# Backdooring Flash Objects (the walkthrough)

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# Backdooring Flash Objects (the walkthrough)

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by pdp

> The following article is in narrative format and it is purely experimental. Feedback on whether you like it or not will be highly appreciated.

[image: The Flash]

I started my work station. The old DELL Inspiron 8100 laptop switched automatically to Windows XP SP2 after 30 seconds of countdown in Grub. "What is going to be?" The Prodigy seamed to be quite alright for the situation. These guys have never let me down. There is something about their music. When I am listening to their stuff my brain switches to state of mind which I usually call hackmode.

People in hackmode loose their perception of real and virtual world. To them all it matters is performing something that is valuable in this very moment. Hackmode requires total concentration and the feeling of it usually starts like this:

The brain dysfunctions 70% of your body. You feel relaxed. It almost seams like you are in a bubble. Now there is another 10% of brain activity gain. You don't need to calculate the distance between you and other objects in your surrounding environment. There is no need to perform unnecessary reflexive calculations too. There is only you and the object of your concentration.

On that day, my area of concentration was Backdooring Flash Objects. By saying backdooring I mean everything... from trojaning to infecting with viral code. It is quite hard to differentiate between viral infection and trojan infection. At the end of the day it is all about enhancing an

object with some malicious functionalities. If it is a virus, the malicious code will introduce itself automatically. If it is a trojan, the user help is needed to introduce the code.

Both of these are quite disruptive activities used by biological viruses that have been with us since the day of our creation. We have been exploited by them and that's the reason why we spend a lot of time figuring out how they work. That they I was exercising malicious infection of otherwise harmless Flash files for the same reasons.

My first aim was to download some tools. I used to play with Flash and its IDE in the past, however I needed something more robust. The first tool to download was Mtasc from Nicolas Cannasse. I had found it couple of weeks ago but I had never had time to do some serious play with it. To me it looked quite sophisticated little tool, great to hacking around Flash.

For the purpose of my training day I needed to download a SWF file that would be eventually enhanced with my demo backdoor as well. After couple of seconds in Google, I found "The Corruptibles". This is quite interesting and well composed animation that was just perfect for my proof of concept.

I unziped Mtasc project into my `C:/` drive and started to fiddle around with it. The command line of the tool is not as straight forward as you might think. There are several options that could confuse you but it is OK. Good tools are usually like that; too much functionalities to put inside the same shell.

After reading the usage, I realized that I need to have a hello world backdoor before even thinking of executing the compiler. So, I switched to my browser window and started reading Mtasc project page. A few minutes later I had the following sample script.

```
class Backdoor {
 function Backdoor() {
 }

 static function main(mc) {
  getURL("javascript:alert('hello from backdoor')");
 }
}
```

Actually, the code above is kind of direct replicate of one of the [examples](https://chatbotkit.com/examples) from Nicol

After I saved the file from gvim, I was ready for compiling. I fired the following command:

```
c:\Mtasc\mtasc.exe -swf The_Corruptibles.swf -out The_Corruptibles_backdoored.swf -main backdoor.as
```

I though that the command above would produce what I really wanted (trojaned version of the movie clip) but to my su

Flare's syntax was quite obvious. I ran my backdoored SWF object through the tool and a new file called `The_Corruptil

```
movie 'The_Corruptibles_backdoored.swf' {
// flash 5, total frames: 3180, frame rate: 24 fps, 500x365 px

 movieClip 20480 __Packages.Backdoor {

  #initclip
   if (!Backdoor) {
    _global.Backdoor = function () {};

    var v1 = _global.Backdoor.prototype;
    _global.Backdoor.main = function (mc) {
     getURL('javascript:alert(\'hello from backdoor\')', '_self');
    };

    ASSetPropFlags(v1, null, 1);
   }
  #endinitclip
 }

 frame 1 {
  Backdoor.main(this);
 }
}
```

To me it all looked quite alright. Frame 1 should load my object through the main method, but that wasn't the case. I t

I went back to Mtasc homepage to search for clues. Nicolas has some nice things going on there. To me, he seams to b

Anyway, Nicolas was apparently working on another project of his, called [Haxe](http://haxe.org/). I spend some time on

I didn't download the tool but I had really good go through its documentation. I also read very carefully the examples c

I went back to Mtasc project page to look for a way to attach a movie. What I found was that I could use the same com

Another tab and couple of minutes latter I found [Swfmill](http://swfmill.org/). This tools was quite interesting I must say.

I jumped on the tutorial provided by the developers of the project. Using the tool is quite straight forward. In order to

```
<?xml version="1.0" encoding="UTF-8"?>
<movie width="500" height="365" framerate="30">
 <background color="#000000"/>
  <frame>
   <library>
    <clip id="cc1" import="The_Corruptibles.swf"/>
   </library>
  </frame>
</movie></pre>`
```

I called the clip in the library cc1. There were no reason to call it this way but when you are in hackmode conventions d

```
c:\swfmill\swfmill.exe simple backdoor_lib.xml backdoor_lib.swf
c:\Mtasc\mtasc.exe -swf backdoor_lib.swf -out The_Corruptibles_backdoored.swf -main backdoor.as
```

It worked. Well, not exactly. Although I was able to display the **hello world** alert box, the **The Corruptibles** mov

```
class Backdoor {
 function Backdoor() {
 }

 static function main(mc) {
  getURL("javascript:alert('hello from backdoor')");
  mc.attachMovie("cc1", "cccc", 0);
 }
}
```

"Compile! Launch on Firefox from localhost WAMP server! Bingo!" The SWF file was successfully altered and all this fror

There is something magical about doing things from the command line. Surely you can do the same thing with Flash ID

After refreshing my browser couple of times, enjoying my newly born creature, I spotted a huge problem. Because, the

It suddenly occurred to me that what I was doing was not very efficient. There was a simpler method which would proc

Simple cat doesn't work. It works for .exe files though. This used to be one of the main ways of distributing trojans in W

In Flash, you have to use special software in order to do that. I cannot concatenate two objects but rather two separat

"Google has always been a friend." I found the [Swftools project](http://www.swftools.org/). One of the provided tools allo

The project contained tools to do other cool stuff with Flash. Some of them can be used to convert WAV to SWF or JPG

I remember that the bad guys in this movie has the ability to hack into your ghost (sole/brain). This is usually achieved

Long story short, I had the tool that I needed. I changed my **backdoor.as** file back to the following.

```
class Backdoor {
 function Backdoor() {
 }

 static function main(mc) {
  getURL("javascript:alert('hello from backdoor')");
 }
}
```

Yes, this is my initial script. The next stage was to compile it to an one-frame SWF file. Than all I needed to do is to binc

```
c:\Mtasc\mtasc.exe -swf backdoor.swf -main -header 500:365:24 backdoor.as
c:\Swftools\swfcombine.exe -o The_Corruptibles_backdoored.swf -T backdoor.swf The_Corruptibles.swf
```

*"Voila! There is my backdoor, trojan or virus. So now what? Hard to say!"*