



# MICROSOFT WINDOWS 11 22H2

封装教程：不同的系统版本，有着不同的封装方式，封装过程中包含：“语言包：添加、关联、删除”、“驱动：添加、删除”、“累积更新：添加、删除”、“InBox Apps：添加、更新、标记”等。

在这背后藏着很多的隐藏故事，想解开这些，你准备好开始尝试封装了吗？

## 摘要

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章节 1 部署映像

A. 先决条件

II ISO 工具

准备一款可编辑 ISO 文件的软件，例如：[PowerISO](#)、[DAEMON Tools](#)、[ISO Workshop](#)；

III 要求

1. 系统安装包

关键词：[迭代](#)、[跨版本](#)、[大版本](#)、[累积更新](#)、[初始版本](#)

1.1. 说明

- 1.1.1. 每版本更新时请重新制作镜像，例如从 21H1 跨越到 22H2 时，应避免出现其它兼容性问题请勿在旧镜像基础上制作；
- 1.1.2. 该条例已经在某些 OEM 厂商，通过各种形式向封装师明确传达了该法令，不允许直接从迭代版本里直接升级；
- 1.1.3. 制作中请使用“初始版本”、“开发者版”制作。微软官方文档里曾短暂的出现过在制作中必须使用初始版本，后来这句在官方文档里却被删除了；
- 1.1.4. 安装语言包后，必须重新添加累积更新（可同一版本号），不添加累积更新会出现“乱码”、“界面闪退”等问题。
- 1.1.5. 进化过程：Windows 11 22H2, Build 22261.382 + KB5027303 = OS Build 22621.1928

1.2. 准备下载初始版本或开发者版本

- 1.2.1. [en-us\\_windows\\_11\\_business\\_editions\\_version\\_22h2\\_x64\\_dvd\\_17a08ce3.iso](#)
- 1.2.2. [en-us\\_windows\\_11\\_consumer\\_editions\\_version\\_22h2\\_x64\\_dvd\\_e630fafd.iso](#)
- 1.2.3. [en-us\\_windows\\_11\\_iot\\_enterprise\\_version\\_22h2\\_arm64\\_dvd\\_f09f5d29.iso](#)
- 1.2.4. [en-us\\_windows\\_11\\_iot\\_enterprise\\_version\\_22h2\\_x64\\_dvd\\_eb39bf70.iso](#)

- 1.3. 示例下载 [en-us\\_windows\\_11\\_business\\_editions\\_version\\_22h2\\_x64\\_dvd\\_17a08ce3.iso](#) 后，解压到：[D:\en-us\\_windows\\_11\\_business\\_editions\\_version\\_22h2\\_x64\\_dvd\\_17a08c](#)
- 1.4. 解压完成后，将目录 [en-us\\_windows\\_11\\_business\\_editions\\_version\\_22h2\\_x64\\_dvd\\_17a08c](#) 更改为 [D:\OS\\_11](#)
- 1.5. 所有脚本、所有路径，已默认设置为 [D:\OS\\_11](#) 为映像来源。

1.6. 安装配置

- 1.6.1. 学习：[Windows 安装版配置和产品 ID 文件 \(El.cfg 和 PID.txt\)](#)
- 1.6.2. 已知问题

1.6.2.1. 没有 Ei.cfg 时，ISO 引导安装，选择某些版本时会报错，提示：Windows 找不到 Microsoft 软件许可条款。  
请确保安装源有效。然后重新启动安装。

1.6.2.2. 如何解决，添加 ei.cfg 到 D:\OS\_11\Sources 里，创建 ei.cfg：

```
@"  
  
[Channel]  
  
volume  
  
  
  
[VL]  
  
1  
  
"@ | Out-File -FilePath "D:\OS_11\sources\EI.CFG" -Encoding Ascii
```

1.7. 报告

查看映像包里已安装：语言包、已关联的语言包组件、预安装 InBox Apps 应用程序等详细信息，下载报告后，使用 Excel 软件打开 .xlsx。

1.7.1. 报告：总览

包含：ISO 系统安装包、映像版本、区域、区域关联、已关联的语言包组件等。

[Report.Overview.xlsx](#)

1.7.2. 报告：完整

包容：ISO 系统安装包、映像版本、区域、区域关联、已关联的语言包组件、已安装 InBox Apps 预安装应用程序等。

[en-us](#)、[ar-sa](#)、[bg-bg](#)、[cs-cz](#)、[da-dk](#)、[de-de](#)、[el-gr](#)、[en-gb](#)、[es-es](#)、[es-mx](#)、[et-ee](#)、[fi-fi](#)、[fr-ca](#)、[fr-fr](#)、[he-il](#)、[hr-hr](#)、[hu-hu](#)、[it-it](#)、[ja-jp](#)、[ko-kr](#)、[lt-lt](#)、[lv-lv](#)、[nb-no](#)、[nl-nl](#)、[pl-pl](#)、[pt-br](#)、[pt-pt](#)、[ro-ro](#)、[ru-ru](#)、[sk-sk](#)、[sl-si](#)、[sr-latn-rs](#)、[sv-se](#)、[th-th](#)、[tr-tr](#)、[uk-ua](#)、[zh-cn](#)、[zh-tw](#)

2. 语言包

2.1. 学习

阅读时，请了解“蓝色”重要突出部分。

2.1.1. [语言概述](#)

2.1.2. [将语言添加到 Windows 11 映像](#)

2.1.3. [语言和区域按需功能 \(FOD\)](#)

2.1.3.1. 字体



- 添加语言包时，触发了对应的区域时，需添加所需的字体功能，下载“[所有可用语言 FOD 的列表](#)”了解更多。
- 在“语言包：提取”时，已加入自动识别功能，可了解函数：[Function Match\\_Required\\_Fonts](#)

2.1.3.2. 区域关联

区域关联是什么？

- 映像语言仅英文版时，添加 zh-HK 语言包后，映像语言不会新增，应先安装 zh-TW 后，再安装 zh-HK 即可获得对应的关联。

已知区域关联：

2.1.3.2.1. 区域：[ar-sa](#)，可选关联区域：[en-US](#)，关联安装包：

- |              |   |
|--------------|---|
| 2.1.3.2.1.1. | Microsoft-Windows-LanguageFeatures-Basic-es-us-<br>Package~31bf3856ad364e35~amd64~~.cab |
| 2.1.3.2.1.2. | Microsoft-Windows-LanguageFeatures-OCR-en-us-<br>Package~31bf3856ad364e35~amd64~~.cab   |

2.1.3.2.2. 区域：[bg-bg](#)，可选关联区域：[en-US](#)，关联安装包：

- |              |   |
|--------------|---|
| 2.1.3.2.2.1. | Microsoft-Windows-LanguageFeatures-Basic-es-us-<br>Package~31bf3856ad364e35~amd64~~.cab |
| 2.1.3.2.2.2. | Microsoft-Windows-LanguageFeatures-OCR-en-us-<br>Package~31bf3856ad364e35~amd64~~.cab   |

2.1.3.2.3. 区域：[da-dk](#)，可选关联区域：[en-US](#)，关联安装包：

- |              |   |
|--------------|---|
| 2.1.3.2.3.1. | Microsoft-Windows-LanguageFeatures-Basic-es-us-<br>Package~31bf3856ad364e35~amd64~~.cab |
| 2.1.3.2.3.2. | Microsoft-Windows-LanguageFeatures-OCR-en-us-<br>Package~31bf3856ad364e35~amd64~~.cab   |

2.1.3.2.4. 区域：[el-gr](#)，可选关联区域：[en-US](#)，关联安装包：

- |              |   |
|--------------|---|
| 2.1.3.2.4.1. | Microsoft-Windows-LanguageFeatures-Basic-es-us-<br>Package~31bf3856ad364e35~amd64~~.cab |
| 2.1.3.2.4.2. | Microsoft-Windows-LanguageFeatures-OCR-en-us-<br>Package~31bf3856ad364e35~amd64~~.cab   |

2.1.3.2.5. 区域：[fr-ca](#)，可选关联区域：[en-US](#)、[fr-fr](#)，关联安装包：

- |              |   |
|--------------|---|
| 2.1.3.2.5.1. | Microsoft-Windows-LanguageFeatures-Basic-es-us-<br>Package~31bf3856ad364e35~amd64~~.cab |
|--------------|---|

- 2.1.3.2.5.2. Microsoft-Windows-LanguageFeatures-OCR-en-us-  
Package~31bf3856ad364e35~amd64~~.cab
- 2.1.3.2.5.3. Microsoft-Windows-LanguageFeatures-Basic-fr-fr-  
Package~31bf3856ad364e35~amd64~~.cab
- 2.1.3.2.5.4. Microsoft-Windows-LanguageFeatures-Handwriting-fi-fi-  
Package~31bf3856ad364e35~amd64~~.cab
- 2.1.3.2.6. 区域: **he-il**, 可选关联区域: **en-US**, 关联安装包:
  - 2.1.3.2.6.1. Microsoft-Windows-LanguageFeatures-Basic-es-us-  
Package~31bf3856ad364e35~amd64~~.cab
  - 2.1.3.2.6.2. Microsoft-Windows-LanguageFeatures-OCR-en-us-  
Package~31bf3856ad364e35~amd64~~.cab
- 2.1.3.2.7. 区域: **ru-ru**, 可选关联区域: **en-US**, 关联安装包:
  - 2.1.3.2.7.1. Microsoft-Windows-LanguageFeatures-Basic-es-us-  
Package~31bf3856ad364e35~amd64~~.cab
  - 2.1.3.2.7.2. Microsoft-Windows-LanguageFeatures-OCR-en-us-  
Package~31bf3856ad364e35~amd64~~.cab
- 2.1.3.2.8. 区域: **th-th**, 可选关联区域: **en-US**, 关联安装包:
  - 2.1.3.2.8.1. Microsoft-Windows-LanguageFeatures-Basic-es-us-  
Package~31bf3856ad364e35~amd64~~.cab
  - 2.1.3.2.8.2. Microsoft-Windows-LanguageFeatures-OCR-en-us-  
Package~31bf3856ad364e35~amd64~~.cab
- 2.1.3.2.9. 区域: **uk-ua**, 可选关联区域: **en-US**, 关联安装包:
  - 2.1.3.2.9.1. Microsoft-Windows-LanguageFeatures-Basic-es-us-  
Package~31bf3856ad364e35~amd64~~.cab
  - 2.1.3.2.9.2. Microsoft-Windows-LanguageFeatures-OCR-en-us-  
Package~31bf3856ad364e35~amd64~~.cab
- 2.1.3.2.10. 区域: **zh-TW**, 可选关联区域: **zh-HK**, 关联安装包:
  - 2.1.3.2.10.1. Microsoft-Windows-LanguageFeatures-Basic-zh-hk-  
Package~31bf3856ad364e35~amd64~~.cab
  - 2.1.3.2.10.2. Microsoft-Windows-LanguageFeatures-Speech-zh-hk-  
Package~31bf3856ad364e35~amd64~~.cab
  - 2.1.3.2.10.3. Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-hk-  
Package~31bf3856ad364e35~amd64~~.cab

