Microsoft 365 Development Fundamentals

Agenda

Class Introduction

SharePoint Developer Options

Microsoft 365 Overview & Services

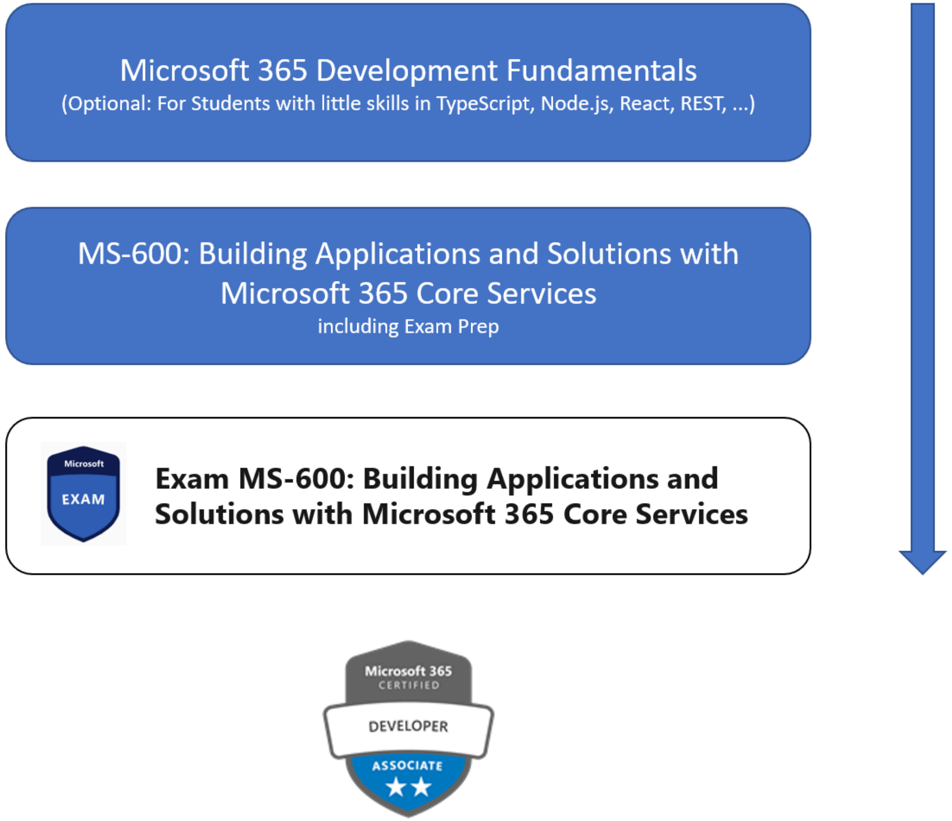
Patterns & Practices Overview

VS Code / Node Developer Toolchain

Introduction

About this Class

Microsoft 365 Certified: Developer Associate



Microsoft 365 Development Fundamentals
(Optional: For Students with little skills in TypeScript, Node.js, React, REST, …)

MS-600: Building Applications and Solutions with Microsoft 365 Core Services
including Exam Prep

Exam MS-600: Building Applications and Solutions with Microsoft 365 Core Services

Instructor: Alexander Pajer

Development, DevOps & Training for
Angular, Azure and Microsoft 365

GitHub: https://github.com/ARambazamba

- Microsoft Certified Trainer - since September 2000
- Microsoft 365 Certified: Developer Associate
- Microsoft Certified: Azure DevOps Engineer Expert
- Microsoft Certified: Azure Developer Associate
- Microsoft Certified Solutions Developer: App Builder
- Microsoft Certified Solutions Associate: Web Applications
- Microsoft Certified Professional Developer: SharePoint Developer 2010, 2007
- Microsoft Certified IT Professional SharePoint Administrator 2010, 2007
- Microsoft Certified Professional Developer: Web Developer .NET 4.0, 3.5, 2.0, 1.1
- Microsoft Certified IT Professional Database Developer SQL Server 2005
- Microsoft Certified Database Administrator, SQL Server 2005, 2000
- Microsoft Certified Systems Administrator Messaging, Exchange 2003, 2000
- Microsoft Certified Systems Engineer, Windows 2003, 2000, NT

