HomeKit Transition

米家设备迁移至 Apple HomeKit

项目信息

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参考文档 · 资源

- Raspberry Pi 学习
- HomeKit 相关
  - 【已弃用】
    - Python 基础
    - HTML 资料
      - 「微信」Python 资料
      - 「百度网盘」Python 资料

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HomeKit Transition 项目信息

成员

@金楷晨(u1899626)
@车轩铭(yunxiyimeng)
@车思远(chesiyuan)

排期 & 程碑

我们的幻想

项目实际难度

Raspbarry Pi 信息记录 🔒

本机

pi@密码 | rp
ha@密码 | homea

TeamViewer

主机 ID | 709 481 806
密码 | rprp

Home Assistant

姓名 | TechniColor
用户名 | technicolor
密码 | tc

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❌【已弃用】 📝 CoMark 项目计划

项目名称

CoMark	
金楷晨 车轩铭 刘子凡 车思远	李雅彤 许婧琦

项目目标

制作实用、高效、新颖的程序，切实帮助用户。

参与人员

@金楷晨(u1899626) | @车轩铭(yunxiyimeng) | @李雅彤(liyatong-hjpev)
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项目拆解

1. 资料查找
2. 选题确定
3. 深度资料搜寻 & 整理
4. 编写 & 调试程序
5. 简单调研
6. 更改 & 调试程序
7. 项目总结 & 汇报

排期和程碑

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❌【已弃用】CoMark 项目 · 开题报告

灵感

大部分炭基人类的浏览器中拥有着成千上万的书签，整理书签时间困难的事情，它费时费力，不过最严重的问题是在浏览器主流浏览器中大量更改，ComfortBookMark

可行性

实现方法

技术

用户界面

操作方式与实现方法

HTML 书签策略

编辑 HTML

阶段

资料

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HTML

Here is yuque doc card, click on the link to view:https://pkuschool.yuque.com/bdfztc/seniorresources/xnvdga

Python

Here is yuque doc card, click on the link to view:https://pkuschool.yuque.com/bdfztc/seniorresources/ol9inh

1. 选题来源（解决什么人的什么痛点）
2. 目前已有的相关成果（别人是怎么做的，哪些方案可以借鉴，哪些方面需要突破）
3. 自从选题以来做了哪些研究，确定了研究的可行性、可实现性
4. 依据上一条，确定的开发的方案是什么 ，有哪些要进一步研究和开发的方向
5. 目前做好了哪些准备
6. 分工和时间计划
7. 其他
8. 总体印象

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Week 08 2020.11.02 - 11.06

项目选题方向

我们自己制作的程序实用、高效，因此还没能完全确认项目选题。

本周暂定三个选题方向

- 制作希悦相关的可能性较小，因为我们可以随时联系到希悦官方，让他们进行产品更新，同时SubIT也在进行相关项目制作。
- 程序的新颖才会带来用户，不知能否制作微信相关的附加功能，相关资料链接已更新至“项目组资源”知识库。
- 同时我们还在考虑有关视频剪辑时资料收集、整理的项目。如协助整理拍摄的视频素材，自动打包至分类文件夹，方便后期剪辑实用；音视频资源下载器，便于在剪辑时更快捷的下载网络资源（QQ音乐、网易云音乐、Bilibili等）加入时间线。

下周预期进度

我们希望下周一进行选题的最后确认。

Here is the yuque vote card, click on the link to view:https://pkuschool.yuque.com/bdfztc/homekit-transition/nscgdt#Y9JFx

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Week 09 2020.11.09 - 11.13

段考前安排

自学 Python 相关知识，段考后项目开题。
自学方式不限，可前往 视频网站、TC 语雀首页等，查看官方文档。

记录自学内容

「@金楷晨(u1899626)」https://www.bilibili.com/video/BV12E411A7ZQ
「@车轩铭(yunxiyimeng)」
「@许婧琦(xujingqi-hb7zb)」
「@李雅彤(liyatong-hjpev)」
「@刘子凡(u1966095)」
「@车思远(chesiyuan)」

是否可以做内录语音识别，显示字幕？？ 😳 😳

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Week 01 2020.11.23 - 11.27

1. 视频实时字幕，语音翻译文字，讯飞接口
2. `ddl`管理
3. 书签管理
4. 微信
5. ClassIn 插件
6. ~~视频素材整理~~
7. ~~内置音频管理~~
8. ~~网页内容下载~~
9. 人工智障训练

书签管理
了解书签
管理书签
用户界面与管理方式
建议分类方式

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Week 04 2020.11.13 - 11.19

树莓派问题及解决方法

无法安装 .deb 软件包，缺少依赖包。

发现缺少 gdebi ，在Google搜索到 https://blog.csdn.net/fightingboom/article/details/106879019 。
因为我们的树莓派系统版本较高，因此从清华大学开源软件镜像站获取较新软件包版本，适用于 **buster 版本的Debian。**

使用 `lsb_release -a` 查询自己的系统版本。运行记录如下

```
No LSB modules are available.
Distributor ID: Raspbian
Description:    Raspbian GNU/Linux 10 (buster)
Release:    10
Codename:   buster
```

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Week 05 2020.12.21 - 12.25

在树莓派的 Terminal 上运行可执行程序（已测试）

1. 超级牛力——包管理器的彩蛋（蛇吞象）

```
apt-get help
apt-get moo
```

```
aptitude moo
aptitude moo -vv
aptitude moo -vvv
aptitude moo -vvvv
aptitude moo -vvvvv
aptitude moo -vvvvvv
```

2. 生成艺术字（toilet）

```
sudo apt-get install toilet
toilet TechniColor
toilet -f mono12 -F metal TechniColor #双色字
toilet -f mono12 -F gay TechniColor #彩色字
```

3. 生成艺术字（figlet）

```
sudo apt-get install figlet
figlet TechniColor
```

4. 代码雨（黑客帝国）

```
sudo apt-get install cmatrix
```

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```
cmatrix
cmatrix -C red #代码变成红色
```

5. 追逐鼠标的小猫 Oneko

```
sudo apt-get install oneko
oneko
```

6. 输出名人名言、古诗词

```
sudo apt-get install fortune fortune-zh
fortune
```

7. 会说话的牛

```
sudo apt-get install cowsay
cowsay “Hello TechniColor”
cowsay -l #了解cowsay数据库所能提供的动物）
cowsay -f dragon 'Hello TechniColor' #-f 用来更换cowsay数据库的其他动物
fortune | cowsay #也可以利用管道命令，将fortune生成的名人名言在cowsay中输出
sudo apt install lolcat #添加颜色
fortune | cowsay -f stegosaurus | lolcat #利用管道命令，让彩色的恐龙说彩色的唐诗：
```

8. 会说话的牛2

```
sudo apt-get install xcowsay
xcowsay “Hello TechniColor 欢迎来TechniColor”
```

9. 火车

```
sudo apt-get install sl
sl
```

```
sl-h #彩蛋
```

9. yes命令

```
yes TechniColor #无限循环输出TechniColor
yes Tongji University | lolcat #无限循环输出彩色的TechniColor
```

10. 日历

```
cal 12 2020 #2020年12月日历
```

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Week 08 2021.01.11 - 01.17

2021.01.11 星期一

RasPi 系统更新

Nov. 30 更新为 Dec. 14 5.4.83-v7#1379

`sudo reboot` 重启后，使用 `uname -a` 命令查询系统版本。

全部系统版本查询命令详见

Here is yuque doc card, click on the link to view:https://pkuschool.yuque.com/bdfztc/seniorresources/fw4mlb

在 Raspbian 中安装 Home Assistant 命令

