



# Global Microsoft 365 Developer Bootcamp

December 14<sup>th</sup>, 2019

Solution accelerators for building Teams apps:

App Templates, PowerApps, Flow & SPFx

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# Who I am?

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HANDSONSharePoint.net  
HANDSONTeams.net



Microsoft®  
Most Valuable  
Professional

# App Templates

# App Templates for Custom Company Apps

## Plug n Play Experiences

Community-driven, pre-built Teams apps for common line-of-business scenarios. Minimal configuration needed and no coding required.

## One-Click Deployment

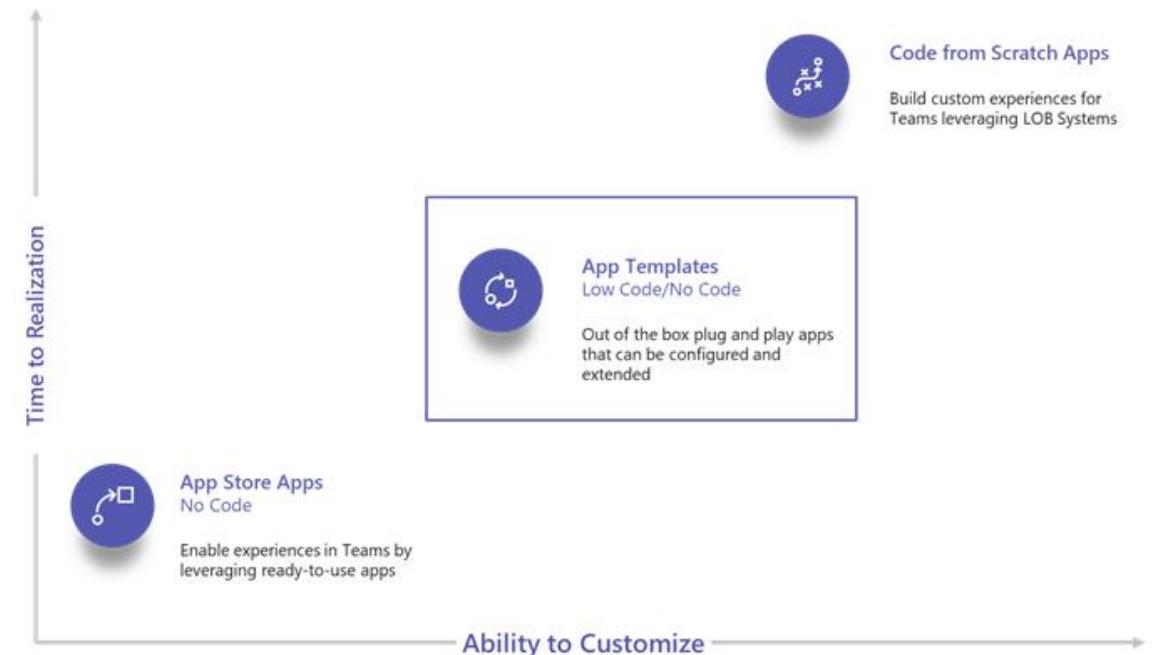
Automated experience to deploy the app to your own instance of Azure. Bring the experience to Teams seamlessly.

## Secure, Configurable & Extensible

Open sourced so you can own, brand, configure and extend to your needs.

Full Catalog:

<https://aka.ms/TeamsAppTemplates>



Available

List Search

Company Communicator FAQ Plus

Icebreaker

Custom Stickers

Celebration Bot

Coming soon

Meeting Room Bot HR Support

Scrum bot

# HR Support Bot

A bot for corporate HR teams to answer commonly asked employee questions and provide support.

< >  Search or type a command

Activity Chat Teams Calendar Calls Files ... Apps Help

Contoso HR Support

Conversation HR Links About

11:28 PM Tell me about Diversity/Inclusion at Contoso?

Contoso HR Support

Here's what I found:

Diverse & Inclusive



Diversity and inclusion at Microsoft is not a program, an initiative, or a campaign—it's about how we do business and how each one of us engages one another to create healthy environments

[Open article](#) [Ask an expert](#) [Share feedback](#)

Type your questions here

A  GIF    ... 



Search or type a command



Contoso HR Support

Conversation

HR Links

About

A dedicated tab that contains entry points to commonly accessed SharePoint/other sites for HR tasks.

11:19 PM  
Take a tour



Contoso HR Support

Ask an expert



...If my answer isn't satisfactory... I'll connect you to an expert.

Welcome cards that tell the employees at Contoso about what the bot can do

Type your questions here





Search or type a command



...



Contoso HR Support

Conversation

HR Links About



...If my answer isn't satisfactory... I'll connect you to an expert.

The bot responds with an answer if it is contained in the knowledgebase



### Contoso HR Support

Here is what I found:

Your benefits are determined by the options you chose during open enrollment. Follow this [link](#) to check your benefits enrollment and policy details.

Ask an expert

Share feedback

The user can click on Ask an Expert if they want additional support

User can ask questions to the bot. The bot is built on top of Microsoft QnA Maker tool and leverages natural language understanding.

The user can submit general feedback about the app or the question/answer in particular

Type your questions here





Search or type a command



Contoso HR Support

Conversation

HR Links

About

11:24 PM

Ask an expert



Contoso HR Support

### Ask an expert

The expert will respond to you directly with a chat message.

Title (Required)

Employee Referral

Description

I referred a friend and he joined Contoso. However, I still haven't received my referral bonus.

The employee can request expert support as needed.

Ask an expert

Type your questions here



The screenshot shows the Microsoft Teams interface. On the left, the 'Teams' sidebar is open, displaying 'Your teams' with 'Contoso HR' selected and highlighted by a red box. Below it is the 'General' channel. A tooltip for the 'General' channel states: 'Contoso HR Experts Team: Where bot posts notifications on employee 'ask an expert' queries.' To the right of the sidebar, the main window shows the 'Contoso HR > General' channel. The channel header indicates 'This team has guests'. Below the header are tabs for 'Conversations', 'Files', 'Wiki', and 'Issues'. The 'Conversations' tab is active, showing a message from a bot named 'Contoso HR Support' with the subject 'Work Culture'. The message content is: 'Yashraj Mungale is requesting support.' Below the message are details: 'Description: I referred a friend and he joined Contoso....', 'Question asked: Employee referral', and 'Status: Unassigned'. At the bottom of the message card are two buttons: 'Chat with Yashraj' and 'Change status'. A red line connects the 'General' channel entry in the sidebar to the 'General' channel header in the main window. Another red line connects the 'General' channel entry in the sidebar to the 'Contoso HR Support' message in the main window. A third red line connects the 'Ask an expert' tooltip in the sidebar to the 'Employee referral' status in the message card.

Activity

Chat

Teams

Calendar

Calls

Files

...

Search or type a command

Teams

KS Contoso HR > General ...  
This team has guests

Conversations Files Wiki Issues +

Reply

Contoso HR Support

Work Culture

Yashraj Mungale is requesting support.

Description: I referred a friend and he joined Contoso....

Question asked: Employee referral

Status: Unassigned

Chat with Yashraj Change status

Reply

Contoso HR Experts Team:  
Where bot posts notifications  
on employee 'ask an expert'  
queries.

The bot posts a real-time  
notification to the Experts  
Team.

Any one of the experts can  
provide instant help through  
chat at the click of a button.

Expert Team can perform  
light-weight ticketing  
operations on the incoming  
requests – such as assign,  
close, reopen. The bot  
maintains an audit trail of all  
actions, so the entire team is  
on the same page.



Search or type a command



Contoso HR Support



Conversation

HR Links

About

11:28 PM

Tell me about Diversity/Inclusion at Contoso?



...



Contoso HR Support

Here's what I found:

Diverse & Inclusive



Diversity and inclusion at Microsoft is not a program, an initiative, or a campaign—it's about how we do business and how each one of us engages one another to create healthy environments

Opens the underlying SharePoint site/website for additional details.

Open article

Ask an expert

Share feedback

The bot intelligently surfaces information when certain tags match the commonly referred HR links and drives awareness towards Contoso's existing investments in knowledge management.

For example, here the question matches the tag 'diversity and inclusion' for which there is an existing SharePoint site for additional details.

