

Importante!

- ❖ Material elaborado pelo time de especialistas em Power Platform da Microsoft Brasil para ser utilizado em **demonstrações online para seus clientes**.
- ❖ O uso deste material é permitido **apenas para clientes** Microsoft que participaram da sua apresentação em ambiente online e para **fins de referência e/ou autoestudo**.
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- ❖ Este material utilizou como referência as funcionalidades da **Power Platform** disponíveis conforme a **documentação oficial** e previstas para lançamento em seu **guias de lançamento** na data de sua elaboração (ver slide de abertura). Como o conteúdo destas fontes é dinâmico, sempre consulta-las em caso de dúvidas.

Em caso de dúvidas ou questões acesse nosso site (Power Platform Connect)
<https://microsoft.github.io/powerplatformconnect/>

Governança e ALM na Power Platform

V2.0 from Feb 28, 2024

Agenda

Innovation challenges for IT teams

Establishing a low-code Center of Excellence (CoE)

Power Platform governance pillars

- Security
- Management
- Monitoring

CoE Starter Kit Overview

ALM with Power Platform

- Core concepts
- Tools for admins, makers and pro-devs

Next steps



Innovation challenges for IT teams

Surging digital demand



750M

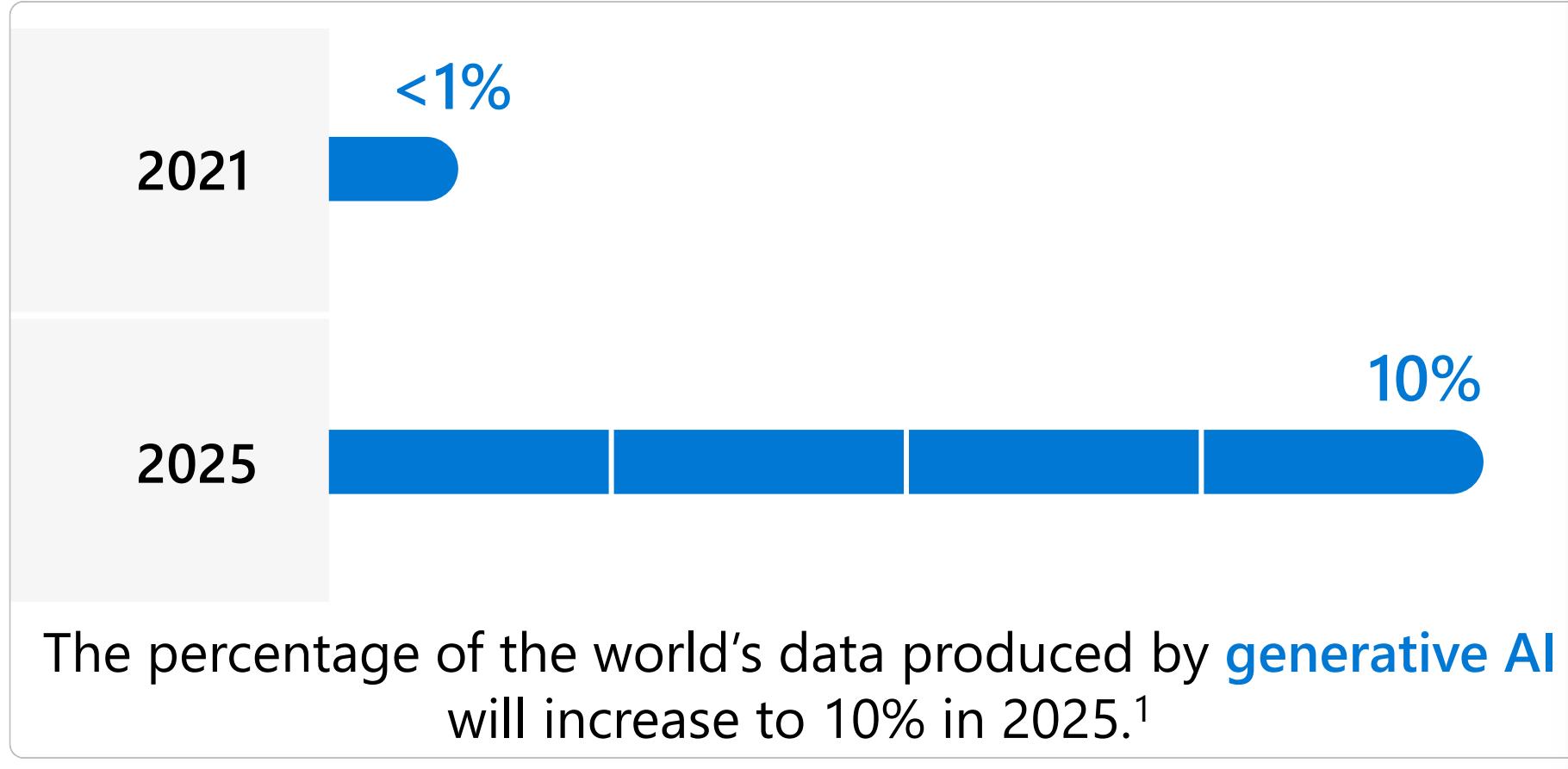
**new apps need to be built
by 2025**



50%

**of digital work can be
automated with current tech**

The union of low code and AI is a game changer



65% +
More than
65% of app
development
will be
low-code by
2024.²

1. Source: Gartner® Press Release ,Gartner Identifies the Top Strategic Technology Trends for 2022, October 18, 2021. GARTNER is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.

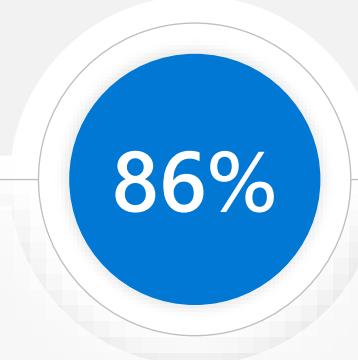
2. Source: Gartner 2019 Magic Quadrant for Enterprise Low Code Application Platforms

Not enough developers



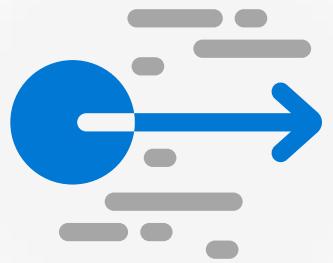
4M

developer shortfall



86%

of companies struggle to hire
tech talent



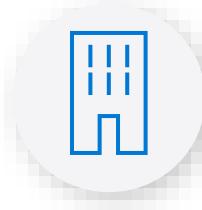
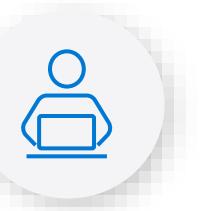
**Accelerate developers and
empower new makers**

IT must adapt to the growing number of non-technical developers

The growing number of developers creates a new norm



Shadow IT becomes Citizen IT



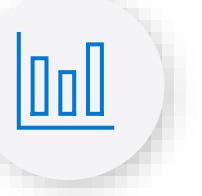
Securing your perimeter means securing your people



More Data Sharing Requires Stronger DLP



Better Visibility and custom configurations



Do any of these challenges sound familiar to you?



Business data security concerns
regarding connectors



Security risks regarding "shadow
IT"



Staff turnover challenges
regarding app or flow
ownership



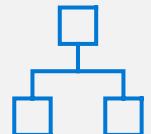
Environment health regarding
trial setup



Compliancy issues regarding
GDPR



Information risk management



Maintenance challenges
regarding app and flow
distribution

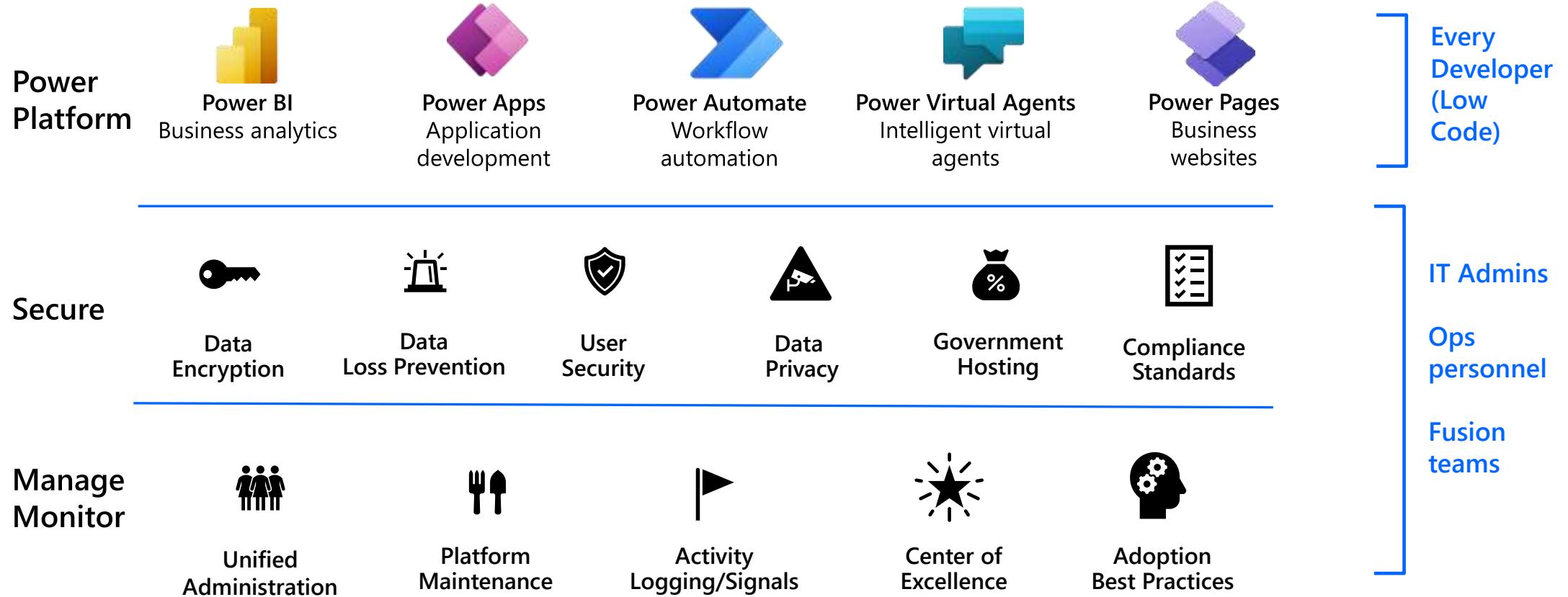


ALM support regarding apps
being created/deployed



Governance is **key** to an enterprise scale low-code

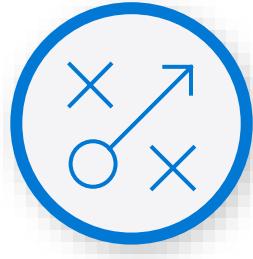
How to apply governance controls without hinder innovation?



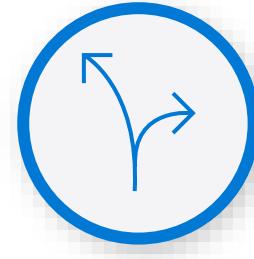
Power platform empowers IT admins with governance capabilities



Makes governance a mandate



Helps Develop & Implement a Strategy



Allows flexibility when needed

Empowering admins with full visibility and the tools needed to **balance business productivity with governance**

Power Platform governance pillars

Security, management and administration built with IT Leaders in mind



Secure

Data security, data integrity, compliance standards, environment differentiation, highly secure environments for government



Manage

Environment management and administration, manage Apps, Flows, Portals; Database management and integration.



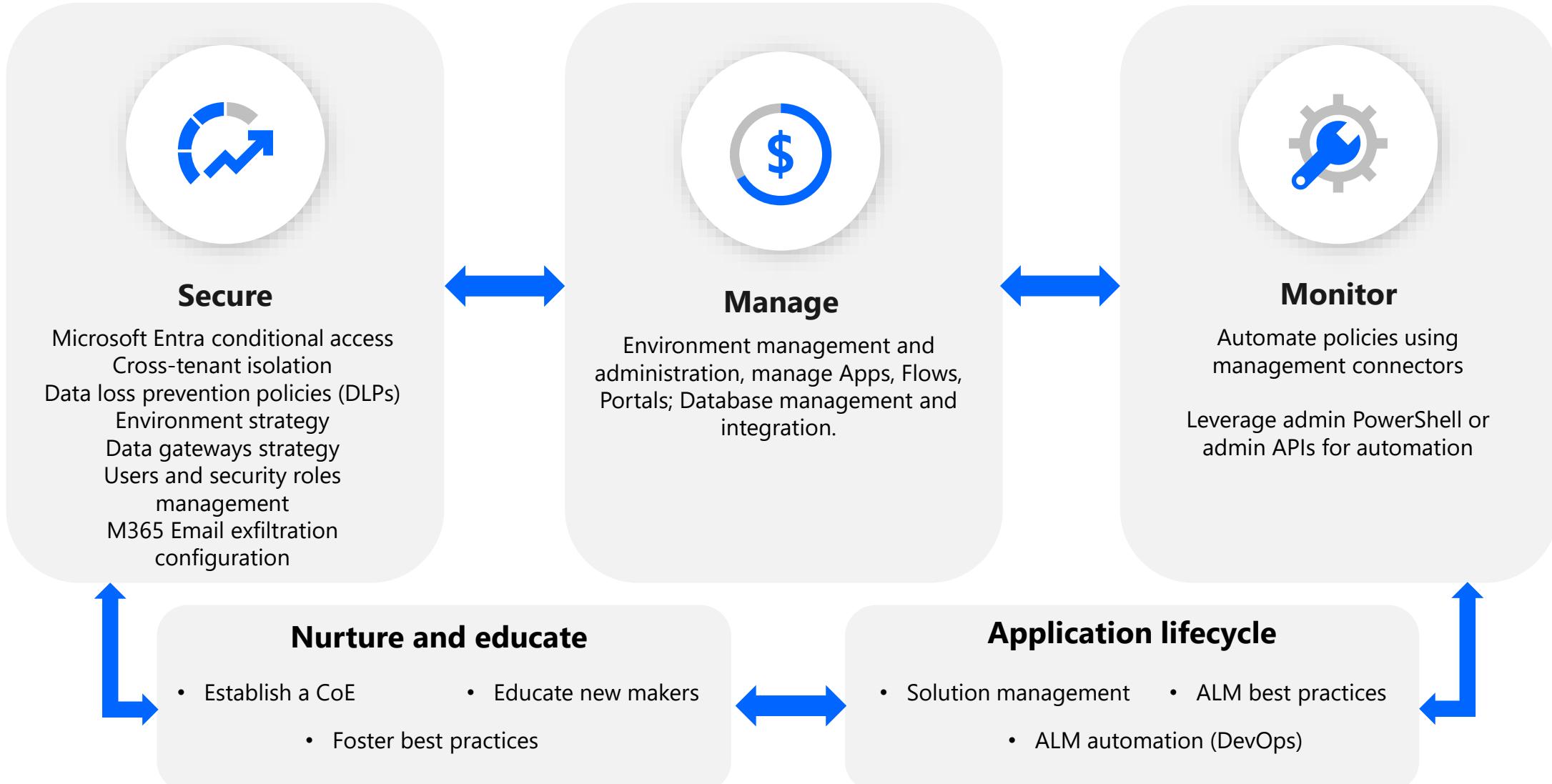
Monitor

Activity logging and oversight of standards, admin analytics, proactive monitoring, scaling growth through CoE, adoption best practices

Power Platform provides a low-code approach to rapidly build apps, flows and bots for any device, while seamlessly **allowing for security, management and monitoring with ease**.

Power Platform governance pillars (applied)

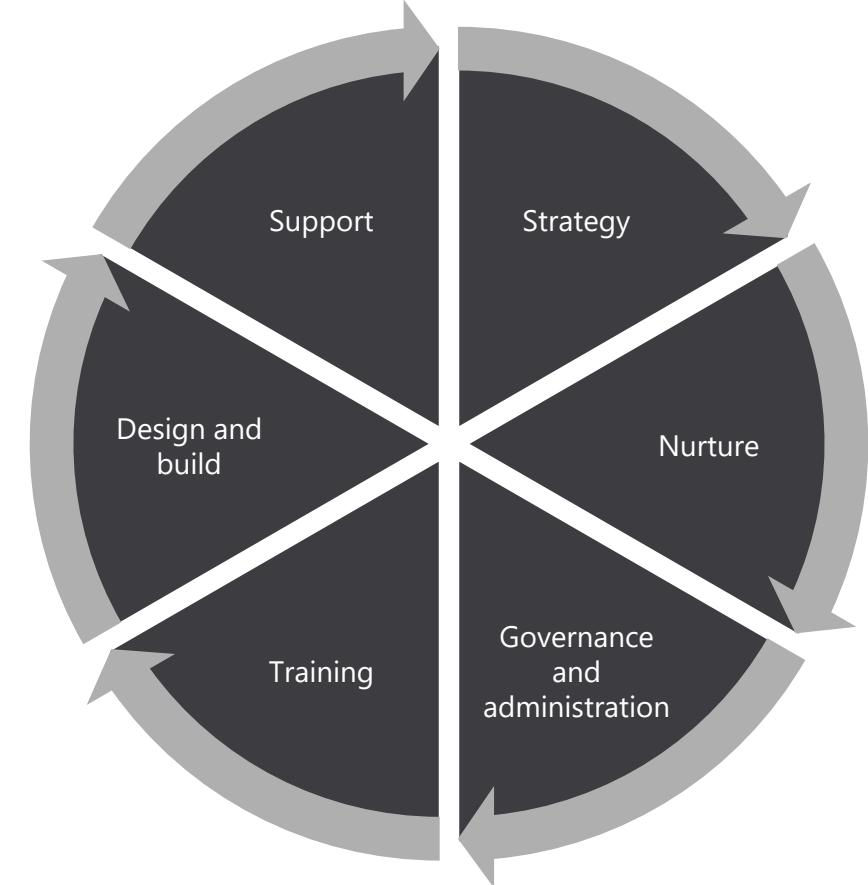
Security, management and administration built with IT Leaders in mind



Establishing a low-code Center of Excellence (CoE)

What is a Center of Excellence?

- A team, shared facility or entity that provides **leadership, best practices, research, support** and/or **training** for a focus area
- It is a **coordinating function** that often sits **between IT and business groups**.
- Helps form a **strategy** for **adopting & supporting** low-code.
- Establishes the **guard-rails, best practices & standard** to be followed.
- Designed to **drive innovation** and **improvement** with **longevity**.
- Ensures **consistency** & defines **standards** to be followed.



The benefits of a Center of Excellence

Create value and foster innovation faster through:



Community

Promote Awareness, self service, use cases, & business outcomes



Governance

Environments, Master Data, Security, DLP, Architecture



Self Service

Training, resources, best practices, reusable components



Empowerment

On Demand UX, Dev, Support, Solution Architecture

Establishing a Center of Excellence

- A key principle is to **clarify** why you're setting up a CoE, what **it aims** to **accomplish** and the **key business outcomes** you hope to achieve.
- Designed to drive innovation and improvement, as a central function it can break down **geographic and organisational silos** – a powerful way for organisations to align around business goals rather than individual department metrics.



Center of Excellence members



Power Apps and flow Makers

Anyone, creating an app or a flow for personal productivity, increasing department efficiency or creating apps and flows that are shared across organization and/or externals.



Application Lifecycle Management & DevOps users

Employees taking care of those apps and flows seen as business critical, setting up and supporting environments for development and testing purposes. Offering surrounding platform services for agile software development across organization



IT-Department / Data Protection Officer

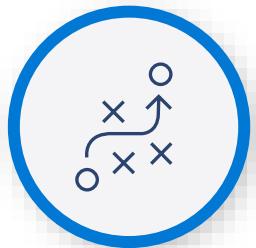
Members of all departments related to a cloud platform service to operate, maintain and secure all platform related services + surrounding areas. Responsible for operation wide data security and data loss prevention



Support & Training Engineers

Help maintain app support across organization for business critical (line-of-business) apps. Support nurturing a low-code platform by ensuring readiness and community wide shared skills inside an organization

Center of Excellence roles and responsibilities



Low Code Strategy

Align Power Platform strategy with Digital Transformation strategy
Drive innovation
Key Decision makers
Business Value
Adoption and Change management
Empower new ways of working



Power Platform Admin team

Environment Strategy
DLP Policies
Data integration / migration guidelines
Guardrails
License management



Power Platform Nurture team

App-in-a-day / Hackathons
Solution envisioning
Community of Practice
Evangelize Platform



Power Platform Re-Usable Assets & Automation ...

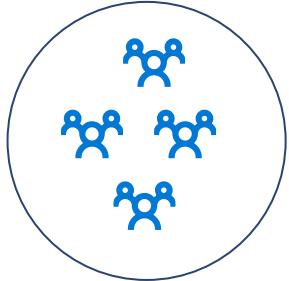
Automation / Azure DevOps
Application & Architecture review
Library of common utilities, patterns and templates
App Catalog



User support team

Help Desk guidance / FAQ
Ticketing process
Support Process & Resources

Center of Excellence delivery models

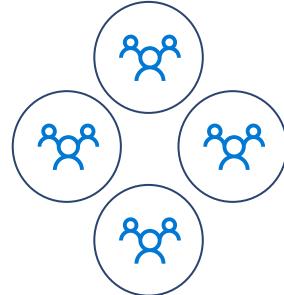


Centralized

A central team that can pick up development of apps based on organizational properties

CoE responsibilities

- Governance
- DevOps
- Change Management
- Support

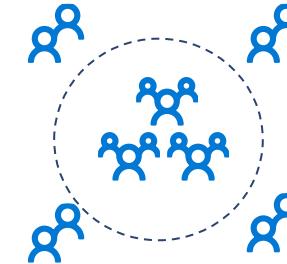


Decentralized

Multiple teams deliver apps consistently within organization guidelines

CoE responsibilities

- Governance
- DevOps
- Change Management
- Support

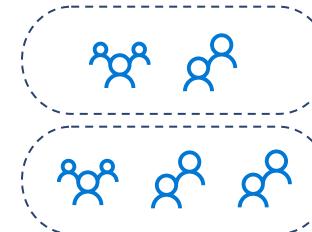


Matrix

Centralized team of specialists and low-code / business user teams

CoE responsibilities

- Governance
- DevOps
- Change Management
- Support



BizDevOps

Business teams delivers end-to-end solutions

CoE responsibilities

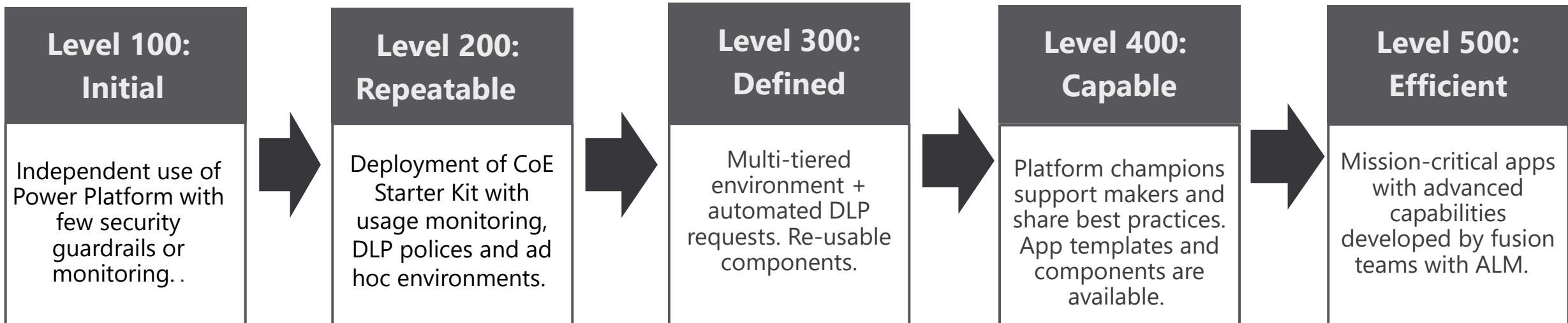
- Governance
- DevOps
- Change Management
- Support

Align your CoE to the Power Platform adoption maturity model

WHAT: The model identifies consistent themes, patterns, practices, and behaviors that underpin the progress of successful organizations as they implement Power Platform.

WHY: An effective CoE doesn't happen overnight. The model offers a practical roadmap for incremental growth and proven results.

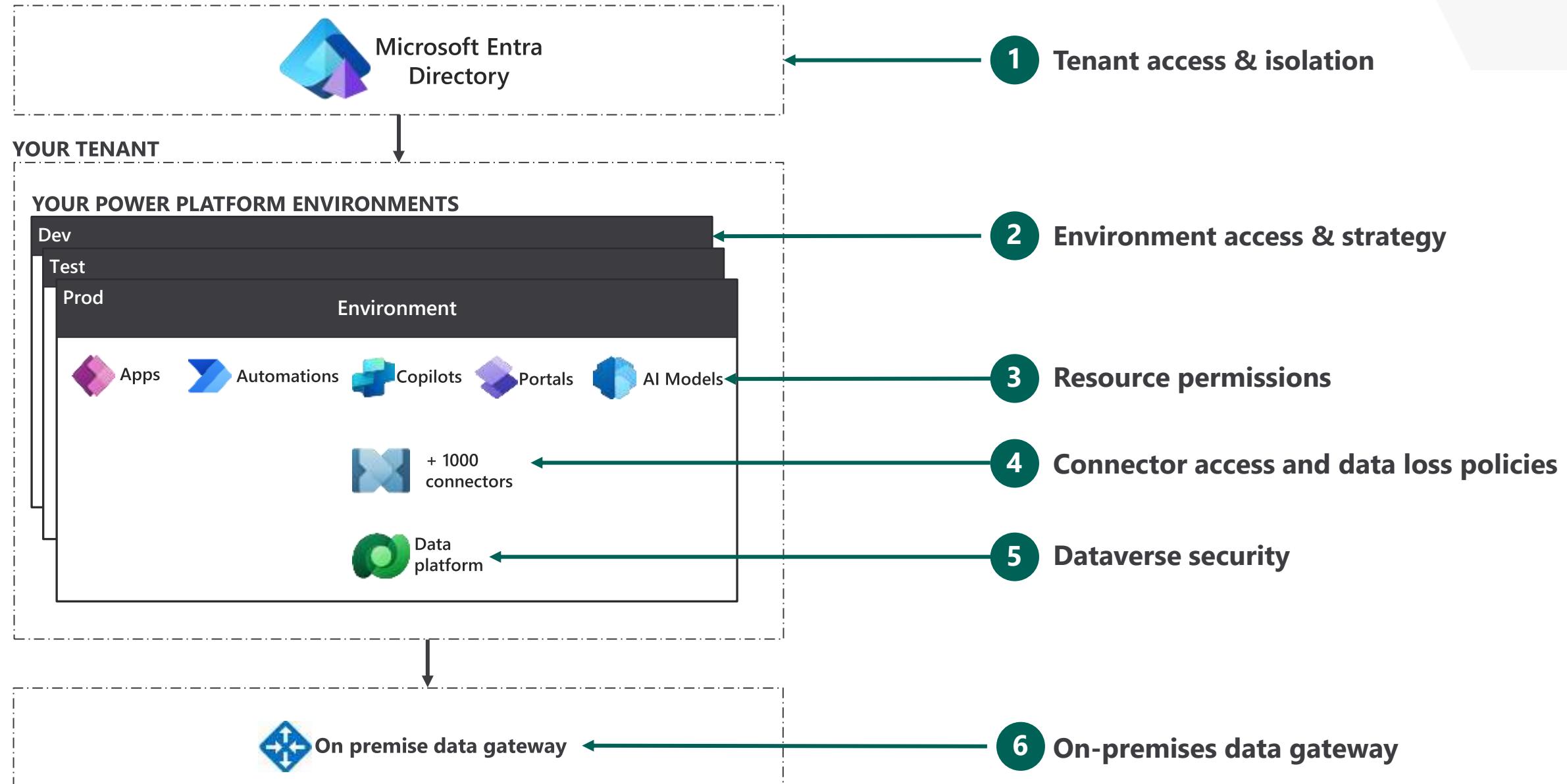
HOW: [Explore maturity model goals and opportunities](#)



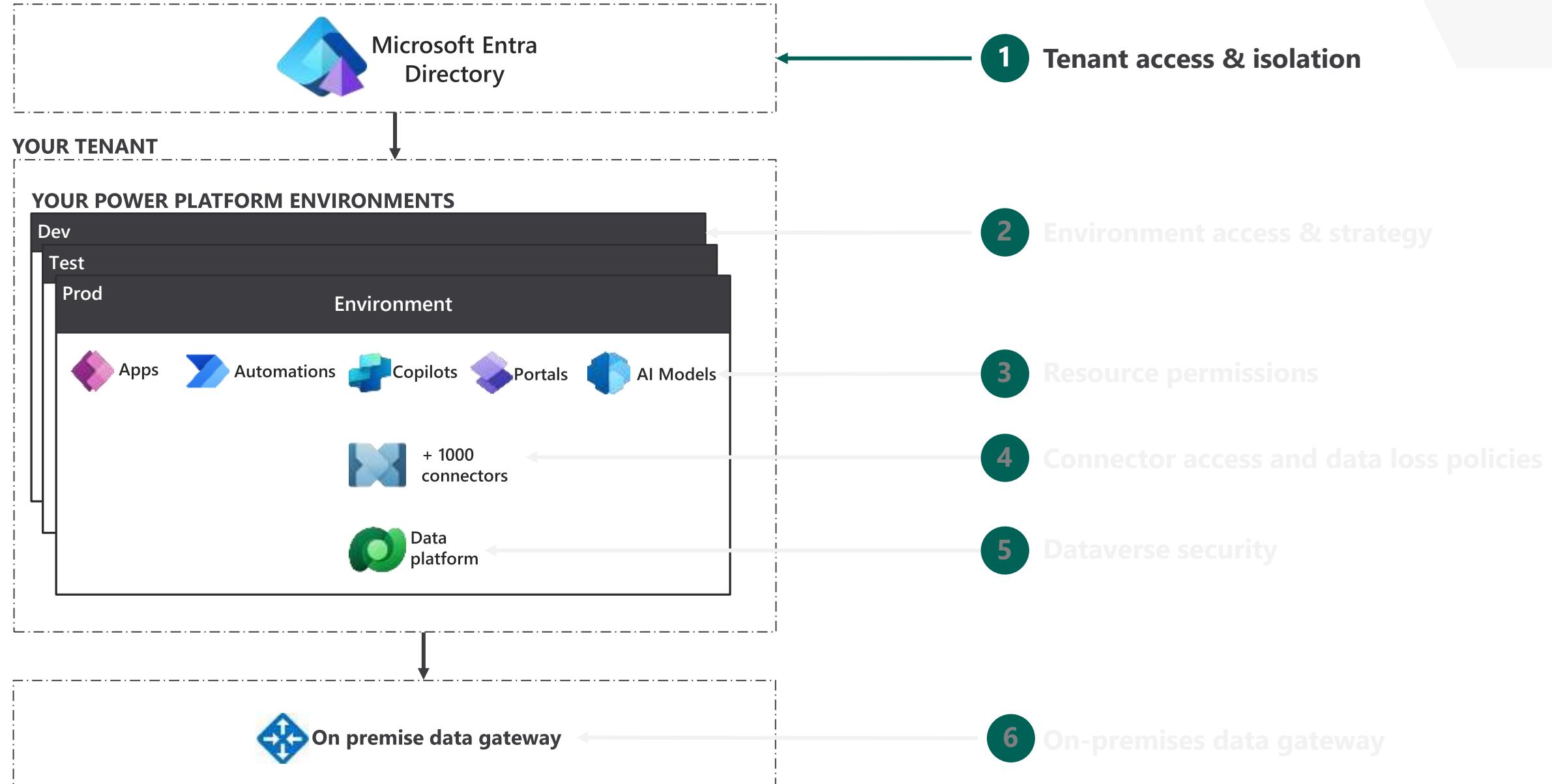
Governance pillar

Secure

Power Platform security layers



Power Platform security layers



Security layer 1: tenant access & isolation

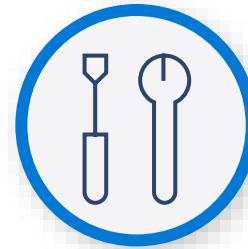
Tenant level service admin roles

M365 admin roles that can perform administrative tasks on Power Platform.



Global Administrator

Full administration to all services in tenant including Power Platform e.g. Environment, User, License and capacity, Security, Analytics, Support, Data Gateways, Data Loss Policies, Data integration.



Power Platform Administrator Dynamics 365 Administrator*

Full administration access for Power Platform e.g. Environment, User, Security, Analytics, Support, Data Gateways, Data Loss Policies, Data integration. License management needs M365 Global admin privilege.



Delegated Admin

Full administration to all services in tenant
Used for partners to provide support to customers
Full support for Power Platform

Learn more [here](#).

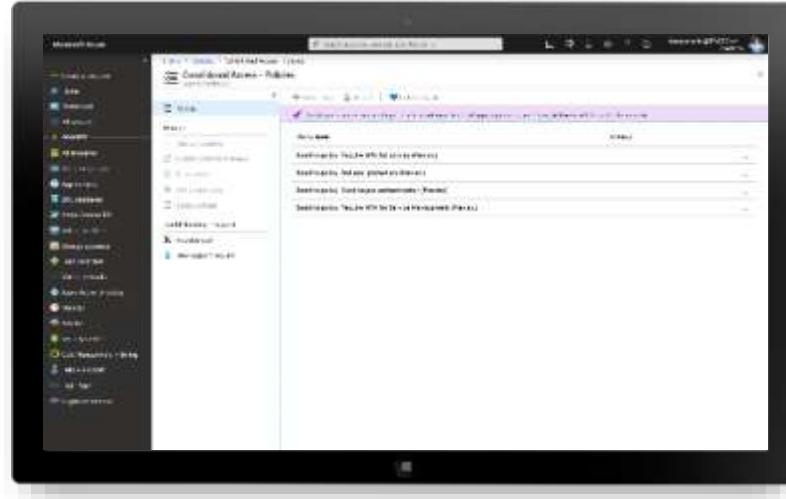
*D365 Admin access to specific environments can be annulled for Dataverse backed environments by associating an Azure AD Group to the environment and not adding the D365 Admin to the group.
© Microsoft Corporation

Security layer 1: tenant access & isolation

Identity management with Microsoft Entra

Optional features that can ease user and license management

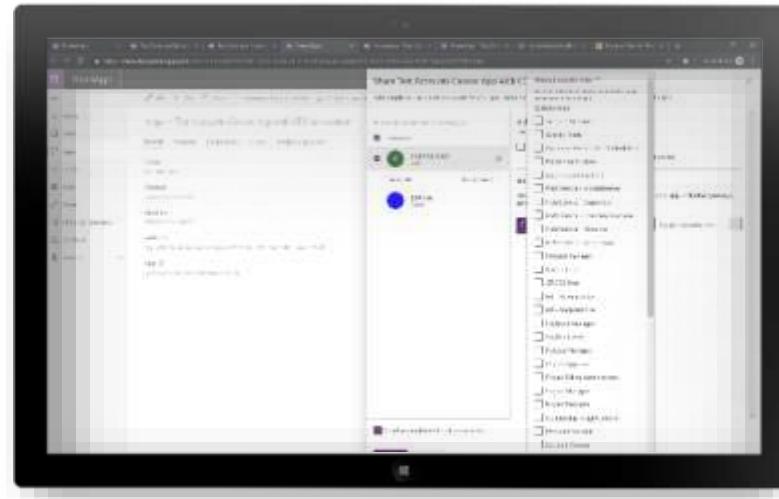
Conditional service access



Session and conditional access policies to manage timeout and access requirements. Requires Microsoft Entra Premium

Learn more [here](#).

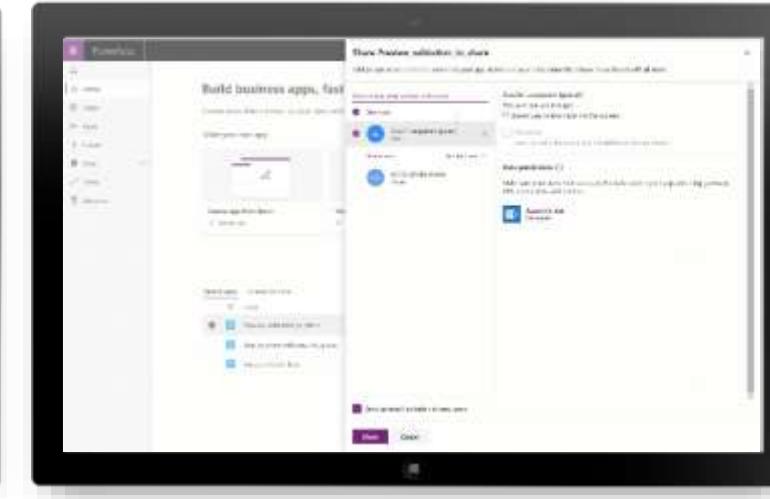
Security groups



Use security groups to manage/share apps and data access and assign licenses

Learn more [here](#).

B2B collaboration



Share apps with external users with Microsoft Entra B2B collaboration.

Learn more [here](#).

Security layer 1: tenant access & isolation

Tenant isolation

Can be used to block external tenants from establishing connections into your tenant (**inbound isolation**) as well as block your tenant from establishing connections to external tenants (**outbound isolation**).

