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WIPRO NGA Program – DWS

Capstone Project Presentation – 17th June & 18th June 2025

Project Title Here - **Insert Custom Actions in MSI**

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Introduction

This project demonstrates how to insert **custom actions** into an MSI installer using the **PowerShell App Deployment Toolkit (PSADT)**. Custom actions allow the installer to run PowerShell scripts or commands before, during or after installation/uninstallation. This enhances deployment control, enables UI prompts and improves user experience. It is especially useful for enterprise scenarios like certificate checks, pre-install validations or clean-up tasks.

Project Requirement

Operating System: Windows 10 / 11
Development Environment:

- **Windows PowerShell ISE** (for scripting and testing)
- **PSAppDeployToolkit (PSADT)** (for GUI and scripting framework)

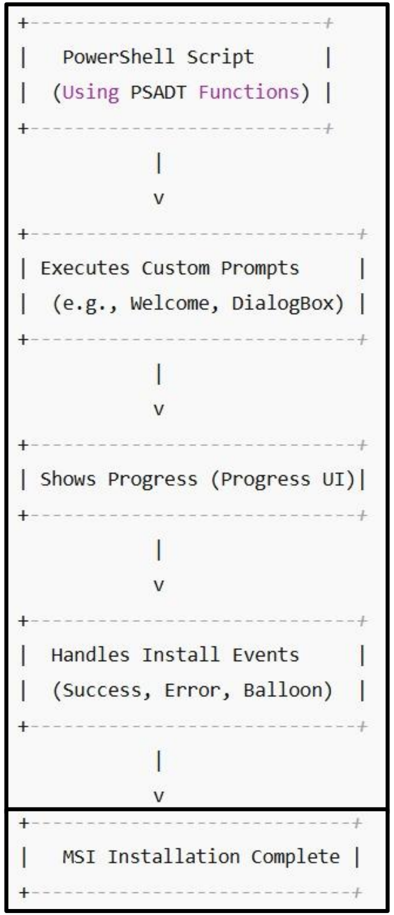
Notepad / Visual Studio Code (Optional)

Introduction to Tools

- **PowerShell ISE**: Used to write and test deployment scripts.
- **PSAppDeployToolkit (PSADT)**: A framework for creating user-friendly, professional software deployments with GUI elements like prompts, dialogs, and progress bars.
- **MSI Installer**: Acts as the deployment package; custom actions are inserted via script integration

Flowchart Diagram

Start Script: Runs the deployment script containing custom actions.
Show Welcome: Greets the user with information and closes conflicting apps.
Prompt for Confirmation: Asks if user wants to proceed (custom buttons).
Dialog Boxes: Show alerts, errors or instructions.
Progress Indicator: Shows graphical progress while MSI installs.
Tray Notification: Displays a balloon tip for completion or errors.
Installation Ends: Completes the install process.



```
+-------------------------+
|   PowerShell Script     |
|  (Using PSADT Functions) |
+-------------------------+
            |
            v
+----------------------------+
| Executes Custom Prompts    |
|  (e.g., Welcome, DialogBox) |
+----------------------------+
            |
            v
+----------------------------+
| Shows Progress (Progress UI)|
+----------------------------+
            |
            v
+----------------------------+
|  Handles Install Events    |
|  (Success, Error, Balloon)  |
+----------------------------+
            |
            v
+---------------------------+
|   MSI Installation Complete |
+---------------------------+
```

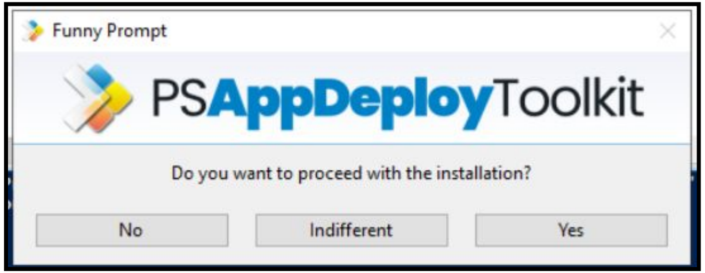
Usage Process

Install **PSADT** and extract it to a working directory.
Open **PowerShell ISE** and load the Add-AppDevPackage.ps1 script.
Modify the script to insert custom GUI interactions using these PSADT commands.
Run the script in PowerShell to test custom actions.

Verify behavior during install, uninstall or error scenarios.