```
sudo apt-get update
sudo apt-get upgrade -y
 # 常规更新

sudo apt-get install python3 python3-venv python3-pip  # 安装 python3 环境

sudo useradd -rm ha  # 注册新用户 ha

【创建安装文件夹】
cd /srv  # 进入目录
sudo mkdir homeassistant  # 在 /srv 下创建文件夹 homeassistant
sudo chown ha:ha homeassistant  # 向用户 ha 授予文件夹权限

【创建虚拟环境】
sudo su -s /bin/bash ha  # 变更身份进行操作，除 root 用户外，需要键入该使用者的密码。
cd /srv/homeassistant  # 进入指定路径
python3 -m venv .  # 用 python3 运行资料库中的 venv 模块脚本，mod : run library module as a script (terminates option list)
source bin/activate  # 用法：source 文件名 [参数]
```

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```

pip3 install homeassistant  # 正式安装 homeassistant
```

对 ha 账户信息进行修改

【初始问题】使用 `su ha` 改变 Terminal 用户身份，多次尝试后，依然无法通过账户密码验证（当然，`sudo su ha` 肯定是可以的，因为使用了 root 权限）

用 `sudo passwd ha` 滥用 root 权限修改账户 ha 的密码，不输入 `sudo` 会显示 `passwd: 您不能查看或更改 ha 的密码信息。` ）

可正常使用 `su ha` 切换 ha 账户的身份，显示为 `ha@RasPi:/home/pi $` 开头。

运行 'hass' 出现问题

根据 https://home-assistant.cc/installation/raspberrypi/raspbian/ ，输入 `hass` 可直接运行 Home Assistant ，后台可自动下载依赖，几分钟货便可以从局域网内任意终端浏览器访问 `http://树莓派的 IP 地址:8123`，进入 HA。
但直接在 ha@ 下输入 `hass` 显示 `bash: hass: 未找到命令` ，相关资料如下，待明日解决。
https://sspai.com/post/40474
https://home-assistant.cc/installation/raspberrypi/hassio/

附录

LX 终端 运行记录

```
pi@RasPi:~ $ sudo apt-get install python3 python3-venv python3-pip
正在读取软件包列表... 完成
正在分析软件包的依赖关系树
正在读取状态信息... 完成
python3 已经是最新版 (3.7.3-1)。
python3-venv 已经是最新版 (3.7.3-1)。
python3-venv 已设置为手动安装。
python3-pip 已经是最新版 (18.1-5+rpt1)。
升级了 0 个软件包，新安装了 0 个软件包，要卸载 0 个软件包，有 0 个软件包未被
```

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```
升级。
pi@RasPi:~ $ sudo useradd -rm ha
pi@RasPi:~ $ mkdir homeassistant
pi@RasPi:~ $ cd /srv
pi@RasPi:/srv $ sudo mkdir homeassistant
pi@RasPi:/srv $ sudo chown ha:technicolor homeassistant
chown: 无效的组: “ha:technicolor”
pi@RasPi:/srv $ sudo chown ha:ha homeassistant
pi@RasPi:/srv $ sudo su -s /bin/bash ha
ha@RasPi:/srv $
ha@RasPi:/srv $ cd /srv/homeassistant
ha@RasPi:/srv/homeassistant $ python3 -h
usage: python3 [option] ... [-c cmd | -m mod | file | -] [arg] ...
Options and arguments (and corresponding environment variables):
-b     : issue warnings about str(bytes_instance), str(bytearray_instance)
         and comparing bytes/bytearray with str. (-bb: issue errors)
-B     : don't write .pyc files on import; also PYTHONDONTWRITEBYTECODE=x
-c cmd : program passed in as string (terminates option list)
-d     : debug output from parser; also PYTHONDEBUG=x
-E     : ignore PYTHON* environment variables (such as PYTHONPATH)
-h     : print this help message and exit (also --help)
-i     : inspect interactively after running script; forces a prompt even
         if stdin does not appear to be a terminal; also PYTHONINSPECT=x
-I     : isolate Python from the user's environment (implies -E and -s)
-m mod : run library module as a script (terminates option list)
-O     : remove assert and __debug__-dependent statements; add .opt-1 before
         .pyc extension; also PYTHONOPTIMIZE=x
-OO    : do -O changes and also discard docstrings; add .opt-2 before
         .pyc extension
-q     : don't print version and copyright messages on interacti
```

```
ve startup
-s     : don't add user site directory to sys.path; also PYTHONNOUSERSITE
-S     : don't imply 'import site' on initialization
-u     : force the stdout and stderr streams to be unbuffered;
         this option has no effect on stdin; also PYTHONUNBUFFERED=x
-v     : verbose (trace import statements); also PYTHONVERBOSE=x
         can be supplied multiple times to increase verbosity
-V     : print the Python version number and exit (also --version)
         when given twice, print more information about the build
-W arg : warning control; arg is action:message:category:module:lineno
         also PYTHONWARNINGS=arg
-x     : skip first line of source, allowing use of non-Unix forms of #!cmd
-X opt : set implementation-specific option
--check-hash-based-pycs always|default|never:
    control how Python invalidates hash-based .pyc files
file   : program read from script file
-      : program read from stdin (default; interactive mode if a tty)
arg ...: arguments passed to program in sys.argv[1:]

Other environment variables:
PYTHONSTARTUP: file executed on interactive startup (no default)
PYTHONPATH   : ':'-separated list of directories prefixed to the
               default module search path.  The result is sys.path.
PYTHONHOME   : alternate <prefix> directory (or <prefix>:<exec_prefix>).
               The default module search path uses <prefix>/lib/pythonX.X.
PYTHONCASEOK : ignore case in 'import' statements (Windows).
PYTHONIOENCODING: Encoding[:errors] used for stdin/stdout/stderr.
PYTHONFAULTHANDLER: dump the Python traceback on fatal errors.
PYTHONHASHSEED: if this variable is set to 'random', a random va
```

```
lue is used
   to seed the hashes of str, bytes and datetime objects.  It can also be
   set to an integer in the range [0,4294967295] to get hash values with a
   predictable seed.
PYTHONMALLOC: set the Python memory allocators and/or install debug hooks
   on Python memory allocators. Use PYTHONMALLOC=debug to install debug
   hooks.
PYTHONCOERCECLOCALE: if this variable is set to 0, it disables the locale
   coercion behavior. Use PYTHONCOERCECLOCALE=warn to request display of
   locale coercion and locale compatibility warnings on stderr.
PYTHONBREAKPOINT: if this variable is set to 0, it disables the default
   debugger. It can be set to the callable of your debugger of choice.
PYTHONDEVMODE: enable the development mode.
ha@RasPi:/srv/homeassistant $ python -m venv
/usr/bin/python: No module named venv
ha@RasPi:/srv/homeassistant $ python -m venv.
/usr/bin/python: No module named venv
ha@RasPi:/srv/homeassistant $ python -m venv .
/usr/bin/python: No module named venv
ha@RasPi:/srv/homeassistant $ cd /srv/homeassista
bash: cd: /srv/homeassista: 没有那个文件或目录
ha@RasPi:/srv/homeassistant $ cd /srv/ha
bash: cd: /srv/ha: 没有那个文件或目录
ha@RasPi:/srv/homeassistant $ cd /srv/homeassistant
ha@RasPi:/srv/homeassistant $ python -m venv .
/usr/bin/python: No module named venv
ha@RasPi:/srv/homeassistant $ python3 -m venv .
ha@RasPi:/srv/homeassistant $ source
bash: source: 需要文件名参数
source：用法：source 文件名 [参数]
ha@RasPi:/srv/homeassistant $ source -h
bash: source: -h：无效选项
```

