

MERLOT MATERIAL ADVANCED SEARCH WEB SERVICE

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INTRODUCTION

The MERLOT advanced material search web service consists of the main web service that performs that search and returns results along with six auxiliary web services that supply options available for parameters that can be passed to the main web service. All of the web services require a license key.

The license key can be requested at: <http://www.merlot.org/merlot/signWebServicesForm.htm>

Please note that there are two material search web services available from MERLOT. The simple material web service is open to non-commercial users who request access while this service, the advanced material web service, is made available to partners and subscribers of MERLOT.

All of the web services described in this document are RESTful web services. This means that your requests will be a URL with a query string similar to the URL created by a HTML form using the GET method. They will then return an XML document.

For each web service, the input parameters are described, example output is given and the output XML elements are described. The example output does not show the complete output you would get from calling the web service.

The auxiliary web services return information that help fill in the parameters for the main search web service. These items do not change often. It is suggested when developing your client that you cache these values and update them only once a month.

MATERIAL ADVANCED SEARCH WEB SERVICE

The material advanced search web service makes available all of the searching one can do using the material advanced search page in MERLOT at <http://www.merlot.org/merlot/advSearchMaterials.htm>

In fact, if you do an advanced search, the query string that shows up in the URL for the search results is the same query string you can use with the web service with the exception that the web service will need the `licenseKey` parameter with a valid license key.

URL

The URL for the Material Advanced Search Web Service is: <http://www.merlot.org/merlot/materialsAdvanced.rest>

PARAMETERS

- **licenseKey** *[required]* This is the license key that you have received from MERLOT to access the material advanced search web services.
- **page** The web service will return up to 10 results at a time. Use the page parameter to select what page of 10 you want to retrieve. If left out, then page number one is assumed. So if you choose page=3, you will get results 31-40 (assuming there are 40 or more results available).
- **keywords** Keywords searched in the title, url, description, keywords and authors. How this search is done depends upon the following three parameters.
- **allKeywords** If this is true, then all keywords must be found in a record for it to be returned. If this is, true then the `anyKeywords` and `exactPhraseKeywords` parameters will be ignored.
- **exactPhraseKeywords** If this is true, then the keywords are taken as a phrase that must be found exactly as entered in a record for it to be returned. If this is true, then the `anyKeywords` parameter will be ignored. Note that if `allKeywords` is true, then this parameter will be ignored.
- **anyKeywords** If this is true, then any of the keywords can be present in a record for it to be returned. Note that if either `allKeywords` or `exactPhraseKeywords` is true, then this parameter will be ignored.

- **title** If the string entered for the title parameter is found anywhere in the title of the record, that record will be returned by the search. In technical terms, if what is entered in the title parameter is found to be a substring of the title of a record, then that record will be returned by the search.
- **url** If the string entered for the description parameter is found anywhere in the description of the record, that record will be returned by the search. In technical terms, if what is entered in the description parameter is found to be a substring of the description of a record, then that record will be returned by the search.
- **description** If the string entered for the description parameter is found anywhere in the description of the record, that record will be returned by the search. In technical terms, if what is entered in the description parameter is found to be a substring of the description of a record, then that record will be returned by the search.
- **community** This is a number that represents a community in MERLOT. The list of numbers and their names can be retrieved using the Communities Web Service.
- **category** This is a number that represents a category in MERLOT. The list of numbers and their names can be retrieved using the Categories Web Service.
- **language** This is a three letter code that represents a language in MERLOT. The list of codes that can be used and their names can be retrieved using the Languages Web Service.
- **materialType** This is a string that represents the type of material to be found. The list of the material types can be used can be retrieved using the Material Types Web Service.
- **technicalFormat** This is a string that represents the technical format of material to be found. The list of the technical format types than can be used can be retrieved using the Technical Formats Web Service.
- **audience** This is a string that represents the intended audience of material to be found. The list of the intended audiences that can be used can be retrieved using the Material Audiences Web Service.
- **lmsType** This is a string that represents the Learning Management System (LMS) that a material is compatible with. The list of the LMSs that can be used can be retrieved using the LMS Types Web Service.
- **cost** Set to true if you want to limit the search to items that cost money to use.
- **compliant** Set to true if you want to limit the search to items that are Section 508 compliant.
- **codeAvailable** Set to true if you want to limit the search to items that have the source code available.
- **copyright** Set to true if you want to limit the search to items that are known to be protected by copyright.
- **creativeCommons** Set to true if you want to limit the search to items that are known to have a Creative Commons License.
- **contributorName** In MERLOT, a contributor is someone who authored or contributed to the creation of a material. This field searches the names of contributors to materials.

