Global Microsoft 365
Developer Bootcamp

Using Power Automate with Microsoft Graph

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Agenda

POWER PLATFORM

MICROSOFT TEAMS

MICROSOFT GRAPH

PUTTING IT ALL TOGETHER

RESOURCES & LABS

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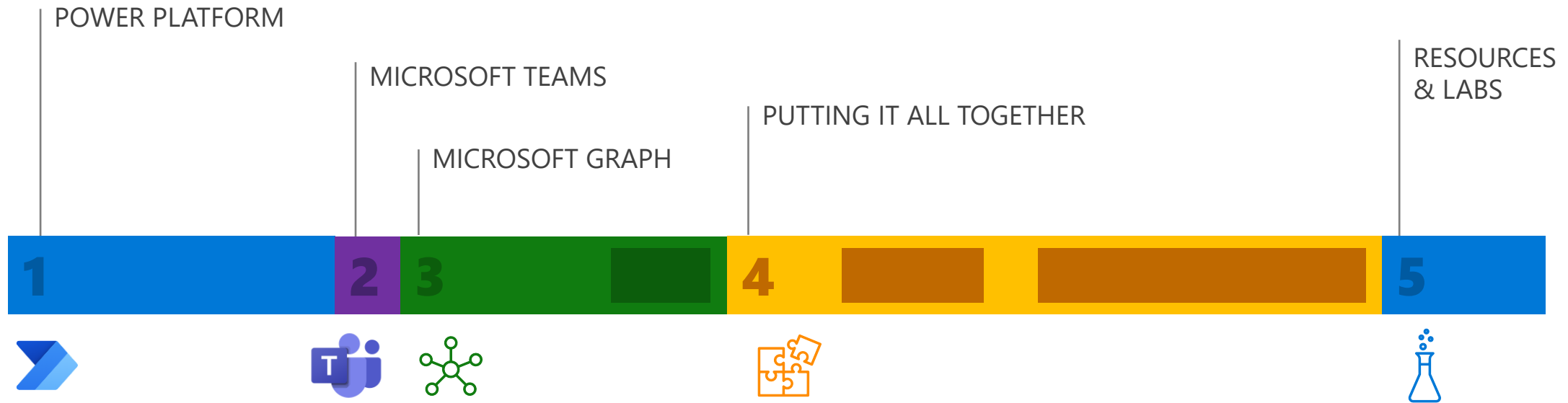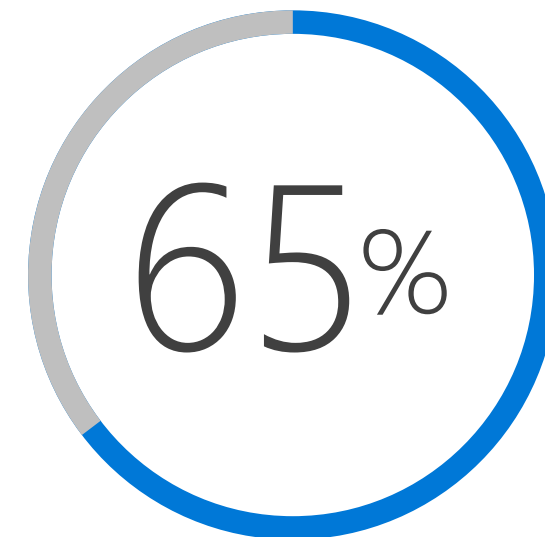
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Power Platform

Digital transformation landscape

5X

Demand for mobile apps will **grow at least five times faster than IT capacity to deliver**[1]

500M

In the next 5 years, **500 million new logical apps will be created**, equal to the number built over the past 40 years[2]

65%

By 2024, **low-code application will be responsible for more than 65%** of application dev. activity[3]

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Digital transformation challenges

