

# Implementing Open Content Network

## Using Content from OCN Providers

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# What's New in Learning Implementing Open Content Network

Keep track of the quarterly changes in implementing SAP SuccessFactors Learning open content network.

## Q2 2016

Table 1: The following table summarizes changes to this guide for the Q2 2016 release

What's New	Description	More Info
Updated OAuth Information	We edited the OAuth information to make it clearer.	<a href="#">Obtaining an OAuth Token For Learning Only Clients [page 32]</a> <a href="#">Overview of OAuth for SAP SuccessFactors Learning [page 31]</a>
Throttling	We added a warning about throttling our APIs.	<a href="#">API Throttling in SAP SuccessFactors Learning [page 38]</a>

## Q2 2016

Table 2: The following table summarizes changes to this guide for the Q2 2016 release

What's New	Description	More Info
Harvard Manage Mentor	We added Harvard Manage Mentor and updated the OCN Provider Codes to reflect the addition.	<a href="#">OCN Provider Codes [page 41]</a>

## Q1 2016

Table 3: The following table summarizes changes to this guide for the Q1 2016 release

What's New	Description	More Info
February 5, 2016 Publication		
No Changes	N/A	
March 4, 2016 Publication		

What's New	Description	More Info
Web services for OCN	We added instruction for customers who want to write integration between SAP SuccessFactors Learning and their OCN provider.	<a href="#">Configuring SAML for OCN [page 18]</a> <a href="#">Importing OCN Content References to SAP SuccessFactors Learning [page 21]</a> <a href="#">Sending Completion Status from an OCN Provider to SAP SuccessFactors Learning [page 27]</a>
March 25, 2016		
Removed Learning Hub	We mistakenly reported that we supported Learning Hub. We removed it from the list of supported providers.	<a href="#">Supported MOOC Providers [page 6]</a>

## Q4 2015

Table 4: The following table summarizes changes to this guide for the Q4 2015 release

What's New	Description	More Info
First Release	Q4 2015 is the first release of this guide.	



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# 1 Open Content Network

Open Content Network (OCN) is a group of Massive Online Open Course (MOOC) partners who can provide content to SAP SuccessFactors Learning.

SAP SuccessFactors Learning created Open Content Network (OCN) to partner with Massive Online Open Course (MOOC) providers so that your employees can easily access their content from within your system. Employees can still take a MOOC with one of our providers outside the Learning Management System (LMS), but when you bring their courses into the LMS, you make it available for assignment, add it to catalogs, bundle it into a curriculum or program, or make it a part of your company's social learning through recommendations.

## Related Information

[Supported MOOC Providers \[page 6\]](#)

## 1.1 How SAP SuccessFactors Learning sees MOOC Content

SAP SuccessFactors Learning defines Massive Online Open Courses (MOOC) as an entirely online course that seeks massive participation but that might or might not be free of charge.

In SAP SuccessFactors Learning, we define MOOC content as any very large, open course that takes place entirely online. It can be free or it might not be free of charge. As a customer, you might pay for access to some courses from a provider like Open Sesame and those course might be MOOC content. Or, you might integrate a free Kahn Academy course to a program or send it as a recommended link.

The only important distinction in MOOC content are the providers that are members of Open Content Network (OCN). To import MOOC content through OCN, your partner must be an approved provider. With an approved provider, we can import the MOOC content predictably and the provider can enable a SAML integration to pass users from SAP SuccessFactors Learning to the MOOC provider through single sign on.

## Related Information

[Supported MOOC Providers \[page 6\]](#)

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## 2 Getting Started with Open Content Network

Get started with OCN (Open Content Network) to show MOOC (Massive Open Online Content) courses in your users' learning catalogs.

### Procedure

1. Sign up with MOOC provider.

Each provider has its own agreement process, so contact the sales representative for your provider for guidance.

2. Talk with your provider about enabling SAML for single sign on and building a client to the completion status API to automatically report back users' completion of the content.
3. Go to ► [System Admin](#) ► [Configuration](#) ► [System Configuration](#) ►, open the *OPEN CONTENT NETWORK* configuration properties file and configure it for your provider.
4. Set your Open Content Network Synchronization process so that SAP SuccessFactors Learning can receive the latest list of your providers' content.
5. For each course listing that you want to import as a catalog course listing, import the open content.

### Related Information

[Supported MOOC Providers \[page 6\]](#)

[OPEN CONTENT NETWORK System Property File \[page 8\]](#)

[Open Content Network Content Synchronization \[page 12\]](#)

[Importing Open Content \[page 15\]](#)

## 2.1 Supported MOOC Providers

Before you can use Open Content Network (OCN) you sign an agreement with one or more Massive Online Open Content (MOOC) providers. You can sign up with any of these providers.

The following MOOC providers are currently supported:

- Coursera
- Lynda.com
- Open Sesame

- OpenHPI
- Udacity
- Harvard Manage Mentor

## 2.2 Open Content and Commerce

Your pricing model controls how SAP SuccessFactors Learning treats Open Content Network (OCN) for commerce features.

When you use Open Content Network with SAP SuccessFactors Learning commerce features, the OCN content is treated like any other content in your system. For example, you can add items with OCN content to orders and you can set up refunds. But unlike other content in the system, you can set up pricing models for OCN content.

Your pricing model depends on the agreement that you signed with the MOOC provider and how you want to account for the cost of the content. But you have three pricing model options in [▶ System Admin ▶ Configuration ▶ System Configuration ▶ OPEN CONTENT NETWORK ▶](#).

`providers[<specific provider name>].pricingModel` determines the pricing model of the provider. Valid values are:

- A value of **null** means that the provider falls back on whatever pricing you have configured in Commerce or falls back on free courses. If you want to use OCN with SAP SuccessFactors Learning commerce, then type **null**. If you plan to offer all courses for free, type **null**.
- If you want to publish the price of an OCN course on users' catalogs and allow them to pay for it a la carte from the OCN provider, type **RETAIL**. The provider must have an a la carte option. Companies can use this, for example, if they tell users to charge the course to a credit card and submit it in an expense report. The transaction takes place outside SAP SuccessFactors Learning, but we do show the pricing information so that users can make informed decisions. You cannot use Commerce if you select a retail model.
- If you signed up under a provider's subscription model, type **SUBSCRIPTION**. Subscription models vary, but users under a valid subscription are allowed to take the course. Billing takes place under your provider's subscription agreement. You cannot use Commerce if you choose a subscription model.

### Related Information

[OPEN CONTENT NETWORK System Property File \[page 8\]](#)

## 2.3 OPEN CONTENT NETWORK System Property File

After you sign agreements with content providers, you configure the Open Content Network to connect SAP SuccessFactors Learning to the provider.

