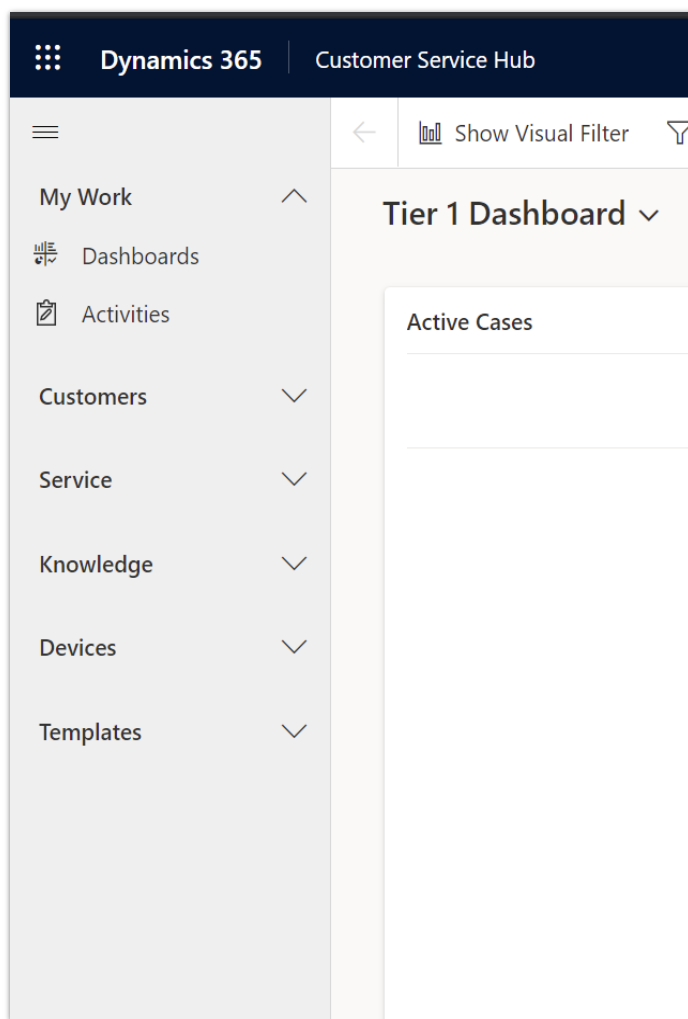


All groups collapsed



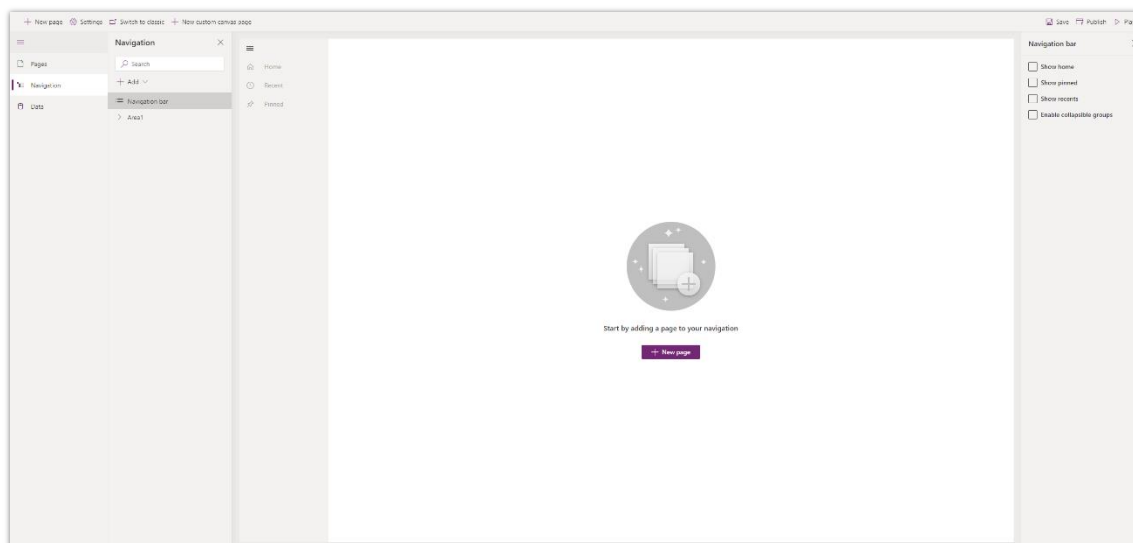
First group expanded

In addition, makers can toggle the visibility of the **Home**, **Pin**, and **Recent** items to have them hidden to remove the fixed items at the top of the site map.



Home, Pinned, and Recent buttons hidden from the site map

Makers can enable this behavior through the new modern app designer.



Configuring the site map in Power Apps Studio

The improved site map is also supported on mobile devices.

Simplified Dataverse search configuration for admins and model-driven app makers

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	Sep 2021	Oct 2021

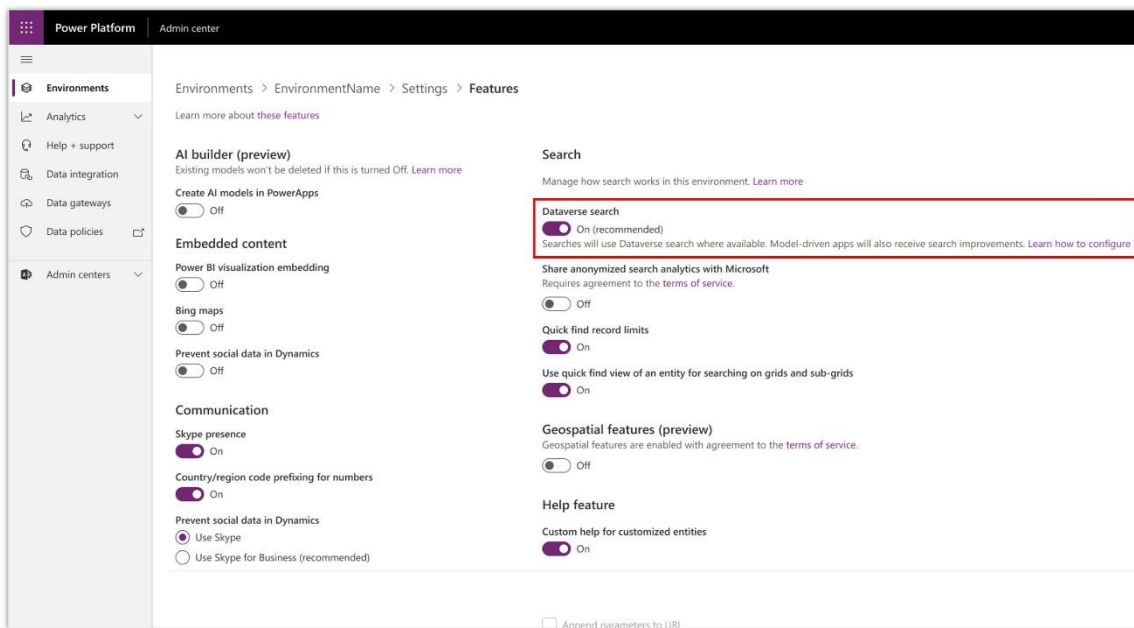
Business value

Administrators can enable Microsoft Dataverse search easily for their environments through the Power Platform admin center. Model-driven app makers can configure the global search experience within their apps.

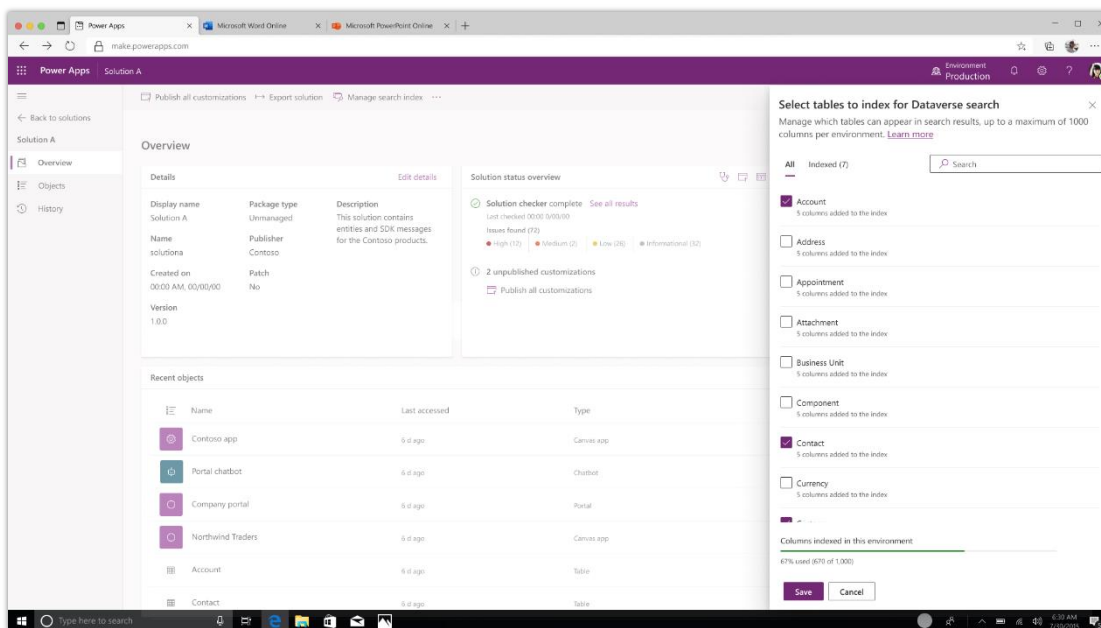
Feature details

Relevance search is now Dataverse search, enabled for the environment and used by global search in model-driven apps. Model-driven app makers can manage their users' global search experience by choosing the right tables to be a part of the search index.

Configuring Dataverse search is an integral part of the modern solution explorer. Model-driven app makers can see what's in the search index in the context of a solution and add or remove tables to build the index so that users find their Dataverse information easily.



Enabling search for admins



Configuring search for makers

Fluent UI controls for canvas apps

Enabled for	Public preview	Early access	General availability
Users by admins, makers, or analysts	Oct 2021	-	Oct 2021

Business value

This release brings these modern controls with Fluent UI style to Power Apps Studio for makers to build modern canvas apps.

Feature details

A new version of existing components that you can use within your apps will be made available as a part of this feature update. These modern controls (Fluent UI) are [already available](#) with [Power Apps for Teams](#). This release brings these modern controls with Fluent UI style to Power Apps Studio for makers to build modern canvas apps.

Reinvented maker experience for configuring model-driven apps for offline use

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Sep 2021	-	Nov 2021

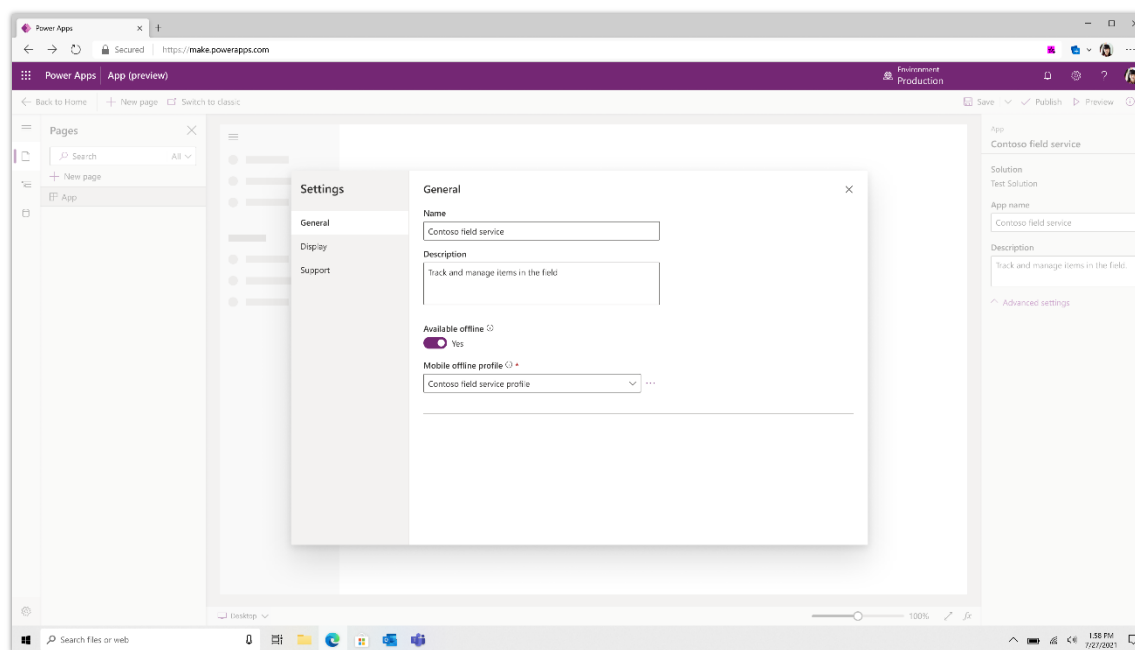
Business value

Setting up a model-driven app to use in offline mode is much easier, more intuitive, and accessible to all app makers.

Feature details

Through the modern app designer, makers can seamlessly configure their model-driven applications for offline use.

You don't need to figure out which tables to add and which filters to apply in your offline profile. Now, it's just one toggle switch to enable an app for offline and automatically generate a default offline profile. There's also no need to set users to offline profiles; if your user has access to the app (through security roles), they can also use the app in offline mode.



Offline configuration in the modern app designer.

Collaborate with fusion teams

Overview

Fusion teams can take advantage of more ways to use Power Apps for their user experiences, in addition to opportunities to package their code for reuse.

Manage everything about solutions and tables in a modern way

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021

Business value

Provide an accessible and complete modern maker experience.

Feature details

[Power Apps](#), also known as the maker portal, will include all the features present today in the classic experiences, allowing makers to stay in the portal to manage everything about their solutions and tables. This improves productivity because makers don't need to "switch to classic" to access some features. With this milestone, the classic solution list and solution explorer are deprecated because all features can be used from the portal.

Canvas component and component libraries

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2021	-	Oct 2021

Business value

Makers don't have to rely on code components for simple UX components to get the benefits of custom extensibility, application lifecycle management (ALM), and reuse. The components and component libraries feature in canvas apps provide a much faster and simpler way not only to build custom UX, but also to have centralized control on upgrade, update, and solution support with ALM capabilities.

