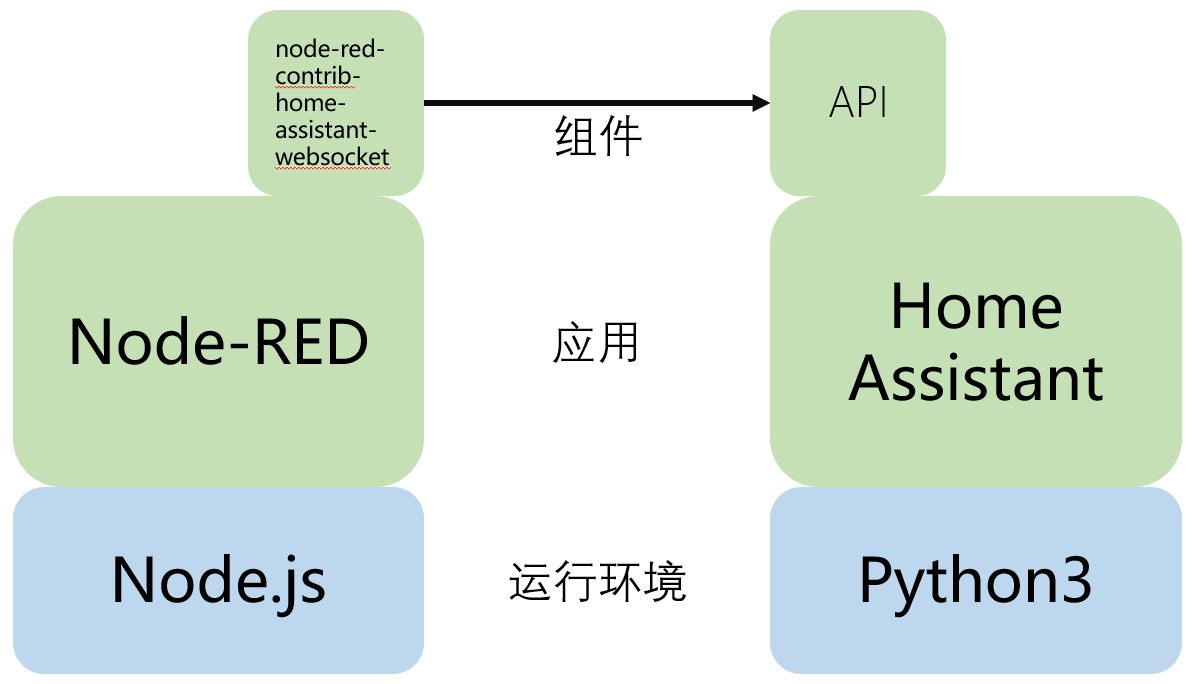
Node-RED安装与初体验

【操作步骤】

1. Node-RED架构
2. 在树莓派上安装Node-RED
3. 启动Node-RED
4. 创建第一个流程

【参考】

* Node-RED与HomeAssistant



* Node-RED网站

<https://nodered.org/>

* 树莓派上安装Node-RED

sudo apt-get install build-essential

bash <(curl -sL https://raw.githubusercontent.com/node-red/raspbian-deb-package/master/resources/update-nodejs-and-nodered)

Node-RED配置

【操作步骤】

1. Node-RED的启动、停止、输出查看、自启动
2. Node-RED的用户名/密码设置
3. 安装node-red-contrib-home-assistant-websocket
4. 建立与home-assistant的连接

【参考】

* 树莓派上Node-RED命令

node-red-stop­ ——停止Node-RED服务

node-red-start ——启动Node-RED服务

node-red-restart ——重启Node-RED服务

node-red-log ——输出Node-RED服务日志

sudo systemctl enable nodered.service ——系统启动时自动运行Node-RED

sudo systemctl disable nodered.service ——系统系统时不自动运行Node-RED

* 安装node-red-admin工具

sudo npm install -g node-red-admin

* 生成密码的hash值

node-red-admin hash-pw

* 安装node-red-contrib-home-assistant-websocket

cd ~/.node-red

npm install node-red-contrib-home-assistant-websocket

HomeAssistant节点(1)

