

INTEGRATIONS WITH Enterprise LMS



Typical LMS Behavior - Course Organization

- Courses - types & versions
 - Digital Courses, ILT, Events, Curriculum etc
 - Courses are a collection of different assets
 - videos, scorm, ppts etc
 - Courses can be versioned
 - Multiple versions of courses can be active at the same time
- Courses are organized into Catalogs
 - Each catalog is assigned to a specific user group
 - A course can be part of multiple catalogs

Typical LMS Behavior - Transcripts

- Enrollments
 - Different users could be assigned to different versions of the same course
 - Users can enroll by themselves, or by administrators
 - Users can complete, pass or fail a course based on the course type
 - Enrollments have deadlines (due dates)
 - Enrollments have time tracking (start & end date)
 - Completions & Assignments (Enrollments) typically are at a version level
- Re-enrollments
 - A user can have the same version of the training reassigned to them (on a recurring basis) or a new version of the same course might be assigned to them

LXP - as it is designed today

- LXP represents each item (course, curriculum, event, material etc.) as “Content / Card” against a course
 - No versioning
 - No nested structure to capture the included assets (like videos, presentations etc.) - a card boils down to a URL
- Assignments and Completions are tracked at card level
 - Assignments and completions are deleted if the card is archived
 - There can only be one assignment stored per user per card in the LXP
- Integration Source Configurations allow contents fetched from a particular source to be restricted to specific groups

Integration Challenges – Catalog & Transcripts

- Archival
 - Content that gets archived will lose any assignments or completions in the LXP
 - Luckily, this data will be preserved IF and after the LRS is enabled for that organization
 - Recommendation: LRS should be enabled for all organizations to avoid this issue
- Launch URL
 - LMS'es that do version level assignments typically also give version level launch URLs
 - This can be confusing to learners who see multiple cards (related to multiple versions) and they do not know which “card” to launch

Integration Challenges – Catalog & Transcripts

- Versioning
 - Since cards do not have versioning, each version creates a new card leading to confusing user experience – from a user perspective – finding duplicate content
- Explosion of cards
 - Older versions that are no longer used are still “active” in the LXP – since in LMS you do not necessarily need to deactivate old versions
- Content Reassignment:
 - Content within the LMS can be re-assigned to users but the LXP cannot hold multiple completions or multiple assignments of the same card for the same user

Integration Challenges – Technical

- Most of these LMSes do not have rich API set leading to many issues
 - In terms of catalog data, api to access the catalog, getting transcripts (assignments & completions) - including withdrawals etc.
- API throttling issues – cannot fetch as fast as we should be
- No “Delta” APIs – that give the data created or modified in the specified time period
 - Leading to trying to sync the whole catalog
 - Large catalogs or transcripts – can take more than a day to two to synchronize
 - So we end up doing such updates on a weekly basis – which might break the user experience

Integration Principles for Enterprise LMS

- We will create “cards” in the LXP at the course level and not maintain versions
- We will track assignments, completions at the course level
- We will create launch URLs that are at a course level
 - The LMS should resolve internally to direct user to the right version of the course
- We would strongly recommend that we make use of the delta catalog and delta assignments – either through APIs or CSVs – to keep the data synchronous on a frequent basis



Cornerstone On Demand (CSOD) - UPDATE

- Prior integrations were API based which were limited by:
 - CSOD APIs provided version level course information
 - Resulted in duplicate content being surface on the LXP - Each version is a different card
 - CSOD APIs provided version level deep link URL
 - CSOD APIs did not enable us to extract data within a time frame hence - we had to sync the whole catalog every time - which resulted in infrequent updates and lengthy synching process
 - CSOD APIs did not provide a clear way to identify if a course has been “deactivated” on their platform - hence we could not archive any courses that we pulled in from the CSOD
- Based on consultation with CSOD, we are solving these issues by converting our integrations to be CSV based instead

Cornerstone On Demand (CSOD)

