

# deprecated-UC-001 (ATH-UC-07): Authentication via TOTP

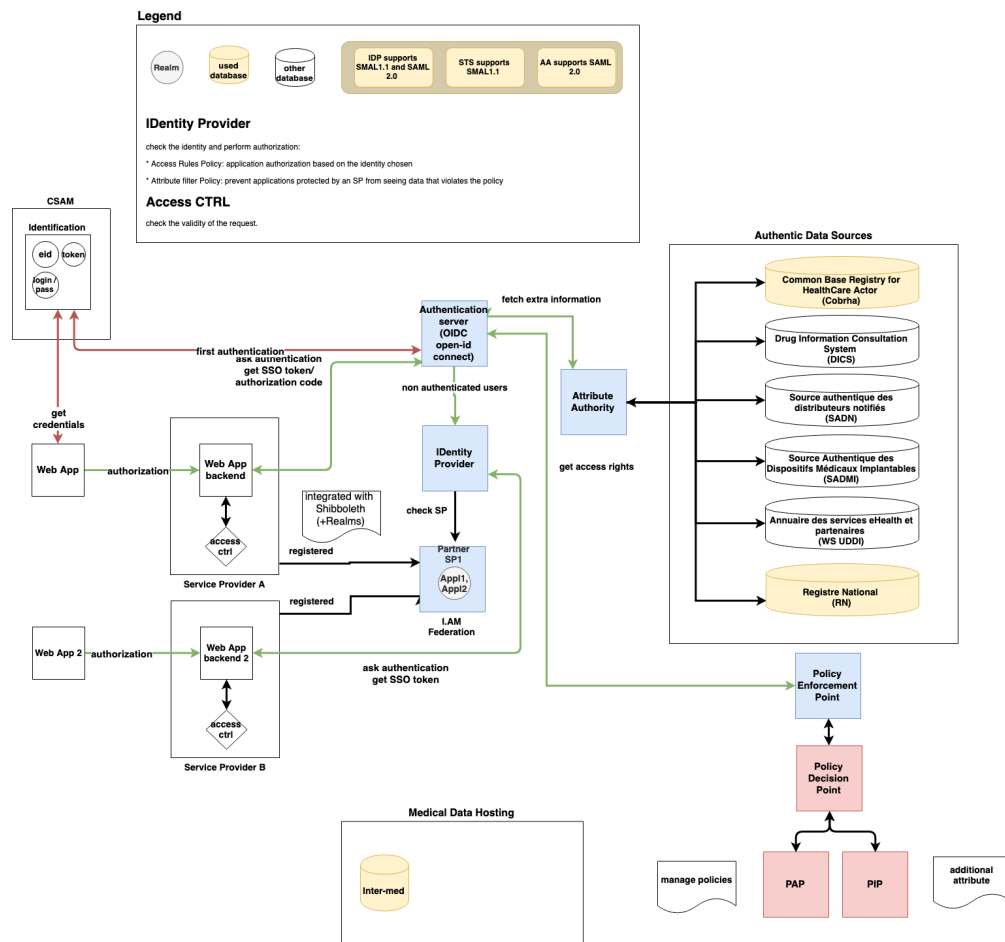
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## Used documentation

Cookbook/ materials	Version	Location
Identity & Authorization Management (IAM) - Overview	1.0	<a href="https://www.ehealth.fgov.be/ehealthplatform/file/view/c87f7d093e56ff1054c73d6aae09e0bb?filename=ehealth_i.am_-_overv">https://www.ehealth.fgov.be/ehealthplatform/file/view/c87f7d093e56ff1054c73d6aae09e0bb?filename=ehealth_i.am_-_overv</a>
Identity & Authorization Management (IAM) - Identity Provider (IDP)	1.0	<a href="https://www.ehealth.fgov.be/ehealthplatform/fr/data/file/view/d43784683d86392e68f1a95b860f721170f30c7b?name=ehealth_i.am_-_idp_v1.0.pdf">https://www.ehealth.fgov.be/ehealthplatform/fr/data/file/view/d43784683d86392e68f1a95b860f721170f30c7b?name=ehealth_i.am_-_idp_v1.0.pdf</a>
CSAM Youtube channel	-	<a href="https://www.youtube.com/channel/UCzMGuDD9xdMeGjYpbpjsXFw">https://www.youtube.com/channel/UCzMGuDD9xdMeGjYpbpjsXFw</a>
Gestion de clés numériques sur CSAM	-	<a href="https://iamapps.belgium.be/sma/generalinfo?redirectUrl=%2Fsma">https://iamapps.belgium.be/sma/generalinfo?redirectUrl=%2Fsma</a>
S'identifier sur un smartphone ou une tablette avec un code de sécurité via une application	-	
itsme video	-	
Gestion de clés numériques sur CSAM	-	<a href="https://iamapps.belgium.be/sma/generalinfo?redirectUrl=%2Fsma">https://iamapps.belgium.be/sma/generalinfo?redirectUrl=%2Fsma</a>

## General information

In the figure below, we provide an overview about the interaction between the different services of the e-health platform involved in the IAM. It is noteworthy that the presented architecture is dedicated to the WebSSO solution.



