Configuring

Configuring / Preparing to use workflows / External steps / Setting up step templates for external steps / Setting up step templates for external steps that use the command line or control files

Setting up step templates for external steps that use the command line or control files

Use this process to set up a step template for external steps that use the command line or a control file to pass parameters between RICOH ProcessDirector and the external program.

To set up a step template for an external step:

1. Click the **Workflow** tab.
2. In the left pane, click **Step templates**.
3. Right-click the **RunExternalProgram** step template and select **Copy**.
4. Specify a name and description for the new step template.
5. Click **External**.
6. Update the **External command** property.
   This is the actual command and any command-line parameters that RICOH ProcessDirector issues to run the external program. The command string can include RICOH ProcessDirector symbol notation:
   - In this example, the Linux `cp` command only copies the *JobNumber*`.print.pdf` file from the spool directory for the job when the source file is newer than the destination file:
     `cp -u ${getAbsoluteFileName(print, pdf, read)} /tmp/jobarchives`

     Note:
     - **${getAbsoluteFileName(print, pdf, read)}** is the RICOH ProcessDirector symbol formula that returns the name of the PDF print file in the spool directory. If the PDF print file does not exist in the spool directory when the external program runs, an error occurs.
   - In this example, the external program **myprogram** reads the *JobNumber*`.print.pdf` file from the spool directory and writes an updated version of the file to the spool directory using redirection:
     `myprogram -i ${getFileName(print, pdf, read)} > ${getFileName(print, pdf, write)}`

     Note:
     - **${getFileName(print, pdf, read)}** is the RICOH ProcessDirector symbol formula that returns the name of the PDF print file in the spool directory. If the PDF print file does not exist in the spool directory when the external program runs, RICOH ProcessDirector returns the name of the input file for the job, which is *JobNumber*`.print.unknown`. If that file does not exist in the spool directory, an error occurs.
   - In this example, the external program **auditstatistics** reads the *JobNumber*`.overrides.text` file from the spool directory and writes a new statistics file *JobNumber*`.statistics.text` to the spool directory:
     `auditstatistics inputfile=${getFileName(overrides, text, read)}`
     `outputfile=${getFileName(statistics, text, write)}`
   - In this example, the external program **line2afp** uses a separate parameter file for which a corresponding RICOH ProcessDirector control file exists if the AFP Support feature is installed. The control file specifies a RICOH ProcessDirector method that instructs the external program to write its output to the spool directory:
     `line2afp parmdd=${getControlFileName()}`

     Note:
     - **${getControlFileName()}** is the RICOH ProcessDirector symbol formula that returns the name of the resolved control file. RICOH ProcessDirector generates the control file from the control file template that you specify.
     - The control file can use the **getChildFileName** method to return the name of a child file so that the external program can write a file to the **children** subdirectory in the spool directory. The external program must write the file names of child-job files in this format:
       JobNumber`.`*UsageType*`.`*DataType*`.`*n*`,Job.JobType=`*WorkflowName*
       WorkflowName is the name of the workflow that the child job requires. The workflow must exist and it must be enabled.
     - When you add a step based on the **RunExternalProgram** step template to a workflow, the properties that show **[Receive]** in the job defaults change to reflect the actual phase to which you add the step.
   - In this example, the external step uses the Windows `copy` command to write a copy of the *JobNumber*`.print.pdf` file from the spool directory to an archive directory on the Windows system:
     `copy ${getAbsoluteFileName(print,pdf,read)} d:\archive\pdf`

Note:

- The Windows system must have either the base product or an application server installed. The application server must be connected to the primary server.
- Specify the Windows directory by using the native Windows format for the directory name.
- Use native Windows commands instead of SFU commands where appropriate; for example, use the `copy` command instead of the `cp` command. Not all SFU commands are available on Windows systems.
- Depending on the command, a directory on the Windows system might not need to exist. The command can create the directory on the Windows system.
- Make sure that you tune the step template to only run on a Windows application server. Because of the different formats for directory names on Linux, a step based on this step template will fail if RICOH ProcessDirector tries to run the step on a non-Windows system.

7. If you created a control file template for use with the external program, update the **External control file template** property. Set the value to the directory location and name of the control file template. If the external program only receives its parameters as command line arguments, delete any value for this property.
8. Update the **Valid return codes** property.
   In this context, a valid return code is any return code from the external program that does not require a user action. Separate multiple return-code numbers with commas. For any return code from the external program that the value for this property does not include, RICOH ProcessDirector moves the job to the error state. It also issues a message in the log for the job to alert you to a problem that the external program reported.
   For example, if the value of the valid-return-codes property is `0,4`, and the external program finishes with a return code of `16`, RICOH ProcessDirector issues a message similar to this:
   AIWI6073E External step cp /aiw/aiw1/spool/default/10000016/10000016.print.unknown /archive/directory finished with a return code of 16, which is a defined as an error.
9. If the installation has specific language requirements, you can also instruct the external program to return messages in a language that it supports. The list for the **External program language** property lists the languages that RICOH ProcessDirector supports.
10. Click **OK**.
11. Update any settings on the **Tuning** tab to run the step on the computers where the external program is installed.
12. Right-click the new step template and select **Enable** .

Parent topic: Setting up step templates for external steps