Metadata Management in AEM DAM

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Section 1

Metadata for Digital Asset Management

- *What Is Metadata*
- *Metadata Basics*
- *Metadata Schemas*
- *Handle custom asset metadata*

What is Metadata

Metadata is the collection of all the data available for the image, but that is not necessarily contained in the image, like for instance:

- The name of the asset
- The time and date it was last modified
- The size of the image as it was stored in the repository
- The name of the folder it is contained in

You can add more high-level data to digital assets, for example:

- The type of asset (is it an image, a video, an audio clip or a document?)
- The owner of the asset
- The title of the asset
- The description of the asset
- The tags that have been assigned to an asset

Types of Metadata

There are two basic types of metadata:

- Technical metadata, like for example:
  - The size of a file
  - The dimensions (height and width) of an image
  - The bitrate of an audio- or video-file
  - The resolution (level of detail) of an image
- Descriptive metadata is metadata concerned with the application domain, for example, the business that an asset is coming from. Descriptive metadata cannot be determined automatically: It has to be created manually or semi-automatically.

Metadata Schemas

- Standard Schemas
  - DC - Dublin Core - the most important and widely used set of metadata
  - DICOM - Digital Imaging and Communications in Medicine
  - Iptc4xmpCore & iptc4xmpExt - International Press Communications Standard - lots of subject-specific metadata
  - RDF - Resource Description Framework - for generic semantic web metadata
  - XMP - Extensible Metadata Platform
  - XMPBJ - Basic Job Ticketing
- Application-Specific Metadata
  - Application-specific metadata includes technical and descriptive metadata. If you use these, other applications may not be able to use the metadata. For example, if you have an asset with Adobe Photoshop metadata and another image-rendering application tries to access the metadata, it may not be able to.

