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Generating PDF from XSL-FO using the HotJVM Render Server

This article is little explanation to a [GitGub project](#).

The [HotJVM Render Server](#) is a great way of boosting [ZEN Reports](#) performance, when it comes to generating PDF documents. It can spare a second or more even on a single execution of a report, but it becomes unavoidable when you have to generate hundreds or thousands (or maybe hundreds of thousands) of reports.

If you don't want to go through the documentation above: the Render Server comes with InterSystems Caché and Ensemble and makes it possible to use FOP in a multi-threaded and yet a thread-safe way. And thread-safety is a cardinal question, as FOP doesn't claim itself completely thread-safe. Is it possible though to ensure thread-safety under certain circumstances, and this is what the Render Server delivers.

The default (and simplified) way of generating a PDF document with ZEN Reports is this:

1. From your ReportDefinition XData block a temporary XML file is created, containing your data.
2. From your ReportDisplay XData block a temporary XSLT file is created, which describes how to transform your data into a document.
3. ZEN Reports applies the XSLT to the XML file, creating an XSL-FO document, which is basically the XML representation of the PDF, which you want to generate (already containing your data, too).
4. ZEN Reports calls out to a 3rd party rendering engine (like [Apache FOP](#)) to generate the final PDF document from the XSL-FO file.

This is just the default, which you can vary: some parts of or the entire XML can come from different sources (method, other report, stream), and the same is true for the XSLT.

In some cases even the XSL-FO file can be "static" (created outside of the ZEN Reports framework). This can be advantageous when- for example- your XSL-FO contains big chunks of SVG or for whatever other reason it easier to create the FO file on your own, than with ZEN Reports (yes, this can happen 😊).

The only problem is that however technically possible to create a PDF from an FO file directly in the ZEN Reports framework, the Render Server option is ignored in this case. Which is a pity!

At the same time: it is not too hard to solve this with a little trick and by using a special ZEN Reports class as a wrapper for your XSL-FO document. And before you would run to ~~Studio~~ Atelier to implement this on your own, please check out this [GitGub project](#) first.

[#Caché](#) [#Code Snippet](#) [#ZEN](#)

Source URL: <https://community.intersystems.com/post/generating-pdf-xsl-fo-using-hotjvm-render-server>