- CSOD new connectors are based on CSV files
- The customer must generate custom reports on CSOD and export them on a daily basis to an SFTP folder on CSOD, based on EdCast defined format
- Our connectors connect to the SFTP folder on the CSOD servers – read the catalog and transcript reports
 - Catalog (current capability)
 - Assignments & completions (current capability)
 - And withdrawals as well (planned)

Cornerstone On Demand (CSOD)

- The catalog will give us each version of a course independently but the launch URL will be at the course level
- When we receive the each version of a course – we check if we already have a previous version by calling an API on CSOD to give us the older version of the same course and update the links
 - We will always make sure that there is only one version available – no duplicate cards are created
- The launch URL will take the user to the course page – that CSOD automatically resolves to the right version for that specific user

Cornerstone On Demand (CSOD)

- Transcripts - when a user gets assigned a course or completes a course we get the details from CSOD at a version level
 - We perform a basic look up in our DB - Does this version of the course exist in our environment as a card?
 - If yes - we create the assignments or completions against that card
 - If no, we call CSOD API to give us all the related versions for this assignment or completion - and look up these different versions if they exist in our DB - Does any version of this course exist in our environment as a card?
 - If yes, then we update the assignment or completions against that card
 - If no, we ignore it. Since this course has not been imported in the platform.

CornerStone Connector

CornerStone Connector can be configured from LXP Admin Console -> Content -> LMS Integrations

CornerStone Connector - Configuration Parameters

Name	Description	Sample Value
host_name	Host name of the SumTotal deployment	http://acme.sumtotal.host
user_name	User name to access the SumTotal API	admin123
password	Password to access the SumTotal API	
deep_link_host	(Optional) Provide this value if SSO enabled URL need to be configured. Connector prepends this URL with SumTotal course URL	https://commonauthenticationservices.acme.com/iwa/saml2/post?RelayState=
custom_lms_user_key	Name of the custom attribute(user) which holds the SumTotal PK number	sumtotal_pk
activity_type_id	(Optional) Comma separated activity type ID. SumTotal categorizes the content using activity type ID. If this value is empty, then connector fetches all the courses	-1,2,72,86

SAP SuccessFactors

SuccessFactors

- SuccessFactors connectors supports Content as well as LMS integration
- SuccessFactors connector uses API to fetch the courses and completions data

INTEGRATION WITH SumTotal LMS



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AI-Powered Knowledge Cloud

**sumtotal**[®]
A Skillsoft Company

SumTotal Connector

- SumTotal Connector uses SumTotal API to fetch the courses, assignments and completions data
- Supports configuration based content retrieval with SumTotal Activity type ID filters
- Smart Cards are created for Courses
- Curriculum is represented as one card in LXP. Child Content will be displayed in SumTotal

SumTotal Connector

- Supports fetching completions data via API with PK# of the user
- LXP synchronizes the courses, assignments and completions data from SumTotal once in a day

SumTotal Connector - Things to note

- SumTotal API does not return hidden courses. So hidden courses will not be visible in LXP
- Since LXP doesn't have information about hidden courses, LXP will not show the assignment or completion data for hidden courses in MLP
- Un-assignment in SumTotal will not reflect in LXP as there is no API to get the un-assignment information