The screenshot shows the Power Platform admin center interface. On the left, there is a navigation sidebar with the following items:

- Licenses
- Settings
- Resources
- Help + support
- Data integration
- Data (preview)
- Policies
- Data policies
- Tenant isolation** (this item is highlighted)
- Customer Lockbox
- Enterprise policies
- Billing policies
- Admin centers
- Microsoft 365 Admin

The main content area is titled "Tenant Isolation". It contains the following text:
"Tenant isolation can be used to block external tenants from establishing connections into your tenant (inbound isolation) (outbound isolation). [Learn more](#)"
Below this, there is a toggle switch labeled "Off". Underneath the switch, it says "You can add/edit up to 50 rules in the grid below when Tenant Isolation is On as well as Off. However, these rules will o". A table is shown with one row:

Allowed direction	Tenant ID
Outbound	[Placeholder]

Learn more [here](#).

Security layer 1: tenant access & isolation

Email exfiltration blocking for O365 Outlook Connector

Power Platform has the capability to insert specific SMTP headers in email messages sent through Power Automate and Power Apps and using M365 Exchange/Outlook connectors. You can use these SMTP headers to set up appropriate exfiltration rules



SMTP header "x-ms-mail-application" to identify – **Microsoft Power Automate** or **Microsoft Power Apps** – as the client



SMTP header "x-ms-mail-operation-type" to identify – **Forward**, **Reply** or **Send** – as message operation.



Exchange **mail flow rules** can be set up to filter appropriate message.

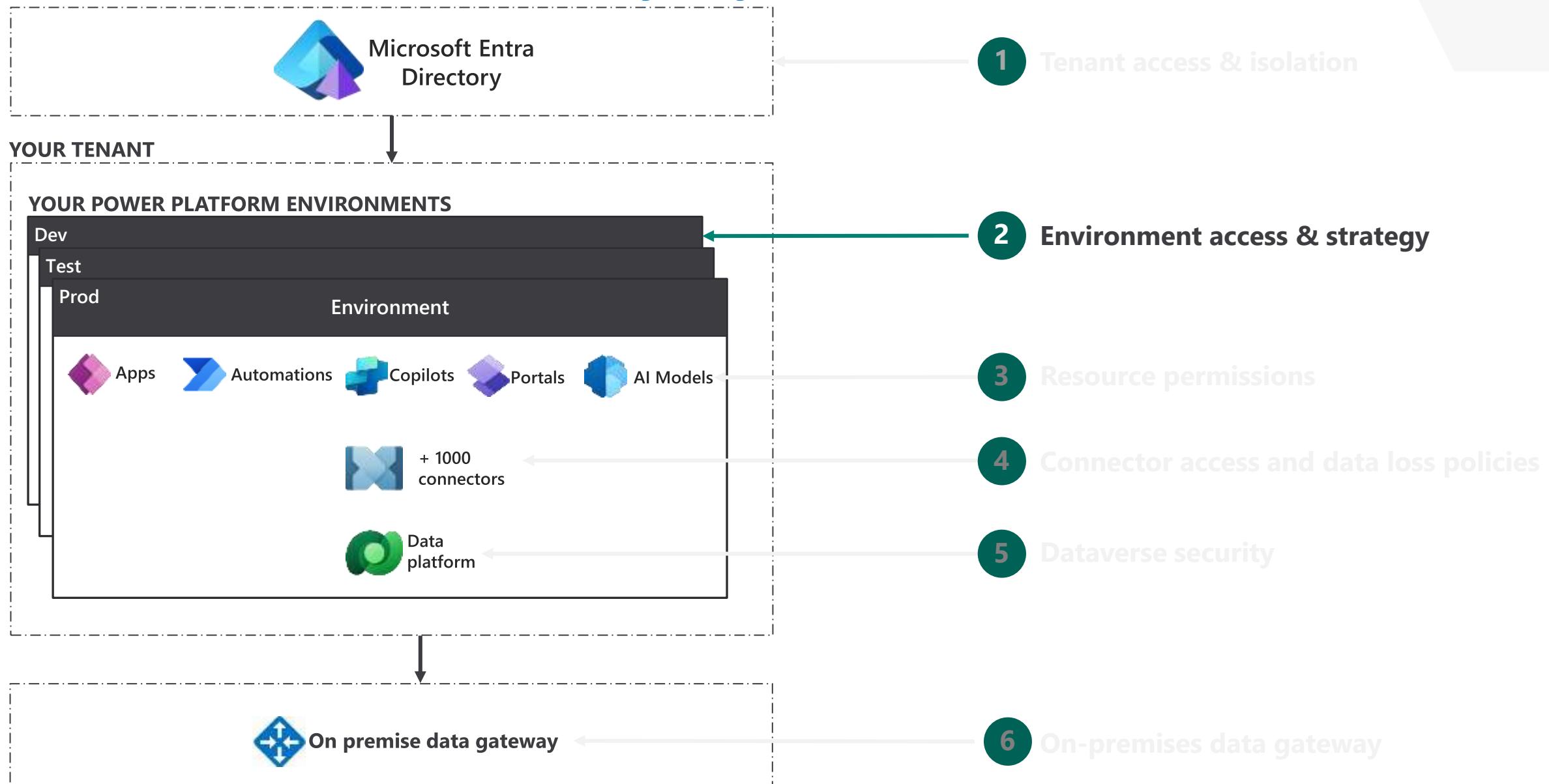


Individual apps or flows can be exempted by using **User-Agent ID** in the SMTP header

A screenshot of the Microsoft Exchange Admin Center interface. On the left, there's a navigation pane with options like 'Admin', 'Exchange admin center', 'rules' (which is selected), 'message trace', and 'accepted domains'. Below that is a list of categories: 'discovered', 'recipients', 'permissions', 'compliance management', 'organization', 'protection', 'mail flow' (which is highlighted in blue), 'mobile', 'public folders', 'unified messaging', and 'hybrid'. On the right, a modal window titled 'Exchange Rule 1' is open. It shows the rule configuration with conditions: 'The recipient is located...' and 'A message header includes...'. The action is set to 'Forward the message with the exception...'. A note at the bottom says 'Security policies don't allow forwarding emails to external address using Power Automate. Contact Exchange admin for exception.' At the bottom right of the modal are 'Save' and 'Cancel' buttons.

Learn more [here](#).

Power Platform security layers



Security layer 2: environment access & strategy

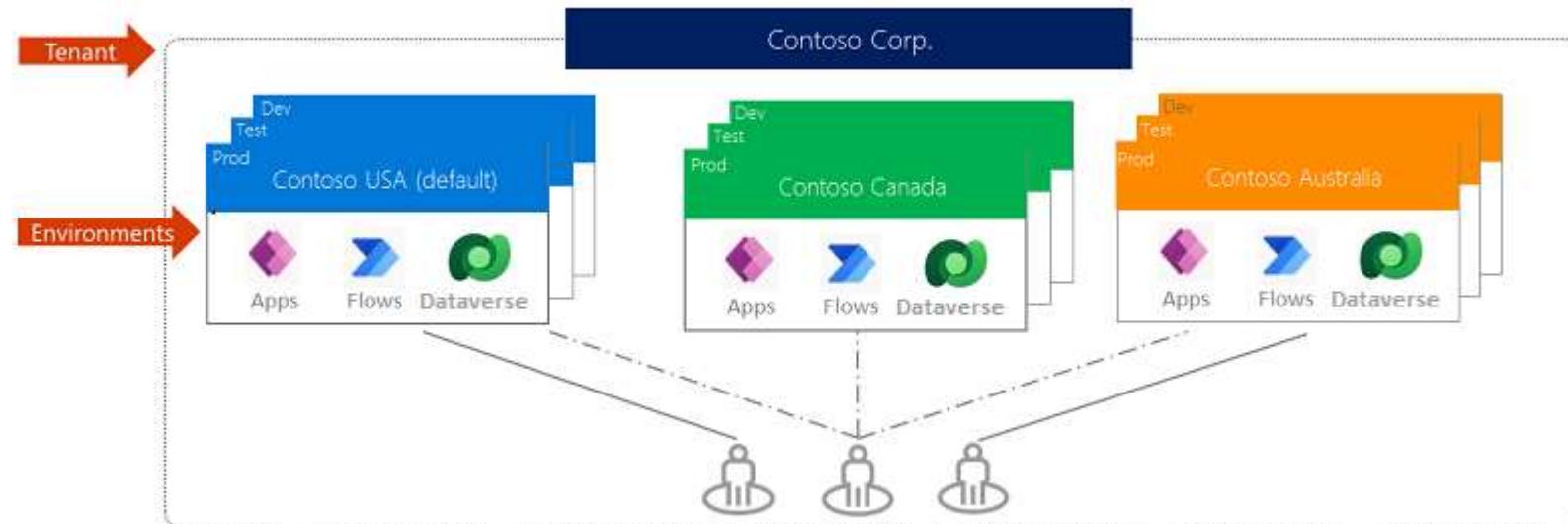
Environment overview

A space to **store**, **manage**, and **share** your organization's business data, apps, chatbots, and flows.

It also serves as a **container** to separate apps that might have **different roles**, **security** requirements, or **target** audiences.

How you choose to use environments depends on **your organization** and the apps you're trying to build.

You can also **move resources** between environments through **solutions**.



Learn more [here](#).

Security layer 2: environment access & strategy

Environment strategy

To follow **ALM principles**, are required dedicated environments for at least **development, testing** and **production**

Some organizations might also need **more environments**, for example for UAT and SIT testing

Consider separate development environments to **help isolate changes** from one work effort being checked in before it's complete

Power Platform updates are **applied by regions**, so additional consideration must be taken in **global organizations**

The level of **complexity**, how **critical** the app is, and **users impacted** by the application are all important measures of how to **provision environments** to support all the scenarios.

The environment strategy will **shape** and **direct** the **DLP strategy**

Each environment consumes **1 GB of data capacity**, so manage custom environments wisely.

Learn more [here](#).

Security layer 2: environment access & strategy

Environment types

Type	Creator	Description
Default	Auto-created	A single default environment is automatically created for each tenant and shared by all users (who are Environment Makers).
Production	Licensed user, subject to tenant level setting	This is intended to be used for permanent work in an organization. Production environments are what you should use for any environments on which you depend.
Sandbox	Licensed user, subject to tenant level setting	Sandbox environments are used for development and testing, separate from production.
Trial	Licensed user, subject to tenant level setting	Trial environments are intended to support short-term testing needs and are automatically cleaned up after a short period of time.
Developer	Licensed user	Developer environments are created by users who have the free Power Platform Developer Plan license. They're special environments intended only for use by the owner.
Dataverse for Teams	Auto-created	Dataverse for Teams environments are automatically created for a Team in Teams when you create an app in Teams using the Power Apps app for the first time or install a Power Apps app from the app catalog.
Support	Microsoft support engineer	It is an environment created in your tenant by Microsoft under your direct instructions, for purposes of preventing, detecting, or repairing problems affecting the operation of your online service.

Security layer 2: environment access & strategy

Environment creation requirements

You can create environments in the Power Platform admin center or using PowerShell

Environment can be created either with or without Dataverse database

To create an environment, all the following must be **true**:

- The user has a license that allows environment creation
- Environment creation is allowed in tenant level (if user is not Global, Power Platform or Dynamics Admin)
- For production and sandbox environments, the tenant must have at least 1GB of database storage capacity available
- For trial (subscription-based) environments, each offer-based trial (also known as "admin trial") subscription entitles the tenant to three subscription-based trial environments. Only tenant-level admins are able to provision trial (subscription-based) environments.
- For trial (standard) environments, the user needs a license providing per-user entitlement for trial environments (refer to the table above). This applies to tenant-level admins, as well.

License	Trial	Production
Microsoft 365 Plans	No	No
Dynamics 365 Teams Plans	No	No
Power Platform Developer Plan	No	No
Dynamics 365 trial	Yes (one)	No
Dynamics 365 Plans	Yes (one)	Yes
Power Apps plan	Yes (one)	Yes
Power Apps trial	Yes (one)	Yes
Power Virtual Agents trial plan	Yes	No
Power Virtual Agents plan	No	Yes

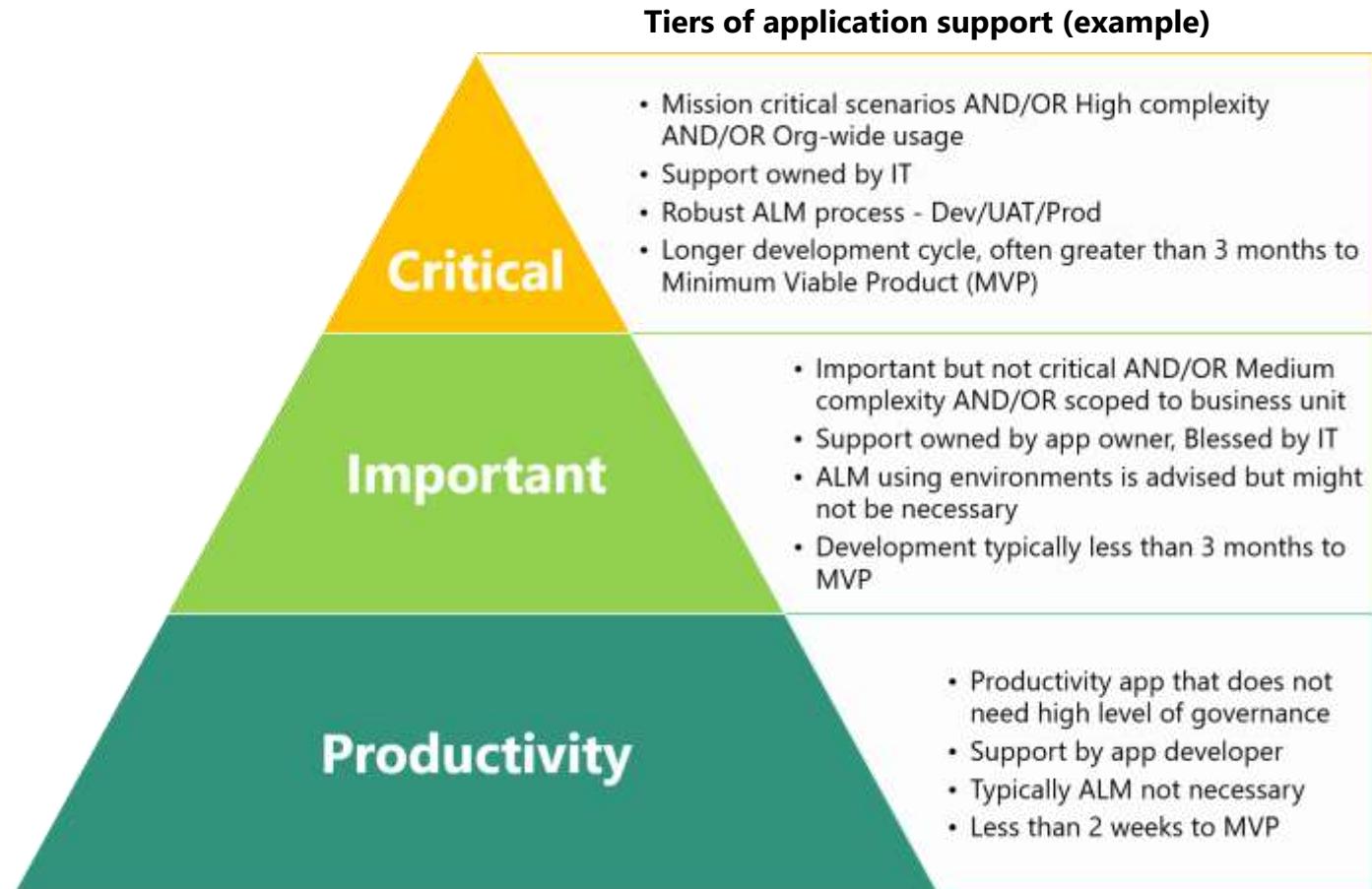
NOTE! Global and Power Platform Administrators can create environments without any license

Security layer 2: environment access & strategy

Environment strategy

Factors that influence environment strategy:

- Defined tiers of application support
- Capacity
- Admin involvement



Learn more [here](#).

Security layer 2: environment access & strategy

Environment strategy

Scenarios

Everyone is a maker. Communicate with everyone that **Default** isn't for development of critical apps

Environments



Only one user has access. **Developer** environments are completely locked for any other user except the user who subscribed to the community plan. Applications can be moved out of the environment if needed.



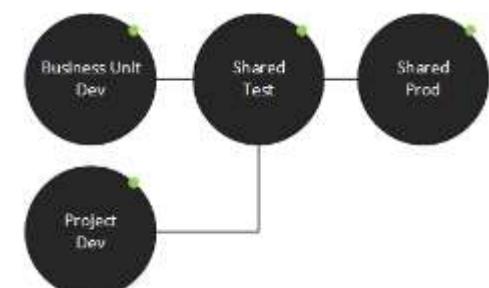
Approved users have access. **Shared** environments for user and team productivity scenarios, with an approved maker list.



Dedicated environments for critical projects and workloads. Developers have environment maker access in the development environment, but only user access in the test and production environments. End users only have end user access to the production solution so no one can modify the production applications.



Shared test and production environments for important but medium complex apps. Individual projects and business units have their own development environment to protect data, but solutions are deployed to shared test and production environments. Developers are end users in the test environment, and end users only have basic user access to solutions and data in the production environment.

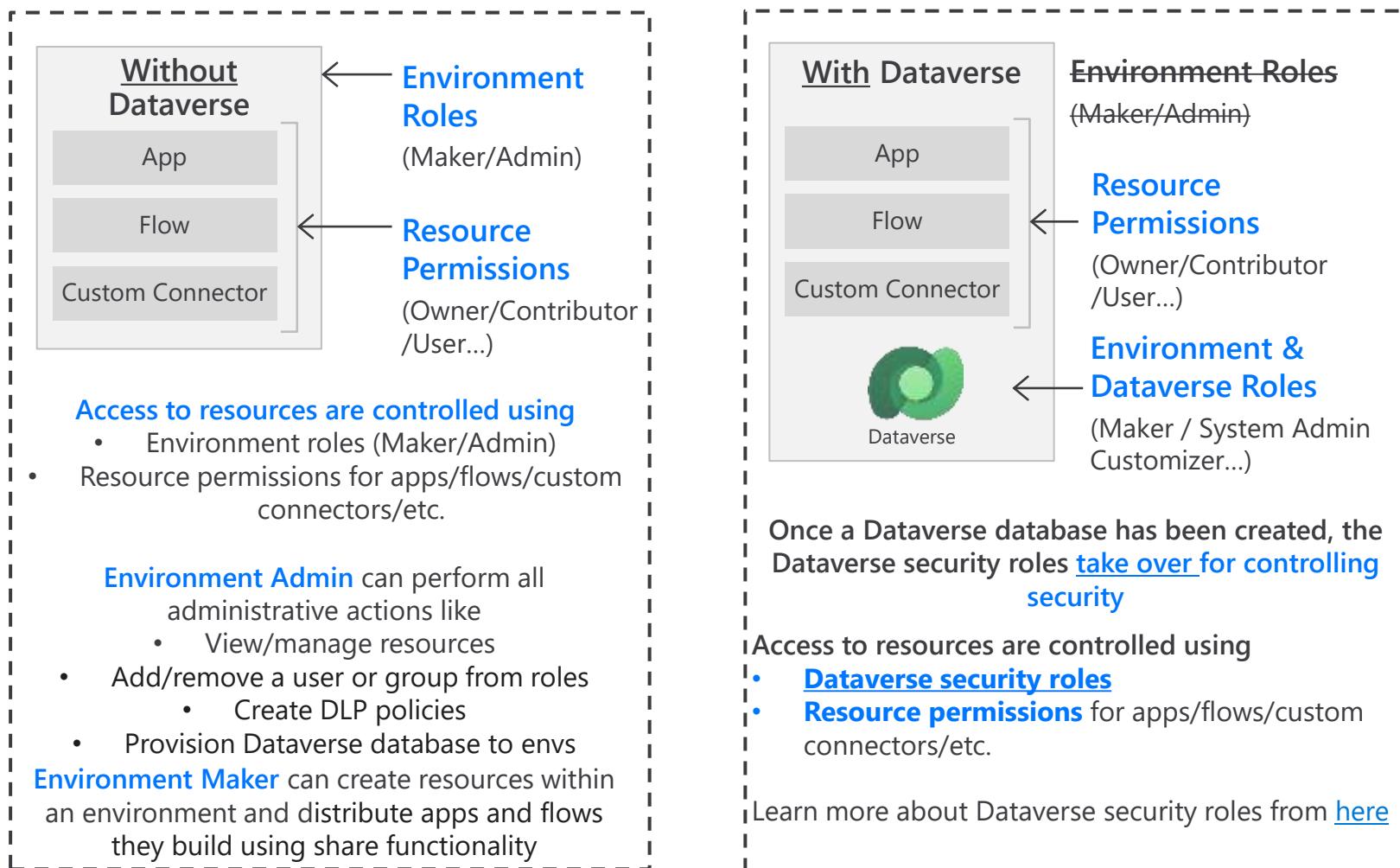


Learn more [here](#).

Security layer 2: environment access & strategy

Environment security

There are two types of environment security



Security layer 2: environment access & strategy

Environment security

Key out-of-box security roles you need to know



Environment Admin/System Administrator

- Complete ability to customize and administer the environment
- Full read-write access to data in the database
- The role cannot be modified
- Care should be taken in assigning this to the right people



System Customizer

- Full permission to customize the environment
- Data access is focused only on data owned by the user
- Role can be modified but it is not recommended to modify



Environment Maker

- Create new resources in the environment including apps, connections, gateways and flows
- There is no default privileges to data included
- Role can be modified but it is not recommended to modify



Basic User

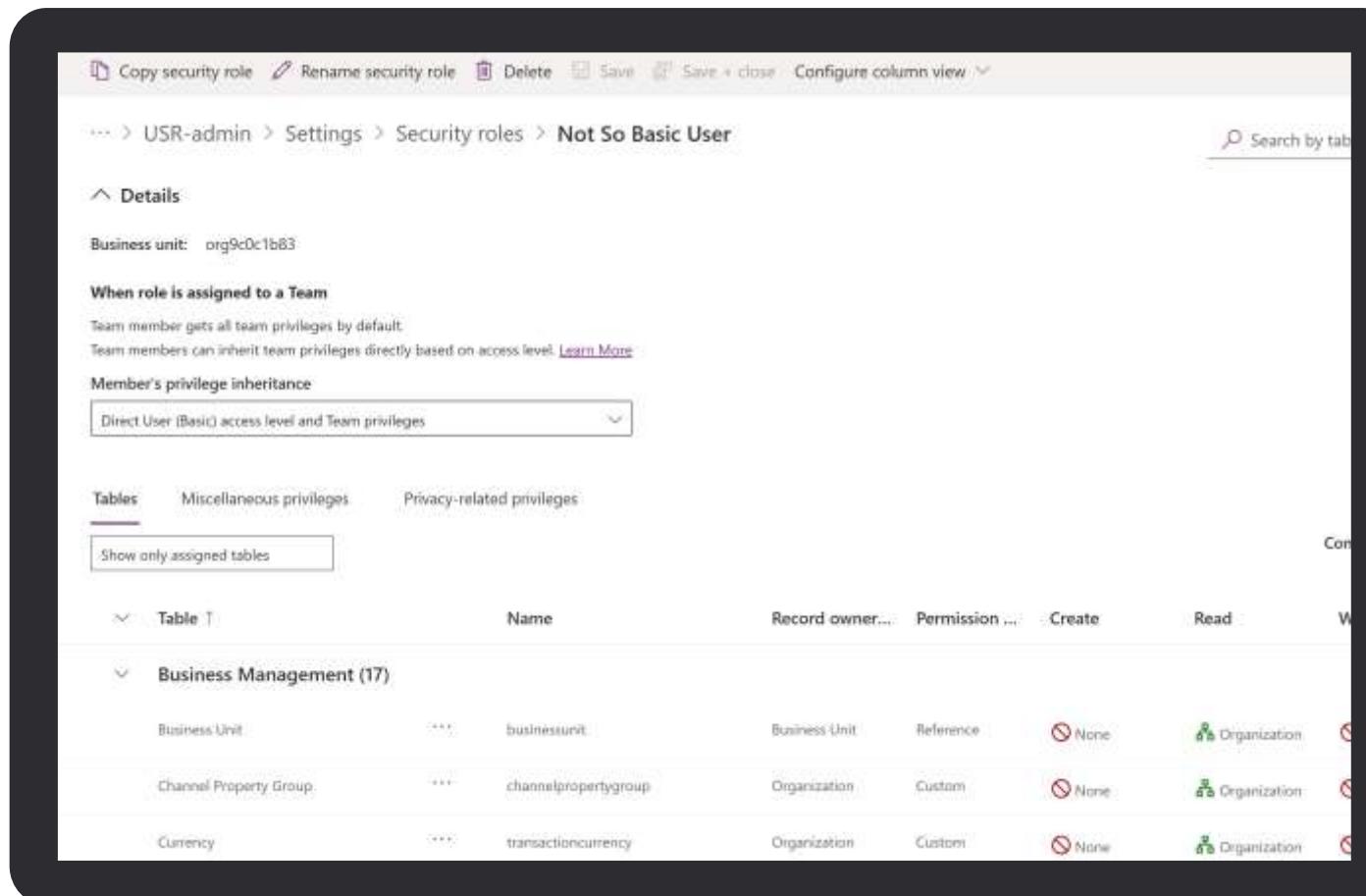
- Basic user role, with ability to run apps and perform common tasks but no ability to customize the system
- The data access is focused on Read access to most Common Data Model core entities with full access to records owned by the user (i.e. 'self' privileges)
- Good role to copy to make a custom security role for users

Security layer 2: environment access & strategy

Environment security

Customizing Security Roles

If your app uses a custom table, its privileges must be explicitly granted in a security role before your app can be used. You can either add these privileges in an existing security role or create a custom security role.



The screenshot shows the 'Not So Basic User' security role details page. It includes sections for 'Business unit', 'When role is assigned to a Team', and 'Member's privilege inheritance'. Below these are tabs for 'Tables', 'Miscellaneous privileges', and 'Privacy-related privileges'. The 'Tables' tab is selected, displaying a list of assigned tables under 'Business Management (17)'. The columns in the table are: Table, Name, Record owner..., Permission ..., Create, Read, Write, Business Unit, Reference, and Organization.

Table	Name	Record owner...	Permission ...	Create	Read	Write	Business Unit	Reference	Organization
Business Unit	businessunit	Business Unit	Custom	None	Organization	Organization	Business Unit	None	Organization
Channel Property Group	channelpropertygroup	Organization	Custom	None	Organization	Organization	Channel Property Group	None	Organization
Currency	transactioncurrency	Organization	Custom	None	Organization	Organization	Currency	None	Organization

Learn more [here](#).

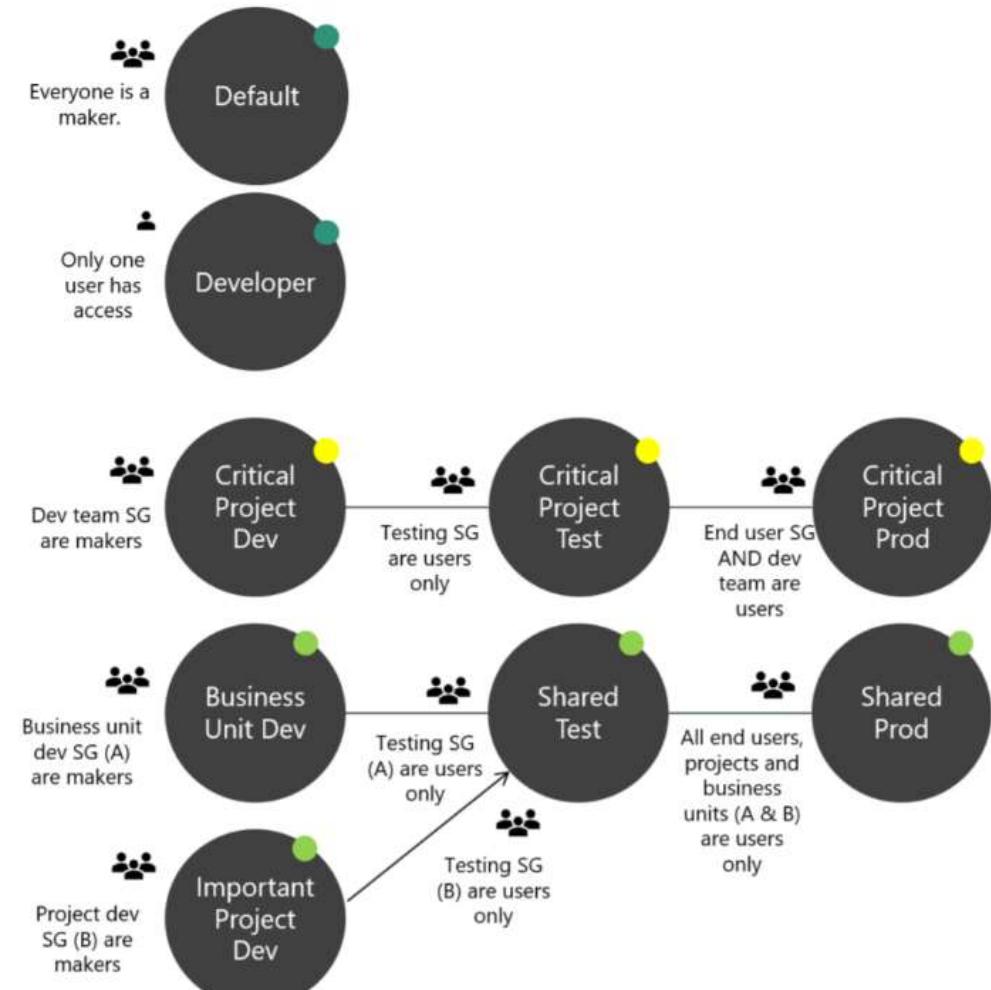
Security layer 2: environment access & strategy

Environment security

Strategy for establishing secure environments

- ✓ **Assign your admins** the Power Platform service admin role.
- ✓ **Restrict the creation** of net-new trial and production environments to admins.
- ✓ Treat the **default environment** as a 'Personal productivity' environment.
- ✓ Establish a process for **requesting access** to or **creation of environments**.
 - Dev/Test/Production environments for specific business groups/ applications.
 - Individual-use environments for POCs and trainings.
- ✓ Establish **Tenant and Environment level Data Loss Prevention (DLP) policies**.

Learn more [here](#).



Visual representation of an environment strategy at work.

Security layer 2: environment access & strategy

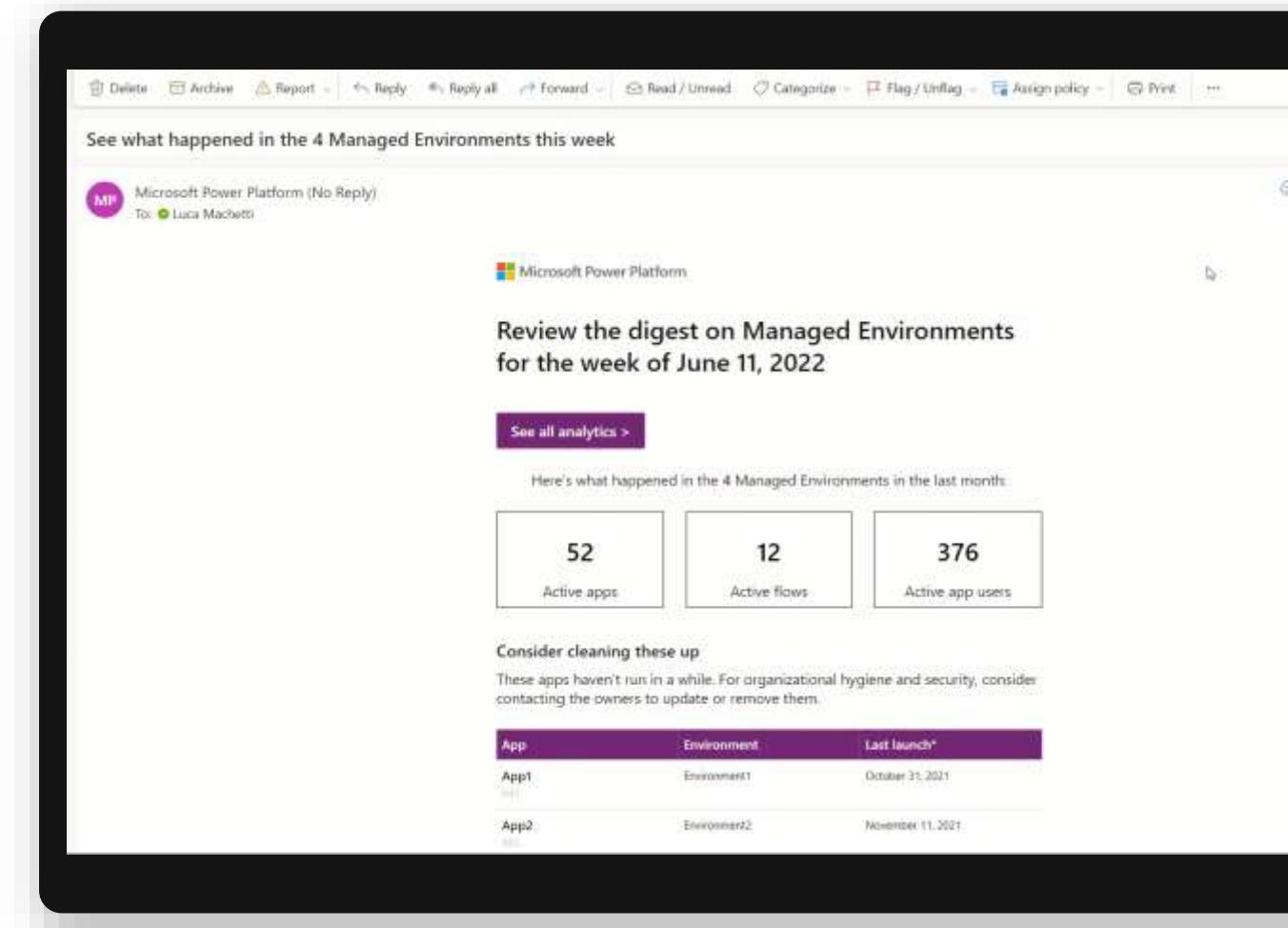
Managed environments

Managed Environments is a suite of capabilities that allows admins to **manage Power Platform at scale** with more control, less effort, and more insights..

1 **More visibility** into the apps and automations in your organization

2 **More control** over which apps are deployed and who builds them

3 **Less effort** to manage and govern your entire application estate



Security layer 2: environment access & strategy

Managed environments

Usage Insights – More Visibility

Admin Experience

Admin Digest

The screenshot displays two views of the Power Platform Admin Center. On the left is the 'Admin Experience' view, which includes a navigation bar with links like Home, Environments, Analytics, Billing, Settings, Help + support, Data integration, Data (preview), Policies, and Admin centers. The main area shows a 'Welcome, Mona' dashboard with sections for 'Managed Environment Insights' (Top makers, Top apps, Least used apps) and 'Licensing' (a circular progress bar showing 4 environments requiring attention). On the right is the 'Admin Digest' view, a summary report for the week of September 12, 2022, featuring a header with statistics (18 environments, 202 users, 3,091 sessions), a 'Compliance' section, and a 'Most popular' section listing various environments.

Security layer 2: environment access & strategy

Managed environments

Sharing Limits – More Control

Maker Experience

The screenshot shows the Power Apps maker interface. A modal dialog is open, prompting the user to share the app with others. It includes fields for entering names or email addresses, a preview of the email message, and options to include an image and set data permissions. The 'Exclude sharing with security groups' option is selected.

The screenshot shows the 'Enable Managed Environments' configuration dialog. It includes sections for 'Limit sharing' (with options for 'Don't set limits', 'Limit sharing to security groups', and 'Exclude sharing with security groups'), 'Solution checker' (with a slider for 'Run security and reliability validations during solution import'), 'Maker welcome content' (with a preview of a welcome message), and a 'Learn more link' field.

Admin Experience

Security layer 2: environment access & strategy

Managed environments

Maker Onboarding (preview) – More Control

Maker Experience

The screenshot shows the Power Apps Studio interface. On the left, there's a navigation bar with options like Home, Item, App, Create, Database, Flows, Charts, AI Builder, and Solutions. The main area has a title "Build business apps, fast" and a "Getting Started" dialog box. The dialog contains a "Blank app" section with a "Create an app from scratch then add your data" link, and a "Learning for every level" section with a "Get started with Apps beginner" button. Below these are sections for "Your apps" (listing Sampleapp1, TestApp, Document sync, Communications, and Sampleapp2), "are apps in" (42 days), and "More create options". The "Welcome" screen features a heading "Empower your teams with Low Code" and a list of three steps: 1. Get trained: [Learning videos](#) and [training guides](#), 2. Contribute ideas: Submit an idea for a new app or flow idea at [Suggestion box](#), 3. Learn from others: [Top tips](#) by expert makers at PG&E. It also includes a "Learn more" link and a "Don't show this again" checkbox.

The screenshot shows the "Enable Managed Environments" configuration page. It starts with a note: "Increase visibility and control for Operations: [Learn more](#)". Below it is a note: "Once enabled, all end users will need Power Apps or Power Automate licenses to continue using apps and flows in this environment." A "View licensing details" button is nearby. The "Limit sharing" section contains a note: "Help reduce risk by limiting how widely canvas apps and flows can be shared." A "Learn more" link follows. There are three radio button options: "Don't set limits" (unselected), "Limit sharing to security groups" (unselected), and "Exclude sharing with security groups" (selected). A dropdown menu "Limit total individuals who can be shared to" is set to 2. The "Solution checker" section has a note: "Automatically run security and reliability validations during solution import." A slider is set to "Block". A note below says: "Run security and reliability validations and block solution from being imported if critical issues are found." The "Maker welcome content" section has a note: "First-time Power Apps makers will see this content in the Studio." A "Learn more" link follows. A code block shows sample content:

```
## Welcome to Contoso Power Platform
## Empower your teams on Low Code
Before you get started, check out our company guidance and resources:
```

 A "Learn more link" is provided with the URL <https://contoso.com/powerapps/learnmore>.

