

PACKAGING TUTORIAL: MICROSOFT WINDOWS 11 22H2

Different system versions have different packaging methods. The packaging process includes: "Language pack: add, associate, delete", "Drive: add, delete", "Cumulative update: add, delete", "InBox Apps: add, Update, mark" etc.

There are many hidden stories hidden behind this. If you want to unlock these, are you ready to start trying to encapsulate them?

Summary

Chapter 1	Deployment image
Chapter 2	Local language experience packages (LXPs): Known region
Chapter 3	InBox Apps: Known application
Chapter 4	Report
Chapter 5	Common problem
Chapter 6	Known issues



Table of contents

Chapter 1	Deployment image	Page 6
A.	Prerequisites	Page 6
II	ISO tools	Page 6
III	Requirements	Page 6
1.	System installation package	Page 6
2.	Language pack	Page 6
2.1.	Learn	Page 6
2.2.	Language pack: Download	Page 7
2.3.	Language pack: Fixed	Page 7
3.	InBox Apps	Page 8
IV	Command Line	Page 8
B.	Language Pack: Extract	Page 8
II	Language pack: Ready	Page 8
III	Language pack: Scheme	Page 8
IV	Execute the extract command	Page 9
C.	Customize the deployment image	Page 14
II	Custom deployment image Install.wim	Page 14
1.	View Install.wim details	Page 14
2.	Specify the path to mount Install.wim	Page 14
3.	Start mounting Install.wim	Page 14
3.1.	Custom deployment image WinRE.wim	Page 14
3.1.1.	View WinRE.wim details	Page 14
3.1.2.	Specify the path to mount WinRE.wim	Page 15
3.1.3.	Start mounting WinRE.wim	Page 15
3.1.4.	Language pack	Page 15
3.1.4.1.	Language pack: add	Page 15

3.1.4.2.	Offline image language: change	Page 16
3.1.4.2.1.	Change default language, regional settings, and other international settings	Page 16
3.1.4.2.2.	View available language settings	Page 16
3.1.4.3.	Language packs: Removed	Page 17
3.1.4.4.	Components: All packages installed in the image	Page 18
3.1.5.	Cumulative updates	Page 19
3.1.5.1.	Add	Page 19
3.1.5.2.	Delete	Page 19
3.1.5.3.	Solid update	Page 19
3.1.5.3.1.	Clean components after curing and updating	Page 19
3.1.6.	Drive	Page 20
3.1.7.	Save image	Page 20
3.1.8.	Unmount image	Page 20
3.1.9.	After rebuilding WinRE.wim, the file size can be reduced	Page 20
3.1.10.	Backup WinRE.wim	Page 20
3.1.11.	Replace WinRE.wim within the Install.wim image	Page 21
4.	Language pack	Page 21
4.1.	Language pack: add	Page 21
4.2.	Offline image language: change	Page 26
4.2.1.	Change default language, regional settings, and other international settings	Page 26
4.2.2.	View available language settings	Page 26
4.3.	Language packs: Removed	Page 26
4.4.	Components: All packages installed in the image	Page 29
5.	InBox Apps	Page 29
5.1.	Learn "Attachment: inBox Apps"	Page 29
5.2.	InBox Apps: Installed	Page 29
5.3.	Remove all installed pre-applications	Page 29
5.4.	Region tag: Understanding	Page 30
5.5.	Region tag: adding method	Page 30

5.6.	InBox Apps: Install	Page 32
5.7.	Region tag: delete	Page 38
5.8.	InBox Apps: optimization	Page 39
6.	Cumulative updates	Page 39
6.1.	Initial version	Page 39
6.2.	Other Version	Page 40
6.3.	Solidify Updated, optiona	Page 40
7.	Drive	Page 41
8.	Add deployment engine	Page 41
9.	Health	Page 41
10.	Replace WinRE.wim	Page 41
11.	Save image	Page 41
12.	Unmount image	Page 41
13.	Rebuilding Install.wim reduces file size	Page 41
14.	How to batch replace WinRE.wim in all index numbers in Install.wim	Page 41
14.1.	Obtain WimLib	Page 42
14.2.	How to extract and update WinRE.wim in Install.wim	Page 42
III	Custom deployment image boot.wim	Page 43
1.	View Boot.wim details	Page 43
2.	Specify the path to mount Boot.wim	Page 43
3.	Start mounting Boot.wim	Page 43
4.	Language pack	Page 43
4.1.	Language pack: Add	Page 44
4.2.	Offline image language: change	Page 45
4.2.1.	Change default language, regional settings, and other international settings	Page 45
4.2.2.	View available language settings	Page 45
4.3.	Language pack: Removed	Page 45
4.4.	Components: All packages installed in the image	Page 47

4.5.	Language: Repair	Page 48
4.6.	Language packs: sync to ISO installer	Page 48
4.7.	Regenerate Lang.ini	Page 48
4.7.1.	Regenerate the mounted directory lang.ini	Page 48
4.7.2.	After regenerating lang.ini, sync to the installer	Page 48
5.	Cumulative updates	Page 48
5.1.	Add	Page 48
5.2.	Delete	Page 49
5.3.	Solid update	Page 49
5.3.1.	Clean components after curing and updating	Page 49
6.	Drive	Page 49
7.	Other	Page 49
7.1.	Bypass TPM check during installation	Page 49
8.	Save image	Page 50
9.	Unmount image	Page 50
IV	Deployment engine	Page 50
1.	Add method	Page 50
2.	Deployment Engine: Advanced	Page 53
D.	ISO	Page 55
II	Generate ISO	Page 55
III	Bypass TPM installation check	Page 56
Chapter 2	Local language experience packages (LXPs): Known region	Page 56
Chapter 3	InBox Apps: Known application	Page 57
Chapter 4	Report	Page 59
II	Reports: Different versions	Page 60
III	Report: Language installation packages apply to Install.wim	Page 62
IV	Report: Language installation packages apply to WinRE.wim	Page 64

V Report: Language installation packages apply to Boot.wim Page 65

Chapter 5 Common problem Page 56

 II Clean all mounts to Page 67

 III Fix the problem of abnormal mounting Page 67

 IV Clean directories Page 67

Chapter 6 Known issues Page 67

Chapter 1 Deployment image

A. Prerequisites

II ISO tools

Use a software that can edit ISO files, such as: [PowerISO](#), [DAEMON Tools](#), [ISO Workshop](#);

III Requirements

Learn "[Attachment: OS](#)" and view the "[Windows 11](#)" item.

1. System installation package

1.1. Prepare: [en-us_windows_11_business_editions_version_22h2_x64_dvd_17a08ce3.iso](#)

1.2. Unzip to: [D:\en-us_windows_11_business_editions_version_22h2_x64_dvd_17a08c](#)

1.3. After decompression is complete, change the directory [en-us_windows_11_business_editions_version_22h2_x64_dvd_17a08c](#) change to [D:\OS_11](#)

1.4. All scripts and all paths are set to [D:\OS_11](#) as the image source.

2. Language pack

2.1. Learn

As you read, please understand the important highlights of "Blue".

2.1.1. [Languages overview](#)

2.1.2. [Add languages to a Windows 11 image](#)

2.1.3. [Language and region Features on Demand \(FOD\)](#)

2.1.3.1. Fonts

- When adding a language pack, when the corresponding region is triggered, the required font functions need to be added, download "[List of all available language FODs](#)" learn more.
- In "Language Pack: Extract", the automatic recognition function has been added, and you can understand the functions: [Function Match_Required_Fonts](#)

2.1.3.2. Regional association

What are regional connections?

- When the image language is only in English, after adding the [zh-HK](#) language pack, the image language will not be added. You should install [zh-TW](#) first, and then install [zh-HK](#) to obtain the corresponding association.

- Please refer to Microsoft's official original version: Windows 10, Windows 11 Traditional Chinese version.

Known regional associations:

2.1.3.2.1. Region: [zh-TW](#) , Optional associated areas: [zh-HK](#)

2.1.3.3. Other region-specific requirements

When triggering a known area, a specific "package" needs to be added.

2.1.3.3.1. Region: [zh-TW](#)

Package: [Microsoft-Windows-InternationalFeatures-Taiwan-](#)

[Package~31bf3856ad364e35~amd64~~.cab](#)

Description: [Supplemental support for Taiwan date formatting requirements. Package will be provided to customers located in Taiwan.](#)

Recommendation: [Preinstall only on devices shipping to the Taiwan market. Not installing this capability on devices causes any API calls to that use the Taiwan calendar to fail.](#)

THERE IS CONTROVERSY:

- During the test, it was found that this package was not installed in the original image of Microsoft's official original Windows 10 and Windows 11. However, there are known issues in the recommended items. In the end, it is consistent with the official Microsoft original version, and the packager can freely choose to install it. or not.

2.2. Language pack: Download

[22621.1.220506-1250.ni_release_amd64fre_CLIENT_LOF_PACKAGES_OEM.iso](#)

2.3. Language pack: Fixed

2.3.1. Select any website and open:

2.3.1.1. <https://uupdump.net>

2.3.1.2. <https://uup.ee>

2.3.2. After opening, search for keywords: [22621.382](#), select from the search results: [Windows 11, version 22H2 \(22621.382\) amd64](#)

2.3.3. After opening, select "[All files](#)";

2.3.4. Search the green part in the "[All Files](#)" page and download

2.3.4.1. Applies to: Install.wim:

2.3.4.1.1. Media

2.3.4.2. Applies to: WinRE.wim, none yet

2.3.4.3. Applies to: Boot.wim, none yet

2.3.5. After downloading all the files, scroll to the bottom of the page, download and run "[Generate Rename Script \(Windows\)](#)"

2.3.6. Use ISO editing software, edit [22621.1.220506-1250.ni_release_amd64fre_CLIENT_LOF_PACKAGES_OEM.iso](#), and add the downloaded file to the [\[ISO\]:\LanguagesAndOptionalFeatures](#) directory;

3. InBox Apps

3.1. Download: [22621.1778.230511-2102.ni_release_svc_prod3_amd64fre_InboxApps.iso](#)

3.2. Download: [22621.1.220506-1250.ni_release_amd64fre_InboxApps.iso](#) finally, extract the following files and save them to the desktop:

3.2.1. [Microsoft.HEVCVideoExtension_8wekyb3d8bbwe.x64.appx](#)

3.2.2. [Microsoft.HEVCVideoExtension_8wekyb3d8bbwe.x64.xml](#)

3.3. Use the ISO editing tool to edit [22621.1778.230511-2102.ni_release_svc_prod3_amd64fre_InboxApps.iso](#) and add the extracted files to the [\[ISO\]:\packages](#) directory;

IV Command line

1. Optional "Terminal" or "PowerShell ISE", if "Terminal" is not installed, please go to: <https://github.com/microsoft/terminal/releases>
After downloading;
2. Open "Terminal" or "PowerShell ISE" as administrator, it is recommended to set the PowerShell execution policy: bypass, PS command line:

[Set-ExecutionPolicy -ExecutionPolicy Bypass -Force](#)
3. In this article, PS command line, green part, please copy it, paste it into the "Terminal" dialog box, press Enter and start running;
4. When there is [.ps1](#), right-click the file and select Run with PowerShell, or copy the path and paste it into Terminal to run.

B. Language Pack: Extract

II Language pack: Ready

Mount [22621.1.220506-1250.ni_release_amd64fre_CLIENT_LOF_PACKAGES_OEM.iso](#) or unzipped to any location;

III Language pack: Scheme

1. Add

1.1. Language name: **Simplified Chinese - China**, Region: **zh-CN**, Scope of application: **Install.Wim**, **Boot.Wim**, **WinRE.Wim**

2. Delete

2.1. Language name: **English - United States**, Region: **en-US**, Scope of application: **Install.Wim**, **Boot.Wim**, **WinRE.Wim**

IV Execute the extract command

- **Auto** = automatically search all local disks, default;
- Customize the path, for example, specify the E drive: **\$ISO = "E:"**

• Extract.ps1

- **\Expand\Extract.ps1**

- https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Extract.ps1

• Copy the code

```
$ISO = "Auto"
```

```
$SaveTo = "D:\OS_11_Custom"
```

```
$Extract_language_Pack = @(
```

```
    @{ Tag = "zh-CN"; Act = "Add"; Scope = @( "Install\Install"; "Install\WinRE"; "Boot\Boot" ) }
```

```
    @{ Tag = "en-US"; Act = "Del"; Scope = @( "Install\Install"; "Install\WinRE"; "Boot\Boot" ) }
```

```
)
```

```
Function Extract_Language
```

```
{
```

```
    param( $Act, $NewLang, $Expand )
```

```
    Function Match_Required_Fonts
```

```
{
```

```
    param( $Lang )
```

```
    $Fonts = @(
```

```
        @{ Match = @( "as", "ar-SA", "ar", "ar-AE", "ar-BH", "ar-DJ", "ar-DZ", "ar-EG", "ar-ER", "ar-IL", "ar-IQ", "ar-JO", "ar-KM", "ar-KW", "ar-LB", "ar-LY", "ar-MA", "ar-MR", "ar-OM", "ar-PS", "ar-QA", "ar-SD", "ar-SO", "ar-SS", "ar-SY", "ar-TD", "ar-TN", "ar-YE", "arz-Arab", "ckb-Arab", "fa", "fa-AF", "fa-IR", "glk-Arab", "ha-Arab", "ks-Arab", "ks-Arab-IN", "ku-Arab", "ku-Arab-IQ", "mzn-Arab", "pa-Arab", "pa-Arab-PK", "pnb-Arab", "prs", "prs-AF", "prs-Arab", "ps", "ps-AF", "sd-Arab", "sd-Arab-PK", "tk-Arab", "ug", "ug-Arab", "ug-CN", "ur", "ur-IN", "ur-PK", "uz-Arab", "uz-Arab-AF"); Name = "Arab"; }
```

```
        @{ Match = @( "bn-IN", "as-IN", "bn", "bn-BD", "bpy-Beng"); Name = "Beng"; }
```

```
        @{ Match = @( "da-dk", "iu-Cans", "iu-Cans-CA"); Name = "Cans"; }
```

```
        @{ Match = @( "chr-Cher-US", "chr-Cher"); Name = "Cher"; }
```

```
        @{ Match = @( "hi-IN", "bh-Deva", "brx", "brx-Deva", "brx-IN", "hi", "ks-Deva", "mai", "mr", "mr-IN", "ne", "ne-IN", "ne-NP", "new-Deva", "pi-Deva", "sa", "sa-Deva", "sa-IN"); Name = "Deva"; }
```

```
        @{ Match = @( "am", "am-ET", "byn", "byn-ER", "byn-Ethi", "ti", "ti-ER", "ti-ET", "tig", "tig-ER", "tig-Ethi", "ve-Ethi", "wal", "wal-ET", "wal-Ethi"); Name = "Ethi"; }
```

```
        @{ Match = @( "gu", "gu-IN"); Name = "Gujr"; }
```

```

        @{ Match = @("pa", "pa-IN", "pa-Guru"); Name = "Guru"; }

        @{ Match = @("zh-CN", "cmn-Hans", "gan-Hans", "hak-Hans", "wuu-Hans", "yue-Hans", "zh-gan-Hans", "zh-hak-Hans", "zh-Hans",
"zh-SG", "zh-wuu-Hans", "zh-yue-Hans"); Name = "Hans"; }

        @{ Match = @("zh-TW", "cmn-Hant", "hak-Hant", "lzh-Hant", "zh-hak-Hant", "zh-Hant", "zh-HK", "zh-lzh-Hant", "zh-MO", "zh-yue-
Hant"); Name = "Hant"; }

        @{ Match = @("he", "he-IL", "yi"); Name = "Hebr"; }

        @{ Match = @("ja", "ja-JP"); Name = "Jpan"; }

        @{ Match = @("km", "km-KH"); Name = "Khmr"; }

        @{ Match = @("kn", "kn-IN"); Name = "Knda"; }

        @{ Match = @("ko", "ko-KR"); Name = "Kore"; }

        @{ Match = @("de-de", "lo", "lo-LA"); Name = "Lao"; }

        @{ Match = @("ml", "ml-IN"); Name = "Mlym"; }

        @{ Match = @("or", "or-IN"); Name = "Orya"; }

        @{ Match = @("si", "si-LK"); Name = "Sinh"; }

        @{ Match = @("tr-tr", "arc-Syrc", "syr", "syr-SY", "syr-Syrc"); Name = "Syrc"; }

        @{ Match = @("ta", "ta-IN", "ta-LK", "ta-MY", "ta-SG"); Name = "Taml"; }

        @{ Match = @("te", "te-IN"); Name = "Telu"; }

        @{ Match = @("th", "th-TH"); Name = "Thai"; }

    )

    ForEach ($item in $Fonts) {

        if (($item.Match) -Contains $Lang) {

            return $item.Name

        }

    }

    return "Not_matched"

}

Function Match_Other_Region_Specific_Requirements

{

    param( $Lang )

    $RegionSpecific = @(

        @{ Match = @("zh-TW"); Name = "Taiwan"; }

    )

    ForEach ($item in $RegionSpecific) {

        if (($item.Match) -Contains $Lang) {

            return $item.Name

        }

    }

    return "Skip_specific_packages"

}

Function Extract_Process

{

    param( $Package, $Name, $NewSaveTo )

    $NewSaveTo = "$($SaveTo)\ $($NewSaveTo)\ Language\ $($Act)\ $($NewLang)"

