

DUPSUG

Virtual DuPSUG –  Easter 2022



DUPSUG Easter 2022

- Introduction: **Jaap Brasser**,
Host @DUPSUG
- Special guest: **Demetrius Nelon**
Product manager for the
Windows Package Manager
- Speaker: **Thorsten Butz**,
Natural Born Trainer



@DuPSUG
@Jaap_Brasser,
@DenelonMs
@ThorstenButz

about_Session

```
{  
    "Title"    : "Winget – behind the scenes",  
    "Speaker" : "Thorsten Butz",  
    "Uri"      : "thorsten-butz.de",  
    "Twitter"  : "@thorstenbutz",  
    "Podcast"  : "slidingwindows.de"  
}
```

about_AppInstaller



Definition of terms

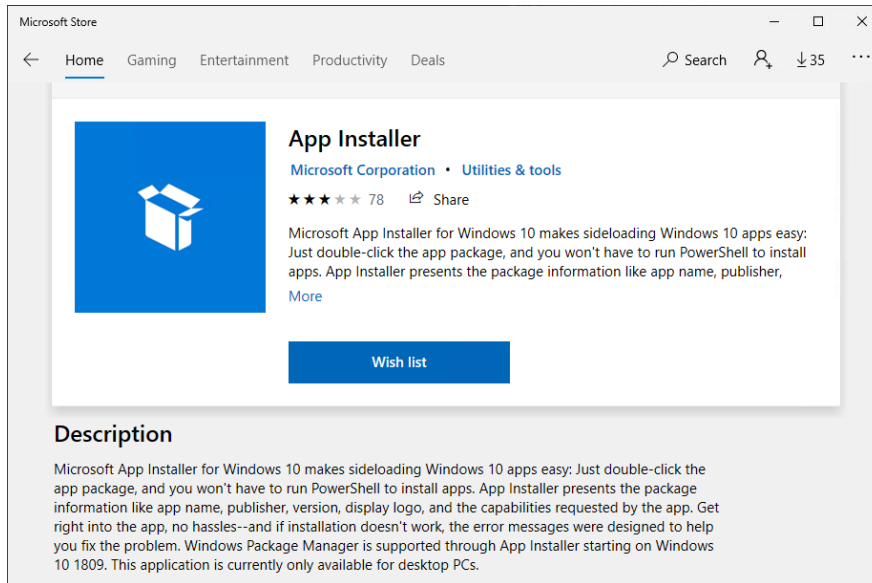
?

Windows Package Manager
(Desktop) App Installer (CLI)
WinGet

...

?

App Installer



Min. required OS:
Windows 10 v1809
(build 17763.0)

Includes "WinGet"
starting with
v1.11.11451.0

Demo A

Pre/Post update in Win10 21H2

CPUArch	Scope	Architecture	PublisherId	Name	Version
x64	User	X64	8wekyb3d8bbwe	Microsoft.VCLibs.140.00.UWPDesktop	14.0.27629.0
x64	System	neutral	8wekyb3d8bbwe	Microsoft.DesktopAppInstaller	2019.125.2243.0
x64	User	X64	8wekyb3d8bbwe	Microsoft.DesktopAppInstaller	1.0.30251.0

CPUArch	Scope	Architecture	PublisherId	Name	Version
x64	User	X64	8wekyb3d8bbwe	Microsoft.VCLibs.140.00.UWPDesktop	14.0.30704.0
x64	User	X86	8wekyb3d8bbwe	Microsoft.VCLibs.140.00.UWPDesktop	14.0.30704.0
x64	System	neutral	8wekyb3d8bbwe	Microsoft.DesktopAppInstaller	2022.127.2322.0
x64	User	X64	8wekyb3d8bbwe	Microsoft.DesktopAppInstaller	1.17.10271.0

April 2022

Versioning is not a problem *

Windows Package Manager Version numbers (2022-04-10)

winget.exe --info	1.2.10271
Get-AppxPackage	1.17.10271.0
Get-AppxProvisionedPackage	2022.127.2322.0
File version (WinGet.exe)	1.17.2201.27001
Github latest release	1.2.10271

