



Strong Customer Authentication

The main principles

V1.6





Version history

version	date	Update
1.5	24/03/2022	Add Activate x-Pay Token (inAppVerificationActivation) in the list of mobile-initiated sensitive operations
1.6	27/06/2022	Get pin / card display method for iOS
1.7	19/12/2022	Add the target endpoint related to the modification of a User
1.8	06/02/2023	Fix the Notification message JSON structure SCA success screenshot horizontal flip



Introduction

Xpollens offers two kind of usage that require the use of a mobile phone by the customer:

1. **KYC process** during the user's onboarding (please refer to [Know your customer | Xpollens API docs](#))
2. **Strong authentication process** (please refer to [Strong customer authentication | Xpollens API docs](#))

Authentication is required for your end-customers if you are on the Retail B2C market ; it is also required for all key individuals of your professional customers, if you are on the Corporates B2B market. Strong Customer Authentication will occur in two situations :

- Online card payment
- Sensitive Operations (amongst which, some require secure display)

➤ This document aims at presenting the key elements to use these features.

The first step consists of integrating our SDK in your mobile application.

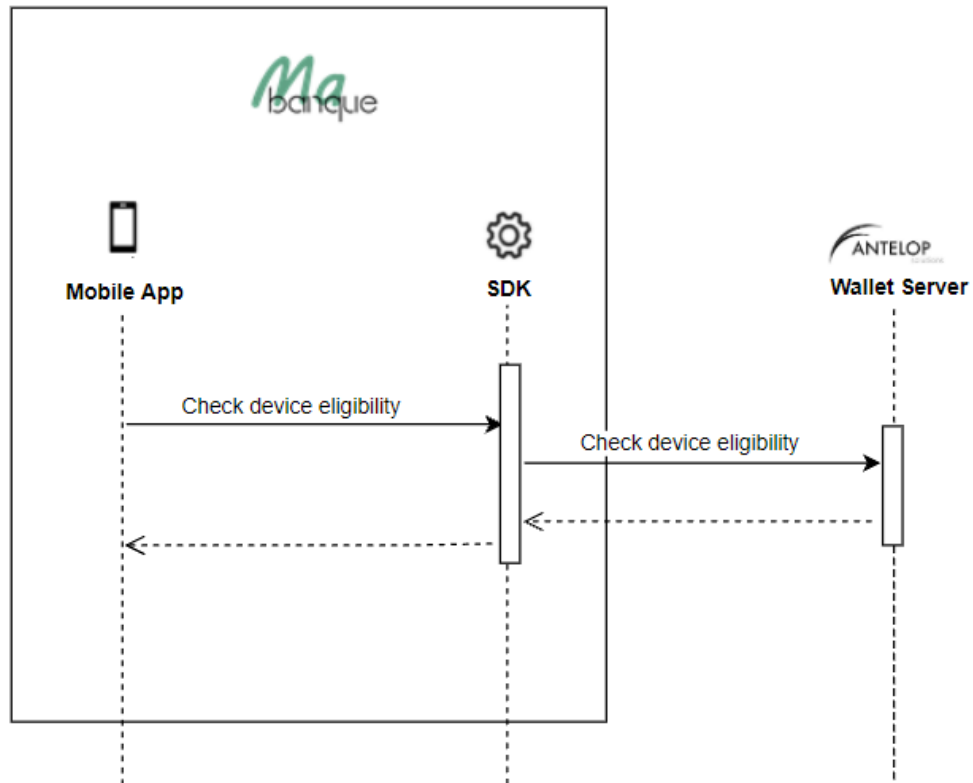
SDK's documentation is available at : <https://doc.antelop-solutions.com/latest/wallet/sdk/index.html>

Note : To access this online documentation, you shall use the ID / pwd provided by Xpollens, during your Onboarding process.

Wallet initialization



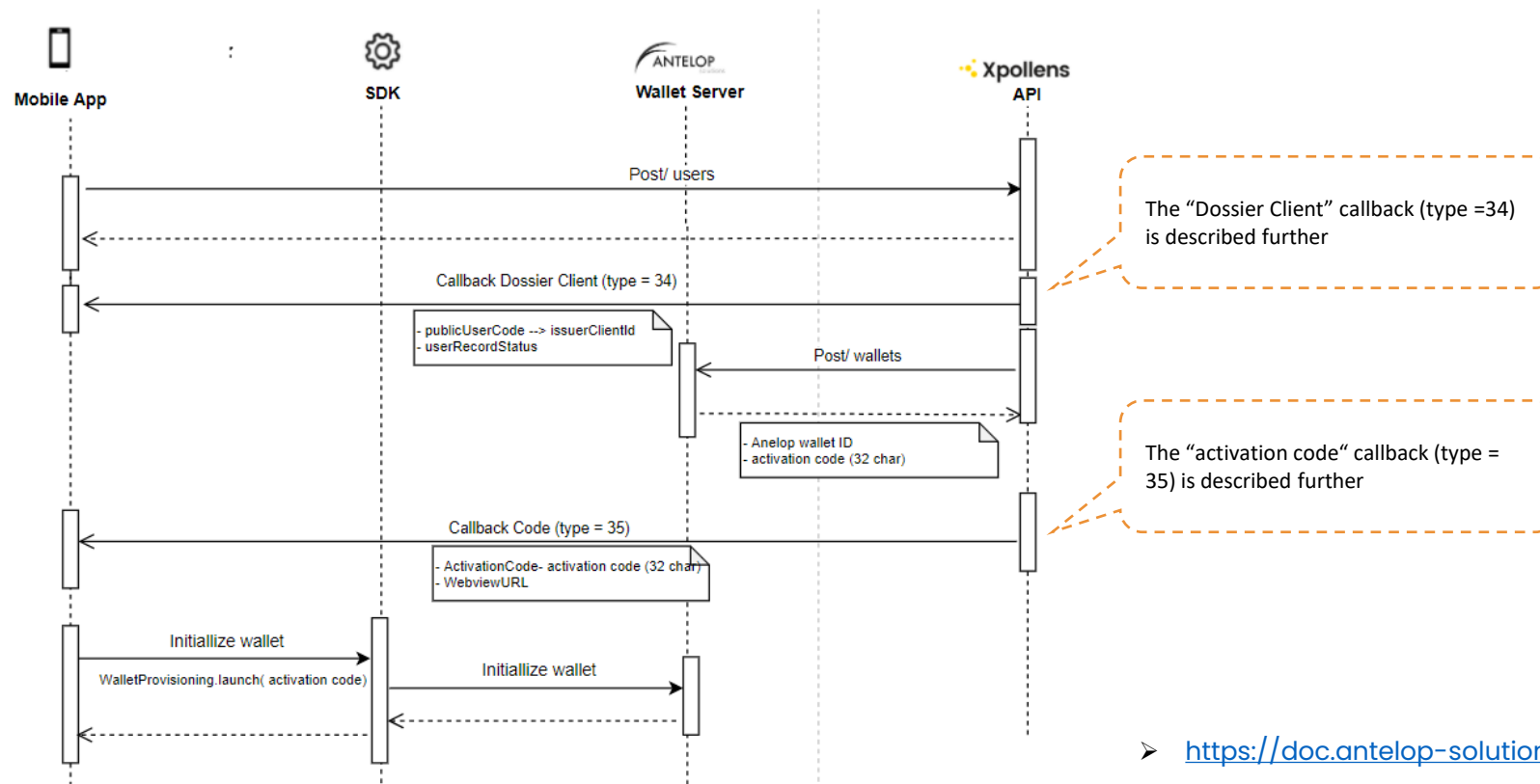
Check mobile eligibility



- <https://doc.antelop-solutions.com/latest/wallet/general/getting-started.html>
- https://doc.antelop-solutions.com/latest/wallet/sdk/wallet_management.html
- <https://doc.antelop-solutions.com/latest/common/sdk-javadoc/index.html>



Wallet initialization



- <https://doc.antelop-solutions.com/latest/wallet/general/getting-started.html>
- https://doc.antelop-solutions.com/latest/wallet/sdk/wallet_management.html



Authentication patterns

The Customer Authentication is based on Authentication Patterns, which define the possible combinations of authentication methods to authenticate for a given operation.

The authentication pattern used by Xpollens when creating the wallet is « **BIOORPIN** ».