Feature details

The components and component libraries feature in canvas apps can be used to build reusable and centrally managed low-code UX components. Besides investments in reliability and fundamentals, this release will add component ALM support. Users will have the ability to package and ship component libraries and applications using standard Microsoft Dataverse solutions. Component libraries will also add support for new Fluent controls and Power Apps component framework code components for custom pages.

Code component improvements

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2021	-	Oct 2021

Business value

With Power Apps component framework already in general availability, we'll be adding more features that enable professional developers to build and extend Power Apps in a scalable manner with strong performance. Features being enabled for the next wave are geared toward enterprises that use some of the best practices and capabilities developed for the internal first-party components.

Feature details

In this release, code components for canvas apps will have the following improvements and new features:

- Virtual components and shared libraries support will enable code components to use system React and Fluent libraries. Developers can also create their own shared libraries that can be used across code components.
- Code components will have support for events in line with the canvas apps native components. This will enable developers to define custom events that can be raised by code components.
- For model-driven apps, code components can be created for the simple lookup and multi-select option set (Choices) type, and properties of these new types can also be added. These are top community requests. Additional framework APIs on the canvas apps will be added, which approaches model-driven app parity.

Roll out world class experiences for users

Overview

This release brings more modern experiences to users of apps created with Power Apps.

Advanced lookup capabilities for all users in model-driven Power Apps

Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

Business value

Lookups are a core component of model-driven apps because they help you access underlying data relationships in Microsoft Dataverse. Advanced lookup capabilities help users be more productive with data-entry tasks by providing a better way to search and look up records within a context, as an intuitive extension of the simple lookup control in model-driven apps.

Feature details

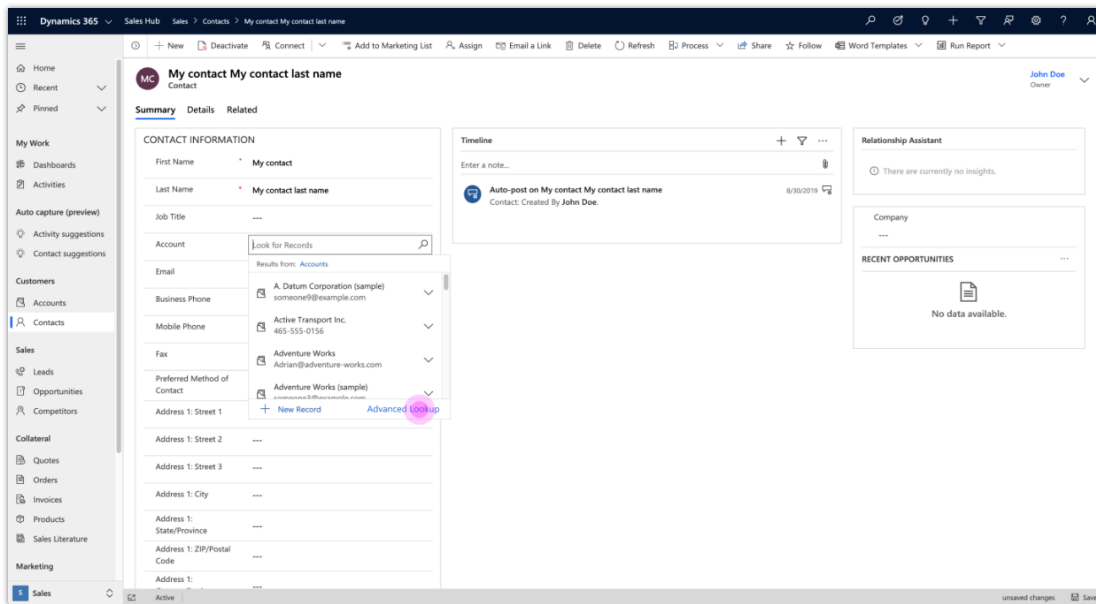
Searching for and looking up rows in model-driven apps on the web is easier with advanced lookup. Use the advanced lookup capabilities to drill into a form and easily sort rows, and switch between tables or views in a lookup column.

In addition to seeing results as you type, you can do the following:

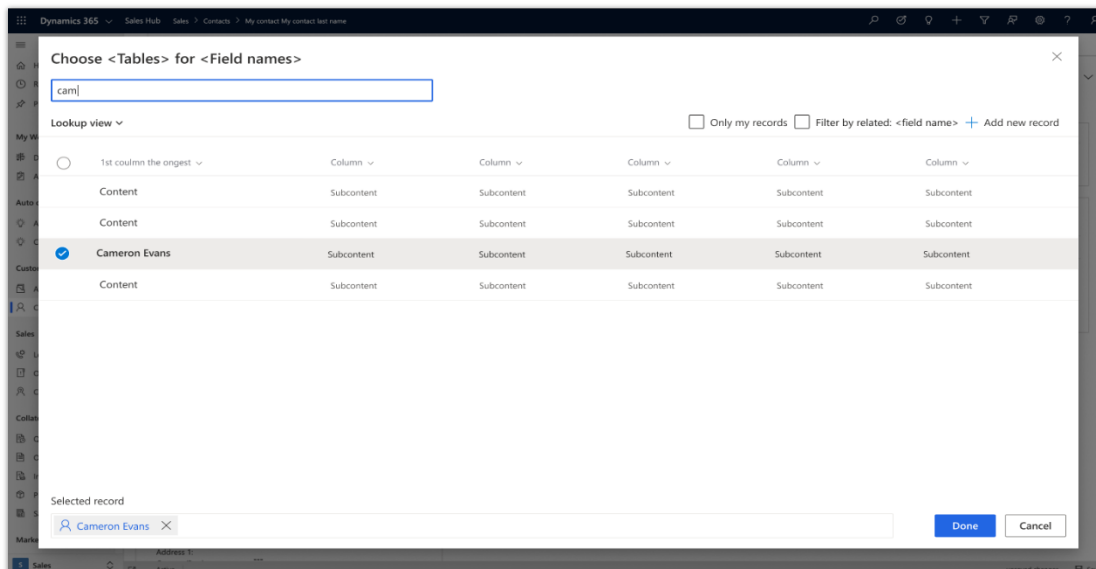
- View more information per row to select the correct row easily
- Switch views and sort on data to look up the correct row

- Easily select multiple rows to a lookup field from the advanced lookup grid
- Filter the rows to show only rows that you own
- Explore data from advanced lookup without losing context

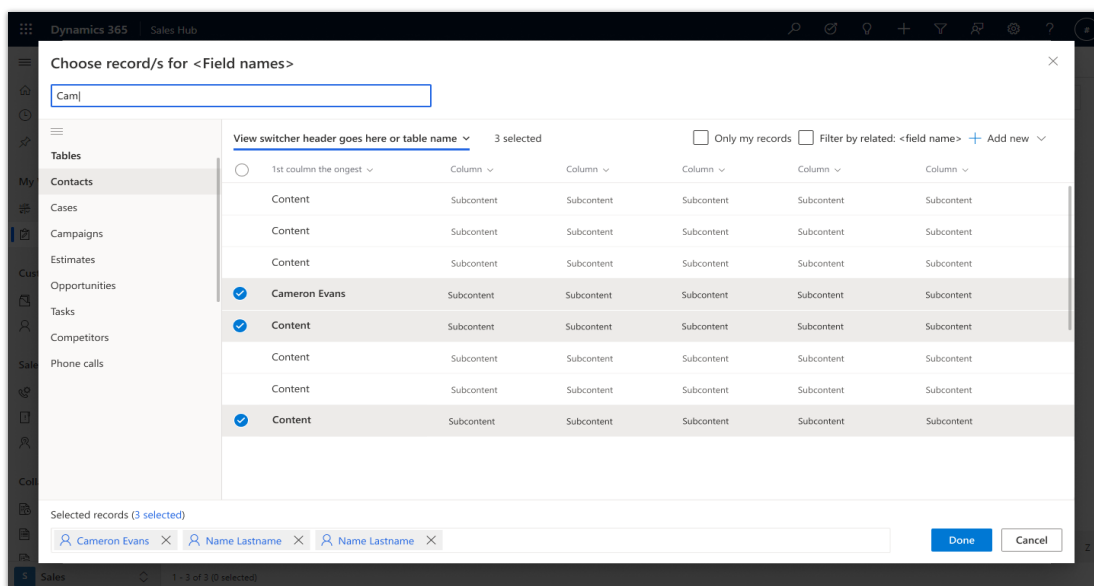
All these capabilities are available as an admin opt-in under the Advanced lookup toggle in Power Platform admin center. In 2021 release wave 2, this will be enabled by default for all users.



Advanced Lookup entry point



Advanced lookup single table single select



Advanced lookup multi-table multi-select

Modern search for all end users in model-driven Power Apps

Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

Business value

This capability introduces a modern global search experience, backed by Microsoft Dataverse search, for all model-driven Power Apps on all devices as the default, helping users find their information and navigate easily.

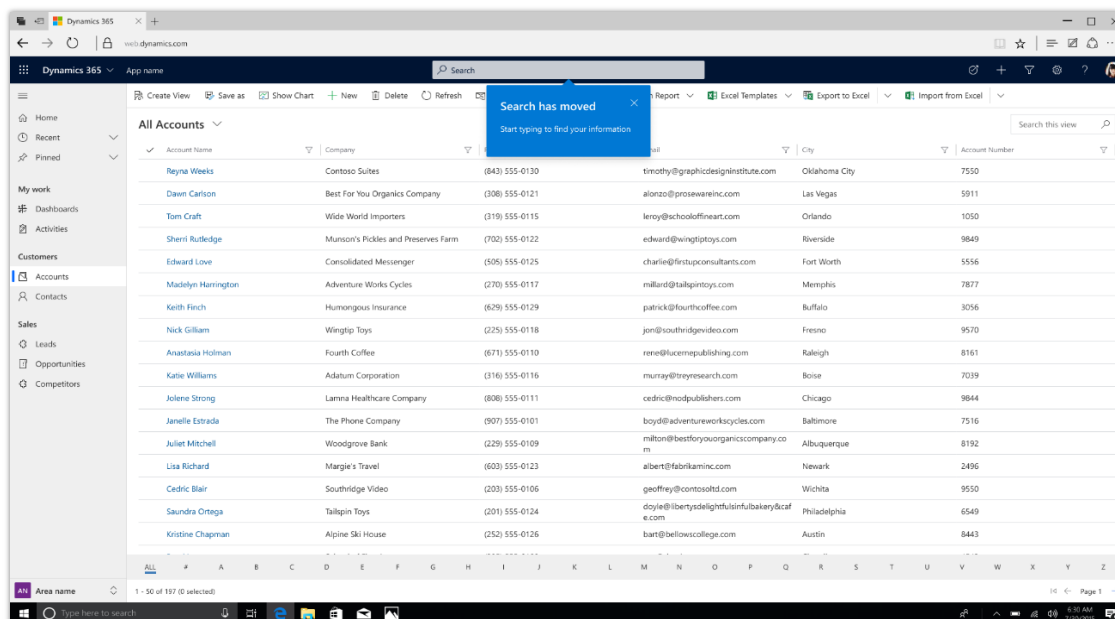
Feature details

Relevance search is now Dataverse search and is the only global search option for all users in model-driven apps in a production environment on any device. Global search is easy to use, fast, and intelligent. Relevance search delivers the following benefits:

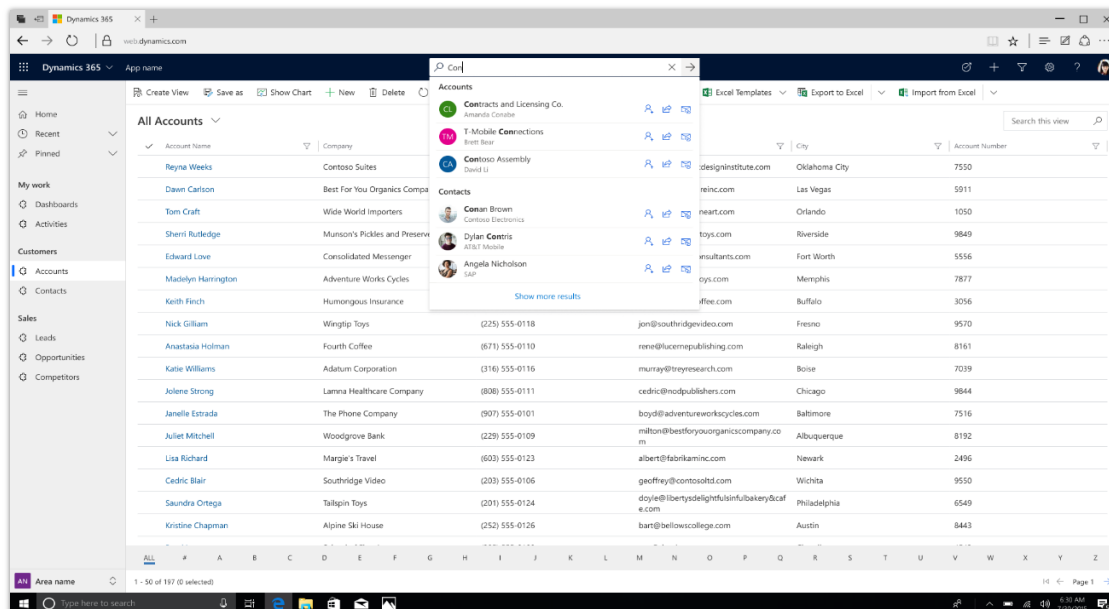
- The search box is always available at the top of every page in your app. You can start a new search and quickly find the information that you're looking for.
- Personalized zero query experience of recent searches and rows, which helps you complete a search without a keystroke.
- Seeing suggested results as you type puts Microsoft Dataverse information at your fingertips.
- High-quality results let you search and act on your information easily and quickly.

- Quick action commands that appear next to search results help you complete a task without losing context.

All these capabilities are available as an admin opt-in under the Dataverse search toggle in Power Platform admin center. With 2021 release wave 2, this will be enabled by default for all **production** environments. With this capability enabled by default, individual users won't have the ability to switch to categorized search.

