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记录每一周的阅读记录及链接

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- 《Javascript 设计模式与开发实践》

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- Best Practices Every Node Developer Should Follow
- Redis + NodeJS 实现一个能处理海量数据的异步任务队列系统
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- Creating Fast APIs In Go Using Fiber

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- basic bash guide

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- Fiber - Go web framework
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- The Best Way To Learn Blockchain Programming
- How to Build Blockchain App - Ethereum Todo List 2019
- Getting Up to Speed on Ethereum

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- Building a BitTorrent client from the ground up in Go

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- Interacting with Smart Contracts from Web Apps

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- 《Redis 入门指南》
- 《Redis In Action》

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- Using pipelining to speedup Redis queries
- Redis PubSub
- Redis configuration
- Redis Sentinel Documentation
- 【狂神说Java】Redis最新超详细版教程通俗易懂视频

Weekly 8

Book

- 《Redis 设计与实现》

Blog

- MongoDB官方文档
- 菜鸟教程MongoDB
- mongoose101- MongoDB + Node
- 使用 ServerLess, Nodejs, MongoDB Atlas cloud 构建 REST API
- Use the Right package manger(Node)
- Building a Terminal Chat App with Serverless Redis
- create-node-cli
- Connecting To RabbitMQ In Go

Node

Node相关的一些笔记

lerna Getting Start

> A tool for managing JavaScript projects with multiple packages.
>
> — Lerna Official Website Intro

1. Lerna vs Rushjs vs Bolt

- GitHub star数量: **lerna > rushjs > bolt**
- 良好的文档： **lerna > rushjs > bolt**
- 可扩展性： **lerna > rushjs > bolt**
- 使用经验： **lerna > rushjs > bolt**

参考链接：

如何评价 rushjs? - 沙包妖梦的回答

Mono Repository Tool Comparison

The Many Benefits of Using a Monorepo

2. Lerna 的主要功能

Lerna是一个管理多包、优化工作流程的工具。它的两个主要功能：

- 链接依赖
- 自动检测变更、发布新版本的包
- 管理开发流程

3. Lerna 的两种管理模式

1. 固定模式(Fixed， 默认工作模式)，它是通过项目根目录下的 `lerna.json` 文件中的 `version` 字段来控制的。
2. 独立模式(Independent), 各个包的版本都是通过自己包下的 `package.json` 文件中的 `version` 字段来控制的，同时 `lerna.json -> version : independent`

4. Getting Started

1. 全局安装lerna(可选)

   ```
   yarn global add lerna
   ```

2. 初始化项目

```
mkdir lerna_demo && cd $_

# yarn add lerna --dev && yarn run lerna init --independent
npx lerna init -i # npx 会检测当前项目下是否有lerna, 没有就会安装; -i 是独立模式i
# 目录结构如下
├── README.md
├── lerna.json
├── package.json
└── packages  # 目录
# cat lerna.json
   {
      "packages": [
        "packages/*" # package包的位置信息
      ],
      "version": "independent"
   }
```

3. 通过yarn 和 yarn workspaces 来管理依赖, 修改lerna.json

```
{
    ...
  "npmClient": "yarn", // 使用yarn来跑所有命令， 默认的是npm
  "useWorkspaces": "true" // 使用
}
```

4. 初始化Node项目

```
yarn init  # 根据提示输入，切记private设置为true ， lerna通过这个字段保证此包不会发
```

5. 安装依赖

```
yarn install # 等价于 lerna bootstrap --npm-client yarn --use-workspaces
# 它会把通用依赖安装在根目录， 独有的依赖会安装在自己的工作空间下， 各个package之间有相
```

6. 创建一个包

```
# 语法格式
yarn run lerna create packageName packageLocation # 如果lerna是全局安装的则不

# 例子
yarn run lerna create utils packages # 它会按照模板来初始化，目前我没找到在哪里修

# 注意， 如果是使用scope包的话， 需要在各个包的根目录package.json中添加一下配置
"publishConfig": {
      "access": "public"
}
```

7. 安装依赖

```
# Adds the module-1 package to the packages in the 'prefix-' prefixed fold
yarn run lerna add module-1 packages/prefix-*

#Install module-1 to module-2
lerna add module-1 --scope=module-2 [--dev | [--peer]]

# Install module-1 in all modules except module-1
lerna add module-1

# Install babel-core in all modules
lerna add babel-core

# 给根目录安装通用依赖
yarn add jest -D -W
```

8. lint

```
# 在每个包里编写一个lint script， 根目录下执行以下命令
lerna run lint [--parallel] [--stream] [--no-bail]
# --stream  通过包名，颜色区分不同的包
# --parallel 并行，加快执行速度
# --no-bail 报错不退出，全部执行完
```

9. 构建

```
# 方法一： 在每个package中编写build script，根目录下执行以下命令
# 因为各个包之间存在依赖，所以必须要按照一定的顺序执行，--sort参数可以以拓扑排序规则进行
lerna run --sort build
```

10. 两种测试方式：

    - 使用统一的jest 测试配置这样方便全局的跑jest 即可，好处是可以方便统计所有代码的测试覆盖率，坏处是如果package比较异构（如小程序，前端，node 服务端等），统一的测试配置不太好编写。
    - 每个package单独支持test命令，使用lerna run test，坏处是不好统一收集所有代码的测试覆盖率