For more details, please refer to : https://doc.antelop-solutions.com/latest/wallet/sca/sca-intro.html#_authentication_patterns



Callback « Dossier Client » : type = 34

This callback provides info about the user's onboarding status (called user record)

Field	Format	Required (Y/C/O)	Description
type	string	Y	Callback type = 34
appUserId	string	Y	User Reference
publicUserCode	string	Y	Corresponds to issuerClientID in our partner's (Antelop) system. It is used to create the wallet in its system.
userRecordStatus	String	Y	Status of the user record : 1 = initialized 2 = inProgress 4 = validated 5 = refused

Example :

```
{  
  "type": "34"  
  "appUserId": "toto12344"  
  "publicUserCode": "1234der14ft2"  
  "userRecordStatus": "InProgress"  
}
```




Callback Code : type = 35

This callback provides the activation code required in the wallet enrolment process

Field	Format	Required (Y/C/O)	Description
type	string	Y	Callback Type
AppUserId	string	Y	User Reference
ActivationCode	string	C	Code use to activate wallet (32 char)
ErrorMessage	string	C	Error message if an error occurs
ExtraData	Json object	Y	Contains the webview URL

Example :

```
{
  "type": "35",
  "AppUserId": "Au007",
  "ActivationCode": "5743c6747156074e5aebcbaec6f8b4a8",
  "ErrorMessage": null
}
```

Mobile initiated authentication

Refer to https://doc.antelop-solutions.com/latest/wallet/sca/sca-intro.html#_mobile_initiated_authentication



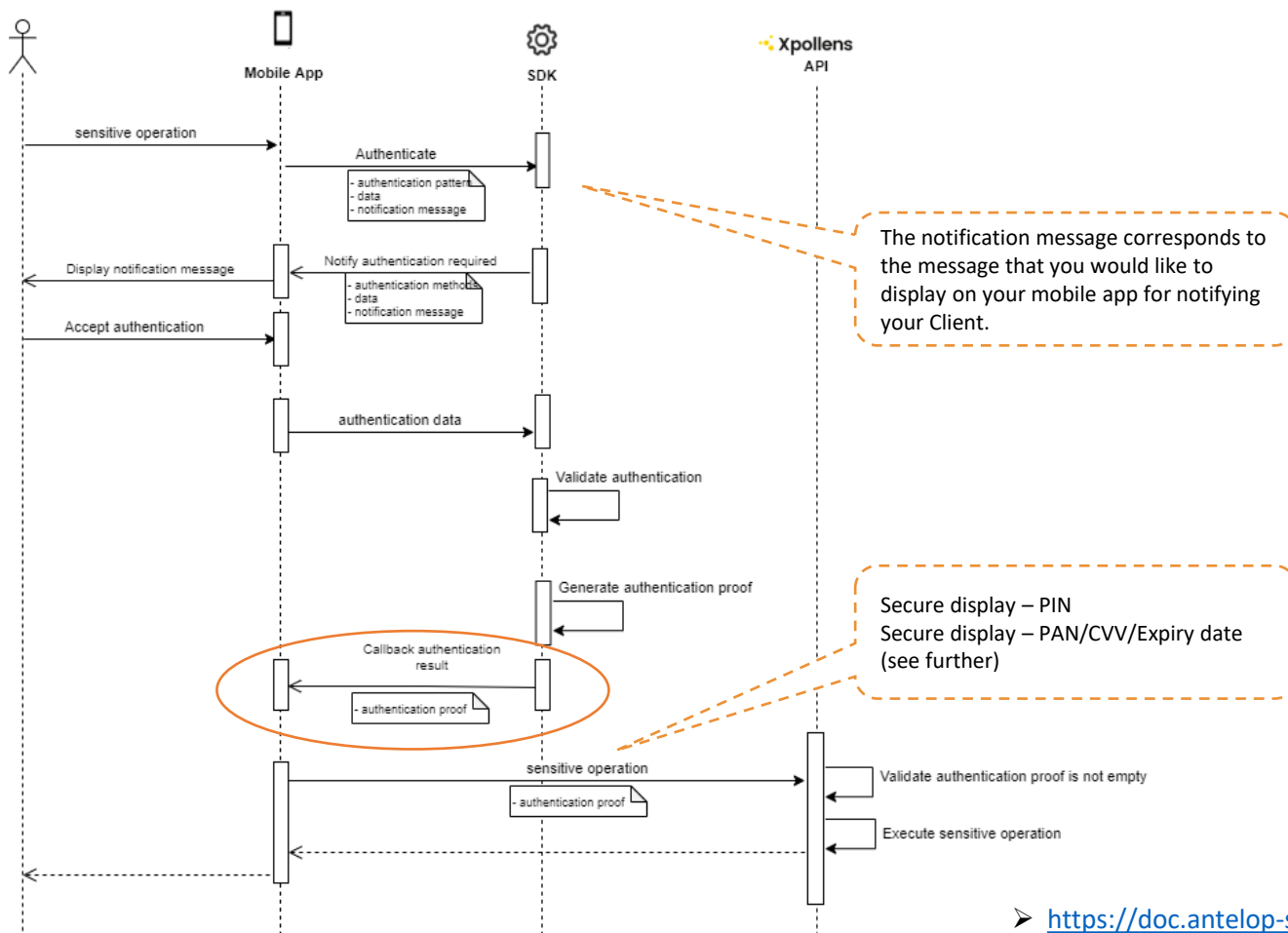
Sensitive operations – Mobile initiated Authentication

List of Xpollens « sensitive operations » APIs requiring the Mobile initiated Authentication workflow (« /sca/normal » in the URL)

	Sensitive operations	Xpollens Endpoints	Documentation
Card Secure Display	<ul style="list-style-type: none"> PIN Display Card Display (CVV,PAN, Expiry date) 	<ul style="list-style-type: none"> GET /api/sca/normal/v2.0/{appUserId}/pin/{cardExternalRef}?channelCode={channelCode} POST /api/sca/normal/v2.0/{appUserId}/carddisplay/{cardExternalRef} 	See webdoc : https://docs.xpollens.com/
X-Pay enrolment	<ul style="list-style-type: none"> Activate x Pay Token (inAppVerification Activation) 	<ul style="list-style-type: none"> POST / api sca /normal/ appUserId }}/ xpayInAppVerifActivation cardExternalRef 	Please note that the corresponding EndPoints currently described in the webdoc do not include “/sca/normal” into the signature, but should use the signature with /sca/normal in order to be functional for our Agent Clients.

Mobile initiated authentication flow chart

In this workflow, the user's strong authentication is processed through the SDK **prior to the Xpollens API call**. The authentication proof shall be then provided as an input (header) of the corresponding Xpollens APIs (Secure PIN display, Secure PAN/CVV/Expiry date Display) which work in a **synchronous** mode.



The notification message corresponds to the message that you would like to display on your mobile app for notifying your Client.

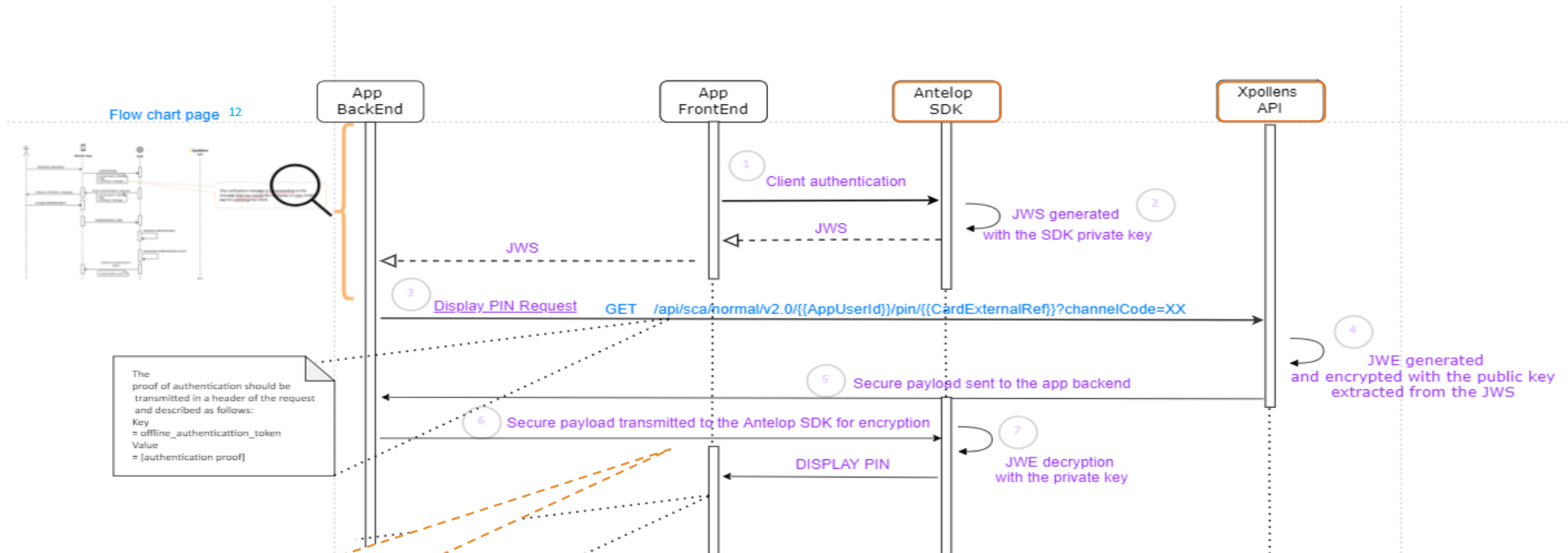
Secure display – PIN
Secure display – PAN/CVV/Expiry date (see further)

