# Overview

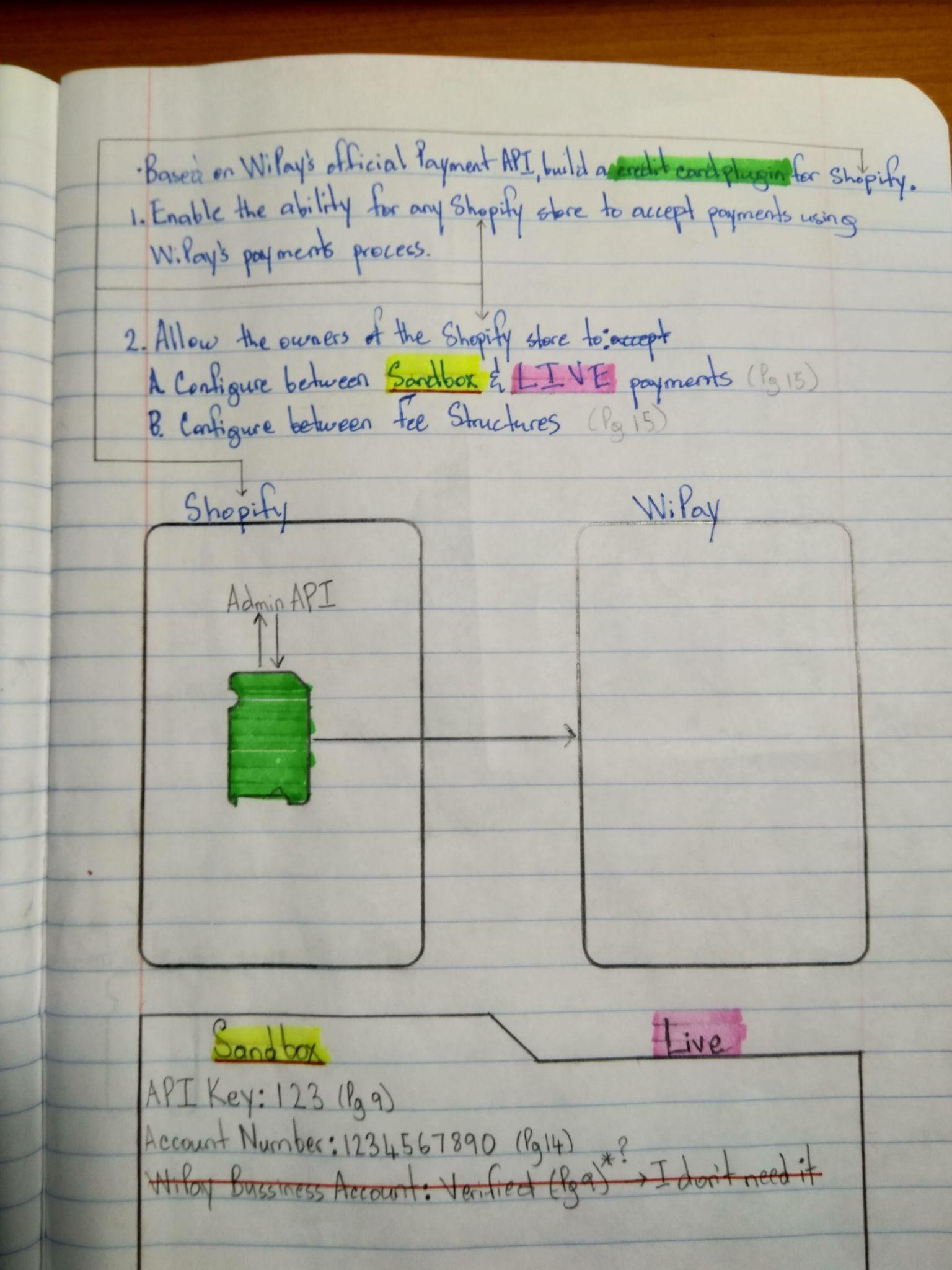
This document serves as a review and report on the Shopify Wipay Credit Card Plugin. The most difficult part of this plugin was understanding and setting up the Shopify API. The configurations of the different options to be used in the WiPay API was easier to do. I found that YouTube tutorials were easy to use and digest as compared to the official documentation.

The following are the YouTube videos I used and referenced:

* Part 1 - Shopify App Development - Introduction to Building Shopify Apps from Scratch Using PHP (Weekly How, 2019)
* Part 5 - Shopify App Development - How To Save Access Token and Shopify Store URL in MySQL Database (Weekly How, 2019)
* How To Create Shopify Webhooks w/ Shopify Apps (Weekly How, 2021)

As highlighted in one of the YouTube videos ([Weekly How, 2019](https://www.youtube.com/watch?v=tX1E8fuesSE&list=PL-k7XHuPgeIsv2Q6QtJR__h3kkpmqNpH0&index=1)) above, you need a developer account to create an app such as the one I made. You can access/create an account through one of the two links:

* <https://www.shopify.com/partners>
* <https://shopify.dev/>



*The pg refers to the pages in the WiPay documentation*

# Webhook Issue/Problem

During development, I encountered an issue with the webhooks. The issue was the following:

**To resolve multiple firing/triggering of the shopify webhook and the corresponding multiple inserts into the table.**

It triggers multiple times for each of the following events/button selections:

* Buy it now button
* Information button
* Shipping button
* Payment button (both for the processing url and the thank you url)

In an attempt to resolve this issue, I had a file created for each one of the events/button selections and saved the data from Shopify to it. After observing the four files (each one downloaded after each event/button selection highlighted above) I noticed a difference in the size/number of lines in each json file. They are as follows:

* 1st file - 80 lines of json
* 2nd file - 160 lines of json
* 3rd file - 188 lines of json
* 4th file has 206 lines of json.

