

Integrating Visual FoxPro and MailChimp – Part 5

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We've all written our own email applications. I finally decided to use an outside service to handle my emailing needs. Here's how I used VFP to integrate with the mailing service.

A mailing list doesn't do you much good unless you use it to contact the people on it. In this article, we're going to discuss MailChimp's "campaigns", the process by which you send bulk email to your list.

First, we'll describe what the user sees during a campaign, so that we have a goal in our mind. Next, we'll walk through the steps that a developer goes through to manage a campaign, from creating the original email to handling responses. Finally, we'll automate those steps. (If we have space, we'll discuss what to do once a campaign has been sent and the responses managed. Otherwise, we'll do that next time.)

Introductory Notes

Before we start, I should mention that the MailChimp interface has changed a bit since the last article. The inscrutable icons down the left side have been replaced by real live words across the top, you know, like we used to do in FoxPro 2.0 in 1992. Clicking on the "Lists" menu pad displays all lists for your account, as shown in Figure 1.

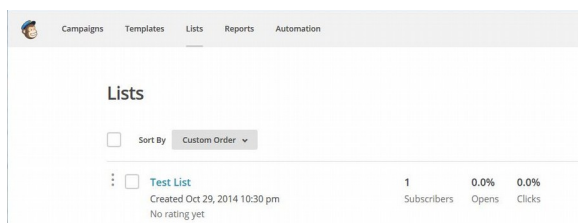


Figure 1. The new MailChimp menu.

Let's start out by assuming we've got a target list, appropriately named 'Test List'. Clicking on the list name opens the list of subscribers, as shown in Figure 2.

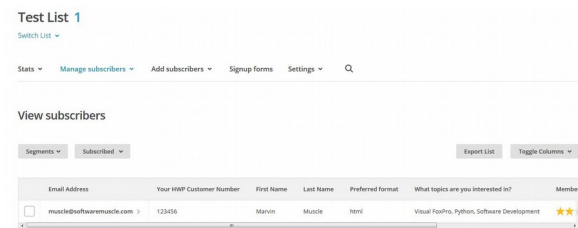


Figure 2. The mailing list we'll use for our campaign.

The number '1' in blue after the list name at the very top is the number of subscribers, by the way, not part of the list name.

You'll see we have one name on this list, an interested fellow by the name of Marvin Muscle, obviously president and founder of the multinational conglomerate, Software Muscle.

I should mention that you should have a test dataset yourself. You don't have to go through the whole process of creating a subscription form and then do the double opt-in business I described in earlier articles. Instead, you can use the „Import from Excel“ mechanism on the Lists page to cut and paste a couple of sample addresses that you can mail to.

What the User Sees

We want to send Marvin a mailing touting our latest book. For the first example, we'll assume that we're going to send the same email to everyone on the list. Later, we'll get more sophisticated.

So one day he gets an email from us that looks like that shown in Figure 3.

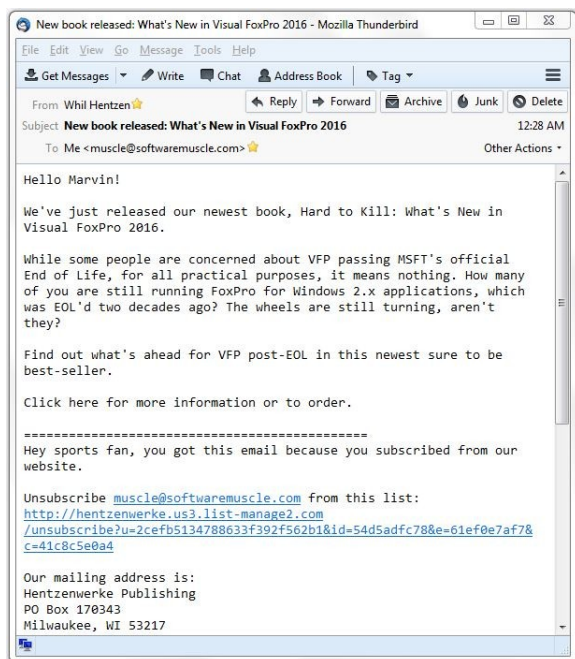


Figure 3. The email that the subscriber sees.