### Enabling the System and the Providers

Table 5:

This property...	...Is Used As Follows
<code>enableWebCoursesTabInCatalogSearch</code>	Set to <b>true</b> to enable the Web Courses tab in the end users' learning catalog pages. All MOOC courses appear on this tab. Set to <b>false</b> to disable the tab. When you disable the tab, you disable all user access to the MOOC courses: if they cannot see the tab, they cannot see the courses.
<code>providers[&lt;specific provider name&gt;].*</code>	Do not change any value for a property that starts with <code>providers</code> unless you are directed to do so by a SAP SuccessFactors Learning representative. There are two exceptions to this rule, and they are described in the rows below.
<code>providers[&lt;specific provider name&gt;].enabled</code>	By default, all providers are disabled (this property is set to <b>false</b> ). Set to <b>true</b> to enable the provider after you sign an agreement.
<code>providers[LYNDA].orgID</code>	The provider Lynda.com provides its customers with an organization ID, as a way to organize its customers. You find the organization ID in your agreement. Paste the organization ID as the value of <code>providers[LYNDA].orgID</code> .
<code>providers[&lt;specific provider name&gt;].fetchDeltaOnly</code>	When set to <b>true</b> , the system fetches changes to the provider's catalog instead of the entire catalog. Administrators see the catalog in <a href="#">Learning &gt; Content Network</a> . You can set this property to <b>false</b> to do a first import. After the Automatic Process Manager (APM) <a href="#">System Admin &gt; Automatic Processes &gt; Open Content Network Content Synchronization</a> runs the first time, you can set it to <b>true</b> to import only the changes. Remember that this property is per provider, so run a full fetch (set it to <b>false</b> for the first run of the APM) each time you add a provider.



This property...	...Is Used As Follows
<code>providers[&lt;specific provider name&gt;].pricingModel</code>	<p><code>providers[&lt;specific provider name&gt;].pricingModel</code> determines the pricing model of the provider. Valid values are:</p> <ul style="list-style-type: none"> <li>A value of <b>null</b> means that the provider falls back on whatever pricing you have configured in Commerce or falls back on free courses. If you want to use OCN with SAP SuccessFactors Learning commerce, then type <b>null</b>. If you plan to offer all courses for free, type <b>null</b>.</li> <li>If you want to publish the price of an OCN course on users' catalogs and allow them to pay for it a la carte from the OCN provider, type <b>RETAIL</b>. The provider must have an a la carte option. Companies can use this, for example, if they tell users to charge the course to a credit card and submit it in an expense report. The transaction takes place outside SAP SuccessFactors Learning, but we do show the pricing information so that users can make informed decisions. You cannot use Commerce if you select a retail model.</li> <li>If you signed up under a provider's subscription model, type <b>SUBSCRIPTION</b>. Subscription models vary, but users under a valid subscription are allowed to take the course. Billing takes place under your provider's subscription agreement. You cannot use Commerce if you choose a subscription model.</li> </ul>
<code>providers[OPENSESAME].config.appKey</code>	OpenSesame requires a tenant ID, an app key, and a secret key. With an OpenSesame account, you can retrieve the information at <a href="https://www.opensesame.com/OCN">https://www.opensesame.com/OCN</a> ➔
<code>providers[OPENSESAME].config.secretKey</code>	OpenSesame requires a tenant ID, an app key, and a secret key. With an OpenSesame account, you can retrieve the information at <a href="https://www.opensesame.com/OCN">https://www.opensesame.com/OCN</a> ➔
<code>providers[OPENSESAME].config.tenantID</code>	OpenSesame requires a tenant ID, an app key, and a secret key. With an OpenSesame account, you can retrieve the information at <a href="https://www.opensesame.com/OCN">https://www.opensesame.com/OCN</a> ➔

## Setting Default Import Values

When you import content from a provider to SAP SuccessFactors Learning, each course becomes a learning item in your system. The following properties define the default values when the system creates the learning item. The default values are the recommended values for most customers (the most common configuration case). The provider ID is a part of the provider's configuration such as `providers[OPENSESAME].enabled=false`.

Table 6:

This Property...	...Is Used as Follows
<code>defaultValues.domainID[default]</code>	This value is the default security domain of learning items created from importing MOOC content. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.crossDomainEnabled[default]</code>	This value determines whether cross domain support (CDS) is enabled on the content. CDS is supported for Lynda only, and to use it, you must set up CDS. To set up CDS, read the <i>Integration - Learning and Cross-Domain Content Servers</i> document for your release. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.enableMobileAccess[default]</code>	This value is the default value for the flag that enables mobile learning access for the learning items. If you want users to access the MOOC content only through a browser on laptops, set to <b>false</b> . The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.isOnline[default]</code>	This is the default setting for the flag that allows users to access the learning item. If you want to import MOOC content but you want to hide it until you have a chance to review each learning item, set the value to <b>false</b> . To reduce your review workload, set to <b>true</b> . The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.isApprovalRequired[default]</code>	This is the default setting for the flag that either requires or does not require approval to take a course. The idea of MOOC courses is that are highly available to your users, so in most cases, you should set to <b>false</b> . You can always set individual learning items to require approval later. Set to <b>true</b> to require, by default, approval to launch MOOC courses. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.

This Property...	...Is Used as Follows
<code>defaultValues.processDefinitionID[default]</code>	If you require an approval process by default in <code>isApprovalRequired</code> , then you create a default approval process and paste the ID as the value of this property. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.isSupervisorCanRecordLearningEvents[default]</code>	This is the default setting for the flag that allows supervisors to record learning events on the learning item. The idea of MOOC courses is that they are highly available to your users, so we recommend setting this to <b>true</b> . You can always override the default value for individual learning items. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.isUserCanRecordLearningEvents[default]</code>	This is the default setting for the flag that allows end users to record learning events on the learning item. The idea of MOOC courses is that they are highly available to your users, so we recommend setting this to <b>true</b> . You can always override the default value for individual learning items. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.currencyCode[default]</code>	If you set up commerce for MOOC content and if you do not want to use the default currency code, then provide an alternative currency code here. The currency code is the ID from <a href="#">▶▶ References ▶ Commerce ▶ Currencies ▶</a> . The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.itemType[default]</code>	This is the default learning item type value for learning items created from importing MOOC content. Item type is sometimes confused with item classification. Item types are enumerated in <a href="#">▶▶ References ▶ Learning ▶ Item Types ▶</a> . The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.