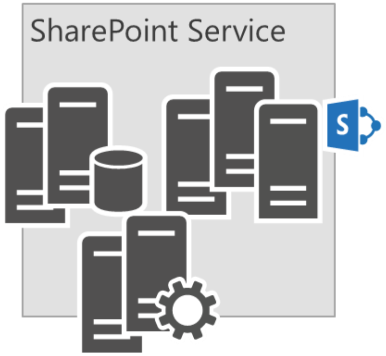
SharePoint Development Options

SharePoint Classic Solutions (WSPs)

DEPRECATED

Advantages

- Well known by experienced SharePoint developers
- Stable model which has been almost the same since 2007
- Lot of existing resources and guidance available
- Native Visual Studio tooling available
- Customizations are hosted natively from the SharePoint servers



Disadvantages

- Sandbox solution code-behind not supported in SharePoint Online
- Farm solutions not supported in SharePoint Online
- Farm solution has high impact on your local SharePoint Farm – operations, maintenance, downtime etc.
- Requires deep SharePoint specific knowledge to truly master
- Investments in farm solutions will increase future costs for moving to SharePoint Online

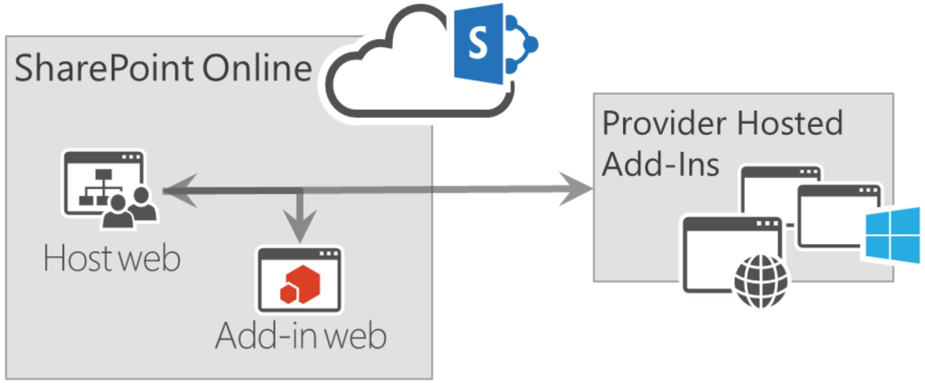
SharePoint Add-In model

DEPRECATED

Two Choices: SPHosted Add-Ins vs Provider Hosted Add-Ins

Advantages

- Decouples customizations from SharePoint
- Same model works cross on-premises and SharePoint Online
- Emphasis more on generic .NET and JavaScript development models
- Provider hosted add-ins can easily take advantages of cloud service
- Security isolation



Disadvantages

- SharePoint hosted add-ins have limited application lifecycle management capabilities
- iFrame implementation for add-in parts
- Storing data in add-in web is problematic
- Provider hosted add-ins require external hosting
- On-premises add-in model setup requires additional effort

Single Page Apps & Externally hosted apps

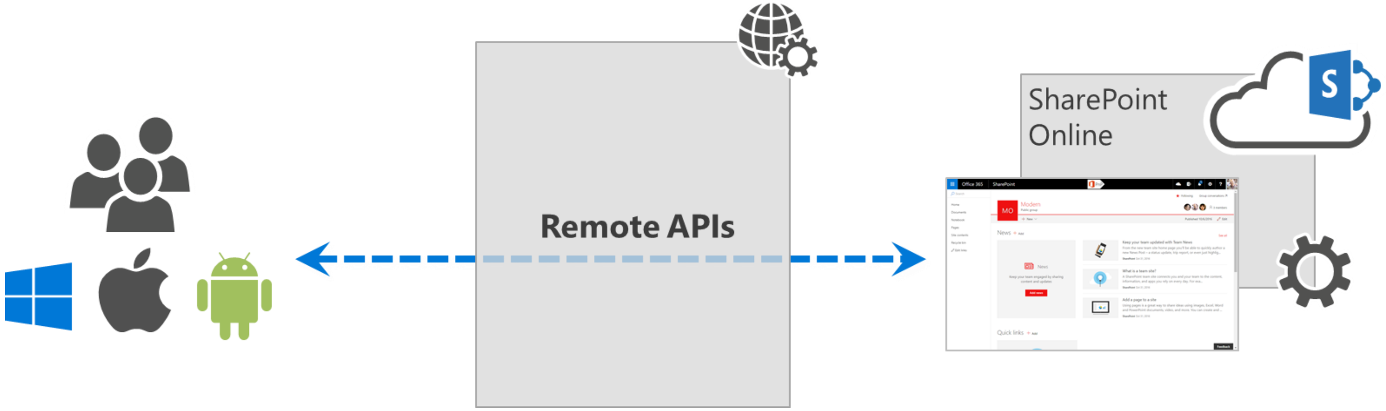
Evolution of the Provider Hosted Add-In Pattern - Now called Azure AD Registered Applications

