

# Scratch3.0 gui 代码学习

## 1. 启动过程打印信息：

#

**npm start**

> scratch-gui@0.1.0 start /home/bibaodi/demo/scratch-gui  
> webpack-dev-server

Project is running at http://0.0.0.0:8601/  
webpack output is served from /  
Content not from webpack is served from /home/bibaodi/demo/scratch-gui/build  
webpack: wait until bundle finished: /  
Hash: 9f02fcd9a3d80661cf07  
Version: webpack 3.8.1  
Time: 24980ms

Asset	Size	Chunks	Chunk Names
static/blocks-media/icons/event_when-broadcast-received_green.svg	1.65 kB	[emitted]	[emitted]
gui.js	2.97 kB	0 [emitted]	gui
blocksonly.js	3.67 kB	2 [emitted]	blocksonly
lib.min.js	9.68 MB	3 [emitted] [big]	lib
gui.js.map	3.24 kB	0 [emitted]	gui
player.js.map	5.17 kB	1 [emitted]	player
blocksonly.js.map	3.88 kB	2 [emitted]	blocksonly
lib.min.js.map	10.9 MB	3 [emitted]	lib
index.html	314 bytes	[emitted]	
blocks-only.html	342 bytes	[emitted]	
player.html	333 bytes	[emitted]	
static/blocks-media/1x1.gif	43 bytes	[emitted]	
static/blocks-media/click.mp3	8.13 kB	[emitted]	
static/blocks-media/click.ogg	5.45 kB	[emitted]	
static/blocks-media/delete.mp3	9.8 kB	[emitted]	
static/blocks-media/delete.wav	11.9 kB	[emitted]	
static/blocks-media/delete.ogg	8.62 kB	[emitted]	
static/blocks-media/dropdown-arrow-dark.svg	573 bytes	[emitted]	
static/blocks-media/dropdown-arrow.svg	569 bytes	[emitted]	
static/blocks-media/eyedropper.svg	3.55 kB	[emitted]	
static/blocks-media/green-flag.svg	1.19 kB	[emitted]	
static/blocks-media/handclosed.cur	326 bytes	[emitted]	
static/blocks-media/handdelete.cur	766 bytes	[emitted]	
static/blocks-media/handopen.cur	198 bytes	[emitted]	
static/blocks-media/icons/arrow.svg	1.21 kB	[emitted]	
static/blocks-media/icons/control_forever.svg	4.67 kB	[emitted]	
static/blocks-media/icons/control_repeat.svg	1.99 kB	[emitted]	
static/blocks-media/icons/control_stop.svg	301 bytes	[emitted]	
static/blocks-media/icons/control_wait.svg	1.14 kB	[emitted]	
static/blocks-media/icons/event_broadcast_blue.svg	1.65 kB	[emitted]	
static/blocks-media/icons/event_broadcast_coral.svg	1.66 kB	[emitted]	
static/blocks-media/icons/event_broadcast_green.svg	1.66 kB	[emitted]	
static/blocks-media/icons/event_broadcast_magenta.svg	1.66 kB	[emitted]	
static/blocks-media/icons/event_broadcast_orange.svg	1.66 kB	[emitted]	
static/blocks-media/icons/event_broadcast_purple.svg	1.65 kB	[emitted]	
static/blocks-media/icons/event_when-broadcast-received_blue.svg	1.65 kB	[emitted]	
static/blocks-media/icons/event_when-broadcast-received_coral.svg	1.65 kB	[emitted]	
player.js	7.13 kB	1 [emitted]	player
static/blocks-media/icons/event_when-broadcast-received_magenta.svg	1.66 kB	[emitted]	
static/blocks-media/icons/event_when-broadcast-received_orange.svg	1.66 kB	[emitted]	
static/blocks-media/icons/event_when-broadcast-received_purple.svg	1.65 kB	[emitted]	
static/blocks-media/icons/event_whenflagclicked.svg	634 bytes	[emitted]	
static/blocks-media/icons/set-led_blue.svg	2.04 kB	[emitted]	
static/blocks-media/icons/set-led_coral.svg	2.04 kB	[emitted]	
static/blocks-media/icons/set-led_green.svg	2.04 kB	[emitted]	
static/blocks-media/icons/set-led_magenta.svg	2.04 kB	[emitted]	
static/blocks-media/icons/set-led_mystery.svg	2.96 kB	[emitted]	
static/blocks-media/icons/set-led_orange.svg	2.04 kB	[emitted]	
static/blocks-media/icons/set-led_purple.svg	2.04 kB	[emitted]	
static/blocks-media/icons/set-led_white.svg	2.04 kB	[emitted]	
static/blocks-media/icons/set-led_yellow.svg	2.04 kB	[emitted]	
static/blocks-media/icons/wedo_motor-clockwise.svg	3.75 kB	[emitted]	
