

Site ~~Designs~~ Templates and Site Scripts

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Agenda

- What are they?
- How to create them?
- How to use them?
- Rolling up our sleeves...



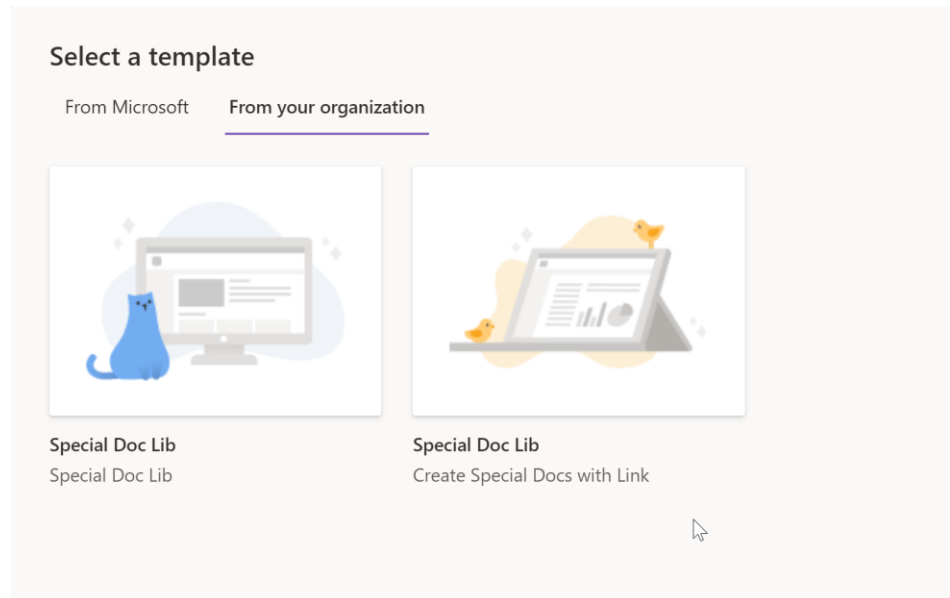
What Are They?

What Are They?

- Site Designs are now Site Templates
- Site Scripts are still Site Scripts
- Only for SharePoint Online
- Site Scripts – Blobs of JSON
- Site Templates – Blobs of Site Scripts

Site Actions

[Manage site features](#)
[Save site as template](#)
[Enable search configuration export](#)
[Reset to site definition](#)
[Delete this site](#)



Why Would You Use Them?

- Consistent Look
 - Branding – Themes and Logos
 - Shortcuts
- Consistent Functionality
 - Lists and libraries
 - Content Types
 - Updates
- Easy to update
 - Business processes
 - Platform functionality



Keeping your ducks in a row

Why Would You Use Them?

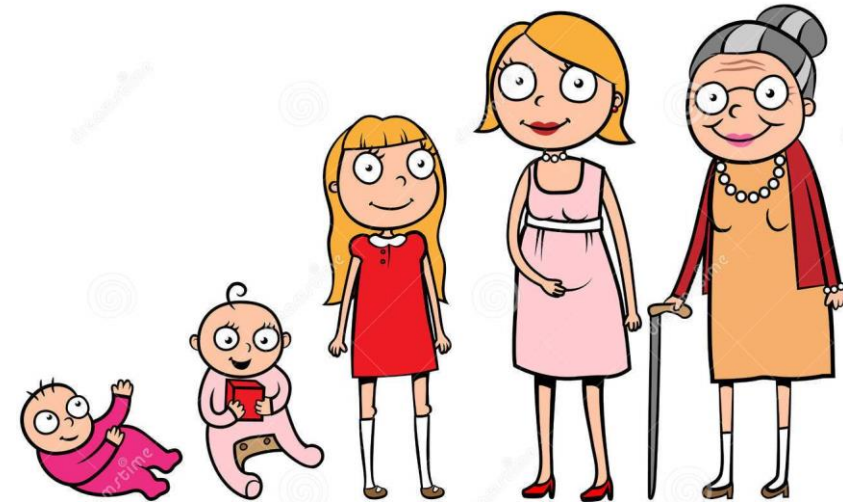
- Easy to make
- Easy to set up
- Easy for users to use
- Easy to update
- Idempotent



At least it's not the Easy Button

Maturity Model

- Crawl
 - Few or no defined standards
 - Little or no consistency
 - No automation
- Walk
 - Some defined standards and IA
 - Somewhat or mostly consistent
 - Some automation, like Site Templates
- Run
 - Strongly defined standards
 - Standards enforced
 - Provisioning automated with additional products like [Orchestry](#) or [PnP Provisioning](#)



Actual picture of my family

How Do You Make Them?