The 4th file has information and or key value pairs that the other files don’t have which include the following:

* completed\_at
* gateway
* Billing\_address.

The four files seem to be generated in line with each of the events/button selections mentioned above. Also, the email key value pair is empty in the 1st file but has a value from the 2nd to 4th file which coincides with the fact that the second event/button selection relates to information which includes an email input field.

You can view the JSON files here: <https://drive.google.com/drive/folders/10VuvS3WEH1T9d16yWV1FHc3zncK2LubN?usp=sharing>

Also, I tried several of the webhooks that Shopify offers but I'm getting a similar outcome whether I use orders/create, orders/paid or checkout/updates.

The similarities between the JSON files includes the following:

* All 4 files have the same token: "token": "687c39efb3ead129fe2187b00a2cb34f"
* All 4 files have the same id: "id": 29179716305154
* All 4 files have the same key: "key": "b75343b5480dfb5b17cd25dc7a0c692a"

I remained stuck on this issue for a while and I encountered a service that deals with webhooks during the reading/research on how to resolve this. The name of the service is [hookdeck](https://hookdeck.com/). I reached out to their customer service and described my issue and I began a conversation with one of their engineers/customer service representatives. It is through that back and forth that the [hookdeck](https://hookdeck.com/) engineer suggested something that I overlooked and eventually tried. He suggested the following:

*Oh I see, changing the topic doesn't return the new topic in the data?*

*As per the documentation you can't update the topic, you need to delete and create a new one* [*https://shopify.dev/api/admin-rest/2021-10/resources/webhook#[put]/admin/api/2021-10/webhooks/{webhook\_id}.json*](https://shopify.dev/api/admin-rest/2021-10/resources/webhook#%5Bput%5D/admin/api/2021-10/webhooks/%7Bwebhook_id%7D.json)

*Oups actually I misread the documentation that's not true*

After re-reading the link he provided I went specifically to the webhook endpoint that shows a list of all webhooks. After successfully getting that webhook endpoint to work it's interesting to note how many I have and that can be found in the attached document. I began to wonder if that’s why I had the issue of the multiple triggering/firing of the webhook. You can view the file that shows all the webhooks I had registered/created [here](https://drive.google.com/file/d/1toMhs7FqDFtboDWrTn0kXZswSJ1BQS68/view?usp=sharing). So maybe I had too many registered so I decided to start off with a clean slate and utilized the webhook endpoint that deletes webhooks. I had to delete them one by one since the API documents don't seem to allow me to delete everything at once which doesn't make sense to me. If you can use a webhook to generate a list of all webhooks I don’t why you shouldn’t be allowed to delete the entirety of that list in one go.

Interestingly, I no longer see a JSON file created when I click the "Buy it now" and the other buttons which leads to the final result of purchasing an item. It suggests that the reason why it always was creating the same json file no matter how much I changed the topic is because the topic wasn't actually being updated but rather a new webhook/topic was being created which can be seen in the Shopify\_list.text which is linked to earlier in this document. In that same document we see that the very first webhook/topic was **order/create** and it seems to only utilize the very first one in the list if you don't specify an ID. If you want to use a specific one in the list you'd have to make reference to its ID. The realization of this came due to noticing that in order to delete a webhook you'd have to specify its ID so I assume that if you want to make use of a specific webhook you'd have to specify its ID as well. Furthermore, it seems to default to using the very first webhook in the array of webhooks because that’s a default behavior in PHP where if you don’t specify a value in the array it will default to using the value at position 0 (zero) or in other words the very first one.

Since all the webhooks were cleared I now set the very first and only webhook to orders/paid and only one value was inserted into the database. Also, the JSON file is only created after selecting the payment confirmation button.

I’d suggest the use [hookdeck](https://hookdeck.com/) not just for its ability to help manage webhooks but for the following reasons:

* The response time from customer service was fast
* Consistent communication.
* Useful feedback and information that actually helped in the resolution of the problem.

You can view the entire conversation with the engineer [here](https://docs.google.com/document/d/13sXLGUtvWbvINtcjosiv64NVqpySatJZiEshrao3feA/edit?usp=sharing) or [here](https://drive.google.com/file/d/1IgEPpBDxJari-8BE7SKfrnxJJcpW1BPx/view?usp=sharing) (this is a PDF, it would be better to download this and then view, it will be clearer/easier to see) .

I also automated the registration/activation of the webhook. Previously, I’d copy and paste the access\_token into webhooks.php and then run that file by reloading that page manually. I figured it would be more user friendly and or quick to just do that right after the Shopify’s store owner installs the plugin into their store where that install is saved in a table right after that successful table insert, I include the webhooks.php file.

The other link that helped in understanding webhooks was from the official webhooks documentation.

