

cmShell for SAP

SAP GUI Scripting

CommandLets for SAP GUI Scripting

Inhalt

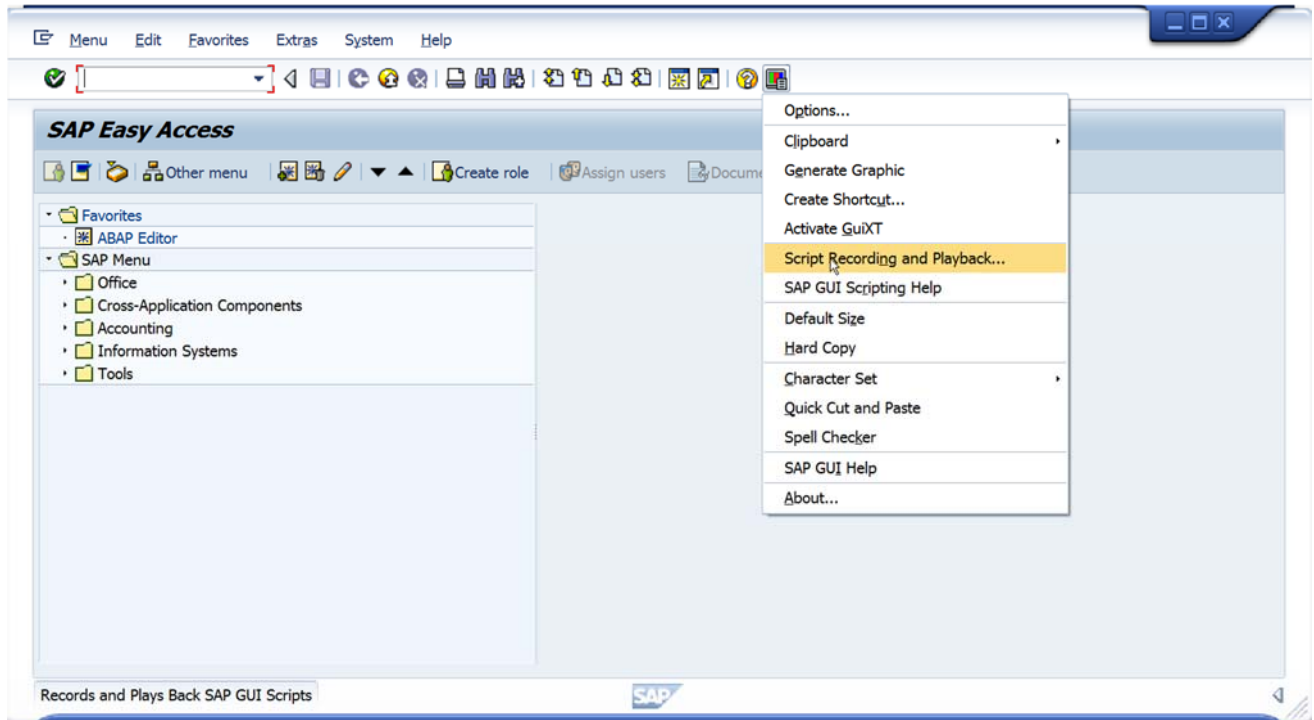
Requirements	3
Record a script	4
Start at SAP Easy Access menu	4
Choose script path	4
Start recording	5
Call transaction AL08.....	5
Stop recording	6
Connect to the SAP GUI	7
Open a SAP GUI session	7
Run the script	7
Stop the SAP GUI connection	8
Access the result value	8
Statusbar message	9
GUI elements	10
64bit PowerShell	11
GUI GridView	11
Usage Step by Step	13
Quellen	15
SAP GUI Scripting API for the Windows and Java Platforms:	15
SAP note 1441550 SAP GUI Scripting: Beispielanwendungen:	15
SAP GUI Scripting Security Guide:	15
SAP GUI Scripting documentation:	15
The SAP Control Framework:	15

