Kaltura MediaSpace™ SAML Integration Guide

Version: 5.22

Kaltura
open source video

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Contents

Preface

This preface contains the following topics:

About this Guide

This guide describes how to configure the Security Assertion Markup Language (SAML) module in Kaltura MediaSpace™ (KMS) Version 4.x and 5.x.

NOTE: Please refer to the official and latest product release notes for last-minute updates. Technical support may be obtained directly from: Kaltura Customer Care.

Contact Us:

Please send your documentation-related comments and feedback or report mistakes to knowledge@kaltura.com.

We are committed to improving our documentation and your feedback is important to us.

Audience

This guide is intended for Kaltura partners, community members, and customers who want to understand and configure SAML authentication and authorization in MediaSpace.

To understand thisinformation, you need to be familiar with SAML, authentication and authorization terminology.

Document Conventions

Kaltura uses the following admonitions:

- Note
- Workflow

NOTE: Identifies important information that contains helpful suggestions.

Workflow: Provides workflow information.

1. Step 1
2. Step 2

Related Documentation

In addition to this guide, the following product documentation is available:

- Kaltura MediaSpace
- Kaltura MediaSpace Setup Guide
- Kaltura MediaSpace: Introduction to Authentication and Authorization Solutions

NOTE: Please remember to review all product release notes for known issues and limitations.

SECTION 1

Understanding SAML Implementation in Kaltura MediaSpace

SAML authentication in MediaSpace enables users to log into MediaSpace using their credentials from an organizational SAML based Identity Provider. A user does not require an additional set of credentials for MediaSpace.

When MediaSpace is configured to authenticate using SAML, other authentication methods are disabled.

NOTE: The MediaSpace SAML module supports SAML 2.0. Older Identity Providers that work with SAML 1.0 or SAML 1.1 are not supported by this module.

Understanding SAML Authorization in MediaSpace

A user's *application role* determines the MediaSpace actions that the user is authorized to do. When SAML is used for authorization in MediaSpace, the user's application role is based on membership in organizational groups and specific attribute in the SAML response. The organizational groups are managed in the organization's Identity Provider.

To learn more about the MediaSpace application role, refer to Understanding Application Roles in the Kaltura MediaSpace Setup Guide.

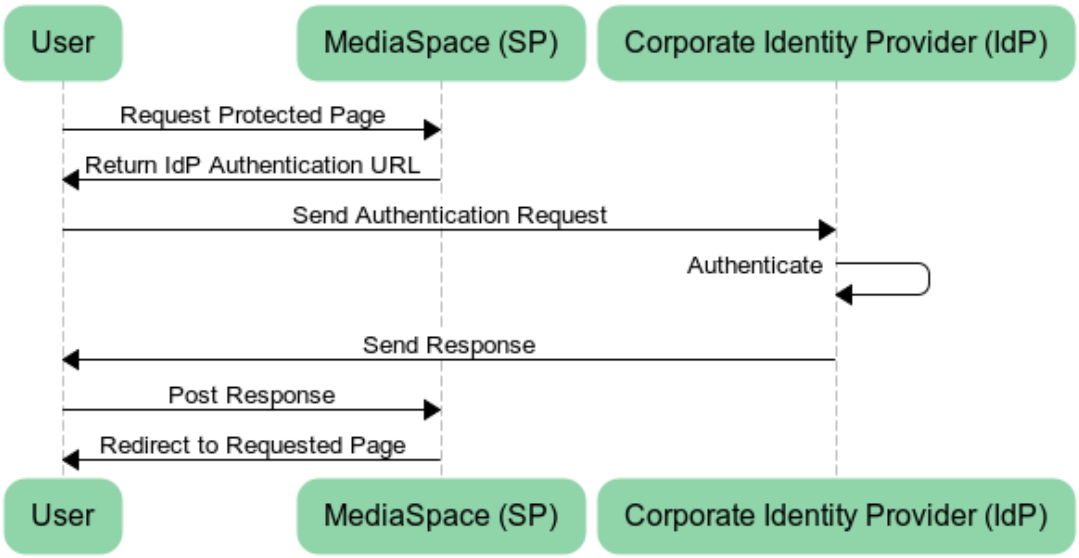
Understanding the SAML Authentication Flow

There are two types of SAML authentication:

- Service Provider Initiated Authentication
- Identity Provider (IdP) Initiated Authentication

Service Provider Initiated Authentication

In this workflow the user attempts to access a resource on MediaSpace that requires authentication. MediaSpace, the Service Provider ("SP") sends an authentication request to the Identity Provider ("IdP"). Both the request and the response are sent through the users' browser via HTTP Get.

