Perceptive Content External OSM Plugin

Best Practices

Version: Foundation EP3

Written by: Product Knowledge, R&D
Date: December 2020

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.

© 2020 Hyland Software, Inc. and its affiliates. All rights reserved.

Table of Contents

Copyright **2**
Configure external OSM plugins **4**
Configuring a cache OSM 4
Create a cache OSM set *4*
Create the cache OSM tree (FSS) *4*
Connect the cache OSM set to the cache OSM tree (FSS) *5*
Configuring the primary OSM (EXT) 6
Create an external OSM plugin *6*
Creating an OSM set *6*
Create the primary OSM tree (EXT) *7*
Connect the primary OSM set to the primary OSM tree (EXT) *8*
Enable asynchronous write caching *8*
External OSM plugin configuration settings 9
AcuoStore plugin *9*
Centera plugin *10*
File System plugin *11*
IXOS plugin *11*
Amazon S3 plugin *12*

Configure external OSM plugins

External OSM plugins allow Perceptive Content administrators to configure their storage backend. The OSM framework allows easy access to various storage backends through an extensible model. Perceptive Content communicates with the underlying storage system through a dynamic linked library (DLL) plugin. The plugin library then retrieves, stores, or deletes files through direct communication with the underlying storage system.

Plugins are loaded from external OSM sets to facilitate configuration. External OSM sets are designated by the OSM Integration Type value 2 (EXT). We recommend that you use a cache OSM set with each external OSM set.

Note If a set has been designated as a reference set, or a primary set with caching or subobjects, you cannot add a filter that redirects documents to that OSM set.

Configuring a cache OSM

A cache OSM File System Storage (FSS) temporarily stores documents locally that you upload to your system. This allows the system to access the most recent documents that you have uploaded more quickly than retrieving them from the primary OSM (EXT).

Create a cache OSM set

Complete the following steps to create your cache OSM set.

1. In a **Command Prompt** window, navigate to the **[*drive*:]\inserver\bin64** directory.
2. Run the `intool --cmd add-osm-set` command.
3. Complete the following system prompts.
   - **OSM Set name**. Enter a name for the cache OSM set.
   - **OSM Set Location Type**. Enter `1`. This represents the On_Line location.
   - **OSM Set Type**. Enter `0`. This represents a mixed set.
   - **OSM Set Description**. Enter a description for the cache OSM set.
   - **Sub Object OSM Set Type**. Press ENTER. This is an empty value.
   - **Notes**. Enter any notes related to the cache OSM set.
   - **OSM Integration Type**. Enter `0`. This represents FSS.
   - **Cache OSM Set Name (leave blank to disable caching)**. Press ENTER. This empty value disables caching.

Result A confirmation message appears when the OSM set is added.

Create the cache OSM tree (FSS)

To create an OSM tree for an OSM set, complete the following steps.

1. In a **Command Prompt** window, navigate to the **[*drive*:]\inserver\bin64** directory.
2. Run the `intool --cmd add-osm-tree --type FSS` command.

3. Complete the following system prompts.
   - **OSM Tree Name**. Enter a name for the cache OSM tree.
   - **OSM Set Name**. Enter the OSM set name that was used for the cache OSM set.
   - **OSM Tree Description**. Enter a description for the cache OSM tree.
   - **Enter Mirror On**. Enter `0` to turn off mirroring.
   - **OSM Tree Path**. Enter a valid path for the tree you just created. For example, `[<drive>]:\inserver\osm_99.00001`.
   - **OSM Tree Next Slot**. Enter a slot value. For example, `00000000/00000000/00000000`.
   - **Enter Media Type**. Enter `0` for magnetic media type.
   - **Files Per Directory in OSM Tree**. Enter a numeric value.
   - **Retries**. Enter a numeric value.
   - **Delay**. Enter a value for the number of seconds to delay before a retry.

Result A confirmation message appears when the OSM tree is added.

Connect the cache OSM set to the cache OSM tree (FSS)

After you create the cache OSM set and the OSM tree, you must complete the steps to point the set to the tree. To connect the previously created OSM set to the OSM tree, complete the following steps.