* <https://shopify.dev/apps/webhooks>
* <https://shopify.dev/apps/webhooks/https>
* <https://shopify.dev/apps/webhooks#frequency>
* <https://community.shopify.com/c/shopify-apis-and-sdks/bug-your-webhook-is-failing/td-p/730897>
* <https://community.shopify.com/c/shopify-apis-and-sdks/webhook-failing-but-no-incoming-requests/td-p/498322>
* <https://community.shopify.com/c/shopify-apis-and-sdks/error-non-200-level-response/td-p/499126>

Now the second link directly above has a PHP script which is used in the YouTube webook video (Weekly How, 2021) listed above. Now the code in the YouTube video is expanded upon and makes things clearer. The following are some links that relate to that same PHP script on Shopify’s documentation and the YouTube video:

## Your webhook is failing

This is being written as of Jan 4, 2022. There is a problem labelled “**Your webhook is failing**” that I received via email.

Here are some links related to the problem:

* <https://stackoverflow.com/questions/44370305/shopify-webhook-failing-to-return-a-successful-response>
* <https://community.shopify.com/c/shopify-apps/your-webhook-is-failing/m-p/813312>
* <https://community.shopify.com/c/shopify-apis-and-sdks/error-non-200-level-response/td-p/499126>
* <https://community.shopify.com/c/shopify-apis-and-sdks/how-to-respond-to-webhook/td-p/256363>
* <https://community.shopify.com/c/shopify-apis-and-sdks/error-non-200-level-response/m-p/499126/highlight/false#M32276>
* <https://community.shopify.com/c/shopify-apis-and-sdks/webhook-not-receiving-200-ok/td-p/398113>
* <https://github.com/osiset/laravel-shopify/issues/600>
* sending a 200 OK response php shopify
* <https://www.geeksforgeeks.org/how-to-send-http-response-code-in-php/>
* I was able to solve the problem - please refer to the following link <https://community.shopify.com/c/shopify-apis-and-sdks/your-webhook-is-failing/m-p/1438220/highlight/false#M76032>

# Stackoverflow - Shopify Webhook Posts

* <https://stackoverflow.com/questions/68695561/cant-post-to-shopify-private-app-using-phpcurl>
* <https://community.shopify.com/c/shopify-apis-and-sdks/create-simple-app-using-core-php/td-p/425050>
* <https://stackoverflow.com/questions/12591238/shopify-unprocessable-entity>
* <https://stackoverflow.com/questions/tagged/shopify%20php?sort=Newest&edited=true>
* <https://stackoverflow.com/questions/23601180/json-data-into-php-variables/23601481>
* <https://stackoverflow.com/questions/12738309/shopify-order-webhooks>
* <https://stackoverflow.com/questions/25945692/filter-shopify-order-creation-webhook-based-on-payment-gateway>
* <https://stackoverflow.com/questions/36558821/can-i-create-a-shopify-webhook-which-trigger-on-authorized-instead-of-paid>
* <https://stackoverflow.com/questions/38581238/shopify-webhook-getting-called-multiple-times>
* <https://stackoverflow.com/questions/29982314/shopify-webhook-url-is-called-many-times-for-same-action>
* <https://stackoverflow.com/questions/43000620/shopify-webhook-for-order-fulfillment-firing-callback-url-multiple-times>
* <https://stackoverflow.com/questions/33982590/how-to-use-shopify-api-php>
* <https://stackoverflow.com/questions/54859491/how-to-integrate-3rd-party-api-in-shopify>
* <https://stackoverflow.com/questions/49151519/shopify-uninstall-webhook-firing-randomly>
* <https://stackoverflow.com/questions/54235929/how-can-i-print-incoming-webhook-data-in-real-time-on-my-browser>
* <https://stackoverflow.com/questions/66132157/shopify-webhook-keeps-deleting>
* <https://stackoverflow.com/questions/35872188/shopify-webhook-not-triggering-when-creating-an-order-through-api>
* <https://stackoverflow.com/questions/47565321/how-to-get-webhook-response-data?rq=1>
* <https://stackoverflow.com/questions/43488731/delete-the-store-details-from-php-application-after-uninstalling-app-from-shopif>
* <https://stackoverflow.com/questions/48500223/shopify-webhook-not-working-for-app-uninstalled>
* <https://stackoverflow.com/questions/26248452/php-how-to-access-and-store-the-json-values-in-variables-like-firstname-las>
* <https://stackoverflow.com/questions/36688321/what-is-the-purpose-of-using-square-brackets-in-json>
* <https://stackoverflow.com/questions/44495615/create-a-webhook-using-api-in-shopify>
* <https://stackoverflow.com/questions/10937198/how-to-catch-the-http-post-request-sent-by-a-shopify-webhook>
* <https://stackoverflow.com/questions/23734221/shopify-private-app-php>
* <https://stackoverflow.com/questions/49652801/shopify-order-create-webhook-inserting-into-mysql-using-php> ( this was used in relation with one of the YouTube videos above ([Weekly How, 2019](https://www.youtube.com/watch?v=RhIqSrQGqWI&list=PL-k7XHuPgeIsv2Q6QtJR__h3kkpmqNpH0&index=5)) )
* <https://stackoverflow.com/questions/12001249/shopify-api-selling-items-through-a-3rd-party-charging-process?rq=1>
* <https://stackoverflow.com/questions/62625900/shopify-custom-payment-gateway-without-using-hosted-payment-sdk?rq=1>
* <https://stackoverflow.com/questions/65950755/adding-custom-button-on-shopifys-checkout-page>
* <https://stackoverflow.com/questions/41035537/how-can-i-checkout-my-shopify-order-using-api?rq=1>
* <https://stackoverflow.com/questions/38695481/shopify-custom-payment-gateway-implementation>
* <https://stackoverflow.com/questions/36234627/shopify-app-generating-a-shopify-api-token-this-request-is-not-from-shopify>
* <https://stackoverflow.com/questions/62771456/how-to-generate-new-shopify-store-access-token-after-uninstall-and-install-app-a>
* <https://stackoverflow.com/questions/53146334/how-can-i-re-acquire-a-shopify-oauth-access-token-for-a-store-that-has-previousl>
* <https://stackoverflow.com/questions/42542299/how-to-post-new-order-using-shopify-api>
* <https://stackoverflow.com/questions/54843439/create-product-by-api-in-shopify>

