



**Assignments**

**Web Part**

Using the Education Graph API Endpoints



# ***Tony Phillips***

- Founder of Cloud Design Box
- Worked with SPFx since the preview version
- Started working with SharePoint 2003
- Not a developer by trade (started with citizen coding in script editor web parts)
- I learnt SPFx development from the MS site and from community calls like this

## **Contact**

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Github: <https://github.com/CloudDesignBox/CDBAssignments>



# ***Endpoints in today's demo***

- /education/me
- /me/joinedTeams
- /education/me/classes
- /education/me/assignments

Data populated by Microsoft School Data Sync

Education API reference: <https://docs.microsoft.com/en-us/graph/education-concept-overview>



# Assignments in Teams

Microsoft Teams

Search

Activity

Intranet

Chat

Assignments

Teams


Calls

Files

Calendar

/iva Insights

< All teams



History 11C-Hi1 2022

Class Notebook

Assignments

Grades

Reflect

Insights

Parents

Channels

General

Assignments

Saved: 16 Aug, 15:38

Discard

Save

Assign

Title (required)

Write an essay on poverty during Elizabeth I reign starting in 1558

Add category

Instructions

B I U | | |

Elizabeth came to power in 1558, inheriting problems with religion, poverty and foreign policy. She became queen after both her brother, Edward VI (1537-1553), and her sister, Mary I (1516-1558), had died. Despite inheriting all of these problems she brought many strengths, ruled well and brought stability back to England.

The early rule of Queen Elizabeth I.docx

Students edit their own copy

Attach

New

Apps

Points

100

Add rubric

Assign to

History 11C-Hi1 2022

All students

Don't assign to students added to this class in the future. [Edit](#)

# **Challenges**

- No /me assignment endpoint supported until recently
- Academic rollover each year / Archived Teams
- API throttling
- Large amounts of assignments

