Some Conditions

Windows - The powerful things explained:
TERMS

Welcome to the digital book “Windows - The powerful things explained” made by VyomTBM.

This is a document stating what you can do with this digital book. Things like copying content, using media, borrowing designs and more will be written clearly, please don’t hesitate or be afraid to ask any questions at my Substack profile via comments.

COPYING CONTENT: You’re allowed to do this, you don’t need to give any attribution or credit. All of the content can be found on Microsoft Learn and other platforms offering courses, tutorials or documentations. It can be a physical or a digital book.

USING MEDIA: You’re also allowed to do this without any attribution or credit. Some of the media present in this digital book have been borrowed from other platforms and you also check the credits page from where they have been borrowed from.

BORROWING DESIGNS: You’re also allowed to do this act in digital or physical books but you would have to give proper credit/attribution to the author of this digital book.

DOWNLOAD THIS BOOK: You’re also allowed to do this in any file extension you want (.pdf, .txt, .docx etc.). Please do note that when you’re redistributing your file, change something in this book like the layout, design, contents, media and more. You would also have to give credit/attribution in redistributing your version.

PLEASE AGREE TO THE ABOVE TERMS, I WOULD BE THANKFUL IF YOU DID, ANYWAYS MOVE ON TO THE CONTENTS TAB TO START READING THIS BOOK’S CONTENTS OR GO THE “TRADEMARKS PAGE”
AUTHOR: VYOMTBM

Windows - The powerful things explained:
TRADEMARKS

Windows, Microsoft Learn Website, PowerShell, WSL (Windows Subsystem for Linux), Winget and Windows Sandbox (A feature on Windows Pro, Enterprise and Education edition and specific licenses), MSHTA (mshta.exe), Jscript, VBscript, TypeScript, .NET (Core) and Visual Studio Code (VScode) are trademarks of Microsoft.

Google chrome is a trademark of Google.

ECMAScript is a trademark of ECMA international.

Please check the credits page for more details on images and other borrowed media for making this book.

Content

Index

Chapter 1: Winget

Package Management

Have you installed programs on your Windows PC?

If yes, tell me the usual experience. It is probably using an .exe or .msi installer you downloaded from an official or unofficial website.

But, what if there is a way you can install, remove and manage programs all from your terminal? Something that is quicker, faster and more simpler than ever like linux/unix or the Mac terminal.

The answer is, you can!
By using PowerShell and winget, this can be achieved!

Sure, there are many package manager command line tools for windows like Scoop or Chocolatey. But, you would need to manually install them yourself.

Winget, on the other hand, is built-in and ready to use from the PowerShell command line.

So, let's start by install some programs

Note:

> This works for Microsoft Store apps, but you would require more lines to install other software

Open up **Windows PowerShell (or any version)** and type the command:

```
PS C:\Users\Username> winget
```

If it outputs a manual for winget, then it means it exists and is installed in your system. Otherwise, you can install winget with this powershell command (with Admin privileges):

```
PS C:\Users\Username> Invoke-WebRequest
https://raw.githubusercontent.com/asheroto/winget-installer/master/winget-in
stall.ps1 -UseBasicParsing | iex
```

And you are ready to use winget (after the process)

Installing Software

To install software via winget, you should use the "`winget install`" command in PowerShell.

Here is the command to install VScode
[You can install any other software or program you want]

```
PS C:\Users\Username> winget install Microsoft.VisualStudioCode
```

And it should install, just follow the processes.
It is way faster than going to the website, getting an .exe and doing the wizard.

Searching Software

For example, you want to install Google chrome using winget. But, it is not available in the Microsoft Store.