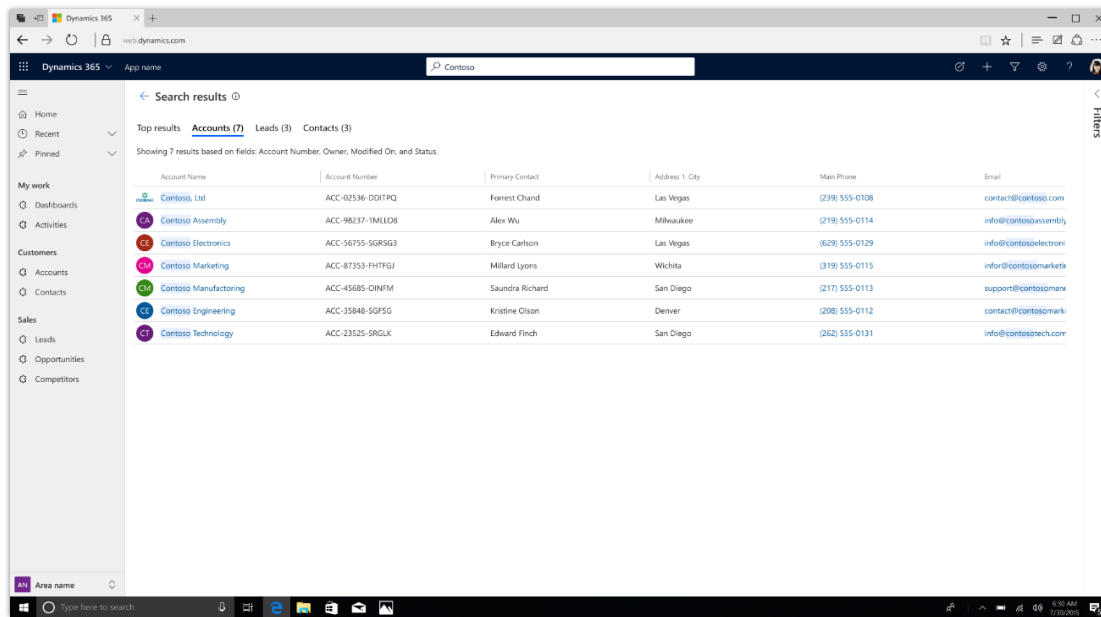


Search bar



Suggestions





Results page

New column options in grid view page

Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

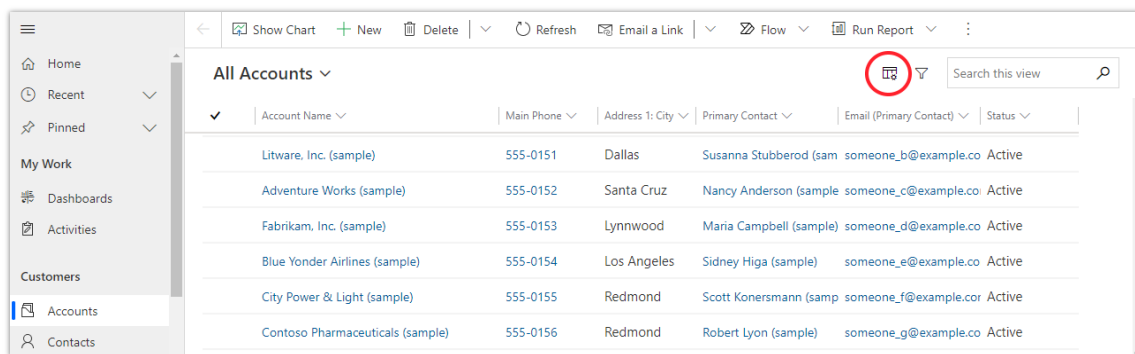
Business value

App makers can customize grid columns and their order right from the grid view page.

Feature details

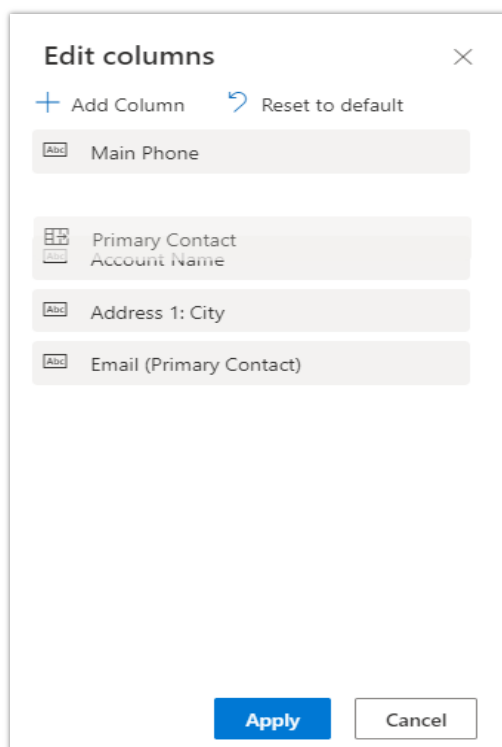
The grid view page in model-driven apps now features column options settings that let app users customize which columns are shown in the grid. With this feature, users can:

- Add new columns, from current or related tables.
- Remove columns.
- Change the order of columns in the grid.



✓	Account Name	Main Phone	Address 1: City	Primary Contact	Email (Primary Contact)	Status
	Litware, Inc. (sample)	555-0151	Dallas	Susanna Stubberod (sam	someone_b@example.co	Active
	Adventure Works (sample)	555-0152	Santa Cruz	Nancy Anderson (sample	someone_c@example.co	Active
	Fabrikam, Inc. (sample)	555-0153	Lynnwood	Maria Campbell (sample)	someone_d@example.co	Active
	Blue Yonder Airlines (sample)	555-0154	Los Angeles	Sidney Higa (sample)	someone_e@example.co	Active
	City Power & Light (sample)	555-0155	Redmond	Scott Konersmann (samp	someone_f@example.cor	Active
	Contoso Pharmaceuticals (sample)	555-0156	Redmond	Robert Lyon (sample)	someone_g@example.co	Active

Column options button inside the grid view page.



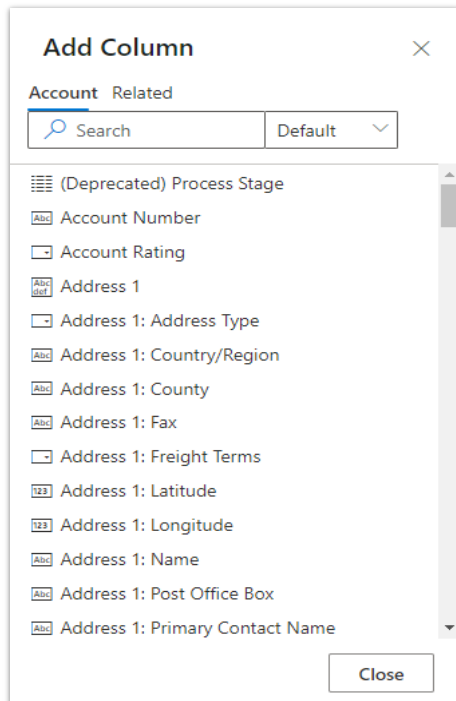
Edit columns ✕

+ Add Column ↶ Reset to default

- Abcd Main Phone
- Grid Primary Contact
Abcd Account Name
- Abcd Address 1: City
- Abcd Email (Primary Contact)

Apply Cancel

Dragging columns to change their order.



Adding new columns

Easily share a record in the new model-driven app experience

Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

Business value

Removes the dependency on the previous web client hybrid experiences. Provides a Web Content Accessibility Guidelines (WCAG) 2.1 accessible experience by using modern dialogs and controls.

Feature details

User will be able to share a row quickly and easily with another user or team by using the Unified Interface dialog experience, which meets all WCAG 2.1 requirements and supports reflow across all viewport sizes. This capability is also fully supported in the mobile experience.

Model driven apps support multiple app side panes

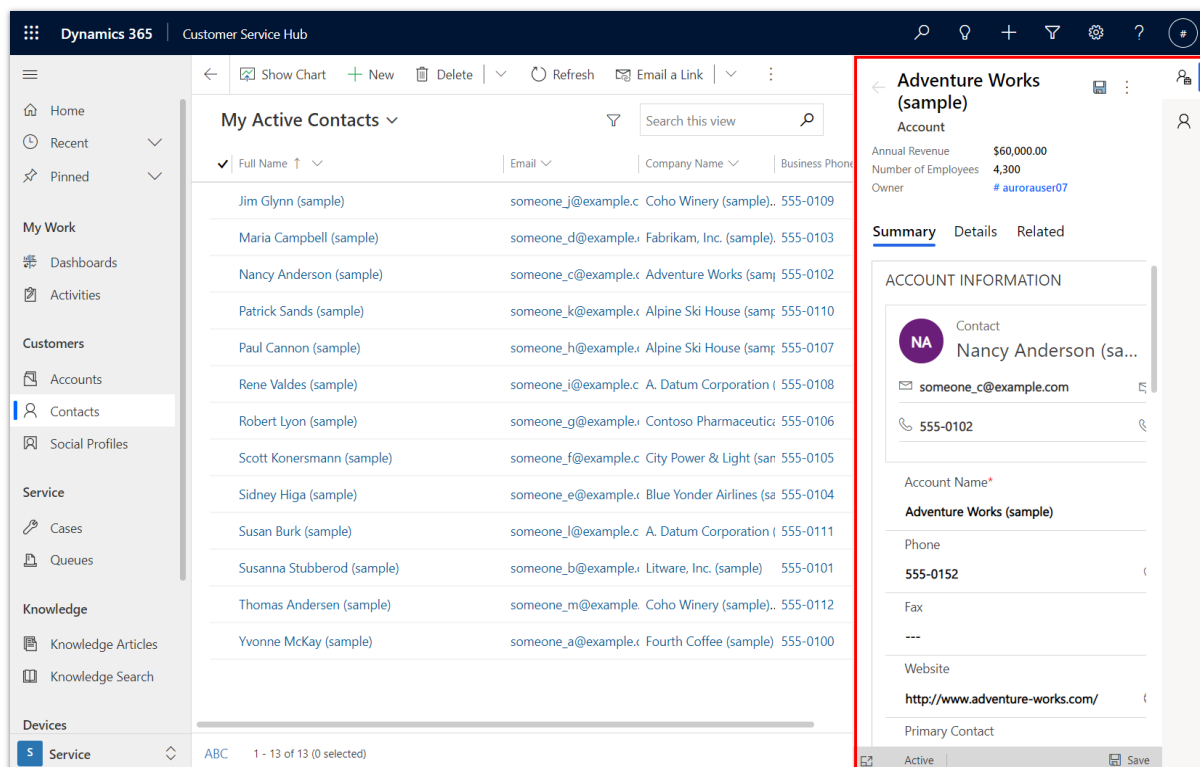
Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

Business value

Enable one or more productivity-enhancing panes to be opened to the side of the main content.

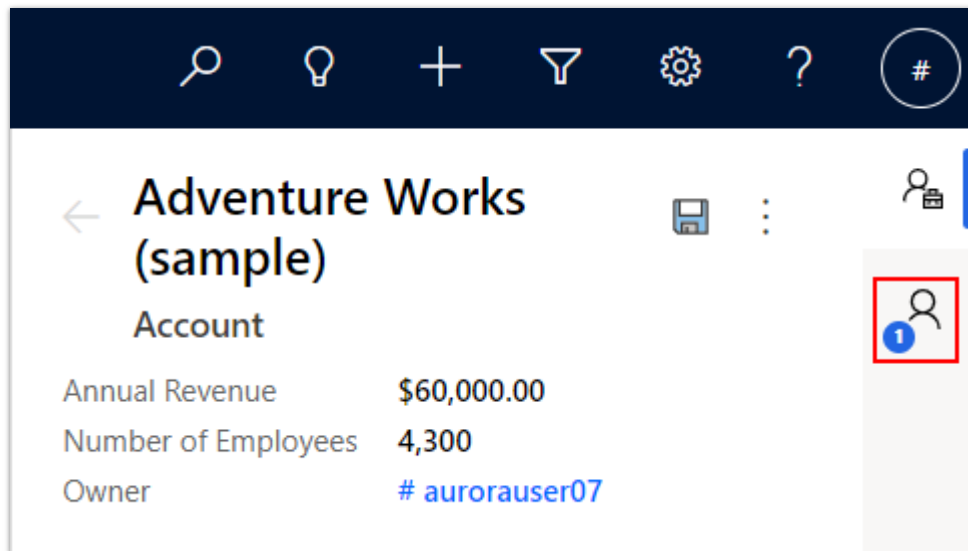
Feature details

Model-driven apps now support the ability to have multiple app-level side panes. The app side pane feature builds on the legacy `loadPane1` API, which was limited to a single side pane. This new feature creates a collection of tabs, each with a different pane. Omnichannel for Customer Service and Dynamics 365 Customer Service products have a similar experience of multiple tabs within the single pane. That experience is moving into the app side pane and allowing additional panes to be added.



Model-driven app with two panes in the app side pane

A set of new client APIs is used to create and manage multiple side panes. The pane can open pages in a way similar to how the `navigateTo` API works, and it allows either in-place navigation or opening in another part of the app. It's easy to open a view or form in the pane. The new custom page with out-of-the-box or custom components can create a more targeted experience. Each pane can have a badge over the tab icon to draw the user's attention.



App side pane tab has badge count overlay

To support the legacy `loadPane1` API along with the new multiple side panes, the `loadPane1` API will be placed in a tab in the side pane collection when 2021 release wave 2 is enabled. Before 2021 release wave 2, `loadPane1` will continue to work as it does now, but calls to the new API will replace the pane. For earlier opt-in to the combined behavior, a new app setting can be enabled for the model-driven app. In the future, the `loadPane1` API will be deprecated, with the exception that existing usage is moved to the app side pane. No changes are being made to the left side pane, which is used by Omnichannel for Customer Service and Dynamics 365 Customer Service products.

Model-driven app improvements

Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

Business value

Model-driven apps are more accessible, responsive, and keyboard-friendly. Some components have styling updates to align with other Microsoft products.

Feature details

Model-driven apps have a number of improvements coming with the 2021 wave 2 release.