```

```

New-Item -Path $NewSaveTo -ItemType Directory -ErrorAction SilentlyContinue | Out-Null

if ($ISO -eq "Auto") {

    Get-PSDrive -PSProvider FileSystem -ErrorAction SilentlyContinue | ForEach-Object {

        ForEach ($item in $Package) {

            $TempFilePath = Join-Path -Path $_.Root -ChildPath $item -ErrorAction SilentlyContinue

            if (Test-Path $TempFilePath -PathType Leaf) {

                Write-host "`n Find: " -NoNewLine; Write-host $TempFilePath -ForegroundColor Green

                Write-host " Copy to: " -NoNewLine; Write-host $NewSaveTo

                Copy-Item -Path $TempFilePath -Destination $NewSaveTo -Force

            }

        }

    }

} else {

    ForEach ($item in $Package) {

        $TempFilePath = Join-Path -Path $ISO -ChildPath $item -ErrorAction SilentlyContinue

        Write-host "`n Find: " -NoNewline; Write-host $TempFilePath -ForegroundColor Green

        if (Test-Path $TempFilePath -PathType Leaf) {

            Write-host " Copy to: " -NoNewLine; Write-host $NewSaveTo

            Copy-Item -Path $TempFilePath -Destination $NewSaveTo -Force

        } else {

            Write-host " Not found"

        }

    }

}

Write-host "`n Verify the language pack file"

ForEach ($item in $Package) {

    $Path = "$($NewSaveTo)\${[IO.Path]::GetFileName($item)}"

    if (Test-Path $Path -PathType Leaf) {

        Write-host " Discover: " -NoNewLine; Write-host $Path -ForegroundColor Green

    } else {

        Write-host " Not found: " -NoNewLine; Write-host $Path -ForegroundColor Red

    }

}

$AdvLanguage = @(

    @{

        Path = "Install\Install"

        Rule = @(

            "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-Fonts-{DiyLang}-
Package~31bf3856ad364e35~AMD64~~.cab"

            "LanguagesAndOptionalFeatures\Microsoft-Windows-Client-Language-Pack_x64_{Lang}.cab"

            "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-Basic-{Lang}-
Package~31bf3856ad364e35~AMD64~~.cab"

```

```

        "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-Handwriting-{Lang}-
Package~31bf3856ad364e35~AMD64~~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-OCR-{Lang}-
Package~31bf3856ad364e35~AMD64~~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-Speech-{Lang}-
Package~31bf3856ad364e35~AMD64~~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-LanguageFeatures-TextToSpeech-{Lang}-
Package~31bf3856ad364e35~AMD64~~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-InternetExplorer-Optional-
Package~31bf3856ad364e35~AMD64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~AMD64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~wow64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-MediaPlayer-Package-AMD64-{Lang}.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-MediaPlayer-Package-wow64-{Lang}.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~AMD64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-Printing-PMCPPC-FoD-Package~31bf3856ad364e35~AMD64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~AMD64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~AMD64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~AMD64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~{Lang}~.cab"

        "LanguagesAndOptionalFeatures\Microsoft-Windows-InternationalFeatures-{Specific}-
Package~31bf3856ad364e35~amd64~~.cab"

    )
}

@{

    Path = "Install\WinRE"

    Rule = @(

        "Windows Preinstallation Environment\x64\WinPE_OCs\WinPE-FontSupport-{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\lp.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-securestartup_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-atbroker_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-audiocore_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-audiodrivers_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-enhancedstorage_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-narrator_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-scripting_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-speech-tts_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-srh_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-srt_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-wds-tools_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-wmi_{Lang}.cab"
    )
}

```

```

"Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-appxdeployment_{Lang}.cab"

"Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-appxpackaging_{Lang}.cab"

"Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-storagewmi_{Lang}.cab"

"Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-wifi_{Lang}.cab"

"Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-windowsupdate_{Lang}.cab"

"Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-rejuv_{Lang}.cab"

"Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-opcservices_{Lang}.cab"

"Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-hta_{Lang}.cab"

)

}

@{

    Path = "Boot\Boot"

    Rule = @(

        "Windows Preinstallation Environment\x64\WinPE_OCs\WinPE-FontSupport-{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\lp.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\WinPE-Setup_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\WINPE-SETUP-CLIENT_{Lang}.CAB"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-securestartup_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-atbroker_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-audiocore_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-audiodrivers_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-enhancedstorage_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-narrator_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-scripting_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-speech-tts_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-srh_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-srt_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-wds-tools_{Lang}.cab"

        "Windows Preinstallation Environment\x64\WinPE_OCs\{Lang}\winpe-wmi_{Lang}.cab"

    )

}

)

$NewFonts = Match_Required_Fonts -Lang $NewLang

$SpecificPackage = Match_Other_Region_Specific_Requirements -Lang $NewLang

Foreach ($item in $Expand) {

    $Language = @()

    Foreach ($itemList in $AdvLanguage) {

        if ($itemList.Path -eq $item) {

            Foreach ($PrintLang in $itemList.Rule) {

                $Language += "$($PrintLang)".Replace("{Lang}", $NewLang).Replace("{DiyLang}", $NewFonts).Replace("{Specific}",
$SpecificPackage)

            }

            Extract_Process -NewSaveTo $itemList.Path -Package $Language -Name $item

```

```

    }
}
}
}

ForEach ($item in $Extract_language_Pack) { Extract_Language -Act $item.Act -NewLang $item.Tag -Expand $item.Scope }

```

C. Customize the deployment image

II Custom deployment image Install.wim

1. View Install.wim details

Image name, image description, image size, architecture, version, index number, etc.

```
$ViewFile = "D:\OS_11\Sources\Install.wim"
```

```
Get-WindowsImage -ImagePath $ViewFile | Foreach-Object { Get-WindowsImage -ImagePath $ViewFile -index $_.ImageIndex }
```

LOOP OPERATING AREA, START,

2. Specify the path to mount Install.wim

```
New-Item -Path "D:\OS_11_Custom\Install\Install\Mount" -ItemType directory -ea SilentlyContinue
```

3. Start mounting Install.wim

Default index number: 1

```
Mount-WindowsImage -ImagePath "D:\OS_11\sources\install.wim" -Index "1" -Path "D:\OS_11_Custom\Install\Install\Mount"
```

PROCESS FILES WITHIN THE INSTALL.WIM IMAGE, OPTIONALLY, START,

3.1. Custom deployment image WinRE.wim

WARNING:

- WinRE.wim is a file within the Install.wim image;
- When Install.wim has multiple index numbers, only process any WinRE.wim;
- Synchronize to all index numbers to reduce the size of Install.wim, learn "[How to batch replace WinRE.wim in all index numbers in Install.wim](#)".

3.1.1. View WinRE.wim details

Image name, image description, image size, architecture, version, index number, etc.

```
$ViewFile = "D:\OS_11_Custom\Install\Install\Mount\Windows\System32\Recovery\WinRE.wim"
```

```
Get-WindowsImage -ImagePath $ViewFile | Foreach-Object { Get-WindowsImage -ImagePath $ViewFile -index  
$_.ImageIndex }
```

3.1.2. Specify the path to mount WinRE.wim

```
New-Item -Path "D:\OS_11_Custom\Install\WinRE\Mount" -ItemType directory -ea SilentlyContinue
```

3.1.3. Start mounting WinRE.wim

Default index number: 1

```
Mount-WindowsImage -ImagePath  
"D:\OS_11_Custom\Install\Install\Mount\Windows\System32\Recovery\WinRE.wim" -Index "1" -Path  
"D:\OS_11_Custom\Install\WinRE\Mount"
```

3.1.4. Language pack: WinRE

Automatically install language packs: Get "Component: All installed packages in the image" and match them.

After matching the corresponding names, install the local corresponding language pack files, View the report

"Language installation package for WinRE.wim".

3.1.4.1. Language pack: add

- WinRE.Instl.lang.ps1
 - [\Expand\Install\WinRE\WinRE.Instl.lang.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/WinRE/WinRE.Instl.lang.ps1

- Copy the code

```
$Mount = "D:\OS_11_Custom\Install\WinRE\Mount"  
$Sources = "D:\OS_11_Custom\Install\WinRE\Language\Add\zh-CN"  
$Initl_install_Language_Component = @()  
Get-WindowsPackage -Path $Mount | ForEach-Object { $Initl_install_Language_Component +=  
$_.PackageName }  
Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\WinPE-FontSupport-zh-CN.cab"  
$Language_List = @(  
@{ Match = "*WinPE-LanguagePack-Package*"; File = "lp.cab"; }  
@{ Match = "*SecureStartup*"; File = "winpe-securestartup_zh-CN.cab"; }  
@{ Match = "*ATBroker*"; File = "winpe-atbroker_zh-CN.cab"; }  
@{ Match = "*AudioCore*"; File = "winpe-audiocore_zh-CN.cab"; }  
@{ Match = "*AudioDrivers*"; File = "winpe-audiodrivers_zh-CN.cab"; }  
@{ Match = "*EnhancedStorage*"; File = "winpe-enhancedstorage_zh-CN.cab"; }  
@{ Match = "*Narrator*"; File = "winpe-narrator_zh-CN.cab"; }  
@{ Match = "*scripting*"; File = "winpe-scripting_zh-CN.cab"; }
```



```

@{ Match = "*Speech-TTS*"; File = "winpe-speech-tts_zh-CN.cab"; }

@{ Match = "*srh*"; File = "winpe-srh_zh-CN.cab"; }

@{ Match = "*srt*"; File = "winpe-srt_zh-CN.cab"; }

@{ Match = "*wds-tools*"; File = "winpe-wds-tools_zh-CN.cab"; }

@{ Match = "*-WMI-Package*"; File = "winpe-wmi_zh-CN.cab"; }

@{ Match = "*WinPE-AppxPackaging*"; File = "winpe-appxpackaging_zh-CN.cab"; }

@{ Match = "*StorageWMI*"; File = "winpe-storagewmi_zh-CN.cab"; }

@{ Match = "*WiFi*"; File = "winpe-wifi_zh-CN.cab"; }

@{ Match = "*rejuv*"; File = "winpe-rejuv_zh-CN.cab"; }

@{ Match = "*opcservices*"; File = "winpe-opcservices_zh-CN.cab"; }

@{ Match = "*hta*"; File = "winpe-hta_zh-CN.cab"; }

@{ Match = "*windowsupdate*"; File = "winpe-windowsupdate_zh-CN.cab"; }

@{ Match = "*appxdeployment*"; File = "winpe-appxdeployment_zh-CN.cab"; }

)

ForEach ($Rule in $Language_List) {

    Write-host "`n Rule name: $($Rule.Match)" -ForegroundColor Yellow; Write-host "  $('-' * 80)"

    ForEach ($Component in $InitL_install_Language_Component) {

        if ($Component -like "*$($Rule.Match)*") {

            Write-host "  Component name: " -NoNewline; Write-host $Component -ForegroundColor Green

            Write-host "  Language pack file: " -NoNewline; Write-host "$($Sources)\$($Rule.File)" -ForegroundColor Green

            Write-Host "  Installing ".PadRight(22) -NoNewline

            try {

                Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\$($Rule.File)" | Out-Null

                Write-host "Finish" -ForegroundColor Green

            } catch {

                Write-host "Failed" -ForegroundColor Red

            }

            break

        }

    }

}

```

3.1.4.2. Offline image language: change

3.1.4.2.1. Change default language, regional settings, and other international settings

Region: **zh-CN**

```
Dism /Image:"D:\OS_11_Custom\Install\WinRE\Mount" /Set-AllIntl:"zh-CN"
```

3.1.4.2.2. View available language settings

```
Dism /Image:"D:\OS_11_Custom\Install\WinRE\Mount" /Get-Intl
```

3.1.4.3. Language packs: Removed, optional

- After you add languages, if you want to deploy to a non-English locale, you can save space by removing the English language component. When you remove a language, uninstall the language components in the reverse order in which you added them.
- After adding the Chinese, delete "English - United States" in reverse, the Region tag: **en-US**, you need to extract the language pack in advance
- WinRE.Del.Specified.lang.Tag.ps1

- [\Expand\Install\WinRE\WinRE.Del.Specified.lang.Tag.ps1](#)

- https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/WinRE/WinRE.Del.Specified.lang.Tag.ps1

- Copy the code

```
$Lang = "en-US"

$Mount = "D:\OS_11_Custom\Install\WinRE\Mount"

$Sources = "D:\OS_11_Custom\Install\WinRE\Language\Del\en-US"

$Initl_install_Language_Component = @()

Get-WindowsPackage -Path $Mount | ForEach-Object { $Initl_install_Language_Component +=
$_.PackageName }

$Language = @(

    @{ Match = "*windowsupdate*"; File = "winpe-windowsupdate_$( $Lang ).cab"; }

    @{ Match = "*appxdeployment*"; File = "winpe-appxdeployment_$( $Lang ).cab"; }

    @{ Match = "*hta*"; File = "winpe-hta_$( $Lang ).cab"; }

    @{ Match = "*opcservices*"; File = "winpe-opcservices_$( $Lang ).cab"; }

    @{ Match = "*rejuv*"; File = "winpe-rejuv_$( $Lang ).cab"; }

    @{ Match = "*WiFi*"; File = "winpe-wifi_$( $Lang ).cab"; }

    @{ Match = "*StorageWMI*"; File = "winpe-storagewmi_$( $Lang ).cab"; }

    @{ Match = "*WinPE-AppxPackaging*"; File = "winpe-appxpackaging_$( $Lang ).cab"; }

    @{ Match = "*-WMI-Package*"; File = "winpe-wmi_$( $Lang ).cab"; }

    @{ Match = "*wds-tools*"; File = "winpe-wds-tools_$( $Lang ).cab"; }

    @{ Match = "*srt*"; File = "winpe-srt_$( $Lang ).cab"; }

    @{ Match = "*srh*"; File = "winpe-srh_$( $Lang ).cab"; }

    @{ Match = "*Speech-TTS*"; File = "winpe-speech-tts_$( $Lang ).cab"; }

    @{ Match = "*scripting*"; File = "winpe-scripting_$( $Lang ).cab"; }

    @{ Match = "*Narrator*"; File = "winpe-narrator_$( $Lang ).cab"; }

    @{ Match = "*EnhancedStorage*"; File = "winpe-enhancedstorage_$( $Lang ).cab"; }

    @{ Match = "*AudioDrivers*"; File = "winpe-audiocore_$( $Lang ).cab"; }

    @{ Match = "*AudioCore*"; File = "winpe-audiocore_$( $Lang ).cab"; }

    @{ Match = "*ATBroker*"; File = "winpe-atbroker_$( $Lang ).cab"; }

    @{ Match = "*SecureStartup*"; File = "winpe-securestartup_$( $Lang ).cab"; }

    @{ Match = "*WinPE-LanguagePack-Package*"; File = "lp.cab"; }

)
```

```

ForEach ($Rule in $Language) {

    Write-host "`n Rule name: $($Rule.Match)" -ForegroundColor Yellow; Write-host "  $('-' * 80)"

    ForEach ($Component in $Initl_install_Language_Component) {

        if ($Component -like "*$($Rule.Match)*$($Lang)*") {

            Write-host "  Component name: " -NoNewline; Write-host $Component -ForegroundColor
Green

            Write-host "  Language pack file: " -NoNewline; Write-host "$($Sources)\$($Rule.File)" -
ForegroundColor Green

            Write-Host "  Deleting ".PadRight(22) -NoNewline

            try {

                Remove-WindowsPackage -Path $Mount -PackagePath "$($Sources)\$($Rule.File)" -
ErrorAction SilentlyContinue | Out-Null

                Write-host "Finish" -ForegroundColor Green

            } catch {

                Write-host "Failed" -ForegroundColor Red

                Write-host "  $($_) " -ForegroundColor Red

            }

            break

        }

    }

}

$InitlClearLanguagePackage = @()

Get-WindowsPackage -Path $Mount | ForEach-Object {

    if ($_.PackageName -like "*$($Lang)*") {

        $InitlClearLanguagePackage += $_.PackageName

    }

}

if ($InitlClearLanguagePackage.count -gt 0) {

    ForEach ($item in $InitlClearLanguagePackage) {

        Write-Host "`n  $($item)" -ForegroundColor Green

        Write-Host "  Deleting ".PadRight(22) -NoNewline

        try {

            Remove-AppxProvisionedPackage -Path $Mount -PackageName $item -ErrorAction
SilentlyContinue | Out-Null

            Write-host "Finish" -ForegroundColor Green

        } catch {

            Write-host "Failed" -ForegroundColor Red

            Write-host "  $($_) " -ForegroundColor Red

        }

    }

}

}

```

3.1.4.4. Components: All packages installed in the image

3.1.4.4.1. View

```
Get-WindowsPackage -Path "D:\OS_11_Custom\Install\WinRE\Mount" | Out-GridView
```

3.1.4.4.2. Export to csv

```
$SaveTo = "D:\OS_11_Custom\Install\WinRE\Report.$(Get-Date -Format "yyyyMMddHHmmss").csv"

Get-WindowsPackage -Path "D:\OS_11_Custom\Install\WinRE\Mount" | Export-CSV -NoType -Path $SaveTo

Write-host $SaveTo -ForegroundColor Green
```

3.1.5. Cumulative updates, optional

To prepare the cumulative updates file available, change the example file name: **KB_WinRE.cab**

3.1.5.1. Add

```
$KBPath = "D:\OS_11_Custom\Install\WinRE\Update\KB_WinRE.cab"

Add-WindowsPackage -Path "D:\OS_11_Custom\Install\WinRE\Mount" -PackagePath $KBPath
```

3.1.5.2. Delete

```
$KBPath = "D:\OS_11_Custom\Install\WinRE\Update\KB_WinRE.cab"

Remove-WindowsPackage -Path "D:\OS_11_Custom\Install\WinRE\Mount" -PackagePath $KBPath
```

3.1.5.3. Solid update, optional

It cannot be uninstalled after curing, which cleans the recovery image and resets the basis of any superseded components.

```
Dism /image:"D:\OS_11_Custom\Install\WinRE\Mount" /cleanup-image /StartComponentCleanup /ResetBase
```

3.1.5.3.1. Clean components after curing and updating, optional

```
$Mount = "D:\OS_11_Custom\Install\WinRE\Mount"

Get-WindowsPackage -Path $Mount -ErrorAction SilentlyContinue | ForEach-Object {

    if ($_.PackageState -eq "Superseded") {

        Write-Host "  $($_.PackageName)" -ForegroundColor Green

        Remove-WindowsPackage -Path $Mount -PackageName $_.PackageName | Out-Null
    }
}
```

```
}  
  
}
```

3.1.6. Drive, optional

3.1.7. Save image

```
Save-WindowsImage -Path "D:\OS_11_Custom\Install\WinRE\Mount"
```

3.1.8. Unmount image

Close any applications that may be accessing files in the image, including File Explorer.

```
Dismount-WindowsImage -Path "D:\OS_11_Custom\Install\WinRE\Mount" -Discard
```

3.1.9. After rebuilding WinRE.wim, the file size can be reduced

- WinRE.Rebuild.ps1
 - [\Install\WinRE\WinRE.Rebuild.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/WinRE/WinRE.Rebuild.ps1

- Copy the code

```
$FileName = "D:\OS_11_Custom\Install\Install\Mount\Windows\System32\Recovery\WinRE.wim"  
Get-WindowsImage -ImagePath $Filename -ErrorAction SilentlyContinue | ForEach-Object {  
    Write-Host " Image name: " -NoNewline  
    Write-Host $_.ImageName -ForegroundColor Yellow  
    Write-Host " The index number: " -NoNewline  
    Write-Host $_.ImageIndex -ForegroundColor Yellow  
    Write-Host "`n Rebuild".PadRight(28) -NoNewline  
    Export-WindowsImage -SourceImagePath $Filename -SourceIndex $_.ImageIndex -DestinationImagePath  
    "$($FileName).New" -CompressionType max  
    Write-Host "Finish`n" -ForegroundColor Green  
}  
if (Test-Path "$($FileName).New" -PathType Leaf) {  
    Remove-Item -Path $Filename  
    Move-Item -Path "$($FileName).New" -Destination $Filename  
    Write-Host "Finish" -ForegroundColor Green  
} else {  
    Write-host "Failed" -ForegroundColor Red  
}
```

3.1.10. Backup WinRE.wim

- WinRE.Backup.ps1
 - [\Expand\Install\WinRE\WinRE.Backup.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/WinRE/WinRE.Backup.ps1

- Copy the code

```
$WimLibPath = "D:\OS_11_Custom\Install\Install\Update\Winlib"

$FileName = "D:\OS_11_Custom\Install\Install\Mount\Windows\System32\Recovery\WinRE.wim"

New-Item -Path $WimLibPath -ItemType Directory -ea SilentlyContinue

Copy-Item -Path $FileName -Destination $WimLibPath -Force
```

3.1.11. Replace WinRE.wim within the Install.wim image

- After each mount Install.wim "[Replace WinRE.wim](#)";
- Learn "[Get all index numbers of Install.wim and replace the old WinRE.wim](#)".