Requirements

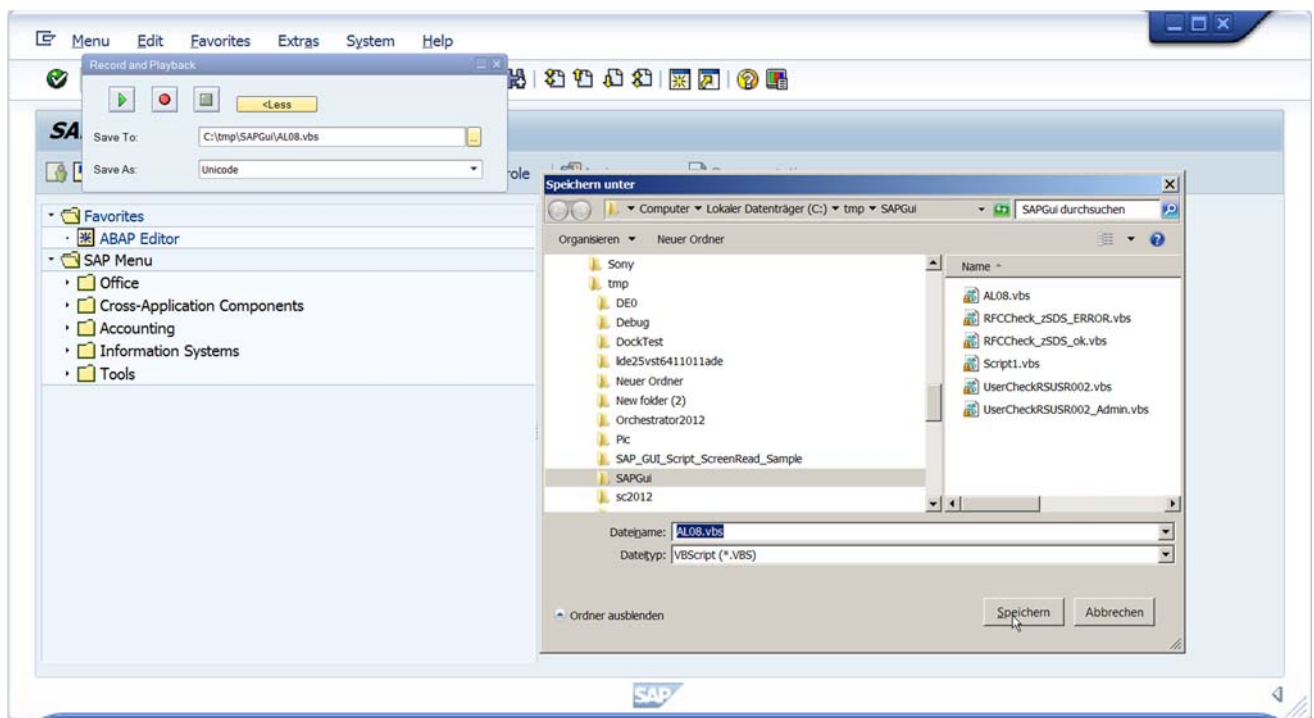
- SAP GUI must be installed on the client system.
- SAP GUI Scripting must be enabled on the application server by setting the `sapgui/user_scripting` parameter.
- SAP GUI Scripting must be enabled on the client system in the Option dialog of the SAP GUI.

