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TechTrain | 27 October 2020

Provisioning Microsoft Teams





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Technology Evangelist   

#Microsoft365 #Azure #CommunityRocks

What are we trying to solve here?

- Avoid Teams/Groups creation sprawl
- Leverage Teams templates
- Reduce manual intervention
- Less mistakes and errors
- Enforce governance policies
- Consistency supports user adoption





Joanne Klein @JoanneCKlein · Jul 9

SharePoint Team site/Microsoft Teams provisioning... What is your org *currently* doing in Office365?

34% Manually created by IT

35% End-users create them

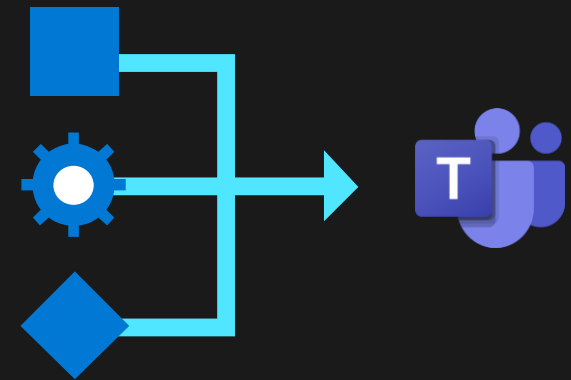
27% A provisioning solution

4% Other - comment please

155 votes • Final results

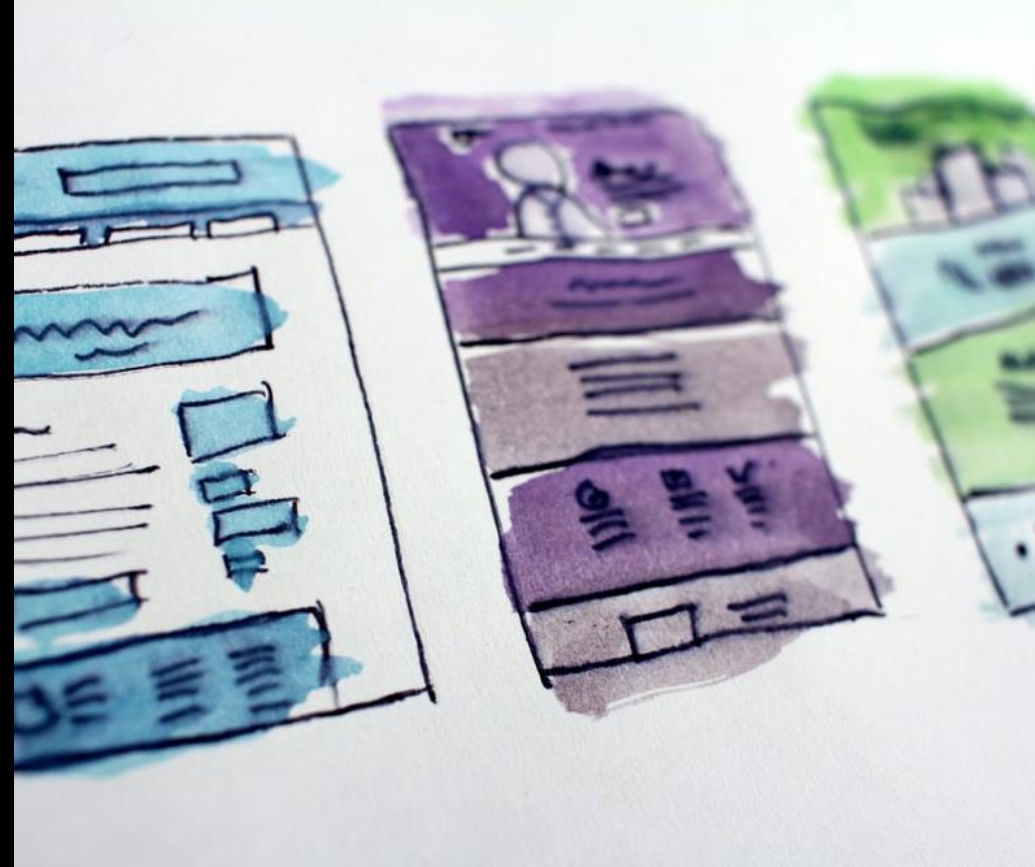
Provisioning a Team

- Initial structure and content
- Standard security & compliance settings
- Well understood ownership
- Establish content lifetime
- Implement an approval flow
- Predictable & consistent
- ...



Built-in templates

- Adopt Office 365
- Manage a project
- Manage an event
- Onboard employees
- Organize help desk
- Collaborate on patient care
- Collaborate on global crisis or event
- Collaborate within a bank branch
- Coordinate incident response
- Hospital
- Organize a store
- Quality and safety
- Retail – manager collaboration



Example: “Manage an event”

Channels

- General
- Announcements
- Budget
- Content
- Logistics
- Planning
- Marketing & PR

Apps

- Wiki
- Website
- YouTube
- Planner
- OneNote

Creating templates

- Clone an existing template
- From an existing Team
- From scratch

template definition (json)

```
{