      ```
      # 只测试发生了变动的包
      lerna run test --since origin/master
      ```

11. 设置版本号

```
lerna version [bump] --no-push

bump set: major, mirror, patch, premajor,premirror, prerelase

# --no-push 表示不推送commit,tag到远程
# --conventional-commits 根据commit msg生成版本， 成成changelog.md, 参考最后的

## 默认的执行步骤
# 1  lerna changed 查找更改了的包
# 2. 弹出提示
# 3. 修改版本信息
# 4. commit、tag修改后的信息
# 5. 推送到远程
```

12. 直接发布

```
### 发布测试环境
lerna publish from-git --registry=test-registry --no-push --no-git-tag-ver

### 发布正式环境
lerna publish from-git --registry=prod-registry
```

5. 常用命令

- `lerna init`
  1. 创建lerna.json
  2. 如果lerna依赖不存在的话会将lerna 写入package.json.devDependency 中
  3. `--independent` 参数， 简写 `-i`，使用**independent** 模式管理项目。lerna.json.version 字段为independent
- `lerna create`
  1. 创建一个lerna管理的包。 `lerna create packagName location`
  2. 如果创建时**scope** 包，需要带上**--access public**
  3. 具体信息查看 `lerna create --help`
- `lerna add`
  1. 添加依赖
  2. 重要参数**--dev** 将依赖写入devDependencies; **--peer** -> peerDenpendencies; **--registry** 设置仓库源
- `lerna list`
  1. 查看当前项目中的package
  2. `lerna ls -al`， `lerna ls --loglevel silent --json`
- `lerna changed/diff`
  1. `lerna diff [package-name]` 其实跑的命令就是 `git diff`
  2. `lerna changed` 显示的是修改了的包的名称， 可以通过**--ignore-changes** 参数来过滤变更
- `lerna run`

1. `lerna run <script> -- [..args]` 执行所有包中的script的命令， 可以通过**sop**　　参数来过滤
2. 重要参数： `--stream` 流式输出log， 通过包名和颜色区分； `--parallel` 并行执行。

- `lerna exec`
  1. 在匹配的包中执行任意命令 `lerna exec --scope my-component -- ls -la`
  2. 参数请参考filter flags 和 exec 命令信息
- `lerna bootstrap`
  1. 链接依赖， 由于我们使用的是yarn workspaces来管理，可以直接通过yarn命令来代替
  2. lerna bootstrap --npm-client yarn --use-workspaces
- `lerna version`
  1. 参数请参考filter flags 和 version命令信息
- `lerna publish`
  1. 参数请参考filter flags 和 publish 命令信息

6. 参考链接

- lerna
- rush
- bolt
- Advantages of monorepos
- conventionalcommits
- 基于lerna和yarn workspace的monorepo工作流
- building-large-scale-react-applications-in-a-monorepo

JavaScript Symbol 实用指南

JavaScript在ES6中引入了符号来防止属性名称冲突。此外，在2015-2019年的JavaScript中，符号还提供了一种模拟私有属性的方法。

> 原文链接：A Practical Guide to Symbols in JavaScript

介绍

在JavaScript中创建symbol的最简单方法是调用 `Symbol()` 函数。使symbol如此特殊的两个关键属性是:

- 符号可以用作对象键。只有字符串和symbol可以用作对象键。
- 没有两个symbol是相等的。

```
const s1 = Symbol()
const s2 = Symblo()

s1 === s2 // false

const obj = {}

obj[s1] = 'hello'
obj[s2] = 'world'

obj[s1] // 'hello'
obj[s2] // 'world'
```

尽管Symbol()调用使它看起来像是对象，但在JavaScript中，symblo实际上是Javascript基本类型。使用new 关键字调用Symbol会报错。

```
const s1 = Symbol()

typeof s1 // 'symbol'
s1 instanceof Object // false

// Throws "TypeError: Symbol is not a constructor"
new Symbol()
```

描述

Symbol()函数只接受一个参数，即字符串描述 `description` 。symbol的描述仅用于调试目的— `description` 显示在符号的toString()的输出中。然而，具有相同描述的两个symbol是不相等的。

```
const s1 = Symbol('my symbol')
const s2 = Symbol('my symbol')

s1 === s2; // false
console.log(s1); // 'Symbol(my symbol)'
```

还有一个全局symbol注册表。通过Symbol.for()创建symbol会将其添加到全局注册表中，由symbol的描述作为键值。换句话说，如果您使用Symbol.for()创建两个具有相同描述的symbol，那么这两个symbol是相等的。

```
const s1 = Symbol.for('test');
const s1 = Symbol.for('test');

s1 === s2; // true
console.log(s1); // 'Symbol(test)'
```

一般来说，除非有很好的理由，否则不应该使用全局symbol注册表，因为可能会遇到命名冲突。

命名冲突

JavaScript ES6 中的第一个内置symbol 是 `Symbol.iterator` symbol。具有 `Symbol.iterator` 方法的对象被认为是*可迭代的*。这意味着您可以通过 `for/of` 循环来遍历对象。

```
const fibonacci = {
  [Symbol.iterator]: function*() {
    let a = 1;
    let b = 1;
    let temp;

    yield b;

    while (true) {
      temp = a;
      a = a + b;
      b = temp;
      yield b;
    }
  }
};

// Prints every Fibonacci number less than 100
for (const x of fibonacci) {
  if (x >= 100) {
    break;
  }
  console.log(x);
}
```