Record a script

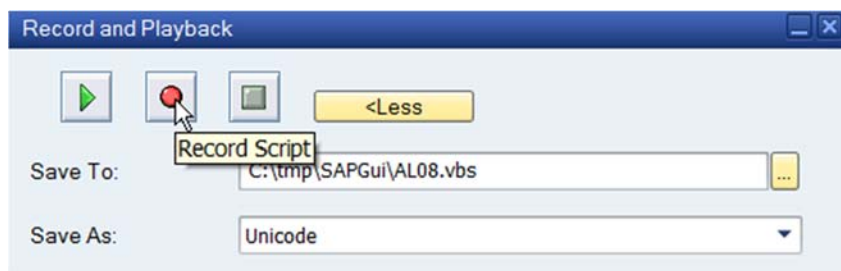
Start at SAP Easy Access menu



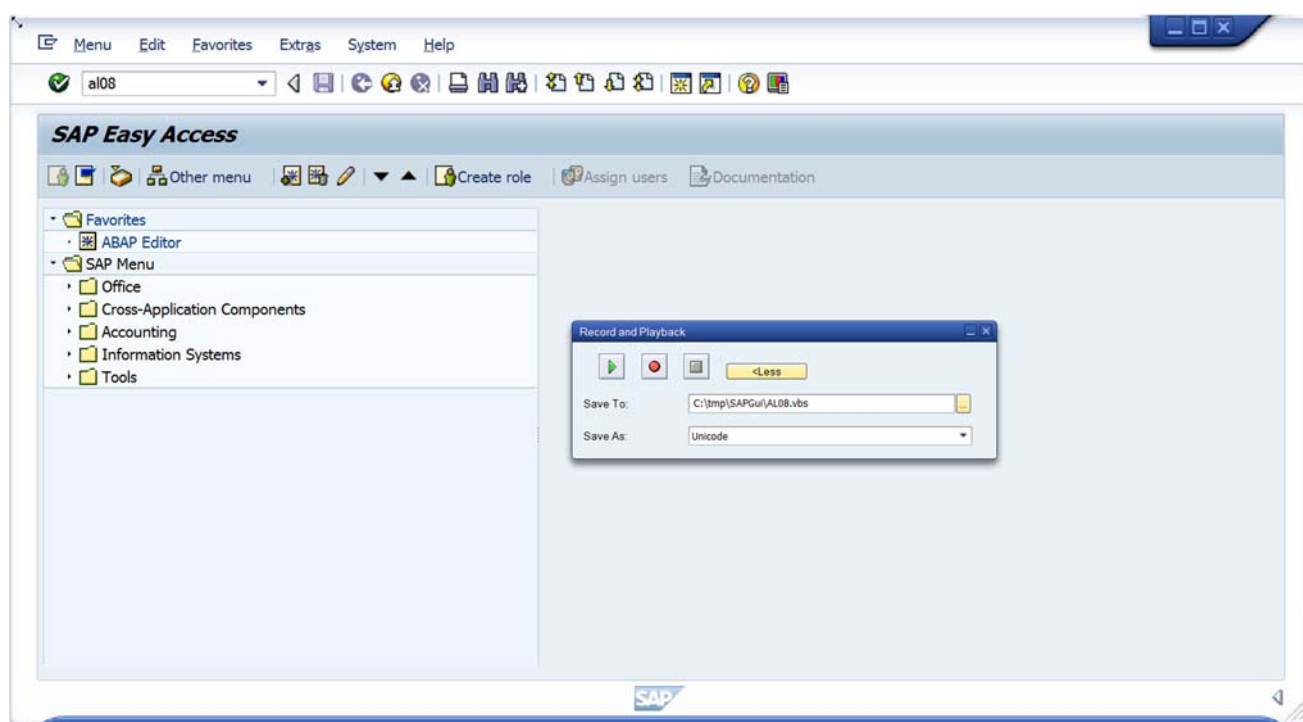
Choose script path



Start recording



Call transaction AL08



List of All Users Logged On

Refresh

System SDS Overview of all users logged on.
Date, Time 14.12.2012 10:07:47

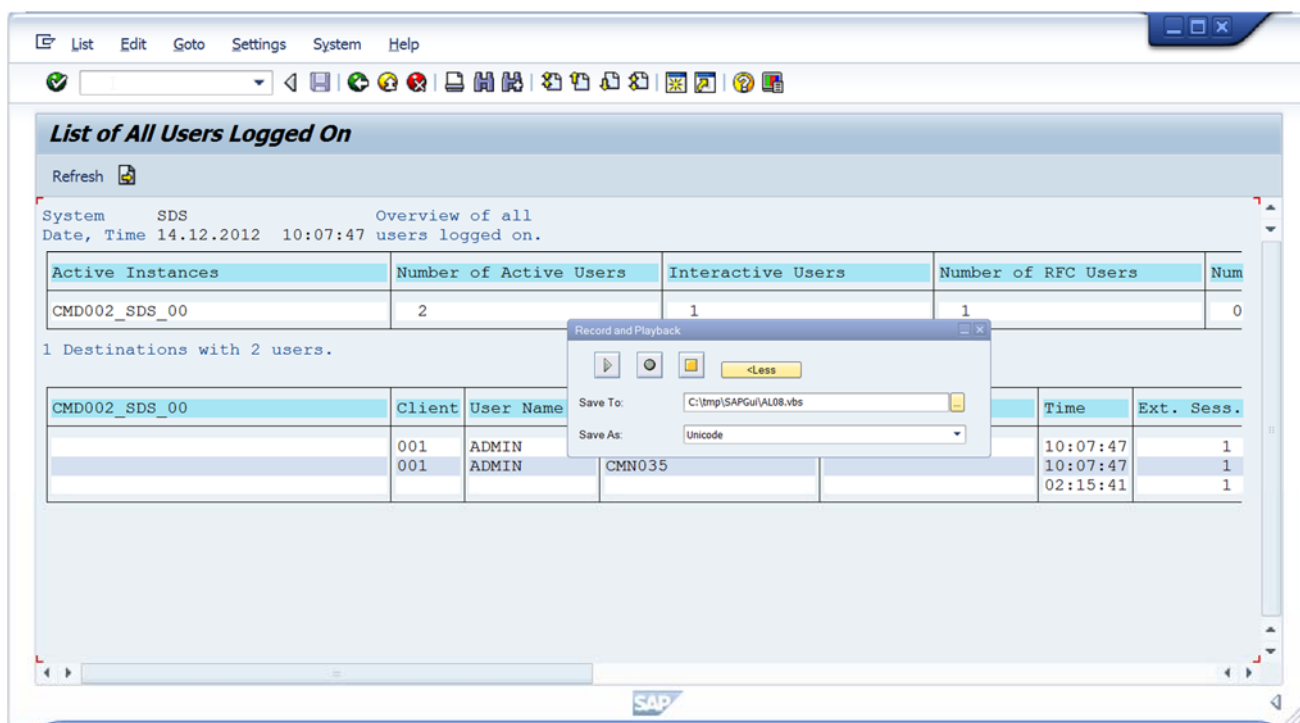
Active Instances	Number of Active Users	Interactive Users	Number of RFC Users	Num
CMD002_SDS_00	2	1	1	0

1 Destinations with 2 users.

CMD002_SDS_00	Client	User Name	Time	Ext. Sess.
	001	ADMIN	10:07:47	1
	001	ADMIN	10:07:47	1
		CMN035	02:15:41	1

Record and Playback dialog box:

Save To: C:\tmp\SAPGui\AL08.vbs
Save As: Unicode

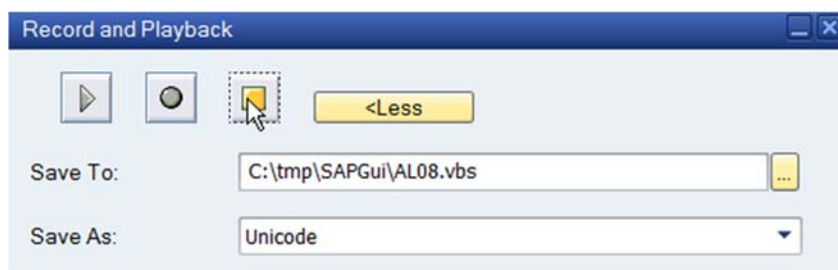


Stop recording

Record and Playback

Save To: C:\tmp\SAPGui\AL08.vbs

Save As: Unicode



Connect to the SAP GUI

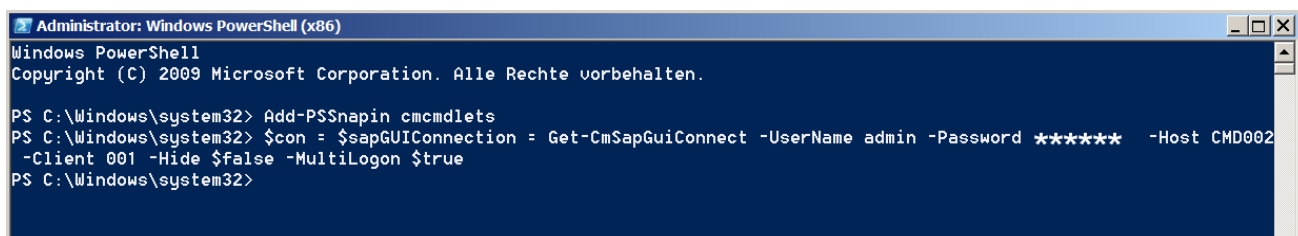
use 32bit PowerShell

Open a SAP GUI session

```
$sapGUIConnection = Get-CmSapGuiConnect -UserName admin -Password ***** -Host  
CMD002 -Hide $false -MultiLogon $true
```

Optional parameter

- Hide: Do not show the SAP GUI (default true)
- MultiLogon: Allow multiple logons to the production system using the same user (default false)



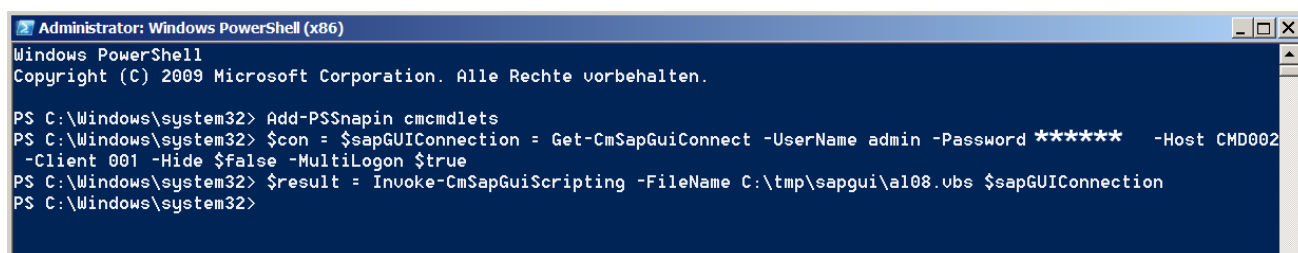
```
Administrator: Windows PowerShell (x86)  
Windows PowerShell  
Copyright (C) 2009 Microsoft Corporation. Alle Rechte vorbehalten.  
  
PS C:\Windows\system32> Add-PSSnapin cmcmdlets  
PS C:\Windows\system32> $con = $sapGUIConnection = Get-CmSapGuiConnect -UserName admin -Password ***** -Host CMD002  
-Client 001 -Hide $false -MultiLogon $true  
PS C:\Windows\system32>
```

Run the script

```
$result = Invoke-CmSapGuiScripting -FileName c:\tmp\sapgui\al08.vbs  
$sapGUIConnection -StatusbarOnly $true
```

Optional parameter:

- StatusbarOnly: Return only the message displayed in the status bar (default false)

