SCIM for OTP devices

SCIM for OTP devices

- Getting Started
- SCIM OTP devices examples
- SCIM OTP devices Workflows examples

Getting Started

Introduction

> Soffid allows you to combine two of the most powerful addons you can use into Soffid Console, **SCIM,** and **OTP**.

Please note that the SCIM REST Web Service Add-on installed must be installed, please check this part in How to use SCIM in Soffid # Installation

Please note that a user with the authentication is required, please check this part in How to use SCIM in Soffid # Confirm authorization

Please note that is recommended to use a REST client, please see our example in Testing tool # RESTer

Please note that the correct header parameters must be used, please browse them in SCIM in Soffid # HTTP request

Please note that the OTP addon must be installed and configured, check it in OTP Settings

OTP Device Types

OTP device types available

- **TOTP**: Time based HMAC Token
- **HOTP**: Event based HMAC Token
- **EMAIL**
- **SMS**
- **PIN**: Security PIN

OTP Device Status

OTP device status available :

- C: **Created**
- V: **Validated**
- L: **Locked**
- D: **Disabled**

OTP Operations

Soffid provides an API that allows you to connect to the OTP microservices.

The available operations are the following

- List all
- List by filter
- Query by id
- Create
- Update
- Validate
- Send SMS
- Delete

> You can visit the SCIM OTP devices examples page for more detailed information

Workflows

With the previous operations, using the SCIM OTP API, we can define some workflows.

> You can visit the SCIM OTP devices Workflows examples page

SCIM OTP devices examples

Operations

This page shows the operations that can be performed for the OTP devices object.

List all

Request

```
GET http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice
```

Response 200 OK


```
{
   "schemas": [
      "urn:ietf:params:scim:api:messages:2.0:ListResponse"
   ],
   "totalResults": 25,
   "startIndex": 1,
   "Resources": [
      {
         "lastUsed": "2021-10-14 06:57:00",
         "created": "2021-10-14 06:44:43",
         "meta": {
            "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880",
            "links": {
               "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880/requestChallenge",
               "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880/responseChallenge"
            },
            "resourceType": "OtpDevice"
         },
         "schemas": [
```

```
            "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
         ],
         "name": "TOTP00000001",
         "id": 4022880,
         "type": "TOTP",
         "user": "franck",
         "fails": 0,
         "status": "D"
      },
      {
         "created": "2021-10-14 08:37:38",
         "meta": {
            "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4024384",
            "links": {
               "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4024384/requestChallenge",
               "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4024384/responseChallenge"
            },
            "resourceType": "OtpDevice"
         },
         "schemas": [
            "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
         ],
         "name": "Email message to pg*****@so****.co*",
         "id": 4024384,
         "type": "EMAIL",
         "user": "patricia",
         "fails": 0,
         "email": "patricia@soffid.com",
         "status": "D"
      },
      {
         "created": "2021-10-14 11:17:52",
         "meta": {
            "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4024416",
            "links": {
               "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4024416/requestChallenge",
               "responseChallenge":
```

```
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4024416/responseChallenge"
            },
            "resourceType": "OtpDevice"
        },
        "schemas": [
            "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
        ],
        "phone": "666555444",
        "name": "SMS message to 66*****44",
        "id": 4024416,
        "type": "SMS",
        "user": "agatha",
        "fails": 0,
        "status": "V"
    },
    .............
    .............
  ]
}
```


List by filter

List all the OTP devices with a filter expression.

> It is allowed to use pagination and sort the information, for more information visit the Sorting and Pagination information.

Request

```
GET http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice?filter=type eq "TOTP"
```

Response 200 OK


```
{
  "schemas": [
    "urn:ietf:params:scim:api:messages:2.0:ListResponse"
  ],
  "totalResults": 7,
```

```
    "startIndex": 1,
    "Resources": [
       {
          "lastUsed": "2021-10-14 06:57:00",
          "created": "2021-10-14 06:44:43",
          "meta": {
             "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880",
             "links": {
                "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880/requestChallenge",
                "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880/responseChallenge"
             },
             "resourceType": "OtpDevice"
          },
          "schemas": [
             "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
          ],
          "name": "TOTP00000001",
          "id": 4022880,
          "type": "TOTP",
          "user": "franck",
          "fails": 0,
          "status": "D"
       },
      .............
      .............
    ]
}
```


Query by id

Query a OTP device by its id (primary key).

Request

```
GET http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice/5007882
```

Response 200 OK

```
{
   "created": "2022-02-22 07:46:51",
   "meta": {
      "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5007882",
      "links": {
         "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5007882/requestChallenge",
         "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5007882/responseChallenge"
      },
      "resourceType": "OtpDevice"
   },
   "schemas": [
      "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
   ],
   "name": "TOTP00000035",
   "id": 5007882,
   "type": "TOTP",
   "user": "admin",
   "fails": 0,
   "status": "C"
}
```


Create

Allows you to create a new OTP device. It is important the type of the OTP you want to create, and depending on this, it will be mandatory to add new attributes to the request.