#### 2.1.3.3. 其它区域特定的要求

触发已知区域时，需添加特定的“程序包”。

2.1.3.3.1.        区域：zh-TW，程序包：Microsoft-Windows-InternationalFeatures-Taiwan-  
Package~31bf3856ad364e35~amd64~~.cab

说明：对台湾日期格式设置要求的补充支持。 将为位于台湾的客户提供包。

建议：仅在运送到台湾市场的设备上预安装。 未在设备上安装此功能会导致对使用台湾日  
历的任何 API 调用失败。

存在争议：

- 查看“报告：Windows 11 23H2”脱机映像语言列表，并未发现有此程序包；
- 在建议项里有已知问题，到底是遵循与微软官方原版一致，由封装师自由选择安装与否。

2.2.    语言包：下载

[https://software-static.download.prss.microsoft.com/dbazure/988969d5-f34g-4e03-ac9d-1f9786c66749/22621.1.220506-1250.ni\\_release\\_amd64fre\\_CLIENT\\_LOF\\_PACKAGES\\_OEM.iso](https://software-static.download.prss.microsoft.com/dbazure/988969d5-f34g-4e03-ac9d-1f9786c66749/22621.1.220506-1250.ni_release_amd64fre_CLIENT_LOF_PACKAGES_OEM.iso)

2.3.    语言包：修复

2.3.1.    任选一个网站并打开：

- 2.3.1.1.    <https://uupdump.net>
- 2.3.1.2.    <https://uup.ee>
- 2.3.1.3.    <https://osdump.com>

2.3.2.    打开后，搜索关键词：22621.382，在搜索结果选择：Windows 11, version 22H2 (22621.382) amd64

2.3.3.    打开后，选择“全部文件”；

2.3.4.    在“全部文件”页面里依次搜索绿色部分并下载：

- 2.3.4.1.    适用于：Install.wim （ 1 项 ）
- 2.3.4.1.1.    MediaPlayer
- 2.3.4.2.    适用于：WinRE.wim，暂无
- 2.3.4.3.    适用于：Boot.wim，暂无

2.3.5.    下载所有文件后，拉动到页面下方，下载并运行“生成重命名脚本（Windows）”；

- 2.3.6. 使用 ISO 编辑软件，编辑 22621.1.220506-1250.ni\_release\_amd64fre\_CLIENT\_LOF\_PACKAGES\_OEM.iso，将下载的文件添加到 [ISO]:\LanguagesAndOptionalFeatures 目录里；

3. InBox Apps

- 3.1. 下载：[https://software-static.download.prss.microsoft.com/dbazure/888969d5-f34g-4e03-ac9d-1f9786c66749/22621.1778.230511-2102.ni\\_release\\_svc\\_prod3\\_amd64fre\\_InboxApps.iso](https://software-static.download.prss.microsoft.com/dbazure/888969d5-f34g-4e03-ac9d-1f9786c66749/22621.1778.230511-2102.ni_release_svc_prod3_amd64fre_InboxApps.iso)
- 3.2. 下载：[https://software-static.download.prss.microsoft.com/dbazure/988969d5-f34g-4e03-ac9d-1f9786c66749/22621.1.220506-1250.ni\\_release\\_amd64fre\\_InboxApps.iso](https://software-static.download.prss.microsoft.com/dbazure/988969d5-f34g-4e03-ac9d-1f9786c66749/22621.1.220506-1250.ni_release_amd64fre_InboxApps.iso) 后，提取：
  - 3.2.1. Microsoft.HEVCVideoExtension
    - 3.2.1.1. Microsoft.HEVCVideoExtension\_8wekyb3d8bbwe.arm64.appx
    - 3.2.1.2. Microsoft.HEVCVideoExtension\_8wekyb3d8bbwe.arm64.xml
    - 3.2.1.3. Microsoft.HEVCVideoExtension\_8wekyb3d8bbwe.x64.appx
    - 3.2.1.4. Microsoft.HEVCVideoExtension\_8wekyb3d8bbwe.x64.xml
- 3.3. 使用 ISO 编辑工具，编辑 22621.1778.230511-2102.ni\_release\_svc\_prod3\_amd64fre\_InboxApps.iso，将已提取文件添加到 [ISO]:\packages 目录里；

IV Windows 安全中心

- 在处理封装任务时，将产生大量的临时文件，安装 InBox Apps 里的应用时会释放大量的安装文件；
- 开启 Windows 安全中心会扫描文件、会占用大量的 CPU。
- 测试中：未关闭前耗时 1 小时 22 分，关闭后耗时 20 分钟。

如何关闭：

绿色为命令行，按住 Windows 键并按 R 键启动“运行”。

- 1. 打开“Windows 安全中心”或运行： windowsdefender:
- 2. 选择“病毒和威胁防护”或运行： windowsdefender://threat
- 3. 找到“病毒和威胁防护设置”，点击“管理设置”或运行： windowsdefender://threatsettings，建议您关闭部分功能：
  - 3.1. 实时保护
  - 3.2. 云提供的保护
  - 3.3. 自动提交样本
  - 3.4. 篡改防护

4. 未处于封装时，建议您开启 Windows 安全中心。

V 命令行

1. 可选“Terminal”或“PowerShell ISE”，未安装“Terminal”，请前往 <https://github.com/microsoft/terminal/releases> 后下载；
2. 以管理员身份打开“Terminal”或“PowerShell ISE”，设置 PowerShell 执行策略：绕过，PS 命令行：
- ```
Set-ExecutionPolicy -ExecutionPolicy Bypass -Force
```
3. 在本文中，绿色部分属于 PS 命令行，请复制后，粘贴到“Terminal”对话框，按回车键（Enter）后开始运行；
4. 有 .ps1 时，点击文件右键，选择以 PowerShell 运行，或复制路径，粘贴到“Terminal ”或“PowerShell ISE”里运行，带冒号的路径，在命令行添加 & 字符，示例：& "D:\Yi.Solutions\\_Encapsulation\\_SIP.ps1"

B. 语言包：提取

II 语言包：准备

挂载 22621.1.220506-1250.ni\_release\_amd64fre\_CLIENT\_LOF\_PACKAGES\_OEM.iso 或解压到任意位置；

III 语言包：提取方案

1. 添加
- 1.1. 语言名称：简体中文 - 中国，区域：zh-CN，适用范围：Install.Wim，Boot.Wim，WinRE.Wim
2. 删除
- 2.1. 语言名称：英语 - 美国，区域：en-US，适用范围：Install.Wim，Boot.Wim，WinRE.Wim

IV 执行提取命令

- Auto = 自动搜索本地所有磁盘，默认；
- 自定义路径，例如指定为 E 盘：\$ISO = "E:\"
- Extract.ps1
  - \Expand\Extract.ps1
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/Extract.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/Extract.ps1)
- 复制代码

```
$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-Sync", "syr", "syr-SY", "syr-Sync"); Name = "Syr"; }

        @{ 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_OC\WinPE-FontSupport-{Lang}.cab"

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

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

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

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

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

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

        "Windows Preinstallation Environment\x64\WinPE_OC\{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. 自定义部署映像

II 自定义部署映像：Install.wim

1. 查看 Install.wim 详细信息

映像名称、映像描述、映像大小、架构、版本、索引号等；

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

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

循环操作区域，开始，

2. 指定挂载 Install 路径

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

3. 开始挂载 Install.wim

默认索引号：1

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

处理 [Install.wim](#) 映像内的文件，可选项，开始，

### 3.1. 自定义部署映像：WinRE.wim

#### 注意：

- WinRE.wim 属于 Install.wim 映像内的文件；
- Install.wim 有多个索引号时，仅处理任意一个 WinRE.wim 即可；
- 同步至所有索引号即可减少 Install.wim 体积，学习“[如何批量替换 Install.wim 里的所有索引号里的 WinRE.wim](#)”。

#### 3.1.1. 查看 WinRE.wim 详细信息

映像名称、映像描述、映像大小、架构、版本、索引号等；

```
$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. 指定挂载 WinRE.wim 路径

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

#### 3.1.3. 开始挂载 WinRE.wim

默认索引号：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. 语言包

- 自动安装语言包：获取“组件：映像中已安装的所有包”后进行匹配，匹配到对应的名称后，再安装本地对应的语言包文件，查看报告“[语言安装包适用于 WinRE.wim](#)”。
- 添加语言时，须对应不同的架构版本，未对应时，添加过程中报错等提示。

##### 3.1.4.1. 语言包：添加

- WinRE.Instl.lang.ps1
  - [\Expand\Install\WinRE\WinRE.Instl.lang.ps1](#)

- o [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/WinRE/WinRE.Instl.lang.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/WinRE/WinRE.Instl.lang.ps1)

- 复制代码

```
$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. 脱机映像语言：更改

3.1.4.2.1. 更改默认语言、区域设置和其他国际设置

区域：zh-CN

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

3.1.4.2.2. 查看可用的语言设置

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

3.1.4.3. 语言包：删除

- 添加语言后，如果要部署到非英语区域，可通过删除英语语言组件来节省空间。删除语言时，请按与添加语言组件相反的顺序卸载语言组件。
- 添加中文后，反向删除“英语 - 美国”，区域：en-US，需提前提取语言包
- WinRE.Del.Specified.lang.Tag.ps1
  - \Expand\Install\WinRE\WinRE.Del.Specified.lang.Tag.ps1

- [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/WinRE/WinRE.Del.Specified.lang.Tag.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/WinRE/WinRE.Del.Specified.lang.Tag.ps1)

- 复制代码

```
$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-audiodrivers_$( $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. 组件：映像中已安装的所有包

3.1.4.4.1. 查看

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

3.1.4.4.2. 导出到 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. 累积更新

准备可用的累积更新文件，请更改示例文件名： KB\_WinRE.cab

3.1.5.1. 添加

```
$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. 删除

```
$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. 固化更新

固化后不可卸载，固化时将清理恢复映像并重置任何被取代的组件的基础。

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

3.1.5.3.1. 固化更新后清理组件

```
$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. 驱动

3.1.7. 保存映像：WinRE.wim

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

3.1.8. 卸载映像：WinRE.wim

关闭所有可能正在访问映像中文件的应用程序，包括文件资源管理器。

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

3.1.9. 重建 WinRE.wim 后，可缩小文件大小

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

- 复制代码