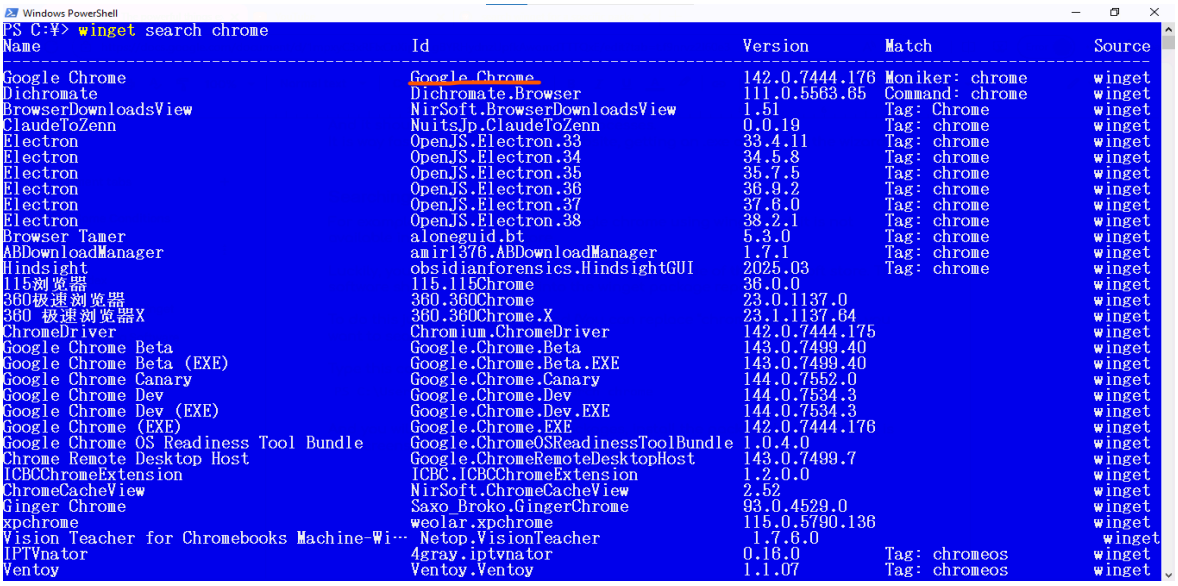
Luckily, you can install software using winget outside of the Microsoft store. The software should be deployed into the winget package repository.

To do this just type this command (You can replace "chrome" with anything you want to search.

Type this command in PowerShell

```
PS C:\Users\Username> winget search chrome
```

And you will get a list of a lot of packages, install the package by its "Id" here, is the screenshot of the "Id":



Now, to install Google chrome (or any other package), you must type this with its ID:

```
PS C:\Users\Username> winget install Google.Chrome
```

Updating/Upgrading Software

Some software installed with winget (with winget only), updates automatically but there are also some softwares that do not update automatically or have a direct option to update on their apps.

To do update/upgrade all software (installed with winget), use this command (with administrator privileges in PowerShell):

```
PS C:\Users\Username> winget upgrade -all
```

To update/upgrade a certain software installed with winget (using the Package ID), use this command (recommended to use administrator privileges in PowerShell):

```
PS C:\Users\Username> winget upgrade --id Google.Chrome
```

Using the Package Name:

```
PS C:\Users\Username> winget upgrade --name "Google Chrome"
```

Delete Software

To delete software using Winget, you should use the `winget uninstall` command.

To uninstall via package name:

```
PS C:\Users\Username> winget uninstall --name "Google Chrome"
```

To uninstall via package id:

```
PS C:\Users\Username> winget uninstall --id Google.Chrome
```

Table/Chart of all the commands covered so far

Name	Command	Description
Installing software	`winget install`	Installs software by their ID or name.
Uninstalling software	`winget uninstall`	Uninstalls software by their ID or name
Updating/Upgrading software	`winget upgrade`	Updates or Upgrades software to their latest stable releases by their ID or name
Searching software	`winget search`	Searches for a specific software
List of software installed via Winget	`winget list`	Shows the list of software installed by Winget

That's how winget is used.

Chapter 2: Windows Sandbox

Windows features

Did you know, there is a built-in virtual machine on windows?

Yes, I am not joking! It is disabled by default, but it is still present and it is called “Windows Sandbox”.

It is basically a secure, isolated and lightweight virtual environment that emulates windows in your machine. It only runs windows and the edition of windows (that it will run) depends on your version of windows.

The sandbox is temporary, meaning it is disposable and everything will be reseted after you close the app and nothing persists on your main device. It can be used for things like:

- Testing unknown software
- Testing unknown commands
- Testing dangerous websites
- Trying drivers

Minimum + Recommended Requirements

Here are the minimum requirements for Windows Sandbox:

Requirement	Required	Recommended
CPU	2 cores + ARM64 or AMD64 CPU architecture	4 cores with hyper-threading
RAM	4GB	8GB
Disk Space	1GB free disk space	SSD
Settings	Virtualization capabilities enabled in the BIOS	
Edition	Windows Pro, Enterprise or Education edition	

	(Home edition does not have Windows Sandbox present)	

If you meet all the requirements, you are good to go!
You just need to enable it in the features.

Enabling it

Let's use a PowerShell command to enable that! (Requires admin privileges)

```
PS C:\Users\Username> Enable-WindowsOptionalFeature -FeatureName
"Containers-DisposableClientVM" -All -Online
```

After it is enabled, just go to the start menu and locate "Windows Sandbox" and you're ready to go!