This email contains all of the information you need. The top half, of course, is the interesting stuff. This example doesn't actually show a hyperlink in the message to 'click here' but that's because this book doesn't really exist. Yet.

Under the double dotted line is the uninteresting but important stuff - why the reader is getting this message, how to unsubscribe, and contact information of the sender. If you want to be a good bulk email citizen, you need to include all this.

And that's it. Marvin can read and click through to do whatever he wants, all in this one message. Simple.

Now let's look at what went on behind the scenes to cause this to happen.

What the Developer Does

The first step is to create a campaign. Click on the "Campaign" menu pad at the top of the page to display the "You don't have any campaigns yet" page, as shown in Figure 4.

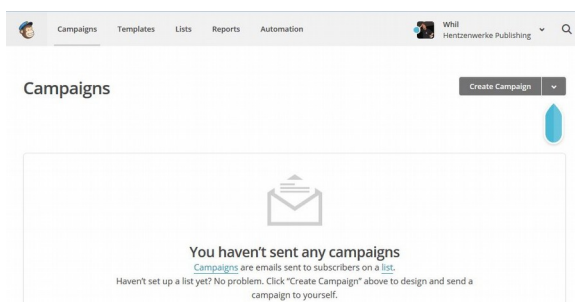


Figure 4. Starting out your first campaign.

At the upper right, you'll see a drop down menu that offers various choices for the type of

campaign. Click on the arrow to display the full list, as shown in Figure 5.

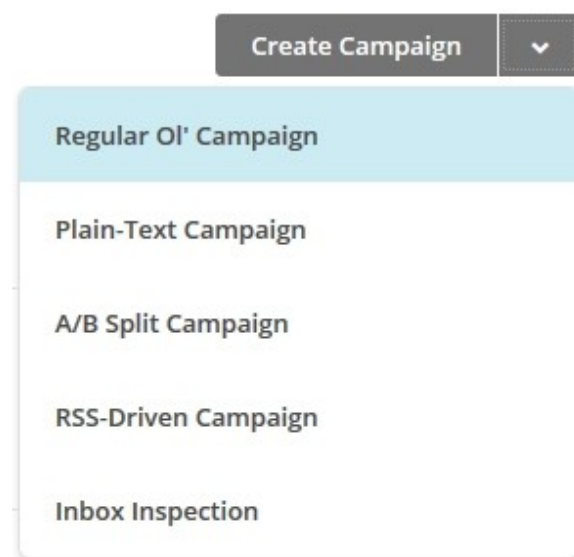


Figure 5. Types of campaigns.

The first two, Regular Ol' Campaign and Plain-Text Campaign, simply send out email messages. The first is an HTML email, complete with images and pretty formatting. The second, as you may have surmised, is just plain text. We'll sent out a Plain-Text campaign in a minute. It's worth discussing the last three options, though.

The "A/B Split Campaigns" option allow you to create a campaign with features that are sent to only part of a list. You can test more than on e feature within a single mailing to determine which works better, useful if you're going to mail to a large list after doing your test. This option is only available after you've sent a few vanilla campaigns and have become familiar with how MailChimp's campaigns work.

The "RSS Feed and Send Timing" option allows you to automatically send blog posts to your mailing list. You can specify to only send if there's new content, and to only send on specific days.

The last option, "Test Your Email With Inbox Inspection", doesn't actually send email at all. Instead, it will format a mailing for your campaign for a variety of email clients so that you can see how your message looks in Outlook, Thunderbird, Gmail, etc. It is only for testing - it doesn't actually *send* a single message.

Once you've selected the type of campaign, you'll be asked to select the list you want to send it to, as shown in Figure 6, which shows the first of many lists in this account.

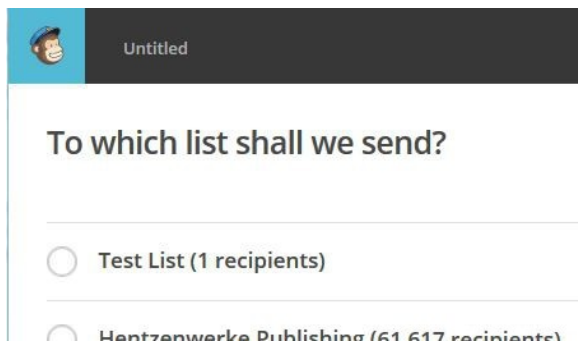


Figure 6. Choosing a list to send to.

