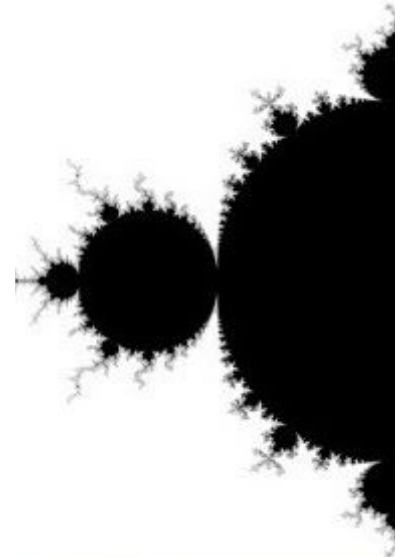


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# How to program your FileMaker solution to send or receive SMS with Twilio's Messaging API



## What's a Twilio?

Twilio is a programmable communications cloud company that offers programmable voice, SMS and a variety of other telecom related services as pay per use APIs. They currently operate in 77 countries and are relied upon by customers like Uber, Lyft and AirBnB.

## Why should I use Twilio?

Twilio's APIs are very easy to use and very, very cheap. Text messaging is \$0.0075 per message. You can send 10,000 messages for \$75. You can also easily integrate it into FileMaker so you can send thousands of messages that are personalized to your customers, which is a big value to your clients. The great part about personal messages is that they make your customer feel like someone took the time to send a real message with their thumbs. Here's an example. I put items items that you'd substitute in from your CRM in italics.

"Hi *Mrs. Maisel*, this is *Zelda* from Home Care Pros. I noticed that you haven't scheduled a service in a *few months* and wanted to let you know that we miss your business. Here's a coupon code for *\$20 off*, available for any one service over *\$100 good until Saturday, February 17th: #MaiselZZ83N*. You can use it over the phone at 312.778.8787 or if you'd rather use our online portal, you can log in and apply your coupon automatically at: <http://www.homecarepros.com/schedule/MaiselZZ83N>. Have a beautiful day!"

Customers **REALLY** prefer to know that even if they are getting a batch message that it is from a company they've done business with, not just someone sending the same message to every phone number randomly.

If you're really, really good at Twilio (like the guy at [mandelbrotllc.com](http://mandelbrotllc.com)) you can do other cool stuff like:  
Get the phone number in the above message to ring back to Zelda's desk phone  
Have the call hit her cell if she is away from her desk  
Record the conversation into a wav or mp3 file  
Move that file into a container field or to AWS  
Transcribe the recording with channel based speaker identification  
Return the transcription back to FileMaker or process it through and ML model like AWS SageMaker  
Use that ML model to assign Zelda a set of scores on how well she handled the call or pick out keywords  
Use Twilio to send a text message to Zelda and her manager with her scores/keywords once they're available

## What if I just want to send out messages without reading the replies?

Use the Insert From URL Script Step.

For this example I've saved the Twilio credentials as custom functions (AcctSID and AuthToken).

[https://fmhelp.filemaker.com/help/14/fmp/en/html/fmpa\\_custom.24.5.html](https://fmhelp.filemaker.com/help/14/fmp/en/html/fmpa_custom.24.5.html)

For ALL Twilio API calls, your phone numbers need to be in e164 format (i.e. +13127788787) and the from number must either:

- A) owned by you through a \$1/mo Twilio purchase
- B) verified as owned by you via a text message or phone call (read their docs for details).

The parameters for an Insert from URL call to the Twilio Messaging API are as follows:

URL:

```
"https://api.twilio.com/2010-04-01/Accounts/" & AcctSID & "/Messages"
```

cURL:

```
"  
-H POST  
-u \"\" & AcctSID & ":" & AuthToken & "\"  
-d \"Body=\" & $body & "\"  
-d \"To=\" & $to & "\"  
-d \"From=\" & $from & "\"  
"
```

It should look something like this in your script.

```
5 # Build variables  
6 Set Variable [$url;  
  Value: "https://api.twilio.com/2010-04-01/Accounts/" & AcctSID & "/Messages"]  
7 Set Variable [$from; Value: JSONGetElement ( Get ( ScriptParameter ) ; "from" )]  
8 Set Variable [$to; Value: JSONGetElement ( Get ( ScriptParameter ) ; "to" )]  
9 Set Variable [$body; Value: JSONGetElement ( Get ( ScriptParameter ) ; "body" )]  
10 Set Variable [$curl;  
  Value: " -H POST -u \"\" & AcctSID & ":" & AuthToken & "\" -d \"Body=\" & $body & "\" ]  
11
```

**NOTE THAT LINES 7 THRU 9 ARE USING JSONGETELEMENT, AS THIS SCRIPT REQUIRES A JSON PARAMETER. IF YOU DON'T KNOW WHAT THAT IS, JUST USE PLAIN OLD VARIABLES. IT'S NOT AS ELEGANT BUT IT'S JUST FINE FOR BEGINNERS.**

```
19 # send message  
20 Insert from URL [Select; With dialog:Off; Target:$result; $url;  
  Verify SSL Certificates; cURL options:$curl]
```

## I've started sending outbound messages but I keep getting emails from Twilio about errors. What's going on?

If you're able to send a message to your own personal cell phone cleanly but you get errors when you send messages to the phone numbers on your client records, the most common reason is that the destination phone is a land line. Not only is this annoying for your email inbox, but Twilio did their part and sent the message so you'll still be charged.