- **SMS**: add to the JSON the phone attribute
- **EMAIL**: add to the JSON the email attribute
- **PIN**: add to the JSON the pin attribute

Request

```
http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice
```

JSON


```
{
   "meta": {
```

```
      "location": "http://<your-domain>/webservice/scim2/v1/OtpDevice",
      "resourceType": "OtpDevice"
   },
   "schemas": [
      "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
   ],
   "type": "TOTP",
   "user": "admin"
}
```


Response 200 OK


```
{
   "image":
"iVBORw0KGgoAAAANSUhEUgAAAMgAAADIAQAAAACFI5MzAAAC3klEQVR4Xu2XP66jMBDGB7lwFy5gydeg40rkAoR
cgFzJna+B5AtA58Ji9hueQvJWu8UbS6stMoqiwA9lrPn7Qfw3o99vnPYhHyL2L0mghhOz2Xue+tJGIltBIm9haQPdgufsB
utxp4LQlc1M+C5tSLt1TSWJyy26Jvipd2NfTTJPHU/kmlxariS8RX6w2fhwwt+i82OC/ER3fX2+Ze7HBJbp0iGieCQh54dp
SaCBaOz8SmbukfY0C1STJAHIZkdQe947d6khkYau3KKZrNktzs77MwYawoTCuTFqEDytHY1PPxqSEQPPwY3WoOeu0
WzPbGtIoNH6tTdzt1BX2ky3w7mSZAnkA95sQge3eRmfMdAQhh8pwLFL94ACR/9VkOzvbB5oX0LnuaEz9xoS/YORcN
ROGY7jn/nREE5bwCRwFwtveOQtBgoSJc9rnzggOWm27nUCBcnws1wI3OPgeOpVVQqCkdynqU+rLWQx+fwxEtTEEZ
XBLoO4KjcpzAqScZWQbczRNphZOq+CBHcNkuQmSs+hm4enHw1hXBWM9o39PS4XW161oyBhIZt2MishP/imy3kC
DUEAyo3LpZe2m/BUDYlmtdjbUoDYtIQNyRUkLPj7jdNE5g4hIKVUQWK5BszRQh3PWBf0pncUJCAhRjJDGPZokbdtpiC
MooYHs8rZ4WehKuIhnZqM0YIKSo+czsmnIRFKpxyyArfd8FY7GoKRzISg7gSInqsj2UwdYVZh+c+9jATMZj2J0rUi7ix0Y
sFsFt9qIrtR5PA9o10wYPx0nlpDjJRhD4Xi0MoP6NnTj4KEQ4WJFvNbXlDWZ+1oCCwujWhYg7S3sVQR0bDUYj3GI+3xp
a81BPoah+3T/UvDygqqlShDNxIq2q8dftD7W4GGRLyBYT0ujdRRedOwOgKRgvMiS446z2JqwjKfMJUJextCm87dqCHIj
+xGj0WxMbT/8v7G8mPyZ/uQDxH7n8kvJ2XgRr9Rxi0AAAAASUVORK5CYII=",
   "created": "2022-02-22 07:46:51",
   "meta": {
      "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5007882",
      "resourceType": "OtpDevice"
   },
   "schemas": [
      "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
   ],
   "name": "TOTP00000035",
   "id": 5007882,
   "type": "TOTP",
   "user": "admin",
   "fails": 0,
   "status": "C"
```

```
}
```

Example JSON SMS

```
{
   "type": "SMS",
   "user": "dilbert",
   "phone": "6665552222"
}
```

Example JSON EMAIL

```
{
   "type": "EMAIL",
   "user": "dilbert",
   "email": "dilbert@soffid.com"
}
```

Example JSON PIN

```
{
   "type": "PIN",
   "user": "dilbert",
   "email": "123456789"
}
```

Update partial

Only attributes with changes will be updated, the other will mantain the same value. This example shows how to enable an OTP device.

Request

```
PATCH http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice/5007882
```

JSON

```
{
   "Operations":
   [
```

```
      {
         "op": "replace",
         "path": "status",
         "value": "V"
      }
   ]
}
```

Response 200 OK

```
{
   "created": "2022-02-22 07:46:51",
   "meta": {
      "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5007882",
      "links": {
         "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5007882/requestChallenge",
         "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5007882/responseChallenge"
      },
      "resourceType": "OtpDevice"
   },
   "schemas": [
      "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
   ],
   "name": "TOTP00000035",
   "id": 5007882,
   "type": "TOTP",
   "user": "admin",
   "fails": 0,
   "status": "V"
}
```

Request Challenge

This operation allows Soffid to obtain the PIN code for a specific OTP device. We can use this method to send an email or SMS, depending on the type of OTP device.

Request

```
GET http://<your-domain>//soffid/webservice/scim2/v1/OtpDevice/<OTP_ID>/requestChallenge
```

Response 200 OK

```
{
   "cell": "PIN",
   "cardNumber": "SMS message to 66*****22"
}
```

Response Challenge

This operation allows you to validate a PIN code for a specific OTP device.

