Output Agent

Installation and Setup Guide

Version: Foundation EP1

Environment: Linux

Written by: Product Knowledge, R&D
Date: March 2021

Hyland

Copyright

Information in this document is subject to change without notice. The software described in this document is furnished only under a separate license agreement and may be used or copied only according to the terms of such agreement. It is against the law to copy the software except as specifically allowed in the license agreement. This document or accompanying materials contains certain information which is confidential information of Hyland Software, Inc. and its affiliates, and which is subject to the confidentiality provisions agreed to by you.

All data, names, and formats used in this document's examples are fictitious unless noted otherwise. Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright law, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Hyland Software, Inc. or one of its affiliates.

Hyland® and Hyland Software®, as well as Hyland product names, are registered and/or unregistered trademarks of Hyland Software, Inc. and its affiliates in the United States and other countries. All other trademarks, service marks, trade names and products of other companies are the property of their respective owners.

© 2021 Hyland Software, Inc. and its affiliates. All rights reserved.

Table of Contents

Copyright **2**
Output Agent for Linux Overview **4**
Install Output Agent **4**
Download the Output Agent files 4
Install the Output Agent files 5
License Output Agent 5
Configure Output Agent **5**
About configuring Output Agent 6
Configure the Output Agent service 6
Manually create a keyfile 7
Troubleshoot Output Agent **7**
Appendix A: inserverOutput.ini for Linux **8**
Appendix B: Variables to Create Export File Names **14**

Output Agent for Linux Overview

This document provides instructions for installing and configuring Output Agent on Linux.

Output Agent is a server-side process that lets you output Perceptive Content documents on a job-by-job basis or in a batch. Output Agent outputs copies of Perceptive Content documents, called output files. The Perceptive Content documents remain unaltered within the Perceptive Content repository. Using Output Agent, you can output documents directly to a file. You can also export files in various formats, including JPEG and raster PDF, and then print the exported files at any time.

To have Output Agent output files, you can use iScript to submit an output job to Output Agent or to automatically create a keyfile that specifies the documents you want Output Agent to output. You can also manually create a keyfile, which is described in the "Manually create a keyfile" section later in this document. For details about using iScript to output files from Output Agent or to automatically create a keyfile, refer to documentation about the submitToPrintServer method in the INDocument help.

Note When exporting records, you cannot submit an output job to Output Agent using keyfiles or iScripts that use keys to look up objects.

Using values in a keyfile, Output Agent returns matching documents stored in Perceptive Content and then outputs them using the specified parameters from the inserverOutput.ini configuration file. Output Agent monitors a specified directory for keyfiles. When a new keyfile appears in the monitored directory, Output Agent recognizes it and then processes it.

You configure Output Agent using the inserverOutput.ini file located in the $(IMAGENOWDIR)/etc folder. Appendix A, "inserverOutput.ini", provides detailed descriptions about the settings for Output Agent, as well as the available options for each setting. In the configuration file, you can specify output variables for Output Agent to generate file names for output files. Appendix B lists the available variables.

The Windows version of Output Agent contains more functionality than the Linux version at this time. For example, the following actions are not available on Linux but are available on Windows:

- Convert non-image formats such as TXT, DOC, and XLS.
- Output printer data, annotations, headers, and DICOM.

Important This document assumes you are installing Output Agent for the first time in this environment or that you have no earlier versions running on the computer. When using records functionality or Retention Management, only one Output Agent can be installed. To update or upgrade Output Agent from a previous version, refer to the *Update ReadMe* document.

Before you install Output Agent, perform the following readiness checks:

- Obtain the IP address and port number of Perceptive Content Server.
- Ensure that you have sufficient disk space for binaries and object storage.

Install Output Agent

This section details the installation process for Output Agent on a Linux environment. The installation process requires downloading and installing the Output Agent files, and licensing Output Agent.

