Connecting Service Providers

- Connecting an OpenID Connect service
- Connecting a SAML service
- Connecting Soffid console
- Connecting your custom applications
- Openid-connect to SAML interoperability
- Openid-connect Dynamic Register
- Connecting CAS client
- Connecting Tacacs+
- Connecting Radius client

Connecting an OpenID Connect service

Introduction

There are three basic OpenID flows, depending whether the service name must be authenticated using its client secret or not:

OpenID flow

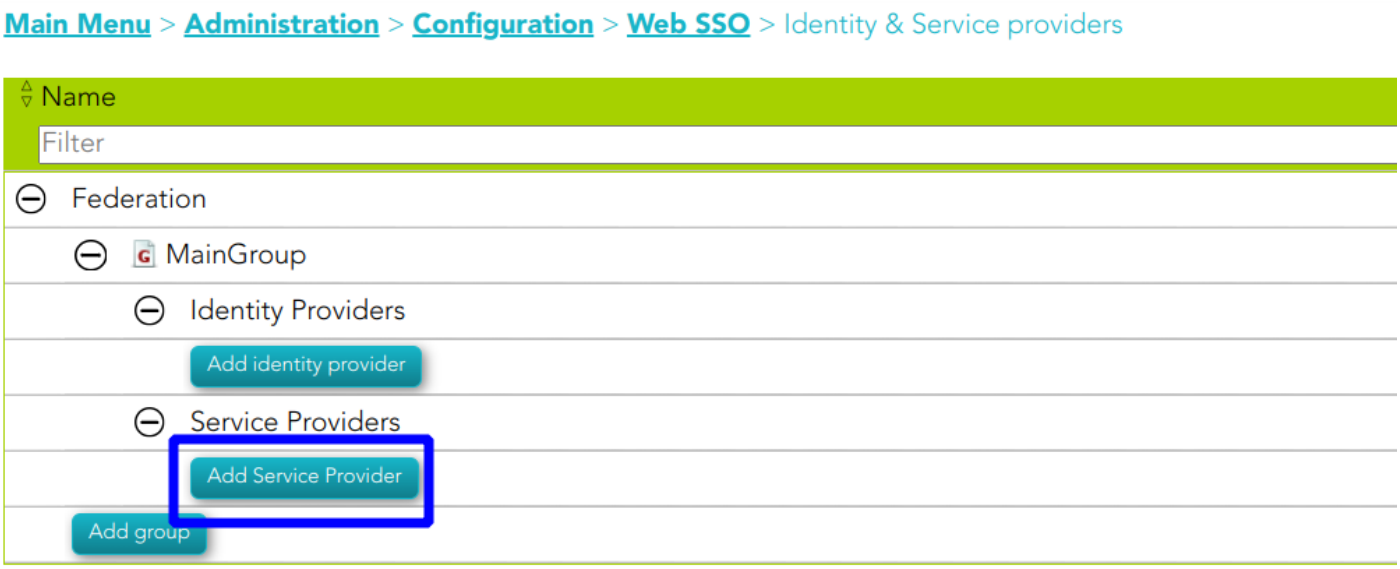
> “
>
> **Implicit flow**
>
> - The Service Provider sends the user to the IdP.
> - The IdP authenticates the user.
> - The user returns control to the Service Provider along an OpenID token and an OAuth token.
>
> **Client credentials flow**
>
> - The Service Provider sends the user to the IdP.
> - The IdP authenticates the user.
> - The user returns control to the Service Provider along an authorization code.
> - The Service Provider gets the OpenID token and OAuth token from the IdP by presenting the authorization code, and its client secret. This request is using a direct connection between them.
>
> **Password authentication flow**
>
> - The Service Provider asks for a user name and password.
> - The Service Provider gets the OpenID token and OAuth token from the IdP by presenting the user's name and password, and optionally its client secret. This request is using a direct connection between them.

Register an OpenId Connect Service Provider

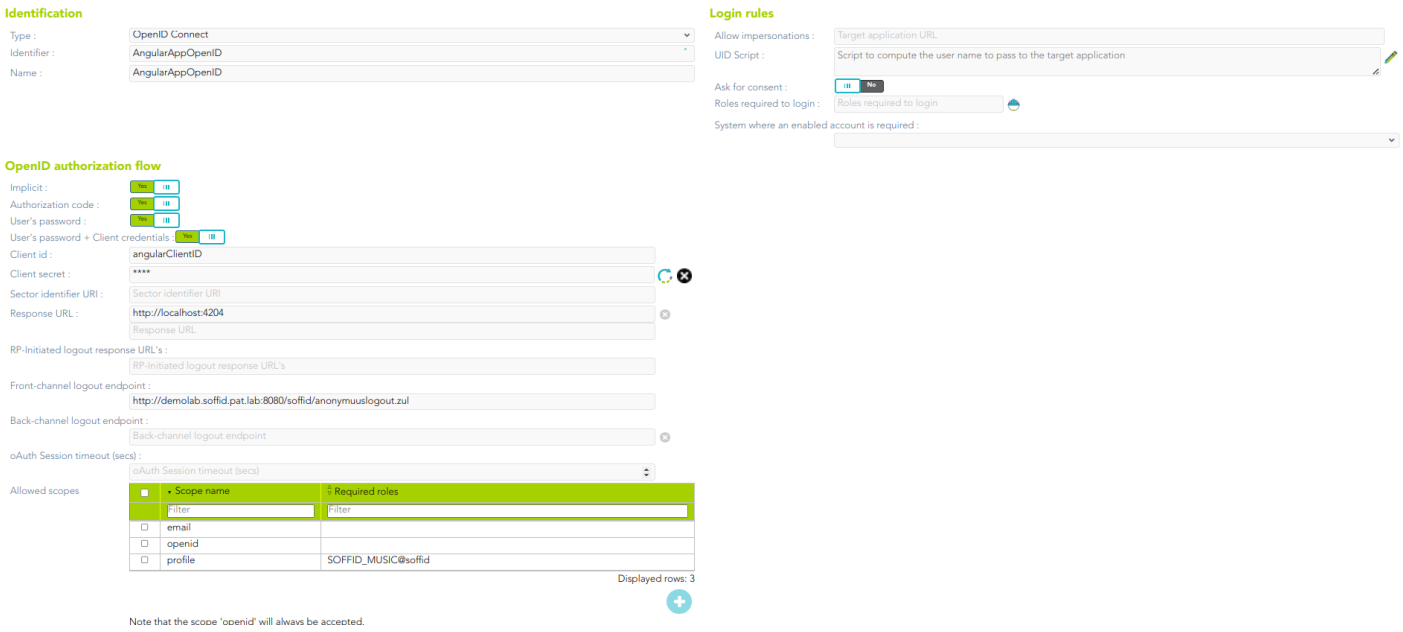
1. To register an OpenId Connect service provider, open the federation page:

`Main Menu > Administration > Configuration > Web SSO > Identity & Service providers`

2. Then, select an Entity Group and the branch Service Providers and click on the **Add Service Provider** button.



3. Soffid will display the following window:



> For more information about the attributes, you can visit the OpenID Connect detailed info.

4. Finally, you must apply changes.

Examples

1. Authorization code flow

The client application creates a random String, named nonce, and sends to the user the following URL

Request

```
https://youridentityprovider:2443/authorization?
        redirect_uri=https://<serviceprovider>/response&
        client_id=MYCLIENT&
        nonce=123456798012345678 90&
        scope=openid+test+other&
        response_type=code
```

Then, the user will be asked for a username and password, or any other means of authentication. After authenticating the user, the browser will be redirected to the URL configured in the service

provider page, adding a one-time authorization code.

```
https://<serviceprovider>/response/?
code=XXXXXXXXXXXXXXX&
nonce=12345679801234567980
```

Once the service provider has received the one-time authorization code, it can connect to the identity provider to retrieve the oAuth token, as well as the OpenID token.

Request

POST https://youridentityprovider:2443/**token**

HEADERS
Accept: application/json
Authorization: Basic dGVzdDp0ZXN0
Content-Type: application/x-www-form-urlencoded

BODY PARAMS
grant_type=authorization_code&
code=XXXXXXXXXXX

Parameters

- **Authorization**: contains, coded in base 64, the **client id** and the **client secret**, as it would have been sent for a standard Basic authentication header. The identity provider will match these against the stored credentials.
- **grant_type**: should be authorization_code.
- **code**: should be the one-time authorization code received in the previous requested.