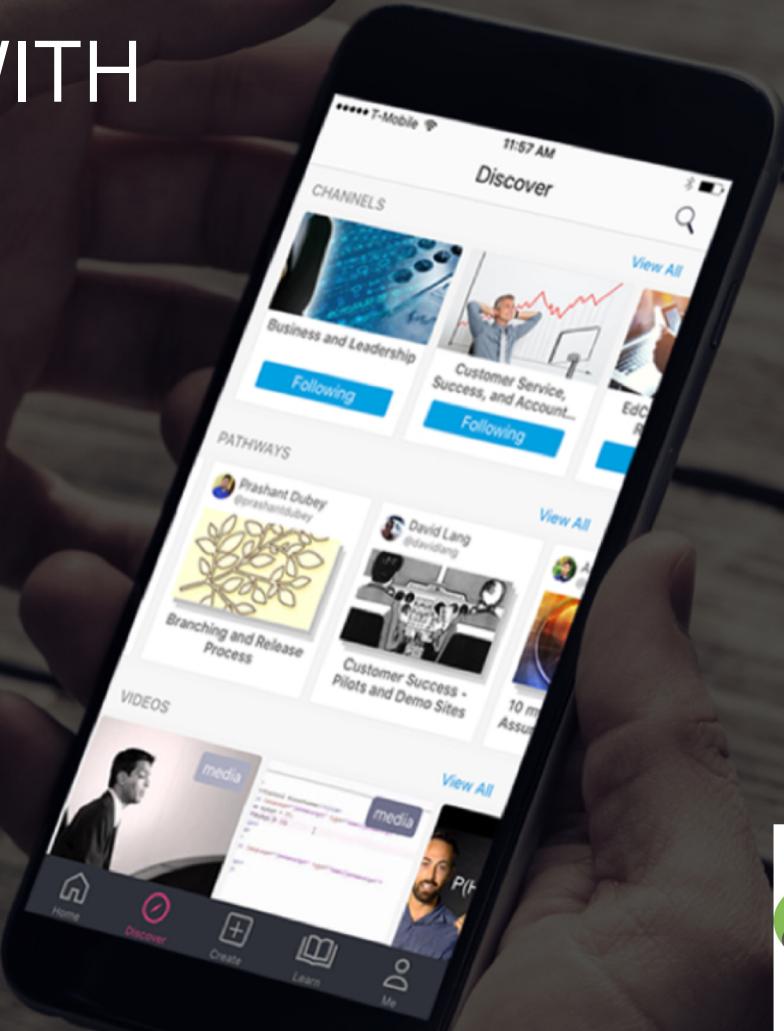
SumTotal Connector

user_name	
passcode	
host_name	
custom_lms_user_key	
deep_link_host	
activity_type_ids	-10,-8,-7,-1,11,17,20,22,23

SumTotal Connector - Configuration Parameters

Name	Description	Sample Value
host_name	Host name of the SumTotal deployment	http://acme.sumtotal.host
user_name	User name to access the SumTotal API	admin123
password	Password to access the SumTotal API	
deep_link_host	(Optional) Provide this value if SSO enabled URL need to be configured. Connector prepends this URL with SumTotal course URL	https://commonauthenticationservices.acme.com/iwa/saml2/post?RelayState=
custom_lms_user_key	Name of the custom attribute(user) which holds the SumTotal PK number	sumtotal_pk
activity_type_id	(Optional) Comma separated activity type ID. SumTotal categorizes the content using activity type ID. If this value is empty, then connector fetches all the courses	-1,2,72,86

INTEGRATION WITH SABA LMS



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SABA Integration

- LXP uses generic SFTP connector with CSV file for SABA integration
- Generic SFTP connector uses source transformation feature to transform different CSV formats
- SABA support matrix
 - 5.5
 - Courses - Education & Development Courses
 - Curriculum - Education & Development Paths
 - Cloud
 - Courses - My Learning Courses
 - Curriculum My Learning Paths
- SABA integration adds the courses,assignments and completions data to LXP

SABA Integration

- Smart Cards are created for Courses
- Curriculum is represented as one card in LXP. Child Content will be displayed in SABA
- SABA Generic SFTP connector supports detailed log monitoring through UI
- Supports syncing up archived in courses in SABA with LXP
- LXP synchronizes the courses, assignments and completions data from SABA once in a day (Recommended)

SABA 5.5 - Courses - CSV File Format

Name	Description	Sample Value
id	<ul style="list-style-type: none">• Unique Id for the Card• If empty, then URL will be used as a unique identifier	curra0000000000002350
title	Title to be displayed on the card	Q3 2008 Core Sales (EMEA) Required Training
description	Description to be displayed for the card	Q3 2008 Core Sales (EMEA) Required Training
image_url	<ul style="list-style-type: none">• The image to be displayed on the card.• If empty, then source default image will be displayed.• If the default image is also empty, then stock images will be displayed.	
deep_link_url	The URL to which the user will be navigated to when he clicks on the card. This should point to the actual content	https://acme.sabacloud.com/Saba/Web_spf/PRODTNT091/common/ledetail/cours000000000357675

SABA 5.5 - Courses - CSV File Format (Cont ...)