为什么 `Symbol.iterator` 用symbol而不是字符串假设不是使用 `Symbol.iterator` ，可迭代规范检查了字符串属性的存在 `'iterator'` 。此外，假设您具有下面的类，该类是可迭代的。

```
class MyClass {
  constructor(obj) {
    Object.assign(this, obj);
  }

  iterator() {
    const keys = Object.keys(this);
    let i = 0;
    return (function*() {
      if (i >= keys.length) {
        return;
      }
      yield keys[i++];
    })();
  }
}
```

`MyClass` 的实例将是可迭代的，可让您迭代对象的键。但是以上类别也有潜在的缺陷。假设恶意用户要将具有 `iterator` 属性的对象传递给 `MyClass` 。

```
const obj = new MyClass({ iterator: 'not a function' });
```

如果要使用 `for/of` 遍历 `obj` ，JavaScript会抛出异常 `TypeError: obj is not iterable` 。这是因为用户指定的 `iterator` 函数将覆盖类的迭代器属性。这是与原型污染类似的安全问题，在这种情况下，天真地复制用户数据可能会导致具有诸如 `__proto__` 和的特殊属性的问题 `constructor` 。

私有属性

由于没有两个symbol相等，因此symbolk是在JavaScript中模拟私有属性的便捷方法。symbol不会出现在中 `Object.keys()` ，因此，除非您显式地 `export` 倒出，否则除非您显式地通过 `Object.getOwnPropertySymbols()` 方法获取，否则其他代码都不能访问该属性。

```
function getObj() {
  const symbol = Symbol('test');
  const obj = {};
  obj[symbol] = 'test';
  return obj;
}

const obj = getObj();

Object.keys(obj); // []

// Unless you explicitly have a reference to the symbol, you can't access the
// symbol property.
obj[Symbol('test')]; // undefined

// You can still get a reference to the symbol using `getOwnPropertySymbols()`
const [symbol] = Object.getOwnPropertySymbols(obj);
obj[symbol]; // 'test'
```

symbol对于私有属性很方便，也因为它们不会显示在 `JSON.stringify()` 输出中。具体来说， `JSON.stringify()` 默认忽略symbol键和值。

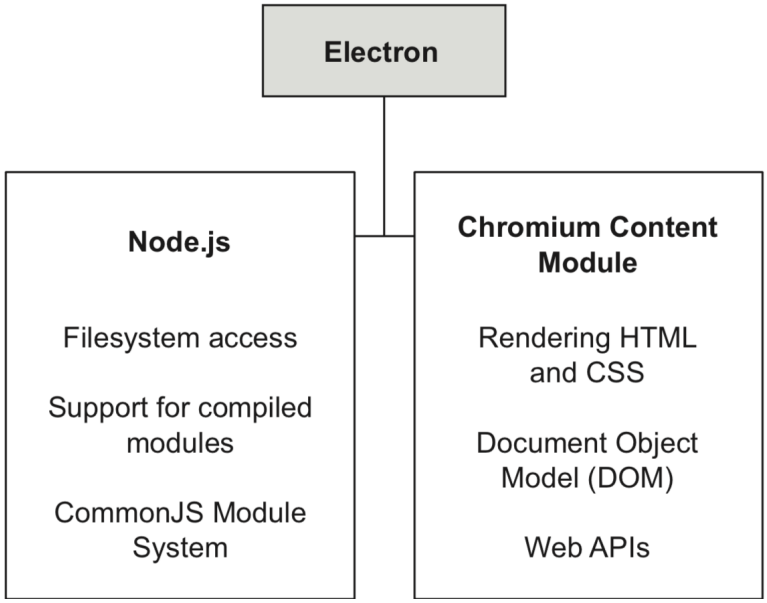
```
const symbol = Symbol('test');
const obj = { [symbol]: 'test', test: symbol };

JSON.stringify(obj); // "{}"
```

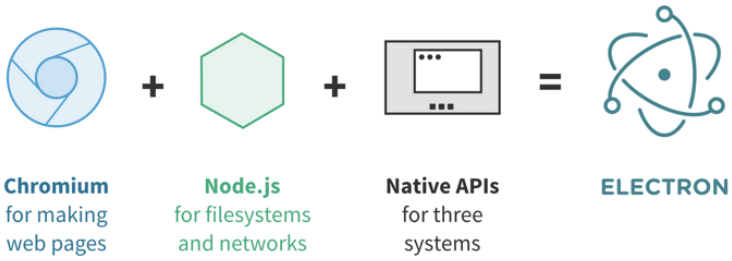
Electron 快速入门

What's Electron

Electron is a runtime (framework) that allows you to build cross platform desktop applications with HTML, CSS and JavaScript.

Electron combines the Chromium (克洛米恩) Content Module and Node.js runtimes.