Response

```
{
   "access_token":"8bDP2P...",
   "refresh_token":"gjLmSW...",
   "id_token":"eyJra.eyJ.LQ_XtHKr.RY3A4...",
   "token_type":"Bearer",
   "expires_in":11998
}
```

- The *id_token* tag contains the OpenId token.
- The *access_token* tag contains the oAuth token.

Before the number of seconds specified om *expires_in* are elapsed, the token can be renewed by invoking again the token endpoint changing the grant_type:

Request

POST https://youridentityprovider:2443/**token**

HEADERS
Accept: application/json
Authorization: Basic dGVzdDp0ZXN0
Content-Type: application/x-www-form-urlencoded

BODY PARAMS
grant_type=refresh_token&
refresh_token=gjLmSW...

Parameters

- **Authorization**: contains, coded in base 64, the **client id** and the **client secret**, as it would have been sent for a standard Basic authentication header. The identity provider will match these against the stored credentials.
- **grant_type**: should be refresh_token.
- **refresh_code**: should be refresh code received in the previous requested.

Response


```
{
   "access_token":"8bDP2P...",
   "refresh_token":"gjLmSW...",
   "id_token":"eyJra.eyJ.LQ_XtHKr.RY3A4...",
   "token_type":"Bearer",
   "expires_in":11998
}
```


2. User’s password + client credentials flow

The application asks the user for the user name and password. Then, it connects to the token endpoint to get an access token:

Request

POST https://youridentityprovider:2443/**token**

HEADERS
Accept: application/json
Authorization: Basic dGVzdDp0ZXN0
Content-Type: application/x-www-form-urlencoded

BODY PARAMS
grant_type=password&
username=USER&
password=PASSWORD&XXXXXXXXXXXX

Parameters

- **Authorization**: contains, coded in base 64, the client id and the client secret, as it would have been sent for a standard Basic authentication header. The identity provider will match these against the stored credentials
- **grant_type**: should be password
- **username**: must be the user name entered by the user.
- **password**: must be the password entered by the user.

Response

```
{
   "access_token":"8bDP2P...",
   "refresh_token":"gjLmSW...",
   "id_token":"eyJra.eyJ.LQ_XtHKr.RY3A4...",
   "token_type":"Bearer",
   "expires_in":11998
}
```

- The *id_token* tag contains the openid token.
- The *access_token* tag contains the oAuth token.

Before the number of seconds specified in expires_in are elapsed, the token can be renewed by invoking again the token endpoint:

Request

POST https://youridentityprovider:2443/**token**

HEADERS
Accept: application/json
Authorization: Basic dGVzdDp0ZXN0
Content-Type: application/x-www-form-urlencoded

BODY PARAMS
grant_type=refresh_token&
refresh_token=gjLmSW...

Parameters

- **Authorization**: contains, coded in base 64, the client id and the client secret, as it would have been sent for a standard Basic authentication header. The identity provider will match these against the stored credentials
- **grant_type**: should be refresh_token
- **refresh_code**: should be refresh code received in the previous requested

Response

```
{
   "access_token":"8bDP2P...",
   "refresh_token":"gjLmSW...",
   "id_token":"eyJra.eyJ.LQ_XtHKr.RY3A4...",
   "token_type":"Bearer",
   "expires_in":11998
}
```

3. Closing the session

The application wants to revoke the token and session cookie:

Request

POST https://youridentityprovider:2443/**revoke**

HEADERS
Accept: application/json
Content-type: application/x-www-form-urlencoded
Authorization: Basic dGVzdDp0ZXN0

BODY PARAMS
token_type_hint=token=access_token&
token=8bDP2P...

Parameters

- **Authorization**: contains the encoded client id and client secret.
- **token_type_hint**: can have the following values:
  - access_token
  - refresh_token
  - session_cookie
- **token**: contains the authorization token, refresh_token or session_cookie value

4. Getting user attributes

All the user attributes can be extracted from the OpenID token. Anyway, it is possible to get them in a more readable format user the user-info endpoint.

Request

GET https://youridentityprovider:2443/**userinfo**

HEADERS
Accept: application/json
Authorization: Bearer dGVzdDp0ZXN0

Parameters

- **Authorization**: contains a valid access token.

Response

```
{
   "sub": "admin",
   "surname": "Admin",
   "given_name": "Admin",
   "member_of": [
      "TestRole2@soffid",
     "TestRole@soffid"
   ]
}
```

5. Getting a session cookie for the user

Sometimes, a mobile application has authenticated the user using the username & password grant, but wants to share this authenticated session with the underlying web browser. For such a case, the application can request a session cookie with this request:

Request

GET https://youridentityprovider:2443/session_cookie

HEADERS
Accept: application/json
Authorization: Bearer dGVzdDp0ZXN0

Parameters

- **Authorization**: contains a valid access token.

Response


```
{
        "cookie_domain": "cookied",
        "user": "pgarcia",
        "cookie_value": "5458083_bT2CZlaa6psl/q3ue6NObxX8Q7duQKj0hAuUJIouT5Y=",
        "cookie_name": "cookien"
}
```


> Please note that it is mandatory to fill in the name of the cookie in the identity provider, at the session management section

Connecting a SAML service

Introduction

To connect a SAML service provider, the service provider must offer you its SAML metadata. The SAML metadata contains information about its public id, the services that implement and the service endpoints.

Register a SAML service provider

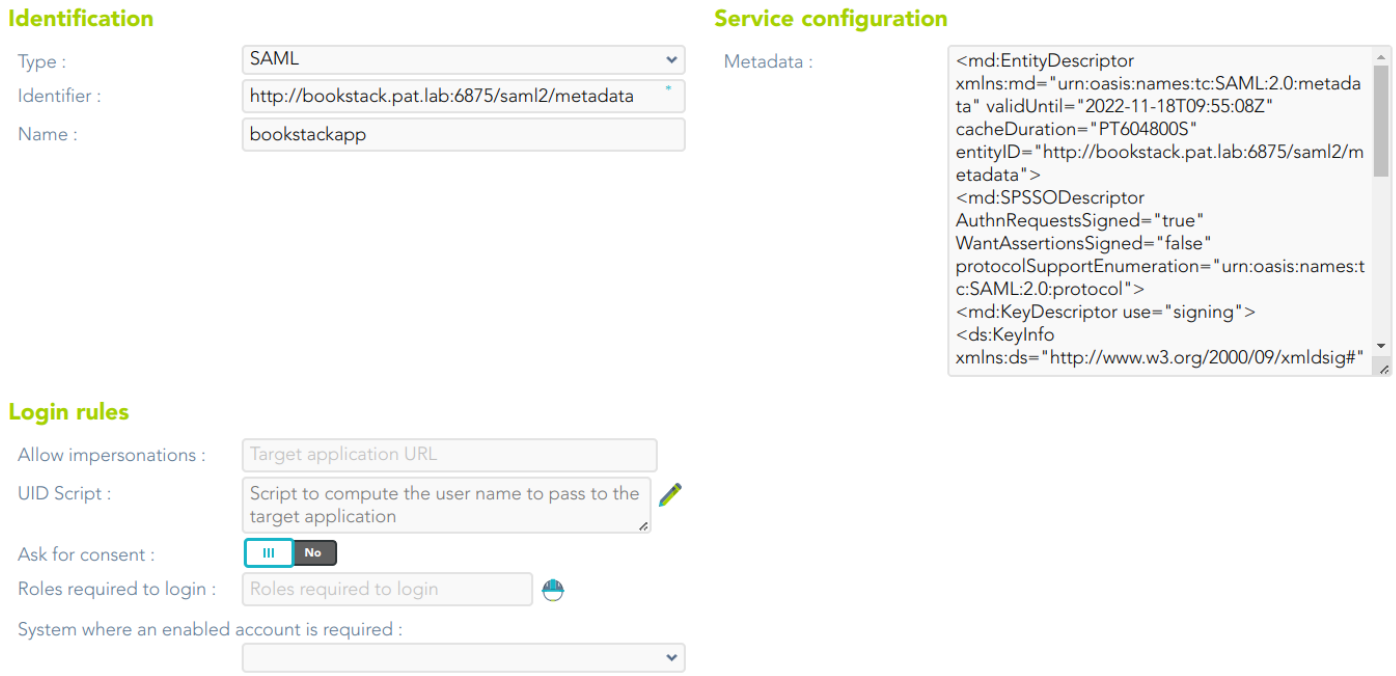
1. Open the **Identity & Service Provider** page.

