Get up to speed with app management in Intune

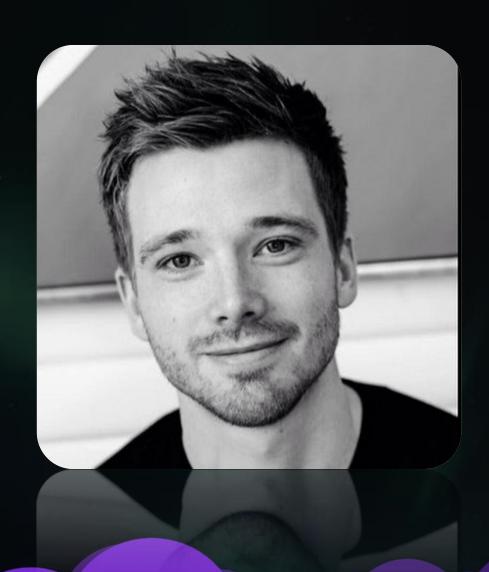
with Mattias Melkersen & Maurice Daly

NORDIC

- VIRTUAL SUMMIT -



With this guy...



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Session Content

- Intune Application History 101
 A brief history of application management, and the current state
- Win32 Applications
 Packaging, detection, dependencies, supersedence, and some gaps
- Microsoft Store Changes
 Bye bye Microsoft Store, hello Microsoft Store
- Demos
 Some demos along the way
- Community Tools



Intune Application History 101

For newbies and to set the scene..



Application Development Timeline



<2018	2018	2019	2021	2023
Store/LOB	Win32 Apps	Win32 Feature	Win32 Feature	New Windows Store
"Limited" application support, based on Microsoft Store for Business and LOB applications	Microsoft adds Win32 application support. Admins can now package and wrap applications (MSI, EXE, Bat, PS1 etc)	Application dependencies added in Intune	Application supersedence capabilities added in Intune	Retirement of the Microsoft Store for Business and Education Addition of new Microsoft Store experience

Microsoft Store / LOB



Line of Business Applications

The first way of adding applications natively, but somewhat limited due to only allowing self contained MSI installers. This means no external content can be packaged.

Answer.. Re-packaging, but not everyone wanted that experience.

Microsoft Store for Business / Education

Microsoft's desired state at this point was to have al enterprises move over to "modern" applications, delivered from the Microsoft store.

Provided online and offline applications, which many of you will know when troubleshooting company portal deployments.





Introduced at Microsoft Ignite 2018

Expands Beyond LOB

Win32 applications facilitate the packaging of applications such as EXE and MSI based installers with external content (a limitation of the line of business app previously used).

Wrapping scripts can also be used to deal with complex installation routines, setting registry settings, copying files etc.

Uses the Side Car Agent

Win32 applications are delivered through the Intune Management Extension agent (aka side car), and installation details are logged within the IME agent log.



StatusService) Sending a DownloadReport to user 8dbadf0a-aebf-4223-9c3d-64586ee33cbc for app 293487a5-43f0-4508-b772-7f444251da17 via callback

tatusService) Sending a DownloadReport to user 8dbadf0a-aebf-4223-9c3d-64586ee33cbc for app 293487a5-43f0-4508-b772-7f444251da17 via callbaci

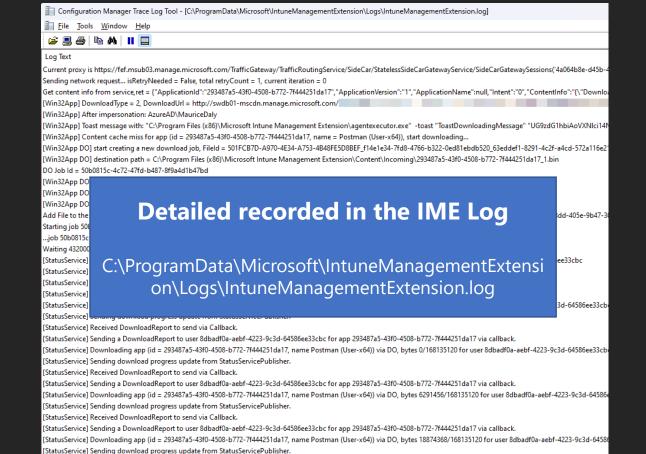
StatusService| Sending a DownloadReport to user 8dbadf0a-aebf-4223-9c3d-64586ee33cbc for app 293487a5-43f0-4508-b772-7f444251da17 via callbaci