"Versioning is not a problem. Problems can be solved." (Jeffrey Snover)

about_ModernApps

WinGet.exe (prev. AppInstallerCLI.exe)

User

```
$ENV:LOCALAPPDATA\Microsoft\WindowsApps\  
winget.exe
```

```
$ENV:LOCALAPPDATA\Microsoft\WindowsApps\  
Microsoft.DesktopAppInstaller_8wekyb3d8bbwe\winget.exe
```

Computer

```
$ENV:ProgramFiles\WindowsApps\  
Microsoft.DesktopAppInstaller_1.17.10271.0_x64__8wekyb3d8bbwe\winget.exe
```

Reparse points

Demo B

Reparse points

A file or directory can contain a *reparse point*, which is a collection of user-defined data. The format of this data is understood by the application which stores the data, [...]

For example, reparse points are used to implement NTFS file system link [...]

<https://docs.microsoft.com/en-us/windows/win32/fileio/reparse-points>

```
PS C:\> Get-ChildItem -Path C:\Users\Administrator\AppData\Local\Microsoft\WindowsApps\winget.exe |  
>> Format-List -Property Mode,Length,Fullname,Target  
  
Mode      : la---  
Length    : 0  
FullName  : C:\Users\Administrator\AppData\Local\Microsoft\WindowsApps\winget.exe  
Target    : C:\Program Files\WindowsApps\Microsoft.DesktopAppInstaller_1.17.10271.0_x64__8wekyb3d8bbwe\winget.exe
```

AppExec links and PwSh



Thorsten Butz @thorstenbutz · Feb 7

Just installed every 7.x release of PwSh to be sure:
AppExecLinks were added by @Steve_MSFT a while ago and do no longer
work since 7.2.0.
That's strange and I have not found any hint yet, why it behaves like that. I
guess we will find out soon.



Steve Lee
@Steve_MSFT

Replying to @thorstenbutz

Unfortunately that code had to be reverted as the
structure being used isn't publicly documented. An
alternate solution is being worked on.

PwSh v7.0.3 - 7.1.5 display AppExecLinks

<https://twitter.com/thorstenbutz/status/1490734201288769539?s=20&t=h1O7L3DbjML9kC0YoQbzMg>

```
PS C:\> $Path = 'C:\Users\Administrator\AppData\Local\Microsoft\WindowsApps\winget.exe'
PS C:\> fsutil.exe reparsepoint query $Path
Reparse Tag Value : 0x8000001b
Tag value: Microsoft

Reparse Data Length: 0x192
Reparse Data:
0000: 03 00 00 00 0d 00 69 00 63 00 72 00 6f 00 73 00 ....M.i.c.r.o.s.
0010: 6f 00 66 00 74 00 2e 00 44 00 65 00 73 00 6b 00 o.f.t...D.e.s.k.
0020: 74 00 6f 00 70 00 41 00 70 00 70 00 49 00 6e 00 t.o.p.A.p.p.I.n.
0030: 73 00 74 00 61 00 6c 00 6c 00 65 00 72 00 5f 00 s.t.a.l.l.e.r._.
0040: 38 00 77 00 65 00 6b 00 79 00 62 00 33 00 64 00 8.w.e.k.y.b.3.d.
0050: 38 00 62 00 62 00 77 00 65 00 00 00 4d 00 69 00 8.b.b.w.e...M.i.
0060: 63 00 72 00 6f 00 73 00 6f 00 66 00 74 00 2e 00 c.r.o.s.o.f.t...
0070: 44 00 65 00 73 00 6b 00 74 00 6f 00 70 00 41 00 D.e.s.k.t.o.p.A.
0080: 70 00 70 00 49 00 6e 00 73 00 74 00 61 00 6c 00 p.p.I.n.s.t.a.l.
0090: 6c 00 65 00 72 00 5f 00 38 00 77 00 65 00 6b 00 l.e.r._.8.w.e.k.
00a0: 79 00 62 00 33 00 64 00 38 00 62 00 62 00 77 00 y.b.3.d.8.b.b.w.
00b0: 65 00 21 00 77 00 69 00 6e 00 67 00 65 00 74 00 e.l.w.i.n.g.e.t.
00c0: 00 00 43 00 3a 00 5c 00 50 00 72 00 6f 00 67 00 ..C.:.\P.r.o.g.
00d0: 72 00 61 00 6d 00 20 00 46 00 69 00 6c 00 65 00 r.a.m..F.i.l.l.e.
00e0: 73 00 5c 00 57 00 69 00 6e 00 64 00 6f 00 77 00 s.\.W.i.n.d.o.w.
00f0: 73 00 41 00 70 00 70 00 73 00 5c 00 4d 00 69 00 s.A.p.p.s.\.M.i.
0100: 63 00 72 00 6f 00 73 00 6f 00 66 00 74 00 2e 00 c.r.o.s.o.f.t...
0110: 44 00 65 00 73 00 6b 00 74 00 6f 00 70 00 41 00 D.e.s.k.t.o.p.A.
0120: 70 00 70 00 49 00 6e 00 73 00 74 00 61 00 6c 00 p.p.I.n.s.t.a.l.
0130: 6c 00 65 00 72 00 5f 00 31 00 2e 00 31 00 37 00 l.e.r._.1...1.7.
0140: 2e 00 31 00 30 00 32 00 37 00 31 00 2e 00 30 00 .1.0.2.7.1...0.
0150: 5f 00 78 00 36 00 34 00 5f 00 5f 00 38 00 77 00 _x.6.4._.8.w.
0160: 65 00 6b 00 79 00 62 00 33 00 64 00 38 00 62 00 e.k.y.b.3.d.8.b.
0170: 62 00 77 00 65 00 5c 00 77 00 69 00 6e 00 67 00 b.w.e.\.w.i.n.g.
```