Download the Output Agent files

To obtain Perceptive product installation files, contact the Hyland Software Technical Support group. For a list of Technical Support phone numbers, go to hyland.com/pswtscontact.

Install the Output Agent files

The following steps explain how to install Output Agent files on your server.

1. Access a command prompt with root permissions.
2. Copy the compressed tarball to the directory where you want to install Output Agent. The default directory is **inserver**.
3. Type **tar -xzvf OutputAgent_Linux64_VERSION#.BUILD#.tar.gz** and press ENTER. The system creates the file folder **$(IMAGENOWDIR)/output_agent**, which contains the following folders:
   - Export – directory to store exported documents
   - Monitor – directory to check for new output keyfiles
   - Moved – directory to store keyfiles that have been executed

License Output Agent

When you purchase Output Agent, you request a license from you Perceptive Software representative, who can send you a license file. Before authenticating the license, you must install the Perceptive Content Server and at least one Perceptive Content Client. Only a user with privileges to manage licenses can complete this task.

The following steps explain how to license your copy of Output Agent. These steps must be completed on a Windows computer that has an Perceptive Content client installed.

1. Copy the license file provided by your Perceptive Software representative to a temporary folder where you can access it with an Perceptive Content Client.
2. On the **Start** menu, point to **All Programs**, point to **Perceptive Content**, and then click **Perceptive Content**.
3. In the **Perceptive Content** login, click **License Manager**.
4. In the **License Management** dialog box, select **Upload licenses** and click **OK**.
5. Browse to the license file from its temporary directory, click **Open**, and then **OK**.
6. In the **License Generation - Server Information** dialog box, perform the following substeps:
   1. In the **User ID and Password** boxes, type your user name and password.
   2. In the **Server Name or IP Address** box, type the Perceptive Content Server computer host name or IP address.
   3. In the **Port Number** box, type the port number of the Perceptive Content Server computer host.
   4. Click **OK**.
7. In the **License Upload** dialog box, verify the status of the license is **SUCCESS** and click **Close**.

   Note For an explanation of why the license upload succeeded or failed, click **Details**.

Configure Output Agent

This section details the configuration process for Output Agent on a Linux environment. After you install Output Agent, you must configure the inserverOutput.ini file and, if you do not use iScript, manually define a keyfile.

About configuring Output Agent

You configure the Output Agent service using the inserverOutput.ini file. Not all of the settings in the inserverOutput.ini file apply to a Linux environment. In addition to the information provided in the "Configure the Output Agent service" section of this document, you can find information about each inserverOutput.ini file setting in Appendix A.

A keyfile can specify the documents you want Output Agent to locate in Perceptive Content and output based on the parameters you specify in the inserverOutput.ini file. Depending on your business needs, you can manually create a keyfile, use iScript to automatically generate a keyfile, or use iScript to automatically generate an Output Agent job for output. This section focuses on manually creating a keyfile. For details about using iScript, refer to documentation about the submitToPrintServer method in the INDocument help topic.

Configure the Output Agent service

The following steps explain how to configure the Output Agent service using the inserverOutput.ini file.