Advantages

- Full flexibility for choosing your technology stack
- Full flexibility for the user interface
- Can be scaled independently from SharePoint
- Access additional end points with Azure Active Directory
- Cross platform development
- Security isolation

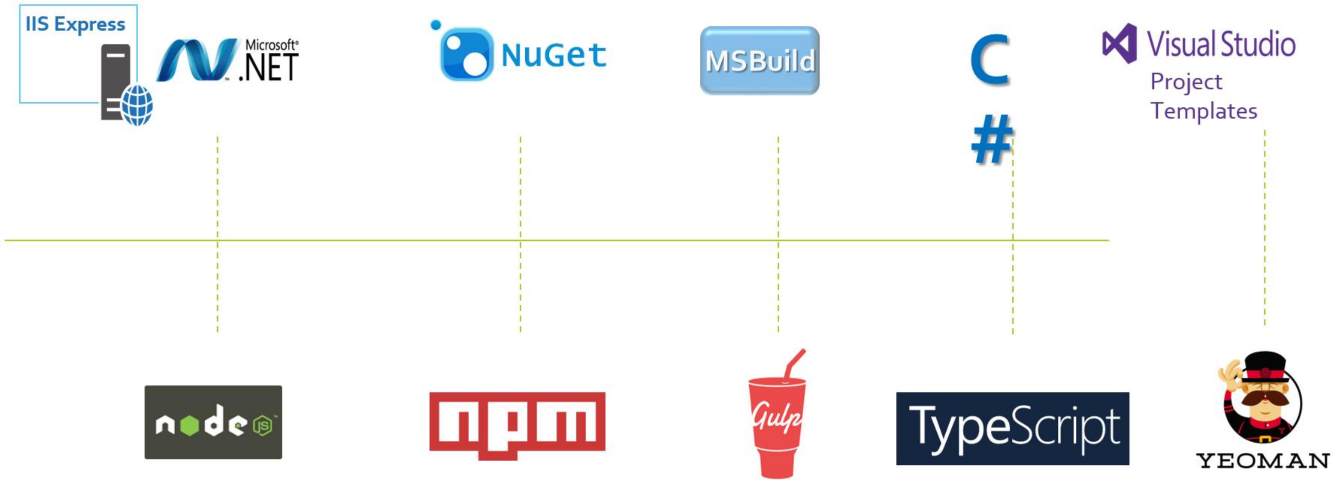
Disadvantages

- Requires configurations in Azure Active Directory for your solution
- Your are fully responsible for the user interface implementation
- Hosted externally with the implications on maintenance, operations and availability



SharePoint Framework

- Modern client-side development -> New Toolchain
- Lightweight web and mobile
- Supports open source tools and JavaScript web frameworks
- Modern Editor: VS Code
- Supports:
  - WebParts
  - Extensions
    - AppCustomizer
    - Formatters
    - Custom Action “like” Menu Ext.



SharePoint development options

	WSPs	Add-ins	External apps / SPAs	SharePoint Framework
Characteristics	• Farm solutions only supported in on-premises • Only declarative sandbox solutions supported in SharePoint Online • Requires deep knowledge on SharePoint internals (xml structures) DEPRECATED	• Decoupling customizations from SharePoint • Provides security model for the customization permissions • Limited web part experience as add-in part • Additional operational and maintenance requirements DEPRECATED	• Decouples customizations from SharePoint • Bring your own technology stack • Provides security model for customization permissions • Requires custom implementation of user interface	• Customization runs as part of the SharePoint page • Flexible web part experience • Runs under permissions of current user • Industry standard development model
Support in cloud	~~Office 365~~	Office 365	Office 365	Office 365
Flexibility	Limited	Fair	Good	Excellent
Cost impact (short and long term)	$$$	$$	$$	$