static/blocks-media/icons/wedo_motor-counterclockwise.svg	3.73 kB	[emitted]	
static/blocks-media/icons/wedo_motor-speed_fast.svg	4.33 kB	[emitted]	
static/blocks-media/icons/wedo_motor-speed_med.svg	4.35 kB	[emitted]	
static/blocks-media/icons/wedo_motor-speed_slow.svg	4.36 kB	[emitted]	
static/blocks-media/icons/wedo_when-distance_close.svg	4.75 kB	[emitted]	
static/blocks-media/icons/wedo_when-tilt-backward.svg	4.91 kB	[emitted]	
static/blocks-media/icons/wedo_when-tilt-forward.svg	4.93 kB	[emitted]	
static/blocks-media/icons/wedo_when-tilt-left.svg	3.65 kB	[emitted]	
static/blocks-media/icons/wedo_when-tilt-right.svg	3.66 kB	[emitted]	
static/blocks-media/icons/wedo_when-tilt.svg	4.11 kB	[emitted]	
static/blocks-media/repeat.svg	1.24 kB	[emitted]	
static/blocks-media/rotate-left.svg	1.06 kB	[emitted]	
static/blocks-media/rotate-right.svg	1.06 kB	[emitted]	
static/blocks-media/sprites.png	4.15 kB	[emitted]	
static/blocks-media/sprites.svg	1.77 kB	[emitted]	
static/blocks-media/zoom-in.svg	634 bytes	[emitted]	
static/blocks-media/zoom-out.svg	582 bytes	[emitted]	
static/blocks-media/zoom-reset.svg	501 bytes	[emitted]	
static/blocks-media/click.wav	3.19 kB	[emitted]	
static/extensions/example-extension.js	9.99 kB	[emitted]	
extension-worker.js.map	41.7 kB	[emitted]	
extension-worker.js	43.4 kB	[emitted]	
[0] ./node_modules/react/index.js	190 bytes	{3} [built]	
[16] ./node_modules/react-dom/index.js	1.36 kB	{3} [built]	
[27] (webpack)-dev-server/client?http://0.0.0.0:8601	7.95 kB	{3} [built]	
[33] ./node_modules/url/url.js	23.3 kB	{3} [built]	
[36] ./src/lib/app-state-hoc.jsx	1.86 kB	{3} [built]	
[47] ./src/containers/gui.jsx	5.71 kB	{3} [built]	
[132] multi (webpack)-dev-server/client?http://0.0.0.0:8601 react react-dom	52 bytes	{3} [built]	
[150] ./node_modules/react/cjs/react.development.js	55.3 kB	{3} [built]	
[166] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/index.jsx	40 bytes	{0} [built]	
[167] ./src/index.jsx	1 kB	{0} [built]	
[459] ./src/index.css	1.2 kB	{0} [built]	
[461] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/examples/blocks-only.jsx	40 bytes	{2} [built]	
[462] ./src/examples/blocks-only.jsx	1.88 kB	{2} [built]	
[465] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/examples/player.jsx	40 bytes	{1} [built]	

```
[466] ./src/examples/player.jsx 5.49 kB {1} [built]
+ 454 hidden modules
Child html-webpack-plugin for "index.html":
  1 asset
    [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
    [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
    [2] (webpack)/buildin/global.js 488 bytes {0} [built]
    [3] (webpack)/buildin/module.js 495 bytes {0} [built]
Child html-webpack-plugin for "blocks-only.html":
  1 asset
    [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
    [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
    [2] (webpack)/buildin/global.js 488 bytes {0} [built]
    [3] (webpack)/buildin/module.js 495 bytes {0} [built]
Child html-webpack-plugin for "player.html":
  1 asset
    [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
    [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
    [2] (webpack)/buildin/global.js 488 bytes {0} [built]
    [3] (webpack)/buildin/module.js 495 bytes {0} [built]
webpack: Compiled successfully.
```

2. 既然程序启动需要执行 npm start 那么就从 npm start 开始学习，掌握这方面的框架知识后就可以能够进阶了。

>在 NodeJS 项目中，用 package.json 文件来声明项目中使用的模块[\[http://www.cnblogs.com/zhang-jian/p/5035424.html\]](http://www.cnblogs.com/zhang-jian/p/5035424.html)