【操作步骤】

1. 导入流程样例
2. enent: all节点演示
3. event: state节点演示
4. poll state节点演示

【参考】

|  |  |  |  |
| --- | --- | --- | --- |
| 节点 | 说明 | 输入 | 输出（payload） |
|  | 由HomeAssistant事件触发 | 无 | 事件相关数据 |
|  | 由实体状态改变事件触发 | 无 | 新的状态值 |
|  | 定时查询状态 | 无 | 状态值 |

* HomeAssistant中的事件

<https://www.hachina.io/docs/470.html>

* 流程样例

[{"id":"ef53097d.5af3b8","type":"tab","label":"events:all","disabled":false,"info":""},{"id":"e6574104.b450c","type":"tab","label":"events:state","disabled":false,"info":""},{"id":"1afde359.90f62d","type":"tab","label":"poll state","disabled":false,"info":""},{"id":"69621d87.7af904","type":"server","z":"","name":"HAChina Example","legacy":false,"hassio":false,"rejectUnauthorizedCerts":true,"ha\_boolean":"y|yes|true|on|home|open"},{"id":"7c92d0a1.eadbe","type":"server-events","z":"ef53097d.5af3b8","name":"只由xiaomi\_aqara.click事件触发","server":"69621d87.7af904","event\_type":"xiaomi\_aqara.click","x":149,"y":662.0000448226929,"wires":[["260a41b5.88261e"]]},{"id":"80cff72a.fd91d8","type":"debug","z":"ef53097d.5af3b8","name":"dubug输出msg.payload","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","x":955.0001029968262,"y":812.9999980926514,"wires":[]},{"id":"260a41b5.88261e","type":"switch","z":"ef53097d.5af3b8","name":"","property":"payload.event.click\_type","propertyType":"msg","rules":[{"t":"eq","v":"single","vt":"str"},{"t":"eq","v":"double","vt":"str"},{"t":"eq","v":"hold","vt":"str"}],"checkall":"true","repair":false,"outputs":3,"x":281.9999809265137,"y":833.0000438690186,"wires":[["9e917871.0aa988"],["f0b9e490.544888"],["8c3d79c4.9f6698"]]},{"id":"9e917871.0aa988","type":"change","z":"ef53097d.5af3b8","name":"change节点，设定payload为\"单击\"","rules":[{"t":"set","p":"payload","pt":"msg","to":"单击","tot":"str"}],"action":"","property":"","from":"","to":"","reg":false,"x":607,"y":649.9999980926514,"wires":[["80cff72a.fd91d8"]]},{"id":"f0b9e490.544888","type":"change","z":"ef53097d.5af3b8","name":"change节点，设定payload为\"双击\"","rules":[{"t":"set","p":"payload","pt":"msg","to":"双击","tot":"str"}],"action":"","property":"","from":"","to":"","reg":false,"x":616.0000152587891,"y":798.0000591278076,"wires":[["80cff72a.fd91d8"]]},{"id":"8c3d79c4.9f6698","type":"change","z":"ef53097d.5af3b8","name":"change节点，设定payload为\"长按\"","rules":[{"t":"set","p":"payload","pt":"msg","to":"长按","tot":"str"}],"action":"","property":"","from":"","to":"","reg":false,"x":561.9999923706055,"y":932.9999828338623,"wires":[["80cff72a.fd91d8"]]},{"id":"45261274.003c6c","type":"server-events","z":"ef53097d.5af3b8","name":"所有事件","server":"69621d87.7af904","event\_type":"","x":139.88280868530273,"y":245.58205223083496,"wires":[["aa8164c7.8a5668","fa25242b.0a2598","680e2ad.42936d4","9f10fec7.cb7b2","8177868a.07dac8"]]},{"id":"aa8164c7.8a5668","type":"debug","z":"ef53097d.5af3b8","name":"dubug输出msg.payload","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","x":542.8984985351562,"y":130.67971801757812,"wires":[]},{"id":"fa25242b.0a2598","type":"debug","z":"ef53097d.5af3b8","name":"dubug输出msg.topic","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"topic","x":524.0195465087891,"y":210.00391101837158,"wires":[]},{"id":"680e2ad.42936d4","type":"debug","z":"ef53097d.5af3b8","name":"dubug输出msg.event\_type","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"event\_type","x":544.0195770263672,"y":318.00391960144043,"wires":[]},{"id":"9f10fec7.cb7b2","type":"debug","z":"ef53097d.5af3b8","name":"dubug输出msg.payload.event.entity\_id","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload.event.entity\_id","x":575.0195503234863,"y":417.00390434265137,"wires":[]},{"id":"8177868a.07dac8","type":"debug","z":"ef53097d.5af3b8","name":"dubug输出all","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"true","x":528.0195732116699,"y":45.99999809265137,"wires":[]},{"id":"401dfb4b.7bc1a4","type":"server-state-changed","z":"e6574104.b450c","name":"所有实体状态改变事件","server":"69621d87.7af904","entityidfilter":".\*","entityidfiltertype":"regex","outputinitially":false,"state\_type":"str","haltifstate":"","halt\_if\_type":"str","halt\_if\_compare":"is","outputs":1,"x":220,"y":300,"wires":[["fa7bd4bc.372168"]]},{"id":"fa7bd4bc.372168","type":"debug","z":"e6574104.b450c","name":"debug输出payload","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","x":710,"y":240,"wires":[]},{"id":"90b025c1.8bede8","type":"server-state-changed","z":"e6574104.b450c","name":"判断某实体新的状态","server":"69621d87.7af904","entityidfilter":"sensor.temperature\_158d00019f8b1f","entityidfiltertype":"substring","outputinitially":false,"state\_type":"num","haltifstate":"30","halt\_if\_type":"num","halt\_if\_compare":"gt","outputs":2,"x":230,"y":620,"wires":[["9b145a75.f7f578"],["cb76e7db.c38a68"]]},{"id":"9b145a75.f7f578","type":"debug","z":"e6574104.b450c","name":"debug输出payload","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","x":710,"y":540,"wires":[]},{"id":"cb76e7db.c38a68","type":"debug","z":"e6574104.b450c","name":"debug输出payload","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","x":670,"y":740,"wires":[]},{"id":"c689c009.ee1c3","type":"poll-state","z":"1afde359.90f62d","name":"每5秒轮询状态","server":"69621d87.7af904","updateinterval":"5","outputinitially":false,"outputonchanged":false,"entity\_id":"sensor.temperature\_158d00019f8b1f","state\_type":"str","halt\_if":"30","halt\_if\_type":"num","halt\_if\_compare":"gt","outputs":2,"x":260,"y":440,"wires":[["bc1c32ab.882fc"],["cafd670.2dbf498"]]},{"id":"bc1c32ab.882fc","type":"debug","z":"1afde359.90f62d","name":"debug输出payload","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","x":700,"y":300,"wires":[]},{"id":"cafd670.2dbf498","type":"debug","z":"1afde359.90f62d","name":"debug输出payload","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","x":690,"y":500,"wires":[]}]