- **contributorEmail** In MERLOT, a contributor is someone who authored or contributed to the creation of a material. This field searches the email addresses of contributors to materials.
- **contributorOrg** In MERLOT, a contributor is someone who authored or contributed to the creation of a material. This field searches the organization of contributors to materials.
- **hasPeerReviews** Set to true if you want to limit the search to items that have been peer reviewed in MERLOT.
- **hasAwards** Set to true if you want to limit the search to items that have received one or more awards in MERLOT.
- **hasComments** Set to true if you want to limit the search to items that have been commented on in MERLOT.
- **hasCollections** Set to true if you want to limit the search to items that have been added to at least one personal collection in MERLOT.
- **hasAssignments** Set to true if you want to limit the search to items that have learning exercises (formally known as assignments) in MERLOT.
- **hasSnapshots** Set to true if you want to limit the search to items that have an author snapshot in MERLOT.
- **hasSercActivitySheets** Set to true if you want to limit the search to items that have an SERC activity sheet learning exercise in MERLOT.
- **createdSince** Set this to find materials created since the specified date. This is inclusive. The date should be formatted as YYYY-MM-DD.
- **createdBefore** Set this to find materials created before the specified date. This is inclusive. The date should be formatted as YYYY-MM-DD.
- **sort.property** Set this to be the sort order you want. The available sort properties are: overallRating, title, author, materialtype and dateCreated. OverallRating is the default MERLOT sort.

RETURNED XML

```

<merlohitlist>
  <nummaterialstotal>33</nummaterialstotal>
  <material>
    <URL>
      <![CDATA[http://www.psych.utah.edu/.../index.html]]>
    </URL>
    <detailURL>
      <![CDATA[http://www.merlot...htm?id=89228]]>
    </detailURL>
    <title>Difference to Inference</title>
    <authorName>Thomas Malloy</authorName>
    <description>
      Difference to Inference is...
    </description>
    <materialType>Simulation</materialType>
    <peerreview score="4.0">
      <![CDATA[http://www.merlot...rial=89228]]>
    </peerreview>
    <comments count="1" avgscore="0.0">
      <![CDATA[http://www.merlot...erial=89228]]>
    </comments>
    <personalCollections count="10">
      <![CDATA[http://www.merlot...rial=89228]]>
    </personalCollections>
    <learningexercises />
    <audiences>
      <audience>College General Ed</audience>
    </audiences>
    <languages>
      <language>eng</language>
    </languages>
    <creationDate>May 02, 2001</creationDate>
    <modifiedDate>May 15, 2008</modifiedDate>
    <technicalrequirements>
      JAVA enabled Browser
    </technicalrequirements>
    <submitter>Joe Merlot</submitter>
    <categories>
      <category href="http://....htm?category=2282">
        Education/TeacherEd/Instructional Technology
      </category>
    </categories>
    <copyright>yes</copyright>
    <cost>no</cost>
    <creativecommons>by-nc-nd</creativecommons>
    <compliant>no</compliant>
    <sourceavailable>no</sourceavailable>
  </material>
</merlohitlist>