4. In a **Command Prompt** window, navigate to the **[*drive*:]\inserver\bin64** directory.
5. Run the `intool --cmd update-osm-set` command.
6. Complete the following system prompts.
   - **OSM Set Name**. Enter the OSM set name that was used for the cache OSM set.
   - **OSM Set New Name**. Enter the OSM set name that was used for the cache OSM set.
   - **OSM Set Location Type**. Enter `1`. This represents the On_Line location, which is the same value that was entered as the Set Location Type for the cache OSM set.
   - **OSM Set Type**. Enter `0`. This represents a mixed set, which is the same value that was entered as the Set Type for the cache OSM set.
   - **OSM Set Description**. Enter the description that was used for the cache OSM set.
   - **Sub Object OSM Set Name**. Press ENTER. This is an empty value.
   - **Writable OSM Tree Name**. Enter the OSM tree name that was entered for the cache OSM tree.
   - **Notes**. Enter any notes related to the cache OSM tree.
   - **OSM Integration Type**. Enter `0`. This represents FSS.

Result A confirmation message appears when the OSM set is updated.

Configuring the primary OSM (EXT)

There are two types of external sets: primary and reference. A primary OSM (EXT) provides a permanent storage space for your documents that is both readable and writeable. Once documents leave your cache OSM, if your primary set has a write cache, they move to the permanent storage provided by the external OSM set. A reference OSM is used during migration and allows read-only access to objects stored in an extant storage solution. You should create OSM reference sets if performing an in-place migration and have an import solution.

Create an external OSM plugin

Before you can create the primary external OSM set, you must first define the dynamic linked library (DLL) for the FSS cache OSM set. To create the external OSM plugin, complete the following steps.

7. In a **Command Prompt** window, navigate to the **[*drive*:]\inserver\bin64** directory.
8. Run the `intool --cmd add-osm-plugin` command.
9. Complete the following system prompts.
    - **OSM Plugin Name**. This name must match the name of the DLL or SO object file. For **acuostore.dll / acuostore.so**, enter `acuostore`.
    - **OSM Plugin Description**. Enter a value, for example, `AcuoStore OSM Plugin`.
    - **Enter plugin property (y/n)?**. Stores a key/value setting for all external OSM sets that utilize this plugin. Refer to **External OSM plugin configuration** for a list of plugin specific settings.
    - **Plugin Property Key**. Enter a plugin property key. For example, `BaseURI`.
    - **Plugin Property Value**. Enter a plugin property value. For example, `https://restserver.hyland.com:8090`.

Result The system displays the following message: OSM plugin was added successfully.

Creating an OSM set

Depending on the type of plugin, you can create a primary OSM set (EXT) or OSM reference set.

Create a primary OSM set (EXT)

To create a primary OSM set, complete the following steps.

10. In a **Command Prompt** window, navigate to the **[*drive*:]\inserver\bin64** directory.
11. Run the `intool --cmd add-osm-set` command.
12. Complete the following system prompts.
    - **OSM Set Name**. Enter a name for the primary OSM set.
    - **OSM Set Location Type**. Enter `0`. This represents an undefined location type.
    - **OSM Set Type**. Enter `0`. This represents a mixed set, which is the same value that was entered as the Set Type for the cache OSM set.
    - **OSM Set Description**. Enter the description that was used for the cache OSM set.
    - **Sub Object OSM Set Name**. Press ENTER. This is an empty value.
    - **Notes**. Enter any notes related to the primary OSM set.

- **OSM Integration Type**. Enter `2`. This represents EXT.
- **Cache OSM Set Name (leave blank to disable caching)**. Enter the set name that you entered for the FSS cache OSM set.

Result A confirmation message appears when the OSM set is added.

Create an OSM reference set

Reference sets allow you to retrieve a document with pages that refer to content previously created or captured by another system. After you have added a read-only OSM plugin, you must create a reference OSM set for attaching and retrieving reference objects. To create an OSM reference set, complete the following steps.

13. In a **Command Prompt** window, navigate to the **[*drive*:]\inserver\bin64** directory.
14. Run the `intool --cmd add-osm-set --reference` command.
15. Complete the following system prompts.
    - **OSM Set Name**. Enter a name for the reference OSM set.
    - **OSM Set Location Type**. Enter `0`. This represents an undefined location type.
    - **OSM Set Description**. Enter the description that was used for the OSM set.
    - **Sub Object OSM Set Name**. Press ENTER. This is an empty value.
    - **Notes**. Enter any notes related to the reference OSM set.
    - **Cache OSM Set Name (leave blank to disable caching)**. Enter the cache set name or leave blank to disable caching.