```
$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. 备份 WinRE.wim

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

- 复制代码

```

$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. 替换 Install.wim 映像内的 WinRE.wim

- 每次挂载 Install.wim 后“[替换 WinRE.wim](#)”；
- 学习“[获取 Install.wim 所有索引号后并替换旧的 WinRE.wim](#)”。

处理 Install.wim 映像内的文件，结束。

## 4. 语言包

- 自动安装语言包：获取“组件：映像中已安装的所有包”后进行匹配，匹配到对应的名称后，再安装本地对应的语言包文件，查看报告“[语言安装包适用于 Install.wim](#)”。
- 添加语言时，须对应不同的架构版本，未对应时，添加过程中报错等提示。

### 4.1. 语言包：添加

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

- 复制代码

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

$Sources = "D:\OS_11_Custom\Install\Install\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)\Microsoft-Windows-LanguageFeatures-Fonts-Hans-
Package~31bf3856ad364e35~amd64~~.cab"

$Language_List = @(

    @{ Match = "*Client-LanguagePack-Package*"; File = "Microsoft-Windows-Client-Language-Pack_x64_zh-CN.cab"; }

    @{ Match = "*LanguageFeatures-Basic*"; File = "Microsoft-Windows-LanguageFeatures-Basic-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*Handwriting*"; File = "Microsoft-Windows-LanguageFeatures-Handwriting-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*OCR*"; File = "Microsoft-Windows-LanguageFeatures-OCR-zh-CN-Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*LanguageFeatures-Speech*"; File = "Microsoft-Windows-LanguageFeatures-Speech-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*TextToSpeech*"; File = "Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-CN-
Package~31bf3856ad364e35~amd64~~.cab"; }

    @{ Match = "*InternetExplorer*"; File = "Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~AMD64~zh-
CN~.cab"; }

    @{ Match = "*Notepad*amd64*"; File = "Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~AMD64~zh-
CN~.cab"; }

    @{ Match = "*Notepad*wow64*"; File = "Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~wow64~zh-
CN~.cab"; }

    @{ Match = "*MediaPlayer*amd64*"; File = "Microsoft-Windows-MediaPlayer-Package-AMD64-zh-CN.cab"; }

    @{ Match = "*MediaPlayer*wow64*"; File = "Microsoft-Windows-MediaPlayer-Package-wow64-zh-CN.cab"; }

    @{ Match = "*PowerShell*amd64*"; File = "Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~zh-
CN~.cab"; }

    @{ Match = "*PowerShell*wow64*"; File = "Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-
CN~.cab"; }

    @{ Match = "*Printing*PMCPPC*amd64*"; File = "Microsoft-Windows-Printing-PMCPPC-FoD-
Package~31bf3856ad364e35~AMD64~zh-CN~.cab"; }

    @{ Match = "*StepsRecorder*amd64*"; File = "Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~zh-
CN~.cab"; }

    @{ Match = "*StepsRecorder*wow64*"; File = "Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-
CN~.cab"; }

    @{ Match = "*WMIC*FoD*Package*amd64*"; File = "Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~AMD64~zh-
CN~.cab"; }
```

```
@{ Match = "*WMIC*FoD*Package*wow64*"; File = "Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab"; }

@{ Match = "*WordPad*amd64*"; File = "Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~.cab"; }

@{ Match = "*WordPad*wow64*"; File = "Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab"; }

@{ Match = "*Client*LanguagePack*zh-TW*"; File = "Microsoft-Windows-InternationalFeatures-Taiwan-Package~31bf3856ad364e35~amd64~~.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. 脱机映像语言：更改

- 从 Windows 11 开始，DISM 设置的默认系统 UI 语言在所有版本中保持不变（家庭版除外）。对于所有商业版，在开箱即用体验 (OOBE) 期间选择的语言会设置为系统首选 UI 语言，Windows 将以此语言显示；对于家庭版，在 OOBE 期间选择的语言将继续用作默认系统 UI 语言。
- 从 Windows 10 版本 2004 开始，如果将基于 .appx 的语言体验包 (LXP) 支持的语言作为参数传递，则该语言将设置为系统首选 UI 语言，其父语言将设置为默认系统 UI 语言。在以前的版本中，仅支持基于 .cab 的语言包。

4.2.1. 更改默认语言、区域设置和其他国际设置

区域：zh-CN

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

4.2.2. 查看可用的语言设置

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

4.3. 语言包：删除

- 添加语言后，如果要部署到非英语区域，可通过删除英语语言组件来节省空间。删除语言时，请按与添加语言组件相反的顺序卸载语言组件。

- 添加中文后，反向删除“英语 - 美国”，区域：en-US，需提前提取语言包

- Install.Del.Specified.lang.Tag.ps1

- [\Expand\Install\Install.Del.Specified.lang.Tag.ps1](#)
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging/tutorial/OS.11/22H2/Expand/Install/Install.Del.Specified.lang.Tag.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging/tutorial/OS.11/22H2/Expand/Install/Install.Del.Specified.lang.Tag.ps1)

- 复制代码

```
$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 $Init_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. 组件：映像中已安装的所有包

4.4.1. 查看

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

4.4.2. 导出到 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. 学习

5.1.1. DISM 应用包（.appx 或 .appxbundle）服务命令行选项

5.2. InBox Apps：预安装应用程序



- 编组缩写
  - 群组 A: 教育版, 专业版, 专业教育版, 专业版工作站, 企业版, IoT 企业版, 适用于虚拟桌面的 Windows 10 企业版
  - 群组 B: 企业版 N, 企业版 GN, 企业版 SN, 专业版 N, 教育版 N, 专业版工作站 N, 专业教育版 N
  - 群组 C: 家庭版, 家庭版 N, 家庭单语版

|     | 名称                                     | 产品 ID        | 编组      |
|-----|----------------------------------------|--------------|---------|
| 1.  | Microsoft.HEIFImageExtension           | 9PMMSR1CGPWG | A, C    |
| 2.  | Microsoft.HEVCVideoExtension           | 9NMZLZ57R3T7 | A, C    |
| 3.  | Microsoft.VP9VideoExtensions           | 9N4D0MSMP0PT | A, C    |
| 4.  | Microsoft.WebpImageExtension           | 9PG2DK419DRG | A, C    |
| 5.  | Microsoft.GamingApp                    | 9MV0B5HZVK9Z | A, C    |
| 6.  | Microsoft.ZuneMusic                    | 9WZDNCRFJ3PT | A, C    |
| 7.  | MicrosoftCorporationII.MicrosoftFamily | 9PDJDS743XF  | C       |
| 8.  | Microsoft.WebMediaExtensions           | 9N5TDP8VCMHS | A, C    |
| 9.  | Microsoft.WindowsSoundRecorder         | 9WZDNCRFWKN  | A, C    |
| 10. | Microsoft.Xbox.TCUI                    | 9NKNC0LD5NN6 | A, C    |
| 11. | Microsoft.ZuneVideo                    | 9WZDNCRFJ3P2 | A, C    |
| 12. | Microsoft.XboxGamingOverlay            | 9NZKPSTSNW4P | A, C    |
| 13. | Microsoft.RawImageExtension            | 9NCTDW2W1BH8 | A, C    |
| 14. | Microsoft.UI.Xaml.2.3                  |              | A, B, C |
| 15. | Microsoft.UI.Xaml.2.4                  |              | A, B, C |
| 16. | Microsoft.UI.Xaml.2.7                  |              | A, B, C |
| 17. | Microsoft.NET.Native.Framework.2.2     |              | A, B, C |
| 18. | Microsoft.NET.Native.Runtime.2.2       |              | A, B, C |
| 19. | Microsoft.VCLibs.140.00                |              | A, B, C |
| 20. | Microsoft.VCLibs.140.00.UWPDesktop     |              | A, B, C |
| 21. | Microsoft.SecHealthUI                  | 9NK0JLZT7JD0 | A, B, C |
| 22. | Microsoft.WindowsStore                 | 9WZDNCRFJBMP | A, B, C |
| 23. | Microsoft.Sticky.Notes                 | 9NBLGGH4QGHW | A, B, C |
| 24. | Microsoft.Paint                        | 9PCFS5B6T72H | A, B, C |
| 25. | Microsoft.PowerAutomateDesktop         | 9NFTCH6J7FHV | A, B, C |
| 26. | Microsoft.ScreenSketch                 | 9MZ95KL8MR0L | A, B, C |
| 27. | Microsoft.WindowsNotepad               | 9MSMLRH6LZF3 | A, B, C |

|     |                                       |              |         |
|-----|---------------------------------------|--------------|---------|
| 28. | Microsoft.WindowsTerminal             | 9N0DX20HK701 | A, B, C |
| 29. | Clipchamp.Clipchamp                   | 9P1J8S7CCWWT | A, B, C |
| 30. | Microsoft.Solitaire.Collection        | 9WZDNCRFHWD2 | A, B, C |
| 31. | Microsoft.WindowsAlarms               | 9WZDNCRFJ3PR | A, B, C |
| 32. | Microsoft.WindowsFeedbackHub          | 9NBLGGH4R32N | A, B, C |
| 33. | Microsoft.WindowsMaps                 | 9WZDNCRDTBVB | A, B, C |
| 34. | Microsoft.BingNews                    | 9WZDNCRFHVFW | A, B, C |
| 35. | Microsoft.DesktopAppInstaller         | 9NBLGGH4NNS1 | A, B, C |
| 36. | Microsoft.WindowsCamera               | 9WZDNCRFJBBG | A, B, C |
| 37. | Microsoft.Getstarted                  | 9WZDNCRDTBJJ | A, B, C |
| 38. | Microsoft.Cortana                     | 9NFFX4SZZ23L | A, B, C |
| 39. | Microsoft.BingWeather                 | 9WZDNCRFJ3Q2 | A, B, C |
| 40. | Microsoft.GetHelp                     | 9PKDZBMV1H3T | A, B, C |
| 41. | Microsoft.MicrosoftOfficeHub          | 9WZDNCRD29V9 | A, B, C |
| 42. | Microsoft.People                      | 9NBLGGH10PG8 | A, B, C |
| 43. | Microsoft.StorePurchaseApp            | 9NBLGGH4LS1F | A, B, C |
| 44. | Microsoft.Todos                       | 9NBLGGH5R558 | A, B, C |
| 45. | Microsoft.Windows.Photos              | 9WZDNCRFJBH4 | A, B, C |
| 46. | Microsoft.WindowsCalculator           | 9WZDNCRFHVN5 | A, B, C |
| 47. | Microsoft.Windows.CommunicationsApps  | 9WZDNCRFHVQM | A, B, C |
| 48. | Microsoft.XboxGameOverlay             | 9NBLGGH537C2 | A, B, C |
| 49. | Microsoft.XboxIdentityProvider        | 9WZDNCRD1HKW | A, B, C |
| 50. | Microsoft.XboxSpeechToTextOverlay     | 9P086NHDNB9W | A, B, C |
| 51. | Microsoft.YourPhone                   | 9NMPJ99VJBWV | A, B, C |
| 52. | MicrosoftCorporationII.QuickAssist    | 9P7BP5VNWKX5 | A, B, C |
| 53. | MicrosoftWindows.Client.WebExperience | 9MSSGKG348SP | A, B, C |

