

3031657 - How to generate SAML assertion for SAP SuccessFactors API using SAP provided offline tool?

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Language	English	Master Language	English
Release Status	Released to Customer	Category	Problem
Component	LOD-SF-INT-ODATA (OData API Framework)	Released On	21.06.2021

Please find the original document at <https://launchpad.support.sap.com/#/notes/3031657>

Symptom

How to generate SAML assertion for SAP SuccessFactors SFAPI/ODATA API using SAP provided offline tool?

Environment

SAP SuccessFactors ODATA API
SAP SuccessFactors SFAPI

Resolution

Procedure to generate SAML assertion using offline tool:

Steps provided below has been provided for Windows Operating system. If you are using any other OS, please follow the guidelines provided [Installing Apache Maven](#)

Step 1: Download file from [Installing Apache Maven](#) and unzip to your local drive.

Binary tar.gz archive	apache-maven-3.6.3-bin.tar.gz	apache-maven-3.6.3-bin.tar.gz.sha512	apache-maven-3.6.3-bin.tar.gz.asc
Binary zip archive	apache-maven-3.6.3-bin.zip	apache-maven-3.6.3-bin.zip.sha512	apache-maven-3.6.3-bin.zip.asc
Source tar.gz archive	apache-maven-3.6.3-src.tar.gz	apache-maven-3.6.3-src.tar.gz.sha512	apache-maven-3.6.3-src.tar.gz.asc

In my example, folder has been extracted in C drive

Step 2. Validating JAVA JDK compatibility and maintaining "system environment variables" in your machine

1. Ensure JAVA_HOME environment variable is set and points to your JDK installation.
2. Add the **bin** folder to the variable **PATH** as shown below

Environment Variables



User variables for .

Variable	Value
APPDIR_PATH	C:\Program Files\Apache Software Foundation\Apache Maven\bin
OneDrive	C:\Users\j300121\OneDrive
OneDriveCommercial	C:\Users\j300121\OneDrive - SAP SE
PATH	C:\apache-maven-3.6.3\bin
TEMP	C:\Users\j300121\AppData\Local\Temp
TMP	C:\Users\j300121\AppData\Local\Temp

New...

Edit...

Delete

System variables

Variable	Value
CLASSPATH	%JAVA_HOME%\jre\lib
ComSpec	C:\Windows\system32\cmd.exe
DEFLOGDIR	C:\Program Files\Java\jdk-11.0.10\lib\logging.properties
DriverData	C:\Windows\System32\DriverData
homeloc	in_0110
JAVA_HOME	C:\Program Files\SapMachine\JDK\11\
NEXTHINK	C:\Program Files\Nexthink\Nexthink
NUMBER OF PROCESSORS	8

New...

Edit...

Delete

OK

Cancel

Step 2: Validate JDK

1. Go to command prompt and execute below command to verify the JDK:
echo %JAVA_HOME%

```
C:\>echo %JAVA_HOME%
C:\Program Files\SapMachine\JDK\11\
C:\>
```

Step 3: Validate if Maven was installed correctly

1. Navigate to the directory on your local drive where you have extracted the folder and open the "bin" folder. Copy the path:
Example: C:\apache-maven-3.6.3\bin
2. Go to command prompt and navigate to the above directory:

```
Microsoft Windows [Version 10.0.18363.1440]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\I200101>cd\

C:\>cd C:\apache-maven-3.6.3\bin

C:\apache-maven-3.6.3\bin>
```

3. execute below:
mvn -v

```
C:\>cd C:\apache-maven-3.6.3\bin

C:\apache-maven-3.6.3\bin>mvn -v
Apache Maven 3.6.3 (cecedd343002696d0abb50b32b541b8a6ba2883f)
Maven home: C:\apache-maven-3.6.3\bin\..
Java version: 11.0.10, vendor: SAP SE, runtime: C:\Program Files\SapMachine\JDK\11
Default locale: en_US, platform encoding: Cp1252
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"
```

This means Maven installation is successful. Now we are good to proceed with generating SAML assertion using SAP provided offline tool.

