

# Metadata Client Software

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This page (and its child pages) show how to configure specific metadata clients. For more general configuration guidance, see the [Metadata Consumption](#) wiki page.

There are three metadata clients that meet the basic requirements of a SAML deployment in the InCommon Federation:

1. Shibboleth
2. simpleSAMLphp
3. Microsoft AD FS + pysFEMMA

*Shibboleth* and *simpleSAMLphp* are open-source implementations of the SAML Web Browser SSO Profile but both of them will automatically download and verify signed metadata without having to rely on any other tools. Instructions on [how to configure Shibboleth](#) or [how to configure simpleSAMLphp](#) for metadata consumption are provided elsewhere in this wiki. If you know of other SAML implementations that support SAML metadata, please let us know so we can document that capability here.

Although Microsoft AD FS is not able to directly consume the InCommon metadata aggregate, there are a couple of third-party tools that can help. We recommend a third-party tool called *pysFEMMA* for this purpose. Details about [using pysFEMMA with Microsoft AD FS](#) are documented elsewhere in this wiki.

Regardless of your software implementation, however, you can always set up a custom cron job to refresh metadata, but in that case you will need additional tools to verify the XML signature at the time of refresh **and** check the `validUntil` attribute as described on the [Metadata Consumption](#) wiki page. Participants are encouraged to share such tools and scripts for the benefit of the community.