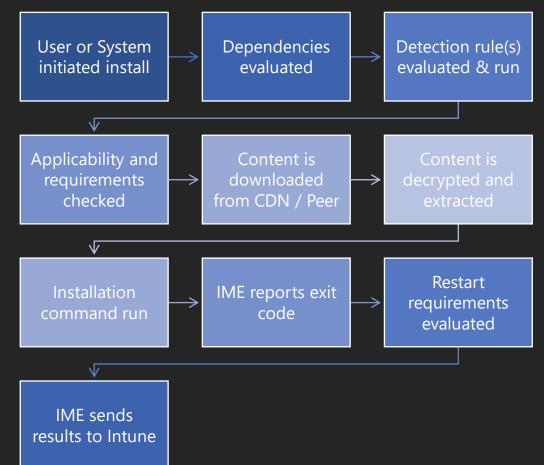
StatusService) Sending download progress update from StatusServicePublisher

tatusService) Downloading app (id = 293487a5-43f0-4508-b772-7f444251da17, name Postman (User-x64)) via DO, bytes 6291456/168135120 for user 8dbadf0a-aebf-4223-9c3d-6458f

StatusService] Downloading app (id = 293487a5-43f0-4508-b772-7f444251da17, name Postman (User-x64)) via DO, bytes 18874368/168135120 for user 8dbadf0a-aebf-4223-9c3d-6458









Intune Content Prep Tool

To package applications for use with the Win32 format, a command-line tool (Microsoft-Win32-Content-Prep-Tool/IntuneWinAppUtil.exe at master · microsoft/Microsoft-Win32-Content-Prep-Tool · GitHub) is used.

.INTUNEWIN Format

Win32 applications use a proprietary format, which consists of the source content (installation files) and required metadata for the install.

.INTUNEWIN Limitations

A maximum file size limitation of 8GB is present by default, however this can be extended to 32GB by Microsoft support where required

Ensure you keep this utility up to date to prevent issues uploading applications into Intune.



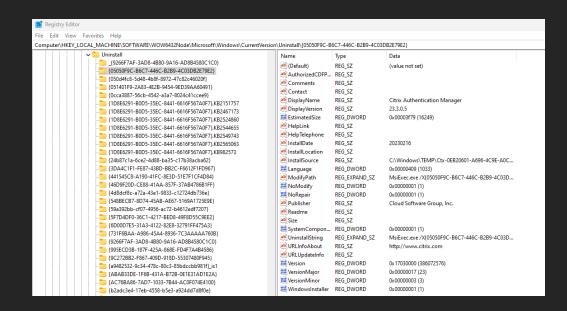
Detection Methods

A detection method must be used for the IME agent to detect if the application is installed.

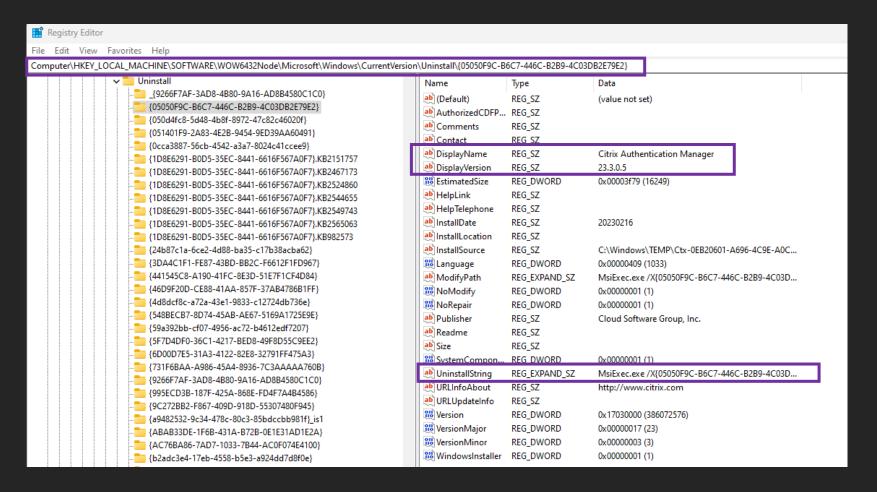
The easiest and most effective way of obtaining this info is to install all of your required apps onto a test device, and check the following locations for installation paths and uninstall commands;

HKEY_LOCAL_MACHINE\ SOFTWARE \Microsoft\Windows\CurrentVersion\Uninstall

HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Microsoft \Windows\CurrentVersion\Uninstall







Registry Search
With a quick search
through the registry, we
have details which can be
leveraged for detection
rules where the source
content is not an MSI
(which provides auto
populated values).



