

Introducing Scripts and Commands Plugin

IBM Application Runtime Expert for i

<http://www.ibm.com/systems/power/software/i/are/index.html>

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1 Introduction

The Scripts and Commands plugin allow you the ability to verify the results of QShell scripts or CL commands on a target system. It provides a very powerful and simple way to extend the base verification function provided by Application Runtime Expert for i. The verification condition is customizable, including program Exit code, error messages and content of the stdout file. The Scripts and Commands plugin simplifies the way to validate additional features on IBM i without having to write a customized plugin. The overview of this plugin is shown in figure1.

Scripts and Commands

Add Results Verification Details - Step 1



You can verify various aspects of the results of running a command or script on the remote system. The verification group allows you to create a set of one or more conditions. Each condition is compared to ensure the program results match the expected values. The group type determines if all attributes need to be matched or if only 1 attribute is enough. The expected values are specific to the type of program being called, the expected results values for commands are different than scripts.

Result verification group [? Learn more...](#)

Name:

Severity:

Type:

- AND - All conditions in the group must be met for the verification to be successful
 OR - Only one of the conditions in the group must be met for the verification to be successful

Script verification conditions [? Learn more...](#)

	Source	Expected value	Comparison	Match case
Example	Exit Code	0	Equals	
Example	Standard Output	Some example	Contains	False
<input checked="" type="checkbox"/>	<input type="text" value="Exit code"/>	<input type="text"/>	<input type="text" value="Equals"/>	

Figure 1: Overview

2 How to use

2.1 Specify the QShell or CL command

Input the script or command in the text area. It is recommended that you copy and paste an actual working version to prevent typing errors. Each collection contains a single script or command. If you have multiple scripts and commands to run, create multiple collections. All the contents of the input field will be treated as a single command or script.

Program to run and verify [? Learn more...](#)

Script command to run in QShell

Example: /QIBM/ProdData/OS/OSGi/templates/bin/areVerify.sh -network

CL command to run

Figure 2: Specify the QShell or CL command

2.2 Add result verification

After you specify a command or script, you need to verify the results of this function. The verification is done by adding result verification groups. Click the "add" button showed in Figure3, this launches the add results verification wizard page showed in Figure 4. This wizard helps you add each verification group. Multiple verification groups can be specified to ensure the inclusion of a value (Does standard out file for the script contain a specific value) or even the exclusion of a value (make sure the message for the CL command does not equal a specific message) or even the exit return code for the call is ok. These verifications can be combined to make sure you are checking the exact result you desire.

Result verification [? Learn more...](#)

Result verification details

Group	Severity	Source	Expected value	Comparison	Match case
<i>This table is empty.</i>					

Add

Figure 3: Add result verification

Scripts and Commands



Add Results Verification Details - Step 1

You can verify various aspects of the results of running a command or script on the remote system. The verification group allows you to create a set of one or more conditions. Each condition is compared to ensure the program results match the expected values. The group type determines if all attributes need to be matched or if only 1 attribute is enough. The expected values are specific to the type of program being called, the expected results values for commands are different than scripts.

Result verification group [? Learn more...](#)

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- AND - All conditions in the group must be met for the verification to be successful
- OR - Only one of the conditions in the group must be met for the verification to be successful

Script verification conditions [? Learn more...](#)

	Source	Expected value	Comparison	Match case
Example	Exit Code	0	Equals	
Example	Standard Output	Some example	Contains	False
<input checked="" type="checkbox"/>	<input type="text" value="Exit code"/>	<input type="text"/>	<input type="text" value="Equals"/>	

Figure 4: Verification details

Name: Result verification group name must start with an alpha, and may be followed by any alpha/numeric character, or underline. The maximum length of result verification group name is 20 characters. This field is a name for this verification group and should be used to give you a name that makes sense and help you remember what this verification is for.

Severity: The following keywords denote the severity levels of a problem what was found during verification.

- *Error
- *Warning
- *Info

Type: Specifies proper logical relationship between each result verification condition. This allows you to specify whether all the verifications must pass or any verification is ok.

Script verification conditions: Verification condition is the expected value of result of script (or CL command) to run.