Create your own app execution aliases

```
Find-Module -Name 'NTObjectManager' | Install-Module
```

```
$params = @{  
  Path      = "$($env:localappdata)\Microsoft\WindowsApps\aicli.exe"  
  PackageName = 'Microsoft.DesktopAppInstaller_8wekyb3d8bbwe'  
  EntryPoint  = 'Microsoft.DesktopAppInstaller_8wekyb3d8bbwe!winget'  
  Target=     "$((Get-AppxPackage Microsoft.DesktopAppInstaller).InstallLocation)\winget.exe"  
  AppType     = 'Desktop'  
  Version     = 3  
}  
Set-ExecutionAlias @params
```

about_WinGet

WinGet basics

- User centric approach (modern app)
- Scope: user vs machine
- winget settings
- Export/Import

Demo C

Scope: user vs machine

```
PS C:\> Get-ChildItem -Recurse -Filter code.exe -file -Force -ErrorAction SilentlyContinue |
>> Select-Object -Property Fullname

FullName
-----
C:\Program Files\Microsoft VS Code\Code.exe
C:\Users\Administrator\AppData\Local\Programs\Microsoft VS Code\Code.exe

PS C:\> winget uninstall vscode
Multiple installed packages found matching input criteria. Please refine the input.
Name                                     Id
-----
Microsoft Visual Studio Code           Microsoft.VisualStudioCode
Microsoft Visual Studio Code (User) {771FD6B0-FA20-440A-A002-3B3BAC16DC50}_is1
```

Settings

```
{
  "$schema": "https://aka.ms/winget-settings.schema.json",
  "visual": {
    "progressBar": "rainbow"
  },
  "installBehavior": {
    "preferences": {
      "scope": "machine"
    }
  },
  "telemetry": {
    "disable": true
  },
  "experimentalFeatures": {
    "experimentalCmd": true,
    "experimentalArg": false
  }
}
```

