Quest™

Foglight™ for Scripting ActionPack 7.1.0

User and Reference Guide

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Legend

WARNING: A WARNING icon indicates a potential for property damage, personal injury, or death.

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IMPORTANT NOTE, **NOTE**, **TIP**, **MOBILE**, or **VIDEO:** An information icon indicates supporting information.

Foglight for Scripting ActionPack User and Reference Guide
Foglight Version - 7.1.0
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Using the ActionPack for Scripting

This *Foglight for Scripting ActionPack User and Reference Guide* provides requirements, configuration instructions, conceptual information, and instructions on how to use the Foglight for Scripting ActionPack. Using the Foglight for Scripting ActionPack, Foglight for Scripting ActionPack can execute Windows PowerShell scripts.

This guide is intended for any user who wants to use Foglight to work with Windows PowerShell scripts.

This chapter provides information about requirements that need to be met for the ActionPack for Scripting to work properly, and describes the actions included in the ActionPack.

ActionPack for Scripting Requirements

Foglight for Scripting ActionPack Support Matrix

Table 1. Support Matrix

ActionPack	ActionPack Version	Requires Foglight for Scripting ActionPack Version	Supported Target Systems
Action Pack for Scripting	5.6.2	6.6	Windows XP Pro SP3 32bit Windows XP Pro SP3 64bit Windows Vista Business SP2 32bit Windows Vista Business SP2 64bit Windows 2003 R2 SP2 32bit Windows 2003 R2 SP2 64bit Windows 2008 Std SP2 32bit Windows 2008 Std SP2 64bit Windows 2008 Std R2 Windows 7 Ultimate

PowerShell Requirements

1 Install Microsoft .NET 2.0 (if necessary).

2 Install PowerShell v2 (if necessary).

3 Make sure powershell.exe is on the user's PATH.

4 Configure PowerShell to enable script files execution. For example:

```
powershell -command "& {Set-ExecutionPolicy remotesigned}"
```

5 Reboot the OS.

Services Requirements

Ensure that the Server service and Remote Registry service are running on the workstation where the COM server resides.

Local Security Settings

All settings in this section are configured using the Local Security Policy console.

To launch the console:

1 Open the Windows Control Panel.

2 Go to Administrative Tools.

3 Start the Local Security Policy. The Local Security Settings window opens.

Sharing and security model for local accounts

Navigate to Security Settings > Local Policies > Security Options > Network access: Sharing and security model for local accounts. Change the setting to Classic.

This only applies to Windows computers that are not a part of a domain.

DCOM Restrictions Policy

Make sure that the user account used has permissions to access, launch, and activate COM/DCOM/Automation objects.

To grant these permissions:

- Add the user to the predefined local group: *Administrators* for Windows XP; or *Distributed COM Users* for Windows Vista, Windows 2003, Windows 2008, and Windows 7.

If you cannot grant the group permission to the user, do the following:

1 Create a local user in the Users group.

2 Navigate to Control Panel > Administrative Tools > Local Security Policy > Security Settings > Local Policies > Security Options.

3 Double-click DCOM: Machine Access Restrictions policy. Click Edit Security. Add the user created above. Enable the Remote Access option.

4 Double-click DCOM: Machine Launch Restrictions policy. Click Edit Security. Add the user created above. Enable Local Launch, Remote Launch, Local Activation, and Remote Activation options.

5 Navigate to Control Panel > Administrative Tools > Component Services > Computers. Right-click My Computer, click Properties, and open the COM Security tab.

6 In the Access Permissions section, click Edit Default. Add the user created above. Enable the Remote Access option.

7 In the Launch and Activation Permissions section, click Edit Default. Add the user created above. Enable the Local Launch, Remote Launch, Local Activation, and Remote Activation options.

NOTE: In the Component Services section you can navigate to a specific component and grant permission from there, instead of doing so from the My Computer menu.

User Account Control

For Windows machines that are not part of a domain:

1. Open Security Settings > Local Policies > Security Options.
2. Disable the User Account Control: Run all administrators in Admin Approval Mode option.