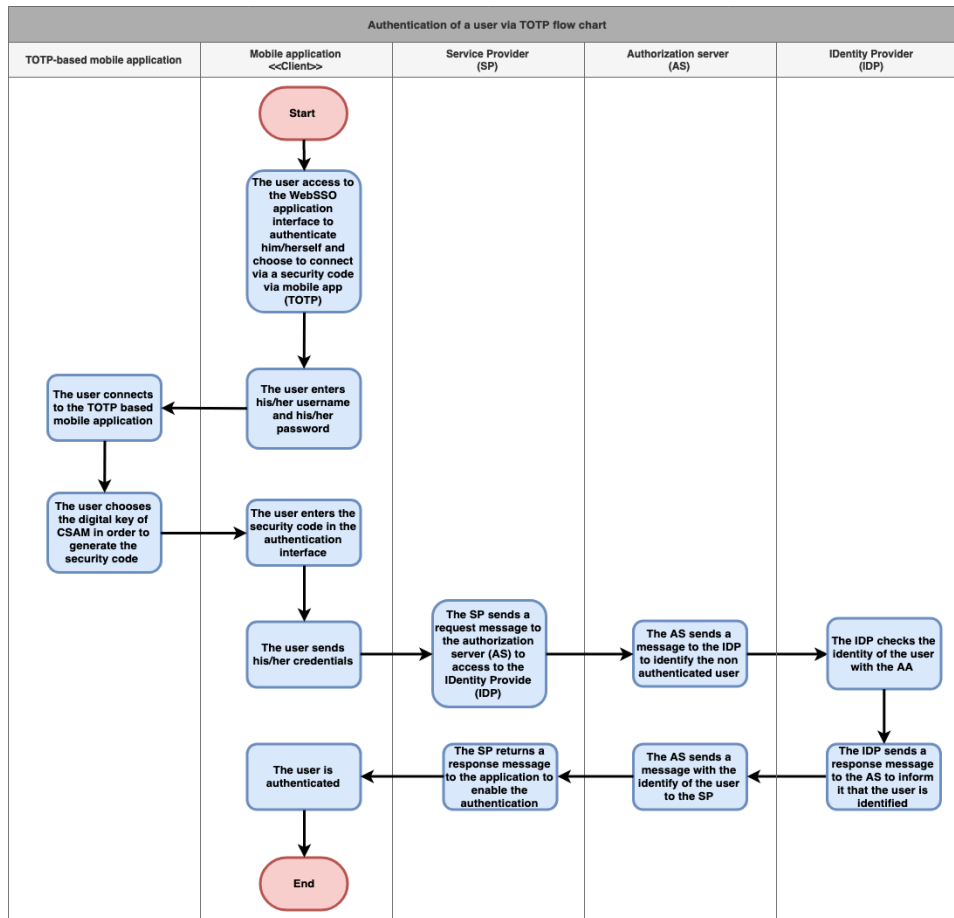
## Mobile application supporting the TOTP protocols

There are several mobile applications available that generate a unique time-based security code with which the user can authenticate him/herself. For instance, the following applications support the TOTP protocol:

- [Google Authenticator](#) (Android/iPhone/BlackBerry)
- [Duo Mobile](#) (Android/iPhone)
- [Authenticator](#) (Windows Phone)

## Basic flow

Flow		Specification	
	<b>Use case ID</b>	ATH-UC-07-BF	
	<b>Use case name</b>	Authentication via TOTP	
	<b>Actors</b>	<ul style="list-style-type: none"> <li>• Citizen</li> <li>• Healthcare giver</li> <li>• Representative of an institution</li> </ul>	



<b>Short Description</b>	This use case denotes the authentication of a user via TOTP.	
	1 (High)	
	Must have: The system must implement this goal/ assumption to be accepted.	
<b>Pre-Conditions</b>	<ul style="list-style-type: none"> <li>The user has already an account</li> <li>The user has: <ul style="list-style-type: none"> <li>a username and a password</li> <li>a smartphone with a TOTP-based mobile application to get a security code</li> </ul> </li> </ul>	
<b>Post-Conditions</b>	<ul style="list-style-type: none"> <li>The user is authenticated</li> <li>The user has access to the services of the mobile application</li> </ul>	
<b>Steps (basic flow)</b>	0	The user access to the WebSSO application interface to authenticate him/herself and choose to connect via a security code via mobile app (TOTP)
	1	The user enters his/her username and his/her password
	2	The user connects to the TOTP based mobile application
	3	The user chooses the digital key of CSAM and enters it in the authentication interface
	4	The user sends his/her credentials
	5	The SP sends a request message to the authorization server (AS) to access to the Identity Provide (IDP)
	6	The AS sends a message to the IDP to identify the non authenticated user
	7	The IDP checks the identity of the user with the AA