Languages

TypeScript / JavaScript

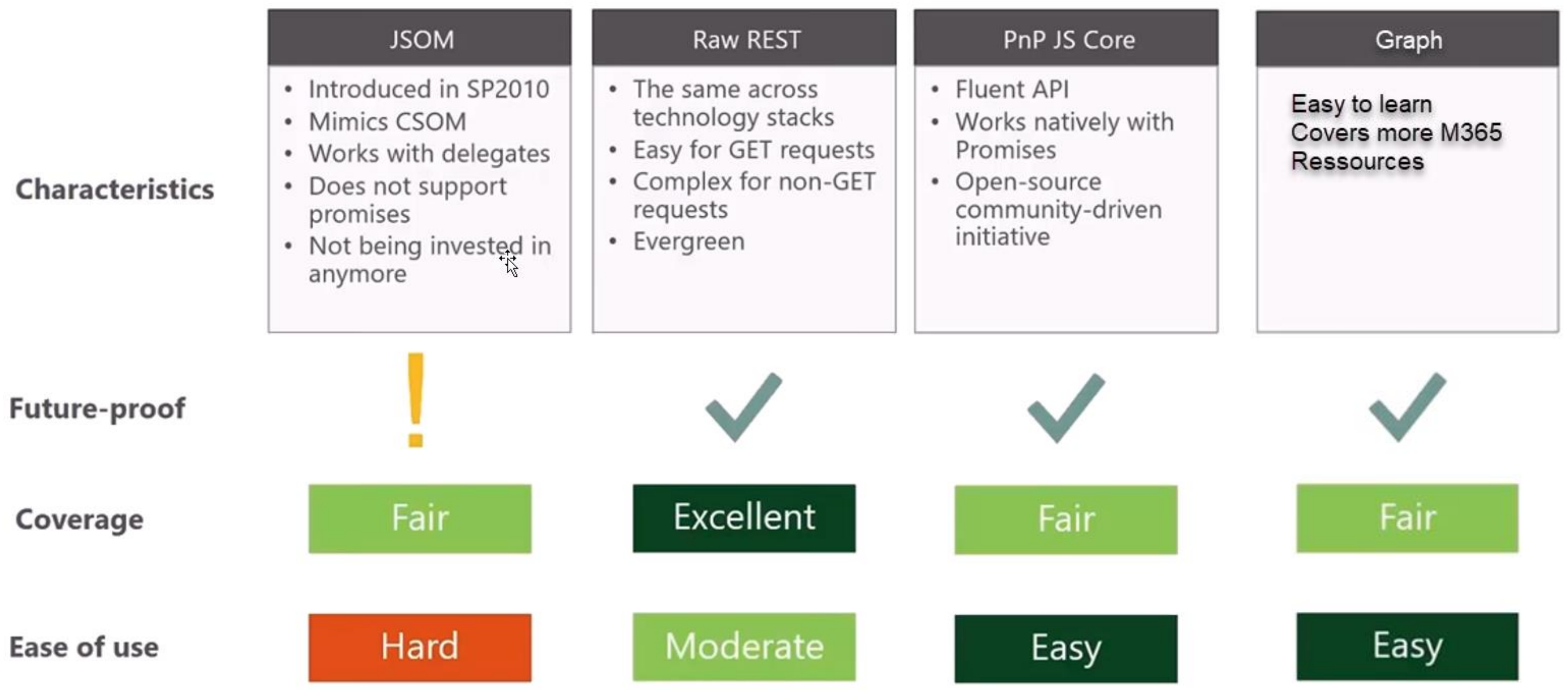
- Allows implementation of more responsive / modern Uis
- Used in SPFx, Teams, Office Add-Ins
- WebApi's (Nest JS) & SPA's

C# -> .NET Core

- Used by most „classic“ SP Devs
- WebApi's & MVC Front-Ends

Client Side Data Access Options

Several choices available depending of Environment & Project Type



	JSOM	Raw REST	PnP JS Core	Graph
Characteristics	• Introduced in SP2010 • Mimics CSOM • Works with delegates • Does not support promises • Not being invested in anymore	• The same across technology stacks • Easy for GET requests • Complex for non-GET requests • Evergreen	• Fluent API • Works natively with Promises • Open-source community-driven initiative	Easy to learn Covers more M365 Ressources
Future-proof	!	✓	✓	✓
Coverage	Fair	Excellent	Fair	Fair
Ease of use	Hard	Moderate	Easy	Easy