- *Note* : Xpollens APIs which require the mobile initiated authentication contain « **/sca/normal** » in the signature
- **The authentication proof** (= JWS token = offline_authentication_token) contains a public key used by Xpollens to encypher sensitive data (PIN, PAN&CVV)
- The SDK will then use the private key to decypher the secure payload, and display the sensitive info on the mobile app



Secure Display – Pin Display flow chart for Android

Display the Xpollens card PIN on the user's mobile device



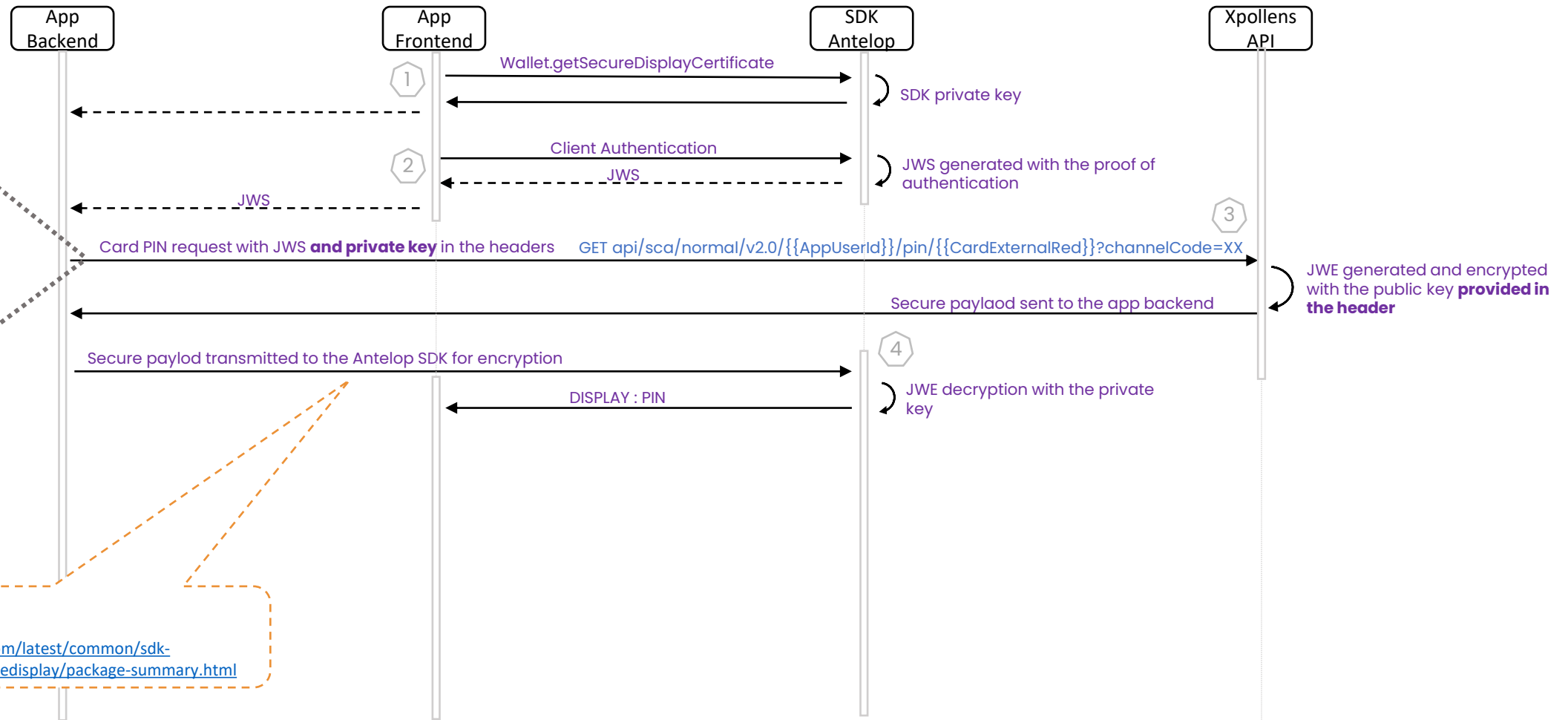
For more details, refer to

<https://doc.antelop-solutions.com/latest/common/sdk-javadoc/fr/antelop/sdk/ui/securedisplay/package-summary.html>



Secure Display – Pin Display flow chart for iOS

Display the Xpollens card PIN on the user's mobile device





Secure Display – Pin Display

➤ **Pre-requisites:**

- Get the « offline_authentication_token » through the SDK
- Card status should be 'sent' or 'Activated'

➤ **EndPoint :** **GET** /api/sca/normal/v2.0/{{AppUserId}}/pin/{{CardExternalRef}}/?channelCode=XX

➤ **Inputs:**

Field	Format	Required (Y/C/O)	Settings	Description
offline_authentication_token	string	Y	header	The proof of authentication (or JWS) should be transmitted in the header of the request and described as follows: Key = offline_authentication_token Value = [authentication proof]
secure_display_certificate	string	C – for iOS only	header	Certificate obtained by prior call to the Antelop SDK <i>Wallet.getSecureDisplayCertificate</i> Transmitted in addition to the offline_authentication_token
CardExternalRef	string	Y	path	Card Reference attributed by the partner. Card status should be 'sent' or 'Activated'
AppUserId	string	Y	path	User Reference attributed by the partner
channelCode	string	Y	path	The channel used to display the PIN. List of possible values: 04 = by computer 66 = by phone 72 = by tablet

➤ **Output:**

Field	Format	Description
secure_payload	string	The secure payload containing the PIN, to be sent to the Antelop SDK for decryption & secure display



Secure Display – Pin Display for Android

- Example:**

URL: <https://sb-api.xpollens.com/api/sca/normal/v2.0/Xpo-demo1/pin/Card-demo?channelCode=66>

GET	https://sb-api.xpollens.com/api/sca/normal/v2.0/Xpo-demo1/pin/Card-demo?channelCode=66					
Params	Authorization	Headers (14)	Body	Pre-request Script	Tests	Settings
<input checked="" type="checkbox"/>	Accept				application/json	
<input checked="" type="checkbox"/>	Content-Type				application/json	
<input checked="" type="checkbox"/>	offline_authentication_token				eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCIsIng1YyI6WyJMUzB0TFMxQ1JVZE...	

Example of Secure payload (or JWE) generated:

```
"{"secure_payload":"eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCIsIng1YyI6WyJMUzB0TFMxQ1JVZE...RCFYMpD4IDZp53iYnelrMJ6DK8-1St7dwHX6auXDdIFPccs0N8T9MQ-t-ONWZFhR2dmP26GSpZuaAgFqNMmov8nJeF_B1CbzmTYS9DKY0ofSDUAtWfB4lmjH8btVhkvCMHVcYkQSVam_yghzA4ISp_k6zg9ej_I05Sz5cyuCIGZ069aBHUNOcoa-n88b63BZjYhLhkdZEZWsPkj7UN075EzGR9jm8-rU3Y-zhtzjwK6pX7GFL-KNH_cFWXczQ-nAZ4ilaxgSWsPF5w3Yi7tpTdSBwyB8jJTRZg8BvW-m9-suKhGABKVbKf_hnld0ZISAwMebTxxr2wqxs9ct52vADIUCgaCd2R5N5YKgPEeTiP3WB99R0_vFigm2yKoGFmVsg2-Bzhj3BT_algbFALVmqM4PM62bFOGKgXBa18xORP4zJWqVdajSBZY2ViMHAsNz.owRHkohCu665_Yyl.jMGJ5Ff9-jwTglUo2SQUmq-2dO2mVBIYrUbc5Cyl48AgtDnvgXTlwOIMiEXWsHm4UrEs19T83VPxshWQc0Pb2vYU_v5WGCi9a-0NmJ_pmCgSySxF_Lca_mla_7Yasbk81yA2cKrywsMkZrKpSC0DrLzGCPsgzmJ2Sf27_VzLHtDwMU5ic1tPdvvtS_yBepurQx2TVb5W3eb4oIMh6rY5tlst27p6g3rQPZP564jedD9omdhgX47rUNboDtANR-CuU6BcYdDkaqrS9nHd5afQIJERKplp7WWvGYObSIAf-vEzp3ao5EQwApJM-0hH8ph1Db9r5mtCXNU7jh0gAobQm5AYKDoOoQYaekT4-OsxRxQcmvXgvBNUMTWaa_iEePrSastokw3D_0Lz2PnSr4lhDPeZh0ktjtsvFe1QjyFtcGVQiHOE26J7L5rc9h2pNcITX96o8FQrHEn4apZ3YdyLrmrW520eqZDjjAHLUHrFzMt6mO0MjfO8gSSRiqSz_ZoQjx2gqQh2PmcCY9zgVfX43pnjfpNlem5omThs-vL4_8OIORIsxZSAknoK2WHDRsCFcn1KZxwK4L4_iKZ8NVorXeiAN2i0artKK0uM9ZAOSZ9ZP95U2NK_715jYzP-bRNvRcCogOc8JwBpTSJtwarEAli3_T1PzD0WM3coDQTRPo3PE9Ylj0h6MWN5f6RQzfWuLZIHAYL20q0Jd_4ABSaFlFEURLhjn9EmD0-eV3CIh_vUljU5NZ6ZK0PMIEFUyJ_Lp2pjV1n4kZhJbn1Yst5rmUNNeylWasiBjWJtEEpSaLCli4zmjJJBQ85mnGLx5fEHkbJ0siAMm-85-xLGS9m7qEdsapqIdcwwRKJmWa5yJlexcl1GDgaEsfhmGkH2NvRnT7QEXW-Uhn6iQTCNQOug6sLr.-AM3KAeyPrbl7tN28IcDyQ\"}"
```