```

ELEMENT DESCRIPTIONS

- **nummaterialtotal** Contains a number that is the total number of materials that match the search. This is not necessarily the number of materials in this XML since each returned page of XML is limited to 10 results. Additional pages of materials can be requested using the page parameter if there are more than 10 materials that match the search.
- **material** This element contains all of the elements describing one material being returned.
- **URL** This contains a CDATA element which contains the URL of the material.
- **detailURL** This contains a CDATA element which contains the URL of the material detail page within MERLOT that describes this material and has links to create comments, learning exercises, etc.
- **title** This contains the title of the material.
- **authorName** This contains the name of the author of the material or is empty if there is no author name.
- **description** This contains the description of the material. Note that the description can contain HTML elements.
- **materialType** This contains the material type.
- **comments** This contains a CDATA element which contains the URL to view the comments for this material in MERLOT. The tag also has two attributes, count, which is the number of comments, and avgscore, which is the average score given by users. This average score can range from zero to five and is given to a tenth of decimal place. A score of zero means that no score was given. If there are no comments, this tag will be empty with no attributes.
- **personalCollections** This contains a CDATA element which contains the URL to view the personal collections that contain this material in MERLOT. The tag can also have an attribute of count which is the number of personal collections that contain this material. If there are no personal collections that contain this material, this tag will be empty with no attributes.
- **learningexercises** This contains a CDATA element which contains the URL to view the learning exercises for this material in MERLOT. The tag can also have an attribute of count which is the number of learning exercises for this material. If there are no learning exercises for this material, this tag will be empty with no attributes.
- **audiences** If any intended audiences have been defined for this material, this element will contain the audience elements which hold the actual names of the audiences. There can be many intended audiences.
- **audience** This is always a sub-element of the audiences element. It contains the name of an intended audience for this material.
- **languages** This element contains the language elements which represent the language(s) for this material.

- **language** This is always a sub-element of the languages element. This holds a three letter code for one of or the language for this material. The names corresponding to the three letter codes can be retrieved from the Language Web Service.
- **creationDate** The date the material was initially added to MERLOT. This date is given in the American format of "<Full Month Name> <Date>, <Year>"
- **modifiedDate** The date the material's record was last modified in MERLOT. This date is given in the American format of "<Full Month Name> <Date>, <Year>"
- **technicalrequirements** This contain the technical requirements for the material. Note that the technical requirements can contain HTML elements.
- **submitter** This contains the full name of the MERLOT user who submitted this material to MERLOT.
- **categories** This element will contain the category elements which hold the actual categories. There can be many categories for a material.
- **category** This is always a sub-element of the categories element. It contains the name of a category for this material. The element also has an attribute of href which contains the URL to see materials under that category in MERLOT.
- **copyright** This contains either yes, no or unsure which describes the copyright status of the material.
- **cost** This contains either yes, no or unsure which describes if there is a cost associated with this material.
- **creativecommons** This contains unsure if the submitter was unsure if the items is under a Creative Commons License, no if the material is not under a Creative Commons License or the Creative Commons description string if it is under a Creative Commons License. This description string will be something like "by-nc-sa". For more information on the Creative Commons License, please visit <http://www.creativecommons.org/>
- **compliant** This contains yes, no or unsure which describes if this material is Section 508 compliant (follows US rules for web accessibility).
- **sourceavailable** This contains yes, no or unsure which describes if the source code is available for this material.

MATERIAL TYPES WEB SERVICE

URL

The Material Types Web Service URL is: <http://www.merlot.org/merlot/materialTypes.rest>

PARAMETERS

- **licenseKey** *[required]* This is the license key that you have received from MERLOT to access the material advanced search web services.

RETURNED XML

```
<merlotmaterialtypes>
  <materialtype>Animation</materialtype>
  <materialtype>Case Study</materialtype>
  <materialtype>Collection</materialtype>
  <materialtype>Drill and Practice</materialtype>
</merlotmaterialtypes>
```

ELEMENT DESCRIPTION

- **materialtype** There will be a number of these each one containing the name of a material type which can be passed into the main search web service.

TECHNICAL FORMATS WEB SERVICE

URL

The URL for the Technical Formats Web Service is: <http://www.merlot.org/merlot/technicalFormats.rest>

PARAMETERS

- **licenseKey** *[required]* This is the license key that you have received from MERLOT to access the material advanced search web services.