Type your questions here





Search or type a command



## Contoso HR Support

Conversation [HR Links](#) About

### Diversity and Inclusion



Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

### Employee Referral Program



Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

### U.S. Benefits



Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

### Diverse & Inclusive



Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

### Anti-Harassment Policy



Lore ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore.

Frequently accessed HR links provide a useful quick access entry point to employees from within Teams itself to existing SharePoint sites/intranet websites. On click, the article referred by the tile will open in a browser.



Apps



Help

# FAQ Plus – A simple FAQ bot that brings a human in the loop

## Teams Adoption

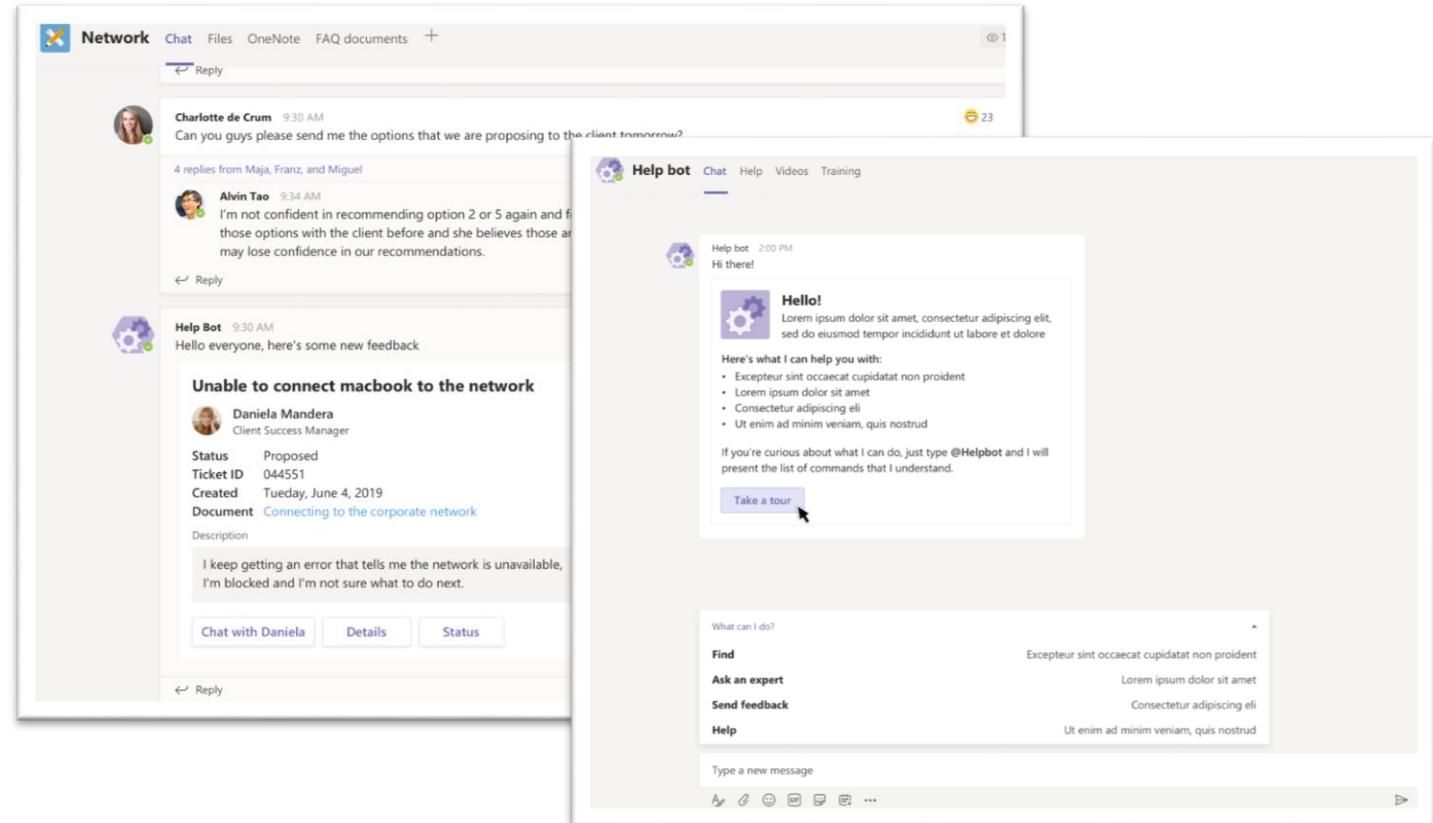
Answer common employee questions about your Teams deployment

## New Product Rollout

Answer employee questions on any new initiatives and create an immediate feedback loop with the support teams

## Lightweight helpdesk

Create lightweight helpdesk + FAQ apps for common line of business scenarios such as HR, Marketing, Operations



# Company Communicator – Send targeted communication to employees on Teams

## Teams Adoption

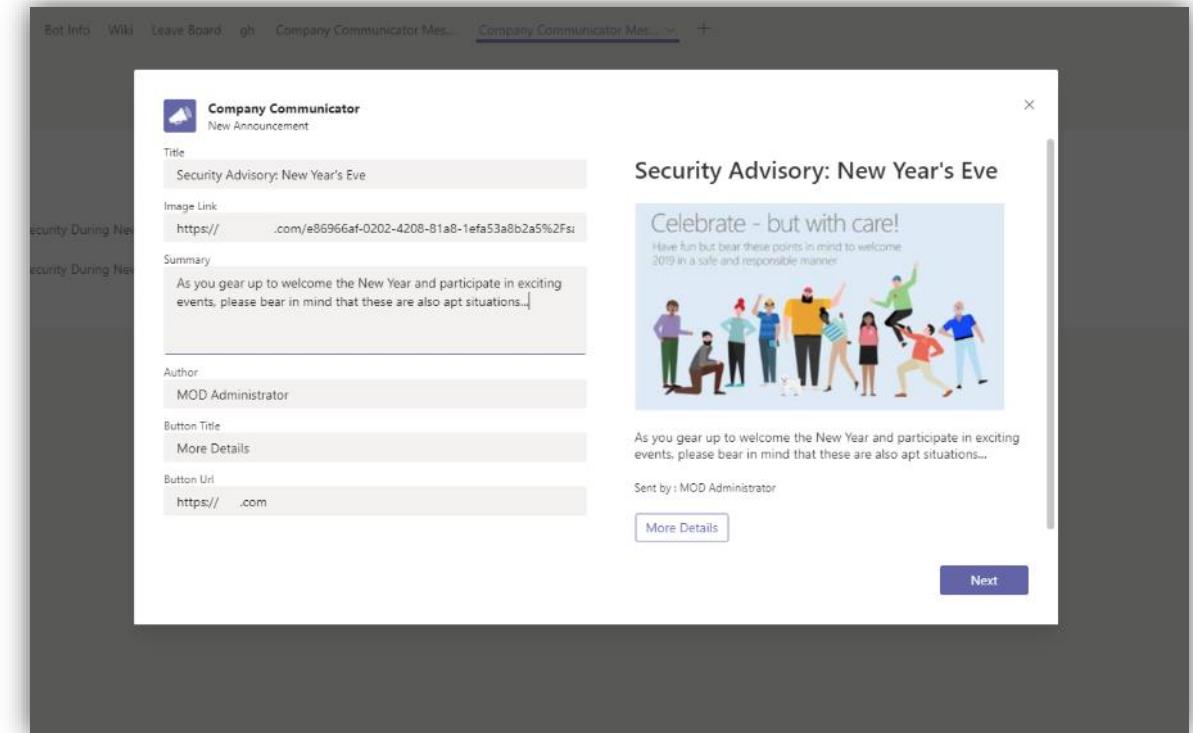
Send users proactive communication on rollout of Teams

