

The logo for VitalSource ePub3 Submission Guide. It features the text "VitalSource" in white and orange, with "ePub3 Submission Guide" in white below it. The background is dark blue with a vertical bar of colorful stripes (pink, blue, green) on the right side.

VitalSource™

ePub3 Submission Guide

Introduction

The following is the Bookshelf Requirements chapter of the VitalSource EPUB 3 Submission Guide, detailing the requirements that must be adhered to for an EPUB title to function properly when viewed in the VitalSource Bookshelf player. This excerpt is filled with links for further reading, and should answer most questions regarding how EPUB content functions in Bookshelf. For the full guide, click here to [purchase a free copy](#).

Bookshelf Requirements

This chapter is a summary of the rest of the EPUB guide requirements as they pertain to Bookshelf. In an effort to provide the best reading experience for users and aid with smooth ingestion of EPUB content, there are times where VitalSource's requirements are more strict than the EPUB standard as a whole. This chapter should serve as a quick-reference guide to how our requirements differ from the spec as a whole.

OPF Metadata

In addition to metadata provided through ONIX or a spreadsheet, [metadata provided inside a file's OPF](#) will be used to populate our file detail records. Any provided [accessibility metadata](#) will be shown in our store and catalog.

OPF Manifest

An EPUB's [cover image](#) will be shown in Bookshelf, Manage, Store, and other places in the VitalSource ecosystem.

- A cover file must appear in the manifest, tagged with the [cover-image property](#).
- The cover file must only be a JPG or PNG extension.
- If an EPUB is submitted without a cover file, a generic cover will be given to it, which may affect its visibility in bookstores and other catalogs.

A navigation document is required to power Bookshelf features. [An EPUB must contain exactly one manifest nav item](#) with `properties="nav"`, else it will be rejected.

OPF Spine

Bookshelf will only accept XHTML files as spine elements. SVG spine elements are not supported.

A [navigation document](#) is required to power Bookshelf features. The manifest item with `properties="nav"` must be referenced in [the OPF spine](#).

Navigation Document

A [navigation document](#) is required to power Bookshelf features. This document must be listed in the OPF manifest with `properties="nav"`, and must also be referenced in [the OPF spine](#).

The nav document must include a [toc](#) and [page-list](#) for proper function in Bookshelf.

EPUB Cover

An EPUB's [cover image](#) will be shown in Bookshelf, Manage, Store, and other places in the VitalSource ecosystem.

- A cover file must appear in the manifest, tagged with [the cover-image property](#).
- The cover file must only be a JPG or PNG extension.
- If an EPUB is submitted without a cover file, a generic cover will be given to it, which may affect its visibility in bookstores and other catalogs.

EPUB Content Documents

Top-level content documents (i.e. referenced in the spine) must be in [XHTML format](#). Bookshelf does not support standalone SVG content documents. Additionally, Bookshelf does not support using SVG for main body content. [SVG images embedded in XHTML](#) content documents is valid, but not supported in all readers or browsers.

Page Breaks And Labels

[Page breaks](#) aid in sighted and non-sighted navigation, as well as allowing users to match up print and digital versions of the same title. The inclusion of page breaks means that [a pagelist is required in the OPF file](#).

VitalSource will not block content without page breaks, but users may see impaired navigation in titles without [pagebreak elements](#). Please strive to include at least one page break at the top of every content document.

Page labels can be added inside page break elements for additional visual comparison of a print and digital title.

Images

Please supply [EPUB images](#) in JPG, PNG, GIF, or SVG format at a resolution sufficient enough to not appear blurry when zoomed in. 1500px is a good starting point for full-width images. Images with fine detail, such as maps, may require higher numbers. Please optimize your image files if their filesize becomes too large or they start causing slower load times. Read more about how to use [the tag](#).

Bookshelf handles all four image formats that are core media types in EPUB 3: GIF, JPEG, PNG, and SVG. However, not all browsers, or other reading systems, support SVG equally well, and some do not support SVG at all. Keep this in mind should you choose to [use SVG files in your EPUB](#).

Figures

Bookshelf displays [figure elements](#) that contain images within a special slideout panel in its interface. Using the [figure](#) element is not only [a semantic and accessible way to organize your content](#), but Bookshelf users will get more value out of your title as well.

- Use a [figure](#) if the block of information is critical to a user's understanding, but its location within the content is not critical.
- Using a [figure](#) tag will remove the element from the main body content when being accessed by a screen reader.
- Be sure to include a [figcaption](#) and alt text with every figure.
- "Ignore" figures that are purely decorative by leaving [alt](#) text blank: `alt=""`

However, if you are planning to use a List of Images (via `epub:type="loi"`), please ensure that the figures on the page are linked appropriately to the items in the list so Bookshelf can find them and populate its Figures pane.