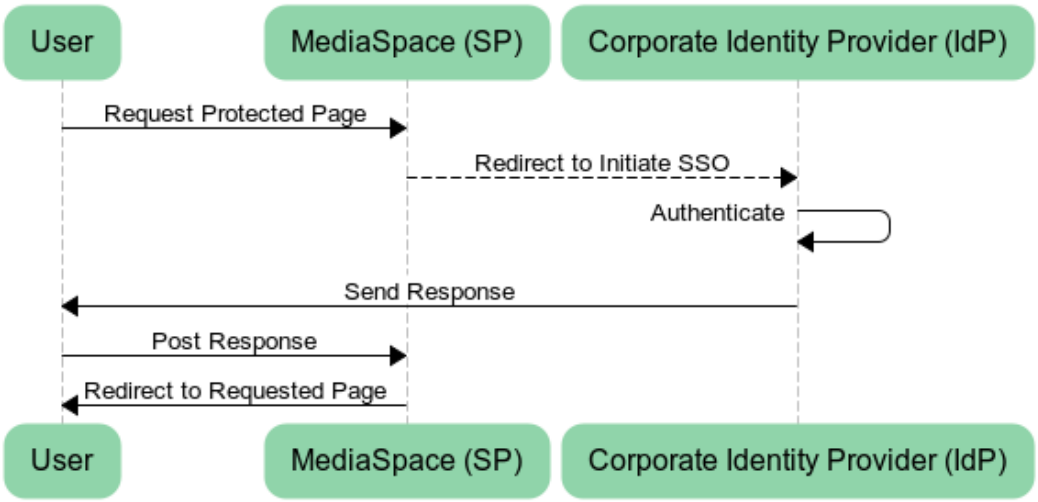


Processing Steps:

1. The user requests access to a MediaSpace page that requires authentication.
2. MediaSpace builds a request and the user's browser sends it to the IdP to handle the authentication.
3. On a successful authentication, The IDP returns an HTML form to the browser with a SAML response. The browser automatically posts the HTML form back to MediaSpace
4. MediaSpace redirects the user to the requested page.

Identity Provider (IdP) Initiated Authentication

In this workflow the entries process is handled by the Identity Provider. MediaSpace will redirect the user to an external URL that handles the authentication and redirects the user back to MediaSpace.



Processing Steps:

1. The user requests access to a MediaSpace page that requires authentication.
2. MediaSpace redirects the user to a URL on the IdP to handle authentication.
3. On a successful authentication, the IDP returns an HTML form to the browser with a SAML response. The browser automatically posts the HTML form back to MediaSpace
4. MediaSpace redirects the user to the requested page

Understanding the SAML Authorization Flow

Depending on your MediaSpace SAML configuration, MediaSpace queries attributes in the SAML response to determine the MediaSpace application role of the authenticated user. You can define a default role for authenticated users and map specific attributes and values to a MediaSpace role in the SAML module configuration.

SECTION 2

Configuring SAML in MediaSpace

This section describes the IdP Metadata Details and provides information on how to set up setup the SAML module for SP initiated and IdP initiated configurations.