## Company Announcements

Modernize dissemination and consumption of employee announcements

## Modern Learning and Development

Modernize how employees receive and consume learning and development content



# List Search – Search and share items within SharePoint List

## Customer Tracking

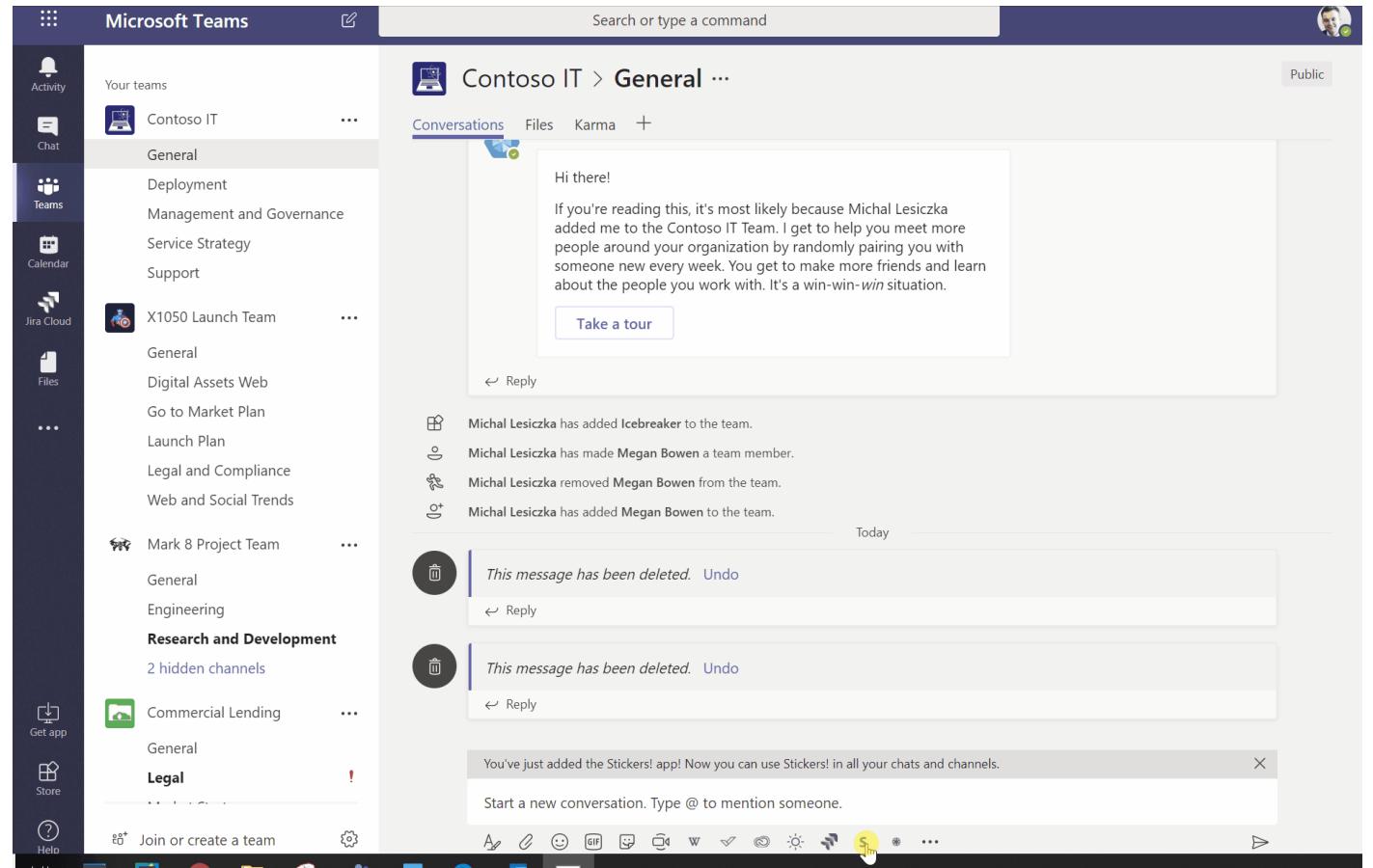
Customer tracking, issue tracking.

## Bug tracking

Searching, sharing and Collaborating on software bugs

## Company glossary

Searching and sharing common company acronyms



# Icebreaker – Modern Employee Engagement

## Conference communities

CS Ready Las Vegas 2019 (1,000+ CSMs/CSAs meeting new person everyday)

## New employee/intern cohorts

Icebreaker @ Microsoft Worldwide Commercial Business Interns (50+ interns)

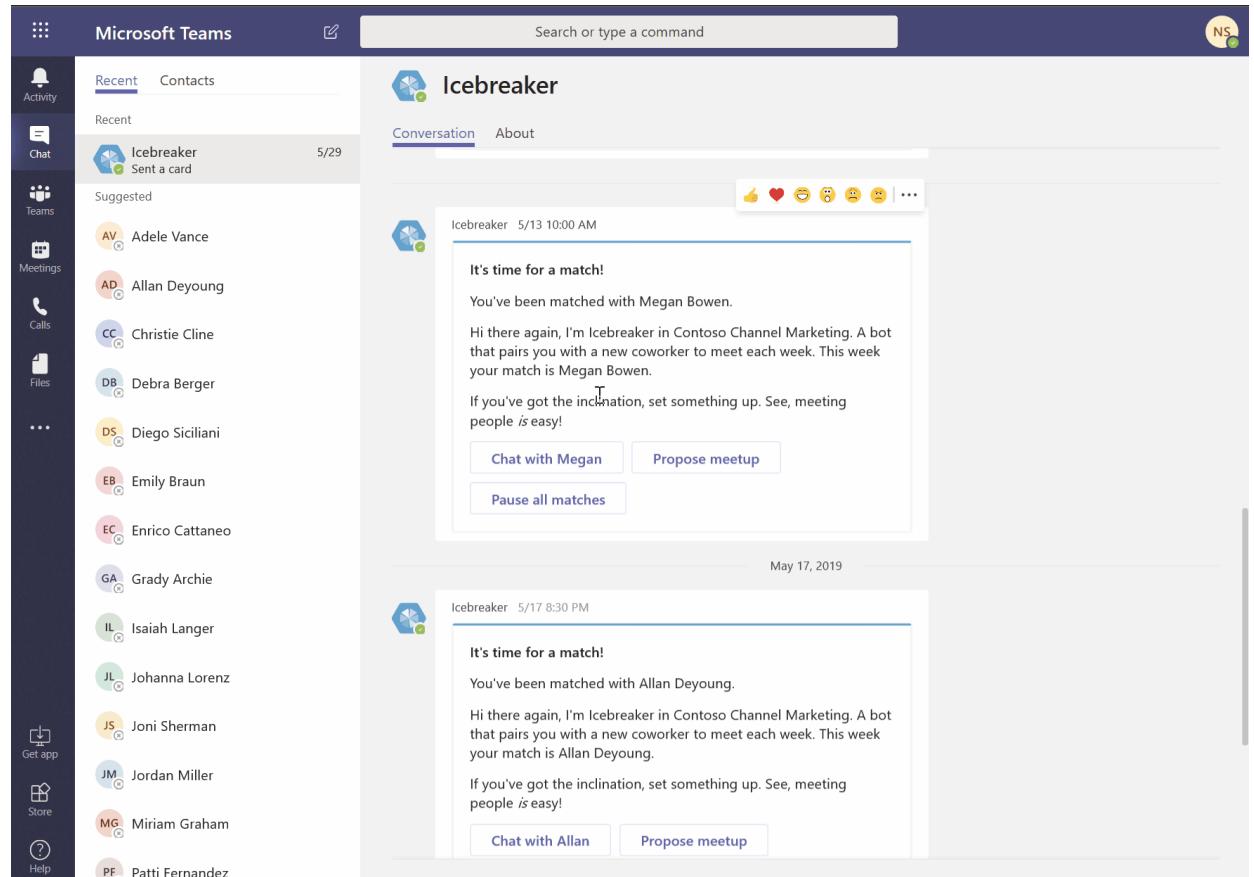
## Employee communities

Women in CSU @ Microsoft (300+ women in CSU)

The image contains two side-by-side screenshots of news articles about the Microsoft Teams Icebreaker bot.

**GeekWire Screenshot:** The headline reads "Microsoft Teams' new Icebreaker Bot pairs up co-workers at random to help build bonds". Below the headline, there's a screenshot of the Microsoft Teams interface showing the Icebreaker bot's card in the activity feed. The card says "Icebreaker Sent a card" and lists several names: Adele Vance, Allan Deyoung, Christie Cline, Debra Berger, Diego Siciliani, Emily Braun, Enrico Cattaneo, Grady Archie, Isaiah Langer, Johanna Lorenz, Joni Sherman, Jordan Miller, Miriam Graham, and Patti Fernandez.

**ONMSFT Screenshot:** The headline reads "New ‘Icebreaker’ app for Teams promotes team bonding". Below the headline, there's a screenshot of the ONMSFT website showing the Microsoft Teams interface with the Icebreaker bot's card. The card has the same message and list of names as the GeekWire version.



