

Building Applications for Office 365 and SharePoint with the SharePoint Framework

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SharePoint
intersection



Office 365
intersection

Development environment

Set up your SharePoint environment

- Cloud or on-premises
 - Office 365 tenant
 - SharePoint 2016, Feature Pack 2
- App catalog
- Developer site collection
- SharePoint workbench
 - Local
 - Tenant
 - On-premises

Set up your development environment

- NodeJS LTS v6.11.4 (<https://nodejs.org/en>)
 - Node package manager (npm) v3.10.10 automatically installed
 - NodeJS command prompt used to interact with npm
- Visual Studio Code
- Gulp
 - `npm install -g gulp`
- Yeoman
 - `npm install -g yo`
- SharePoint Generator
 - `npm install -g @Microsoft/generator-sharepoint`

Introducing SPFX extensions

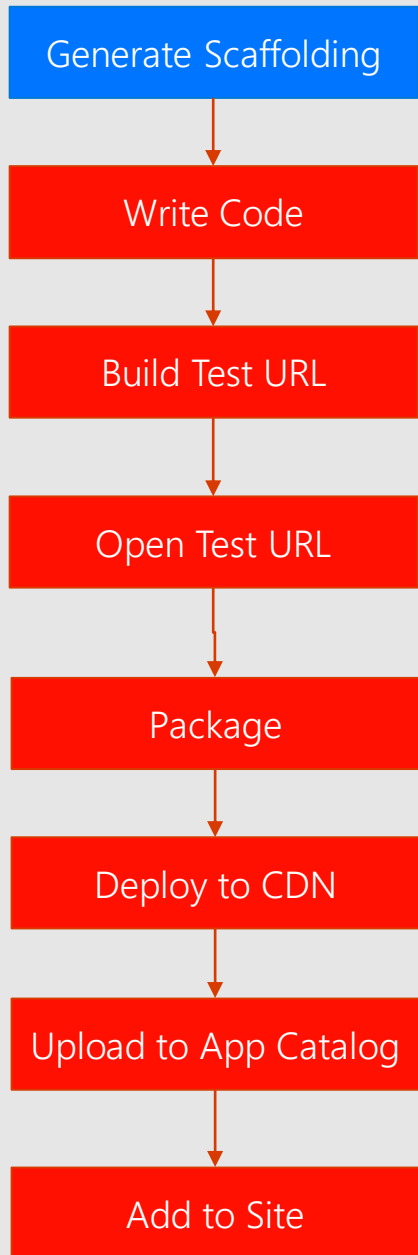
Extensions

- Application customizer
 - Adds scripts to the page or extend placeholders
- Field customizer
 - Modifies the view of fields in a list
- Command set
 - Allows the creation of new actions

Demo

SPFX Extensions

Creating SPFX extensions



```
--(o)--  
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 /   A   \  
 |   ~   |  
|___|___|  
|   o   |  
 \___/  Y
```

```
Welcome to the  
SharePoint Client-side  
Solution Generator
```

Let's create a new SharePoint solution.

? What is your solution name? My First Extension

? Which baseline packages do you want to target for your component(s)? SharePoint Online only (latest)

? Where do you want to place the files? Use the current folder

? Do you want to allow the tenant admin the choice of being able to deploy the solution to all sites immediately without running any feature deployment or adding apps in sites? No

? Which type of client-side component to create? Extension

? Which type of client-side extension to create? (Use arrow keys)

> Application Customizer

Field Customizer

Listview Command Set

Extensions

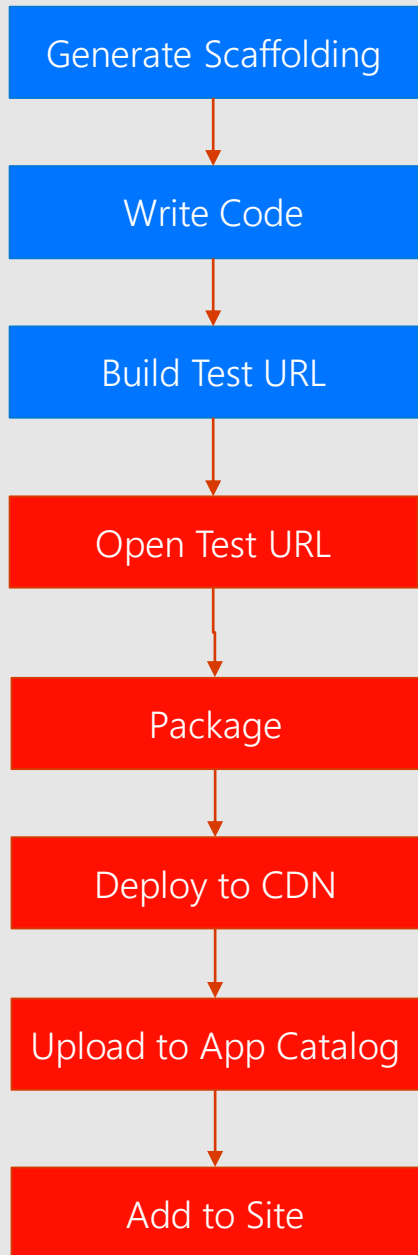
- Application customizer
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7:40 PM
10/31/2017