Script verification conditions [? Learn more...](#)

	Source	Expected value	Comparison	Match case
Example	Exit Code	0	Equals	
Example	Standard Output	Some example	Contains	False
<input checked="" type="checkbox"/>	Exit code <input type="text" value=""/>	<input type="text" value=""/>	Equals <input type="text" value=""/>	<input type="text" value=""/>

Figure 5: Script verification conditions

Source: The source is dependent on the type of action being run. CL commands support the verification of the Exit code and Message ID values. Scripts support Exit code and the contents of the Standard output. To check multiple items, add multiple entries to the table.

Expected value: Specifies the specific attribute to verify for the source specified. The expected value field supports any value to check.

Note: Exit code must be a number.

Comparison: Allows you to specify the type of comparison that is to be used when checking the expected value with the specified source. Allows you to include or exclude and additional partial verification logic.

Match case: Specifies whether case is considered when comparing string values.

After you finish configuring a group, click on "OK" button to save your configuration. Then, you get back to the "Specify Script and Command to be Run and Verified" form. The result verification group that was just created is listed on the Result Verification Group table.

Scripts and Commands

Specify the Script or Command to be Run and Verified



Collection name:

Program to run and verify [? Learn more...](#)

Script command to run in QShell

Example: /Q/IBM/ProdData/OS/OSGi/templates/bin/areVerify.sh -network

CL command to run

Result verification [? Learn more...](#)

Result verification details

Group	Severity	Source	Expected value	Comparison	Match case
<input checked="" type="radio"/> MyGroup1(And)	Error	Exit code	0	Equals	True
		Standard output	home	Contains	True
<input type="radio"/> MyGroup2(And)	Error	Standard output	www	Contains	True
		Standard output	QSYS.LIB	Contains	True

Figure 6: Script verification conditions

3 Sample

The following sample is showing the Work active job command being called. It is verifying that the command ran without error. The return code must be set to 0. In addition several error messages are being checked for.

Home > Plugin Selection and Customization > Scripts and Commands > Customize Script or Command

Scripts and Commands

Specify the Script or Command to be Run and Verified



Collection name:

Program to run and verify [? Learn more...](#)

Script command to run in QShell

CL command to run

Example: QSYS/CALL PGM(MYLIB/MYPROGRAM) PARM(PARM1 PARM2)
WRKSPLF OUTPUT(*PRINT)

Result verification [? Learn more...](#)

Result verification details

Group	Severity	Source	Expected value	Comparison	Match case
<input checked="" type="radio"/> MyGroup1(And)	Error	Messages	QSYS	Contains	True
		Exit code	0	Equals	True
<input type="radio"/> MyGroup2(Or)	Error	Messages	Sever1	Contains	True
		Messages	Sever2	Contains	True

Figure 7: Script verification conditions

4 Advance – Log Command Output

In addition to checking the command output, you may also want to log the command output to the report. ARE allows the user to do that by using *Collector Mode* while running system verification. Within the QShell command line run the following steps.

To log command output, the template must be run in the Collector Mode. The output of each command will be logged to a separate text file, which is packaged in the final archive file. To enable the Collector Mode, specify *-zipFile zipFileName*, instead of the *-outFile filename* parameter on the command line. For more details, see the IBM Application Runtime Expert for i [product web site](#). Here is an example for using *-zipFile* parameter in QShell:

```
runARE.sh -template <template path> -zipFile <zip file name>
```

Note: To log the output of an interactive CL command (e.g. WRK*, DSP*), you need to run it in QShell via the "system" command. For example:

```
system "WRKACTJOB"
```

The CL command input in *CL command to run* section will NOT have interactive output. If you want to verify and log CL command output messages, specify it in this section, like shown in the following figure.

[Home](#) > [Plugin Selection and Customization](#) > [Scripts and Commands](#) > [Customize Script or Command](#)

Scripts and Commands



Specify the Script or Command to be Run and Verified

Collection name:

Program to run and verify [? Learn more...](#)

Script command to run in QShell

Example: /Q/IBM/ProdData/OS/OSGi/templates/bin/are/verify.sh -network

CL command to run

Result verification [? Learn more...](#)

Result verification details

Group	Severity	Source	Expected value	Comparison	Match case
<input checked="" type="radio"/> MyGroup1 (And)	Error	Exit code	0	Equals	True

Figure 8: Sample to call interactive command in QShell