Before we continue, notice the progress menu at the bottom of the page, as shown in Figure 7.



Figure 7. The Plain-Text progress menu.

You can tell where you are in the process of creating a campaign via the highlighted link in the progress menu.

Now back to creating a campaign.

Once you select a list, you can choose whether you want to send to the whole list or just a segment of the list, as shown in Figure 8.

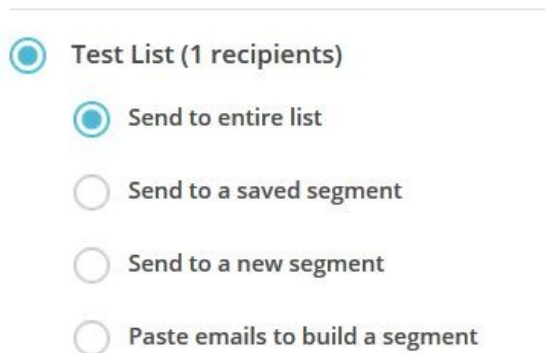


Figure 8. Choosing how much of a list to send to.

If you choose one of the segment options, you'll be prompted to choose criteria that identify the segment, as shown in Figure 9.



Figure 9. Designing criteria for a segment.

For the time being, we'll choose the entire list. Click the "Next" link on the right side of the progress menu at the bottom of the page to continue.

A campaign mailing includes several components: Campaign info, tracking, social

media and miscellaneous options, as shown in Figures 10, 11 and 12.

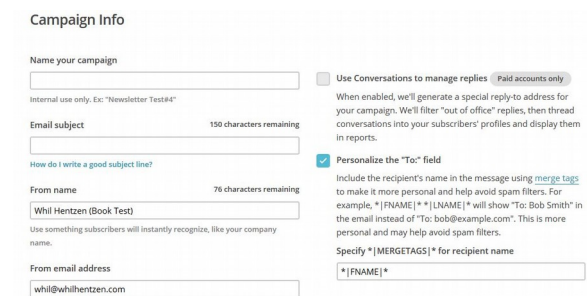


Figure 10. Campaign info.

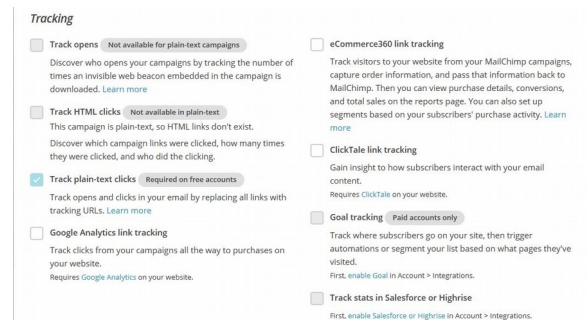


Figure 11. Tracking info.

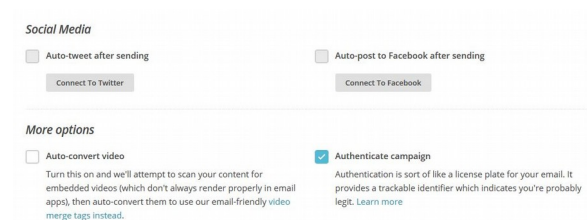


Figure 12. Social media and miscellaneous options.

For the purpose of this first campaign, we'll just use the defaults, creating an internal name for the campaign, a subject line for the mailing, and a custom "From name", and leaving the rest of the options set as they are. Finally, click "Next" to open the Plan-Text page, as shown in Figure 13.

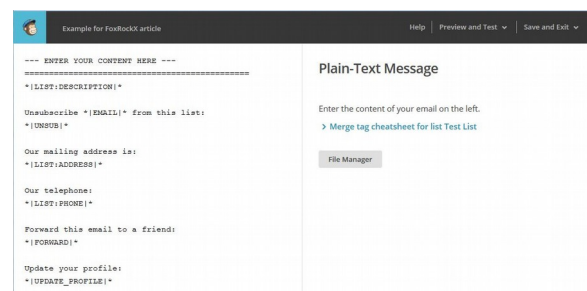


Figure 13. Plain Text message content page.