Secure Display – Pin Display for iOS

1

secure_display_certificate:

```
LS0tLS1CRUdJTIbDRVJUSUZjQ0FURS0tLS0tck1JSUZHRENDQXdDZ0F3SUJBZ0lPQWFiUzRXSXdYOuWvd2IKNDZYQXdEUUVKS29aSWH2Y05BUUVMQIFBd2daNHgKQ3pBSkNjTIZCQVlUQWtaU01Rd3dDZlIIEVFRSURBTkpaRVl4RgBpTUNjTIZCQWNNQIZCaGntbHpNukF3RGdZRApWUUVFLREFKqMJuUmxiRzI3TVJbD0RnWURWUUVFMREFKqMJuUmxiRzI3TVIwd0d3WUplbJpJaHJZtkFRa0JGZvZ2CmNITkFZvUwWld4dmNDNwJjakVITUN3R0ExVUVBd3dsUVCIMFpXehZJQJQWmlac2FXNWwJRlYXUeEdobGJuUnAKWTJGMGFQXOVJRkZUVV4S1JqQVWVgZB5TWpBM01ERXhNef3TkrKYUZ3MHINekEZURFefE16UXdOREphTURBeAplREFhQmdOvKJBTUIFek16TVRBek5EQTRNRGt5TIRBMEI6ZzROREI4RURBT0JnTIZCQXNNQJlIaGRHbDRHWEI3Cmndr2INQTBHQINXrJNjYjNEUUVCCVVFVQe0S0JqDf3Z2dH50FVSUJnUURzUXM4dzhdwzJEOGwwQmkbz2d5M24KYk5Y0kzdjdCQ29seU9UMlpkSE9XbW5tZfDsKysrZGwxSnNETXA0ZiszydJkVHRHjNjT3FqaXBnadjSbi8YgppUc3YzSVNCOEdryZuUHV3am82NkxmbDhZVUx5QnFrVXBjL0NyM2VmaHlId0IKSEpsaVRGK0FCbU9pSzZiVIZCktyMGlRwUulbkryck0VXIEZmpIb2VVMnIGTWtdnJXNWTHTlBnRzI2cWfITIZ5NndIN3BzBkhsYUNnaFFIaGQkqBhZZniwdjVHeHJEZXAzc2RQamhiY2di0dbzBlIyZiUuUJ5VklqUUIFvD4cEt3cEzVz3VEV5m5HbTkyU0s4bgpJRDnmQUc4Y0ExR0tQLIdrNudDrNjLmXsBMEgvNnFiWYHrMzIib0c2eGh4M3JHUUImRzItUJHBN092bu9UVUk2CkZj3hFMEhuSkdua3B0U9yUzG2N2IMN0tkdnInFElIOXpxM0lqMHJ6M25JeGtVRmcyRkpiawFyqjrb0EIMIAKMFVDNWNuc2NvYzB0MzR5cUIGSudBemZmkahs3JXVFIWdIhyKIdabFVCL2RvaWJRTBOVMpjclV4a04xVTZVQgpldTzZ2RRLy8welExOXIPWXIma3pLaUlJelB5Nihqb3ZtYIxcTZhOTdzQ0F3RUFBYU5CTUQ4d0NRWURWUjBUCKJBSXDBREFPQmdOVkhROEJBJzhFQkFNQ0JhQxJZlIIEVliwakFRSC9CQmd3Rm9BVVovUgkzSUM5NkFML3RHVHcKaU9uYk54ZFImNXN3RFFZSkvWklodmNOQVFFTEJRQRnZ0ICQUilemNTZJveGIHZHVINVfMihlWHB2Vm83WApDaTg0ZmJoNlVVTvDhV2pTWGtGSWZOR0ZTevkVWdU5oMk4L2ZPdFJnTFRra3IvaFdiWfNKZkizVZVBUU9DNdc5CmMwOvDjNHBIUINQIdRSUVzdDvVvENH3JlsvJiMG9VQTFDcnFmVRURVtJkbVBrTIFNidWbThkRGhvUzVIVDUKv0RoVeTreTIEd0I3bkNMTvItYINoRFVzaIgzcGM2bGIMc2sIU3ZRL2ztSUNTZGtdSzhEUORMTi9wNlPkbnhLNApuRDRvbk03WgzbczTt3aCtGTGS0VG1NM2M4d0JLIYlJmJEvac9C9QIFLWvo2RUnRnUw1RUWvdHBhdJPTC92CINKMGtUSTRqt05YwMhYy92bUdiU3dmVlJUMdEelJMNEJoWURrYUFQZVZMeDlCFR4WHFFMDZ5YINQbGRGa2kKt0ISSVJKb013alk5Um9RWIFINZBtSHN4U0YwcvdiY2xZQUwx2VIsERbUuVehwOE9YkVBRHhKeFFQZukvdApVUUFNSXBIREXkZrsUgGvm2o4butmY3JjsIZKwJhETIhxdjNPMIY4QkZLOEJavWJrQU9NZU9IaDYyUpFYzBnCIUUVjgrTHZYNWxmZmRmL09qNzhiSmRtcVvbnA3eXRrcjBwK2hDekdubEpDTG5idzcrQThaZERBWE2eUdhalgKjNjZlNjV6cWprSkwzaId3a2hxQ2FnmMW00K3M0WlhqUmIvaUxCTis0S1JCSWTaMkxONzhVhEpTV3FFOUxTgt2cgplcWpneGVROS95U0ZJNmZlckndzJMRIQ55mpkMEIIShtcHVD50huS05XaDhItkxiTmIbnJxLz3V0VXRELUcmN3VfQNWwbitvTU8zU2YKLS0tLS1fTKqgQ0VSVeIGSUNBVEUtLS0tLQ
```