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# Other Shopify Webhook Posts/Articles

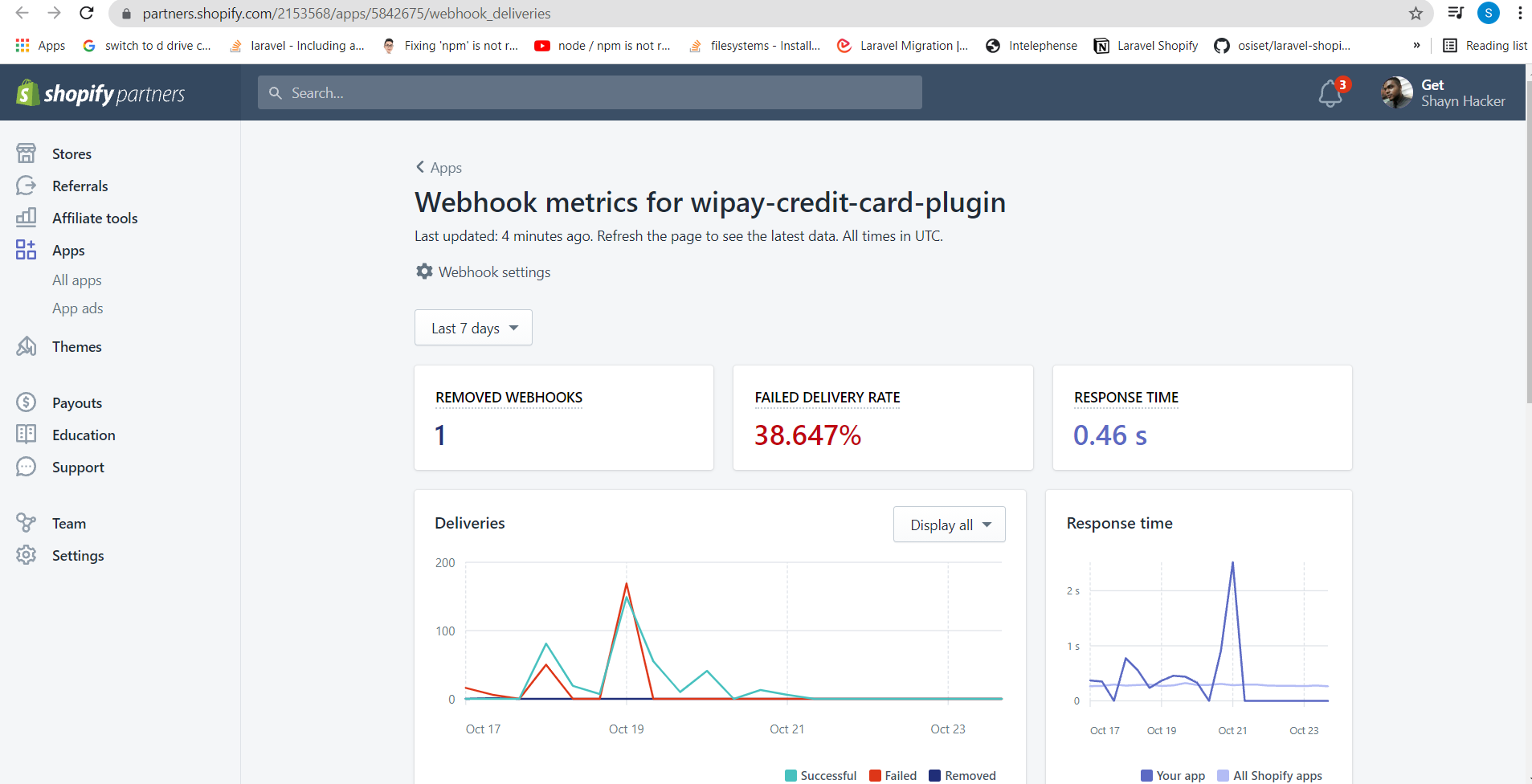
The following are links that I read and relates to the issue of understanding and setting up Shopify API:

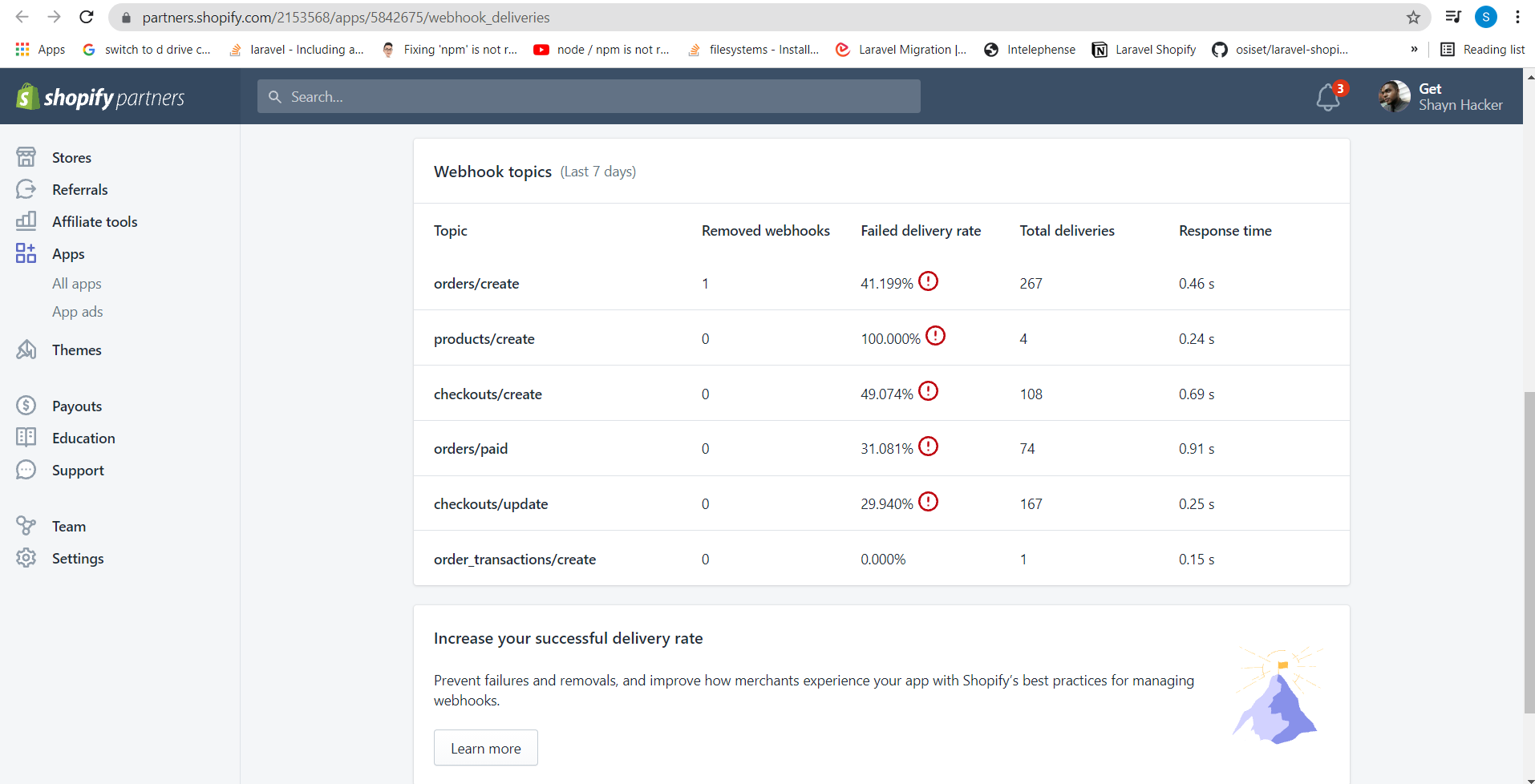
* [**https://www.shopify.com/partners/blog/17056443-how-to-generate-a-shopify-api-token**](https://www.shopify.com/partners/blog/17056443-how-to-generate-a-shopify-api-token) **(**[**Markov, 2018**](https://www.shopify.com/partners/blog/17056443-how-to-generate-a-shopify-api-token)**)** (Now this is what’s used/referenced in one of the YouTube videos ([Weekly How, 2019](https://www.youtube.com/watch?v=tX1E8fuesSE&list=PL-k7XHuPgeIsv2Q6QtJR__h3kkpmqNpH0&index=1)) listed above in the Overview section. One of my core questions which remains unanswered is how exactly did he figure out how to do this in the first place. It should be also noted that the date of the article is later than the comments at the bottom of it so I suppose the article was last updated in 2018. One comment is from 7 years ago (2014) ).
* <https://help.shopify.com/en/manual/apps/app-types>
* <https://community.shopify.com/c/shopify-apis-and-sdks/public-app-without-listing-on-shopify-app-store/td-p/518410>
* <https://shopify.dev/api/admin-rest/2021-10/resources/webhook>
* <https://community.shopify.com/c/shopify-apis-and-sdks/creating-webhook-through-api-doesn-t-appear-in-the-stores/td-p/316369>
* <https://help.shopify.com/en/partners/dashboard/managing-stores/test-orders-in-dev-stores> (Now, I have done the development and testing with a test store and the manual payment method isn’t available for a test/development store so the only alternative is to use the Bogus/Test payment processor. In production a customer would/should use the [manual payment method](https://help.shopify.com/en/manual/payments/manual-payments) )
* <https://help.shopify.com/en/manual/orders/notifications/webhooks>
* <https://community.shopify.com/c/shopify-discussions/webhook-on-order-payment/td-p/101562>
* <https://community.shopify.com/c/shopify-apis-and-sdks/webhook-get-called-multiple-times/td-p/515139>
* <https://community.shopify.com/c/shopify-apis-and-sdks/not-getting-the-orders-paid-webhook-call-for-few-orders/m-p/604417>
* <https://community.shopify.com/c/shopify-apis-and-sdks/order-webhook-payment-info/td-p/846748>
* <https://community.shopify.com/c/shopify-apis-and-sdks/how-to-send-success-respond-to-webhook-using-php/m-p/450378>
* <https://ask.csdn.net/questions/822576>
* <https://community.shopify.com/c/shopify-apis-and-sdks/error-non-200-level-response/m-p/848810>
* <https://www.antpace.com/blog/how-to-create-a-shopify-app-php/> (\*Personal favourite\*)
* <https://help.shopify.com/en/manual/payments/manual-payments>
* <https://www.udemy.com/course/shopify-app-development-in-php/#reviews>