Admin Experience

Security layer 2: environment access & strategy

Managed environments

Automated ALM (Pipelines) – Less Effort



Admins

Setup Pipeline in < 2 min



Citizen devs

Initiate deployment



Developers

Run pipelines via CLI

The screenshot shows the Power Apps Pipelines interface. On the left, a sidebar lists 'Contoso Solution' with options like 'Overview', 'Objects', 'History', and 'Pipelines'. The 'Pipelines' option is selected and highlighted with a purple border. The main area displays a pipeline named 'Contoso Standard Pipeline'. The pipeline is shown as a sequence of three stages: 'Development', 'Deploy to Test', and 'Deploy to Production'. Each stage has associated text and links. Arrows indicate the flow from Development to Test and from Test to Production.

- Development:** Securely test and verify in isolation. After you've got everything working properly, it's time to deploy. Learn more
Solution version 1.0.0.2
- Deploy to Test:** Contoso Test Environment (Pipeline)
For quality assurance testing.
Go to this environment
- Deploy to Production:** Contoso Production Environment (Pipeline)
Deploys to Production environment.
Go to this environment

Security layer 2: environment access & strategy

Managed environments

Additional features

Block cookie replay attacks in Dataverse (preview)

Prevent session hijacking exploits in Dataverse with IP address-based cookie binding

IP firewall in environments (preview)

Prevent session hijacking exploits in Dataverse with IP address-based cookie binding

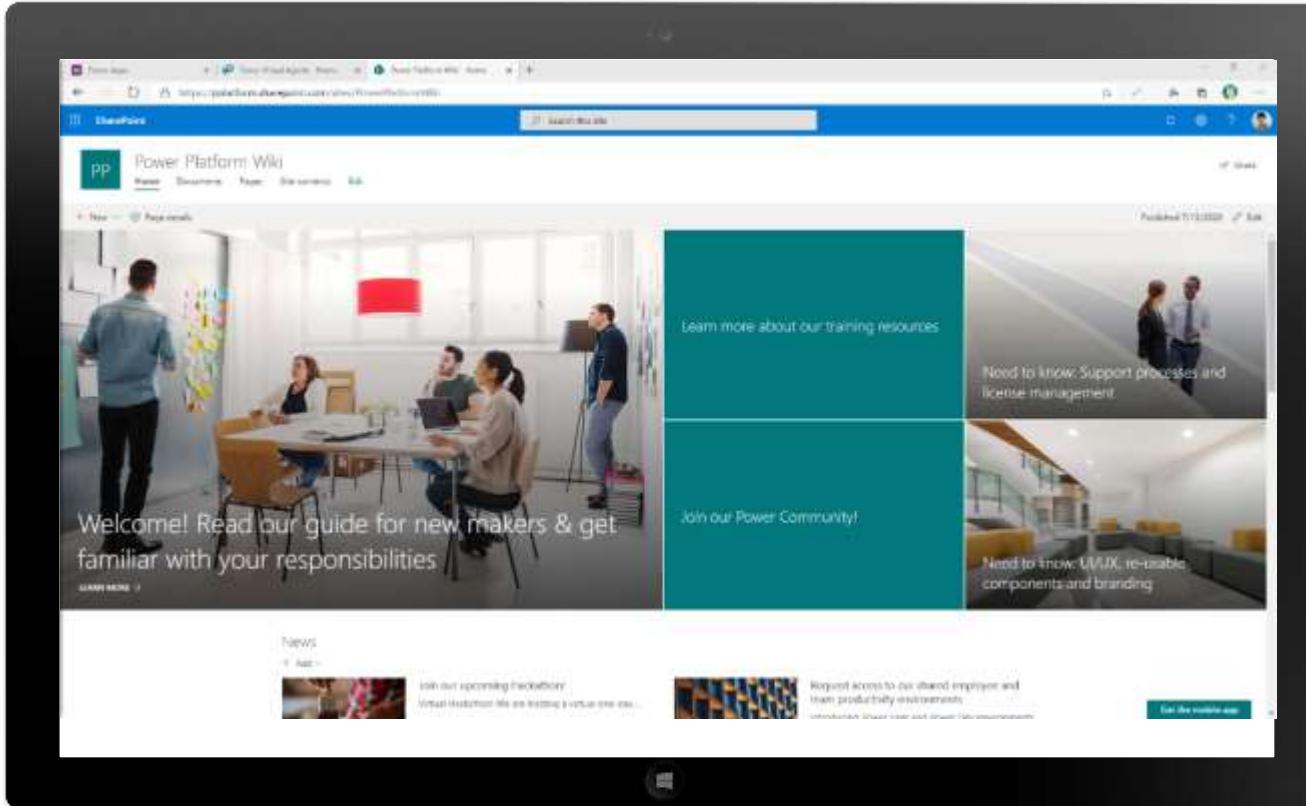
Use Power Platform Advisor (preview)

Guide to personalized recommendations to optimize your Power Platform tenant

Learn more [here](#).

Security layer 2: environment access & strategy

Clearly communicate your strategy to your makers



Purpose of **Default, shared** team and employee productivity environments



Purpose of **Trial** and **Developer** environments

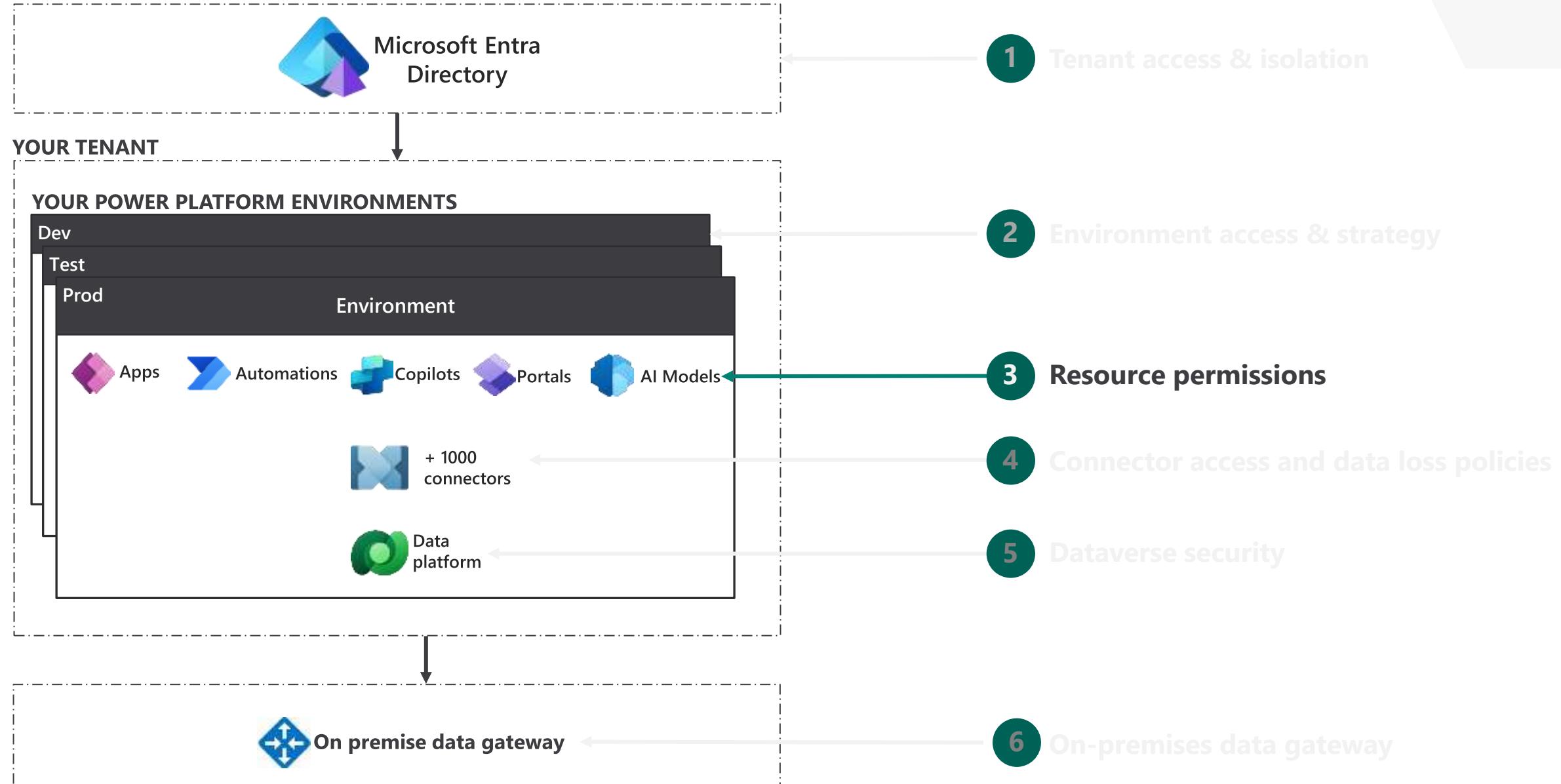


Process of requesting **custom** environments



Responsibilities of a maker: keep the tenant tidy, share wisely and protect organization data

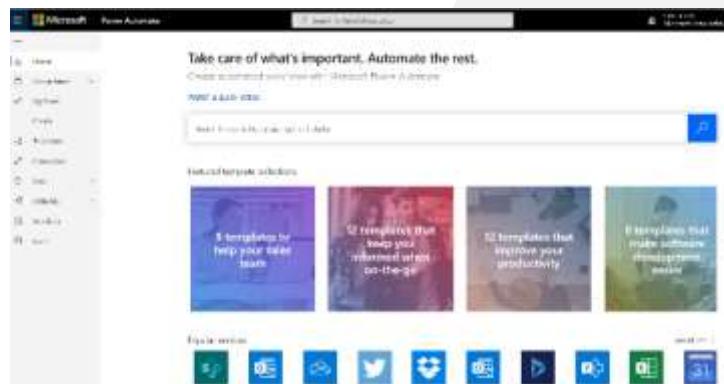
Power Platform security layers



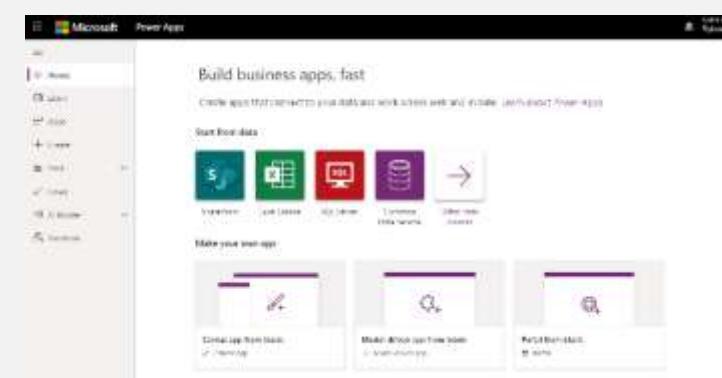
Resource level access

Resources can be shared in the following modes by the makers -

- Access to co-own components – edit, share, use
- Flow co-ownership sharing also shares connections in the flow implicitly with owners
- Access to run components – use only



Power Automate



Power Apps



Power Virtual Agent

3

Sharing Component and Granting Data Access

The screenshot shows the Microsoft Power Apps interface with a sharing dialog open over it.

Power Apps Navigation:

- Home
- Learn
- Apps
- Create
- Data
- Blows
- AI Builder
- Solutions

Share Dialog: Share Champify

Add people as Users and Co-owners to your app. Make sure your data connections have been shared with all users.

Enter a name, email address, or Everyone:

New users

Isaiah Langer User

Shared with:

Shared with	Action
Adelle Vance User	X
CoE Admins User	X
Emily Braun User	X
Grady Archie Co-owner	X
Jordan Miller Co-owner	X
Lee Gu Owner	X
Megan Bowen Co-owner	X

Data permissions:

Make sure your users have access to the data used in your app, including gateways, APIs, connectors, and entities.

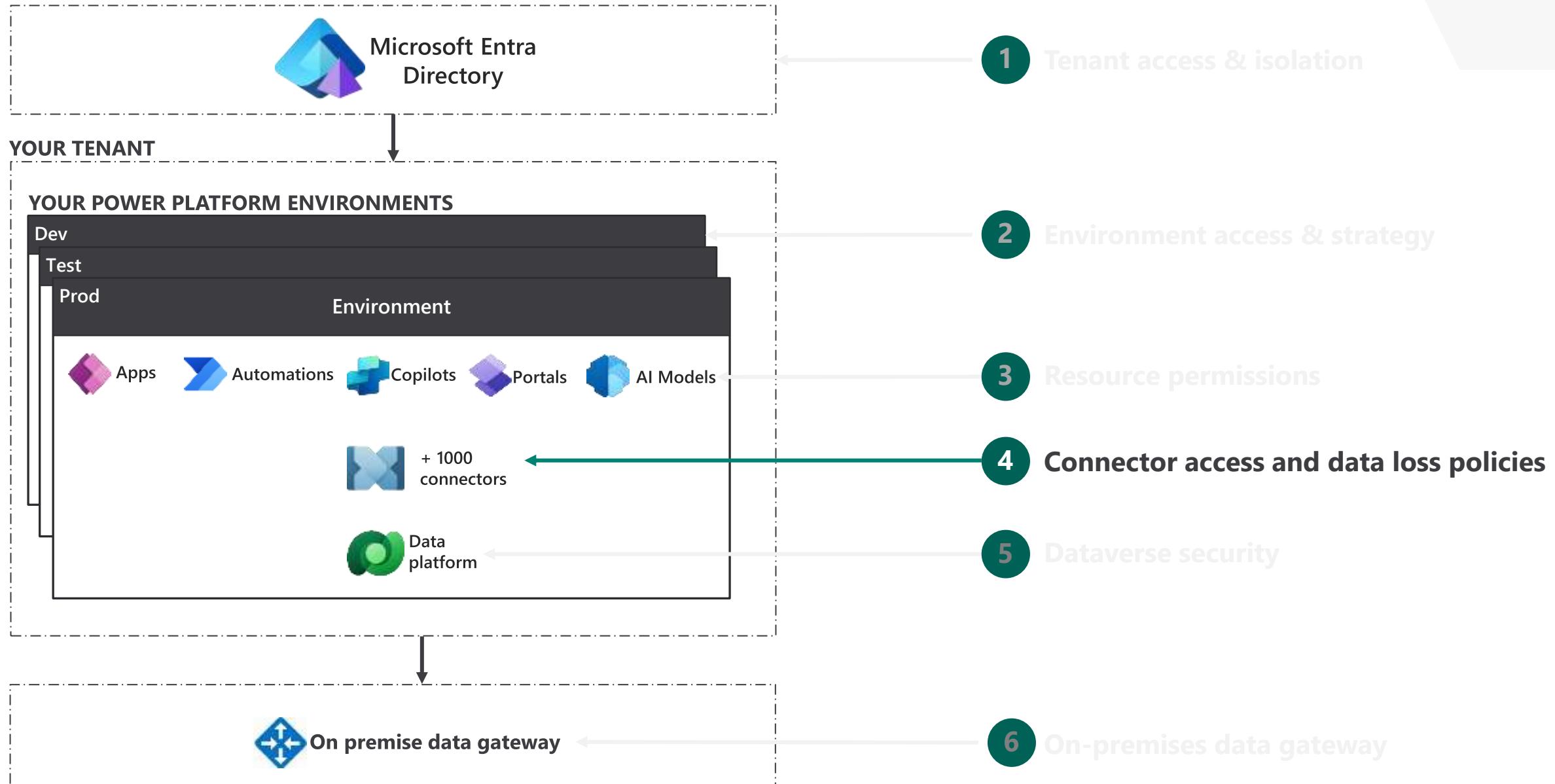
Champify Students, Champ Common Data Service Show entities

Office 365 Users

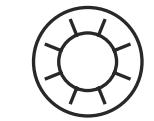
Send an email invitation to new users

Share Cancel

Power Platform security layers



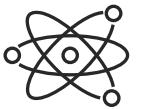
Connection Creation and Authentication



Apps and flows establish connection to the data source using prebuilt or custom connector in context of the user



User needs to authenticate based on the mechanisms supported by the connector to establish a connection



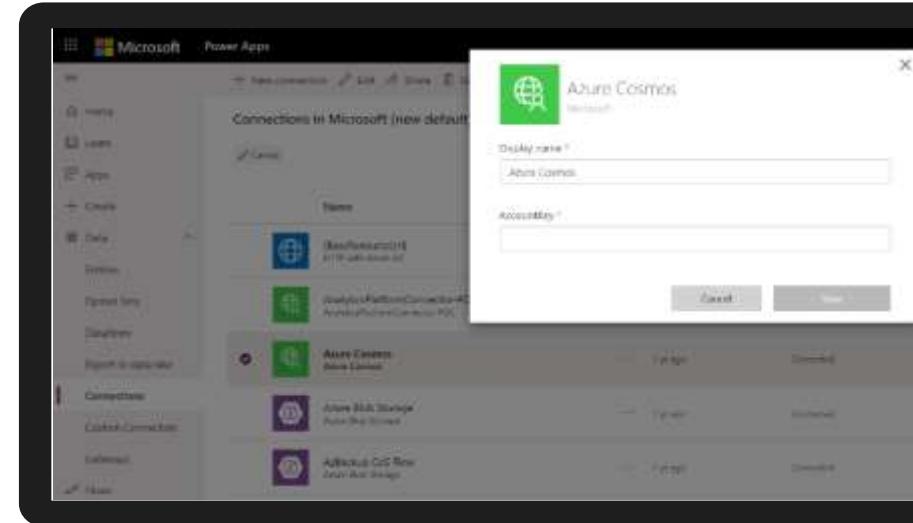
Typical connection types supported by connectors include – AAD, OAuth, APIKey, Windows Auth, Basic, No Auth etc. Some connectors may support multiple auth types



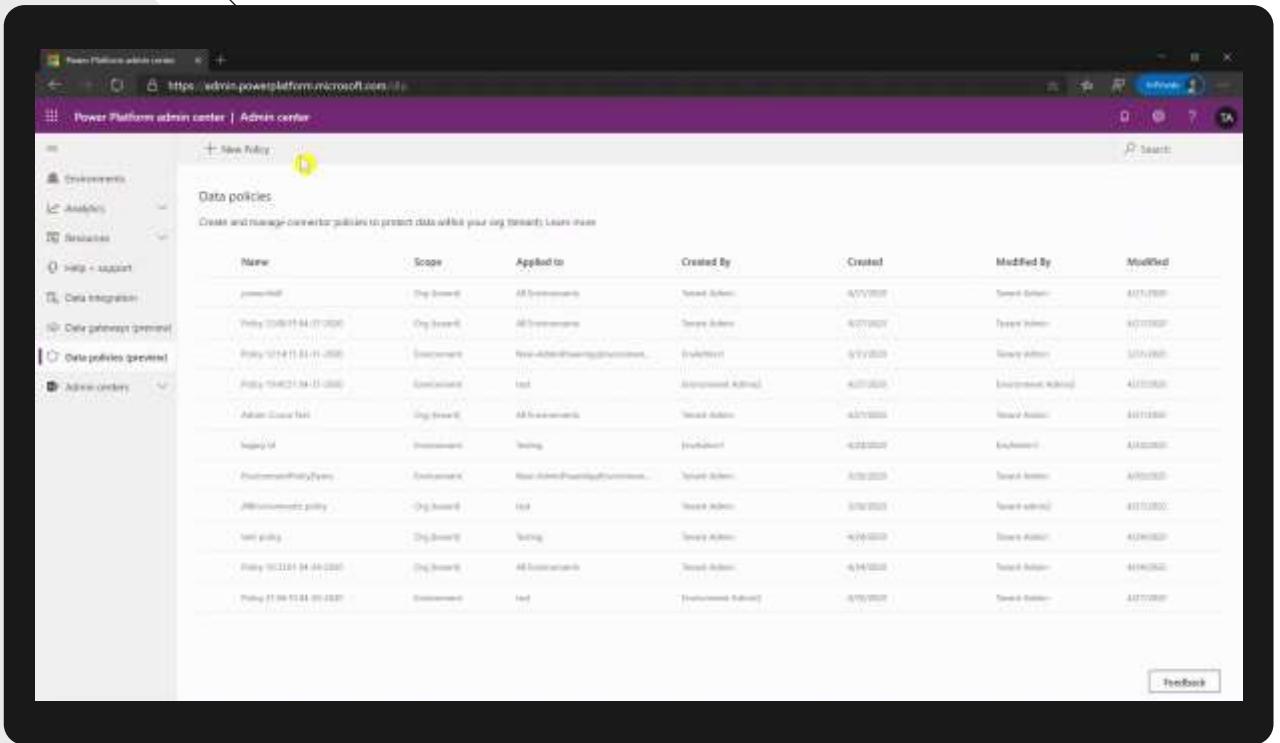
Existing AuthZ/AuthN rights of the user accrue upon establishing the connection



→□ Canvas app connections can be edited, deleted and shared (if implicit sharing is allowed) by the connection creators



Power Platform DLP policies allow you to control data flows across data connectors when used within Power Apps and Power Automate.



Connector Classification

Connectors can be classified across following groups using DLP policies



Business

- A given Power App or Power Automate resource can use one or more connectors from **Business** group
- If a Power App or Power Automate resource uses a **Business** connector, it cannot use any **Non-business** connector



Non-business

- A given Power App or Power Automate resource can use one or more connectors from **Non-business** group
- If a Power App or Power Automate resource uses a **Non-business** connector, it cannot use any **Business** connector



Blocked

- Any Power App or Power Automate resource cannot use any connector from **Blocked** group
- All Microsoft owned premium connectors and third-party connectors (standard and premium) can be blocked
- All Microsoft owned standard connectors and Microsoft Dataverse cannot be blocked

Tenant and Environment Policies

Power Platform DLP allows admins to create two types of policies



Tenant level DLP policies

- Supported only for - Power Platform Administrator, D365 Administrator or Global administrator - roles
- Can be applied to one, more than one or all environments at a time
- Can be edited and viewed by any tenant admin
- Connector settings are visible to all relevant environment admins but are not editable by them
- Can be used to manage custom connector patterns



Environment level DLP policies

- Supported for Environment Admin role associated with the environment
- Can be applied to only one environment at a time
- Specifying the environment is mandatory to create the policy
- Can be edited and viewed by any environment admin (of the environment) and tenant admins
- Can be used to manage custom connector patterns

DLP Policy Scope

Tenant policies have three scope settings

All environments

By default tenant level policies will be applied to all environments created in the tenant

All except selected environments

Tenant admins can choose to exclude specific environments to apply the policy

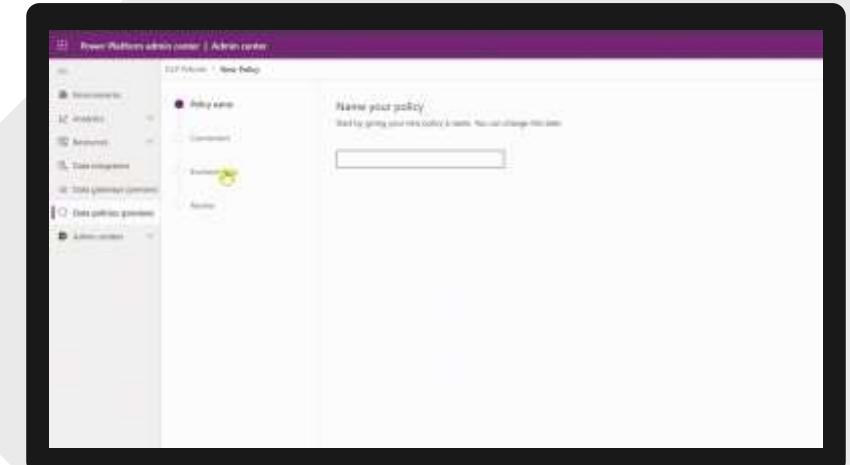
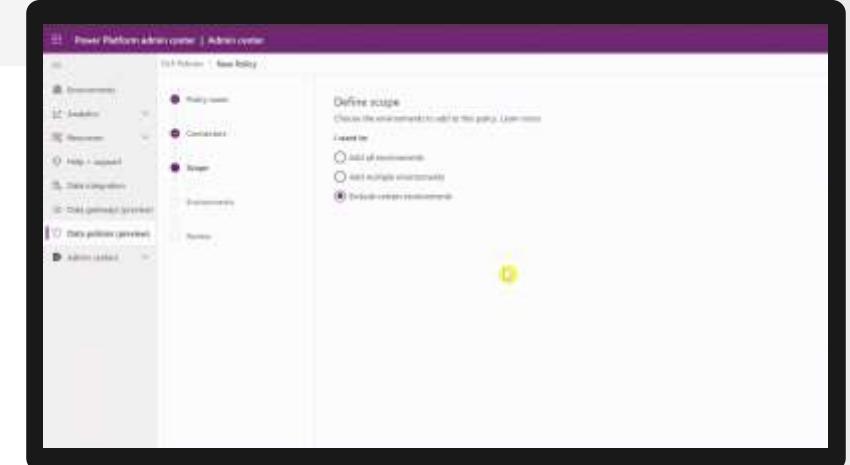
Only selected environments

Tenant admins can choose to include only specific environments to apply the policy

Environment policies have one setting

One environment only

Environment admins can choose to apply the policy on one environment at a time



DLP Policy Enforcement



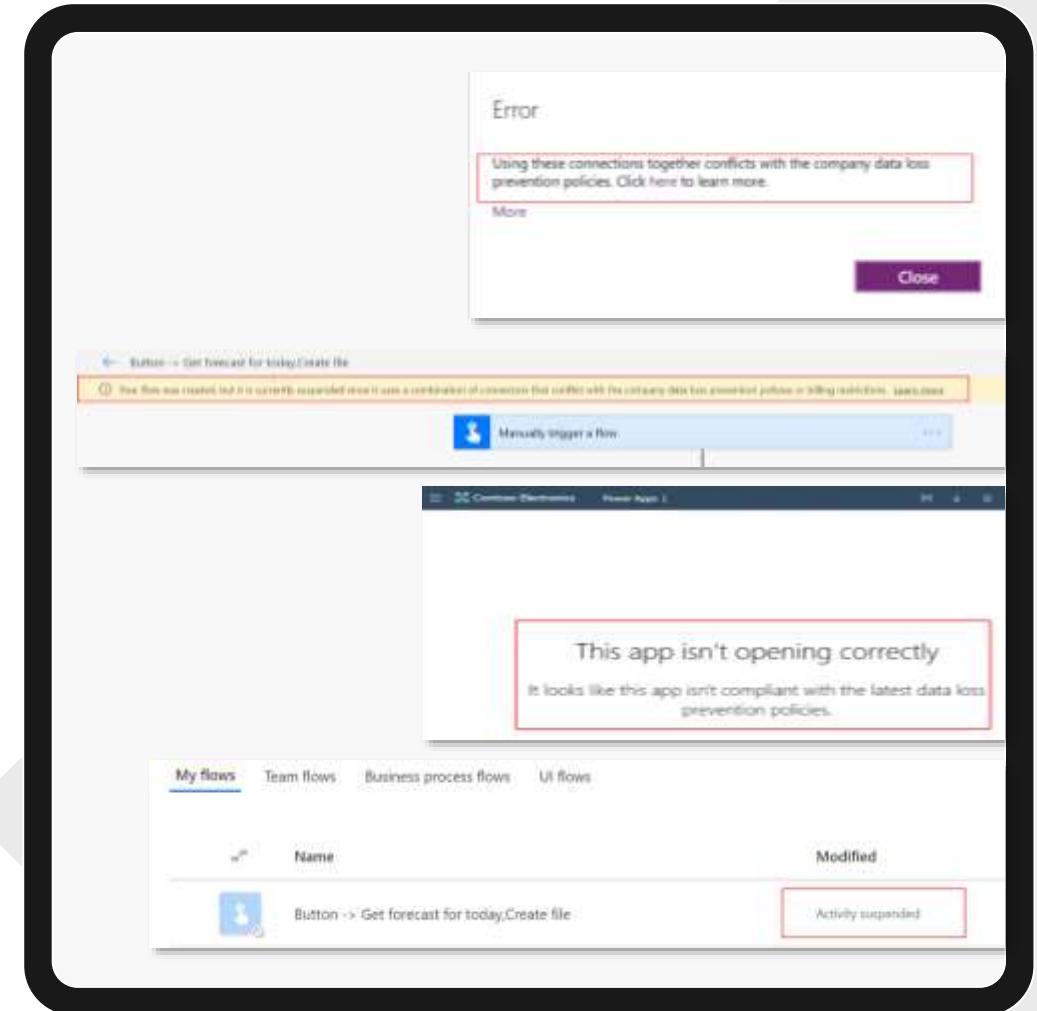
Design-time

- Power Apps makers see an error upon using connectors that don't belong together or are blocked using DLP policies. Apps violating DLP policies cannot be saved at design time unless DLP violation is resolved.
- Power Automate makers see a warning while saving a flow using connectors that don't belong together or are blocked using DLP policies. Flow will be saved but marked as 'Suspended' and will not execute unless DLP violation is resolved.



Run-time

- If DLP policy changes impact an existing Power App negatively and it becomes non-compliant then users are no longer able to launch it and get an error.
- If DLP policy changes impact an existing Power Automate negatively and it becomes non-compliant then it is automatically marked as suspended. Users are no longer able to execute it. Power Automate suspension may take ~5 mins to come into effect after policy changes.

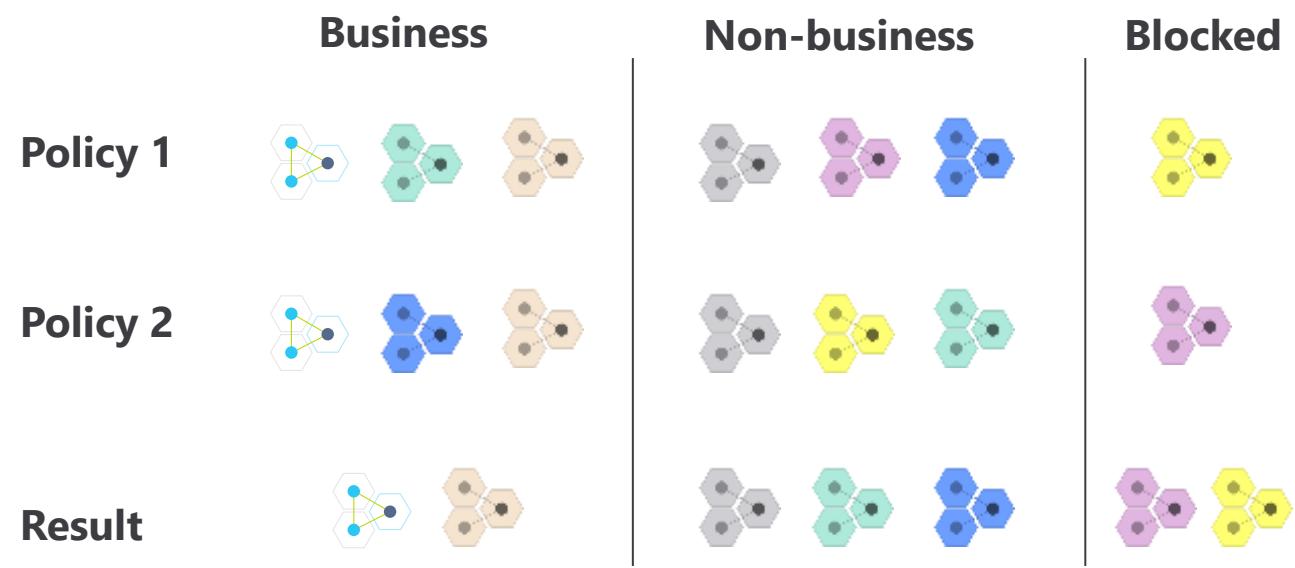


4

Multiple Policy Impact on Environments

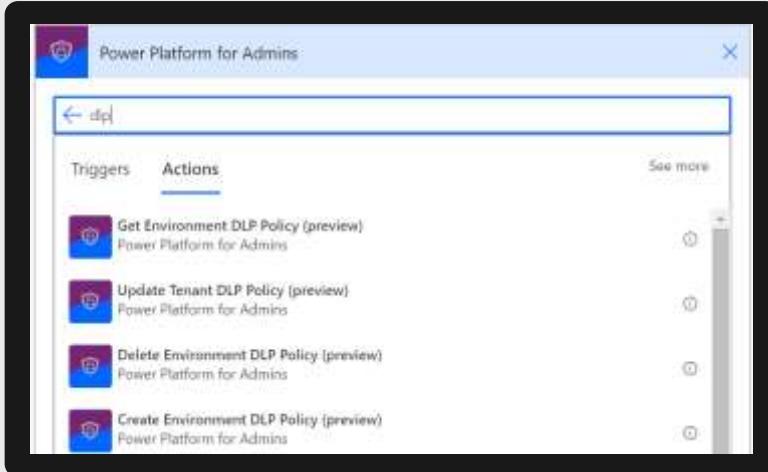
If multiple tenant or environment level policies are applied simultaneously on an environment, then the most restrictive rules accrue

Multiple DLP policies applied to the same environment grouping connectors across Business/Non-business/Blocked

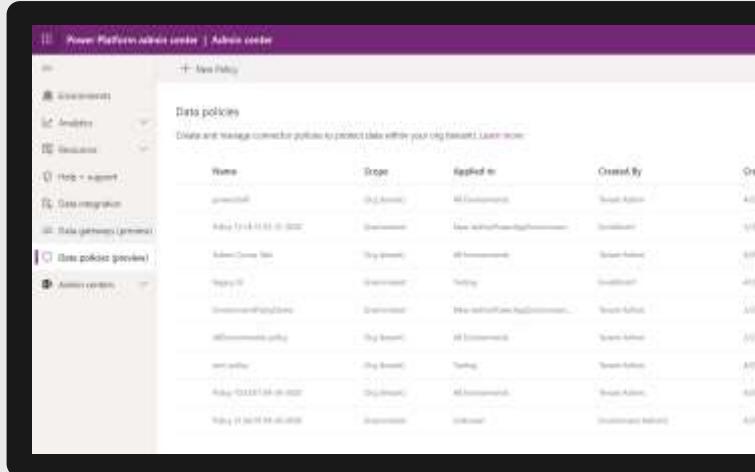


All blocked connectors map to blocked
For predictable outcomes use minimal number of DLP policies per environment

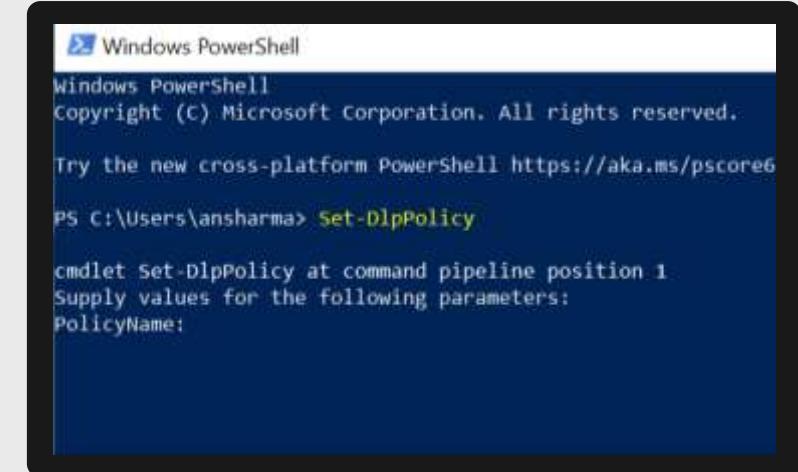
4 DLP Management Interfaces



Power Platform for Admins
Connector

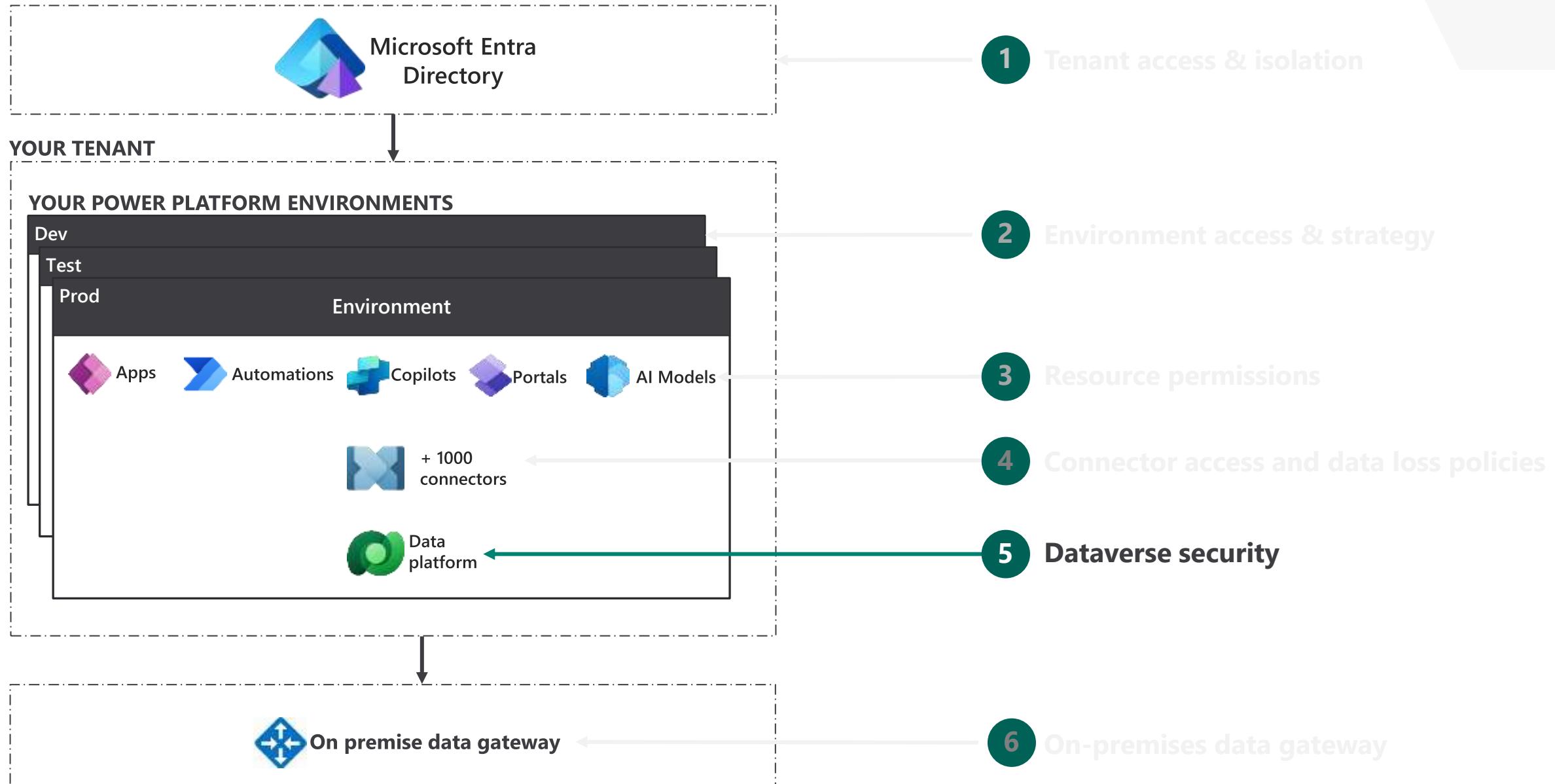


Power Platform
Admin Center



Power Apps
Powershell

Power Platform security layers



Security Roles and Privileges

Roles

Define how different users access different types of records

Contain a set of privileges

Users can be assigned to multiple security roles

Security role privileges are cumulative

Privileges

Record-level privileges.

