

# Authentication libraries

Nexus GO authentication libraries are based on [SAML](#) and used to verify the Nexus GO authentication. To implement Nexus GO Authentication on your website, you need to use these libraries or any other comparable libraries.

The authentication libraries are available for Java, .NET and PHP and require the following platform versions:

Platform	Version	Library for download
Java	1.8 or higher	<a href="#">saml-validation-java-1.1.0.zip</a>
.NET	4.5 or higher	<a href="#">saml-validation-.net-1.1.0.zip</a>
.NET Standard	2.0	<a href="#">saml-validation-.net-2.0.0.zip</a>
PHP	5.6 or higher	<a href="#">saml-validation-php-1.1.0.zip</a>

## Related information

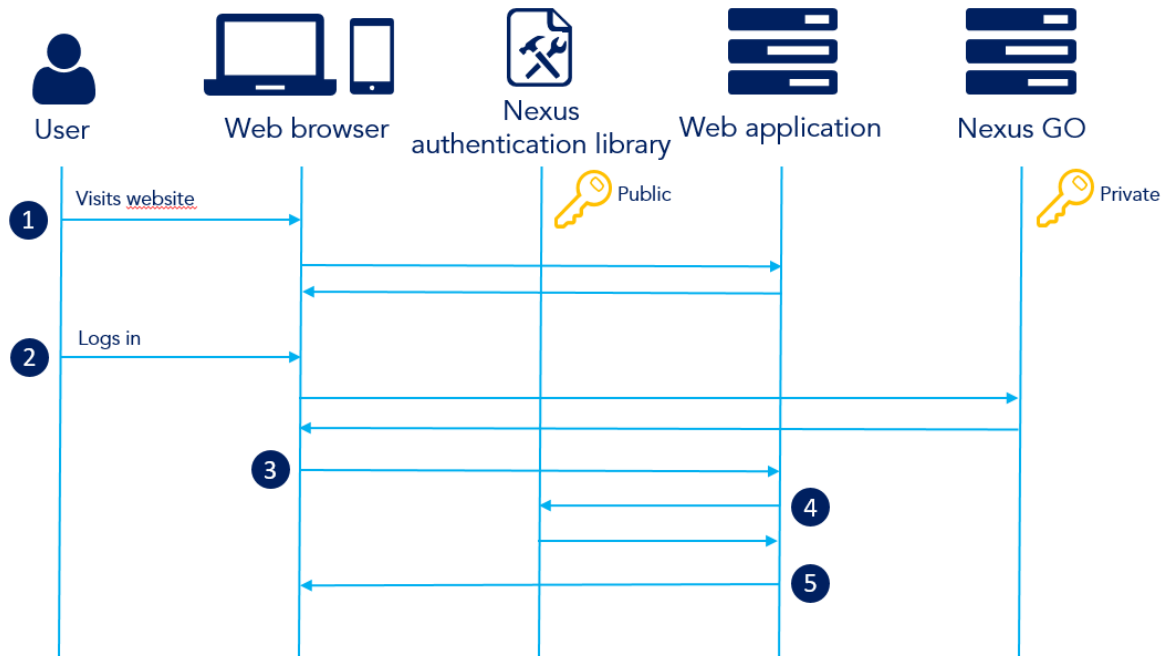
- [Authentication libraries](#)

## Links

- [SAML specification](#)

# Sequence diagram

This diagram describes the traffic that takes place when a user logs in to the web application:



1. The user visits the web application.
2. The user logs in with the requested method. Nexus GO sends an authentication response.
3. The user is redirected to the Validation URL, as specified in the environment.
4. The authentication response is validated.
5. The user is either logged in or denied.