PowerShell and JSON, Woo Hoo!

- JSON goes into Site Scripts
 - 1 or more verb/action
 - 30 action limit for synchronous scripts
 - 300 for async
- Site Scripts go into Site Templates
 - 1 or more Site Script
 - Site Script can be in many Site Templates
- 100 Site Scripts and 100 Site Templates per tenant

```
{
  "verb": "createSiteColumn",
  "fieldType": "DateTime",
  "internalName": "ContractDate",
  "displayName": "Contract Date",
  "isRequired": false
},
{
  "verb": "createContentType",
  "name": "Vendor Contract",
  "description": "Contract with one of our vendors",
  "id": "0x0101004DACF3C50C7E0542948BEB7CD1E89CC503",
  "hidden": false,
  "subactions":
    [
      {
        "verb": "addSiteColumn",
        "internalName": "ContractDate"
      }
    ]
}
```

Available Site Script Actions

Site Settings



- addPrincipalToSPGroup
- addNavLink
- removeNavLink
- applyTheme
- setSiteLogo
- setSiteBranding
- setRegionalSettings
- setSiteExternalSharingCapability
- triggerFlow
- joinHubSite

SharePoint Components



- createSPList
- addSPField
- deleteSPField
- addSPFieldXml
- createSiteColumn
- createSiteColumnXml
- addSiteColumn
- addContentType
- createContentType
- removeContentType
- addSPView
- removeSPView
- setSPFieldCustomFormatter