   `Main Menu > Administration > Configure Soffid > Web SSO > Identity & Service providers`

2. To add a new service provider, click on the **Add Service Provider** button.

> Be in mind that you can configure more than one Entity Group and you could add new service providers in each one.

3. Then you must fill in the required fields. Also, you need to provide the identity provider metadata. You can either copy it from the Soffid federation page or instruct the service provider to download the federation metadata by itself.



> For more information about the attributes, you can visit the SAML detailed info.

4. To publish the federation members metadata, the main sync server exports the members metadata at the path /SAML/metadata.xml. Thus, if your sync server is listening at soffid1.your.domain, you can get the whole federation metadata document from https://soffid1.your.domain:760/SAML/metadata.xml.

5. After some seconds, up to five minutes, every federation member will notice any change.

Connecting Soffid console

Introduction

Soffid console has a built-in SAML client, so it can act as a service provider in the Soffid federation. It is interesting to use this configuration, as it allows you to enforce the use of two factors authentication to log into the Soffid console.

Register Soffid as a service provider

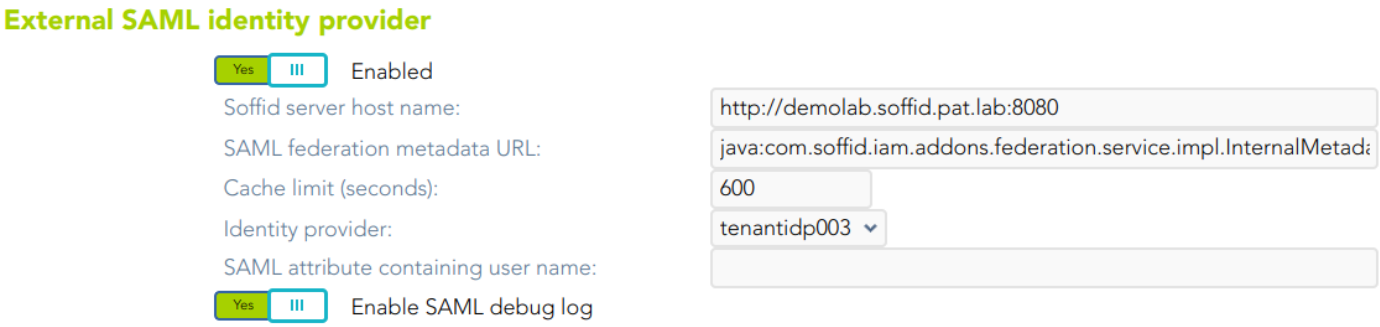
1. Enable the SAML protocol in the Soffid console:

    1.1. Open the **Authentication** page:

    `Main Menu > Administration > Configure Soffid > Security settings > Authentication`

    1.2. You must enable the **External XAML identity provider**.

    1.3. Then you must fill in the fields:



- **Soffid server host name**: URL of the Soffid console.
- **SAML federation metadata URL**: URL where the whole federation metadata can be obtained. It used to be https://your.primary.sync.server:760/SAML/metadata.xml Sometimes, an error as "unable to find valid certification path to requested target" could be displayed.

In that case, you must obtain the public certificate from the sync server and store in your Java trusted certs repository. To do that, use the keytool command. The trusted certs repository is

located at <JAVA_HOME>/lib/security/cacerts

The command should look like the next one. When prompted for a password type in "changeit"

```
root@myserver:~$ /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/keytool
-import -file /tmp/RootCA -trustcacerts -alias syncserver
-keystore /usr/lib/jvm/java-8-openjdk-amd64/jre/lib/security/cacerts
```

- **Cache limit (seconds)**: the amount of time the metadata should be kept in memory before refreshing.
- **Identity provider**: after reading the federation metadata, this drop-down box lets you select any identity provider present at the federation. Usually, you will select the Soffid IdP.

2. Download Soffid console metadata:

2.1. Open the **Authentication** page:

`Main Menu > Administration > Configure Soffid > Security settings > Authentication`

2.1. Click the **Download metadata** button and save the file.

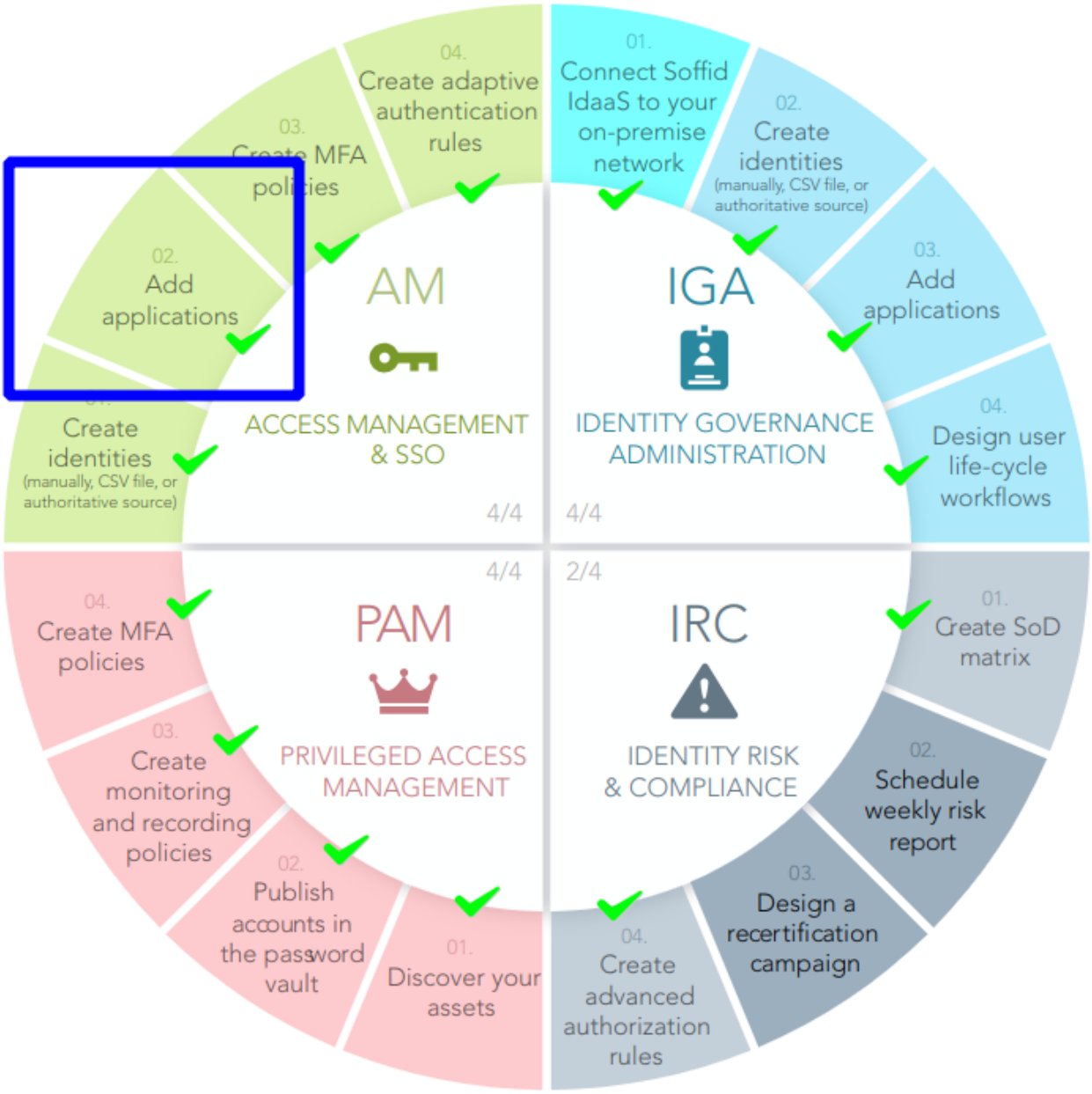
This XML file is the metadata descriptor for the console, including a self-signed certificate generated to sign SAML requests.