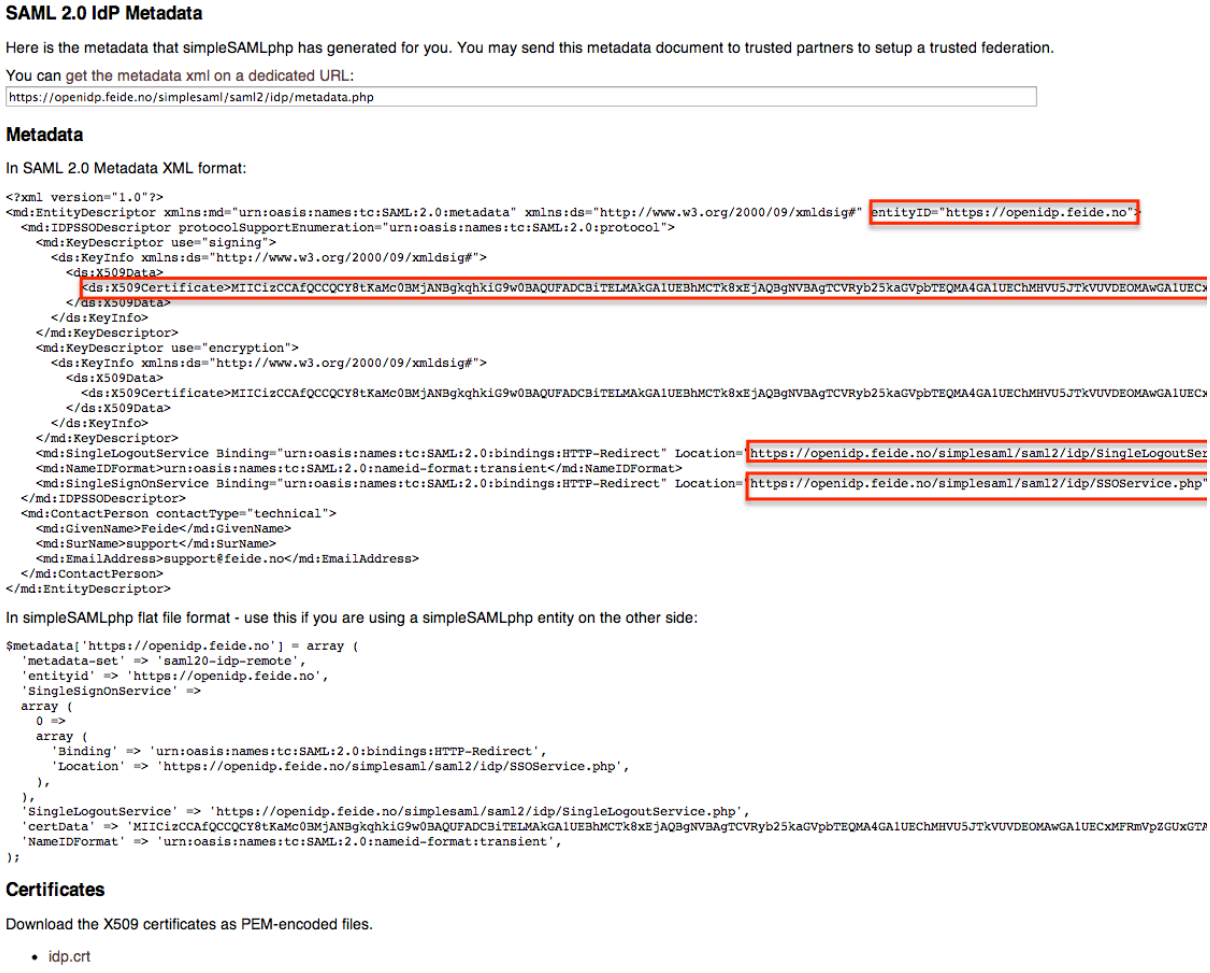
Identity Provider (IdP) Metadata Details

The following information about the Identity Provider is required to be able to configure the MediaSpace SAML module:

MediaSpace domain	
SAML Authentication Mode Select one	[ ] IdP Initiated [ ] SP Initiated
If IdP Initiated is used: What is the query string key for the *RelayState* Parameter?	
IdP Metadata XML	
Login URL (optional, if not specified in the IdP metadata)	
Logout URL (optional, if not specified in the IdP metadata)	
Host Name of IdP (optional, if not specified in the IdP metadata)	
IdP Issuer Name (optional, if not specified in the IdP metadata)	
IdP Name (optional, if not specified in the IdP metadata)	
IdP Certificate (optional, if not specified in the IdP metadata)	
Is SAML response encryption required?	
Example of SAML XML Response (optional)	
SAML2 Attribute name where the *User ID* is taken from Note: A persistent and unique user ID for each authenticated user is required. This user ID is used when the user uploads media, comments on media etc. Without this, the user will not be identified properly in MediaSpace.	
SAML2 Attribute name where the *First Name* is taken from Note: If this information cannot be provided, the display name will be built form the User ID.	

SAML2 Attribute name where the *Last Name* is taken from Note: If this information cannot be provided, the display name will be built form the User ID	
SAML2 Attribute name where the *Email* is taken from Note: If this information cannot be provided you will not be able to use email notification functionality in MediaSpace.	
Default MediaSpace role for authenticated users Select one:	[ ] viewerRole – User can browse public galleries, is not authorized to upload new content, and does not have a My Media page. [ ] privateOnlyRole – User can upload content to My Media, cannot publish to galleries, and can add media to channels according to entitlements. [ ] adminRole - User can upload content and publish to all galleries. [ ] unmoderatedAdminRole – User can upload content and bypass moderation (when moderation is enabled for an account)
If you can map MediaSpace roles to groups / attributes in the IdP, provide for each group / role the following	SAML2 Attribute Name: SAML Attribute Value: MediaSpace Role:
Provide credentials that can be used to test the configuration. It is best to provide one credential per role. If credentials are not provided we will not be able to test the configuration and authentication.	