Firewall Settings

To configure the firewall:

1. Enable all incoming traffic to the default DLL surrogate (*dllhost.exe*).
   - Create a rule that allows all incoming traffic for `%systemroot%\system32\dllhost.exe`.
   - For 64-bit systems only: create a rule that allows all incoming traffic for `%systemroot%\SysWOW64\dllhost.exe`.
2. Enable COM network access.
   - For Windows XP only: create a rule that allows all incoming traffic for TCP Port 135 (DCE/RPC Locator service).
   - For Windows Vista, 2003, and 2008: enable COM+ Network Access (DCOM-In) rule for active profile.
3. Enable File and Printer sharing access.
   - For Windows XP: enable File and Printer sharing exception rule.
   - For Windows Vista, 2003, and 2008: enable all rules in the File and Printer sharing group for active profile.

NOTE: Make sure that the scope defined for rules includes the host, which runs vFoglight.

Configuration Script

Use the script below to configure the firewall.

1. On the target machine create a file named *firewall-config.ps1* with the script listed below.
2. Run the script with Administrator's privileges using the following command:
   `powershell -File firewall-config.ps1`

```
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#
```

```
$OS = Get-WmiObject Win32_OperatingSystem
$OSBuildNumber = $OS.BuildNumber

$OSCaption = $OS.Caption

$useAdvancedFirewall = $true
$COMNetworkAccessGroup = "COM+ Network Access (DCOM-In)"
if (($OSBuildNumber -eq 2600) -or ($OSBuildNumber -eq 3790)) {
    $useAdvancedFirewall = $false
}

if ($OSBuildNumber -eq 7600) {
    # Windows 7
    $COMNetworkAccessGroup = "Windows Management Instrumentation (WMI)"
}

if ($useAdvancedFirewall) {
    Echo "Configuring firewall for Windows Vista/2008/7"
    netsh advfirewall firewall add rule name="DLL Host (32-Bits)" dir=in
action=allow program="%systemroot%\system32\dllhost.exe"
    netsh advfirewall firewall add rule name="DLL Host (64-Bits)" dir=in
action=allow program="%systemroot%\SysWOW64\dllhost.exe"
    netsh advfirewall firewall set rule group=$COMNetworkAccessGroup new enable=yes
    netsh advfirewall firewall set rule group="File and Printer Sharing" new
enable=yes
}
else {
    Echo "Configuring firewall for Windows XP/2003"
    netsh firewall add allowedprogram "%systemroot%\system32\dllhost.exe" "DLL Host
(32-Bits)" ENABLE
    netsh firewall add allowedprogram "%systemroot%\SysWOW64\dllhost.exe" "DLL Host
(64-Bits)" ENABLE
    netsh firewall add portopening TCP 135 "DCE/RPC Locator service" ENABLE
    netsh firewall set service FileAndPrint ENABLE}
```

COM and Automation Objects

The COM and Automation objects are required to perform remote tasks on Windows machines that are not configured for remote activation. Therefore additional configuring of the DLL surrogate is required.

Registry Permissions

Make sure that the Administrator user has Full Control access to the following registry keys:

- HKEY_LOCAL_MACHINE/Software/Classes/AppID
- HKEY_LOCAL_MACHINE/Software/Classes/CLSID/{0D43FE01-F093-11CF-8940-00A0C9054228}
- HKEY_LOCAL_MACHINE/Software/Classes/CLSID/{13709620-C279-11CE-A49E-444553540000}
- HKEY_LOCAL_MACHINE/Software/Classes/CLSID/{72C24DD5-D70A-438B-8A42-98424B88AFB8}
- HKEY_LOCAL_MACHINE/Software/Classes/CLSID/{76A64158-CB41-11D1-8B02-00600806D9B6}

Configuration Script

Use the script below to configure DCOM.