1. In the **$(IMAGENOWDIR)/etc** directory, locate the **inserverOutput.ini** file and open it in a text editor.
2. To set up Output Agent to be remotable, under **[Remote]**, configure the remote settings so that you provide the IP address or name and the port number for Perceptive Content Server.
3. Under **[Monitor]**, perform the following substeps:
    1. For **monitor.path**, change the default to **$(IMAGENOWDIR)/output_agent/monitor** or specify a different directory where Output Agent checks for new output keyfiles.
    2. For **monitor.extension**, keep the default **txt**, or specify a new file extension for Output Agent to use to check for output keyfiles.
4. Under **[General]**, perform the following substeps:
    1. Set **output.mode** to **EXPORT**.
    2. For **keyfile.move.path**, change the default to **$(IMAGENOWDIR)/output_agent/moved** or specify a different directory where Output Agent stores executed keyfiles.
5. Under **[Printer]**, do not change the settings.
6. Under **[Dicom]**, do not change the settings.
7. Under **[Export]**, perform the following substeps:
    1. Set the output file type for **export.file.type**. For a list of the most commonly used output file formats, reference the [Export] group in Appendix A.
    2. Set **export.file.extension** to match the output file type, such as **TIFF**.
    3. For **export.file.directory**, change the default path to **$(IMAGENOWDIR)/output_agent/export** or specify a new location. The path you specify does not need to be on the local file system. Perceptive Content must have write permissions for the specified location. Also, the entire file path, which includes the file name and extension, cannot exceed the character limit set by your operating system.
    4. Set **export.filename.format** to include the text and variables you want to use to create the name of the exported file. For example, you can set **export.filename.format** to **[FIELD1]_[FIELD2]_[FIELD3]_[FIELD4]**. Additional examples are provided in Appendix B, "Variables to Create Export File Names."

Note File names must not contain spaces or the following characters: \ / : * ? " < > |. If any of these characters appears in a file name, Output Agent replaces the characters with dashes.

8. Under **[Layout]**, change **layout.annotations.show** to **FALSE**, leave **layout.header** undefined, and change any other setting to modify the layout format as needed.
9. Under **[Logging]**, you can set debug levels for auditing or troubleshooting. The default is 0 (no logging). Unless you are troubleshooting an issue, set minimal logging.
10. Save your changes to the configuration file and close it.
11. Start the **Output Agent** service by performing the following substeps:
    1. Navigate to the **$(IMAGENOWDIR)/bin** directory.
    2. To set up environment variables for the Perceptive Content binaries, run **. ./setenv.sh**.
    3. Enter the **./inserverOutput -start <*instance name*>** command. The instance name is assigned when you install the service. You must identify which installed instance of the service you are starting.

Manually create a keyfile

To manually create a keyfile, perform the following steps.

1. Using a text editor, create a file in a temporary location.
2. Using the following guidelines, type a row in the file that defines each document key value you want Perceptive Content to search and return matching Perceptive Content documents:
   - Use the structure DRAWER^FIELD1^FIELD2^FIELD3^FIELD4^FIELD5^DOCTYPE^DOCNAME.

     Any combination of values can remain blank. For more information, review Example 1 and Example 2.

     Example 1. The following row returns all documents in the AP drawer that have a Field1 value of 12345:

     ```
     AP^12345
     ```

     Example 2. The following row returns all documents in the AP drawer with a Field2 value of 12345, regardless of the Field1 value:

     ```
     AP^^12345
     ```
3. Using the file extension specified for the **monitor.extension** setting in the **inserverOutput.ini** file, save and close the file. The default file extension for the **monitor.extension** setting is **TXT**.
4. Move the text file to the folder specified for the **monitor.path** setting in the **inserverOutput.ini** file.

Troubleshoot Output Agent

Perceptive Content Server provides logging specifically for troubleshooting output issues. Log files for Output Agent reside in the $(IMAGENOWDIR)/log folder. Log files are named as inserverOutput_<*instance name*>_<*date*>.log so you can easily identify the file you need. Log files show information about output jobs submitted to Output Agent through iScript and for an output batch submitted

to Output Agent through a keyfile. The [Logging] group in the inserverOutput.ini file contains the settings you must adjust to control logging verbosity levels and to turn logging on or off. For details about settings in the [Logging] group, refer to Appendix A.

The Diagnostics feature in Management Console also enables you to monitor Output Agent sessions. For details, refer to product help about diagnostics.

If iScript submits an output job to Output Agent, you can review the status of the job in Job Manager in addition to checking log files for information. For details about Job Manager, refer to product help.