The following is an example of the metadata provided by the IdP with the information that should be used:



SAML 2.0 IdP Metadata

Here is the metadata that simpleSAMLphp has generated for you. You may send this metadata document to trusted partners to setup a trusted federation.

You can get the metadata xml on a dedicated URL:

https://openidp.feide.no/simplesaml/saml2/idp/metadata.php

Metadata

In SAML 2.0 Metadata XML format:

```
<?xml version="1.0"?>
<md:EntityDescriptor xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata" xmlns:ds="http://www.w3.org/2000/09/xmldsig#" entityID="https://openidp.feide.no">
  <md:IDPSSODescriptor protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
    <md:KeyDescriptor use="signing">
      <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
        <ds:X509Data>
          <ds:X509Certificate>MIICizCCAfQCCQCY8tKaMc0BMjANBgkqhkiG9w0BAQUFADCBiTELMAkGA1UEBhMCTk8xEjAQBgNVBAgTCVRyb25kaGVpbTEQMA4GA1UEChMHVU5JTkVUVDEOMAwGA1UECx
        </ds:X509Data>
      </ds:KeyInfo>
    </md:KeyDescriptor>
    <md:KeyDescriptor use="encryption">
      <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
        <ds:X509Data>
          <ds:X509Certificate>MIICizCCAfQCCQCY8tKaMc0BMjANBgkqhkiG9w0BAQUFADCBiTELMAkGA1UEBhMCTk8xEjAQBgNVBAgTCVRyb25kaGVpbTEQMA4GA1UEChMHVU5JTkVUVDEOMAwGA1UECx
        </ds:X509Data>
      </ds:KeyInfo>
    </md:KeyDescriptor>
    <md:SingleLogoutService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location="https://openidp.feide.no/simplesaml/saml2/idp/SingleLogoutSer
    <md:NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:transient</md:NameIDFormat>
    <md:SingleSignOnService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect" Location="https://openidp.feide.no/simplesaml/saml2/idp/SSOService.php"
  </md:IDPSSODescriptor>
  <md:ContactPerson contactType="technical">
    <md:GivenName>Feide</md:GivenName>
    <md:SurName>support</md:SurName>
    <md:EmailAddress>support@feide.no</md:EmailAddress>
  </md:ContactPerson>
</md:EntityDescriptor>
```

In simpleSAMLphp flat file format - use this if you are using a simpleSAMLphp entity on the other side:

```
$metadata['https://openidp.feide.no'] = array (
  'metadata-set' => 'saml20-idp-remote',
  'entityid' => 'https://openidp.feide.no',
  'SingleSignOnService' =>
  array (
    0 =>
    array (
      'Binding' => 'urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect',
      'Location' => 'https://openidp.feide.no/simplesaml/saml2/idp/SSOService.php',
    ),
  ),
  'SingleLogoutService' => 'https://openidp.feide.no/simplesaml/saml2/idp/SingleLogoutService.php',
  'certData' => 'MIICizCCAfQCCQCY8tKaMc0BMjANBgkqhkiG9w0BAQUFADCBiTELMAkGA1UEBhMCTk8xEjAQBgNVBAgTCVRyb25kaGVpbTEQMA4GA1UEChMHVU5JTkVUVDEOMAwGA1UECxMFRmVpZGUxGTA
  'NameIDFormat' => 'urn:oasis:names:tc:SAML:2.0:nameid-format:transient',
);
```

Certificates

Download the X509 certificates as PEM-encoded files.

- idp.crt

SAML Authentication Configuration Steps

Perform the following steps to setup the SAML module both for SP initiated and IdP initiated configurations. Parameters that are relevant or different between methods are noted as such.

Before you begin:

Make sure that sslSettings is enabled (set to “All site”) in the Auth tab (within the MediaSpace admin). SAML authentication will not work if MediaSpace is working over HTTP or if the sslSettings is set to “Login only” .

