## Office 365 Developer Program （注册为MS产品开发人员）

搭建开发环境，（Private Browser）打开。

如果你有Office 365的账号，理论上已经可以开始开发，但本教程将要求大家申 请这个一年的免费开发者账号，以获得一致性的体验。

## Office 365 developer subscription (服务端环境)

目的develop an test my solutions, 包括一下这些solutions:

* Microsoft Teams
* Office Add-ins
* Microsoft Graph
* SharePoint Framework
* SharePoint Add-ins
* And more.

Setup Office 365 developer subscription 之后，会有

1. domain: mygame
2. id: LucasSong@mygame.onmicrosoft.com

**Configure the subscription**

* login office.com
* login Admin center
  + Office 365 Enterprise E3 Developer Setup（带有5个Office 365 E3 Developer的License. 可以组成一个团队进行开发测试。）
  + Add new users (could be fictional users that you need for testing, or real users helping you with development. )
    - **Assign licenses to unlicensed users**. For any users that you want to be able to work with the subscription, grant them a license.
    - **Share sign-in credentials**. For any real users who will access the subscription, you must share their sign-in credentials with them. You can choose a method, such as email, download, or print.
    - **新用户添加完，会收到EMAIL：**

**“Welcome to Office 365**

Hello songy,

Username: [**songy@mygame.onmicrosoft.com**](mailto:songy@mygame.onmicrosoft.com)  
Temporary password: **Bun43909**

**“**

* + **Install your Office apps**. You have the option of installing Office apps to your computer.

参考：<https://docs.microsoft.com/en-us/office/developer-program/office-365-developer-program-get-started#provision-office-365-services>

## 客户端开发环境

免费开发工具，Visual Studio Code 可以在Mac，Linux上面 运行。他能很好地支持开源的开发平台，例如NodeJS。

* 对Visual Studio Code的Office Add-in开发支持有基本的了解http://code.visualstudio.com/docs/other/office

这里列出来所有客户端需要的软件环境

1. Windows 10企业版或者专业版，推荐64位

2. Office 365 ProPlus完整安装

3. Visual Studio Community完整安装

4. Visual Studio Code

5. Node(安装一些配套的npm模块，例如yo,gulp等)

在Azure里面申请了一台虚拟机来做本系列文章相关的演示代码的开发和调试。当 然，如果你没有Azure的资源，那么在本地使用Hyper-V或者其他类似

## Microsoft Graph

The gateway to data and intelligence in Microsoft 365. （O365 对外的统一接口， 而且是RESTful的接口，所以它的所有接口都是通过标准的http方法（GET, POST, PUT, DELETE）可以直接访问）

It provides a unified programmability model that you can use to take advantage of the tremendous amount of data in Office 365.

Microsoft Graph exposes APIs for Office 365 services: SharePoint, OneDrive, Outlook/Exchange, Microsoft Teams, OneNote, Planner, and Excel.

就是一个gateway，用来获取Microsoft 365上的数据的

提供对外的APIs，用户可以利用来提取数据，找出数据的价值， 例如：

* Looks at your next meeting and helps you prepare for it by providing profile information for attendees
* Scans your calendar, and suggests the best times
* Fetches the latest sales projection chart from an Excel file
* Helps you sort out personal and work information on your phone

**验证和授权**

Microsoft Graph 采用Azure AD（云端的身份账号系统）作为身份验证的提供方，所有的服务请求在调用之前都必须要取得合法的授权。目前Azure AD支持互联网上最流行的OAuth身份验证方式。

Azure AD 有2套：

1. 的个人账号 (Azure AD 2.0)
2. Work or School Account (Azure AD 1.0，Azure AD 2.0)

**注册一个应用程序**

怎么声明你的应用程序需要访问哪些Microsoft Graph资源并且得到认证呢？

开发人员需要在Azure AD中对应用程序进行注册，并且申请权限。

例如：

前提：有visual studio + MS 账户

应用注册：<https://apps.dev.microsoft.com/>

[我用LucasSong@mygame.onmicrosoft.com](mailto:我用LucasSong@mygame.onmicrosoft.com)登陆，所有的app 应该在此账号下

**Sample**: (<https://developer.microsoft.com/en-us/graph/quick-start>)

1. Select your platform. **.NET MVC**
2. 注册：Get your app ID (client ID).

app name: My ASP.NET App

app ID: 7405b83f-638f-4812-9250-cc1c95c4f4a2

Application credential: edfzelmGXCB09~^TGQ012[\_

下载sample！

1. Build the sample

Unzip downloaded package, open solution, and run！

* Visual studio 打开 .sln
* 在根目录的 Web.config 文件中，使用你在应用注册过程中复制的应用程序 ID 和密码来替换 \*\*ida:AppId\*\* 和 \*\*ida:AppSecret\*\* 占位符值
* 运行