Extensions

- Application customizer
 - Extend **BaseApplicationCustomizer**
- Field customizer
 - Extend **BaseFieldCustomizer**
- Command set
 - Extend **BaseListViewCommandSet**



SiteScriptApplicationCustomizer.manifest.json - _session - Visual Studio Code

File Edit Selection View Go Debug Tasks Help

EXPLORER

OPEN EDITORS

Welcome

SiteScriptApplicationCustomizer.manifest.json src...

_SESSION

.vscode

config

dist

lib

node_modules

sharepoint

src

extensions

siteScript

loc

SiteScriptApplicationCustomizer.manifest.json

SiteScriptApplicationCustomizer.ts

temp

typings

.editorconfig

.gitignore

.yo-rc.json

gulpfile.js

package.json

README.md

tsconfig.json

SiteScriptApplicationCustomizer.manifest.json

```
{
  "$schema": "https://dev.office.com/json-schemas/spf...",
  "id": "6b4db79d-e0b7-42ae-9a86-17a7c21a249a",
  "alias": "SiteScriptApplicationCustomizer",
  "componentType": "Extension",
  "extensionType": "ApplicationCustomizer",
  "version": "*",
  "manifestVersion": 2,
  "requiresCustomScript": false
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

1: node

Request: '/node_modules/@microsoft/sp-webpart-base/dist/sp-webpart-base_en-us.js'

Request: '/node_modules/@microsoft/sp-dialog/dist/sp-dialog_en-us.js'