If you click on the "Merge tag cheatsheet" link on the right side of the page, a list with a wide variety of merge tags displays, as shown in Figure 14.

Figure 14. Merge tags cheat sheet.

Note two things: First, this list includes both the custom fields you defined for your subscriber table as well as standard tags that MailChimp automatically provides. Second, note that it's a scrolling list; be sure not to miss tags hidden from view. There's lots of them!

Back to the left side of the page.

The text of your email message will go above the double line, and can include both standard text as well as customized content, using the merge tags listed on the right.

Below the double line is a default email footer. The List Description tells the reader why they are getting this email, and is pulled from the description of the list in your account.

The next three items, the unsub link, the mailing address, and the telephone number are all there per bulk email standards. If you don't include these items, your email doesn't conform to CAN-SPAM requirements and will raise the likelihood of your email being marked as spam.

The last two items, forward and update, aren't strictly required, but are useful to include, as you can imagine. Your choice.

Replace the "--- ENTER YOUR CONTENT HERE ---" string with the content you want displayed in the message. Use the merge tags as desired. See Figure 15 for an example.

Figure 15. Sample plain-text email.

Once you've entered your text, click Next to move to the Confirm page, as shown in Figure 16.

Figure 16. Settings verification page.

You have the option here to review your options and make changes as desired. When done, you can preview and send your mailing via the Preview options in the drop down menu in the upper right corner, as shown in Figure 17.

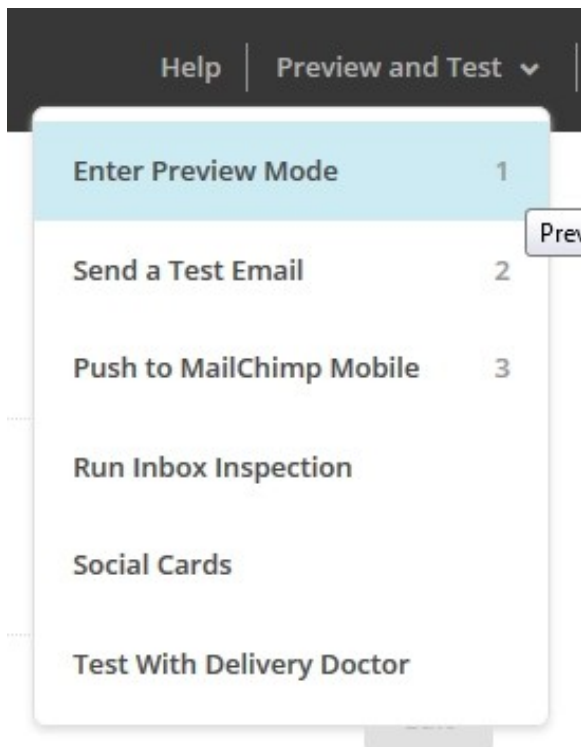


Figure 17. Preview menu options.

Executing the first option, "Enter Preview Mode", displays what the plain-text email will look like, as shown in Figure 18.

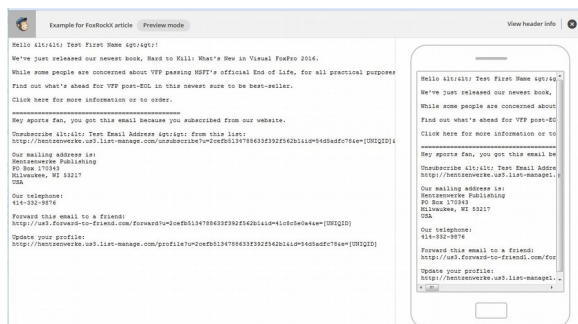


Figure 18. Preview mode for plain-text.

Note that the information from your account is inserted in the email footer even for this preview, but that individual subscriber info is not.

Once you've verified what the email looks like, and you're happy with it, click the black (X) in the upper right to return to the Confirm page (from Figure 16.)

You can send a test email to an address of your choosing (not to the names in the list for this campaign), via the second option in the Preview options menu. Select "Send a Test Email" menu option to open the Send a Test form, shown in Figure 19.