RETURNED XML

```
<merlottechnicalformats>
  <technicalformat>ActiveX</technicalformat>
  <technicalformat>Audio</technicalformat>
  <technicalformat>Authorware File</technicalformat>
  <technicalformat>Blog</technicalformat>
</merlottechnicalformats>
```

ELEMENT DESCRIPTIONS

- **technicalformat** Contains the name of a technical format used by MERLOT. You can use this name, with proper URL Encoding, for a search option in the Material Advanced Search Web Service using the technicalFormat parameter.

MATERIAL AUDIENCES WEB SERVICE

URL

The URL for the Material Audiences Web Service is: <http://www.merlot.org/merlot/materialAudiences.rest>

PARAMETERS

licenseKey *[required]* This is the license key that you have received from MERLOT to access the material advanced search web services.

RETURNED XML

```
<merlotmaterialaudiences>
  <materialaudience>Grade School</materialaudience>
  <materialaudience>Middle School</materialaudience>
</merlotmaterialaudiences>
```

ELEMENT DESCRIPTIONS

- **materialaudience** Contains the name of an audience used by MERLOT. You can use this name, with proper URL Encoding, for a search option in the Material Advanced Search Web Service using the audience parameter

LMS TYPES WEB SERVICE

URL

The URL for the LMS Types Web Service is: <http://www.merlot.org/merlot/lmsTypes.rest>

PARAMETERS

licenseKey *[required]* This is the license key that you have received from MERLOT to access the material advanced search web services.

RETURNED XML

```
<merlotlmstypes>
  <lmstype>WebCT</lmstype>
  <lmstype>Blackboard</lmstype>
</merlotlmstypes>
```

ELEMENT DESCRIPTIONS

- **lmstype** Contains the name of an LMS Type used by MERLOT. You can use this name, with proper URL Encoding, for a search option in the Material Advanced Search Web Service using the lmsType parameter.

COMMUNITIES WEB SERVICE

URL

The Communities Web Service URL is: <http://www.merlot.org/merlot/communities.rest>

PARAMETERS

- **licenseKey** *[required]* This is the license key that you have received from MERLOT to access the material advanced search web services.

RETURNED XML

```
<merlotcommunities>
  <community id="3015">Biology</community>
  <community id="3016">Business</community>
</merlotcommunities>
```

ELEMENT DESCRIPTIONS

- **community** Contains the name of an community used by MERLOT. The name is good for displaying to users for matters of choosing what community they might want to search; however, as a search option in the Material Advanced Search Web Service, you will use value in the id attribute using the community parameter.

LANGUAGES WEB SERVICE

URL

The URL for the Languages Web Service is: <http://www.merlot.org/merlot/languages.rest>

PARAMETERS

- **licenseKey** *[required]* This is the license key that you have received from MERLOT to access the material advanced search web services.

RETURNED XML

```
<merlotlanguages>
  <language code="eng">English</language>
  <language code="abk">Abkhazian</language>
  <language code="ace">Achinese</language>
  <language code="ach">Acoli</language>
  <language code="ada">Adangme</language>
  <language code="afr">Afrikaans</language>
</merlotlanguages>
```

ELEMENT DESCRIPTIONS

- **language** Contains the name of an language used by MERLOT. The name is good for displaying to users for matters of choosing what language they might want to search; however, as a search option in the Material Advanced Search Web Service, you will use three letter value in the code attribute using the language parameter.

CATEGORIES WEB SERVICE

URL

The URL for the Categories Web Service is: <http://www.merlot.org/merlot/categories.rest>

PARAMETERS

licenseKey *[required]* This is the license key that you have received from MERLOT to access the material advanced search web services.

RETURNED XML

```
<merlotcategories>
  <category id="372822">
    <name>Academic Support Services</name>
    <category id="372824">
      <name>Accessibility and Assistive Technology</name>
    </category>
  </category>
</merlotcategories>
```

ELEMENT DESCRIPTIONS

- **category** Each category element has an id attribute which is what you use with the category parameter for searching in the Material Advanced Search Web Service. Each category element also must have a nested name element which contains the name for that category appropriate for displaying to users. Each category element may also contain nested category elements which are subcategories of their containing category element.