This Property...	...Is Used as Follows
<code>defaultValues.itemCompletionStatus[default]</code>	This is the default value for completion status of the learning items created from importing MOOC content. This value is useful in two circumstances: when the value of <code>markCompleteOnLaunch</code> is set to <b>true</b> or when <code>crossDomainEnabled</code> is set to <b>true</b> . The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.itemFailureStatus[default]</code>	This is the default value for failure status of learning items created from importing MOOC content. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.reviewable[default]</code>	This is the default value for the flag that enables a learning item to be reviewable. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.
<code>defaultValues.markCompleteOnLaunch[default]</code>	This is the default value for the mark complete on launch flag for learning items created from MOOC content. If you are tracking completion status, we recommend you set to <b>true</b> in this release. The bracket default is what the system falls back to if you do not include the provider name, for example, OPENSESAME. To do so, simply copy the property and replace 'default' with your provider, for example, OPENSESAME.

## Related Information

[Open Content Network Content Synchronization \[page 12\]](#)

## 2.4 Open Content Network Content Synchronization

We use an Automatic Process Manager (APM) to sync the catalogs of Open Content Network (OCN) providers with the Learning Management System (LMS).

When the *Open Content Network Content Synchronization* APM runs, it finds courses in your enabled MOOC provider catalogs and synchronizes those course listings with your system. The properties that control this process are set in ► [System Admin](#) ► [Configuration](#) ► [System Configuration](#) ► [OPEN CONTENT NETWORK](#) ►.

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After synchronization, you can see the providers' courses in [▶ Learning > Content Network ▶](#).

## Related Information

[OPEN CONTENT NETWORK System Property File \[page 8\]](#)

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## 3 Open Content Network Courses as Learning Items

After a learning administrator imports Open Content Network (OCN) courses to learning items, you have special tools for managing OCN learning items.

In most cases, Open Content Network (OCN) courses are treated like other learning items in the system. You can associate the learning items to catalogs and users see the courses inside their catalogs, mixed in with courses from iContent and other sources. We do understand that OCN courses are different because they are hosted on third party websites, so we offer filters to help users find OCN content in their catalogs and users see the logo of the OCN partner on the learning item.

In the administration environment, you have some additional tools to manage OCN content. You have a filter that returns only OCN content in searches and you have a way to bulk activate and deactivate OCN courses by partner.

### Related Information

[Importing Open Content \[page 15\]](#)

[Open Content Network Sessions \[page 14\]](#)

[Searching for Open Content Learning Items \[page 15\]](#)

[Activating and Deactivating Open Content Network Learning Items \[page 16\]](#)

### 3.1 Open Content Network Sessions

Administrators often want to see upcoming sessions for a learning item that has been created through Open Content Network import.

In [▶ Learning ▶ Items ▶ Open Content Network Sessions ▶](#), administrators can see the upcoming sessions for the learning item. The sessions are offered by a third party as well as made available to the users in the catalog and in an item details page, so administrators' view of an item details page on the learning item is to investigate the sessions.



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## 3.2 Searching for Open Content Learning Items

Search for learning items that were created from the Open Content Network (OCN) when you want to find MOOC courses in the Learning Management System (LMS).

### Prerequisites

You have enable OCN and imported at least one course.

### Procedure

1. Go to ► [Learning](#) ► [Items](#) ▾.
2. In [Item Classification](#), click the filter button.  
If you do not see [Item Classification](#), click [Add/Remove Criteria](#) to add it to your search page.
3. Select EXTERNAL-COURSE and then click [Add to Filter](#).  
When you add EXTERNAL-COURSE to the filter, you filter in OCN courses.
4. Click [Submit Filter](#).
5. In [Item Sources](#), click the filter button.  
If you do not see [Item Sources](#), click [Add/Remove Criteria](#) to add it to your search page.
6. Select the individual OCN provider that you want to search for and submit the filter.
7. Configure the rest of the search as necessary and then click [Search](#).

## 3.3 Importing Open Content

Import content from Online Content Network (OCN) partners when you want to make their courses available to your users.

### Prerequisites

Before you can import open content, you must:

- Sign an agreement with at least one MOOC vendor and configure the OPEN CONTENT NETWORK system properties file for the vendor.
- Run the Open Content Network Content Synchronization automatic process at least one time. After you run the process, you can see what courses are available from the vendor for import to your system.

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## Procedure

1. Go to [Learning > Open Content](#).
2. Search for the content you want to import.
3. For each course you want to import, select the *Import* check box and then click *Import*.

## Next Steps

After you import the courses, consider testing the import. Go to [Users > Users](#) and select a user who you think should see the course. In the user record, click [Actions > Launch Proxy](#). Go to the user's catalog and look for the courses you imported.

If you need to disable all courses in batch, you can do so in [Learning > Tools > Activate/Deactivate Content Network](#).

## Related Information

[Activating and Deactivating Open Content Network Learning Items \[page 16\]](#)

[Open Content Network Content Synchronization \[page 12\]](#)

## 3.4 Activating and Deactivating Open Content Network Learning Items

Activate and deactivate Open Content Network (OCN) learning items to hide or show them in users' catalogs in bulk.

### Prerequisites

You must have the Activate/Deactivate Learning Content Network workflow in your role.

### Context

SAP SuccessFactors Learning Open Content Network (OCN) allows you to import some courses from the course catalogs of Massive Online Open Course (MOOC) providers. You do not import the content. You only import the

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course catalog line from their catalog to users' catalogs. The content always remains on the MOOC provider web site.

Because the content remains on the MOOC provider web site, you might want to turn off access to one MOOC provider. Put another way, you want to deactivate all the pointers from users' course catalogs to the MOOC providers' content. For example, if you decide not to renew a contract with a provider but think you might renew it in the future, you can disable the providers' learning items to hide them throughout the system without deleting them.

When a record is inactive, most of the system does not include that record in searches or reports. Some searches and reports allow administrators to include inactive records. Inactivating (instead of deleting it) hides it from view but keeps it for historical record. Because you cannot restore a deleted record, we recommend that you delete a record only when you make a mistake (for example, if the record ID is simply incorrect).

## Procedure

1. Go to ► [Learning](#) ► [Tools](#) ► [Activate/Deactivate Content Network](#) ►.

You see a list of providers that have learning items in your system and you see them in two different lists:

- [Open Content Network Deactivation](#) contains providers that have active content that you can deactivate in bulk.
  - [Open Content Network Item Reactivation](#) contains providers that were active at one time, that you deactivated in bulk, and that you can reactivate.
2. To inactivate or deactivate a provider's learning items, select the provider from the list, select it from the list and then click [Apply Changes](#).
  3. Review the list of courses that will be changed and then click [Continue](#).

Activation and deactivation are large jobs so it is likely that you need to run a background job. Follow the instructions on the screen to run a background job.

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## 4 Configuring SAML for OCN

Set up Security Assertion Markup Language (SAML) for Open Content Network (OCN) so that your users click an assignment and pass directly through to the content hosted at the OCN provider.