[Process the files in the Install.wim image and end.](#)

4. Language pack

Automatically install language packs: Get "Component: All installed packages in the image" and match them. After matching the corresponding names, install the local corresponding language pack files, View the report "Language installation package for Install.wim".

4.1. Language pack: add

- Install.Instl.lang.ps1
 - [\Expand\Install\Install.Instl.lang.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/Install.Instl.lang.ps1

- Copy the code

```
Function Language_Install
{
    param($Mount, $Sources, $Lang)

    $Initl_install_Language_Component = @()

    if (Test-Path $Mount -PathType Container) {

        Get-WindowsPackage -Path $Mount | ForEach-Object { $Initl_install_Language_Component += $_.PackageName }

    } else {

        Write-Host "Not mounted: $($Mount)"
    }
}
```

```

        return
    }

$Script:Init_Folder_All_File = @()

if (Test-Path "$($Sources)\$($Lang)" -PathType Container) {

    Get-ChildItem -Path $Sources -Recurse -Include "*.cab" -ErrorAction SilentlyContinue | ForEach-Object {

        $Script:Init_Folder_All_File += $_.FullName

    }

    Write-host "`n  Available language pack installation files"

    if ($Script:Init_Folder_All_File.Count -gt 0) {

        ForEach ($item in $Script:Init_Folder_All_File) {

            Write-host "  $($item)"

        }

    } else {

        Write-host "There are no language pack files locally"

        return

    }

} else {

    Write-Host "Path does not exist: $($Sources)\$($Lang)"

    return

}

$Script:Init_Folder_All_File_Match_Done = @()

$Script:Init_Folder_All_File_Exclude = @()

$Script:Search_File_Order = @(

    @{

        Name = "Fonts"

        Description = "Fonts"

        Rule = @(

            @{ Match_Name = "*Fonts*"; IsMatch = "No"; Capability = ""; }

        )

    }

    @{

        Name = "Basic"

        Description = "Basic"

        Rule = @(

            @{ Match_Name = "*LanguageFeatures-Basic*"; IsMatch = "Yes"; Capability = "Language.Basic~~~lb-LU~0.0.1.0"; }

            @{ Match_Name = "*Client*Language*Pack*"; IsMatch = "Yes"; Capability = "Language.Basic~~~lb-LU~0.0.1.0"; }

        )

    }

    @{

        Name = "OCR"

        Description = "Optical character recognition"

        Rule = @(

```

```

        @ { Match_Name = "*LanguageFeatures-OCR*"; IsMatch = "Yes"; Capability = "Language.OCR~~~fr-FR~0.0.1.0"; }
    )
}

@ {
    Name = "Handwriting"

    Description = "Handwriting recognition"

    Rule = @ (
        @ { Match_Name = "*LanguageFeatures-Handwriting*"; IsMatch = "Yes"; Capability =
"Language.Handwriting~~~fr-FR~0.0.1.0"; }
    )
}

@ {
    Name = "TextToSpeech"

    Description = "Text-to-speech"

    Rule = @ (
        @ { Match_Name = "*LanguageFeatures-TextToSpeech*"; IsMatch = "Yes"; Capability =
"Language.TextToSpeech~~~fr-FR~0.0.1.0"; }
    )
}

@ {
    Name = "Speech"

    Description = "Speech recognition"

    Rule = @ (
        @ { Match_Name = "*LanguageFeatures-Speech*"; IsMatch = "Yes"; Capability = "Language.Speech~~~fr-
FR~0.0.1.0"; }
    )
}

@ {
    Name = "RegionSpecific"

    Description = "Other region-specific requirements"

    Rule = @ (
        @ { Match_Name = "*InternationalFeatures*"; IsMatch = "No"; Capability = ""; }
    )
}

@ {
    Name = "Retail"

    Description = "Retail demo experience"

    Rule = @ (
        @ { Match_Name = "*RetailDemo*"; IsMatch = "Yes"; Capability = ""; }
    )
}

@ {
    Name = "Features_On_Demand"

```



```

        Description = "Features on demand"

        Rule = @(

            @{ Match_Name = "*InternetExplorer*"; IsMatch = "Yes"; Capability = ""; }

            @{ Match_Name = "*MSPaint*amd64*"; IsMatch = "Yes"; Capability = "Microsoft.Windows.MSPaint~~~~0.0.1.0"; }

            @{ Match_Name = "*MSPaint*wow64*"; IsMatch = "Yes"; Capability = "Microsoft.Windows.MSPaint~~~~0.0.1.0"; }

            @{ Match_Name = "*Notepad*amd64*"; IsMatch = "Yes"; Capability =
"Microsoft.Windows.Notepad~~~~0.0.1.0"; }

            @{ Match_Name = "*Notepad*wow64*"; IsMatch = "Yes"; Capability =
"Microsoft.Windows.Notepad~~~~0.0.1.0"; }

            @{ Match_Name = "*MediaPlayer*amd64*"; IsMatch = "Yes"; Capability =
"Media.WindowsMediaPlayer~~~~0.0.12.0"; }

            @{ Match_Name = "*MediaPlayer*wow64*"; IsMatch = "Yes"; Capability =
"Media.WindowsMediaPlayer~~~~0.0.12.0"; }

            @{ Match_Name = "*PowerShell-ISE-FOD-Package*amd64*"; IsMatch = "Yes"; Capability =
"Microsoft.Windows.PowerShell.ISE~~~~0.0.1.0"; }

            @{ Match_Name = "*PowerShell-ISE-FOD-Package*wow64*"; IsMatch = "Yes"; Capability =
"Microsoft.Windows.PowerShell.ISE~~~~0.0.1.0"; }

            @{ Match_Name = "*Printing*PMCPPC*amd64*"; IsMatch = "Yes"; Capability =
"Print.Management.Console~~~~0.0.1.0"; }

            @{ Match_Name = "*StepsRecorder*amd64*"; IsMatch = "Yes"; Capability = "App.StepsRecorder~~~~0.0.1.0"; }

            @{ Match_Name = "*StepsRecorder*wow64*"; IsMatch = "Yes"; Capability = "App.StepsRecorder~~~~0.0.1.0"; }

            @{ Match_Name = "*WordPad*amd64*"; IsMatch = "Yes"; Capability =
"Microsoft.Windows.WordPad~~~~0.0.1.0"; }

            @{ Match_Name = "*WordPad*wow64*"; IsMatch = "Yes"; Capability =
"Microsoft.Windows.WordPad~~~~0.0.1.0"; }

            @{ Match_Name = "*WMIC*FoD*Package*amd64*"; IsMatch = "Yes"; Capability = "WMIC~~~~"; }

            @{ Match_Name = "*WMIC*FoD*Package*wow64*"; IsMatch = "Yes"; Capability = "WMIC~~~~"; }

        )

    }

)

ForEach ($item in $Script:Search_File_Order) { New-Variable -Name "Init_File_Type_${item.Name}" -Value @() -Force }

ForEach ($Wildcard in $Script:Init_Folder_All_File) {

    ForEach ($item in $Script:Search_File_Order) {

        ForEach ($NewRule in $item.Rule) {

            if ($Wildcard -like "*${$NewRule.Match_Name}*") {

                Write-host "`n  Fuzzy matching: " -NoNewline; Write-host $NewRule.Match_Name -ForegroundColor Green

                Write-host "  Language pack file: " -NoNewline; Write-host $Wildcard -ForegroundColor Green

                $OSDefaultUser = (Get-Variable -Name "Init_File_Type_${item.Name}" -ErrorAction SilentlyContinue).Value

                $TempSave = @{ Match_Name = $NewRule.Match_Name; Capability = $NewRule.Capability; FileName =
$Wildcard }

                $new = $OSDefaultUser + $TempSave

                if ($NewRule.IsMatch -eq "Yes") {

                    ForEach ($Component in $InitL_install_Language_Component) {

                        if ($Component -like "*${$NewRule.Match_Name}*") {

                            Write-host "  Component name: " -NoNewline; Write-host $Component -ForegroundColor Green

```

```

        New-Variable -Name "Init_File_Type_$(Item.Name)" -Value $new -Force

        $Script:Init_Folder_All_File_Match_Done += $Wildcard

        break
    }
}

} else {

    Write-host "  Do not match, install directly" -ForegroundColor Yellow

    New-Variable -Name "Init_File_Type_$(Item.Name)" -Value $new -Force

    $Script:Init_Folder_All_File_Match_Done += $Wildcard

}

}

}

}

}

Write-host "`n  Grouping is complete, pending installation" -ForegroundColor Yellow

Write-host "  $('-' * 80)"

ForEach ($Wildcard in $Script:Search_File_Order) {

    $OSDefaultUser = (Get-Variable -Name "Init_File_Type_$(Wildcard.Name)" -ErrorAction SilentlyContinue).Value

    Write-host "`n  $($Wildcard.Description) ( $($OSDefaultUser.Count) item )"

    if ($OSDefaultUser.Count -gt 0) {

        ForEach ($item in $OSDefaultUser) {

            Write-host "  $($item.FileName)" -ForegroundColor Green

        }

    } else {

        Write-host "  Not available" -ForegroundColor Red

    }

}

Write-host "`n  Not matched, no longer installed" -ForegroundColor Yellow; Write-host "  $('-' * 80)"

ForEach ($item in $Script:Init_Folder_All_File) {

    if ($Script:Init_Folder_All_File_Match_Done -notcontains $item) {

        $Script:Init_Folder_All_File_Exclude += $item

        Write-host "  $($item)" -ForegroundColor Red

    }

}

Write-host "`n  Install" -ForegroundColor Yellow; Write-host "  $('-' * 80)"

ForEach ($Wildcard in $Script:Search_File_Order) {

    $OSDefaultUser = (Get-Variable -Name "Init_File_Type_$(Wildcard.Name)" -ErrorAction SilentlyContinue).Value

    Write-host "`n  $($Wildcard.Description) ( $($OSDefaultUser.Count) item )"; Write-host "  $('-' * 80)"

    if ($OSDefaultUser.Count -gt 0) {

        ForEach ($item in $OSDefaultUser) {

            Write-host "  Language pack file: " -NoNewline; Write-host $item.FileName -ForegroundColor Green

            Write-Host "  Installing ".PadRight(22) -NoNewline

            if (Test-Path $item.FileName -PathType Leaf) {

```

```

        try{

            Add-WindowsPackage -Path $Mount -PackagePath $item.FileName | Out-Null

            Write-host "Finish`n" -ForegroundColor Green

        } catch {

            Write-host "Failed" -ForegroundColor Red

            Write-host "  $($_) " -ForegroundColor Red

        }

    } else {

        Write-host "Does not exist`n"

    }

}

} else {

    Write-host "  Not available`n" -ForegroundColor Red

}

}

}

Language_Install -Mount "D:\OS_11_Custom\Install\Install\Mount" -Sources
"D:\OS_11_Custom\Install\Install\Language\Add" -Lang "zh-CN"

```

4.2. Offline image language: change

- Starting Windows 11, the [default System UI Language](#) set by DISM is left unaltered on all editions except for Home edition. For [all commercial editions](#) the language chosen during the Out-of-Box Experience (OOBE) is set as the [System Preferred UI language](#) and Windows will be displayed in this language and for Home edition the language chosen at OOBE will continue to be the default System UI Language.
- As of Windows 10, version 2004, if an .appx-based Language Experience Pack (LXP) backed language is passed as an argument then the language will be set as the System Preferred UI language and its parent language will be set as the Default System UI language. In prior versions only .cab based language packs were supported.

4.2.1. Change default language, regional settings, and other international settings

Region: [zh-CN](#)

```
Dism /Image:"D:\OS_11_Custom\Install\Install\Mount" /Set-AllIntl:zh-CN
```

4.2.2. View available language settings

```
Dism /Image:"D:\OS_11_Custom\Install\Install\Mount" /Get-Intl
```

4.3. Language packs: Removed, optional

- After you add languages, if you want to deploy to a non-English locale, you can save space by removing the English language component. When you remove a language, uninstall the language components in the reverse order in which you added them.

- After adding the Chinese, delete "English - United States" in reverse, the Region tag: en-US, you need to extract the language pack in advance
- Install.Del.Specified.lang.Tag.ps1
 - [\Expand\Install\Install.Del.Specified.lang.Tag.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/Install.Del.Specified.lang.Tag.ps1

- Copy the code

```
$Lang = "en-US"

$Mount = "D:\OS_11_Custom\Install\Install\Mount"

$Sources = "D:\OS_11_Custom\Install\Install\Language\Del\en-US"

$Initl_install_Language_Component = @()

Get-WindowsPackage -Path $Mount | ForEach-Object {

    $Initl_install_Language_Component += $_.PackageName

}

$Language = @(

    @{ Match = "*WordPad*wow64*"; File = "Microsoft-Windows-WordPad-FoD-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*WordPad*amd64*"; File = "Microsoft-Windows-WordPad-FoD-
Package~31bf3856ad364e35~amd64~$(($Lang)~.cab"; }

    @{ Match = "*WMIC*FoD*Package*wow64*"; File = "Microsoft-Windows-WMIC-FoD-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*WMIC*FoD*Package*amd64*"; File = "Microsoft-Windows-WMIC-FoD-
Package~31bf3856ad364e35~AMD64~$(($Lang)~.cab"; }

    @{ Match = "*StepsRecorder*wow64*"; File = "Microsoft-Windows-StepsRecorder-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*StepsRecorder*amd64*"; File = "Microsoft-Windows-StepsRecorder-
Package~31bf3856ad364e35~amd64~$(($Lang)~.cab"; }

    @{ Match = "*Printing*PMCPPC*amd64*"; File = "Microsoft-Windows-Printing-PMCPPC-FoD-
Package~31bf3856ad364e35~AMD64~$(($Lang)~.cab"; }

    @{ Match = "*PowerShell*wow64*"; File = "Microsoft-Windows-PowerShell-ISE-FOD-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*PowerShell*amd64*"; File = "Microsoft-Windows-PowerShell-ISE-FOD-
Package~31bf3856ad364e35~amd64~$(($Lang)~.cab"; }

    @{ Match = "*MediaPlayer*wow64*"; File = "Microsoft-Windows-MediaPlayer-Package-wow64-$(($Lang).cab"; }

    @{ Match = "*MediaPlayer*amd64*"; File = "Microsoft-Windows-MediaPlayer-Package-AMD64-$(($Lang).cab"; }

    @{ Match = "*Notepad*wow64*"; File = "Microsoft-Windows-Notepad-System-FoD-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*Notepad*amd64*"; File = "Microsoft-Windows-Notepad-System-FoD-
Package~31bf3856ad364e35~AMD64~$(($Lang)~.cab"; }

    @{ Match = "*InternetExplorer*"; File = "Microsoft-Windows-InternetExplorer-Optional-
Package~31bf3856ad364e35~AMD64~$(($Lang)~.cab"; }

    @{ Match = "*TextToSpeech*"; File = "Microsoft-Windows-LanguageFeatures-TextToSpeech-$(($Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }
```

```

        @{ Match = "*LanguageFeatures-Speech*"; File = "Microsoft-Windows-LanguageFeatures-Speech-$(Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

        @{ Match = "*OCR*"; File = "Microsoft-Windows-LanguageFeatures-OCR-$(Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

        @{ Match = "*Handwriting*"; File = "Microsoft-Windows-LanguageFeatures-Handwriting-$(Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

        @{ Match = "*LanguageFeatures-Basic*"; File = "Microsoft-Windows-LanguageFeatures-Basic-$(Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

        @{ Match = "*Client-LanguagePack-Package*"; File = "Microsoft-Windows-Client-Language-Pack_x64_$(Lang).cab"; }
    )

    ForEach ($Rule in $Language) {

        Write-host "`n Rule name: $($Rule.Match)" -ForegroundColor Yellow; Write-host "  $('-' * 80)"

        ForEach ($Component in $Initl_install_Language_Component) {

            if ($Component -like "*$(Rule.Match)*$(Lang)*") {

                Write-host "  Component name: " -NoNewLine

                Write-host $Component -ForegroundColor Green

                Write-host "  Language pack file: " -NoNewLine

                Write-host "$($Sources)\$(Rule.File)" -ForegroundColor Green

                Write-Host "  Deleting ".PadRight(22) -NoNewLine

                try {

                    Remove-WindowsPackage -Path $Mount -PackagePath "$($Sources)\$(Rule.File)" -ErrorAction SilentlyContinue
                } Out-Null

                Write-host "Finish" -ForegroundColor Green

            } catch {

                Write-host "Failed" -ForegroundColor Red

                Write-host "  $($_) " -ForegroundColor Red

            }

            break

        }

    }

}

$InitlClearLanguagePackage = @()

Get-WindowsPackage -Path $Mount | ForEach-Object {

    if ($_.PackageName -like "*$(Lang)*") {

        $InitlClearLanguagePackage += $_.PackageName

    }

}

if ($InitlClearLanguagePackage.count -gt 0) {

    ForEach ($item in $InitlClearLanguagePackage) {

        Write-Host "`n  $($item)" -ForegroundColor Green

        Write-Host "  Deleting ".PadRight(22) -NoNewLine

        try {

            Remove-AppxProvisionedPackage -Path $Mount -PackageName $item -ErrorAction SilentlyContinue | Out-Null

            Write-host "Finish" -ForegroundColor Green

        }
    }
}