1 Create a file named *dcom-config.ps1* that contains the script below on the target machine.

2 Run the script on behalf of the Administrator user using the following command:
`runas /user:Administrator powershell -File dcom-config.ps1`

```
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#

Function ConfigureAppID($appId,$appDescription,$systemGlobal) {
    Echo "Processing $appId ($appDescription)"

    if ($systemGlobal) {
        $classesKey = "HKLM:\Software\Classes"
    }
    else {
        $classesKey = "HKCU:\Software\Classes"
    }

    $AppIDKey = $classesKey + "\AppID"

    if (!(Test-Path $AppIDKey)) {
        $item=New-Item -Name "AppID" -Path $classesKey -Type directory
    }

    $CLASS_AppIDKey = $AppIDKey + "\{$appId}"
    if (!(Test-Path $CLASS_AppIDKey)) {
        $item=New-Item -Name "{$appId}" -Path $AppIDKey -Type directory
    }
    Set-ItemProperty -Path $CLASS_AppIDKey -Name "(default)" -Value
"$appDescription"
    Set-ItemProperty -Path $CLASS_AppIDKey -Name "DllSurrogate" -Value ""
}

Function ConfigureCLSID($clsId,$appId,$systemGlobal) {
    Echo "Processing $clsId"

    $name = (Get-ItemProperty -Path "HKLM:\Software\Classes\CLSID\{$clsId}\ProgID" -
Name "(default)")."(default)"
    Echo $name

    if ($systemGlobal) {
        $classesKey = "HKLM:\Software\Classes"
    }
    else {
        $classesKey = "HKCU:\Software\Classes"
    }
    $CLSIDKey = $classesKey + "\CLSID"
    $AppIDKey = $classesKey + "\AppID"

    if (!(Test-Path $CLSIDKey)) {
        $item=New-Item -Name "CLSID" -Path $classesKey -Type directory
    }
```

```
    $CLASS_CLSIDKey = $CLSIDKey + "\{$clsId}"
    if (!(Test-Path $CLASS_CLSIDKey)) {
        $item=New-Item -Name "{$clsId}" -Path $CLSIDKey -Type directory
    }
    Set-ItemProperty -Path $CLASS_CLSIDKey -Name "AppID" -Value "{$appId}"
}

Function ConfigureDCOM($appId,$systemGlobal) {
    if (!$appId) {
        $appId = [System.Guid]::NewGuid()
    }
    $appDescription = "Default DLL Surrogate"

    ConfigureAppID -appId $appId -appDescription $appDescription -systemGlobal
$systemGlobal

    $CLSIDS = @(
        # Scripting.FileSystemObject
        "0D43FE01-F093-11CF-8940-00A0C9054228",
        # Shell.Application
        "13709620-c279-11ce-a49e-444553540000"
        # WScript.Shell
        "72C24DD5-D70A-438B-8A42-98424B88AFB8"
        # WbemScripting.SWbemLocator
        "76A64158-CB41-11D1-8B02-00600806D9B6"
    )

    foreach ($clsId in $CLSIDS) {
        ConfigureCLSID -clsId $clsId -systemGlobal $systemGlobal -appId $appId
    }

}
ConfigureDCOM -systemGlobal $true
```

Actions

This section contains descriptions of the actions included in the ActionPack for Scripting.

Run PowerShell Script

Executes a PowerShell script on the specified remote Windows host.

The Power Shell interpreter and the script file must exist on the remote host. To enable script file execution, run the following command:

```
powershell -command "&{set-ExecutionPolicy Unrestricted}"
```

Table 2. Run PowerShell Script Input Parameters

Name/Scripting name	Type	Description
Host/`host`	TopologyObject	[ScriptingHost]. The remote host to execute the command on.

Table 2. Run PowerShell Script Input Parameters

Name/Scripting name	Type	Description
Script/`script`	String	The full path to the script on the remote host, for example: `C:\\test.ps1`.
Parameters/`params`	String	Parameters that will be passed to the command. (Optional)

Table 3. Run PowerShell Script Output Parameters

Name/Scripting name	Type	Description
Command/`cmd`	String	The command that was executed on the remote host.
Output text/`stdout`	String	System Standard Output Text.
Error text/`stderr`	String	System Error Output Text. May be empty if no errors occured.

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