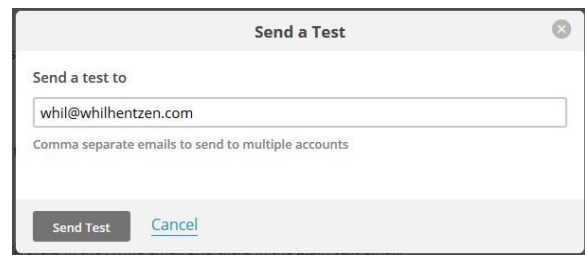


Figure 19. Test email submission.

Enter a test address and click the "Send Test" button to send the email to just that address. Once sent, MailChimp will provide a confirmation and some helpful advice if your test email address is the same as the contact address for your account, as shown in Figure 20.

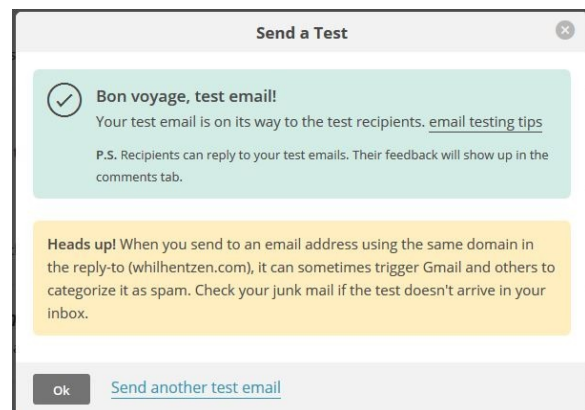


Figure 20. Test email confirmation.

Click OK to bring forward the sending page. Before we continue, though, let's see what actually happened. The resulting email received in Thunderbird is shown in Figure 21.

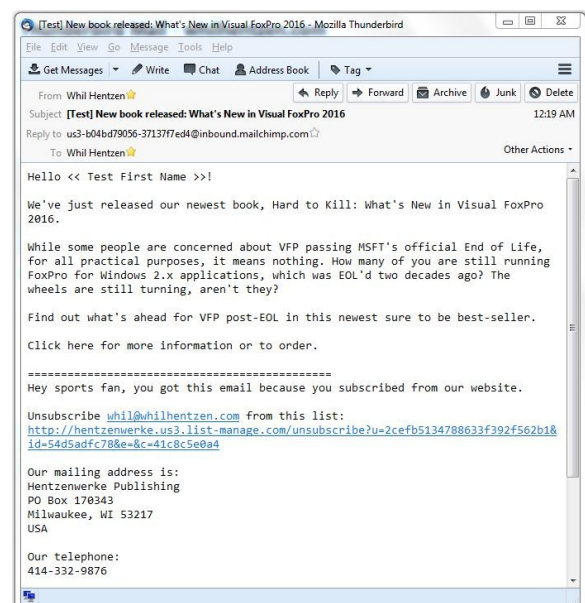


Figure 21. The resulting plain-text email..

Note that the merge tag for first name isn't populated in this test - that's because we're just

sending the email to the test address, and there's no personal information available for that address. However, the information from your MailChimp account, such as mailing address and phone number, is included in the header.

Now you're ready to actually send your campaign. You can either send it NOW, or schedule it be sent at a specified time. Click the "Schedule" option to bring forward the "Set up your schedule" page as shown in Figure 22.

Set up your schedule

Delivery date
February 10 2015

Delivery time
☒ Send at a specific time
12 : 00 AM Central Time - [Edit](#)

Batch delivery **Paid Feature**
Deliver your campaign to a large list in batches to prevent website-crushing click floods.
☐ Send in 2 batches of subscribers 5 minutes apart

☐ Send with Timewarp **Paid Feature**
Deliver your campaign according to the recipient's timezone.
[Upgrade](#)

☐ Let MailChimp optimize time for maximum engagement **Paid Feature**

[Schedule Campaign](#) [Cancel](#)

Figure 22. Scheduling a campaign.

You can specify a time to send, or, if you've got a paid account, you have additional options available to you. Else, simply click "Send" in the previous page, and you'll be asked to confirm the execution of your campaign as shown in Figure 23.

Prepare for launch

You're about to send a campaign to:
Test List
1 subscribers

[Send Now](#) [Cancel](#)

This is your moment of glory.

Figure 23. Confirming to send a campaign.