Budget constraints

Time & Resource constraints

Business expectations

Paper processes

Complex processes

IT/Business partnership

No BI integration

"Shadow IT" governance

Tools to create the right culture

Security & Compliance

Legacy system maintenance

Difficult to find insights

Track & measure performance

Leverage existing technology

Integrate data from the right sources

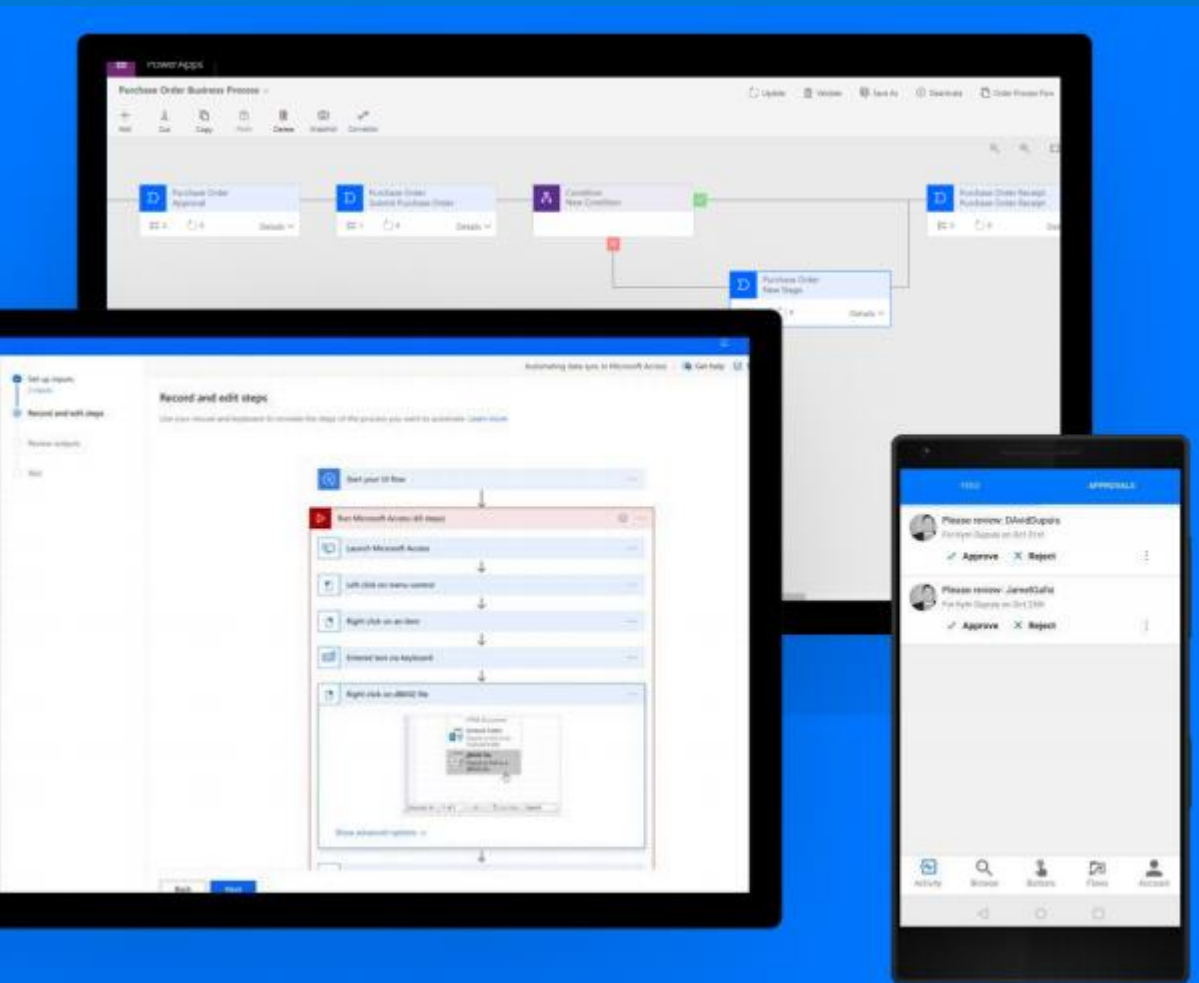https://developer.microsoft.com/

Power Automate

Automate tasks and business processes workflows

- Processes events from 400+ out-of-the-box triggers to start flows – plus custom events in external systems through custom connectors.
- After the trigger, actions can read and write data in any of the 400+ connectors in integration workflows.
- Quick modeling of business processes that span across apps and services.
- Integrates with modern approvals that can be handled from inside email client or mobile device.
- Everything from simple if-this-then-that processes to detailed conditional branching that leverages the Microsoft Cognitive Services for AI-powered decision making.
- Robotic Process Automation delivering end-to-end automation across AI, APIs, and UI on the Microsoft Power Platform.

