

# z/OS V2.5 IBM Education Assistant

Solution Name: Support saving job output in z/OSMF Workflows

Solution Element(s): z/OSMF Workflows

July 2021



# Agenda

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- Trademarks
- Objectives
- Overview
- Usage & Invocation
- Interactions & Dependencies
- Upgrade & Coexistence Considerations
- Installation & Configuration
- Summary
- Appendix

# Trademarks

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- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
  - None

# Objectives

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- Explain the purpose of working on z/OSMF Workflows

# Overview

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- Who (Audience)
  - z/OSMF Workflows users
- What (Solution)
  - z/OSMF Workflows is enhanced to support to save job output files of the workflow instance to the z/OS Unix file directory.
    - Job output files: The z/OS Unix files to save the content of different job spool files, each job output file corresponds to a job spool file
- Wow (Benefit / Value, Need Addressed)
  - As a workflow user, I can save the job output files of a workflow to the z/OS Unix file directory, so that the user can have a permanent record of the work that was done in the workflow.

# Usage & Invocation – Set "jobsOutputDirectory" in workflow definition

- New optional element *"jobsOutputDirectory"* is added in workflow schema file to indicate the default Unix file directory where to save the job output files.

```
1 <xs:complexType name="workflowInfoType">
2   <xs:sequence>
3     <!-- Workflow contains parallel steps or not -->
4     <xs:element name="parallelSteps" type="workflowBooleanType" default="false" minOccurs="0" maxOccurs="1"/>
5     <!-- Workflow information is not optional -->
6     <xs:element name="workflowID" type="workflowIDType"/>
7     <!-- Workflow Default Name is optional -->
8     <xs:element name="workflowDefaultName" type="nonNullString" minOccurs="0"/>
9     <!-- Workflow description. Displayed on screen. -->
10    <xs:element name="workflowDescription" type="nlsString"/>
11    <!-- Workflow XML document version. Any text. Release/Feature/bug -->
12    <xs:element name="workflowVersion" type="nonNullString"/>
13    <!-- "vendor" can be anything for a non-configuration workflow. -->
14    <xs:element name="vendor" type="nonNullString"/>
15    <xs:choice>
16      <!-- Jobs output directory is optional -->
17      <xs:element name="jobsOutputDirectory" type="nonNullString" minOccurs="0" maxOccurs="1"/>
18    </xs:choice>
19  </xs:sequence>
20 </xs:complexType>
```

- It is also supported in Workflow Editor.

## Workflow Editor

Workflow Definition: /Users/lbt/desktop/tmp/workflow\_sam

Metadata	Steps	Variables	Feedback
In a workflow definition, the metadata is used to identify selected workflow definition.			
* Workflow ID:			
<input type="text" value="parallelStepsSample"/>			
Scope:			
<input type="text" value="None"/>			
<input type="checkbox"/> Callable Workflow			
Job Output Directory:			
<input type="text" value="/testJob"/>			

# Usage & Invocation – Create workflow with "jobsOutputDirectory"

- New field “*Save jobs output*” is added in “Create Workflow” dialog.
- The checkbox is unchecked by default if “jobsOutputDirectory” is not defined in the workflow definition file.

## Create Workflow

Location (system) of definition and variable input files:  
DUMBPlex.DUMBNODE (DUMBNODE\_003)

Workflow definition file:  
/Users/lbt/IBM/V2R4EclDev/IzuW\_flow\_sample\_parallel\_steps.xml

Description:  
Sample that demonstrates the use of save job output files in a workflow.

Vendor:	Version:	Is Callable:
IBM	1.0	Cannot be called by another workflow

\* Workflow name:

Sample that demonstrates the use of save job output files in a workflow. - Workflow\_6

\* Owner user ID:

zosmfad

\* System (where workflow steps will be performed):

DUMBPlex.DUMBNODE (DUMBNODE\_003)

Comments:

\* Access([Learn More](#)):

Public

☒ Save jobs output

Jobs output directory:

/Users/lbt/desktop/testJobOutput

☒ Open workflow on finish ☐ Assign all steps to owner user ID

< Back

Next >

Finish

Cancel

Help

# Usage & Invocation – View "JobsOutputDirectory"

- The jobs output directory is displayed in Workflow Details panel.