### Prerequisites

Before you can begin using SAML integration between an OCN provider and SAP SuccessFactors Learning, you should have agreements with both parties:

- A license that covers OCN in SAP SuccessFactors Learning
- An agreement for SAML with the Open Content Network (OCN) vendor. Agreements differ by vendor.

### Context

If you do **not** set up Security Assertion Markup Language (SAML) integration between the third party provider and SAP SuccessFactors Learning, users must log in every time they click a link to content hosted on the provider's site. We recommend that you configure SAML integration between SAP SuccessFactors Learning and the provider so that when a user is authenticated to SAP SuccessFactors Learning, the user is **not** required to log in again at the provider's site.

### Procedure

1. Provide your OCN vendor with the SAML Identity Provider Description (IPD), which is metadata that identifies SAP SuccessFactors Learning as legitimate under a certificate authority.

You need to give the IPD to the technical staff at provider. The IPD is a standard file, so they know how to use it in their system.

2. Request an organization ID from the provider.

Your provider might have a different name for this data, but it is the string that identifies your company on the provider's site. It is your unique ID that identifies your users from among all the users consuming the provider's courses.

3. Log in to SAP SuccessFactors Learning administration and then go to [System Admin](#) > [Configuration](#) > [System Configuration](#) > [OPEN CONTENT NETWORK](#).
4. In [OPEN CONTENT NETWORK](#), locate this parameter: `providers[<your provider>].orgID` (where `<your provider>` is the OCN vendor you are connecting to).
5. Set the value of `providers[<your provider>].orgID` to the organization ID that the vendor gave you.



```
<NameIDFormat>urn:oasis:names:tc:SAML:1.1:nameid-format:unspecified</  
NameIDFormat>  
</IDPSSODescriptor>  
</EntityDescriptor>
```

## Related Information

[Configuring SAML for OCN \[page 18\]](#)



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# 5 Importing OCN Content References to SAP SuccessFactors Learning

Import Online Content Network (OCN) references to SAP SuccessFactors Learning so that SAP SuccessFactors Learning administrators can create trackable units of learning from the OCN courses.

## Prerequisites

Before you can begin importing content references from an OCN provider to SAP SuccessFactors Learning, you should have agreements with both parties:

- A license that covers OCN in SAP SuccessFactors Learning
- An agreement for importing content with the Open Content Network (OCN) vendor. Agreements differ by vendor.

## Procedure

1. Get an OAuth token so that you can authenticate to SAP SuccessFactors Learning.
2. Use the payload examples and parameter descriptions to build a client that posts the content.

## Related Information

[Obtaining an OAuth Token \[page 33\]](#)

[Generating a Client Secret to Enable Token Requests \[page 32\]](#)

[Open Content Network Course Import Payload Example \[page 21\]](#)

[Open Content Network Course Import Web Service Parameters \[page 23\]](#)

## 5.1 Open Content Network Course Import Payload Example

### Sample Code

```
{
  "ocnCourses": [
    {
      "courseID": "LDA-100",
```

```

"providerID":"LYNDA",
"status":"ACTIVE",
"title":[
  {
    "locale":"English",
    "value":"Poetic Computers"
  }
],
"description":[
  {
    "locale":"English",
    "value":"People often think that they can tell the
difference between art and imitation, but can we really
tell the difference? What if computers wrote our poetry?"
  }
],
"thumbnailURI":"https://<root>.com/images/poem.jpg",
"content":[
  {
    "providerID":"LYNDA",
    "launchURL":"http://<root>/can_a_computer_write_poetry",
    "contentType":"Poetic Computers",
    "contentID":"37f766bb-5e96-4c29-82d6-ee1c5bd887fb",
    "launchType":2,
    "mobileEnabled":false,
    "mobileLaunchURL":null
  }
],
"price":[
  {
    "currency":"USD",
    "value":12.00
  },
  {
    "currency":"INR",
    "value":222.00
  }
],
"schedule":[
  {
    "startDate":1451556622000,
    "endDate":1427796622000,
    "active":true,
    "duration":"12 weeks"
  }
],
"revisionNumber":1,
"duration":"18 minutes"
},
{
  "courseID":"LDA-100",
  "providerID":"LYNDA",
  "status":"ACTIVE",
  "title":[
    {
      "locale":"English",
      "value":"Creativity in Scarcity"
    }
  ],
  "description":[
    {
      "locale":"English",
      "value":"How often have you said that you had to
get creative to solve a problem because you lacked
resources? Getting creative often happens when you
encounter scarcity."
    }
  ]
}

```

```

    ],
    "thumbnailURI": "https://<root>/images/piano.jpg",
    "content": [
      {
        "providerID": "TED",
        "launchURL": "http://<root>/_messy_problems_inspire",
        "contentTitle": "Creativity in Scarcity",
        "contentID": "37f766bb-5e96-4c29-82d6-ee1c5bd887fb",
        "launchType": 2,
        "mobileEnabled": false,
        "mobileLaunchURL": null
      }
    ],
    "price": [
      {
        "currency": "USD",
        "value": 12.00
      },
      {
        "currency": "INR",
        "value": 222.00
      }
    ],
    "schedule": [
      {
        "startDate": 1451556622000,
        "endDate": 1427796622000,
        "active": true,
        "duration": "12 weeks"
      }
    ],
    "revisionNumber": 1,
    "duration": "18 minutes"
  }
]
}

```

## 5.2 Open Content Network Course Import Web Service Parameters

Open Content Network (OCN) providers can post a set of courses to SAP SuccessFactors Learning so that customers can convert them to learning items (assignable units of learning).

To post courses to SAP SuccessFactors Learning:

```
POST http://<BASE_URL>/learning/odatav4/public/admin/ocn/v1/OcnCourses
```

Table 7: Open Content Network Course Import Web Service

Parameter	Description
courseID	This is the OCN provider's unique ID for the course. It is required so that SAP SuccessFactors Learning can maintain a map between learning items and OCN courses.

Parameter	Description
providerID	This is the unique ID of the provider as set in SAP SuccessFactors Learning. It is required.
status	The status of the course. Values can be ACTIVE, INACTIVE, or DELETED. If it is not passed, the system defaults to ACTIVE.
title	<p>An array of titles for the course. Each member of the array is the title in a language. For example:</p> <pre>{   "locale": "English",   "value": "Can a computer write poetry?" }</pre> <p>The <code>locale</code> member is a string that uniquely identifies the locale in SAP SuccessFactors Learning.</p> <p>The array must have at least one member (you must have at least one title in one language).</p>
description	<p>An array of descriptions for the course. Each member of the array is the description in a language. For example:</p> <pre>{   "locale": "English",   "value": "If you read a poem and feel moved by it,   but then find out it was actually written by   a computer, would you feel differently about   the experience?" }</pre> <p>The <code>locale</code> member is a string that uniquely identifies the locale in SAP SuccessFactors Learning.</p> <p>The array must have at least one member (you must have at least one description in one language).</p>
thumbnailURI	A URI to an image that is the icon for the course. Thumbnails help users recognize the course or the series of courses.
content	An array of content sections for the course. For example, if a course is broken into three videos, you create an array of three members, one for each video.
providerID	Part of the <code>content</code> array. This provider ID almost always matches the provider ID from earlier in the call. But it provides the flexibility for partnerships.
launchURL	Part of the <code>content</code> array. This is the URL that users would click to launch this part of the course.