```

```

    } catch {
        Write-host "Failed" -ForegroundColor Red

        Write-host "  $($_) " -ForegroundColor Red
    }
}
}
}

```

4.4. Components: All packages installed in the image

4.4.1. View

```
Get-WindowsPackage -Path "D:\OS_11_Custom\Install\Install\Mount" | Out-GridView
```

4.4.2. Export to csv

```

$SaveTo = "D:\OS_11_Custom\Install\Install\Report.$(Get-Date -Format "yyyyMMddHHmmss").csv"

Get-WindowsPackage -Path "D:\OS_11_Custom\Install\Install\Mount" | Export-CSV -NoType -Path $SaveTo

Write-host $SaveTo -ForegroundColor Green

```

5. InBox Apps

5.1. Learn "[InBox Apps: Known application](#)"

Learn about pre-installed apps for different operating systems, app store connections.

5.2. InBox Apps: Installed

5.2.1. View

```
Get-AppXProvisionedPackage -Path "D:\OS_11_Custom\Install\Install\Mount" | Out-GridView
```

5.2.2. Export to Csv

```

$SaveTo = "D:\OS_11_Custom\Install\Install\Report.$(Get-Date -Format "yyyyMMddHHmmss").csv"

Get-AppXProvisionedPackage -Path "D:\OS_11_Custom\Install\Install\Mount" | Export-CSV -NoType -Path
$SaveTo

Write-host $SaveTo -ForegroundColor Green

```

5.3. Remove all installed pre-applications

- Install.InBox.Appx.Clear.all.ps1
 - [\Expand\Install\Install.InBox.Appx.Clear.all.ps1](#)

- https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/Install.InBox.Appx.Clear.all.ps1

- Copy the code

```
Get-AppXProvisionedPackage -path "D:\OS_11_Custom\Install\Install\Mount" -ErrorAction SilentlyContinue | ForEach-Object {
    Write-host "`n $($_.DisplayName)"; Write-Host "  Deleting ".PadRight(22) -NoNewline
    try {
        Remove-AppxProvisionedPackage -Path "D:\OS_11_Custom\Install\Install\Mount" -PackageName $_.PackageName -ErrorAction SilentlyContinue | Out-Null
        Write-host "Finish" -ForegroundColor Green
    } catch {
        Write-host "Failed" -ForegroundColor Red
    }
}
```

5.4. Region tag: Understanding

Before understanding zone tags, first understand the list of languages available in the ZuneMusic app: **en-us**, en-gb, as-in, az-latn-az, bs-latn-ba, bn-in, cs-cz, cy-gb, ar-sa, de-de, af-za, am-et, da-dk, el-gr, es-es, es-mx, ca-es, ca-es-valencia, eu-es, fi-fi, bg-bg, ga-ie, et-ee, gl-es, gu-in, gd-gb, fil-ph, fr-ca, fr-fr, hy-am, fa-ir, hu-hu, id-id, it-it, ja-jp, hr-hr, ka-ge, is-is, he-il, hi-in, kk-kz, lo-la, km-kh, lt-lt, kn-in, kok-in, ko-kr, mk-mk, lv-lv, ms-my, mi-nz, mr-in, mt-mt, ne-np, nl-nl, nb-no, ml-in, nn-no, lb-lu, or-in, ro-ro, sk-sk, ru-ru, pl-pl, quz-pe, pt-br, pt-pt, sq-al, ta-in, th-th, sv-se, pa-in, sr-cyrl-ba, sr-cyrl-rs, sr-latn-rs, ur-pk, ug-cn, tr-tr, uk-ua, tt-ru, **zh-cn**, vi-vn, uz-latn-uz, sl-si, zh-tw, te-in

View installed languages for offline images

```
Dism /Image:"D:\OS_11_Custom\Install\Install\Mount" /Get-Intl
```

View results for installed languages: **en-US**, **zh-CN**, When installing the ZuneMusic app, the installer will match "Installed Languages" and automatically filter the list of uninstalled languages, This is the area tag.

5.5. Region tag: adding method

5.5.1. Execute "Language Pack: Add"

5.5.2. Install “Local Language Experience Packages (LXPs)”

Microsoft officially provides the Local Language Experience Package (LXPS) installation file for Windows 10. It will no longer be provided for Windows 11. To obtain the offline installation package:

5.5.2.1. Download using the Windows Local Language Experience Packs (LXPs) Downloader

learn: <https://github.com/ilikeyi/LXPs>

After downloading, save to: **D:\OS_11_Custom\Install\Install\InBox.Appx**

File format: `LanguageExperiencePack.zh-CN.Neutral.Appx`

5.5.2.2. Manual download

5.5.2.2.1. View "Attachment: LXPs"

Waiting to download Local Language Experience Packs (LXPs) for "Simplified Chinese - China", Region: zh-CN, application ID: `9NRMNT6GMZ70`, Store link: <https://www.microsoft.com/store/productId/9NRMNT6GMZ70>

5.5.2.2.2. Open the website: <https://store.rg-adguard.net>

5.5.2.2.2.1. Search keywords: <https://www.microsoft.com/store/productId/9NRMNT6GMZ70>

5.5.2.2.2.2. Search `22621` content in the web page, search results: `Microsoft.LanguageExperiencePackzh-CN_22621.*.neutral__8wekyb3d8bbwe.appx`

5.5.2.2.2.3. After downloading, save it to the `D:\OS_11_Custom\Install\Install\InBox.Appx` directory and rename it: `LanguageExperiencePack.zh-cn.Neutral.Appx`

5.5.2.3. Execute the installation command to install the local language experience package (LXPs)

After understanding how to add zone tags, obtain `LanguageExperiencePack.zh-cn.Neutral`, execute the installation command:

```
Add-AppxProvisionedPackage -Path "D:\OS_11_Custom\Install\Install\Mount" -PackagePath "D:\OS_11_Custom\Install\Install\InBox.appx\LanguageExperiencePack.zh-cn.Neutral.appx" -SkipLicense
```

5.5.2.4. InBox Apps: An installed application package

5.5.2.4.1. View

```
Get-AppXProvisionedPackage -Path "D:\OS_11_Custom\Install\Install\Mount" | Out-GridView
```

5.5.2.4.2. Export to Csv

```
$SaveTo = "D:\OS_11_Custom\Install\Install\Report.$(Get-Date -Format "yyyyMMddHHmmss").csv"

Get-AppXProvisionedPackage -Path "D:\OS_11_Custom\Install\Install\Mount" | Export-CSV -NoType -Path $SaveTo
```


Write-host \$SaveTo -ForegroundColor Green

5.6. Inbox Apps: Install

5.6.1. Mount or decompress the Inbox Apps installation file

Mount [22621.1.220506-1250.ni_release_amd64fre_InboxApps.iso](#) or extract to any location;

5.6.2. After executing the installation command, install Inbox Apps to: Install.wim

- [Auto](#) = Automatically search all local disks, default;
- Custom path, e.g. specify F drive: [\\$ISO = "F:\packages"](#)
- [Install.Inst.InBox.Appx.ps1](#)
 - [\Expand\Install\Install.Inst.InBox.Appx.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/Install.Inst.InBox.Appx.ps1

- Copy the code

```
$ISO = "Auto"

$Mount = "D:\OS_11_Custom\Install\Install\Mount"

try {

    Write-host "`n Offline image version: " -NoNewline

    $Current_Edition_Version = (Get-WindowsEdition -Path $Mount).Edition

    Write-Host $Current_Edition_Version -ForegroundColor Green

} catch {

    Write-Host "Error" -ForegroundColor Red

    Write-Host " $($_) " -ForegroundColor Yellow

    return

}

$Pre_Config_Rules = @(

    @(

        Name = @( "Core"; "CoreN"; "CoreSingleLanguage"; )

        Apps = @(

            "Microsoft.UI.Xaml.2.3"; "Microsoft.UI.Xaml.2.4"; "Microsoft.UI.Xaml.2.7";

            "Microsoft.NET.Native.Framework.2.2"; "Microsoft.NET.Native.Runtime.2.2"; "Microsoft.VCLibs.140.00";

            "Microsoft.VCLibs.140.00.UWPDesktop"; "Microsoft.HEIFImageExtension";

            "Microsoft.HEVCVideoExtension"; "Microsoft.SecHealthUI"; "Microsoft.VP9VideoExtensions";

            "Microsoft.WebpImageExtension"; "Microsoft.WindowsStore"; "Microsoft.GamingApp";

            "Microsoft.Sticky.Notes"; "Microsoft.Paint"; "Microsoft.PowerAutomateDesktop"; "Microsoft.ScreenSketch";

            "Microsoft.WindowsNotepad"; "Microsoft.WindowsTerminal"; "Clipchamp.Clipchamp";

            "Microsoft.Solitaire.Collection"; "Microsoft.WindowsAlarms"; "Microsoft.WindowsFeedbackHub";

            "Microsoft.WindowsMaps"; "Microsoft.ZuneMusic"; "Microsoft.BingNews"; "Microsoft.DesktopAppInstaller";

            "Microsoft.WindowsCamera"; "Microsoft.Getstarted"; "Microsoft.Cortana"; "Microsoft.BingWeather";

            "Microsoft.GetHelp"; "Microsoft.MicrosoftOfficeHub"; "Microsoft.People"; "Microsoft.StorePurchaseApp";
```

```

"Microsoft.Todos"; "Microsoft.WebMediaExtensions"; "Microsoft.Windows.Photos";
"Microsoft.WindowsCalculator"; "Microsoft.Windows.CommunicationsApps";
"Microsoft.WindowsSoundRecorder"; "Microsoft.Xbox.TCUI"; "Microsoft.XboxGameOverlay";
"Microsoft.XboxGamingOverlay"; "Microsoft.XboxIdentityProvider"; "Microsoft.XboxSpeechToTextOverlay";
"Microsoft.YourPhone"; "Microsoft.ZuneVideo"; "MicrosoftCorporationII.QuickAssist";
"MicrosoftWindows.Client.WebExperience"; "Microsoft.RawImageExtension";
"MicrosoftCorporationII.MicrosoftFamily";

    )

}

@{

    Name = @( "Education"; "Professional"; "ProfessionalEducation"; "ProfessionalWorkstation";
"Enterprise"; "IoTEnterprise"; "ServerRdsh"; )

    Apps = @(

        "Microsoft.UI.Xaml.2.3"; "Microsoft.UI.Xaml.2.4"; "Microsoft.UI.Xaml.2.7";
"Microsoft.NET.Native.Framework.2.2"; "Microsoft.NET.Native.Runtime.2.2"; "Microsoft.VCLibs.140.00";
"Microsoft.VCLibs.140.00.UWPDesktop"; "Microsoft.HEIFImageExtension";
"Microsoft.HEVCVideoExtension"; "Microsoft.SecHealthUI"; "Microsoft.VP9VideoExtensions";
"Microsoft.WebpImageExtension"; "Microsoft.WindowsStore"; "Microsoft.GamingApp";
"Microsoft.Sticky.Notes"; "Microsoft.Paint"; "Microsoft.PowerAutomateDesktop"; "Microsoft.ScreenSketch";
"Microsoft.WindowsNotepad"; "Microsoft.WindowsTerminal"; "Clipchamp.Clipchamp";
"Microsoft.Solitaire.Collection"; "Microsoft.WindowsAlarms"; "Microsoft.WindowsFeedbackHub";
"Microsoft.WindowsMaps"; "Microsoft.ZuneMusic"; "Microsoft.BingNews"; "Microsoft.DesktopAppInstaller";
"Microsoft.WindowsCamera"; "Microsoft.Getstarted"; "Microsoft.Cortana"; "Microsoft.BingWeather";
"Microsoft.GetHelp"; "Microsoft.MicrosoftOfficeHub"; "Microsoft.People"; "Microsoft.StorePurchaseApp";
"Microsoft.Todos"; "Microsoft.WebMediaExtensions"; "Microsoft.Windows.Photos";
"Microsoft.WindowsCalculator"; "Microsoft.Windows.CommunicationsApps";
"Microsoft.WindowsSoundRecorder"; "Microsoft.Xbox.TCUI"; "Microsoft.XboxGameOverlay";
"Microsoft.XboxGamingOverlay"; "Microsoft.XboxIdentityProvider"; "Microsoft.XboxSpeechToTextOverlay";
"Microsoft.YourPhone"; "Microsoft.ZuneVideo"; "MicrosoftCorporationII.QuickAssist";
"MicrosoftWindows.Client.WebExperience"; "Microsoft.RawImageExtension";

    )

}

@{

    Name = @( "EnterpriseN"; "EnterpriseGN"; "EnterpriseSN"; "ProfessionalN"; "EducationN";
"ProfessionalWorkstationN"; "ProfessionalEducationN"; "CloudN"; "CloudEN"; "CloudEditionN";
"CloudEditionLN"; "StarterN"; )

    Apps = @(

        "Microsoft.UI.Xaml.2.3"; "Microsoft.UI.Xaml.2.4"; "Microsoft.UI.Xaml.2.7";
"Microsoft.NET.Native.Framework.2.2"; "Microsoft.NET.Native.Runtime.2.2"; "Microsoft.VCLibs.140.00";
"Microsoft.VCLibs.140.00.UWPDesktop"; "Microsoft.SecHealthUI"; "Microsoft.WindowsStore";
"Microsoft.Sticky.Notes"; "Microsoft.Paint"; "Microsoft.PowerAutomateDesktop"; "Microsoft.ScreenSketch";
"Microsoft.WindowsNotepad"; "Microsoft.WindowsTerminal"; "Clipchamp.Clipchamp";
"Microsoft.Solitaire.Collection"; "Microsoft.WindowsAlarms"; "Microsoft.WindowsFeedbackHub";
"Microsoft.WindowsMaps"; "Microsoft.BingNews"; "Microsoft.DesktopAppInstaller";
"Microsoft.WindowsCamera"; "Microsoft.Getstarted"; "Microsoft.Cortana"; "Microsoft.BingWeather";
"Microsoft.GetHelp"; "Microsoft.MicrosoftOfficeHub"; "Microsoft.People"; "Microsoft.StorePurchaseApp";
"Microsoft.Todos"; "Microsoft.Windows.Photos"; "Microsoft.WindowsCalculator";
"Microsoft.Windows.CommunicationsApps"; "Microsoft.XboxGameOverlay";
"Microsoft.XboxIdentityProvider"; "Microsoft.XboxSpeechToTextOverlay"; "Microsoft.YourPhone";
"MicrosoftCorporationII.QuickAssist"; "MicrosoftWindows.Client.WebExperience";

    )

}