HomeAssistant节点(2)

【操作步骤】

1. 导入流程样例
2. current\_state节点演示
3. get entities节点演示
4. call service节点演示
5. 其它节点

【参考】

|  |  |  |  |
| --- | --- | --- | --- |
| 节点 | 说明 | 输入 | 输出（payload） |
|  | 查询当前状态 | 可输入payload.entity\_id:实体名，也可在节点中配置 | 状态值 |
|  | 查找实体 | 仅用于启动，查询条件在节点中配置 | 状态对象 |
|  | 调用服务 | 可输入服务与数据，也可在节点中配置 | 调用的服务与数据 |
|  | 事件触发 | 可输入事件类型与数据，也可在节点中配置 | 事件类型与数据 |
|  | 查询历史状态值 | 输入时间范围与实体名，也可在节点中配置 | 数组，包含各个状态值 |
|  | 运行模板 | 模板内容，也可在节点中配置 | 模板运行（渲染）后的输出 |
|  | event:state节点的高级版 | 开启和关闭触发 | 状态值 |

* HomeAssistant中的实体与状态

<https://www.hachina.io/docs/468.html>

<https://www.hachina.io/docs/469.html>

* 流程样例

[{"id":"52beafd.0c9aa5","type":"tab","label":"current\_state","disabled":false,"info":""},{"id":"ceae909.4c51c7","type":"tab","label":"get entities","disabled":false,"info":""},{"id":"d1231bc8.c7b848","type":"tab","label":"call service","disabled":false,"info":""},{"id":"69621d87.7af904","type":"server","z":"","name":"HAChina Example","legacy":false,"hassio":false,"rejectUnauthorizedCerts":true,"ha\_boolean":"y|yes|true|on|home|open"},{"id":"855bb2cb.9dbb3","type":"api-current-state","z":"52beafd.0c9aa5","name":"","server":"69621d87.7af904","halt\_if":"","halt\_if\_type":"str","halt\_if\_compare":"is","override\_topic":true,"override\_payload":true,"override\_data":true,"entity\_id":"","state\_type":"str","outputs":1,"x":438.0001449584961,"y":295.0000219345093,"wires":[["876fbdb.19f994","7a48375e.420078"]]},{"id":"876fbdb.19f994","type":"debug","z":"52beafd.0c9aa5","name":"debug输出msg.data","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"data","x":801.0000457763672,"y":361.0000219345093,"wires":[]},{"id":"dce082a3.be39c","type":"inject","z":"52beafd.0c9aa5","name":"inject注入entity\_id","topic":"","payload":"{\"entity\_id\":\"sensor.temperature\_158d00019f8b1f\"}","payloadType":"json","repeat":"","crontab":"","once":false,"onceDelay":0.1,"x":177,"y":231.00001049041748,"wires":[["855bb2cb.9dbb3"]]},{"id":"7a48375e.420078","type":"debug","z":"52beafd.0c9aa5","name":"debug输出payload","active":false,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","x":808.8945159912109,"y":188.67580699920654,"wires":[]},{"id":"aecae411.153a58","type":"inject","z":"52beafd.0c9aa5","name":"","topic":"","payload":"","payloadType":"date","repeat":"","crontab":"","once":false,"onceDelay":0.1,"x":152.89453125,"y":457.953125,"wires":[["855bb2cb.9dbb3"]]},{"id":"b9cd81.45ff628","type":"ha-get-entities","z":"ceae909.4c51c7","server":"69621d87.7af904","name":"查询条件为空，获得所有实体","rules":[],"output\_type":"array","output\_empty\_results":false,"output\_location\_type":"msg","output\_location":"payload","output\_results\_count":1,"x":450,"y":280,"wires":[["6acf8f0d.366df"]]},{"id":"6acf8f0d.366df","type":"debug","z":"ceae909.4c51c7","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"false","x":760,"y":260,"wires":[]},{"id":"76cc4a4.8ccecb4","type":"inject","z":"ceae909.4c51c7","name":"","topic":"","payload":"","payloadType":"date","repeat":"","crontab":"","once":false,"onceDelay":0.1,"x":120,"y":240,"wires":[["b9cd81.45ff628"]]},{"id":"89697c65.0cc5e","type":"ha-get-entities","z":"ceae909.4c51c7","server":"69621d87.7af904","name":"查询所有属性battery\_level小于40的实体","rules":[{"property":"attributes.battery\_level","logic":"lt","value":"50","valueType":"num"}],"output\_type":"split","output\_empty\_results":false