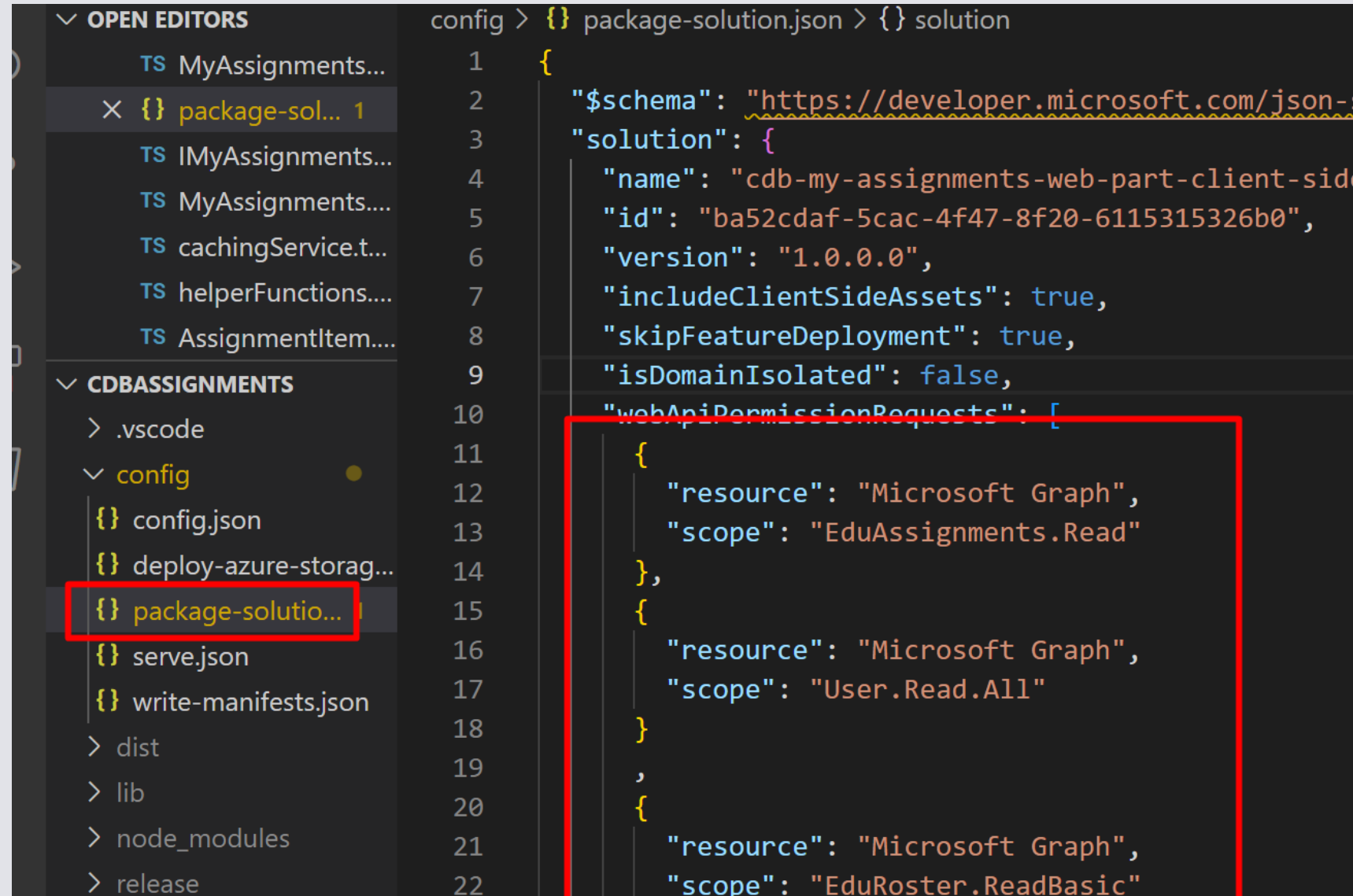


# ***Demo of SPFx My Assignments Web Part***



# Getting started

- React
- API permissions



```
config > {} package-solution.json > {} solution
1  {
2    "$schema": "https://developer.microsoft.com/json-schemas/vs-code/extensions/1.0.0/package-solution.json",
3    "solution": {
4      "name": "cdb-my-assignments-web-part-client-side",
5      "id": "ba52cdaf-5cac-4f47-8f20-6115315326b0",
6      "version": "1.0.0.0",
7      "includeClientSideAssets": true,
8      "skipFeatureDeployment": true,
9      "isDomainIsolated": false,
10     "webApiPermissionRequests": [
11       {
12         "resource": "Microsoft Graph",
13         "scope": "EduAssignments.Read"
14       },
15       {
16         "resource": "Microsoft Graph",
17         "scope": "User.Read.All"
18       }
19     ],
20     "extensions": {
21       "resource": "Microsoft Graph",
22       "scope": "EduRoster.ReadBasic"
```



***Demo***





# Structure

▼ src

▼ services

TS cachingService.ts

TS helperFunctions.ts

▼ webparts\myAssignments

> assets

▼ components

TS AssignmentItem.tsx

TS IMyAssignmentsProps.ts

🔗 MyAssignments.module.scss

TS MyAssignments.tsx

🔗 themes.module.scss

> loc

{ } MyAssignmentsWebPart.manifest.json

TS MyAssignmentsWebPart.ts



## ***Using state and loading data***

```
constructor(props){  
  super(props);  
  this.state={  
    assignments:[],  
    teams:[],  
    courses:[],  
    student:false,  
    refreshTime:this.helperFunctions.getTimeNow(),  
    currentPage:1,  
    errorCode: ""  
  };  
}
```



# Why teachers and students need different views

```
private getUserSDSType(){
  this.props.context.msGraphClientFactory.getClient()
    .then((client: MSGraphClient) => {
      client
        .api(`/education/me`)
        .version("v1.0")
        .select("primaryRole")
        .get((err, res) => {
          if(res){
            let user:MicrosoftGraph.EducationUser= res;
            if (user.primaryRole == "student"){
              this.CDBcachingService.setWithGlobalExpiry(`${this.cacheKey()}User`,true);
              this.setState({
                student:true
              });
            }else{
              this.CDBcachingService.setWithGlobalExpiry(`${this.cacheKey()}User`,false);
            }
          }
        })
    })
}
```



# Caching

```
if(this.CDBcachingService.getWithExpiry(`${this.cacheKey()}User`)){
  console.info("cached user loaded");
  student=this.CDBcachingService.getWithExpiry(`${this.cacheKey()}User`);
}
if(this.CDBcachingService.getWithExpiry(`${this.cacheKey()}Assignments`)){
  console.info("cached assignments loaded");
  this.loadedAssignments=true;
  assignments=this.CDBcachingService.getWithExpiry(`${this.cacheKey()}Assignments`);
}
if(this.CDBcachingService.getWithExpiry(`${this.cacheKey()}Teams`)){
  console.info("cached teams loaded");
  this.loadedTeams=true;
  teams=this.CDBcachingService.getWithExpiry(`${this.cacheKey()}Teams`);
}
if(this.CDBcachingService.getWithExpiry(`${this.cacheKey()}Courses`)){
  console.info("cached courses loaded");
  this.loadedCourses=true;
  courses=this.CDBcachingService.getWithExpiry(`${this.cacheKey()}Courses`);
}
if(this.CDBcachingService.getWithExpiry(`${this.cacheKey()}Time`)){
  console.info("cached time loaded");
  refreshTime=this.CDBcachingService.getWithExpiry(`${this.cacheKey()}Time`);
}

//update state
this.setState({
```



# Paging

```
//set paging counter
if(pageCounter==pagingProp){
  pageCounter=1;
  currentPage++;
  pages.push(<span className={styles.paging} onClick={(e) => this.updatePaging(e)} data-pagenumber={currentPage}>{currentPage.toString()}
}else{
  pageCounter++;
}
```



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