OpenSAML is an open source C++ & Java libraries used in support of the Shibboleth Project's implementation of the Security Assertion Markup Language (SAML). It is licensed under the Apache 2.0 license.

OpenSAML 3, the current library version, supports SAML 1.0, 1.1, and 2.0. Additionally, various development groups have found the framework created to support OpenSAML useful for their own work and the Java codebase includes some code supporting WS-Addressing, WS-Security, WS-Trust and XACML.

The OpenSAML libraries do **not** provide a complete SAML identity or service provider. If you are looking for such software you should check out the Shibboleth project instead. Also, these libraries will not teach you any of the specifications listed above. The libraries are meant solely to support individuals who have taken the time to read and understand the specifications and are not in general a good solution for those looking for a quick way to implement SAML.

It is very dangerous to attempt to use parts of the library in isolation without making use of all of its relevant components. In particular, implementing your own XML processing code, using XML parsing classes other than the `ParserPool` components provided by the library, using your own security processing code, omitting proper support for SAML metadata, etc. are all risky choices that may lead to security flaws and incomplete, unsafe, and ill- advised SAML solutions. The Shibboleth Project discourages such approaches in the strongest possible terms. Use all of it that applies to the task at hand, or use none of it.

We do not have significant documentation for this version of the library. Many of the concepts and examples in the OpenSAML 2 Java documentation can be applied, with varying degrees of change, to this version (and that documentation is itself not the best). But you should recognize the inherent risk of relying on this library and you should not expect substantial improvement in this area.

The current stable release of the Java library is the latest version available from our Nexus repository. In the very rare event that a previous stable release is designated, it will be noted here, but in most cases you can assume that all prior releases are unsupported.

### Developer Resources

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### Projects Using OpenSAML

The following projects are those that we know to be using OpenSAML. There are probably others out there floating around, if you have such a project, add it to the list.

- **Shibboleth** - Shibboleth provides cross-domain single sign-on and attribute-based authorization for browser users. Using the OpenSAML toolkit, Shibboleth implements the SAML 1.x browser profiles for identity and service providers.
- **Globus Toolkit** - The Globus Toolkit (GT) is an open source software toolkit used for building grids. The CAS component of GT issues assertions containing `AuthorizationDecisionStatement` elements. Other GT components (in particular, MyProxy and GridShib) are being fitted with SAML interfaces using OpenSAML.
- **gLite** - gLite provides a framework for building grid applications tapping into the power of distributed computing and storage resources across the Internet.
- **VO Privilege Project**
- **Clarity Security’s SSO Toolkit**
- **VOMS**
- **JBoss**
- **CAS**
- **OpenPermis**
- **Apache WSS4J** - open source web service security kit used by the Apache CXF web service framework. WSS4J uses OpenSAML to generate SAML1 and SAML2 assertions as well as parse, sign and validate SAML tokens.
- **Apache Rampart**
- **OLAT**
- **eduGAIN**
- **openLiberty Wakame** - Wakame is an open source java implementation of ID-WSF 2.0 and relies heavily on java-xmltooling, java-opensaml2, and java-opensws libraries for modeling, marshalling, and unmarshalling xml objects.
- **OpenASelect**
- **SuisseID** - SuisseID aims to provide a digital identity and qualified digital signature in Switzerland. The user attributes are provided by the Claim Assertion Infrastructure (CAI). The OpenSAML library is used in the SuisseID SDK/Java to integrate applications with the infrastructure.

### Thanks to...

The following organizations have provided substantial resources to the development of OpenSAML over the years.

- The Ohio State University
- Georgetown University
- Internet2
• NSF Middleware Initiative
• SWITCH
• EGEE