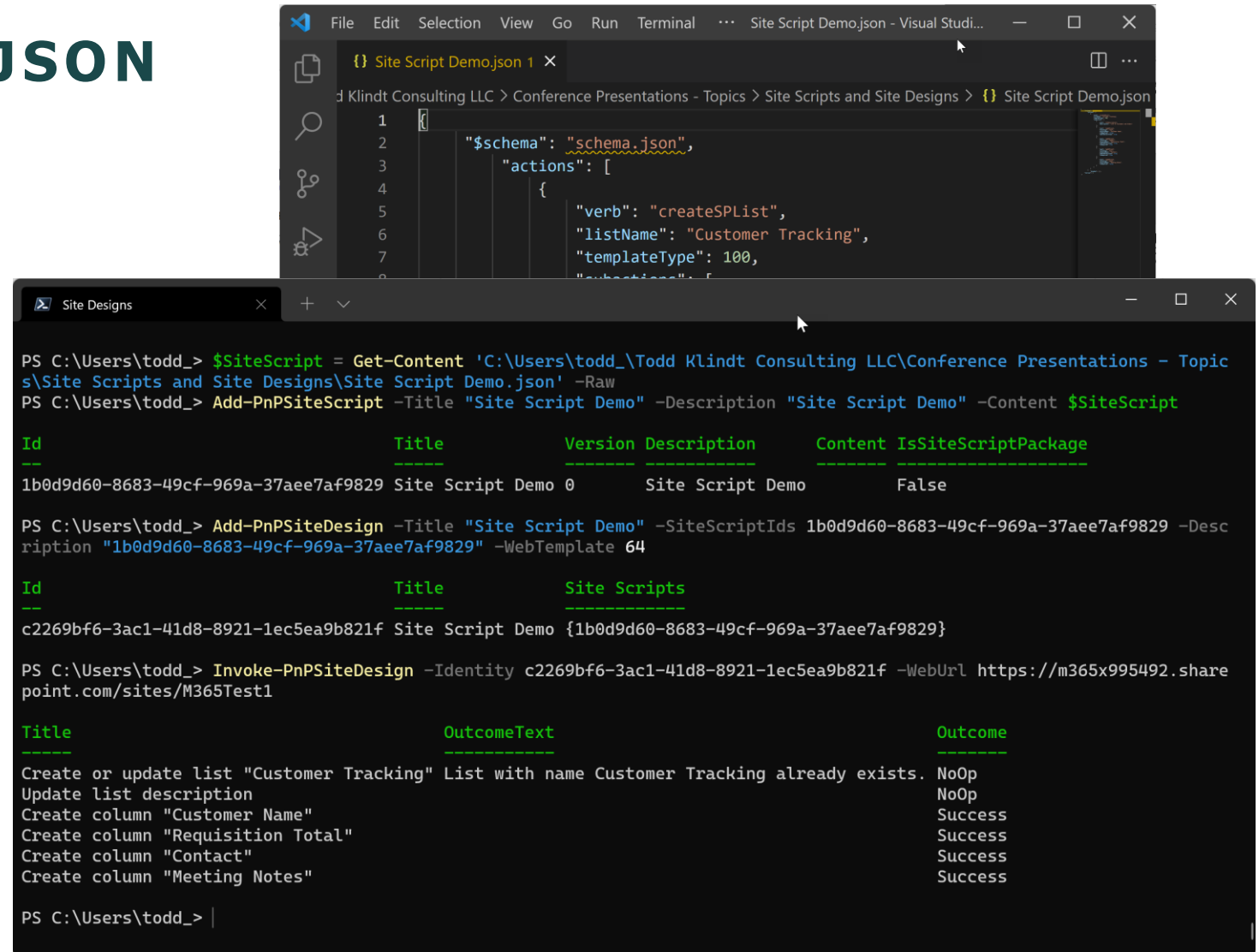
Apps & Solutions



- installSolution
- SPFx Extension support
 - associateExtension
 - associateListViewCommandSet
 - associateFieldCustomizer

The Hard Way – Raw JSON

- Edit JSON by hand (or steal from the web)
- Add-PnPSiteScript
- Add-PnPSiteDesign
- Invoke-PnPSiteDesign
- Rinse, Repeat



The screenshot shows two windows. The top window is Visual Studio Code editing 'Site Script Demo.json' with the following JSON content:

```
{
  "$schema": "schema.json",
  "actions": [
    {
      "verb": "createSPList",
      "listName": "Customer Tracking",
      "templateType": 100,
      "subactions": [