- Each `<figure>` in your document must have an `id` element with a unique identifier.
- Each image in your `nav` document's `loi` must point to that `id` element.

Audio And Video

Bookshelf supports the following [media formats](#):

- Audio
 - mp3 - up to 256 kbps, in .mp3 format
 - AAC - up to 256 kbps, in .m4a format
- Video
 - H.264 video, up to 1.5 Mbps, 640 x 480, 30 frames per sec., Baseline Low-Complexity Profile with AAC-LC audio up to 160 kbps, 48 Khz, stereo audio in .m4v & .mp4 file formats.
 - H.264 video, up to 768 kbps, 320 x 240, 30 frames per sec., Baseline Profile up to Level 1.3 with AAC-LC audio up to 160 kbps, 48 Khz, stereo audio in .m4v & .mp4 file formats.
 - MPEG-4 video, up to 2.5 Mbps, 640 x 480, 30 frames per sec., Simple Profile with AAC-LC audio up to 160 kbps, 48 Khz, stereo audio in .m4v & .mp4 file formats.

Filesize

VitalSource does not accept source files over 1.25GB in size. We have always kept the end user experience at the forefront when designing its applications, and user experience factors into our filesize restrictions in a few ways.

First, many of our clients upload files to us via the Upload portal, our browser-based upload platform. Uploading through a web browser is generally slower than other file transfer methods, and has a higher likelihood of connection interruptions. To provide a smoother experience, we have limited the

size of individual files to one that is manageable for both the user uploading and that user's internet connection.

Additionally, over-large files translate to a poor user experience, especially on mobile devices with slow wireless connections and limited storage space. Having a single title taking up much more than 1GB on a user's machine isn't in the user's best interest.

Lastly, we inject extra functionality, metadata, and DRM into source files as part of the ingestion process. We need to leave a bit of extra headroom as the ingestion process increases the size of the output file.

The biggest offenders of file bloat in an EPUB are the size of its media files. Images, videos, and audio take up lots of space and should be optimized for web before ingesting. Here are some software options to handle your media files:

- Audio - [Reaper](#)
- Video - [Handbrake](#) or [Miro](#)
- Images - [ImageMagick](#)

If you are editing an EPUB, it is essential to zip the file up with [an EPUB zipping tool](#). Simply renaming a .zip file to .epub may enable the file to launch locally, but the file will fail when it is ingested.

If you are having trouble reducing the size of your files to comply with these guidelines, please contact your customer success manager for assistance.

Empty or Zero-Byte Files

Bookshelf does not accept empty or zero-byte files. EPUBs that contain such files will be rejected, so please check that your source is free from these files before attempting to ingest it.

Remedying this issue will require the removal of the files themselves as well as all references to them in other parts of the EPUB (OPF or other content files, for example). Please [run EPUBCheck](#) afterwards to check that removing the problem files did not adversely affect the conformance of the EPUB package.

EPUBCheck Validation Errors

Certain [EPUBCheck errors](#) will cause a source file to fail the ingestion process. These errors are:

- OPF-002 **FATAL** The OPF file '%1\$s' was not found in the EPUB.
- OPF-019 **FATAL** Spine tag was not found in the OPF file.
- PKG-004 **FATAL** Corrupted EPUB ZIP header.
- PKG-008 **FATAL** Unable to read file '%1\$s'.
- PKG-015 **FATAL** Unable to read EPUB contents: %1\$s
- PKG-018 **FATAL** The EPUB file could not be found.
- RSC-002 **FATAL** Required META-INF/container.xml resource could not be found.
- RSC-016 **FATAL** Fatal Error while parsing file: %1\$s
- NCX-002 **ERROR** toc attribute was not found on the spine element.

- PKG-003 **ERROR** Unable to read EPUB file header. This is likely a corrupted EPUB file.
- PKG-020 **ERROR** OPF file '%1\$s' could not be found.
- RSC-003 **ERROR** No rootfile tag with media type 'application/oebps-package+xml' was found in the container.
- RSC-005 **ERROR** Error while parsing file: %1\$s
 - This error will only cause a rejection when it pertains to the OPF **spine**

Every effort should be made to perform sufficient file clean up based on EPUBCheck results, and especially avoid errors which will lead to a file rejection and subsequent round of file fixing and QA. For a truly great user experience, any error messages at the **Error** severity level should be fixed before submission.