Intune Content Delivery

Win32 applications are delivered through the CDN initially, but can then be seeded from both clients (peers) and connected cache servers, to help you optimise bandwidth usage.

Configuration Policy

It is important to not leave things to chance in order to fully optimise the configuration four your environment. Configuring a policy should take into account items such as;

- Fallback times from peers and connected cache servers
- Duration of cached content
- Location of devices, limiting based on subnets, group ID, and/or external NAT address

Windows 10 1903 and higher supports all configuration, with the exception of "DORestrictPeerSelectionBy Local Discovery (DNS-SD)" which is a Windows 11 only setting



Demo

Win32 Applications

Win32 Enhancements



Dependencies

Just as we could do within Configuration Manager, dependencies allow the admin to define which applications should be installed as part of a chain of prerequisites for the application being deployed.

Examples of this would include Microsoft Visual C++ binaries, or .NET Framework, which are a pre-requisite for many applications.

"Limitation"

A total of 100 dependencies, including dependencies of included dependencies.

Microsoft Visual Studio WebView2 Runtime .NET Framework 4.8.1

Win32 Enhancements



Supersedence (Preview)

This allows the admin to define applications which should be replaced during a deployment, for example when upgrading from one version of an application to another.

Things to note;

No automatic targeting is provided when creating apps which supersede pre-existing deployed apps.

Admin creates new Application and dependencies



Option to uninstall previous version



Dependent apps are updated in line with app dependency requirements



Win32 GAPS & Additions

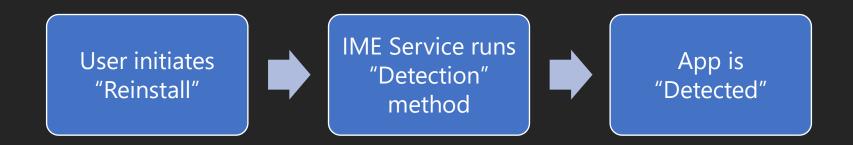
In an ideal world..

Win32 Gap – Reinstalling Apps



Reinstall

One of the gap area's of Win32 comes in the form of application reinstalls. In an example where the application is unstable / not functioning, the IME agent workflow is not optimised to detect and remediate.



Due to the current workflow, the application is "detected" an no action takes place to call the installer. If you too do not like this, **please be vocal**.

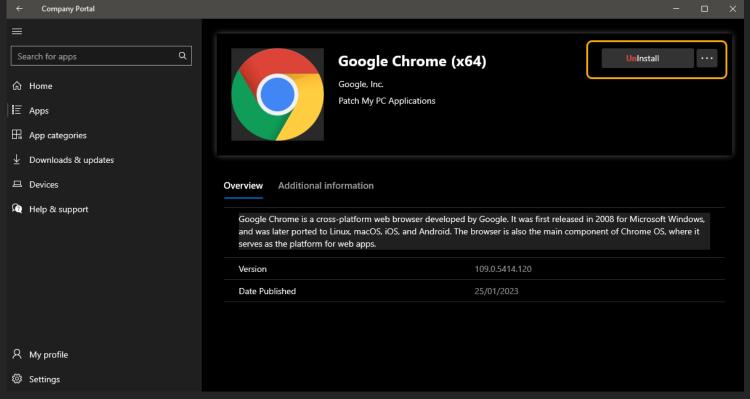
Win32 Enhancements



Uninstall*

One of the most sought-after additions for application management in Intune. This feature now gives end-users the ability to uninstall apps from the company portal.

"The time frame for the release of this update is still being determined."



* For illustration purposes only.



Microsoft Store Changes

Its the same, but different..ish..