# Key Resources

<https://aka.ms/teamsapptemplates>

Contains overview of all available app templates, along with links to GitHub repos

GitHub Repos direct link:

[Icebreaker bot](#)

[List Search](#)

[Custom Stickers](#)

Blogs:

[FAQ Plus](#) - Modernize employee experience with this no-code chatbot in Teams

[Geekwire](#) – Coverage on Icebreaker bot

[OnMicrosoft](#) – Coverage on Icebreaker bot

[Icebreaker Blog](#) – Assisted happenstance to strengthen your company culture

# FAQs

- Are these apps secure?
  - The app templates conform to recommended best practices around security and infrastructure, and all community submitted changes to them are reviewed to ensure continued conformance.
- What would it take to take these apps and deploy them in my tenant?
  - All App Templates come with detailed deployment instructions and take minutes to set up. You don't require a developer to deploy and use these app templates out of the box.
- Can everyone deploy these app templates?
  - Typically, organizations have their own review processes to upload an app to their internal catalog. Anyone with these permissions can deploy these apps.
- Do these apps cost anything?
  - These app templates are free to use as they are open-sourced. They may incur Azure consumption charges but there are free trials available.

# Coffee in the cloud - demo



App Templates for Teams with Nidhi Shandilya

127 views • 28 Oct 2019

1 like 1 dislike SHARE SAVE ...



Coffee in the Cloud  
7.62K subscribers

SUBSCRIBE



# PowerApps

# Microsoft Power Platform

One low-code platform that spans Office 365, Dynamics 365, Azure and standalone applications.



**Power BI**

Business analytics



**PowerApps**

Application development

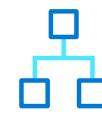


**Power Automate**

Workflow automation



**Common  
Data Service**



**Data  
connectors**



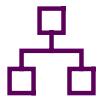
**AI Builder**



# PowerApps: a low-code approach to building apps



Easily build apps with a full featured low-code / no-code platform



Connect to your existing data with 230+ pre-built connectors and custom connectors



Store your data in the Common Data Service



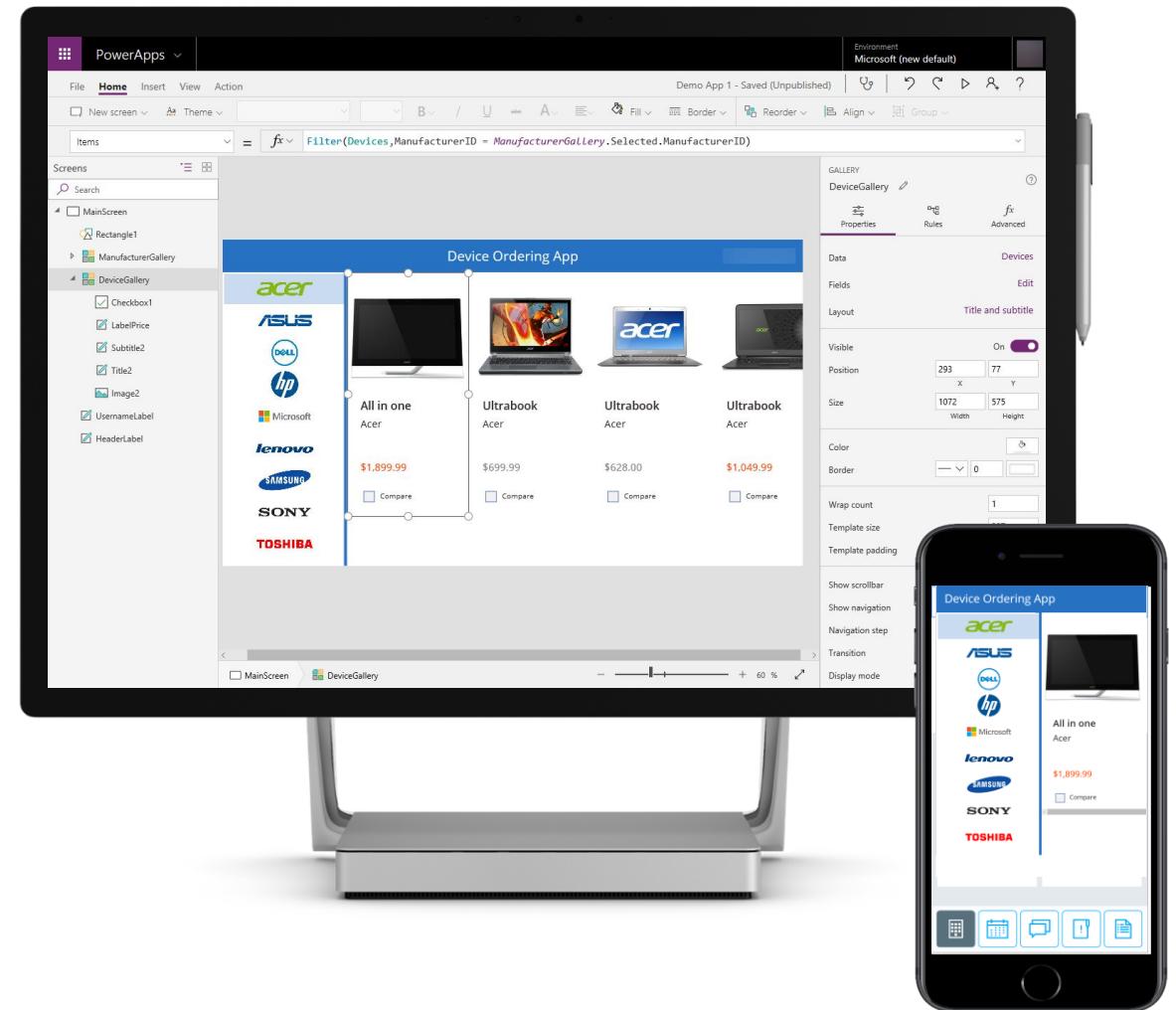
Integrated with Office 365, Azure, Dynamics 365, and Power BI



Strong enterprise governance & security



Pro-dev extensibility



# PowerApps + Teams Opportunity

- Enable enterprise app distribution at scale through the Teams tenant app catalog
- Empower frontline workers by enabling easy access to PowerApps from Teams mobile
- Supercharge PowerApps with collaboration capabilities in Teams (chat, calling)

# Education: Tacoma Public Schools



The screenshot shows a Microsoft Teams channel for "Manitou Park 2018-2019" with the "General" tab selected. The channel sidebar includes links for Favorites, Activity, Chat, Teams, Meetings, Files, Assignments, and More apps. The main content area displays a PowerApp titled "Developmental Reading Assessment". The app features a photograph of a teacher assisting two students at a desk. On the right side, student information is shown: FULL NAME (Irvin Sayers), TEACHER (Christie Cline), STUDENT FOCUS GROUP (ELL), INSTRUCTIONAL LEVEL (27), GRADE (2), TEXT TYPE (Nonfiction), READING ENGAGEMENT GOAL (Self-Assessment/Goal Setting), ORAL READING GOAL (Accuracy: Word Analysis), COMPREHENSION GOAL (Literal Comprehension), and PRINTED LANGUAGE CONCEPTS.

App Builder



Lauren Taylor  
Assistant Principal

Company



Organization size  
30k+ Staff & Students

Industry  
Education

Country  
United States

***"When I learned about PowerApps that changed the game for me. I found Flow and OMG this is a life-changer!"***

– Lauren Taylor, Assistant Principal, Manitou Park Elementary, Tacoma Public School district

# Telecommunications: Telstra

The screenshot displays the Microsoft Teams interface for the 'CSM Autonomous CT' team. The left sidebar shows various teams and channels, with 'General' selected. The main area shows a banner for 'Technician Plus+' featuring a photo of Nathan Backers, a Business Analyst from the Field Digitisation team. Below the banner is a grid of eight cards:

- FFS Rate Card
- Sherloc
- TIDE
- My Performance
- Video Hub
- Field Services Communications
- OMMA Artefact Lookup
- Exchange Locations

The background of the channel shows a cricket team celebrating a win.