```

```

)

$Allow_Install_App = @()

ForEach ($item in $Pre_Config_Rules) {

    if ($item.Name -contains $Current_Edition_Version) {

        Write-host "`n  Match to: "-NoNewline

        Write-host $Current_Edition_Version -ForegroundColor Green

        $Allow_Install_App = $item.Apps

        break

    }

}

Write-host "`n  The app to install ( $($Allow_Install_App.Count) item )" -ForegroundColor Yellow

Write-host "  $('-' * 80)"

ForEach ($item in $Allow_Install_App) {

    Write-host "  $($item)" -ForegroundColor Green

}

$InBoxApps = @(

    @{ Name = "Microsoft.UI.Xaml.2.3"; File = "Microsoft.UI.Xaml.x64.2.3.appx"; License = ""; }

    @{ Name = "Microsoft.UI.Xaml.2.4"; File = "Microsoft.UI.Xaml.x64.2.4.appx"; License = ""; }

    @{ Name = "Microsoft.UI.Xaml.2.7"; File = "Microsoft.UI.Xaml.x64.2.7.appx"; License = ""; }

    @{ Name = "Microsoft.NET.Native.Framework.2.2"; File = "Microsoft.NET.Native.Framework.x64.2.2.appx";
License = ""; }

    @{ Name = "Microsoft.NET.Native.Runtime.2.2"; File = "Microsoft.NET.Native.Runtime.x64.2.2.appx";
License = ""; }

    @{ Name = "Microsoft.VCLibs.140.00"; File = "Microsoft.VCLibs.x64.14.00.appx"; License = ""; }

    @{ Name = "Microsoft.VCLibs.140.00.UWPDesktop"; File =
"Microsoft.VCLibs.x64.14.00.UWPDesktop.appx"; License = ""; }

    @{ Name = "Microsoft.WindowsStore"; File = "Microsoft.WindowsStore_8wekyb3d8bbwe.msixbundle";
License = "Microsoft.WindowsStore_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.HEIFImageExtension"; File =
"Microsoft.HEIFImageExtension_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.HEIFImageExtension_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.HEVCVideoExtension"; File =
"Microsoft.HEVCVideoExtension_8wekyb3d8bbwe.x64.appx"; License =
"Microsoft.HEVCVideoExtension_8wekyb3d8bbwe.x64.xml"; }

    @{ Name = "Microsoft.SecHealthUI"; File = "Microsoft.SecHealthUI_8wekyb3d8bbwe.x64.appx"; License =
"Microsoft.SecHealthUI_8wekyb3d8bbwe.x64.xml"; }

    @{ Name = "Microsoft.VP9VideoExtensions"; File =
"Microsoft.VP9VideoExtensions_8wekyb3d8bbwe.x64.appx"; License =
"Microsoft.VP9VideoExtensions_8wekyb3d8bbwe.x64.xml"; }

    @{ Name = "Microsoft.WebplImageExtension"; File =
"Microsoft.WebplImageExtension_8wekyb3d8bbwe.x64.appx"; License =
"Microsoft.WebplImageExtension_8wekyb3d8bbwe.x64.xml"; }

    @{ Name = "Microsoft.GamingApp"; File = "Microsoft.GamingApp_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.GamingApp_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.Sticky.Notes"; File = "Microsoft.MicrosoftStickyNotes_8wekyb3d8bbwe.msixbundle";
License = "Microsoft.MicrosoftStickyNotes_8wekyb3d8bbwe.xml"; }

```

```

    @{ Name = "Microsoft.Paint"; File = "Microsoft.Paint_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.Paint_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.PowerAutomateDesktop"; File =
"Microsoft.PowerAutomateDesktop_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.PowerAutomateDesktop_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.ScreenSketch"; File = "Microsoft.ScreenSketch_8wekyb3d8bbwe.msixbundle";
License = "Microsoft.ScreenSketch_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.WindowsNotepad"; File =
"Microsoft.WindowsNotepad_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.WindowsNotepad_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.WindowsTerminal"; File =
"Microsoft.WindowsTerminal_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.WindowsTerminal_8wekyb3d8bbwe.xml"; }

    @{ Name = "Clipchamp.Clipchamp"; File = "Clipchamp.Clipchamp_yxz26nhyzhsrt.msixbundle"; License =
"Clipchamp.Clipchamp_yxz26nhyzhsrt.xml"; }

    @{ Name = "Microsoft.Solitaire.Collection"; File =
"Microsoft.MicrosoftSolitaireCollection_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.MicrosoftSolitaireCollection_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.WindowsAlarms"; File = "Microsoft.WindowsAlarms_8wekyb3d8bbwe.msixbundle";
License = "Microsoft.WindowsAlarms_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.WindowsFeedbackHub"; File =
"Microsoft.WindowsFeedbackHub_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.WindowsFeedbackHub_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.WindowsMaps"; File = "Microsoft.WindowsMaps_8wekyb3d8bbwe.msixbundle";
License = "Microsoft.WindowsMaps_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.ZuneMusic"; File = "Microsoft.ZuneMusic_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.ZuneMusic_8wekyb3d8bbwe.xml"; }

    @{ Name = "MicrosoftCorporationII.MicrosoftFamily"; File =
"MicrosoftCorporationII.MicrosoftFamily_8wekyb3d8bbwe.msixbundle"; License =
"MicrosoftCorporationII.MicrosoftFamily_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.BingNews"; File = "Microsoft.BingNews_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.BingNews_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.DesktopAppInstaller"; File =
"Microsoft.DesktopAppInstaller_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.DesktopAppInstaller_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.WindowsCamera"; File =
"Microsoft.WindowsCamera_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.WindowsCamera_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.Getstarted"; File = "Microsoft.Getstarted_8wekyb3d8bbwe.msixbundle"; License =
"Microsoft.Getstarted_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.Cortana"; File = "Microsoft.CortanaApp_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.CortanaApp_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.BingWeather"; File = "Microsoft.BingWeather_8wekyb3d8bbwe.appxbundle"; License
= "Microsoft.BingWeather_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.GetHelp"; File = "Microsoft.GetHelp_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.GetHelp_8wekyb3d8bbwe.xml"; }

    @{ Name = "Microsoft.MicrosoftOfficeHub"; File =
"Microsoft.MicrosoftOfficeHub_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.MicrosoftOfficeHub_8wekyb3d8bbwe.xml"; }

```

```

        @{ Name = "Microsoft.People"; File = "Microsoft.People_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.People_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.StorePurchaseApp"; File =
"Microsoft.StorePurchaseApp_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.StorePurchaseApp_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.Todos"; File = "Microsoft.Todos_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.Todos_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.WebMediaExtensions"; File =
"Microsoft.WebMediaExtensions_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.WebMediaExtensions_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.Windows.Photos"; File = "Microsoft.Windows.Photos_8wekyb3d8bbwe.appxbundle";
License = "Microsoft.Windows.Photos_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.WindowsCalculator"; File =
"Microsoft.WindowsCalculator_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.WindowsCalculator_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.Windows.CommunicationsApps"; File =
"Microsoft.WindowsCommunicationsApps_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.WindowsCommunicationsApps_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.WindowsSoundRecorder"; File =
"Microsoft.WindowsSoundRecorder_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.WindowsSoundRecorder_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.Xbox.TCUI"; File = "Microsoft.Xbox.TCUI_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.Xbox.TCUI_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.XboxGameOverlay"; File =
"Microsoft.XboxGameOverlay_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.XboxGameOverlay_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.XboxGamingOverlay"; File =
"Microsoft.XboxGamingOverlay_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.XboxGamingOverlay_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.XboxIdentityProvider"; File =
"Microsoft.XboxIdentityProvider_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.XboxIdentityProvider_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.XboxSpeechToTextOverlay"; File =
"Microsoft.XboxSpeechToTextOverlay_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.XboxSpeechToTextOverlay_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.YourPhone"; File = "Microsoft.YourPhone_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.YourPhone_8wekyb3d8bbwe.xml"; }

        @{ Name = "Microsoft.ZuneVideo"; File = "Microsoft.ZuneVideo_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.ZuneVideo_8wekyb3d8bbwe.xml"; }

        @{ Name = "MicrosoftCorporationII.QuickAssist"; File =
"MicrosoftCorporationII.QuickAssist_8wekyb3d8bbwe.appxbundle"; License =
"MicrosoftCorporationII.QuickAssist_8wekyb3d8bbwe.xml"; }

        @{ Name = "MicrosoftWindows.Client.WebExperience"; File =
"MicrosoftWindows.Client.WebExperience_cw5n1h2txyewy.appxbundle"; License =
"MicrosoftWindows.Client.WebExperience_cw5n1h2txyewy.xml"; }

        @{ Name = "Microsoft.RawImageExtension"; File =
"Microsoft.RawImageExtension_8wekyb3d8bbwe.appxbundle"; License =
"Microsoft.RawImageExtension_8wekyb3d8bbwe.xml"; }

    )

Function Install_Appx

```

```

{

    param ( $File, $License )

    Write-host "  $('-' * 80)"

    Write-host "  Installing: " -NoNewline; Write-host $File -ForegroundColor Yellow

    if (Test-Path -Path $File -PathType Leaf) {

        if (Test-Path -Path $License -PathType Leaf) {

            Write-host "    License: " -NoNewline; Write-host $License -ForegroundColor Yellow

            Write-host "    With License".PadRight(22) -NoNewline -ForegroundColor Green

            Write-host "    Installing".PadRight(22) -NoNewline

            try {

                Add-AppxProvisionedPackage -Path $Mount -PackagePath $File -LicensePath $License -ErrorAction
SilentlyContinue | Out-Null

                Write-Host "Done" -ForegroundColor Green

            } catch {

                Write-Host "Failed" -ForegroundColor Red

                Write-Host "  $($_) " -ForegroundColor Yellow

            }

        } else {

            Write-host "    No License".PadRight(22) -NoNewline -ForegroundColor Red

            Write-host "    Installing".PadRight(22) -NoNewline

            try {

                Add-AppxProvisionedPackage -Path $Mount -PackagePath $File -SkipLicense -ErrorAction
SilentlyContinue | Out-Null

                Write-Host "Done" -ForegroundColor Green

            } catch {

                Write-Host "Failed" -ForegroundColor Red

                Write-Host "  $($_) " -ForegroundColor Yellow

            }

        }

    } else {

        Write-host "    The installation package does not exist" -ForegroundColor Red

    }

}

ForEach ($Rule in $InBoxApps) {

    Write-host "`n  Name: " -NoNewline

    Write-host $Rule.Name -ForegroundColor Yellow

    Write-host "  $('-' * 80)"

    if($Allow_Install_App -contains $Rule.Name) {

        Write-host "    Search for apps: " -NoNewline

        Write-host $Rule.File -ForegroundColor Yellow

        Write-host "    Search for License: " -NoNewline

        Write-host $Rule.File -ForegroundColor Yellow

        if ($ISO -eq "Auto") {

```

```

Get-PSDrive -PSProvider FileSystem -ErrorAction SilentlyContinue | ForEach-Object {

    $AppPath = Join-Path -Path $_.Root -ChildPath "packages\$($Rule.File)" -ErrorAction SilentlyContinue

    $LicensePath = Join-Path -Path $_.Root -ChildPath "packages\$($Rule.License)" -ErrorAction
    SilentlyContinue

    if (Test-Path $AppPath -PathType Leaf) {

        Write-host "  $('-' * 80)"

        Write-host "  Discover apps: " -NoNewLine; Write-host $AppPath -ForegroundColor Green

        if (Test-Path $LicensePath -PathType Leaf) {

            Write-host "  Discover License: " -NoNewLine; Write-host $LicensePath -ForegroundColor Green

        } else {

            Write-host "  License: " -NoNewLine; Write-host "Not found" -ForegroundColor Red

        }

        Install_Appx -File $AppPath -License $LicensePath

        return

    }

}

} else {

    Install_Appx -File "$($ISO)\$($Rule.File)" -License "$($ISO)\$($Rule.License)"

}

} else {

    Write-host "  Skip the installation" -ForegroundColor Red

}

}

```

5.7. Region tag: delete

- After completing the installation of the InBox Apps application, the Region tag is no longer important and can be deleted or not deleted. Delete "Local Language Experience Package (LXPs), Simplified Chinese - China" and uniquely identify the Region tag: **zh-CN**, can be changed to other Region tag.
- Install.Clear.Flag.ps1
 - [\Expand\Install\Install.Clear.Flag.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/Install.Clear.Flag.ps1
- Copy the code

```

$Lang = "zh-CN"

Get-AppXProvisionedPackage -Path "D:\OS_11_Custom\Install\Install\Mount" | Foreach-object {

    if ($_.DisplayName -Like "*LanguageExperiencePack*$($Lang)*") {

        Write-host "  $_.DisplayName"; Write-Host "  Deleting ".PadRight(22) -NoNewline

        try {

            Remove-AppxProvisionedPackage -Path "D:\OS_11_Custom\Install\Install\Mount" -PackageName
            $_.PackageName -ErrorAction SilentlyContinue | Out-Null

        }
    }
}

```



```

        Write-host "Finish" -ForegroundColor Green
    } catch {
        Write-host "Failed" -ForegroundColor Red
    }
}
}
}

```

5.8. InBox Apps: optimization

After the app is installed, provisioning the Appx package should be optimized to reduce the app's disk usage by replacing identical files with hard links, only for offline images.

```
Dism /Image:"D:\OS_11_Custom\Install\Install\Mount" /Optimize-ProvisionedAppxPackages
```

6. Cumulative updates

It is recommended that you download the latest version, which provides cumulative updates of the initial version to solve the problem of refreshing the "Component: All packages installed in the image" status after reinstalling the same version number.

6.1. Initial version

6.1.1. How to download

Cumulative update **KB5016632** is no longer searchable from

<https://www.catalog.update.microsoft.com/Search.aspx?q=KB5016632>.

6.1.1.1. Select any website and open:

6.1.1.1.1. <https://uupdump.net>

6.1.1.1.2. <https://uup.ee>

6.1.1.2. After opening, search for keywords: **22621.382**, select from the search results: **Windows 11, version 22H2 (22621.382) amd64**

6.1.1.3. After opening, select "**All files**";

6.1.1.4. Search for: **KB5016632** in the "All Files" page, download:

- **Windows11.0-KB5016632-x64.cab**
- **Windows11.0-KB5016632-x64.psf**

6.1.1.5. Cumulative updates: Merging

6.1.1.5.1. Go to <https://github.com/abbodi1406/WHd/tree/master/scripts> After downloading **PSFX_Repack_6.zip**

6.1.1.5.2. After downloading, unzip it to: **D:\PSFX_Repack_6**

6.1.1.5.3. Copy `Windows11.0-KB5016632-x64.cab`, `Windows11.0-KB5016632-x64.ps` to:
`D:\PSFX_Repack_6`

6.1.1.5.4. After running: `psfx2cab_GUI.cmd`, you will get a new file:
`Windows11.0-KB5016632-x64-full_psfx.cab`

6.1.1.5.5. Save `Windows11.0-KB5016632-x64-full_psfx.cab` to:
`D:\OS_11_Custom\Install\Install\Update\Windows11.0-KB5016632-x64-full_psfx.cab`

6.1.2. Add

`$KBPath = "D:\OS_11_Custom\Install\Install\Update\Windows11.0-KB5016632-x64-full_psfx.cab"`

`Add-WindowsPackage -Path "D:\OS_11_Custom\Install\Install\Mount" -PackagePath $KBPath`

6.2. Other Version

6.2.1. How to download

Check out "[Windows 11 version information](#)", for example, to download the cumulative update: `KB5030219`, go to the download page: <https://www.catalog.update.microsoft.com/Search.aspx?q=KB5030219> or "[Direct download](#)", Save to:

`D:\OS_11_Custom\Install\Install\Update\windoOS_11.0-kb5030219-x64_659d407821da654d564a3108bf493594bd143ab1.msu`

6.2.2. Add

`$KBPath = "D:\OS_11_Custom\Install\Install\Update\windoOS_11.0-kb5030219-x64_659d407821da654d564a3108bf493594bd143ab1.msu"`

`Add-WindowsPackage -Path "D:\OS_11_Custom\Install\Install\Mount" -PackagePath $KBPath`

6.3. Solidify Updated, optional

It cannot be uninstalled after curing, which cleans the recovery image and resets the basis of any superseded components.

`Dism /Image:"D:\OS_11_Custom\Install\Install\Mount" /cleanup-image /StartComponentCleanup /ResetBase`

6.3.1. Clean components after curing and updating, optional

```
$Mount = "D:\OS_11_Custom\Install\Install\Mount"

Get-WindowsPackage -Path $Mount -ErrorAction SilentlyContinue | ForEach-Object {

    if ($_.PackageState -eq "Superseded") {

        Write-Host "  $($_.PackageName)" -ForegroundColor Green

        Remove-WindowsPackage -Path $Mount -PackageName $_.PackageName | Out-Null
    }
}
```

```
}  
  
}
```

7. Drive, optional

8. Add deployment engine, optional

- Learn "Deployment Engine", if added to ISO installation media, can skip adding to mounted.
- After adding the deployment engine, continue at the current location.

9. Health

Before saving, check whether it is damaged. If the health status is abnormal, stop saving.

```
Repair-WindowsImage -Path "D:\OS_11_Custom\Install\Install\Mount" -ScanHealth
```

10. Replace WinRE.wim

WinRE.wim in all index numbers in Install.wim has been replaced in batches. Please skip this step.

```
$WinRE = "D:\OS_11_Custom\Install\Install\Update\Winlib\WinRE.wim"
```

```
$CopyTo = "D:\OS_11_Custom\Install\Install\Mount\Windows\System32\Recovery"
```

```
Copy-Item -Path $WinRE -Destination $CopyTo -Force
```

11. Save image: Install.wim

```
Save-WindowsImage -Path "D:\OS_11_Custom\Install\Install\Mount"
```

12. Unmount image: Install.wim

Close any applications that may be accessing files in the image, including File Explorer.

```
Dismount-WindowsImage -Path "D:\OS_11_Custom\Install\Install\Mount" -Discard
```

LOOP OPERATING AREA, END.