# Initiation errors and solutions

These errors are thrown when calling:

```
public static LibrarySamlEngine initialize(...)
```

Code	Message	Proposed Solution	Note
100	Invalid configurationPath argument	Verify that the specified folder exists.	
101	IDP metadata file not found		
102	Failed to read IDP metadata	Verify correct access to read the file.	Used in java
103	IDP metadata file not valid xml	Wrong file or file may have been altered causing the XML format to become invalid.	
104	IDP metadata has an invalid SingleSignOnServices location		Used in java
105	IDP metadata has invalid certificate	The metadata did not contain a valid X509Certificate, consult the Identity Provider.	
106	IDP metadata missing required certificate	The metadata did not contain a valid X509Certificate, consult the Identity Provider.	
107	IDP missing SingleSignOnService for expected binding	The library requires that the IDP has one, and only one, SingleSignOnService with type "urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect".  Either remove duplicated SingleSignOnService manually, or consult the Identity Provider.	Used in java
108	IDP had multiple SingleSignOnServices for expected binding	The library requires that the IDP has one, and only one, SingleSignOnService with type "urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect".  Either remove duplicated SingleSignOnService manually, or consult the Identity Provider.	Used in java
109	IDP missing required protocol for SingleSignOnService	HTTPS is required. This is currently not configurable.	Used in java
110	IDP metadata is missing SSO descriptor		
111	IDP metadata had multiple SSO descriptors		
112	IDP metadata is missing EntityID		
113	Failed to read PS metadata	Verify correct access to read the file.	Used in java
114	SP metadata file not found		
115	SP metadata file not valid xml	Wrong file or file may have been altered causing the XML format to become invalid.	
116	SP metadata has an invalid AssertionConsumerService location		
117	SP missing required protocol for AssertionConsumerService		

118	SP missing AssertionConsumerService for expected binding		
119	SP had multiple AssertionConsumerService for expected binding		
120	SP metadata is missing EntityID		
121	SP metadata is missing SSO descriptor	Verify that the metadata files has not been switched.	
122	SP metadata had multiple SSO descriptors	Either remove duplicated SSODescriptorType manually, or consult the Identity Provider.	

## Validation errors and solutions

These errors are thrown when calling:

```
public static Result validateSamlResponse(...)
```

Code	Message	Proposed Solution	Note
200	SAML Response not valid XML		
201	Destination URL did not match URL request was received on	The library tried to match URL in SAML Response Destination with SP metadata HTTP-Redirect URL location. If this fails, the metadata may be out-of-synch.	
202	Invalid state, should be acting Service Provider		Used in java
203	Unable to resolve Identity Provider by EntityID		Used in java
204	Identity Provider is disabled		Used in java
205	Response did not contain any assertion and no encrypted assertions		
206	Service Provider is missing required settings		Used in java
207	Failed to decrypt encrypted assertion(s), no key-pair	The current version of the library does not support decrypting encrypted assertions. Consult the Identity Provider.	Used in java
208	Identity Provider is missing public-key, failed to verify signature		Used in java
209	Unable to verify signature for SAML assertion		Used in java
210	Error when verifying signature	The signature was invalid. Signature verification could not be performed.	Used in java
211	Signature verification failed	The verification of the signature failed. The response may be tampered, or the IDP metadata is outdated and contains old public key. Consult the Identity Provider.	
212	Response did not contain a valid Issuer	The issuer in the response did not match the EntityID in the IDP metadata.	

213	Response Issuer did not contain a valid NameID		Used in java
214	Response did not contain a valid Subject		
215	Response Subject did not contain a valid NameID		Used in java
216	Response Subject did not contain a contain NameID value		
217	Response did not contain a valid AuthnStatement		
218	Assertion did not contain expected Service Provider as audience		
219	Assertion did not contain a valid NameID		Used in java
220	Attempting user attribute mapping without any attribute specified		Used in java
221	Did not find user		Used in java
222	Assertion subject is expired	The response is expired or not yet valid. Verify that SP and IDP system clock are in synch. It is recommended to use a trusted NTP server to avoid timing issues.	
223	Assertion subject not yet valid	The response is expired or not yet valid. Verify that SP and IDP system clock are in synch. It is recommended to use a trusted NTP server to avoid timing issues.	
224	Assertion is expired	The response is expired or not yet valid. Verify that SP and IDP system clock are in synch. It is recommended to use a trusted NTP server to avoid timing issues.	
225	Assertion not yet valid	The response is expired or not yet valid. Verify that SP and IDP system clock are in synch. It is recommended to use a trusted NTP server to avoid timing issues.	
226	Assertion did not contain Conditions		
227	Assertion did not contain Status		
228	Status did not contain StatusCode		
229	StatusCode did not contain Value		
230	Assertion status was not success		
231	InResponseTo mismatch		
232	Multiple assertions in response		Used in .NET, PHP
233	Request method not POST		Used in PHP