,"output\_location\_type":"msg","output\_location":"payload","output\_results\_count":1,"x":420,"y":560,"wires":[["5c06f904.b526d8"]]},{"id":"b1a4bfd2.7c0f4","type":"inject","z":"ceae909.4c51c7","name":"","topic":"","payload":"","payloadType":"date","repeat":"","crontab":"","once":false,"onceDelay":0.1,"x":130,"y":520,"wires":[["89697c65.0cc5e"]]},{"id":"5c06f904.b526d8","type":"debug","z":"ceae909.4c51c7","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"false","x":850,"y":460,"wires":[]},{"id":"ef1308d1.da90d8","type":"ha-get-entities","z":"ceae909.4c51c7","server":"69621d87.7af904","name":"","rules":[{"property":"entity\_id","logic":"starts\_with","value":"light.","valueType":"str"},{"property":"state","logic":"is","value":"on","valueType":"str"}],"output\_type":"split","output\_empty\_results":false,"output\_location\_type":"msg","output\_location":"payload","output\_results\_count":1,"x":380,"y":820,"wires":[["4f35600d.46849"]]},{"id":"ebc42a27.c1a788","type":"inject","z":"ceae909.4c51c7","name":"","topic":"","payload":"","payloadType":"date","repeat":"","crontab":"","once":false,"onceDelay":0.1,"x":130,"y":780,"wires":[["ef1308d1.da90d8"]]},{"id":"3fef601f.367a1","type":"debug","z":"ceae909.4c51c7","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"false","x":850,"y":820,"wires":[]},{"id":"5d957599.66c26c","type":"api-call-service","z":"d1231bc8.c7b848","name":"调用persistent\_notification.create服务","server":"69621d87.7af904","service\_domain":"persistent\_notification","service":"create","data":"{\"message\":\"来自Node-RED的问候！\"}","render\_data":false,"mergecontext":"","output\_location":"payload","output\_location\_type":"msg","x":720,"y":240,"wires":[[]]},{"id":"7e69a9e1.6b12b8","type":"inject","z":"d1231bc8.c7b848","name":"","topic":"","payload":"","payloadType":"date","repeat":"","crontab":"","once":false,"onceDelay":0.1,"x":260,"y":240,"wires":[["5d957599.66c26c"]]},{"id":"862b9ad5.c37a58","type":"api-call-service","z":"d1231bc8.c7b848","name":"打开灯","server":"69621d87.7af904","service\_domain":"light","service":"turn\_on","data":"{\"entity\_id\":\"light.gateway\_light\_f0b429aa0768\"}","render\_data":false,"mergecontext":"","output\_location":"payload","output\_location\_type":"msg","x":850,"y":380,"wires":[[]]},{"id":"8ec7ae87.1a6b7","type":"api-call-service","z":"d1231bc8.c7b848","name":"关闭灯","server":"69621d87.7af904","service\_domain":"light","service":"turn\_off","data":"{\"entity\_id\":\"light.gateway\_light\_f0b429aa0768\"}","render\_data":false,"mergecontext":"","output\_location":"payload","output\_location\_type":"msg","x":770,"y":540,"wires":[[]]},{"id":"1278c04c.a1727","type":"server-state-changed","z":"d1231bc8.c7b848","name":"","server":"69621d87.7af904","entityidfilter":"sensor.temperature\_158d00019f8b1f","entityidfiltertype":"exact","outputinitially":false,"state\_type":"num","haltifstate":"30","halt\_if\_type":"num","halt\_if\_compare":"gt","outputs":2,"x":330,"y":440,"wires":[["862b9ad5.c37a58"],["8ec7ae87.1a6b7"]]},{"id":"4f35600d.46849","type":"api-current-state","z":"ceae909.4c51c7","name":"","server":"69621d87.7af904","halt\_if":"","halt\_if\_type":"str","halt\_if\_compare":"is","override\_topic":true,"override\_payload":true,"override\_data":true,"entity\_id":"","state\_type":"str","outputs":1,"x":660,"y":700,"wires":[["3fef601f.367a1"]]}]