Microsoft 365 Overview & Services

Microsoft 365 - Core Services

PowerApps

Power Automate

Office

Azure Active Directory

Power Virtual Agents

Microsoft Teams

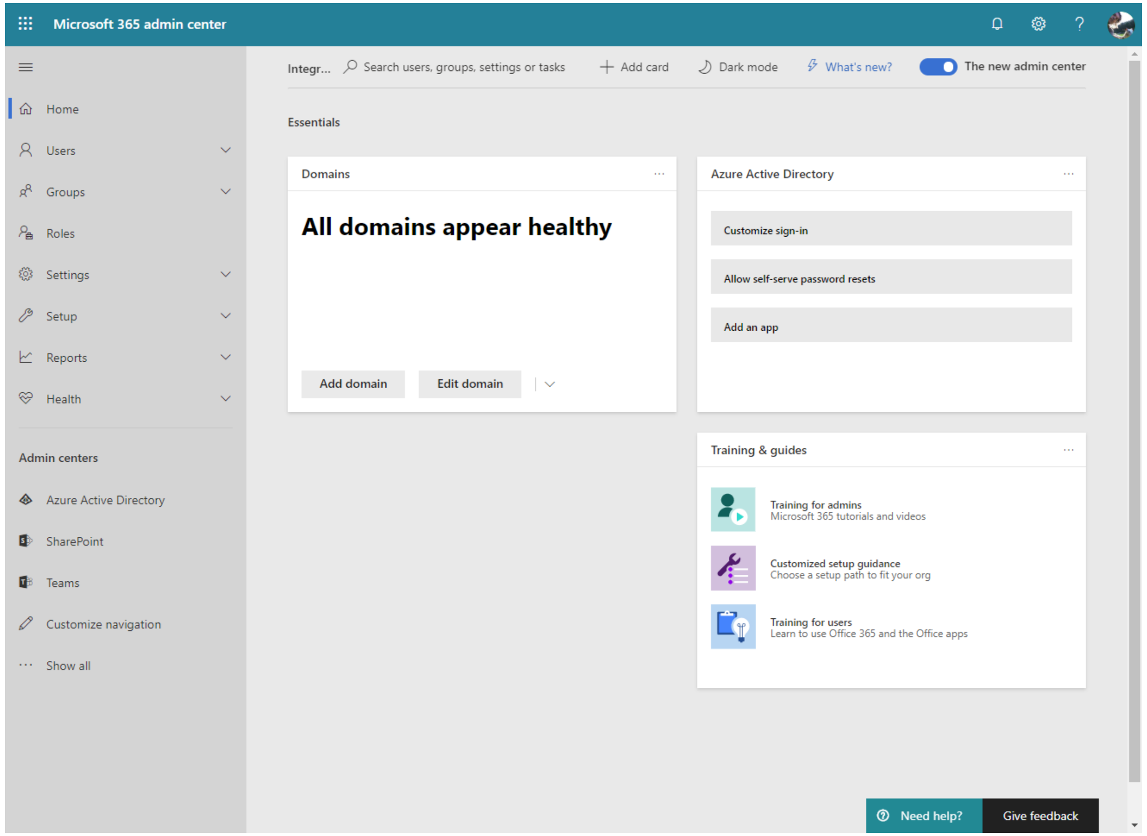
Exchange Online

Microsoft 365 Admin Center

Centralized management portal for O365

Contains Links to

- General Settings
  - (Domains, Updates, ...)
- Product Administration
  - (SharePoint, Exchange, ...)