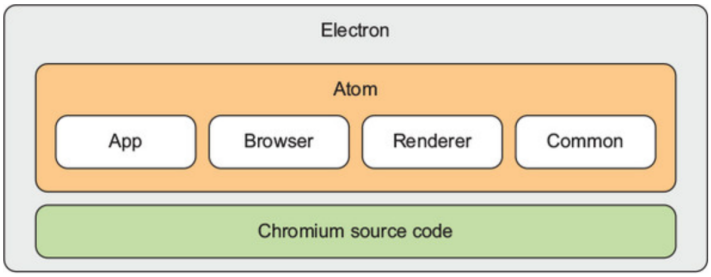




Chromium：Chromium内容模块只包含呈现HTML、CSS和JavaScript所需的核心技术。

Native APIs：为了提供原生系统的GUI支持，Electron内置了原生应用程序接口，对调用一些系统功能，如调用系统通知、打开系统文件夹提供支持

Electron components



App ：OS先关的c++,objective-c 文件， 加载nodejs, chromium ，启动electron等

Browser ：主要负责初始化js 引擎，前端渲染，UI交互， OS 模块bindings

Renderer ：主要渲染进程相关功能

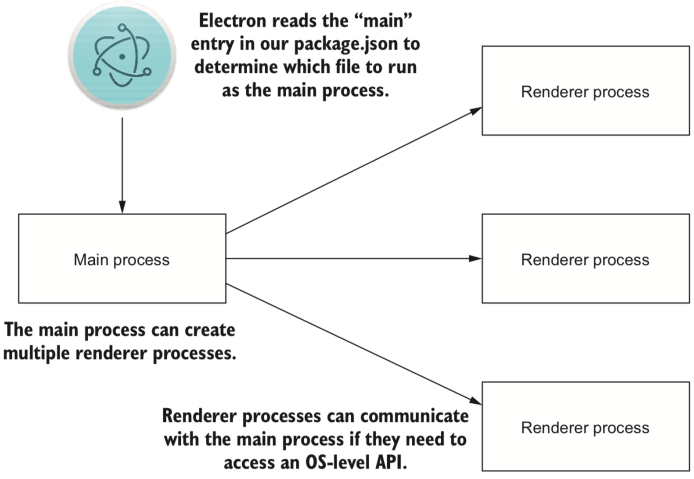
Common: 公用代码， 以及node event loop 和 chromium event loop 集成的代码(通过一个单独的线程来获取文件句柄来检测node event(run in main process), 然后发送到Chromium's message loop)

Chormium source code ：`Chromium + Node.js`.

Node Event loop ：`libuv event loop`

How does Electron work?

Electron applications consist of two types of processes: the main process and zero or more renderer processes.



Main Process

Electron 运行package.json 的 main 脚本的进程被称为主进程。一个 Electron 应用总是有且只有一个主进程。

职责:

- 创建渲染进程（可多个）
- 控制了应用生命周期（启动、退出APP以及对APP做一些事件监听）

- 调用系统底层功能、调用原生资源

可调用的API:

- Node.js API
- Electron提供的主进程API（包括一些系统功能和Electron附加功能）

渲染进程

由于 Electron 使用了 Chromium 来展示 web 页面，所以 Chromium 的多进程架构也被使用到。 每个Electron 中的 web页面运行在它自己的渲染进程中。

主进程使用 BrowserWindow 实例创建页面。 每个 BrowserWindow 实例都在自己的渲染进程里运行页面。 当一个 BrowserWindow 实例被销毁后，相应的渲染进程也会被终止。

你可以把渲染进程想像成一个浏览器窗口，它能存在多个并且相互独立，不过和浏览器不同的是，它能调用Node API。

职责：

- 加载HTML和CSS渲染界面
- 用JavaScript做一些界面交互

可调用的API:

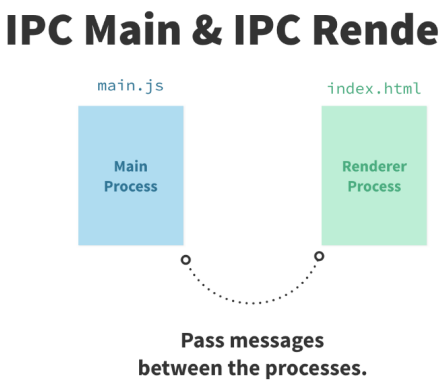
- DOM API
- Web API
- Node.js API(**存在安全隐患**)
- Electron提供的渲染进程API

其他参考链接

electron-internals-node-integration

Exploring NW.js and Electron’ s internals

IPC(interprocess communication) 进程间通信



ipcMain: The `ipcMain` module is an Event Emitter. When used in the main process, it handles asynchronous and synchronous messages sent from a renderer process (web page). Messages sent from a renderer will be emitted to this module.

ipcRenderer: The `ipcRenderer` module is an EventEmitter. It provides a few methods so you can send synchronous and asynchronous messages from the render process (web page) to the main process. You can also receive replies from the main process.

示例

```
// renderer process
const {ipcRenderer} = require('electron')

const asyncMsgBtn = document.getElementById('async-msg')

asyncMsgBtn.addEventListener('click', () => {
  ipcRenderer.send('asynchronous-message', 'ping')
})

ipcRenderer.on('asynchronous-reply', (event, arg) => {
  const message = `Asynchronous message reply: ${arg}`
  document.getElementById('async-reply').innerHTML = message
})
```

```
// Main process
const {ipcMain} = require('electron')

ipcMain.on('asynchronous-message', (event, arg) => {
  event.sender.send('asynchronous-reply', 'pong')
})
```

当关闭nodeIntegration 时上面的代码将不可用，可以通过以下代码实现：

nodeIntegration: 可以防止跨站脚本攻击，防止xxs升级为"Remote Code Execution"(RCE) attack 等

```
// preload.js
const electron = require('electron');

process.once('loaded', () => {
  window.ipcRenderer = electron.ipcRenderer
})

// main.js
const {app, BrowserWindow, ipcMain} = require('electron');

app.on('ready', () => {
  // Create the browser window.
  win = new BrowserWindow({
      backgroundColor: '#fff', // always set a bg color to enable font antialia
      webPreferences: {
        preload: path.join(__dirname, './preload.js'), // 加载preload文件
        nodeIntegration: false,
        enableRemoteModule: false,
      }
  });

ipcMain.on('asynchronous-message', (event, arg) => {
  event.sender.send('asynchronous-reply', 'pong')
})
...

// renderer.js
const asyncMsgBtn = document.getElementById('async-msg')

asyncMsgBtn.addEventListener('click', () => {
  window.ipcRenderer.send('asynchronous-message', 'ping')
})

ipcRenderer.on('asynchronous-reply', (event, arg) => {
  const message = `Asynchronous message reply: ${arg}`
  document.getElementById('async-reply').innerHTML = message
})
```