Name	Description	Sample Value
keywords	Will be used as the tags. Multiple tags should be separated by the comma	
readable_card_type	<ul style="list-style-type: none">The Readable-Card-Type e.g. document to be displayed on the card. If blank, the card will display "course" as the readable_card_typedefault value also can be added from source_transformation	course
content_type	The Content-Type of the card, If blank, then it will be considered "course" as the content type.	course
duration	<ul style="list-style-type: none">The duration to be displayed on the cardThe format should be like hh:mm or hh:mm:ss	12:30:12
archive	If the value here is "Y" or "y", the card will be archived & no longer displayed to the users	Y

SABA 5.5 - Courses - CSV File Format (Cont ...)

Name	Description	Sample Value
archive_date	<ul style="list-style-type: none">• This value will be used only if the archive header is empty or not present in the given CSV file.• A date after which course will be going to expire• Date format should be in YYYY-MM-DD• While processing CSV file if archive date < today's date then system will mark the course as archived otherwise no action will be taken.	2019-02-24

SABA 5.5 - Courses - Source Transformation

Below value should be saved in source_transformation value while configuring SFTP source.

```
{  
  "value_transformation": [  
    {  
      "target_header": "readable_card_type",  
      "operation": "add_default",  
      "default_value": "course"  
    }  
  ],  
  "header_transformation": [  
    {  
      "target_header": "duration",  
      "replace_value": "duration_in_hh_mm_ss"  
    }  
  ]  
}
```

SABA 5.5 - Curriculum - CSV File Format

Name	Description	Sample Value
id	<ul style="list-style-type: none">• Unique Id for the Card• If empty, then URL will be used as a unique identifier	curra0000000000002350
title	Title to be displayed on the card	Q3 2008 Core Sales (EMEA) Required Training
description	Description to be displayed for the card	Q3 2008 Core Sales (EMEA) Required Training
image_url	<ul style="list-style-type: none">• The image to be displayed on the card.• If empty, then source default image will be displayed.• If the default image is also empty, then stock images will be displayed.	
deep_link_url	The URL to which the user will be navigated to when he clicks on the card. This should point to the actual content	https://acme.sabacloud.com/Saba/Web_spf/PRODTNT091/common/ledetail/cours000000000357675

SABA 5.5 - Curriculum - CSV File Format (Cont ...)

Name	Description	Sample Value
keywords	Will be used as the tags. Multiple tags should be separated by the comma	
readable_card_type	<ul style="list-style-type: none">The Readable-Card-Type e.g. document to be displayed on the card. If blank, the card will display "course" as the readable_card_typedefault value also can be added from source_transformation	course
content_type	The Content-Type of the card, If blank, then it will be considered "course" as the content type.	course
duration	<ul style="list-style-type: none">The duration to be displayed on the cardThe format should be like hh:mm or hh:mm:ss	12:30:12
archive	If the value here is "Y" or "y", the card will be archived & no longer displayed to the users	Y

SABA 5.5 - Curriculum - CSV File Format (Cont ...)