The XML file will be like the next one:

```
<md:EntityDescriptor xmlns:md="urn:oasis:names:tc:SAML:2.0:metadata" entityID="http://soffid.pat.lab:8080/soffid-iam-
console">
 <md:SPSSODescriptor AuthnRequestsSigned="true" WantAssertionsSigned="true"
  protocolSupportEnumeration="urn:oasis:names:tc:SAML:2.0:protocol">
   <md:KeyDescriptor use="signing">
    <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
     <ds:KeyName>saml-key</ds:KeyName>
     <ds:X509Data>
      <ds:X509SubjectName>O=Soffid, CN=SOFFID-SAML-SP</ds:X509SubjectName>
      <ds:X509Certificate>MIIBzTCCATagAwIBAgIGAXEYBRcsMA0GCSqGSIb3DQEBBQUAMCoxFzAVBgNVBAMMDlNPRkZJRC1T
      QU1MLVNQMQ8wDQYDVQQKDAZTb2ZmaWQwHhcNMjAwMzI2MTgwNTE5WhcNNDAwNDEwMTgwNTE5WjAq
      MRcwFQYDVQQDDA5TT0ZGSUQtU0FNTC1TUDEPMA0GA1UECgwGU29mZmlkMIGfMA0GCSqGSIb3DQEB
      AQUAA4GNADCBiQKBgQD0Pz+PZ/NKerLMO9da86pznnke/sPflsrv4XfyzRag56PvZZMkdIA7prYx
      k09wGx3CUCsQXZfE3iQvbhr/QyC83GVePLXMxdSNNaYq+YhcfnwexbmcuyhMjiCKK+LMJck5EN7+
      0RXpa46aclIXPjdLLBeoz+k89SuxLbCfCSAi4QIDAQABMA0GCSqGSIb3DQEBBQUAA4GBAIor1gyE
      RaRAqj95FbUIA4qrx0R8apqyYnjKgZqGBGoWUARUCjx44LdXi5ZDOmEMA6Upjz8nnpySHUIaEyum
      q9m7PJLZEBdNFYy0qFVqFjEkxVov0pNIhKM1iCEI9sDhXyoOgT0zouvEj2jBuKeazuz4pScK238N mOm/SKlGYu9s</ds:X509Certificate>
     </ds:X509Data>
    </ds:KeyInfo>
   </md:KeyDescriptor>
   <md:KeyDescriptor use="encryption">
    <ds:KeyInfo xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
     <ds:KeyName>saml-key</ds:KeyName>
     <ds:X509Data>
      <ds:X509SubjectName>O=Soffid, CN=SOFFID-SAML-SP</ds:X509SubjectName>
      <ds:X509Certificate>MIIBzTCCATagAwIBAgIGAXEYBRcsMA0GCSqGSIb3DQEBBQUAMCoxFzAVBgNVBAMMDlNPRkZJRC1T
      QU1MLVNQMQ8wDQYDVQQKDAZTb2ZmaWQwHhcNMjAwMzI2MTgwNTE5WhcNNDAwNDEwMTgwNTE5WjAq
      MRcwFQYDVQQDDA5TT0ZGSUQtU0FNTC1TUDEPMA0GA1UECgwGU29mZmlkMIGfMA0GCSqGSIb3DQEB
      AQUAA4GNADCBiQKBgQD0Pz+PZ/NKerLMO9da86pznnke/sPflsrv4XfyzRag56PvZZMkdIA7prYx
      k09wGx3CUCsQXZfE3iQvbhr/QyC83GVePLXMxdSNNaYq+YhcfnwexbmcuyhMjiCKK+LMJck5EN7+
      0RXpa46aclIXPjdLLBeoz+k89SuxLbCfCSAi4QIDAQABMA0GCSqGSIb3DQEBBQUAA4GBAIor1gyE
      RaRAqj95FbUIA4qrx0R8apqyYnjKgZqGBGoWUARUCjx44LdXi5ZDOmEMA6Upjz8nnpySHUIaEyum
      q9m7PJLZEBdNFYy0qFVqFjEkxVov0pNIhKM1iCEI9sDhXyoOgT0zouvEj2jBuKeazuz4pScK238N mOm/SKlGYu9s</ds:X509Certificate>
     </ds:X509Data>
    </ds:KeyInfo>
   </md:KeyDescriptor>
   <md:SingleLogoutService Binding="urn:oasis:names:tc:SAML:2.0:bindings:SOAP"
   Location="http://soffid.pat.lab:8080/soffid/saml/slo/soap"/>
   <md:SingleLogoutService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST"
   Location="http://soffid.pat.lab:8080/soffid/saml/slo/post"/>
   <md:SingleLogoutService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect"
   Location="http://soffid.pat.lab:8080/soffid/saml/slo/redirect"/>
   <md:NameIDFormat>urn:oasis:names:tc:SAML:2.0:nameid-format:persistent</md:NameIDFormat>
   <md:AssertionConsumerService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST"
   Location="http://soffid.pat.lab:8080/soffid/saml/log/post" index="0"/>
   <md:AssertionConsumerService Binding="urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST-SimpleSign"
   Location="http://soffid.pat.lab:8080/soffid/saml/log/simple-post" index="2"/>
  </md:SPSSODescriptor>
</md:EntityDescriptor>
```


3. Register Soffid Metadata in the third-party Identity Provider.

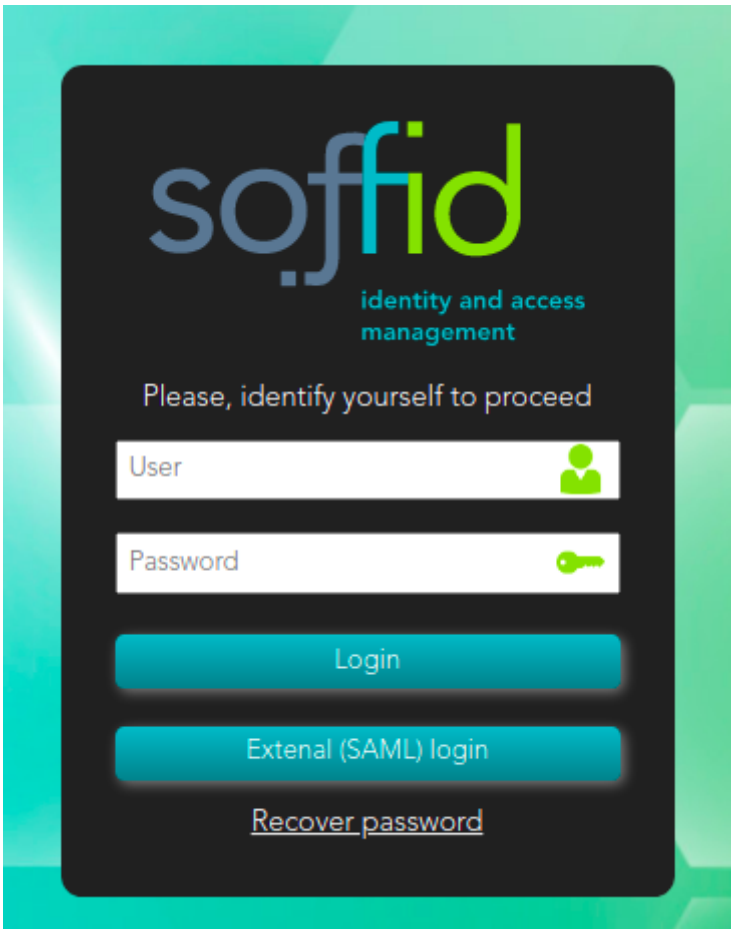
4. You can use the Wizard to Add Applications



> For more information, visit the Add Applications page.

5. Test it

5.1. Next time you log into the Soffid console, a new button will appear for **External (XAML) login**



5.2. Click on the External (SAML) login button, and the user will be forwarded to the identity provider.

English Español Català

Please, identify yourself.