  "template@odata.bind": "https://graph.microsoft.com/beta/teamsTemplates('standard')",
  "displayName": "Finance",
  "description": "Finance Team",
  "channels":
  [
    {
      "displayName": "Private",
      "isFavoriteByDefault": true,
      "description": "Invite a more select audience for specific topics.",
      "tabs":
      [
        {
          "teamsApp@odata.bind": "https://graph.microsoft.com/v1.0/appCatalogs/teamsApps('0d820ecd-def2-4297-a",
          "name": "OneNote"
        },
        {
          "teamsApp@odata.bind": "https://graph.microsoft.com/v1.0/appCatalogs/teamsApps('com.microsoft.teamspace.tab",
          "name": "Planner"
        }
      ]
    }
  ],
  "memberSettings":
  {
    "allowCreateUpdateChannels": true,
    "allowDeleteChannels": true,
    "allowAddRemoveApps": true,
    "allowCreateUpdateRemoveTabs": true,
    "allowCreateUpdateRemoveConnectors": true
  },
  "guestSettings":
  {
    "allowCreateUpdateChannels": false,
    "allowDeleteChannels": false
  },
  "funSettings":
  {
    "allowGiphy": true,
    "giphyContentRating": "Moderate",
    "allowStickersAndMemes": true,
    "allowCustomMemes": true
  },
  "messagingSettings":
  {
    "allowUserEditMessages": true,
    "allowUserDeleteMessages": true,
    "allowOwnerDeleteMessages": true,
    "allowTeamMentions": true,
    "allowChannelMentions": true
  },
  "discoverySettings":
  {
    "showInTeamsSearchAndSuggestions": true
  },
  "installedApps":
  [
    {
      "teamsApp@odata.bind": "https://graph.microsoft.com/v1.0/appCatalogs/teamsApps('0d820ecd-def2-4297-adad-7805",
    },
    {
      "teamsApp@odata.bind": "https://graph.microsoft.com/v1.0/appCatalogs/teamsApps('com.microsoft.teamspace.tab",
    }
  ]
}
```