Parameter	Description
contentTitle	<p>Part of the <code>content</code> array. This is the title for the section of the content. For example, the title for the <b>course</b> can be Artificial Intelligence and Creativity, but the section titles can be Defining Creativity, Can you Create Creativity? and so on.</p> <p>Each member of the array is the title in a language. For example:</p> <pre>{   "locale": "English",   "value": "Can you Create Creativity?" }</pre> <p>The <code>locale</code> member is a string that uniquely identifies the locale in SAP SuccessFactors Learning.</p> <p>The array must have at least one member (you must have at least one title in one language).</p>
contentID	Part of the <code>content</code> array. The unique ID for the section of content.
launchType	Part of the <code>content</code> array. This is one of the allowed launch types.
mobileEnabled	Part of the <code>content</code> array. It is a Boolean. If set to <code>true</code> , then the course can be launched on a mobile device.
mobileLaunchURL	Part of the <code>content</code> array. If <code>mobileEnabled</code> is set to <code>true</code> , and if the mobile URL is different from <code>launchURL</code> , then you can provide the URL that launches the mobile content.
price	<p>An array of prices in different currencies. We use ISO 4217 for our currency codes.</p> <p>For example:</p> <pre>{   "currency": "USD",   "value": 12.00 }, {   "currency": "INR",   "value": 222.00 }</pre>
schedule	An array of scheduling information that tells users when the course is available. These are windows when the course is open.
startDate	Part of the <code>schedule</code> array. It is the Unix Epoch date that the course begins its availability.
endDate	Part of the <code>schedule</code> array. It is the Unix Epoch date that the course ends its availability.
active	Part of the <code>schedule</code> array. It is a Boolean that indicates availability. If <code>true</code> , then the course is currently available. that the course ends its availability.

Parameter	Description
duration	Part of the <code>schedule</code> array. It is a string that users read to know how long the course lasts.
revisionNumber	This is the incremental revision of the course. If you do not provide one, the system defaults to 1.
duration	This duration is outside the <code>schedule</code> array. If a <code>schedule</code> array member is missing a duration, the system uses this one for that member of the array.

## Related Information

[Locale Codes for SAP SuccessFactors Learning \[page 43\]](#)

[Content Object Launch Methods \[page 42\]](#)

[Open Content Network Course Import Payload Example \[page 21\]](#)

[OCN Provider Codes \[page 41\]](#)



## 6 Sending Completion Status from an OCN Provider to SAP SuccessFactors Learning

When SAP SuccessFactors Learning users complete an Open Content Network (OCN) course that is hosted at the OCN partner's site, the partner can send a completion message back to SAP SuccessFactors Learning so that Learning Management System (LMS) can post their completion.

### Prerequisites

Before you can begin sending completion status from an OCN provider to SAP SuccessFactors Learning, you should have agreements with both parties:

- A license that covers OCN in SAP SuccessFactors Learning.
- An agreement for sending completion status from the Open Content Network (OCN) vendor. Agreements differ by vendor.

The agreement should describe data that the provider is responsible for storing and for how long. For example, the provider must store the SAP SuccessFactors user ID. The provider can get the user ID from a SAML sign in or from a native sign in, but the provider should store it for at least the length of the session. To mark the user complete, the provider must provide that user's SAP SuccessFactors user ID. For a full list of what the provider might store, look at the parameters that the provider can send back for completion status. [Open Content Network Completion Status Parameters \[page 28\]](#)

### Procedure

1. Get an OAuth token so that you can authenticate to SAP SuccessFactors Learning.
2. Use the payload examples and parameter descriptions to build a client that posts completion status.

### 6.1 Open Content Network Completion Status Payload Example

#### Sample Code

```
{
  "userID": "<USERID>",
  "courseID": "<COURSEID>",
  "providerID": <PROVIDERID>,
  "courseCompleted": "true",
  "completedTimestamp": <COMPLETEDTIMESTAMP>,
```

```

"instructorName": "<InstructorName>",
"grade": "<grade>",
"totalHours": "<TOTALHOURS>",
"creditHours": "<CREDITHOURS>",
"contactHours": "<CONTACTHOURS>",
"cpeHours": "<CPE>",
"comments": "<COMMENTS>",
"price": "<PRICE>",
"currency": "<CURRENCY>"
}

```

## 6.2 Open Content Network Completion Status Parameters

These parameters contain the information that mark courses complete from Online Content Network (OCN) to SAP SuccessFactors Learning.

Table 8: OCN Completion Status Parameters

Parameter	Description
userID	This is the SAP SuccessFactors Learning user ID for the user who completed the course. The OCN provider can get the user ID through a sign-in channel. For example, from a SAML integration or from a native sign-in at their site. It could also be that the user IDs are mapped: that the SAP SuccessFactors Learning user ID is the same as the OCN provider's user ID. Regardless, the user ID is required.
courseID	This is the provider's course ID. SAP SuccessFactors Learning maintains a map between the provider's course ID and the SAP SuccessFactors Learning learning item ID.  The map is maintained by the Open Content Network Content Synchronization automatic process, so be sure that a learning administrator schedules it for you. If it does not run regularly, then the provider's data becomes out of sync with the SAP SuccessFactors Learning data.
providerID	The unique ID for the OCN provider from the list of OCN provider codes.
courseCompleted	This is a Boolean. It can be set to <code>true</code> to indicate that the user completed the course or <code>false</code> if they did not. How you define "completion" is up to your agreement. You might define "completion" to mean that the user simply finished the course or you might define it to mean that the user finished the course and passed the exams.
completedTimestamp	This is the Unix Epoch time that the user completed the course. SAP SuccessFactors Learning uses this completion date for the audit trail of users' completion.
instructorName	The instructor's name as passed by the provider. The instructor's name is <b>not</b> validated against the list of internal instructors because we do not track providers' instructors. By passing an instructor name, you help SAP SuccessFactors Learning users and their supervisors remember the courses. For example, during a performance review, they might talk about accomplishments like completing a course by a renowned instructor.