Click "Send" and your campaign will be sent to your list. You'll get a confirmation page, as shown in Figure 24.



High Fives!

Your campaign is in the send queue and will go out shortly.

Test List sent to 1 subscriber.

[Track Performance in Reports](#)

Figure 24. Confirmation that a campaign was sent.

Now the fun part begins. If you want to see how the mailing did (and who wouldn't?), click the Performance Reports button or select Reports from the main Mail Chimp menu to bring forward the Reports page, as shown in Figure 25.

Reports			
Campaigns Automation Inbox Inspections			
<input type="checkbox"/>	Folders	Filter	
<input type="checkbox"/>	Example for FoxRockX article	1	0.0% 0.0%
	Plain-Text • Test List	Subscribers	Opens Clicks
	Sent on Tue, Feb 10, 2015 12:27 am		

Figure 25. Statistics on the Reports page.

Obviously, with one subscriber, the stats aren't very interesting. Furthermore, since it was a plain-text email, there aren't any mechanisms to track if and when the message opened. With HTML messages, MailChimp includes a tiny 'web-beacon' that is activated when the message is opened, sending a "this email was opened" message back to MailChimp.

HTML messages

So as we've seen, while a plain-text message is easy to send out, it provides virtually no useful

information in terms of reporting. HTML messages are way better.

If you select "Regular Ol' Campaign" (see Figure 5 earlier), you'll then be asked to choose a list (Figure 6) just like with Plain-Text. Then the process starts to diverge.

As soon as you choose a list, you'll see that the steps listed in the progress menu at the bottom of the page are different. See Figure 26.

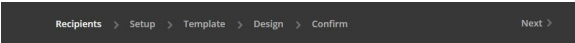


Figure 26. The HTML text progress menu.

Next, you'll have the opportunity to choose a list segment (Figures 8 and 9) and enter campaign info, as was possible with Plain-Text (Figures 10, 11 and 12.)

The second difference appears on page with the campaign tracking options, as shown in Figure 27.

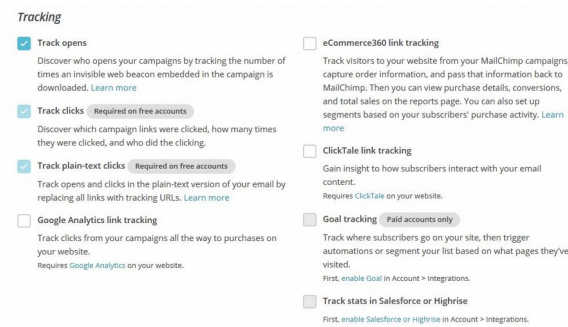


Figure 27. HTML campaign tracking options.

You can include an invisible web beacon in the email message that tracks when a message is opened. You can also track which campaign links were clicked and by who.

The third difference, and the most onerous (or filled with opportunity, depending on your perspective), is to design your email. An HTML message is essentially a web page, with images, fonts, columns, and other visual elements. MailChimp has done their best to provide a plethora of options. If it sounds like I'm complaining, it's just that the plethora is so rich that it can be daunting for first time users.

You can choose a basic layout (Figure 28), select one of many themes, previously designed templates and campaigns, and even create your own. Once you choose the layout or template, you then move into designing the web page, er, I mean, message body.

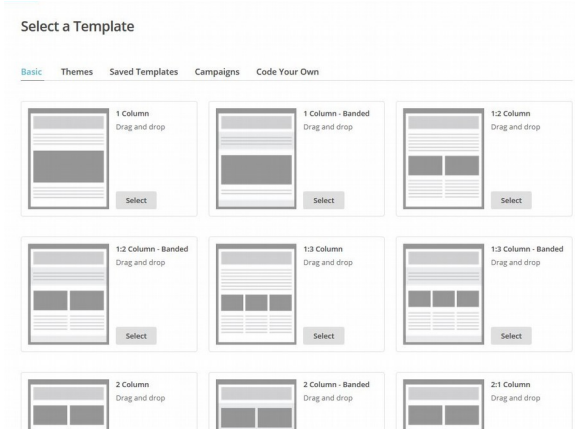


Figure 28. Basic layouts.

See Figure 29 for an example of the message body layout.

