

# Building Applications for Office 365 and SharePoint with the SharePoint Framework

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**SharePoint**  
*intersection*



**Office 365**  
*intersection*

# Agenda

- Setting up the development environment
- SPFX extensions
  - Application customizer
  - Field customizer
  - Command set
- Deployment

# 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`

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

Application customizer



# Demo

Field customizer

# Demo

Command set

# Deployment

# Deployment steps

- Prerequisites
  - Create a CDN and app catalog
- Package
  - Update external references in `config.js`
  - Update `element.xml`
  - Update `write-manifests.json`
  - Bundle and package
- Deploy
  - CDN deployment
  - App catalog deployment
  - Tenant deployment

# 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

# 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"  
}
```

# Bundle and package

```
gulp bundle -ship
```

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

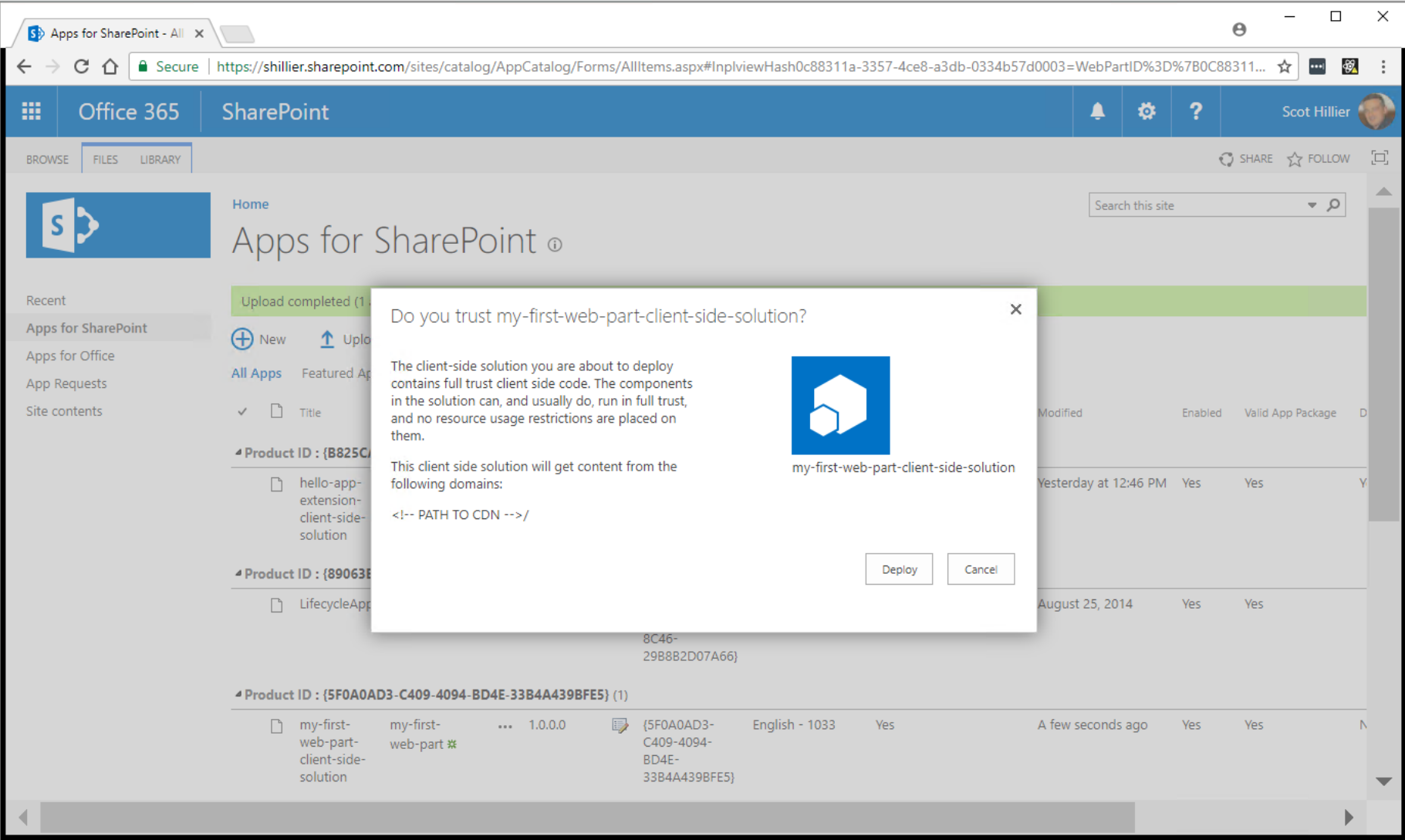
# Deploy to CDN

The screenshot shows a SharePoint site titled "AppDev - MyFirstWebPart" with the URL <https://shillier.sharepoint.com/sites/appdev/CDN/Forms/AllItems.aspx?id=%2Fsites%2Fappdev%2FCDN%2FMyFirstWebPart>. The site is part of an "Office 365" environment. The left sidebar contains a search bar and a list of resources: Home, Apps in Testing, Resources (expanded), Office Dev Center, Azure, GitHub, IT Unity, Graph Explorer, TypeScript, Pages, CDN, and Site Contents. The main content area shows the "AppDev" site with a "Not following" status and a "Share" button. Below this is a toolbar with options: New, Upload, Quick edit, Share, Copy link, Sync, and Download. The breadcrumb path is "CDN > MyFirstWebPart". A table lists the deployed files:

Name	Modified	Modified By
b0e8fe8b-c77e-4b72-8b35-66ec2c429c2c.json	A few seconds ago	Scot Hillier
hello-world-web-part_269fef3eb020142699dda690f94e018d.js	A few seconds ago	Scot Hillier
myfirstwebpart-helloworldwebpartstrings_en-us_536e65149b0acf4d5...	A few seconds ago	Scot Hillier

At the bottom left, there is a link to "Return to classic SharePoint" with the URL <https://www.office.com/?auth=2&home=1&from=ShellLogo>. At the bottom right, there is a "Feedback" button.

# Upload to app catalog



# 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"  
  }  
}
```

# Demo

Deployment