Request

```
POST http://<your-domain>//soffid/webservice/scim2/v1/OtpDevice/<OTP_ID>/responseChallenge
```

JSON

```
{
   "pin": "12345678"
}
```

Response 200 OK

```
{
   "success": false,
   "locked": false
}
```

Delete

In this case, delete operation will cancel the TaskInstace, but does not be deleted form database.

> Please note after this delete, the account has to be created again to use it in the next examples.

Request

```
DELETE - http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice/5007967
```

Response 204 No Content

```
204 No Content
```

Error response

> For more information about error response visit
> https://bookstack.soffid.com/link/116#bkmrk-error-response

SCIM OTP devices Workflows examples

Workflow Examples

Workflow 1

1. Create Email OTP device

Request

```
GET http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice
```

JSON

```
{
   "type": "EMAIL",
   "user": "dilbert",
   "email": "dilbert@soffid.com"
}
```

Response 200 OK


```
{
   "created": "2022-03-09 13:39:52",
   "meta": {
      "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5099461",
      "resourceType": "OtpDevice"
   },
   "schemas": [
      "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
   ],
   "name": "Email message to di*****@so****.co*",
```

```
  "id": 5099461,
  "type": "EMAIL",
  "user": "dilbert",
  "fails": 0,
  "email": "dilbert@soffid.com",
  "status": "C"
}
```


2. RequestChallenge to get the PIN code

Request

```
GET http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice/5099461/requestChallenge
```

Response 200 OK


```
{
  "cell": "PIN",
  "cardNumber": "Email message to di*****@so****.co*"
}
```


3. ResponseChallenge to validate the PIN code

Request

```
POST http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice/5099461/responseChallenge
```

JSON


```
{
  "pin": "839231"
}
```


Response 200 OK


```
{
  "success": true,
  "locked": false
}
```

4. Enable OTP device

Request

```
PATCH http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice/5099461
```

JSON

```
{
   "Operations":
   [
      {
         "op": "replace",
         "path": "status",
         "value": "V"
      }
   ]
}
```

Response


```
{
   "created": "2022-03-09 13:39:52",
   "meta": {
      "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5099461",
      "links": {
         "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5099461/requestChallenge",
         "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/5099461/responseChallenge"
      },
      "resourceType": "OtpDevice"
   },
   "schemas": [
      "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
   ],
   "name": "Email message to di*****@so****.co*",
   "id": 5099461,
   "type": "EMAIL",
   "user": "dilbert",
```

```
    "fails": 0,
    "email": "dilbert@soffid.com",
    "status": "V"
}
```


Workflow 2

1. Get TOTP devices

Obtain all unused OTP devices by 2022.

Request

```
GET http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice?filter=lastUsed le "2022-01-01"
```

Response 200 Ok


```
{
    "schemas": [
        "urn:ietf:params:scim:api:messages:2.0:ListResponse"
    ],
    "totalResults": 5,
    "startIndex": 1,
    "Resources": [
        {
            "lastUsed": "2021-10-14 06:57:00",
            "created": "2021-10-14 06:44:43",
            "meta": {
                "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880",
                "links": {
                    "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880/requestChallenge",
                    "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880/responseChallenge"
                },
                "resourceType": "OtpDevice"
            },
            "schemas": [
                "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
```

```
        ],
        "name": "TOTP00000001",
        "id": 4022880,
        "type": "TOTP",
        "user": "admin",
        "fails": 0,
        "status": "E"
      },
      {
        "lastUsed": "2021-10-14 06:59:33",
        "created": "2021-10-14 06:58:05",
        "meta": {
          "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022891",
          "links": {
            "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022891/requestChallenge",
            "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022891/responseChallenge"
          },
          "resourceType": "OtpDevice"
        },
        "schemas": [
          "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
        ],
        "name": "TOTP00000002",
        "id": 4022891,
        "type": "TOTP",
        "user": "ckelp",
        "fails": 0,
        "status": "C"
      },
      .....
    ]
}
```


2. Disable OTP device

Disble the OTP devices one by one

Request

```
PATCH http://<your-domain>/soffid/webservice/scim2/v1/OtpDevice/4022880
```

JSON

```
{
   "Operations":
   [
      {
         "op": "replace",
         "path": "status",
         "value": "D"
      }
   ]
}
```

Response 200 Ok


```
{
   "lastUsed": "2021-10-14 06:57:00",
   "created": "2021-10-14 06:44:43",
   "meta": {
      "location": "http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880",
      "links": {
         "requestChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880/requestChallenge",
         "responseChallenge":
"http://soffid.pat.lab:8080/soffid/webservice/scim2/v1/OtpDevice/4022880/responseChallenge"
      },
      "resourceType": "OtpDevice"
   },
   "schemas": [
      "urn:soffid:com.soffid.iam.addons.otp.common.OtpDevice"
   ],
   "name": "TOTP00000001",
   "id": 4022880,
   "type": "TOTP",
   "user": "admin",
   "fails": 0,
   "status": "D"
}
```