```
source: 用法: source 文件名 [参数]
ha@RasPi:/srv/homeassistant $ pip3 install homeassistant
Looking in indexes: https://pypi.org/simple, https://www.piwheels.org/simple
Collecting homeassistant
  Downloading https://files.pythonhosted.org/packages/24/36/a0a6d0715aec5df4a883dd069febaa6bdd06b109a820ced2a329ad1bf8c5/homeassistant-2021.1.1-py3-none-any.whl (10.2MB)
     100% |████████████████████████████████| 10.2MB 28kB/s
Collecting python-slugify==4.0.1 (from homeassistant)
  Downloading https://www.piwheels.org/simple/python-slugify/python_slugify-4.0.1-py2.py3-none-any.whl
Collecting PyJWT==1.7.1 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/87/8b/6a9f14b5f781697e51259d81657e6048fd31a113229cf346880bb7545565/PyJWT-1.7.1-py2.py3-none-any.whl
Collecting cryptography==3.2 (from homeassistant)
  Downloading https://www.piwheels.org/simple/cryptography/cryptography-3.2-cp37-cp37m-linux_armv7l.whl (777kB)
     100% |████████████████████████████████| 778kB 299kB/s
Collecting attrs==19.3.0 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/a2/db/4313ab3be961f7a763066401fb77f7748373b6094076ae2bda2806988af6/attrs-19.3.0-py2.py3-none-any.whl
Collecting yarl==1.4.2 (from homeassistant)
  Downloading https://www.piwheels.org/simple/yarl/yarl-1.4.2-cp37-cp37m-linux_armv7l.whl (257kB)
     100% |████████████████████████████████| 266kB 401kB/s
Collecting bcrypt==3.1.7 (from homeassistant)
  Downloading https://www.piwheels.org/simple/bcrypt/bcrypt-3.1.7-cp37-cp37m-linux_armv7l.whl (57kB)
     100% |████████████████████████████████| 61kB 102kB/s
Collecting astral==1.10.1 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/ff/5d/261f49822b7f77c265197d46cdbaaaaf06f458734e9ac55a140dd75bdf29/astral-1.10.1-py2.py3-none-any.whl
Collecting voluptuous-serialize==2.4.0 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/b5/37/79066c7bd82e7a463ecbfe644598f9a79011a32179d9829121ea171b339a/voluptuous_serialize-2.4.0-py3-none-any.whl
```

```
Collecting importlib-metadata==1.6.0; python_version < "3.8" (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/ad/e4/891bfcaf868ccabc619942f27940c77a8a4b45fd8367098955bb7e152fb1/importlib_metadata-1.6.0-py2.py3-none-any.whl
Collecting pytz>=2020.1 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/89/06/2c2d3034b4d6bf22f2a4ae546d16925898658a33b4400cfb7e2c1e2871a3/pytz-2020.5-py2.py3-none-any.whl (510kB)
     100% |████████████████████████████████| 512kB 333kB/s
Collecting ruamel.yaml==0.15.100 (from homeassistant)
  Downloading https://www.piwheels.org/simple/ruamel-yaml/ruamel.yaml-0.15.100-cp37-cp37m-linux_armv7l.whl (655kB)
     100% |████████████████████████████████| 665kB 164kB/s
Collecting httpx==0.16.1 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/2d/c6/59aa4188e7eddb9e89ec67a51598ca6bfc09f1b38c9b45f7ee45af7a4df4/httpx-0.16.1-py3-none-any.whl (65kB)
     100% |████████████████████████████████| 71kB 606kB/s
Requirement already satisfied: pip<20.3,>=8.0.3 in /usr/lib/python3/dist-packages (from homeassistant) (18.1)
Collecting voluptuous==0.12.1 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/9c/b9/84f5bd190a7dc234cea2ca1da02c8900ace982e0ad4ae494660585844f04/voluptuous-0.12.1-py3-none-any.whl
Collecting pyyaml==5.3.1 (from homeassistant)
  Downloading https://www.piwheels.org/simple/pyyaml/PyYAML-5.3.1-cp37-cp37m-linux_armv7l.whl (44kB)
     100% |████████████████████████████████| 51kB 88kB/s
Collecting async-timeout==3.0.1 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/e1/1e/5a4441be21b0726c4464f3f23c8b19628372f606755a9d2e46c187e65ec4/async_timeout-3.0.1-py3-none-any.whl
Collecting requests==2.25.0 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/39/fc/f91eac5a39a65f75a7adb58eac7fa78871ea9872283fb9c44e6545998134/requests-2.25.0-py2.py3-none-any.whl (61kB)
     100% |████████████████████████████████| 61kB 592kB/s
Collecting jinja2>=2.11.2 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/30/9e/f663
```

```
a2aa66a09d838042ae1a2c5659828bb9b41ea3a6efa20a20fd92b121/Jinja2-2.11.2-py2.py3-none-any.whl (125kB)
    100% |████████████████████████████████| 133kB 610kB/s
Collecting ciso8601==2.1.3 (from homeassistant)
  Downloading https://www.piwheels.org/simple/ciso8601/ciso8601-2.1.3-cp37-cp37m-linux_armv7l.whl
Collecting certifi>=2020.6.20 (from homeassistant)
  Downloading https://files.pythonhosted.org/packages/5e/a0/5f06e1e1d463903cf0c0eebeb751791119ed7a4b3737fdc9a77f1cdfb51f/certifi-2020.12.5-py2.py3-none-any.whl (147kB)
    100% |████████████████████████████████| 153kB 641kB/s
Collecting aiohttp==3.7.1 (from homeassistant)
  Downloading https://www.piwheels.org/simple/aiohttp/aiohttp-3.7.1-cp37-cp37m-linux_armv7l.whl (1.3MB)
    100% |████████████████████████████████| 1.3MB 102kB/s
Collecting text-unidecode>=1.3 (from python-slugify==4.0.1->homeassistant)
  Downloading https://files.pythonhosted.org/packages/a6/a5/c0b6468d3824fe3fde30dbb5e1f687b291608f9473681bbf7dabbf5a87d7/text_unidecode-1.3-py2.py3-none-any.whl (78kB)
    100% |████████████████████████████████| 81kB 900kB/s
Collecting cffi!=1.11.3,>=1.8 (from cryptography==3.2->homeassistant)
  Downloading https://www.piwheels.org/simple/cffi/cffi-1.14.4-cp37-cp37m-linux_armv7l.whl (346kB)
    100% |████████████████████████████████| 348kB 273kB/s
Requirement already satisfied: six>=1.4.1 in /usr/lib/python3/dist-packages (from cryptography==3.2->homeassistant) (1.12.0)
Collecting multidict>=4.0 (from yarl==1.4.2->homeassistant)
  Retrying (Retry(total=4, connect=None, read=None, redirect=None, status=None)) after connection broken by 'ProtocolError('Connection aborted.', RemoteDisconnected('Remote end closed connection without response'))': /simple/multidict/
  Downloading https://files.pythonhosted.org/packages/1c/74/e8b46156f37ca56d10d895d4e8595aa2b344cff3c1fb3629ec97a8656ccb/multidict-5.1.0.tar.gz (53kB)
    100% |████████████████████████████████| 61kB 632kB/s
  Installing build dependencies ... done
Requirement already satisfied: idna>=2.0 in /usr/lib/python3/dist-packages (from yarl==1.4.2->homeassistant) (2.6)
```