Request: '/dist/site-script-application-customizer/dist/site-script-application-customizer_en-us.js'

Ln 4, Col 46 (36 selected) Spaces: 2 UTF-8 CRLF JSON

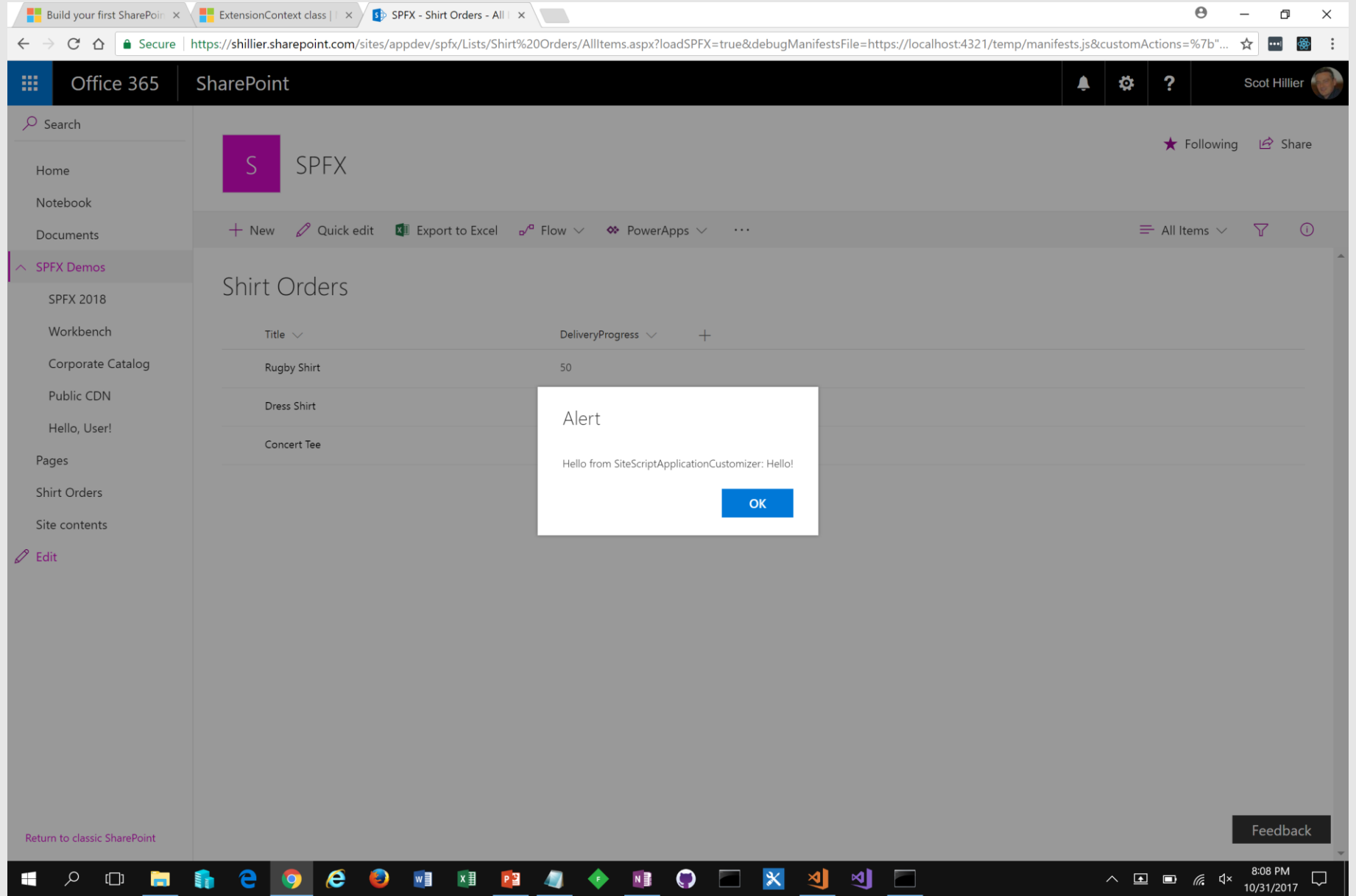
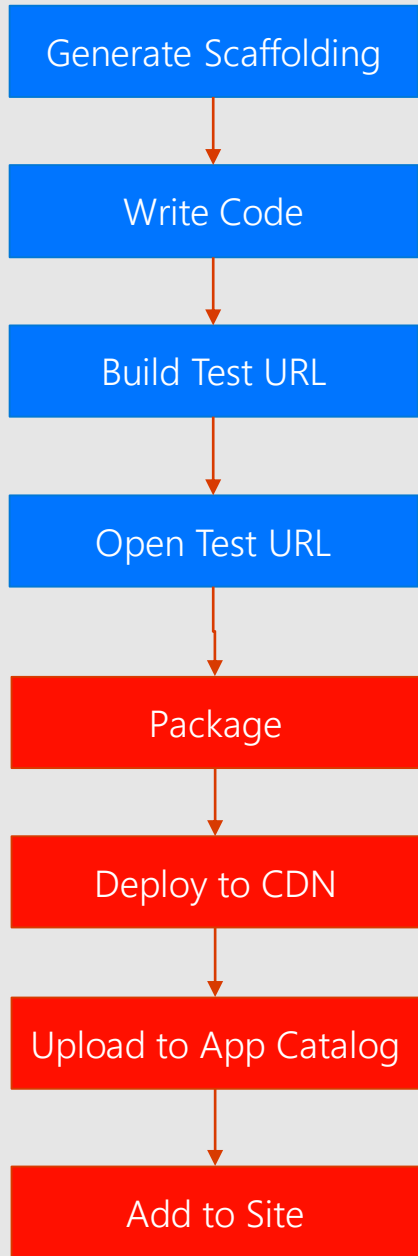
8:12 PM 10/31/2017

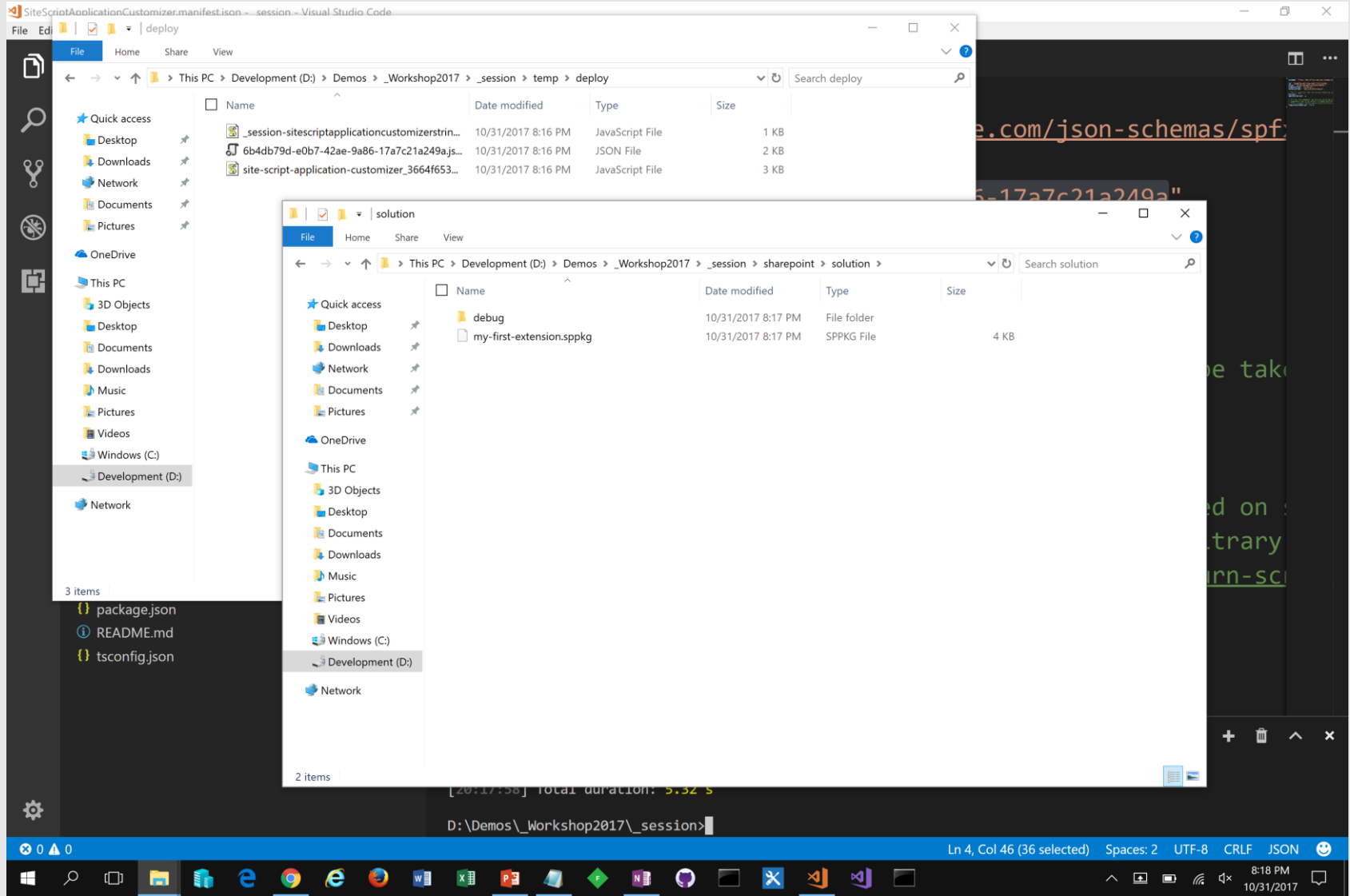
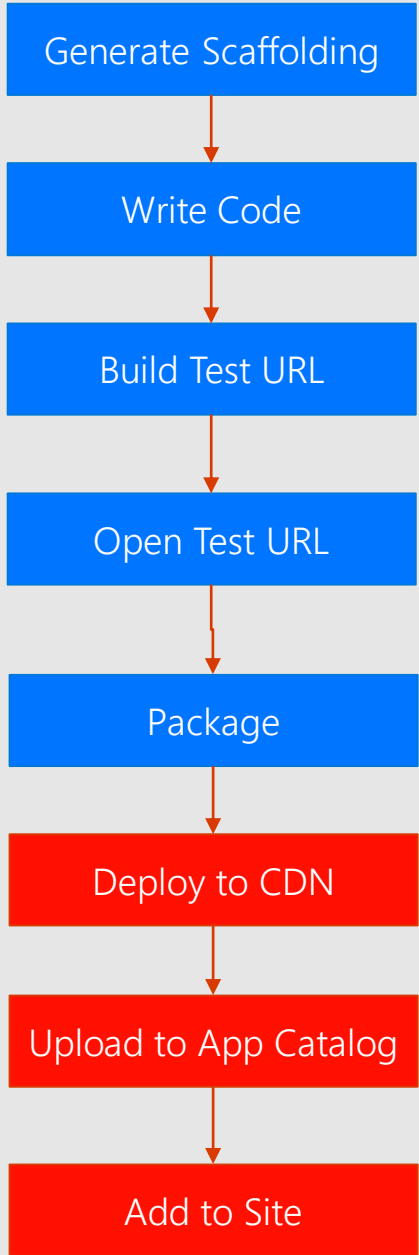
Test with query parameters

- A URL to a modern page or list
 - <https://contoso.sharepoint.com/Lists/Contoso/AllItems.aspx>
- The ID of the extension
 - {ExtensionName}ApplicationCustomizer.manifest.json
- Create the test URL
- **gulp serve -nobrowser**
- Open the test URL

Test URL