Few notes about Sandbox

It is just like a windows environment, but here are some things you may encounter:

- It does not have stock windows apps like notepad, paint or more (due to the absence of Microsoft Store)
- It feels a bit more empty and more minimal

You can also open windows sandbox via the command by typing `wsb start`

Chapter 3: WSL

Windows features

What if there was a way to get the best of both OS worlds (Windows and Linux)?

Well, good news... There is!

We can do this using WSL (Windows Subsystem for Linux), which is a tool that allows users to virtualize various Linux distributions in Windows without using 3rd party virtual machine tools or dual booting.

Here are some things you can do with WSL:

- Try out Linux Distributions
- Use GNU tools
- Use various command line shell tools

WSL stores all the files and directories of the select Linux distribution in your computer.

Prerequisites

You must be running Windows 10 version 2004 and higher (Build 19041 and higher) or Windows 11 to use the WSL commands.

Check WSL is on your system or not

The `wsl` command should be built-in on the above OSes given in the "Prerequisites" section.

To test, whether `wsl` is present in your computer just type this into cmd or PowerShell:

```
PS C:\Users\Username> wsl
```

If it prints out a whole manual, good job! Move on to the Install section

Otherwise, if it throws an error that the command is invalid, then just run these

commands and follow the process (With admin privileges on PowerShell):

```
PS C:\Users\Username> dism.exe /online /enable-feature
/featurename:Microsoft-Windows-Subsystem-Linux /all /norestart
```

And run:

```
PS C:\Users\Username> dism.exe /online /enable-feature
/featurename:VirtualMachinePlatform /all /norestart
```

After running those commands, restart your system and install WSL and then run:

```
PS C:\Users\Username> wsl --set-default-version 2
```

Install WSL

Now, you've to type this command (with admin privileges on cmd or PowerShell):

```
PS C:\Users\Username> wsl --install
```

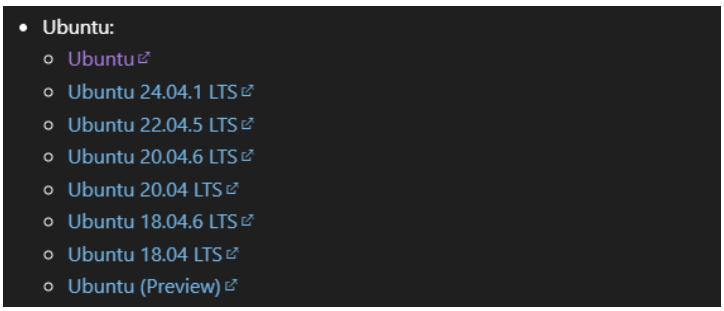
Follow the installation process and you're done installing WSL

Install a distribution

There is a list available at the Microsoft Learn website. You can pick your choice to install on WSL.

For example we're using Ubuntu (but you can use any distribution you want).

Just select the version of Ubuntu from the list.
For example I am installing the standard Ubuntu from the list. Just select the version link and install from the Microsoft Store.



Run the setup and you're good to go!

Fix DNS issues

When you've setted up your distribution and you are updating the package repo (`sudo apt update` on Ubuntu and Debian-based distros), you may encounter freezes.

This is due to the wrong DNS, to change this just type this in the WSL Distribution environment (works on all distributions):

```
sudo nano /etc/resolv.conf
```

And edit this line: `nameserver`
Replace the existing IP address with any of these options:

Google: `8.8.8.8`
Cloudflare: `1.1.1.1`

This will allow you to access the internet without any problems.

Chapter 4: Legacy tools

Windows Tools that are deprecated

Windows has a lot of deprecated tools, that are:

- No longer updated
- No longer used by modern businesses
- Unsecure

Even though these tools have disadvantages, they are still used in ancient and legacy systems that find it difficult to upgrade.
They are not recommended to be learnt for getting a job or learning useful skills but can be used for maintaining legacy systems and code.

Here are 2 legacy tools still present in windows:

1. **VBScript and JScript:** These are two legacy scripting languages in windows, replaced by PowerShell and Power Automate Desktop. They were used for automation, administration and web scripting. They were closed and only locked to windows.
    a. VBscript was mainly used for automation and some app development for windows. It is in the family of Visual Basic languages along with VBA and more. It is replaced by VB.NET and PowerShell. It was deprecated in 2010 and in Windows 11, it is an optional feature. It is still used in .msi installers, though.

    b. JScript was Microsoft's implementation of ECMAscript. It was only locked to Internet explorer and allowed developers to code websites with HTML. The ".js" file extension in windows uses JScript. Microsoft has made an open-source version of JavaScript called TypeScript.