For each entity, permissions can be defined for Read, Create, Delete, Write, Assign, Share, Append and Append To.

Action/Task-based privileges.

Permissions can also be defined for non-entity related actions, e.g. publish articles.

Different level of accesses:

Global

Deep

Local

Basic

Record-level security

Table

Privilege	Description
Create	Required to make a new record. Which records can be created depends on the access level of the permission defined in your security role.
Read	Required to open a record to view the contents. Which records can be read depends on the access level of the permission defined in your security role.
Write	Required to make changes to a record. Which records can be changed depends on the access level defined in your security role.
Delete	Required to permanently remove a record. Which records can be deleted depends on the access level of the permission defined in your security role.
Append	Required to associate a record with the current record. For example, if a user has Append rights on an opportunity, the user can add a note to an opportunity. Which records can be appended depends on the access level of the permission defined in your security role.
Append To	Required to associate the current record with another record e.g., a note can be attached to an opportunity if the user has Append To rights on the note. Which records can be appended to depends on the access level of the permission defined in your security role.
Assign	Required to give ownership of a record to another user. Which records can be assigned depends on the access level of the permission defined in your security role.
Share	Required to give access to a record to another user while keeping your own access. Which records can be shared depends on the access level of the permission defined in your security role.

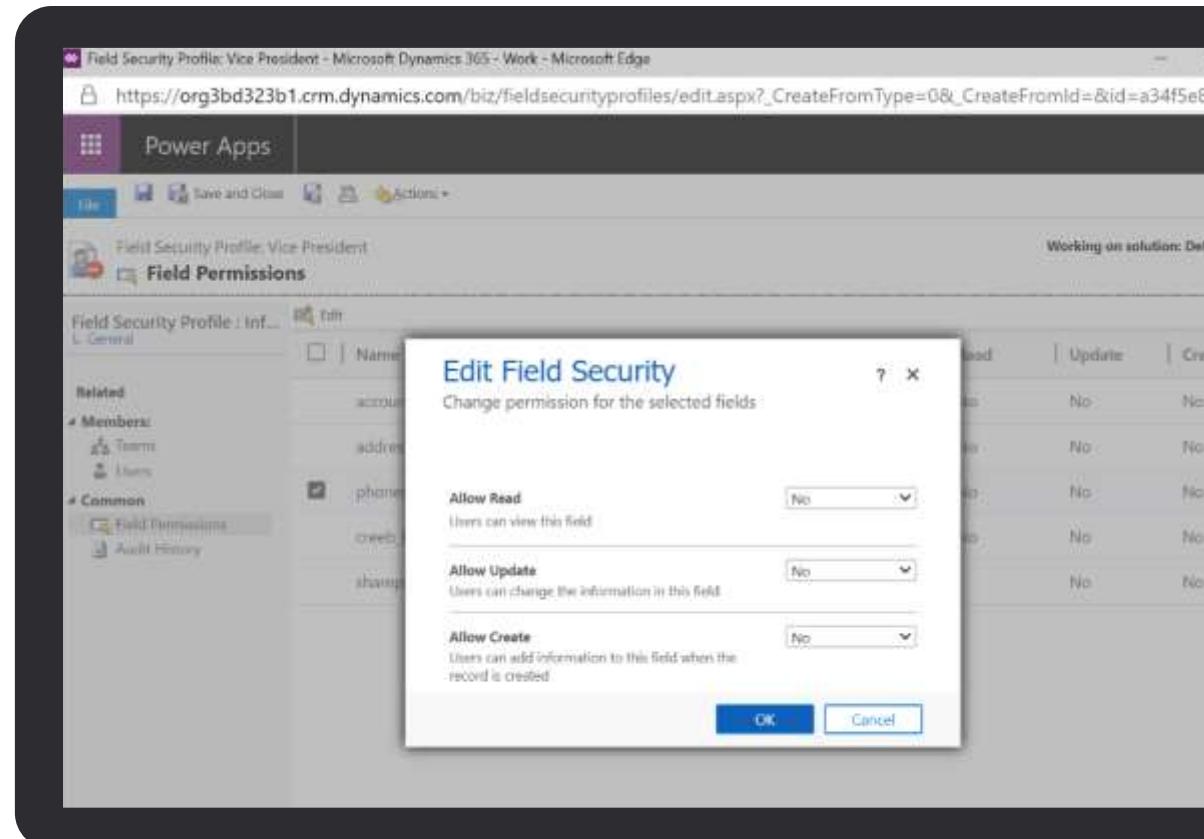
Access Level

Access	Description
●	Global. This access level gives a user access to all records in the organization, regardless of the business unit hierarchical level that the environment or the user belongs to. Users who have Global access automatically have Deep, Local, and Basic access.
●	The application refers to this access level as Organization .
●	Deep. This access level gives a user access to records in the user's business unit and all business units subordinate to the user's business unit. Users who have Deep access automatically have Local and Basic access, also.
●	The application refers to this access level as Parent: Child Business Units .
●	Local. This access level gives a user access to records in the user's business unit.
●	Users who have Local access automatically have Basic access, also.
●	The application refers to this access level as Business Unit .
●	Basic. This access level gives a user access to records that the user owns, objects that are shared with the user, and objects that are shared with a team that the user is a member of.
●	This is the typical level of access for sales and service representatives.
○	The application refers to this access level as User .
○	None. No access is allowed.

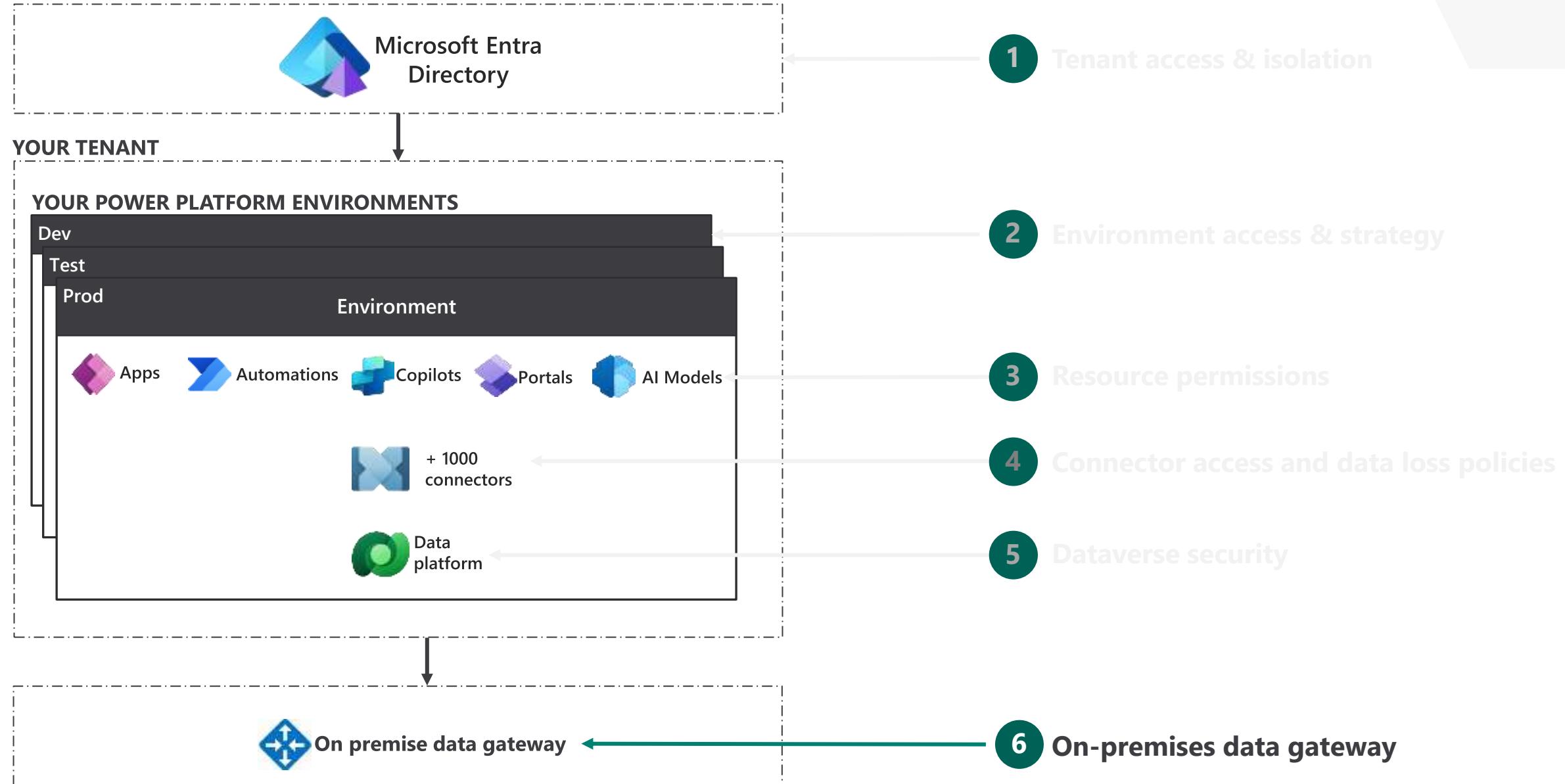
5

Field level security

- Control access to sensitive data
- Can be used in:
 - Client applications – Web, mobile, Microsoft Dynamics for Outlook
 - Web service calls – plugins, workflow, custom code
 - Reporting (via Filtered views)
- Enforce by security profile for:
 - Users and Teams
- Permission Scope:
 - Read
 - Create
 - Update
- Exceptions (do not support FLS)
 - Identifiers – ownerId, contactId, accountId, etc
 - Security principal fields – createdBy, modifiedBy, Owning Team/User
 - Timestamp
 - Codes – state, status



Power Platform security layers



On-premise Gateway - Key Facts



Allows Power Apps and Power Automate to reach on-premises resources for hybrid integration scenarios.



Leverages Azure Service Bus relay technology to securely allow access to on-premises resources.



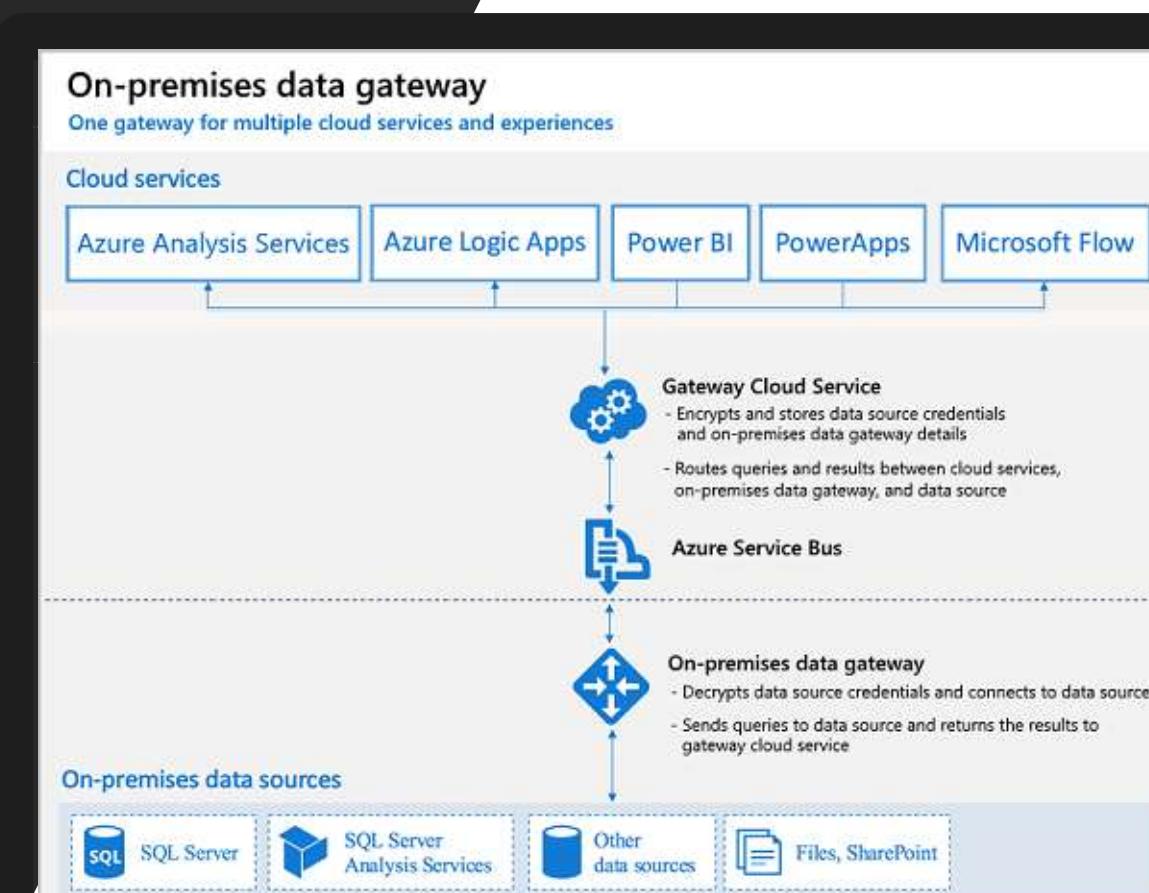
The gateway service must run on a local server in your on-premises location



Setting up a data source on the gateway requires credentials that are encrypted securely. All access to data uses these creds



The gateway service creates an outbound connection to Azure Service Bus on ports: TCP 443(default), 5671, 5672, 9350 through 9354.



Capabilities

The screenshot shows the Power Platform Admin Center (preview) interface. The left sidebar has sections for Environments, Analytics, Help + support, Data integration, and Data gateways (which is highlighted with a red box). The main area is titled "Data Gateways" and contains a table with two rows. The first row has a "Gateway Cluster Name" of "ADMNcluster", "Contact info" as "nancy@contoso.com", "Users" as "gateway group, gw security...", and "Gateways" as "1". The second row has a "Gateway Cluster Name" of "AP test Aug20", "Contact info" as "ben@contoso.com", "Users" as "gateway group, Nancy", and "Gateways" as "1". A note at the bottom says: "The On-premises data gateway acts as a bridge, providing quick and secure data transfer between on-premises data and Power BI, Microsoft Flow, Logic Apps, and PowerApps. Learn more in this overview."

Manage gateways entirely in the Power Platform admin center. Learn more [here](#).

The screenshot shows the Power Platform Admin Center (preview) interface. The left sidebar has sections for Environments, Analytics, Help + support, Data Gateways (which is highlighted with a red box), Data policies, and Admin centers. The main area is titled "Manage Gateway Installers" and contains a note: "Manage who can install gateway in your organization. This does not impact gateway administration capabilities. Learn more." It has a toggle switch labeled "On" and a section titled "Users who can install gateways" with a search bar and an "Add" button.

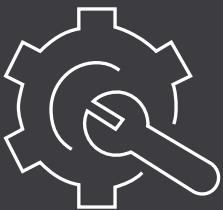
Manage who can install the on-premises data gateway in your enterprise. Learn more [here](#).

The screenshot shows the Power Platform Admin Center (preview) interface. The left sidebar has sections for Environments, Analytics, Help + support, Data Gateways, Data policies, and Admin centers. The main area is titled "Manage users" and contains a note: "Share this On-premises data gateway with others in your organization". It has a search bar, a "Shared with" section listing "Contoso gateway cluster" (selected and highlighted with a red box), "fresh office group" (Admin), "gw security group" (Admin), and "Nancy Bernard" (Can use), and a "Data source type" section with checkboxes for DB2, File System, Apache Impala, Informix, MySQL, Oracle Database, PostgreSQL, SharePoint, SQL Server, Teradata, and HTTP with Azure AD. A red box highlights the "Can use" checkbox under the "Shared with" section.

Manage users in 3 different categories (admins, can use, and can use + share). Learn more [here](#).

Governance pillar Monitor

Monitor and Manage the Power Platform



- 1 Set up and view activity logs in Office 365 Audit Logs
- 2 Gain Insights into capacity and storage consumption in adoption in Power Platform Admin Center
- 3 View out-of-the-box tenant and environment level Analytics for usage and adoption in Power Platform Admin Center and Power Apps / Automate portals
- 4 Monitor platform services and planned & unplanned platform changes/incidents

Activity logs in Office 365 Audit Logs

1

Access Audit Logs

PowerApps, Power Automate,
Dataverse audit records are available
at
<https://compliance.microsoft.com/auditlogsearch>



ACTIVITY LOGGING

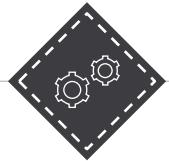
Available with Office E3 or greater license and integrated with Office Security and Compliance center.



Must be enabled at the organization/tenant level.

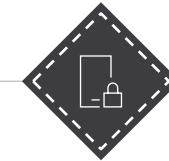
Office provides API's to query this data, which is currently used by many SIEM vendors to use the Activity Logging data for reporting.

Monitor Activity Parameters for Power Apps & Automate



Power Automate

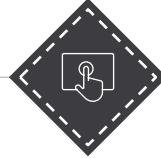
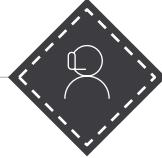
- Created flow
- Edited flow
- Deleted flow
- Edited permissions
- Deleted permissions
- Started a paid trial
- Renewed a paid trial



Power Apps

- Created app
- Edited/save app (draft)
- Published app
- Deleted app
- Restored an app from app version
- Launched app
- Marking app as featured
- Marking app as hero
- Edited app permissions
- Deleted app permissions

Monitor Critical Activity Parameters of the Dataverse



Admin Activity Logged

- Publishing customizations
- Configuring instances by adding solutions to instance
- Team and user management - who was added, deleted, access rights of user/team
- Deletes of attributes
- Backup and Restore actions
- Managing instances - New instance added and delete instance

User Activity Logged

- Creates, Reads, Updates, Deletes on records and Dataverse metadata
- Dataverse record views
- Export to excel
- SDK calls
- Backend Microsoft support engineer CRUD activities
- Reports viewed

Monitoring Storage Capacity and Add-on's

2

Gain Deeper Insight on Storage Capacity



Capacity management & enforcement

- Understand storage and consumption
- Access for environment admins, power platform service admins, D365 and global admins and individual users who have purchased a license

<https://aka.ms/ppac>

The screenshot shows a navigation menu on the left side of a web interface. At the top level, there are links for 'Environments', 'Analytics', 'Dataverse', 'Power Automate', 'Power Apps', and 'Data export (preview)'. Below these, under the heading 'Resources', are links for 'Capacity' and 'Dynamics 365 apps'. The 'Capacity' link is highlighted with a red rectangular border around its text and icon.

- Environments
- Analytics
- Dataverse
- Power Automate
- Power Apps
- Data export (preview)
- Resources
 - Capacity
 - Dynamics 365 apps

Capacity Page Details

Features available per tab

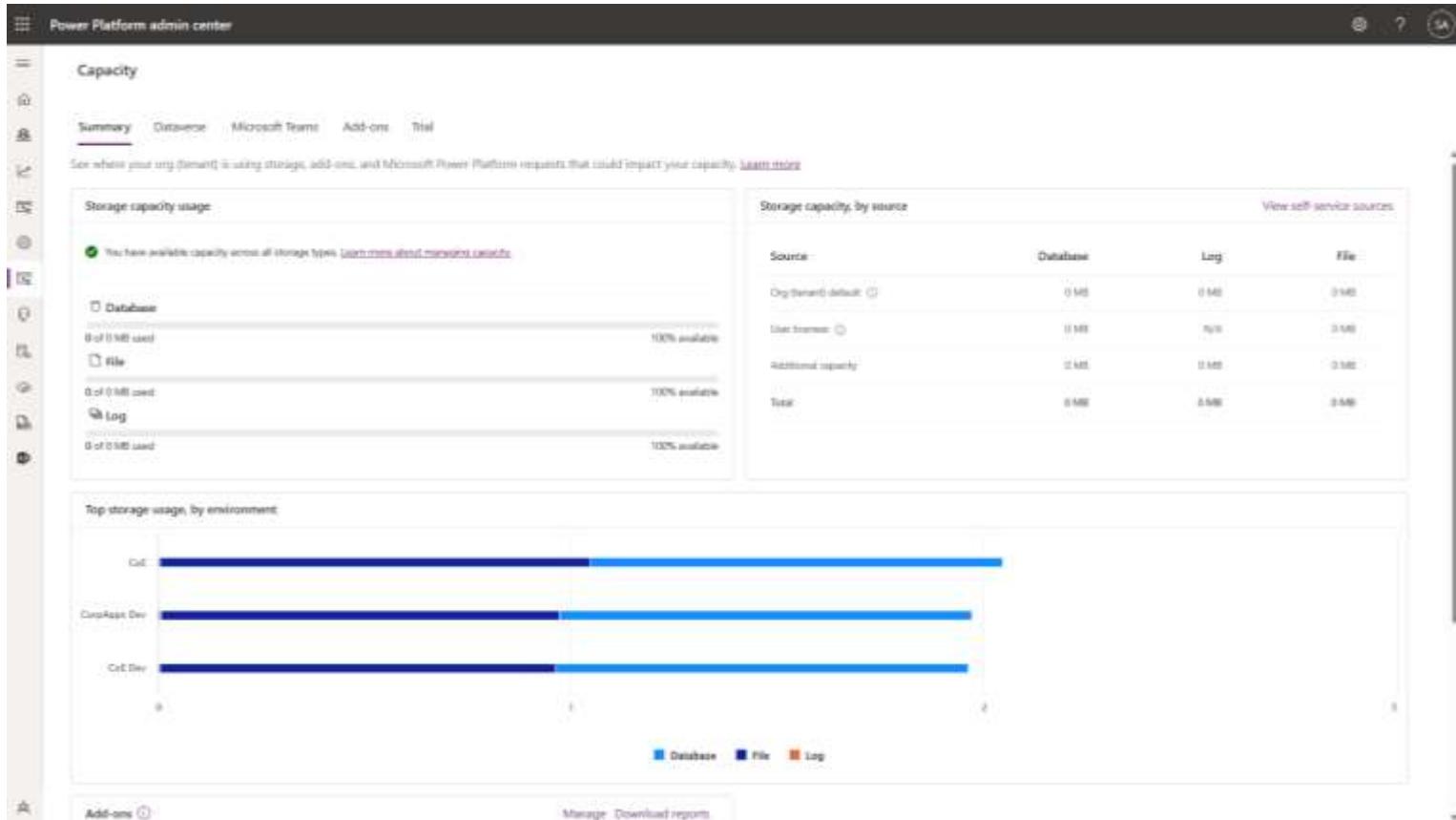
Summary: overview of store capacity usage

Dataverse: an environment breakdown of capacity usage

Microsoft Teams: database capacity of Microsoft Teams environments

Add-ons: assignment of capacity add-ons per environments (IA Builder credits, app passes, Power Pages logins)

Trial: list of trial environments, which does not consume capacity until converted to production

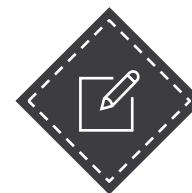


Capacity enforcements

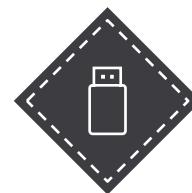
Following storage capacity enforcements apply today



Tenant overall capacity need to be within the entitled limits. The PPAC experience will call out if that is not the case



Creating a new environment, copy and restore are the three operations that are enforced today in an event of capacity overuse



Min 1GB of available DB capacity is required for creating a new environment

For more information click [here](#) !

Capacity enforcements

Overflow coverage by capacity type



Data

Available capacity can be used to cover **log** and **file** overflow usage.



File

Available capacity can be used to cover **log** overflow usage.



Log

Available capacity **can not** be used to cover overflow usage.

**View Out of the box Analytics for usage
and adoption**

3

Gain Deeper Insight on Adoption, & Usage

<https://aka.ms/ppac>

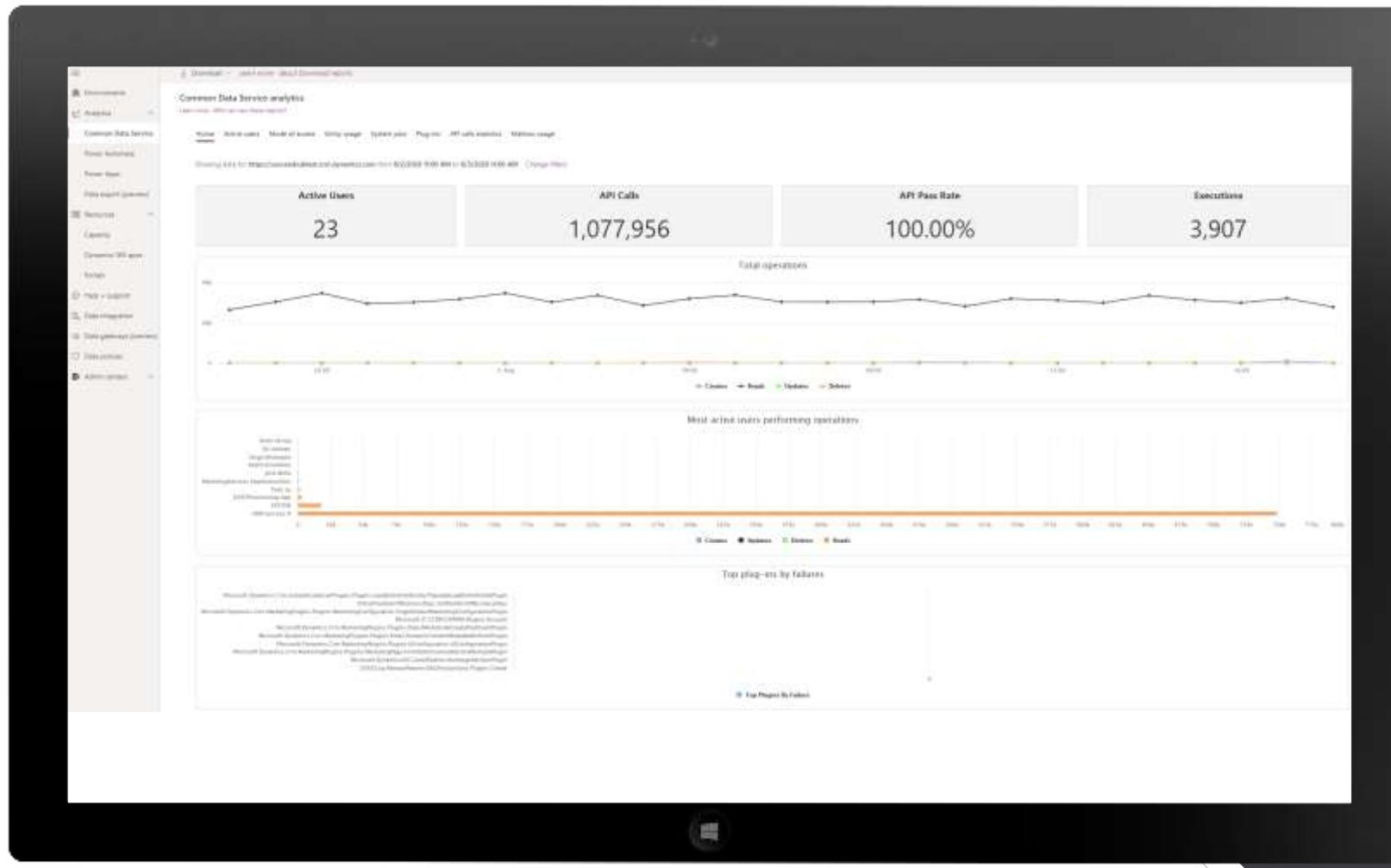


Admin analytics

- Tenant level analytics (preview)
- Environment level analytics
- Available from Power Platform admin center
- Access for environment admins, power platform service admins, D365 and global admins
- Data is stored for 28 days
- Data is refreshed daily

- Environments
- Analytics**
- Dataaverse
- Power Automate
- Power Apps
- Data export (preview)
- Resources
- Capacity

Monitoring Microsoft Dataverse

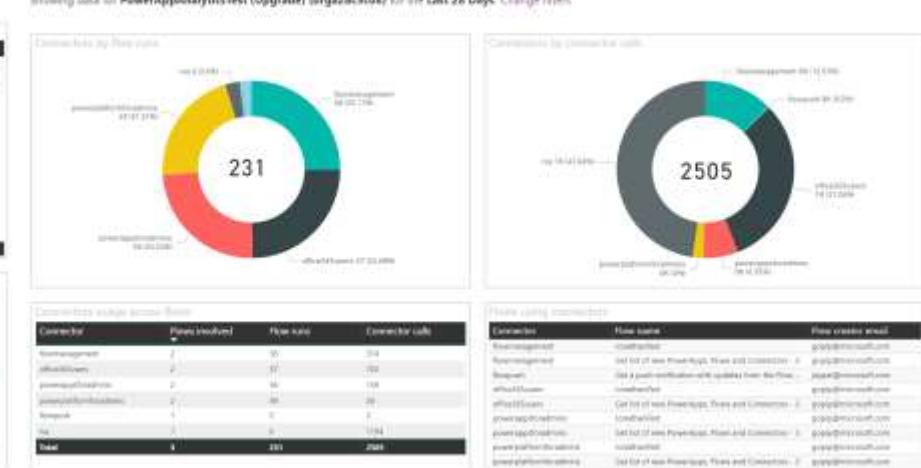
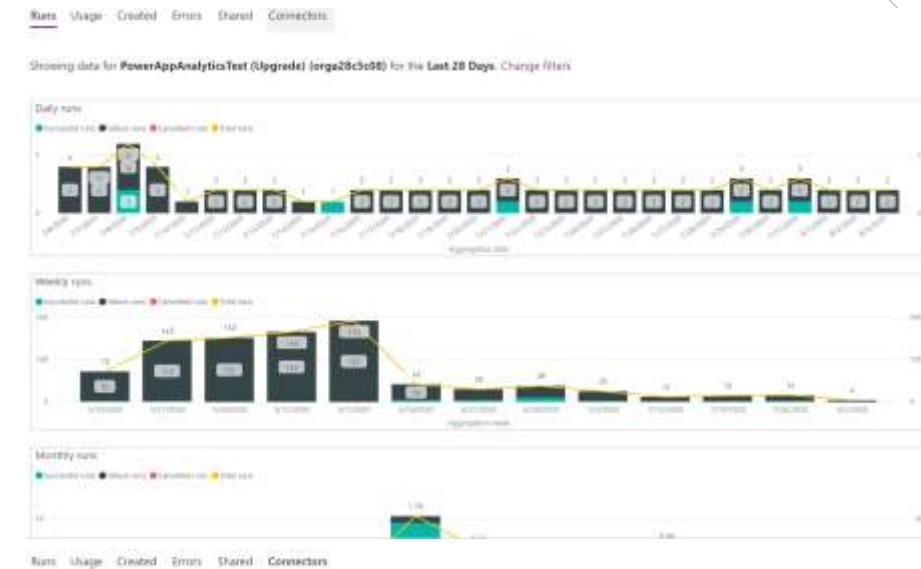
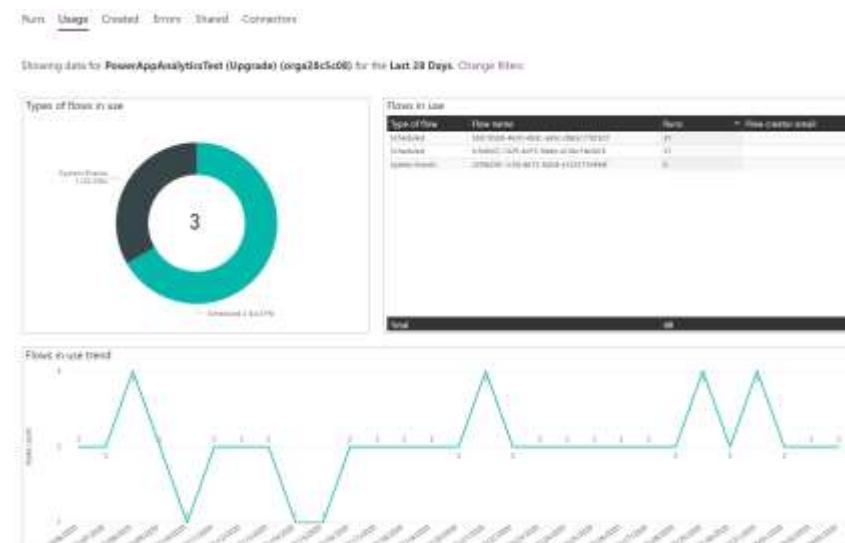


Click on Change Filters to select from a list of environments you have access to, as well as adjust the date range. The data will only be presented in the prior 28-day period.

Power Automate

Environment level views

Analytics is available for a 7, 14, 28-day time periods and allows users to switch between environments.



Maker analytics for Power Automate – Individual flow level views

Flow Makers and Administrators can view details for each flow within their scope, for last 7, 14, 28 days with data refreshed every 4-6 hours

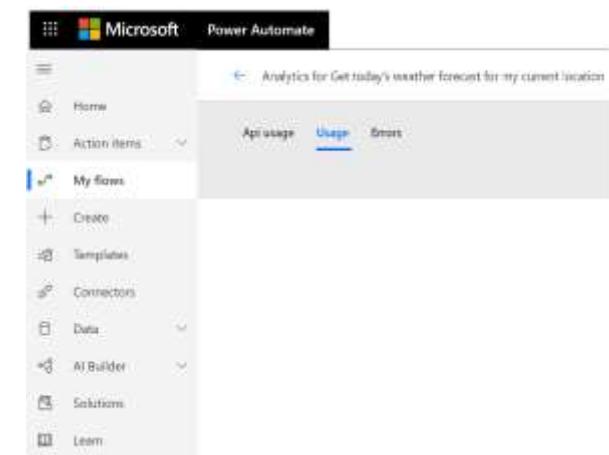
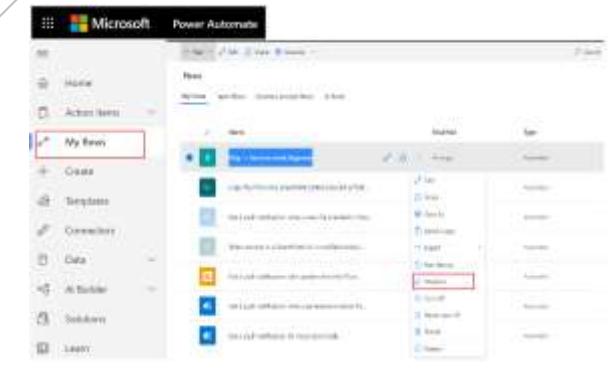
Flow Usage

- ◆ API usage
- ◆ Runs by day
- ◆ Total number of runs for the flow
- ◆ Gain insights into when the flow is run with the flow run trends

Flow Health

- ◆ The number of errors per day
- ◆ Flow errors by type
- ◆ Understand the details of a specific error – Error source, action or trigger name, error status code, error count, last error occurrence, last error message and detail

<https://flow.microsoft.com>



Maker analytics for Power Apps – Individual app level views

App Makers and Administrators can view details for each app within their scope, for last 7, 14, 28 days with data refreshed every 4-6 hours

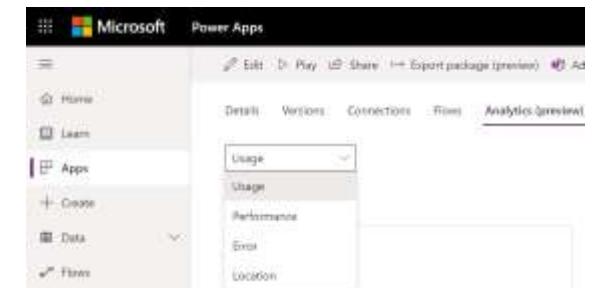
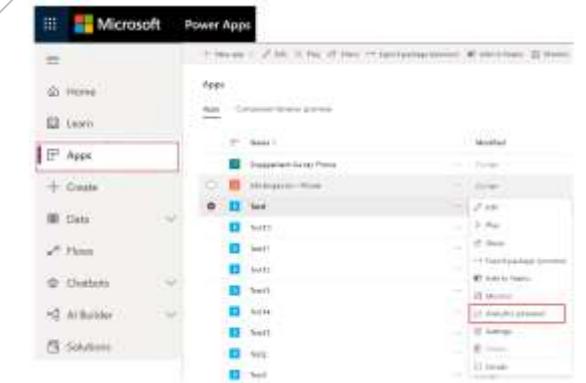
App Adoption and Usage

- ◆ Active Users – How many users are using the app and daily active usage
- ◆ Location – Where is the app usage and filter by country
- ◆ App Usage – App launches with filters for device platform, player version, country

App Health

- ◆ Toast errors are errors which end users see
 - Errors per app in the environment,
 - Error trends across apps,
 - Overview across all apps for error breakdown by https status
- ◆ Performance – Best and least performing service(std and custom) in the environment

<https://make.powerapps.com>



Data Export (preview)

Tenant level analytics

Export tenant level analytics to Azure Data Lake

Bring your own lake (BYOL)

The screenshot displays two main administrative interfaces for Microsoft Power Platform:

Microsoft Power Platform Admin Center - Data export (preview)

This interface allows managing data exports to Azure Data Lake. It shows a table with the following data:

Data package	Environment	Storage account name	Status
Power Apps	All	poweranalytics	Connected

Microsoft Power Platform Admin Center - Storage Explorer (preview)

This interface shows the storage structure of the 'poweranalytics' storage account:

- CONTAINERS:
 - powerplatform
- FILE SHARES
- QUEUES
- TABLES

The 'powerplatform' container contains the following files:

NAME	LAST MODIFIED
Applications	9/10/2021, 1:15:38 PM
ConnectionReference	9/11/2021, 1:32:55 PM
Connections	9/10/2021, 1:15:38 PM
environments	9/7/2021, 1:32:37 PM
usage	9/9/2021, 1:19:03 PM

Platform incidents

4

Monitoring platform status

Power Apps and Automate services platform status can be seen in both portals and Office 365 Service Health

[https://admin.microsoft.com/Adminportal/Home
?source=applauncher#/servicehealth](https://admin.microsoft.com/Adminportal/Home?source=applauncher#/servicehealth)

Service health

All services Incidents Advisories History Reported issues

View the health status of all services that are available with your current subscriptions.