To setup the SAML module for SP initiated and IdP initiated configurations.

1. In the SAML module configuration, select **Yes** to enable the SAML module.
2. Enter values for the following:

Parameter	Description
loginRedirectUrl	The URL where the user will be redirected when authentication is required. For SP Initiated it would be a URL where the request is posted. For IdP initiated a URL with the entity ID as a parameter. • SP Initiated Example: https://idp.example.com/identity

Parameter	Description
	• IdP Initiated Example: https://idp.example.com/identity/UnsolicitedSSO?entityID=mediaspaceentityID
logoutRedirectUrl	The URL where the user will be redirected when logging out from MediaSpace. NOTE: On logout, MediaSpace will always expire the MediaSpace session and then optionally redirect the user to this URL. MediaSpace does not expire login session from the identity provider.
relayStateUrlParam	The parameter name that the IdP uses to pass the URL to redirect the user back after a successful login. This defines the default place to redirect the user to in case it is not passed as part of request. For example for PingFederate it would be *TARGET*. For other SAML providers it is typically *RelayState*.
enableMetadataEndPoint	Customers that require a standard XML response that exposes the metadata configured on the Service Provider side, can use this configuration. This will expose the configured parameters of the SAML module through the following URL: http://[MediaSpace Server]/saml/index/sp-metadata
useInternalLogoutPage	If set to "Yes" logout will expire the MediaSpace session and display message to user but will not redirect to IdP logout page. For example: **You have signed out from MediaSpace.** **For improved security, we recommend that you close all browser windows at the end of your online session.**
logoutText	If useInternalLogoutPage is set to Yes you can define a custom message to users. You can use HTML tags to display a message.

3. Complete the following values in the *spMetadata* section:

Parameter	Description
name	The entity ID of the service provider (MediaSpace) as it was configured in your Identity Provider. For example: https://partner_id.mediaspace.kaltura.com (this will be used as the SP entity ID).
host	The host of the MediaSpace instance. For example: partner_id.mediaspace.kaltura.com. NOTE: The host may be configured only with a single URL per KMS instance. If you are using your own alias for MediaSpace (for example: video.company.com) you should use that alias.
relayState	The value for the relative URL to redirect the user after login if a relay state is not passed as part of the authentication request. The default is "/".
certificate – (optional)	When encryption is required for the SAML response, enter the certificate information. Paste the content of the crt file without the comments line. See Generating a Certificate Workflow. **NOTE:** You should paste the content **without** the 2 comment lines *(----BEGIN…* and *-----END…*) All text should be in a single line with no spaces, so remove all the breaklines in the generated file The certificate value is used to encrypt the response provided by the IdP. The following example shows how the crt file would look including the comment lines and the extra line breaks that should be removed:

Parameter	Description
	-----BEGIN CERTIFICATE----- MIICsDCCAhmgAwIBAgIJALM+uZK9gWbQMA0GCSqGSIb3DQEBBQUAMEUxCzAJBgNV BAYTAkFVMRMwEQYDVQQIEwpTb211LVN0YXRlMSEwHwYDVQQKExhJbnRlcm5ldCBX aWRnaXRzIFB0eSBMdGQwHhcNMTMwNDI0MDgzOTU1WhcNMjMwNDI0MDgzOTU1WjBF MQswCQYDVQQGEwJBVTETMBEGA1UECBMKU29tZS1TdGF0ZTEhMB8GA1UEChMYSW50 ZXJuZXQgV2lkZ2l0cyBQdHkgTHRkMIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKB gQC3Pkd3p+a9Yy0TFHuwy6trDlxhKwa0FAwrGlBnJCw4V+XgL5JaymRqICo1Vrk3 MEXFD1hf5GuG17Sm1CXA02XAdzJMemr8RcLjq5dqAPP+6ZZ+3JM9owjvy1LRhMMP wCUBDeCI3WNvmNDCpnoJp+mBIgyZpr87ecgaCt2626CRKQIDAQABo4GnMIGkMB0G A1UdDgQWBBTODBaXbjmbJUJ1+gnD7CFKECmp9jB1BgNVHSMEbjBsgBTODBaXbjmb JUJ1+gnD7CFKECmp9qFJpEcwRTELMAkGA1UEBhMCQVUxEzARBgNVBAgTClNvbWUt U3RhdGUxITAfBgNVBAoTGEludGVybmV0IFdpZGdpdHMgUHR5IEx0ZIIJALM+uZK9 gWbQMAwGA1UdEwQFMAMBAf8wDQYJKoZIhvcNAQEFBQADgYEAo6LDQVKjODxoL7N/ CXTDMDnZ74gXLnZfOWh4RSQZzg/N5JpHt7RH4KTKpc/uWf0cUVRhUED4Vx3K/hlO rr8I7ylh6hpD2T8Ecmimx8oXieGrVU5ZuIsMaFxDJFeIvzq6+KtYz+ZaIx2wc6tJ RCe3NZLDKW3WvwgjKdY+YyOkaTs= -----END CERTIFICATE-----
privateKey – (optional)	Copy paste the pem file as is. The privateKey value is used to decrypt the response provided by the IdP. -----BEGIN RSA PRIVATE KEY----- MIICXQIBAAKBgQC3Pkd3p+a9Yy0TFHuwy6trDlxhKwa0FAwrGlBnJCw4V+XgL5Ja ymRqICo1Vrk3MEXFD1hf5GuG17Sm1CXA02XAdzJMemr8RcLjq5dqAPP+6ZZ+3JM9 owjvy1LRhMMPwCUBDeCI3WNvmNDCpnoJp+mBIgyZpr87ecgaCt2626CRKQIDAQAB AoGAURW1+jTJ3bQtFexSb4EwcUcBid3IMZdNayVRvtI63xPGHNXwJUy58lwZUVD2 1Hz/4ptPt98T1a9NuSTXL+RbeXaOFI5nPXQvIV62IsOVrg1l1SkKedkWKM3EPesx iACqtC3xOaV+kjDS1R7x5MNXroMHM/tOKg9xfjmlmckisyECQQDwRh0NSTNGKHEA gNA6TqO3X4G9VkYWE1/KT9MQyc2k41LrKLXD9nd39kgHb7lkozq5r+KmVNo2nki3 mqijZ0aTAkEAwzyYQik8pRkFlBH/UDYLJ96wuGrqYjvQO+94WWzWCZPXBPBlOY5g KG+l5WMfIpvHwsbd0iPaZeCax0INW6LC0wJATRNAuIVVxFiuvymTIlEdpXImrTTi sKwwWza2DzmdFRqy+6qIfD8w3bOMMY5+WzEdYnlwbEjl4wVtcDBVjm1PrwJBALu/ VrAxFaeys0GcOQi6n+m8ZfdCoZjL6kjo1bQxTHczW4/dWYqK1v+rtj4sHvHaGrS9 Ju2BGvHjlxRM+amIkI8CQQCHQNwIyVzMvJxnlHGO0Sz04vKPs4xSVegYmOL3JPOt Rr7FMzBMRp46CSa6p38k4ZnAqP7LvoWWci/AvKvjz/xE -----END RSA PRIVATE KEY-----

4. Complete the following values in the *idpMetadata* section:

Parameter	Description
host	The entity ID of the identity provider. For example: https://openidp.feide.no
issuer	The entity ID of the identity provider. For example: https://openidp.feide.no
name	Friendly display name for the Identity
certFilePath	Provider (only for self-hosted MediaSpace) The absolute file system path of the crt file provided by Identity Provider.
certFileContent	The content of the certification file provided by Identity Provider that is used to validate the signature of the response.

5. Complete the following values in the attributes section:

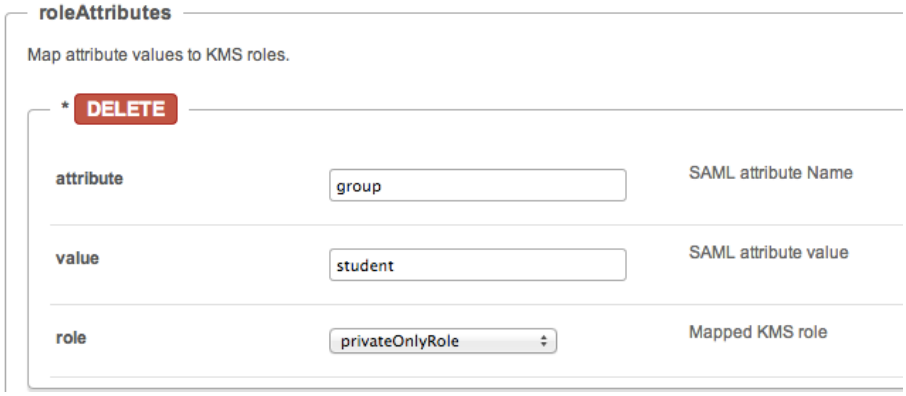
MediaSpace Attribute	Recommended SAML Attribute Name	Required?
userIdAttribute	SAML 2.0 attribute name, that will be used as the user identifier. Example: SAML 2.0 Persistent NameID or urn:oid:1.3.6.1.4.1.5923.1.1.1.6	No – nameId will be used if empty.
firstNameAttribute	Example: urn:oid:2.5.4.42	No

lastNameAttribute	Example: urn:oid:2.5.4.4	No
emailAttribute	Example: urn:oid:0.9.2342.19200300.100.1.3	No