13. Rebuilding Install.wim reduces file size

- Install.Rebuild.wim.ps1
 - [\Expand\Install\Install.Rebuild.wim.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/Install.Rebuild.wim.ps1

- Copy the code

```
$InstallWim = "D:\OS_11\sources\install.wim"

Get-WindowsImage -ImagePath $InstallWim -ErrorAction SilentlyContinue | ForEach-Object {

    Write-Host "  Image name: " -NoNewline; Write-Host $_.ImageName -ForegroundColor Yellow

    Write-Host "  The index number: " -NoNewline; Write-Host $_.ImageIndex -ForegroundColor Yellow

    Write-Host "`n  Under reconstruction".PadRight(28) -NoNewline

    Export-WindowsImage -SourceImagePath $InstallWim -SourceIndex $_.ImageIndex -DestinationImagePath
"$($InstallWim).New" -CompressionType max | Out-Null

    Write-Host "Finish`n" -ForegroundColor Green

}

if (Test-Path "$($InstallWim).New" -PathType Leaf) {

    Remove-Item -Path $InstallWim

    Move-Item -Path "$($InstallWim).New" -Destination $InstallWim

    Write-Host "Finish" -ForegroundColor Green

} else {

    Write-host "Failed" -ForegroundColor Red

}
```

14. How to batch replace WinRE.wim in all index numbers in Install.wim

14.1. Obtain WimLib

After going to the official website of <https://wimlib.net>, select a different version: [arm64](#), [x64](#), [x86](#), and extract it to:

[D:Wimlib](#) after downloading

14.2. How to extract and update WinRE.wim in Install.wim

14.2.1. Extract the WinRE.wim file Install.wim from Install.wim

- Install.WinRE.Extract.ps1
 - [\Expand\Install\Install.WinRE.Extract.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/Install.WinRE.Extract.ps1

- Copy the code

```
$Arguments = @(
    "extract",
    "D:\OS_11\sources\install.wim", "1",
    "\Windows\System32\Recovery\Winre.wim",
    "--dest-dir=""D:\OS_11_Custom\Install\Install\Update\Winlib""
)

New-Item -Path "D:\OS_11_Custom\Install\Install\Update\Winlib" -ItemType Directory -ea SilentlyContinue

Start-Process -FilePath "d:\wimlib\wimlib-imagex.exe" -ArgumentList $Arguments -wait -nonewwindow
```

14.2.2. Get all index numbers of Install.wim and replace the old WinRE.wim

- Install.WinRE.Replace.wim.ps1
 - [\Expand\Install\Install.WinRE.Replace.wim.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Install/Install.WinRE.Replace.wim.ps1

- Copy the code

```
Get-WindowsImage -ImagePath "D:\OS_11\sources\install.wim" -ErrorAction SilentlyContinue | ForEach-Object{  
  
    Write-Host " Image name: " -NoNewline; Write-Host $_.ImageName -ForegroundColor Yellow  
  
    Write-Host " The index number: " -NoNewline; Write-Host $_.ImageIndex -ForegroundColor Yellow  
  
    Write-Host "`n Replacement "  
  
    $Arguments = @(  
  
        "update",  
  
        "D:\OS_11\sources\install.wim", $_.ImageIndex,  
  
        "--command=""add 'D:\OS_11_Custom\Install\Install\Update\Winlib\WinRE.wim'  
'\Windows\System32\Recovery\WinRe.wim'""  
  
    )  
  
    Start-Process -FilePath "d:\wimlib\wimlib-imagex.exe" -ArgumentList $Arguments -wait -nonewwindow  
  
    Write-Host " Finish`n" -ForegroundColor Green  
  
}
```

III Custom deployment image boot.wim

1. View Boot.wim details

Image name, image description, image size, architecture, version, index number, etc.

```
$ViewFile = "D:\OS_11\Sources\Boot.wim"
```

```
Get-WindowsImage -ImagePath $ViewFile | Foreach-Object { Get-WindowsImage -ImagePath $ViewFile -index $_.ImageIndex }
```

2. Specify the path to mount Boot.wim

```
New-Item -Path "D:\OS_11_Custom\Boot\Boot\Mount" -ItemType directory -ea SilentlyContinue
```

3. Start mounting Boot.wim

Default index number: 2

```
Mount-WindowsImage -ImagePath "D:\OS_11\sources\boot.wim" -Index "2" -Path "D:\OS_11_Custom\Boot\Boot\Mount"
```

4. Language pack: Boot

Automatically install language packs: Get "Component: All installed packages in the image" and match them. After matching the corresponding names, install the local corresponding language pack files, View the report "Language installation package for Boot.wim".

4.1. Language pack: Add

- Boot.Instl.lang.ps1
 - [\Expand\Boot\Boot.Instl.lang.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Boot/Boot.Instl.lang.ps1

- Copy the code

```
$Mount = "D:\OS_11_Custom\Boot\Boot\Mount"

$Sources = "D:\OS_11_Custom\Boot\Boot\Language\Add\zh-CN"

$Initl_install_Language_Component = @()

Get-WindowsPackage -Path $Mount | ForEach-Object {

    $Initl_install_Language_Component += $_.PackageName

}

Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\WinPE-FontSupport-zh-CN.cab"

$Language_List = @(

    @{ Match = "*WinPE*Setup*Client*Package*"; File = "WINPE-SETUP-CLIENT_zh-CN.CAB"; }

    @{ Match = "*WinPE*Setup*Package*"; File = "WinPE-Setup_zh-CN.cab"; }

    @{ Match = "*WinPE-LanguagePack-Package*"; File = "lp.cab"; }

    @{ Match = "*SecureStartup*"; File = "winpe-securestartup_zh-CN.cab"; }

    @{ Match = "*ATBroker*"; File = "winpe-atbroker_zh-CN.cab"; }

    @{ Match = "*AudioCore*"; File = "winpe-audiocore_zh-CN.cab"; }

    @{ Match = "*AudioDrivers*"; File = "winpe-audiodrivers_zh-CN.cab"; }

    @{ Match = "*EnhancedStorage*"; File = "winpe-enhancedstorage_zh-CN.cab"; }

    @{ Match = "*Narrator*"; File = "winpe-narrator_zh-CN.cab"; }

    @{ Match = "*scripting*"; File = "winpe-scripting_zh-CN.cab"; }

    @{ Match = "*Speech-TTS*"; File = "winpe-speech-tts_zh-CN.cab"; }

    @{ Match = "*srh*"; File = "winpe-srh_zh-CN.cab"; }

    @{ Match = "*srt*"; File = "winpe-srt_zh-CN.cab"; }

    @{ Match = "*wds-tools*"; File = "winpe-wds-tools_zh-CN.cab"; }

    @{ Match = "*-WMI-Package*"; File = "winpe-wmi_zh-CN.cab"; }

)

ForEach ($Rule in $Language_List) {

    Write-host "`n Rule name: $($Rule.Match)" -ForegroundColor Yellow; Write-host " $('-' * 80)"

    ForEach ($Component in $Initl_install_Language_Component) {

        if ($Component -like "$($Rule.Match)*") {

            Write-host " Component name: " -NoNewline

            Write-host $Component -ForegroundColor Green

            Write-host " Language pack file: " -NoNewline
```

```

Write-host "$($Sources)\$($Rule.File)" -ForegroundColor Green

Write-Host "  Installing ".PadRight(22) -NoNewline

try{

    Add-WindowsPackage -Path $Mount -PackagePath "$($Sources)\$($Rule.File)" | Out-Null

    Write-host "Finish" -ForegroundColor Green

} catch {

    Write-host "Failed" -ForegroundColor Red

}

break

}

}

}

```

4.2. Offline image language: change

4.2.1. Change default language, regional settings, and other international settings

Region: **zh-CN**

```
Dism /Image:"D:\OS_11_Custom\Boot\Boot\Mount" /Set-AllIntl:"zh-CN"
```

4.2.2. View available language settings

```
Dism /Image:"D:\OS_11_Custom\Boot\Boot\Mount" /Get-Intl
```

4.3. Language pack: Removed, optional

- After you add languages, if you want to deploy to a non-English locale, you can save space by removing the English language component. When you remove a language, uninstall the language components in the reverse order in which you added them.
- After adding the Chinese, delete "**English - United States**" in reverse, the Region tag: **en-US**, you need to extract the language pack in advance
- Boot.Del.Specified.lang.Tag.ps1
 - [\Expand\Boot\Boot.Del.Specified.lang.Tag.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Boot/Boot/Boot.Del.Specified.lang.Tag.ps1
- Copy the code

```

$Lang = "en-US"

$Mount = "D:\OS_11_Custom\Boot\Boot\Mount"

$Sources = "D:\OS_11_Custom\Boot\Boot\Language\Del\en-US"

$Initl_install_Language_Component = @()

```

```

Get-WindowsPackage -Path $Mount | ForEach-Object { $Initl_install_Language_Component += $_.PackageName }

$Language = @(

    @{ Match = "*WordPad*wow64*"; File = "Microsoft-Windows-WordPad-FoD-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*WordPad*amd64*"; File = "Microsoft-Windows-WordPad-FoD-
Package~31bf3856ad364e35~amd64~$(($Lang)~.cab"; }

    @{ Match = "*WMIC*FoD*Package*wow64*"; File = "Microsoft-Windows-WMIC-FoD-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*WMIC*FoD*Package*amd64*"; File = "Microsoft-Windows-WMIC-FoD-
Package~31bf3856ad364e35~AMD64~$(($Lang)~.cab"; }

    @{ Match = "*StepsRecorder*wow64*"; File = "Microsoft-Windows-StepsRecorder-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*StepsRecorder*amd64*"; File = "Microsoft-Windows-StepsRecorder-
Package~31bf3856ad364e35~amd64~$(($Lang)~.cab"; }

    @{ Match = "*Printing*PMCPPC*amd64*"; File = "Microsoft-Windows-Printing-PMCPPC-FoD-
Package~31bf3856ad364e35~AMD64~$(($Lang)~.cab"; }

    @{ Match = "*PowerShell*wow64*"; File = "Microsoft-Windows-PowerShell-ISE-FOD-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*PowerShell*amd64*"; File = "Microsoft-Windows-PowerShell-ISE-FOD-
Package~31bf3856ad364e35~amd64~$(($Lang)~.cab"; }

    @{ Match = "*MediaPlayer*wow64*"; File = "Microsoft-Windows-MediaPlayer-Package-wow64-$(($Lang).cab"; }

    @{ Match = "*MediaPlayer*amd64*"; File = "Microsoft-Windows-MediaPlayer-Package-AMD64-$(($Lang).cab"; }

    @{ Match = "*Notepad*wow64*"; File = "Microsoft-Windows-Notepad-System-FoD-
Package~31bf3856ad364e35~wow64~$(($Lang)~.cab"; }

    @{ Match = "*Notepad*amd64*"; File = "Microsoft-Windows-Notepad-System-FoD-
Package~31bf3856ad364e35~AMD64~$(($Lang)~.cab"; }

    @{ Match = "*InternetExplorer*"; File = "Microsoft-Windows-InternetExplorer-Optional-
Package~31bf3856ad364e35~AMD64~$(($Lang)~.cab"; }

    @{ Match = "*TextToSpeech*"; File = "Microsoft-Windows-LanguageFeatures-TextToSpeech-$(($Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*LanguageFeatures-Speech*"; File = "Microsoft-Windows-LanguageFeatures-Speech-$(($Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*OCR*"; File = "Microsoft-Windows-LanguageFeatures-OCR-$(($Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*Handwriting*"; File = "Microsoft-Windows-LanguageFeatures-Handwriting-$(($Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*LanguageFeatures-Basic*"; File = "Microsoft-Windows-LanguageFeatures-Basic-$(($Lang)-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*Client-LanguagePack-Package*"; File = "Microsoft-Windows-Client-Language-Pack_x64_$(($Lang).cab"; }

)

ForEach ($Rule in $Language) {

    Write-host "`n Rule name: $($Rule.Match)" -ForegroundColor Yellow; Write-host "  $('-' * 80)"

    ForEach ($Component in $Initl_install_Language_Component) {

        if ($Component -like "$($Rule.Match)*$(($Lang))*") {

            Write-host "  Component name: " -NoNewline

            Write-host $Component -ForegroundColor Green

            Write-host "  Language pack file: " -NoNewline

```

```

        Write-host "$($Sources)\$($Rule.File)" -ForegroundColor Green

        Write-Host "  Deleting ".PadRight(22) -NoNewline

        try{

            Remove-WindowsPackage -Path $Mount -PackagePath "$($Sources)\$($Rule.File)" -ErrorAction SilentlyContinue | Out-Null

            Write-host "Finish" -ForegroundColor Green

        } catch {

            Write-host "Failed" -ForegroundColor Red

            Write-host "  $($_) " -ForegroundColor Red

        }

        break

    }

}

$InitlClearLanguagePackage = @()

Get-WindowsPackage -Path $Mount | ForEach-Object {

    if ($_.PackageName -like "*$($Lang)*") {

        $InitlClearLanguagePackage += $_.PackageName

    }

}

if ($InitlClearLanguagePackage.count -gt 0) {

    ForEach ($item in $InitlClearLanguagePackage) {

        Write-Host "`n  $($item)" -ForegroundColor Green

        Write-Host "  Deleting ".PadRight(22) -NoNewline

        try{

            Remove-AppxProvisionedPackage -Path $Mount -PackageName $item -ErrorAction SilentlyContinue | Out-Null

            Write-host "Finish" -ForegroundColor Green

        } catch {

            Write-host "Failed" -ForegroundColor Red

            Write-host "  $($_) " -ForegroundColor Red

        }

    }

}

```

4.4. Components: All packages installed in the image

4.4.1. View

```
Get-WindowsPackage -Path "D:\OS_11_Custom\Boot\Boot\Mount" | Out-GridView
```

4.4.2. Export to csv

```
$SaveTo = "D:\OS_11_Custom\Boot\Boot\Report.$(Get-Date -Format "yyyyMMddHHmmss").csv"
```

```
Get-WindowsPackage -Path "D:\OS_11_Custom\Boot\Boot\Mount" | Export-CSV -NoType -Path $SaveTo
```



```
Write-host $SaveTo -ForegroundColor Green
```

4.5. Language: Repair

4.5.1. Extract

Open: `D:\OS_11_Custom\Install\Install\Language\Add\zh-CN\Microsoft-Windows-Client-Language-Pack_x64_zh-CN.cab`, enter the directory: `Setup\sources\zh-cn\cli`, and copy the following files to the deskto:

4.5.1.1. `arunres.dll.mui`

4.5.1.2. `spwizres.dll.mui`

4.5.1.3. `w32uires.dll.mui`

4.5.2. Copy

Copy the extracted files to: `D:\OS_11_Custom\Boot\Boot\Mount\sources\zh-CN`

4.6. Language packs: sync to ISO installer

```
Copy-Item -Path "D:\OS_11_Custom\Boot\Boot\Mount\sources\zh-CN" -Destination "D:\OS_11\sources\zh-CN" -Recurse  
-Force
```

4.7. Regenerate Lang.ini

After regeneration, you can adjust the "Installation Interface", the order when selecting "Language", open lang.ini, the default preferred value = 3, non-default value = 2.

4.7.1. Regenerate the mounted directory lang.ini

Regenerated Lang.ini file location: `D:\en-us_windows_server_2022_x64_dvd_620d7eac_Custom\Boot\Boot\Mount\Sources\lang.ini`

```
Dism /image:"D:\OS_11_Custom\Boot\Boot\Mount" /gen-langini  
/distribution:"D:\OS_11_Custom\Boot\Boot\Mount"
```

4.7.2. After regenerating lang.ini, sync to the installer

Regenerated Lang.ini file location: `D:\en-us_windows_server_2022_x64_dvd_620d7eac\Sources\lang.ini`

```
Dism /image:"D:\OS_11_Custom\Boot\Boot\Mount" /gen-langini /distribution:"D:\OS_11"
```

5. Cumulative updates, optional

To prepare the cumulative updates file available, change the example file name: `KB_Boot.cab`

5.1. Add

```
$KBPath = "D:\OS_11_Custom\Boot\Boot\Update\KB_Boot.cab"
```

```
Add-WindowsPackage -Path "D:\OS_11_Custom\Boot\Boot\Mount" -PackagePath $KBPath
```

5.2. Delete

```
$KBPath = "D:\OS_11_Custom\Boot\Boot\Update\KB_Boot.cab"
```

```
Remove-WindowsPackage -Path "D:\OS_11_Custom\Boot\Boot\Mount" -PackagePath $KBPath
```

5.3. Solid update, optional

It cannot be uninstalled after curing, which cleans the recovery image and resets the basis of any superseded components.

```
Dism /image:"D:\OS_11_Custom\Boot\Boot\Mount" /cleanup-image /StartComponentCleanup /ResetBase
```

5.3.1. Clean components after curing and updating, optional

```
$Mount = "D:\OS_11_Custom\Boot\Boot\Mount"

Get-WindowsPackage -Path $Mount -ErrorAction SilentlyContinue | ForEach-Object {

    if ($_.PackageState -eq "Superseded"){

        Write-Host "  $_.PackageName" -ForegroundColor Green

        Remove-WindowsPackage -Path $Mount -PackageName $_.PackageName | Out-Null

    }

}
```

6. Drive, optional

7. Other

7.1. Bypass TPM check during installation

- Boot.Bypass.TPM.ps1
 - [\Expand\Boot\Boot.Bypass.TPM.ps1](#)
 - https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/Boot/Boot.Bypass.TPM.ps1

- Copy the code

```
$RegSystem = "D:\OS_11_Custom\Boot\Boot\Mount\Windows\System32\Config\SYSTEM"
```

```
$RandomGuid = [guid]::NewGuid()
```

```
Write-Host "  HKLM:\$(($RandomGuid))"
```

```
New-PSDrive -PSProvider Registry -Name OtherTasksTPM -Root HKLM -ErrorAction SilentlyContinue | Out-Null
```

```
Start-Process reg -ArgumentList "Load ""HKLM\$(($RandomGuid)"" ""$(($RegSystem)"""" -Wait -WindowStyle Hidden -ErrorAction SilentlyContinue
```

```
New-Item "HKLM:\$(($RandomGuid))\Setup\LabConfig" -force -ea SilentlyContinue | Out-Null
```

```

New-ItemProperty -LiteralPath "HKLM:\$($RandomGuid)\Setup\LabConfig" -Name "BypassCPUCheck" -Value 1 -
PropertyType DWord -Force -ea SilentlyContinue | Out-Null

New-ItemProperty -LiteralPath "HKLM:\$($RandomGuid)\Setup\LabConfig" -Name "BypassStorageCheck" -Value 1 -
PropertyType DWord -Force -ea SilentlyContinue | Out-Null

New-ItemProperty -LiteralPath "HKLM:\$($RandomGuid)\Setup\LabConfig" -Name "BypassRAMCheck" -Value 1 -
PropertyType DWord -Force -ea SilentlyContinue | Out-Null

New-ItemProperty -LiteralPath "HKLM:\$($RandomGuid)\Setup\LabConfig" -Name "BypassTPMCheck" -Value 1 -
PropertyType DWord -Force -ea SilentlyContinue | Out-Null

New-ItemProperty -LiteralPath "HKLM:\$($RandomGuid)\Setup\LabConfig" -Name "BypassSecureBootCheck" -Value 1 -
PropertyType DWord -Force -ea SilentlyContinue | Out-Null

[gc]::collect()

Start-Process reg -ArgumentList "unload ""HKLM\$($RandomGuid)"" -Wait -WindowStyle Hidden -ErrorAction
SilentlyContinue

Remove-PSDrive -Name OtherTasksTPM

```

8. Save image: Boot.wim

```
Save-WindowsImage -Path "D:\OS_11_Custom\Boot\Boot\Mount"
```

9. Unmount image: Boot.wim

Close any applications that may be accessing files in the image, including File Explorer.

```
Dismount-WindowsImage -Path "D:\OS_11_Custom\Boot\Boot\Mount" -Discard
```

IV Deployment engine

- Learn about "Automatically Adding Languages Installed in Windows Systems", learn: <https://github.com/ilikeyi/Multilingual>, how to download:
 - After entering the website, click "Code", "Download Compressed Package", and after the download is completed, you will get the [main.zip](#) compressed package file.
 - Go to the <https://github.com/ilikeyi/Multilingual/releases> download page, select the available version: [1.1.0.4](#), select the download source code format: zip, and get the [Multilingual-1.1.0.4.zip](#) compressed package file after the download is completed;
- Unzip the downloaded [main.zip](#) or [Multilingual-1.1.0.4.zip](#) to: [D:\Multilingual-1.1.0.4](#), and rename: [D:\Multilingual](#)
- Learn "[Unattended Windows Setup Reference](#)", Intervene in the installation process by leaving it unattended.