Step 4: Generate SAML assertion using offline tool.

1. Go to attachment section of this KBA and download the zip file
2. Extract folder from ZIP file to your local drive.
3. Now go to the folder " " and open "SAMLAssertion.properties" file

OSDisk (C:) > SAMLAssertionGen-master

Name	Date modified	Type	Size
src	3/23/2021 12:20 PM	File folder	
target	3/23/2021 3:35 PM	File folder	
pom.xml	2/3/2021 12:59 PM	XML Document	5 KB
README.md	2/3/2021 12:59 PM	MD File	2 KB
SAMLAssertion.properties	3/23/2021 12:03 PM	PROPERTIES File	3 KB

4. Fill the data:

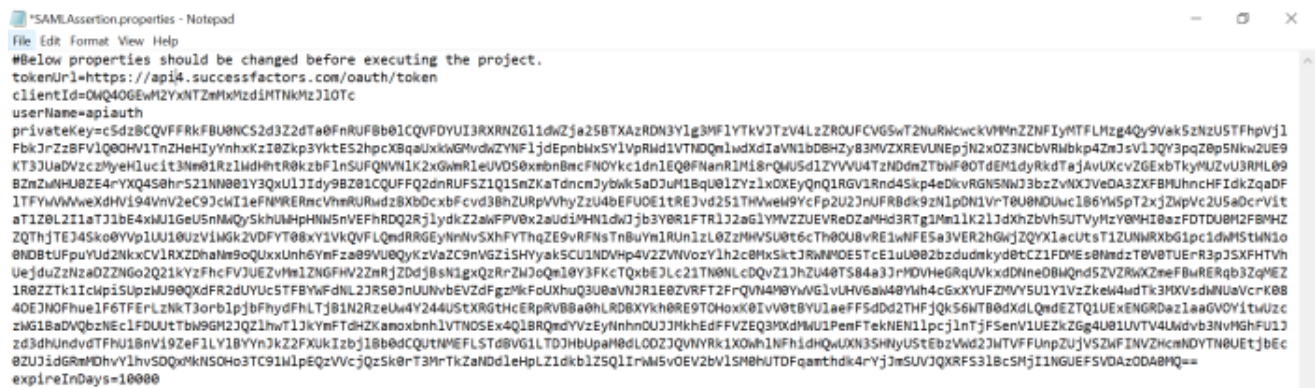
```
#Below properties should be changed before executing the project.
tokenUrl=<API_endpoint_URL>/oauth/token
clientId=xxxx
userName=XXXX
privateKey=xxxx
expireInDays=10000
```

clientId: API Key which you received while registering the client in SF.