User name: Password:

Login

User name: One time password :

Login

Kerberos ticket

If you have got a valid digital certificate, you can log in using it

Login

A service provider named http://soffid.bubu.lab:8080/soffid-iam-console needs to authenticate you.

Connecting your custom applications

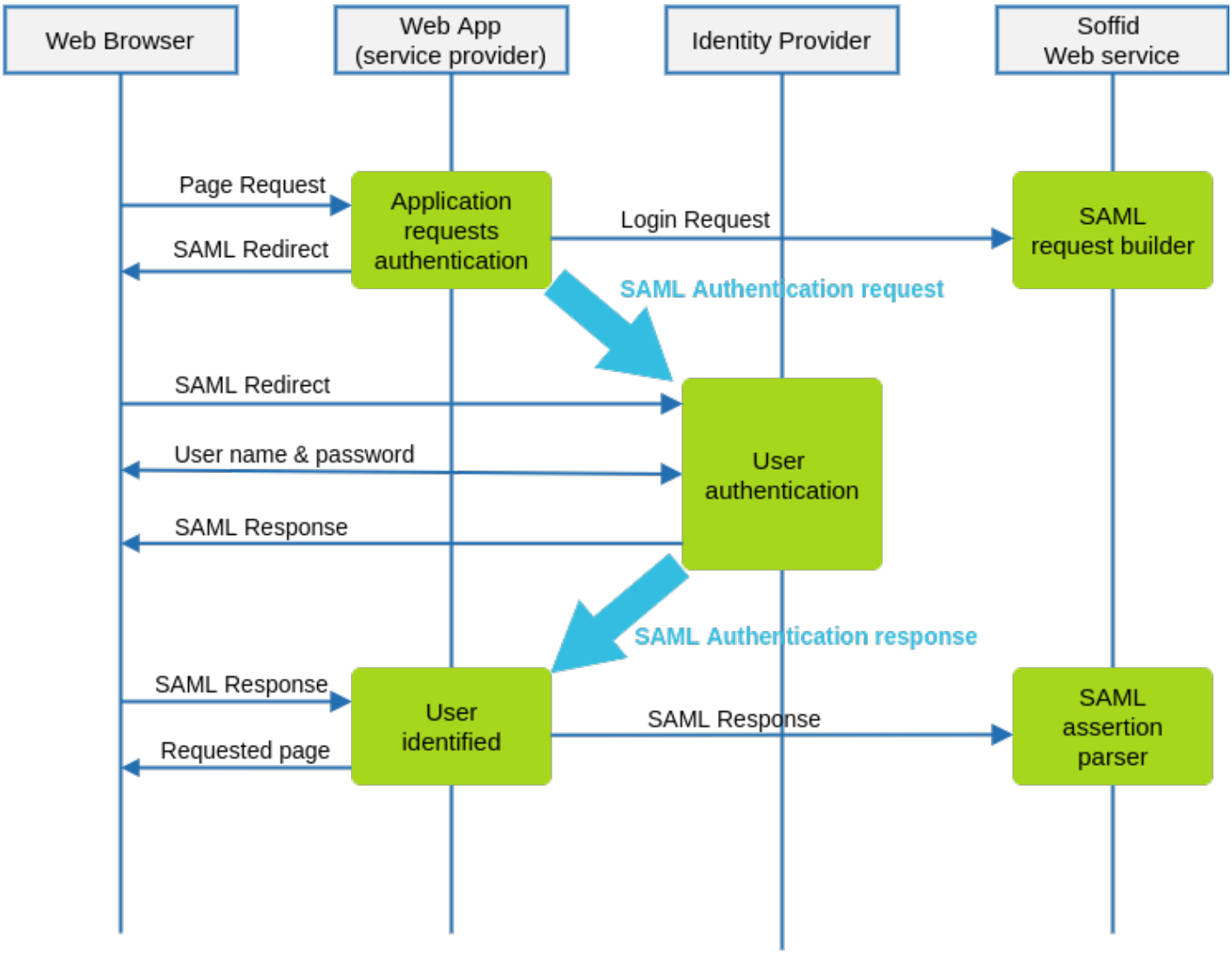
Introduction

SAML 2.0 is a complex and not easy to implement standard. There are some libraries that can help somewhat, but a correct implementation needs a deep knowledge of SAML protocol, and is always hard to test and debug.

To make it easier, Soffid provides some JSON rest web services, that can help any application to correctly implement the SAML service provider part of the protocol.

Data flow

The following diagram, shows the resulting data flow between the end user, your application, the identity provider and Soffid web services:



Data flow steps

1. The end-user requests access to a protected page

2. The custom application can check the user identity looking up a session variable. By the time being, the user is not authenticated.

3. The custom application issues a JSON request to Soffid web service. In turn, Soffid web service builds, signs and maybe encrypts a SAML request

4. Then custom application taks the JSON request and builds an HTTP Redirect response with the received data.

5. The identity provider identifies the user as usual.

6. The custom application receives the SAML response. At this point, the application packs and forwards the received data to Soffid Web Service.

7. Soffid Web Service decrypts and checks SAML response integrity and correctnes, and returns a JSON document specifying the success or failure status, and the underlying identity attributes. If needed, Soffid web service can provision a new identity in target systems on the fly.

8. The custom application gets the identity data, stores it in a session variable and provides the protected resource to the end user.

In order to get it, will be necessary:

1. Declare the custom application as an internal service provider in the federation page.
2. Create a Soffid application account for the custom application.
3. Implement the protection filters.
4. Implement the endpoint where the SAML response must be sent.

Example

1. Creating an internal service provider

You can create an internal service provider as a SAML service provider.

2. SAML Request generator

After deploying Soffid SAML addon, a web service to generate SAML request will be automatically deployed. This web service requires an account with the **federation:serviceProvider** authorization.

The endpoint will be locate in Soffid Console:

> http://your.soffid.console:8080/webservice/federation/rest/generate-saml-request

Method:

> `POST`

Headers to include in the request:

> `Accept = “application/json”`
> `Content-Type = “application/json”`

Request: Send a JSON decument with following fields:

user → suggested user to authenticate (optional)
identityProvider → identity provider public ID. Must match the public ID of any
identity provider registered in Soffid federation.
serviceProviderName → service provider which requests the user
authentication. Must match the public ID of an internal service provider
sessionSeconds → max time for the user session inactivity

Response:

method → Method to use: urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST
instructs the application to build a HTML Form that automatically submits the
following parameters. Value urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect
instructs the application to perform a redirect (Location HTTP header) with the
URL and parameters specified
parameters → every parameter included must be submited to the identity
provider. Usually, these two will be present:
RelayState → identifier of the ticket of the SAML request
SAMLRequest → encoded SAML request
url → identity provider endpoint.

Request sample:

```
{
   "user" : "myuser@soffid.poc",
   "identityProvider" : "my-service-provider",
   "serviceProviderName" : "https://idp.soffid.com",
   "sessionSeconds" : "3600"
}
```

Response sample:

```
{
   "method": "urn:oasis:names:tc:SAML:2.0:bindings:HTTP-Redirect",
   "parameters": {
      "RelayState":
          "_457cab260c4948ef4c6d35a67cac000d3348d1ec48f53215",
       SAMLRequest":
          “PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz48c2FtbDJ..."
   },
  "url": "https://idp.soffid.com/SAML/Redirect"
}
```

3.

In turn, your application will issue the following location header to the browser

```
Location:
https://idp.soffid.com/SAML/Redirect?RelayState=_457cab260c4948ef4c6d35a67cac000d3348d1ec48f53215&SAMLRequest=PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz48c2FtbDJ...
```

Should the method be urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST, your application should build an HTML similar the following one:

```
<form action="https://idp.soffid.com/SAML/Redirect">
     <input   type="hidden"    name="RelayState"  value="457cab260c4948ef4c6d35a67cac000d3348d1ec48f53215"
/>
    <input   type="hidden"   name="SAMLRequest"
value="PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz48c2FtbDJ....."
/>
</form>
<script>
    document.form[0].submit();
</script>
```

4. SAML Response endpoints

Your application must implement the SAML response endpoint. This endpoint must accept the POST method and forward each received parameter to Soffid's parse-saml-response. Mind that your endpoint must accept application/x-www-form-urlencoded parametern while Soffid service accepts application/json.