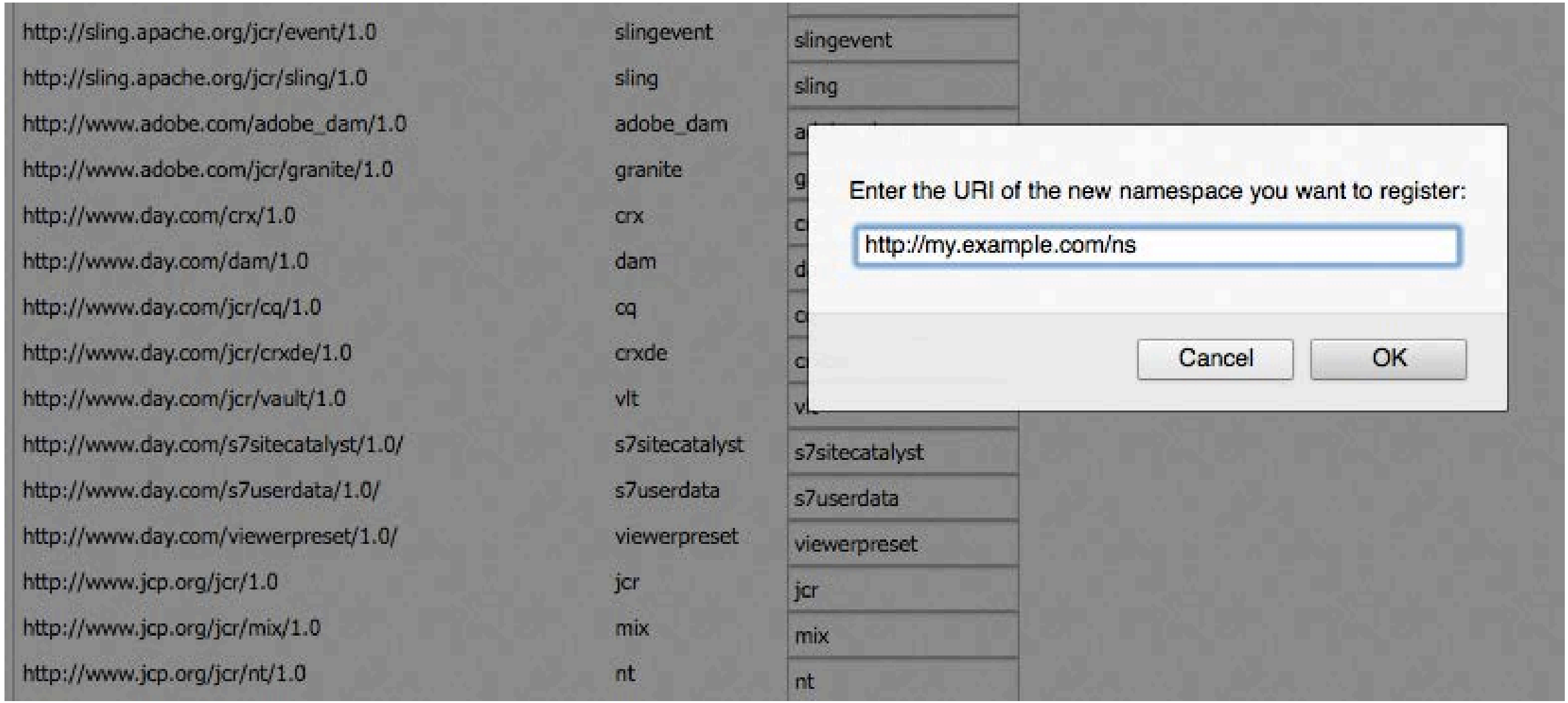
About DAM Metadata Customization

- When DAM is implemented inside an organization, the Assets are generally tagged with an organization specific taxonomy.
- With DAM it is possible to
  - Add new metadata namespaces/schemas
  - Enable the Asset Editor to read and store new schema elements and
  - Extend the DAM Admin search panel to support the new elements

Custom Metadata Namespace

- To avoid name clashes between built-in and different sets of custom metadata schemas, namespaces are used to prefix each attribute name
- The namespaces are registered within the repository on JCR level
  - e.g. using the CRX Explorer Namespace editor http://localhost:4502/crx/explorer/ui/namespace_editor.jsp
- The namespace has to be unique globally, the prefix has to be unique within the repository
  - See this article for some suggestions on choosing namespace names http://stackoverflow.com/questions/4623221/good-or-common-naming-conventions-for-xml-namespace-uris

Namespace Editor



Customizing DAM Admin GUI

- The Admin GUI for the DAM Asset editor is modular based on ExtJS Widgets defined in JCR repository
- It is possible to add additional widgets to allow viewing and editing custom metadata properties in the Asset Editor
- The widgets definitions can be edited using CRXDE Lite
- The custom metadata is not only stored within the JCR repository, but in the binary file of the DAM Asset as well, allowing external tools like search bots to access them as well
- The DAM Admin GUI search panel and Asset Share can be extended as well to allow filtering/searching for custom metadata properties.