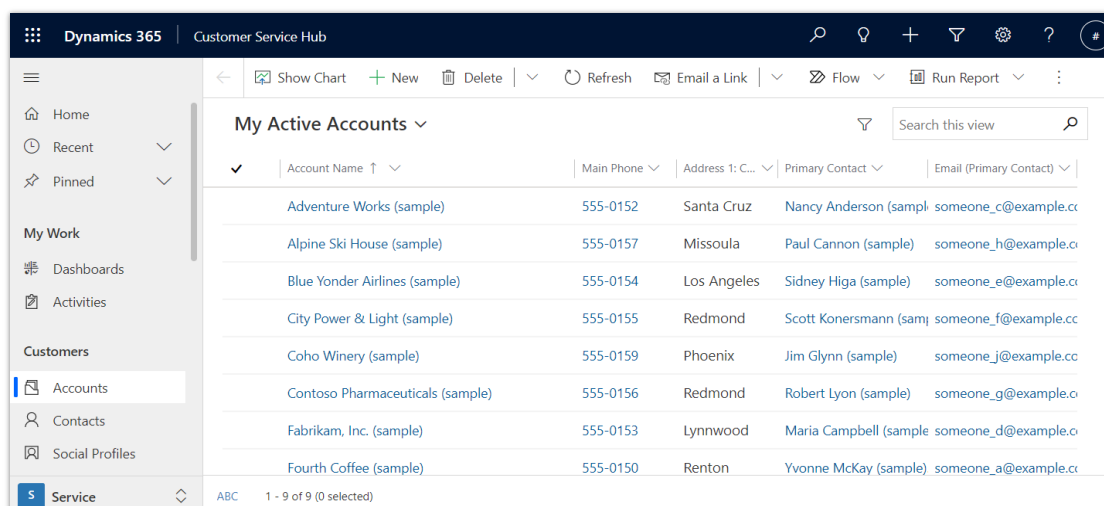
With this release, several accessibility compliance updates have been done for Web Content Accessibility Guidelines (WCAG) 2.1, including core shell and page support for zoom up to 400%, improved progressive collapse, and keyboard support access.

To be more effective in short viewports, forms will enable a high-density header and large center dialogs will use the full screen. To be more effective with narrow viewports, the site map and side panes will move into a collapsed mode initially, and then move into an app menu in the header.

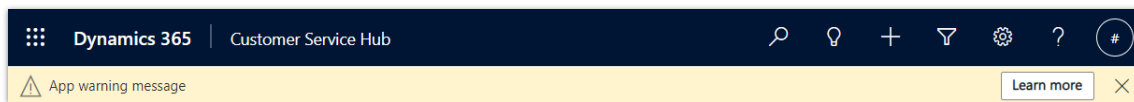
The improved app menu maintains the existing site map or session list, and it now has the app panes in addition to the current session app tabs.

To improve keyboard access, this release adds landmark regions for five main regions: Header, Navigation, Main, Left Side Pane (when used), and Right Side Pane (when used). Within a region, tabbing will cycle through and, at the last element, move focus to the first element in the region. A user can move to the first or last element by using **Ctrl+Home** or **Ctrl+End**, respectively. To switch to the next region, use **Ctrl+F6**. Use **Shift+Ctrl+F6** to switch to the previous region. To support keyboarding to pop-up and toast notifications, **F2** will set focus to the visible notification.

As part of improving visual consistency with other Microsoft products, we're updating the styling for scroll bars and the message bar. Scroll bars use a thin, rounded styling that's consistent with Microsoft 365 and Microsoft Teams. This works with browsers supporting scroll bar styling, such as Microsoft Edge (Chromium) and Chrome. The app and form message bars have an updated coloring for information and warnings background, in addition to the call to action button. These message bar changes are done to align with Microsoft Fluent styling.



Scroll bars have updated styling such as site map and grid



App message bar warning updated styling



App message bar information updated styling

Model-driven app removes the web client related Dynamics 365 - custom app

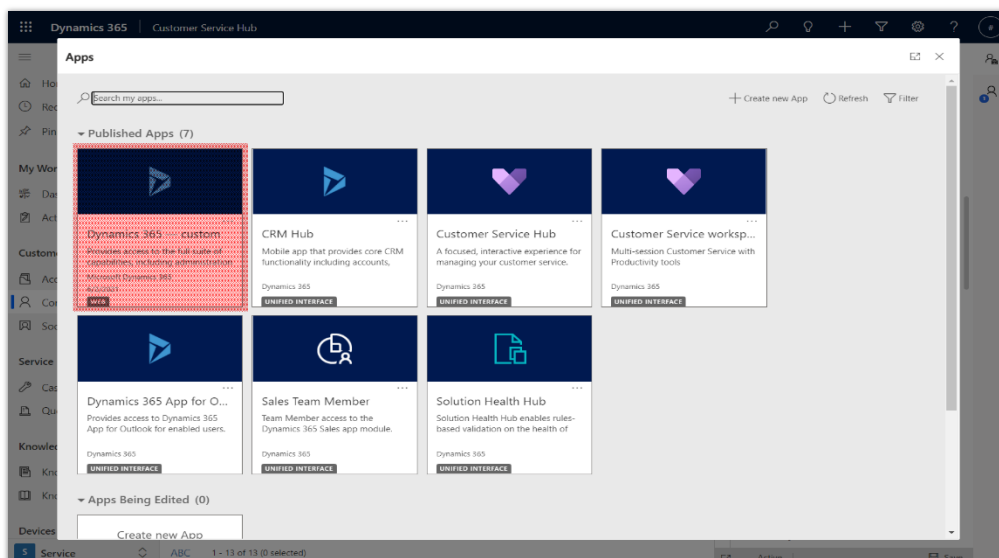
Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

Business value

This change is related to the removal of the web client following the move to Unified Interface.

Feature details

As part of the move from the web client to Unified Interface, the compatibility custom app aligned to the web client is removed. The Dynamics 365 - custom app will no longer be shown in the app switcher.



Model-driven app switcher removes the Dynamics 365 - custom app

New model-driven app experience for editing multiple records

Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

Business value

Removes the dependency on web client hybrid experiences. Provides a Web Content Accessibility Guidelines (WCAG) 2.1 accessible experience by using modern dialogs and controls.

Feature details

User will be able to edit multiple rows quickly by using the Unified Interface dialog experience, which meets all WCAG 2.1 requirements and supports reflow across all viewport sizes. It's also fully supported on the mobile experience.

Unified Interface browser support changes

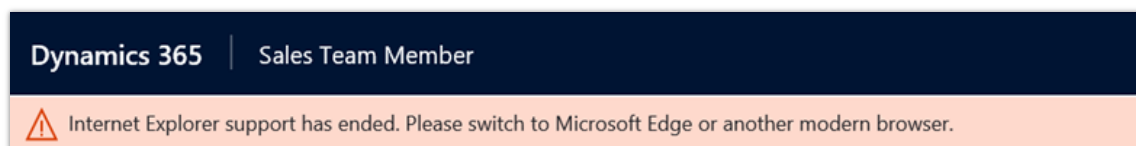
Enabled for	Public preview	Early access	General availability
Users, automatically	-	Aug 2021	Oct 2021

Business value

Improve user experience and performance by supporting only modern browsers.

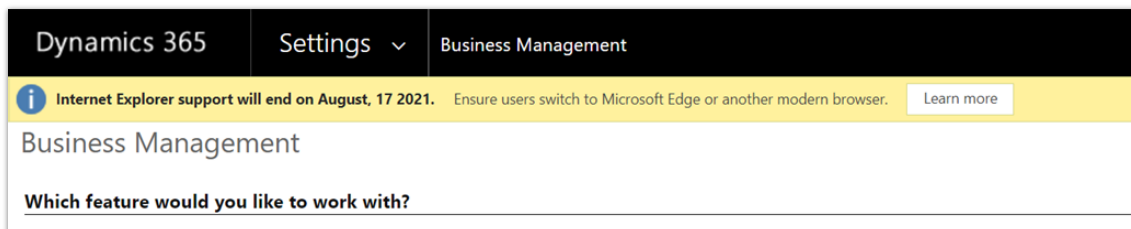
Feature details

With Internet Explorer support ending August 17, 2021, the Unified Interface web browser will start warning users who are running Internet Explorer by using the app message bar. The message will be shown each time the session starts and can be dismissed. Users who move to Microsoft Edge (Chromium) or another modern browser will see their performance improve as much as doubled compared to Internet Explorer, and they'll have a more consistent experience.



App message bar warning about the end of Internet Explorer support.

Administrators who open either the Power Platform admin center or the classic **Advanced Settings** and have users within the organization using Internet Explorer will see a warning message. After all users have stopped using Internet Explorer, we'll remove the message for those organizations.



Advanced Settings app message about the end of Internet Explorer support.

NOTE Starting in 2022 release wave 1, Internet Explorer and classic Microsoft Edge browsers will be blocked from opening Unified Interface. This will let us further improve the experience by adding browser enhancements that aren't possible on these deprecated browsers. Leading up to the blocked experience, an app error message will be shown to users of Internet Explorer.

To further improve user experience, 2021 release wave 2 will include user warnings for older browsers. Based on performance investigations, we see that use of older, unsupported browsers have performance issues not seen in the latest version of the same browser. For this release, we'll show users a warning message when they're using browser versions older than Microsoft Edge (Chromium) 83, Chrome 83, and Firefox 76. These browsers were all released in May 2020. Future twice-a-year releases will move up the version that shows warnings.



Warning app message shown when browser version is older than recommended.

Power Apps portals

Overview of Power Apps portals 2021 release wave 2

Power Apps portals empowers organizations to extend data and business process 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 2021 release wave 2 is focused on enhancements in the areas of portals platform, new capabilities for pro development, and increased developer productivity. Several new capabilities are being added with a specific focus on pro development.

What's new and planned for Power Apps portals

This topic lists features that are planned to release from October 2021 through March 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

Core platform covers portals capabilities like CMS, Authentication, Authorization, and Search.

Feature	Enabled for	Public preview	General availability
Relevance search integration in portals	Users by admins, makers, or analysts	Oct 2021	-

Professional developer experiences

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

Feature	Enabled for	Public preview	General availability
Portals Web API support for Microsoft Dataverse custom actions	Admins, makers, marketers, or analysts, automatically	Mar 2022	
Portals support for Power Apps component framework	Users by admins, makers, or analysts	-	Dec 2021
Portals Web API support for Read operations	Users by admins, makers, or analysts	Oct 2021	Dec 2021
Support for CI/CD of portals configuration	Users by admins, makers, or analysts	-	Jan 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

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

Relevance search integration in portals

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Oct 2021	-

Business value

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

Feature details

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

Eventually, this experience will become the default search experience for Power Apps portals. It will replace the current [search](#) (based on Lucene.NET) with the new capabilities for intelligent search in future releases.

Professional developer experiences

Overview

Use professional developer capabilities and tools with portals to enable advanced portal customizations and configurations.

Portals Web API support for Microsoft Dataverse custom actions

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

Business value

This feature enables Power Apps portals developers to use Microsoft Dataverse custom actions from 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 actions support, developers will be able to call Web API to perform complex operations.

Portals support for Power Apps component framework

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	Dec 2021

Business value

This feature will allow makers to be able to use code components on portals to create custom UI elements used within forms and webpages on a portal.

Feature details

Power Apps component framework enables app makers to create code components to use across apps. With general availability, we'll support the following code components created using Power Apps component framework inside Power Apps portals.

Field components on forms

This type of code components will allow fields on portal forms to be replaced with code components. The configuration will typically involve configuring the code component in the corresponding table form in Microsoft Dataverse first. After that, the code component will be enabled on the portal using a basic form or an advanced form's step metadata configuration.

The following is an example of how a sample linear slider code component looks on a form inside a portal.

The screenshot shows a portal form for 'Contoso, Ltd.' with a header bar containing a home icon and 'Knowledge Base'. The form is titled 'Details' and contains several fields: 'Topic *' (text input), 'Contact' (text input with a search icon), 'Account' (text input with a search icon), 'Est. Revenue' (text input), and 'Est. Close Date' (text input with a calendar icon). A 'Submit' button is at the bottom left. A red box highlights a 'Budget Amount' linear slider code component, which shows a value of 512.

Linear slider code component on a portal webpage.

Components on webpages

Adding code components directly on page using liquid tags will be allowed. The following is an example of how the sample 3D viewer code component added using liquid tag looks on a page inside a portal.



3D image viewer code component on a portal page.

Web API support

The Web API support for component controls will allow using CRUD operations (Create/Read/Update/Delete) using `context.webAPI` methods. The following is an example of how Web API code component looks on a webpage inside a portal.

Demo - Web API using PCF

CLICK TO CREATE ACCOUNTS RECORD

Create record with annual revenue of 100

Create record with annual revenue of 200

Create record with annual revenue of 300

GET ALL RECORDS

Retrieve all records

Account Id	Account Name	Revenue	
460b993c-c3c2-eb11-bacd-000d3a8e2600	Web API Custom Control (Sample)_1622549817768	300	<div>Delete</div>

CLICK TO CALCULATE AVERAGE VALUE OF ANNUAL REVENUE

Calculate average value of annual revenue

CLICK TO REFRESH RECORD COUNT

Refresh record count

RESULT OF LAST ACTION:

Created new accounts record with below values:

id: de4dcf59-4dc3-eb11-bacd-000d3a8e2600

name: Web API Custom Control (Sample)_1622602255608

revenue: 200

Code component using Web API.

Portals Web API support for Read operations

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Oct 2021	Dec 2021

Business value

This feature will allow developers to use GET request to retrieve data from tables in Microsoft Dataverse.

Feature details

The portals Web API enables building a richer user experience inside Power Apps portals pages. You can use Web API to perform Create, Update, and Delete operations across all Microsoft Dataverse tables from your portal pages. For example, you can create a new account or update a contact for a product by using the portals Web API instead of using forms or lists.

This feature will enhance portals Web API by adding support for the **Read** operation. With this feature, developers can use portals Web API for querying the data, including support to:

- Use GET requests to retrieve data from a table.
- Allow query options to set criteria for data you want from a table.

Support for CI/CD of portals configuration

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

Business value

This feature enables Power Apps portals developers to use Microsoft Power Platform CLI tools to enable CI/CD for portal configurations.

Feature details

Microsoft Power Platform CLI tooling is the first step toward a comprehensive Application Lifecycle Management (ALM) story where the enterprise developers and independent software vendors (ISVs) can create, build, debug, and publish their extensions and customizations quickly and efficiently. For more information, go to [What is Microsoft Power Platform CLI?](#)

This feature will reach general availability with few enhancements, such as support for "Create" operation.

Power Automate

Overview of Power Automate 2021 release wave 2

Microsoft Power Automate provides the tools that 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 digital and robotic process automation (RPA).

Power Automate is investing in several areas as a part of Microsoft Power Platform 2021 release wave 2, including the following.