The webhooks are tied to or dependent on the access token which is created via one of the YouTube videos ([Weekly How, 2019](https://www.youtube.com/watch?v=tX1E8fuesSE&list=PL-k7XHuPgeIsv2Q6QtJR__h3kkpmqNpH0&index=1)) above. So if you delete the app from your Shopify store admin, then the access token will no longer work. That’s why when I tried to use webhook\_list.php which shows a list of webhooks I got an error but when I changed it with the new token from the new install it worked.

You can view webhook information for your app as the app developer at the following link: <https://partners.shopify.com/2153568/apps/5842675/webhook_deliveries>

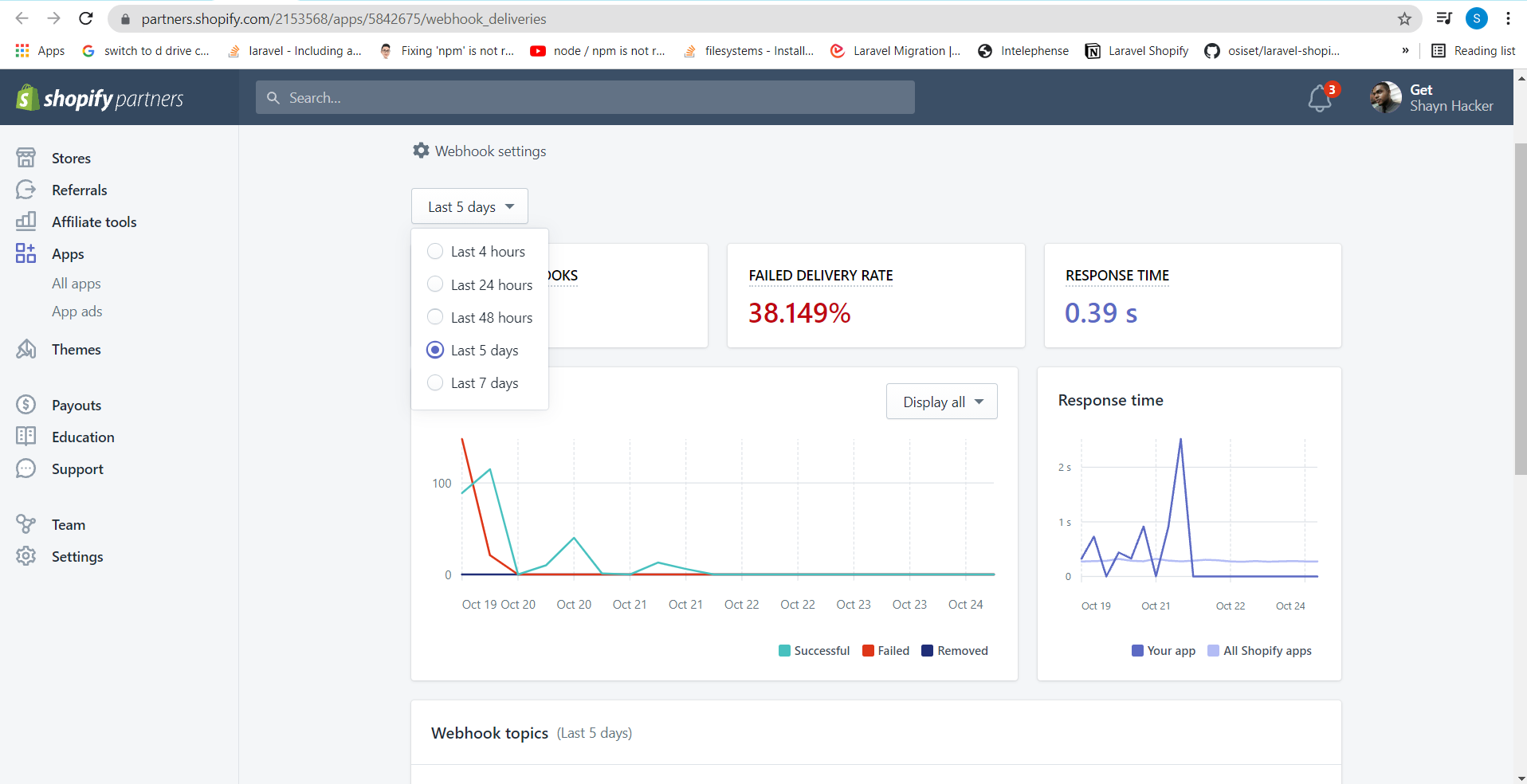
I actually wasn’t aware of this for a good while and this helped put things into perspective particularly when I compared it to the output of the webhooks\_list.php file.