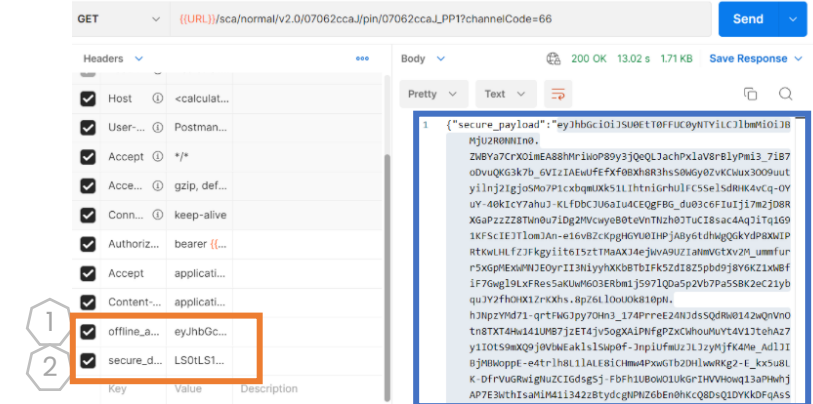
2

offline_authentication_token:

```
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCIsInZvZ3kiOiJ1ZS0tLS0tck1JSUZHRENDQXdDZ0F3SUJBZ0lPQWFiUzRXSXdYOuWvd2IKNDZYQXdEUUVKS29aSWH2Y05BUUVMQIFBd2daNHgKQ3pBSkNjTIZCQVlUQWtaU01Rd3dDZlIIEVFRSURBTkpaRVl4RgBpTUNjTIZCQWNNQIZCaGntbHpNukF3RGdZRApWUUVFLREFKqMJuUmxiRzI3TVJbD0RnWURWUUVFMREFKqMJuUmxiRzI3TVIwd0d3WUplbJpJaHJZtkFRa0JGZvZ2CmNITkFZvUwWld4dmNDNwJjakVITUN3R0ExVUVBd3dsUVCIMFpXehZJQJQWmlac2FXNWwJRlYXUeEdobGJuUnAKWTJGMGFQXOVJRkZUVV4S1JqQVWVgZB5TWpBM01ERXhNef3TkrKYUZ3MHINekEZURFefE16UXdOREphTURBeAplREFhQmdOvKJBTUIFek16TVRBek5EQTRNRGt5TIRBMEI6ZzROREI4RURBT0JnTIZCQXNNQJlIaGRHbDRHWEI3Cmndr2INQTBHQINXrJNjYjNEUUVCCVVFVQe0S0JqDf3Z2dH50FVSUJnUURzUXM4dzhdwzJEOGwwQmkbz2d5M24KYk5Y0kzdjdCQ29seU9UMlpkSE9XbW5tZfDsKysrZGwxSnNETXA0ZiszydJkVHRHjNjT3FqaXBnadjSbi8YgppUc3YzSVNCOEdryZuUHV3am82NkxmbDhZVUx5QnFrVXBjL0NyM2VmaHlId0IKSEpsaVRGK0FCbU9pSzZiVIZCktyMGlRwUulbkryck0VXIEZmpIb2VVMnIGTWtdnJXNWTHTlBnRzI2cWfITIZ5NndIN3BzBkhsYUNnaFFIaGQkqBhZZniwdjVHeHJEZXAzc2RQamhiY2di0dbzBlIyZiUuUJ5VklqUUIFvD4cEt3cEzVz3VEV5m5HbTkyU0s4bgpJRDnmQUc4Y0ExR0tQLIdrNudDrNjLmXsBMEgvNnFiWYHrMzIib0c2eGh4M3JHUUImRzItUJHBN092bu9UVUk2CkZj3hFMEhuSkdua3B0U9yUzG2N2IMN0tkdnInFElIOXpxM0lqMHJ6M25JeGtVRmcyRkpiawFyqjrb0EIMIAKMFVDNWNuc2NvYzB0MzR5cUIGSudBemZmkahs3JXVFIWdIhyKIdabFVCL2RvaWJRTBOVMpjclV4a04xVTZVQgpldTzZ2RRLy8welExOXIPWXIma3pLaUlJelB5Nihqb3ZtYIxcTZhOTdzQ0F3RUFBYU5CTUQ4d0NRWURWUjBUCKJBSXDBREFPQmdOVkhROEJBJzhFQkFNQ0JhQxJZlIIEVliwakFRSC9CQmd3Rm9BVVovUgkzSUM5NkFML3RHVHcKaU9uYk54ZFImNXN3RFFZSkvWklodmNOQVFFTEJRQRnZ0ICQUilemNTZJveGIHZHVINVfMihlWHB2Vm83WApDaTg0ZmJoNlVVTvDhV2pTWGtGSWZOR0ZTevkVWdU5oMk4L2ZPdFJnTFRra3IvaFdiWfNKZkizVZVBUU9DNdc5CmMwOvDjNHBIUINQIdRSUVzdDvVvENH3JlsvJiMG9VQTFDcnFmVRURVtJkbVBrTIFNidWbThkRGhvUzVIVDUKv0RoVeTreTIEd0I3bkNMTvItYINoRFVzaIgzcGM2bGIMc2sIU3ZRL2ztSUNTZGtdSzhEUORMTi9wNlPkbnhLNApuRDRvbk03WgzbczTt3aCtGTGS0VG1NM2M4d0JLIYlJmJEvac9C9QIFLWvo2RUnRnUw1RUWvdHBhdJPTC92CINKMGtUSTRqt05YwMhYy92bUdiU3dmVlJUMdEelJMNEJoWURrYUFQZVZMeDlCFR4WHFFMDZ5YINQbGRGa2kKt0ISSVJKb013alk5Um9RWIFINZBtSHN4U0YwcvdiY2xZQUwx2VIsERbUuVehwOE9YkVBRHhKeFFQZukvdApVUUFNSXBIREXkZrsUgGvm2o4butmY3JjsIZKwJhETIhxdjNPMIY4QkZLOEJavWJrQU9NZU9IaDYyUpFYzBnCIUUVjgrTHZYNWxmZmRmL09qNzhiSmRtcVvbnA3eXRrcjBwK2hDekdubEpDTG5idzcrQThaZERBWE2eUdhalgKjNjZlNjV6cWprSkwzaId3a2hxQ2FnmMW00K3M0WlhqUmIvaUxCTis0S1JCSWTaMkxONzhVhEpTV3FFOUxTgt2cgplcWpneGVROS95U0ZJNmZlckndzJMRIQ55mpkMEIIShtcHVD50huS05XaDhItkxiTmIbnJxLz3V0VXRELUcmN3VfQNWwbitvTU8zU2YKLS0tLS1fTKqgQ0VSVeIGSUNBVEUtLS0tLQ
```

3

{{URL}}/sca/normal/v2.0/07062ccaJ/pin/07062ccaJ_PPI?channelCode=66



The screenshot shows a web browser's developer tools with a GET request to the URL: `[[URL]]/sca/normal/v2.0/07062ccaJ/pin/07062ccaJ_PPI?channelCode=66`. The response status is 200 OK. The response body is a JSON object:

```
{
  "secure_payload": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCIsInZvZ3kiOiJ1ZS0tLS0tck1JSUZHRENDQXdDZ0F3SUJBZ0lPQWFiUzRXSXdYOuWvd2IKNDZYQXdEUUVKS29aSWH2Y05BUUVMQIFBd2daNHgKQ3pBSkNjTIZCQVlUQWtaU01Rd3dDZlIIEVFRSURBTkpaRVl4RgBpTUNjTIZCQWNNQIZCaGntbHpNukF3RGdZRApWUUVFLREFKqMJuUmxiRzI3TVJbD0RnWURWUUVFMREFKqMJuUmxiRzI3TVIwd0d3WUplbJpJaHJZtkFRa0JGZvZ2CmNITkFZvUwWld4dmNDNwJjakVITUN3R0ExVUVBd3dsUVCIMFpXehZJQJQWmlac2FXNWwJRlYXUeEdobGJuUnAKWTJGMGFQXOVJRkZUVV4S1JqQVWVgZB5TWpBM01ERXhNef3TkrKYUZ3MHINekEZURFefE16UXdOREphTURBeAplREFhQmdOvKJBTUIFek16TVRBek5EQTRNRGt5TIRBMEI6ZzROREI4RURBT0JnTIZCQXNNQJlIaGRHbDRHWEI3Cmndr2INQTBHQINXrJNjYjNEUUVCCVVFVQe0S0JqDf3Z2dH50FVSUJnUURzUXM4dzhdwzJEOGwwQmkbz2d5M24KYk5Y0kzdjdCQ29seU9UMlpkSE9XbW5tZfDsKysrZGwxSnNETXA0ZiszydJkVHRHjNjT3FqaXBnadjSbi8YgppUc3YzSVNCOEdryZuUHV3am82NkxmbDhZVUx5QnFrVXBjL0NyM2VmaHlId0IKSEpsaVRGK0FCbU9pSzZiVIZCktyMGlRwUulbkryck0VXIEZmpIb2VVMnIGTWtdnJXNWTHTlBnRzI2cWfITIZ5NndIN3BzBkhsYUNnaFFIaGQkqBhZZniwdjVHeHJEZXAzc2RQamhiY2di0dbzBlIyZiUuUJ5VklqUUIFvD4cEt3cEzVz3VEV5m5HbTkyU0s4bgpJRDnmQUc4Y0ExR0tQLIdrNudDrNjLmXsBMEgvNnFiWYHrMzIib0c2eGh4M3JHUUImRzItUJHBN092bu9UVUk2CkZj3hFMEhuSkdua3B0U9yUzG2N2IMN0tkdnInFElIOXpxM0lqMHJ6M25JeGtVRmcyRkpiawFyqjrb0EIMIAKMFVDNWNuc2NvYzB0MzR5cUIGSudBemZmkahs3JXVFIWdIhyKIdabFVCL2RvaWJRTBOVMpjclV4a04xVTZVQgpldTzZ2RRLy8welExOXIPWXIma3pLaUlJelB5Nihqb3ZtYIxcTZhOTdzQ0F3RUFBYU5CTUQ4d0NRWURWUjBUCKJBSXDBREFPQmdOVkhROEJBJzhFQkFNQ0JhQxJZlIIEVliwakFRSC9CQmd3Rm9BVVovUgkzSUM5NkFML3RHVHcKaU9uYk54ZFImNXN3RFFZSkvWklodmNOQVFFTEJRQRnZ0ICQUilemNTZJveGIHZHVINVfMihlWHB2Vm83WApDaTg0ZmJoNlVVTvDhV2pTWGtGSWZOR0ZTevkVWdU5oMk4L2ZPdFJnTFRra3IvaFdiWfNKZkizVZVBUU9DNdc5CmMwOvDjNHBIUINQIdRSUVzdDvVvENH3JlsvJiMG9VQTFDcnFmVRURVtJkbVBrTIFNidWbThkRGhvUzVIVDUKv0RoVeTreTIEd0I3bkNMTvItYINoRFVzaIgzcGM2bGIMc2sIU3ZRL2ztSUNTZGtdSzhEUORMTi9wNlPkbnhLNApuRDRvbk03WgzbczTt3aCtGTGS0VG1NM2M4d0JLIYlJmJEvac9C9QIFLWvo2RUnRnUw1RUWvdHBhdJPTC92CINKMGtUSTRqt05YwMhYy92bUdiU3dmVlJUMdEelJMNEJoWURrYUFQZVZMeDlCFR4WHFFMDZ5YINQbGRGa2kKt0ISSVJKb013alk5Um9RWIFINZBtSHN4U0YwcvdiY2xZQUwx2VIsERbUuVehwOE9YkVBRHhKeFFQZukvdApVUUFNSXBIREXkZrsUgGvm2o4butmY3JjsIZKwJhETIhxdjNPMIY4QkZLOEJavWJrQU9NZU9IaDYyUpFYzBnCIUUVjgrTHZYNWxmZmRmL09qNzhiSmRtcVvbnA3eXRrcjBwK2hDekdubEpDTG5idzcrQThaZERBWE2eUdhalgKjNjZlNjV6cWprSkwzaId3a2hxQ2FnmMW00K3M0WlhqUmIvaUxCTis0S1JCSWTaMkxONzhVhEpTV3FFOUxTgt2cgplcWpneGVROS95U0ZJNmZlckndzJMRIQ55mpkMEIIShtcHVD50huS05XaDhItkxiTmIbnJxLz3V0VXRELUcmN3VfQNWwbitvTU8zU2YKLS0tLS1fTKqgQ0VSVeIGSUNBVEUtLS0tLQ"
}
```