Preferences

Service

Health

Microsoft Power Automate

Healthy

Power Apps

Healthy

Power Apps Support

<https://powerapps.microsoft.com/en-us/support>

No known issues: Power Apps is running smoothly

Search

Search support



Power Automate support

<https://flow.microsoft.com/en-us/support>

Warning:

Starting October 12th, security certificates of old Power Automate Desktop versions (older than July 21 release - version 2.11.51.21196) will expire. Users using these old versions will need to install the latest version of Power Automate Desktop to continue using desktop flows.

Last updated: 10/07/2021 4:54:15 PM UTC

Monitoring platform updates and changes

Power Apps and Automate services platform updates and changes can be monitored in Office 365 Message Center

Message center

Last sync to Planner: October 19, 2020, 3:24 PM [Sync now](#)

Each message gives you a high-level overview of a planned change and how it may affect your users, and links out to more detailed information to help you prepare. [Learn more about managing changes](#)

[Inbox](#) [Archive](#)

[Preferences](#) [Planner syncing](#)

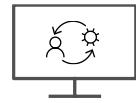
3 items [Search](#)

Filters: Service: Microsoft Power Automate, Microsoft Po... , +2 [X](#) Tag [Message state](#)

Message title	Star	Service	Last updated	Act by	Tag
(Updated) Power Apps can now display images from Mic...	:	Power Apps in Microsoft 365 Share	Oct 5, 2021		NEW FEATURE USER IMPACT
Upcoming changes to Power Apps per app plan licenses	:	Power Apps	Sep 24, 2021		ADMIN IMPACT
(Updated) PowerApps/PowerAutomate Retirement of Di...	:	Microsoft Power Automate in Microsoft...	Aug 26, 2021	Sep 25, 2021	MAJOR UPDATE ADMIN IMPACT +2

Establishing a low-code Center of Excellence (CoE) **CoE Starter Kit**

What is CoE Starter Kit



Existing offering:
Admin Centre capabilities
Extensibility via Connectors

The image displays several screenshots of Microsoft Power Platform components and dashboards, illustrating the existing offering and extensibility via connectors.

- Developer Compliance Center:** A dashboard showing various compliance-related cards and links to developer portals.
- PowerApps:** A screenshot of the PowerApps portal with a message about updating app details for compliance.
- Welcome to Power Apps and Microsoft Flow:** A dashboard showing PowerApps and Microsoft Flow metrics and charts.
- Microsoft Power Platform:** A screenshot of the Power Platform portal.
- Template Catalog:** A listing of available templates, including "Starter Template" and "Naming Conventions".
- Cloud App Initiative Tenant Adoption:** A dashboard showing tenant overview statistics and maps of app usage.

Templates:
A templated implementation of best practices

The **CoE Starter Kit** is a collection of components and tools designed to help you get started with developing a strategy for adopting and supporting the Power Platform.

<https://aka.ms/coestarterkit>

Building blocks

CoE Starter building blocks

The dashboard displays various metrics such as the number of environments, users, and active makers. It includes a map of app maker locations and a list of top 20 environments by app count.



Core

Gain Insights into your Power Platform adoption

The center provides a central hub for managing compliance across various Power Platform components like flows, canvas apps, and SharePoint form apps.



Governance

Establish Audit, Compliance and Archive processes

The hub is a centralized location for users to discover and learn from various Power Platform experts and their contributions.



Nurture

Accelerate your adoption with a thriving community

Admin Components - Core

CoE Starter Kit Building Blocks

These components provide the core to get started with setting up a CoE – including **Sync Flows** to gather information about all your resources into Dataverse tables and build Apps and reports on top of that to help you get more visibility of what apps, flows and makers are in your environment.

Core Components contains mainly assets relevant to admins but also provides foundation for some of the other CoE components like Governance and Nurture

The image shows two screenshots of Microsoft Power Platform admin tools. The top screenshot is the 'Power Platform Dashboard' under 'Power App' in the 'Power Platform Admin View'. It displays various metrics and charts, including 'Active Makers' (a bar chart) and 'Active Environments' (a stacked bar chart). The bottom screenshot is the 'Power Apps | Environment Request' page, showing a list of pending environment creation requests with columns for Id, Name, Expiration, Status, and Requested.

Id	Name	Expiration	Status	Requested
ECR-01002	My Custom Environment	60 days (requested)	Pending	10/31/2021
ECR-01001	MyEnv	60 days (requested)	Pending	10/08/2021
ECR-01000	CustomApp Development	30 days (requested)	Pending	10/05/2021

Cloud flows

- Display name T ↻
- Admin | Capacity Alerts
- Admin | Compliance detail request v3
- Admin | Sync Template v3
- Admin | Sync Template v3 (Apps)
- Admin | Sync Template v3 (Connectors)
- Admin | Sync Template v3 (Custom Connectors)
- Admin | Sync Template v3 (Desktop Flow - Runs)
- Admin | Sync Template v3 (Desktop flows)
- Admin | Sync Template v3 (Flow Action Details)
- Admin | Sync Template v3 (Flows)

| Sync Template v3 (Model Driven Apps)

| Sync Template v3 (Portals)

| Sync Template v3 (PVA)

| Sync Template v3 (Sync Flow Errors)

Learn more [here](#).

Governance Components – Audit & Compliance

CoE Starter Kit Building Blocks

After you've become familiar with your environment and resources, you might start thinking about audit and compliance processes for your apps. You might want to gather additional information about your apps from your makers, or audit specific connectors or app usage. The apps and flows that are part of this solution help you get started.

The screenshot shows the Microsoft Power Apps Developer Compliance Center interface. The main area displays a grid of app and flow details, categorized by type (Canvas Apps, Model-Driven Apps, SharePoint Form Apps, Flows, Chatbots, Custom Connectors) and status (Production, Personal Productivity, Admin - Environment Request). Each item in the grid has a 'Details' button. A modal window titled 'PowerApps' is open on the right, prompting the user to 'Update your app details to stay in compliance.' It includes sections for 'App Details' (Display Name: Heritage Diary working, Environment: Contoso (Development) (contosodev)) and 'Instructions' (with steps 1-3 for auditing). At the bottom of the modal, it says 'Questions? Get help from our community [Yammer Group](#)'.

Learn more [here](#).

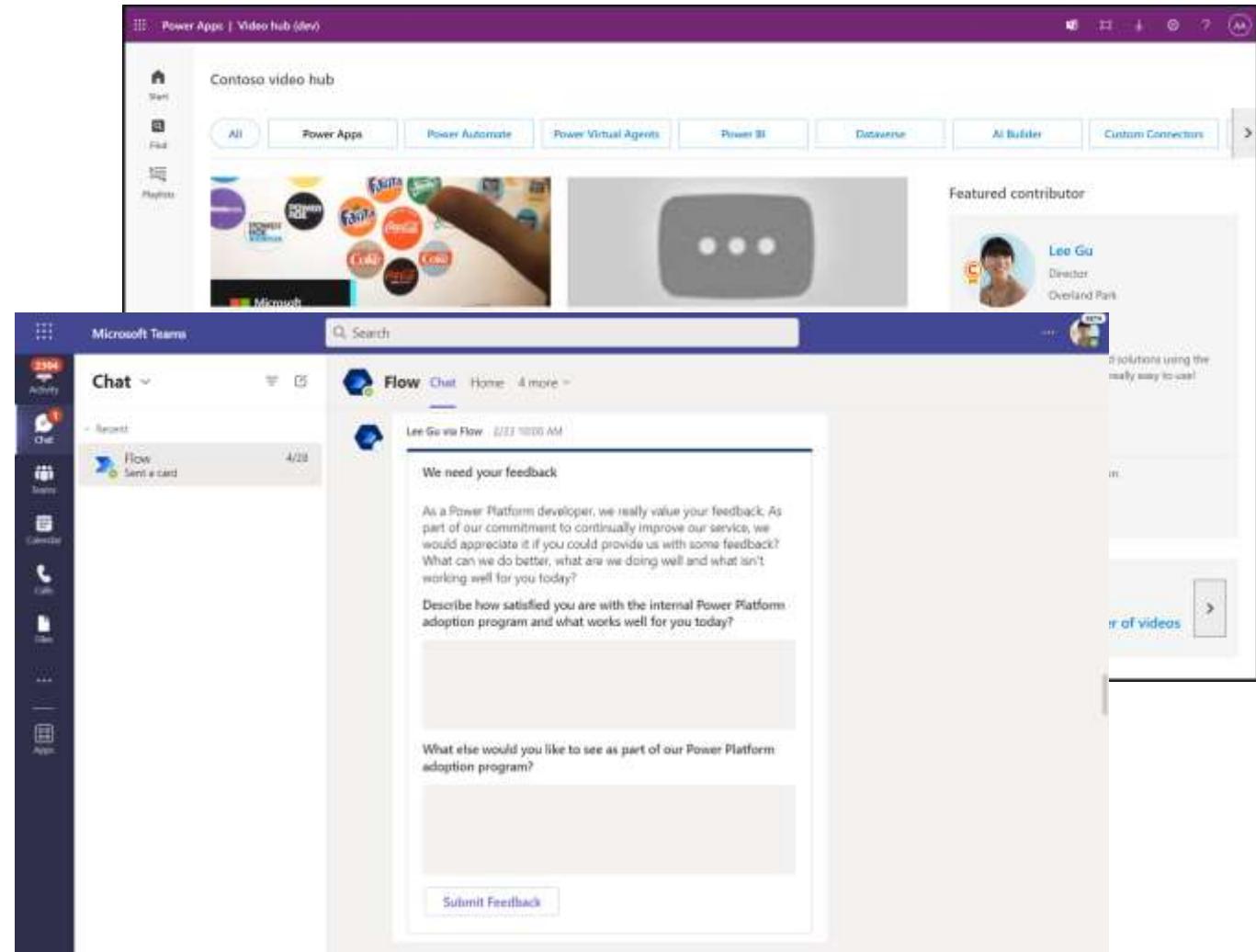
Nurture Components - Learning

CoE Starter Kit Building Blocks

An essential part of establishing a CoE is nurturing your makers and an internal community. You will want to share best practices and templates and onboard new makers – the assets part of this solution can help develop a strategy for this motion.

The Nurture Components solution contains assets relevant to everyone in the organization, admins, makers as well as end users of apps and flows.

Learn more [here](#).



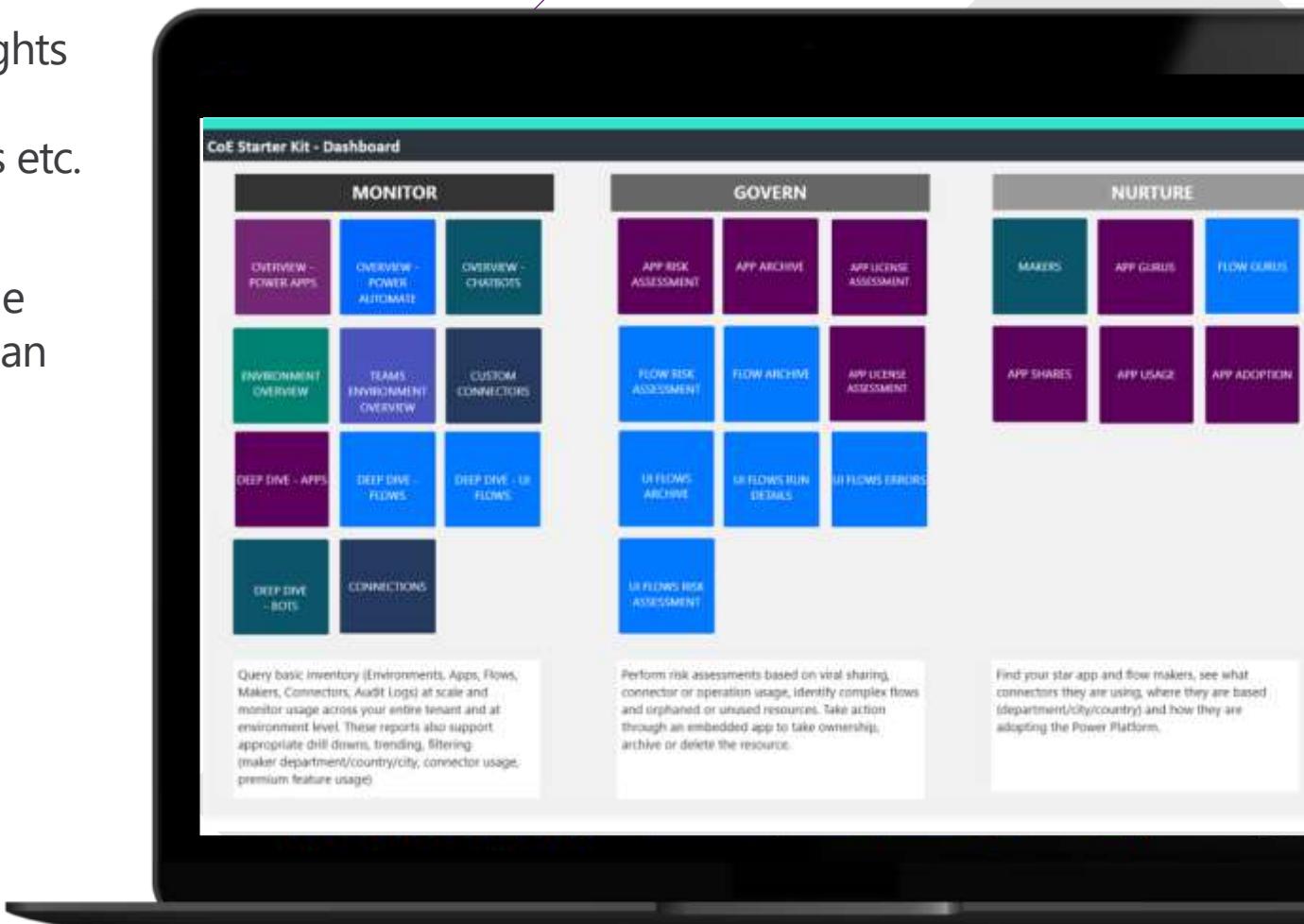
Power BI Dashboards

Provides a holistic view with visualizations and insights into resources in your tenant: Environments, Apps, Flows, Connectors, Connections, Audit Log, Makers etc.

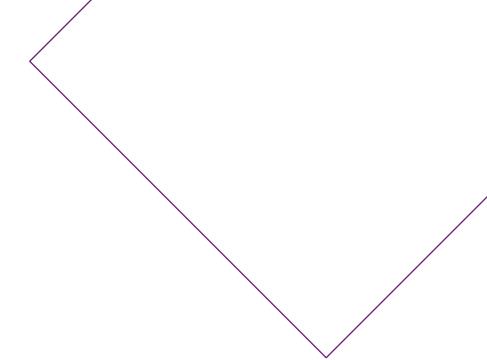
Telemetry from the audit log is stored from the moment you set up the CoE Starter Kit, so over time you can look back and identify trends for longer than 28 days

The dashboard provides analytics and data for the following areas

- **Monitor** - Oversight of tenant resources
- **Govern** - Drive actions through insights
- **Nurture** - Learn about your community



Reports Available



Overview – Apps, Flows, Chatbots

A tenant-wide overview of resources

Environments

Shows you how many environments, environment makers, and Microsoft Dataverse instances you have

Microsoft Teams Environments

Shows you the number of Microsoft Teams environments, environment makers, and resources in those environments you have

Apps

An overview of apps in your environment

Cloud Flows

An overview of flows in your environment

© Microsoft Corporation

App / Flow Connections

Shows which resources and makers are using which connectors and—at a high level—which resources and makers are using premium features.

App and Flow Risk Assessment

Identify overshared and overused resources, or resources that use specific connectors.

App License Assessment

View apps that use premium or standard features and drill down into connectors, departments or makers that are using premium connectors.

App, Flow and Desktop Flow Archive

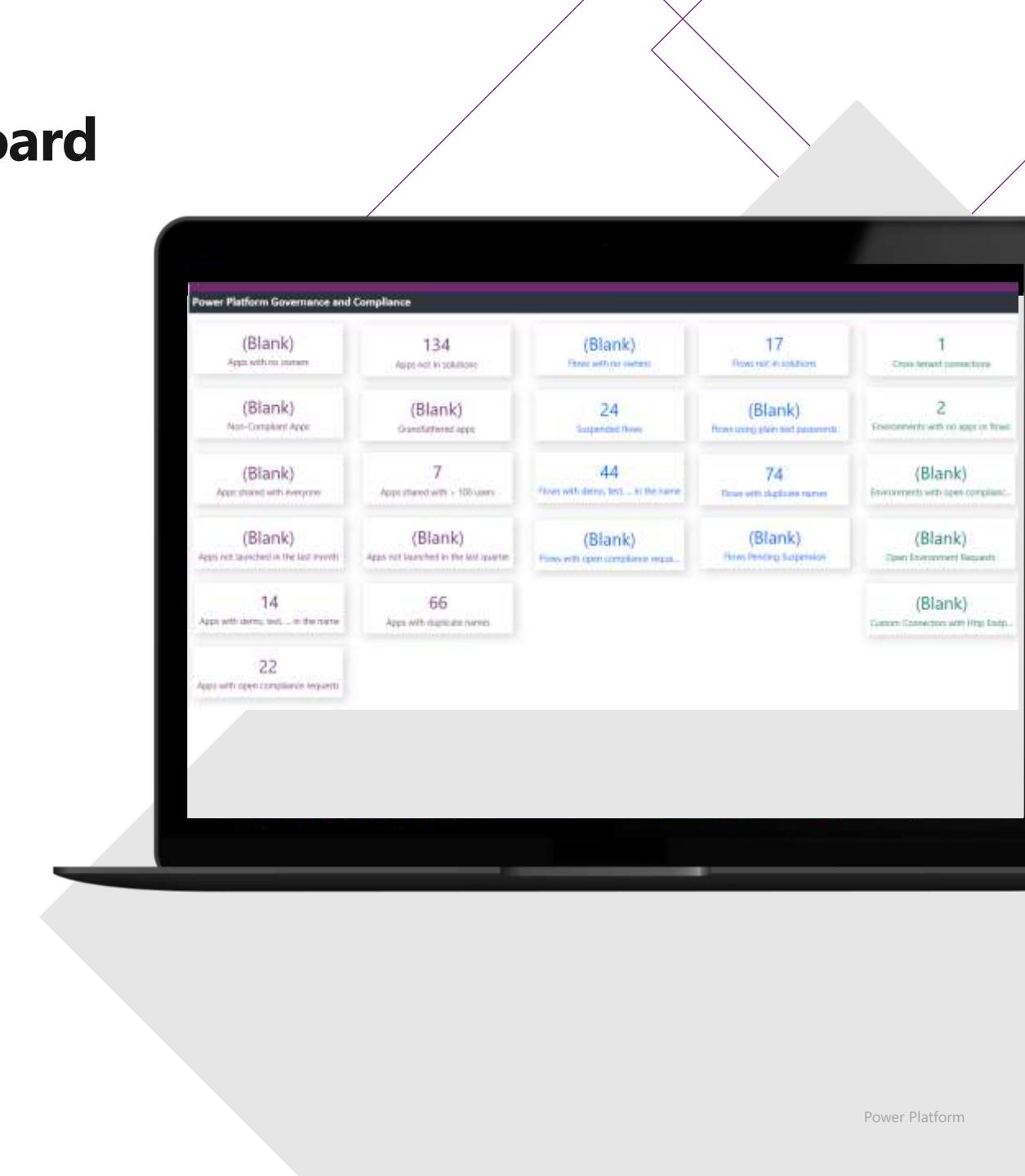
Identify unused apps, flows and desktop flows by monitoring their archive score: in short, the higher the score, the more likely it is that you can safely archive the resource.

Power Platform

Compliance and Governance Dashboard

The **Compliance and Governance insights** page provides you with a tenant-wide overview of:

- Apps and flows without an owner
- Apps and flows not in solutions
- Apps and flows with duplicate names
- Apps and flows with test, demo, template in the name
- Apps and flows with open [compliance details requests](#)
- Apps currently not compliant with DLP policies or billing policies
- Grandfathered apps
- Apps shared with everyone and apps shared with more than 100 users
- Apps not launched in the last month and in the last quarter
- Suspended flows
- Flows using plain text passwords
- Cross-tenant connections
- Environments with no apps or flows



Additional components

Innovation Backlog - Ideas

Additional components

Use the Innovation Backlog app to ask users to submit ideas for apps and flows that need building and describe pain points with the current process. As users describe the process, they will provide information about personas involved, tools used, and measures for improvement. This information is then used to calculate an ROI and complexity score

The screenshot shows a Microsoft Power Apps interface titled "Innovation Backlog". On the left, there's a sidebar with a green vertical bar containing "Submitted Ideas", "Search", and "Add idea". Below this are four items: "Automate Environment", "Customer Feedback", "Find the Expert", and "Make the Awesomizer actually". Each item has a "Developer Owner" status (Available), a cost ("\$20,000.00 /month" or "\$12,777.00 /month"), time ("0.2 hours/month" or "103.3 hours/month"), and complexity ("Not Configured" or "Complexity"). To the right of the sidebar, there are columns for "Idea", "Being developed for", "Pain Points", "Estimated return on investment", "Number of Likes", "Status", "Developer Owner", and "Tools". The "Idea" column lists "Automate Environment Provisioning" and "Time Consuming Manual Work, Processing Delays". The "Pain Points" column lists "Automation Environment Provisioning" and "Time Consuming Manual Work, Processing Delays". The "Estimated return on investment" column lists "\$20,000.00 /month" and "0.2 hours/month". The "Number of Likes" column shows "1" with a "Add like" button. The "Status" column shows "New" with an "Edit status" button. The "Developer Owner" column shows "Available" with an "Edit dev owner" button. The "Tools" column shows icons for a shield and a blue arrow.

Learn more [here](#).

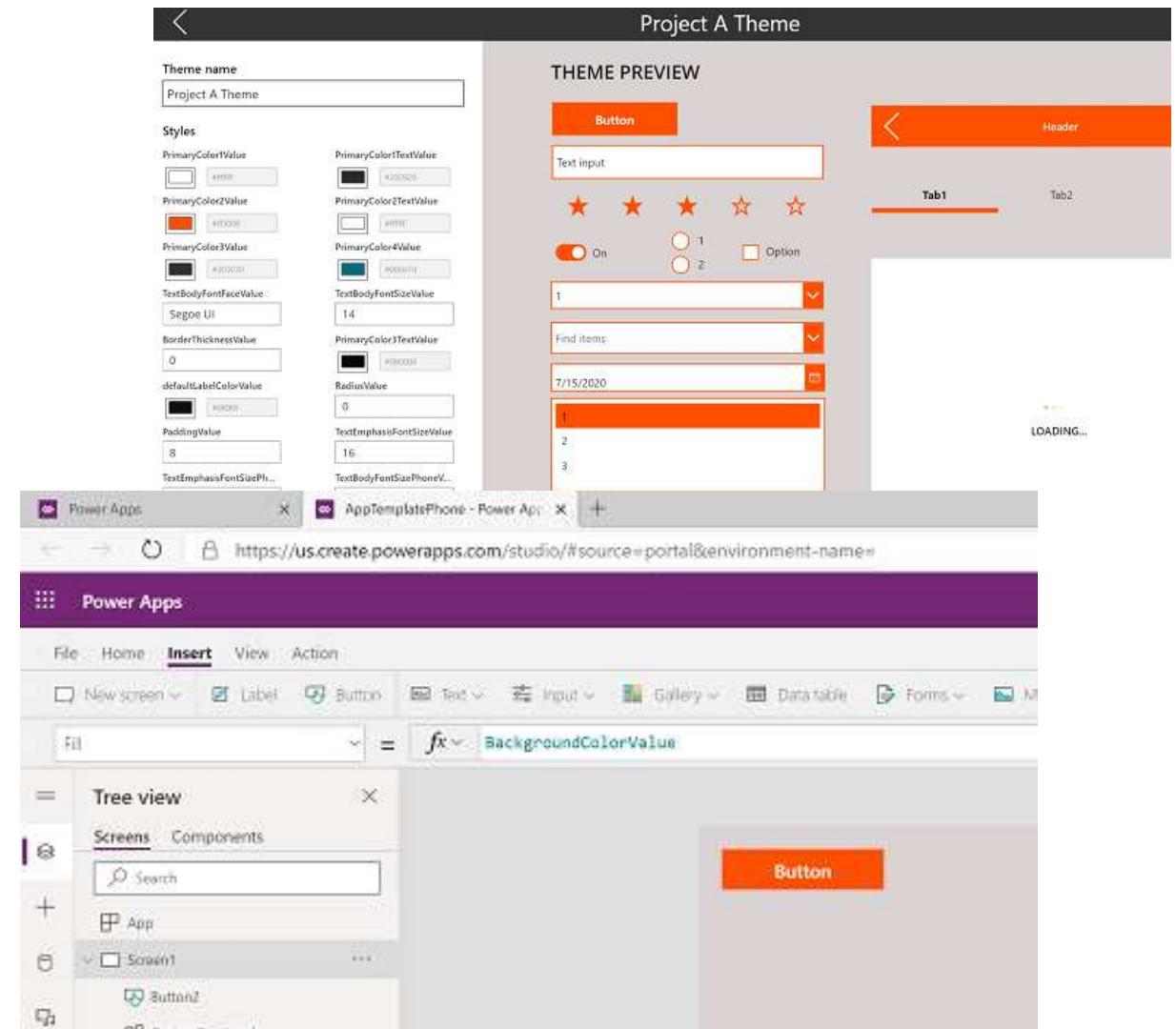
Theming Components - Branding

Additional components

You use theming components to create, manage, and share themes for canvas apps. A theme contains a collection of styles that define multiple design properties for controls and components such as colors, fonts, and borders. These styles are then applied automatically to controls and components when makers use the themed template app to create a new app.

The theming components solution doesn't have a dependency on other components of the CoE Starter Kit, so it can be used independently.

Learn more [here](#).

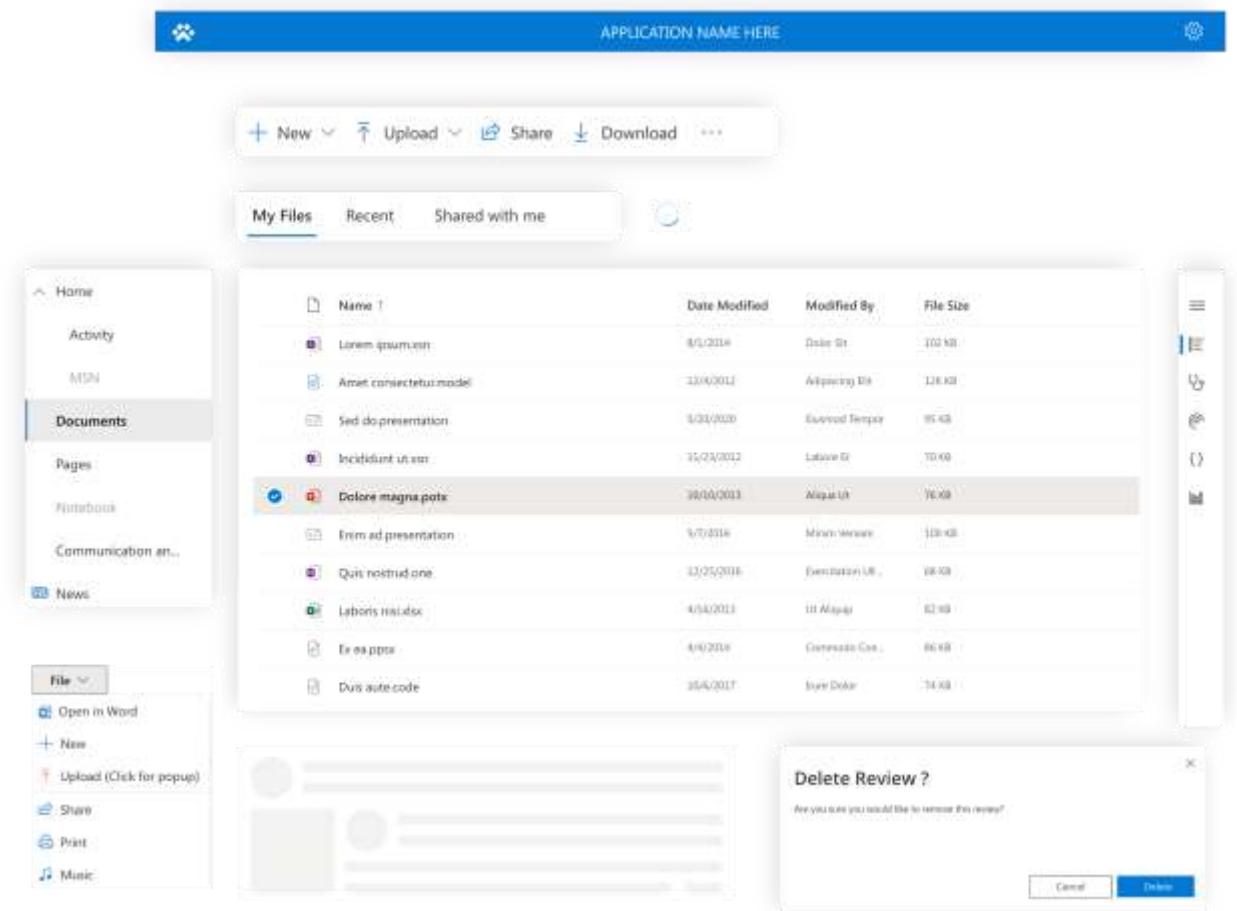


Content Creator Kit

Additional components

The Creator Kit helps create Power Apps experiences on the web and mobile platforms with convenient components that are ubiquitous in modern software. The kit contains a component library, several commonly used [Power Apps component framework controls](#), a set of templates, and other utilities that increase developer productivity.

All controls and components included in the kit use the [Fluent UI](#) framework to help you easily create consistent, beautiful, and effective user experiences for custom business applications.

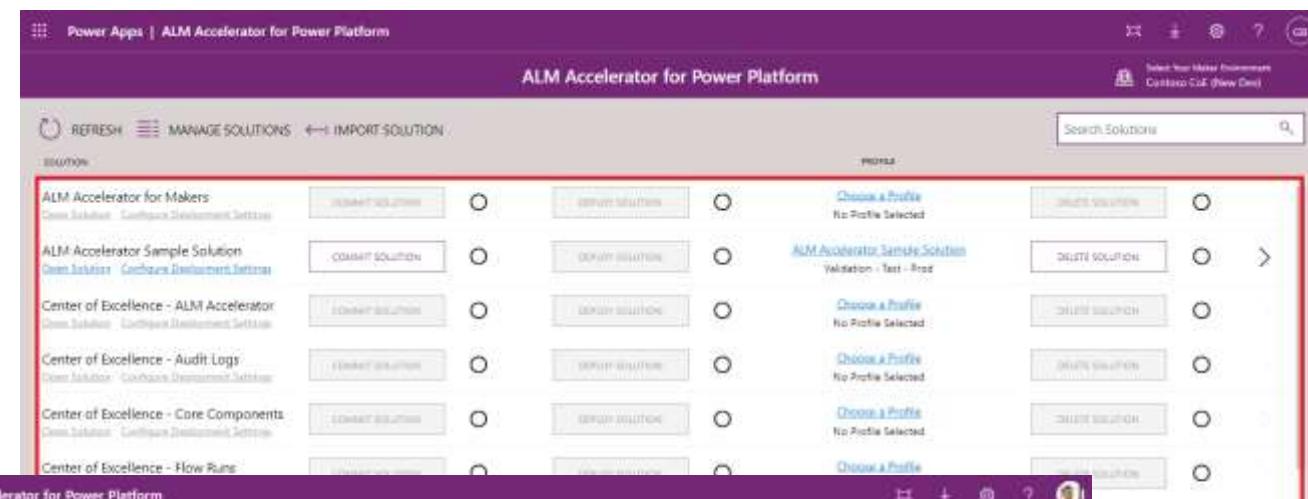


Learn more [here](#).

ALM Accelerator for Power Platform

Additional components

- Perform **source control, enable version history**, and deploy their solutions in Power Platform
- Its target users are makers with no ALM knowledge
- Uses **Azure DevOps Pipelines** through a **canvas app** to provide a **simplified interface** for makers to regularly commit and create pull requests for their development work
- It is a **reference implementation** of ALM patterns and practices using other in-built platform capabilities and **can be customized**



Power Platform ALM Accelerator Request History					
Request	Status	Action	Requested By	Destination	Profile
12/1/2021 4:30 PM - ALM Accelerator Sample Solution	blue circle with arrow	DEPLOY SOLUTION	Graham Barnes	ALMAcceleratorSampleSolution	ALM Accelerator Sample Solution Validation - Test - Prod
12/1/2021 3:50 PM - ALM Accelerator Sample Solution	green checkmark	COMMIT SOLUTION	Graham Barnes	GrahamB@PPlatorm.onmicrosoft.com-ALMAcceleratorSampleSolution	ALM Accelerator Sample Solution Validation - Test - Prod
12/1/2021 3:41 PM - ALM Accelerator Sample Solution	red circle with minus sign	COMMIT SOLUTION	Graham Barnes	GrahamB@PPlatorm.onmicrosoft.com-ALMAcceleratorSampleSolution	ALM Accelerator Sample Solution Validation - Test - Prod

Learn more [here](#).

