grapevine ™

SMS APPLINK

Application-to-Person SMS Service

XML

Contents

1 Sending Messages with XML AppLink

To send messages via AppLink, upload XML data via a POST request to the AppLink URL.

You should have received an email from Grapevine with the following information:

- The URL of the Grapevine messaging services portal.
- The request URL to which your application will post messages
- Your username and password.

In addition, you'll need to include the following in your XML uploads:

- Authentication Code

Finally, in the email, you'll find an Affiliate Code which is used internally by Grapevine to identify your organization.

1.1. Trigger Tester

By substituting the values sent to you in your provisioning email into the XML, you can test your AppLink account with the Trigger Tester in the SMS AppLink User Interface on the Grapevine Messaging Services Portal.
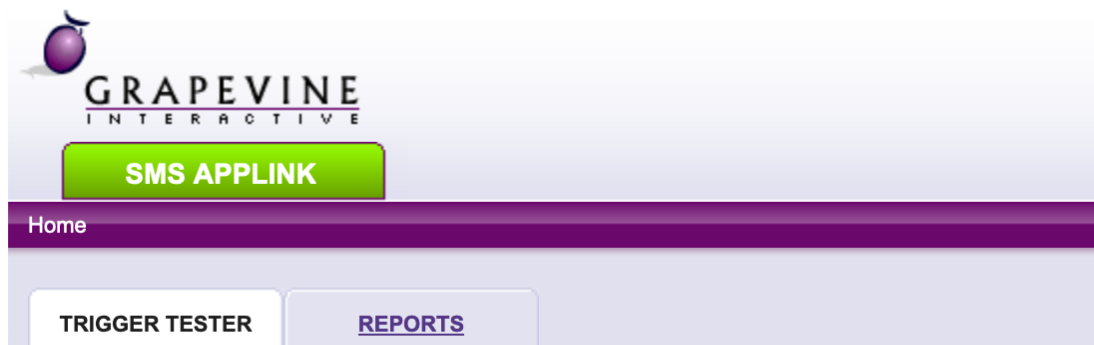
1.2. Sending Requests with Postman

An alternative to the Trigger Tester is the free-to-use Postman website (www.postman.co). An easy tool to use, Postman has many benefits, such as saving your XML for re-use.

If you have an account on Postman.co, you can download the following files that make it simple to test AppLink:

- Postman Collection: A set of pre-formatted requests that demonstrate AppLink's features.
- Postman Environment: A set of environment variables for you to type parameters like your Affiliate code, mobile numbers for testing, etc.

1.3. Receiving Callback requests with Pipedream

Pipedream (https://pipedream.com/) enables you to create a quick and easy HTTP receiver so that you can create a test Callback URL to receive receipts and replies, without having to write any code.

2 Getting Started with XML

(See **3 XML Tags** for a description of all the available XML tags.)

2.1. Sample gviSmsMessage XML

The following XML is the absolute minimum required to send an SMS via AppLink. It contains:

- Your authentication code – which identifies you to the Grapevine systems.
- The text of the message that will be sent.
- The MSISDN of the mobile phone to which the message will be sent.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<gviSmsMessage>
    <authenticationCode>{{authenticationCode}}</authenticationCode>
    <recipientList>
        <message>Test: message to one recipient</message>
        <recipient>
            <msisdn>{{testMSISDN1}}</msisdn>
        </recipient>
    </recipientList>
</gviSmsMessage>
```

2.2. Response

The response contains a gviRequestResult XML.

The XML contains two tags:

- Result code
- Result Text

2.2.1. Success

A successful upload results in a result code 0

```xml
<?xml version="1.0" encoding="UTF-8"?>
<gviRequestResult>
    <resultCode>0</resultCode>
    <resultText>Process Successful</resultText>
</gviRequestResult>
```

2.2.2. Authentication Failure

If you fail to include a valid authentication code, the result code will be set to 1

