

SharePoint Framework



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Office Servers and Services MVP



- Full Trust Vs Sandbox
- Client Side Development
- Add – In Model
- SharePoint Framework
- SharePoint Framework Toolchain
- Node JS and NPM
- Yeoman
- GULP
- Hello World Demo

Full Trust Vs Sandbox

- Full Trust Solutions
 - Portal Server 2003 – Office Server 2007 – SharePoint 2010/2013/2016
 - Server Side Object Model – No Client Side API
 - W3WP Process
 - Full Trust – Accidental/Intended Damage to the farm
 - IIS Reset
- Sandboxed Solutions
 - SharePoint 2010
 - Runs in SPUCWorkerProcess
 - No IIS Reset and Downtime on Solution Deployment
 - Too Many limitations
 - Deprecated as of SharePoint 2013

Client Side Development

- Introduced in SharePoint 2010 and Improved in 2013
- Support for CSOM and REST
- JavaScript Injection Model was widely used
- Content Editor & Script Editor Webpart
- Enabled Users to Create Solutions without Server Deployment
- Add the CEWP & JSOM to interact with API and the data
- Ran in Current User Context
- A User with Page Customization permission could break code
- Non Repeatable Deployment Process

Add – In Model

- SharePoint Hosted Add-in
- Provider Hosted Add-in

- Created a Child App Web in the SharePoint Site
- Provided Isolation from SharePoint as it resided in its own App Domain
- Used Iframe for Communicating with Host Web
- Cross Domain Issues
- Iframe HTTP request - Slow
- Iframe were not responsive

SharePoint Framework



- Client Side Model
- Executes in Current Page Context
- Modifies the DOM directly – No Iframe
- Works in Classic as Well as Modern Pages
- Embraces Open Source Tools for Development
- Still in Development
- Used by Microsoft Engineers and Developers to build Solutions

SharePoint Framework Toolchain

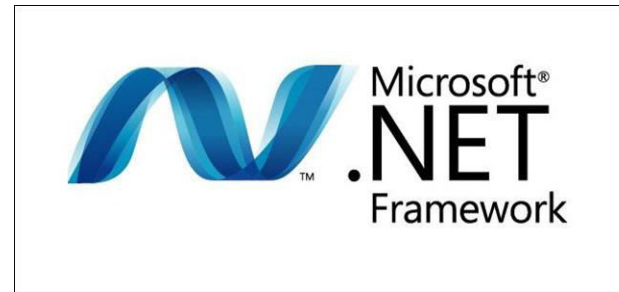


- Node JS and NPM
- Yeoman
- Gulp
- Visual Studio Code
- SharePoint Workbench
- SharePoint Online Tenant

Node JS and NPM



- <https://nodejs.org/en/>
- Node JS - Run Time environment



- NPM – Package Manager
- *npm install*
- *@microsoft/sp-core-library, @microsoft/sp-webpart-base*



GULP



- *gulp -v*
- **Build** : Builds the client-side solution project - *gulp build*
- **Bundle** : Bundles the client-side solution project entry point and all its dependencies into a single JavaScript file. - *gulp bundle*
- **Serve** : Serves the client-side solution project and assets from the local machine - *gulp serve*
- *gulp trust-dev-cert*



Yeoman



- <http://yeoman.io/>
- Scaffolding tool - Creates the necessary project structure
- Yeoman SharePoint Generator
- *npm install -g yo gulp*
- *npm install -g @microsoft/generator-sharepoint*
- *npm view @microsoft/generator-sharepoint version*
- *Yo - -version*
- *Gulp -v*



SPFx Dev - VS Dev



YEOMAN



MS Build



Commands Revisited

Install Yeoman and GULP

```
npm install -g yo gulp
```

Install Yeoman SharePoint Generator

```
npm install -g @microsoft/generator-sharepoint
```

Uninstall SPFx Generator

```
npm uninstall -g @microsoft/generator-sharepoint
```