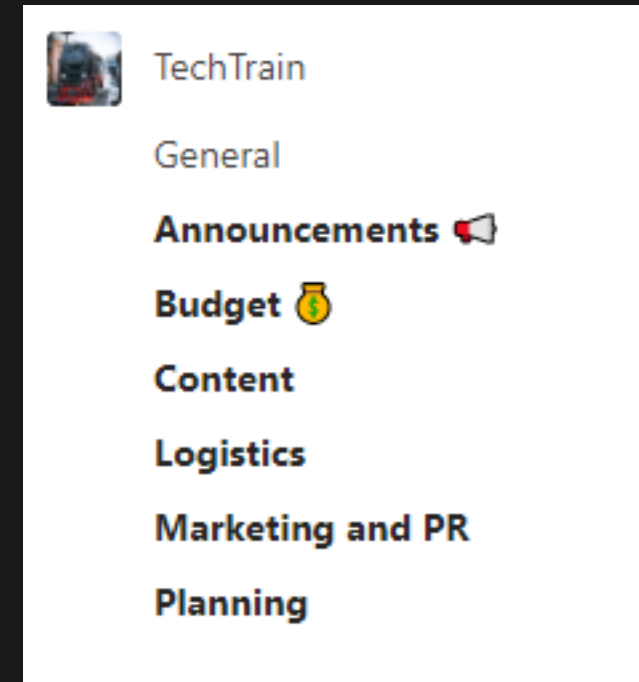
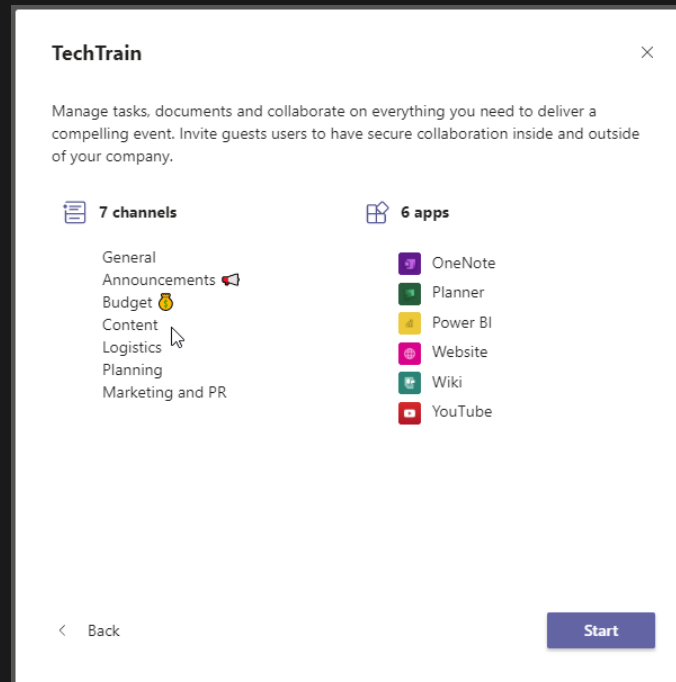
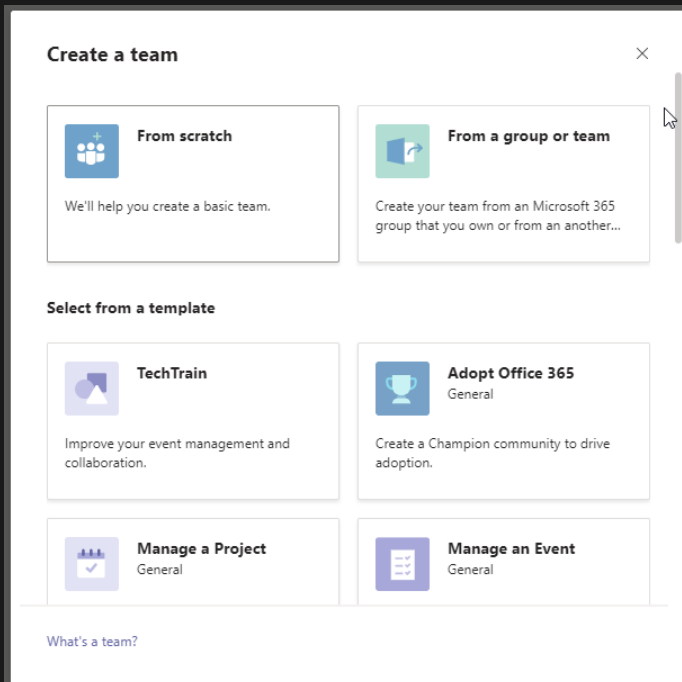



Demo

Teams Templates

If all you need is a template...