```xml
<?xml version="1.0" encoding="UTF-8"?>
<gviRequestResult>
    <resultCode>1</resultCode>
    <resultText>Invalid Authentication: Failed
Authentication</resultText>
</gviRequestResult>
```

2.2.3. Other Failure Codes

Other failure codes include:

- Result code 2: Data Format error – check the values in XML tags
- Result code 3: General error – check the validity of the XML (this error is commonly caused by leaving out the <xml> tag at the top of the XML>

3 XML Tags

3.1. Root Element <gviSmsMessage> - Required

Root element of the XML document.

3.2. Affiliate Code <affiliateCode> - Optional

Your affiliate code is supplied to you by email when you register for AppLink.

This tag is supported for historical purposes but is not required.

3.3. Authentication Code <authenticationCode> - Required

Your authentication code is supplied to you by email when you register for AppLink. It is how your messages are identified and associated with your account.

You must include the authentication code in every request, otherwise your request will invoke an authentication failure error response.

3.4. Transmission Rules <transmissionRules> - Optional

By default, your messages are processed as soon as Grapevine has processed the POST request.

However, you can also:

- **Transmission Date and Time:** Set the time that the messages should start to be sent. (Note that very large batches of messages may take some time to process, and the actual delivery time is not guaranteed.)
- **Transmission Period:** Limit the transmission time to a specific period (for example, working hours).
- **Validity Period:** Specify how long the mobile operator should continue to try to deliver the message (if for example, the recipients mobile has been switched off).

> **NB:** **if you want to have your messages sent immediately, there is no need to set the transmitDateTime value!**

3.4.1. Transmission Rules – Precedence

Note that Transmission Period has precedence over Transmission Date and Time.

Example:

The transmission rules are set to:

- Transmission Date and Time to 10 June, 2020 at 06h00.
- Transmission Period is set to: 09h00-18h00.

The result will be that the message is sent at 09h00.

3.5. Transmission Rules - Tags

3.5.1. Transmission Start Date and Time <transmitDateTime> - Optional

The value in this tag must be in the format

YYYY-MM-DDThh24:mm:dd

Example:

```
<transmitDateTime>2022-02-09T13:05:00</transmitDateTime>
```

3.5.2. Allowable Transmission Period <transmitPeriod> - Optional

This tag contains two sub-tags that define the start and end times in 24-hour notation.

If the processing of a batch of messages falls outside the Allowable Transmission Time, any remaining messages will be delayed until the next period (i.e. the next day).

Example:

```
<transmitPeriod>
    <startTime>10:15</startTime>
    <endTime>18:30</endTime>
</transmitPeriod>
```

3.5.2.1 Start time <startTime> - Optional

The value in this tag specifies the start time of the transmission period in the format hh:mm

3.5.2.2 End time <endTime> - Optional

The value in this tag specifies the start time of the transmission period in the format hh:mm

3.5.3. Validity Period <validityPeriod> - Optional

The value in this tag sets the maximum number of hours that the mobile provider should continue to try to deliver the message.

If this value is not set, then the default retry rules set by the mobile provider apply. Note that if there is a conflict, the mobile provider's settings will apply.

Example:

```xml
<validityPeriod>10</validityPeriod>
```

3.6. Originator <originator> - Optional

The value in this tag appears in the standard reports and may be used to distinguish between message sent from different users or systems. Commonly used values are email addresses or system names.

See: **4.4 Campaign Name and Originator**

3.7. Campaign Name <gviDatafeedName> - Optional

SMS messages are frequently used in marketing campaigns. This tag can be used to associate messages with a campaign name. The values are shown in standard reporting.

See: **4.4 Campaign Name and Originator**

3.8. Post Back URL <postBackUrl> - Optional

A URL may be specified in the XML to which message receipts and replies will be sent by the Grapevine Messaging Platform.

See: **4.7 Post Back URL**

3.9. Custom Data <customData> – Optional

Custom data tags are used in conjunction with post back URLs and enable receipts and replies to be matched with outgoing messages.

See: **4.8 Post Back URL and Custom Data**

3.10. Submit Date and Time <submitDateTime> - Optional

Legacy – takes the date and time in the format

YYYY-MM-DDThh24:mm:dd

If you want to specify the date and time that you submitted the XML, you can include this tag and it can be referenced later on the Grapevine platform, for example, to compare the timestamp that you set with the date and time recorded by Grapevine when the XML was received.

3.11. Recipient List <recipientList> - Required

See also:

- **4.1 Message to a single recipient**
- **4.2 Single message to multiple recipients**
- **4.3 Multiple recipients with unique message for each**

The recipient list tag contains sub-tags including:

- A message tag <message> - Optional
- A custom data tag <customData> - Optional
- One or more recipient tags <recipient> – Required

3.11.1. Message <message> - Optional

The message tag contains the message to be sent to all the recipients (unless overridden by a message tag in individual recipient tags).

Note that the message is limited to 160 characters unless the concatenated messages facility has been requested for the account. If so, messages are limited to a maximum of 800 characters. Messages in excess of the maximum length are truncated before being sent out.

Note that concatenated messages are charged per 160-character length so an 800 character message is charged at 5 x the individual message rate.

3.11.2.   Custom Data <customData> - Optional

The custom data tag can be used at this level to associate information with the recipient list.

Each Custom Data tag must have one or more sub-tags, for example:

```
<customData>
    <recipientListRef>1</recipientListRef>
</customData>
```

In this example, the user has chosen to name the custom data element "recipientListRef".

See aslo: **4.8 Post Back URL and Custom Data**

3.11.3.   Recipient <recipient> - Required

The recipient tag contains sub-tags including:

- One MSISDN tag <msisdn> – Required
- A message tag <message> - Optional
- A custom data tag <customData> - Optional

3.11.3.1   Message <message> - optional

The message tag at this level overrides any message tags at the Recipient List level.

3.11.3.2   Custom Data <customData> - Optional

The custom data tag can be used at this level to associate information with the recipient

Each Custom Data tag must have one or more sub-tags, for example:

```
<customData>
    <customerRef>1</customerRef>
</customData>
```

In this example, the user has chosen to name the custom data element "CustomerRef".

See also: **4.8 Post Back URL and Custom Data**

3.11.3.3 MSISDN <msisdn> - Required

The MSISDN defines the mobile number to which the message will be sent. The format can be:

- Local, example: 0821234567
- International, example: 27821234567

3.12. Delete Message attribute <deleteMessage> - Optional

By default, message contents are stored with other data on the grapevine platform for the purposes of reporting.

You can, however, specify that the message content be deleted before the rest of the message data is stored, by adding the deleteMessage attribute to the message tag:

```
<message deleteMessage="true">Your secret PIN is 1234.</message>
```

See: **4.9 Delete Message**

4 Examples

Note: in the examples below, double-curly brackets are used to denote where values should be inserted. For example:

```
<msisdn>{{testMSISDN1}}</msisdn>
```

In actual XML, this might appear as:

```
<msisdn>27821234567</msisdn>
```

4.1. Message to a single recipient

```
<?xml version="1.0" encoding="UTF-8"?>

<gviSmsMessage>

    <authenticationCode>{{authenticationCode}}</authenticationCode>

    <recipientList>

        <message>Test: message to one recipient</message>

        <recipient>

            <msisdn>{{testMSISDN1}}</msisdn>

        </recipient>

    </recipientList>

</gviSmsMessage>
```

4.2. Single message to multiple recipients

```
<?xml version="1.0" encoding="UTF-8"?>

<gviSmsMessage>

    <authenticationCode>{{authenticationCode}}</authenticationCode>

    <recipientList>

        <message>This is test message to one recipient</message>

        <recipient>

            <msisdn>{{testMSISDN1}}</msisdn>

        </recipient>

        <recipient>

            <msisdn>{{testMSISDN2}}</msisdn>

        </recipient>

    </recipientList>

</gviSmsMessage>
```

4.3. Multiple recipients with unique message for each

Note that the order of the tags does not matter.