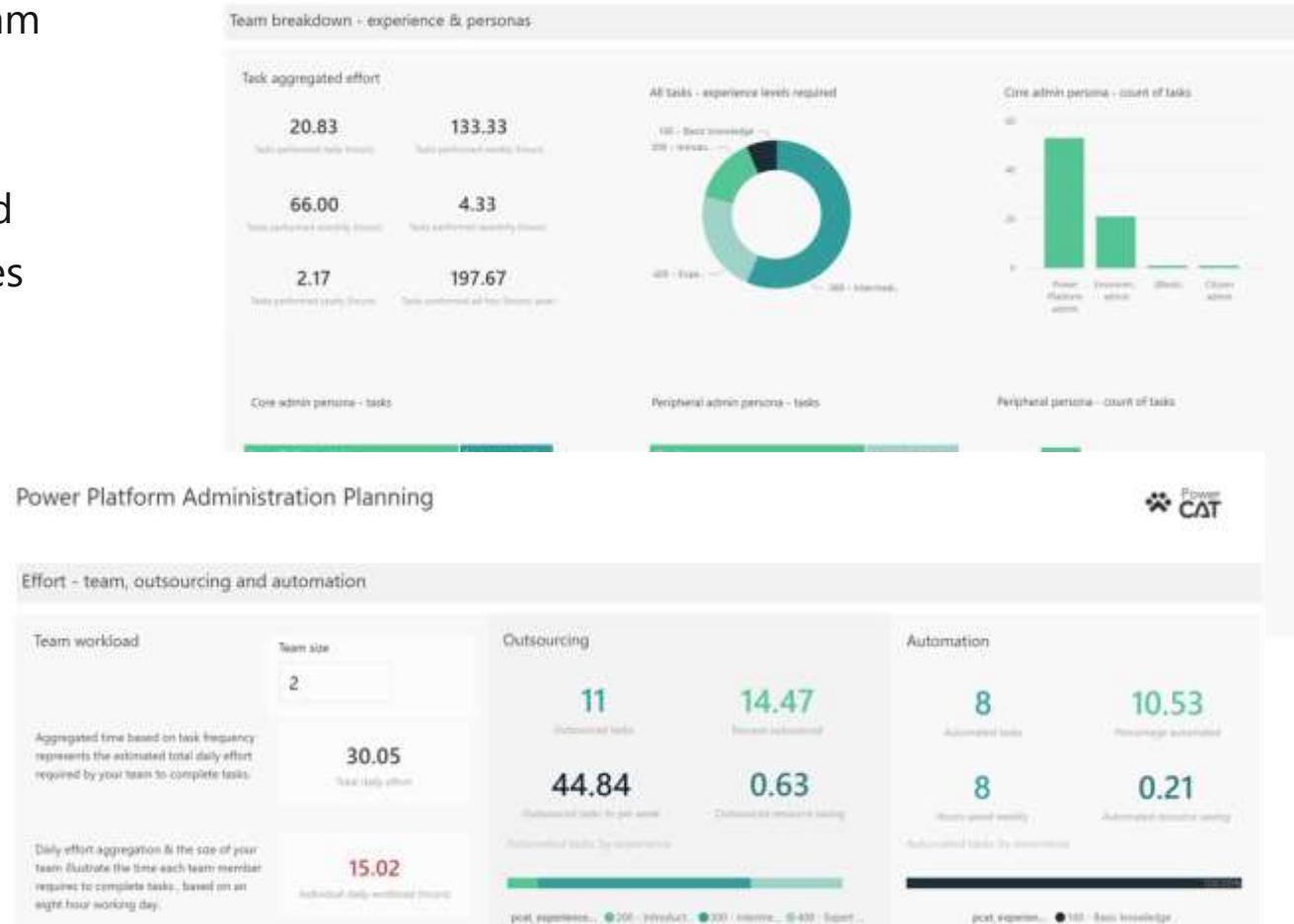
Administration Planning

CoE Starter Kit Standalone Add-ons

Behind the scenes, your IT and Center of Excellence team spends time configuring, managing and nurturing the adoption of Microsoft Power Platform. Understanding how that time is spent can help you plan who you need on your team and find the highest-impact opportunities to streamline the administrative effort.

Microsoft Power Platform administration planning is designed to help you:

- Better plan your team structure.
- Review where you spend time, and look for automation or innovation opportunities



Learn more [here](#).

CoE Starter Kit – Extend

- When you're ready to extend the CoE Starter Kit with your own ideas, you'll do so by making modifications to the solution components in your own **unmanaged** solution
- Choose components from the CoE Starter Kit to add to your new solution
- Extend the CoE Starter Kit by making modifications to the solution components in the context of your new unmanaged solution
- Deploy your solution to test and production. We recommend making modifications and installing updates pushed by our team to the solution in a development environment dedicated to this kit and hosting a production environment that has the real data. If data is being accessed and contributed by other users, it's a good idea to have separate development, test, and production environments.

CoE Starter Kit - Documentation

Center of Excellence Starter Kit documentation can be found from

<https://docs.microsoft.com/en-us/power-platform/guidance/coe/starter-kit>

- Requirements and limitations
- Comparison of different CoE versions (Production / Dataverse for Teams)
- Setup and how to use instructions
- Guidelines how update and extend the toolkit
- Detailed documentation of each component like individual Flows, Apps etc. of the CoE

The screenshot shows a Microsoft Docs page titled "Microsoft Power Platform Center of Excellence (CoE) Starter Kit". The page includes a sidebar with navigation links for "Power Platform guidance", "Adoption best practices", "Center of Excellence (CoE) Kit", and "What's in the CoE Starter Kit". The main content area features a heading, a summary, and four icons representing Overview, Admin, Govern, and Nurture.

Microsoft Power Platform Center of Excellence (CoE) Starter Kit

07/06/2021 • 2 minutes to read •

A Center of Excellence (CoE) in an organization drives innovation and improvement and brings together like-minded people with similar business goals to share knowledge and success, while at the same time providing standards, consistency, and governance to the organization.

The Microsoft Power Platform CoE Starter Kit is a collection of components and tools that are designed to help you get started with developing a strategy for adopting and supporting Microsoft Power Platform, with a focus on Power Apps, Power Automate, and Power Virtual Agents.

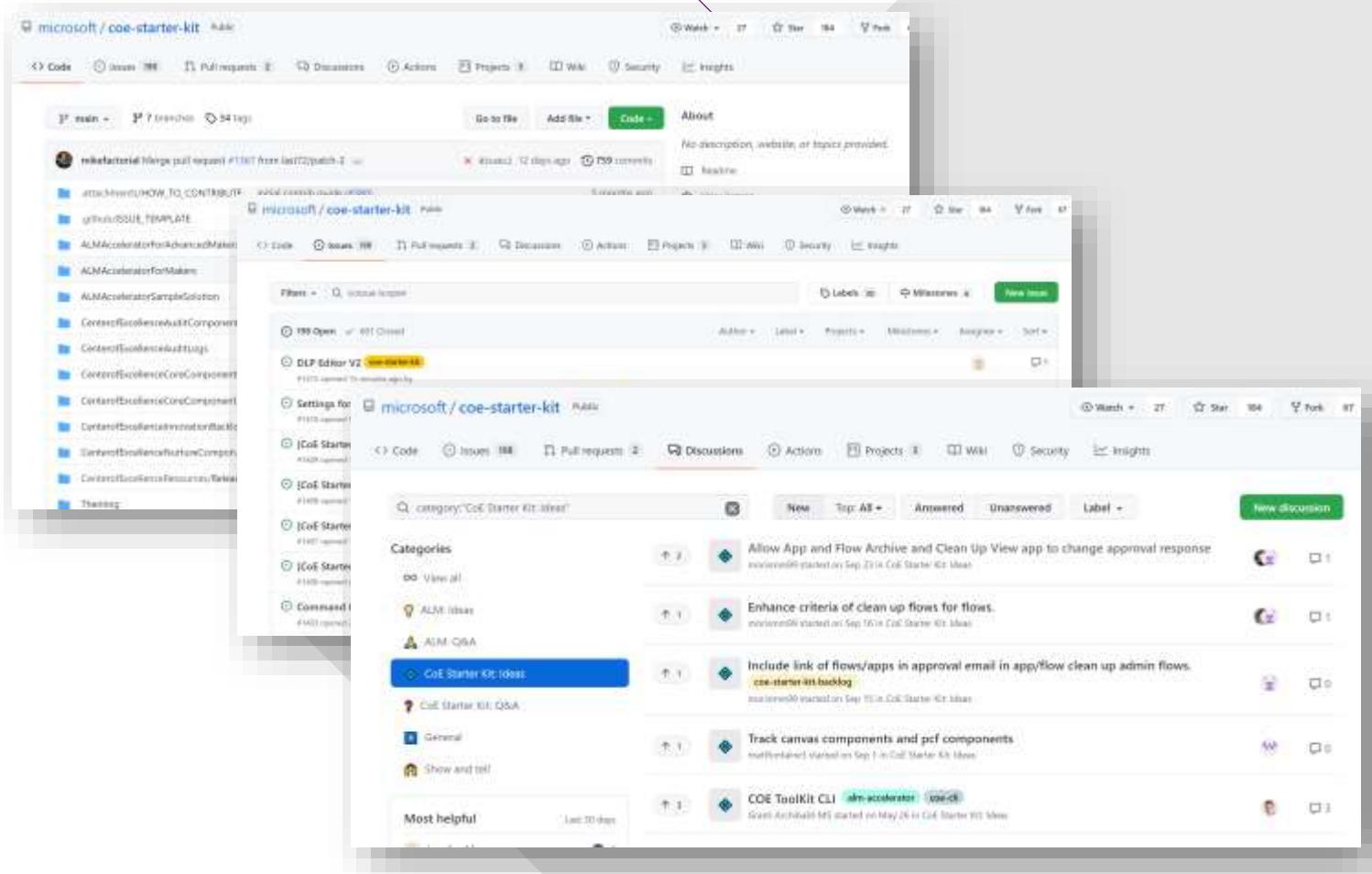
Overview	Admin	Govern	Nurture
Define goals and expected outcomes of your CoE <ul style="list-style-type: none">• Overview• Motivation• Download	Gain insights into your Microsoft Power Platform adoption <ul style="list-style-type: none">• Set up• Use• Deep dive	Establish audit and compliance processes <ul style="list-style-type: none">• Set up• Use• Deep dive	Accelerate your adoption by thriving with a community of makers <ul style="list-style-type: none">• Set up• Use

CoE Starter Kit – GitHub Repo

Center of Excellence Starter Kit GitHub Repository can be found from

<https://github.com/microsoft/coe-starter-kit>

- Download latest and previous version of CoE
- Report possible issues and get support (not officially supported by MS)
- Request new features
- Have a discussions and share ideas
- Contribute



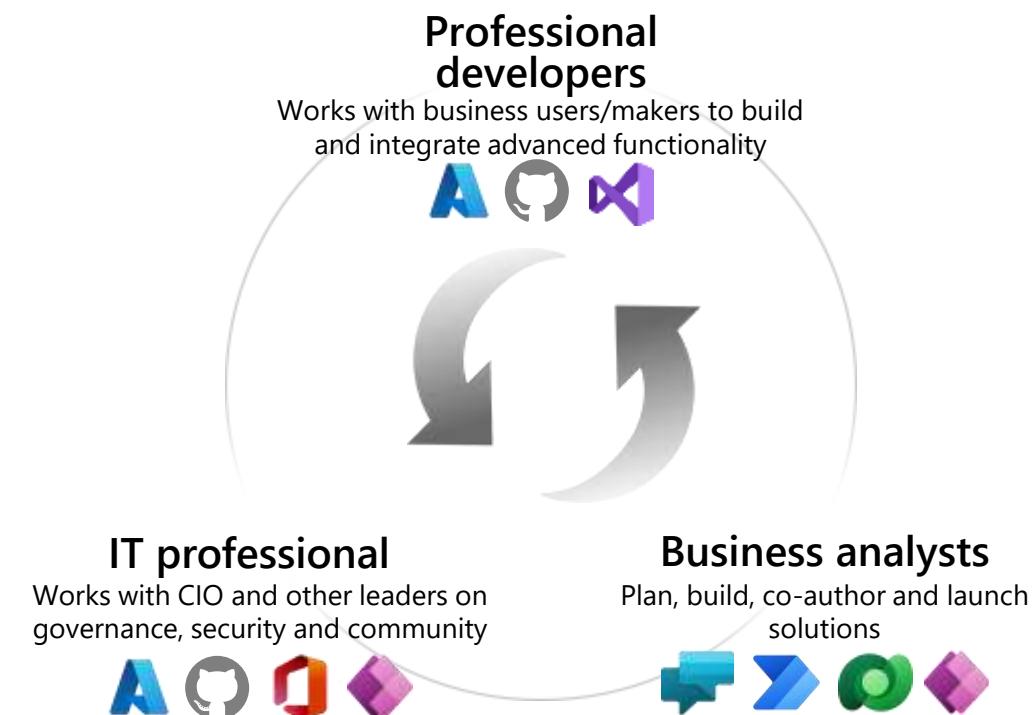
ALM with Power Platform

Core concepts

Fusion Team

What is it?

Digital “fusion teams” are distributed and multidisciplinary digital business teams that blend technology and other types of domain expertise



Critical players in creating fusion development

How a fusion team collaborates on building an app

Let's take a look at who across an enterprise might be involved in successful fusion development, and what expertise they would bring.



CIO

Sets fusion vision and aligns to business goals



Governance and Security Lead

Works with IT pro to set data protection policies for fusion apps



IT pro

Sets up managed environments, ALM, training



Code-first Developer

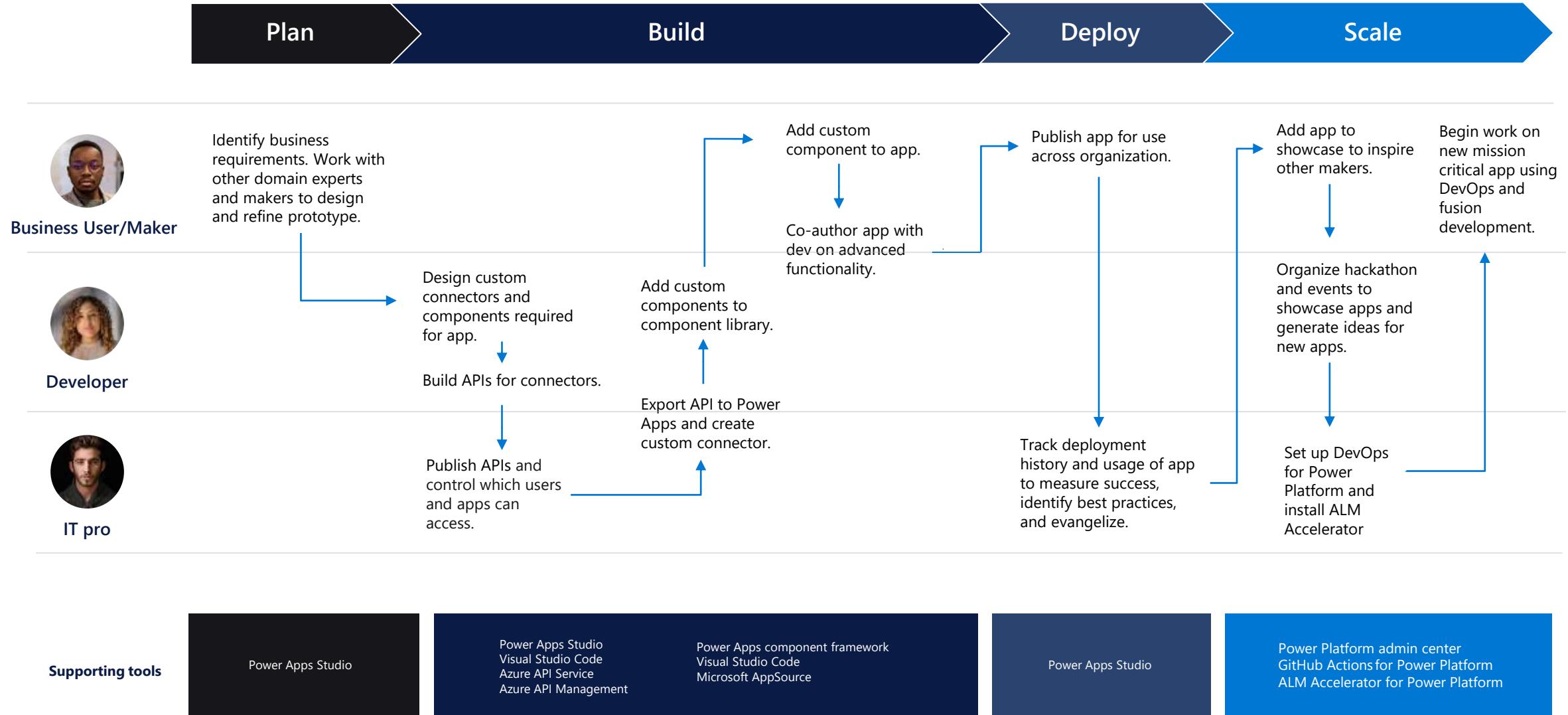
Builds custom connectors and components and co-authors development of advanced functionality



Business User/ Low Code Developer

Identifies business requirements for app and collaborates with other domain experts and developers to build and publish app

Fusion teams in practice



The fusion team maturity model

The 5 phases of full realization of benefits for fusion development

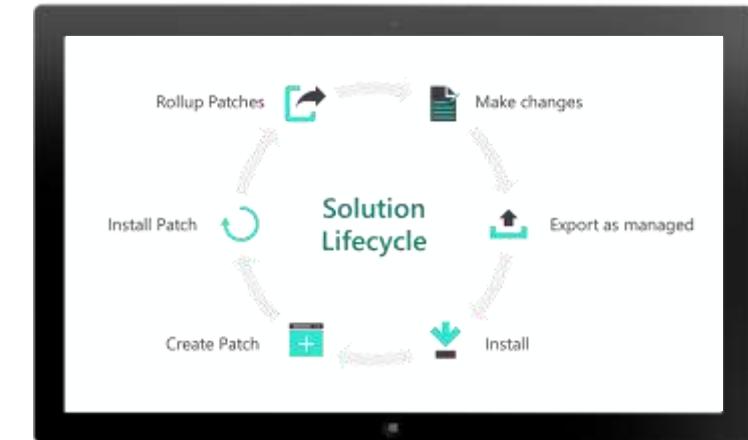
Initiation	Preparation	Collaboration	Acceleration	Innovation
<p>Plan and launch a fusion program</p> <ul style="list-style-type: none">> Fusion opportunity identification> CIO-led charter and approach to structuring> Application assessment> Champions of process identified> Cross IT executive buy-in	<p>Set up governance and security strategy</p> <ul style="list-style-type: none">> Creation of controlled environments and proper governance> Formal COE established> Establishment of roles and responsibilities> Skilling distribution across fusion team	<p>Collaborate on app development</p> <ul style="list-style-type: none">> Initial application built> Fusion team focus on areas of expertise> Achieve rapid deployment and real-time iterations	<p>Maintain quality with DevOps and best practices</p> <ul style="list-style-type: none">> Best practices are curated and scaled> Showcase fusion-built apps> Field ideas for new apps> Apply standard DevOps processes to fusion apps	<p>Enjoy the benefits of fusion development</p> <ul style="list-style-type: none">> Fusion applications flourish around the entire enterprise, empowering teams to ideate and execute> Pro devs and IT pros have confidently secured environments for creation of mission-critical apps> Competitive advantage realized
<p>Key driver: CIOs</p>	<p>Key driver: IT pros (Sec, DevOps, etc.)</p>	<p>Key driver: Pro devs, Business Users/Makers</p>	<p>Key driver: CIOs, IT pros</p>	<p>Key driver: Pro devs, IT pros</p>

ALM basics with Power Platform



Solutions

Solutions enables application lifecycle management in Power Platform



Author solutions

Solutions are containers to track the changes and customizations you make

Deploy solutions

Solutions are how you transport and install changes to target environments

Manage solution lifecycle

Solutions enable lifecycle management for your customizations and can be fully integrated into your DevOps processes

Solutions types



Unmanaged

- Used in **development environments** while you make changes to your application.
- Can be **exported** either as **unmanaged** or **managed**.
- **Exported unmanaged** versions of solutions should be **checked** into **source control system**.
- Unmanaged solution, not environments, must be considered the **source of true** for Microsoft Power Platform assets
- When **deleted**, its components remains and belongs to **Default Solution**.

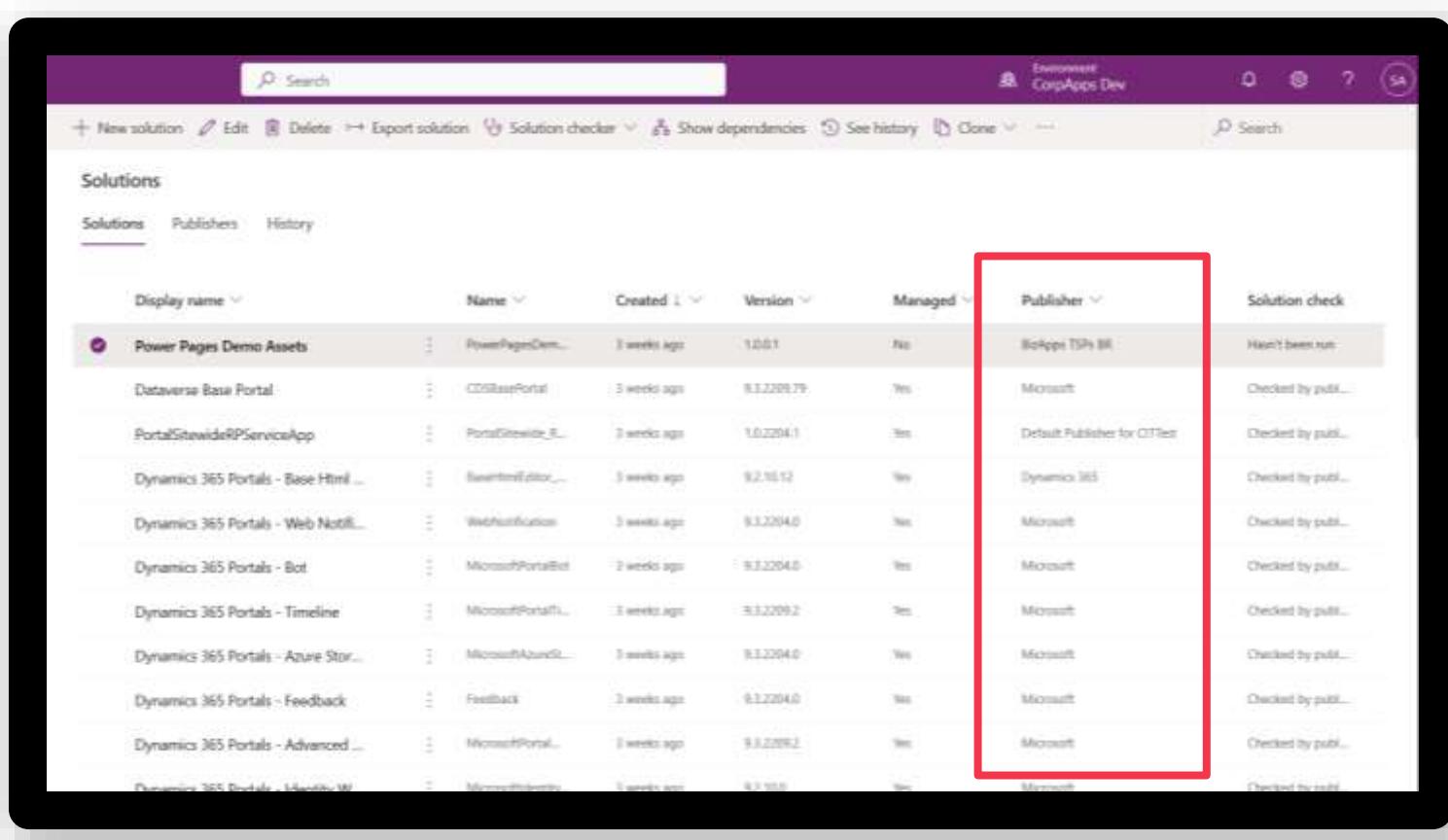


Managed

- Used in all any environment **that isn't a development** environment for that solution.
- Must be considered a **build artifact**.
- **You can't edit components** directly within a managed solution. But you can define some **properties** that can be changed at destination environment
- **Altering a managed component** at destination environment will create a **dependent unmanaged solution**.
- When a managed solution is **deleted** (uninstalled), **all the customizations** and **extensions** included with it are **removed**.

Solution publisher

- Solutions **require a publisher**
- Publisher can be associated with multiple solutions
- **Two default publishers** are included
 - CDS Default Publisher
 - Default Publisher for “your org name”
- **Create your own publisher** - do not use one of the default publishers
- Use the **same publisher in all your solutions**
- The publisher dictates the **customizations prefix and choice values**
- **Important** - When importing new assets through a managed solution, the **publisher “owns” those assets**

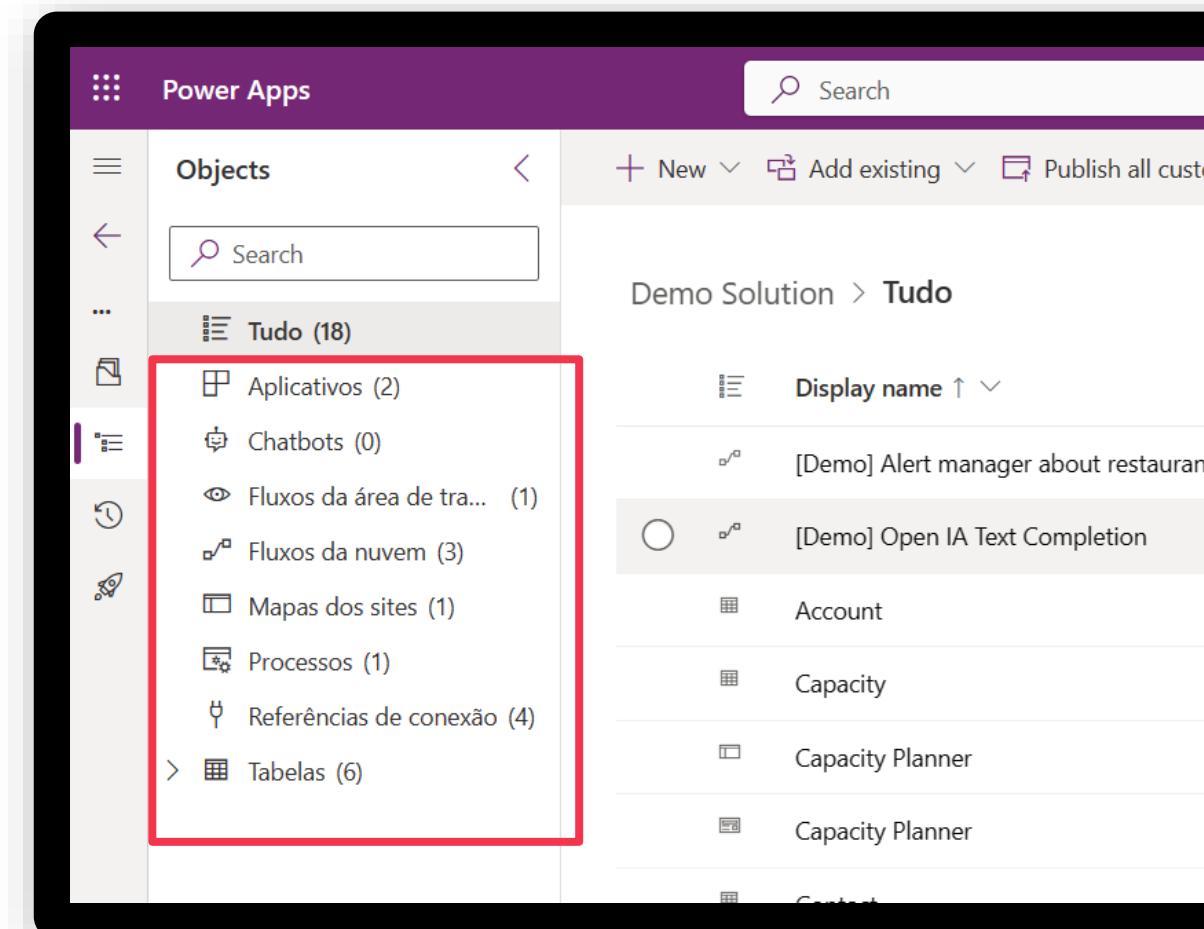


Display name	Name	Created	Version	Managed	Publisher	Solution check
Power Pages Demo Assets	PowerPagesDemo...	3 weeks ago	1.0.0.1	No	00App TSPr BR	Hasn't been run
Dataverse Base Portal	CDSBasePortal	3 weeks ago	9.3.2209.79	Yes	Microsoft	Checked by publ...
PortalSitewideRPServicesApp	PortalSitewide_E...	3 weeks ago	1.0.2204.1	Yes	Default Publisher for CITest	Checked by publ...
Dynamics 365 Portals - Base Html ...	BaseHtmlEditor...	3 weeks ago	9.2.10.12	Yes	Dynamics 365	Checked by publ...
Dynamics 365 Portals - Web Notifi...	WebNotifications	3 weeks ago	9.3.2204.0	No	Microsoft	Checked by publ...
Dynamics 365 Portals - Bot	MicrosoftPortalBot	3 weeks ago	9.3.2204.0	Yes	Microsoft	Checked by publ...
Dynamics 365 Portals - Timeline	MicrosoftPortalTi...	3 weeks ago	9.3.2209.2	Yes	Microsoft	Checked by publ...
Dynamics 365 Portals - Azure Stor...	MicrosoftAzureSto...	3 weeks ago	9.3.2204.0	Yes	Microsoft	Checked by publ...
Dynamics 365 Portals - Feedback	Feedback	3 weeks ago	9.3.2204.0	No	Microsoft	Checked by publ...
Dynamics 365 Portals - Advanced ...	MicrosoftPortal...	3 weeks ago	9.3.2209.2	Yes	Microsoft	Checked by publ...
Dynamics 365 Portals - Library	MicrosoftPortals...	3 weeks ago	9.3.10.0	No	Microsoft	Checked by publ...

Solution components

A component represents something that you **can potentially customize**.

Anything that can be included in a solution is a component. To view the components included in a solution, open the solution you want. The components are listed in the **Components** list.



The screenshot shows the Microsoft Power Apps portal interface. The left sidebar has a tree view with 'Objects' expanded, showing 'Tudo (18)' which is also highlighted with a red box. Under 'Tudo', there are several categories: 'Aplicativos (2)', 'Chatbots (0)', 'Fluxos da área de tra... (1)', 'Fluxos da nuvem (3)', 'Mapas dos sites (1)', 'Processos (1)', 'Referências de conexão (4)', and 'Tabelas (6)'. To the right, the main area displays a table titled 'Demo Solution > Tudo'. The table has columns for 'Display name' and other details. It lists various components: '[Demo] Alert manager about restaur...', '[Demo] Open IA Text Completion', 'Account', 'Capacity', 'Capacity Planner', and 'Contact'. The 'Display name' column is sorted by ascending name.

Display name	
[Demo] Alert manager about restaur...	<input checked="" type="radio"/>
[Demo] Open IA Text Completion	<input type="radio"/>
Account	<input type="checkbox"/>
Capacity	<input type="checkbox"/>
Capacity Planner	<input type="checkbox"/>
Contact	<input type="checkbox"/>

Default solutions

There are **two default** solutions:

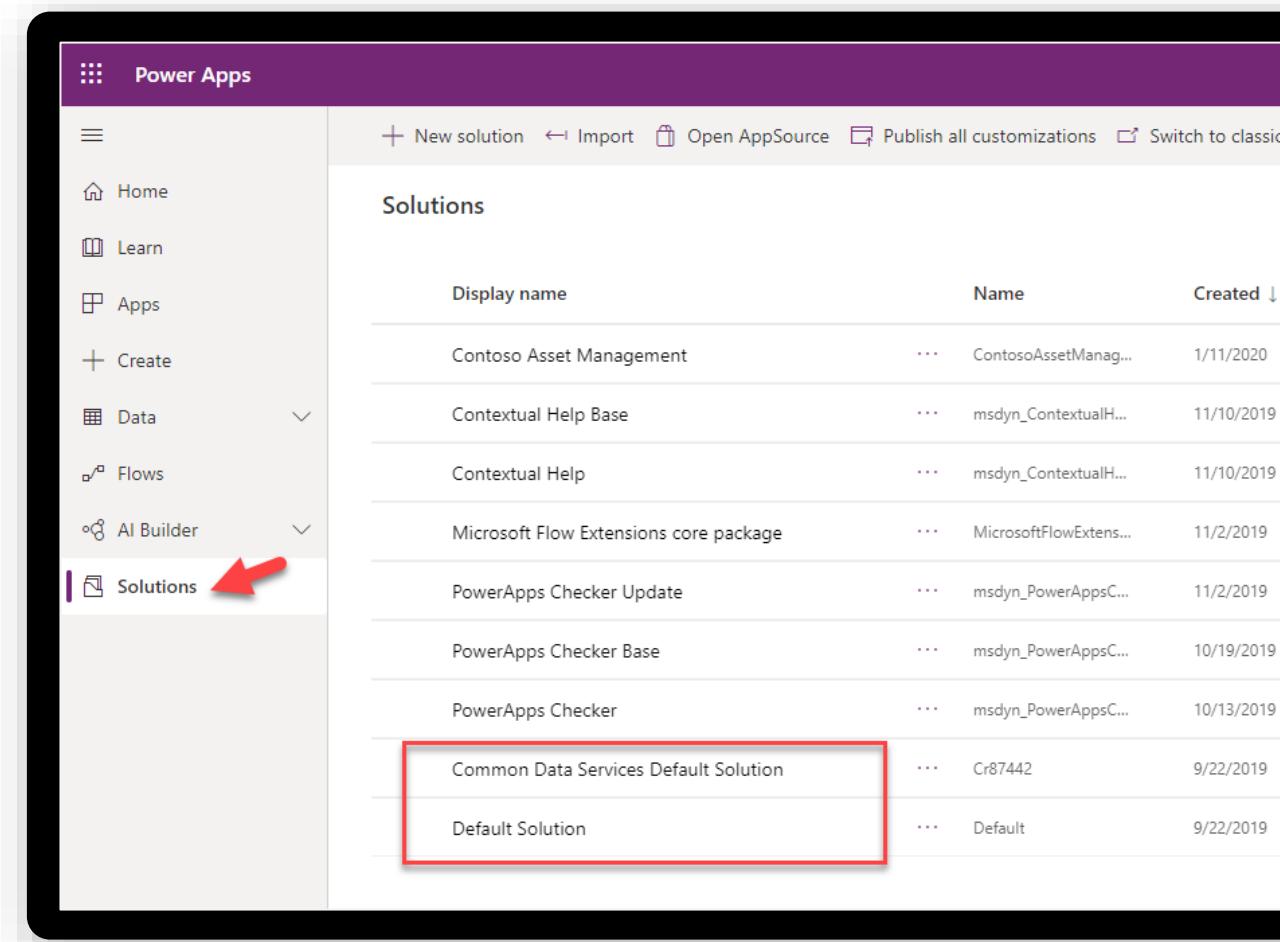
Common Data Service Default Solution: use when you want to evaluate or learn the Power Platform

Default Solution: contains all components in the system



Don't use default solutions to manage customizations!

- ✓ You will also use the default publisher assigned to the solution
- ✓ You cannot change prefix and choice values
- ✓ The default solution can't be exported



Display name	Name	Created
Contoso Asset Management	ContosoAssetManag...	1/11/2020
Contextual Help Base	msdyn_ContextualH...	11/10/2019
Contextual Help	msdyn_ContextualH...	11/10/2019
Microsoft Flow Extensions core package	MicrosoftFlowExtens...	11/2/2019
PowerApps Checker Update	msdyn_PowerAppsC...	11/2/2019
PowerApps Checker Base	msdyn_PowerAppsC...	10/19/2019
PowerApps Checker	msdyn_PowerAppsC...	10/13/2019
Common Data Services Default Solution	Cr87442	9/22/2019
Default Solution	Default	9/22/2019

Solution lifecycle

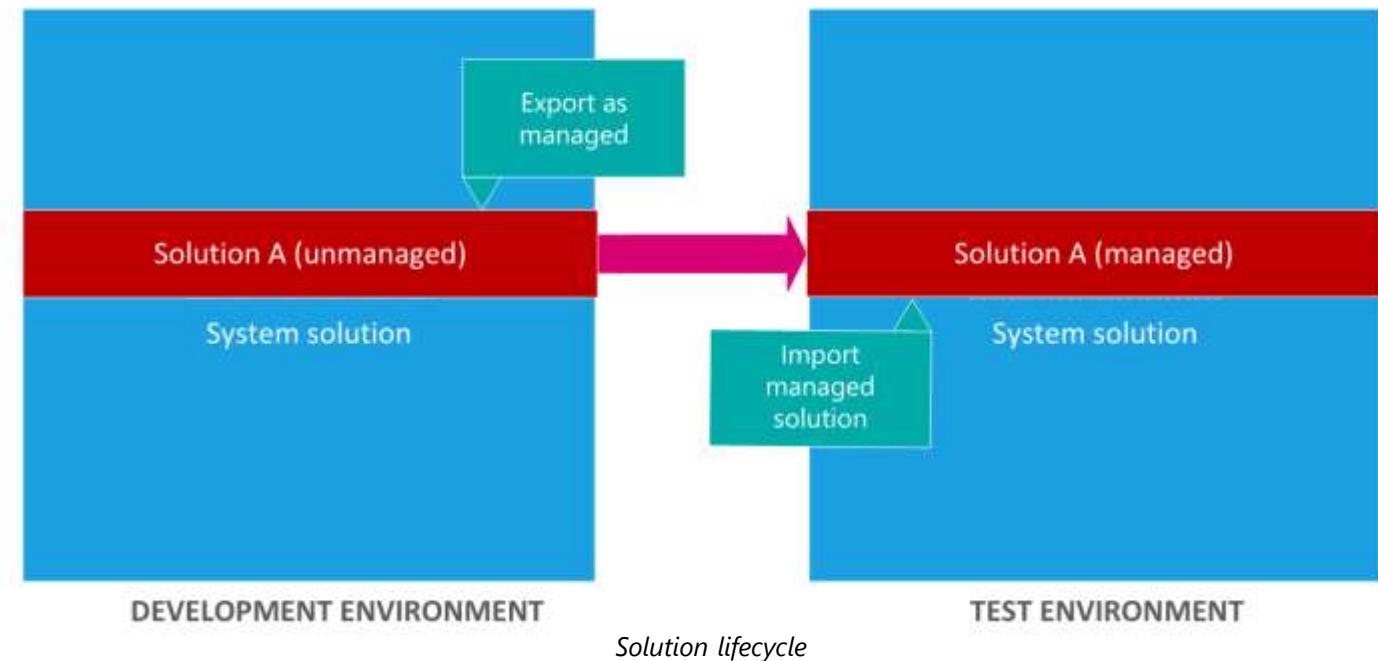
Create Author and export unmanaged solutions.

Update: Create updates to a managed solution that are deployed to the parent managed solution. You **can't delete components** with an update.