Congratulations, you're done!



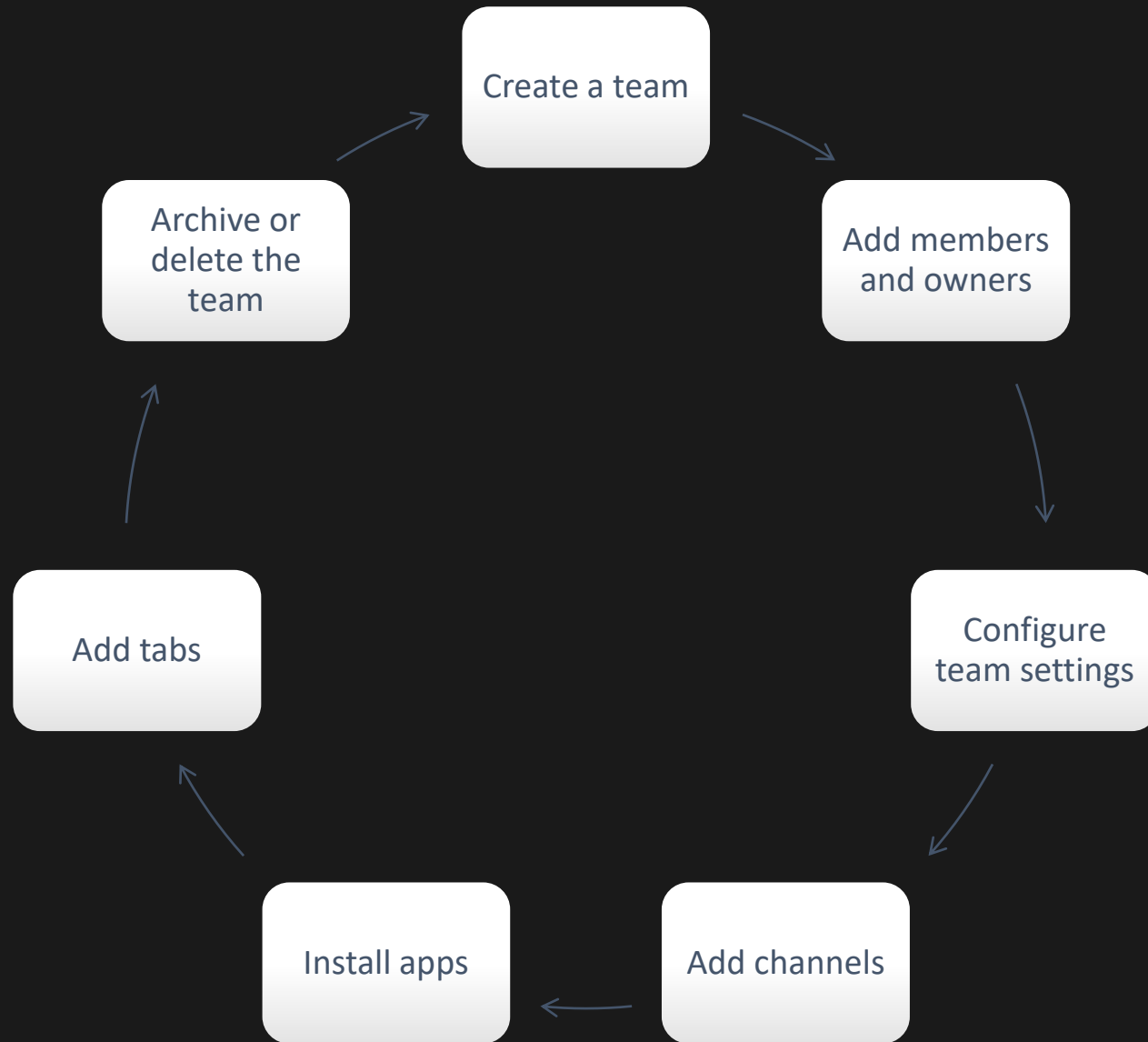
One API to rule them all



<https://docs.microsoft.com/en-us/graph>

Teams and the Microsoft Graph

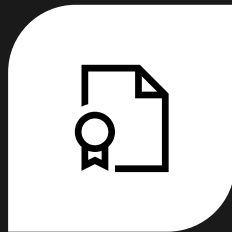
A typical workflow



Register your app in Azure AD



Authentication



Authorization

API / Permissions name	Type	Description	Admin consent req...	Status	
▼ Microsoft Graph (8)					
Directory.ReadWrite.All	Application	Read and write directory data	Yes	✔ Granted for thvo.net	...
Group.ReadWrite.All	Application	Read and write all groups	Yes	✔ Granted for thvo.net	...
Team.Create	Application	Create teams	Yes	✔ Granted for thvo.net	...
Team.ReadBasic.All	Application	Get a list of all teams	Yes	✔ Granted for thvo.net	...
TeamMember.ReadWrite.All	Application	Add and remove members from all teams	Yes	✔ Granted for thvo.net	...
TeamSettings.ReadWrite.All	Application	Read and change all teams' settings	Yes	✔ Granted for thvo.net	...
User.Read	Delegated	Sign in and read user profile	-	✔ Granted for thvo.net	...
User.ReadWrite.All	Application	Read and write all users' full profiles	Yes	✔ Granted for thvo.net	...

Teams creation through the Microsoft Graph

POST https://graph.microsoft.com/v1.0/teams

Content-Type: application/json

```
{
  "template@odata.bind": "https://graph.microsoft.com/v1.0/teamsTemplates('standard')",
  "displayName": "My Sample Team",
  "description": "My Sample Team's Description",
  "members@odata.bind": [
    {
      "@odata.type": "#microsoft.graph.aadUserConversationMember",
      "roles": [
        "owner"
      ],
      "userId": "0040b377-61d8-43db-94f5-81374122dc7e"
    }
  ]
}
```

Minimal request to create a team based on a template,
with application permissions.

Teams creation through the Microsoft Graph

- Programmatically
- PowerShell

or leverage Graph support in:

- Power Automate
- Power Apps
- Logic Apps



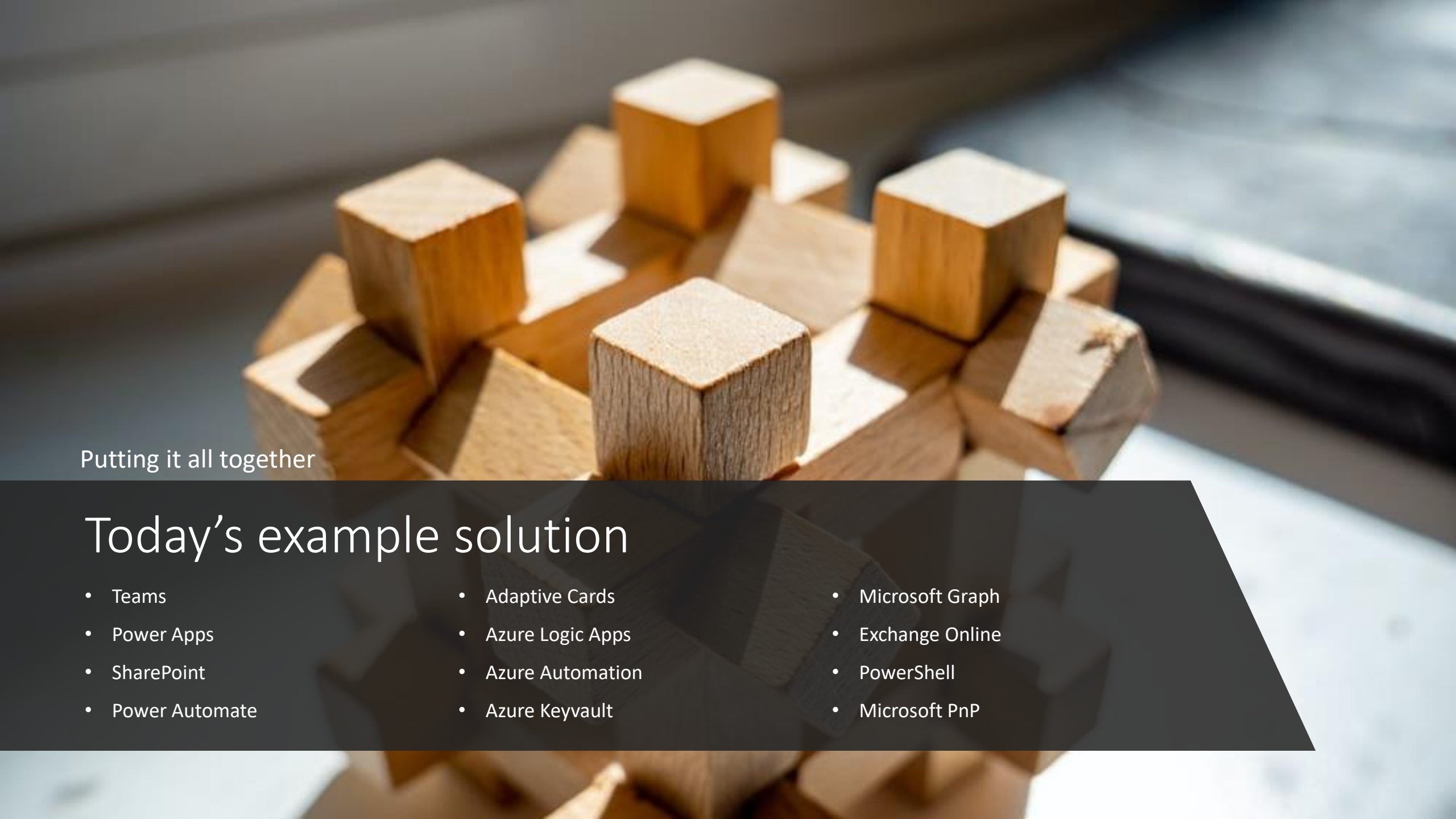
Choices...

- Custom web app
- Power Automate
- Power Apps
- Azure Automation
- Azure Functions
- Teams apps, tabs, bots,...
- Azure Logic Apps
- PowerShell
- SharePoint
- PnP Provisioning Engine

When to use what?

flexibility • cost • complexity •
resilience • orchestration •
security • triggers • scaling •
maturity level • ...