>工程文件中 node\_modules 目录下存放所有的库文件。

>付言华让我研究增加新的 blocky 的功能 [https://wiki.scratch.mit.edu/wiki/Blocks#Pen\\_blocks](https://wiki.scratch.mit.edu/wiki/Blocks#Pen_blocks)

>package.json 里面的 peerdependencies [\[https://nodejs.org/en/blog/npm/peer-dependencies/\]](https://nodejs.org/en/blog/npm/peer-dependencies/)

>npm start 执行后，是执行的 package.json 里面的 scripts 里面对应的项 “node ./node\_modules/webpack-dev-server/bin/webpack-dev-server.js”。这个就可以进一步了，后面比较关键的就是 webpack 的执行，webpack 是一个很重要的组成部分。webpack 很重要的一个配置文件 webpack.config.js。scripts 中 start 对应的部分是 “start”: “webpack-dev-server”。

>package.conf 字段详解解释了 npm scripts 中各个字段的意义[\[https://docs.npmjs.com/misc/scripts\]](https://docs.npmjs.com/misc/scripts) [\[http://www.cnblogs.com/dtdxr/p/4758265.html\]](http://www.cnblogs.com/dtdxr/p/4758265.html)

>现在开始分析 webpack-dev-server [\[http://www.cnblogs.com/hhhyaon/p/5664002.html\]](http://www.cnblogs.com/hhhyaon/p/5664002.html) [\[https://segmentfault.com/a/1190000006964335\]](https://segmentfault.com/a/1190000006964335)

>webpack 教程解释了 webpack.config.js 这个配置文件的意义[\[https://blog.zfanw.com/webpack-tutorial/\]](https://blog.zfanw.com/webpack-tutorial/) 这个说明一个知识点：block 方面的代码存放于( blockonly: './src/examples/blocks-only.jsx')。到达这里说明了一点，webpack 的作用主要的用来作为一个方便的打包、部署、发布的工具，然而 webpack-dev-server 主要是服务与 webpack 的。

>主要的工作代码开始于 index.jsx。既有 react 的语法又有 jsx 语法特性。

[\[http://www.runoob.com/react/react-tutorial.html\]](http://www.runoob.com/react/react-tutorial.html) 菜鸟教程开始入门，哈哈

>如果想要增加自己的 block，那么只要修改/scratch-gui/node\_modules/scratch-blocks/里面的文件，然后重新编译生效就可以了。

建议参考网站：

1. npm 官方: <https://www.npmjs.com/>
2. react 入门教材: <http://www.ruanyifeng.com/blog/2015/03/react.html> 阮一峰
3. react 官方文档: <https://reactjs.org/docs/react-api.html#react.children>
4. HOC 介绍: <https://segmentfault.com/a/1190000008112017>

## npm start

```
> scratch-gui@0.1.0 start /home/bibaodi/demo/scratch-gui
> webpack-dev-server
```

```
Project is running at http://0.0.0.0:8601/
webpack output is served from /
Content not from webpack is served from /home/bibaodi/demo/scratch-gui/build
Hash: 9f02fcd9a3d80661cf07
Version: webpack 3.8.1
Time: 24619ms
```

Asset	Size	Chunks	Chunk Names
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```