Parameter	Description
grade	This is the grade in the course. We do not validate this grade for completion status or rating scales. It is any string that describes the grade that the user earned <b>as the OCN provider</b> sets the grades.
totalHours	The total hours that a user earns for completing a course.  Hours can be important to individual SAP SuccessFactors Learning customers and so a customer can ask a provider to store the hours for courses or to make a tally from data that the provider already has. For example, for total hours, a customer could ask the provider to sum the hours that a user spent watching videos (the length of the videos) and listening to live Q&A sessions (the length of the sessions).
creditHours	Credit hours are the number of hours that a user earns for completing a learning event. For example, in many U.S. colleges, students attend a single class for 15 weeks, 3 days each week, and 1 hour each day. In this case, the total hours equals 45; however, the college grants 3 <b>credit hours</b> for this class.  Hours can be important to individual SAP SuccessFactors Learning customers and so a customer can ask a provider to store the hours for courses or to make a tally from data that the provider already has. For example, a provider might list its own credit hours and report those hours to a customer.
contactHours	Contact hours are the total number of hours that you expect a user to have contact with an instructor. For example, if you set up a blended learning item that has 8 total hours and, for 6 of those hours, you expect the user to be in an instructor-led segment, then the contact hours equals 6.  Hours can be important to individual SAP SuccessFactors Learning customers and so a customer can ask a provider to store the hours for courses or to make a tally from data that the provider already has. For example, for contact hours, a customer could ask the provider to sum the hours that a user spent in contact with the instructor through live Q&A sessions (the length of the sessions) but not the hours that a user spent watching videos (the length of the videos).
cpeHours	CPE is an abbreviation for "Continuing Professional Education" and refers to learning activities that users perform to maintain and expand the skills that their profession demands. Therefore, CPE hours are very much like credit hours, but the accumulation of CPE hours often leads to a professional certification.  Hours can be important to individual SAP SuccessFactors Learning customers and so a customer can ask a provider to store the hours for courses or to make a tally from data that the provider already has. For CPE hours, it is likely that the provider already knows the hours for professional certification or that the customer and provider come to an agreement about the hours.
comments	This is a string for any comments about the completion.

---

Parameter	Description
price	<p>Depending on the agreement between the provider and customer, users can purchase based on a subscription or can purchase individual courses. If users purchase individual courses, the customer and provider agree on prices. This parameter allows the provider to pass the price for the course back to SAP SuccessFactors Learning.</p> <p>Remember that the completion status can be either <code>true</code> or <code>false</code>, so the provider can pass prices for incomplete courses. Structure your agreement to account for complete and incomplete courses.</p>
currency	This is the currency of the price.

## Related Information

[SAP SuccessFactors Learning Currencies \[page 41\]](#)

[OCN Provider Codes \[page 41\]](#)

---

# 7 Getting an OAuth Token for Web Services

## 7.1 Overview of OAuth for SAP SuccessFactors Learning

This topic provides an overview of the OAuth authentication for SAP SuccessFactors Learning web services, which use a RESTful interface, and pass JSON objects.

### Audience for OAuth and Web Service Documentation

To be successful with SAP SuccessFactors Learning web services, you need experience building clients with HTTP 1.1 specifications, RESTful conventions, JSON formatting, and OAuth tokens.

### Root URLs

The root URL is the URL you type into a browser to open the log in page, like <https://acme.successfactors.com>. In this document, you see URLs as follows, where you substitute {root} with your root URL:

- Calls to the actual web services are prefaced by: <https://{root}/learning/public-api/odatav4>. The path is reiterated in each of the web service calls descriptions.
- Calls to get tokens are prefaced by: <https://{root}/learning/oauth-api/rest/v1/token>. The path is reiterated in the documentation for getting tokens.

If you do not know your learning server URL, contact SAP SuccessFactors for help.

#### **i** Note

As of May 5, 2015, all new customer / new webservices implementations are required to use OData APIs for integrations. The old RESTful web services, which were **not** based on OData, will continue to be supported (but not enhanced). They will be supported for customers who already implemented a solution based on the old RESTful APIs before May 5, 2015. We recommend that you begin using the OData web services described in this document.

### About OAuth

OAuth is a widely accepted framework for limited machine-to-machine data sharing. Full log in credentials are not stored or shared on the client machine. Instead, the client and server share a token that allows the client access to only a limited set of data and methods on the data. The process of gaining a token and its policy creates trust between the two servers. You can learn more about OAuth on its web site.

---

## About SAP SuccessFactors Learning Web Services

SAP SuccessFactors Learning web services follow standard RESTful conventions, OData conventions, and HTTP 1.1 conventions. When this document does not advise you about an issue, parameter, or convention, follow industry best practices. Before starting a project, we recommend that you speak to a SAP SuccessFactors Learning technical services representative.

### 7.1.1 Obtaining an OAuth Token For Learning Only Clients

If you are a customer using SAP SuccessFactors Learning but not other SAP SuccessFactors products, you have an alternate way of getting a token.

An authentication token establishes trust and limited access between two machines. The two machines in this case are the SAP SuccessFactors Learning server and your web service client application. Importantly, the trust is established between the client and the Learning server, not the client and the SAP SuccessFactors. For this reason, Learning only clients obtain the token differently from clients for customers that have Learning plus other SAP SuccessFactors products.

#### **i** Note

If you are using other SAP SuccessFactors products follow the steps required to get a token to the SAP SuccessFactors suite.

#### 7.1.1.1 Generating a Client Secret to Enable Token Requests

You generate a client secret from the SAP SuccessFactors Learning administration environment so that the web service client can obtain tokens.

#### Prerequisites

- You are a SAP SuccessFactors Learning administrator.
- You have access to the workflow that allows you to generate client secrets.

#### Context

You generate client secrets when you are building a web service client to SAP SuccessFactors Learning. It is the first step to authenticating to the web services. After you obtain a client secret, the web service client uses it to get OAuth tokens.

---

## Procedure

1. Log in to the SAP SuccessFactors Learning administration environment for your tenant and go to ► [System Admin](#) ► [Configuration](#) ► [OAuth Token Server](#) ►.
2. Click [Generate a new Client Secret](#).  
SAP SuccessFactors Learning generates a client secret, a client secret has value, and a public key.
3. Copy the values on the page.
4. Make the results available to the person developing web service clients to SAP SuccessFactors Learning.

## Next Steps

- The values on this page are the keys that open access to LMS web services. Transmit them securely according to your organization's security policy.
- If you generate a new client secret, you invalidate all previously generated ones. If you have clients that are using a previously generated secret to gain a token, you must update the client to use the new secret.
- The secret is not stored, so if you lose it, you need to generate another. When you navigate away from OAuth Token Server page, the secret disappears from the page.

## 7.1.1.2 Obtaining an OAuth Token

You obtain an OAuth token at the beginning of every web service session by using the client secret that a SAP SuccessFactors Learning administrator generated for you.