Demo

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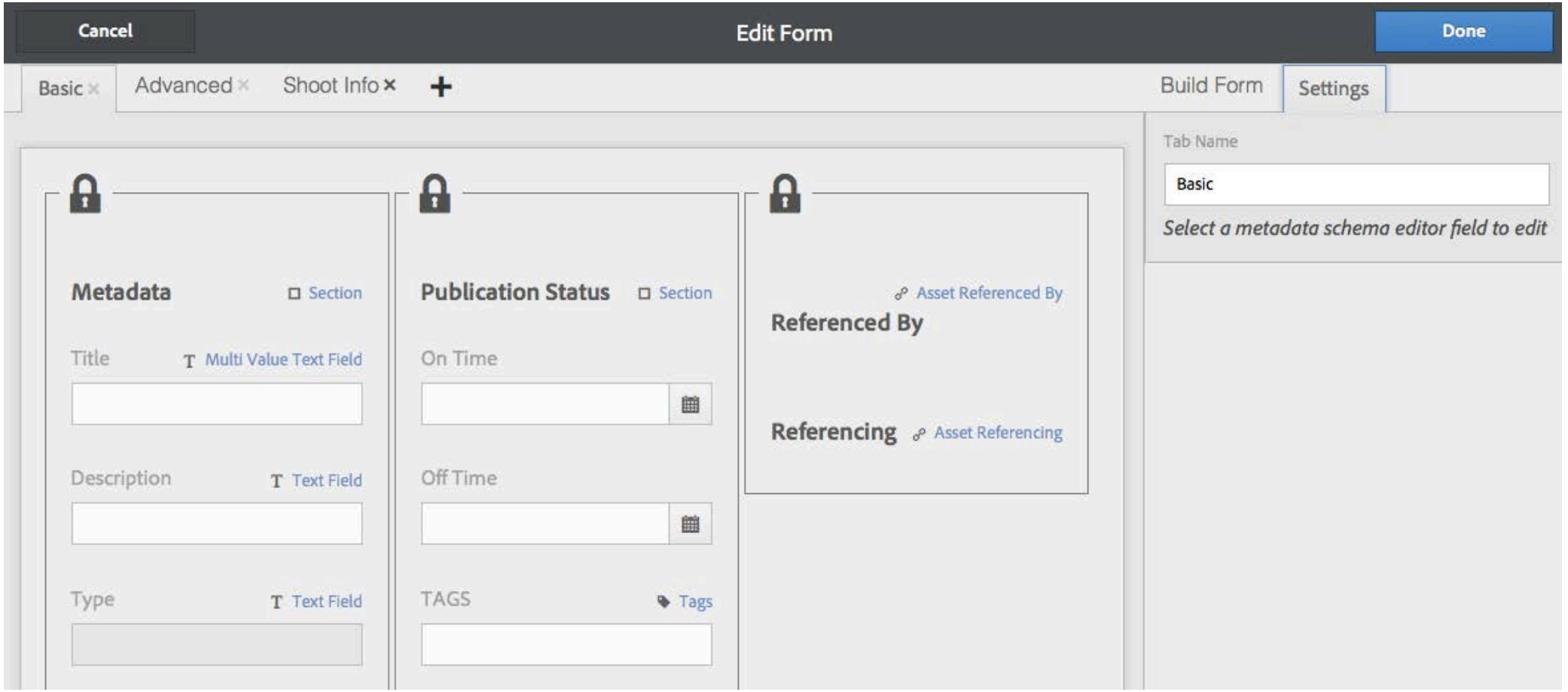
New Metadata Schema Editor

- Point-and-click based, no need to use CRXDE.
- Available with the latest DAM Feature Pack.



Demo

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Section 2
XMP

What is XMP

- The Extensible Metadata Platform (XMP) is an ISO standard, originally created by Adobe, for the creation, processing and interchange of standardized and custom metadata for all kinds of resources.
- XMP standardizes a data model, a serialization format and core properties for the definition and processing of extensible metadata.
- It also provides guidelines on how XMP should be embedded into a number of popular image, video and document file formats (e.g. JPEG and PDF) without breaking their readability by applications that aren't aware of XMP.

Exiftool

- Exiftool is an open source, command line tool for examining and manipulating metadata on files.
- It can display all EXIF and XMP metadata, including AEM DAM custom properties.

```
$ exiftool image.jpg
ExifTool Version Number         : 9.12
File Size                       : 607 kB
File Modification Date/Time     : 2013:11:18 16:52:10+01:00
File Access Date/Time           : 2013:11:18 17:03:32+01:00
File Inode Change Date/Time     : 2013:11:18 16:52:34+01:00
File Permissions                : rwxr-xr-x
File Type                       : JPEG
MIME Type                       : image/jpeg
Exif Byte Order                 : Little-endian (Intel, II)
Make                            : NIKON CORPORATION
Camera Model Name               : NIKON D90
```