Result A confirmation message appears when the OSM set is added.

Note Add a primary OSM tree (EXT) using the OSM Set Name for the tree's OSM Set Name option. Once you create the primary OSM tree (EXT), you do not need to complete the Connect the primary OSM set to the primary OSM tree (EXT) steps.

Create the primary OSM tree (EXT)

To create the permanent OSM tree, complete the following steps.

16. In a **Command Prompt** window, navigate to the **[*drive*:]\inserver\bin64** directory.
17. Run the `--cmd add-osm-tree --type EXT` command.
18. Complete the following system prompts.
    - **OSM Tree Name**. Enter a name for the primary OSM tree.
    - **OSM Set Name**. Enter the name that was used for the OSM set.
    - **OSM Tree Description**. Enter a description for the primary OSM tree.
    - **OSM Plugin Name**. Enter the name that was used for the external OSM plugin.
    - **Enter plugin property (y/n)?**. Stores a key/value setting for all external OSM sets that utilize this plugin. Refer to **External OSM plugin configuration** for a list of plugin specific settings.

- **Property Key**. Enter a property key. For example, `BaseURI`**.**
- **Plugin Property Value**. Enter a plugin property value For example, `https://restserver.hyland.com:8090`**.**

Result A confirmation message appears when the OSM plugin is added.

Connect the primary OSM set to the primary OSM tree (EXT)

To point the external OSM set to the OSM tree, complete the following steps.

19. Run the `intool --cmd update-osm-set` command.
20. Complete the following system prompts.
    - **OSM Set Name.** Enter the value that was used for the EXT OSM set.
    - **OSM Set Location Type.** Enter `0`. This represents an undefined location type.
    - **OSM Set Type.** Enter `0`. This represents a mixed set type.
    - **OSM Set Description.** Enter the value that was used when creating the EXT OSM set.
    - **Sub Object OSM Set Name.** Press ENTER. This is an empty value.
    - **Writable OSM Tree Name.** Enter the value that was used when creating the OSM tree.
    - **Notes.** Enter any related notes.
    - **OSM Integration Type.** Enter `2`. This represents EXT.

Result A confirmation message appears when the OSM set is added.

Enable asynchronous write caching

To enable read and write access to the EXT OSM, complete the following steps.

This procedure is optional.

21. In a **Command Prompt** window, navigate to the **[*drive*:]\inserver\bin64** directory.
22. Run the `intool --cmd update-osm-cache --permanent-osm-set osm_90 --cache-level read-write` command.

    Result A confirmation message appears when the OSM cache is updated.

External OSM plugin configuration settings

The following sections describe available OSM plugins with a list of settings that can be configured at the plugin or OSM tree level. When you configure the settings at the plugin level, the settings are applied to all OSM trees that use the plugin. The settings can be overridden at the OSM tree level. Configuring the settings at the OSM tree level allows you to apply settings specific to a certain OSM tree.

AcuoStore plugin

The AcuoStore plugin allows Perceptive Content Server to use a Perceptive Acuo Vendor Neutral Archive as its storage system, providing a shared storage infrastructure.

You must have access to a working installation of the following products on your network before you can configure the AcuoStore plugin.

- At minimum, Perceptive Content 7.1.0; however, we recommend using the latest version
- At minimum, Acuo 6.0.2 HF1

Required settings

Setting	Value	Description
BaseURI	Any valid URL	Address of the Perceptive AcuoStore REST server. Includes URI scheme, host name, and port. **Example** https://restserver.hyland.com:8090
AppName	Any valid string	The app name you configured for a collection of documents. Tied to the Username and Password settings.
Username	Any valid user name	User name of the AppName.
Password	Any valid password	Password of the AppName.

Optional settings

Setting	Value	Description
ValidateServerCertificates	TRUE or FALSE	Defines whether Perceptive Content Server should validate the SSL certificate of the Perceptive AcuoStore REST server. Default is TRUE.
Timeout	Any positive integer	Defines the http request timeout, in seconds, when communicating with the Perceptive AcuoStore REST server. Default is 30 seconds.