```
https://contoso.sharepoint.com/Lists/Contoso/AllItems.aspx?loadSPFX=true&
debugManifestsFile=https://localhost:4321/temp/manifests.js&
customActions={
    YOURGUID:{
        "location":"ClientSideExtension.ApplicationCustomizer",
        "properties":{"key": "value"}
    }
}
```





Update external references in config.js

```
{
  "entries": [
    {
      "entry": "./lib/webparts/ngBasics/NgBasicsWebPart.js",
      "manifest": "./src/webparts/ngBasics/NgBasicsWebPart.manifest.json",
      "outputPath": "./dist/ng-basics.bundle.js"
    }
  ],
  "externals": {
    "rxjs": "https://unpkg.com/rxjs"
  },
  "localizedResources": {
    "ngBasicsStrings": "webparts/ngBasics/loc/{locale}.js"
  }
}
```

Update elements.xml

```
<?xml version="1.0" encoding="utf-8"?>
<Elements xmlns="http://schemas.microsoft.com/sharepoint/">

  <CustomAction
    Title="SPFxApplicationCustomizer"
    Location="ClientSideExtension.ApplicationCustomizer"
    ClientSideComponentId="46606aa6-5dd8-4792-b017-1555ec0a43a4"
    ClientSideComponentProperties="{&quot;Top&quot;:&quot;Top area of the
                                   page&quot;;&quot;Bottom&quot;:&quot;Bottom area in the page&quot;;}">

    </CustomAction>

</Elements>
```

Update write-manifests.json

```
{  
  "$schema":  
    "https://dev.office.com/json-schemas/spfx-build/write-manifests.schema.json",  
  "cdnBasePath":  
    "https://publiccdn.sharepointonline.com/contoso.sharepoint.com/CDN/myextension"  
}
```

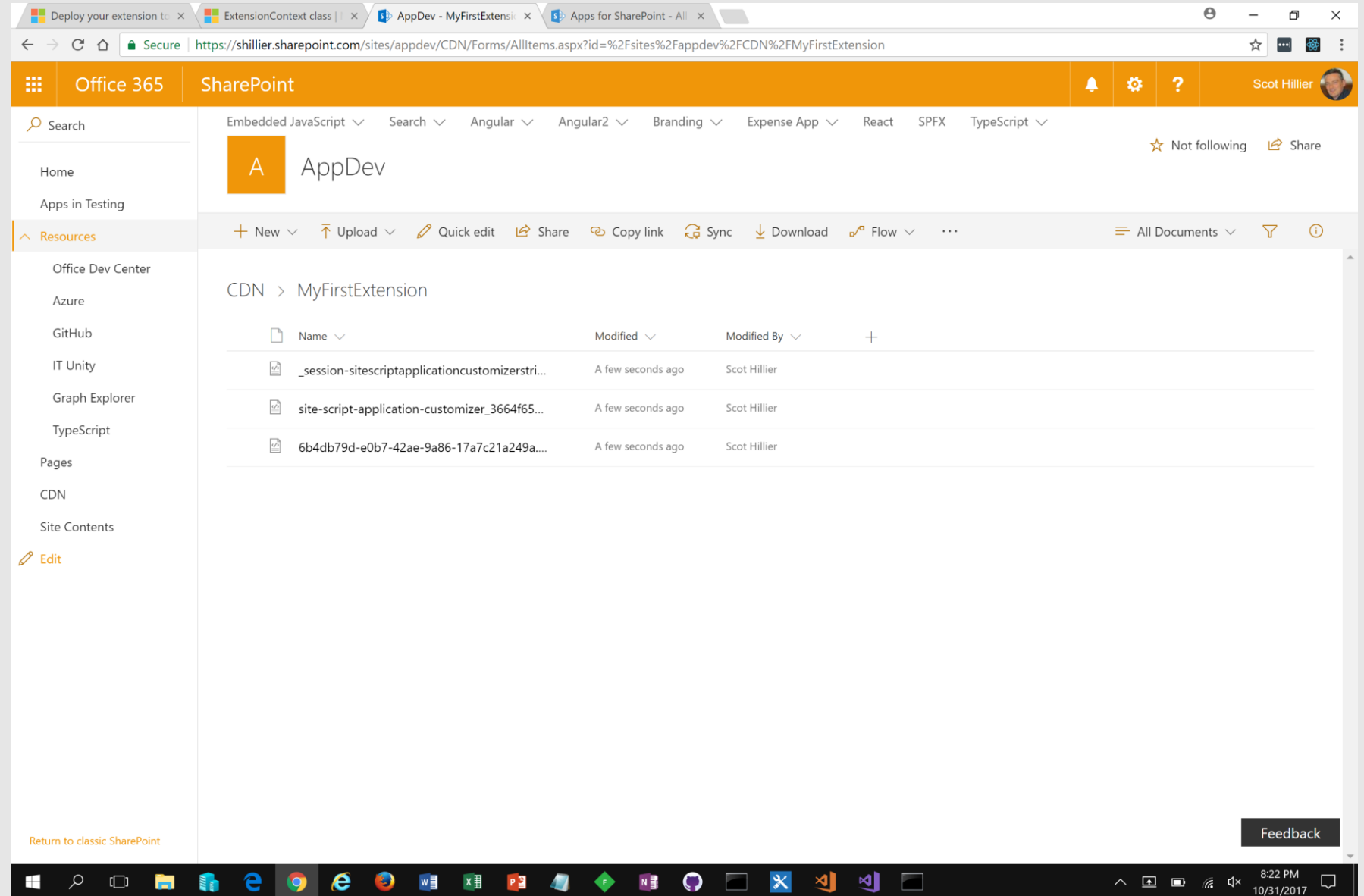
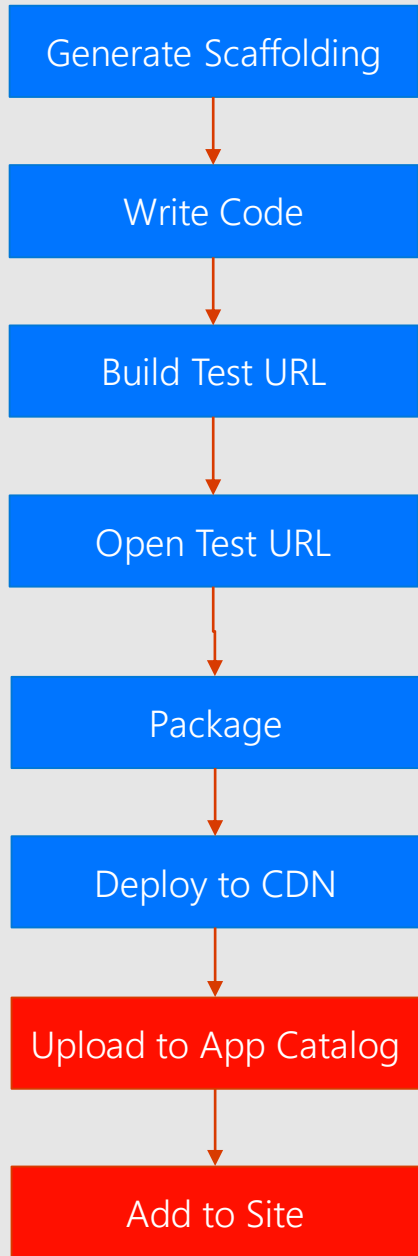
Tenant-scoped deployment