Soffid endpoint will be located in Soffid Console:

> `http://your.soffid.console:8080/webservice/federation/rest/generate-saml-request`

Method:

> `POST`

Headers:

> `Accept = “application/json”`
> `Content-Type = “application/json”`

Authentication:

> Use your application account to login using basic authentication schema. In multitenant environments, the user name will have the forma TENANT_NAME\ACCOUNT_NAME

Request: send a JSON document with following fields

> `autoProvision → [false|true] Set to true if you want Soffid to automatically enroll`
> `unknown identities. This is not normally needed if you are using Soffid IdP, but it's`
> `useful when using third party IdPs.`

response: JSON object with any parameter received in post method.
RelayState → identifier of the ticket of the SAML response
SAMLResponse → encoded SAML response
protocol → use always “urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST”
serviceProviderName → service provider which requests the user authentication

Response:

authentication → [yes|no]
failureMessage → if authentication=”no”, a message with the error cause.
principalName → account name, as sent by the IdP
user → Soffid identity with standard attributes
attributes → Soffid identity custom attributes
sessionId → session identifier

Example data received by your endpoint

```
POST /saml-receiver
Host: my-service-provider
Content-Type: application/x-www-form-urlencoded
RelayState=_523866242f943b4c63234dc8942ffc2f08cea03aa129a4e2&SAMLResponse=PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz48c2FtbDJ....
```

Example request

```
{
   "autoProvision" : false,
   "response" : {
      "RelayState":
         "_523866242f943b4c63234dc8942ffc2f08cea03aa129a4e2",
      "SAMLResponse":
         "PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz48c2FtbDJ...."
   },
   "protocol" : "urn:oasis:names:tc:SAML:2.0:bindings:HTTP-POST",
   "serviceProviderName" : "my-service-provider"
}
```

Example response

```
{
   "authentication": "yes",
   "principalName": "your-name@somedomain.com",
   "user": {
      "id": 123456,
      "userName": "your-id",
      "firstName": "Your",
      "lastName": "Name",
      "primaryGroup": "enterprise",
      "active": true,
      "shortName": "your-name",
      "mailDomain": "somedomain.com"
   },
   "attributes": {
      "employeeId": "AS14567"
   },
   "sessionId": "ABCTASHO54684A"
}
```

Openid-connect to SAML interoperability

Introduction

OpenID-Connect has a clear design suitable for both frontend and backend.

SAML has a clear design for the frontend, but the backend usage is harder as the security in SAML cannot be placed at transport layer. Instead, in must be placed at document level. Additionally, it requires intensive use of cryptographic algorithms for signature and encryption.

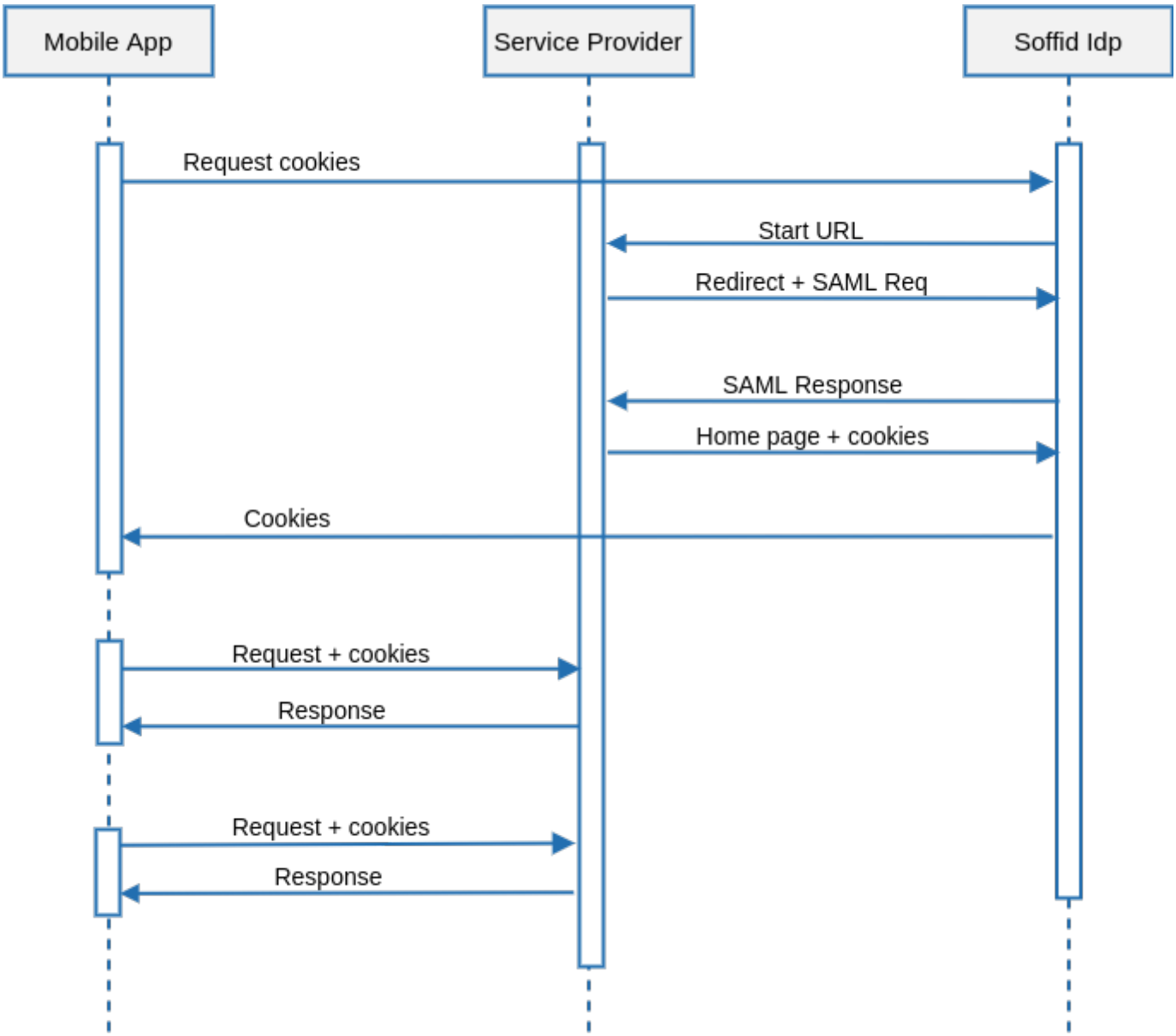
That’s why some applications put a SAML frontend protection for both the frontend and relay on the session cookies generated by the fronted for backend access.

The problem arises when one service provider needs to invoke some services from a SAML enabled application that does not support or implement WS-Security.

To solve it, **Soffid Identity Provide**r provides a service to get the session cookies required to access to a SAML application.

Data flow

The rest service **/userinfo/impersonate?url=….** will do the job, and will return the cookies to use to act upon the target application impersonating the current user.


Mobile App
Service Provider
Soffid Idp
Request cookies
Start URL
Redirect + SAML Req
SAML Response
Home page + cookies
Cookies
Request + cookies
Response
Request + cookies
Response

Request

```
POST https://<YOUR_SERVER>:2443/userinfo/impersonate?url=http://targetapplication/
Accept: application/json
Content-type: application/x-www-form-urlencoded
Authorization: Basic dGVzdDp0ZXN0
[
    {
       "path":"/",
       "domain":"samltest.id",
       "name":"_shibsession_64656661756c7468747470733a2f2f73616d6c746573742e69642f73616d6c2f7370",
       "value":"_fa49874951dd05c18a0f68642c0736e9"
    },
   {
      "path":"/",
      "domain":"samltest.id",

"name":"_opensaml_req_ss%3Amem%3A88b0af3e1ff47c911257490bc1a5749dfda1670948a563cec2fdf9e8a799f2c4",
      "value":""
   }
]
```

Parameters

- **URL**: is the access URL for the target application.
- **Authorization**: contains the oauth token.