2. **MSHTA:** It is no longer receiving updates. It is a layer (that uses IE) to run .hta files (Microsoft's legacy HTML standard). It stands for Microsoft HTML Application Host and it is used to run apps built on HTML along with VBScript or JScript. It is being abused to insert malware into Windows Systems. It still exists.

There are many more tools, but for now these are some development tools.

You can learn them to maintain legacy systems, but learn something more modern like .NET core or TypeScript.

Chapter 5: Hidden Security + Diagnostic Tools in Windows

Old but useful tools

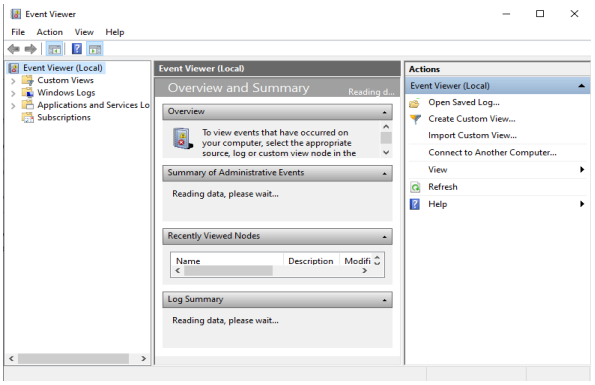
These are 3 hidden useful security and Diagnostic tools in Windows that you might use. These are free and can be used anytime. You will need Administrator Privileges but that is the requirement for most anti-virus, anti-malware & diagnostic software out there.

List

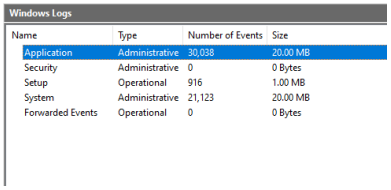
- **Mrt:** You might have heard about this tool a lot. It is built-in and stands for "Malware removal tool". It detects malware and deletes it. Most of the time, it is kind of finding nothing because Microsoft runs it in your background and automatically erases malware (if found). But if it does detect something, you can let it erase.

To access it, press the "Windows" + "R" key combination and in the run dialog type "mrt" and open.

- **Event viewer:** Not a security tool (in the traditional sense), but it can be used for checking system logs, to see if anything went wrong. It looks like this (Windows 10)



And select "Windows Logs" located at the left pane of this window. You will see many options like "Application", "Security" and much more.



Generally, the "Application" and "System" are having the most content, but if you see any large contents in "Security", it is better to check it.

Now, if you open any of the big options (like "Application"), they have a huge number of logs. There are three types you must note while browsing the list:

Critical , Error and Warning

If you think your computer is having more issues or slow to startup, and see any of these three repeat (8-10 times), then it is better to reset windows or take it to tech support or any tech guy.

Information and Verbose are mostly okay, they only represent system logs and what happened in the system, like a program or service closed or opened.

You can can filter these types by selecting the Filter Current Log... option and in the dialog window, you can filter out the type of events from the "Event level:" option.

- **Defragment and Optimize drives:** I know, many people told you this. If you're a Windows user there is a 95% chance you should know this. But not many people make real use of this powerful tool. This tool should be enabled by default to run a weekly (or any time period) check. If it is not, please enable it. It will make your HDD or SSD more optimized and faster and even extend lifetime, so they won't be faster to throw in the e-waste bin and slower to start up.

Endings

Credits

These are awesome things (and people) that made this digital book possible, and I wanted to express some gratitude towards them. So, I put credits before the outro.

1. **My computer:** All of the screenshots were taken from my awesome computer, I wrote and published this book from my computer.

2. **Youtube:** I wanted to thank @Thiojoe. I watched his videos and used them to make "Chapter-5". He was the only channel from which the videos gave out ideas for content in this book. Go watch his channel for more windows tips.

3. **Microsoft Learn:** This gave me knowledge for Winget, WSL and Sandbox. So visit them.

Outro

Hey reader!
This book took me a long time. Like designing the cover, getting content from online sources, copy pasting with right styles and so much more. Even you can support me!

You can do it for free by:

- Share this book site on social media
- Subscribing and Following my Substack
- Just reading a lot of other books

Thank you so much for reading,
Bye

By VyomTBM.
Closed