以下方式也是可以的：

```
// preload.js
const { ipcRenderer } = require('electron');

process.once('loaded', () => {
  window.addEventListener('message', event => {
    // do something with custom event
    const message = event.data;

    if (message.myTypeField === 'my-custom-message') {
      ipcRenderer.send('custom-message', message);
    }
  });
});

// renderer.js
window.postMessage({
  myTypeField: 'my-custom-message',
  someData: 123,
});
```

安全最佳实践

- 使用最新稳定版本的eletron
- 审查项目依赖，因为有的依赖可以回有漏洞
- 隔离不被信任的内容， 永远不要相信用户的输入
- 更多安全信息请查看Electron 文档 - 安全建议

入门实例

- first-app-tutorial

```
# try this example

# Clone the repository
$ git clone https://github.com/electron/electron-quick-start
# Go into the repository
$ cd electron-quick-start
# Install dependencies
$ npm install
# Run the app
$ npm start
```

- electron basic
- electron-api-demos(**我觉得这个很不错**)

```
git clone https://github.com/electron/electron-api-demos
cd electron-api-demos
npm install
npm start
```

- 参考《Electron in action》

调试

方法一：

- Mac: `Command + Optional + i`, 或者在菜单栏上点击view -> toggle devtools
- Windows: `Control + Shift + i`

方法二：

```
mainWindow.webContents.openDevTools()
mainWindow.maximize()
require('devtron').install()
```

方法三：

使用vscode debugger

参考链接

- Electron documentation
- Awesome-electron
- Electron basic
- Electron security
- Electron构建跨平台应用

Setting up a Private Registry With Verdaccio

Verdaccio is a lightweight private npm proxy registry built in Node.js, today we are going talk about how setting up a private npm registry with verdaccio.

Install node

Maybe we will have multiple active node versions, nvm is a good choice.

```
# install nvm
curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.35.2/install.sh | bash

# setup nvm
cat >>.bash_profile<<EOF
# nvm config
export NVM_DIR="$HOME/.nvm"
[ -s "$NVM_DIR/nvm.sh" ] && \. "$NVM_DIR/nvm.sh"  # This loads nvm
[ -s "$NVM_DIR/bash_completion" ] && \. "$NVM_DIR/bash_completion"  # This load
EOF

# install newest lts node
nvm install (nvm ls-remote --lts |  tail -n 1 | awk '{ print $1}')
```

Install verdaccio

```
# npm
npm install -g verdaccio

# or yarn
yarn global add verdaccio
```

Install pm2

```
# for restarting and monitoring
npm install -g pm2
```

Install nginx

```
lsb_release  -a
# LSB Version:    :core-4.1-amd64:core-4.1-noarch
# Distributor ID: CentOS
# Description:    CentOS Linux release 7.3.1611 (Core)
# Release:        7.3.1611
# Codename:       Core


######## centos7
sudo yum install epel-release
sudo yum install nginx
sudo systemctl start nginx
#If you are running a firewall, run the following commands to allow HTTP and HT
sudo firewall-cmd --permanent --zone=public --add-service=http
sudo firewall-cmd --permanent --zone=public --add-service=https
sudo firewall-cmd --reload

######## ubuntu
sudo apt-get update
sudo apt-get install nginx
## firewall setup
sudo ufw app list
sudo ufw allow 'Nginx HTTP'
sudo ufw allow 'Nginx HTTPS'
sudo ufw status

######## enable nginx to start at boot
sudo systemctl enable nginx

######## check your installation: visiting your server’s public IP address in y
http://server_domain_name_or_IP/
```

Verdaccio configuration

```
#
# This is the default config file. It allows all users to do anything,
# so don't use it on production systems.
#
# Look here for more config file examples:
# https://github.com/verdaccio/verdaccio/tree/master/conf
#

# path to a directory with all packages
storage: ./storage
# path to a directory with plugins to include
plugins: ./plugins

web:
  title: Verdaccio
  # comment out to disable gravatar support
  # gravatar: false
  # by default packages are ordercer ascendant (asc|desc)
  # sort_packages: asc

auth:
  htpasswd:
    file: ./htpasswd
    # Maximum amount of users allowed to register, defaults to "+inf".
    # You can set this to -1 to disable registration.
    # max_users: 1000

# a list of other known repositories we can talk to
uplinks:
  npmjs:
    url: https://registry.npmjs.org/

packages:
  '@*/*':
    # scoped packages
    access: $all
    publish: $authenticated
    unpublish: $authenticated
    proxy: npmjs

  '**':
    # allow all users (including non-authenticated users) to read and
    # publish all packages
    #
    # you can specify usernames/groupnames (depending on your auth plugin)
    # and three keywords: "$all", "$anonymous", "$authenticated"
    access: $all

    # allow all known users to publish/publish packages
    # (anyone can register by default, remember?)
    publish: $authenticated
    unpublish: $authenticated

    # if package is not available locally, proxy requests to 'npmjs' registry
    proxy: npmjs

# You can specify HTTP/1.1 server keep alive timeout in seconds for incoming co
# A value of 0 makes the http server behave similarly to Node.js versions prior
# WORKAROUND: Through given configuration you can workaround following issue ht
server:
  keepAliveTimeout: 60

middlewares:
  audit:
    enabled: true
```

```
# log settings
logs:
  - { type: stdout, format: pretty, level: http }
  #- {type: file, path: verdaccio.log, level: info}
#experiments:
#  # support for npm token command
#  token: false

# you can specify listen address (or simply a port)
# listen: 0.0.0.0:4873
```