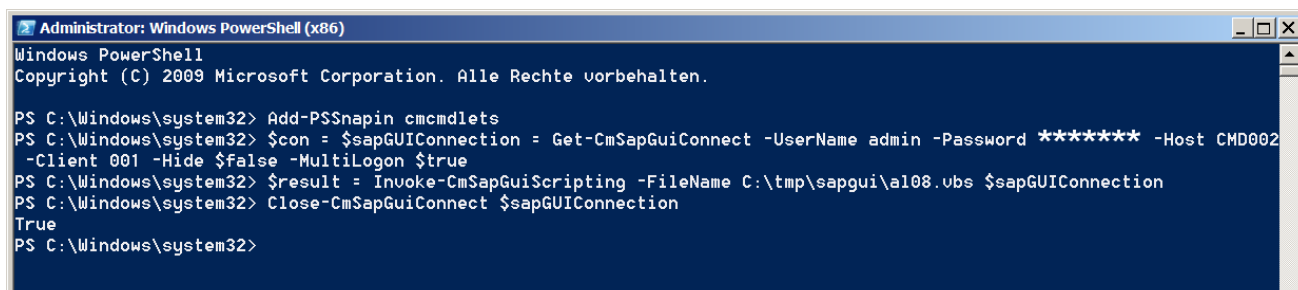


```
Administrator: Windows PowerShell (x86)  
Windows PowerShell  
Copyright (C) 2009 Microsoft Corporation. Alle Rechte vorbehalten.  
  
PS C:\Windows\system32> Add-PSSnapin cmcmdlets  
PS C:\Windows\system32> $con = $sapGUIConnection = Get-CmSapGuiConnect -UserName admin -Password ***** -Host CMD002  
-Client 001 -Hide $false -MultiLogon $true  
PS C:\Windows\system32> $result = Invoke-CmSapGuiScripting -FileName C:\tmp\sapgui\al08.vbs $sapGUIConnection  
PS C:\Windows\system32>
```

Stop the SAP GUI connection

You may execute more scripts. When finished you have to call the Close-CmSapGuiConnect method:

```
Close-CmSapGuiConnect $sapGUIConnection
```



```

Administrator: Windows PowerShell (x86)
Windows PowerShell
Copyright (C) 2009 Microsoft Corporation. Alle Rechte vorbehalten.

PS C:\Windows\system32> Add-PSSnapin cmcmdlets
PS C:\Windows\system32> $con = $sapGUIConnection = Get-CmSapGuiConnect -UserName admin -Password ***** -Host CMD002
-Client 001 -Hide $false -MultiLogon $true
PS C:\Windows\system32> $result = Invoke-CmSapGuiScripting -FileName C:\tmp\sapgui\al08.ubs $sapGUIConnection
PS C:\Windows\system32> Close-CmSapGuiConnect $sapGUIConnection
True
PS C:\Windows\system32>

```

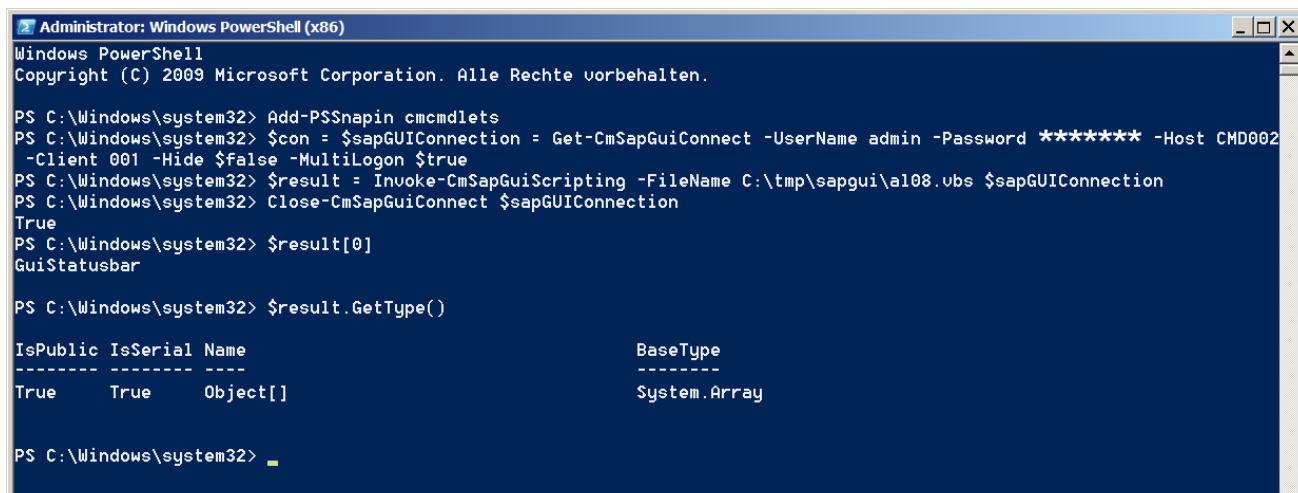
Access the result value

The commandlet returns a List<String[]> object. The elements of the List<String[]> consists of a pair of strings (GUI element type, value).

```

PS > $result.GetType()
      IsPublic IsSerial Name                                     BaseType
-----
      True     True     Object[]                                                       System.Array

```



```

Administrator: Windows PowerShell (x86)
Windows PowerShell
Copyright (C) 2009 Microsoft Corporation. Alle Rechte vorbehalten.

PS C:\Windows\system32> Add-PSSnapin cmcmdlets
PS C:\Windows\system32> $con = $sapGUIConnection = Get-CmSapGuiConnect -UserName admin -Password ***** -Host CMD002
-Client 001 -Hide $false -MultiLogon $true
PS C:\Windows\system32> $result = Invoke-CmSapGuiScripting -FileName C:\tmp\sapgui\al08.ubs $sapGUIConnection
PS C:\Windows\system32> Close-CmSapGuiConnect $sapGUIConnection
True
PS C:\Windows\system32> $result[0]
GuiStatusBar

PS C:\Windows\system32> $result.GetType()

IsPublic IsSerial Name                                     BaseType
-----
True     True     Object[]                                                       System.Array

PS C:\Windows\system32>