5.3. InBox Apps：已安装

5.3.1. 查看

Get-AppXProvisionedPackage -Path "D:\OS\_11\_Custom\Install\Install\Mount" | Out-GridView

5.3.2. 导出到 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
```

#### 5.4. 删除已安装的所有预应用程序

- Install.InBox.Appx.Clear.all.ps1
  - \Expand\Install\Install.InBox.Appx.Clear.all.ps1
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging/tutorial/OS.11/22H2/Expand/Install/Install.InBox.Appx.Clear.all.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging/tutorial/OS.11/22H2/Expand/Install/Install.InBox.Appx.Clear.all.ps1)
- 复制代码

```
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  
  
    }  
  
}
```

#### 5.5. 区域标记：了解

了解区域标记前，先了解 ZuneMusic 应用程序可用的语言列表：[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

查看脱机映像已安装的语言

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

查看结果已安装的语言：[en-US](#)、[zh-CN](#)，在安装 ZuneMusic 应用时，安装程序会匹配“已安装的语言”，自动过滤未安装的语言列表，这就是区域标记。

#### 5.6. 区域标记：添加方式

##### 5.6.1. 执行“语言包：添加”

5.6.2. 安装“本地语言体验包（LXPs） ”

微软官方向 Windows 10 提供了本地语言体验包（LXPS）安装文件，Windows 11 不再提供，想获取：

5.6.2.1. 使用“Windows 本地语言体验包（LXPs） 下载器”下载

了解：<https://github.com/ilikeyi/LXPs>

下载后保存到：D:\OS\_11\_Custom\Install\Install\InBox.Appx，文件格式：[LanguageExperiencePack.zh-CN.Neutral.Appx](#)

5.6.2.2. 手动下载

5.6.2.2.1. 区域

| 区域                             | 产品 ID         | 区域                          | 产品 ID        |
|--------------------------------|---------------|-----------------------------|--------------|
| <a href="#">en-US</a>          | C9PDSCC711RVF | <a href="#">af-za</a>       | 9PDW16B5HMXR |
| <a href="#">am-et</a>          | 9NGL4R61W3PL  | <a href="#">ar-sa</a>       | 9N4S78P86PKX |
| <a href="#">as-in</a>          | 9NTJLXMX35J   | <a href="#">az-latn-az</a>  | 9P5TFKZH5K8  |
| <a href="#">be-by</a>          | 9MXPBGNN3L    | <a href="#">bg-bg</a>       | 9MX54588434F |
| <a href="#">bn-bd</a>          | 9PH7TKVXGGM8  | <a href="#">bn-in</a>       | 9P1M44L7W84T |
| <a href="#">bs-latn-ba</a>     | 9MVFKLJ10MFL  | <a href="#">ca-es</a>       | 9P6JMKJQZ9S7 |
| <a href="#">ca-es-valencia</a> | 9P9K3WMFSW90  | <a href="#">chr-cher-us</a> | 9MX15485N3RK |
| <a href="#">cs-cz</a>          | 9P3WXZ1KTM7C  | <a href="#">cy-gb</a>       | 9NKJ9TBML4HB |
| <a href="#">da-dk</a>          | 9NDMT2VKS3L1  | <a href="#">de-de</a>       | 9P6CT0SLW589 |
| <a href="#">el-gr</a>          | 9N586B13PBLD  | <a href="#">en-gb</a>       | 9NT52VQ39BVN |
| <a href="#">es-es</a>          | 9NWVGWLHPB1Z  | <a href="#">es-mx</a>       | 9N8MCM1X3928 |
| <a href="#">et-ee</a>          | 9NFBHFMCR30L  | <a href="#">eu-es</a>       | 9NMCHQHZ37HZ |
| <a href="#">fa-ir</a>          | 9NGS7DD4QS21  | <a href="#">fi-fi</a>       | 9MW3PQ7SD3QK |
| <a href="#">fil-ph</a>         | 9NWM2KGT3SSS  | <a href="#">fr-ca</a>       | 9MTP2VP0VL92 |
| <a href="#">fr-fr</a>          | 9NHMG4BJKMDG  | <a href="#">ga-ie</a>       | 9P0L5Q848KXT |
| <a href="#">gd-gb</a>          | 9P1DBPF36BF3  | <a href="#">gl-es</a>       | 9NXRNBRN3N9B |
| <a href="#">gu-in</a>          | 9P2HMSWDJDQ1  | <a href="#">ha-latn-ng</a>  | 9N1L95DBGRG3 |
| <a href="#">he-il</a>          | 9NB6ZFND5HCQ  | <a href="#">hi-in</a>       | 9NZC3GRX8LD3 |
| <a href="#">hr-hr</a>          | 9NW01VND4LTW  | <a href="#">hu-hu</a>       | 9MWN3C58HL87 |
| <a href="#">hy-am</a>          | 9NKM28TM6P67  | <a href="#">id-id</a>       | 9P4X3N4SDK8P |
| <a href="#">ig-ng</a>          | 9PG4ZFJ48JSX  | <a href="#">is-is</a>       | 9NTHJR7TQXX1 |
| <a href="#">it-it</a>          | 9P8PQWNS6VJX  | <a href="#">ja-jp</a>       | 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      | 9NTHCXCSJDH  | 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  | 9NBZ0SJDPPT  |
| 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 |

下载区域: zh-CN, 应用程序 ID: 9NRMNT6GMZ70, 商店连接:  
<https://www.microsoft.com/store/productId/9NRMNT6GMZ70>

5.6.2.2.2. 打开网站: <https://store.rg-adguard.net>

5.6.2.2.2.1. 搜索关键词:  
  
<https://www.microsoft.com/store/productId/9NRMNT6GMZ70>

5.6.2.2.2.2. 网页内搜索 22621 内容, 搜索结果:  
  
[Microsoft.LanguageExperiencePackzh-CN\\_22621.\\*.neutral\\_\\_8wekyb3d8bbwe.appx](#)

5.6.2.2.2.3. 下载后保存到 D:\OS\_11\_Custom\Install\Install\InBox.Appx 目录里, 重命名: [LanguageExperiencePack.zh-cn.Neutral.Appx](#)

5.6.2.3. 执行安装命令安装本地语言体验包 (LXPs)

了解区域标记添加方式后, 获得 [LanguageExperiencePack.zh-cn.Neutral](#) 后, 执行安装命令:

```
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
```

5.6.2.4. InBox Apps: 已安装的应用程序包

5.6.2.4.1. 查看

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

5.6.2.4.2. 导出到 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
```

5.7. InBox Apps: 安装

5.7.1. 挂载或解压 InBox Apps 安装文件

挂载 [22621.1.220506-1250.ni\\_release\\_amd64fre\\_InboxApps.iso](#) 或解压到任意位置;

5.7.2. 执行安装命令后安装 InBox Apps 到: Install.wim

- [Auto](#) = 自动搜索本地所有磁盘, 默认;