```
Collecting zipp>=0.5 (from importlib-metadata==1.6.0; python_version < "3.8"->homeassistant)
  Downloading https://files.pythonhosted.org/packages/41/ad/6a4f1a124b325618a7fb758b885b68ff7b058eec47d9220a12ab38d90b1f/zipp-3.4.0-py3-none-any.whl
Collecting httpcore==0.12.* (from httpx==0.16.1->homeassistant)
  Downloading https://files.pythonhosted.org/packages/fc/f1/a2be3370c70a46b849ccef43011bf3fff20a741be80d8789405505e7a688/httpcore-0.12.2-py3-none-any.whl (54kB)
     100% |████████████████████████████████| 61kB 868kB/s
Collecting sniffio (from httpx==0.16.1->homeassistant)
  Downloading https://files.pythonhosted.org/packages/52/b0/7b2e028b63d092804b6794595871f936aafa5e9322dcaaad50ebf67445b3/sniffio-1.2.0-py3-none-any.whl
Collecting rfc3986[idna2008]<2,>=1.3 (from httpx==0.16.1->homeassistant)
  Downloading https://files.pythonhosted.org/packages/78/be/7b8b99fd74ff5684225f50dd0e865393d2265656ef3b4ba9eaaaffe622b8/rfc3986-1.4.0-py2.py3-none-any.whl
Requirement already satisfied: chardet<4,>=3.0.2 in /usr/lib/python3/dist-packages (from requests==2.25.0->homeassistant) (3.0.4)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /usr/lib/python3/dist-packages (from requests==2.25.0->homeassistant) (1.24.1)
Requirement already satisfied: MarkupSafe>=0.23 in /usr/lib/python3/dist-packages (from jinja2>=2.11.2->homeassistant) (1.1.0)
Collecting typing-extensions>=3.6.5 (from aiohttp==3.7.1->homeassistant)
  Downloading https://files.pythonhosted.org/packages/60/7a/e881b5abb54db0e6e671ab088d079c57ce54e8a01a3ca443f561ccadb37e/typing_extensions-3.7.4.3-py3-none-any.whl
Collecting pycparser (from cffi!=1.11.3,>=1.8->cryptography==3.2->homeassistant)
  Downloading https://files.pythonhosted.org/packages/ae/e7/d9c3a176ca4b02024debf82342dab36efadfc5776f9c8db077e8f6e71821/pycparser-2.20-py2.py3-none-any.whl (112kB)
     100% |████████████████████████████████| 112kB 536kB/s
Collecting h11==0.* (from httpcore==0.12.*->httpx==0.16.1->homeassistant)
```

```
  Downloading https://files.pythonhosted.org/packages/60/0f/7a0eeea938eaf61074f29fed9717f2010e8d0e0905d36b38d3275a1e4622/h11-0.12.0-py3-none-any.whl (54kB)
     100% |████████████████████████████████| 61kB 542kB/s
Building wheels for collected packages: multidict
  Running setup.py bdist_wheel for multidict ... done
  Stored in directory: /home/ha/.cache/pip/wheels/e7/05/d2/f5c04c29d0e4b234dbcd4b609b51f8c65d67ff9bbd01c904b1
Successfully built multidict
Installing collected packages: text-unidecode, python-slugify, PyJWT, pycparser, cffi, cryptography, attrs, multidict, yarl, bcrypt, pytz, astral, voluptuous, voluptuous-serialize, zipp, importlib-metadata, ruamel.yaml, certifi, h11, sniffio, httpcore, rfc3986, httpx, pyyaml, async-timeout, requests, jinja2, ciso8601, typing-extensions, aiohttp, homeassistant
  The script slugify is installed in '/home/ha/.local/bin' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
  The script pyjwt is installed in '/home/ha/.local/bin' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
  The script hass is installed in '/home/ha/.local/bin' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed PyJWT-1.7.1 aiohttp-3.7.1 astral-1.10.1 async-timeout-3.0.1 attrs-19.3.0 bcrypt-3.1.7 certifi-2020.12.5 cffi-1.14.4 ciso8601-2.1.3 cryptography-3.2 h11-0.12.0 homeassistant-2021.1.1 httpcore-0.12.2 httpx-0.16.1 importlib-metadata-1.6.0 jinja2-2.11.2 multidict-5.1.0 pycparser-2.20 python-slugify-4.0.1 pytz-2020.5 pyyaml-5.3.1 requests-2.25.0 rfc3986-1.4.0 ruamel.yaml-0.15.100 sniffio-1.2.0 text-unidecode-1.3 typing-extensions-3.7.4.3 voluptuous-0.12.1 voluptuous-serialize-2.4.0 yarl-1.4.2 zipp-3.4.0
ha@RasPi:/srv/homeassistant $
```

用 pip3 检查 'homeassistant' 安装状态

```
ha@RasPi:/srv/homeassistant $ pip3 show homeassistant
Name: homeassistant
Version: 2021.1.1
Summary: Open-source home automation platform running on Python 3.
Home-page: https://www.home-assistant.io/
Author: The Home Assistant Authors
Author-email: hello@home-assistant.io
License: Apache License 2.0
Location: /home/ha/.local/lib/python3.7/site-packages
Requires: aiohttp, ciso8601, httpx, ruamel.yaml, attrs, PyJWT, python-slugify, yarl, astral, pytz, async-timeout, pip, pyyaml, voluptuous-serialize, requests, bcrypt, importlib-metadata, certifi, cryptography, jinja2, voluptuous
Required-by:
```

'sudo' 警告

```
我们信任您已经从系统管理员那里了解了日常注意事项。
总结起来无外乎这三点：

    #1) 尊重别人的隐私。
    #2) 输入前要先考虑(后果和风险)。
    #3) 权力越大，责任越大。
```

相同关键词 Google · Baidu 检索对比 🙃

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2021.01.12 星期二

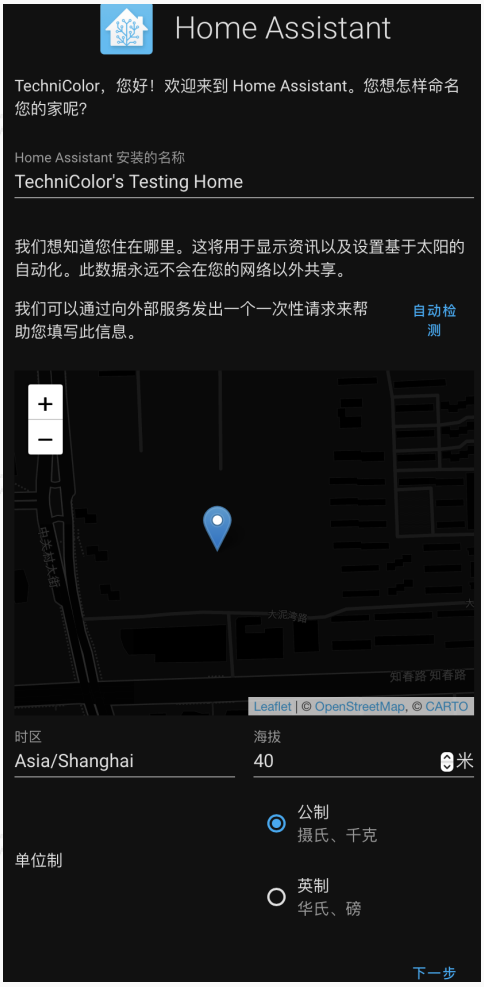
运行 hass 成功

昨天没有在虚拟环境中运行，忘记 `source bin/activate`

运行后终端应显示 `(homeassistant) ha@RasPi:/srv/homeassistant $`

在其后输入 `hass` 执行将显示 `Unable to find configuration. Creating default one in /home/ha/.homeassistant` ，静等许久

在浏览器输入 `树莓派 IP:8123` 进入 Home Assistant Web UI，并输入相关信息。



'hass' 运行记录