Name	Description	Sample Value
archive_date	<ul style="list-style-type: none">This value will be used only if the archive header is empty or not present in the given CSV file.A date after which course will be going to expireDate format should be in YYYY-MM-DDWhile processing CSV file if archive date < today's date then system will mark the course as archived otherwise no action will be taken.	2019-02-24

SABA 5.5 - Curriculum - Source Transformation

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```
{  
  "value_transformation": [  
    {  
      "target_header": "readable_card_type",  
      "operation": "add_default",  
      "default_value": "curriculum"  
    }  
  ],  
  "header_transformation": [  
    {  
      "target_header": "duration",  
      "replace_value": "duration_in_hh_mm_ss"  
    }  
  ]  
}
```

SABA Cloud - Courses - CSV File Format

Name	Description	Sample Value
course_course_id	<ul style="list-style-type: none">• Unique Id for the Card• If empty, then URL will be used as a unique identifier	35129
course_title	Title to be displayed on the card	Customer Care - Productive Case Management - Ownership
description	Description to be displayed for the card	Utilize this training to help you increase customer experience, better...
image_url	<ul style="list-style-type: none">• The image to be displayed on the card.• If empty, then source default image will be displayed.• If the default image is also empty, then stock images will be displayed.	
deeplink	The URL to which the user will be navigated to when he clicks on the card. This should point to the actual content	https://acme.sabacloud.com/Saba/Web_spf/PRODTNT091/common/ledetail/cours000000000357675

SABA Cloud - Courses - CSV File Format (Cont ...)

Name	Description	Sample Value
course_keywords	Will be used as the tags. Multiple tags should be separated by the comma	
readable_card_type	<ul style="list-style-type: none">The Readable-Card-Type e.g. document to be displayed on the card. If blank, the card will display "course" as the readable_card_typedefault value also can be added from source_transformation	curriculum
content_type	The Content-Type of the card, If blank, then it will be considered "course" as the content type.	course
duration	<ul style="list-style-type: none">The duration to be displayed on the cardThe format should be like hh:mm or hh:mm:ss	12:30:12
archive	If the value here is "Y" or "y", the card will be archived & no longer displayed to the users	Y

SABA Cloud - Courses - CSV File Format (Cont ...)

Name	Description	Sample Value
archive_date	<ul style="list-style-type: none">This value will be used only if the archive header is empty or not present in the given CSV file.A date after which course will be going to expireDate format should be in YYYY-MM-DDWhile processing CSV file if archive date < today's date then system will mark the course as archived otherwise no action will be taken.	2019-02-24

SABA Cloud - Courses - Source Transformation

Below value should be saved in source_transformation value while configuring SFTP source.

```
{  
  "value_transformation": [  
    {  
      "target_header": "readable_card_type",  
      "operation": "add_default",  
      "default_value": "course"  
    }  
  ],  
  "header_transformation": [  
    {  
      "target_header": "course_keywords",  
      "replace_value": "keywords"  
    },  
    {  
      "target_header": "course_course_id",  
      "replace_value": "id"  
    },  
  ]  
},
```

```
{  
  "target_header": "duration",  
  "replace_value": "duration_hh:mm:ss"  
},  
{  
  "target_header": "course_title",  
  "replace_value": "title"  
},  
{  
  "target_header": "course_description",  
  "replace_value": "description"  
},  
{  
  "target_header": "deeplink",  
  "replace_value": "deeplink_url"  
}  
]
```

SABA Cloud - Curriculum - CSV File Format

Name	Description	Sample Value
curriculum_id	<ul style="list-style-type: none">• Unique Id for the Card• If empty, then URL will be used as a unique identifier	curra0000000000002350
curriculum_name	Title to be displayed on the card	Q3 2008 Core Sales (EMEA) Required Training
description	Description to be displayed for the card	Q3 2008 Core Sales (EMEA) Required Training
image_url	<ul style="list-style-type: none">• The image to be displayed on the card.• If empty, then source default image will be displayed.• If the default image is also empty, then stock images will be displayed.	
deep_link_url	The URL to which the user will be navigated to when he clicks on the card. This should point to the actual content	https://acme.sabacloud.com/Saba/Web_spf/PRODTNT091/common/ledetail/cours000000000357675

SABA Cloud - Curriculum - CSV File Format (Cont ...)

Name	Description	Sample Value
curricula_category	Will be used as the tags. Multiple tags should be separated by the comma	
readable_card_type	<ul style="list-style-type: none">The Readable-Card-Type e.g. document to be displayed on the card. If blank, the card will display "course" as the readable_card_typedefault value also can be added from source_transformation	curriculum
content_type	The Content-Type of the card, If blank, then it will be considered "course" as the content type.	course
duration	<ul style="list-style-type: none">The duration to be displayed on the cardThe format should be like hh:mm or hh:mm:ss	12:30:12
archive	If the value here is "Y" or "y", the card will be archived & no longer displayed to the users	Y

SABA Cloud - Curriculum - CSV File Format (Cont ...)

Name	Description	Sample Value
archive_date	<ul style="list-style-type: none">This value will be used only if the archive header is empty or not present in the given CSV file.A date after which course will be going to expireDate format should be in YYYY-MM-DDWhile processing CSV file if archive date < today's date then system will mark the course as archived otherwise no action will be taken.	2019-02-24

SABA Cloud - Curriculum - Source Transformation

Below value should be saved in source_transformation value while configuring SFTP source.