- 自定义路径，例如指定为 F 盘： `$ISO = "F:\packages"`
- 架构： `x64`
- `Install.Inst.InBox.Appx.ps1`
  - `\Expand\Install\Install.Inst.InBox.Appx.ps1`
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.Inst.InBox.Appx.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.Inst.InBox.Appx.ps1)
- 复制代码

```
$ISO = "Auto"

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

$Arch = "x64"

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 = @{

    Edition = @(

        @{

            Name = @( "CloudEdition"; )

            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.Services.Store.Engagement"; "Microsoft.VP9VideoExtensions"; "Clipchamp.Clipchamp"; "Microsoft.BingNews";
                "Microsoft.BingWeather"; "Microsoft.DesktopAppInstaller"; "Microsoft.GetHelp"; "Microsoft.Getstarted";
                "Microsoft.HEIFImageExtension"; "Microsoft.HEVCVideoExtension"; "Microsoft.MicrosoftOfficeHub";
                "Microsoft.MicrosoftStickyNotes"; "Microsoft.MinecraftEducationEdition"; "Microsoft.Paint";
                "Microsoft.RawImageExtension"; "Microsoft.ScreenSketch"; "Microsoft.SecHealthUI"; "Microsoft.StorePurchaseApp";
                "Microsoft.Todos"; "Microsoft.WebMediaExtensions"; "Microsoft.WebpImageExtension"; "Microsoft.Whiteboard";
                "Microsoft.Windows.Photos"; "Microsoft.WindowsAlarms"; "Microsoft.WindowsCalculator"; "Microsoft.WindowsCamera";
                "Microsoft.WindowsFeedbackHub"; "Microsoft.WindowsMaps"; "Microsoft.WindowsNotepad";
                "Microsoft.WindowsSoundRecorder"; "Microsoft.Xbox.TCUI"; "Microsoft.XboxIdentityProvider";
                "Microsoft.XboxSpeechToTextOverlay"; "Microsoft.ZuneMusic"; "Microsoft.ZuneVideo";
                "MicrosoftCorporationII.QuickAssist";

            )

        }

    )

}
```

```

    }

    @{
        Name = @( "CloudEditionN"; )

        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.Services.Store.Engagement"; "Microsoft.XboxSpeechToTextOverlay"; "Clipchamp.Clipchamp";
            "Microsoft.BingNews"; "Microsoft.BingWeather"; "Microsoft.DesktopAppInstaller"; "Microsoft.GetHelp";
            "Microsoft.Getstarted"; "Microsoft.MicrosoftOfficeHub"; "Microsoft.MicrosoftStickyNotes";
            "Microsoft.MinecraftEducationEdition"; "Microsoft.Paint"; "Microsoft.ScreenSketch"; "Microsoft.SecHealthUI";
            "Microsoft.StorePurchaseApp"; "Microsoft.Whiteboard"; "Microsoft.Windows.Photos"; "Microsoft.WindowsAlarms";
            "Microsoft.WindowsCalculator"; "Microsoft.WindowsCamera"; "Microsoft.WindowsFeedbackHub";
            "Microsoft.WindowsMaps"; "Microsoft.WindowsNotepad"; "Microsoft.XboxIdentityProvider";
            "MicrosoftCorporationII.QuickAssist";

        )

    }

    @{
        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.MicrosoftStickyNotes"; "Microsoft.Paint"; "Microsoft.PowerAutomateDesktop"; "Microsoft.ScreenSketch";
            "Microsoft.WindowsNotepad"; "Microsoft.WindowsTerminal"; "Clipchamp.Clipchamp";
            "Microsoft.MicrosoftSolitaireCollection"; "Microsoft.WindowsAlarms"; "Microsoft.WindowsFeedbackHub";
            "Microsoft.WindowsMaps"; "Microsoft.ZuneMusic"; "Microsoft.BingNews"; "Microsoft.BingWeather";
            "Microsoft.DesktopAppInstaller"; "Microsoft.WindowsCamera"; "Microsoft.Getstarted"; "Microsoft.Cortana";
            "Microsoft.GetHelp"; "Microsoft.MicrosoftOfficeHub"; "Microsoft.People"; "Microsoft.StorePurchaseApp";
            "Microsoft.Todos"; "Microsoft.WebMediaExtensions"; "Microsoft.Windows.Photos"; "Microsoft.WindowsCalculator";
            "Microsoft.windowscommunicationsapps"; "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.WebplImageExtension"; "Microsoft.WindowsStore"; "Microsoft.GamingApp";
    "Microsoft.MicrosoftStickyNotes"; "Microsoft.Paint"; "Microsoft.PowerAutomateDesktop"; "Microsoft.ScreenSketch";
    "Microsoft.WindowsNotepad"; "Microsoft.WindowsTerminal"; "Clipchamp.Clipchamp";
    "Microsoft.MicrosoftSolitaireCollection"; "Microsoft.WindowsAlarms"; "Microsoft.WindowsFeedbackHub";
    "Microsoft.WindowsMaps"; "Microsoft.ZuneMusic"; "Microsoft.BingNews"; "Microsoft.BingWeather";
    "Microsoft.DesktopAppInstaller"; "Microsoft.WindowsCamera"; "Microsoft.Getstarted"; "Microsoft.Cortana";
    "Microsoft.GetHelp"; "Microsoft.MicrosoftOfficeHub"; "Microsoft.People"; "Microsoft.StorePurchaseApp";
    "Microsoft.Todos"; "Microsoft.WebMediaExtensions"; "Microsoft.Windows.Photos"; "Microsoft.WindowsCalculator";
    "Microsoft.windowscommunicationsapps"; "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"; "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.MicrosoftStickyNotes"; "Microsoft.Paint";
        "Microsoft.PowerAutomateDesktop"; "Microsoft.ScreenSketch"; "Microsoft.WindowsNotepad";
        "Microsoft.WindowsTerminal"; "Clipchamp.Clipchamp"; "Microsoft.MicrosoftSolitaireCollection";
        "Microsoft.WindowsAlarms"; "Microsoft.WindowsFeedbackHub"; "Microsoft.WindowsMaps"; "Microsoft.BingNews";
        "Microsoft.BingWeather"; "Microsoft.DesktopAppInstaller"; "Microsoft.WindowsCamera"; "Microsoft.Getstarted";
        "Microsoft.Cortana"; "Microsoft.GetHelp"; "Microsoft.MicrosoftOfficeHub"; "Microsoft.People";
        "Microsoft.StorePurchaseApp"; "Microsoft.Todos"; "Microsoft.Windows.Photos"; "Microsoft.WindowsCalculator";
        "Microsoft.windowscommunicationsapps"; "Microsoft.XboxGameOverlay"; "Microsoft.XboxIdentityProvider";
        "Microsoft.XboxSpeechToTextOverlay"; "Microsoft.YourPhone"; "MicrosoftCorporationII.QuickAssist";
        "MicrosoftWindows.Client.WebExperience";

    )

}

)

Rule = @(

    @{ Name="Microsoft.UI.Xaml.2.3"; Match="UI.Xaml*{ARCHTag}*2.3";License="UI.Xaml*{ARCHTag}*2.3";
    Dependencies=@(); }

    @{ Name="Microsoft.UI.Xaml.2.4"; Match="UI.Xaml*{ARCHTag}*2.4";License="UI.Xaml*{ARCHTag}*2.4";
    Dependencies=@(); }

    @{ Name="Microsoft.UI.Xaml.2.7"; Match="UI.Xaml*{ARCHTag}*2.7";License="UI.Xaml*{ARCHTag}*2.7";
    Dependencies=@(); }
```

```
@{ Name="Microsoft.NET.Native.Framework.2.2";
Match="Native.Framework*{ARCHTag}*2.2";License="Native.Framework*{ARCHTag}*2.2"; Dependencies=@(); }

@{ Name="Microsoft.NET.Native.Runtime.2.2";
Match="Native.Runtime*{ARCHTag}*2.2";License="Native.Runtime*{ARCHTag}*2.2"; Dependencies=@(); }

@{ Name="Microsoft.VCLibs.140.00"; Match="VCLibs*{ARCHTag}";License="VCLibs*{ARCHTag}"; Dependencies=@(); }

@{ Name="Microsoft.VCLibs.140.00.UWPDesktop";
Match="VCLibs*{ARCHTag}*Desktop";License="VCLibs*{ARCHTag}*Desktop"; Dependencies=@(); }

@{ Name="Microsoft.HEIFImageExtension"; Match="HEIFImageExtension";License="HEIFImageExtension*";
Dependencies=@("Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.HEVCVideoExtension";
Match="HEVCVideoExtension*{ARCHC}";License="HEVCVideoExtension*{ARCHC}*xml";
Dependencies=@("Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.SecHealthUI"; Match="SecHealthUI*{ARCHC}";License="SecHealthUI*{ARCHC}";
Dependencies=@("Microsoft.UI.Xaml.2.4","Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.VP9VideoExtensions";
Match="VP9VideoExtensions*{ARCHC}";License="VP9VideoExtensions*{ARCHC}";
Dependencies=@("Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.WebpImageExtension";
Match="WebpImageExtension*{ARCHC}";License="WebpImageExtension*{ARCHC}";
Dependencies=@("Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.WindowsStore"; Match="WindowsStore";License="WindowsStore";
Dependencies=@("Microsoft.UI.Xaml.2.3","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.GamingApp"; Match="GamingApp";License="GamingApp";
Dependencies=@("Microsoft.UI.Xaml.2.3","Microsoft.VCLibs.140.00","Microsoft.VCLibs.140.00.UWPDesktop"); }

@{ Name="Microsoft.MicrosoftStickyNotes"; Match="Microsoft.Sticky.Notes";License="MicrosoftStickyNotes";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.Paint"; Match="Paint";License="Paint";
Dependencies=@("Microsoft.VCLibs.140.00","Microsoft.VCLibs.140.00.UWPDesktop","Microsoft.UI.Xaml.2.7"); }

@{ Name="Microsoft.PowerAutomateDesktop"; Match="PowerAutomateDesktop";License="PowerAutomateDesktop";
Dependencies=@("Microsoft.VCLibs.140.00.UWPDesktop"); }

@{ Name="Microsoft.ScreenSketch"; Match="ScreenSketch";License="ScreenSketch";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.WindowsNotepad"; Match="WindowsNotepad";License="WindowsNotepad";
Dependencies=@("Microsoft.VCLibs.140.00","Microsoft.VCLibs.140.00.UWPDesktop","Microsoft.UI.Xaml.2.7"); }

@{ Name="Microsoft.WindowsTerminal"; Match="WindowsTerminal";License="WindowsTerminal";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.VCLibs.140.00.UWPDesktop"); }

@{ Name="Clipchamp.Clipchamp"; Match="Clipchamp.Clipchamp";License="Clipchamp.Clipchamp";
Dependencies=@(); }

@{ Name="Microsoft.MicrosoftSolitaireCollection";
Match="MicrosoftSolitaireCollection";License="MicrosoftSolitaireCollection";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

@{ Name="Microsoft.WindowsAlarms"; Match="WindowsAlarms";License="WindowsAlarms";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00.UWPDesktop"); }
```

```
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.WindowsFeedbackHub"; Match="WindowsFeedbackHub";License="WindowsFeedbackHub";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Micr
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.WindowsMaps"; Match="WindowsMaps";License="WindowsMaps";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Micr
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.ZuneMusic"; Match="ZuneMusic";License="ZuneMusic";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.VCLibs.140.00"); }

    @{ Name="MicrosoftCorporationII.MicrosoftFamily"; Match="MicrosoftFamily";License="MicrosoftFamily";
Dependencies=@(); }

    @{ Name="Microsoft.BingNews"; Match="BingNews";License="BingNews";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Micr
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.BingWeather"; Match="BingWeather";License="BingWeather";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Micr
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.DesktopAppInstaller"; Match="DesktopAppInstaller";License="DesktopAppInstaller";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.VCLibs.140.00.UWPDesktop"); }

    @{ Name="Microsoft.WindowsCamera"; Match="WindowsCamera";License="WindowsCamera";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

    @{ Name="Microsoft.Getstarted"; Match="Getstarted";License="Getstarted";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Micr
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.Cortana"; Match="Cortana";License="Cortana";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00","
Microsoft.VCLibs.140.00.UWPDesktop"); }

    @{ Name="Microsoft.GetHelp"; Match="GetHelp";License="GetHelp";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Micr
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.MicrosoftOfficeHub"; Match="MicrosoftOfficeHub";License="MicrosoftOfficeHub";
Dependencies=@("Microsoft.VCLibs.140.00","Microsoft.VCLibs.140.00.UWPDesktop"); }

    @{ Name="Microsoft.People"; Match="People";License="People";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

    @{ Name="Microsoft.StorePurchaseApp"; Match="StorePurchaseApp";License="StorePurchaseApp";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

    @{ Name="Microsoft.Todos"; Match="Todos";License="Todos";
Dependencies=@("Microsoft.UI.Xaml.2.4","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Micr
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.WebMediaExtensions"; Match="WebMediaExtensions";License="WebMediaExtensions";
Dependencies=@("Microsoft.VCLibs.140.00"); }

    @{ Name="Microsoft.Windows.Photos"; Match="Windows.Photos";License="Windows.Photos";
Dependencies=@("Microsoft.UI.Xaml.2.4","Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Micr
rosoft.VCLibs.140.00"); }

    @{ Name="Microsoft.WindowsCalculator"; Match="WindowsCalculator";License="WindowsCalculator";
```

```
Dependencies=@("Microsoft.UI.Xaml.2.4","Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.windowscommunicationsapps";
Match="WindowsCommunicationsApps";License="WindowsCommunicationsApps";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.WindowsSoundRecorder"; Match="WindowsSoundRecorder";License="WindowsSoundRecorder";
Dependencies=@("Microsoft.UI.Xaml.2.3","Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.Xbox.TCUI"; Match="Xbox.TCUI";License="Xbox.TCUI";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.XboxGameOverlay"; Match="XboxGameOverlay";License="XboxGameOverlay";
Dependencies=@("Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.XboxGamingOverlay"; Match="XboxGamingOverlay";License="XboxGamingOverlay";
Dependencies=@("Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.XboxIdentityProvider"; Match="XboxIdentityProvider";License="XboxIdentityProvider";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.XboxSpeechToTextOverlay";
Match="XboxSpeechToTextOverlay";License="XboxSpeechToTextOverlay"; Dependencies=@("Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.YourPhone"; Match="YourPhone";License="YourPhone";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00","
Microsoft.VCLibs.140.00.UWPDesktop"); }

    @{{ Name="Microsoft.ZuneVideo"; Match="ZuneVideo";License="ZuneVideo";
Dependencies=@("Microsoft.UI.Xaml.2.7","Microsoft.VCLibs.140.00"); }

    @{{ Name="MicrosoftCorporationII.QuickAssist"; Match="QuickAssist";License="QuickAssist"; Dependencies=@(); }

    @{{ Name="MicrosoftWindows.Client.WebExperience"; Match="WebExperience";License="WebExperience";
Dependencies=@("Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.MinecraftEducationEdition";
Match="MinecraftEducationEdition";License="MinecraftEducationEdition";
Dependencies=@("Microsoft.VCLibs.140.00.UWPDesktop"); }

    @{{ Name="Microsoft.Whiteboard"; Match="Whiteboard";License="Whiteboard";
Dependencies=@("Microsoft.NET.Native.Framework.2.2","Microsoft.NET.Native.Runtime.2.2","Microsoft.VCLibs.140.00"); }

    @{{ Name="Microsoft.RawImageExtension"; Match="RawImageExtension"; License="RawImageExtension";
Dependencies=@(); }

    )

}

$Allow_Install_App = @()

ForEach ($item in $Pre_Config_Rules.Edition) {

    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

}

Function Match_InBox_Apps_Install_Pack

{

    param ( $NewPath )

    $NewArch = $Arch

    $NewArchC = $Arch.Replace("AMD64", "x64")

    $NewArchCTag = $Arch.Replace("AMD64", "x64")

    if ($Arch -eq "arm64") { $NewArchCTag = "arm" }

    if ($Pre_Config_Rules.Rule.Count -gt 0) {

        ForEach ($itemInBoxApps in $Pre_Config_Rules.Rule){

            $InstallPacker = ""

            $InstallPackerCert = ""

            $SearchNewStructure = $itemInBoxApps.Match.Replace("{ARCH}", $NewArch).Replace("{ARCHC}",
$NewArchC).Replace("{ARCHTag}", $NewArchCTag)

            $SearchNewLicense = $itemInBoxApps.License.Replace("{ARCH}", $NewArch).Replace("{ARCHC}",
$NewArchC).Replace("{ARCHTag}", $NewArchCTag)

            Get-ChildItem -Path $NewPath -Filter "*$($SearchNewStructure)*" -Include "*.appx", "*.appxbundle", "*.msixbundle"
-Recurse -Force -ErrorAction SilentlyContinue | ForEach-Object {

                if (Test-Path -Path $_.FullName -PathType Leaf) {

                    $InstallPacker = $_.FullName

                    Get-ChildItem -Path $NewPath -Filter "*$($SearchNewLicense)*" -Include *.xml -Recurse -Force -ErrorAction
SilentlyContinue | ForEach-Object {

                        $InstallPackerCert = $_.FullName

                    }

                    $Script:InBoxAppx += @{

                        Name          = $itemInBoxApps.Name;

                        Depend       = $itemInBoxApps.Dependencies;

                        Search       = $SearchNewStructure;

                        InstallPacker = $InstallPacker;

                        Certificate   = $InstallPackerCert

                        CertificateRule = $SearchNewLicense

                    }

                }

            }

        }

    }

}
```

```

        return

    }

}

}

}

}

}

Write-host "`n  InBox Apps: Installation packages, automatic search for full disk or specified paths" -ForegroundColor Yellow

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

$Script:InBoxAppx = @()

if ($ISO -eq "Auto") {

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

        $AppPath = Join-Path -Path $_.Root -ChildPath "packages" -ErrorAction SilentlyContinue

        Match_InBox_Apps_Install_Pack -NewPath $AppPath

    }

} else {

    Match_InBox_Apps_Install_Pack -NewPath $ISO

}

Write-host "  Search Complete" -ForegroundColor Green

Write-host "`n  InBox Apps: Installer Match Results" -ForegroundColor Yellow

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

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

    Write-host "  Match successful" -ForegroundColor Green

} else {

    Write-host "  Failed match" -ForegroundColor Red

    return

}

Write-host "`n  InBox Apps: Details of the application to be installed ( $($Script:InBoxAppx.Count) item )" -ForegroundColor Yellow

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

ForEach ($Rule in $Script:InBoxAppx) {

    Write-host "  Apps name: " -NoNewline; Write-host $Rule.Name -ForegroundColor Yellow

    Write-host "  Apps installer: " -NoNewline; Write-host $Rule.InstallPacker -ForegroundColor Yellow

    Write-host "  License: " -NoNewline; Write-host $Rule.Certificate -ForegroundColor Yellow

    Write-host ""