### Context

You obtain an OAuth token to verify that your client is authorized to communicate with SAP SuccessFactors Learning.

## Procedure

1. Concatenate the client ID and secret, separated by a colon.

For example, if the client ID is t1 and the secret is 52d85f24492ff918dcd1935a45a9d34acd79e249fe331753c6e0105b109e034a then the result is:

```
t1:52d85f24492ff918dcd1935a45a9d34acd79e249fe331753c6e0105b109e034a
```

2. Encode the concatenated client ID and secret with base64 encoding.

For example, the following concatenation:

```
t1:52d85f24492ff918dcd1935a45a9d34acd79e249fe331753c6e0105b109e034a
```

Encodes to:

```
dDE6NTJkODVmMjQ0OTJmZj kxOGRjZDE5MzVhNDVhOWQzNGFjZDc5ZTI0OWZlMzMxNzUzYzZlMDEwNWlzM  
Dl1MDM0YQ==
```

3. Over HTTPS, call the token granting service.

Sample call to the token granting service:

```
POST {root}/learning/oauth-api/rest/v1/token
```

4. Pass the encoded client ID and client secret in the request header.

Sample header:

```
Authorization: Basic <encoded token from previous step>
```

SAP SuccessFactors Learning web services follow HTTP 1.1 standard, so for all other HTTP header parameters, use them to industry best practices and HTTP 1.1 standards. For example, set content-type to application/json.

5. Pass required OAuth token parameters.
6. Check the response header, which is either 200: OK or an error with the HTTP error code.
7. Store the information in response body for subsequent calls. You must provide the authorization token in the header of subsequent calls, and the expiration and type information helps you to manage the lifecycle of the token.

## 7.1.1.2.1 Required OAuth Token Parameters

When you make a call to obtain an OAuth token from SAP SuccessFactors Learning, these parameters are required.

When you make a call to SAP SuccessFactors Learning to obtain a token, you must pass the following parameters in the body of the request:

```
{
  "grant_type": "client_credentials",
  "scope": {
    "userId": "Usr1",
    "companyId": "t1",
    "userType": "user",
    "resourceType": "learning_public_api"
  }
}
```

Where:

**grant\_type**

For the scope of client web services, it is always client\_credentials.

**scope**



---

An object that describes the scope of access by a user that must exist on the specified tenant.

**userId**

The requested token's user ID

**companyId**

The tenant ID, which you can find the tenant ID in a number of locations, including the page that generates the client ID and secret.

**userType**

If the user is an "of type" administrator, then the value is "admin" or "A." If the user is an of type user, then the value is "user" or "P." We recommend spelling the type out (admin or user) to make the type clear.

**resourceType**

For the scope of this document, it is always "learning-public-api."

The call returns:

```
{
  issuedAt:<epoch UTC>,
  expiresIn: <epoch UTC>,
  issuedFor: "learning_public_api",
  access_token: "<token>"
}
```

Where:

**issuedAt**

The time, in Unix epoch, at which the token was issued.

**expires\_in**

The time, in Unix epoch, at which the token expires. Use this to understand when you need to call for another token.

**issuedFor**

The issued resource's resource type. For the purposes of web services to SAP SuccessFactors Learning, it is "learning\_public\_api."

## 7.1.1.2.2 Rules and Advice for Getting OAuth Tokens

Follow these rules and this advice when you get OAuth tokens for SAP SuccessFactorsLearning.

### Rules for Obtaining an OAuth Token

- For a user to obtain a token, the user's account must be:
  - Validated: Users must have a recognized ID and Password for the LMS.
  - Unlocked: Locked users cannot obtain tokens.

- Active: Inactivated users cannot obtain tokens.
- The token is valid only for the amount of time expressed in the field expiresIn. After a token expires, clients must obtain an unexpired token.

## Recommendations for Obtaining and Using Tokens

We recommend that you store the token on the client until it expires.

- The token is digitally signed and you have a public key to validate the digital signature.
- If the token remains valid and unexpired, it can be reused for the session.
- When the token expires or is otherwise invalid, you can repeat the steps to obtain a token.

### 7.1.2 Overview of Testing Token Access

Before you build your client, test your ability to get tokens from SAP SuccessFactors Learning. This topic provides a brief overview of the test.

Test your access to getting tokens from SAP SuccessFactors Learning so that you know you have basic access before you build a web service client. To do the access test, you can use any rest client and encoding tool, but we recommend Advanced Rest Client (from the Chrome store) and any free online base64 encoding tool.

To run the test, you follow the same steps that your web service client will follow (generating a client secret then obtaining a token) but you do it first from a visual client like Advanced Rest Client.

#### Related Information

[Generating a Client Secret to Enable Token Requests \[page 32\]](#)

[Obtaining an OAuth Token \[page 33\]](#)

#### 7.1.2.1 Setting up the Token Access Test

You set up the token access test by getting a client secret from SAP SuccessFactors Learning and encoding it and by getting client software that can make web service calls for you.

#### Procedure

1. Download and install Advanced Rest Client from the Chrome web store  
Although you can use any client, these instructions assume Advanced Rest Client.

- 
2. Go to SAP SuccessFactors Learning ► *System Admin* ► *Configuration* ► *OAuth Token Server* ► and generate a client secret.
  3. Copy the client ID, client secret, and client hash from the web page and paste them into a text file so that you can refer to them later.  
Although the hash isn't strictly necessary, you can use it to see if someone has changed the secret while you have been testing.
  4. Go to an online base64 encoder and encode the client ID and secret.  
The encoding is the client ID and the secret separated by a colon: <client ID>:<client secret>  
A base64 encoded client ID and secret.
  5. Copy the base 64 encoded client ID and secret from the online encoder to your text file so that you can refer to it later.
  6. Save the text file.

## Results

You have a text file with everything you need for your test:

- The raw client ID from the *OAuth Token Server* page.
- The raw client secret from the *OAuth Token Server* page.
- The client hash from the *OAuth Token Server* page.
- The base64 encoded client ID and secret from the online encoder.

## 7.1.2.2 Testing OAuth Token Access

Test OAuth token access to SAP SuccessFactors Learning before you begin building your web service client so that you know access works.

### Prerequisites

- You have set up the token access test by getting the client secret and base64 encoded client secret.
- You have downloaded a web service client like Advanced Rest Client (from the Chrome store).

### Procedure

1. Open Advanced Rest Client.
2. In the URL box, type: `https://<root url>/learning/oauth-api/rest/v1/token`. Substitute "<root url>" for your root URL domain.
3. Select POST from the methods list.