Power Platform
400+ Connectors

Power Platform Momentum

98%
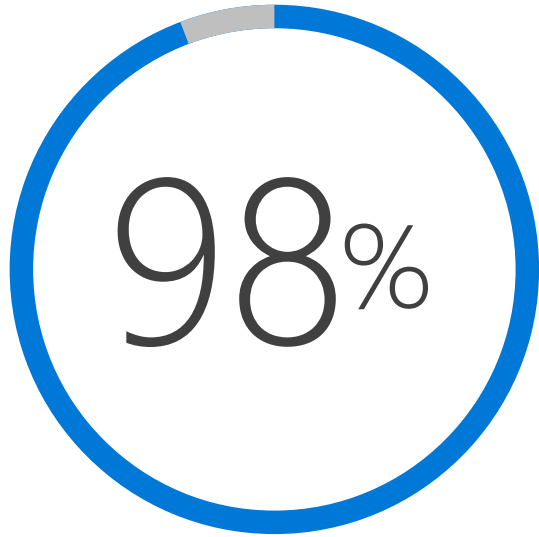
98% of the Fortune 500 organizations are using the Microsoft Power Platform

3.5M

Power Platform monthly active users

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Microsoft Teams

Microsoft Teams

- Chat-based workspace inside Office 365
- Persistent threaded conversation experience for teams
- Great integration with Office 365 Groups
- Fully featured support for audio and video calls
- Support for bots, emojis, stickers, GIFs and custom memes
- Highly customizable and extensible with tabs, bots and connectors
- Desktop and mobile apps available

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Teams and Channels
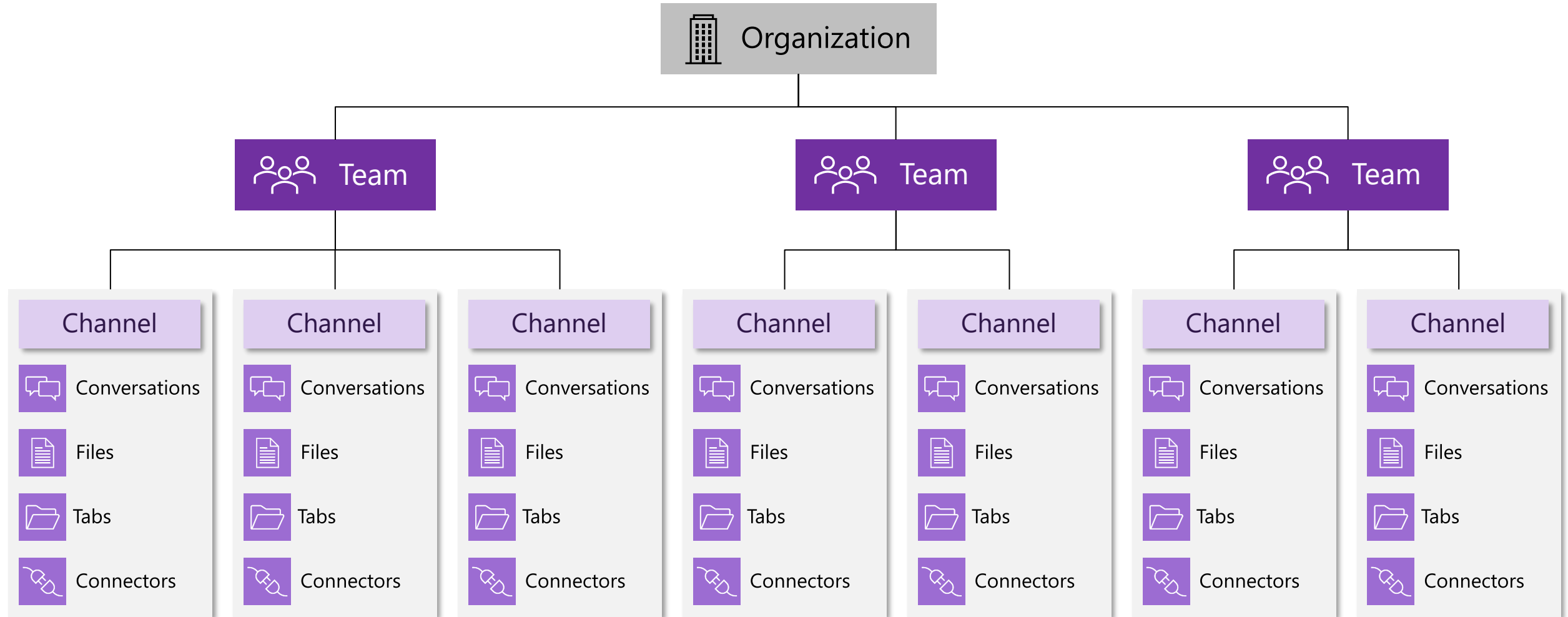
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Microsoft Graph
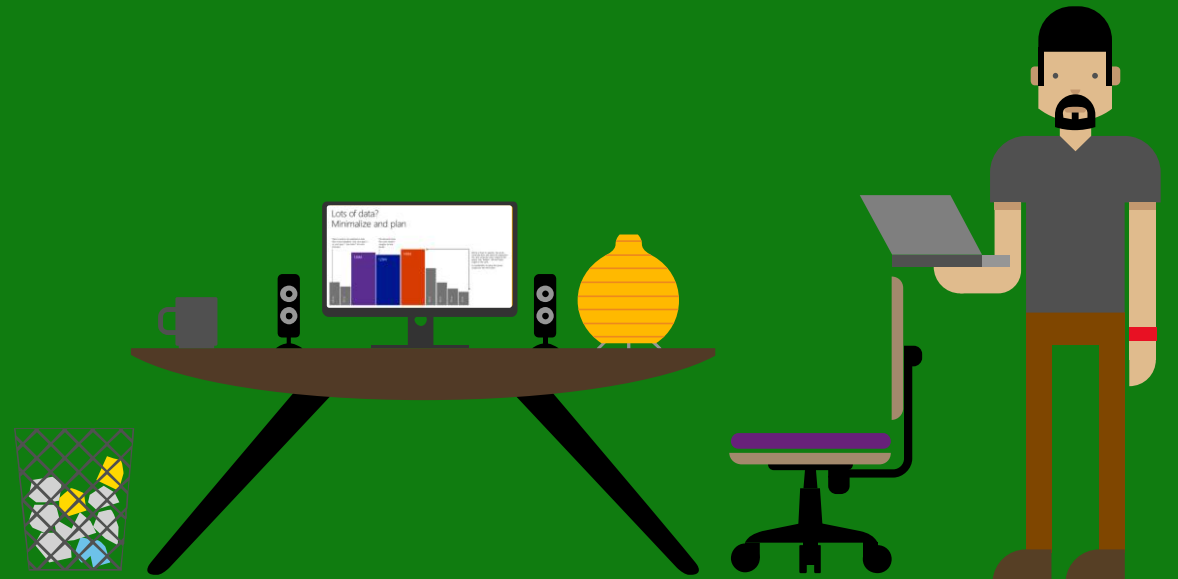
Microsoft Graph is all about you