```
(homeassistant) ha@RasPi:/srv/homeassistant $ hass
Unable to find configuration. Creating default one in /home/ha/.homeassistant
2021-01-12 22:11:17 WARNING (MainThread) [homeassistant.components.scene] Setup of scene platform homeassistant is taking over 10 seconds.
2021-01-12 22:11:17 WARNING (MainThread) [homeassistant.setup] Setup of zone is taking over 10 seconds.
2021-01-12 22:12:28 ERROR (MainThread) [homeassistant.components.updater] Timeout fetching Home Assistant update data
2021-01-12 22:13:13 WARNING (MainThread) [homeassistant.bootstrap] Support for the running Python version 3.7.3 is deprecated and wil
```

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```
l be removed in the first release after December 7, 2020. Please u
pgrade Python to 3.8.0 or higher.
```

提示升级 python3 为 3.8.0 或更高

从 python.org 下载最新 Linux/UNIX 安装包，后缀为 .tgz。在 树莓派 中解压
使用 `cd` 导航到解压后文件夹的路径（可直接在解压后的文件夹上右键，拷贝路径）
使用`sudo ./configure && sudo make -j4 && sudo make install`进行安装
完成后输入 `python3` 查看当前版本号

```
pi@RasPi:~ $ python3
Python 3.8.7 (default, Jan 12 2021, 23:25:50)
[GCC 8.3.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

2021.01.13 星期三

python 更新后 pip 无法联网

多次 Google 后的成果 https://help.dreamhost.com/hc/en-us/articles/360001435926-Installing-OpenSSL-locally-under-your-username

```
WARNING: pip is configured with locations that require TLS/SSL, however the ssl module in Python is not available.
Looking in indexes: https://pypi.org/simple, https://www.piwheels.org/simple
WARNING: Retrying (Retry(total=4, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Cant connect to HTTPS URL because the SSL module is not available.")': /simple/pip/
WARNING: Retrying (Retry(total=3, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Cant connect to HTTPS URL because the SSL module is not available.")': /simple/pip/
WARNING: Retrying (Retry(total=2, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Cant connect to HTTPS URL because the SSL module is not available.")': /simple/pip/
WARNING: Retrying (Retry(total=1, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Can'
```

```
t connect to HTTPS URL because the SSL module is not available.
")': /simple/pip/
WARNING: Retrying (Retry(total=0, connect=None, read=None, redire
ct=None, status=None)) after connection broken by 'SSLError("Can'
t connect to HTTPS URL because the SSL module is not available.
")': /simple/pip/
Could not fetch URL https://pypi.org/simple/pip/: There was a pro
blem confirming the ssl certificate: HTTPSConnectionPool(host='py
pi.org', port=443): Max retries exceeded with url: /simple/pip/ (
Caused by SSLError("Can't connect to HTTPS URL because the SSL mo
dule is not available.")) - skipping
WARNING: Retrying (Retry(total=4, connect=None, read=None, redire
ct=None, status=None)) after connection broken by 'SSLError("Can'
t connect to HTTPS URL because the SSL module is not available.
")': /simple/pip/
WARNING: Retrying (Retry(total=3, connect=None, read=None, redire
ct=None, status=None)) after connection broken by 'SSLError("Can'
t connect to HTTPS URL because the SSL module is not available.
")': /simple/pip/
WARNING: Retrying (Retry(total=2, connect=None, read=None, redire
ct=None, status=None)) after connection broken by 'SSLError("Can'
t connect to HTTPS URL because the SSL module is not available.
")': /simple/pip/
WARNING: Retrying (Retry(total=1, connect=None, read=None, redire
ct=None, status=None)) after connection broken by 'SSLError("Can'
t connect to HTTPS URL because the SSL module is not available.
")': /simple/pip/
WARNING: Retrying (Retry(total=0, connect=None, read=None, redire
ct=None, status=None)) after connection broken by 'SSLError("Can'
t connect to HTTPS URL because the SSL module is not available.
")': /simple/pip/
Could not fetch URL https://www.piwheels.org/simple/pip/: There w
as a problem confirming the ssl certificate: HTTPSConnectionPool(
host='www.piwheels.org', port=443): Max retries exceeded with url
: /simple/pip/ (Caused by SSLError("Can't connect to HTTPS URL be
cause the SSL module is not available.")) - skipping
ERROR: Could not find a version that satisfies the requirement pi
p (from versions: none)
ERROR: No matching distribution found for pip
WARNING: pip is configured with locations that require TLS/SSL, h
```