about_Manifests

Files



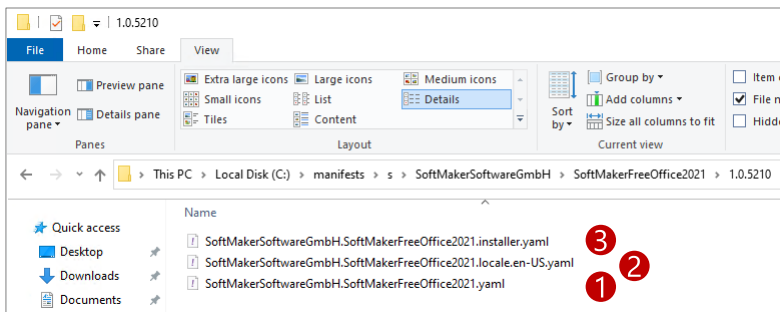
Hide tools\chocolatey\Install.ps1

```
1 $ErrorActionPreference = 'Stop';
2
3 $packageName = $env:chocolateyPackageName
4 $pp = Get-PackageParameters
5 $installDir = 'C:\Program Files\SoftMaker FreeOffice 2021'
6 if ($pp.InstallDir) {
7     $installDir = $pp.InstallDir
8 }
9
10 $packageArgs = @{
11     packageName     = $packageName
12     fileType        = 'msi'
13     url             = 'https://www.freeoffice.com/download.php?filename=https://www.softmaker.net/down/freeoffice2021.msi'
14     checksum        = 'ab128a576a4fd5ae51484178201b634ab306d2c17d341c30e59f8aec59b69f76'
15     checksumType    = 'sha256'
16     silentArgs      = '/qn APPLICATIONFOLDER="' + $installDir + '"'
17 }
18
19 Install-ChocolateyPackage @packageArgs
```

<https://community.chocolatey.org/packages/freeoffice>

Demo D

WinGetCreate: <package>.yaml



```
# Created using wingetcreate 0.4.4.1
# yaml-language-server: $schema=https://aka.ms/winget-manifest.version.1.0.0.schema.json
```

```
1 PackageIdentifier: SoftMakerSoftwareGmbH.SoftMakerFreeOffice2021
  PackageVersion: 1.0.5210
  DefaultLocale: en-US
  ManifestType: version
  ManifestVersion: 1.0.0
```

<package>.locale.en-US.yaml

```
# Created using wingetcreate 0.4.4.1
# yaml-language-server: $schema=https://aka.ms/winget-manifest.defaultLocale.1.0.0.schema.js

PackageIdentifier: SoftMakerSoftwareGmbH.SoftMakerFreeOffice2021
2 PackageVersion: 1.0.5210
PackageLocale: en-US
Publisher: SoftMaker Software GmbH
PackageName: SoftMaker FreeOffice 2021
License: Copyright (c) Softmaker Software GmbH
ShortDescription: Yet another office suite
ManifestType: defaultLocale
ManifestVersion: 1.0.0
```

<package>.installer.yaml

```
# Created using wingetcreate 0.4.4.1
# yaml-language-server: $schema=https://aka.ms/winget-manifest.installer.1.0.0.schema.json

PackageIdentifier: SoftMakerSoftwareGmbH.SoftMakerFreeOffice2021
PackageVersion: 1.0.5210
Installers:
3 - InstallerLocale: en-US
  Architecture: x86
  InstallerType: msi
  InstallerUrl: https://www.freeoffice.com/download.php?filename=https://www.softmaker.net/download/freeoffice2021.msi
  InstallerSha256: AB128A576A4FD5AE51484178201B634AB306D2C17D341C30E59F8AEC59B69F76
  ProductCode: '{2847114B-5210-4F32-8E22-44DCDFA77EF}'
ManifestType: installer
ManifestVersion: 1.0.0
```

```
1 # Created with YamlCreate.ps1 v2.0.4 $debug=QUSU.7-2-1
2 # yaml-language-server: $schema=https://aka.ms/winget-manifest.installer.1.1.0.schema.json
3
4 PackageIdentifier: Notepad++.Notepad++
5 PackageVersion: "8.2"
6 InstallerLocale: en-US
7 MinimumOSVersion: 10.0.0.0
8 InstallerType: nullsoft
9 Scope: machine ←
10 InstallModes:
11 - interactive
12 - silent
13 UpgradeBehavior: install
14 Installers:
15 - Architecture: arm64
16   InstallerUrl: https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v8.2/npp.8.2.Installer.arm64.exe
17   InstallerSha256: A0FF10075923892310D022761339FE233C3FDC9E04D994F977C42ADAFCCD96A9
18 - Architecture: x86
19   InstallerUrl: https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v8.2/npp.8.2.Installer.exe
20   InstallerSha256: 9E2ECA17A0CE0CCD22AE32DB1FE9B8473DBF97236880F8BD17949A98564E522
21 - Architecture: x64
22   InstallerUrl: https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v8.2/npp.8.2.Installer.x64.exe
23   InstallerSha256: 0BA94C551D07DE2194F87C086952F5D78A213E4423265A4A394CF98ACD4EDB59
24 ManifestType: installer
25 ManifestVersion: 1.1.0
```