The fabric of all your data

It all starts with **/me**

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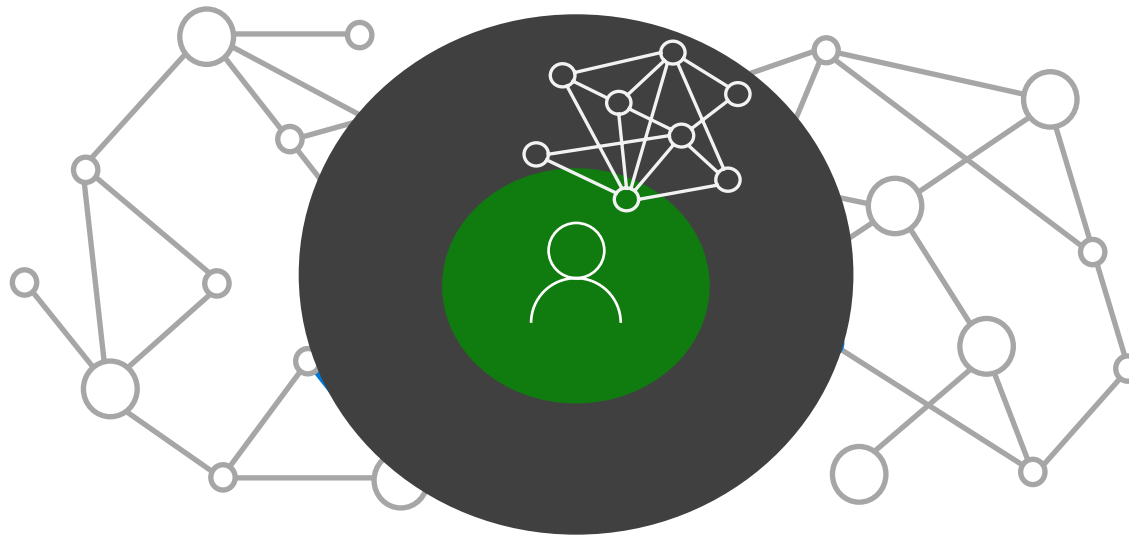
Unified REST API for Microsoft 365

Azure Active Directory

Microsoft 365

SharePoint, OneDrive, Outlook/Exchange, Microsoft Teams, OneNote, Planner, and Excel

Enterprise Security and Mobility

Identity Manager, Intune, Advanced Threat Analytics and Advanced Threat Protection.