6. In the **defaultRole** section, select the default role that should be assigned to each user that is authenticated.

NOTE: You can configure the option to retrive the role of the user from the Identity Provider through the *Auth* → *refreshRoleOnLogin* every time a user logs in. This option allows you also, to define a default role for all users and then manualy overide the role through the MediaSpace user management section.

7. In the **roleAttributes** section, map individual groups and values that are returned in the SAML response to a MediaSpace role. In the following example the SAML response will be parsed to find an attribute named *group*. If the attribute is found in the assertion and its value is student, the user will get the privateOnlyRole.

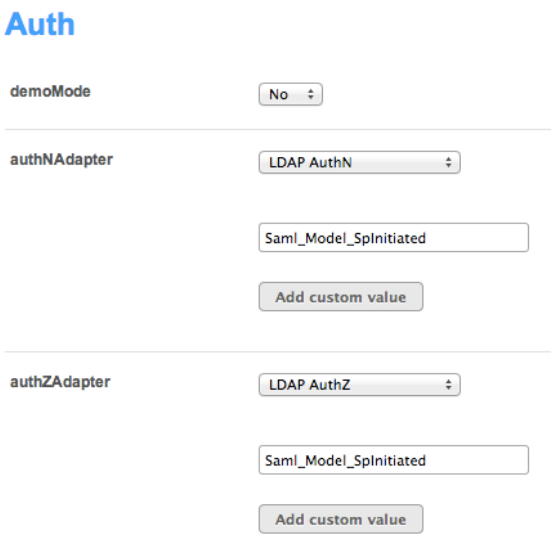


NOTE: If more than one attrbiute value is found (a user belongs to multiple groups) the user will be mapped to the role that was defined in the last *roleAttribute* found.

8. In the **blockAuthorizationAttributes** (optional) map individual groups and values that are returned in the SAML response and should lead to unauthorizing an authenticated user from using MediaSpace.
9. The **unauthorizedBehavior** is applicable only if the blockAuthorizationAttributes is used. If usersuseInternalUnauthorizedPage is in use (set to 'yes') you can optionally set the text to be presented to the unauthorized user. If usersuseInternalUnauthorizedPage is not used, you can specify the URL where the user will be redirected to.
10. Click on **Save** to apply the settings.
11. From the MediaSpace Configuration Management, Go to the *Auth* module.

    For SP Initiated configuration enter:

    - *Saml_Model_SpInitiated* in the *authNAdapter* text box and click **Add custom value**
    - *Saml_Model_SpInitiated* in the *authZAdapter* text box and click **Add custom value**



For IdP Initiated configuration enter:

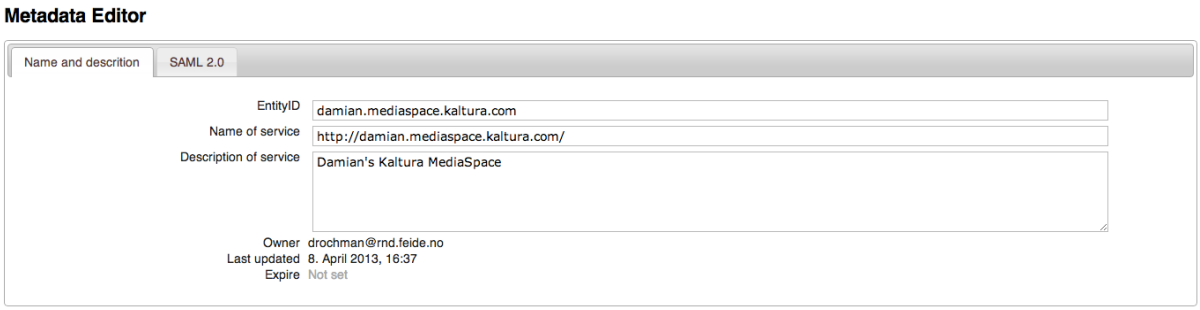
- *Saml_Model_IdpInitiated* in the *authNAdapter* text box and click **Add custom value**
- *Saml_Model_IdpInitiated* in the *authZAdapter* text box and click **Add custom value**