```
    owever the ssl module in Python is not available.
```

问题仍未解决，不知 https://mathsyouth.github.io/2020/06/03/pyenv-pipx-pip-tools 是否有用。

查看终端曾执行过的历史命令

输入 `history` 即可显示，目前已运行过432条命令 🤯

2021.01.14 星期四

对“python 更新后 pip 无法联网”的资料搜集

发现新资料，可能对 pip 的相关问题解决提供帮助。【按猜测可靠度排序】

https://blog.csdn.net/lkgCSDN/article/details/84403329

https://my.oschina.net/u/4386148/blog/3439280

https://blog.csdn.net/jeryjeryjery/article/details/77880227

https://blog.csdn.net/crisschan/article/details/104811936

https://blog.csdn.net/yuan882696yan/article/details/45894727

点亮插入树莓派 GPIO 引脚的模块?

无意发现其它资料

http://nicekwell.net/blog/20171116/shu-mei-pai-pypi-shuo-ming-he-an-zhuang.html

https://pypi.org/project/RPi.GPIO/

2021.01.17 星期六

更新 OpenSSL

尝试重新安装 Python 时提示相关问题，因此进行此操作。

主要参考文档

https://blog.csdn.net/lkgCSDN/article/details/84403329

获取 OpenSSL

从官网下载并解压后 .tar.gz 文件后，路径在 /home/pi/Desktop/openssl-1.1.1i

前往路径

`cd /home/pi/Desktop/openssl-1.1.1i`

编译安装

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`sudo ./config --prefix=/usr/local/openssl no-zlib  #不需要zlib`

`sudo make`

`sudo make install`

备份/移动原配置

`mv /usr/bin/openssl /usr/bin/openssl.bak`

`mv /usr/include/openssl /usr/include/openssl.bak`

- 参考文档的命令为 `mv /usr/include/openssl/ /usr/include/openssl.bak` ，多写了一个“/”，导致move命令返回 `mv: 无法将'/usr/include/openssl/' 移动至'/usr/include/openssl.bak': 不是目录` ，按照上一条尝试修改命令，执行成功。

载入新配置

`ln -s /usr/local/openssl/include/openssl /usr/include/openssl`

`ln -s /usr/local/openssl/lib/libssl.so.1.1 /usr/local/lib/libssl.so`

- 参考文档中写的`/usr/local/lib/libssl.so` ，但 ln 返回 `ln: 无法创建符号链接'/usr/local/lib64/libssl.so': 没有那个文件或目录` ，通过向前删一部分目录并用 Tab 补全，找到 /lib 目录，而非 /lib64。

`ln -s /usr/local/openssl/bin/openssl /usr/bin/openssl` 、

修改系统配置

写入 OpenSSL 库文件的搜索路径

`sudo sh -c "echo '/usr/local/lib' >> /etc/ld.so.conf"`

- 参考文档的命令 `echo "/usr/local/openssl/lib" >> /etc/ld.so.conf` 返回 `bash: /etc/ld.so.conf: 权限不够` ，根据 https://blog.csdn.net/yunyi4367/article/details/78070928，使用代替命令，执行成功。

使修改后的/etc/ld.so.conf生效

`sudo ldconfig -v`

查看更新后的 OpenSSL 版本

`openssl version`

返回 `OpenSSL 1.1.1i  8 Dec 2020 (Library: OpenSSL 1.1.1d  10 Sep 2019)` ，OpenSSL 更新成功。

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Week 09 2021.01.18 - 01.24

2021.01.18 星期一

~~徽章~~

~~徽章很好玩，大的、小的……红红火火恍恍惚惚~~
~~我们现在就带着两个徽章，一个是大的，另一个还是大的……红红火火恍恍惚惚~~

重新安装 Python 3.8.7

主要参考文档

https://blog.csdn.net/lkgCSDN/article/details/84403329

2021.01.19 星期二

重装 Raspbian 系统

原因

pip 和 apt-get 都出现了无法联网的情况，非常复杂，使得人心混乱，因此重装系统以恢复原有的宁静。（突然想起 oneko 🤔 ）

概述

总体过程非常顺利，比之前快得多，装 TeamViewer 之前本应安装的 `sudo apt-get install gdebi` ，也被双击打开 TeamV 的 .deb 安装包时系统自动安装了，原因多半来自这次 apt-get 的软件源更改的比较彻底（执行安装命令时没有一句是来自 raspberrypi.org 的，具体更改操作如下。

彻底更改 apt-get 软件源为“清华大学开源软件镜像站”

https://mirrors.tuna.tsinghua.edu.cn/help/raspbian/

终端命令

`sudo nano` **在点亮的原有源前加 `#` 加以注释**

更改 `/etc/apt/sources.list` 文件

deb http://mirrors.tuna.tsinghua.edu.cn/raspbian/raspbian/ buster main non-free contrib
deb-src http://mirrors.tuna.tsinghua.edu.cn/raspbian/raspbian/ buster main non-free contrib

更改 `/etc/apt/sources.list.d/raspi.list` 文件

deb http://mirrors.tuna.tsinghua.edu.cn/raspberrypi/ buster main ui

升级 Python3.8

https://community.home-assistant.io/t/home-assistant-core-python-3-8-backport-for-debian-buster/234859

Python 3.8 backport for Debian buster

With the release of Home Assistant 0.116, Python 3.7 is now deprecated and support will be removed in 0.118. This is not a problem for people running Home Assistant OS, or using the official Docker container. However many of us who are running Debian-based operating systems (including Raspberry Pi OS) can't install Python 3.8 or later from the official repositories. Support will only come with Debian bullseye which will not be released before at least April 2021.

If you are not willing to use the Docker container, the only option you have left is compiling Python from source yourself. Although this works usually pretty good, by compiling from source and installing it, you are effectively bypassing any form of version and dependency control you have with package managers like APT. It is also usually not as easy to remove after you have installed it. Of course compiling also takes a bit of time.

To make your life easier (and keep my homeserver as clean as possible), I made a backport of Python 3.8 for Debian buster (using Debian bullseye) which you can simply install via APT. If there will be any updates to Python 3.8 before Debian bullseye is released, these will simply be distributed via APT as well.

Scope

The scope of this project is limited to backporting just Python 3.8 itself. So no defaults (which provide virtual packages so `python3` get's automatically linked to `python3.8` for example), no pip and no pip-packages. This version should be an extension to your system, but it's not meant to replace an existing Python installation.

Virtual enviroment

To make the `venv` module work without backporting all pip-related packages, the `python3.8-venv` package depends on `python3-distutils` which is present in buster. After you have created your virtual enviroment you can then update pip itself (if you so desire, but optional) and any packages as usual.

Repository

NOTE: You should never install keys and add repositories from developers you don't trust. Decide for yourself if I'm trustworthy and if you have any doubts, check out the source and

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compile the packages yourself.
You can download the packages in my repository at `deb.pascalroeleven.nl`.
You should add my PGP (which you can get from my website via https) to APT's sources keyring before you can download from the repository:

Copy to clipboard

```
wget https://pascalroeleven.nl/deb-pascalroeleven.gpg
sudo apt-key add deb-pascalroeleven.gpg
```

Afterwards you should add this line to your `sources.list` (`/etc/apt/sources.list`):

Copy to clipboard

```
deb http://deb.pascalroeleven.nl/python3.8 buster-backports main
```

You can now update your package index:

Copy to clipboard

```
sudo apt update
```

and install Python 3.8 related packages:

Copy to clipboard

```
sudo apt install python3.8 python3.8-venv python3.8-dev
```

You can then recreate your venv as mentioned here 143. Just be sure to specify `python3.8` explicitly instead of `python3`. Once your inside your venv, `python` and `python3` will be linked to `python3.8`. Please note that upgrading your current venv does not work without hassle because of the lack of `python3-defaults` and the need to recompile modules for a lot of packages.

Support

Currently there is support for **`amd64`**, **`arm64`** and **`armhf`** architectures. The `amd64` packages are build natively while the `arm64` and `armhf` packages are crossbuilt. Testing is not possible while crossbuilding, so these packages did not undergo the same amount of testing as usual Debian packages do.
These are the only architectures I am able to test. However if there is a demand, I can try cross compiling for different architectures as well and distribute those.
If you want to check out the source, you can visit the Github 32.
I hope this will help some people out.

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Week 10 2021.01.25 - 01.31 [假期加班 ON!]

2021.01.29 星期五

升级 Python 至 3.8 或更高

以消除 Home Asisstant 的警告

参考内容

http://www.culmart.com/play/oshw/941.html

内容备份

```
树莓派是基于Linux的单片机电脑，由英国树莓派基金会开发，目的是以低价硬件及自由软件促进学校的基本计算机科学教育。Raspberry Pi OS是为树莓派基于Debian开发的操作系统。

首先，可以更新到最新的Raspberry Pi OS。

sudo apt update
sudo apt dist-upgrade
sudo apt clean
sudo reboot

树莓派Raspberry Pi OS预装了python2和3，默认使用python2；要想使用python3，需要使用python3、pip3等指令；或者——

删除python2.7，输入：

sudo apt-get autoremove python2.7

删除链接（有可能已删除）：

sudo rm /usr/bin/python
sudo rm /usr/bin/pip

新建链接：

```

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```
sudo ln -s /usr/bin/python3.7 /usr/bin/python
sudo ln -s /usr/bin/pip3 /usr/bin/pip

查看版本:

python

显示如下:

Python 3.7.3 (default, Apr 3 2019, 05:39:12)
[GCC 8.2.0] on linux
Type "help", "copyright", "credits" or "license" for more information.

安装Python 3.8.5

1.更新Raspbian

sudo apt-get update

2.安装依赖项

sudo apt-get install -y build-essential tk-dev libncurses5-dev libncursesw5-dev libreadline6-dev libdb5.3-dev libgdbm-dev libsqlite3-dev libssl-dev libbz2-dev libexpat1-dev liblzma-dev zlib1g-dev libffi-dev tar wget vim

3.下载Python

wget https://www.python.org/ftp/python/3.8.5/Python-3.8.5.tgz

4.安装Python 3.8

sudo tar zxf Python-3.8.5.tgz
cd Python-3.8.5
sudo ./configure --enable-optimizations
sudo make -j 4
sudo make altinstall

5.将Python 3.8设置为默认版本
```

```

echo "alias python=/usr/local/bin/python3.8" >> ~/.bashrc
source ~/.bashrc

6.检查Python版本

python -V
Python 3.8.5

7.清理存档

sudo rm -rf Python-3.8.5.tgz
sudo rm -rf Python-3.8.5

8.可能需要重建链接

sudo ln -s /usr/bin/python3.8 /usr/bin/python


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感谢您的支持，以让我们持续关注中国学子的STEAM旅程！
```