```


Statusbar message

The first element contains the status bar message:

```
PS> $result[0] GuiStatusBar Selection restricted to 200 hits
```

The statusbar message is empty at the AL08 example:

```
Administrator: Windows PowerShell (x86)
Windows PowerShell
Copyright (C) 2009 Microsoft Corporation. Alle Rechte vorbehalten.

PS C:\Windows\system32> Add-PSSnapin cmcmdlets
PS C:\Windows\system32> $con = $sapGUIConnection = Get-CmSapGuiConnect -UserName admin -Password ***** -Host CMD002
-Client 001 -Hide $false -MultiLogon $true
PS C:\Windows\system32> $result = Invoke-CmSapGuiScripting -FileName C:\tmp\sapgui\al08.ubs $sapGUIConnection
PS C:\Windows\system32> Close-CmSapGuiConnect $sapGUIConnection
True
PS C:\Windows\system32> $result[0]
GuiStatusBar

PS C:\Windows\system32>
```

List of All Users Logged On

Refresh

System SDS Overview of all
Date, Time 14.12.2012 10:42:26 users logged on.

Active Instances	Number of Active Users	Interactive Users	Number of RFC Users	Num
CMD002_SDS_00	2	1	1	0

1 Destinations with 2 users.

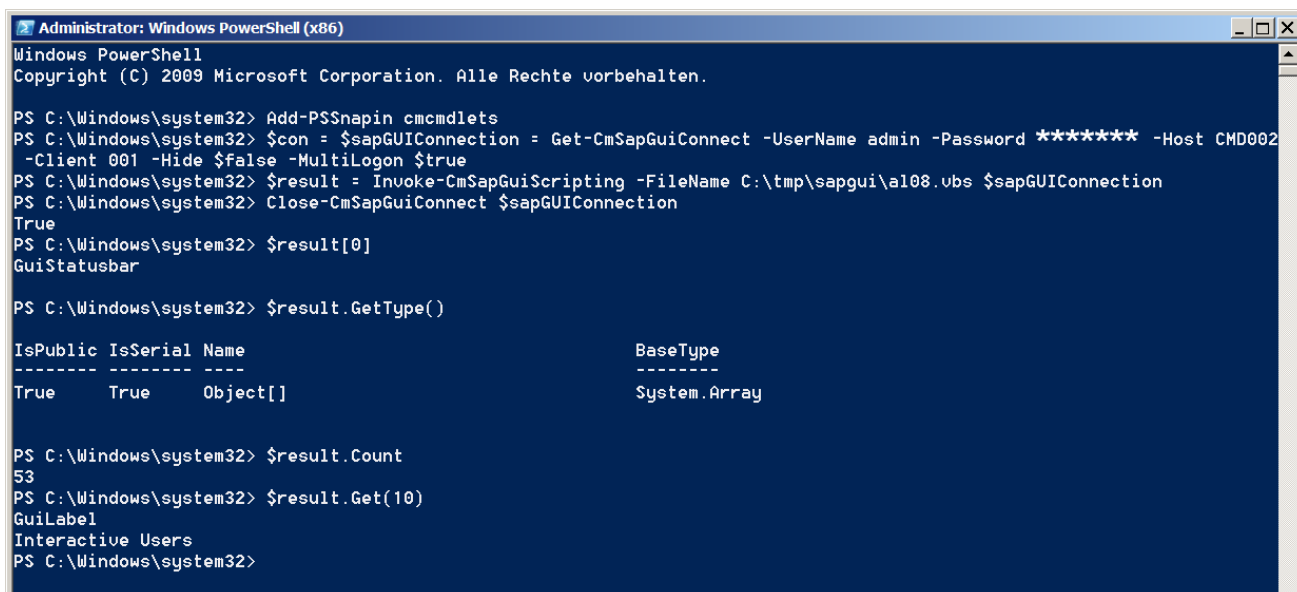
CMD002_SDS_00	Client	User Name	Terminal	Transaction Code	Time	Ext. Sess.
	001	ADMIN	CMN035		10:42:26	1
	001	ADMIN	CMN035		10:42:26	1
					02:15:41	1

SAP

GUI elements

You can run several operations on the list, such as

```
PS > $result.Count
53
PS > $result.Get(10)
GuiLabel
Interactive Users
```