Centera plugin

The Centera plugin allows Perceptive Content to use a Centera storage device. Perceptive Content uses Centera API, version 3.2 SP5, which works with EMC Centera 3.0. Additionally, EMC Centera models that Perceptive Content can work with include EMC Centera Government Compliance Edition.

Required settings

Setting	Value	Description
CenteraInstance	IP address	Address of the connection URL for the Centera machine.
AuthorizationFile	Any valid string	Specifies the file path that provides permissions needed to connect to the Centera device.
ObjectTagName	Any alphanumeric string up to 30 characters. The string can contain underscores.	An object in a Centera system, under a C-Clip, has tags that describe the object. This setting defines the name of the tag for the BLOB representing the data. **Note** The first character of the string must be a letter or underscore. You cannot use a number for the first character.

Optional settings

Setting	Value	Description
ClipName	Any valid string	Specifies a tree of objects. You can use this setting to organize data. The default is untitled.
MinimumSpaceRequired	Any positive integer	Specifies, in bytes, the storage threshold for Centera. If set, the plugin verifies space before storing the object. If you do not provide a value, or provide a value of -1, the plugin skips the verification.

File System plugin

The File System plugin is a read-only plugin that allows Perceptive Content Server to retrieve reference objects directly from a local file system. This plugin requires an OSM reference set.

Note Both of these settings are required if running Perceptive Content services in multiple environments.

Required settings

Setting	Value	Description
BaseDirectoryLinux	Any valid non-relative Linux system path	The base path to the directory that contains the OSM reference objects for this plugin. This setting is used if the plugin is run from a Linux environment.
BaseDirectoryWindows	Any valid non-relative Windows system path	The base path to the directory that contains the OSM reference objects for this plugin. This setting is used if the plugin is run from a Windows environment.

IXOS plugin

The IXOS FSS plugin is a read-only plugin that allows Perceptive Content Server to retrieve reference objects through an IXOS endpoint. This plugin requires an OSM reference set.

Required settings

Setting	Value	Description
BaseURI	Any valid URL	Address of the IXOS REST server. Includes uri schema, host name, port, and optional path prefix.
Username	Any valid user name	Valid IXOS user
Password	Valid user password	Password of the user

Optional settings

Setting	Value	Description
ValidateServerCertificate	TRUE or FALSE	Defines whether Perceptive Content Server should validate the SSL certificate of the IXOS REST server. Default is TRUE.
Timeout	Any positive integer	Defines the https request timeout, in seconds, when communicating with the IXOS REST server. Default is 30 seconds.

Amazon S3 plugin

The Amazon Simple Storage Service (S3) plugin allows Perceptive Content to use an Amazon S3 bucket as its storage system.

Important: Versioning and Lifecycle Management should be disabled for any Amazon S3 bucket used by this plugin.

Required Settings

Setting	Value	Description
BucketURL	Any valid URL	The URL of the Amazon S3 bucket used by the plugin. Both virtual-hosted style and path-style URLs are supported. **Example** http://my-bucket.s3.amazonaws.com or http://s3.amazonaws.com/my-bucket.
Region	Any valid string	The AWS region where the S3 bucket is located. **Example** us-east-1.
AWSAccessKeyId	Any valid string	The AWS access key ID used to sign and authenticate requests.
AWSSecretAccessKey	Any valid string	The AWS secret access key used to sign and authenticate requests.

Optional Settings

Setting	Value	Description
ValidateServerCertificate	TRUE or FALSE	Specifies whether to perform certificate validation of remote server SSL certificates. Default is TRUE.
SocketTimeout	Any positive integer	The timeout, in seconds, for send and receive operations. Default is 30 seconds.
ProxyURL	Any valid URL	The URL used for the web proxy. Default is none.
ReducedRedundancyStorage	TRUE or FALSE	Specifies whether objects should be stored using reduced redundancy storage. Default is FALSE.

Setting	Value	Description
ChunkSize	Any positive integer	The HTTP buffer size when sending and receiving data. Default is 65536 bytes.
ObjectKeyNamePrefix	Any valid string	Specifies the prefix added to the object key name for all operations. Default is none.

Debug Settings

Setting	Value	Description
DebugIncludePortInHostHeader	TRUE or FALSE	Specifies whether Host header should include the port number. The port is not included if the URL does not include an explicit port number. Added in versions 2.5.0 and 3.1.0. Default is TRUE.