**"We've seen customer service complaints drop 60%, we've been able to document and recover damages to the tune of AU\$16M annually and have given our field service technicians a singular desktop-to-mobile work experience"**

Richard French, Principal – Field Digitization

# Not for Profit: American Red Cross

The screenshot shows the Microsoft Teams application interface. On the left, the Teams sidebar is visible with various team and channel options. The main area displays the "Training Services Logistics > General" channel. The channel header includes the American Red Cross logo and navigation tabs for Conversations, Files, Wiki, Projects & Initiatives, Supply Order (which is selected), and Skedulo Report. A "Order History" card is prominently displayed on the right side of the channel, listing five recent supply orders with details like Order ID, FedEx Tracking #, Order Date, and Order Status.

Order ID	FedEx Tracking #	Order Date	Order Status
6078		8/5/2019 3:43 PM	New/Awaiting
6077		8/5/2019 2:56 PM	New/Awaiting
6076		8/5/2019 12:39 PM	
6075	788913817000	8/5/2019 12:35 PM	Fully Shipped

"The app allows instructors to add supplies to a shopping cart, provide the address where they would like the supplies shipped and then checkout the items when ready, an intuitive online 'shopping' experience we are all already familiar with"

Nick Gill, National Manager of Service Delivery

# Every PowerApp is a Teams App!

## Benefits:

- PowerApps are available in Teams where critical work and collaboration already happen.
- IT admins can distribute PowerApps in a scalable manner by publishing them to the tenant app catalog in Teams.
- Front line workers can access PowerApps in Teams mobile.

# Make Your PowerApp a Teams App

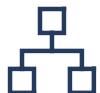
- Option 1: Add as a channel tab
- Option 2: Upload as a custom personal or team app
- Option 3: Upload to the tenant app catalog, and provision as a personal app using setup policies

# Power Automate

# Automate processes with Microsoft Power Automate



Model business processes and automate workflows and your apps and services



From simple automations to advanced scenarios with branches, loops, and more



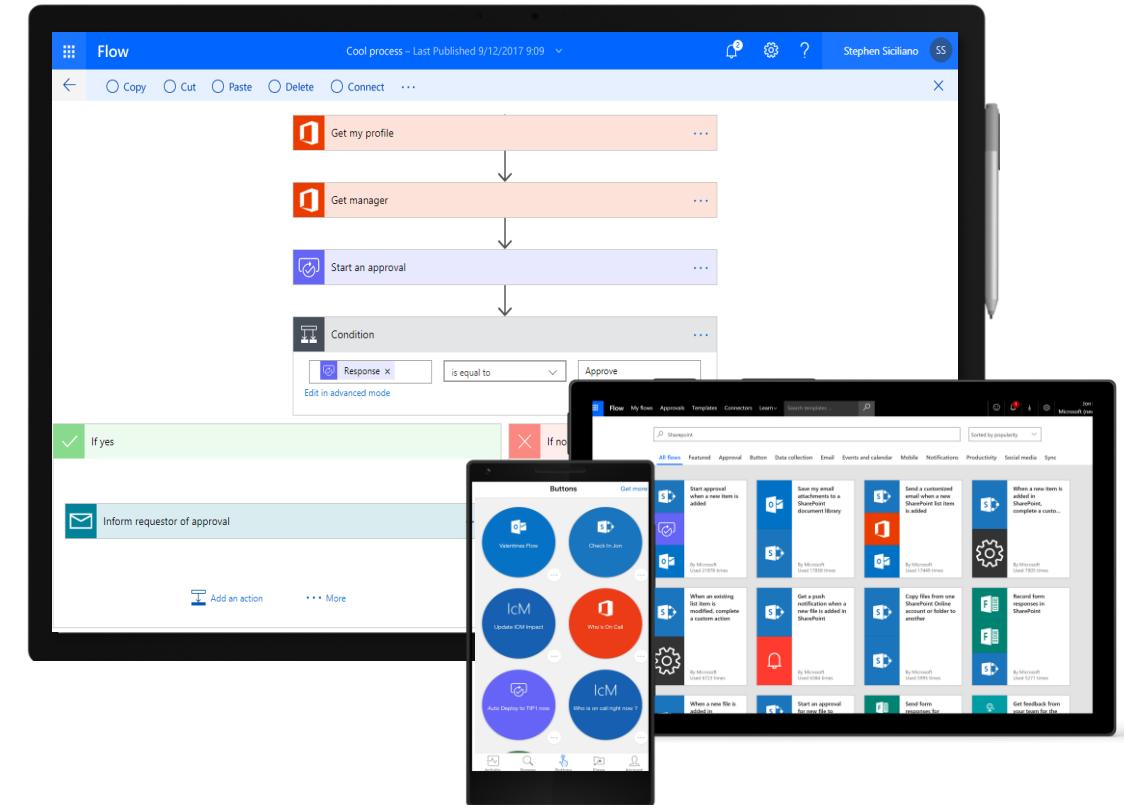
Connect to all your data with 230+ pre-built connectors and custom connectors



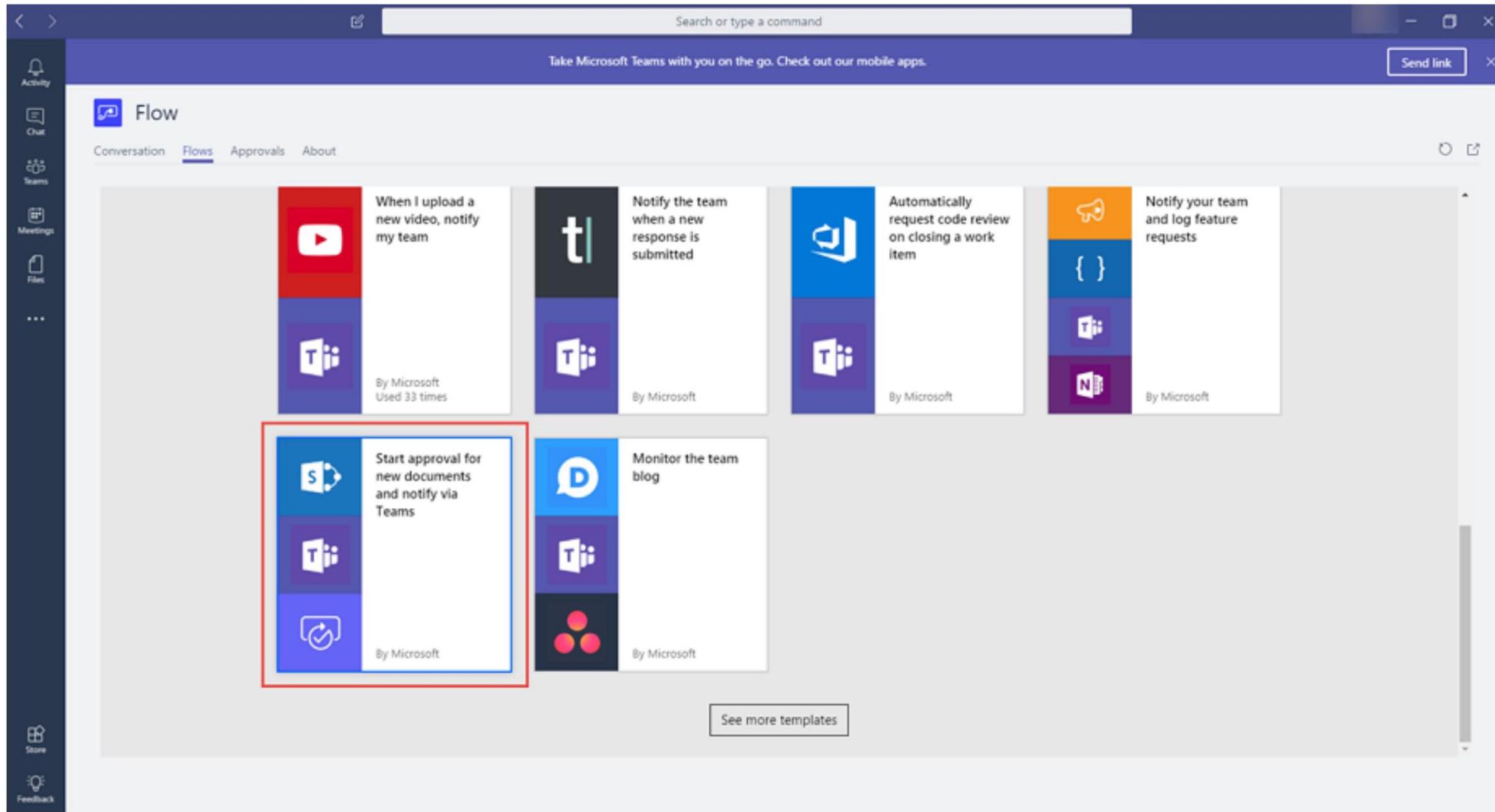
Strong enterprise governance & security



Pro-dev extensibility with Azure and custom logic



# Create Flows from inside Teams



# Use the Flow bot to trigger Flows

The screenshot shows a Microsoft Teams conversation window. On the left is a vertical sidebar with icons for Activity, Chat, Teams, Meetings, Files (which is selected), and three dots. The main area has a header with a search bar and tabs for Conversation (selected), Flows, Approvals, and About. A sidebar on the right lists Activity, Chat, Teams, and Meetings. The conversation starts with a message from 'Flow' at 5:48 PM:

Here's what I can do:

- List flows for the default environment, command: *List flows*
- Run flows that run on a schedule, command: *Run flow index*

By continuing, you agree to the [Microsoft Privacy Statement](#) and [Microsoft Services Agreement](#).