All domains appear healthy

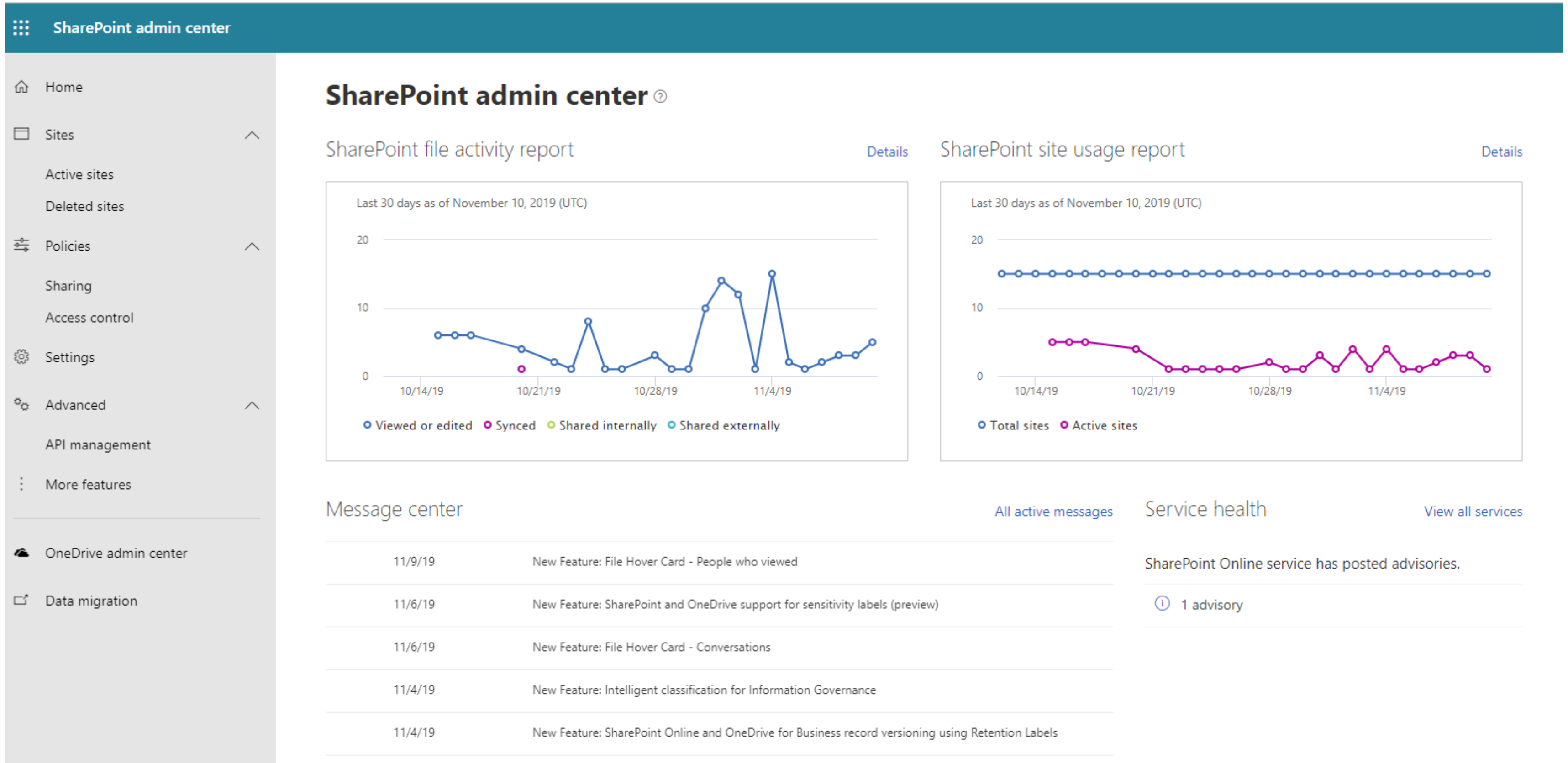
Training for admins
Microsoft 365 tutorials and videos

Customized setup guidance
Choose a setup path to fit your org

Training for users
Learn to use Office 365 and the Office apps

Sharepoint Tenant Administration

Used to administer M365 service application & some settings from on premise CA



SharePoint admin center

SharePoint file activity report

Last 30 days as of November 10, 2019 (UTC)

SharePoint site usage report

Last 30 days as of November 10, 2019 (UTC)

Message center

11/9/19	New Feature: File Hover Card - People who viewed
11/6/19	New Feature: SharePoint and OneDrive support for sensitivity labels (preview)
11/6/19	New Feature: File Hover Card - Conversations
11/4/19	New Feature: Intelligent classification for Information Governance
11/4/19	New Feature: SharePoint Online and OneDrive for Business record versioning using Retention Labels

Service health

SharePoint Online service has posted advisories.