4. Select *Form* in the *Headers* section.
  - a. Add Request Header Name: `Authorization`
  - b. Add Request Header Value: `Bearer <encoded client ID and secret from the test set up>`
5. Create the JSON payload for the *Payload* section.

```
{
  "grant_type": "client_credentials",
  "scope": {
    "userId": "Usr1",
    "companyId": "t1",
    "userType": "user",
    "resourceType": "learning_public_api"
  }
}
```

Where:

**grant\_type**

For the scope of client web services, it is always `client_credentials`.

**scope**

An object that describes the scope of access by a user that must exist on the specified tenant.

**userId**

The requested token's user ID

**companyId**

The tenant ID, which you can find the tenant ID in a number of locations, including the page that generates the client ID and secret.

**userType**

If the user is an "of type" administrator, then the value is "admin" or "A." If the user is an of type user, then the value is "user" or "P." We recommend spelling the type out (admin or user) to make the type clear.

**resourceType**

For the scope of this document, it is always "learning-public-api."

6. Set content type to `application/json`.
7. Click *Send*.

## 7.1.3 API Throttling in SAP SuccessFactors Learning

API Throttling is a mechanism to protect SAP SuccessFactors Learning from increased traffic into public APIs.

Item, program, and curricula OData search web services are throttled to prevent parallel execution. To prevent parallel execution, those web services have a calling frequency of 500ms. If you call one, you must wait 500ms before making another call.

### → Tip

In later releases, SAP SuccessFactors Learning will begin enforcing additional throttling policies. To ensure your operations are not negatively impacted, please review the design of your clients to our web services. We recommend that you retrieve data page by page in sequential order.

## 7.1.4 Search Filter and Operator Support

SAP SuccessFactors Learning search web services support these OData criteria and operators.

### Example

#### Sample Code

This codeblock contains line breaks to fit the formatting of the page.

```
GET /learning/odatav4/public/admin/searchStudent/v1/Students?
$filter=contains(criteria/learnerID,'sa-user') and
criteria/firstName eq 'user-cdp'
```

### → Remember

URL syntax cannot have spaces. If you are testing the call, in a browser tool, substitute %20 for white space in the URL.

## Supported Operators

- eq
- ne
- has
- lt
- le
- gt
- ge

## Supported Filter

We currently support `contains` with an `and` operator.

---

## List of Search Web Services

These are the web services that use the operators and filters:

- Student Search
- Curricula Search
- Learning Item Search

## 8 References for OCN Web Services

### 8.1 OCN Provider Codes

Online Content Network (OCN) provider codes are the unique IDs that SAP SuccessFactors Learning uses to identify supported providers.

If you do not see a provider code listed here, you can check **your** configuration by logging in to SAP SuccessFactors Learning administration and then going to ► [System Admin](#) ► [Configuration](#) ► [System Configuration](#) ► [OPEN CONTENT NETWORK](#) ►. The provider codes are bracketed in your configuration file. For example, LYNDA is a provider code because you see it in brackets in the configuration file:  
`providers[LYNDA].enabled.`

Table 9: OCN Provider Codes

Code	Provider
COURSERA	Coursera
OPENHPI	openHPI
OPENSESAME	OpenSesame
LYNDA	Lynda.com
UDACITY	Udacity
HARVARDMM	Harvard Manage Mentor

### 8.2 SAP SuccessFactors Learning Currencies

SAP SuccessFactors Learning currencies is the set of currencies that you can use specifically for SAP SuccessFactors Learning commerce.

SAP SuccessFactors Learning currencies allow you to charge for learning in the users' local currencies and to account for costs in multiple currencies. Activate the currencies for economies where you operate and where you need financial transactions for SAP SuccessFactors Learning. Financial transactions that rely on currencies include charge back adjustments, order management, master inventory, cancellation policies, and account codes.

#### **i** Note

The currency names and alphabetical codes are based on ISO 4217. For a complete list of the currency names and code elements, go to the ISO official web site.

Manage currencies in [▶ Reference ▶ System Admin ▶ Currencies ▶](#).

## 8.3 Content Object Launch Methods

View this section if you want to know about content object launch methods.

Understanding content object launch methods will aid you in determining the appropriate content player in [▶ Content ▶ Content Objects ▶ Launch Method ▶](#) to launch the content object.

Table 10:

Programmatic Code	Launch Method	...Is used as follows
0	Content Player	The player is generally installed on a common internal server, though this technology is seldom used in modern courseware.
1	Document Type	The operating system determines the player for this content, based upon the file types and associations that are registered with the operating system.
2	AICC	Establishes the proper connection between SAP SuccessFactors Learning and the AICC courseware. All AICC content objects should be Web browser-based.
3	Browser	The system utilizes the user's browser to launch and run the selected content object. The content object is opened in a new web browser if you check the <a href="#">Launch in a New Browser Window</a> option. If the content object is opened in the same browser window, the URL must be secure using HTTPS.
4	SCORM 1.2 (Sharable Content Object Reference Model)	Establishes the proper connection between SAP SuccessFactors Learning and the SCORM-based, version 1.2 courseware.
5	SCORM 2004 2nd and 3rd edition (Sharable Content Object Reference Model)	Establishes the proper connection between SAP SuccessFactors Learning and the SCORM-based, version 2004, 2nd and 3rd edition courseware.



Programmatic Code	Launch Method	...Is used as follows
6	SCORM 2004 4th edition (Sharable Content Object Reference Model)	Establishes the proper connection between SAP SuccessFactors Learning and the SCORM-based, version 2004, 4th edition courseware.

## 8.4 Locale Codes for SAP SuccessFactors Learning

These are the IDs of locales for SAP SuccessFactors Learning.

Table 11:

The code in SAP SuccessFactors Learning	ISO Language Code	ISO Country Code
Arabic	ar	SA
Brazilian Portuguese	pt	BR
Bulgarian	bg	
Chinese	zh	
Chinese Hong Kong	zh	HK
Croatian	hr	
Chinese Taiwan	zh	TW
Czech	cs	
Danish	da	
Dutch	nl	
English	en	
English Canadian	en	CA
English United Kingdom	en	GB
Finnish	fi	
French	fr	
French Canadian	fr	CA
German	de	

The code in SAP SuccessFactors Learning	ISO Language Code	ISO Country Code
Hebrew	iw	IL
Hindi	hi	
Hungarian	hu	
Indonesian	in	
Italian	it	
Japanese	ja	
Greek	el	
Korean	ko	
Malay	ms	
Norwegian	no	
Polish	pl	
Portuguese	pt	
Romanian	ro	
Russian	ru	
Serbian	sr	
Slovak	sk	
Slovenian	sl	
Spanish	es	
Spanish Mexican	es	MX
Swedish	sv	
Thai	th	
Turkish	tr	
Ukrainian	uk	UA
Vietnamese	vi	
Welsh	cy	GB

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