Below this, another message from 'Flow' at 5:48 PM is shown, enclosed in a red box:

I can run any flow that's:

- triggered on a schedule

For the default environment, I can run:

1 : Due diligence items

5:48 PM  
List flows

# Create your own Flows for Teams

## Triggers

When a new message is added  
to a channel

When a user is mentioned in a  
message in a particular channel

## Actions

Create a channel

Post a message or reply (as a  
user or with the Flow bot)

Option sets

Adaptive cards

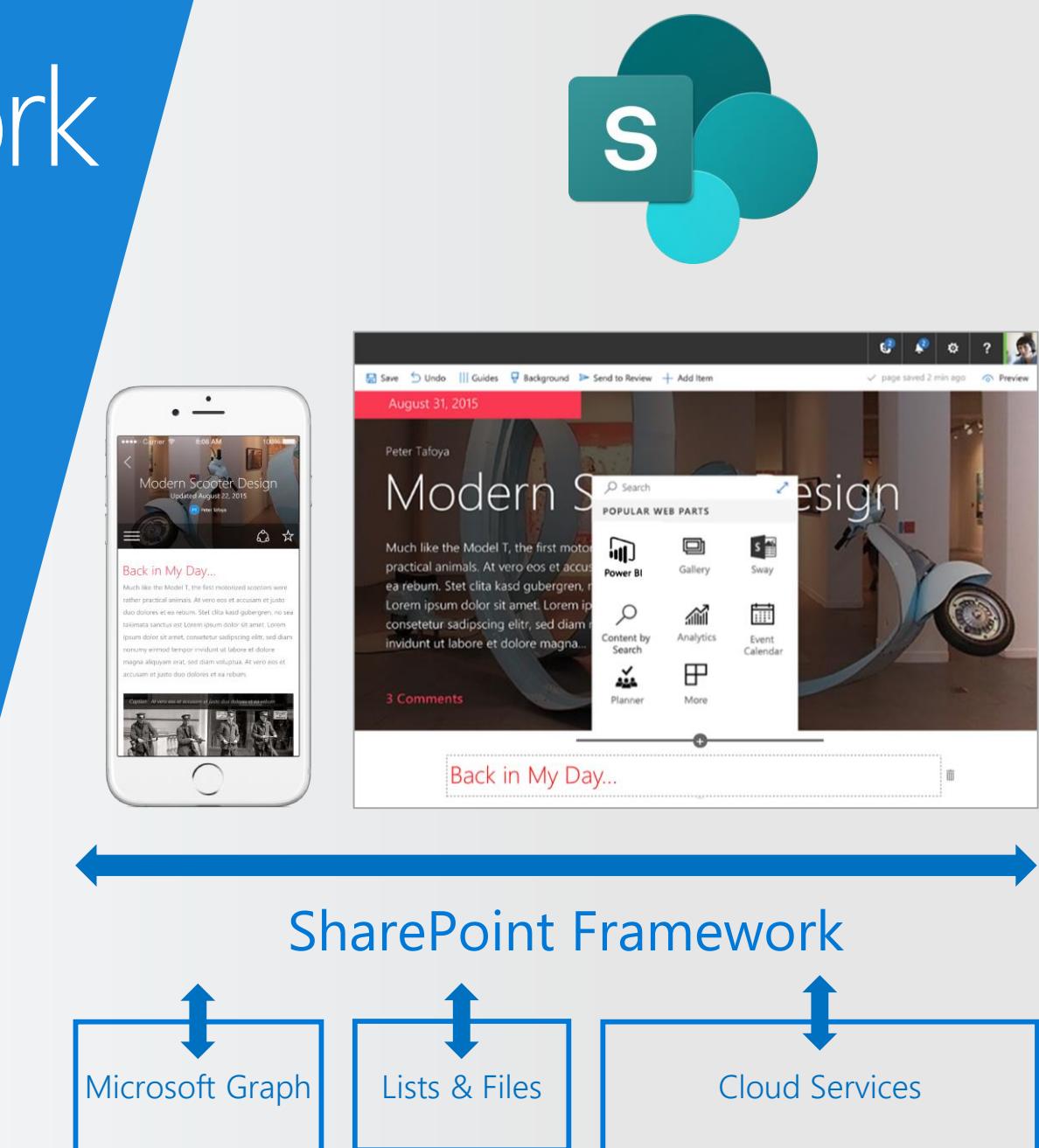
Rich text

List teams or channels

# SharePoint SPFx

# SharePoint Framework

- Modern client-side development
- Lightweight web and mobile
- Supports open source tools & JavaScript web frameworks
- Built-in Graph support, Azure Active Directory secured APIs and free hosting on SharePoint



# Top 10 reasons SPFx in Teams rocks

1. No need to host a web site or page
2. Reuse code in Teams and SharePoint
3. Azure AD single sign-on built in
4. SharePoint handles the configuration page
5. You know what Team and Channel you're in with the Teams SDK
6. Easy access to Microsoft Graph, SharePoint APIs
7. Store data in the Office 365 group
8. Manage apps centrally in SharePoint Admin Center
9. Deep linking allows passing context
10. SharePoint Community



# Common needs

## End user

Information the team cares about should be available regardless of the tool / workload