Annotations in the image: A red box highlights the 'offline_authentication_token' header in the request headers. A blue box highlights the 'secure_payload' field in the response body.

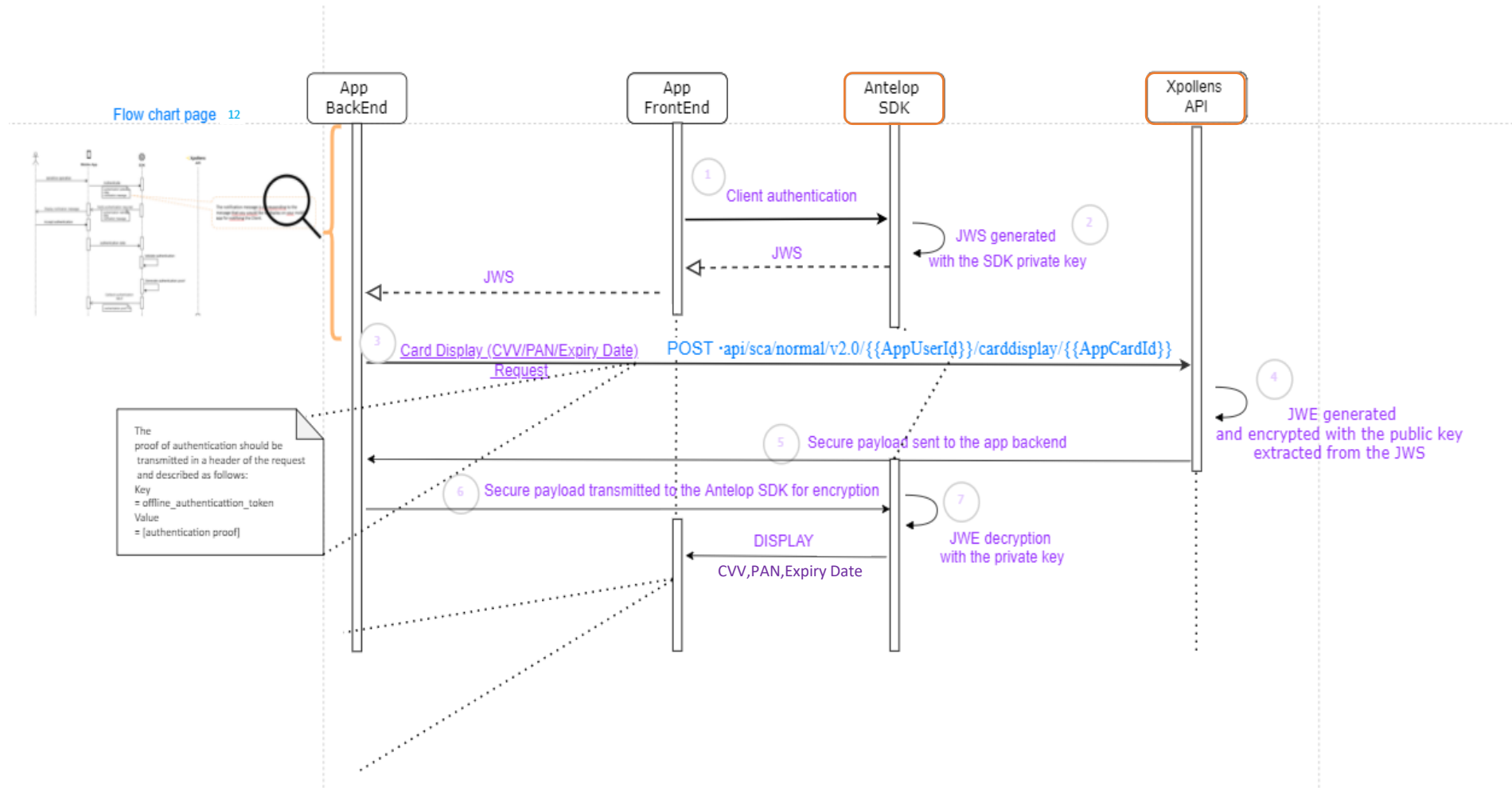
4

secure_payload transmitted to the Antelop SDK for encryption



Card Display flow chart for Android

Display the Xpollens card PAN/Expiry Date/CVV on the user's mobile device



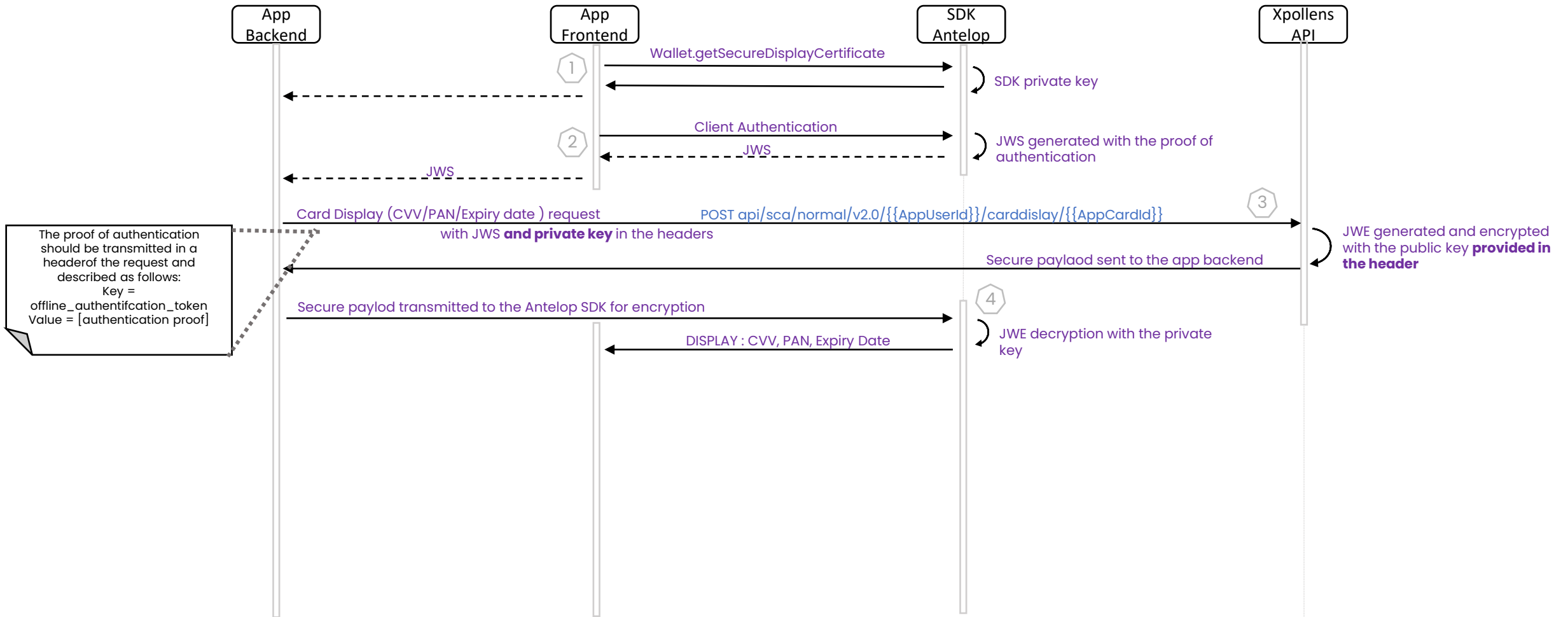
Flow chart page 12

The proof of authentication should be transmitted in a header of the request and described as follows:
Key = offline_authentication_token
Value = [authentication proof]