```

The bottom window is a PowerShell terminal showing the execution of the following commands:

```
PS C:\Users\todd> $SiteScript = Get-Content 'C:\Users\todd\Todd Klindt Consulting LLC\Conference Presentations - Topic
s\Site Scripts and Site Designs\Site Script Demo.json' -Raw
PS C:\Users\todd> Add-PnPSiteScript -Title "Site Script Demo" -Description "Site Script Demo" -Content $SiteScript

Id Title Version Description Content IsSiteScriptPackage
---
1b0d9d60-8683-49cf-969a-37aee7af9829 Site Script Demo 0 Site Script Demo False

PS C:\Users\todd> Add-PnPSiteDesign -Title "Site Script Demo" -SiteScriptIds 1b0d9d60-8683-49cf-969a-37aee7af9829 -Desc
ription "1b0d9d60-8683-49cf-969a-37aee7af9829" -WebTemplate 64

Id Title Site Scripts
---
c2269bf6-3ac1-41d8-8921-1ec5ea9b821f Site Script Demo {1b0d9d60-8683-49cf-969a-37aee7af9829}

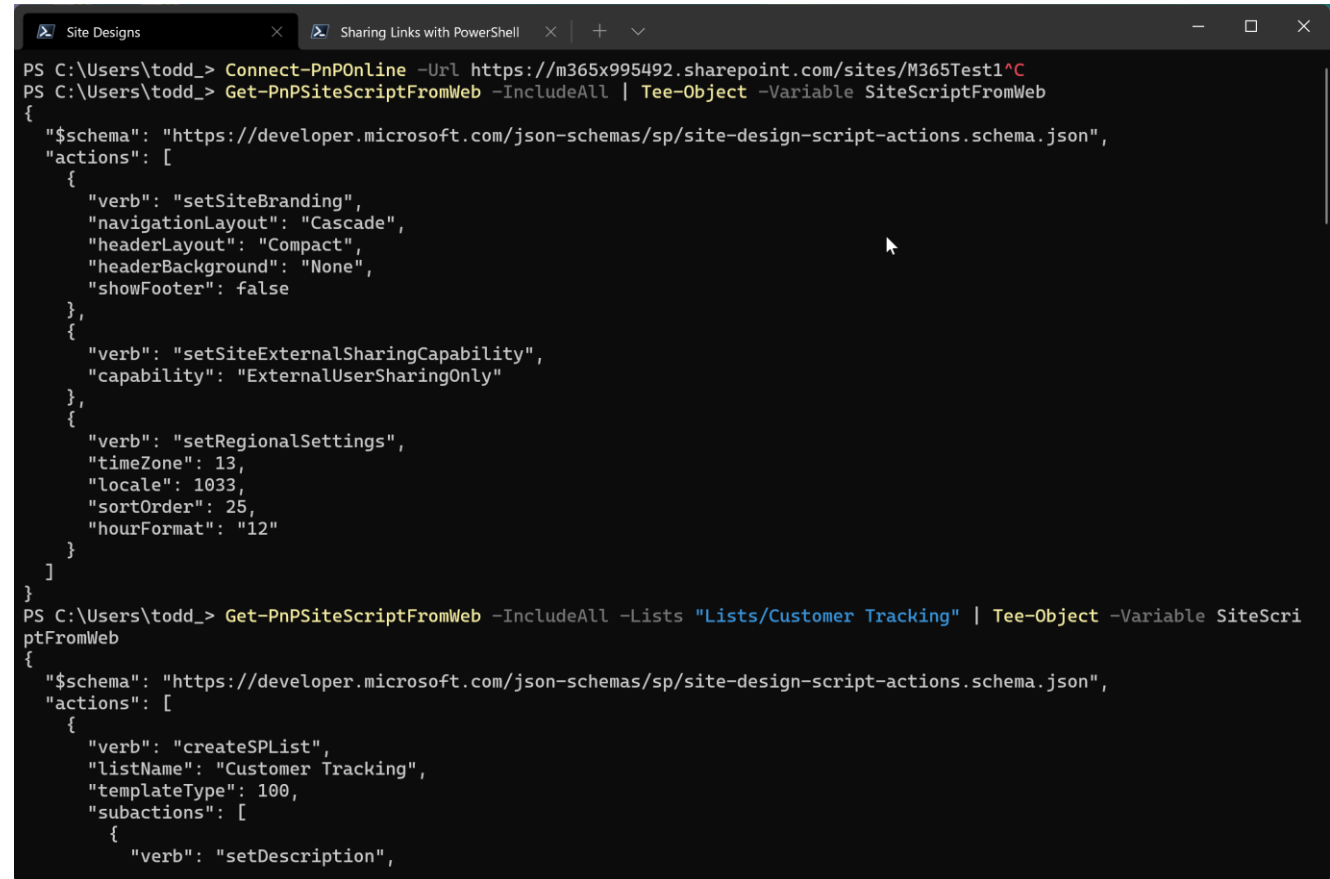
PS C:\Users\todd> Invoke-PnPSiteDesign -Identity c2269bf6-3ac1-41d8-8921-1ec5ea9b821f -WebUrl https://m365x995492.share
point.com/sites/M365Test1

Title OutcomeText Outcome
-----
Create or update list "Customer Tracking" List with name Customer Tracking already exists. NoOp
Update list description NoOp
Create column "Customer Name" Success
Create column "Requisition Total" Success
Create column "Contact" Success
Create column "Meeting Notes" Success

PS C:\Users\todd> |
```

