

SCORM 1.2 in Learning Network

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This document is intended to be an instructive aid for submitting content to Learning Network.

Learning Network adheres to ADL's industry standards for SCORM 1.2. To ensure the quality of the course, it is important that the content submitted also follows ADL's standards. The following document will give a brief outline of what is needed for compliant content.

We will be looking at the following areas:

- SCORM packaging
- IMS Manifest XML
- API Data Model
- Best Practices

SCORM Packaging

There are a variety of tools used to package learning content for SCORM 1.2 and each tool does it differently. In order for the package to be successfully imported into Learning Network, please ensure the following conditions are met:

1. All packages will consist of a single zip file.
2. All content, required by the course, must be included in the zip file.
3. Course content must begin in the root of the zip file, specifically the 'imsmanifest.xml' file and the schema definition files.
4. Schema definition files that must be included are:
 - adlcp_rootv1p2.xsd
 - imscp_rootv1p1p2.xsd
 - imsmd_rootv1p2p1.xsd
 - ims_xml.xsd

Tip: Visually inspecting the SCORM package (zip file) is an easy way to determine if the files are present and packaged appropriately.

Manifest XML

This manifest acts as a directory of your course – it includes settings and assets. If assets are listed in the manifest, but are not contained in the SCORM package, it will cause a “failure” status when imported into Learning Network.

Learning Network requires certain elements to be included in the manifest. These elements help ensure the course imports, launches and returns completions correctly:

1. schema version should be specified in the <metadata> element:

```
<metadata>  
  <schemaversion>1.2</schemaversion>
```

2. <item> elements should specify a title and include a mastery score and a completion status.

```
<item identifier="i1" identifierref="r1" isvisible="true">  
  <title>A Title</title>  
  <adlcp:masteryscore>80</adlcp:masteryscore>
```

3. <resource> elements need to have the “type” property set to “webcontent”, the “adlcp:scormtype” property set to “sco” or “asset”

```
<resource identifier="r1" type="webcontent" adlcp:scormtype="sco" href="index.html">
```

API Data Model

Learning Network supports all mandatory SCORM 1.2 data model elements. The following programming instructions and standards are needed for the course to operate successfully in Learning Network.

When a user starts the course, use the API to do the following:

- Initialize the course.
- Set the lesson status to 'incomplete'.

When a user completes the lesson, use the API to do the following:

- Set the lesson status to 'completed', 'passed' or 'failed'.
- Set the session time to the amount of time the user spent in the current session.
- Set the score only if you set the lesson status to 'passed' or 'failed'.
- Inform the API that the lesson is 'finished'.

When you would like a user to complete the lesson at a future time, use the API to do the following:

- Set the status to 'incomplete'.
- Set the session time to the amount of time the user spent in the current session.
- Inform the API that the lesson is 'finished'.

Please keep the following in mind

- Not setting the mastery score in the manifest and setting a 'passed' or 'failed' status will result in the score being changed to 100 for a 'passed' and 0 for a 'failed'.
- Do not add the total time received by the API to the session time; the total time is the sum of session times set in previous sessions.
- Make sure the API has been informed when the user is finished. This does not happen automatically and data will be lost when the lesson is closed.
- If a lesson status is never set, the API assumes the lesson is 'complete' and sets the status to 'complete', regardless of mastery or score.
- If a mastery is set, but no score is set, the API overrides any set status and sets the lesson status to 'incomplete', with the exception of the lesson status still remaining at its initial value of 'not attempted'.
- If a mastery is set and the set score is lower than the mastery, the API will set the lesson status to fail and vice-versa.

Best Practices

In order for the end user to get the best possible experience, while viewing your content; here are some things to keep in mind:

1. Loading assets from external sources can be problematic (web paths may change, sites go down, etc.).
2. For best performance and compatibility on Best Buy's network, we recommend using Mpeg 4 video encoded with the following options:
 - a. **Video**
 - Resolution: 768x432 (16:9 video), 576x432 (4:3 video)
 - Frame-rate: up to 30fps
 - Codec: MP4 using H.264 compression
 - Bitrate: 1000 – 1500 kbps
 - Bitrate mode: VBR 2-Pass
 - Level: 3.1
 - b. **Audio**
 - Codec: AAC
 - Bitrate: 160 kbps
 - Sample rate: 44100
 - Channels: Stereo
3. Flash is a great tool, but not supported on most mobile devices. Since Learning Network is mobile compatible, flash may not be the most effective outlet for your training material.