```
{  
  "value_transformation": [  
    {  
      "target_header": "readable_card_type",  
      "operation": "add_default",  
      "default_value": "curriculum"  
    }  
  ],  
  "header_transformation": [  
    {  
      "target_header": "curricula_category",  
      "replace_value": "keywords"  
    },  
    {  
      "target_header": "curriculum_id",  
      "replace_value": "id"  
    },  
    {  
      "target_header": "duration",  
      "replace_value": "duration_mm:ss"  
    },  
  ]  
}
```

```
{  
  "target_header": "curriculum_name",  
  "replace_value": "title"  
},  
{  
  "target_header": "curriculum_description",  
  "replace_value": "description"  
},  
{  
  "target_header": "deeplink",  
  "replace_value": "deeplink_url"  
}  
]
```

SABA Integrations - Monitoring Logs

Logs of SABA generic SFTP connector can be viewed/Downloaded from the LXP Integrations page.

SABA Cloud - sftp My Learning Courses	11343	11/04/2019, 12:25:42	Activated	ON		FETCH CONTENT
MMAARRSS csv	665	20/02/2019, 15:44:37	Activated	ON		FETCH CONTENT
SABA Cloud - sftp My Learning Paths	252	12/04/2019, 12:51:17	Activated	ON		FETCH CONTENT

Click here to view Monitoring Logs

Input File	Error File	Created Count	Failed Count	Archived Count	Updated Count	Total Count	Status
Download	Download	10	10	10	10	200	completed
Download	Download	190	0	0	0	190	completed

CLOSE

SABA Integration - Completions

- SABA completions can be pushed to LXP using LRS SFTP connector
- LRS SFTP connector runs once in a day and synchronizes the completion data for the users
- CSV Attributes

Fields	Description
actor_name	
actor_id	
object_id	
status	
object_name	

SABA Integration - Completions (Cont ...)

- We will be updating the configuration of the source(SFTP LRS) to include new fields which help us determine which source this completion is for and mapping for identifying the user(i.e. Custom Field to User Id).

The screenshot shows a configuration interface for a SFTP LRS source. The fields and their values are:

- Display Name: sftp_lrs
- sftp_host: (empty)
- user: (empty)
- password: (empty)
- path: (empty)
- lrs_end_point: (empty)
- lrs_login_key: (empty)
- lrs_password_key: (empty)
- Source: DELL EduTube - PRODUCTION
- Assignor Name: (empty)

A dropdown menu for "Source" lists the following options:

- DELL EduTube - PRODUCTION
- Usability Geek
- Latest Blogs
- TEDTalks (video)
- Nettuts

SABA Integration - Completions (Cont ...)

- We will be looking up the content with object_id provided to get URL of the content.
 - If Content is found in ECL database we will push with URL from the content item.
 - If Content is not found in ECL database we will push to LRS with object_id.
- We will be looking up user id depending upon the mapping provided in the source_configuration.
 - If User is found in LXP database we will push the statement into LRS.
 - If User is not found in LXP database we will not be pushing the statement into our LRS.
- Then we will be pushing the data into LRS