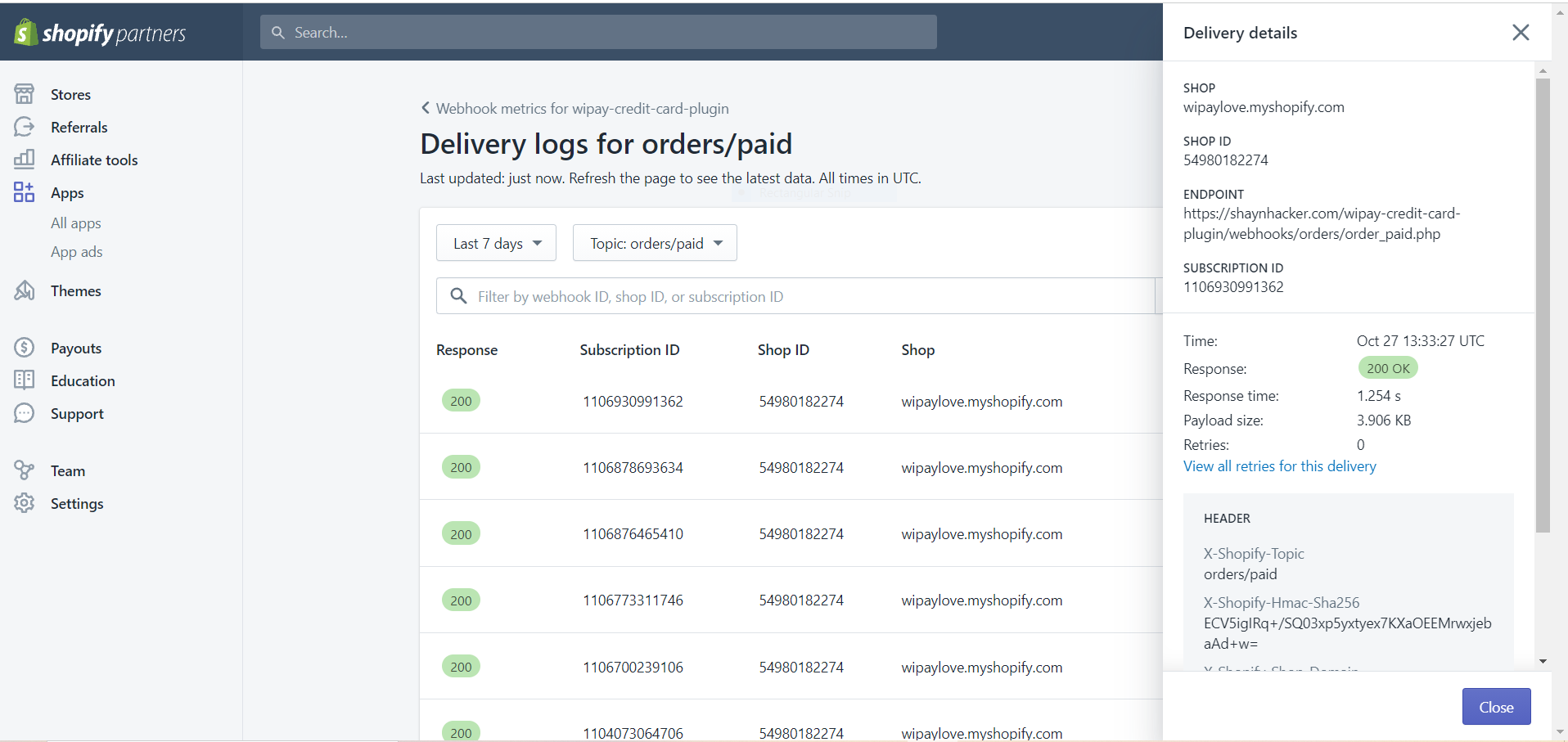
*For the image directly above, please zoom in the document to see it better. It highlights the webhook information/deliveries.*

I compared the webhook topics listed in the partners shopify account/dashboard with the output of webhook\_list.php and I noticed that I had so many webhook topics registered/created and perhaps this is why I was having trouble as explained earlier in the document.



Notice that this shows webhook deliveries over 5 days but the one before this shows the webhook deliveries for 7 days and that one has the red line above the blue line way more often. It’s because here (over the last 5 days)I was able to resolve the issue.

*For the image directly above, please zoom in the document to see it better. It highlights the webhook information/deliveries.*



*For the image directly above, please zoom in the document to see it better. It highlights the webhook information/deliveries.*

Click [here](https://drive.google.com/drive/folders/1WqsIQT3X7HTpRCsLesTqYk4Y0-vGEt5e?usp=sharing) to view all the images of the webhooks.