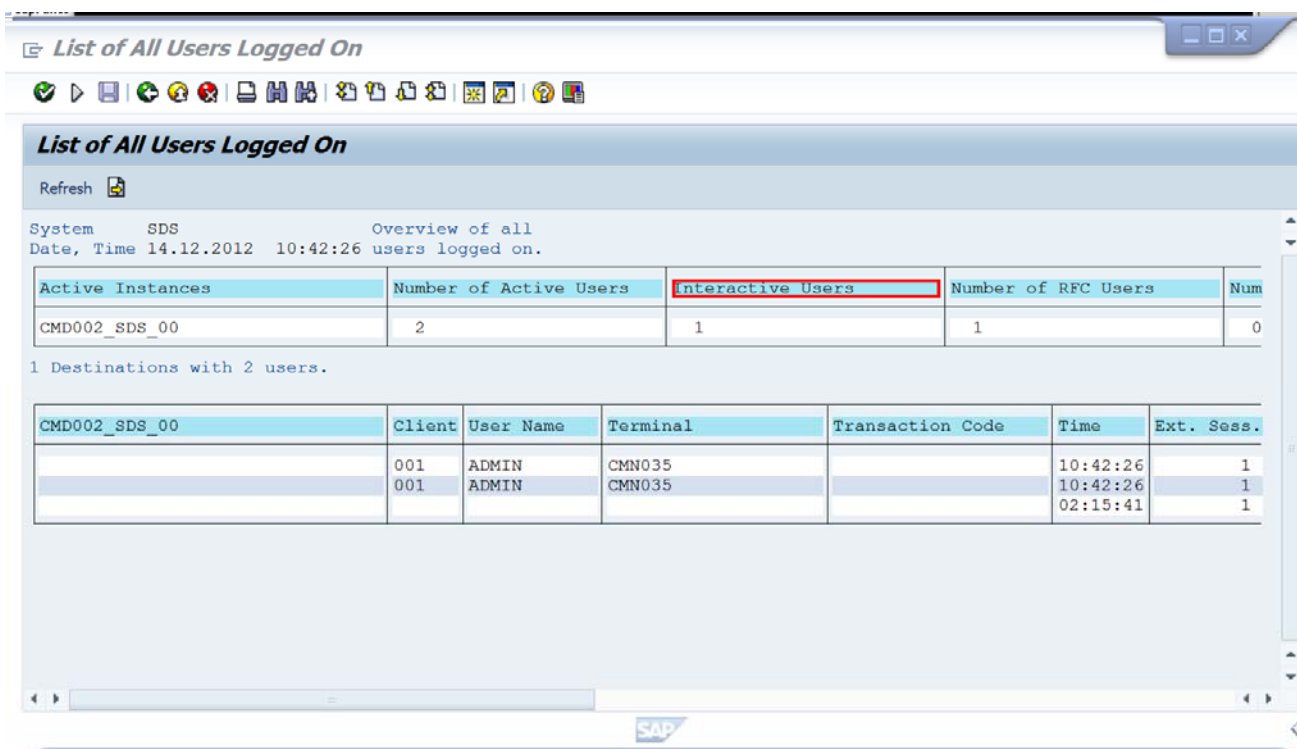
```
Administrator: Windows PowerShell (x86)
Windows PowerShell
Copyright (C) 2009 Microsoft Corporation. Alle Rechte vorbehalten.

PS C:\Windows\system32> Add-PSSnapin cmcmdlets
PS C:\Windows\system32> $con = $sapGUIConnection = Get-CmSapGuiConnect -UserName admin -Password ***** -Host CMD002
-Client 001 -Hide $false -MultiLogon $true
PS C:\Windows\system32> $result = Invoke-CmSapGuiScripting -FileName C:\tmp\sapgui\al08.ubs $sapGUIConnection
PS C:\Windows\system32> Close-CmSapGuiConnect $sapGUIConnection
True
PS C:\Windows\system32> $result[0]
GuiStatusBar

PS C:\Windows\system32> $result.GetType()

IsPublic IsSerial Name                                     BaseType
-----
True     True     Object[]                                                System.Array

PS C:\Windows\system32> $result.Count
53
PS C:\Windows\system32> $result.Get(10)
GuiLabel
Interactive Users
PS C:\Windows\system32>
```



List of All Users Logged On

Refresh

System SDS Overview of all
Date, Time 14.12.2012 10:42:26 users logged on.

Active Instances	Number of Active Users	Interactive Users	Number of RFC Users	Num
CMD002_SDS_00	2	1	1	0

1 Destinations with 2 users.

CMD002_SDS_00	Client	User Name	Terminal	Transaction Code	Time	Ext. Sess.
	001	ADMIN	CMN035		10:42:26	1
	001	ADMIN	CMN035		10:42:26	1
					02:15:41	1

64bit PowerShell

You may use the cmdlet from a 64bit PowerShell by calling the start-job commandlet:

```
# Set the input parameter.
$argumentList = $UserName, $Password, $HostName, $Client, $scriptPath
# Run the SAP GUI scripting command lets in a 32bit environment.
$rfcCheckResult = start-job {
    param($UserName, $Password, $HostName, $Client, $scriptPath)
    add-pssnapin CmCmdlets;
    $sapGUIConnection = Get-CmSapGuiConnect -UserName $UserName -Password $Password
        -Host $HostName -Client $Client -Hide $false -MultiLogon $true;
    Invoke-CmSapGuiScripting -FileName $scriptPath $sapGUIConnection;
    $null = Close-CmSapGuiConnect $sapGUIConnection
} -RunAs32 -ArgumentList $argumentList | wait-job | Receive-Job
```