Response

The response contains the list of cookies to send to the target application.


```
[
    {
       "path":"/",
       "domain":"samltest.id",
       "name":"_shibsession_64656661756c7468747470733a2f2f73616d6c746573742e69642f73616d6c2f7370",
       "value":"_fa49874951dd05c18a0f68642c0736e9"
    },
   {
      "path":"/",
      "domain":"samltest.id",

"name":"_opensaml_req_ss%3Amem%3A88b0af3e1ff47c911257490bc1a5749dfda1670948a563cec2fdf9e8a799f2c4",
      "value":""
   }
]
```


Request

Once the application has got the list of cookies, it can invoke the target application URL

```
POST https://targetapplication/api/service1
Accept: application/json
Content-type: application/json
Cookie: cookie1=value1
```

> As security measures, the impersonation profile must be enabled, and the source application must be entitled to use it against the target application

Openid-connect Dynamic Register

Introduction

Openid-connect allows a service provider registers dynamically other service providers.

Dynamic Register

To dynamically register a client, acquire an initial access token, and then register the new application by using the registration API. You can get the access token from Soffid.

Register Server

Request

```
POST https://<YOUR_SERVER>:2443/register
```

Authorization

- **Authorization**: contains the Bearer Token.

Header

- **Content-type**: application/x-www-form-urlencoded

JSON

```
{
   "application_type": "web",
   "redirect_uris":
      ["https://client.example.org/callback",
       "https://client.example.org/callback2"],
```

```
    "client_name": "My Example 7",
    "logo_uri": "https://client.example.org/logo.png",
    "subject_type": "pairwise",
    "token_endpoint_auth_method": "client_secret_basic",
    "jwks_uri": "https://client.example.org/my_public_keys.jwks",
    "userinfo_encrypted_response_alg": "RSA1_5",
    "userinfo_encrypted_response_enc": "A128CBC-HS256",
    "contacts": ["ve7jtb@example.org", "mary@example.org"],
    "request_uris":
        ["https://client.example.org/rf.txt#qpXaRLh_n93TTR9F252ValdatUQvQiJi5BDub2BeznA"]
}
```


Response 200 OK


```
{
    "client_secret_expires_at": 0,
    "registration_client_uri": "https://iam-sync-tenantidp.soffidnet:2443/register?client_id=DR_7",
    "client_secret": "wBeH8G6hT2GRwr7jJ6HfX2lMJDGdwGi9M49SKF2MjHRGOtwZ",
    "redirect_uris": [
        "https://client.example.org/callback",
        "https://client.example.org/callback2"
    ],
    "registration_access_token": "NjYxODg1Ng.AFa8jQbltq+bocWQpT3okPvHXHrTM+HqXQC26Kz5mfAWfXWG",
    "client_name": "My Example 7",
    "client_id": "DR_7"
}
```


Client read request

Request

```
GET https://<YOUR_SERVER>:2443/register?client_id=DR_7
```

Authorization

- **Authorization**: contains the Bearer Token. It contains the registration_access_token Token received as the response when the server was registered.

Header

- **Content-type**: application/json

Params

- **client_id**

Response


```
{
   "client_secret_expires_at": 0,
   "registration_client_uri": "https://iam-sync-tenantidp.soffidnet:2443/register?client_id=DR_7",
   "redirect_uris": [
      "https://client.example.org/callback",
      "https://client.example.org/callback2"
   ],
   "client_name": "My Example 7",
   "client_id": "DR_7"
}
```

Connecting CAS client

Introduction

The CAS protocol is a simple and powerful ticket-based protocol. It involves one or many clients and one server. Clients are embedded in CASified applications (called “CAS services”) whereas the CAS server is a standalone component.

Register CAS client

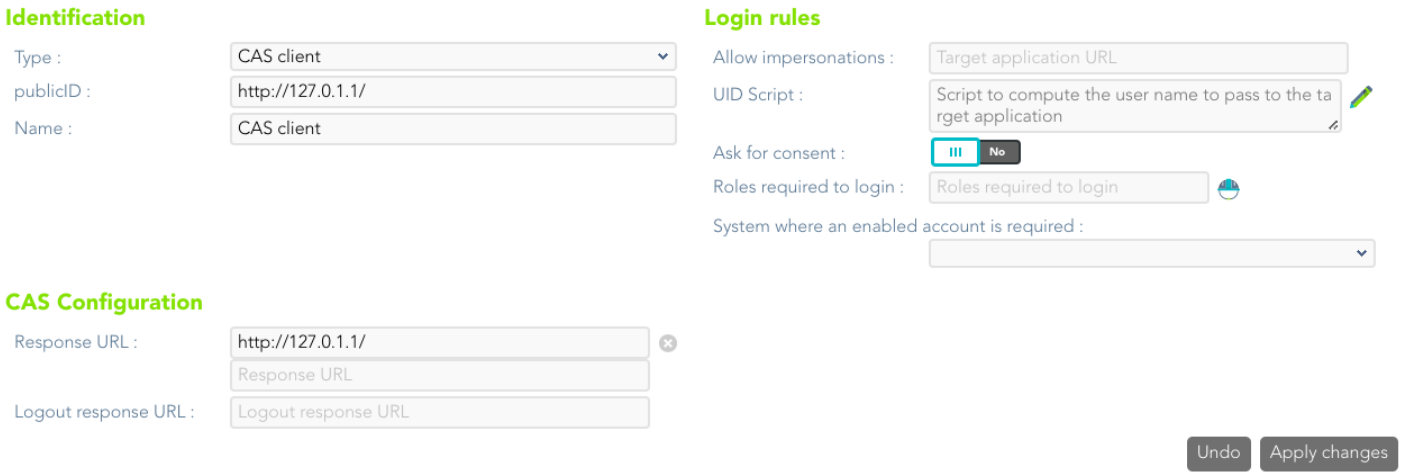
1. Open the **Identity & Service Provider** page.

Main Menu > Administration > Configure Soffid > Web SSO > Identity & Service providers

2. To add a new service provider, click on the **Add Service Provider** button.

> Be in mind that you can configure more than one Entity Group and you could add new service providers in each one.

3. Then you must fill in the required fields. Also, you need to provide the identity provider metadata. You can either copy it from the Soffid federation page or instruct the service provider to download the federation metadata by itself.



For more information about the attributes, you can visitthe CAS client detailed info.

Connecting Tacacs+

Introduction

TACACS (**Terminal Access Controller Access Control System**) is a security protocol that provides centralized validation of users who are attempting to gain access to a router or NAS

TACACS+ is a protocol for AAA services:

- Authentication
- Authorization
- Accounting

Register Tacas+

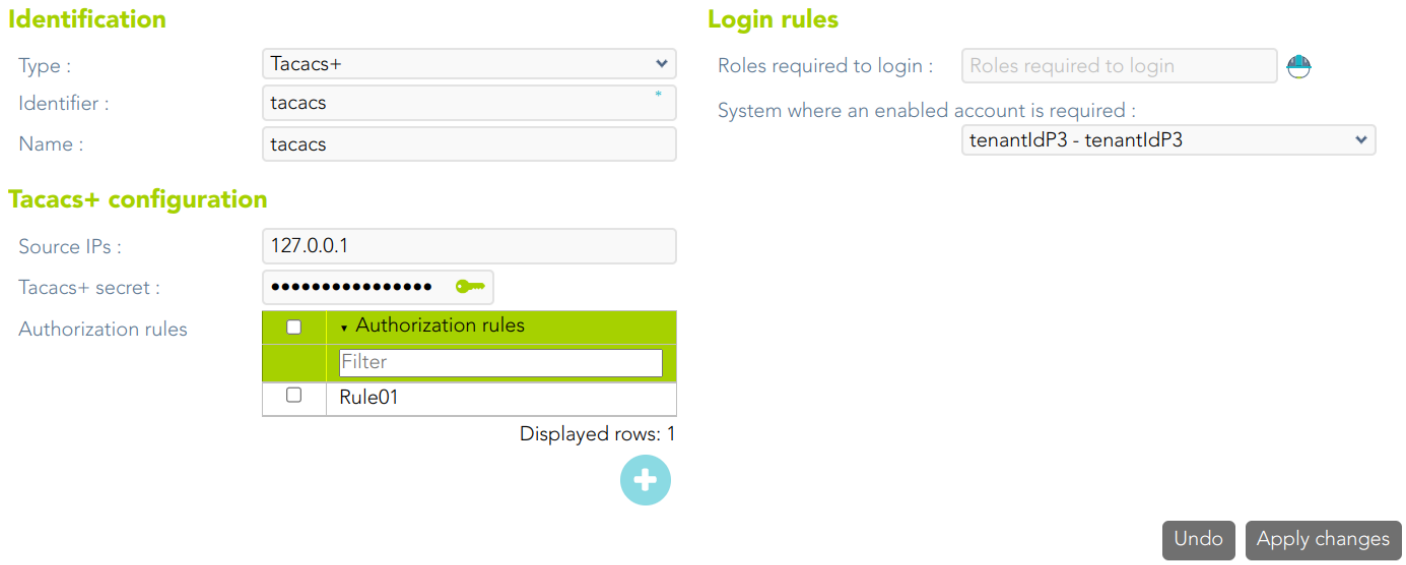
1. Open the **Identity & Service Provider** page.