Make it possible to bridge team collaboration and external communication

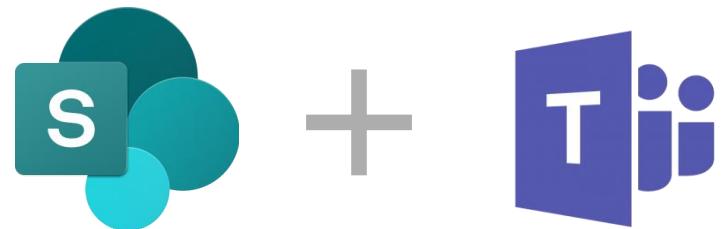
## IT admin

Reduce the number of places and ways to manage and deploy solutions to end users

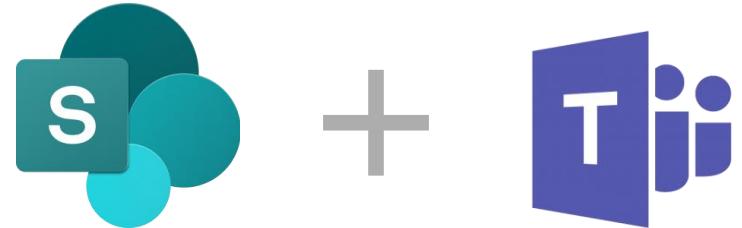
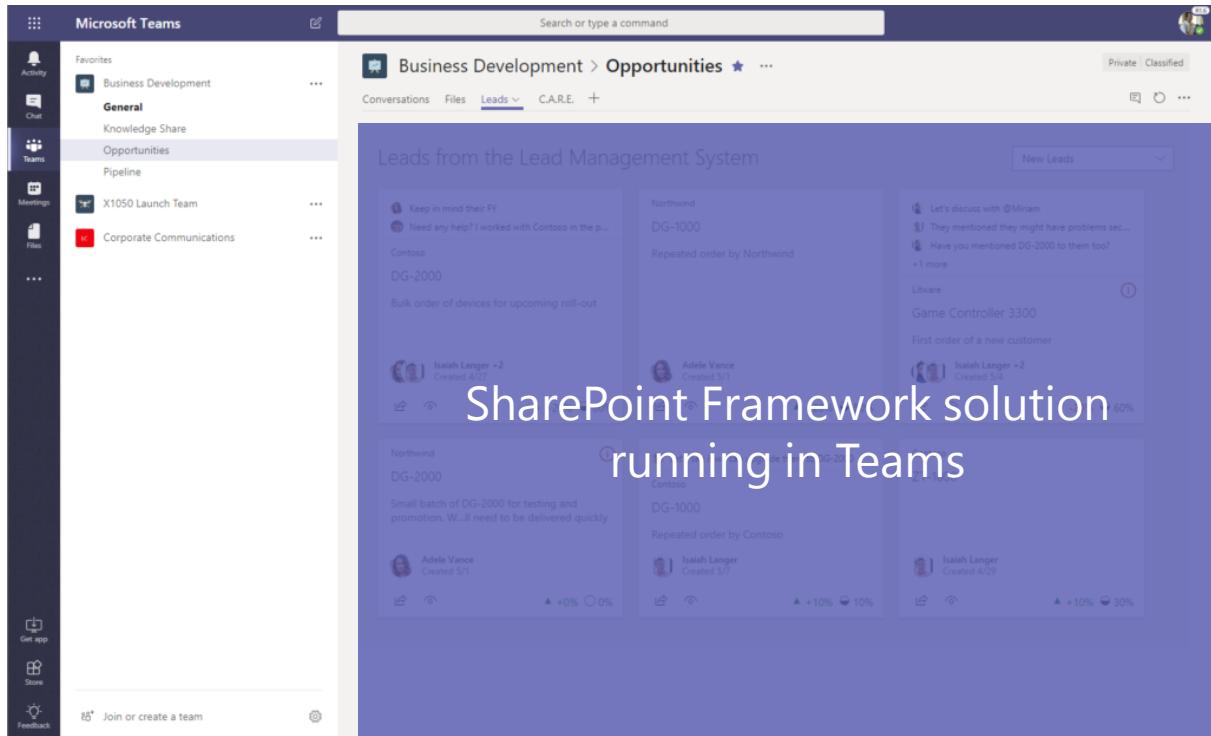
## Developer

Reach multiple workloads with a single solution

Reduce number of developer concepts and experiences



# SharePoint Framework + Teams



- ✓ SharePoint Framework web parts can be exposed as Microsoft Teams tabs
- ✓ Tabs are automatically hosted and executed in the context of the SharePoint, so there's no additional complexity on hosting or deployment
- ✓ You can take advantage of all SharePoint Framework capabilities in the Teams tab

# Authentication + Graph

- Silent authentication between Teams client and SharePoint Online
  - Teams provides the token client side to SharePoint
  - We convert it to cookie server side
  - The \_layout system page that hosts the SPFx solution renders: no additional auth required
  - Full access to SharePoint REST APIs
- When / if the component requires to access Graph / Web APIs:
  - We get the auth token from the client: no permissions there, we use it as bootstrap token
  - SPFx client libraries understand that the call is coming from a Teams rich client environment
    - Bootstrap token is sent to AAD using the “on behalf of” flow to obtain an access token for the requested resource in exchange for the bootstrap token
    - AAD returns the access token to SPO. The component can now execute the Web API call.

# Surfacing SPFx in Teams

SPFx Teams solutions are deployed to Office 365 tenants using the "tenant app catalog"

1

Teams manifest file is created and deployed in the Teams LoB Catalog

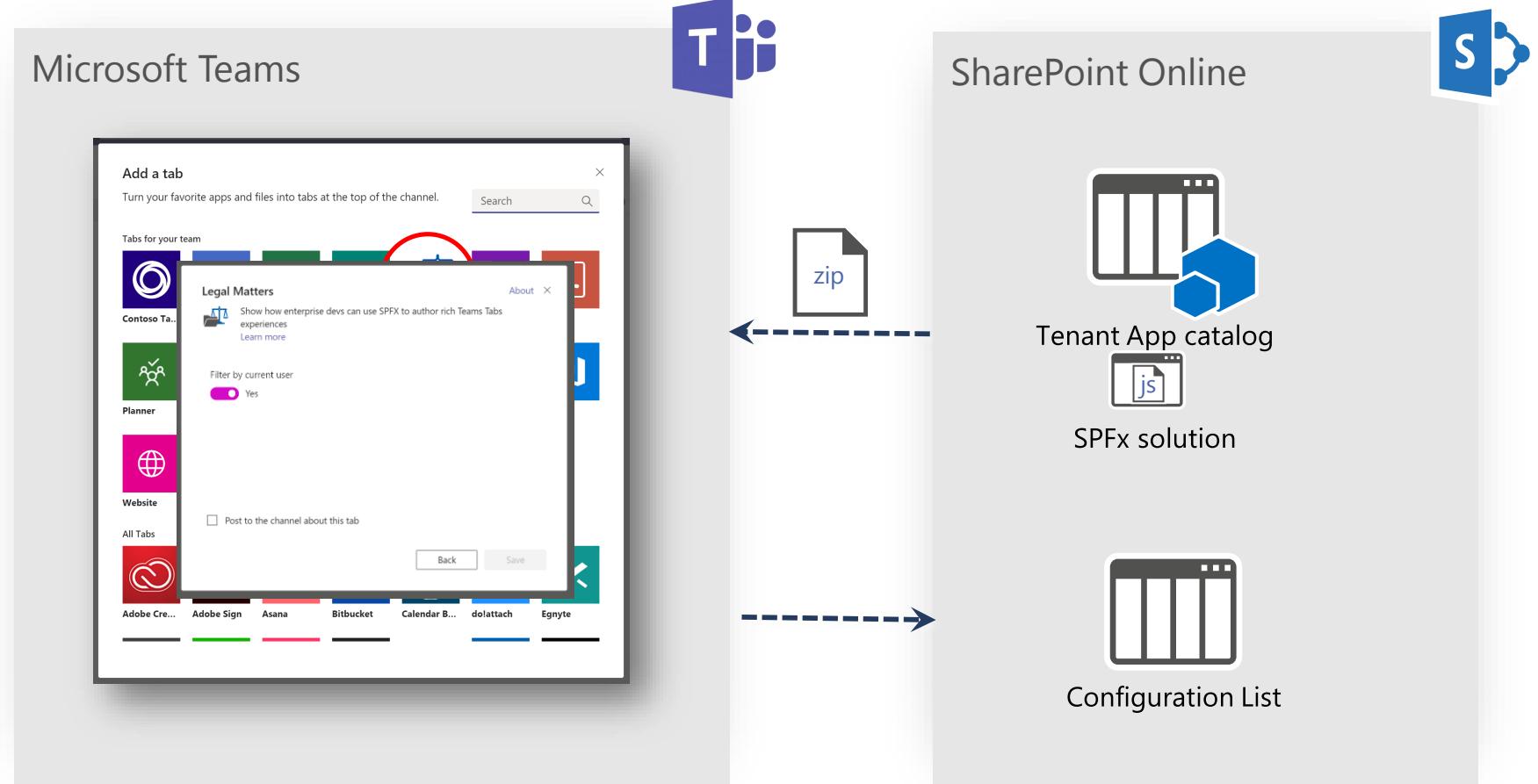
2

User selects the SPFx application like any other tab in MS Teams "Add a tab" experience

3

Configuration panel is displayed and, once saved, information are stored in the SPO site connected to the group

4



# Surfacing SPFx in Teams

SPFx component renders in a dedicated \_layout page which is iFramed inside of Teams