```xml
<recipient>
    <message>Test message to first recipient</message>
    <msisdn>{{testMSISDN1}}</msisdn>
</recipient>
```

Is equivalent to:

```xml
<recipient>
    <msisdn>{{testMSISDN1}}</msisdn>
    <message>Test message to first recipient</message>
</recipient>
```

```xml
<?xml version="1.0" encoding="UTF-8"?>
<gviSmsMessage>
    <authenticationCode>{{authenticationCode}}</authenticationCode>
    <recipientList>
        <recipient>
            <message>Test message to first recipient</message>
            <msisdn>{{testMSISDN1}}</msisdn>
        </recipient>
        <recipient>
            <message>Test message to second recipient</message>
            <msisdn>{{testMSISDN2}}</msisdn>
        </recipient>
    </recipientList>
</gviSmsMessage>
```

4.4. Campaign Name and Originator

```xml
<?xml version="1.0" encoding="UTF-8"?>
<gviSmsMessage>
    <affiliateCode>{{affiliateCode}}</affiliateCode>
    <authenticationCode>{{authenticationCode}}</authenticationCode>
    <originator>test@testing.com</originator>
    <gviDatafeedName>My campaign name</gviDatafeedName>
    <recipientList>
        <message>Test: originator and campaign</message>
        <recipient>
            <msisdn>{{testMSISDN1}}</msisdn>
        </recipient>
    </recipientList>
</gviSmsMessage>
```

Note that the Campaign Name and Originator values appear in the standard reports on the Grapevine Messaging Services Portal.

I You are currently on page 1.

#	Current Status Time:	Campaign Name:	Message ID:	Originator:	Recipient:	Channel:	Status:
1	2022-02-10 18:12:56	My campaign name	57100444163	test@testing.com	27827⏑3	sms	successful
2	2022-02-10 15:16:50	164449900490175340	00490175343	105.186.137.62	27827⏑3	sms	successful
3	2022-02-10 15:15:09	164449890566873865	90566973868	105.186.137.62	27827⏑3	sms	successful

4.5. Transmission Rules

In the example below, note:

The time in the transmitDateTime tag is set to 09h50, but the startTime tag in the transmitPeriod, is set to 10h00.

Because transmitPeriod takes precedence, the message will only be sent at 10h00.

See also: **3.4 Transmission Rules <transmissionRules> - Optional**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<gviSmsMessage>
    <authenticationCode>{{authenticationCode}}</authenticationCode>
    <transmissionRules>
        <transmitDateTime>2022-02-14T09:50:00</transmitDateTime>
        <transmitPeriod>
            <startTime>10:00</startTime>
            <endTime>18:30</endTime>
        </transmitPeriod>
        <validityPeriod>10</validityPeriod>
    </transmissionRules>
    <recipientList>
        <message>Test: transmission rules</message>
        <recipient>
            <msisdn>{{testMSISDN1}}</msisdn>
        </recipient>
    </recipientList>
</gviSmsMessage>
```

4.7. Post Back URL

After sending an HTTP(S) POST request to your post back URL, Grapevine will be expecting HTTP response: 200 [OK]. If other or no response is received from your post back URL, Grapevine will keep retrying every X minutes (user defined) for 24 hours.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<gviSmsMessage>
    <authenticationCode>{{authenticationCode}}</authenticationCode>
    <postBackUrl>{{postBackUrl}}</postBackUrl>
    <recipientList>
        <recipient>
            <message>Test: postBackUrl</message>
            <msisdn>{{testMSISDN1}}</msisdn>
        </recipient>
    </recipientList>
</gviSmsMessage>
```

4.7.1. Message Receipt

The Grapevine Messaging Platform will send a POST request to the specified URL with the following XML containing the delivery status of the message.

In this example, the message was delivered successfully.

The value in the code tag may be:

- 0: Successful
- -1: Failed