Windows 10

Activities and Devices

Education

Microsoft 365 Platform

Extend Microsoft 365 experiences

Documents | Conversations | Portals | Timeline | Search

Build your experience

Web Apps | Device & Native | Bots & Agents | Daemon apps | Workflow automation | Analytics apps

Microsoft Graph
REST APIs and webhooks

Your local data → **Microsoft Graph** → Azure AI platform

Connectors

| Microsoft 365 | Windows 10 | Enterprise Mobility + Security |

Microsoft Graph
Data connect

Microsoft Identity

https://developer.microsoft.com/

Access Tokens

To use the Graph you need an access token

Access tokens include claims to...

- Validate the caller
- Ensure caller permissions

Access tokens are transmited as Bearer tokens

To request an access token...

- Register an application in Azure AD
- Set the application scope (permissions required by the app)
- Grant consent to the app

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Authentication Flow

Microsoft Identity Platform
https://login.microsoftonline.com/common

Server

/oauth2/v2.0/token

Graph API

App is granted some permission to access Web API

Server sends token request, providing app's credentials

Authenticates app

Calculates permissions granted to app

Returns token to server

Send token to Web API in Authorization header

Validates token

Returns secure data to server

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Using the Graph Explorer

DEMO

Teams Operations

List my teams

`GET` `/me/joinedTeams`

Get a team

`GET` `/teams/{id}`

Create a new team

`POST` `/teams`

Creates an empty team
Creates a team from a template
Creates a team from a group
Include team owners and team members
Create channels
Create tabs within channels
Install apps

Update a team

`PATCH` `/teams/{id}`

Delete a team

`DELETE` `/teams/{id}`

List members

`GET` `/teams/{id}/members`

Add members

`POST` `/teams/{id}/members`

Delete members

`DELETE` `/teams/{team-id}/members/{membership-id}`

Archive team

`POST` `/teams/{id}/archive`

Unarchive team

`POST` `/teams/{id}/unarchive`

Clone team

`POST` `/teams/{id}/clone`

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Putting it all together

Register an application

DEMO

Register an application

1. Access Azure AD Portal
2. Go to App Registrations and click New registration
3. Give it a name
4. Select Accounts in this organizational directory only
5. Save your Application (client) ID
6. Save your Directory (tenant) ID
7. Go to Certificates & secrets and click New client secret
8. Give it a name
9. Save the secret value

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Create a flow in Power Automate

DEMO

Create a flow in Power Automate

1. Start with a manual trigger and request inputs
2. Define variables for App Secret, Client ID and Tenant ID
3. Get owner details from Active Directory
4. Start and wait for approval
5. Define a condition on approval outcome
   a) If not approved, send an email notification and terminate
   b) If approved, continue
6. Get the Office 365 Group
7. Issue a request to the Graph to create the team
8. Issue a request to the Graph to add an owner

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Resources & Labs

Power Automate Resources

Power Automate Community
[Microsoft Power Automate Community - Power Platform Community](#)

Power Automate Documentation
[Power Automate documentation - Power Automate | Microsoft Docs](#)

Power Automate YouTube Channel
[Microsoft Power Automate - YouTube](#)

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Lab

1day

Power Automate in a Day

https://github.com/Power-Automate-in-a-day/Training-by-the-community

This repository holds all the material from "Power Automate in a Day" event by **Serge Luca**.

Lab 0: Set up the new designer and the Community license

Lab 1: Building a time tracking flow

Lab 2: Approvals (part 1) – Travel Approval

Lab 3: Flow notifications and conditions

Lab 4: Flow control, variables and expressions

Lab 5: Using the Microsoft Forms connector

Lab 6: Task overdue

Lab 7: Document generation with the Word connector

Lab 8: Interaction between Power Automate and Power Apps

Lab 9: Creating a Business Process flow

Lab 10: Call an external API from Flow with the HTTP action

Lab 11: Create a custom connector

Lab 12: Calling the Microsoft Graph

Lab 13: Calling the SharePoint API from a flow

Lab 14: Application lifecycle management light

Lab 15: (Approval Advanced) Implementing the Flow Controller Pattern

Survey

https://aka.ms/Microsoft365DevBootcampSurvey2020

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Microsoft

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