- **Microsoft Teams:** With more than 100 million daily active users, is central to Microsoft's remote work strategy, and Power Automate is key to the Microsoft Teams extensibility strategy for providing automation for your collaboration scenarios. We will build more and easier entry points across the Microsoft Teams experience, such as in meetings/calendars and other types of conversations. It will also be possible for administrators to push solutions that contain flows across the teams in their organization.
- **Dynamics 365, Power Apps, Power BI, and Microsoft Dataverse:** With deeper integrations, we're making it easier for professional developers and users to collaborate and deploy solutions on Microsoft Power Platform.
- **Power Automate Desktop:** This component was released to general availability in 2020, and it enables makers to automate the diversity of applications on their desktops. Going forward, we'll provide migration for existing Softomotive and UI flows customers, secure credential management, and much more. We're building enterprise trust for desktop flows by providing what centers of excellence need in the cloud: centralized management, monitoring, and reporting that allows users to scale beyond the per-flow experience in the portal. These experiences will provide security, governance, and administration so that administrators can extend their control over desktop flow artifacts in the Power Platform admin center and Center of Excellence toolkit.
- **AI builder:** Effective automation in any organization relies heavily on AI to be reliable and scalable, so we are further investing in content intelligence – specifically, in document automation where we'll be adding better support for multiple layouts, extracting content from tables, working with checkboxes and radio buttons on forms, and support for more languages.
- **Process advisor:** Process advisor is the newest component in Power Automate. This component provides organizations with insights into their tasks via a process map that shows variations across different instances and analytics. With this knowledge, organizations can use the recommendations that process advisor provides to make more informed decisions on which areas to automate to optimize their processes.

What's new and planned for Power Automate

This topic lists features that are planned to release from October 2021 through March 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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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

Cloud flows is automation that runs in the cloud.

Feature	Enabled for	Public preview	Early access*	General availability
Templates for your organization in Microsoft Teams	Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021
Comments on cloud flows and actions	Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021
Integrations with team management in Microsoft Teams	Admins, makers, marketers, or analysts, automatically	-	-	Dec 2021
Resubmit many failed runs at once	Admins, makers, marketers, or analysts, automatically	-	-	Jan 2022
Updates for instant flows in canvas apps	Admins, makers, marketers, or analysts, automatically	-	-	Jan 2022
Power Automate mobile app improvements	Admins, makers, marketers, or analysts, automatically	-	-	Mar 2022
Roll back to a previous version of a cloud flow	Admins, makers, marketers, or analysts, automatically	-	-	Mar 2022
Undo edits in the cloud flows designer	Admins, makers, marketers, or analysts, automatically	-	-	Mar 2022

Feature	Enabled for	Public preview	Early access*	General availability
Real-time presence in cloud flows	Admins, makers, marketers, or analysts, automatically	Aug 2021	-	Mar 2022

Document automation

The document automation solution is a standard end-to-end solution allowing users to receive documents in emails, use AI Builder form processing to extract data from them, and to then review and approve the collected data.

Feature	Enabled for	Public preview	Early access*	General availability
Document automation solution	Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021

Power Automate Desktop

Power Automate Desktop and desktop flows enable you to automate repetitive processes in desktop or web applications.

Feature	Enabled for	Public preview	Early access*	General availability
The log message action is available in desktop flows	Admins, makers, marketers, or analysts, automatically	-	-	Dec 2021
Use Microsoft Dataverse from desktop flows	Admins, makers, marketers, or analysts, automatically	-	-	Dec 2021
Data loss prevention policies for desktop flow actions	Admins, makers, marketers, or analysts, automatically	Oct 2021	-	Jan 2022
Admin reports for desktop flows across environments	Admins, makers, marketers, or analysts, automatically	-	-	Feb 2022
Improved RPA and Dynamics 365 application integration	Admins, makers, marketers, or analysts, automatically	Dec 2021	-	Feb 2022
Use connectors in desktop flows	Admins, makers, marketers, or analysts, automatically	-	-	Mar 2022

Process advisor

Process advisor quickly captures detailed steps for each process in your organization to help you better understand places to streamline workflows.

Feature	Enabled for	Public preview	Early access*	General availability
Customize filters in process advisor	Admins, makers, marketers, or analysts, automatically	Nov 2021	-	-
Innovation backlog for managing ideas and projects with process advisor	Admins, makers, marketers, or analysts, automatically	Mar 2022	-	-

* Some features are available to opt-in to some features as part of early access on August 2, 2021, 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 are automation that runs in the cloud using our 475+ connectors and can be triggered either automatically, instantly, or with a schedule.

Templates for your organization in Microsoft Teams

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021

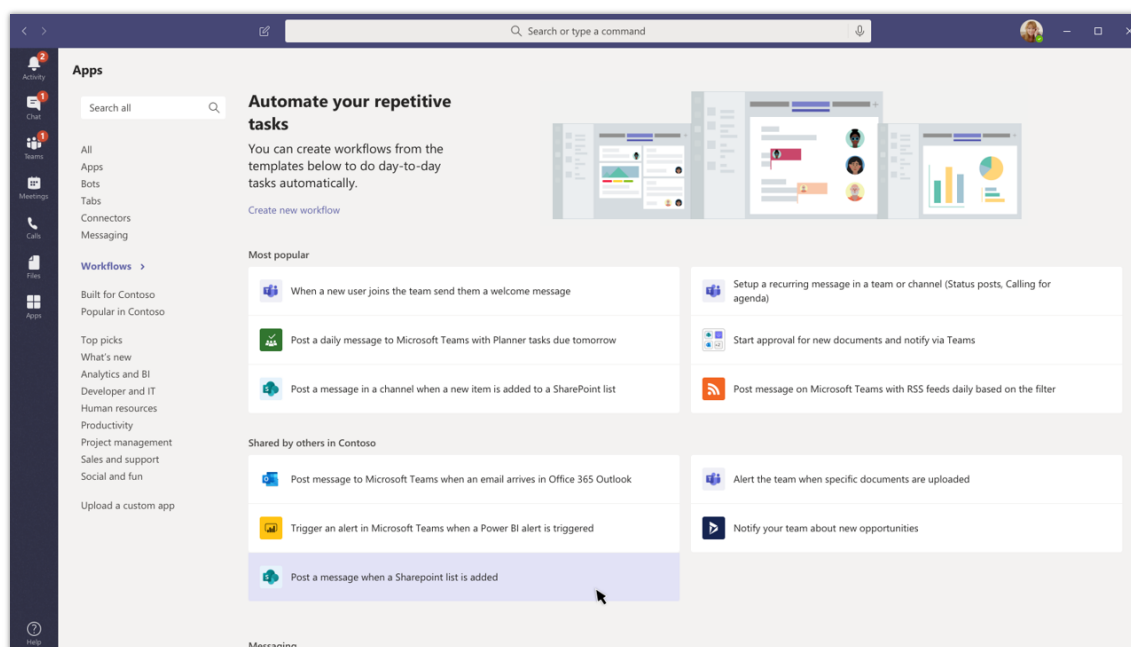
Business value

This feature allows users in Microsoft Teams to directly acquire flow templates from the Microsoft Teams store using a new dedicated workflows section. This allows users to browse and acquire flows directly from within Microsoft Teams without the need to switch contexts to a browser or another app.

Feature details

There will be a new **workflows** section in the Microsoft Teams app store that all Microsoft Teams users can access, even if they don't have the Microsoft Teams app installed. This feature organizes cloud flow templates that are related to Microsoft Teams in the following two categories:

1. Templates provided by Microsoft or Microsoft partners
2. Templates published by a person in the user's organization



Catalog of templates in Microsoft Teams.

Comments on cloud flows and actions

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021

Business value

With this feature, Power Automate users can collaborate by inserting interactive comments on flows and their elements, similar to the way customers can add comments in Microsoft Office products like Word.

Feature details

There will be a new **Comments** button in the command bar for cloud flows, enabling makers to comment on the entire flow or on specific actions. Makers will also be able to reply to, resolve, or delete existing comments.

Integrations with team management in Microsoft Teams

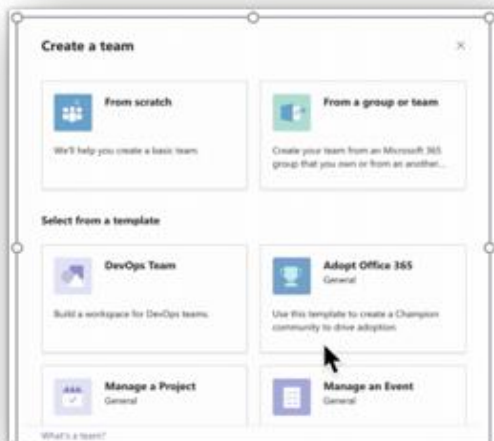
Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Dec 2021

Business value

This feature adds Power Automate flow templates in Microsoft Teams templates. Team owners can now more easily add flows into new teams when they create a team from a Microsoft Teams template.

Feature details

Users who create and manage teams in Microsoft Teams can use Power Automate for several scenarios. For example, we'll pair Power Automate templates with Microsoft Teams templates to enable scenarios like posting a welcome message, automated channel notifications, and more.



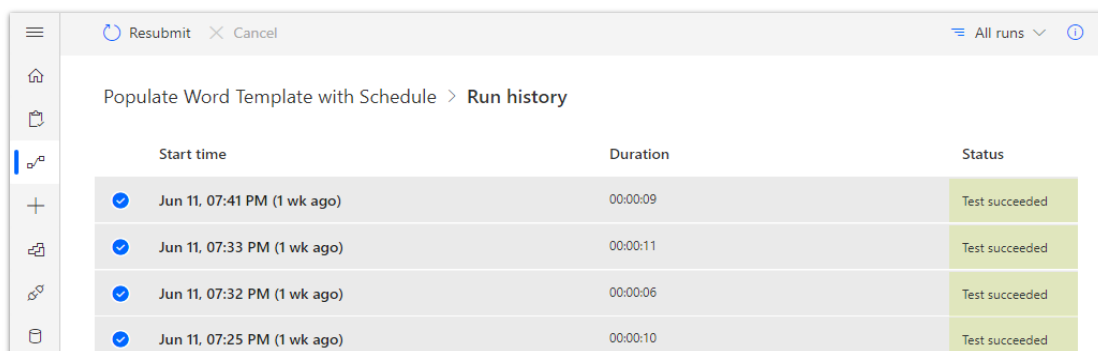
Microsoft Teams templates

Resubmit many failed runs at once

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

Feature details

Sometimes, you may have a flow with a few or even dozens of runs that have failed. Today, you can manually resubmit certain runs, but there's no easy way to do this in bulk. In 2021 release wave 2, we're introducing the ability to select multiple runs at once in the runs page. This means if you have 25 runs that have failed, you can select all 25 of these runs and resubmit them at once. This feature ensures that each of the runs can try again.



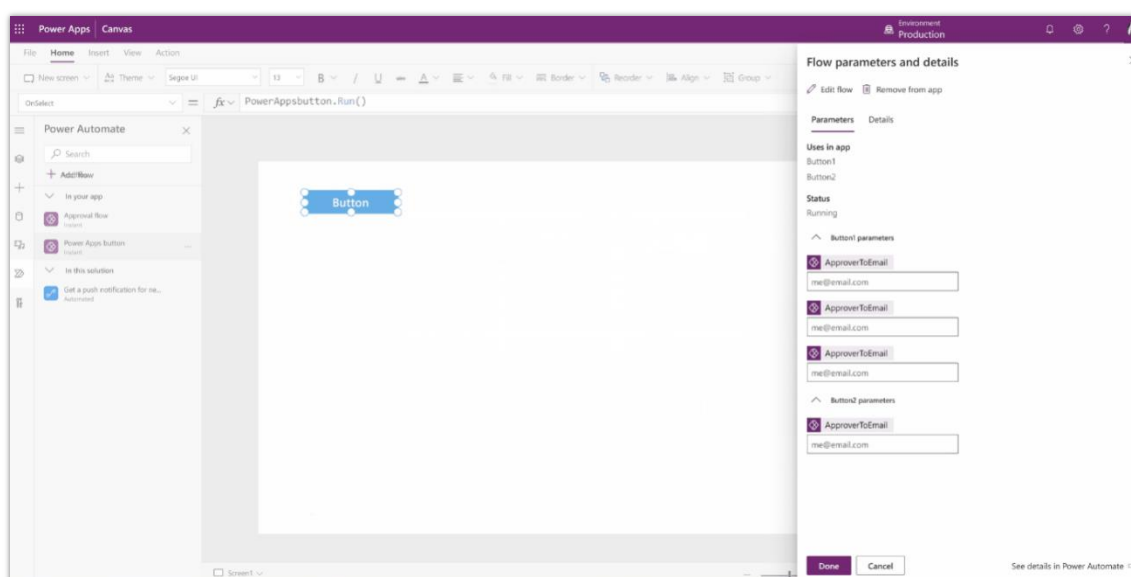
Selecting multiple runs.

Updates for instant flows in canvas apps

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

Feature details

We're making it easier to work with instant flows inside of canvas apps. A common challenge is that you need to modify the data that you send to the flow. Previously, you needed to work with the formula bar, which can be challenging when there is a complex set of data to pass to the flow. To make this easier, we're adding a new **Flow parameters and details** pane that you can access while you're working on your canvas app.



New pane in canvas apps.

This new pane shows:

- Each place where an instant flow is called in the canvas app
- A way to remove the flow from the canvas app entirely so, for example, users won't need to provide connections
- A view of the data that's passed to each flow input so you can quickly change the data passed to your flow

Power Automate mobile app improvements

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

Feature details

There will be a new version of the Power Automate mobile app for Android and iOS. This new version of the mobile app provides an updated, modern experience for Power Automate users on their mobile devices. These users can receive notifications and trigger button flows on the go. This new version will also have improved support for sovereign clouds.

Roll back to a previous version of a cloud flow

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

Feature details

Power Automate cloud flows are being used for many business-critical scenarios across organizations of all sizes. For organizations with robust source control, we recommend that they use solutions to manage the versions of their flows; however, sometimes you may simply want to revert to a previous version of a flow. With this new feature, you can see previous versions of your cloud flow, and you can choose the version you want to revert to. You'll find these previous versions listed on the cloud flows details page.

NOTE All runs that started prior to the time you reverted to a previous version will complete with the existing version. All new runs will use the reverted version.

Undo edits in the cloud flows designer

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

Feature details

People are building more and more advanced cloud flows in Power Automate. We previously added copy and paste, making it easier to duplicate actions. In 2021 release wave 2, we'll add the ability to undo edits that you made during your session. This means that if you

accidentally delete an action, or you don't like your content changes in a particular parameter, you can undo the changes and return to the previous state of the cloud flow with a single click.