<https://github.com/microsoft/winget-pkgs/blob/master/manifests/n/Notepad%2B%2B/Notepad%2B%2B/8.2/Notepad%2B%2B.Notepad%2B%2B.installer.yaml>

about_Origins

Keivan Beigi

APPGET

Why Chocolatey is Broken Beyond Any Hope



KEIVAN BEIGI
7 OCT 2014 • 4 MIN READ

<https://keivan.io/why-chocolatey-is-broken>

APPGET

The Day AppGet Died.

The story of how Microsoft embraced and then killed AppGet.




KEIVAN BEIGI
24 MAY 2020 • 6 MIN READ

<https://keivan.io/the-day-appget-died>

Keivan Beigi

SLW 18: A package manager for Windows with Keivan Beigi



Sliding Windows

SLW 18: A package manager for Windows with Keivan Beigi


00:00 -00:00


Play Podcast



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<https://www.slidingwindows.de/slw18/>

 master
 appget.packages / manifests / notepad-plus-plus / notepad-plus-plus.yaml

 TheAppBot Updated: notepad-plus-plus 7.8.8 ...

2 contributors
 


13 lines (13 sloc) | 626 Bytes

```

1 id: notepad-plus-plus
2 name: Notepad++
3 version: 7.8.8
4 home: https://notepad-plus-plus.org/
5 repo: https://github.com/notepad-plus-plus/notepad-plus-plus/
6 license: GNU General Public License
7 installMethod: NSIS
8 installers:
9   - location: https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v7.8.8/npp.7.8.8.Installer.exe
10     sha256: 811e586a3e3d85f7533b33a77e04d357dff87c0a15b0937e4b5218b8b9a42a6
11   - location: https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v7.8.8/npp.7.8.8.Installer.x64.exe
12     sha256: 196f6f338e7e153f46204f6ec209f6aa8dc79ed05e75ab8ab5d74b6fd5db08cd
13   architecture: x64
  
```

<https://github.com/appget/appget.packages/blob/master/manifests/notepad-plus-plus/notepad-plus-plus.yaml>