根据参考资料修改的运行命令

没有使用 `sudo apt-get autoremove python2.7` 完全删除旧版 Python，直接进行下面的操作。

2021.01.30 星期六

更改 pip 的 Python 版本

https://blog.csdn.net/ZZQHELLO2018/article/details/106998144

使用 nano 编辑 pip 文件

`sudo nano /home/pi/.local/bin/pip`

`sudo nano /home/pi/.local/bin/pip3`

更改第一行 # 后的链接

检查 pip 状态

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```
pi@raspberrypi:/usr/bin $ pip -V
pip 20.2.4 from /home/pi/.local/lib/python3.7/site-packages/pip (python 3.7)
pi@raspberrypi:/usr/bin $ pip3 -V
pip 21.0 from /home/pi/.local/lib/python3.8/site-packages/pip (python 3.8)
```

适用于树莓派的 Home Assistant 功能手册

https://blog.csdn.net/weixin_45820944/article/details/104201936

发现未更改完全的 pip 源

https://shumeipai.nxez.com/2020/03/05/homeassistant-installation-troubleshooting.html

`sudo nano /etc/pip.conf`

更改为 https://pypi.tuna.tsinghua.edu.cn/simple

重新安装+更新 Home Assistant

`pip3 install --upgrade homeassistant`

https://home-assistant.cc/update/general/

Home Assistant 目前状态

```
System Health

version: 2021.1.5
installation_type: Unknown
dev: false
hassio: false
docker: false
virtualenv: false
python_version: 3.8.7
os_name: Linux
os_version: 5.4.83-v7+
arch: armv7l
timezone: Asia/Shanghai


logged_in: false
can_reach_cert_server: ok
```

```
can_reach_cloud_auth: ok
can_reach_cloud: ok


dashboards: 1
mode: auto-gen
resources: 0
```

2021.01.31 星期日【走向成功的最后一哆嗦】

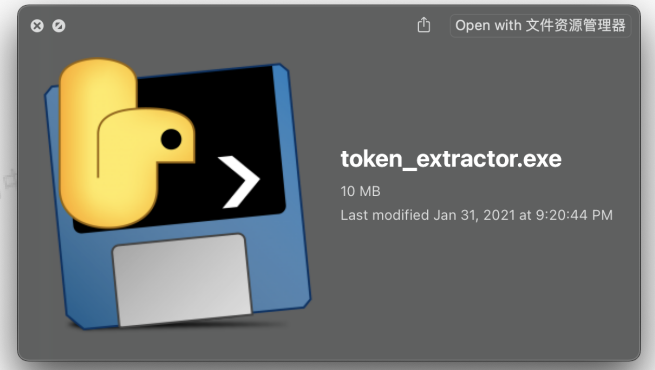
向 Home Assistant 中添加设备

获取米家设备的信息（Host/IP、Token、Model）

使用 HA 官网的 Miio 教程，在 Mac 的 Parallels Desktop 中虚拟的 Windows 10 上运行 .exe，直接获取只能设备 IP 和 Token。（这部分真的对国内教程的方法及其无语😓）
https://www.home-assistant.io/integrations/xiaomi_miio

推荐方法 XIAOMI CLOUD TOKENS EXTRACTOR

> https://github.com/PiotrMachowski/Xiaomi-cloud-tokens-extractor



One of Home Assistant users wrote a tokens extractor tool, which is currently the easiest way to retrieve tokens for all devices assigned to Xiaomi account. In the repository there's executable for convenient use on Windows or Python script to be run on any platform. If you do not wish to run executable, then you can run it using the source code:

1. Install requirements:

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```
pip3 install pycryptodome pybase64 requests
```

2. Run script

```
python3 token_extractor.py
```

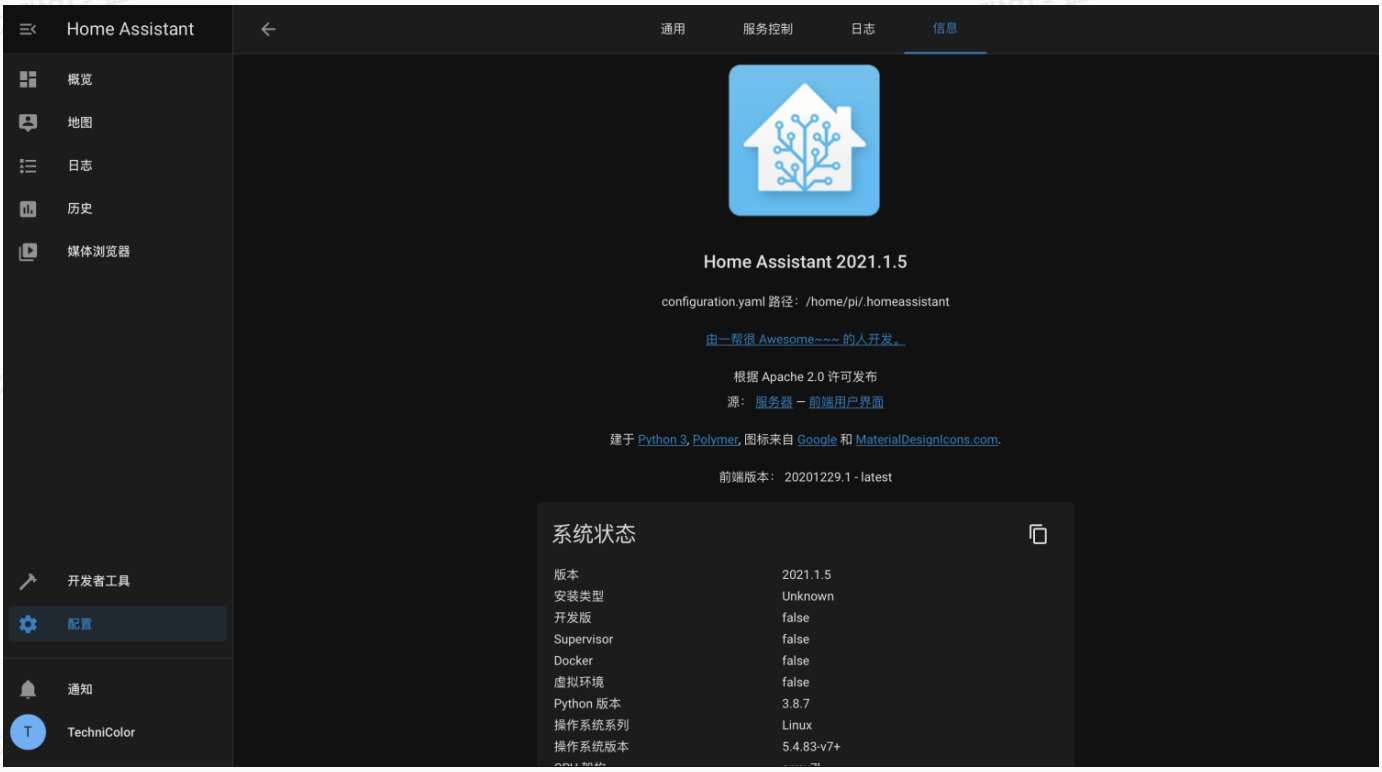
3. Provide e-mail address or username for Xiaomi's account, password and country of the account (most used: CN – China Mainland, DE – Germany etc.)
4. Script will print out all devices connected to the account with their IP address and tokens for use in Home Assistant.