There are two ways to avoid this problem: A) verify that the phone numbers are cell phones before sending your message or B) trap for the errors when you send them by pausing and polling the Twilio API for delivery status. The cURL options and URL you need for either of the two methods are on Twilio's website in this really awesome tool called the API Explorer (links below). If either of these API calls sound hard to write, just call me and I'll help you. I'm really quite reasonable compared to the time it would take you.

<https://www.twilio.com/console/api-explorer/sms>.

If you're planning on sending messages one at a time (like with a button on a layout for each client), then trap for errors after each message is sent. In your Insert from URL Script Step as written above, you'll notice the Target of the last script step is set as \$result. Inside that \$result variable, you should find a status in the JSON returned from Twilio. Write your outbound script to parse the JSON, then check if the status comes up as anything other than "delivered." Most of the results will show "queued" at first. Pause 2 seconds to give Twilio time to deliver the SMS, then use a separate, differently written Insert from URL script step aimed at the URL based on the SID returned to check the status a second time. If it isn't delivered by now, your script should show a custom dialog that prompts the user that the destination likely is not a cell phone and asks if they want to wait for delivery confirmation, then loops back and tries to verify delivery again.

<https://www.twilio.com/console/api-explorer/lookup/lookup-phone-numbers>

If you're planning on sending more than one message at a time, then write a different script to use Twilio's Lookup API to get the cell carrier / type of phone for each destination number, then only send messages to the ones that come back as cell phones. In other words, use Twilio to comb out all the land lines BEFORE you text.

## How do I get the inbound responses from my messages?

Customers also really don't like it when they can't respond. Some studies suggest that ¾ of consumers are put off by messages without the ability to text back, even if it is a simple "say yes/no" type response. Integrating these responses back to your FileMaker solution can be done, it just has to be done the right way.

My shortest answer is this: **If your only FileMaker server is a hardware device inside your building then you're missing out on what makes FileMaker great.** Please, stop reading this and join us in the present. You don't have to use Claris's FileMaker Cloud products or put your whole solution on the cloud if you don't want to but you do need a server on ANY cloud. Period. If you'd like me to stand up an AWS EC2 cloud server for your FileMaker solution, I'll save you the headache of a lifetime and a ton of money. I'm really, really good at it and I'm affordable. Look me up here: <https://mandelbrotllc.com/filemaker-hosting/>

For those of you who are already on the cloud, thank you for staying current. Your easiest route for getting responses is this: Spend some money on Mandelbrot SMS and a custom integration. The messaging client is a simple drop in database file - you throw your Twilio account credentials into a pair of custom functions once

your MandelbrotSMS.fmp12 file is hosted on your cloud server, then click a few times to reserve a local phone number for \$1/month and you'll be ready to both send AND receive messages. Again, not nearly as expensive as figuring it out yourself.

Check out the 4 minute video tour of Mandelbrot SMS here: <https://www.youtube.com/watch?v=geZJOUZt9Yk>

If still want to write your own inbound messaging client, here's the shortest path to conversational inbound messaging:

Make sure your Cloud server has perfect DNS resolution

Write an AWS Lambda function (probably in JavaScript)

Connect your Lambda function to AWS API Gateway so it can be triggered

Point your Twilio inbound number's URL at the API Gateway's URL

Create a Data API account in your FileMaker solution

Edit the environment variables of your Lambda function to match

Install FMS 17+ if you haven't already

Turn on the Data API in Admin console

Write a dozen scripts and create a half dozen new layouts

Figure out how to get a portal to show a new record without switching layouts

Figure out how to get a listview to show a new record without switching layouts

If that list sounds too easy for you, then call me - at the very least I'd like to know that you exist as a peer. If the above list reads like a foreign language then just spend a little cash instead of spending 3 months trying to figure it out. I guarantee 100% satisfaction or your money back.

Mandelbrot SMS product page:

<https://mandelbrotlc.com/products/sms/>

And one last item:

If you found any of this information at all helpful and want to send me \$10 without it needing to be **your** \$10, then use my referral link to to sign up for Twilio and we BOTH get \$10.

Sign up for a free Twilio account HERE: [www.twilio.com/referral/rLEJsS](http://www.twilio.com/referral/rLEJsS)

Happy Texting!

Sully

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