Start verdaccio

```
pm2 start `which verdaccio` -- -c /path/to/your/config
```

Using verdaccio

npm will use the default registry on install, but we are willing to use our own registry, to achieve that use the `--registry` argument to provide a different location.

```
npm install --registry http://xxx.xxx.xxx.xxx
```

Other options I'd suggest if you need to switch between registries is using nrm, to install it just do

```
npm install -g nrm
```

By default verdaccio requires authentication for publishing, thus we need to log in.

```
npm adduser --registry  http://xxx.xxx.xxx.xxx
```

Once you are logged, it's the moment to publish.

```
npm publish --registry  http://xxx.xxx.xxx.xxx
```

Reference

- https://pm2.keymetrics.io/docs/usage/quick-start/
- https://github.com/nvm-sh/nvm#installing-and-updating
- https://verdaccio.org/docs/en/installation
- https://www.digitalocean.com/community/tutorials/how-to-install-nginx-on-centos-7

6

A bunch of Go learning stuffs.

Go Documents

Go Standard library Translation

errors

本文是 Go 标准库中 errors 包文档的翻译， 原文地址为：
https://golang.org/pkg/errors/

概述

errors 包实现了用于处理错误的函数。

示例：

```
package main

import (
    "fmt"
    "time"
)

// MyError 是一个包含了时间和消息的错误实现
type MyError struct {
    When time.Time
    What string
}

func (e MyError) Error() string {
    return fmt.Sprintf("%v: %v", e.When, e.What)
}

func oops() error {
    return MyError{
        time.Date(1989, 3, 15, 22, 30, 0, 0, time.UTC),
        "the file system has gone away",
    }
}

func main() {
    if err := oops(); err != nil {
        fmt.Println(err)
    }
}
```

示例执行结果：

```
1989-03-15 22:30:00 +0000 UTC: the file system has gone away
```

New 函数

```
func New(text string) error
```

根据给定的文本返回一个错误。

示例：

```
package main

import (
    "errors"
    "fmt"
)

func main() {
    err := errors.New("emit macho dwarf: elf header corrupted")
    if err != nil {
        fmt.Print(err)
    }
}
```

示例执行结果：

```
emit macho dwarf: elf header corrupted
```

fmt 包的 Errorf 函数可以让用户使用该包的格式化功能来创建描述错误的消息。

示例：

```
package main

import (
    "fmt"
)

func main() {
    const name, id = "bimmler", 17
    err := fmt.Errorf("user %q (id %d) not found", name, id)
    if err != nil {
        fmt.Print(err)
    }
}
```

示例执行结果：

```
user "bimmler" (id 17) not found
```

6 Gotchas

This collection of Go gotchas and pitfalls will help you find and fix similar problems in your own code.

Assignment to entry in nil map

Why does this program panic?

```
var m map[string]float64
m["pi"] = 3.1416
```

```
# Output
panic: assignment to entry in nil map
```

Answer

You have to initialize the map using the make function (or a map literal) before you can add any elements:

```
m := make(map[string]float64)
m["pi"] = 3.1416
```

invalid memory address or nil pointer dereference

Why does this program panic?

```
package main

import (
    "math"
    "fmt"
)

type Point struct {
    X, Y float64
}

func (p *Point) Abs() float64 {
    return math.Sqrt(p.X*p.X + p.Y*p.Y)
}

func main() {
    var p *Point
    fmt.Println(p.Abs())
}
```

```
panic: runtime error: invalid memory address or nil pointer dereference
[signal SIGSEGV: segmentation violation code=0x1 addr=0x0 pc=0x499043]

goroutine 1 [running]:
main.(*Point).Abs(...)
    /tmp/sandbox466157223/prog.go:13
main.main()
    /tmp/sandbox466157223/prog.go:18 +0x23
```

Answer

The uninitialized pointer `p` in the main function is nil, and you can't follow the nil pointer.

> If x is nil, an attempt to evaluate *x will cause a run-time panic.
>
> — The Go Programming Language Specification: Address operators

You need to create a Point

```
func main() {
    var p *Point = new(Point)
    fmt.Println(p.Abs())
}
```

Since methods with pointer receivers take either a value or a pointer, you could also skip the pointer altogether:

```
func main() {
    var p Point // has zero value Point{X:0, Y:0}
    fmt.Println(p.Abs())
}
```

Array won't change

Why does the array value stick?

```
package main

import "fmt"

func Foo(a [2]int) {
    a[0] = 6
}

func main() {
    a := [2]int{1, 2}
    Foo(a) // Try to change a[0].
    fmt.Println(a) // Output: [1 2]
}
```

Answer

> - Arrays in Go are value
> - When you pass an array to a function, **the array is copied**

If you want to Foo to update the elements of a function, use a Slice instead.

```
package main

import "fmt"

func Foo(a []int) {
    if len(a) > 0 {
        a[0] = 6
    }
}

func main() {
    a := []int{1, 2}
    Foo(a) // Change a[0].
    fmt.Println(a)  // Output: [6 2]
}
```

A slice does not store any data, it just describes a section of an underlying array.