static/blocks-media/icons/event_when-broadcast-received_green.svg 1.65 kB [emitted]
  gui.js 2.97 kB 0 [emitted] gui
    blocksonly.js 3.67 kB 2 [emitted] blocksonly
      lib.min.js 9.68 MB 3 [emitted] [big] lib
        gui.js.map 3.24 kB 0 [emitted] gui
          player.js.map 5.17 kB 1 [emitted] player
            blocksonly.js.map 3.88 kB 2 [emitted] blocksonly
              lib.min.js.map 10.9 MB 3 [emitted] lib
                index.html 314 bytes [emitted]
                blocks-only.html 342 bytes [emitted]
                player.html 333 bytes [emitted]
                static/blocks-media/1x1.gif 43 bytes [emitted]
                static/blocks-media/click.mp3 8.13 kB [emitted]
                static/blocks-media/click.ogg 5.45 kB [emitted]
                static/blocks-media/delete.mp3 9.8 kB [emitted]
                static/blocks-media/delete.ogg 8.62 kB [emitted]
                static/blocks-media/delete.wav 11.9 kB [emitted]
            static/blocks-media/dropdown-arrow-dark.svg 573 bytes [emitted]
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            static/blocks-media/eyedropper.svg 3.55 kB [emitted]
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            static/blocks-media/handclosed.cur 326 bytes [emitted]
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            static/blocks-media/icons/event_broadcast_green.svg 1.66 kB [emitted]
            static/blocks-media/icons/event_broadcast_magenta.svg 1.66 kB [emitted]
            static/blocks-media/icons/event_broadcast_orange.svg 1.66 kB [emitted]
            static/blocks-media/icons/event_broadcast_purple.svg 1.65 kB [emitted]
            static/blocks-media/icons/event_when-broadcast-received_blue.svg 1.65 kB [emitted]
            static/blocks-media/icons/event_when-broadcast-received_coral.svg 1.65 kB [emitted]
            player.js 7.13 kB 1 [emitted] player
static/blocks-media/icons/event_when-broadcast-received_magenta.svg 1.66 kB [emitted]
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static/blocks-media/icons/event_when-broadcast-received_purple.svg 1.65 kB [emitted]
  static/blocks-media/icons/event_whenflagclicked.svg 634 bytes [emitted]
    static/blocks-media/icons/set-led_blue.svg 2.04 kB [emitted]
    static/blocks-media/icons/set-led_coral.svg 2.04 kB [emitted]
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    static/blocks-media/icons/set-led_mystery.svg 2.96 kB [emitted]
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    static/blocks-media/icons/wedo_motor-speed_slow.svg 4.36 kB [emitted]
    static/blocks-media/icons/wedo_when-distance_close.svg 4.75 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt-backward.svg 4.91 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt-forward.svg 4.93 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt-left.svg 3.65 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt-right.svg 3.66 kB [emitted]
    static/blocks-media/icons/wedo_when-tilt.svg 4.11 kB [emitted]
    static/blocks-media/repeat.svg 1.24 kB [emitted]
    static/blocks-media/rotate-left.svg 1.06 kB [emitted]
    static/blocks-media/rotate-right.svg 1.06 kB [emitted]
    static/blocks-media/sprites.png 4.15 kB [emitted]
    static/blocks-media/sprites.svg 1.77 kB [emitted]
    static/blocks-media/zoom-in.svg 634 bytes [emitted]
    static/blocks-media/zoom-out.svg 582 bytes [emitted]
    static/blocks-media/zoom-reset.svg 501 bytes [emitted]
    static/blocks-media/dropdown-arrow.svg 569 bytes [emitted]
  static/extensions/example-extension.js 9.99 kB [emitted]
    extension-worker.js 43.4 kB [emitted]
    extension-worker.js.map 41.7 kB [emitted]
[0] ./node_modules/react/index.js 190 bytes {3} [built]
[16] ./node_modules/react-dom/index.js 1.36 kB {3} [built]
[27] (webpack)-dev-server/client?http://0.0.0.0:8601 7.95 kB {3} [built]
[33] ./node_modules/url/url.js 23.3 kB {3} [built]
[36] ./src/lib/app-state-hoc.jsx 1.86 kB {3} [built]
[47] ./src/containers/gui.jsx 5.71 kB {3} [built]
[132] multi (webpack)-dev-server/client?http://0.0.0.0:8601 react react-dom 52 bytes {3} [built]
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[167] ./src/index.jsx 1 kB {0} [built]
[459] ./src/index.css 1.2 kB {0} [built]
[461] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/examples/blocks-only.jsx 40 bytes {2} [built]
[462] ./src/examples/blocks-only.jsx 1.88 kB {2} [built]
[465] multi (webpack)-dev-server/client?http://0.0.0.0:8601 ./src/examples/player.jsx 40 bytes {1} [built]
[466] ./src/examples/player.jsx 5.49 kB {1} [built]
+ 454 hidden modules

```

Child html-webpack-plugin for "index.html":

```
1 asset
  [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
  [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
  [2] (webpack)/buildin/global.js 488 bytes {0} [built]
  [3] (webpack)/buildin/module.js 495 bytes {0} [built]
```

Child html-webpack-plugin for "blocks-only.html":

```
1 asset
  [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
  [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
  [2] (webpack)/buildin/global.js 488 bytes {0} [built]
  [3] (webpack)/buildin/module.js 495 bytes {0} [built]
```

Child html-webpack-plugin for "player.html":

```
1 asset
  [0] ./node_modules/html-webpack-plugin/lib/loader.js!./src/index.ejs 627 bytes {0} [built]
  [1] ./node_modules/lodash/lodash.js 540 kB {0} [built]
  [2] (webpack)/buildin/global.js 488 bytes {0} [built]
  [3] (webpack)/buildin/module.js 495 bytes {0} [built]
```

webpack: Compiled successfully.