Appendix A: inserverOutput.ini for Linux

The following table provides definitions and sample data for the settings in the inserverOutput.ini configuration file. This table displays the INI settings under group headings in brackets, for example, [Remote], in the order the groups appear in the INI file. The available settings are grouped and defined in the table below, and each setting offers two or more options, which are also identified in the table. Use this table as a guide when customizing the file.

Note The following inserverOutput.ini [Layout], [Printer], and [DICOM] settings only apply to Output Agent running in a Windows environment. Although these settings appear in the inserverOutput.ini file in a Linux environment, they are not functional.

- [Layout]
  - layout.annotations.show
  - layout.header
- [Printer]
  - printer.input.tray
  - printer.name
  - printer.driver
  - printer.downscale.color.mode
  - printer.diffuse.black.level.threshold
  - printer.rotate.to.best.fit
- [Dicom]
  - dicom.ip
  - dicom.port
  - dicom.store.title
  - dicom.external.title

Group	Setting	Options	Description
Remote	server.ip.address	Any valid IP address	Specifies the IP address of Perceptive Content Server. The default is specified during installation.

Group	Setting	Options	Description
	server.ip.port	Any existing port number	Specifies the port number of Perceptive Content Server. The default is specified during installation.
	reconnect.interval	Any positive integer	Specifies how many seconds Output Agent waits before attempting to reconnect to Perceptive Content Server after a lost connection. **Note** Do not change this value without first consulting Product Support. The default is 60.
Documents	search.maxresults	Any positive integer	Specifies the maximum number of results that Output Agent outputs. The default is 250000. **Note** The odbc.grid.max.fetch.count setting in the inow.ini file for Perceptive Content Server can also limit the results.
Monitor	poll.interval	Any positive integer	Specifies how often, in seconds, Output Agent searches the directory specified for the monitor.path setting for new output keyfiles. **Note** Do not change this value without first consulting Product Support. The default is 15.
	monitor.path	Any valid directory	Specifies the path to the directory where Output Agent checks for new output keyfiles. The default is $(IMAGENOWDIR)\output_agent\monitor.
	monitor.extension	Any valid file extension	Specifies the file extension that Output Agent uses to check for output keyfiles. The default is txt.
General	keyfile.delete	TRUE FALSE	Specifies whether Output Agent deletes the keyfile from the monitor directory after it runs a query. TRUE = Delete the keyfile. FALSE = Do not delete the keyfile. The default is TRUE.

Group	Setting	Options	Description
	keyfile.move	TRUE FALSE	Specifies whether Output Agent moves the keyfile after it runs a query. TRUE = Moves the keyfile to the directory specified for the keyfile.move.path setting. FALSE = Do not move the keyfile. The default is TRUE. **Note** If set to TRUE, keyfile.move.path is required.
	keyfile.move.path	Any valid directory	Specifies the directory that Output Agent uses to store executed keyfiles. The default is $(IMAGENOWDIR)\output_agent\moved. **Note** If keyfile.move is set to TRUE, this setting is required.
	keyfile.encoding	ANSI UTF-8	Specifies the expected keyfile encoding. The default is ANSI.
	output.mode	EXPORT	Specifies the output mode that Output Agent uses. No default is specified. **Note** PRINTER and DICOM are not available on Linux.
	output.incomplete.mailto	Any text string	Specifies the email address that receives notifications when page rendering or any other output process does not complete. The default is blank. **Note** Using a comma-delimited list, you can specify multiple email addresses.
Layout	layout.dpi.max	DPI	Specifies the resolution, in dots-per-inch (DPI), that Output Agent uses for output pages. The default is 300.
	layout.units	IMPERIAL METRIC PIXELS	Specifies the units of measurement that Output Agent uses. IMPERIAL = Inches METRIC = Millimeters PIXELS = Pixels The default is IMPERIAL.