When you change an element of a slice, you modify the corresponding element of its underlying array, and other slices that share the same underlying array will see the change.

How does character addition work?

Why doesn't these print statements give the same result?

```
fmt.Println("H" + "i")
fmt.Println('H' + 'i')

// Output:
// Hi
// 177
```

Answer

The rune literals 'H' and 'i' are integer values identifying Unicode code points: 'H' is 72 and 'i' is 105.

You can turn a code point into a string with a conversion.

```
fmt.Println(string(72) + string('i')) // "Hi"
```

You can also use the **fmt.Sprintf** function.

```
s := fmt.Sprintf("%c%c, world!", 72, 'i')
fmt.Println(s)// "Hi, world!"
```

What happened to ABBA?

What's up with strings.TrimRight?

```
fmt.Println(strings.TrimRight("ABBA", "BA")) // Output: ""
```

Answer

The Trim, TrimLeft and TrimRight functions strip all Unicode code points contained in a **cutset**. In this case, all trailing A:s and B:s are stripped from the string, leaving the empty string.

To strip a trailing string, use **strings.TrimSuffix**.

```
fmt.Println(strings.TrimSuffix("ABBA", "BA")) // Output: "AB"
```

Where is my copy?

Why does the copy disappear?

```
var src, dst []int
src = []int{1, 2, 3}
copy(dst, src) // Copy elements to dst from src.
fmt.Println("dst:", dst)

// Output:
// dst: []
```

Answer

The number of elements copied by the copy function is the **minimum of len(dst)** and **len(src)** . To make a full copy, you must allocate a big enough destination slice.

```
var src, dst []int
src = []int{1, 2, 3}

dst = make([]int, len(src)) // Update Here

copy(dst, src) // Copy elements to dst from src.
fmt.Println("dst:", dst)

// Output:
// dst: [1 2 3]
```

The return value of the copy function is the number of elements copied. See Copy function for more about the built-in copy function in Go.

Using append

You could also use the append function to make a copy by appending to a nil slice.

```
var src, dst []int
src = []int{1, 2, 3}
dst = append(dst, src...)
fmt.Println("dst:", dst)

// Output:
// dst: [1 2 3]
```

Note that the capacity of the slice allocated by append may be a bit larger than len(src).

Why doesn't append work every time?

What's the problem with the append function?

```
a := []byte("ba")

a1 := append(a, 'd')
a2 := append(a, 'g')

fmt.Println(string(a1)) // bag
fmt.Println(string(a2)) // bag
```

Answer

If there is room for more elements, append reuses the underlying array. Let's take a look:

```
a := []byte("ba")
fmt.Println(len(a), cap(a)) // 2 32
```

This means that the slices **a**, **a1** and **a2** will refer to the **same underlying array** in our example.

To avoid this, we need to use two separate byte arrays.

```
const prefix = "ba"

a1 := append([]byte(prefix), 'd')
a2 := append([]byte(prefix), 'g')

fmt.Println(string(a1)) // bad
fmt.Println(string(a2)) // bag
```

Deploying Golang Web App to Heroku

Heroku 是 Salesforce 旗下云服务商，提供方便便捷的各种云服务，如服务器，数据库，监控，计算等等。并且他提供了免费版本，这使得我们这些平时想搞一些小东西的人提供了莫大的便捷，虽然他有时长和宕机的限制，但是对于个人小程序来说已经足够了。

1. 注册Heroku账号

点击注册一个新账号， heroku初始免费提供 `5` 个应用

2. 安装Heroku CLI

查看下载页面, 选择符合自己电脑的安装方式

- 验证安装, 只要输出以下类似信息即可

```
heroku version
# heroku/7.22.3 darwin-x64 node-v11.10.1
```

- 使用刚刚创建的账号登录Heroku CLI

```
heroku login
# 根据提示输入信息即可
```

3. APP 源代码

```
package main

import (
    "fmt"
    "log"
    "net/http"
    "os"
)

func main() {
    http.HandleFunc("/", handler)
    fmt.Println("listening...")
    err := http.ListenAndServe(GetPort(), nil)
    if err != nil {
        log.Fatal("ListenAndServe: ", err)
    }
}

func handler(w http.ResponseWriter, r *http.Request) {
    fmt.Fprintf(w, "Hello. This is our first Go web app on Heroku!")
}

// Get the Port from the environment so we can run on Heroku
func GetPort() string {
    var port = os.Getenv("PORT")
    // Set a default port if there is nothing in the environment
    if port == "" {
        port = "9527"
        fmt.Println("INFO: No PORT environment variable detected, defaulting to
    }
    return ":" + port
}
```

4. 安装项目依赖(可选)

```
# 1. 安装godep
go get github.com/tools/godep

# 2. 进入项目根目录，执行以下命令
godep save
```

5. 创建Procfile文件

使用Procfile,文本文件在您的应用程序的根目录,显式地声明应该执行什么命令来启动应用程序。 内容如下:

```
web: webapphr
```

web在这里很重要。它声明此流程类型将附加到Heroku的HTTP路由堆栈，并在部署时接收web流量。

6. 使用Git管理源代码

```
$ git add -A .
$ git commit -m "first commit"
```

7. 创建HeroKu应用

```
heroku create

# 输出信息大致如下：
# Creating thawing-harbor-9085… done, stack is cedar-14
# https://thawing-harbor-9085.herokuapp.com/ | https://git.heroku.com/thawing-h
# Git remote heroku added
```