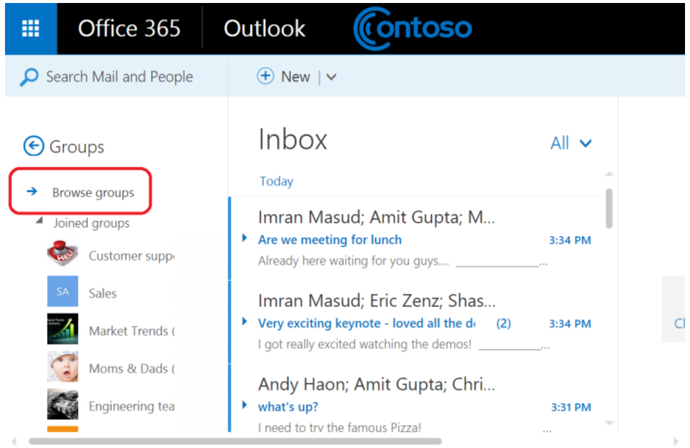
ⓘ 1 advisory

Office 365 Groups akn „Modern Team Sites“

Office 365 Groups is a service developed with collaboration in mind

Managed by Azure AD

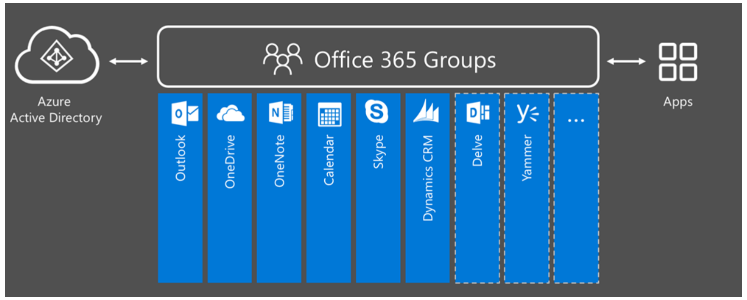
Site Collection & Mailbox (Site Mailbox Replacement)

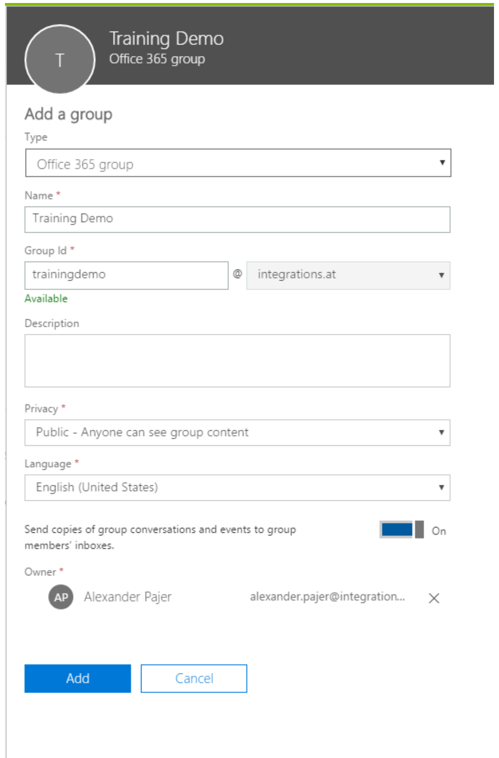


Imran Masud; Amit Gupta; M...
Are we meeting for lunch 3:34 PM
Already here waiting for you guys....

Imran Masud; Eric Zenz; Shas...
Very exciting keynote - loved all the d (2) 3:34 PM
I got really excited watching the demos!

Andy Haon; Amit Gupta; Chri...
what's up? 3:31 PM
I need to trv the famous Pizza!





Training Demo
Office 365 group

Add a group

Type
Office 365 group

Name *
Training Demo

Group Id *
trainingdemo @ integrations.at
Available

Description

Privacy *
Public - Anyone can see group content

Language *
English (United States)

Send copies of group conversations and events to group members' inboxes. On

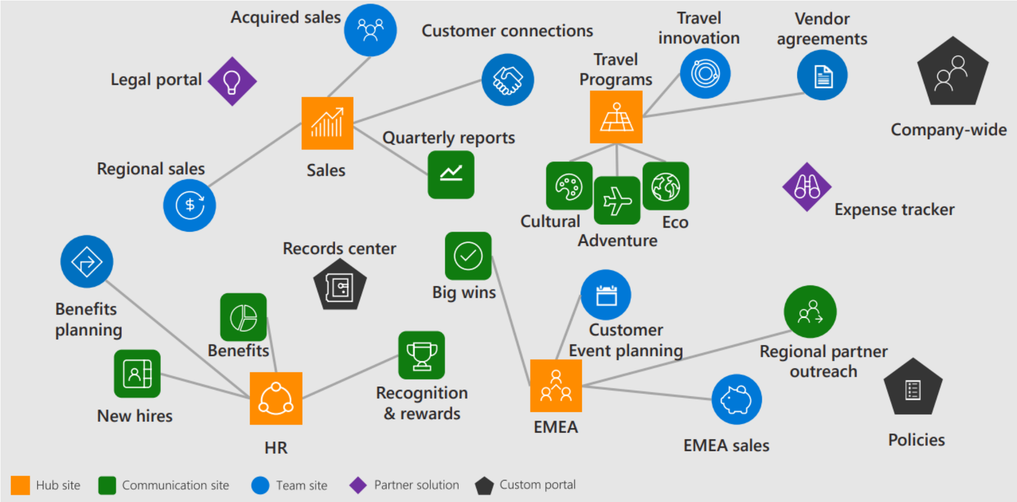
Owner *
AP Alexander Pajer alexander.pajer@integration...