1. Add method

1.1. Add to ISO installation media

1.1.1. Unattended

1.1.1.1. Add to: [\[ISO\]:\Autounattend.xml](#)

Autounattend.xml interferes with the WinPE installer when booting an ISO installation.

Copy D:\Multilingual\Unattend\Mul.Unattend.xml to D:\OS_11\Autounattend.xml

```
Copy-Item "D:\Multilingual\Unattend\Mul.Unattend.xml" -Destination  
"D:\OS_11\Autounattend.xml" -Force
```

1.1.1.2. Add to: [ISO]:\Sources\Unattend.xml

When mounting or unpacking an ISO, after running the [ISO]:\Setup.exe installer,
[ISO]:\Sources\Unattend.xml will intervene in the installation process.

Copy D:\Multilingual\Unattend\Mul.Unattend.xml to D:\OS_11\Sources\Unattend.xml

```
Copy-Item "D:\Multilingual\Unattend\Mul.Unattend.xml" -Destination  
"D:\OS_11\Sources\Unattend.xml" -Force
```

1.1.1.3. Add to: [ISO]:\sources\\$\OEM\$\\$\\$Panther\unattend.xml

Copy it to the system disk during the installation process, copy to: {system
disk};\Windows\Panther\unattend.xml

1.1.1.3.1. Create \$OEM\$ path

```
New-Item -Path "D:\OS_11\sources\`$OEM$\`$$Panther" -ItemType Directory
```

1.1.1.3.2. Copy

Copy D:\Multilingual\Unattend\Mul.Unattend.xml to
D:\OS_11\Sources\\$\OEM\$\\$Panther\Unattend.xml

```
Copy-Item "D:\Multilingual\Unattend\Mul.Unattend.xml" -Destination  
"D:\OS_11\sources\`$OEM$\`$$Panther\Unattend.xml" -Force
```

1.1.2. Deployment engine: add

Add "Automatically add installed languages for Windows systems" to D:\OS_11\sources\\$\OEM\$\\$1\Yi\Engine in
the directory.

1.1.2.1. Deployment Engine: Copy

Copy D:\Multilingual\Engine to D:\OS_11\Sources\\$\OEM\$\\$1\Yi\Engine

```
Copy-Item "D:\Multilingual\Engine" -Destination "D:\OS_11\sources\`$OEM$\`$1\Yi\Engine" -  
Recurse -Force
```

1.1.2.2. Deployment engine: custom deployment tags

```

$Flag = @(

    "Is_Mark_Sync" # Allow global search and synchronization of deployment tags

    # Prerequisite deployment

#   "Auto_Update" # Allow automatic updates

#   "Use_UTF8" # Beta: Global language support using Unicode UTF-8

    "Disable_Network_Location_Wizard" # Network Location Wizard

    "Disable_Cleanup_Appx_Tasks" # Appx Cleanup and maintenance tasks

    "Disable_Cleanup_On_Demand_Language" # Prevent cleanup of unused on-demand feature
language packs

    "Disable_Cleanup_Unsed_Language"    # Prevent cleaning of unused language packs

    "Prerequisites_Reboot" # Restart your computer

    # Complete first deployment

#   "Popup_Engine" # Allow the deployment engine main interface to pop up for the first time

#   "Allow_First_Pre_Experience" # Allow first preview, as planned

    "Reset_Execution_Policy" # Restore PowerShell execution policy: Restricted

    "Clear_Solutions" # Delete the entire solution

    "Clear_Engine" # Delete the deployment engine and keep the others

#   "First_Experience_Reboot" # Restart your computer

)

ForEach ($item in $Flag) {

    Write-host "  $($item)" -ForegroundColor Green

    New-Item -Path "D:\OS_11\sources\`$OEM$\`$1\Yi\Engine\Deploy\Allow" -ItemType Directory -
ErrorAction SilentlyContinue | Out-Null

    Out-File -FilePath "D:\OS_11\sources\`$OEM$\`$1\Yi\Engine\Deploy\Allow\${$item}" -Encoding
utf8 -ErrorAction SilentlyContinue

}

```

1.2. Add to mounted

Through "[Customized deployment image: Install.wim](#)", execute "[Start mounting Install.wim](#)" and mount to:

[D:\OS_11_Custom\Install\Install\Mount](#)

1.2.1. Unattended

Copy [D:\Multilingual\Unattend\Mul.Unattend.xml](#) to

[D:\OS_11_Custom\Install\Install\Mount\Panther\Unattend.xml](#)

```
Copy-Item "D:\Multilingual\Unattend\Mul.Unattend.xml" -Destination
```

```
"D:\OS_11_Custom\Install\Install\Mount\Panther" -Force
```

1.2.2. Deployment engine: add

Add "[Automatically add languages installed on Windows systems](#)" to the

[D:\OS_11_Custom\Install\Install\Mount\Yi\Engine](#) directory.

1.2.2.1. Deployment Engine: Copy

Copy [D:\Multilingual\Engine](#) to [D:\OS_11_Custom\Install\Install\Mount\Yi\Engine](#)

```
Copy-Item "D:\Multilingual\Engine" -Destination
```

```
"D:\OS_11_Custom\Install\Install\Mount\Yi\Engine" -Recurse -Force
```

1.2.2.2. Deployment engine: custom deployment tags

```
$Flag = @(

    "Is_Mark_Sync" # Allow global search and synchronization of deployment tags

    # Prerequisite deployment

#   "Auto_Update" # Allow automatic updates

#   "Use_UTF8" # Beta: Global language support using Unicode UTF-8

    "Disable_Network_Location_Wizard" # Network Location Wizard

    "Disable_Cleanup_Appx_Tasks" # Appx Cleanup and maintenance tasks

    "Disable_Cleanup_On_Demand_Language" # Prevent cleanup of unused on-demand feature
language packs

    "Disable_Cleanup_Unsed_Language"   # Prevent cleaning of unused language packs

    "Prerequisites_Reboot" # Restart your computer

    # Complete first deployment

#   "Popup_Engine" # Allow the deployment engine main interface to pop up for the first time

#   "Allow_First_Pre_Experience" # Allow first preview, as planned

    "Reset_Execution_Policy" # Restore PowerShell execution policy: Restricted

    "Clear_Solutions" # Delete the entire solution

    "Clear_Engine" # Delete the deployment engine and keep the others

#   "First_Experience_Reboot" # Restart your computer

)

ForEach ($item in $Flag) {

    Write-Host "  $($item)" -ForegroundColor Green

    New-Item -Path "D:\OS_11\sources\`$OEM$\`$1\Yi\Engine\Deploy\Allow" -ItemType Directory -
ErrorAction SilentlyContinue | Out-Null

    Out-File -FilePath "D:\OS_11\sources\`$OEM$\`$1\Yi\Engine\Deploy\Allow\$( $item )" -Encoding
utf8 -ErrorAction SilentlyContinue

}
```

2. Deployment Engine: Advanced

2.1. Deployment engine: adding process

After copying the deployment engine, you can add deployment tags to intervene in the installation process.

2.2. Unattended solution

When the customization is unattended, please modify it simultaneously if the following files exist:

- [D:\OS_11\Autounattend.xml](#)

- D:\OS_11\Sources\Unattend.xml
- D:\OS_11\sources\\$\OEM\$\\$\\$Panther\unattend.xml
- D:\OS_11_Custom\Install\Install\Mount\Panther\Unattend.xml

2.2.1. Multilingual or monolingual

In multi-language and monolingual, you can switch between each other. When replacing, please replace all the same ones in the file.

2.2.1.1. Multi-language

```
<UILanguage>%OSDUILanguage%</UILanguage>
<InputLocale>%OSDInputLocale%</InputLocale>
<SystemLocale>%OSDSysLocale%</SystemLocale>
<UILanguage>%OSDUILanguage%</UILanguage>
<UILanguageFallback>%OSDUILanguageFallback%</UILanguageFallback>
<UserLocale>%OSDUserLocale%</UserLocale>
```

2.2.1.2. Monolingual

A single language needs to specify a Region tag, for example, specify a Region tag: zh-CN

```
<UILanguage>zh-CN</UILanguage>
<InputLocale>zh-CN</InputLocale>
<SystemLocale>zh-CN</SystemLocale>
<UILanguage>zh-CN</UILanguage>
<UILanguageFallback>zh-CN</UILanguageFallback>
<UserLocale>zh-CN</UserLocale>
```

2.2.2. User plan

By default, the self-created user Administrator is used and logged in automatically. It can be switched by modifying the following configuration: self-created or customized user.

2.2.2.1. Self-created user Administrator

By default, the self-created user: Administrator is used and logged in automatically, inserted between <OOBE> and </OOBE>.

```
<UserAccounts>
  <LocalAccounts>
    <LocalAccount wcm:action="add">
      <Password>
        <Value></Value>
        <PlainText>true</PlainText>
      </Password>
```

```

        <Description>Administrator</Description>

        <DisplayName>Administrator</DisplayName>

        <Group>Administrators</Group>

        <Name>Administrator</Name>

    </LocalAccount>

</LocalAccounts>

</UserAccounts>

<AutoLogon>

    <Password>

        <Value></Value>

        <PlainText>true</PlainText>

    </Password>

    <Enabled>true</Enabled>

    <Username>Administrator</Username>

</AutoLogon>

```

2.2.2.2. Custom user

After setting up a custom user and installing the system, in OOBE, you can choose settings such as local and online users.

2.2.2.2.1. Delete

Username: Removed from start `<UserAccounts>` to `</UserAccounts>`

Autologin: Remove from start `<AutoLogon>` to `</AutoLogon>`

2.2.2.2.2. Replace

From the beginning `<OOBE>` to `</OOBE>`

```

<OOBE>

    <ProtectYourPC>3</ProtectYourPC>

    <HideEULAPage>true</HideEULAPage>

    <HideWirelessSetupInOOBE>true</HideWirelessSetupInOOBE>

</OOBE>

```

D. ISO

II Generate ISO

1. After downloading oscdimg, save it to: C:\Windows\System32 directory, save it in another path, or please enter the absolute location of OScdimg.exe;
2. Use the oscdimg command line to generate an ISO file and save it to: D:\OS_11.iso
 - ISO.ps1

- [\Expand\ISO.ps1](#)
- https://github.com/ilikeyi/solutions/blob/main/_Documents/Attachment/OS.11/22H2/Expand/ISO.ps1
- Copy the code

```
$ISO = "D:\OS_11"; $Volume = "OS_11"; $SaveTo = "D:\OS_11.iso"

$Arguments = @("-m", "-o", "-u2", "-udfver102", "-l"("$($Volume)"), "-bootdata:2#p0,e,b"("$($ISO)\boot\etfsboot.com")#pEF,e,b"("$($ISO)\efi\microsoft\boot\efisys.bin"), $ISO, $SaveTo)

Start-Process -FilePath "OSCdimg.exe" -ArgumentList $Arguments -wait -nonewwindow
```

III Bypass TPM installation check

1. Learn about: <https://github.com/AveYo/MediaCreationTool.bat/tree/main/bypass11> and download: [Quick_11_iso_esd_wim_TPM_toggle.bat](#)
2. Drag the [D:\OS_11.iso](#) file to [Quick_11_iso_esd_wim_TPM_toggle.bat](#), and "add" or "delete" the TPM installation check function in reverse order.

Chapter 2 Local language experience packages (LXPs): Known region

Region	Products ID	Region	Products ID	Region	Products ID
en-US	C9PDSCC711RVF	af-za	9PDW16B5HMXR	am-et	9NGL4R61W3PL
ar-sa	9N4S78P86PKX	as-in	9NTJLXMX35J	az-latn-az	9P5TFKZHQ5K8
be-by	9MXPBGNN3W3L	bg-bg	9MX54588434F	bn-bd	9PH7TKVXGGM8
bn-in	9P1M44L7W84T	bs-latn-ba	9MVFCLJ10MFL	ca-es	9P6JMKJQZ9S7
ca-es-valencia	9P9K3WMFSW90	chr-cher-us	9MX15485N3RK	cs-cz	9P3WXZ1KTM7C
cy-gb	9NKJ9TBML4HB	da-dk	9NDMT2VKSNI1	de-de	9P6CT0SLW589
el-gr	9N586B13PBLD	en-gb	9NT52VQ39BVN	es-es	9NWWGWLHPB1Z
es-mx	9N8MCM1X3928	et-ee	9NFBHFMCR30L	eu-es	9NMCHQHZ37HZ
fa-ir	9NGS7DD4QS21	fi-fi	9MW3PQ7SD3QK	fil-ph	9NWM2KGTDSSS
fr-ca	9MTP2VP0VL92	fr-fr	9NHMG4BJKMDG	ga-ie	9P0L5Q848KXT
gd-gb	9P1DBPF36BF3	gl-es	9NXRNBRN9B	gu-in	9P2HMSWDJDQ1
ha-latn-ng	9N1L95DBG3G3	he-il	9NB6ZFND5HCQ	hi-in	9NZC3GRX8LD3
hr-hr	9NW01VND4LTW	hu-hu	9MWN3C58HL87	hy-am	9NKM28TM6P67
id-id	9P4X3N4SDK8P	ig-ng	9PG4ZFJ48JSX	is-is	9NTHJR7TQXX1

it-it	9P8PQWNS6VJX	ja-jp	9N1W692FV4S1	ka-ge	9P60JZL05WGH
kk-kz	9PHV179R97LV	km-kh	9PGKTS4JS531	kn-in	9NC6DB7N95F9
kok-in	9MV3P55CMZ6P	ko-kr	9N4TXPCVRNGF	ku-arab-iq	9P1C18QL3D7H
ky-kg	9P7D3JJGZM48	lb-lu	9N0ST1WBZ9D9	lo-la	9N8X352G5NZV
lt-lt	9NWW891H6HN	lv-lv	9N5CQDPH6SQT	mi-nz	9P2GDFB3JPSX
mk-mk	9P1X6XB1K3RN	ml-in	9NWDTV8FFV7L	mn-mn	9PG1DHC4VTZW
mr-in	9MWXCKHJVR1J	ms-my	9NPXL8ZSDDQ7	mt-mt	9PDG96SQ6BN8
nb-no	9N6J0M5DHCK0	ne-np	9P7CHPLWDQVN	nl-nl	9PF1C9NB5PRV
nn-no	9PK7KM3Z06KH	nso-za	9NS49QLX5CDV	or-in	9NTHCXCXSJDH
pa-arab-pk	9NJRL03WH6FM	pa-in	9NSNC0ZJX69B	pl-pl	9NC5HW94R0LD
prs-af	9P3NGC6X5ZQC	pt-br	9P8LBDM4FW35	pt-pt	9P7X8QJ7FL0X
quc-latn-gt	9P2V6MNNQZ0B	quz-pe	9NHTX8NVQ04K	ro-ro	9MWXGPJ5PJ3H
ru-ru	9NMJCX77QKPX	rw-rw	9NFW0M20H9WG	sd-arab-pk	9NB9JSCXW9X5
si-lk	9NVF9QSLGTL0	sk-sk	9N7LSNN099WB	sl-si	9NV27L34J4ST
sq-al	9MWLRGNMDGK7	sr-cyrl-ba	9MXGN7V65C7B	sr-cyrl-rs	9PPD6CCK9K5H
sr-latn-rs	9NBZ0SJDPPVT	sv-se	9P0HSNX08177	sw-ke	9NFF2M19DQ55
ta-in	9PDZB1WT1B34	te-in	9PMQJJGF63FW	tg-cyrl-tj	9MZHLBPPT2HC
th-th	9MSTWFRL0LR4	ti-et	9NC8C9RDNK2S	tk-tm	9NKHQ4GL6VLT
tn-za	9NFSXM123DHT	tr-tr	9NL1D3T5HG9R	tt-ru	9NV90Q1X1ZR2
ug-cn	9P52C5D7VL5S	uk-ua	9PPPMZRSGHR8	ur-pk	9NDWFTFW12BQ
uz-latn-uz	9P5P2T5P5L9S	vi-vn	9P0W68X0XZPT	wo-sn	9NH3SW1CR90F
xh-za	9NW3QWSLQD17	yo-ng	9NGM3VPPZS5V	zh-cn	9NRMNT6GMZ7
zh-tw	9PCJ4DHCQ1JQ	zu-za	9NNRM7KT5NB0		