```

```

}

Write-host "`n InBox Apps: Installation" -ForegroundColor Yellow

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

ForEach ($Rule in $Script:InBoxAppx) {

    Write-host "  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.InstallPacker -ForegroundColor Yellow

        Write-host "  Search for License: " -NoNewline; Write-host $Rule.Certificate -ForegroundColor Yellow

        if (Test-Path -Path $Rule.InstallPacker -PathType Leaf) {

            if (Test-Path -Path $Rule.Certificate -PathType Leaf) {

                Write-host "    License: " -NoNewline

                Write-host $Rule.Certificate -ForegroundColor Yellow

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

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

                try {

                    Add-AppxProvisionedPackage -Path $Mount -PackagePath $Rule.InstallPacker -LicensePath $Rule.Certificate -
ErrorAction SilentlyContinue | Out-Null

                    Write-Host "Done`n" -ForegroundColor Green

                } catch {

                    Write-Host "Failed" -ForegroundColor Red

                    Write-Host "  $($_)`n" -ForegroundColor Red

                }

            } else {

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

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

                try {

                    Add-AppxProvisionedPackage -Path $Mount -PackagePath $Rule.InstallPacker -SkipLicense -ErrorAction
SilentlyContinue | Out-Null

                    Write-Host "Done`n" -ForegroundColor Green

                } catch {

                    Write-Host "Failed" -ForegroundColor Red

                    Write-Host "  $($_)`n" -ForegroundColor Red

                }

            }

        }

    }

}

```

```

    } else {

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

    }

} else {

    Write-host " Skip the installation`n" -ForegroundColor Red

}

}

```

## 5.8. 区域标记：删除

- 完成安装 InBox Apps 应用后，区域标记已不再重要，可删除或不删除，删除“本地语言体验包（LXPs），简体中文 - 中国）”，区域标记：zh-CN，可更改为其它区域标记。

- Install.Clear.Flag.ps1
  - [\Expand\Install\Install.Clear.Flag.ps1](#)
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.Clear.Flag.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.Clear.Flag.ps1)

- 复制代码

```

$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

        }

    }

}

```

## 5.9. InBox Apps：优化

在安装应用后，应优化预配 Appx 包，通过用硬链接替换相同的文件来减少应用的磁盘使用量，仅针对脱机映像。

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



6. 累积更新

- 不同版本、旧版本升级到最新版时，需优先添加“功能启用包”后才能添加最新版累积更新；
- 添加语言包后，可安装与初始版本相同的累积更新，以解决安装后未刷新“组件：映像中已安装的所有包”状态的已知问题；
- 为保持最新，推荐您下载最新版。

6.1. 初始版本

6.1.1. 如何下载

累积更新 KB5016632 已无法从 <https://www.catalog.update.microsoft.com/Search.aspx?q=KB5016632> 里搜索到。

6.1.1.1. 任选一个网站并打开：

6.1.1.1.1. <https://uupdump.net>

6.1.1.1.2. <https://uup.ee>

6.1.1.1.3. <https://osdump.com>

6.1.1.2. 打开后，搜索关键词：22621.382，在搜索结果选择：Windows 11, version 22H2 (22621.382) amd64 或 Windows 11, version 22H2 (22621.382) arm64

6.1.1.3. 打开后，选择“全部文件”；

6.1.1.4. 在“全部文件”页面里搜索：KB5016632，下载：

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

6.1.1.5. 累积更新：合并

6.1.1.5.1. 前往 <https://github.com/abbodi1406/WHd/tree/master/scripts> 后下载 PSFX\_Repack\_6.zip

6.1.1.5.2. 下载后解压到：D:\PSFX\_Repack\_6

6.1.1.5.3. 复制 Windows11.0-KB5016632-x64.cab、Windows11.0-KB5016632-x64.psf 到：  
D:\PSFX\_Repack\_6

6.1.1.5.4. 运行：psfx2cab\_GUI.cmd 后，将得到一个新的文件：

Windows11.0-KB5016632-x64-full\_psfx.cab

6.1.1.5.5. 将 Windows11.0-KB5016632-x64-full\_psfx.cab 保存到：

D:\OS\_11\_Custom\Install\Install\Update\Windows11.0-KB5016632-x64-full\_psfx.cab

6.1.2. 添加

\$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. 其它版本

查阅“[Windows 11 版本信息](#)”，例如下载累积更新：KB5035853，版本号：22621.3296，前往下载页面：

<https://www.catalog.update.microsoft.com/Search.aspx?q=KB5035853>，下载后保存到：D:\OS\_11\_Custom\Install\Install\Update，  
或通过直连下载，根据架构选择下载：

### 6.2.1. x64, 默认

- 直连下载

[https://catalog.sf.dl.delivery.mp.microsoft.com/filestreamingservice/files/594b22d5-84c3-4665-bdc7-3167c91759b9/public/windows11.0-kb5035853-x64\\_8ca1a9a646dbe25c071a8057f249633a61929efa.msu](https://catalog.sf.dl.delivery.mp.microsoft.com/filestreamingservice/files/594b22d5-84c3-4665-bdc7-3167c91759b9/public/windows11.0-kb5035853-x64_8ca1a9a646dbe25c071a8057f249633a61929efa.msu)

- 添加

```
$KBPath = "D:\OS_11_Custom\Install\Install\Update\windows11.0-kb5035853-x64_8ca1a9a646dbe25c071a8057f249633a61929efa.msu"
```

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

### 6.2.2. Arm64

- 直连下载

[https://catalog.sf.dl.delivery.mp.microsoft.com/filestreamingservice/files/72ba502a-7982-471c-aad2-355efddbff61/public/windows11.0-kb5035853-arm64\\_076c009bca80cfa85272bd50d65951c2f663fcc5.msu](https://catalog.sf.dl.delivery.mp.microsoft.com/filestreamingservice/files/72ba502a-7982-471c-aad2-355efddbff61/public/windows11.0-kb5035853-arm64_076c009bca80cfa85272bd50d65951c2f663fcc5.msu)

- 添加

```
$KBPath = "D:\OS_11_Custom\Install\Install\Update\windows11.0-kb5035853-arm64_076c009bca80cfa85272bd50d65951c2f663fcc5.msu"
```