Group	Setting	Options	Description
	layout.margin	Any range in the unit specified for the layout.units setting	Specifies the margin space that Output Agent uses for output pages. The default is 0. **Note** The layouts.units setting determines the unit of measurement used for the margin space.
	layout.pages.per. sheet	Any positive integer	Specifies the number of pages that Output Agent outputs per sheet. The default is 1.
	layout.pages.per. sheet.spacing	Any range in the unit specified for the layout.units setting	Specifies the spacing that Output Agents uses between output sheets. The default is 0.25. **Note** The layouts.units setting determines the unit of measurement used for the spacing.
	layout.pages.per.row	Any positive integer	Specifies the number of output pages per row that Output Agent uses for each output sheet. The default is 1.
	layout.width	Any range in the unit specified for the layout.units setting	Specifies the width that Output Agent uses for output sheets. The default is 8.5. **Note** The layouts.units setting determines the unit of measurement used for the width.
	layout.height	Any range in the unit specified for the layout.units setting	Specifies the height that Output Agent uses for output sheets. The default is 11. **Note** The layouts.units setting determines the unit of measurement used for the height.
	layout.color.depth	Any positive integer representing bits	Specifies the color depth, in bits per pixel, that Output Agent uses for output sheets. The default is 24.
	layout.color.mode	COLOR GRAYSCALE	Specifies whether Output Agent uses color or grayscale for output sheets. The default is COLOR.

Group	Setting	Options	Description
Export	export.file.type	The following file formats are most commonly used: 2 3 6 10 11 17 27 29 75 87 146 147 149 150	Specifies the file type that Output Agent uses for output files. The following file formats are most commonly used: 2 = GIF 3 = TIFF 6 = Windows BMP 10 = JPEG 75 = PNG 11 = TIFF with JPEG compression 17 = TIFF with LZW compression 27 = TIFF with G3 compression 29 = TIFF with G4 compression 87 = TIFF with RLE compression 146 = Raster PDF uncompressed 147 = Raster PDF with G3 compression 149 = Raster PDF with G4 compression 150 = Raster PDF with JPEG compression The default is 17.
	export.file.extension	The following file extensions are most commonly used: GIF BMP JPG PDF PNG TIFF	Specifies the file extension that Output Agent uses for exported files. The default is TIFF.
	export.file.directory	Any valid directory	Specifies the directory that Output Agent uses to store exported files. The default is $(IMAGENOWDIR)\output_agent\export.

Group	Setting	Options	Description
	export.filename. format	Any valid text string or the variables listed in Appendix B, “Variables to Create Export File Names.”	Specifies the naming scheme that Output Agent uses for exported files. You can define one or more variables and choose to include text for Perceptive Content to generate the file name of an exported document. Enclose variables in brackets. You can separate text and variables with underscores (such as [DOCID]_Page_Number_[PAGENUM]) to make the file name easier to read. You can also specify the width of some variables (such as [%0<a positive integer>[PAGENUM]). Defining the width of a variable helps with file organization when you export multiple files. For more information, refer to Appendix B, “Variables to Create Export File Names.” The default is OutputAgent_[DOCID]_[PAGENUM].
	export.multipage. document	TRUE FALSE	Specifies whether Output Agent appends exported files when export.filename.format matches an existing file name. TRUE = Append exported files to existing documents. FALSE = Do not append exported files. The default is FALSE.
	export.file.dpi	Any positive integer	Specifies the dots-per-inch (DPI) that Output Agent uses for exported files. The default is 150.
Logging	debug.level.file	0, 1-6, 9	Specifies the level that Output Agent uses to log errors for troubleshooting. 0 = Turn off logging. 1 = Use the least verbose logging. 6 = Use the most verbose logging. This logging shows the amount of time Output Agent uses to execute calls such as queries from the server to the database. 9 = Turn on logging for timing image processing. The default is 0.