Chapter 3 InBox Apps: Known application

- Group abbreviations
 - Group A: [Education](#), [Professional](#), [ProfessionalEducation](#), [ProfessionalWorkstation](#), [Enterprise](#), [IoTEnterprise](#), [ServerRdsh](#)
 - Group B: [EnterpriseN](#), [EnterpriseGN](#), [EnterpriseSN](#), [ProfessionalN](#), [EducationN](#), [ProfessionalWorkstationN](#), [ProfessionalEducationN](#)
 - Group C: [Core](#), [CoreN](#), [CoreSingleLanguage](#)

List of known applications

	Name	Products ID	Grouping
1.	Microsoft.UI.Xaml.2.3		A, B, C
2.	Microsoft.UI.Xaml.2.4		A, B, C
3.	Microsoft.UI.Xaml.2.7		A, B, C
4.	Microsoft.NET.Native.Framework.2.2		A, B, C
5.	Microsoft.NET.Native.Runtime.2.2		A, B, C
6.	Microsoft.VCLibs.140.00		A, B, C
7.	Microsoft.VCLibs.140.00.UWPDesktop		A, B, C
8.	Microsoft.HEIFImageExtension	9PMMSR1CGPWG	A, C
9.	Microsoft.HEVCVideoExtension	9NMZLZ57R3T7	A, C
10.	Microsoft.SecHealthUI	9NK0JLZT7JD0	A, B, C
11.	Microsoft.VP9VideoExtensions	9N4D0MSMP0PT	A, C
12.	Microsoft.WebpImageExtension	9PG2DK419DRG	A, C
13.	Microsoft.WindowsStore	9WZDNCRFJBMP	A, B, C
14.	Microsoft.GamingApp	9MV0B5HZVK9Z	A, C
15.	Microsoft.Sticky.Notes	9NBLGGH4QGHW	A, B, C
16.	Microsoft.Paint	9PCFS5B6T72H	A, B, C
17.	Microsoft.PowerAutomateDesktop	9NFTCH6J7FHV	A, B, C
18.	Microsoft.ScreenSketch	9MZ95KL8MR0L	A, B, C
19.	Microsoft.WindowsNotepad	9MSMLRH6LZF3	A, B, C
20.	Microsoft.WindowsTerminal	9N0DX20HK701	A, B, C
21.	Clipchamp.Clipchamp	9P1J8S7CCWWT	A, B, C
22.	Microsoft.Solitaire.Collection	9WZDNCRFHWD2	A, B, C
23.	Microsoft.WindowsAlarms	9WZDNCRFJ3PR	A, B, C
24.	Microsoft.WindowsFeedbackHub	9NBLGGH4R32N	A, B, C
25.	Microsoft.WindowsMaps	9WZDNCRDTBVB	A, B, C
26.	Microsoft.ZuneMusic	9WZDNCRFJ3PT	A, C
27.	MicrosoftCorporationII.MicrosoftFamily	9PDJDS743XF	C

28.	Microsoft.BingNews	9WZDNCRFHVFW	A, B, C
29.	Microsoft.DesktopAppInstaller	9NBLGGH4NNS1	A, B, C
30.	Microsoft.WindowsCamera	9WZDNCRFJBBG	A, B, C
31.	Microsoft.Getstarted	9WZDNCRDTBJJ	A, B, C
32.	Microsoft.Cortana	9NFFX4SZZ23L	A, B, C
33.	Microsoft.BingWeather	9WZDNCRFJ3Q2	A, B, C
34.	Microsoft.GetHelp	9PKDZBMV1H3T	A, B, C
35.	Microsoft.MicrosoftOfficeHub	9WZDNCRD29V9	A, B, C
36.	Microsoft.People	9NBLGGH10PG8	A, B, C
37.	Microsoft.StorePurchaseApp	9NBLGGH4LS1F	A, B, C
38.	Microsoft.Todos	9NBLGGH5R558	A, B, C
39.	Microsoft.WebMediaExtensions	9N5TDP8VCMHS	A, C
40.	Microsoft.Windows.Photos	9WZDNCRFJBH4	A, B, C
41.	Microsoft.WindowsCalculator	9WZDNCRFHVN5	A, B, C
42.	Microsoft.Windows.CommunicationsApps	9WZDNCRFHVQM	A, B, C
43.	Microsoft.WindowsSoundRecorder	9WZDNCRFHWKN	A, C
44.	Microsoft.Xbox.TCUI	9NKNC0LD5NN6	A, C
45.	Microsoft.XboxGameOverlay	9NBLGGH537C2	A, B, C
46.	Microsoft.XboxGamingOverlay	9NZKPSTSNW4P	A, C
47.	Microsoft.XboxIdentityProvider	9WZDNCRD1HKW	A, B, C
48.	Microsoft.XboxSpeechToTextOverlay	9P086NHDNB9W	A, B, C
49.	Microsoft.YourPhone	9NMPJ99VJBWV	A, B, C
50.	Microsoft.ZuneVideo	9WZDNCRFJ3P2	A, C
51.	MicrosoftCorporationII.QuickAssist	9P7BP5VNWKX5	A, B, C
52.	MicrosoftWindows.Client.WebExperience	9MSSGKG348SP	A, B, C
53.	Microsoft.RawImageExtension	9NCTDW2W1BH8	A, C

Chapter 4

Report

- Group abbreviations:

- Group A: Windows 11 Education、Windows 11 Enterprise、Windows 11 Pro、Windows 11 Pro Education、Windows 11 Pro for Workstations、Windows 11 IoT Enterprise
- Group B: Windows 11 Education N、Windows 11 Enterprise N、Windows 11 Pro N、Windows 11 Pro Education N、Windows 11 Pro N for Workstations
- Group C: Windows 11 Home、Windows 11 Home Single Language
- Group D: Windows 11 Home N

II Reports: Different versions

1.	Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~amd64~~10.0.22621.382	A, C
	Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.317	
2.	Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, C
	Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1	
3.	Microsoft-Windows-Printing-PMCPPC-FoD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B
4.	Microsoft-Windows-Printing-PMCPPC-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.1	
5.	Microsoft-OneCore-ApplicationModel-Sync-Desktop-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.317	A, B, C, D
6.	Microsoft-OneCore-DirectX-Database-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
7.	Microsoft-Windows-Client-LanguagePack-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.382	A, B, C, D
8.	Microsoft-Windows-Ethernet-Client-Intel-E1i68x64-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
9.	Microsoft-Windows-Ethernet-Client-Intel-E2f68-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
10.	Microsoft-Windows-Ethernet-Client-Realtek-Rtcx21x64-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
11.	Microsoft-Windows-Ethernet-Client-Vmware-Vmxnet3-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
12.	Microsoft-Windows-FodMetadata-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
13.	Microsoft-Windows-Foundation-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
14.	Microsoft-Windows-Hello-Face-Package~31bf3856ad364e35~amd64~~10.0.22621.317	A, B, C, D
15.	Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~amd64~~11.0.22621.1	A, B, C, D
	Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~amd64~en-US~11.0.22621.1	A, B, C, D
16.	Microsoft-Windows-Kernel-LA57-FoD-Package~31bf3856ad364e35~amd64~~10.0.22621.382	A, B, C, D
17.	Microsoft-Windows-LanguageFeatures-Basic-en-us-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
18.	Microsoft-Windows-LanguageFeatures-Handwriting-en-us-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D

19.	Microsoft-Windows-LanguageFeatures-OCR-en-us-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
20.	Microsoft-Windows-LanguageFeatures-Speech-en-us-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
21.	Microsoft-Windows-LanguageFeatures-TextToSpeech-en-us-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
22.	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.1	A, B, C, D
23.	Microsoft-Windows -Notepad-System-FoD-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1	A, B, C, D
24.	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.1	A, B, C, D
25.	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1	A, B, C, D
26.	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.1	A, B, C, D
27.	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1	A, B, C, D
28.	Microsoft-Windows-TabletPCMath-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
29.	Microsoft-Windows-Wallpaper-Content-Extended-FoD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
30.	Microsoft-Windows-Wifi-Client-Broadcom-Bcmpciedhd63-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
31.	Microsoft-Windows-Wifi-Client-Broadcom-Bcmwl63a-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
32.	Microsoft-Windows-Wifi-Client-Broadcom-Bcmwl63a1-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
33.	Microsoft-Windows-Wifi-Client-Intel-Netwbw02-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
34.	Microsoft-Windows-Wifi-Client-Intel-Netwew00-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
35.	Microsoft-Windows-Wifi-Client-Intel-Netwew01-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
36.	Microsoft-Windows-Wifi-Client-Intel-Netwlv64-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
37.	Microsoft-Windows-Wifi-Client-Intel-Netwns64-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
38.	Microsoft-Windows-Wifi-Client-Intel-Netwsw00-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
39.	Microsoft-Windows-Wifi-Client-Intel-Netwtw02-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
40.	Microsoft-Windows-Wifi-Client-Intel-Netwtw04-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
41.	Microsoft-Windows-Wifi-Client-Intel-Netwtw06-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D

42.	Microsoft-Windows-Wifi-Client-Intel-Netwtw08-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
43.	Microsoft-Windows-Wifi-Client-Intel-Netwtw10-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
44.	Microsoft-Windows-Wifi-Client-Marvel-Mrvlpcie8897-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
45.	Microsoft-Windows-Wifi-Client-Qualcomm-Athw8x-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
46.	Microsoft-Windows-Wifi-Client-Qualcomm-Athwnx-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
47.	Microsoft-Windows-Wifi-Client-Qualcomm-Qcamain10x64-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
48.	Microsoft-Windows-Wifi-Client-Ralink-Netr28x-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
49.	Microsoft-Windows-Wifi-Client-Realtek-Rtl8187se-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
50.	Microsoft-Windows-Wifi-Client-Realtek-Rtl8192se-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
51.	Microsoft-Windows-Wifi-Client-Realtek-Rtl819xp-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
52.	Microsoft-Windows-Wifi-Client-Realtek-Rtl85n64-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
53.	Microsoft-Windows-Wifi-Client-Realtek-Rtlane-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
54.	Microsoft-Windows-Wifi-Client-Realtek-Rtlane01-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
55.	Microsoft-Windows-Wifi-Client-Realtek-Rtlane13-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
56.	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~amd64~~10.0.22621.382	A, B, C, D
	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.22621	A, B, C, D
57.	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1	A, B, C, D
58.	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~~10.0.22621.317	A, B, C, D
	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.1	A, B, C, D
59.	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1	A, B, C, D
60.	OpenSSH-Client-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
61.	Package_for_DotNetRollup_481~31bf3856ad364e35~amd64~~10.0.9065.6	A, B, C, D
62.	Package_for_RollupFix~31bf3856ad364e35~amd64~~22621.382.1.13	A, B, C, D
63.	Package_for_ServicingStack_378~31bf3856ad364e35~amd64~~22621.378.1.0	A, B, C, D

III Report: Language installation packages apply to Install.wim

1.	Microsoft-Windows-MediaPlayer-Package-AMD64-zh-CN.cab	A, C
----	---	------

	Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
2.	Microsoft-Windows-MediaPlayer-Package-wow64-zh-CN.cab	A,C
	Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1	
3.	Microsoft-Windows-Printing-PMCPPC-FoD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B
	Microsoft-Windows-Printing-PMCPPC-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
4.	Microsoft-Windows-LanguageFeatures-Fonts-Hans-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	Microsoft-Windows-LanguageFeatures-Fonts-Hans-Package~31bf3856ad364e35~amd64~~~10.0.22621.1	
5.	Microsoft-Windows-Client-Language-Pack_x64_zh-CN.cab	A, B, C, D
	Microsoft-Windows-Client-LanguagePack-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
6.	Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~amd64~zh-CN~11.0.22621.1	
7.	Microsoft-Windows-LanguageFeatures-Basic-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	Microsoft-Windows-LanguageFeatures-Basic-zh-cn-Package~31bf3856ad364e35~amd64~~~10.0.22621.1	
8.	Microsoft-Windows-LanguageFeatures-Handwriting-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	Microsoft-Windows-LanguageFeatures-Handwriting-zh-cn-Package~31bf3856ad364e35~amd64~~~10.0.22621.1	
9.	Microsoft-Windows-LanguageFeatures-OCR-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	Microsoft-Windows-LanguageFeatures-OCR-zh-cn-Package~31bf3856ad364e35~amd64~~~10.0.22621.1	
10.	Microsoft-Windows-LanguageFeatures-Speech-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	Microsoft-Windows-LanguageFeatures-Speech-zh-cn-Package~31bf3856ad364e35~amd64~~~10.0.22621.1	
11.	Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-cn-Package~31bf3856ad364e35~amd64~~~10.0.22621.1	
12.	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
13.	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1	
14.	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
15.	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	
	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1	
16.	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D

	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
17.	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1	
18.	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
19.	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1	
20.	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
21.	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	A, B, C, D
	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1	

IV Report: Language installation packages apply to WinRE.wim

1.	WinPE-FontSupport-zh-CN.cab	
	Microsoft-Windows-WinPE-FontSupport-ZH-CN-Package~31bf3856ad364e35~amd64~~10.0.22621.1	
2.	lp.cab	
	Microsoft-Windows-WinPE-LanguagePack-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
3.	winpe-appxdeployment_zh-CN.cab	
	WinPE-AppxDeployment-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
4.	winpe-appxpackaging_zh-CN.cab	
	WinPE-AppxPackaging-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
5.	winpe-atbroker_zh-CN.cab	
	WinPE-ATBroker-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
6.	winpe-audiocore_zh-CN.cab	
	WinPE-AudioCore-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
7.	winpe-audiodrivers_zh-CN.cab	
	WinPE-AudioDrivers-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
8.	winpe-enhancedstorage_zh-CN.cab	
	WinPE-EnhancedStorage-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1	
9.	winpe-hta_zh-CN.cab	

WinPE-HTA-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

10. winpe-narrator_zh-CN.cab

WinPE-Narrator-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

11. winpe-opcservices_zh-CN.cab

WinPE-OpcServices-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

12. winpe-rejuv_zh-CN.cab

WinPE-Rejuv-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

13. winpe-scripting_zh-CN.cab

WinPE-Scripting-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

14. winpe-securestartup_zh-CN.cab

WinPE-SecureStartup-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

15. winpe-speech-tts_zh-CN.cab

WinPE-Speech-TTS-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

16. winpe-srh_zh-CN.cab

WinPE-SRH-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

17. winpe-srt_zh-CN.cab

WinPE-SRT-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

18. winpe-storagewmi_zh-CN.cab

WinPE-StorageWMI-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

19. winpe-wds-tools_zh-CN.cab

WinPE-WDS-Tools-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

20. winpe-wifi_zh-CN.cab

WinPE-WiFi-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

21. winpe-windowsupdate_zh-CN.cab

WinPE-WindowsUpdate-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

22. winpe-wmi_zh-CN.cab

WinPE-WMI-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1

V Report: Language installation packages apply to Boot.wim

1. WinPE-FontSupport-zh-CN.cab

[Microsoft-Windows-WinPE-FontSupport-ZH-CN-Package~31bf3856ad364e35~amd64~~10.0.22621.1](#)

2. lp.cab

[Microsoft-Windows-WinPE-LanguagePack-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

3. winpe-atbroker_zh-CN.cab

[WinPE-ATBroker-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

4. winpe-audiocore_zh-CN.cab

[WinPE-AudioCore-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

5. winpe-audiodrivers_zh-CN.cab

[WinPE-AudioDrivers-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

6. winpe-enhancedstorage_zh-CN.cab

[WinPE-EnhancedStorage-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

7. winpe-narrator_zh-CN.cab

[WinPE-Narrator-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

8. winpe-scripting_zh-CN.cab

[WinPE-Scripting-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

9. winpe-securestartup_zh-CN.cab

[WinPE-SecureStartup-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

10. WINPE-SETUP-CLIENT_zh-CN.CAB

[WinPE-Setup-Client-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

11. WinPE-Setup_zh-CN.cab

[WinPE-Setup-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

12. winpe-speech-tts_zh-CN.cab

[WinPE-Speech-TTS-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

13. winpe-srh_zh-CN.cab

[WinPE-SRH-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

14. winpe-srt_zh-CN.cab

[WinPE-SRT-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1](#)

15. winpe-wds-tools_zh-CN.cab

16. winpe-wmi_zh-CN.cab

Chapter 5 Common problem

II Clean all mounts to

Close any applications that may be accessing files in the image, including File Explorer.

Dismount-WindowsImage -Path "D:\OS_11_Custom\Install\Install\Mount" -Discard

Dismount-WindowsImage -Path "D:\OS_11_Custom\Install\WinRE\Mount" -Discard

Dismount-WindowsImage -Path "D:\OS_11_Custom\Boot\Boot\Mount" -Discard

III Fix the problem of abnormal mounting

1. View mounted

Get-WindowsImage -Mounted

2. Delete the DISM mount record saved in the registry

Remove-Item -Path "HKLM:\SOFTWARE\Microsoft\WIMMount\Mounted Images*" -Force -Recurse -ErrorAction SilentlyContinue

3. Delete all resources associated with the corrupted mounted image

Clear-WindowsCorruptMountPoint

Dism /cleanup-wim

IV Clean directories

Remove-Item "D:\OS_11_Custom" -Force -Recurse

Remove-Item "D:\OS_11\Sources\` \$OEM\$" -Force -Recurse

Remove-Item -Path "D:\OS_11\Autounattend.xml" -Force

Remove-Item -Path "D:\OS_11\Sources\Unattend.xml" -Force

Chapter 6 Known issues

None yet

Author: [Feng Yi](#)

Website: <https://fengyi.tel>

EMail: 775159955@qq.com, fengyitel@gmail.com, ilikeyi@icloud.com

Document version: [1.0](#)

Updated: [2024-1](#)

Suggestions or feedback: <https://github.com/ilikeyi/solutions/issues>



© Yi. All rights reserved.