一些样例：闹钟、自动湿度控制、门铃

【操作步骤】

1. 音乐闹钟
2. 闹钟取消
3. 自动湿度控制
4. 简单门铃
5. 门铃摄像+自动发送

【参考】

* 依赖的HomeAssistant中的一些配置

|  |  |  |
| --- | --- | --- |
| 配置样例 | HA中元素 | 备注 |
| 闹钟 | * vlc媒体播放器 * 闹钟音乐文件 | 样例中使用vlc播放器，接入参见：   * 组件基础接入篇《让设备发声——朗读文字 * 》 * 设备位置追踪篇《蓝牙音箱与蓝牙设备扫描》 |
| 湿度控制 | * 湿度计 * 控制加湿器的智能开关 | 样例中使用接入小米网关的温湿度计与智能插座，接入参见：   * 组件基础接入篇《接入硬件产品——小米多功能网关》 |
| 简单门铃 | * 无线按钮 * vlc媒体播放器 * 门铃音乐文件 | 样例中使用接入小米网关的无线按钮与vlc媒体播放器 |
| 门铃摄像+自动发送 | * 摄像头 * 邮件通知组件 * 图片存放目录配置在whitelist\_external\_dirs中 | 接入参见：   * 各种摄像头接入篇，在第一篇中介绍了图片抓取服务 * 《将消息发送给你的邮箱》 |