Microsoft Store - Noticeable Changes



Removal of the Microsoft Store for Business

The Microsoft Store for Business and Education are retiring on March 31st 2023

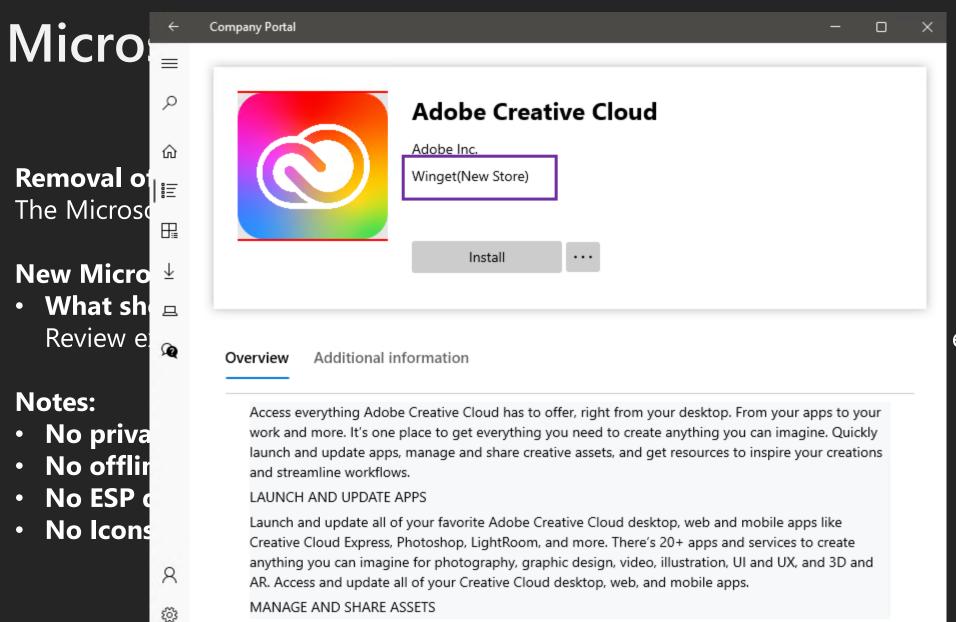
New Microsoft Store Experience (Build on Windows Package Manager)

• What should I do?

Review existing applications, transitioning those over from the legacy to new experience.

Notes:

- No private store option
- No offline applications
- No ESP dependency option for new app type
- No Icons (Yet)





experience.

Windows Package Manager



What is Windows Package Manager?

Windows Package Manager, also known as Winget, is a comprehensive package manager solution which is driven through a command-line interface.

What is the minimum supported build of Windows?

Windows 10 1709 and higher is required to support the feature

How does this affect me?

The Microsoft Store is in the process of being retired, and has been replaced with Microsoft Store experience which uses Winget API integration for all future packaging requirements.

What does this mean for me?

Its a case of getting the apps as you did before, but it does open up future potential for expanded capabilities.

Windows Package Manager | Microsoft Learn

Windows Package Manager



Winget under the hood

Windows Package Manager (winget) provides the ability to search community-maintained sources, to find installation sources, and even installation from a single command.

Does the new Microsoft Store show all available applications from all public sources?

No. For security concerns, Microsoft is providing a subset of available applications.

```
Administrator: Windows PowerShell
                                                                                                                Windows Package Manager v1.2.10691
Copyright (c) Microsoft Corporation. All rights reserved.
The winget command line utility enables installing applications and other packages from the command line.
usage: winget [<command>] [<options>]
The following commands are available:
  install Installs the given package
             Shows information about a package
            Manage sources of packages
  source
  search
            Find and show basic info of packages
  list
            Display installed packages
  upgrade
            Upgrades the given package
  uninstall Uninstalls the given package
            Helper to hash installer files
  validate Validates a manifest file
  settings Open settings or set administrator settings
            Shows the status of experimental features
  export
             Exports a list of the installed packages
            Installs all the packages in a file
For more details on a specific command, pass it the help argument. [-?]
The following options are available:
 -v,--version Display the version of the tool
               Display general info of the tool
```

Windows Package Manager Deployment



Do you need to extend beyond the Microsoft store available apps?