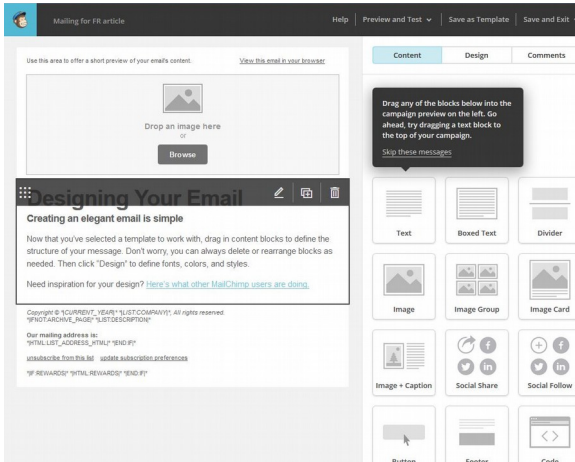


Figure 29. Designing an HTML message.

Describing how to use all the options is beyond the scope (or need) of this article. Suffice it to say that once designed, you'll end up able to use the "Preview and Test" menu at the top of the page, as with Plain-Text messages.

How to Automate a Campaign

Now that we're familiar with what a campaign looks like from the point of view of a subscriber, and the steps involved in creating a campaign, let's look at how to automate the sending of a campaign from Visual FoxPro.

Campaign Functions

First, let's look at the various things you can do with a campaign. Here is a list of the more useful functions, sorted in order that you'd likely use them.

Table 1. Useful Campaign Functions

Function	Description
list	Retrieve a list of all the campaigns associated with a list.

content	Get the content (both html and text) for a campaign either as it would appear in the campaign archive or as the raw, original content.
create	Create a new draft campaign to send.
ready	Returns information on whether a campaign is ready to send and possible issues we may have detected with it - very similar to the confirmation step in the app.
send-test	Send a test of this campaign to the provided email addresses.
send	Send a given campaign immediately. For RSS campaigns, this will "start" them.
schedule batch	Schedule a campaign to be sent in batches sometime in the future. Only valid for "regular" campaigns.
schedule	Schedule a campaign to be sent in the future.
pause, resume	Pauses and resumes sending an AutoResponder or RSS campaign.
segment-test	Allows one to test their segmentation rules before creating a campaign using them.

This isn't a complete list of campaign-related functions, just the most useful ones.

Campaign API syntax

The syntax for an API call to the campaign functions is a little different than that used in API calls we've discussed in previous articles.

We've learned that the basic URL formation for a call to the MailChimp API looks like this:

```
lcAction = 'list'
lcDC = 'us3'
lcAPIKey = 'your_secret_apikey'
lcListID = 'your_scret_listid'
lcURL ;
= "https://" ;
+ lcDC ;
+ ".api.mailchimp.com/2.0/lists/" ;
+ lcMethod ;
+ "?apikey=" ;
+ lcAPIKey + "-" + lcDC ;
+ "&id=" + lcListID
```

where we can sub in a DC (data center), a method, an api key (specific to your account) and an id (specific to the list you're working with.)

However, that syntax was specifically for list-related functions. For campaigns, we need to replace the string 'lists' with 'campaigns', and remove the list ID parm from the generic construct, because not all campaign functions need a list ID. Most, rather, need a campaign ID (and a campaign is tied to the list ID, so you don't

need to provide the list ID as well.) The result looks like this:

```
lcURL ;
= "https://" ;
+ lcDC ;
+ ".api.mailchimp.com/2.0/campaigns/" ;
+ lcMethod ;
+ "?apikey=" ;
+ lcAPIKey + "-" + lcDC
```

where we assigned one of the functions to the lcMethod variable (as we did with lists) and values to any other needed parms in a preliminary CASE statement like so:

```
do case
case lcAction = 'list'
case lcAction = 'ready'
case lcAction = 'send-test'
case lcAction = 'send'
otherwise
endcase
```

After assembling the basic construct, we'll process a second CASE structure that adds key-value pairs to the URL string. Examples of these will be given in each example following.