Patch*: A patch contains **only the changes for a parent managed solution**. Use patches when making **small updates** (similar to a hotfix).

Upgrade: removes unused components, implements upgrade logic and merges all patches to the solution into a new version of the solution. Solution upgrades will **delete components** that existed but are **no longer included in the upgraded version**.

* Patching isn't recommended because it limits team development and increases complexity when storing your solution in a source control. Use **Update** instead.



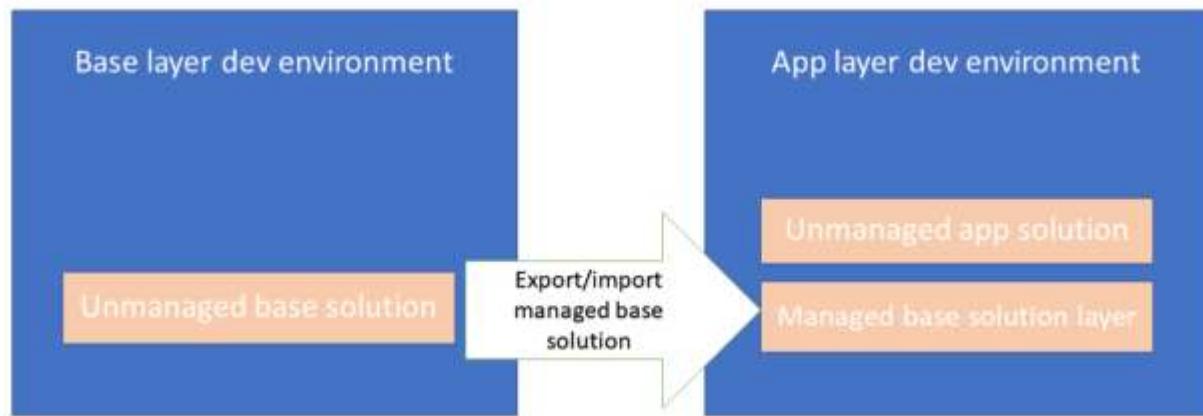
Organize solutions

Take some time do plan!

- Think about how many solutions you **want to release** and whether the solutions will **share components**.
- How it will be the **size** of your solution?
- How your solution will be **delivered** and **updated**?
- What will be the **purpose** of your solution? (a template/base solution, departmental, mission critic)

Tips

- For most of the cases, **one solution** will be the **best option**.
- However, use **multiple solution** could be **beneficial**. For example, when you have a large application and need to **segment development and deployment**.
- Segment your solutions by component type when there are no **cross-dependency risks**.
- Solution dependency can be **hard** to solve.
- Avoid develop multiple apps with **different purposes** on the same environment because this can lead to **solution dependency** between them.



A recommended solution segmentation approach

Solution layers

When you have **multiple solutions installed**, there will be in layers.

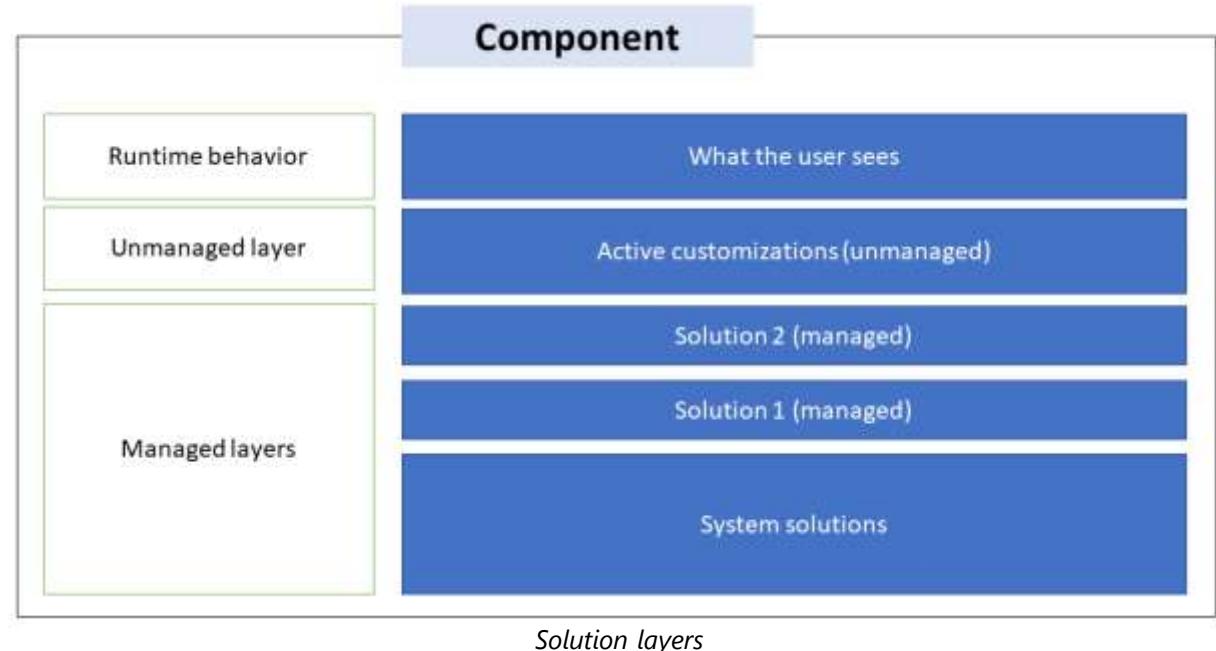
There are **two** distinct layers:

- **Unmanaged**: all imported unmanaged solutions and ad-hoc customizations
- **Managed**: All imported, managed solutions and the system solution

Key facts about layers

- Solution layering is implemented at a **component level**.
- When multiple managed solutions are installed, the **last one installed** is above the managed solution installed previously.
- If you **uninstall** a managed solution, the managed solution **below** it takes effect.
- If you **uninstall all managed solutions**, the default behavior defined within the **system solution** is applied
- There are two possible runtime behaviors for a component:

Model Driven Apps, forms and site map **will be merged**
All other components will be that on **top layer**



Avoid put components on multiple solutions

Use segmented solutions

- Only include in a solution tables components that you **created** or **modified**.
- A solution with **unintended components** can cause **unexpected behavior** at destination environment, since it will create a **new solution layer** for them if they already exists.
- The following options are available when including a table component in a solution:

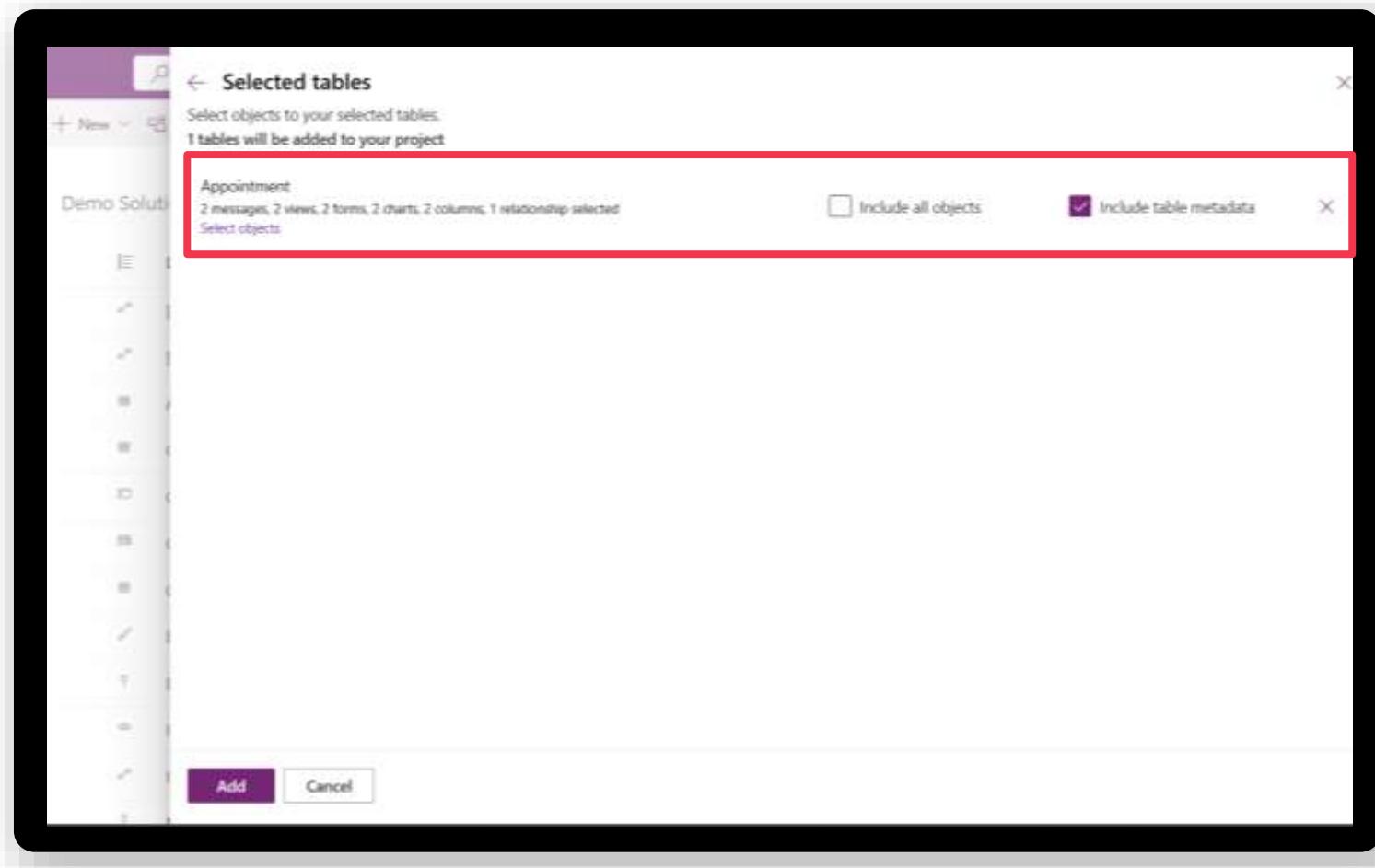
Include no components or metadata

Select components

Include entity metadata

Include all components

 If the component exists in target environment and you haven't change it, don't include it in the solution



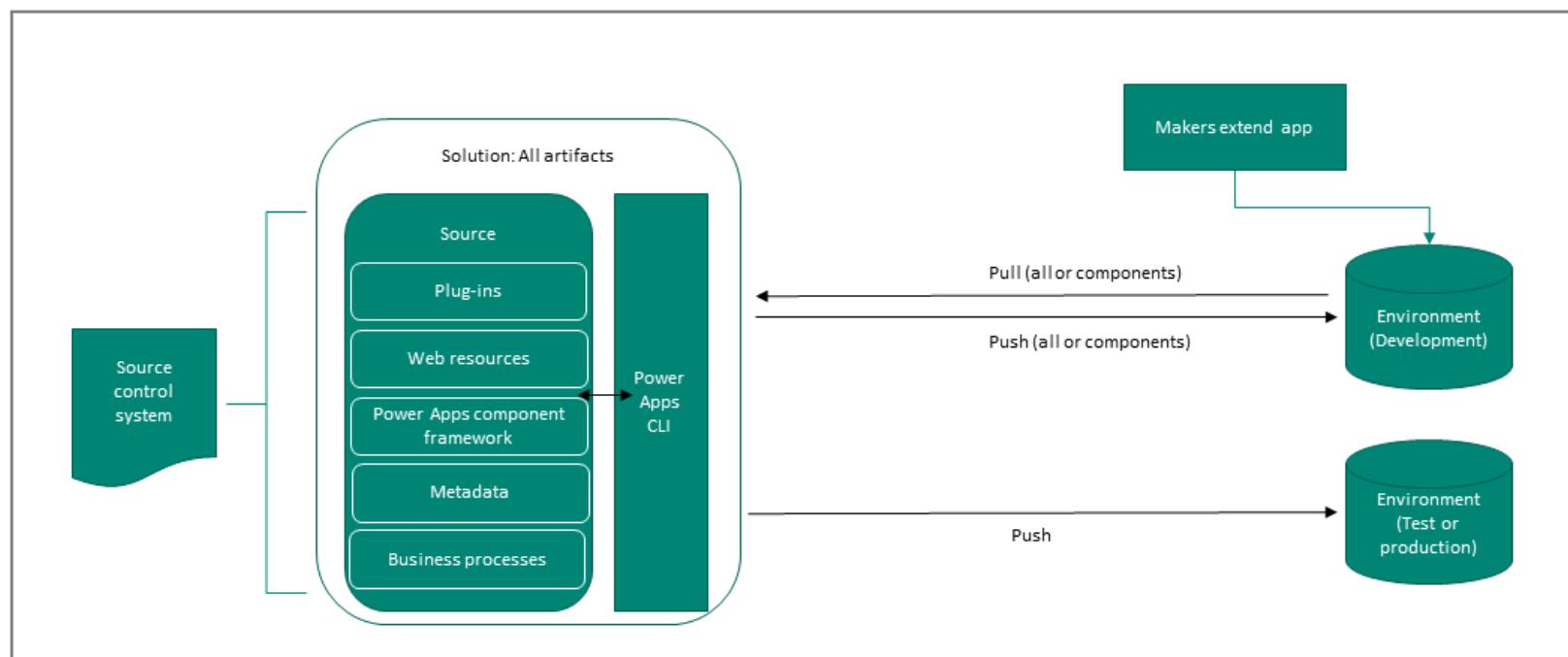
Source Control

Use when **multiple app makers** and **developers** are working on the **same set of files**.

When used, **must be the single source of truth**, not environments

Gives you the ability to **roll back changes** or restore deleted files

Use a **Git repository** and adopt a **branch strategy** to enable team development and **Azure DevOps** or **GitHub** to start your **DevOps journey**



Source Control

Team development is **always challenging**, so keep in mind:

- **Automation is a journey.** The focus must be on foster communication and gradually improve efficiency.
- Because source control systems **have limitations** on how merges occur, we recommend that you avoid situations where multiple people make changes on this complex components at the same time: **forms, flows, and canvas apps.**
- A **recommended approach** is:
 - Define who in the development team **will be in charge of each type of customization** (Dataverse, apps, flows and custom development)
 - Use **source control** and **build tools** on **Azure DevOps** and **GitHub** to allow pro-devs to get access to the recent versions of the customizations and to integrate and their code automatically.



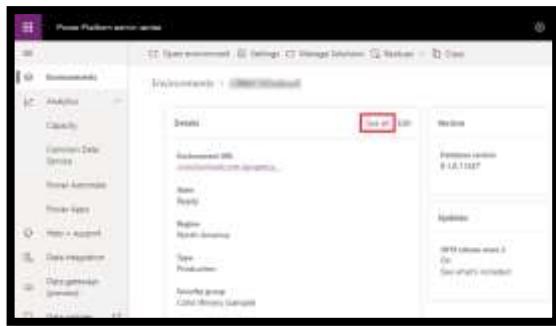
ALM with Power Platform Tools

ALM for admins and makers



Tools used

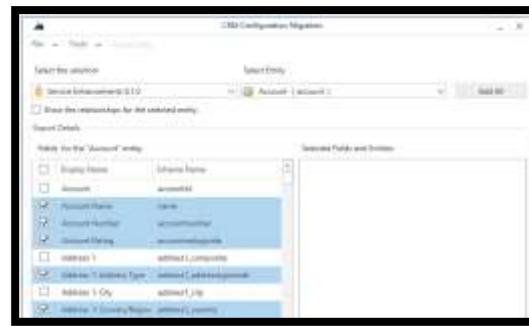
Power Platform Admin Center



Manage environments, data integration, gateways and data policies

[Learn more](#)

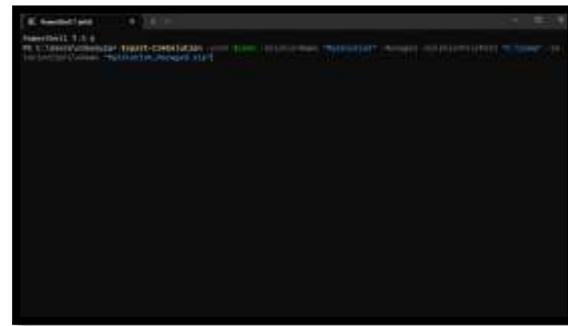
Configuration Migration Tool



Move configuration and/or reference data across environments

[Learn more](#)

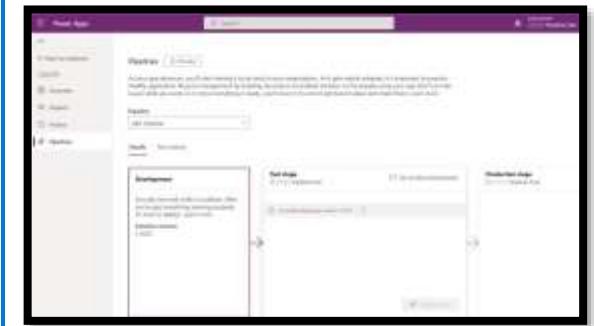
Power Shell Modules



Automate many of the monitoring, management, and quality assurance tasks that are only possible manually

[Learn more](#)

Pipelines



Deploy solutions to environments with a single click

[Learn more](#)

ALM for developers



Tools used

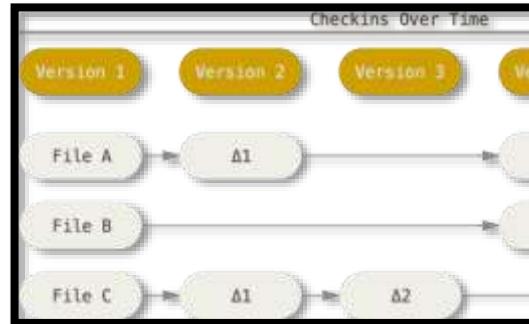
Azure DevOps / GitHub



Solution metadata, build and deploy tasks automation

[Learn more](#)

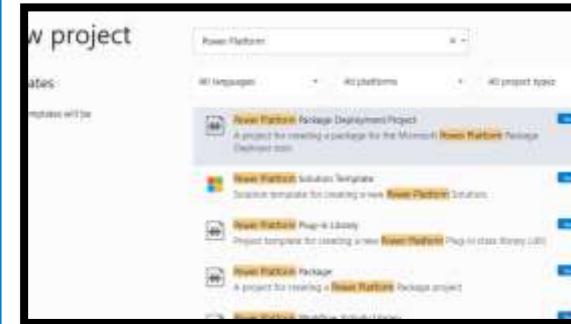
Version Control System



Allow you to maintain a single "source of truth" and recall specific versions when needed.
We recommend GIT

[Learn more](#)

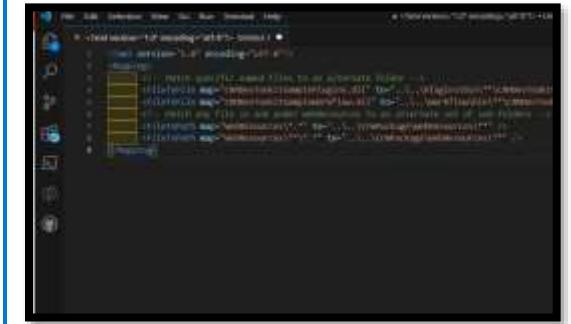
Package Deployer



Deploy solutions, files, custom code and HTML files to Dataverse instances

[Learn more](#)

Solution Packager



Unpack a compressed solution files so they can be easily managed by a source control system

[Learn more](#)

ALM for developers



Tools used

Power Platform CLI

A screenshot of a terminal window showing the Microsoft Power Platform CLI. The window title is "Power Platform CLI". The command "power platform" is being typed, and the help documentation for the CLI is displayed. The text includes various commands such as "app", "apptemplate", "cert", "dataset", "datasetconnection", "datasetview", "environment", "function", "model", "modelconnection", "modelview", "organization", "organizationconnection", "organizationview", "page", "pageconnection", "pageview", "process", "processconnection", "processview", "solution", "solutionconnection", and "solutionview".

```
power platform
  Handles datasets, processes and pages.
  Handling this command-line interface makes the latest Power Platform CLI code and available API
  available to you.
  To get started, run the 'power -h' command to see the available commands.

  power platform <command> <subcommand> <options>
  power platform <command> <subcommand> <options> <args>
  power platform <command> <subcommand> <options> <args> <values>

  Examples:
    power platform dataset create
    power platform datasetconnection create
    power platform datasetview create
    power platform organization create
    power platform organizationconnection create
    power platform organizationview create
    power platform process create
    power platform processconnection create
    power platform processview create
    power platform solution create
    power platform solutionconnection create
    power platform solutionview create
    power platform page create
    power platform pageconnection create
    power platform pageview create
    power platform model create
    power platform modelconnection create
    power platform modelview create
    power platform function create
    power platform environment create
    power platform datasetconnection <id> <name>
    power platform organizationconnection <id> <name>
    power platform organizationview <id> <name>
    power platform processview <id> <name>
    power platform solutionview <id> <name>
    power platform pageview <id> <name>
    power platform modelview <id> <name>
    power platform functionview <id> <name>
    power platform environmentview <id> <name>
    power platform datasetconnection <id> <name>
    power platform organizationconnection <id> <name>
    power platform organizationview <id> <name>
    power platform processview <id> <name>
    power platform solutionview <id> <name>
    power platform pageview <id> <name>
    power platform modelview <id> <name>
    power platform functionview <id> <name>
    power platform environmentview <id> <name>
```

Empowers developers and app makers to create code components

[Learn more](#)

Pipeline automation with Azure DevOps

Power Platform Build Tools



```
PowerPlatform-Tools
[master] + PowerPlatform-Tools / azure-pipelines.yml

1 # Starter pipeline
2 # Start with a blank pipeline that you can customize to build and deploy your code.
3 # Add steps that build, run tests, deploy, and more:
4 # See https://aka.ms/yaml
5
6 trigger:
7   - master
8
9 pool:
10   - self-hosted
11
12 steps:
13   - script: echo Hello, world!
14     displayName: 'Run a one-line script'
15
16   - script:
17     - echo Add other tasks to build, test, and deploy your project.
18     - echo See https://aka.ms/yaml
19     - displayName: 'Run a multi-line script'
```

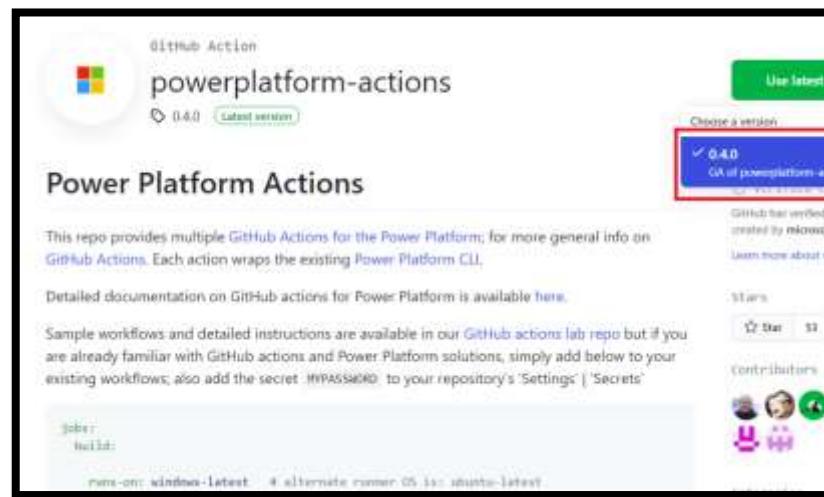
[Learn more](#)

Use to automate common build and deployment tasks related to apps built on Microsoft Power Platform on Azure DevOps. These tasks include:

- Synchronization of solution metadata (also known as solutions)
- Generating build artifacts
- Deploying to downstream environments
- Provisioning or de-provisioning environments
- Perform static analysis checks against solutions by using the Power Apps checker service

Pipeline automation with GitHub

GitHub Actions



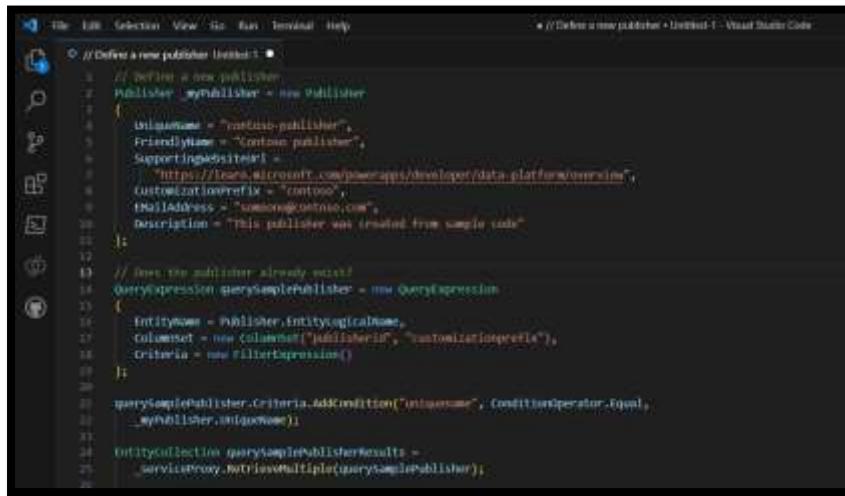
[Learn more](#)

Create workflows in your repository to build, test, package, release, and deploy apps; perform automation; and manage bots and other components built on Microsoft Power Platform.

- Importing and exporting application metadata (also known as solutions)
- Deploying to downstream environments.
- Provisioning or de-provisioning environments
- Performing static analysis checks against solutions by using Power Apps solution checker.

Manage solutions using code

Dataverse SDK



A screenshot of a Visual Studio Code editor window. The title bar says "File Edit Selection View Go Run Terminal Help" and "0 / Define a new publisher - Untitled-1 - Visual Studio Code". The code in the editor is C# and defines a new publisher:

```
// Define a new publisher
using System;
using Microsoft.Xrm.Sdk;
using Microsoft.Xrm.Sdk.Client;
using Microsoft.Xrm.Sdk.Messages;
using Microsoft.Xrm.Sdk.Query;

public class Program
{
    static void Main()
    {
        // Create a new publisher
        Publisher myPublisher = new Publisher
        {
            UniqueName = "contoso-publisher",
            FriendlyName = "Contoso publisher",
            SupportingWebsiteUri =
                "https://contoso.microsoft.com/api/data-platform/v1.0",
            CustomizationServerUri =
                "contoso",
            EmailAddress = "contoso@contoso.com",
            Description = "This publisher was created from sample code"
        };

        // Save the publisher, already exists
        QueryExpression querySamplePublisher = new QueryExpression
        {
            EntityName = Publisher.EntityLogicalName,
            ColumnSet = new ColumnSet("publisherid", "customizationreports"),
            Criteria = new FilterExpression()
        };

        querySamplePublisher.Criteria.AddCondition("uniqueName", ConditionOperator.Equal,
            myPublisher.UniqueName);

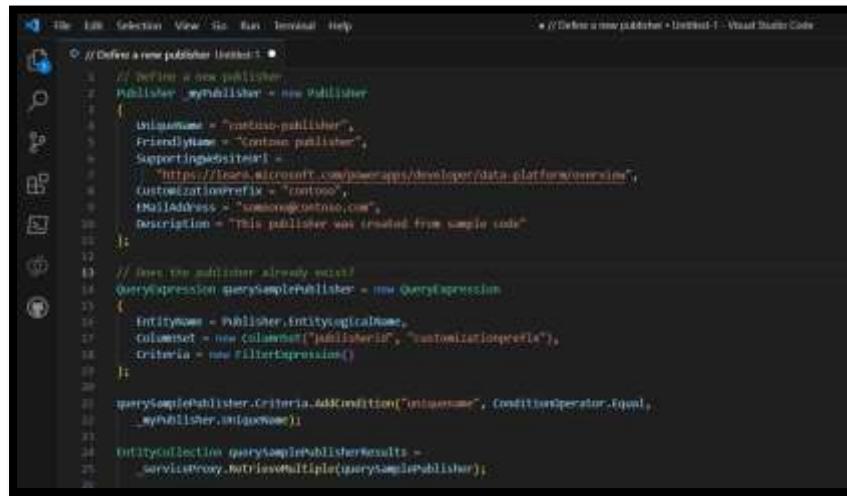
        EntityCollection querySamplePublisherResults =
            serviceProxy.RetrieveMultiple(querySamplePublisher);
    }
}
```

Use Dataverse SDK for .NET to create **custom automation** on your application lifecycle such:

- Create a publisher
- Create, export, import and delete solutions
- Add or remove solution components
- Detect solution dependencies and create a report

[Learn more](#)

Edit customizations.xml file



```
// Define a new publisher
<Publisher Uniquename="contoso-publisher" FriendlyName="Contoso publisher" SupportingOrganization="https://learn.microsoft.com/powerapps/developer/data-platform/webservices" CustomizationPrefix="contoso" EmailAddress="contosog@contoso.com" Description="This publisher was created from sample code" />

// Save the publisher already exists
<QueryExpression querySamplePublisher="new QueryExpression">
    <EntityType> Publisher</EntityType>
    <ColumnSet> new ColumnSet("PublisherID", "CustomizationPrefix")</ColumnSet>
    <Criteria> new FilterExpression()
        <Condition> querySamplePublisher.Criteria.AddCondition("Uniquename", ConditionOperator.Equal, "wynpublisher.Uniquename")</Condition>
    </Criteria>
</QueryExpression>
<EntityCollection querySamplePublisherResults="new EntityCollection(serviceProxy.RetrieveMultiple(querySamplePublisher))" />
```

[Learn more](#)

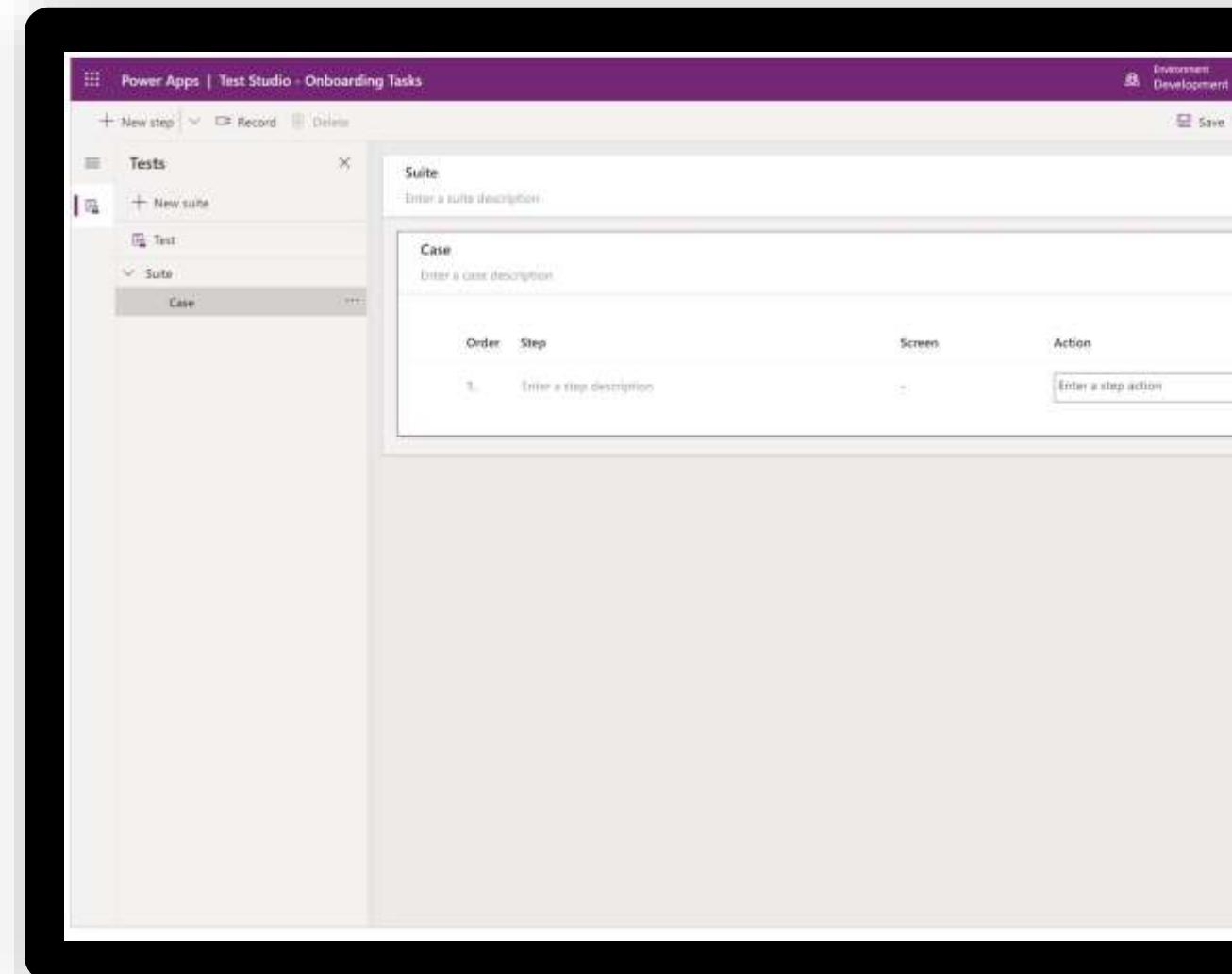
The `customizations.xml` file contains the definition of every component included in a solution. Alter it is **supported on the following scenarios:**

- Edit the following Model Driven Apps components definition
 - Ribbon
 - SiteMap
 - FormXML
 - Saved Queries
 - ISV Config

Important: You must decompress the solution zip file, edit `customizations.xml` and create a new zip file to import the solution of the target environments

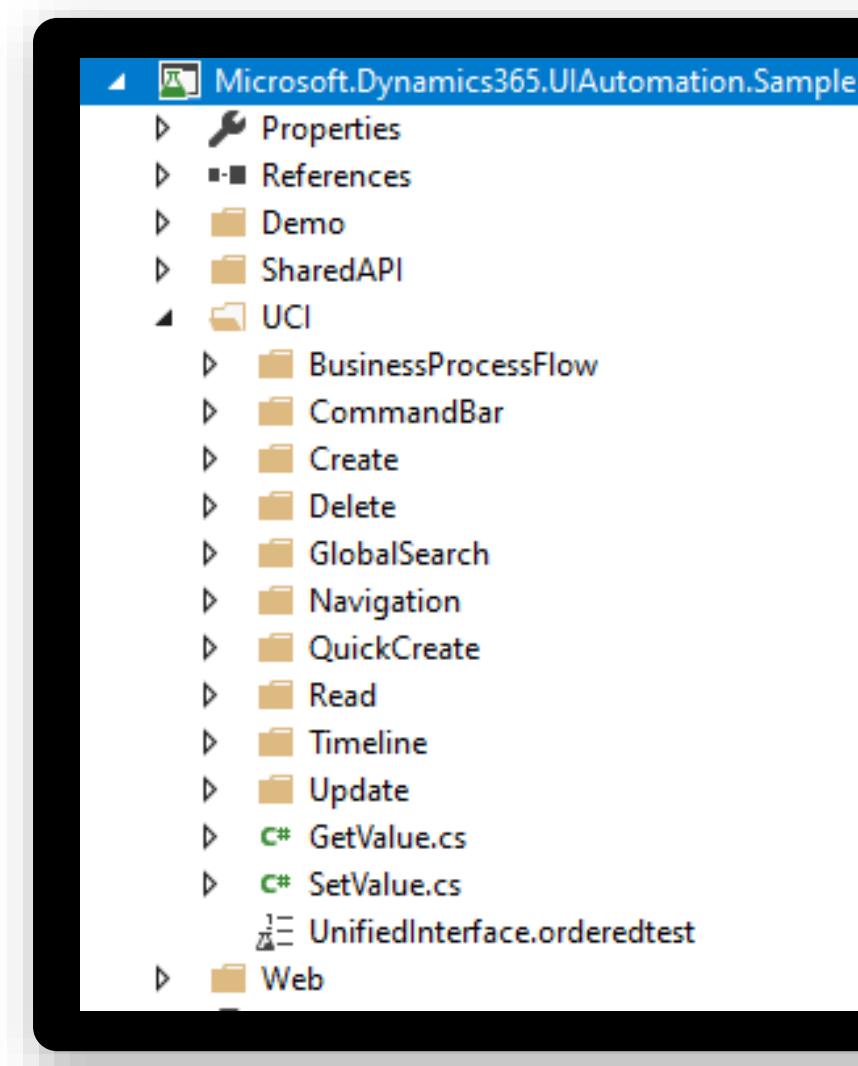
Test Studio (only for Canvas app)

- **Low-code solution** to write, organize, and automate tests **for canvas apps**
- Write tests using **Power Apps expressions** or use a **recorder** to save app interaction to automatically generate the expressions
- Can be used **on Azure DevOps pipelines** to automate test execution



Easy Repro (model-driven apps)

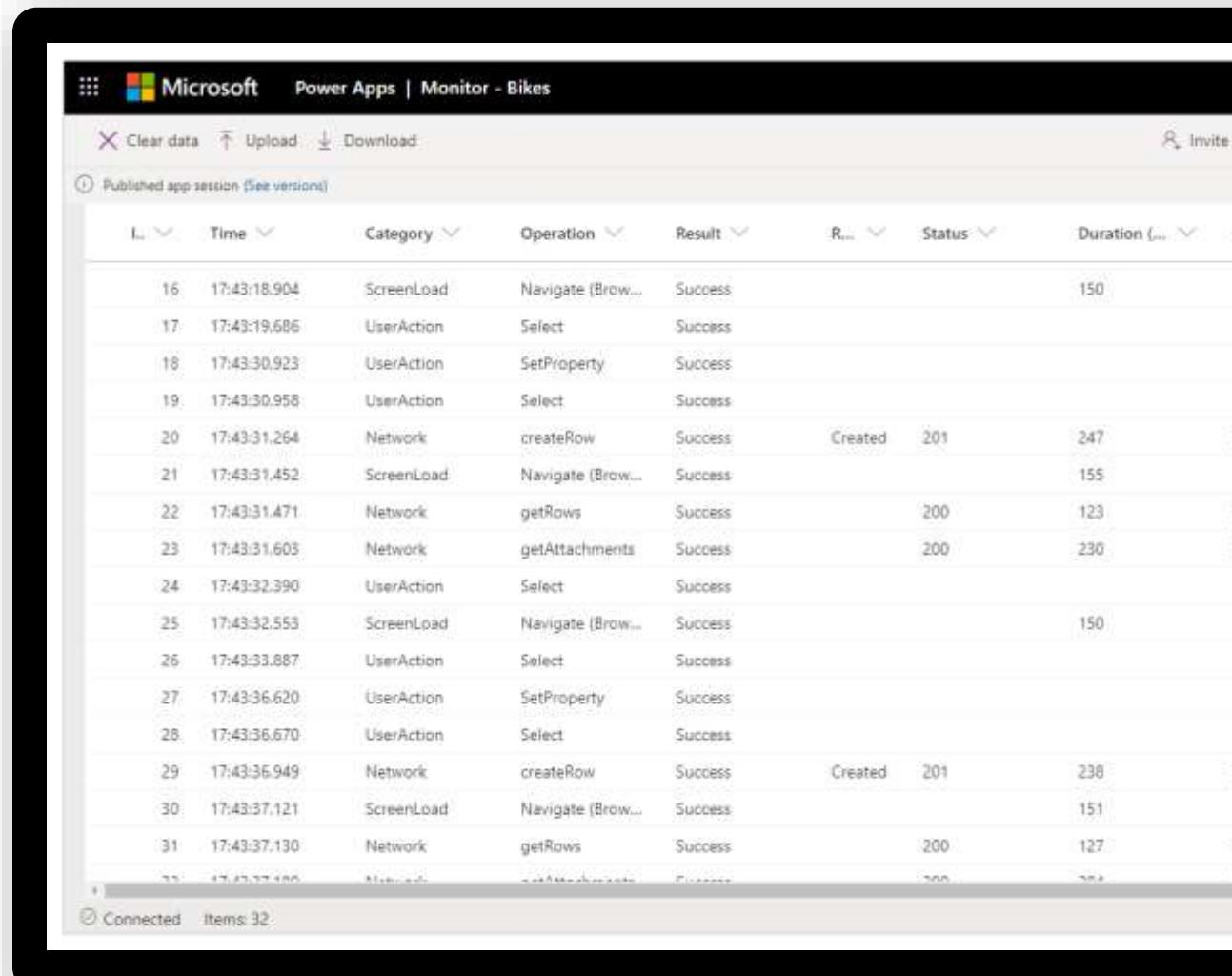
- An automated UI testing framework
- Built specifically for testing your **Dynamics 365** and **model-driven apps** implementations
- Provides an **easy-to-use set of APIs** that make setting up UI testing quick and easy, abstracting and reducing the need for you to work directly with the Document Object Model (DOM)
- Can be included on **Azure DevOps pipelines**



Telemetry tools

Monitor

- View a **stream of events** from a user's session to **diagnose** and **troubleshoot** problems
- Works for **canvas and model-driven apps**
- Help you **diagnose** and **troubleshoot** problems faster
- Provides a **better understanding** of how the events and formulas contained in your app work, so you can **improve performance** and identify any **errors** or **problems**.