Proactive remediations is one such method. Simply provision a control file in an Azure storage blob which contains a list of the applications you require on a device. In this instance, for each app you could run;

winget install \$AppName –accept-package-agreements –accept-source-agreements

```
Version
                                                                                                   Source
                                                                          Unknown
                                                                                                   msstore
Adobe Acrobat Reader DC
                                              XPDP273C0XHQH2
                                                                          Unknown
                                                                                                   msstore
Adobe Creative Cloud
                                              XPDLPKWG9SW2WD
                                                                          Unknown
                                                                                                   msstore
Adobe Fresco
                                              XP8C8R0ZKZR27V
                                                                          Unknown
                                                                                                   msstore
Adobe Photoshop Express
                                                                          Unknown
 dobe Experience Manager Forms
                                                                                                   msstore
 dobe Content Viewer
                                              9WZDNCRFJBZ1
                                                                          Unknown
                                                                                                   msstore
Adobe Photoshop Express Toshiba version only 9WZDNCRDFSG4
                                                                          Unknown
                                                                                                   msstore
Adobe Express
                                              9P94LH301CP5
                                                                          Unknown
                                                                                                   msstore
X Office: Adobe PDF
                                              9P51586BZKNG
                                                                          Unknown
                                                                                                   msstore
                                                                          4.15.6
Adobe Acrobat Reader DC (64-bit)
                                              Adobe.Acrobat.Reader.64-bit 22.003.20310 Tag: adobe winget
Adobe Acrobat Reader DC
                                              Adobe.Acrobat.Reader.32-bit 22.003.20310 Tag: adobe winget
Adobe DNG Converter
                                              Adobe.DNGConverter
                                                                          15.0.0
Cryptr
                                              Adobe.Cryptr
                                                                          0.5.0
                                                                                                   winget
Brackets
                                              Adobe.Brackets
                                                                          1.14.17770
                                              Adobe.AdobeConnect
                                                                          21.11.22
PS C:\Windows\system32> winget install "Adobe Acrobat Reader DC (64-bit)"
Found Adobe Acrobat Reader DC (64-bit) [Adobe.Acrobat.Reader.64-bit] Version 22.003.20310
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://ardownload2.adobe.com/pub/adobe/acrobat/win/AcrobatDC/2200320310/AcroRdrDCx642200320310 MUI.exe
```

```
Administrator: Windows PowerShell

PS C:\Windows\system32> winget install "Citrix.Workspace" --accept-package-agreements --accept-source-agreements
Found Citrix Workspace [Citrix.Workspace] Version 22.12.0.48
This application is licensed to you by its owner.

Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.

Downloading https://downloadplugins.citrix.com/ReceiverUpdates/Prod/Receiver/Win/CitrixWorkspaceApp22.12.0.48.exe

269 MB / 269 MB

Successfully verified installer hash
Starting package install...
Successfully installed

PS C:\Windows\system32>
```

Windows Package Manager Deployment



Can I update winget delivered applications? Yes. Its simple

winget upgrade \$AppName

How do I uninstall winget delivered applications?

You might have guessed it..

winget uninstall \$AppName

More information:

<u>Use the winget tool to install and manage</u> <u>applications | Microsoft Learn</u>

```
PS C:\Windows\svstem32> winget search adobe
                                                                          Version
                                                                                       Match
                                                                                                   Source
                                                                          Unknown
                                                                                                   msstore
Adobe Acrobat Reader DC
                                             XPDP273C0XHQH2
                                                                          Unknown
                                                                                                   msstore
Adobe Creative Cloud
                                             XPDLPKWG9SW2WD
                                                                          Unknown
                                                                                                   msstore
Adobe Fresco
                                             XP8C8R0ZKZR27V
                                                                          Unknown
                                                                                                   msstore
Adobe Photoshop Express
                                                                          Unknown
 dobe Experience Manager Forms
                                                                                                   msstore
Adobe Content Viewer
                                              9WZDNCRFJBZ1
                                                                          Unknown
                                                                                                   msstore
Adobe Photoshop Express Toshiba version only 9WZDNCRDFSG4
                                                                          Unknown
                                                                                                   msstore
                                              9P94LH3Q1CP5
                                                                          Unknown
Adobe Express
                                                                                                   msstore
X Office: Adobe PDF
                                             9P51586BZKNG
                                                                          Unknown
                                                                                                   msstore
                                                                          4.15.6
Adobe Acrobat Reader DC (64-bit)
                                             Adobe.Acrobat.Reader.64-bit 22.003.20310 Tag: adobe winget
Adobe Acrobat Reader DC
                                             Adobe.Acrobat.Reader.32-bit 22.003.20310 Tag: adobe winget
Adobe DNG Converter
                                             Adobe.DNGConverter
                                                                          15.0.0
                                                                                                   winget
                                             Adobe.Cryptr
                                                                          0.5.0
                                                                                                   winget
Cryptr
Brackets
                                             Adobe.Brackets
                                                                          1.14.17770
                                                                                                   winget
                                             Adobe.AdobeConnect
                                                                          21.11.22
PS C:\Windows\system32> winget install "Adobe Acrobat Reader DC (64-bit)"
Found Adobe Acrobat Reader DC (64-bit) [Adobe.Acrobat.Reader.64-bit] Version 22.003.20310
This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.
Downloading https://ardownload2.adobe.com/pub/adobe/acrobat/win/AcrobatDC/2200320310/AcroRdrDCx642200320310_MUI.exe
```

```
Administrator Windows PowerShell

PS C:\Windows\system32> winget install "Citrix.Workspace" --accept-package-agreements --accept-source-agreements
Found Citrix Workspace [Citrix.Workspace] Version 22.12.0.48

This application is licensed to you by its owner.
Microsoft is not responsible for, nor does it grant any licenses to, third-party packages.

Downloading https://downloadplugins.citrix.com/ReceiverUpdates/Prod/Receiver/Win/CitrixWorkspaceApp22.12.0.48.exe

269 MB / 269 MB

Successfully verified installer hash
Starting package install...
Successfully installed

PS C:\Windows\system32>
```



Demo

Windows Package Manager

Windows Package Manager Debugging

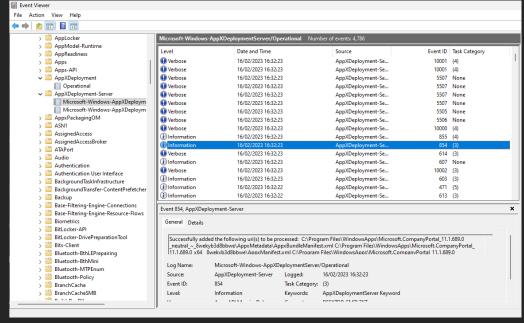


Improved Troubleshooting

When troubleshooting the new winget delivered applications, you will be glad to hear, things have improved from the old store experience.

- Intune Management Extension Log
- Event Viewer Logs
 Events are written to the "Applications and Services\Microsoft\Windows\AppXDeployment-Server" logs
- Log File
 Log files are written to a new WinGet folder within the user temp directory







Demo

Windows Package Manager Debugging



Community Tools & Links

Helping you do more, more efficiently



Winget AutoUpdate

Automatically updating your apps on a device installed in system context and user context



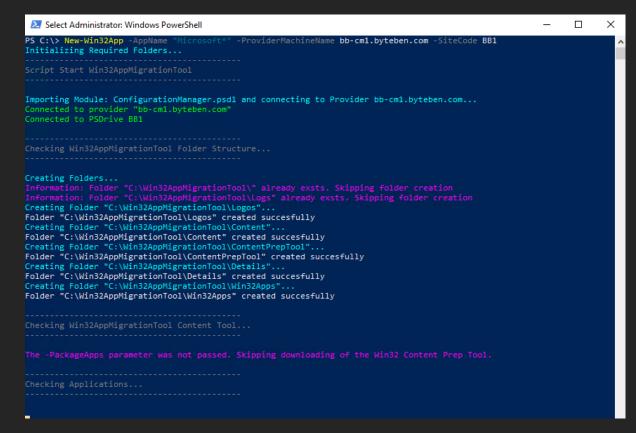
Romanitho/WingetAutoUpdate: WAU daily
updates apps as system
and notify connected
users. (Allowlist and
Blocklist support)
(github.com)



Automatically Migrate Applications from ConfigMgr to Intune – Ben Whitmore

https://msendpointmgr.com/2021/03/27/automatically-migrate-applications-from-configmgr-to-intune-with-the-win32app-migration-tool/

Automate the process of lifting and shifting your applications from Configuration Manager to Intune, in the form of Win32 applications, with this PowerShell script from Ben.