Manifests

AppGet

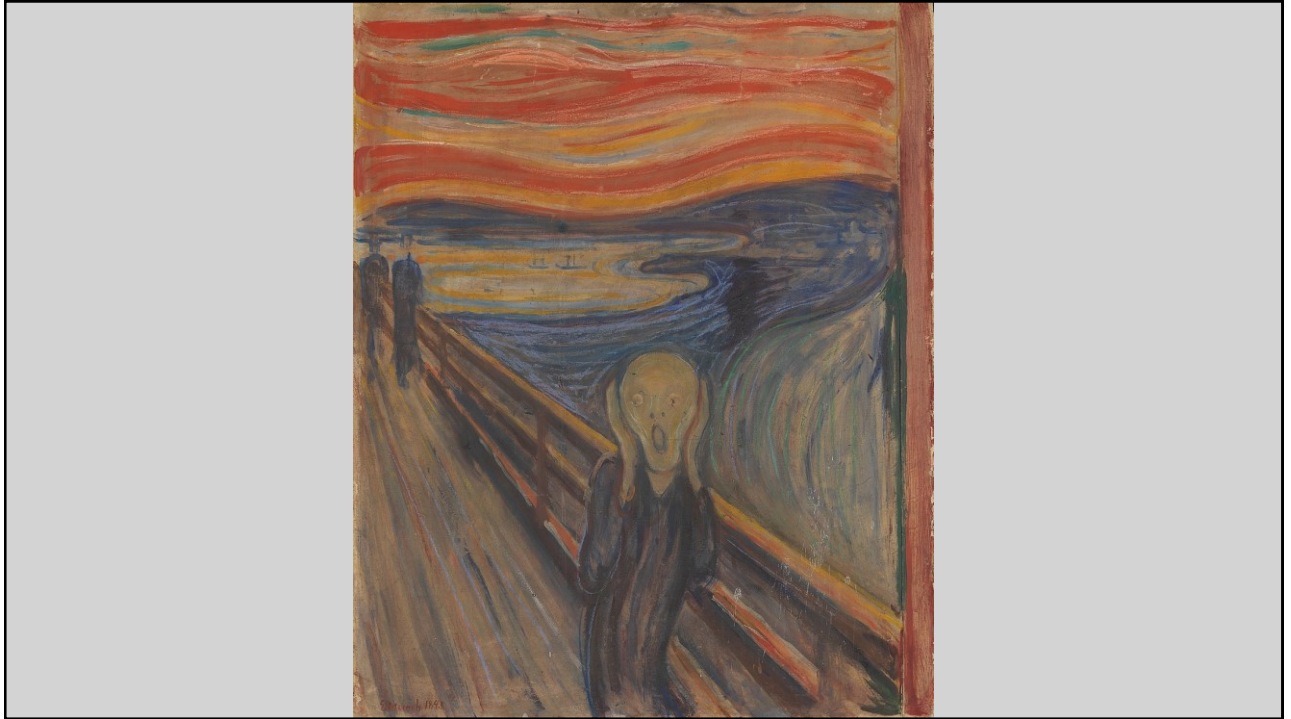
```

1 id: notepad-plus-plus
2 name: Notepad++
3 version: 7.8.8
4 home: https://notepad-plus-plus.org/
5 repo: https://github.com/notepad-plus-plus/notepad-plus-plus/
6 license: GNU General Public License
7 installMethod: NSIS
8 installers:
9   - location: https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v7.8.8/npp.7.8.8.Installer.exe
10     sha256: 811e586a3e3d85f7533b33a77e04d357dff87c0a15b0937e4b5218b8b9a42a6
11   - location: https://github.com/notepad-plus-plus/notepad-plus-plus/releases/download/v7.8.8/npp.7.8.8.Installer.x64.exe
12     sha256: 196f6f338e7e153f46204f6ec209f6aa8dc79ed05e75ab8ab5d74b6fd5db08cd
13   architecture: x64
  
```

WinGet

```

4 PackageIdentifier: Notepad++.Notepad++
5 PackageVersion: "8.2"
6 InstallerLocale: en-US
7 MinimumOSVersion: 10.0.0.0
8 InstallerType: nullsoft
9 Scope: machine
10 InstallModes:
11   - interactive
12   - silent
13 UpgradeBehavior: install
14 Installers:
15   - Architecture: arm64
16     InstallerUrl: https://github.com/notepad-plus-plus/releases/download/v7.8.8/npp.7.8.8.Installer.exe
17     InstallerSha256: A0FF10075923892310D022761339FE2331
  
```



Standing on the shoulders of giants

- Andreas Nick (Nick IT)
<https://www.andreasnick.com>
- James Forshaw (Tyrannid's lair)
<https://www.tiraniddo.dev>
- Keivan Beigi
keivan.io

Bedankt voor je aandacht en prettige paasdagen!

```
{  
  "Title"   : "Winget – behind the scenes",  
  "Speaker": "Thorsten Butz",  
  "Uri"     : "thorsten-butz.de",  
  "Twitter" : "@thorstenbutz",  
  "Podcast" : "slidingwindows.de"  
}
```