Real-time presence in cloud flows

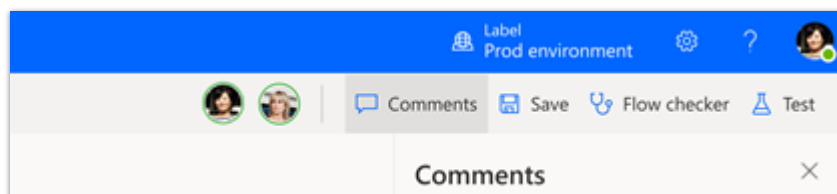
Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2021	-	Mar 2022

Business value

Enable makers to collaborate more effectively by providing real-time visibility.

Feature details

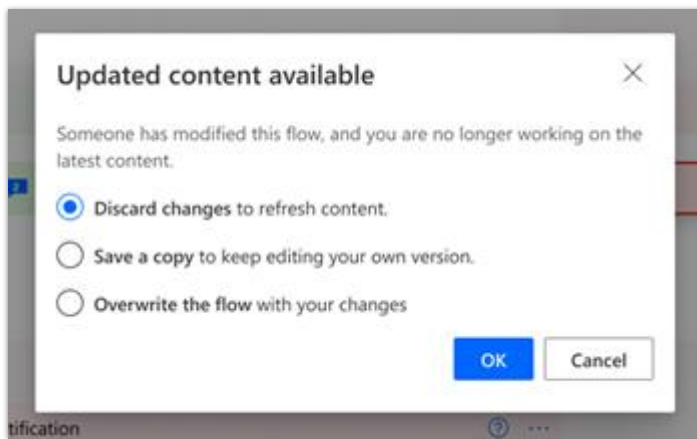
There's frequent collaboration between developers and business users on software projects, making development a team sport. Gartner has coined the term **fusion teams** to describe this pattern. To help fusion teams, this feature provides better collaboration across code-first and no-code artifacts. As a first step, when multiple people open a cloud flow, this feature will provide them with real-time presence about who is editing the flow with them.



Presence indicators

Since multiple people can now edit a cloud flow simultaneously, we're also introducing different options for handling this scenario. You'll have the option to perform the following:

- Discard your own changes.
- Save a copy of the flow. (With this option, you preserve changes that you and your colleagues made.)
- Overwrite changes that your colleagues make.



Overwrite changes.

Document automation

Overview

Document automation is a solution that allows you automate processing of your documents in an end-to-end process. It includes the following capabilities:

- Process documents received in emails orchestrated by Power Automate
- Extract data from documents using AI Builder models
- Process the data extracted and allow users to review and approve data through central manual validation Power Apps
- Export the processed data to external systems using Power Automate connectors
- Statistics on number of documents processed

Document automation solution

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Oct 2021

Business value

Document automation is reference implementation for automating documents like invoices. It can be used out-of-the-box to save days of implementation or can be used as inspiration to accelerate your implementation.

Feature details

[Document automation](#) is an end-to-end solution for processing documents at scale. It includes:

- A document queue
- A Power Apps validation station to allow for manual user validation of processed documents
- AI Builder preconfigured models to extract data from documents
- Many flows for importing documents and exporting data to external systems

Document automation offers a generic solution that is customizable for a broad range of document types and specialized solutions for specific document types, such as invoices.

Here's a list of the new capabilities that are in the general availability of the toolkit:

- Automatic data validation
- Confidence scores in the Power Apps validation application
- Export extracted data to Dynamics 365 Finance and Operations
- Richer interactions with the manual validation application
- Prebuilt models like receipt processing and invoice processing

Power Automate Desktop

Overview

Getting started with Power Automate Desktop continues to get quicker, get simpler to use, easier to deploy, more scalable, and easier to govern. In 2021 release wave 2 we'll make substantial improvements across the board on these capabilities.

The log message action is available in desktop flows

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Dec 2021

Business value

Users will be able to provide customized messages in the logs of their desktop flows in order to write down information, which may be important to be kept as part of the flow logs for history purposes.

Feature details

Log message is available in desktop flows, enabling users to log custom messages. They can use this feature for error handling purposes and for logging progress and values for variables when their desktop flows run. This new action is like the **Log message** action that was available in WinAutomation.

Use Microsoft Dataverse from desktop flows

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	-	-	Dec 2021

Feature details

There will be a new module in Power Automate Desktop that lets you work directly with data that's stored in Microsoft Dataverse. Like the cloud flows and Microsoft Dataverse integration, this new integration automatically respects the relationship between the desktop flow and the environment it's in, ensuring that dependencies are properly tracked for healthy solutions and application lifecycle management (ALM).

Data loss prevention policies for desktop flow actions

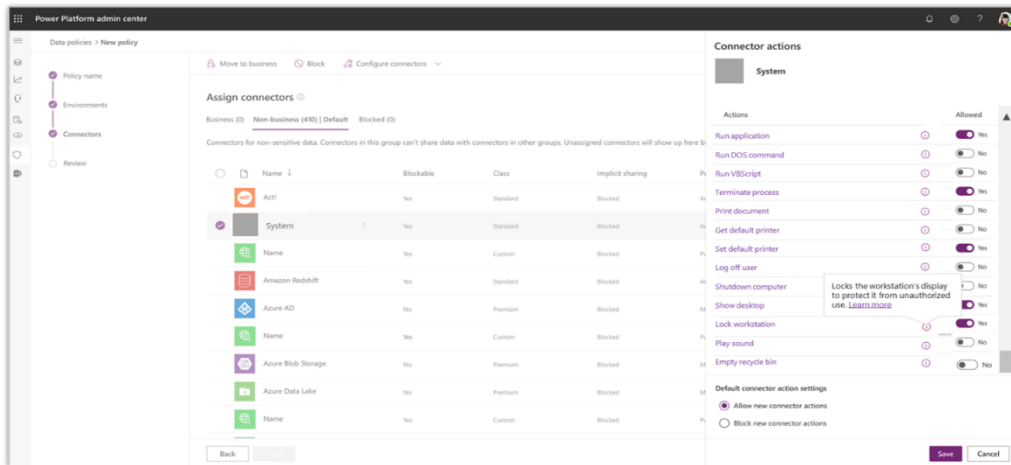
Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Oct 2021	-	Jan 2022

Feature details

Data loss prevention policies in Microsoft Power Platform give additional control to administrators who wish to limit their users beyond the standard policies that govern access to their data. In 2021 release wave 2, admins will be able to create new policies that can govern desktop flows. These policies will allow environment administrators to:

- Classify Power Automate Desktop modules in either business, non-business, or blocked categories
- Identify certain actions in modules that should be blocked entirely
- Set the default rules for new actions and new modules

As with cloud flows, there will be some built-in actions that cannot be blocked by administrators. If a desktop flow is in violation of one or more policies, it will not run.



Pane for configuring options for a module in data loss prevention for desktop flows.

Admin reports for desktop flows across environments

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

Business value

Provide more analytics capability for admin/CoE to monitor and manage the automation adoption across the organization.

Feature details

Administrators will get additional visibility into the desktop flows that citizen developers within their organizations create with Power Automate Desktop. This feature also brings additional reporting and control to desktop flows across different environments in an organization.

Improved RPA and Dynamics 365 application integration

Enabled for	Public preview	Early access	General availability
Admins, makers, marketers, or analysts, automatically	Dec 2021	-	Feb 2022

Feature details

In 2021 release wave 1, we introduced integrations between Dynamics 365 apps and Power Automate desktop flows. For example, Dynamics 365 Customer Service users can launch

desktop automation from their macros, automating desktop applications as part of their workflow. We also released RPA scenarios for Dynamics 365 Finance and Dynamics 365 Supply Chain Management.

In 2021 release wave 2, we'll continue to improve the integration experience with Dynamics 365 apps and Power Automate desktop flows. For example, we'll simplify the setup of these scenarios so that you can get started with these integrations with a single click. We'll also introduce integrations for additional Dynamics 365 applications.

Use connectors in desktop flows

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

Business value

Users will take advantage of the 475+ API connectors while building desktop flows, which are already available in cloud flows expanding the capabilities and functionalities for Power Automate Desktop.

Feature details

Today, there are more than 475 connectors that are available for use in cloud flows. With this feature, all connectors will be available as actions for desktop flows as well. So, if a maker wants to quickly send an email or update a file in OneDrive from their desktop flow, instead of having to call a cloud flow, they can drag-and-drop those actions directly into the desktop flow.

Process advisor

Overview

Process advisor quickly captures detailed steps for each process in your organization to help you better understand places to streamline workflows.

Customize filters in process advisor

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

Business value

With the ability to choose your specific custom attributes (such as Location, Vendor, Department, and more), you could filter and drill down into your process data to understand your processes accordingly.

Feature details

Every organization has unique needs when it comes to analyzing their tasks. Users now have the ability to see custom attributes as filters in their process advisor reports, so they can customize their reports according to what is important to their business.

Innovation backlog for managing ideas and projects with process advisor

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

Feature details

Process mining customers often start with ideas submitted from business users who want to understand more about a process that they want to optimize or make more efficient. The innovation backlog provides the ability to submit ideas and information like ROI, time, resources, and assignments.

Power Virtual Agents

Overview of Power Virtual Agents 2021 release wave 2

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

The 2021 release wave 2 brings improvements in the authoring experience with variable passing between topics, list variables, inline images and videos, regular expressions in custom entities, and commenting. We are also facilitating initial bot setup with bot creation from templates, sharing bots with security groups, and new AI capabilities to build your bots automatically from website content.

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 ultimately answer a user's questions.

With deep integration with Power Automate and the Microsoft Bot Framework, authors can extend their bots to integrate with API back ends, 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.

Use Power Virtual Agents documentation to get detailed information and answers to address your needs, from basic authoring tips all the way to complex bot configuration topics.

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

- [Power Virtual Agents documentation](#)
- [Power Virtual Agents training on Microsoft Learn](#)
- [Power Virtual Agents videos on YouTube](#)

What's new and planned for Power Virtual Agents

This topic lists features that are planned to release from October 2021 through March 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 business needs.

Feature	Enabled for	Public preview	General availability
Export and import topics using Microsoft Power Platform solutions	Admins, makers, marketers, or analysts, automatically	-	Oct 2021

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
Insert Adaptive Cards	Admins, makers, marketers, or analysts, automatically	-	Oct 2021
Automatically start a bot conversation with a welcome topic	Users by admins, makers, or analysts	-	Oct 2021
Use and see different versions of a topic	Admins, makers, marketers, or analysts, automatically	-	Jan 2022
Use Microsoft Power Platform connectors directly in topics	Admins, makers, marketers, or analysts, automatically	-	Jan 2022
Use the list variable to get content from Power Automate and Bot Framework skills	Admins, makers, marketers, or analysts, automatically	-	Jan 2022

Description of **Enabled for** column values:

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

Export and import topics using Microsoft Power Platform solutions

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Business value

Significantly speed up the development time when creating multiple bots across environments by importing and exporting topics with Microsoft Power Platform solutions. Your developers can now create a standard set of topics that they can easily copy to other bots.

Feature details

Bot owners will be able to export and import topics using [Microsoft Power Platform solutions](#).

Currently, bot makers can [export and import entire bots between solutions](#). With this addition, they'll be able to do the same but with topics, allowing them to create template topics that can be used in multiple bots without having to manually copy and paste or redo entire conversation flows.

For example, independent software vendors (ISVs) can create bot content, such as a set of topics that is specific to an industry or scenario, that their customers can import to help "seed" their bot with content to get up and running quickly.

Core authoring

Overview

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

It's also 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.

Insert Adaptive Cards

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Business value

Make your bots pop and stand out from the crowd by employing Microsoft Adaptive Cards. Delight your customers with customized rich content formatting.

Feature details

Easily author rich content without needing to write code by using [Microsoft Adaptive Cards](#) directly from within the authoring experience. Adaptive Cards will be displayed consistently wherever your customers are and tailored to their screen size and device capability, including images and videos.

Automatically start a bot conversation with a welcome topic

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	Oct 2021

Business value

Having the bot start the conversation creates a more engaging experience and helps to orient your bot users as to what to ask or how to use the bot. For example, you could create a welcome message that expresses your company's voice and suggests some initial questions that users can ask the bot.

Feature details

Configure your bot to automatically show a message at the start of a conversation without needing to write any code, directly from within the Power Virtual Agents portal.

This capability exists in the Power Virtual Agents app in Microsoft Teams and will now be available in the Power Virtual Agents web app. For more information, go to [Configure how the bot starts the conversation](#)

Use and see different versions of a topic

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

Business value

Save time by rectifying mistakes or returning to the previous state of a topic with topic version history.

Feature details

Review earlier versions of a [bot's topic](#) so you can compare it with the current version, test that version of the topic, and publish it.

Use Microsoft Power Platform connectors directly in topics

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

Business value

Increase the speed by which you can call connectors and perform advanced operations by using Microsoft Power Platform connectors directly within a bot topic.

Feature details

Bot authors can use [Microsoft Power Platform connectors](#) directly within Power Virtual Agent topics instead of having to call a Power Automate flow. This will allow authors to easily call data connectors without having to create or manage a flow and with lower latency for each call.

Use the list variable to get content from Power Automate and Bot Framework skills

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

Business value

Use existing list content from Power Automate and Bot Framework skills to speed up development of your bots and make your bots more powerful with your users.

Feature details

Bot authors can [use a list variable](#) to take array outputs from Power Automate and Bot Framework skills and present them as a list of choices in a bot question.

Microsoft Dataverse

Overview of Microsoft Dataverse 2021 release wave 2

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.

What's new and planned for Microsoft Dataverse

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Microsoft Dataverse API

APIs are web services that apps use to interact with Microsoft Dataverse.

Feature	Enabled for	Public preview	General availability
Microsoft Dataverse search API v2.0	Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Microsoft Dataverse data

Ability to store structured and unstructured data.