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# Search Terms/Phrases

The following are the various search terms/phrases used in trying to figure everything out:

| * How to redirect Shopify default shop checkout page to private app checkout page? | * How can I checkout my Shopify order using API? |
| --- | --- |
| * Shopify customer payment gateway without using Hosted Payment SDK | * Shopify API: Selling items through a 3rd party charging process |
| * How to create a checkout with Shopify API | * Redirect to different page on checkout Shopify PHP |
| * Saving additional data when checkout is completed on Shopify | * Adding custom button on Shopify’s checkout page |
| * Custom app checkout Shopify | * Can you customize Shopify checkout/shopping experiences? |
| * Create custom checkout using Shopify checkout api | * Shopify Custom Checkout Flow |
| * Shopify checkout option like PayPal | * Creating a custom checkout |
| * Can you make changes to a Shopify store without having to install an app? | * Can you make changes to a Shopify store such as the payment status of an item without the Shopify store or merchant having to download or install an app which in the end has to be reviewed by Shopify? |
| * Can you make changes to a Shopify store without having to install an app? | * Store or save checkout information Shopify /PHP |
| * How to pass en email to Shopify checkout | * Save Shopify checkout information in external database |
| * Sending customer details to my database when order is created - Shopify | * Set up webhook to track new orders being created Shopify php |
| * Shopify order create webhook inserting into mysql using php | * Shopify private app - php |
| * Shopify: How to test webhooks in PHP | * Create a webhook using API in Shopify |
| * How to catch the HTTP POST request sent by as Shopify Webhook | * Can’t POST to Shopify Private App using PHP + CURL |
| * Shopify Webhook getting fired multiple times & then getting deleted from Shopify store | * Order webhook Shopifiy runs several times |
| * Shopify webhook for new custom firing multiple times | * Shopify uninstall webhook firing randomly |
| * How can I print incoming webhook data in real-time on my browser? | * Remove current webhooks from Shopify |
| * How to Generate a Shopify Access Token php |  |

# Installation of Plugin

There are a few steps required for installing the plugin as a custom app. They are as follows:

1. Create app in Shopify Partner Dashboard
2. Create a folder on the server that contains the code for the plugin. The name can be what was used in step 1.
   1. Replace or use API key and shared secret key in step 2 with the information provided in step 1 for a file called **generate\_token.php** and **index.php** (used as the installer if the app HAS NOT been installed for the merchant but it shows the app if the app has been installed which is determined by checking the shopify\_stores table in the database).
   2. Register webhook by loading the page that contains the webhook for example [https://shaynhacker.com/wipay-deyah/webhooks/webhooks.php](https://shaynhacker.com/wipay-deyah/webhooks/webhooks_list.php).
      1. Use the access token created from the installation of the app for the access token variable inside webhooks.php
      2. Use the Shopify app secret key from the Shopify Partner Dashboard for **order\_paid.php** which was the address listed in **webhooks.php**
3. Place code in the additional script code section (<https://deyah.myshopify.com/admin/settings/checkout>) which can be found in the checkout section of the store’s settings within the Shopify merchant’s admin dashboard.
4. Add WiPay as a manual payment method in the payment section within Shopify merchants admin settings. - <https://deyah.myshopify.com/admin/settings/payments>

All these would not be necessary if it was a public app however public apps require to be reviewed and approved by Shopify which may take a very long time and has no guarantee of ever being accepted. With the original way I developed the plugin was a public app and all that was required of a user was to just type in their shop name in a text input field and it would install the app in their Shopify Store but these were test/development stores and NOT paid/production stores. A custom app is the only way to bypass Shopify’s review and approval process but the disadvantage is that the process requires more labor on WiPay’s end since there isn’t any way to do the steps listed above programmatically or dynamically.

# Demo of Plugin

You can view the demo if the plugin with the following links/videos:

* <https://drive.google.com/file/d/1MvkfW0_v_b00H3Bd--54nEV0afI18mNv/view?usp=sharing>
* <https://drive.google.com/file/d/18Z72CyH7aUJ1mcPzNfqpVOvXunrxSSvX/view?usp=sharing>
* <https://shaynhacker.com/wipay-credit-card-plugin/install.php> (not a video but the actual website)

# Front-end Code

The following are tutorials I used to build out the front-end code:

* [Side Navigation](https://www.w3schools.com/howto/howto_js_sidenav.asp)
* [JavaScript Client-side Form Validation](https://www.youtube.com/watch?v=rsd4FNGTRBw)
* [Awesome Custom Radio Buttons using only HTML & CSS | Option Buttons in CSS](https://www.youtube.com/watch?v=UjPSPMAHFZ0)
* [How to Build iOS Style Switch or Toggle Using Only HTML, CSS, & Vanilla JS](https://www.youtube.com/watch?v=KJKcup31kw0&t=1013s)
* [Scroll Back To Top Button](https://www.w3schools.com/howto/howto_js_scroll_to_top.asp)
* [Auto Text Typing Animation Effect Using HTML CSS And JavaScript](https://www.youtube.com/watch?v=fMcpordI7Wk)

# **References**

Markov, A. (2018, February 16). *How to Generate a Shopify Access Token*. https://www.shopify.com/partners/blog/17056443-how-to-generate-a-shopify-api-token

Weekly How. (2019, October 13). *Part 1 - Shopify App Development - Introduction to Building Shopify Apps from Scratch Using PHP*. https://www.youtube.com/watch?v=tX1E8fuesSE&list=PL-k7XHuPgeIsv2Q6QtJR\_\_h3kkpmqNpH0&index=1

Weekly How. (2019, November 17). *Part 5 - Shopify App Development - How To Save Access Token and Shopify Store URL in MySQL Database*. https://www.youtube.com/watch?v=RhIqSrQGqWI&list=PL-k7XHuPgeIsv2Q6QtJR\_\_h3kkpmqNpH0&index=5

Weekly How. (2021, January 27). *How To Create Shopify Webhooks w/ Shopify Apps*. https://www.youtube.com/watch?v=4YpayMruDU0&t=45s