Application Packaging

Application packaging is the process of creating a standardized, deployable package of application software by bundling all necessary files, libraries, configurations, and dependencies required for the application to run on target systems and environments.

There are mainly 5 steps in application packaging

1. **Identify & Collect**
2. **Research & Assess**
3. **Package**
4. **Test**
5. **Deploy**

**Why Companies take this approach**

There are 2 main reasons

* To cut down costs
* To improve app packaging process efficiency by speeding up the process (The more people are involved the slower the process is).

**Benefits of Application Packaging**

* Ensures a stable, reliable and consistent standard environment.
* Increases the efficiency of the program.
* Reduces support costs.
* Reduces(mitigates) the security issues.

End-to-End Packaging Process

It consists of 3 main steps

1. ***Application Discovery***

* *Validating the application source file*
* *Ensuring the fully-Functionality of the application within the organisation environment and that it works as expected*

1. ***Application Packaging***

*The actual package creation based on the requirements and details gathered in the discovery stage.*

1. ***UAT (User Acceptance Testing)***

*It is the final phase in software development where actual users test the software to verify that it meets their business requirements and works correctly in real-world scenarios.*

* *UAT is conducted after all internal testing (such as unit, system, and integration testing) is completed*
* It is performed by real or representative end users, not just developers or testers.
* It is a final verification process where end users test the software in realistic conditions to confirm it meets all specified business requirements and is ready for production use.

*Handling Schedule Tasks and its use in Windows MSI*

*Handling schedule tasks in a windows installation package allows automating actions after deployment such as starting services , running scripts etc.*

***Use case in Windows MSI***

* *Starting services*
* *Running Scripts*
* *Executing Programs*
* *Running Schedule tasks at a specific interval*

***MSI Context***

*The context refers to the level of access a program or component has within the Windows OS*

***Types of MSI Context***

* *User Context→ Limited access to user’s procesas*
* *System Context→Full System Wide Access*
* *Admin Context→ Requires admin privileges for system wide changes*

***Windows10 vs Windows11***

|  |  |  |
| --- | --- | --- |
| ***Feature*** | ***Windows10*** | ***Windows11*** |
| ***User Interface*** | *Traditional design, left Start Menu* | *Modern Fluent UI, centered Start Menu* |
| ***System Requirements*** | *Supports older hardware* | *Requires TPM 2.0, Secure Boot, newer CPUs* |
| ***AI Integration*** | *No built-in AI* | *Copilot* |
| ***Multitasking*** | *Snap Assist, virtual desktop* | *Snap Layouts, Snap Groups, improved multitasking* |
| ***Microsoft Store*** | *Traditonal App Store* | *Redesigned UI, supports Android App Supports* |

*These are some of the basics differences between both*

***LOGON******SCRIPTS***

*Logon scripts are scripts that automatically execute commands or set configurations when a user logs onto a computer or network. They are often used to map network drives, configure printers, set environment variables, or perform other setup tasks required for the user session.*

***Logon Scripts to populate User Profile Data in MSI Application Packaging***

*Logon Scripts when* *used in conjunction with Active Setup, can be a powerful way to populate user profile data within MSI application packages.*

*Here is how to use them effectively.*

* + - 1. ***Leverage Active Setup in MSI Packages***
* *Triggers user-specific actions like copying files or updating registry keys during logon.*
* *Embed Active Setup in MSI to ensure per-user setup executes after system-level installation.*
  + - 1. ***Create and Assign Logon Script***
* *These scripts can be batch files, PowerShell scripts, or even other scripting languages like VBScript.*
* *Automate file copies, profile initialization, or registry updates during user logon.*
* *Logon scripts can be assigned to individual user accounts (local or domain) or to groups of users via Group Policy.*
  + - 1. ***Consider Deployment Strategies***
* *You can deploy logon scripts using Group Policy, assigning them to specific organizational units (OU) or user accounts*
* ***Script Language Choice:*** *Batch files for simplicity; PowerShell for more advanced logic and system interaction.*