	8	The IDP sends a response message to the AS to inform it that the user is identified
	9	The AS sends a message with the identify of the user to the SP
	10	The SP returns a response message to the application to enable the authentication
	11	The user is authenticated
	<b>Exceptions (exception flows)</b>	<ul style="list-style-type: none"> <li>The username or the password is not recognized</li> <li>The creation is aborted (e.g. loss of connection, the session is expired)</li> </ul>
	<b>Frequency</b>	<ul style="list-style-type: none"> <li>Every time the user needs to authenticate to the mobile application via TOTP</li> </ul>

## Alternative flow 1

Specification	
<b>Use case ID</b>	ATH-UC-07-AF-01
<b>Use case name</b>	First authentication via TOTP
<b>Actors</b>	<ul style="list-style-type: none"> <li>Citizen</li> <li>Healthcare giver</li> <li>Representative of an institution</li> </ul>
<b>Short Description</b>	Depending on the profile of the actor, this alternative flow will be instantiated by one of the four use cases dedicated to the creation of a new account (refer to the basic flows): ATH-UC-01, ATH-UC-02, ATH-UC-03, ATH-UC-04. To implement this flow, the user should authenticate him/herself in the mobile application using a TOTP-based mobile application.
<b>Priority</b>	1 (High)  Must have: The system must implement this goal/ assumption to be accepted.
<b>Pre-Conditions</b>	<ul style="list-style-type: none"> <li>The user has not an account</li> <li>The user has: <ul style="list-style-type: none"> <li>a username and a password</li> <li>a smartphone with a TOTP-based mobile application to get a security code</li> </ul> </li> </ul>

<b>Post-Conditions</b>	<ul style="list-style-type: none"> <li>The user has an account</li> <li>The user knows his credentials</li> <li>The user is authenticated</li> <li>The user has access to the services of the mobile application</li> </ul>
<b>Steps</b>	<p>For more details and depending on the type of the actor, see:</p> <ul style="list-style-type: none"> <li>The citizen - ATH-UC-01</li> <li>The mandated citizen - ATH-UC-02</li> <li>The healthcare giver - ATH-UC-03</li> <li>The institution representative - ATH-UC-04</li> </ul>
<b>Exceptions (exception flows)</b>	<ul style="list-style-type: none"> <li>The user makes an error when editing his/her credentials</li> <li>The username or the password is not recognized</li> <li>The creation is aborted (e.g. loss of connection, the session is expired)</li> </ul>
<b>Frequency</b>	<ul style="list-style-type: none"> <li>Every time the user wants to authenticate him/herself via TOTP and he/she does not have an account.</li> </ul>

## Exception flow 1

Specification	
<b>Use case ID</b>	ATH-UC-07-EF-01
<b>Use case name</b>	The username or the password is not recognized
<b>Actors</b>	<ul style="list-style-type: none"> <li>Citizen</li> <li>Representative of an institution</li> <li>Healthcare giver</li> </ul>
<b>Short Description</b>	It denotes the use case when the user tries to authenticate via a TOTP and fails in entering his credentials (username /password)
<b>Priority</b>	<p>1 (High)</p> <p>Must have: The system must implement this goal/ assumption to be accepted.</p>
<b>Pre-Conditions</b>	<ul style="list-style-type: none"> <li>The user has already an account</li> <li>The user has: <ul style="list-style-type: none"> <li>a username and a password</li> <li>a smartphone with a TOTP-based mobile application to get a security code</li> </ul> </li> </ul>
<b>Post-Conditions</b>	<ul style="list-style-type: none"> <li>The authentication is interrupted</li> <li>An error message should be displayed</li> </ul>
<b>Steps (basic flow)</b>	0 The user access to the WebSSO application interface to authenticate him/herself and choose to connect via a security code via mobile app (TOTP)
	1 The user enters his/her username and his/her password
	2 The authentication is interrupted because the credentials are not recognized
<b>Frequency</b>	<ul style="list-style-type: none"> <li>Every time for a user needs to authenticate him/herself and enter wrong credentials</li> </ul>

## Exception flow 2

Specification	
<b>Use case ID</b>	ATH-UC-07-EF-02
<b>Use case name</b>	The creation is aborted (e.g. loss of connection, the session is expired)
<b>Actors</b>	<ul style="list-style-type: none"> <li>• Citizen</li> <li>• Representative of an institution</li> <li>• Healthcare giver</li> </ul>
<b>Short Description</b>	It denotes the exception use case when the user loses the connection and he/she will not be able to finish the authentication. It may happens at any step of the basic and alternative flows.
<b>Priority</b>	1 (High)  Must have: The system must implement this goal/ assumption to be accepted.
<b>Pre-Conditions</b>	<ul style="list-style-type: none"> <li>• The user has already an account</li> <li>• The user has:               <ul style="list-style-type: none"> <li>◦ a username and a password</li> <li>◦ a smartphone with a TOTP-based mobile application to get a security code</li> </ul> </li> </ul>
<b>Post-Conditions</b>	<ul style="list-style-type: none"> <li>• The authentication is interrupted</li> <li>• An error message should be displayed</li> </ul>
<b>Steps (basic flow)</b>	
<b>Frequency</b>	<ul style="list-style-type: none"> <li>• Every time for a user needs to authenticate him/herself and loses the connection</li> </ul>