```
{
  "solution": {
    "name": "tenant-deploy-client-side-solution",
    "id": "dd4feca4-6f7e-47f1-a0e2-97de8890e3fa",
    "version": "1.0.0.0",
    "skipFeatureDeployment": true
  },
  "paths": {
    "zippedPackage": "solution/tenant-deploy-true.sppkg"
  }
}
```

Bundle and package

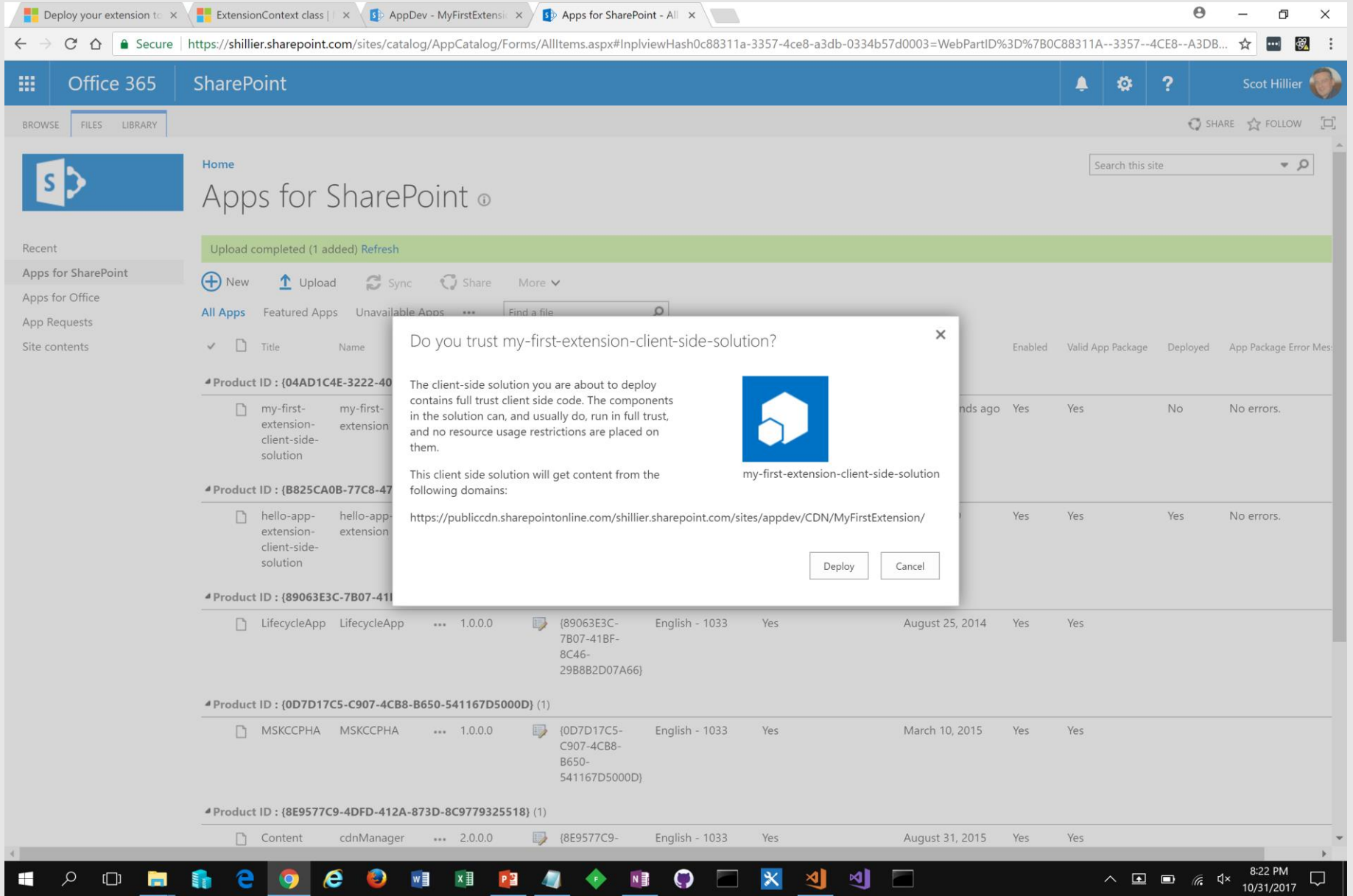
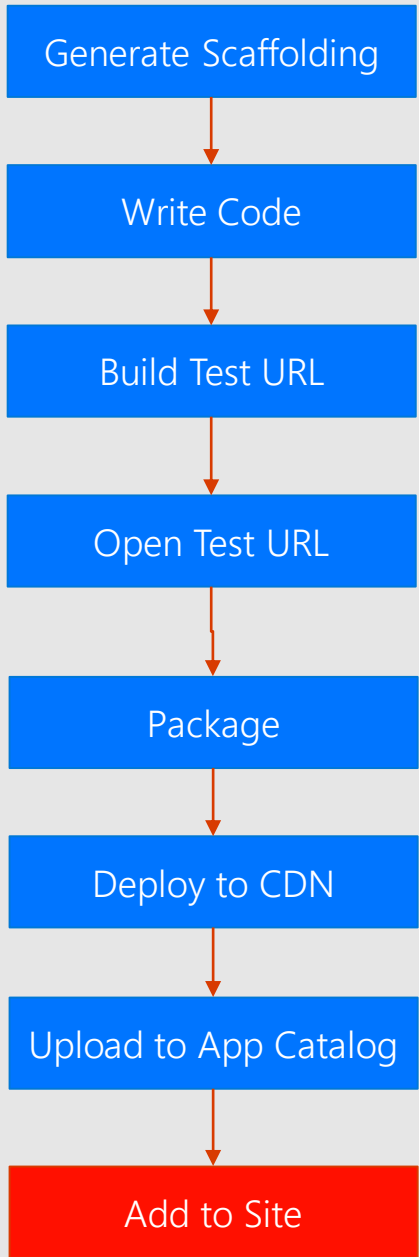
```
gulp bundle -ship
```