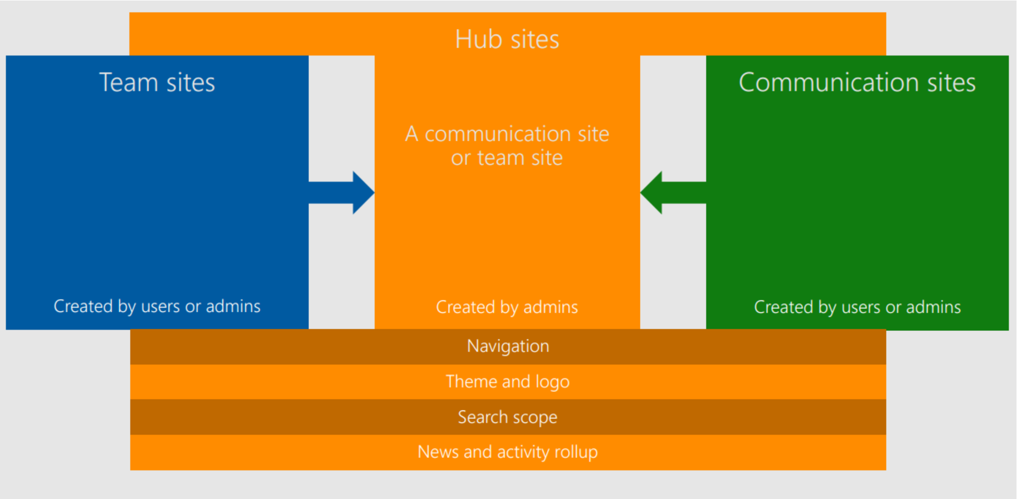
Add Cancel

Hub Sites

Act as a single place of access for a given topic

Aggregate other Site Types




Hub sites

Team sites

Created by users or admins

A communication site or team site

Created by admins

Communication sites

Created by users or admins

Navigation

Theme and logo

Search scope

News and activity rollup

Communication Sites

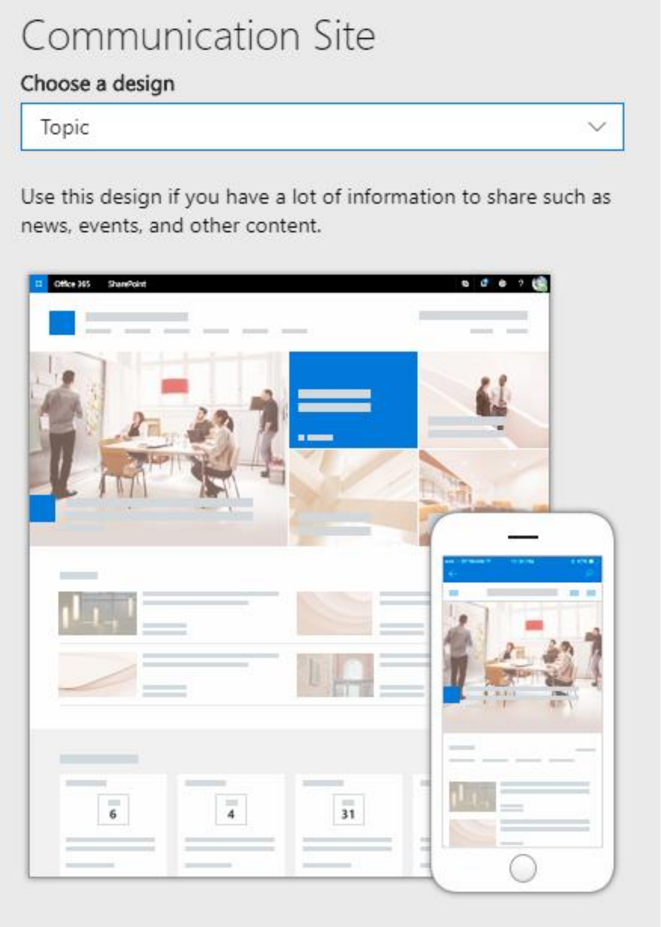
A great place to share information with others

You can share

- news,
- reports,
- statuses, and
- other information

in a visually compelling format

For most users it is read only



Communication Site

Choose a design

Topic

Use this design if you have a lot of information to share such as news, events, and other content.