userName: API Username

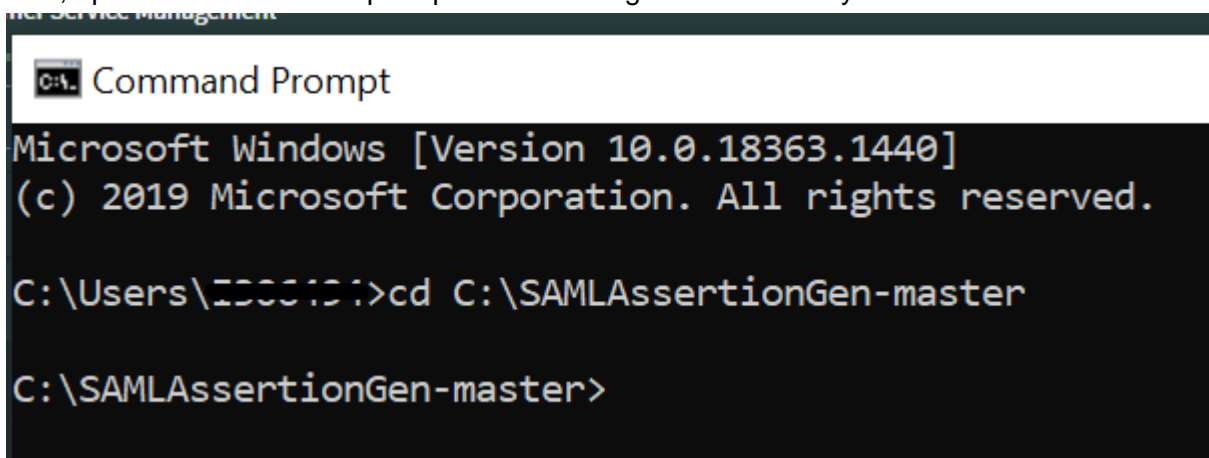
privateKey: X509 private key

Sample file:



```
*SAMLAssertion.properties - Notepad
File Edit Format View Help
#Below properties should be changed before executing the project.
tokenUrl=https://api4.successfactors.com/oauth/token
clientId=0M040GEwM2YxNTZmMxMzdiMTNkMzJlOTc
userName=apiauth
privateKey=c5d28CQVFFRkFBU0NC52d3Z2dT0FNRUF0b01CQVDFYUI3RXRNZG1ldwZja250TAXzRDN3Y1g3MF1YTKVJ7zV4LzZROUFCVGSwT2NuRkwcKVMNZZNFiyMTFLH2g4Qy9Vak5zNzUSTFhpVj1
FbkJrZzBVLQ0OHV1TnZHeHzyYnhxKz10Zkp3YktES2hpcXBqaUxkxGmVdKZYNF1jEpnblx5Y1pRld1VTNDQm1wdXdaVn1b0BHZyB3MvZXRvUWpJN2x0Z3NCbVRMbKp4ZmJzVlJQV3pqZ0p5Mkw2UE9
BT3J0aDvzc2hyehLucit3Nm01Rz1WdHntR0kzbf1nSUFQVNM1K2xGwMR1eUVD08xmbnBmcFN0Ykc1dn1EQ0FNaR1M18rQMUSd1ZYVU4TzNDdnZTbWf00TdEM1dyRkdTajAvUXcvZGExbTKyMUZvU3RML09
BzmZnHUB0ZE4rYXQ50hr521NM001Y3QxUL1Jdy9BZ01CQUFFQ2dnRUF5Z1Q15mZKaTdncljyblw5aD3uH1BqU01ZYz1x0XEYqNq1RGV1Rnd45kp4eDkVRGNSNwJ3bzZVNXJVeDA3ZXFBUHncHFIdkZqaDF
1TFYvWwXedHv194VnV2eC9JcW11eFMRERmcVhmRUdZ8XB0cxbFcvd3BhZURpVvhyZzU4bEFU0E1tREJvd251THWwE9YcFp2U2JnJFRBdk9zN1p0N1VrT0U8NDUmc1B6Ym5pT2xjZkpVc2U5a0CrV1t
aT1Z0L211aTJ1bE4xM1JGeU5nMqY5kHUMPHN5nVEFHdQ2RjlydkZ2awFPV08x2aUd1MHN1dwJjb3Y0R1FTR1J2aG1YmVZ2UEVReDZaHd3RTg1Mm1K21JdXhZbVhSUTVYHzY0MHI0azFDTDU0M2F8MHZ
ZQTHjTEJ4Sko0YpV1U1U0zV1MgK2VDFYt08xY1VqVFLQndRRGEYnNvSXhFYThqZE9vRFNsTnBuYm1RUn1zL0ZzMHV5U0t6cTh0OU8vRE1wNFE5a3VER2hGwJZQYX1acUtsT1ZUNNRXbG1pc1dM5tMN1o
0ND0TUFpuYUd2NkxCV1RXZDhaNm9oQUXxUnh6YmFza09VU08yKzVaZC9nVGZ1SHYyak5CU1NDVHp4V2ZVNv0zY1h2c0HxSkTjRwNM0ESTcE1uU002bzddudmkyd8tCZ1FDMESa8NmdzT0V0TUErR3pJ5XFHTVh
UejduZnZaDZ2N02Q21kYzFhcFVJUEZvMm1ZNGFHV2ZnRjZDdJ0S1gXQZrRZMJoQm10Y3FKcTQxbEJLc21T08N1cDQvZ1JhZU40TS84a3JrYDVHeGRqUVVxkdDnneDBMqnd5ZVZRWXZneFbURERqb3ZqMEZ
1R0Z2Ttk11clp15UpzMU90QdFR2dUVUc5TFBwYwFNL2JRS0JnUUNvbEVZdFgzMkFoUXhuQ3U0aVnJRIE0ZVRFT2FrQVNM40YvVGLvUHV6aw40Yldh4cGxKYUFZMvY5U1Y1VzZke4udTk3MXVsdMNUaVcrK08
40EJ0F0ue1F6TFERLzNkT3orb1pjbFhydFhLTjB1N2RzeUw4Y244UStXRGtHErPRVB0a0hLR0BXYkh0R9T0HoxK0iVv0tBYU1aeFF5dDd2THfJk56MTB0dXdlQndE2TQ1UEXENGRODaz1aaGVOY1twUzC
z0G1BaDvqbzNEc1F0UutTbW9Gh2JQZ1hw71lkYmFTdH2Kamoxbnh1VTN0SEx4Q1BRQndYVzEYlnhndUJ3JhkhEdFFVZEQ3MXdPMU1PmfTckNEN1pcJlntJfSenV1UEZkZGg4U01UVT4Umdvb3NvW6hFu1J
z03dhUmdvTFHJ18hV19zeF1LY18YYnJkZ2FXUk1zbj18b0dCQUTMFEFLST0BVG1LTD3HbUpaH0dL0DZ3QVNYrk1X0wh1NFh1dHqUwXN3SHHyUStEbZVw02JhTVFfUnpZuJv5ZwF1NVZhcMNDYTN0UETjB0c
8ZUJ1dGmMdhvY1hV50QxMkNS0h03T91M1pEqzVvcJz5k0rT3MrtKzAND0leHplZ1dkb1Z5Q11rM5v0EV2bV1SM8HUTDFqamthdk4-yJm5UJVQXRF531BcSMj11NGUEFSV0AZ0DABMQ==
expireInDays=10000
```