Group	Setting	Options	Description
	debug.level.pipe	0, 1-3, 6	Specifies the level that Output Agent uses to log pipe errors for troubleshooting. 0 = Turn off logging. 1 = Use the least verbose logging. 6 = Use the most verbose logging. The default is 0.
	socket.level.file	1 0	Specifies whether to log communication between Perceptive Content Server and Output Agent. 1 = Log communication. 0 = Do not log communication. The default is 0.

Appendix B: Variables to Create Export File Names

The following table lists variables you can use to define file names of exported Perceptive Content documents, called output files. You specify these variables for the export.filename.format setting in the [Export] group of the inserverOutput.ini file.

You can define one or more variables for Perceptive Content to generate the file name of an output file. You can also provide static text for part of the file name. Enclose variables in brackets. You can separate text and variables with underscores (such as [DOCID]_Page_Number_[PAGENUM]) to make the file names easier to read. You can also specify the width of some variables (such as [%0<*a positive integer*>PAGENUM]). Defining the width of a variable helps with file organization when you export multiple files to a folder. The entire file path, which includes the file name and extension, cannot exceed the character limit set by your operating system. For example, Windows XP allows a file path up to 255 characters in length.

Note that an Perceptive Content document is a single document object that can contain multiple files created by various applications. For example, you might process an Perceptive Content document that contains a two-page Word document, a five-page Excel workbook, a two-page email, and a four-page fax. Furthermore, an exported file is a copy of an Perceptive Content document that remains unaltered within the Perceptive Content repository.

You can specify the following variables for Perceptive Content to generate file names for output files created from Perceptive Content documents:

Variable	Description
[DOCID]	Names an exported Perceptive Content document with its Document ID.
[DOCNAME]	Names an exported Perceptive Content document with its Perceptive Content name.
[DRAWER], [FIELD1], [FIELD2], [FIELD3], [FIELD4], [FIELD5], or [DOCTYPE]	Names an exported Perceptive Content document with its specified document keys.

Variable	Description
[DOCNUM]	Names an exported Perceptive Content document with the sequence number of the document processed. **Note** This variable applies only to keyfile output.
[%0<*a positive integer*>DOCNUM]	Names an exported Perceptive Content document with a unique value while specifying a width for the value. For example, if you assign the variable [%03DOCNUM] and Perceptive Content assigns the exported file as the fifth exported file, the document number included in the exported file name is 005.
[ACTUALPAGENUM]	Names each page of an exported Perceptive Content document with a unique value. For example, a document with 5 pages is exported as 5 files with file names that include the following: 1, 2, 3, 4, and 5.
[%0<*a positive integer*>ACTUALPAGENUM]	Names each page of an exported Perceptive Content document with a unique value while specifying a width for the value. For example, if you assign the variable [%03ACTUALPAGENUM], a Perceptive Content document with 5 pages is exported as 5 files with file names that include the following: 001, 002, 003, 004, and 005.
[PAGENUM]	Names each file of an exported Perceptive Content document with a unique value. For example, a Perceptive Content document that contains the file types PDF, DOC, TIFF, and PNG is exported as 4 files with file names that include the following: 1, 2, 3, and 4.
[%0<*a positive integer*>PAGENUM]	Names each file of an exported Perceptive Content document with a unique value while specifying a width for the value. For example, if you assign the variable [%03PAGENUM], a Perceptive Content document that contains the file types PDF, DOC, TIFF, and PNG is exported as 4 files with file names that include the following: 001, 002, 003, and 004.
[SHEETNUM]	Names each exported sheet, or output page, that contains multiple pages of a Perceptive Content document with a unique value. **Note** You define the number of pages exported per sheet for the layout.pages.per.sheet setting in the [Layout] group.
[%0<*a positive integer* >SHEETNUM]	Names each exported sheet that contains multiple pages of a Perceptive Content document with a unique value while specifying a width for the value. For example, if you define the export.filename.format setting as [%03SHEETNUM], and you define the layoutpages.per.sheet setting as 4, a Perceptive Content document that contains 4 pages is exported as one sheet with a file name that includes 001.