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

## 6.3. 固化更新

固化后不可卸载，固化时将清理恢复映像并重置任何被取代的组件的基础。

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

### 6.3.1. 固化更新后清理组件

```
$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. 驱动

## 8. 部署引擎：添加

- 了解“[部署引擎](#)”，如果添加到 ISO 安装介质，可跳过添加到已挂载；
- 如果添加部署引擎到已挂载里，请继续在当前位置执行下一步。

## 9. 健康

保存前应检查是否损坏，健康状态异常时，中止保存

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

## 10. 替换 WinRE.wim

已批量替换 Install.wim 里的所有索引号里的 WinRE.wim 请跳过该步骤。

```
$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. 保存映像：Install.wim

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

## 12. 卸载映像：Install.wim

关闭所有可能正在访问映像中文件的应用程序，包括文件资源管理器。

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

[循环操作区域](#)，结束。

## 13. 如何批量替换 Install.wim 里的所有索引号里的 WinRE.wim

### 13.1. 获取 WimLib

前往 <https://wimlib.net> 官方网站后，选择不同的版本：[arm64](#), [x64](#), [x86](#)，下载完成后解压到：[D:\Wimlib](#)

## 13.2. 如何在 Install.wim 里提取和更新 WinRE.wim

### 13.2.1. 从 Install.wim 里提取 WinRE.wim 文件 Install.wim

- Install.WinRE.Replace.wim.ps1
  - [\Expand\Install\Install.WinRE.Replace.wim.ps1](#)
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.WinRE.Replace.wim.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.WinRE.Replace.wim.ps1)
- 复制代码

```
$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-image.exe" -ArgumentList $Arguments -wait -nonewwindow
```

### 13.2.2. 获取 Install.wim 所有索引号后并替换旧的 WinRE.wim

- Install.WinRE.Replace.wim.ps1
  - [\Expand\Install\Install.WinRE.Replace.wim.ps1](#)
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.WinRE.Replace.wim.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.WinRE.Replace.wim.ps1)
- 复制代码

```
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-image.exe" -ArgumentList $Arguments -wait -nonewwindow
```

```
Write-Host " Finish`n" -ForegroundColor Green  
  
}
```

#### 14. 重建 Install.wim 后可缩小文件大小

- Install.Rebuild.wim.ps1
  - [\Expand\Install\Install.Rebuild.wim.ps1](#)
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.Rebuild.wim.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/Install/Install.Rebuild.wim.ps1)
- 复制代码

```
$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  
  
}
```

### III 自定义部署映像：boot.wim

#### 1. 查看 Boot.wim 文件信息

映像名称、映像描述、映像大小、架构、版本、索引号等；

```
$ViewFile = "D:\OS_11\Sources\Boot.wim"  
  
Get-WindowsImage -ImagePath $ViewFile | Foreach-Object { Get-WindowsImage -ImagePath $ViewFile -index $_.ImageIndex }
```

2. 指定挂载 Boot.wim 路径

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

3. 开始挂载 Boot.wim

默认索引号：2

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

4. 语言包

- 自动安装语言包：获取“组件：映像中已安装的所有包”后进行匹配，匹配到对应的名称后，再安装本地对应的语言包文件，查看报告“[语言安装包适用于 Boot.wim](#)”。
- 添加语言时，须对应不同的架构版本，未对应时，添加过程中报错等提示。

4.1. 语言包：添加

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

- 复制代码

```
$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. 脱机映像语言：更改

##### 4.2.1. 更改默认语言、区域设置和其他国际设置

区域标记：**zh-CN**

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

##### 4.2.2. 查看可用的语言设置

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

#### 4.3. 语言包：删除

- 添加语言后，如果要部署到非英语区域，可通过删除英语语言组件来节省空间。删除语言时，请按与添加语言组件相反的顺序卸载语言组件。

- 添加中文后，反向删除“英语 - 美国”，区域：en-US，需提前提取语言包

- Boot.Del.Specified.lang.Tag.ps1

- \Expand\Boot\Boot.Del.Specified.lang.Tag.ps1

- [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging/tutorial/OS.11/22H2/Expand/Boot/Boot.Del.Specified.lang.Tag.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging/tutorial/OS.11/22H2/Expand/Boot/Boot.Del.Specified.lang.Tag.ps1)

- 复制代码

```
$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. 组件：映像中已安装的所有包

##### 4.4.1. 查看

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

##### 4.4.2. 导出到 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. 语言包：修复

##### 4.5.1. 提取

打开：[D:\OS\\_11\\_Custom\Install\Install\Language\Add\zh-CN\Microsoft-Windows-Client-Language-Pack\\_x64\\_zh-CN.cab](#)，进入目录：[Setup\sources\zh-cn\cli](#)，复制以下文件到桌面：

4.5.1.1. [arunres.dll.mui](#)

4.5.1.2. [spwizres.dll.mui](#)

4.5.1.3. [w32uires.dll.mui](#)

4.5.2. 复制

将提取的文件复制到： D:\OS\_11\_Custom\Boot\Boot\Mount\sources\zh-CN

4.6. 语言包：同步到 ISO 安装程序

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

4.7. 重新生成 Lang.ini

重新生成后，可调整“安装界面”，选择“语言”时的顺序，打开 lang.ini，默认首选值 = 3，非默认值 = 2。

4.7.1. 重新生成已挂载目录 lang.ini

重新生成的 Lang.ini 文件位置： D:\OS\_11\_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. 重新生成 lang.ini 后，同步到安装程序

重新生成的 Lang.ini 文件位置： D:\OS\_11\Sources\lang.ini

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

5. 累积更新

准备可用的累积更新文件，请更改示例文件名： KB\_Boot.cab

5.1. 添加

```
$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. 删除

```
$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. 固化更新

固化后不可卸载，固化时将清理恢复映像并重置任何被取代的组件的基础。

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

5.3.1. 固化更新后清理组件

```
$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. 驱动

7. 其它

7.1. 绕过 TPM 安装时检查

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

- 复制代码

```
$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. 保存映像：Boot.wim

Save-WindowsImage -Path "D:\OS\_11\_Custom\Boot\Boot\Mount"

9. 卸载映像：Boot.wim

关闭所有可能正在访问映像中文件的应用程序，包括文件资源管理器。

Dismount-WindowsImage -Path "D:\OS\_11\_Custom\Boot\Boot\Mount" -Discard

IV 部署引擎

- 了解“自动添加 Windows 系统已安装的语言”，学习：<https://github.com/ilikeyi/Multilingual>，如何下载：
  - 进入网站后，点击“代码”，“下载压缩包”，下载完成后得到 main.zip 压缩包文件。
  - 前往 <https://github.com/ilikeyi/Multilingual/releases> 下载页面，选择可用版本：1.1.1.1，选择下载源代码格式：zip，下载完成后得到 Multilingual-1.1.1.1.zip 压缩包文件；
- 将已下载的 main.zip 或 Multilingual-1.1.1.1.zip，解压到：D:\Multilingual-1.1.1.1，重命名：D:\Multilingual
- 学习“无人值守 Windows 安装参考”，通过无人值守来干预安装过程。

1. 添加方式

1.1. 添加到 ISO 安装介质

1.1.1. 无人值守

1.1.1.1. 添加到：[\[ISO\]:\Autounattend.xml](#)

引导 ISO 安装时，Autounattend.xml 干预 WinPE 安装程序。

复制 [D:\Multilingual\\\_Learn\Unattend\Mul.Unattend.xml](#) 到 [D:\OS\\_11\Autounattend.xml](#)

Copy-Item "D:\Multilingual\\_Learn\Unattend\Mul.Unattend.xml" -Destination "D:\OS\_11\Autounattend.xml" -Force

1.1.1.2. 添加到：[\[ISO\]:\Sources\Unattend.xml](#)

挂载或解压 ISO 时，运行 [\[ISO\]:\Setup.exe](#) 安装程序后，[\[ISO\]:\Sources\Unattend.xml](#) 将干预安装过程。

复制 [D:\Multilingual\\\_Learn\Unattend\Mul.Unattend.xml](#) 到 [D:\OS\\_11\Sources\Unattend.xml](#)

Copy-Item "D:\Multilingual\\_Learn\Unattend\Mul.Unattend.xml" -Destination "D:\OS\_11\Sources\Unattend.xml" -Force

1.1.1.3. 添加到: [ISO]:\sources\\${OEM\$}\\$\\$Panther\unattend.xml

安装过程中复制到系统盘里, 复制到: {系统盘}:Windows\Panther\unattend.xml

1.1.1.3.1. 创建 \$OEM\$ 路径

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

1.1.1.3.2. 复制

复制 D:\Multilingual\Learn\Unattend\Mul.Unattend.xml 到

D:\OS\_11\Sources\\${OEM\$}\Panther\Unattend.xml

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

1.1.2. 部署引擎: 添加

添加“自动添加 Windows 系统已安装的语言”到 D:\OS\_11\sources\\${OEM\$}\\$1\Yi\Engine 目录里。

1.1.2.1. 部署引擎: 复制

复制 D:\Multilingual\Engine 到 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. 部署引擎: 自定义部署标记

```
$Flag = @(

    "Is_Mark_Sync" # 允许全盘搜索并同步部署标记

    # 先决部署

    # "Auto_Update" # 允许自动更新

    # "Use_UTF8" # Beta 版: 使用 Unicode UTF-8 提供全球语言支持

    "Disable_Network_Location_Wizard" # 网络位置向导

    "Disable_Cleanup_Appx_Tasks" # Appx 清理维护任务

    "Disable_Cleanup_On_Demand_Language" # 阻止清理未使用的按需功能语言包

    "Disable_Cleanup_Unsed_Language" # 阻止清理未使用的语言包

    "Prerequisites_Reboot" # 重新启动计算机

    # 完成首次部署

    # "Popup_Engine" # 允许首次弹出部署引擎主界面
```

```
# "Allow_First_Pre_Experience" # 允许首次预体验，按计划

"Reset_Execution_Policy" # 恢复 PowerShell 执行策略：受限

"Clear_Solutions" # 删除整个解决方案

"Clear_Engine" # 删除部署引擎，保留其它

# "First_Experience_Reboot" # 重新启动计算机

)

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. 添加到已挂载

通过“自定义部署映像：Install.wim”，执行“开始挂载 Install.wim”，挂载到：D:\OS\_11\_Custom\Install\Install\Mount

1.2.1. 无人值守

复制 D:\Multilingual\Learn\Unattend\Mul.Unattend.xml 到 D:\OS\_11\_Custom\Install\Install\Mount\Panther\Unattend.xml