Card Display flow chart for iOS

Display the Xpollens card PAN/Expiry Date/CVV on the user's mobile device





Secure display – Card Display (CVV, PAN, Expiry date)

➤ Pre-requisites :

- Get the « offline_authentication_token » through the SDK
- Card status should be 'sent' or 'Activated'

➤ **EndPoint :** **POST** `api/sca/normal/v2.0/{{AppUserId}}/carddisplay/{{CardExternalRef}}`

➤ Inputs:

Field	Format	Required (Y/C/O)	Settings	Description
offline_authentication_token	string	Y	Header	The proof of authentication (or JWS) should be transmitted in the header of the request and described as follows: Key = offline_authentication_token Value = [authentication proof]
secure_display_certificate	string	C – for iOS only	header	Certificate obtained by prior call to the Antelop SDK <i>Wallet.getSecureDisplayCertificate</i> Transmitted in addition to the offline_authentication_token
CardExternalRef (= AppCardId)	string	Y	path	Card Reference attributed by the partner. The card status should be 'sent' or 'Activated'
AppUserId	string	Y	path	User Reference attributed by the partner
channelCode	string	Y	BODY	The channel used to display the PAN/CVV/Expiry Date. List of possible values: 04 = by computer 66 = by phone 72 = by tablet

➤ Output:

Field	Format	Description
secure_payload	string	The secure payload containing the PAN/CVV/Expiry Date, to be sent to the Antelop SDK for decryption & secure display

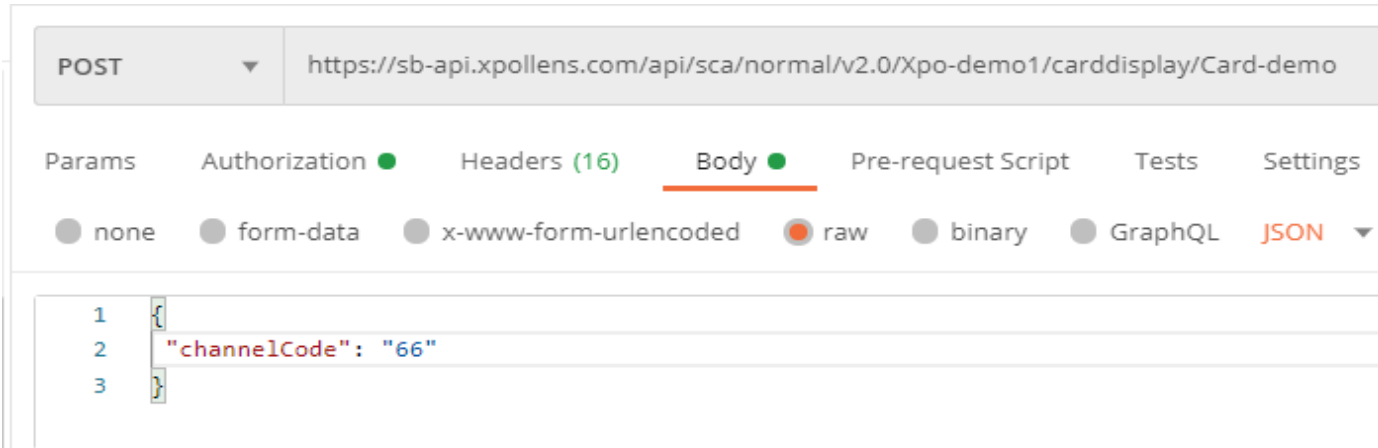
Secure Display – Card Display (CVV, PAN, Expiry date) for Android



PAYMENT INSIDE

- **Example:**

URL: POST <https://sb-api.xpollens.com/api/sca/normal/v2.0/Xpo-demo1/carddisplay/Card-demo>



The screenshot shows a REST client interface. The method is POST and the URL is https://sb-api.xpollens.com/api/sca/normal/v2.0/Xpo-demo1/carddisplay/Card-demo. The 'Body' tab is selected, and the content type is set to raw. The body contains a JSON object with a single key-value pair: "channelCode": "66".

Example of Secure payload (or JWE) generated:

```
("\secure_payload\":"eyJhbGciOiJSU0EtT0FFUC0yNTYiLCJlbmMiOiJBMjU2R0NNIn0.1x1ZYyZ3ummyrlusRwJRMmf6-mLCsPSAVboqjary9UYaCT_MCd312Bos7kiLLa-RCFYMPd4IDZp53iYneirMJ6DK8-lSt7dwHX6auXDdIFPccs0N8T9MQ-t-ONWZFhR2dmP26GSpZuaAgFqNMmov8nJef_B1CbzmTYS9DKYOofSDUAtWfB4lmjH8btVhkvCMHVcYkQSVam_yghzA4ISp_k6zg9ej_I05Sz5cyuCIGZ069aBHUNOcoa-n88b63BZjYhLhkdZEEZWsPkj7UN075EzGR9jM8-rU3Y-zhtzjwK6pX7GFL-KNH_cFWXczQ-nAZ4ilaxgSWsPF5w3Yi7tpTdSBwyB8jJTRZg8BvW-m9-suKhGABKVbKf_hnld0ZISAwMebTxxr2wqxs9ct52vADIUCgaCd2R5N5YKgPEeTip3WB99R0_vFigm2yKoGFmVsg2-BzBhj3BT_algbFALVmqM4PM62bFOGKgXBa18xORP4zJWqVdajSBZY2ViMHAsNz.owRHkohCu665_Yyl.jMGJ5Ff9-jwTglUo2SQUmq-2dO2mVBIYrUbg5Cyl48AgtDnvgXTIwOIMiEXWsHm4UrEs19T83VPxshWQc0Pb2vYU_v5WGCi9a-0NmJ_pmCgSySxF_Lca_mla_7Yasbk81yA2cKrywsMkZrKpSC0DrLzGCPsgzmJ2Sf27_VzLHtDwMU5ic1tPdvytS_vBepurQx2TVb5W3eb4oIMh6rY5tlst27p6g3rQPZP564jedD9omdhgX47rUNboDtANR-CuU6BcYdDkaqrS9nHd5afQJERKplp7WWvGYObSIAf-vEzp3ao5EQwApJM-0hH8ph1Db9r5mtCXNU7jh0gAobQm5AYKDoOoQYaekT4-OsxRxCqmvxgvBNUMTWaa_iEePrSastokw3D_0Lz2PnSr4IhDPeZh0ktjtsvFe1QjyFtcGVQIH0E26J7L5rc9h2pNcITX96o8FQrHEn4apZ3YdyLrMrW520eqZDjjAHLUHrFzMt6mO0MjfO8gSSRiqSz_ZoOjx2gqQh2PmcCY9zgVFx43pnjfnLem5omThS-vL4_8OIORIsxZSAkknok2WHDrsCFcn1KZxwk4L4_iKZ8NVorXeiAN2i0artKK0uM9ZAOSZ9ZP95U2NK_715jYzP-bRNVrCocgOc8JwBpTSJTwarEAli3_T1PzD0WM3coDQTRPo3PE9Ylj0h6MwN5f6RQzfWuLZIHAYL20g0Jd_4ABSaFfEURLhJN9EmD0-eV3Clh_vUjU5NZ6ZK0PMIEFUyJ_Lp2pjV1n4kZhb1Yst5rmUNNeylWaSlbjWJtEEpSaLClI4zmjJJBQ85mnGLx5fEHkbJ0siAMm-85-xLGS9m7qEDsapqIDcwvRKJmWa5yJlexcl1GDgaEsfhmgkH2NvRnT7QEXW-Uhn6iQTCNQOuq6sLr.-AM3KAeyPrbl7tN28lcDyQ\}")"
```