Putting it all together

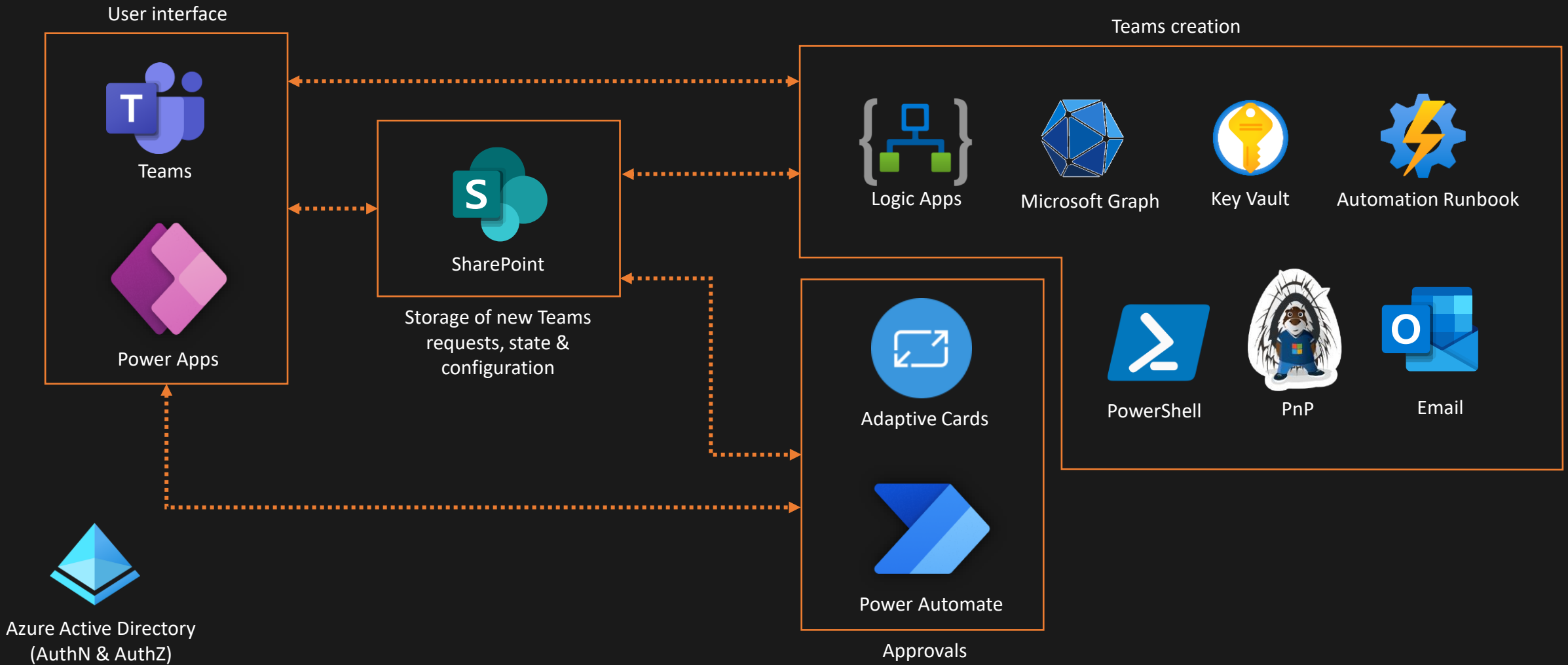
Today's example solution

- Teams
- Power Apps
- SharePoint
- Power Automate
- Adaptive Cards
- Azure Logic Apps
- Azure Automation
- Azure Keyvault
- Microsoft Graph
- Exchange Online
- PowerShell
- Microsoft PnP

“Request a Team” flow



“Request a Team” design elements





Demo

Teams provisioning engine

PowerShell to the rescue!

A good alternative to “real” development
Can be leveraged with:

- Azure Automation
- Azure Functions

Microsoft Graph PowerShell SDK

```
Install-Module Microsoft.Graph
```



All PowerShell options

- MicrosoftTeams
 - New-Team
- SharePointPnPPowerShell
 - New-PnPTeamsTeam
- Microsoft.Graph
 - New-MgTeam