```xml
<gviSmsResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <responseDateTime>2022-02-10T18:37:02</responseDateTime>
    <submitDateTime>2022-02-10T18:37:02</submitDateTime>
    <recipient>
        <msisdn>27821234567</msisdn>
    </recipient>
    <responseType>receipt</responseType>
    <status>
        <code>0</code>
        <reason>Message is delivered to destination. stat:DELIVRD</reason>
    </status>
</gviSmsResponse>
```

4.7.2. Reply

If the recipient sends a reply, it too will be forwarded to the Post Back URL:

```xml
<gviSmsResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">

    <responseDateTime>2022-02-10T18:47:26</responseDateTime>

    <recipient>

        <msisdn>27821234567</msisdn>

    </recipient>

    <responseType>reply</responseType>

    <response>Reply to test</response>

</gviSmsResponse>
```

4.8. Post Back URL and Custom Data

Custom Data tags (<customData>) can be placed at several levels within the XML to associate values with:

- The batch as a whole (the Send ID)
- A Recipient List (Recipient List ID)
- An individual message (Customer Reference).

The custom data values are stored on the platform while the messages are processed and are attached to responses and replies.

In this way, custom data tags allow for responses and replies to be matched with the outgoing messages.

An example is shown on the following page.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<gviSmsMessage>
    <authenticationCode>{{authenticationCode}}</authenticationCode>
    <postBackUrl>{{postBackUrl}}</postBackUrl>
    <customData>
        <sendID>1234</sendID>
    </customData>
    <recipientList>
        <customData>
            <recipientListRef>1</recipientListRef>
        </customData>
        <recipient>
            <customData>
                <customerRef>1</customerRef>
            </customData>
            <message>Test 1: postBackUrl and customData</message>
            <msisdn>{{testMSISDN1}}</msisdn>
        </recipient>
    </recipientList>
        <recipientList>
        <customData>
            <recipientList>2</recipientList>
        </customData>
        <recipient>
            <customData>
                <customerRef>1</customerRef>
            </customData>
            <message>Test 2: postBackUrl and customData </message>
            <msisdn>{{testMSISDN1}}</msisdn>
        </recipient>
    </recipientList>
</gviSmsMessage>
```

Note that two response messages are expected (one per message). The example below shows how the three custom data tags are attached to the response and show that this response was for:

- Send ID: 1234
- Recipient List: 1
- Customer Reference: 1

```xml
<gviSmsResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">

    <responseDateTime>2022-02-10T19:37:28</responseDateTime>

    <submitDateTime>2022-02-10T19:37:28</submitDateTime>

    <recipient>

        <msisdn>27821234567</msisdn>

    </recipient>

    <responseType>receipt</responseType>

    <status>

        <code>0</code>

        <reason>Message is delivered to destination.
stat:DELIVRD</reason>

    </status>

    <customData>

        <recipientListRef>1</recipientListRef>

        <customerRef>1</customerRef>

        <sendID>1234</sendID>

    </customData>

</gviSmsResponse>
```

4.9. Delete Message

In the example below, AppLink is used by a bank to send customer's PINs. By using the deleteMessage attribute, the bank ensures that the confidential information is not stored in Grapevine's messaging database.

```xml
<?xml version="1.0" encoding="UTF-8"?>

<gviSmsMessage>

    <authenticationCode>{{authenticationCode}}</authenticationCode>

    <recipientList>

        <message deleteMessage="true">Your secret PIN is
1234.</message>

        <recipient>

            <msisdn>{{testMSISDN1}}</msisdn>

        </recipient>

    </recipientList>

</gviSmsMessage>
```

In the reporting, the message is replaced with "Content deleted", as shown below.

ID:	Originator:	Recipient:	Channel:	Status:	Content:	Reply Count:
649	105.186.137.62	27827C C	sms	successful	Content deleted	0
352	105.186.137.62	27827C C	sms	successful	Test 1: postBackUrl	0