The Easy Way – Copy From List or Web

- Get-PnPSiteScriptFromList
- Get-PnPSiteScriptFromWeb

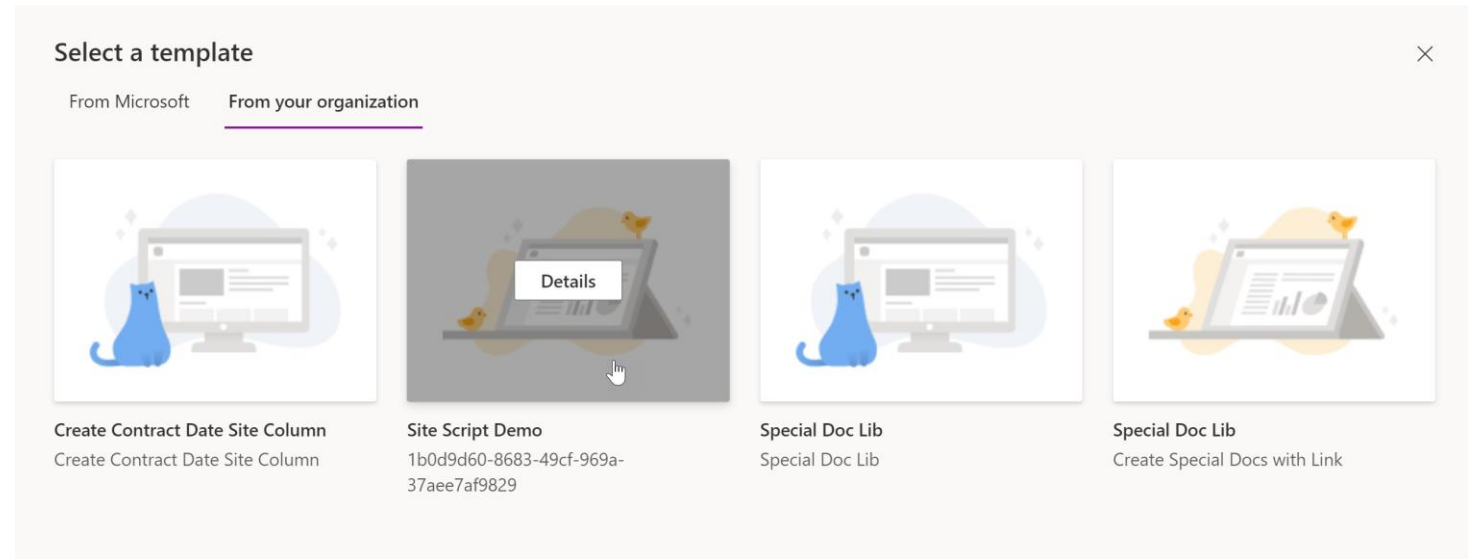


```
PS C:\Users\todd> Connect-PnPOnline -Url https://m365x995492.sharepoint.com/sites/M365Test1^C
PS C:\Users\todd> Get-PnPSiteScriptFromWeb -IncludeAll | Tee-Object -Variable SiteScriptFromWeb
{
  "$schema": "https://developer.microsoft.com/json-schemas/sp/site-design-script-actions.schema.json",
  "actions": [
    {
      "verb": "setSiteBranding",
      "navigationLayout": "Cascade",
      "headerLayout": "Compact",
      "headerBackground": "None",
      "showFooter": false
    },
    {
      "verb": "setSiteExternalSharingCapability",
      "capability": "ExternalUserSharingOnly"
    },
    {
      "verb": "setRegionalSettings",
      "timeZone": 13,
      "locale": 1033,
      "sortOrder": 25,
      "hourFormat": "12"
    }
  ]
}
PS C:\Users\todd> Get-PnPSiteScriptFromWeb -IncludeAll -Lists "Lists/Custom Tracking" | Tee-Object -Variable SiteScriptFromWeb
{
  "$schema": "https://developer.microsoft.com/json-schemas/sp/site-design-script-actions.schema.json",
  "actions": [
    {
      "verb": "createSPList",
      "listName": "Customer Tracking",
      "templateType": 100,
      "subactions": [
        {
          "verb": "setDescription",
```

How Do We Use Them?

How Do Users Use Them?

- On site creation
- Without even knowing it
- Choose them from the gear
- Can run more than one
- Can run more than once



Rolling Up Our Sleeves

Good Notes

- Idempotency
 - InternalName
- Default doesn't work like you expect, but it works
- Add Application
- Easy themes and branding
- Scope to template type
- Scope to users
- Trigger a PowerAutomate Flow
 - "verb": "triggerFlow"
- Can set External Sharing
 - "verb": "setSiteExternalSharingCapability"

Bad Notes

- Create Sites, pages, files, folders
- Manipulate Page Layouts
- Web Parts
- Create a MM column with createSiteColumn
- Cannot be ordered (easily)
- Cannot be disabled
- No Site Template history, but it's on the roadmap



References

- [THE ULTIMATE GUIDE TO SHAREPOINT SITE DESIGNS AND SITE SCRIPTS](#)
- [SharePoint Site Designer](#)
- [Really old samples](#)
- [InternalName for Idempotency](#)
- [PnP Provisioning](#)
- [Orchestry](#)
- [Deploying Application Customizers with a Site Design](#)
- [SharePoint site design and site script overview](#)

Questions?



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