Once the URL has been set up, initialize the West Wind Internet Protocols and make the call to HTTPGet(). The return value is stuffed into luResult.

```
do wwclient
do wwhttp
o=createobject('wwHTTP')
m.liText = 0
m.lcStringReceived = ''
m.luResult = ''
m.lcErrorMsg = ''
m.luResult=o.HTTPGet(lcURL,
@m.lcStringReceived, @m.liText)
```

That's the easy part. The tricky part will be to process the result string, and that string varies according to the function being called. Let's look at some examples.

Retrieving a List of Campaigns

The list() function simply needs a list id in order to return a string of campaigns. You can pass additional filter parms so as to return just a subset of campaigns.

```
case lcAction = 'list'
lcMethod = 'list'
lcListID = 'your_secret_listid'
```

The list ID parm needs to be added to the URL string:

```
case lcAction = 'list'
lcURL ;
= lcURL ;
+ "&id=" + lcListID
```


One common reason for grabbing the list of campaigns is to determine the id for the campaign. The result string is a series of tuples formatted like this:

```
{ "total": 2, "data": [
  { "id": "33r8w7i9q4", more key-value pairs for
    list 1 },
  { "id": "33z8u7r9a5", more key-value pairs for
    list 2 },
  etc.
], "errors": [] }
```

Thus, in order to determine the campaign id for campaign N, just look for left brace N+1, and grab the next key-value pair. I'm using 'luR' instead of 'luResult' so that the lines of code will fit.)

```
liNumCampaigns = substr(lur, at('total':,
lur)+7, at('data', lur) - (at('total':,
lur)+7))
```

Get the campaign id for campaign N

```
n=1
lcCampaignID = substr(lur, at('"id":', lur,
n)+6, 10)
```

Get the title for campaign N

```
n=1
lcTitle = substr(lur, at('"title":', lur, n)
+9, at('"type":', lur, n) - (at('"title":',
lur, n)+9) )
```

Create a new draft campaign to send.

The create() function is complex, involving a wide variety of data types, some of which can be fairly intricate. Given the length of this article, we'll postpone this until a future article. You will likely want to practice creating some campaigns manually for a while anyway.

Verifying a Campaign can be Sent

Once a campaign has been created, it stays in limbo, waiting for instructions to be sent.

To check on its status, pass the method of 'ready' and the ID of the campaign in question.

```
case lcAction = 'ready'
  lcMethod = 'ready'
  lcCampaignID = '3856d1b3ba'
case lcMethod = 'ready'
```

```
lcURL ;
= lcURL ;
+ "&id=" + lcListID ;
+ "&cid=" + lcCampaignID
```

The return value is a string that includes the following key-value pair:

```
"is_ready":true
```

or

```
"is_ready":false
```

and then the contents of each item in the campaign, such as Subject Line, Replies, and so on. In the event of an is_ready value of false, the contents of the items can give you a clue as to why the campaign isn't ready, such as

```
"Email Content", "details": "This campaign does
not have any content yet."
```

Sending a Test of This Campaign

The send-test method requires a third parameter, in addition to the apikey and the campaign id - an array of email addresses to be emailed to. First, set the parameters:

```
case lcAction = 'send-test'
  lcMethod = 'send-test'
  lcCampaignID = '3856d1b3ba'
  lcEmail = 'bob@example.com'
```

Then construct the URL to include the parms:

```
case lcAction = 'send-test'
  lcURL ;
= lcURL ;
+ "&cid=" + lcCampaignID ;
+ "&batch[0][test-emails]=" + lcEmail
```

Sending the Campaign

Sending is easier than testing the send, because you don't have to pass an array of test email addresses.

First, set the parameters:

```
case lcAction = 'send'
  lcMethod = 'send-test'
  lcCampaignID = '3856d1b3ba'
```

Then construct the URL to include the parms:

```
case lcAction = 'send'
  lcURL ;
= lcURL ;
+ "&cid=" + lcCampaignID
```

Theoretically, both of the send functions simply return success or failure, but in practice, the return value will always be true as errors will be thrown otherwise.

Source Code Notes

The source code for this article is found in the subscriber downloads. It again consists of a single PRG that contains a DO CASE construct for each of the various methods discussed, and a variable that causes the appropriate CASE clause to be fired.

It then provides a third CASE construct to handles the return value.

To try it out, change the variables at the top of the PRG, controlling the server parms and which action you want to perform.

Author Profile

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