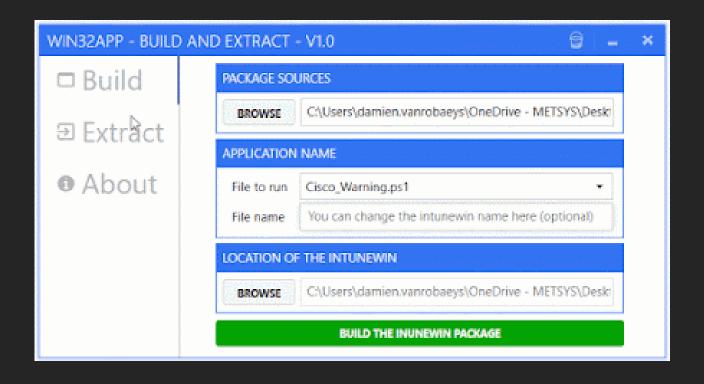




Intune Win32 App Tool – Damien Van Robaeys

https://www.systanddeploy.com/2020/11/intune-win32app-tool-create-and-extract.html

A graphical tool for packaging, and also extracting Intunewin files with credit to Olivier Kieselbach (https://msendpointmgr.com/20 19/01/18/how-to-decode-intune-win32-app-packages/)

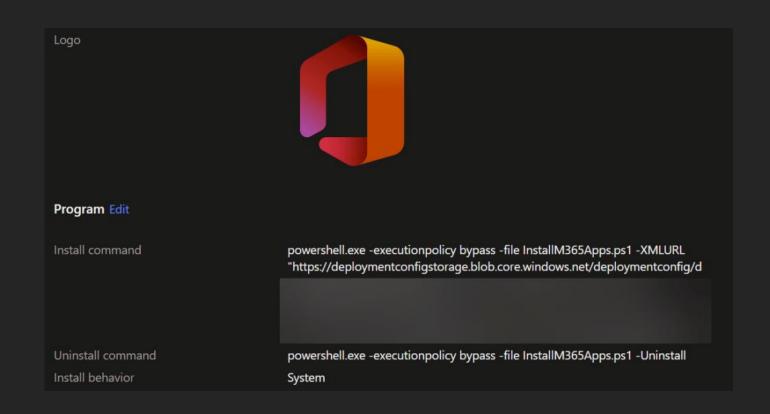




Microsoft 365 Apps for Business / Enterprise Installer – Jan Ketil Skanke https://msendpointmgr.com/2022/10/23/installing-m365-apps-as-win32-app-in-intune/

If you have ever had issues with the native Microsoft 365 Apps installer in Intune, this script is for you.

Simply package as a Win32 PS1 delivered package, point the installer command at your Office config XML and let it take care of your Office installs.

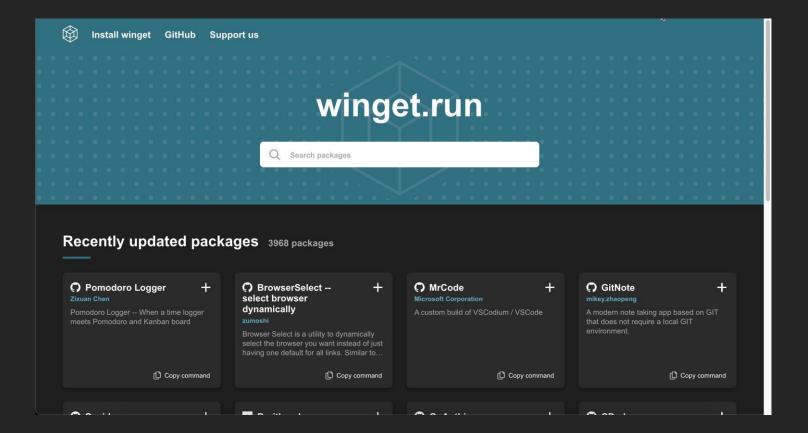






Winget.run

A more graphical way of browsing available winget applications



Please give us feedback