向 Home Assistant 中添加设备

编辑 configuration.yaml 文件 `(sudo nano /路径)`

configuration.yaml 文件位置

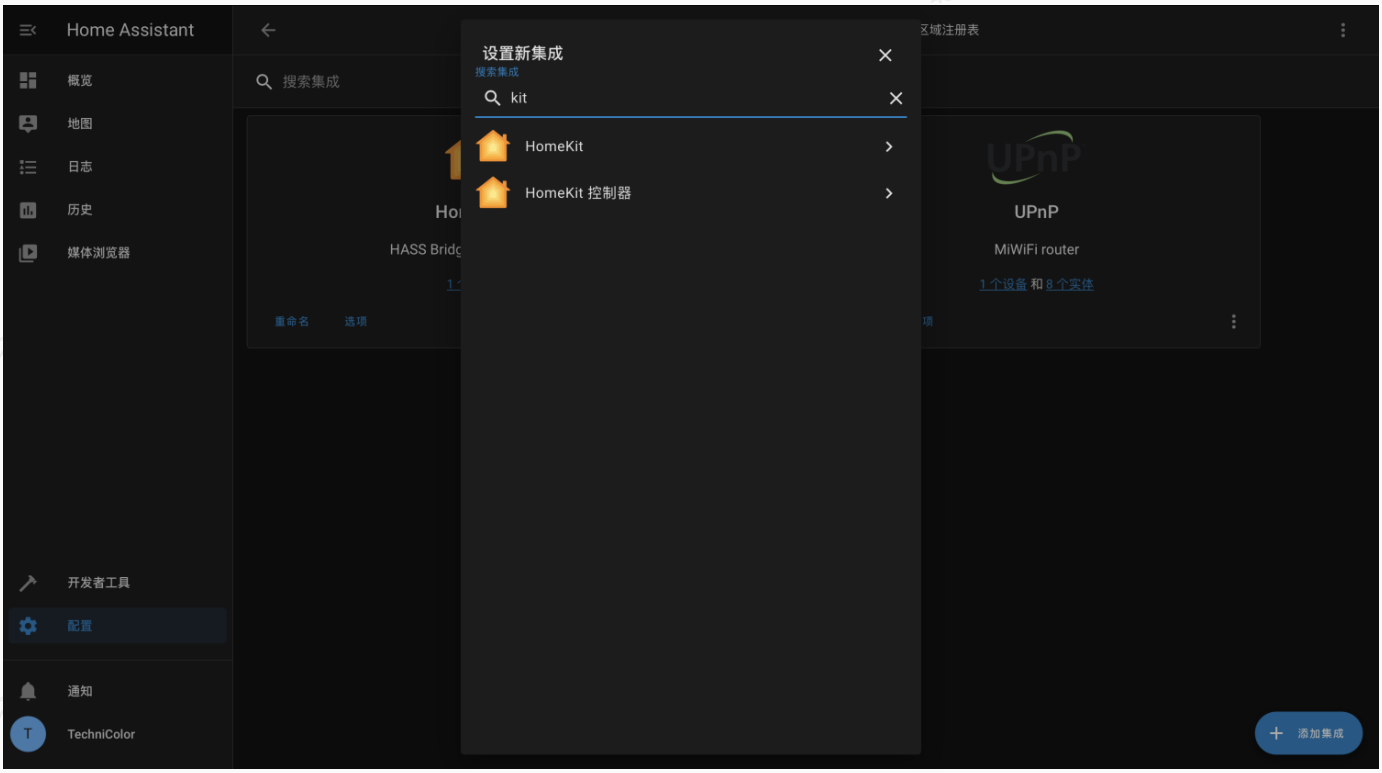
HA 界面 – 左侧"配置" – 右侧底部"信息" – 版本下方即显示
我们这里显示的信息为 `configuration.yaml 路径: /home/pi/.homeassistant`



将设备加入 Home App

添加 HomeKit 集成

在 HA 中添加名为「HomeKit」的集成（HA 界面 – 左侧“配置” – “集成” – 右下角“添加集成”）



集成「HomeKit」与「HomeKit 控制器」的差别

前者可模拟 HomeKit 可以识别的网关，用于将 HA 中的智能设备加入 HomeKit ，后者用于将原生支持 HomeKit 的智能硬件加入 HA 。

向 Home App 中添加虚拟网关

根据 HA 左下角“通知”中的提示，在 Apple 设备的 Home App 中添加设备。

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恭喜你，大功告成！

现在，你可以像设置真正 HomeKit 设备一样，设置你的“米家 HomeKit 设备”

进一步推荐操作

- 在 iOS/iPadOS 中的“设置 – 控制中心”，开启“显示家庭控制”。
- 在 Home App 设置家庭及每个房间背景（ App 左上角的菜单）
- 把玩“快捷指令 (Shortcuts) ” App，如：在晚上开始充电时关闭 HomeKit 设备。
- 参照 适用于树莓派的 Home Assistant 功能手册 创建开机启动

尽情发挥的创意 ……

前后输入近千行终端命令

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HomeKit Transition 操作流程梳理

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Raspberry Pi 学习

增长兴趣

https://www.zhihu.com/question/20859055
https://www.zhihu.com/question/32067191/answer/474606795
https://www.zhihu.com/question/20697024
https://www.zhihu.com/question/37202806/answer/188001383
https://linux.cn/article-12005-1.html

初步入门

强烈推荐！➡️ https://github.com/TommyZihao/ZihaoTutorialOfRaspberryPi

http://www.ruanyifeng.com/blog/2017/06/raspberry-pi-tutorial.html
https://www.zhihu.com/question/35075177
https://www.raspberrypi.org
https://www.zhihu.com/question/273507065

上手使用

检查软硬件版本

```
getconf LONG_BIT        # 查看系统位数
uname -a            # kernel 版本
/opt/vc/bin/vcgencmd  version   # firmware版本
strings /boot/start.elf | grep VC_BUILD_ID    # firmware版本
cat /proc/version       # kernel
cat /etc/os-release     # OS版本资讯
cat /etc/issue          # Linux distro 版本
cat /etc/debian_version     # Debian版本编号
```

https://aoenian.github.io/2018/05/20/rasp-versions/
https://www.basemu.com/checking-raspberry-pi-board-version.html
https://zhuanlan.zhihu.com/p/163079599

SSH 相关

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https://qastack.cn/unix/92560/list-all-connected-ssh-sessions

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HomeKit 相关

https://home-assistant.cc

https://github.com/home-assistant

https://www.home-assistant.io

https://sspai.com/post/58905

HomeBridge

https://sspai.com/post/59636

HomeAssistant

https://sspai.com/post/60414
https://blog.csdn.net/weixin_45820944/article/details/104201936

https://www.home-assistant.io/docs/installation/virtualenv/

https://www.home-assistant.io/docs/installation/raspberry-pi/

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Python 基础

Python图形界面开发教程–我要自学网

https://docs.python.org/zh-cn/3.10/library/tkinter.dnd.html

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HTML 资料

基础逻辑

https://b23.tv/VXIVB8

https://www.cnblogs.com/zhangmingfeng/p/12004324.html

https://www.cnblogs.com/easyidea/p/10214559.html

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「微信」Python 资料

GitHub - injetlee/Python: Python脚本。模拟登录知乎， 爬虫，操作excel，微信公众号，远程开机

GitHub - wechatpy/wechatpy: WeChat SDK for Python

wechatpy · 微信公众号 Python SDK

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「百度网盘」Python 资料

https://greasyfork.org/zh-CN/scripts/403991-百度网盘直链提取-多选

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