12. Click on **Save** to save the settings.

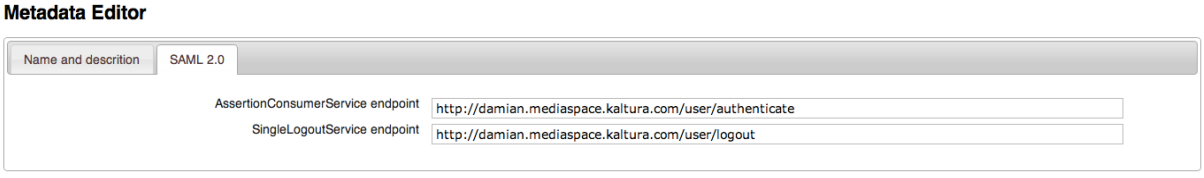
The Identity Provider should be configured accordingly to support authentication requests from MediaSpace.

Example Configuration Using TestIDP (SimpleSAMLphp)

The following example shows a configuration using TestIDP (SimpleSAMLphp) https://openidp.feide.no:



The following shows the URLs that should be configured for authentication and logout:



Generating a Certificate Workflow

From Linux:

1. From a Linux or a Mac Terminal window execute the following command:

```
openssl req -new -x509 -days 3652 -nodes -out example.org.crt -
   newkey rsa:2048 -keyout example.org.pem
```

2. You will be prompted by the command line to enter additional data. Make sure to enter the name you used to generate the key for Common Name. In this example example.org. The following shows an example of the output screen:

```
>openssl req -new -x509 -days 3652 -nodes -out example.org.crt -
   newkey rsa:2048 -keyout example.org.pem
Generating a 2048 bit RSA private key
.............................................+++
..............+++
writing new private key to 'example.org.pem'
-----
You are about to be asked to enter information that will be
   incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished
   Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [AU]:US
State or Province Name (full name) [Some-State]:New York
Locality Name (eg, city) []:New York
Organization Name (eg, company) [Internet Widgits Pty
   Ltd]:Kaltura
Organizational Unit Name (eg, section) []:
Common Name (e.g. server FQDN or YOUR name) []:example.org
Email Address []:
```

From Windows:

- Use OpenSSL. After downloading and extracting the package, execute the following from a command line in the extracted folder:

```
req  -new  -x509  -days  3652  -nodes  -config
   c:\openssl\openssl.cnf  -out  example.org.crt  -keyout
   example.org.pem
```

Both suggested options will generate two files:

- example.org.crt – This is the certificate containing the public key.
- example.org.pem – This is the private key. Please note that this file must be protected.

SAML Response Example

```
<samlp:Response xmlns:samlp="urn:oasis:names:tc:SAML:2.0:protocol"
xmlns:saml="urn:oasis:names:tc:SAML:2.0:assertion"
ID="_3ab056b68b199b976b49198cfa6b9e28b0317c4c6a" Version="2.0" IssueInstant="2013-04-
24T08:51:16Z" Destination="http://damian.mediaspace.kaltura.com/user/authenticate"
InResponseTo="_8d32fa51f5ef2b70fe6d619000c5aedb143bfb937c">
               <saml:Issuer>https://openidp.feide.no</saml:Issuer>
               <ds:Signature xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
                              <ds:SignedInfo>
                                             <ds:CanonicalizationMethod
Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
                                             <ds:SignatureMethod
Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-sha1"/>
```

```
                                        <ds:Reference
URI="#_3ab056b68b199b976b49198cfa6b9e28b0317c4c6a">
                                                <ds:Transforms>
                                                        <ds:Transform
Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
                                                        <ds:Transform
Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
                                                </ds:Transforms>
                                                <ds:DigestMethod
Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>

<ds:DigestValue>pTsLnZhfAW6Zn/LRxATMmed1zag=</ds:DigestValue>
                                        </ds:Reference>
                                </ds:SignedInfo>

<ds:SignatureValue>iN+urKe/LFlwPyRCgvAY85QvDDSUb43vx8Rk7UpSKO/mGdcoJJNkc/GUBpUtEopqBDbCFE4HQX5
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