```
gulp package-solution --ship
```



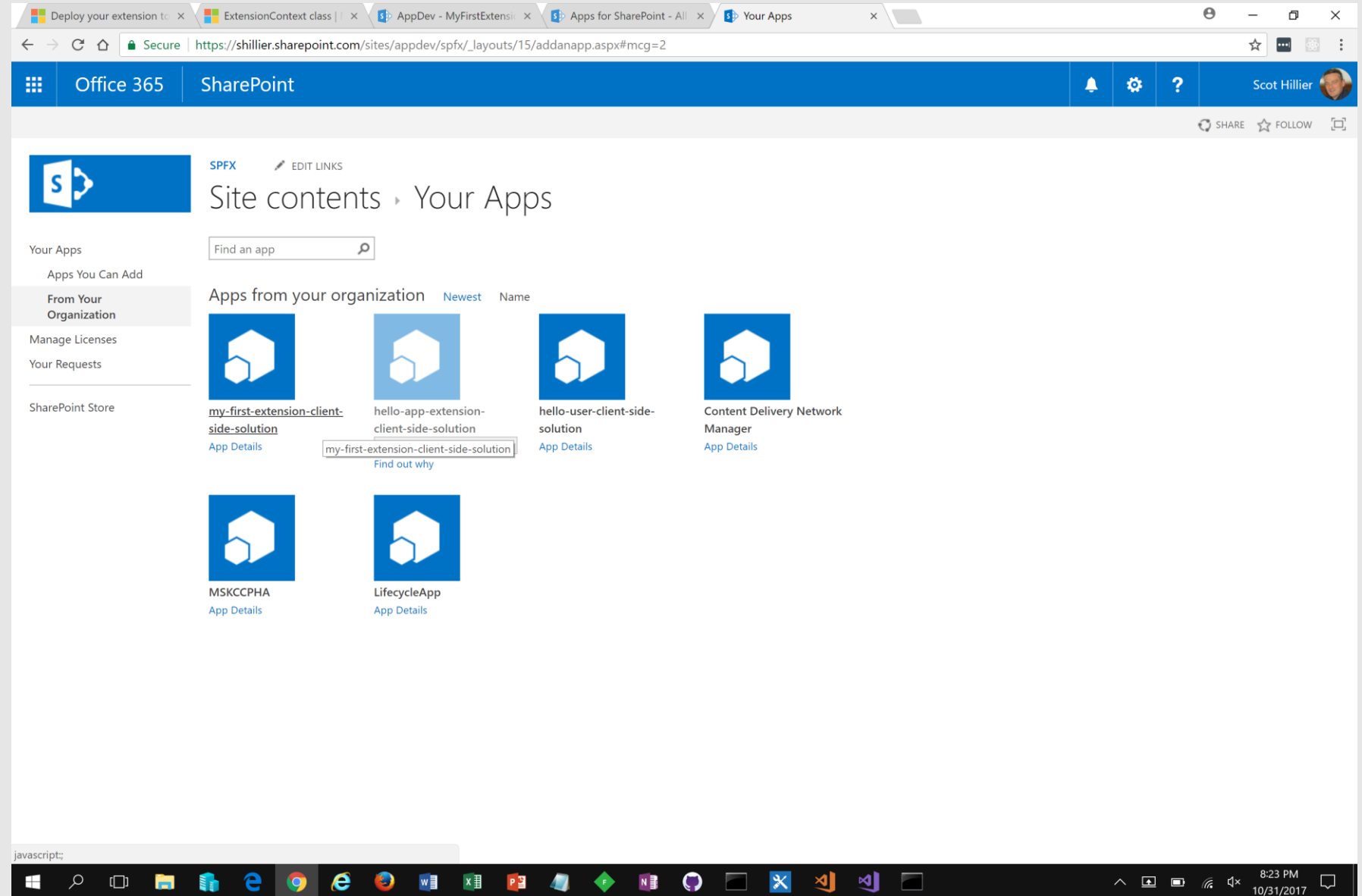
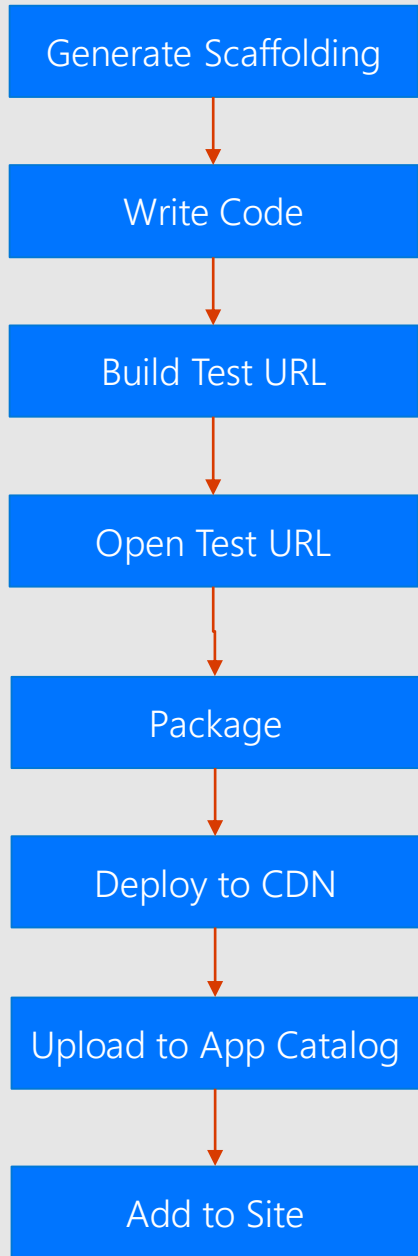
Create a CDN

- Enable the Office 365 CDN
 - `Set-SPOTenantCdnEnabled -CdnType Public`
 - Create a document library to act as the CDN endpoint
 - `Add-SPOTenantCdnOrigin -CdnType Public -OriginUrl */cdn`
- Utilize an Azure CDN
 - Storage account
 - Blob container
 - CDN profile
- Utilize an on-premises endpoint



Create an App Catalog

- Office 365
 - Admin > Admin Centers > SharePoint
 - Apps > App Catalog
- On-Premises
 - Central Administration > App Management > Manage App Catalog



Demo

SPFX Extensions