`Main Menu > Administration > Configure Soffid > Web SSO > Identity & Service providers`

2. To add a new service provider, click on the **Add Service Provider** button.

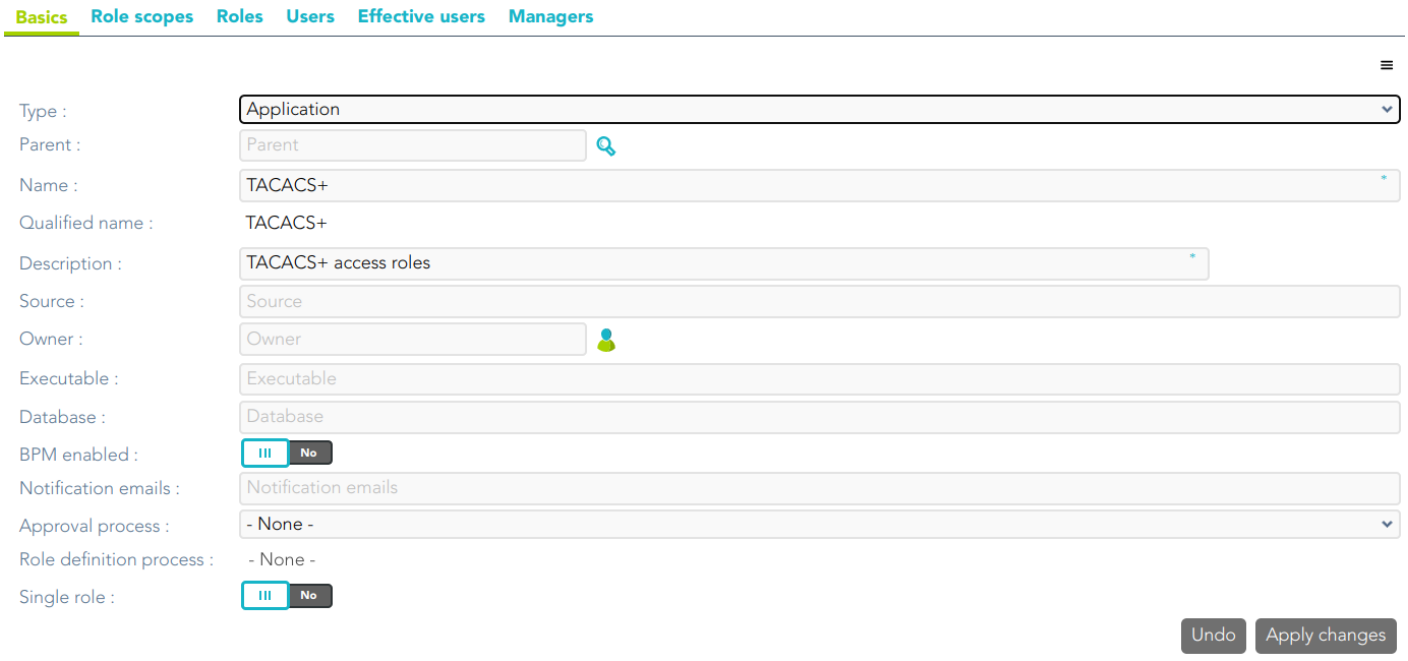
> Be in mind that you can configure more than one Entity Group and you could add new service providers in each one.

3. Then you must fill in the required fields. Also, you need to provide the identity provider metadata. You can either copy it from the Soffid federation page or instruct the service provider to download the federation metadata by itself.



> For more information about the attributes, you can visit the Tacacs+ detailed info.

When a Tacacs Service Provider is created, Soffid creates an Information System



There are some roles defined for this Information System (0: anonymous, 1: user, ...15: root)

Basics | Role scopes | Roles | Users | Effective users | Managers

TACACS+ - TACACS+ access roles

Name	Description	System	Domain	Category
Filter	Filter	Filter	Filter	Filter
TAC_PLUS_PRIV_LVL_10	TACACS+ level 10	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_11	TACACS+ level 11	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_12	TACACS+ level 12	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_13	TACACS+ level 13	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_14	TACACS+ level 14	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_2	TACACS+ level 2	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_3	TACACS+ level 3	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_4	TACACS+ level 4	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_5	TACACS+ level 5	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_6	TACACS+ level 6	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_7	TACACS+ level 7	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_8	TACACS+ level 8	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_9	TACACS+ level 9	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_MIN	Anonymous TACACS+ user	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_ROOT	Super TACACS+ user	tenantIdP3		TACACS+
TAC_PLUS_PRIV_LVL_USER	Standard TACACS+ user	tenantIdP3		TACACS+

Displayed rows: 16

Connecting Radius client

Introduction

The Radius protocol (Remote Authentication Dial-In User Service) is a networking protocol that authorizes and authenticates users who access a remote network.

Register a Radius client

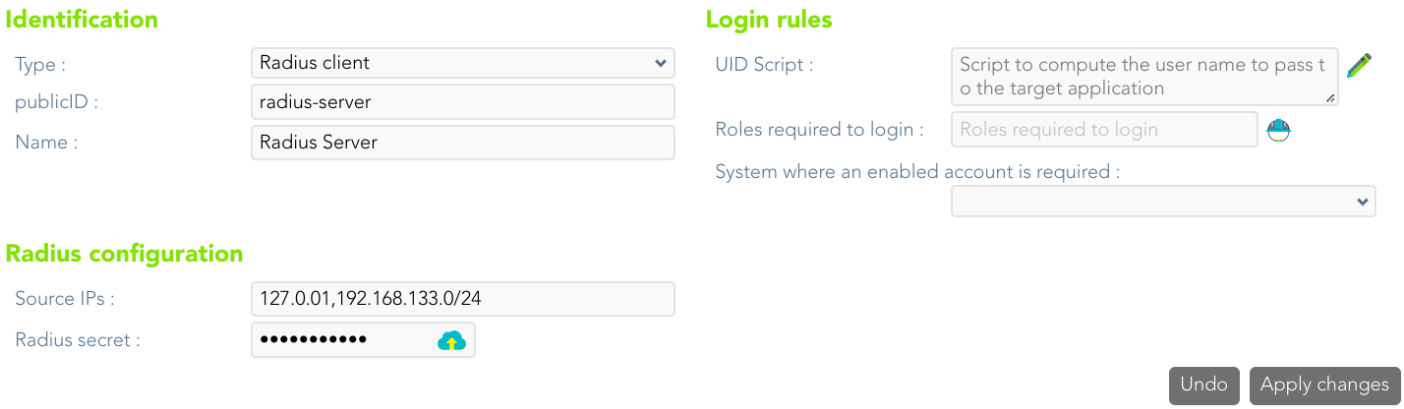
1. Open the **Identity & Service Provider** page.

Main Menu > Administration > Configure Soffid > Web SSO > Identity & Service providers

2. To add a new service provider, click the **Add Service Provider** button.

> Be in mind that you can configure more than one Entity Group and you could add new service providers in each one.

3. Then, you must fill in the required fields. Also, you need to provide the identity provider metadata. You can either copy it from the Soffid federation page or instruct the service provider to download the federation metadata by itself.



> For more information about the attributes, you can visit the Radius detailed info.