5

Teams and SharePoint site context are available to developer

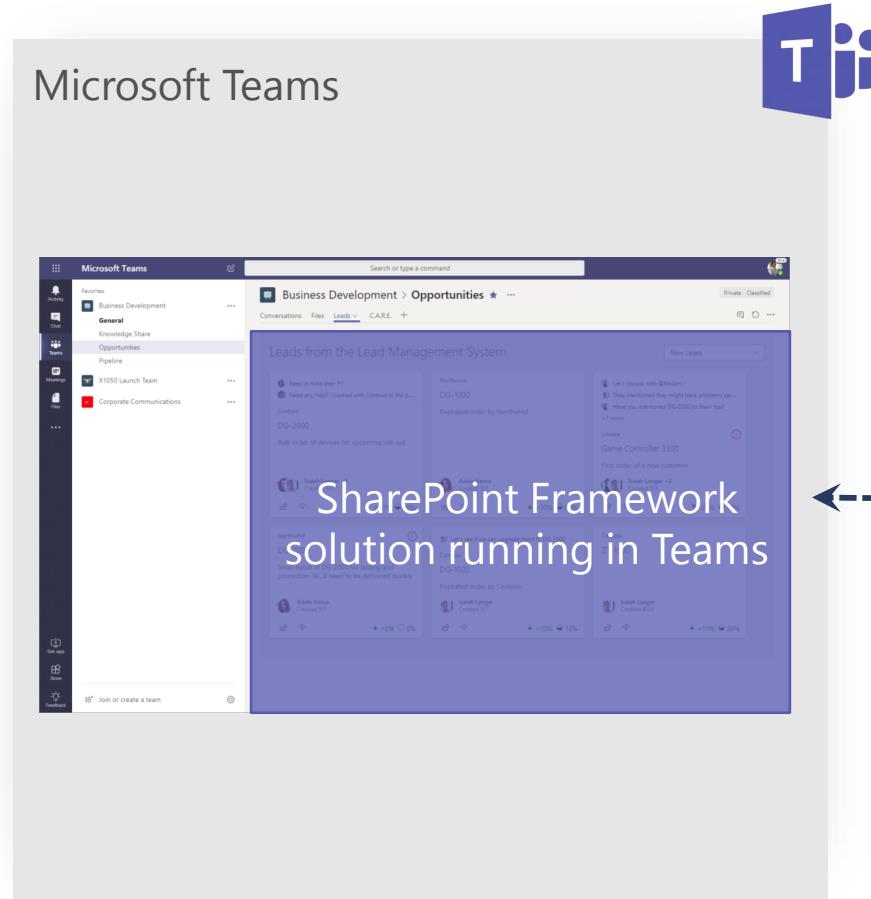
6

Code is loaded from SharePoint asset library where it was deployed at time of package upload

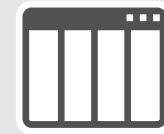
7

Alternatively, code can also run in different CDN location

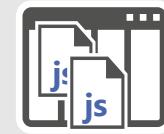
8



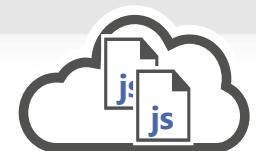
SharePoint Online



Webpart.aspx

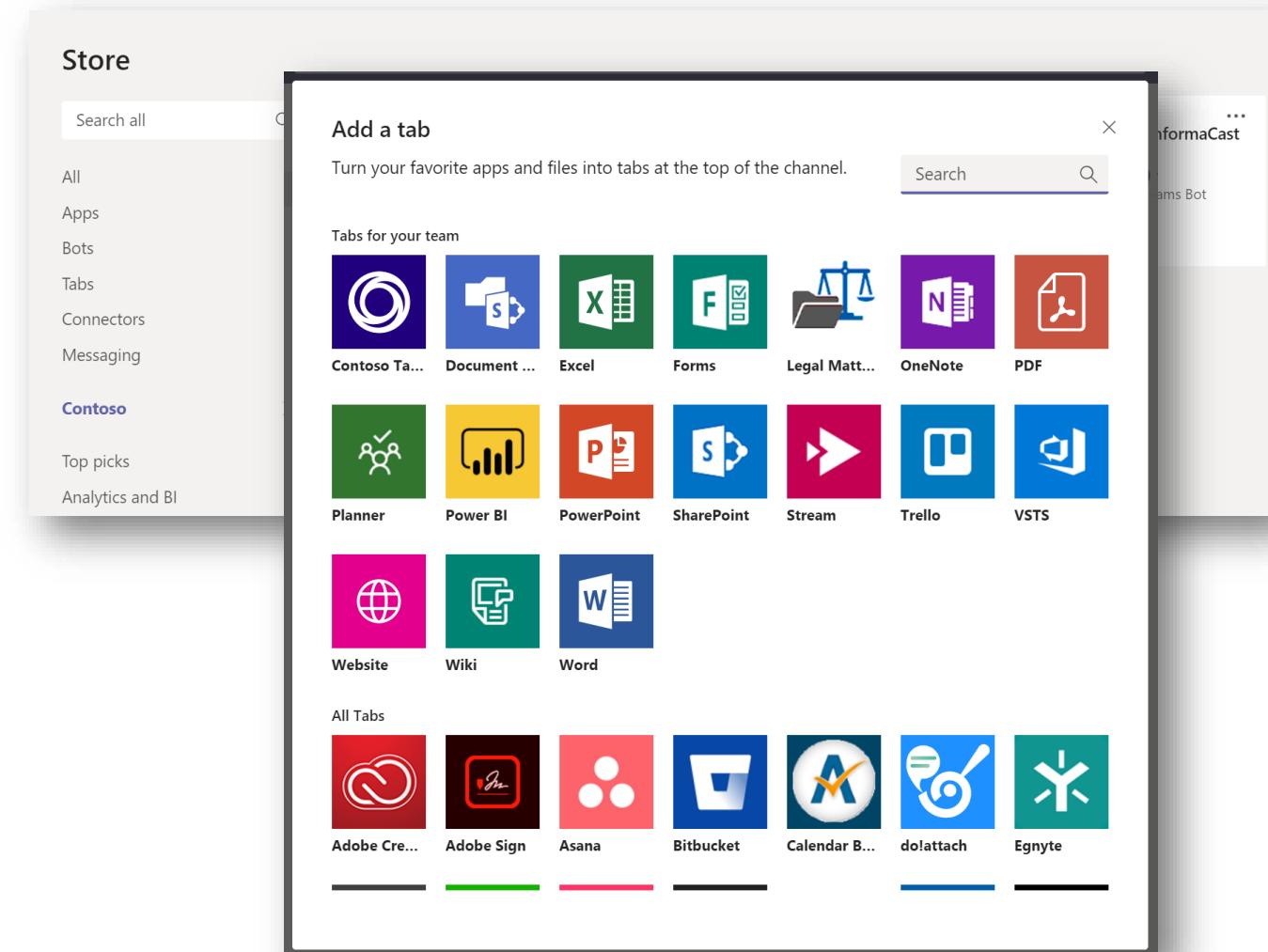


Asset Library



# Package and distribute your web part

- Publish your solution to your organization's app catalog
- Users can install and configure for their teams



# Teams tab in SharePoint

Your Teams tab can easily be made into a SharePoint web part

The Teams app manifest is natively understood in SharePoint

Just drag and drop your manifest.zip file onto your SharePoint app catalog and it will be made available as a web part to be used in your SharePoint pages

The screenshot illustrates the integration of the Microsoft Teams application within a SharePoint environment. On the left, the Microsoft Teams sidebar is visible, showing various teams and their activity levels. The main area displays a SharePoint page for a 'Test Team' with a job listing for a 'Senior Software Engineer'. The job details include a Req ID (04057), Hiring Manager (Julian Morelli), and a description: 'We are looking for a Senior Software Engineer to produce and implement functional software solutions. You will work with management to define the software specifications and then implement them...'. The hiring team is listed as 'San Francisco, CA' with a note 'As soon as possible'. Below this, the 'Active applicants' section shows three individuals: Meena Atul, Kayo Miwa, and Roberto Ribeiro, each with their profile picture, name, date applied (09/29/2017 or 09/22/2017), internal status (No or Yes), and current stage (Interviewing or Applied). At the bottom, there is a 'Close applicants' section with 0 items.

# Getting started resources

## SPFx in Teams

<https://aka.ms/spfx-teams>

### SharePoint Framework Resources

- Tutorials – aka.ms/spfx-tutorials
- Docs – aka.ms/spfx
- Videos – aka.ms/spdev-videos
- GitHub – github.com/SharePoint
- Training - aka.ms/spfx-training.
- Blog – aka.ms/spdev-blog
- Twitter - @OfficeDev

### Teams development Resources

- Latest
  - developer.microsoft.com/en-us/microsoft-teams
- Docs
  - docs.microsoft.com/en-us/microsoftteams/platform
- GitHub
  - github.com/OfficeDev

# Questions

João Ferreira

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 HANDSONSharePoint.net  
HANDSONTeams.net



Microsoft®  
Most Valuable  
Professional