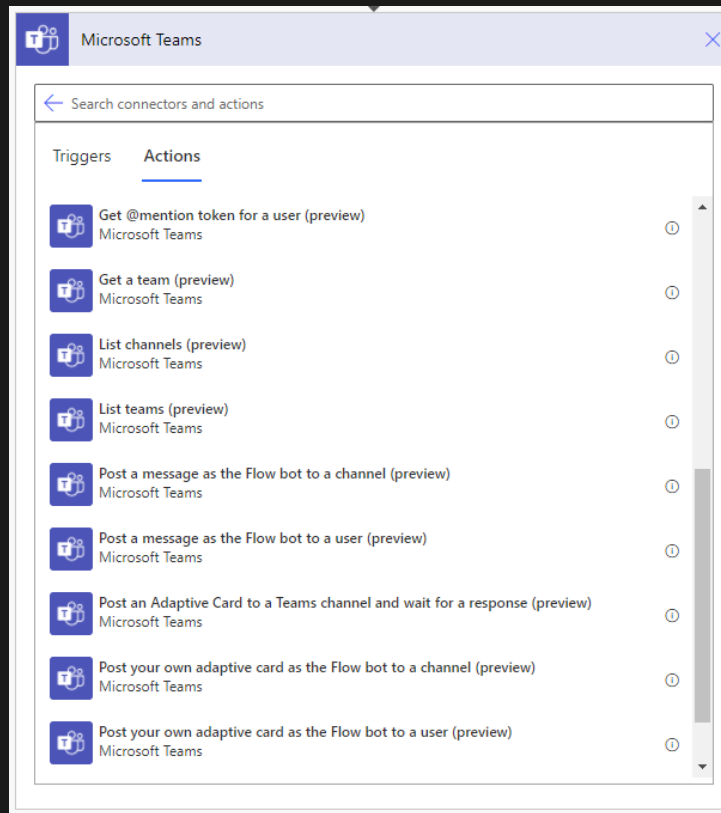
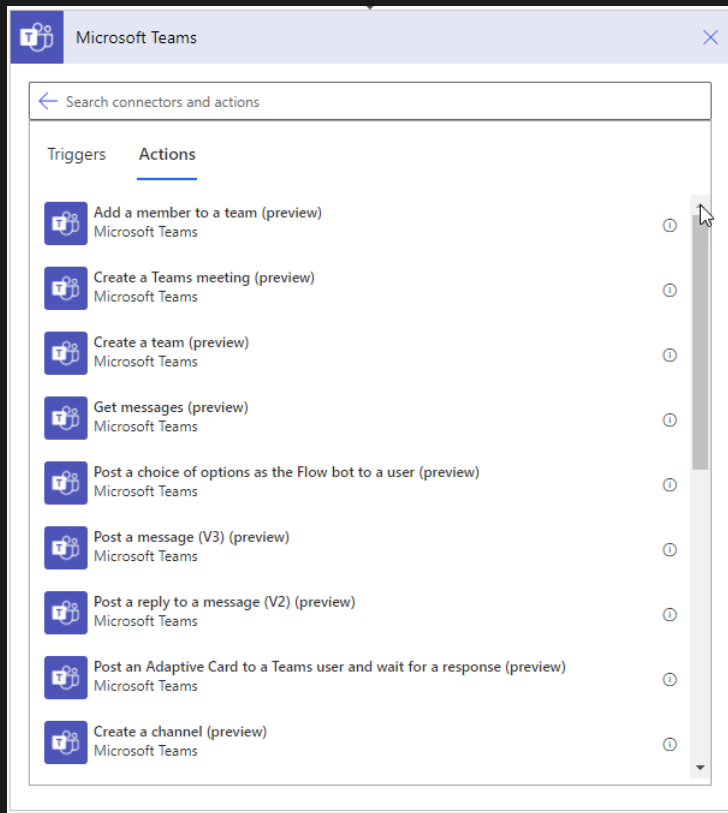


Demo

Creating Teams with PowerShell
through Azure Functions & Azure Automation

Power Automate

Teams connector is now in preview





Demo

Creating teams with Power Automate (preview)

Key takeaways

- There's no one size fits all
- Leverage Teams as a platform to build your solution
- Get to know the Microsoft Graph
- Choose your weapons wisely, there's a lot of choice
- Dive into the Power Platform and its built-in connectors
- Don't dismiss PowerShell

Some useful reading



Joanne Klein

Laura Kokkarinen (also: 30 questions to ask)

Yannick Reekmans

Bob German

Microsoft Graph Teams documentation

Request a team app on GitHub

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THANK
YOU



Download session materials