GUI GridView

On some dypros the data is displayed in a GridView. In this case the elements of the List<String[]> consists of a pair of strings (SAP table column name, value).

```
PS C:\Windows\system32> $result.Get(1)
BNAME
ADMIN
PS C:\Windows\system32> $result.Get(2)
NAME_TEXT
Administrator Admin
PS C:\Windows\system32> $result.Get(3)
CLASS
SUPER
PS C:\Windows\system32> $result.Get(4)
ACCNT

PS C:\Windows\system32> $result.Get(5)
LOCKICON

PS C:\Windows\system32> $result.Get(6)
LOCKREASON

PS C:\Windows\system32> $result.Get(7)
GLTGV

PS C:\Windows\system32> $result.Get(8)
GLTGB

PS C:\Windows\system32> $result.Get(9)
USTYP
A Dialog
PS C:\Windows\system32> $result.Get(10)
REFUSER
```

```

Administrator: Windows PowerShell (x86)
PS C:\Windows\system32> $sapGUIConnection = Get-CmSapGuiConnect -UserName admin -Password ***** -Host CMD002 -Client 001 -Hide $false -MultiLogon $true
PS C:\Windows\system32> $result = Invoke-CmSapGuiScripting -FileName C:\tmp\sapgui\UserCheckRSUSR002.ubs $sapGUIConnection
PS C:\Windows\system32> $result.Get(1)
BNAME
ADMIN
PS C:\Windows\system32> $result.Get(2)
NAME_TEXT
Administrator Admin
PS C:\Windows\system32> $result.Get(3)
CLASS
SUPER
PS C:\Windows\system32> $result.Get(4)
ACCNT
PS C:\Windows\system32> $result.Get(5)
LOCKICON
PS C:\Windows\system32> $result.Get(6)
LOCKREASON
PS C:\Windows\system32> $result.Get(7)
GLTGU
PS C:\Windows\system32> $result.Get(8)
GLTGB
PS C:\Windows\system32> $result.Get(9)
USTYP
A Dialog
PS C:\Windows\system32> $result.Get(10)
REFUSER
PS C:\Windows\system32> Close-CmSapGuiConnect $sapGUIConnection
True
PS C:\Windows\system32>
  
```

Users by Complex Selection Criteria

Number of Users Selected: 2

System SDS Client 001 Checked by ADMIN 14.12.2012 11:28:38

User	Complete name	Group	Account no	Locked	Reason	Valid from	Valid to	User Typ	Ref. User
ADMIN	Administrator Admin	SUPER						A Dialog	
DDIC		SUPER						A Dialog	

SAP

Usage Step by Step

1. Open a SAP GUI session

```
$con = Get-CmSapGuiConnect -UserName admin -Password lPassword! -
Host ERP -Hide $false -MultiLogon $true
```

Optional parameter

Hide: Do not show the SAP GUI (default true)

MultiLogon: Allow multiple logons to the production system using the same user (default false)

2. Execute a SAP script

```
$result = Invoke-CmSapGuiScripting -FileName c:\tmp\sapgui\script1.vbs $con -
StatusbarOnly $true
```

Optional parameter

StatusbarOnly: Return only the message from the status bar (default false)

3. The command returns a `List<String[]>` object with the first element containing the status bar message:

```
PS> $result[0]
GuiStatusbar
Selection restricted to 200 hits
```

4. All elements of the `List<String[]>` consists of a pair of strings (GUI element type, value).

```
PS > $result[22]
GuiLabel
ABAP_ASSERT
PS > $result[22][0]
GuiLabel
PS > $result[22][1]
ABAP_ASSERT
```

5. You can run several operations on the list, such as

```
PS > $result.Count
1003
PS > $result.Get(0)
GuiStatusbar
Selection restricted to 200 hits
PS > $result.GetType()
```

IsPublic IsSerial Name

BaseType

```
-----  
True      True      Object[]      System.Array
```

6. You may execute more scripts. When finished you have to call the `Close-CmSapGuiConnect` method:

```
PS > Close-CmSapGuiConnect $con
```

Quellen

SAP GUI Scripting API for the Windows and Java Platforms:

<http://www.synactive.com/download/sap%20gui%20scripting/sap%20gui%20scripting%20api.pdf>

SAP note 1441550 SAP GUI Scripting: Beispielanwendungen:

<https://websmp130.sap-ag.de/sap%28bD1kZSZjPTAwMQ==%29/bc/bsp/spn/sapnotes/index2.htm?numm=1441550>

SAP GUI Scripting Security Guide:

<http://www.synactive.com/download/sap%20gui%20scripting/sap%20gui%20scripting%20security%20settings.pdf>

SAP GUI Scripting documentation:

<http://service.sap.com/sapgui>

The SAP Control Framework:

http://help.sap.com/saphelp_46c/helpdata/en/2a/755b94ca5911d299af5c9604c10e27/frameset.htm