Server initiated authentication

Refer to https://doc.antelop-solutions.com/latest/wallet/sca/sca-intro.html#_server_initiated_authentication



Sensitive operations

List of Xpollens « sensitive operations » APIs requiring the Server initiated Authentication workflow :

	Sensitive operations	Xpollens Endpoints	Documentation
User's onboarding	<ul style="list-style-type: none"> Modify a User - Legacy endpoint Modify a User - Target endpoint Send User's accepted gcu 	<ul style="list-style-type: none"> PUT /api/sca/v1.1/users/{userid}/ - DEPRECATED PUT /api/sca/v2.0/users/{appUserId}/ POST /api/sca/v2.0/users/{AppUserId}/cgu 	<p>See webdoc : https://docs.xpollens.com/</p>
Transfer	<ul style="list-style-type: none"> Create a bankaccount Modify bankaccount Create sct Create sct recurrent Create sct planned 	<ul style="list-style-type: none"> POST /api/sca/v1.1/users/Appuserid/bankaccounts PUT /api/sca/v1.1/users/Appuserid/bankaccounts POST /api/sca/v1.1/users/{appuserid}/sct POST /api/sca/v1.1/users/appuserid/sct POST /api/sca/v1.1/users/appuserid/sct 	<p>Please note that the corresponding EndPoints currently described in the webdoc do not include "/sca/" into the signature, but should use the signature with /sca/ in order to be functional for our Agent Clients.</p>
Card management	<ul style="list-style-type: none"> Create card Refabricate card 	<ul style="list-style-type: none"> Post /api/sca/v2.0/card/{{holderExternalRef}} Post /api/sca/v2.0/card/refabricate/{{holderExternalRef}} 	<p>Keep also in mind the fact that the sensitive operation return will be provided through the callback type = 36 (instead of synchronous return).</p>
Transaction management	<ul style="list-style-type: none"> Get transaction history 	<ul style="list-style-type: none"> GET /api/sca/v1.1/users/{appUserId}/historyitems 	
Compliance	<ul style="list-style-type: none"> Provide FATCA/EAI info 	<ul style="list-style-type: none"> PATCH /api/sca/v2.1/user/{appUserId}/fatcaEai 	



Synchronous operation Response

Synchronous response corresponding to the « Pre-checks » related to the sensitive operation Xpollens API.

- If OK, Authentication process is about to occur followed by the Xpollens sensitive operation processing (flow chart → (1)).
- If KO, http response code is the one of the sensitive operation called with pre-checks KO & the Reason of the failure is provided into the "Reason" field

Field		Format	Description
Header	AuthenticationId	long	Id of the Authentication Operation
	AppUserId	string	User Reference
	RequestDate	DateTime	Effective end date for the operation
	Status	enum	Authentication Status List of possible values: <ul style="list-style-type: none">• Pending (if pre-checks OK)• Failed (if pre-checks KO)
	Reason	string	http Code of the sensitive Operation if pre-checks KO (see the corresponding API documentation)
Payload		Binary	<ul style="list-style-type: none">• null if pre-checks OK• Payload response of the sensitive operation if pre-checks KO (see the corresponding API documentation)

Example :

```
{
  "Header":
  {
    "AuthenticationId": 1234,
    "AppUserId": "Au007",
    "RequestDate": "2021-02-19T16:18:41.4570774+00:00"
    "Status": "Pending",
    "Reason": null,
  },
  "Payload": null
}
```



Callback type = 36 : return of the sensitive operation

Asynchronous Authentication Status + Sensitive operation return provided through the Callback type 36 (flow chart → (2))

	Field	Format	Required (Y/C)	Description
Header	AuthenticationId	long	Y	Id of the Authentication Operation
	Type	string	Y	Callback Type
	AppUserId	string	Y	User Reference
	AuthenticationResultDate	DateTime	Y	Effective authentication result date
	RequestProcessedDate	DateTime	C	Effective end date for the operation
	RequestResponseCode	int	Y	Http status code of the operation
	Status	enum	Y	AuthenticationStatus List of possible values: <ul style="list-style-type: none">• Pending• Failed
	Reason	string	C	TIMEOUT: customer did not authenticate in due time CANCELED: customer canceled the authentication request, FAILED: customer did not successfully authenticate
Payload		Binary	Y	Result of the operation

Example of a Callback type=36 for a call to EndPoint
« POST /api/sca/v2.0/users/{AppUserId}/cgu»

```
"Header": {  
  "AuthenticationId": "549ee806-fbb4-4ad9-a20e-d2fb279bc610",  
  "Type": 36,  
  "AppUserId": "RgdmCHYJ2",  
  "AuthenticationResultDate": "2022-02-04T07:50:27+00:00",  
  "RequestProcessDate": "2022-02-04T07:50:27.6650131+00:00",  
  "RequestResponseCode": 200,  
  "RequestDate": "2022-02-04T07:48:51.899405+00:00",  
  "Status": "Succeeded",  
  "Reason": null  
},  
"Payload": "{ \"card\":true, \"partner\":true, \"account\":true}"
```



Authentication process : Notification message for sensitive operations

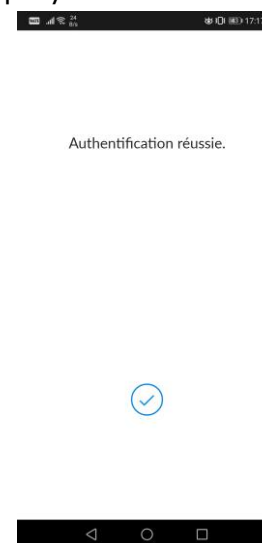
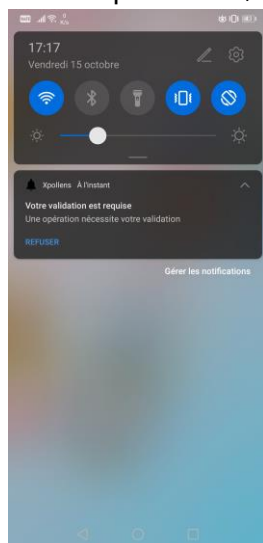
This corresponds to the notification sent by the SDK to the mobile App in order to ask for a strong authentication for a sensitive operation

The notification must be implemented in RAW_LIST format.

Note : The message displayed to the user depending the operation type cannot be modified and is in **French** (cf. next page)

```
{
  "notificationMessage": "Une opération sensible requiert votre validation",
  "message": "Opération sensible à confirmer",
  "format": "RAW_LIST",
  "data": [
    { "title": "Opération", "value": "Acceptation des CGU" },
    { "title": "Compte", "value": "%Nom_partenaire" }
  ]
}
```

list of sensitive operations, as well as the notification messages to display on the mobile are described in next page



Please refer to webdoc : <https://docs.xpollens.com/docs/kyc/identification>



Authentication process : notification msg / sensitive operations

Sensitive operation	Operation	Operation details
Ajout/Modif de bénéficiaire	Ajout d'un Bénéficiaire	Nom: %Nom_Bénéficiaire IBAN: %IBAN_Masqué_Bénéficiaire
Ajout/Modif de bénéficiaire	Modification d'un Bénéficiaire	Nom: %Nom_Bénéficiaire IBAN: %IBAN_Masqué_Bénéficiaire)
Accéder aux informations de compte	Consultations des opérations	Compte: %Nom_Partenaire
Virement	Virement immédiat	Montant: %Montant %Devis Bénéficiaire: %Nom_Bénéficiaire
Virement	Virement planifié	Montant: %Montant %Devis Bénéficiaire: %Nom_Bénéficiaire Date planifiée: %Date_Future
Virement	Virement récurrent	Montant: %Montant %Devis Bénéficiaire: %Nom_Bénéficiaire Récurrence: Tous les %Quantile du mois
Commande d'une carte	Commande d'une Carte	Type: Carte VISA %Type \n %Nom_Partenaire
Modif. d'une donnée perso	Modification Donnée Personnelle	Rue: %adresse
Acceptation des CGUc	Acceptation des CGU	Compte: %Nom_Partenaire
Déclaration Fatca / eai	Déclaratifs Fiscaux	Compte: %Nom_Partenaire
Affichage PIN	Affichage Code PIN	Carte: %Nom_Partenaire
Choix Wish PIN	Choix d'un nouveau Code PIN	Carte: %Nom_Partenaire
Affichage PAN & CVV2	Affichage de votre Carte	Carte: %Nom_Partenaire



Notification message for online payment

The notification must be implemented in PURCHASE format.

```
{  
  "notificationMessage": "Une opération sensible requiert votre validation",  
  "message": "Paiement en ligne à confirmer",  
  "format": "PURCHASE",  
  "amount": "74,12 €",  
  "merchant": "WWW.OUI.SNCF"  
}
```