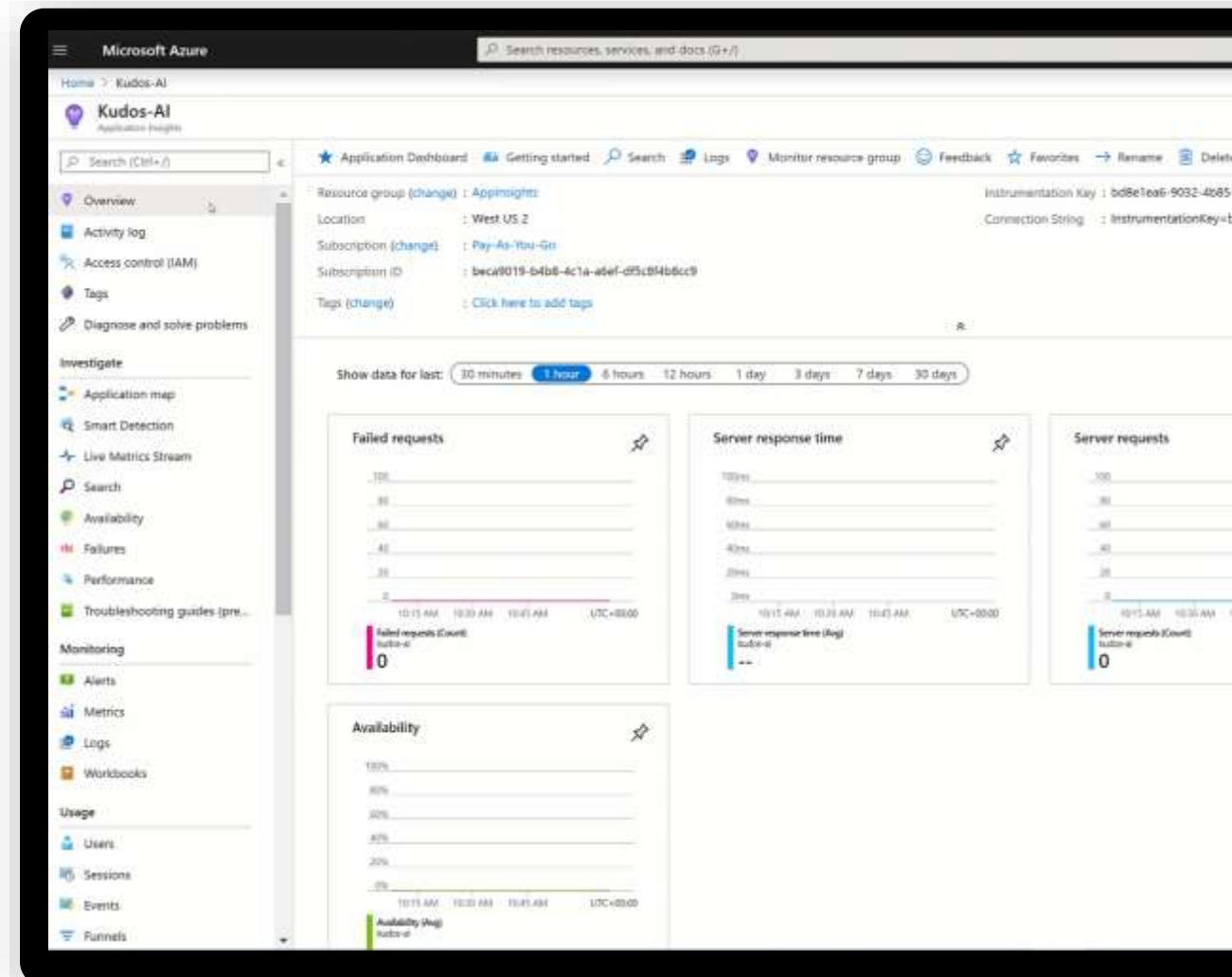


The screenshot shows a table of events from a published app session for a 'Bikes' app. The columns are: ID, Time, Category, Operation, Result, Response, Status, and Duration. The data includes:

ID	Time	Category	Operation	Result	Response	Status	Duration
16	17:43:18.904	ScreenLoad	Navigate (Brow...)	Success			150
17	17:43:19.686	UserAction	Select	Success			
18	17:43:30.923	UserAction	SetProperty	Success			
19	17:43:30.958	UserAction	Select	Success			
20	17:43:31.264	Network	createRow	Success	Created	201	247
21	17:43:31.452	ScreenLoad	Navigate (Brow...)	Success			155
22	17:43:31.471	Network	getRows	Success		200	123
23	17:43:31.603	Network	getAttachments	Success		200	230
24	17:43:32.390	UserAction	Select	Success			
25	17:43:32.553	ScreenLoad	Navigate (Brow...)	Success			150
26	17:43:33.887	UserAction	Select	Success			
27	17:43:36.620	UserAction	SetProperty	Success			
28	17:43:36.670	UserAction	Select	Success			
29	17:43:36.949	Network	createRow	Success	Created	201	238
30	17:43:37.121	ScreenLoad	Navigate (Brow...)	Success			151
31	17:43:37.130	Network	getRows	Success		200	127

Application Insights (canvas apps)

- Help you diagnose **issues** and understand what **users actually do** with your canvas apps
- Help you **troubleshoot issues**, drive better business decisions and **improve the quality of your apps**.



Performance insights for model driven apps (preview)

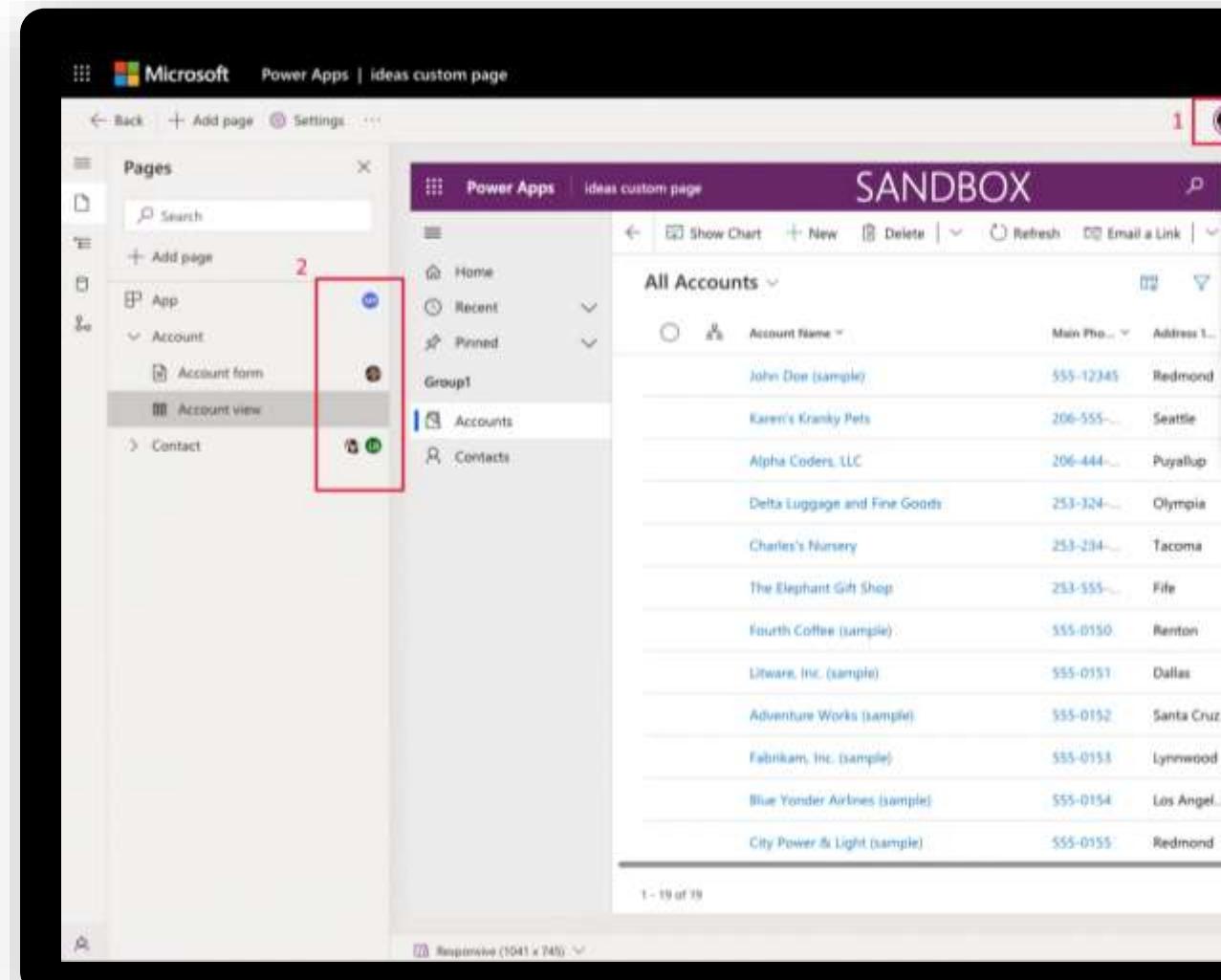
- Tools that analyzes **runtime user data** and provides a **prioritized list of recommendations** to help **improve the performance** of model-driven apps
- Insights are generated based on collected user data of your model-driven app **every 24 hours**.

Performance insights ⓘ				
Severity	Category	Insight		
✓ ✖ Critical	XHR Request-Sy...	1 method was tri...	We	
⚠ Warning	Outlier breakdown	138 page loads ...	1) C	
⚠ Warning	Overview	6 users of this ap...	Revi	
⚠ Warning	Sandbox Perform...	2 plug-ins perfor...	Kee	
ⓘ Informational	Plugin trace log ...	PluginTraceLogS...	Plugin	

Enabling fusion teams

Collaboration in model-driven apps

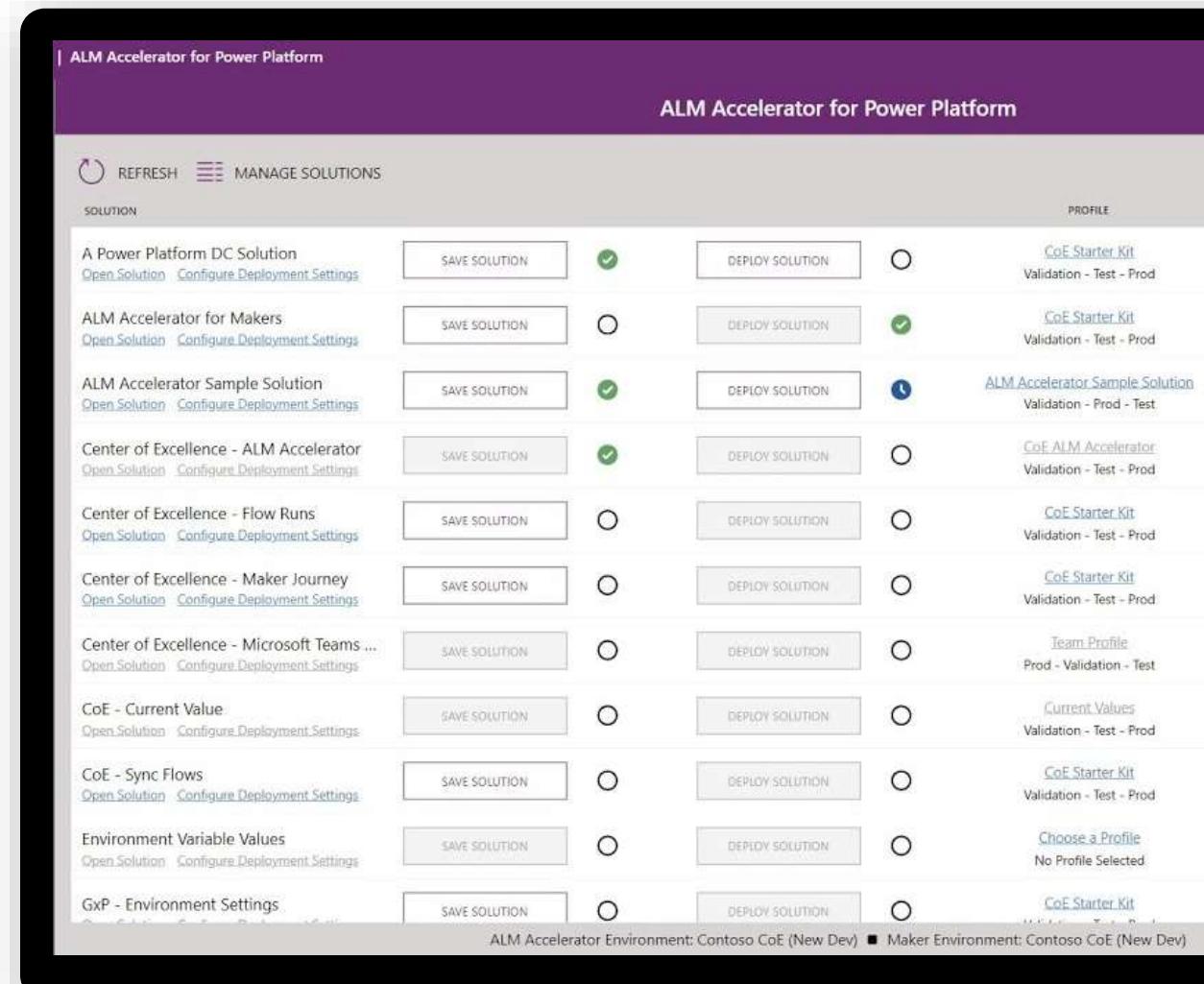
- **Collaboration is key** to help fusion teams work together
- In **model-driven apps**, the following collaboration features are available:
 - Commenting
 - Co-presence (preview)
 - Co-authoring (preview)



Enabling fusion teams

ALM Accelerator

- Perform **source control, enable version history**, and deploy their solutions in Power Platform
- Its target users are makers with no ALM knowledge
- Uses **Azure DevOps Pipelines** through a **canvas app** to provide a **simplified interface** for makers to regularly commit and create pull requests for their development work
- It is a **reference implementation** of ALM patterns and practices using other in-built platform capabilities and **can be customized**



Enabling fusion teams



Which ALM tool I must choose?

This table isn't exhaustive and is meant to help you make an informed decision

Capability	Pipelines	ALM Accelerator	DevOps/GitHub
IT / Developer involvement	Not required	Up-front set up	Required for every project
Source Code integration	No, but planned	Yes	Yes
Maker requires elevated privileges in target environment	Yes, but service principal support planned	No, service principal supported	No, service principal Supported
Quality Control	Minimal	Best practices	Unlimited
Democratized for Citizen Development	Yes	Yes	No
In-Product Experience	Yes	Canvas app provided, but not in maker experience	No
Support	Microsoft supported	Power CAT support via GitHub Issues and Discussions	Microsoft supported and GitHub Issues
Customization	No	Yes	Yes
Code-first development	No	Yes	Yes

Which ALM approach I should choose?

There are few questions you must answer first

Identify the stage of Power Platform adoption journey

Define ALM requirements for each type of application and lifecycle stage

Identify the ALM and source code policies

Create a roadmap for ALM adoption

Then use this [scenarios](#) as reference

Learn / Power Platform /

About healthy ALM

Article • 08/07/2022 • 5 contributors



Feedback

This section provides information about the various scenarios that will help you reach the end goal of implementing and practicing healthy application lifecycle management (ALM) by using Power Apps, Power Automate, and Microsoft Dataverse in your organization.

The scenarios range from people who are new to Microsoft Power Platform to existing users practicing unhealthy ALM, and show how you can move to a recommended, successful ALM implementation.

Scenario 0: ALM for a new project

Scenario 1: Citizen development ALM

Scenario 2: Moving from a single environment

Scenario 3: Moving from unmanaged to managed solutions

Scenario 4: Use DevOps for automation

Scenario 5: Support team development

Próximos passos

A large white and blue supply vessel, the 'PACIFIC SHARAV', is shown sailing on dark blue ocean waves under a clear sky. The ship's superstructure is visible, featuring multiple levels of walkways, ladders, and equipment. A tall metal lattice mast stands prominently on the deck.

~~"Como criamos um aplicativo mais rápido?"~~

**“Como transformar 1.000
processos por ano?”**

Make it Real!

“Como transformar 1.000 processos por ano?”



1

Cultura

Patrocínio executivo de cima para baixo em TI e LOB. [Mudança de cultura](#) para convidar e conectar LOB com TI e Pro Devs para participar da criação de soluções

2

Fundação de TI

Liderança de TI [no centro de excelência](#) e orientação para governança, segurança, orçamento e adoção para ambientes centralizados ou distribuídos

3

Pro Developers

Desenvolvedores profissionais [reformulando fluxos](#) de trabalho para dimensionar e interagir com operadores de informações de LOB em soluções novas e existentes

4

LOB

Departamentos identificando "[usuários avançados](#)" para adoção e representação antecipadas e identificando recursos e orçamentos administrativos

5

Formação

Capacitação e capacitação via [hackathons](#) e programas de certificação para adotantes da Power Platform na organização

6

Nurture

Cadências de [qualificação](#) e celebração de soluções ao adotar novas inovações da Power Platform

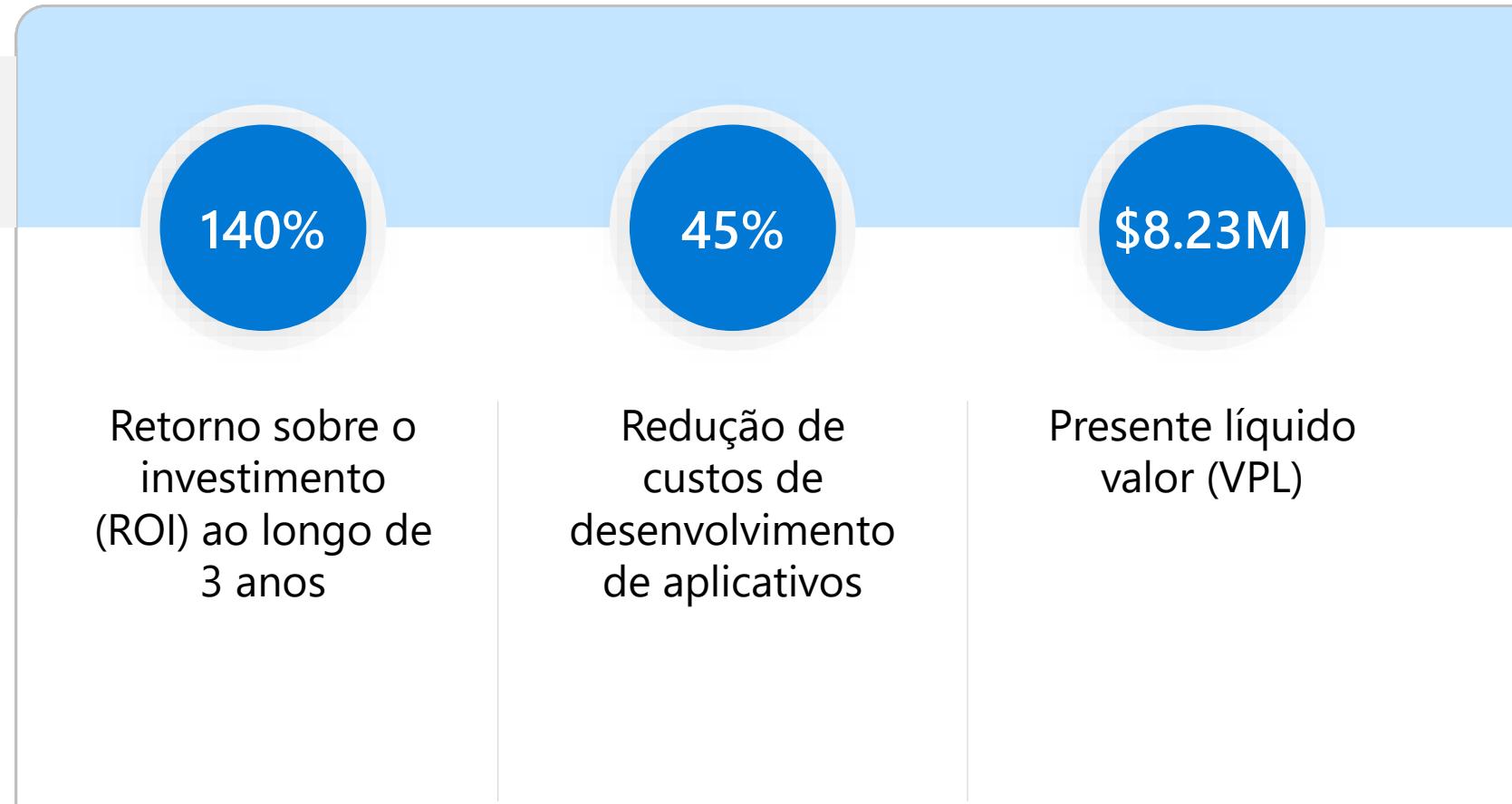
Executive Sponsor ● Governance Lead ● Adoption Lead ● Community and Skilling Lead ● Power Platform Admin ● Pro Devs ● Architect ● Security

Suporte e recursos externos da Microsoft, parceiros ou consultores profissionais

Investir em Power Platform compensa



Quanto mais cedo você começar, mais tempo você colhe benefícios.



Recursos do nível básico

1

Aplicativos e automações em pequena escala

2

Automação pessoal ou somente em equipe

3

Conectividade selecionada pronta para uso

4

Sharepoint, Excel ou Dataverse para equipes

5

Opções limitadas para compartilhar e reutilizar soluções já criadas



Resolva problemas apenas para equipes ou indivíduos

Ganhos de eficiência limitados a indivíduos, equipes ou pequenos departamentos.

A necessidade de troca de solução, entrada de dados repetida e risco de dados ruins

Permite estruturas de dados simples e gerenciamento de acesso limitado a dados.

Construção repetida de aplicativos e automações semelhantes, perda de eficiência.

Recursos do nível premium

1

Aplicativos e soluções podem se estender por toda a organização



Dimensionamento rápido e fácil, ganhos de eficiência e melhorias de desempenho

2

Automações entre sistemas e departamentos



Resolução acelerada de problemas, trabalho mais rápido e menor necessidade de repasses manuais.

3

Conecte tudo



Dados conectados significam resolução rápida de tarefas e menos esforço na manutenção de dados.

4

Dataverse



Gerencie dados e aplicativos para obter insights, impulsionar o negócio e reduzir custos.

5

Compartilhamento e dimensionamento fáceis e gerenciáveis



As pessoas que precisam dos aplicativos e dados podem ser concedidas facilmente sem medos.

Impacto do Power Platform premium



Revenue

4-5x growth

Companies with developer velocity in top quartile experience

McKinsey & Company

[McKinsey & Company - Developer Velocity: How software excellence fuels business performance](#)



Efficiency

23%

Increase in developer efficiency

Forrester

Total Economic Impact of Power Platform Premium Capabilities



Costs

45%

Development cost reduction

63%

Lower costs to develop a large-scale solution using premium connectors and Dataverse

Forrester

Total Economic Impact of Power Platform Premium Capabilities



Agility

63%

Improved agility to changes

Forrester

Total Economic Impact of Power Platform Premium Capabilities



Security

91%

better security and visibility around data connections

Forrester

Total Economic Impact of Power Platform Premium Capabilities

24%

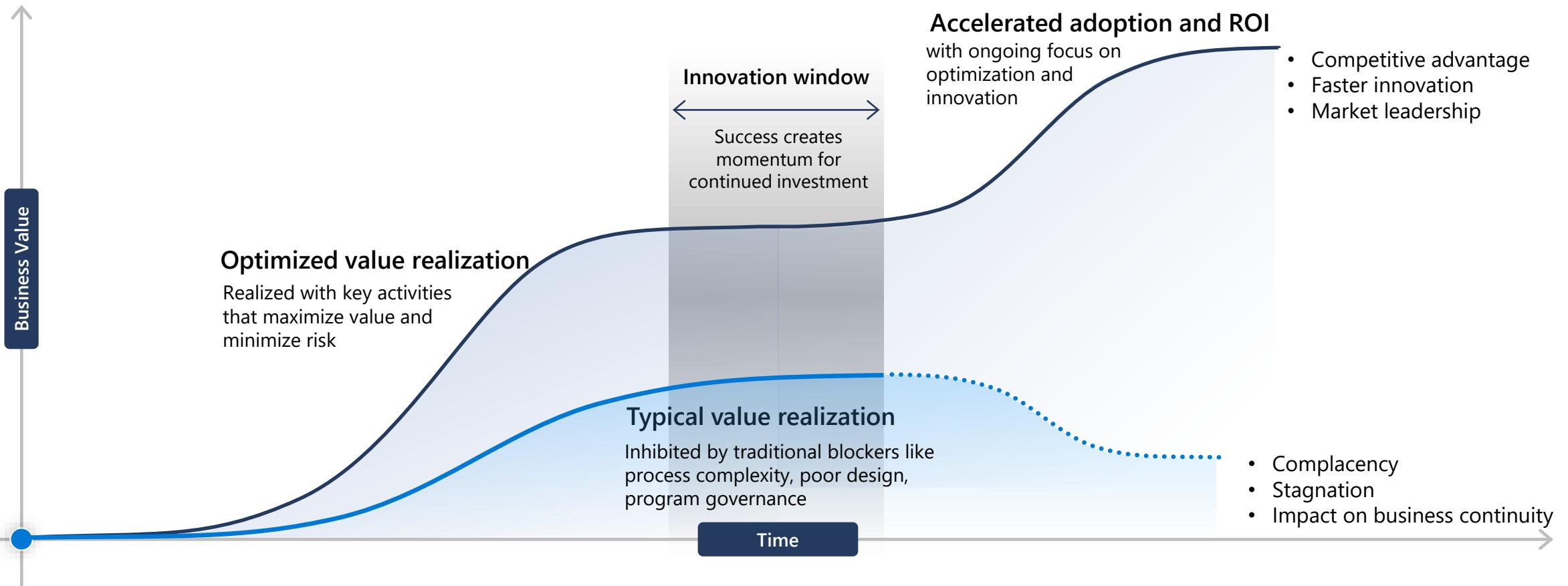
Cost reduction using Power Platform and Azure due increased DevOps efficiency a reducing spending third-party solution

Microsoft

[Microsoft Power Platform and Azure for Corporate IT TEI](#)

Maximize seus investimentos com o Microsoft Unified

Acelere seu tempo de implantação com serviços liderados por especialistas, desde o planejamento até a implantação e muito mais



Conte com especialistas para construir seus aplicativos

Com acesso direto aos especialistas da Microsoft, você pode criar aplicativos personalizados usando o Power Platform para resolver desafios de negócios e automatizar processos de negócios

O que você quer alcançar...

- Estabeleça um modelo de governança e padrões e prepare-se para a IA
- Implantação bem-sucedida da plataforma de energia em toda a empresa
- Validação de processos de projeto e desenvolvimento de arquitetura de soluções

Como entregamos...

- Assistência na criação de um Centro de Excelência (COE) para governar a criação de aplicativos e acelerar a adoção em toda a organização
- Orientação prescritiva de especialistas para acelerar a implantação com workshops de Maker e Developer para melhorar as habilidades da equipe
- Revisões técnicas e funcionais para validar planos e abordar problemas e riscos

Saiba Mais

Visite aka.ms/Enhanced-Solutions para agendarmos uma sessão com objetivo de determinar como nossas **Soluções Aprimoradas** podem ajudá-lo a alcançar os resultados desejados

Continue sua jornada de **conhecimento**

Eventos técnicos de Power Platform

Eventos no **Microsoft Teams** conduzidos pelos especialistas em Power Platform da Microsoft Brasil. Para participar procure seu **gestor(a) de conta** (AE) ou **especialista** (SSP).



Governança e ALM

Tópicos

- Governança
- Segurança
- Monitoramento
- CoE Starter Kit
- ALM/DevOps

Duração

03 horas



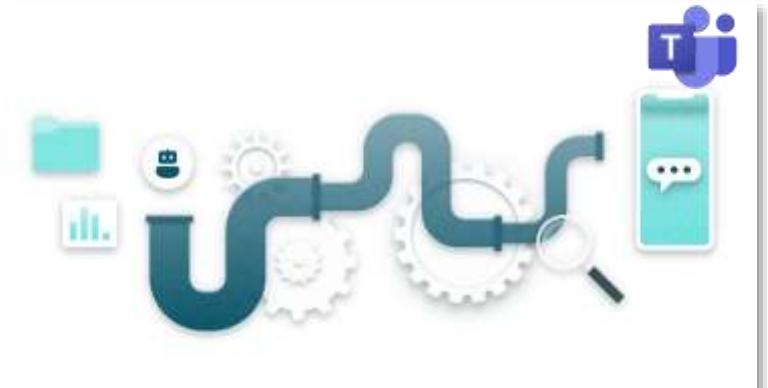
Desenvolvimento de aplicativos

Tópicos

- Power Apps Canvas
- DataVerse e Model Driven Apps
- Power Pages
- Fusion Teams

Duração

03 horas



Hiper automação

Tópicos

- DPA e BPA
 - Power Virtual Agents
 - Process e Task Mining
 - RPA
- Estendendo o SAP com Power Platform

Duração

03 horas

Continue sua jornada de **conhecimento**

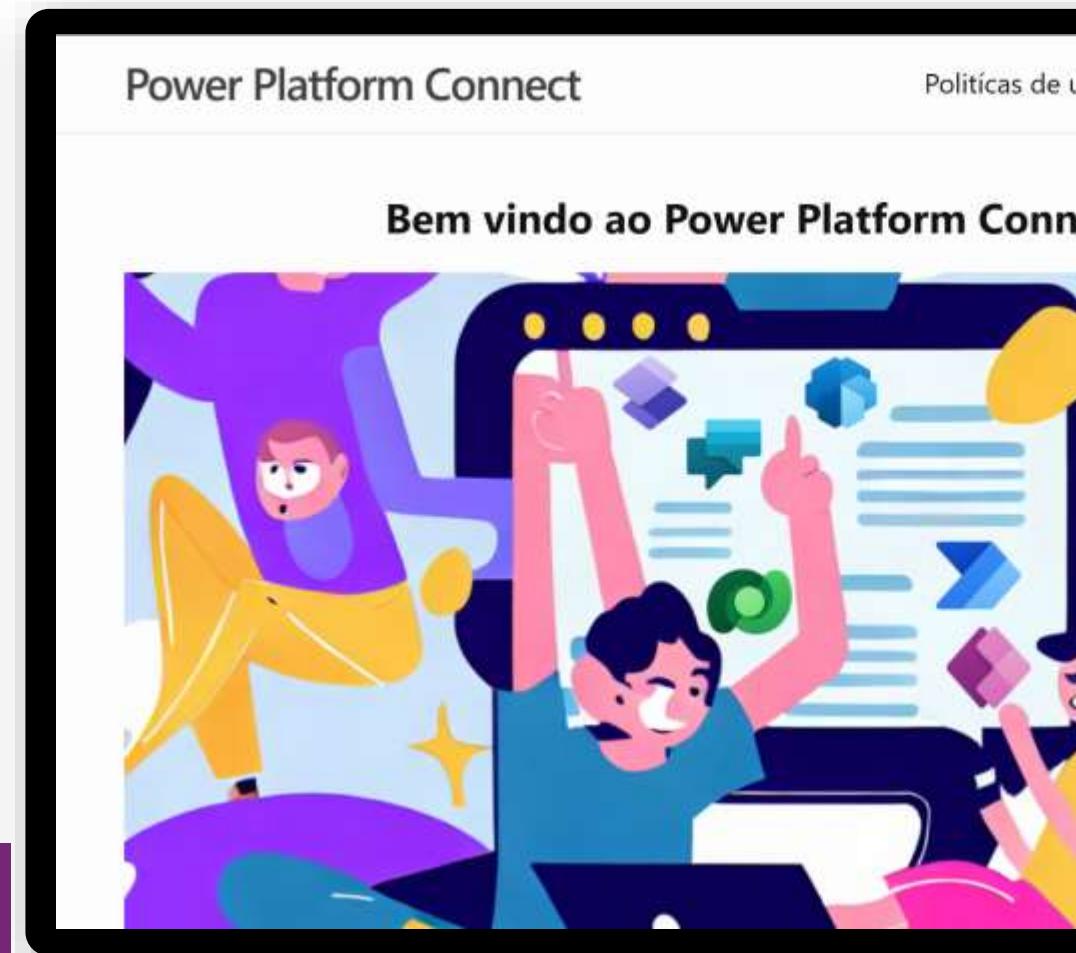
Power Platform Connect

Site mantido pelos especialistas em Power Platform da Microsoft Brasil.

Nele você encontrará:

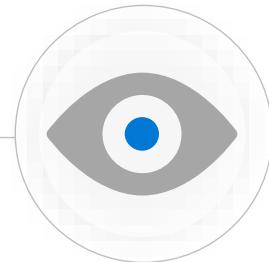
- ❖ **Links** para a **documentação oficial** de todos os produtos da Power Platform
- ❖ **Materiais** utilizados nos eventos conduzidos pelos times de especialistas
- ❖ **Notícias** sobre a Power Platform e **oportunidades de treinamento**
- ❖ **Espaço de discussão** para você esclarecer suas dúvidas diretamente com nosso time.

<https://microsoft.github.io/powerplatformconnect>



Acelere sua jornada low-code com nosso guia de adoção

Planeje



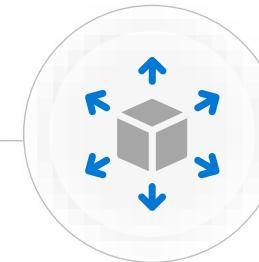
- Kickoff
- Equipe do projeto
- Patrocínio executivo
- Estratégia e visão de adoção
- Critérios de sucesso
- Plano de gerenciamento de mudanças
- Prontidão
- Estratégia de treinamento

Capacite



- Campeões
- Comunidade
- Recompensas e reconhecimento
- Plano de comunicação
- Consciência
- Suporte contínuo

Cresça



- Centro de Excelência (CoE)
- Maturidade da adoção
- Plano operacional
- Acompanhamento de sucesso
- Gestão de mudanças
- Calendário de atividades

Saiba mais: aka.ms/PowerPlatAdoption

Obrigado !

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