Execution Overview Steps

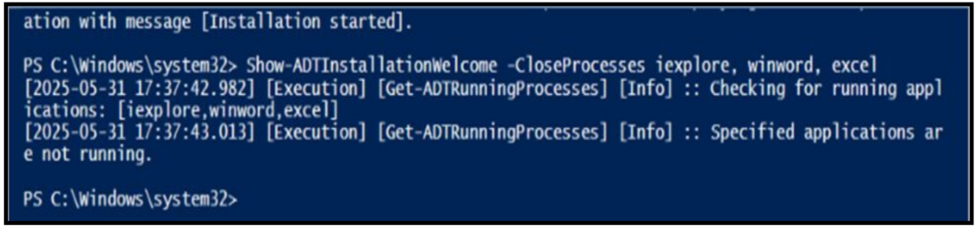
- **Show-ADTInstallationPrompt**
  Displays a prompt with customizable buttons.
- **Show-ADTInstallationWelcome**
  Shows a welcome dialog with process names to close or options to defer installation.
- **Show-ADTInstallationProgress**
  Displays a progress bar while installation executes in the background.
- **Show-ADTDialogBox**
  Shows alerts, error messages or confirmation boxes with Yes/No or OK/Cancel buttons.
- **Show-ADTBalloonTip**
  Displays a tray notification for eg. "Installation Started", "App Installed Successfully".



Do you want to proceed with the installation?

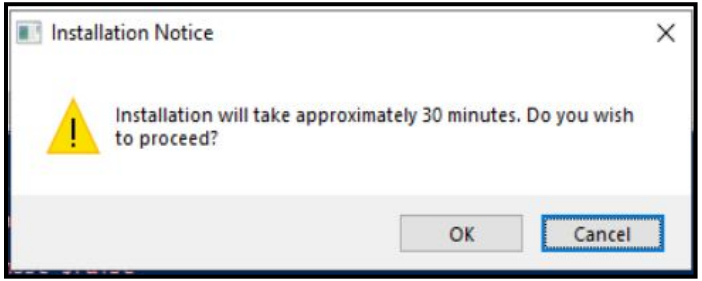
All functions are called from within **Add-AppDevPackage.ps1** and work together to guide users through a more interactive, safe install process.

Analysis Result

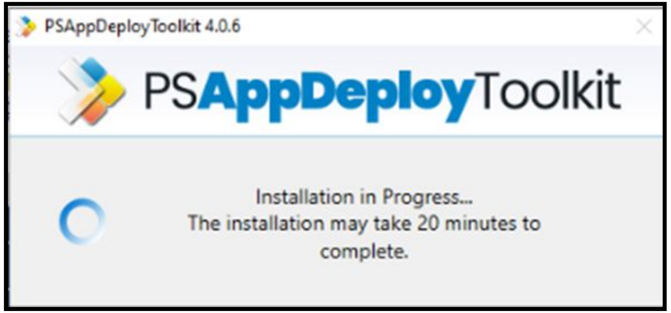


```
ation with message [Installation started].

PS C:\Windows\system32> Show-ADTInstallationWelcome -CloseProcesses iexplore, winword, excel
[2025-05-31 17:37:42.982] [Execution] [Get-ADTRunningProcesses] [Info] :: Checking for running appl
ications: [iexplore,winword,excel]
[2025-05-31 17:37:43.013] [Execution] [Get-ADTRunningProcesses] [Info] :: Specified applications ar
e not running.

PS C:\Windows\system32>
```

- **Script Execution**: Successful installation with all GUI prompts and logs.
- **User Interaction**: Highly improved with dialog boxes, welcome screens, and balloon tips.
- **System Performance**: No heavy resource usage or crashes observed.