Feature	Enabled for	Public preview	General availability
Microsoft Dataverse search can search through file data type	Admins, makers, marketers, or analysts, automatically	-	Oct 2021
Microsoft Dataverse data archival	Admins, makers, marketers, or analysts, automatically	Mar 2022	To be announced
Delete and remove users with disabled status	Users by admins, makers, or analysts	Sep 2021	Oct 2021
Microsoft Dataverse search enabled by default for production environments	Admins, makers, marketers, or analysts, automatically	-	Oct 2021
Lookup validation for solutions	Users, automatically	-	Oct 2021
Publishers can update non-customizable table settings through solutions	Users, automatically	-	Oct 2021
Security role update with layering support for third-party solutions	Users by admins, makers, or analysts	-	Oct 2021
Support Azure Active Directory group with dynamic membership type	Users by admins, makers, or analysts	-	Oct 2021

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Microsoft Dataverse API

Overview

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

- The data APIs provide capabilities to work with data in your Microsoft Dataverse tables and perform specialized operations.
- The relevance 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 APIs. 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.

Microsoft Dataverse search API v2.0

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Business value

This capability makes searching over data in Microsoft Dataverse more flexible to meet the diverse requirements makers may have while building search experiences.

Feature details

Microsoft Dataverse search API enables programmatic access to search capabilities over your data in Dataverse. With the new API v2.0, we're adding the following two capabilities:

1. Define a more granular search scope. This includes the ability to specify which tables and columns to search, which filters to apply at a column level, and which columns to include in the search response.
2. Use Microsoft Dataverse search from plug-ins.

Microsoft Dataverse data

Overview

Microsoft Dataverse is the default data store for Microsoft Power Platform. Microsoft 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. Microsoft Dataverse provides extensive security, filtering, and search capabilities within environment bounds. Microsoft Dataverse API and logic capabilities are used to build and maintain workflows for your application needs.

Microsoft Dataverse search can search through file data type

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Business value

Searching the file data type makes it easier for users to search through their textual information stored in files in Microsoft Dataverse.

Feature details

Microsoft Dataverse search can now search through the file data type, enabling search over text in files like Word docs and PDFs. Microsoft Dataverse search is easy to use, fast, and intelligent, and it helps users find their information easily in experiences like global search in model-driven apps in Power Apps. It also enables makers to build apps, bots, and flows that intelligently search over data in Microsoft Dataverse.

Microsoft Dataverse data archival

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

Business value

This feature enables support for regulatory requirements, internal and external audit requirements, and reducing non-active data from the transactional store. In addition, it will provide customers with even more flexibility to gain business insights and drive actions, based on combining the historical data archived, with the active transactional data already available through the Azure Synapse Link for Dataverse feature.

Feature details

Customers will be able to define criteria by selecting a root table and schedule archival of the same. The system will automatically pick the related tables. At the scheduled time, the process will then copy data to a new storage and delete the copied data from the primary Microsoft Dataverse storage. The first release will support BYOL - Bring your own Azure Data Lake. Microsoft Dataverse data lake will be supported in a later release. A dashboard will provide the capability to manage the lifecycle of the archival operations.

This feature will also allow Dynamics 365 apps and third-party apps to leverage or build on the Microsoft Dataverse platform, to extend the archival feature, and support specific business processes. Dynamics 365 customers will be able to archive functional blocks of data as the Dynamics 365 apps enable these features.

Delete and remove users with disabled status

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Sep 2021	Oct 2021

Business value

Remove users who are no longer active in the system to free up storage space and allow for historical records to be purged.

Feature details

When users have been disabled or deleted from Azure Active Directory or Microsoft 365 admin, they are set to **disabled** status in Microsoft Dataverse. Disabled users residing in the system not only take up storage space but also inhibit the ability to purge historical records. This feature provides the capability to delete and remove users who have a disabled status while maintaining data integrity.

Microsoft Dataverse search enabled by default for production environments

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Business value

Microsoft Dataverse search enabled by default for production environments makes it easier for users to find information and makers to build intelligent apps, bots, and flows over data in Microsoft Dataverse.

Feature details

Microsoft Dataverse search is now enabled by default for production environments. It is easy to use, fast, and intelligent, and it helps users find their information easily in experiences like global search in model-driven apps in Power Apps. It also enables makers to build apps, bots, and flows that intelligently search over data in Microsoft Dataverse.

Lookup validation for solutions

Enabled for	Public preview	General availability
Users, automatically	-	Oct 2021

Business value

Performing a validation for all required relationships reduces problems post publishing and helps customers be more successful when distributing solutions.

Feature details

With this new feature, solutions will automatically check for all required lookup relationships prior to export.

Before this feature, it was possible to create a solution, select your solution components, and then export even if you didn't include the lookup relationships necessary for your solution to successfully be imported.

Now, at the time of export, a check will automatically be made on every table of a solution to find lookup fields. Once found, the check will validate that the relationship necessary for the lookup to work properly was included in the solution. If it's not present, an error message will provide details of what table is involved and which relationship is missing.

For more information about this feature, go to [Important New Feature: Relationship Validation for Solutions](#).

Publishers can update non-customizable table settings through solutions

Enabled for	Public preview	General availability
Users, automatically	-	Oct 2021

Business value

This feature reduces the steps needed for publishers to manage their solutions and make updates that are critical to their users.

Feature details

Today, publishing a new version of a solution to **Enable Auditing = On** on the account table would be ignored because **Allow Customizations = Off**. There are workarounds that would need to be done involving multiple steps to allow customizations on the table, make the changes, and then reinstate the customization lock afterwards.

For example, a customer has their account table set to **Enable Auditing = Off** and **Allow Customizations = Off**.

This new feature will allow a publisher to update **Account to Enable Auditing = On** in a new version of their solution without having to change the customization setting. Because the change is submitted by the publisher, the table setting change is enforced. If a table change was submitted through a different publisher, the ****Allow Customization = Off**** would be honored, and the change will not be allowed.

For more information about this feature, go to [Publishers can modify table properties for non-customizable solutions](#).

Security role update with layering support for third-party solutions

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	Oct 2021

Business value

To support third-party solutions, security role updates won't break existing functionality.

Feature details

When the third-party updates their solution with security role updates, the solution's security role privileges are merged with the privileges of the existing security role.

Support Azure Active Directory group with dynamic membership type

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	-	Oct 2021

Business value

Large enterprises heavily use the dynamic membership type in Azure Active Directory groups to simplify the group membership management. Supporting the dynamic membership type in Microsoft Dataverse will unblock these enterprises.

Feature details

Dataverse supports Azure Active Directory (Azure AD) security and office groups including the ability to differentiate Owners, Members, and Guests. To complete the full Azure AD group functionality, we're extending the support of the dynamic membership type. The dynamic membership type leverages business rules to manage the group membership dynamically. Microsoft Dataverse authentication and authorization will be extended to support this membership type.

AI Builder

Overview of AI Builder 2021 release wave 2

AI Builder is a Microsoft Power Platform capability that gives everyone in your organization, regardless of their technical expertise, the ability to add AI capabilities to the applications and automation flows they create and use. Using AI is made easier with the native integration of AI Builder in the Power Automate and Power Apps experiences.

We're focusing on providing new functionalities centered around intelligent document processing experiences. New functionalities include the ability to extract a broader set of content types in documents, such as checkboxes, signatures, typed fields like date and currency, and support for more prebuilt models in the document automation solution (for example, receipts, and invoices). Our focus is also on improving the AI model discovery experience, improving performance metrics, and simplifying the authoring experience.

What's new and planned for AI Builder

This topic lists features that are planned to release from October 2021 through March 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.

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AI scenario improvements

New improvements make AI scenarios more accurate and easier to use.

Feature	Enabled for	Public preview	General availability
New AI Builder homepage	Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Document processing improvements

New document processing improvements for better accuracy and document coverage.

Feature	Enabled for	Public preview	General availability
Form processing typed fields	Admins, makers, marketers, or analysts, automatically	Nov 2021	
Signature detection in form processing	Admins, makers, marketers, or analysts, automatically	Nov 2021	
Extract entities from unstructured documents	Admins, makers, marketers, or analysts, automatically	Mar 2022	
Explicitly tag tables in form processing	Admins, makers, marketers, or analysts, automatically	✓ Apr 1, 2021	Oct 2021
Model summary and performance metrics	Admins, makers, marketers, or analysts, automatically	-	Nov 2021
Form processing support for checkboxes	Admins, makers, marketers, or analysts, automatically	Aug 2021	Nov 2021

Extend AI Builder across Microsoft Power Platform

Direct integration of AI Builder models with other Microsoft products is available for makers.

Feature	Enabled for	Public preview	General availability
AI Builder features in Microsoft Teams	Admins, makers, marketers, or analysts, automatically	-	Oct 2021
New AI Builder templates	Admins, makers, marketers, or analysts, automatically	-	Oct 2021

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AI scenario improvements

Overview

One of the core principles of AI Builder is to give citizen makers the ability to build AI scenarios with easy to use and delightful user interfaces. Scenario improvements focus on the top of the funnel, including redesigning the AI Builder homepage to make it easier to understand the breadth of business possibilities with AI and to easily try out AI scenarios.

New AI Builder homepage

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Business value

Learn more easily how AI Builder can benefit your business with its improved homepage.

Feature details

The new homepage for AI Builder focuses on making it easier for you to understand which AI model to choose when implementing a scenario. Models are grouped by key functionality type, and it's easier to try out AI models before building out scenarios.

The homepage also features case studies and sample processes to build out using AI Builder. AI Builder showcases a new model summary page, which focuses on improved performance/accuracy scores.

Document processing improvements

Overview

This release focuses on enabling new capabilities for intelligent document processing, allowing customers to process a broader range of document types with increased accuracy. Feature updates include:

- Ability to detect checkboxes in documents
- General availability of the supervised tables feature that allows users to customize an AI model to detect complex tables in documents
- Support for multi-page tables

- Ability to process a page range of documents
- Extract typed fields (for example, dates and currency)
- Signature detection in documents
- Accuracy score
- Increased collection size, which allows users to train a model to detect up to 200 collections of documents in the same model
- Support for more than 73 languages detected in forms processing custom model

Form processing typed fields

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Nov 2021	-

Business value

Improve the performance of your form processing models by specifying the type for the fields you want the model to extract.

Feature details

The ability to define field types extracted by form processing is available to the public. This makes consuming the extracted results easier, as it will help to normalize the results. The supported types are:

- Text
- Text with no spaces
- Text (alphanumeric)
- Number
- Currency
- Date

Signature detection in form processing

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Nov 2021	-

Business value

Automate data extraction from more documents now has support for signature detection.

Feature details

AI Builder form processing allows you to detect the presence of a signature. This capability supports training a form processing model to detect if a signature is present at a specific location in the document. This enables you to process a wider range of document types (for example, contracts and purchase orders) for your hyperautomation scenarios.

Extract entities from unstructured documents

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

Business value

AI Builder form processing allows you the flexibility of extracting entities (such as legal contracts where each document is different) from unstructured documents.

Feature details

AI Builder form processing can extract entities from 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.

Explicitly tag tables in form processing

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	✓ Apr 1, 2021	Oct 2021

Business value

You can process and train documents with content embedded in tables. This improves the accuracy of a table's extraction and allows you to capture data from tables that weren't detected before. You can experience faster table tagging and draw from tables across multiple pages.

Feature details

This feature allows you to train an AI model to process a wide variety of documents with content embedded within tables. If a table is not detected, or is detected incorrectly by the default model, you'll be able to manually draw the table and tag its content to teach the AI model how to recognize it. This improves the accuracy of the table's data extraction and allows you to capture data from tables that weren't detected before. Drawing tables across multiple pages is also supported as well as a faster table tagging experience.

See also

[Create a form processing custom model](#) (docs)

Model summary and performance metrics

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Nov 2021

Business value

Get insights on your form processing performance and recommendations on how to improve it.

Feature details

The new summary page for form processing models provides an accuracy score after training the model that indicates if the model is ready to use or needs to be reviewed. The improved summary page also provides recommendations on how you can enhance the model.

Form processing support for checkboxes

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2021	Nov 2021

Business value

AI Builder form processing now recognizes checkboxes. You can automatically process documents, such as surveys and order forms, which typically contain many checked and unchecked checkboxes.

Feature details

Support for checkboxes allows you to train a form processing model to recognize checkboxes in documents. The AI model detects whether the checkbox is selected or not,

allowing you to automatically process forms like surveys and order forms, where checkbox input has been submitted.

Extend AI Builder across Microsoft Power Platform

Overview

AI Builder is already integrated in Power Apps and Power Automate, giving makers the ability to create AI models and infuse them into their apps and flows. We're focusing on improving the ability to integrate AI models into Power Automate and Microsoft Teams with new templates and easy to leverage authoring examples for makers.

AI Builder features in Microsoft Teams

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Business value

Bring the efficiency and simplicity of AI Builder into Microsoft Teams.

Feature details

AI Builder functionalities are available in Microsoft Teams. This allows users to easily create flows leveraging AI Builder actions directly from Microsoft Teams. A simplified creation and trial experience has been put together to minimize friction and allows users to build out hyperautomation scenarios from Microsoft Teams.

New AI Builder templates

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	-	Oct 2021

Business value

Discover more use cases where you can leverage AI Builder and Microsoft Teams.

Feature details

To help you learn how AI Builder can accelerate your digital transformation, there are new AI Builder templates that showcase hyperautomation. In particular, we're showcasing templates in Microsoft Teams, allowing you to create simplified flows by leveraging AI Builder directly within Microsoft Teams.

Targeted AI Builder templates:

- Analyzing social media posts
- Invoice processing and accounts payable processes
- Parsing documents for keywords
- Analyzing surveys and comments
- Identity document processing
- Automated order processing
- Generating leads from business cards

Governance and administration

Overview of Microsoft Power Platform governance and administration 2021 release wave 2

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 setup, 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.

What's new and planned for Microsoft Power Platform governance and administration

This topic lists features that are planned to release from October 2021 through March 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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An enhanced, unified Power Platform admin center

Enhancements to the unified admin experience for Microsoft Power Platform and Dynamics 365.

Feature	Enabled for	Public preview	General availability
Assign storage capacity to specific environments	Admins, makers, marketers, or analysts, automatically	Nov 2021	
Granular admin privilege management	Admins, makers, marketers, or analysts, automatically	Mar 2022	

Feature	Enabled for	Public preview	General availability
Intuitive, modern UI experiences for user, teams, and role management	Admins, makers, marketers, or analysts, automatically	Mar 2022	

Automation and tooling for administrators

Rich tooling experiences are available for administrators and IT professionals managing Microsoft Power Platform.