```
Copy-Item "D:\Multilingual\Learn\Unattend\Mul.Unattend.xml" -Destination "D:\OS_11_Custom\Install\Install\Mount\Panther" -Force
```

1.2.2. 部署引擎

添加“自动添加 Windows 系统已安装的语言”到 D:\OS\_11\_Custom\Install\Install\Mount\Yi\Engine 目录里。

1.2.2.1. 部署引擎：复制

复制 D:\Multilingual\Engine 到 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. 部署引擎：自定义部署标记

```
$Flag = @(

    "Is_Mark_Sync" # 允许全盘搜索并同步部署标记
```

```
# 先决部署

# "Auto_Update" # 允许自动更新

# "Use_UTF8" # Beta 版：使用 Unicode UTF-8 提供全球语言支持

"Disable_Network_Location_Wizard" # 网络位置向导

"Disable_Cleanup_Appx_Tasks" # Appx 清理维护任务

"Disable_Cleanup_On_Demand_Language" # 阻止清理未使用的按需功能语言包

"Disable_Cleanup_Unsed_Language" # 阻止清理未使用的语言包

"Prerequisites_Reboot" # 重新启动计算机

# 完成首次部署

# "Popup_Engine" # 允许首次弹出部署引擎主界面

# "Allow_First_Pre_Experience" # 允许首次预体验，按计划

"Reset_Execution_Policy" # 恢复 PowerShell 执行策略：受限

"Clear_Solutions" # 删除整个解决方案

"Clear_Engine" # 删除部署引擎，保留其它

# "First_Experience_Reboot" # 重新启动计算机

)

ForEach ($item in $Flag) {

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

    New-Item -Path "D:\OS_11_Custom\Install\Install\Mount\Yi\Engine\Deploy\Allow" -ItemType Directory -
    ErrorAction SilentlyContinue | Out-Null

    Out-File -FilePath "D:\OS_11_Custom\Install\Install\Mount\Yi\Engine\Deploy\Allow\${$item}" -Encoding utf8 -
    ErrorAction SilentlyContinue

}
```

2. 部署引擎：进阶

2.1. 部署引擎：添加过程中

在复制部署引擎后，可添加部署标记来干预安装过程。

2.2. 无人值守方案

自定义无人值守时，以下文件存在时请同步修改：

- [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. 多语言或单语

多语言时，单语时，可互相切换，替换时，请替换文件里所有相同的。

2.2.1.1. 多语言

```
<UILanguage>%OSDUILanguage%</UILanguage>

<InputLocale>%OSDInputLocale%</InputLocale>

<SystemLocale>%OSDSystemLocale%</SystemLocale>

<UILanguage>%OSDUILanguage%</UILanguage>

<UILanguageFallback>%OSDUILanguageFallback%</UILanguageFallback>

<UserLocale>%OSDUserLocale%</UserLocale>
```

2.2.1.2. 单语

单语需指定区域，例如指定区域：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. 用户方案

默认使用自建用户 Administrator 并自动登录，可通过修改以下配置切换：自建、自定义用户。

2.2.2.1. 自建用户 Administrator

默认使用自建用户：Administrator 并自动登录，插入到 <OOBE> 和 </OOBE> 之间。

```
<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. 自定义用户

设置自定义用户后，安装系统完成后，在 OOB 里，可选择本地、在线用户等设置。

2.2.2.2.1. 删除

用户名：从开始处删除 <UserAccounts> 到 </UserAccounts>

自动登录：从开始处删除 <AutoLogon> 到 </AutoLogon>

2.2.2.2.2. 替换

从开始处 <OOBE> 到 </OOBE>

```
<OOBE>

  <ProtectYourPC>3</ProtectYourPC>

  <HideEULAPage>true</HideEULAPage>

  <HideWirelessSetupInOOBE>true</HideWirelessSetupInOOBE>

</OOBE>
```

D. ISO

II 生成 ISO

1. 下载 OScding

根据架构选择 OScding 版本，下载后保存到：D:\，保存在其它路径请输入 OScding.exe 绝对路径；

1.1. x64

[https://github.com/ilikeyi/solutions/raw/main/\\_Software/Oscding/amd64/oscding.exe](https://github.com/ilikeyi/solutions/raw/main/_Software/Oscding/amd64/oscding.exe)

1.2. x86

[https://github.com/ilikeyi/solutions/raw/main/\\_Software/Oscding/x86/oscding.exe](https://github.com/ilikeyi/solutions/raw/main/_Software/Oscding/x86/oscding.exe)

1.3. arm64

[https://github.com/ilikeyi/solutions/raw/main/\\_Software/Oscding/arm64/oscding.exe](https://github.com/ilikeyi/solutions/raw/main/_Software/Oscding/arm64/oscding.exe)

2. 使用 oscding 命令行生成一个 ISO 文件，保存到：D:\Win11.iso

- ISO.ps1
  - \Expand\ISO.ps1
  - [https://github.com/ilikeyi/solutions/blob/main/\\_Learn/Packaging.tutorial/OS.11/22H2/Expand/ISO.ps1](https://github.com/ilikeyi/solutions/blob/main/_Learn/Packaging.tutorial/OS.11/22H2/Expand/ISO.ps1)

• 复制代码

```
$Oscding = "D:\Oscding.exe"

$ISO = "D:\OS_11"

$Volume = "OS_11"

$SaveTo = "D:\OS_11.iso"

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

Start-Process -FilePath $Oscding -ArgumentList $Arguments -wait -nonewwindow
```

III 绕过 TPM 安装检查

1. 了解 <https://github.com/AveYo/MediaCreationTool.bat/tree/main/bypass11> 并下载：Quick\_11\_iso\_esd\_wim\_TPM\_toggle.bat
2. 将 D:\OS\_11.iso 文件托到 Quick\_11\_iso\_esd\_wim\_TPM\_toggle.bat 里，反序“添加”或“删除”TPM 安装时检查功能。

章节 2 报告

- 编组缩写：

- 群组 A: Windows 11 教育版、Windows 11 企业版、Windows 11 专业版、Windows 11 专业教育版、Windows 11 专业版工作站、Windows 11 IoT 企业版
- 群组 B: Windows 11 教育版 N、Windows 11 企业版 N、Windows 11 专业版 N、Windows 11 专业教育版 N、Windows 11 专业版工作站 N
- 群组 C: Windows 11 家庭版、Windows 11 家庭单语版
- 群组 D: Windows 11 家庭版 N

II 不同版本

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

	<a href="#">Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1</a>	A, B, C, D
24.	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
	<a href="#">Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.1</a>	A, B, C, D
25.	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	<a href="#">Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1</a>	A, B, C, D
26.	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
	<a href="#">Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.1</a>	A, B, C, D
27.	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	<a href="#">Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1</a>	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-Bcmpecidhd63-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-Bcmwl63al-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-Rtwlane-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
54.	Microsoft-Windows-Wifi-Client-Realtek-Rtwlane01-FOD-Package~31bf3856ad364e35~amd64~~10.0.22621.1	A, B, C, D
55.	Microsoft-Windows-Wifi-Client-Realtek-Rtwlane13-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
	<a href="#">Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.22621</a>	A, B, C, D
57.	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	<a href="#">Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1</a>	A, B, C, D
58.	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~~10.0.22621.317	A, B, C, D
	<a href="#">Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~en-US~10.0.22621.1</a>	A, B, C, D
59.	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~~10.0.22621.1	A, B, C, D
	<a href="#">Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~en-US~10.0.22621.1</a>	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 语言安装包适用于：Install.wim

1.	Microsoft-Windows-MediaPlayer-Package-AMD64-zh-CN.cab	A, C
	<a href="#">Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1</a>	
2.	Microsoft-Windows-MediaPlayer-Package-wow64-zh-CN.cab	A,C
	<a href="#">Microsoft-Windows-MediaPlayer-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1</a>	
3.	Microsoft-Windows-Printing-PMCPPC-FoD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B
	<a href="#">Microsoft-Windows-Printing-PMCPPC-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1</a>	
4.	Microsoft-Windows-LanguageFeatures-Fonts-Hans-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-LanguageFeatures-Fonts-Hans-Package~31bf3856ad364e35~amd64~~10.0.22621.1</a>	
5.	Microsoft-Windows-Client-Language-Pack_x64_zh-CN.cab	A, B, C, D
	<a href="#">Microsoft-Windows-Client-LanguagePack-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1</a>	
6.	Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-InternetExplorer-Optional-Package~31bf3856ad364e35~amd64~zh-CN~11.0.22621.1</a>	
7.	Microsoft-Windows-LanguageFeatures-Basic-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-LanguageFeatures-Basic-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.22621.1</a>	
8.	Microsoft-Windows-LanguageFeatures-Handwriting-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-LanguageFeatures-Handwriting-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.22621.1</a>	
9.	Microsoft-Windows-LanguageFeatures-OCR-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D

	<a href="#">Microsoft-Windows-LanguageFeatures-OCR-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.22621.1</a>	
10.	Microsoft-Windows-LanguageFeatures-Speech-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-LanguageFeatures-Speech-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.22621.1</a>	
11.	Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-CN-Package~31bf3856ad364e35~AMD64~~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-LanguageFeatures-TextToSpeech-zh-cn-Package~31bf3856ad364e35~amd64~~10.0.22621.1</a>	
12.	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1</a>	
13.	Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-Notepad-System-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1</a>	
14.	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1</a>	
15.	Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	
	<a href="#">Microsoft-Windows-PowerShell-ISE-FOD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1</a>	
16.	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1</a>	
17.	Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-StepsRecorder-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1</a>	
18.	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1</a>	
19.	Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-WMIC-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1</a>	
20.	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~AMD64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~amd64~zh-CN~10.0.22621.1</a>	
21.	Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~.cab	A, B, C, D
	<a href="#">Microsoft-Windows-WordPad-FoD-Package~31bf3856ad364e35~wow64~zh-CN~10.0.22621.1</a>	

IV 语言安装包适用于：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 语言安装包适用于：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

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

16. winpe-wmi\_zh-CN.cab

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

章节 3 常见问题

II 清理所有挂载到

关闭所有可能正在访问映像中文件的应用程序，包括文件资源管理器。

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 修复挂载出现异常的问题

1. 查看已挂载

Get-WindowsImage -Mounted

2. 删除保存在注册表里的 DISM 挂载记录

Remove-Item -Path "HKLM:\SOFTWARE\Microsoft\WIMMount\Mounted Images\\*" -Force -Recurse -ErrorAction SilentlyContinue | Out-Null

3. 删除与已损坏的已装载映像关联的所有资源。

Clear-WindowsCorruptMountPoint

Dism /cleanup-wim

IV 清理目录

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

章节 4 已知问题

暂无



此副本封装教程隶属于 Yi's Solutions 内容，学习更多：

- Yi 的官方网站 | <https://fengyi.tel/solutions>
- Github | <https://github.com/ilikeyi/solutions>

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建议或反馈：<https://github.com/ilikeyi/solutions/issues>