

# 64-bit or 32-bit machine / ps host / process

## Various ways of determining if the system is 64-bit or 32-bit

[\[Source\]](#)

```
# Get the path where powershell resides. If the caller passes -use32 then
# make sure we are returning back a 32 bit version of powershell regardless
# of the current machine architecture
function Get-PowerShellPath() {
    param ( [switch]$use32=$false,
            [string]$version="1.0" )

    if ( $use32 -and (test-win64machine) ) {
        return (join-path $env:windir "syswow64\WindowsPowerShell\v$version\powershell.exe")
    }

    return (join-path $env:windir "System32\WindowsPowerShell\v$version\powershell.exe")
}

# Is this a Win64 machine regardless of whether or not we are currently
# running in a 64 bit mode
function Test-Win64Machine() {
    return test-path (join-path $env:WinDir "SysWow64")
}

# Is this a Wow64 powershell host
function Test-Wow64() {
    return (Test-Win32) -and (test-path env:\PROCESSOR_ARCHITEW6432)
```

```
}
```

```
# Is this a 64 bit process
```

```
function Test-Win64() {  
    return [IntPtr]::size -eq 8  
}
```

```
# Is this a 32 bit process
```

```
function Test-Win32() {  
    return [IntPtr]::size -eq 4  
}
```

```
function Get-ProgramFiles32() {  
    if (Test-Win64 ) {  
        return ${env:ProgramFiles(x86)}  
    }
```

```
    return $env:ProgramFiles  
}
```

```
function Invoke-Admin() {  
    param ( [string]$program = $(throw "Please specify a program" ),  
            [string]$argumentString = "",  
            [switch]$waitForExit )
```

```
  
    $psi = new-object "Diagnostics.ProcessStartInfo"  
    $psi.FileName = $program  
    $psi.Arguments = $argumentString  
    $psi.Verb = "runas"  
    $proc = [Diagnostics.Process]::Start($psi)  
    if ( $waitForExit ) {  
        $proc.WaitForExit();  
    }  
}
```

```
# Run the specified script as an administrator
```

```
function Invoke-ScriptAdmin() {  
    param ( [string]$scriptPath = $(throw "Please specify a script"),  
            [switch]$waitForExit,  
            [switch]$use32=$false )
```

```
$argString = ""
for ( $i = 0; $i -lt $args.Length; $i++ ) {
    $argString += $args[$i]
    if ( ($i + 1) -lt $args.Length ) {
        $argString += " "
    }
}

$p = "-Command & "
$p += resolve-path($scriptPath)
$p += " $argString"

$psPath = Get-PowershellPath -use32:$use32
write-debug ("Running: $psPath $p")
Invoke-Admin $psPath $p -waitForExit:$waitForExit
}
```

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