Demo

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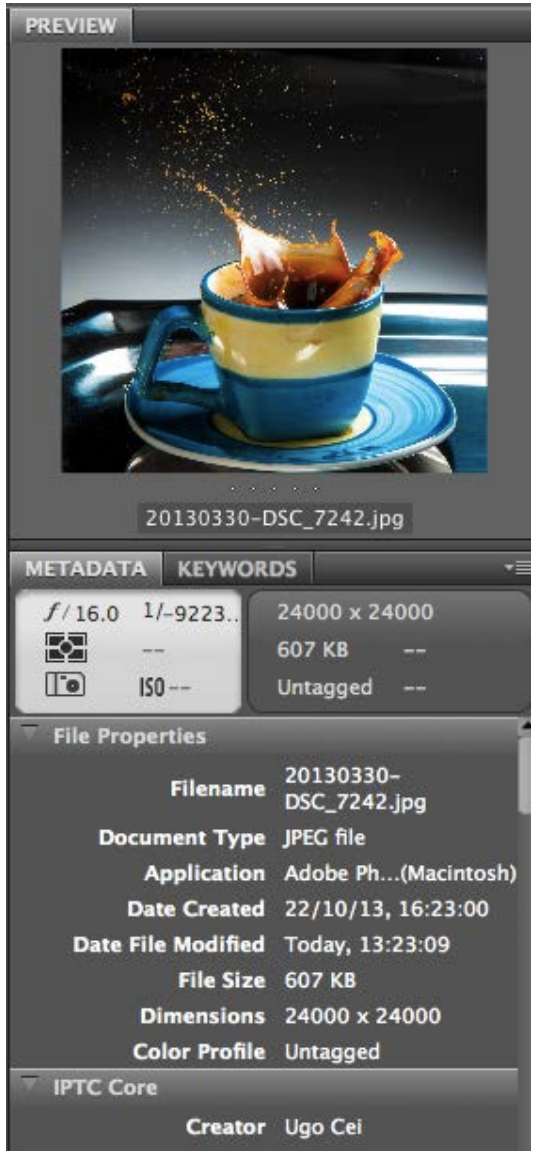
Adobe Bridge

- Adobe Bridge can connect to AEM DAM via Adobe Drive
- Using Bridge, it is possible to view and modify most metadata, including all the Exif and IPTC data, plus others.



Demo

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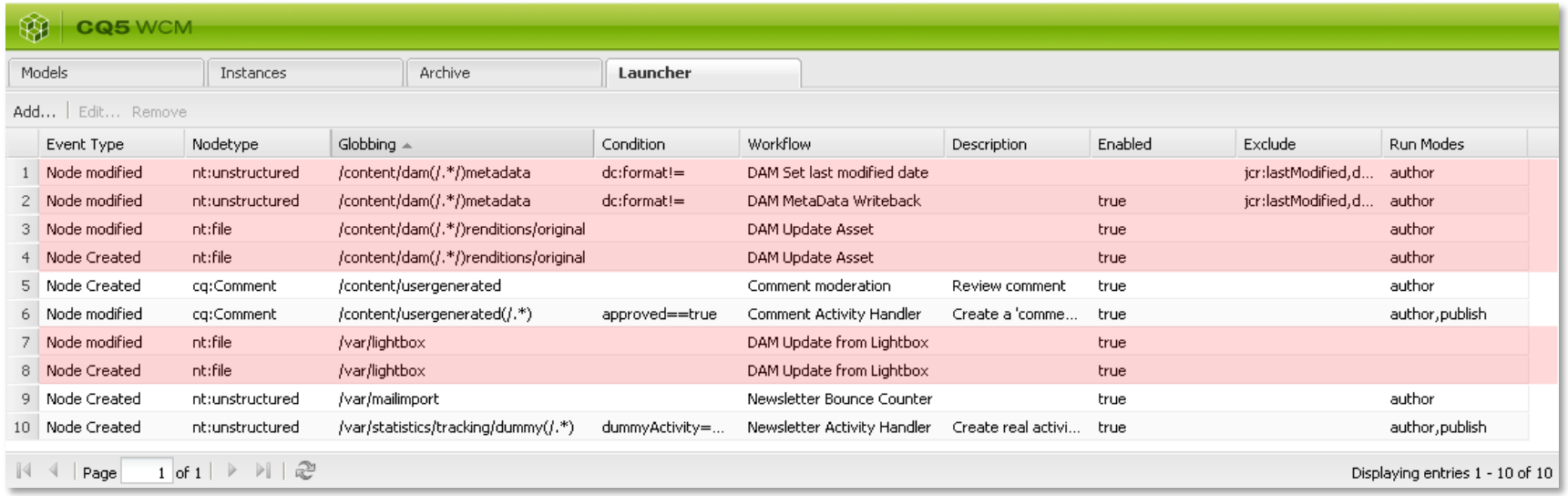
Section 3
DAM Workflows