1. localhost:55065
   1. sign in
   2. get email address + send an email
   3. [LucasSong@mygame.onmicrosoft.com](mailto:LucasSong@mygame.onmicrosoft.com) 账号下会收到a message from the Microsoft Graph Connect Sample.
   4. Next?
      1. Check out [developer.microsoft.com/graph](https://developer.microsoft.com/graph) to start building Microsoft Graph apps today with all the latest tools, templates, and guidance to get started quickly.
      2. Use the [Graph Explorer](https://developer.microsoft.com/graph/graph-explorer) to explore the rest of the APIs and start your testing.
      3. Browse other [samples on GitHub](https://github.com/search?p=5&q=org%3Amicrosoftgraph+sample&type=Repositories&utf8=%E2%9C%93) to see more of the APIs in action.

Sample: JavaScript

1. Select your platform. **Node.jsC**
2. 注册
   1. Id: 0f990a34-81a4-47b2-8430-e47014b4bde3
   2. Secret: pvklkDCSP35$]nqIRI904-!
3. Download or clone the Microsoft Graph Connect Sample for Node.js
4. Unzip downloaded package, change directory to the project and run.
   1. open \*\*utils/config.js\*\*.

Replace the \*\*client\_id\*\* and \*\*client\_secret\*\* placeholder values with the Application Id and Application secret that you copied during app registration.

1. In a command prompt, run the following command in the root directory. This installs the project dependencies. (前提python 已经安装)

* npm install

Run the following command to start the development server.

* npm start

1. Then open your browser to the specified port (i.e. [http://localhost:3000](http://localhost:3000/)).

Option：To see how this sample was created, please see our getting started [walkthrough](https://go.microsoft.com/fwlink/?linkid=858971).

\* [Office 365 API 平台概述](https://msdn.microsoft.com/office/office365/howto/platform-development-overview)

\* [Office 365 API 入门](http://dev.office.com/getting-started/office365apis)

\* [Microsoft Graph 概述](http://graph.microsoft.io)

\* [Office 365 API 初学者项目和代码示例](https://msdn.microsoft.com/office/office365/howto/starter-projects-and-code-samples)

\* [Office UI 结构](https://github.com/OfficeDev/Office-UI-Fabric)

## Sharepoint, setup Office 365 tenant

1. Create app catalog site (to upload and deploy web parts)
   1. Sharepoint Admin Center: <https://mygame-admin.sharepoint.com>
   2. In the left sidebar, select the **apps** menu item, and then select **app catalog**.
   3. Select **OK** to create a new app catalog site.
   4. On the next page, enter the following details:
      1. **Title**: Enter **app catalog**.
      2. **等等**
   5. OK
2. Need a site collection and a site for your testing
   1. create a new developer site collection
      1. Go to the Sharepoint Admin Center (方法看上边)
      2. On the SharePoint ribbon, select **New** > **Private Site Collection**
      3. In the dialog box, enter：Title, Web site Address suffix, Template selection, Administrator
3. Setup Sharepoint Framework development Environment

参考：https://docs.microsoft.com/en-us/sharepoint/dev/spfx/set-up-your-development-environment

* 1. Install Visual Studio Code

It is a lightweight but powerful source code editor. It comes with built-in support for JavaScript, TypeScript and Node.js and has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity).

* 1. Install Yeoman and gulp:

>npm install -g yo gulp

* 1. Install Yeoman SharePoint generator

The Yeoman SharePoint web part generator helps you quickly create a SharePoint client-side solution project with the right toolchain and project structure.

>npm install -g @microsoft/generator-sharepoint

To see how this sample was created式例：https://developer.microsoft.com/zh-cn/graph/docs/concepts/aspnetmvc

https://developer.microsoft.com/en-us/graph/code-samples-and-sdks

- [其他 Microsoft Graph Connect 示例](https://github.com/MicrosoftGraph?utf8=%E2%9C%93&query=-Connect)

- [Microsoft Graph 概述](http://graph.microsoft.io)

- [Office 开发人员代码示例](http://dev.office.com/code-samples)

- [Office 开发人员中心](http://dev.office.com/)

应用注册：https://apps.dev.microsoft.com/

MS 365 admin: <https://admin.microsoft.com>

Sharepoint admin center: https://mygame-admin.sharepoint.com