Uninstall Yeoman

```
npm uninstall -g yo
```

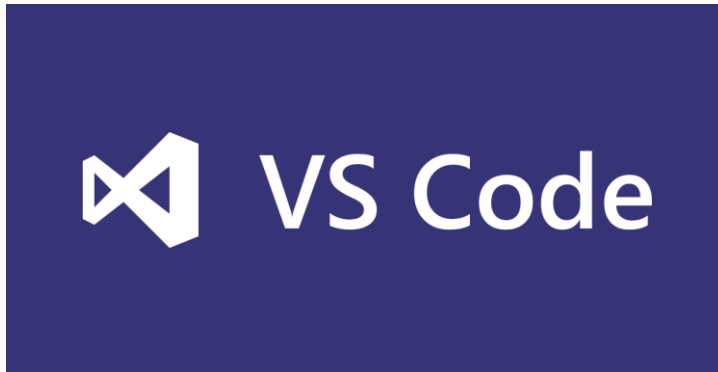
Uninstall Gulp

```
npm uninstall -g gulp
```



Visual Studio Code

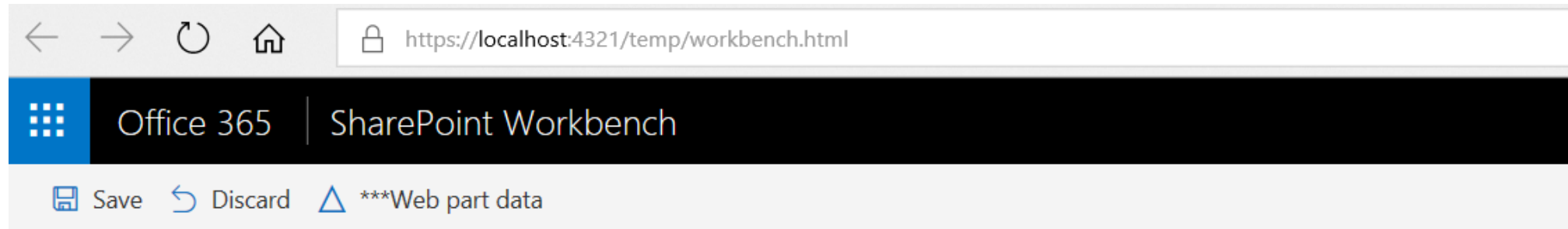
- Light Weight development IDE
- <https://code.visualstudio.com/>



- Visual Studio can be used with the installation of plugin
[https://marketplace.visualstudio.com/items?itemName=SharePointPnP.SP
FxProjectTemplate](https://marketplace.visualstudio.com/items?itemName=SharePointPnP.SPFxProjectTemplate)

SharePoint Workbench

- <https://localhost:4321/temp/workbench.html>
- Dummy Page where we can test the SPFx Webpart
- Does not get data directly from SharePoint, but can use Mock Data



Welcome to SharePoint!

Customize SharePoint experiences using Web Parts.

Hello World



- Make Directory
md HelloWorld
- Navigate to working directory
cd HelloWorld
- Create Project Structure
yo @microsoft/sharepoint
- Specify the Project Specific values
- Install Developer Certificate
gulp trust-dev-cert
- Go to Visual Studio Code – *Code*.
- Run GULP to package the solution and test
gulp serve
- *Control + c* to break gulp execution



Common Errors



- Cannot find module

npm install --save-dev

```
C:\Users\Priyaranjan\CustomList>gulp trust-dev-cert
module.js:540
    throw err;
    ^

Error: Cannot find module '@microsoft/sp-build-web'
    at Function.Module._resolveFilename (module.js:538:15)
    at Function.Module._load (module.js:468:25)
    at Module.require (module.js:587:17)
    at require (internal/module.js:11:18)
    at Object.<anonymous> (C:\Users\Priyaranjan\CustomList\gulpfile.js:4:15)
    at Module._compile (module.js:643:30)
    at Object.Module._extensions..js (module.js:654:10)
    at Module.load (module.js:556:32)
    at tryModuleLoad (module.js:499:12)
    at Function.Module._load (module.js:491:3)

C:\Users\Priyaranjan\CustomList>
```

- Uninstall and reinstall Yo,GULP and SPFx Generator