- *DAM Workflows*
- *DAM Workflow Steps*

DAM Workflow Overview

- By default, DAM is configured to use 4 workflows automatically:
  - DAM Update Asset
  - DAM Metadata Writeback
  - DAM Set last modified date
  - DAM Update from Lightbox
- These workflows are configured as "Launcher" in the workflow console



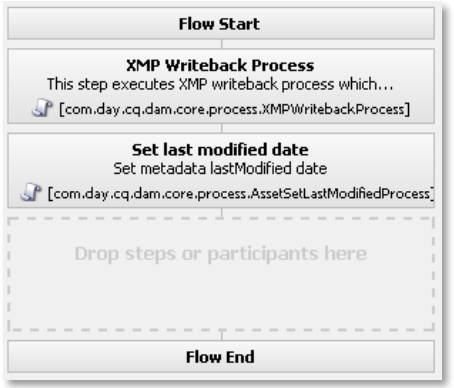
	Event Type	Nodetype	Globbing	Condition	Workflow	Description	Enabled	Exclude	Run Modes
1	Node modified	nt:unstructured	/content/dam(/.*/)metadata	dc:format!=	DAM Set last modified date			jcr:lastModified,d...	author
2	Node modified	nt:unstructured	/content/dam(/.*/)metadata	dc:format!=	DAM MetaData Writeback		true	jcr:lastModified,d...	author
3	Node modified	nt:file	/content/dam(/.*/)renditions/original		DAM Update Asset		true		author
4	Node Created	nt:file	/content/dam(/.*/)renditions/original		DAM Update Asset		true		author
5	Node Created	cq:Comment	/content/usergenerated		Comment moderation	Review comment	true		author
6	Node modified	cq:Comment	/content/usergenerated(/.*)	approved==true	Comment Activity Handler	Create a 'comme...	true		author,publish
7	Node modified	nt:file	/var/lightbox		DAM Update from Lightbox		true		
8	Node Created	nt:file	/var/lightbox		DAM Update from Lightbox		true		
9	Node Created	nt:unstructured	/var/mailimport		Newsletter Bounce Counter		true		author
10	Node Created	nt:unstructured	/var/statistics/tracking/dummy(/.*)	dummyActivity=...	Newsletter Activity Handler	Create real activi...	true		author,publish

DAM Workflow: DAM Update Asset

- Workflow is invoked whenever an new Asset/original file is added or updated
- It is the primary workflow of DAM and is responsible for asset ingestion.
- This process ensures that every asset has its XMP metadata extracted and thumbnails and renditions are generated
- DAM Update Asset workflow consists of a number of steps. A step can be common for all assets for e.g. Metadata Extraction and Thumbnail Generation or specific to a format for e.g. Video Transcoding, InDesign Media Extraction and InDesign Page Extraction.
- Step specific to a format is skipped for other formats.

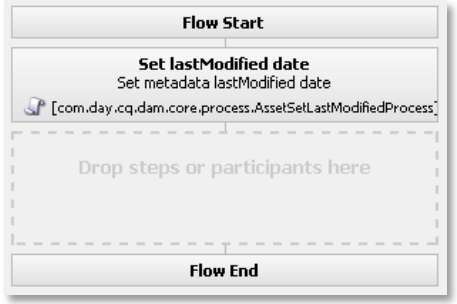
DAM Workflow: DAM Metadata Writeback

- Workflow is invoked whenever XMP metadata of an asset is modified.
- The workflow writes the modified metadata back to the original file and also sets the last modified date in the repository.



DAM Workflow: DAM Set Last Modified Date

- The workflow is invoked whenever any operation is performed on an asset.
- The operation could be editing an image / creating a new version/ reverting to an old version/ publish to external systems like Scene7 or DAM Cloud.
- The workflow sets the last modified date in the repository.



DAM Workflow: DAM Update from Lightbox

- The workflow is invoked whenever an asset is added or modified at /var/lightbox in the repository.
- Lightboxes are used in combination with asset share pages. The lightbox can be used as a shopping cart for assets.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