5. Save the file and close.
6. Now, open a new command prompt window and go to the directory where folder was extracted:



```
C:\SAMLAssertionGen-master
C:\Users\I300101>cd C:\SAMLAssertionGen-master
C:\SAMLAssertionGen-master>
```

7. Execute below command:

mvn compile exec:java -Dexec.args="SAMLAssertion.properties"



```
C:\Users\I306494>cd C:\SAMLAssertionGen-master
C:\SAMLAssertionGen-master>mvn compile exec:java -Dexec.args="SAMLAssertion.properties"
[INFO] Scanning for projects...
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/exec-maven-plugin/3.0.0/exec-maven-plugin-3.0.0.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/exec-maven-plugin/3.0.0/exec-maven-plugin-3.0.0.pom (14 kB at 9.6 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/mojo-parent/50/mojo-parent-50.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/mojo-parent/50/mojo-parent-50.pom (34 kB at 77 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/exec-maven-plugin/3.0.0/exec-maven-plugin-3.0.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/exec-maven-plugin/3.0.0/exec-maven-plugin-3.0.0.jar (68 kB at 132 kB/s)
[INFO]
[INFO] -----< com.sf.SAMLAssertionGen -----
[INFO] Building SAMLAssertionGen 1.0.0
[INFO] -----[ jar ]-----
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-resources-plugin/2.6/maven-resources-plugin-2.6.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-resources-plugin/2.6/maven-resources-plugin-2.6.pom (8.1 kB at 22 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/23/maven-plugins-23.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/23/maven-plugins-23.pom (9.2 kB at 25 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/22/maven-parent-22.pom
```

8. Once completed, it would generate SAML assertion. Copy this and store it securely in your local drive

[illegible]

NOTE: This KBA has been published to help you with steps to be followed if you wish to generate SAML assertion using external tool.

File Name	File Size	Mime Type
Pasted image.png	30	image/png
SAMLAAssertionGen-master.zip	8	application/x-zip-compressed

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