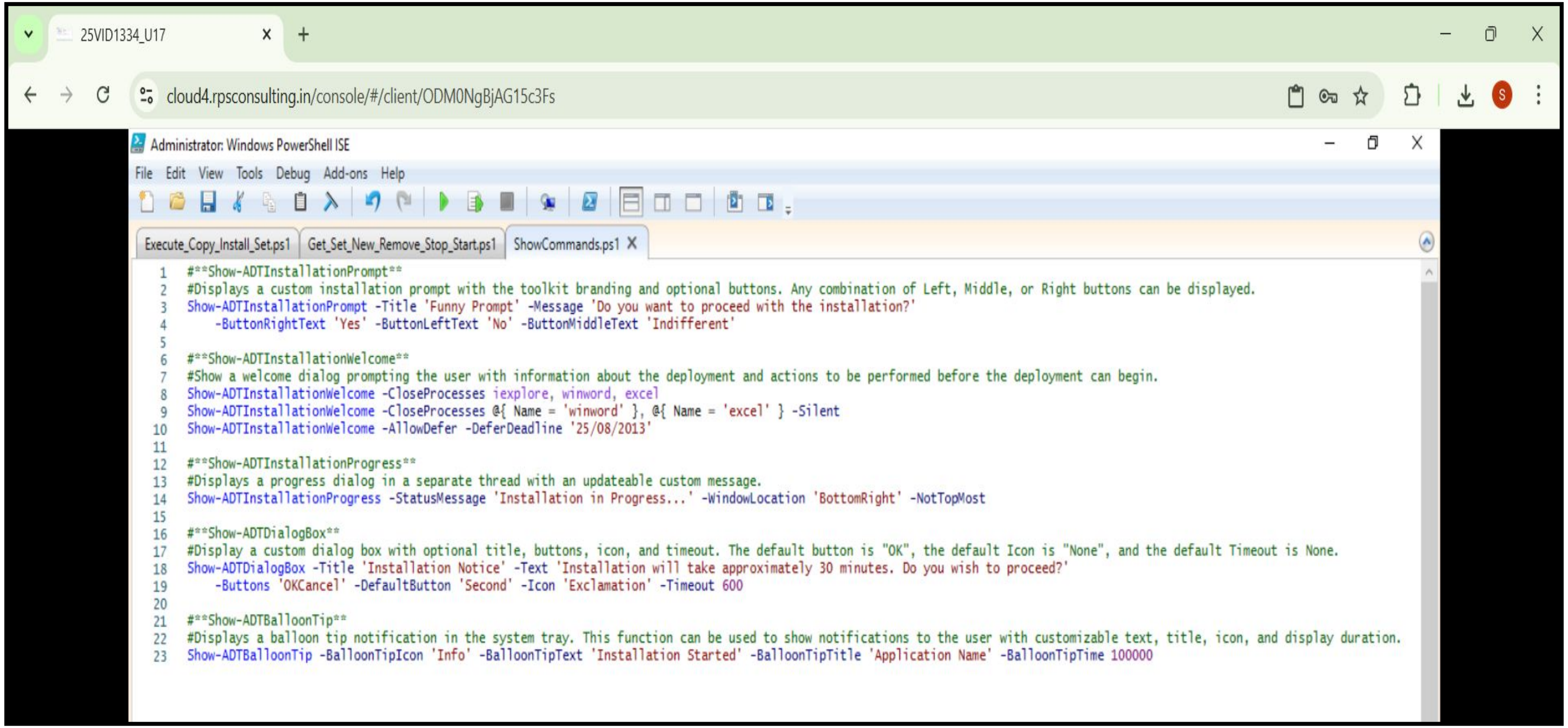


Installation will take approximately 30 minutes. Do you wish to proceed?



Installation in Progress...
The installation may take 20 minutes to complete.

Commands



25VID1334_U17
cloud4.rpsconsulting.in/console/#/client/ODM0NgBjAG15c3Fs
Administrator: Windows PowerShell ISE
File Edit View Tools Debug Add-ons Help
Execute_Copy_Install_Set.ps1
Get_Set_New_Remove_Stop_Start.ps1
ShowCommands.ps1

```
#**Show-ADTInstallationPrompt**
#Displays a custom installation prompt with the toolkit branding and optional buttons. Any combination of Left, Middle, or Right buttons can be displayed.
Show-ADTInstallationPrompt -Title 'Funny Prompt' -Message 'Do you want to proceed with the installation?'
    -ButtonRightText 'Yes' -ButtonLeftText 'No' -ButtonMiddleText 'Indifferent'

#**Show-ADTInstallationWelcome**
#Show a welcome dialog prompting the user with information about the deployment and actions to be performed before the deployment can begin.
Show-ADTInstallationWelcome -CloseProcesses iexplore, winword, excel
Show-ADTInstallationWelcome -CloseProcesses @{ Name = 'winword' }, @{ Name = 'excel' } -Silent
Show-ADTInstallationWelcome -AllowDefer -DeferDeadline '25/08/2013'

#**Show-ADTInstallationProgress**
#Displays a progress dialog in a separate thread with an updateable custom message.
Show-ADTInstallationProgress -StatusMessage 'Installation in Progress...' -WindowLocation 'BottomRight' -NotTopMost

#**Show-ADTDialogBox**
#Display a custom dialog box with optional title, buttons, icon, and timeout. The default button is "OK", the default Icon is "None", and the default Timeout is None.
Show-ADTDialogBox -Title 'Installation Notice' -Text 'Installation will take approximately 30 minutes. Do you wish to proceed?'
    -Buttons 'OKCancel' -DefaultButton 'Second' -Icon 'Exclamation' -Timeout 600

#**Show-ADTBalloonTip**
#Displays a balloon tip notification in the system tray. This function can be used to show notifications to the user with customizable text, title, icon, and display duration.
Show-ADTBalloonTip -BalloonTipIcon 'Info' -BalloonTipText 'Installation Started' -BalloonTipTitle 'Application Name' -BalloonTipTime 100000
```

Resources / References

- https://github.com/PSAppDeployToolkit/PSAppDeployToolkit
- https://psappdeploytoolkit.com/docs/reference/functions/Show-ADTInstallationPrompt
- https://openai.com/index/chatgpt/
- https://learn.microsoft.com/