▼ Workflow Details

Description:  
Sample that demonstrates the use of save job output files in a workflow.

Is Callable:  
Cannot be called by another workflow

Steps complete:  
0 of 7

Workflow definition file:  
/Users/lbt/IBM/V2R4EcIDev/IzuWorkflowBuild/sampleWorkflows/workflow\_sample\_parallel\_steps.xml

Owner:  
zosmfad

Contains Parallel Steps:  
Yes

Status:  
🟢 In Progress

System of workflow definition file:  
DUMBPLEX.DUMBNODE (DUMBNODE\_003)

System:  
DUMBPLEX.DUMBNODE (DUMBNODE\_003)

Percent complete:  

0%

Access[\(Learn More\)](#):  
🔓 Public

Jobs output directory:  
/Users/lbt/Desktop/testJobOutput



# Usage & Invocation – Modify "jobsOutputDirectory" in workflow

- The jobs output directory can be modified in the “Modify Workflow” dialog.

## Modify Workflow

Description:

Sample that demonstrates the use of save job output files in a workflow.

Vendor:

IBM

Version:

1.0

\* Workflow name:

Sample that demonstrates the use of save job output files in a workflow. - Workflow\_7

\* Owner user ID:

zosmfad

System:

DUMBPlex.DUMBNODE (DUMBNODE\_003)

Comments:

\* Access([Learn More](#)):

 Public

☒ Save jobs output

Jobs output directory:

/Users/lbt/Desktop/testJobOut

OK

Cancel

Help

# Usage & Invocation – Save "job output files" under the directory

- Jobs output directory/files naming convention

*{jobs output directory}/{workflow name}/{job id}-{job name}-{DD name}-{job file id} YYYY-MM-dd HH-mm-ss*

- Example:

The directory to save job output files:

/u/IBMUSER/jobFiles/Sample save job files

The directory is made up of "user-specified path" and "workflow name" .

Filename ^

..

JOB00062-IZUWF04-JESJCL-3 2020-01-15 10-37-14

JOB00062-IZUWF04-JESMSG LG-2 2020-01-15 10-37-14

JOB00062-IZUWF04-JESYSMSG-4 2020-01-15 10-37-14

JOB00062-IZUWF04-STDERR-106 2020-01-15 10-37-14

JOB00063-IZUWF01-JESJCL-3 2020-01-15 10-40-18

JOB00063-IZUWF01-JESMSG LG-2 2020-01-15 10-40-18

JOB00063-IZUWF01-JESYSMSG-4 2020-01-15 10-40-18

JOB00064-IZUWF02-JESJCL-3 2020-01-15 10-41-50

JOB00064-IZUWF02-JESMSG LG-2 2020-01-15 10-41-50

JOB00064-IZUWF02-JESYSMSG-4 2020-01-15 10-41-50

The job output file name:  
"jobid"-"jobname"-"DD name"-"jobfile id" YYYY-MM-dd HH-mm-ss

Job output files for the step "subStep1"

Job output files for the step "subStep2"

# Usage & Invocation — Rest API update

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- Rest API update: a new parameter "jobsOutputDirectory" is added in the response.

POST	/zosmf/workflow/rest/{version}/workflows	Create a workflow
GET	/zosmf/workflow/rest/{version}/workflowDefinition	Retrieve a workflow definition
GET	/zosmf/workflow/rest/{version}/workflows/{workflowKey}	Get the properties of a workflow

**jobsOutputDirectory** (*string, optional*): Name of the UNIX directory that is used for automatically saving job spool files from the workflow.,

# Interactions & Dependencies

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- Software Dependencies
  - None.
- Hardware Dependencies
  - None.
- Exploiters
  - CICS and others

# Upgrade & Coexistence Considerations

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- To exploit this solution, all systems in the Plex must be at the new z/OS level:
  - No.
- List any toleration/coexistence APARs/PTFs.
  - None.
- List anything that doesn't work the same anymore.
  - None.

# Installation & Configuration

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- None.

# Summary

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- The following z/OS V2R5 z/OSMF Workflows item has been explained:
  - Support saving job output in z/OSMF Workflows

# Appendix

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- Book updates
  - z/OSMF Programming Guide