Feature	Enabled for	Public preview	General availability
Unified Microsoft Power Platform API	Admins, makers, marketers, or analysts, automatically	Jun 2021	Oct 2021
Project Operations based trials (with ERP) in the Power Platform admin center	Admins, makers, marketers, or analysts, automatically	Jun 2021	Oct 2021
Modernized user interface for advanced settings	Admins, makers, marketers, or analysts, automatically	Aug 2021	Oct 2021

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An enhanced, unified Power Platform admin center

Overview

The unification of the Power Platform admin center continues towards delivering a single admin experience, not only for Microsoft Power Platform, but also for Dynamics 365. The

admin center is offering a unified experience to manage environments, deployments, users, capacity, and usage. Powerful analytics empowers admins to gain visibility into creation and usage and to investigate and diagnose issues with their deployments. The integrated help and support experience is enhanced with live chat and virtual agent experiences, which optimizes the self-service experience and reduces the time spent contacting Microsoft Support.

Assign storage capacity to specific environments

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Nov 2021	-

Business value

Provide customers the ability to manage storage at a granular level to give customers more control of their storage resources.

Feature details

We'll provide the ability to assign capacity from the tenant pool to different environments and provide customers the ability to manage these pools at a more granular level than what is being offered today. This will allow customers to have a greater degree of control of the storage resources for their respective tenants.

Granular admin privilege management

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

Business value

Empower organizations to define a variety of security roles at the tenant and environment levels, supporting the ability to assign different fine grained admin privileges.

Feature details

Currently, Microsoft Power Platform supports centralized admin roles at the tenant and environment levels. In large enterprises where an admin team is comprised of specialized roles, there's a need to enable fine grained custom admin role definition at the tenant and environment levels, allowing different admin personas to perform distinct privileged operations in the enterprise.

With this feature, admin roles can be managed in a decentralized manner, attributing different admin privileges to different security roles/personas. For example, dedicated roles

can be defined to enable security admins to manage data loss prevention policies, business owners to view analytics reports, and operations admins to perform environment lifecycle actions.

Intuitive, modern UI experiences for user, teams, and role management

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

Business value

Modern, intuitive portal experiences will be available in the Power Platform admin center replacing the legacy web client UI. Not only does this feature ensure a consistent user experience for the administrator, but it also streamlines the navigation patterns, allowing for better discovery and faster job completion.

Feature details

Enable admins to leverage a modern, intuitive UI experience within the Power Platform admin center instead of the legacy web client UI for user, group teams, and role management. This will enable admins to seamlessly manage users and permissions by leveraging the modern admin center interface without going back and forth between the modern and legacy Dynamics 365 UI.

Admins will be able to use the modern UI to perform tasks like edit user details, create or edit security roles, and add/remove users to/from security roles. Admins will also be able to manage all aspects of Microsoft Dataverse for Teams from the modern UI as a means to leverage Microsoft Azure Active Directory groups to manage security role assignment in Microsoft Power Platform environments.

Automation and tooling for administrators

Overview

Rich tooling experiences like PowerShell cmdlets are available for administrators and IT professionals to provide additional management capabilities for use outside the out-of-the-box portal experiences. A unified API surface for administrating all services across Microsoft Power Platform will help optimize a fully automatable management experience.

Unified Microsoft Power Platform API

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2021	Oct 2021

Business value

The Microsoft Power Platform API will provide customers with a single unified API for all admin management scenarios across environments, tenant settings, capacity, licensing, and resources.

Feature details

Today, customers have a myriad of programmability options from PowerShell to Management Connectors to REST APIs. The REST APIs are disparate across different endpoints depending on the resource in question, and they provide a challenging experience. It also delays documentation and reduces parity between PowerShell and the APIs.

Unification of the various APIs into a single Microsoft Power Platform API will be done in phases. First, we'll start by enabling tenant settings, capacity, and licensing APIs on a single endpoint. Then, we'll enable environment management capabilities like environment creation, adding Microsoft Dataverse to an existing environment, backup, copy, restore, and so forth. Next, we'll start to enable the endpoints for various resources that an environment can contain like Power Apps, Power Automate flows, Power Virtual Agents, and more.

Most notably, this will have no impact to the Dataverse APIs which remain separate. This Microsoft Power Platform API will be a unified API surface for all other admin management actions.

Project Operations based trials (with ERP) in the Power Platform admin center

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Jun 2021	Oct 2021

Business value

Today, customers who want to do a trial of Project Operations apps need to do so in either the Lifecycle Services (LCS) portal when enterprise resource planning (ERP) functionality is required or the Power Platform admin center when CRM functionality is required. In some cases, customers need to use both admin portals to manage their trial. This is very time consuming and has a disconnected experience. The new single admin portal approach resolves these issues.

Feature details

Project Operations, inclusive of scenarios that require the deployment of Dynamics 365 Finance and Operations apps, will now be fully managed in the Power Platform admin center. Historically, Finance and Operations apps have only been deployable through the Lifecycle Services (LCS) admin portal. This has now been reimaged to better align with the rest of

the Dynamics 365 apps, and now Finance and Operations will appear as another app installed on top of Microsoft Dataverse.

Behind the scenes, all of the infrastructure and databases that today's Finance and Operations customers are used to provisioning will still get deployed, but those technical details will be hidden away in the Power Platform admin center. New customers with a trial of the Project Operations suite will get a Microsoft Dataverse and an X++ ERP runtime simultaneously.

For trial scenarios, this now means that customers who need ERP and CRM combined functionality can get a single environment that contains the full stack of capabilities, and it'll all be in a single admin center experience.

Modernized user interface for advanced settings

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Aug 2021	Oct 2021

Business value

This feature provides a modern user experience when configuring advanced settings using the web client.

Feature details

As part of the web client removal, when you access the advanced settings from the web client, you'll be redirected to the modern user interface when it's available.

ISV experiences

Overview of Microsoft Power Platform ISV experiences 2021 release wave 2

Microsoft Power Platform enables ISVs to build deep vertical and horizontal business applications leveraging a range of Microsoft Power Platform capabilities. ISV apps can easily be extended across the full stack either through Azure services or custom code, which enables creating unique user experiences. Improvements in this area includes additional enhancements to the ISV Studio and additional application management capabilities.

What's new and planned for Microsoft Power Platform ISV experiences

This topic lists features that are planned to release from October 2021 through March 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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Microsoft Power Platform ISV experiences

ISV experiences is focusing on optimizing how ISVs building on Microsoft Power Platform can better scale.

Feature	Enabled for	Public preview	General availability
Application usage by tenant in ISV Studio	Admins, makers, marketers, or analysts, automatically	Feb 2022	-
Auto update for ISV applications	Users by admins, makers, or analysts	Feb 2022	-
Maintenance window management	Admins, makers, marketers, or analysts, automatically	Oct 2021	Oct 2021

Feature	Enabled for	Public preview	General availability
ISV app license management	Users by admins, makers, or analysts	Sep 2021	Oct 2021
Build Tools and GitHub actions support for certification submission and AppSource publishing	Admins, makers, marketers, or analysts, automatically	Nov 2021	Nov 2021

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Microsoft Power Platform ISV experiences

Overview

In 2021 release wave 2, we're focusing on auto updates, simplified publishing experience, simpler packaging, and auto re-certifications.

Application usage by tenant in ISV Studio

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

Business value

This feature is a top demand from ISVs and increases NSAT towards ISV Studio and ISV Connect Program.

Feature details

With the addition of tenant level application usage in ISV Studio, ISVs can now better understand how their applications are used and focus on features and capabilities that have more impact on end customers. An ISV can help customers understand under used features to make sure that their customers make the most out of the application they have purchased.

Auto update for ISV applications

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

Business value

This feature increases benefits and incentives in ISV Connect Program and increases NSAT for enrolled ISVs.

Feature details

With this new capability, administrators can decide which ISV applications can be updated automatically. This is an opt-in feature, which includes an option to automatically update sandbox or test environments before enabling this feature in production environments.

Maintenance window management

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Oct 2021	Oct 2021

Business value

This feature enables risk mitigation and reduction in business disruption from updates delivered during critical business hours.

Feature details

While we work hard to ensure there is no downtime or performance degradation from the way updates are delivered today, there is always a chance something can go wrong. In the interest of customer focus, we'd like to enable customers to choose their maintenance window for an organization for certain types of updates to ensure they happen at the least disruptive timeframe of a day.

ISV app license management

Enabled for	Public preview	General availability
Users by admins, makers, or analysts	Sep 2021	Oct 2021

Business value

This new capability enables ISVs to more easily monetize their Microsoft Power Platform investment while, at the same time, making it easier for customers to manage their purchased ISV licenses.

Feature details

This new capability will enable ISVs to better manage the licensing of applications they build on top of Microsoft Dynamics 365 Customer Engagement Apps and Microsoft Power Platform.

It allows ISVs to:

- Define licenses that provide access to specific features of their applications and have Microsoft Power Platform enforce those licenses at runtime.
- Enable their customers to manage licensing for ISV applications alongside Microsoft first-party products in the Microsoft 365 admin center.
- Gain visibility into license assignment and usage.

Build Tools and GitHub actions support for certification submission and AppSource publishing

Enabled for	Public preview	General availability
Admins, makers, marketers, or analysts, automatically	Nov 2021	Nov 2021

Business value

With the new tasks added to Microsoft Power Platform Build Tools and GitHub Actions, ISVs will be able to automatically push new releases to Partner Center for re-certification.

Feature details

For an ISV who invests significantly to automate their build pipelines, they would like to have the ability to use their existing CI/CD pipeline to submit changes and their builds directly into Partner Center for certifying or recertifying their application. This new capability coupled with the planned feature for auto-updates, ISVs can now implement true CI/CD all the way from application development to customer updates.

Data integration

Overview of data integration 2021 release wave 2

The data integration team's vision is to democratize data for business users so it's seamless to extract, transform, and load data into Microsoft Dataverse and Azure Data Lake Storage from any data source and to allow other Microsoft products to leverage this data.

We are investing in a few key pillars:

- Microsoft Power Platform dataflows. Power Query is the industry leading smart data prep tool and evolves by infusing AI/ML into data transformations and by extending dataflows to all of Microsoft Power Platform. In 2021 release wave 1, we're enabling the dataflows experience in Dataverse in Teams so that customers can easily populate data and build better applications.
- Enhance data integration by enabling analytics on Dataverse data through Export to Data Lake in Common Data Model form, new and enhanced connectors, and improvements in the connectivity platform. Other enhancements include Office data integration to enable new insights, extending dual-write for more entities, improving Data Export Service, and enhancing Gateway for enterprises and Robotics Process Automation (RPA).
- End-to-end diagnostics so that customers can better diagnose and fix issues in queries or Gateway.
- Common Data Model establishes industry-wide structure and semantics of underlying data so that customers can then reason about that data through various business application solutions, analytics, and machine learning (ML) algorithms.

What's new and planned for data integration

This topic lists features that are planned to release from October 2021 through March 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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Microsoft Power Platform dataflows

Microsoft Power Platform dataflows provide a no-code experience based on Power Query Online for non-technical users.

Feature	Enabled for	Public preview	General availability
Export output data to multiple formats and destinations	Admins, makers, marketers, or analysts, automatically	Mar 2022	-
Improved refresh history and diagnostics for dataflows	Admins, makers, marketers, or analysts, automatically	Mar 2022	

Power Query Online

Power Query is the data connectivity and data preparation experience for users across a wide variety of Microsoft products and services.

Feature	Enabled for	Public preview	General availability
Support for multi-value parameters	Admins, makers, marketers, or analysts, automatically	Mar 2022	
Visual data prep with multiple outputs for transforms	Admins, makers, marketers, or analysts, automatically	Mar 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](#).

Microsoft Power Platform dataflows

Overview

Microsoft Power Platform dataflows provide a no-code experience based on Power Query Online for non-technical users to connect, transform, and enrich data from a wide variety of data sources into Microsoft Dataverse and Azure Data Lake Storage in Common Data Model format.

Dataflows provide the building blocks that allow Microsoft to enable out-of-box analytics and AI insights, such as the analytics and insights provided by AI Builder or Dynamics 365 Customer Insights, making them a huge differentiator for Dynamics 365 offerings.

Export output data to multiple formats and destinations

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

Feature details

Today, we provide the ability for citizen data analysts to push prepared data to Microsoft Dataverse or Azure Data Lake Storage. This feature will let customers export the prepared output data from their queries and dataflows into multiple formats (for example, Excel and CSV) and destinations beyond Microsoft Dataverse and Azure Data Lake Storage so that they can be easily consumed to make business decisions.

Improved refresh history and diagnostics for dataflows

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

Feature details

We're improving inline refresh history and error messaging with enhanced diagnostics so users can easily analyze and troubleshoot dataflows.

Power Query Online

Overview

Power Query is the data connectivity and data preparation experience for users across a wide variety of Microsoft products and services, including Power BI, Excel, Dynamics 365 Customer Insights, and several more. For more information, go to [Power Query](#).

Support for multi-value parameters

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

Feature details

Query parameters allow Power Query users to easily parameterize parts of their queries like filter values and easily update those parameter values in a centralized way (for example, when used across multiple queries).

Query parameters provide capabilities to restrict allowed parameter values that can be picked from a list of values, either static or dynamic (for instance, the result of another query); however, a current limitation is that users can only pick a single value (for example, *shoes*) for the parameter. An area of recurring customer feedback is the need to support the selection of more than one value. For example, a **Product Category** parameter could have *Shoes*, *Shirts*, and *Accessories* as allowed values. This improvement would allow selecting both *Shoes* and *Shirts* through the Query Parameters UX and downstream binding of those parameters (for example, "Column1 in/not-in ProductCategory" instead of the current "Column1 = ProductCategory").

Visual data prep with multiple outputs for transforms

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

Feature details

When customers apply a filter today, there's only a single output that filters the data based on the condition that was applied. For example, if the filter applied was **ProductCategory = Shoes**, the remaining data is filtered. If customers want to use the inverse of the filter, which includes data from the other product categories, it can be time consuming to create another query with the same steps and a filter with **ProductCategory <> Shoes**. By providing multiple output row-sets for transforms, such as **Filter**, customers will be able to get both:

- A query where the filter was applied, and
- A query with the remaining data or where the inverse of the filter was applied.

Likewise, this feature will provide an easy option for users to consume the "rows that weren't matched" in the **Merge** operation.

Got feedback?

Share your feedback on a community forum for [Dynamics 365](#) or [Power Platform](#). We'll use your feedback to make improvements. To find out about updates to these release notes, follow us on Twitter [@MSFTDynamics365](#).