8. 部署应用

```
git push heroku master

# 输出信息中包含：Verifying deploy…. done. 即是发布成功
```

9. 测试

```
# 项目根目录下输入以下命令快速打开webapp
heroku open
```

Docker

Docker 的一些学习笔记。

Execute Docker Commands Without sudo

```
# create docker group if not exists
sudo groupadd docker

# adding current user to docker group
sudo usermod -aG docker $USER

# restart docker server
sudo systemctl restart docker

# Log out and log back in so that your group membership is re-evaluated.
# or you can run following commands to refresh docker group members
newgrp  docker

# please try some docker commands again
docker ps
# Outputs:
# CONTAINER ID        IMAGE               COMMAND                  CREATED
```

Blockchain

区块链相关的一些笔记。

Geth 搭建以太坊私链

1. 下载安装Geth

```
brew tap ethereum/ethereum
brew install ethereum
```

2. 准备创世区块配置文件genesis.json

```
{
  "config": {
        "chainId": 10,
        "homesteadBlock": 0,
        "eip155Block": 0,
        "eip158Block": 0
    },
  "coinbase"   : "0x0000000000000000000000000000000000000000",
  "difficulty" : "0x20000",
  "extraData"  : "",
  "gasLimit"   : "0xffffffff",
  "nonce"      : "0x0000000000000042",
  "mixhash"    : "0x0000000000000000000000000000000000000000000000000000000000000000",
  "parentHash" : "0x0000000000000000000000000000000000000000000000000000000000000000",
  "timestamp"  : "0x00",
  "alloc"      : {}
}
```

3. 写入创世区块

```
geth --datadir data init genesis.json
```

4. 启动私有节点

```
geth --datadir data --networkid 1001 console
```

5. 创建账户

```
personal.newAccount('123456') # 123456是密码
personal.newAccount('123456')

# 默认eth.accounts[0]为矿工账户
```

6. 挖矿

```
miner.start();admin.sleepBlocks(1);miner.stop()
```

7. 发送交易

```
amount = web3.toWei(5, 'ether')

eth.sendTransaction({from: eth.accounts[0], to: eth.accounts[1], value: amount}
```

8. 查看交易池状态

```
txpool.status
```

9. 挖矿打包交易

```
miner.start(1); admin.sleepBlocks(1); miner.stop() # 启动挖矿，然后等待挖到一个区块
```

10. 查看余额

```
txpool.status

web3.fromWei(eth.getBalance(eth.accounts[1]), 'ether') # 输出为5
```

11. 其他

```
# 查看区块高度
eth.blockNumber

# 查看区块信息
eth.getBlock(10)

# 查看交易信息
eth.getTransaction(txHash)

# 查看节点信息
admin.nodeInfo
```

参考链接

1. https://www.cnblogs.com/WPF0414/p/10046481.html
2. https://blog.csdn.net/dieju8330/article/details/81542916

以太坊智能合约极简入门

1. 搭建环境

- 安装node, nvm安装
- 安装ganache
- 安装truffle: npm install truffle -g

2. 启动ganache

双击图标

3. 项目设置

```
# 目录 projects/smart-contract-demo
truffle init
```

4. 编写合约文件

```
# /contracts/TodoList.sol
pragma solidity ^0.5.8;

contract TodoList {
    uint public taskCount = 0;

    function setTaskCount(uint count) public {
        taskCount = count;
    }
}
```

5. 编写部署脚本

```
// migrations/2_deploy_contracts.js

var TodoList = artifacts.require("./TodoList.sol");

module.exports = function(deployer) {
  deployer.deploy(TodoList);
};
```

6. 配置truffle-config.js

```
//按需修改
networks: {
    development: {
      host: "127.0.0.1",
      port: 7545,
      network_id: "*" // Match any network id
    }
  }
```

7. 测试

```
truffle test
```

8. Reference

- https://www.trufflesuite.com/docs/truffle/overview
- http://www.dappuniversity.com/articles/blockchain-app-tutorial
- https://www.trufflesuite.com/docs/ganache/overview

Bitoin ore　搭建 regtest测试链

1. 安装bitcoin core

参考官方文档

2. 配置文件

```
# btc_private_chain/data/bitcoin.conf
server=1
rpcuser=123456
rpcpassword=abcdef
rpcallowip=127.0.0.1
[regtest]
    rpcport=8332
```

3. 启动regtest节点

```
# 目录btc_private_chain
bitcoind -datadir=data -regtest -printtoconsole
```

4. 新增地址

```
bitcoin-cli -datadir=data getnewaddress 'xyz'
# print address
```

5. 挖矿

```
bitcoin-cli -datadir=data generatetoaddress 101 "address"
```

6. sendtoaddress 简单消费(转账)

```
bitcoin-cli -datadir=data sendtoaddress "address" 10
```

7. 确认

```
bitcoin-cli -datadir=data generatetoaddress 1 "address"
```

8. 查看余额

```
bitcoin-cli -datadir=data listaddressgroupings
```

9. 查看区块高度

```
bitcoin-cli -datadir=data getblockcount
```

10. 查看区块信息

```
bitcoin-cli -datadir=data getblockhash 102
# output: hash
bitcoin-cli -datadir=data getblock "hash"
```

11. 查看交易信息

```
bitcoin-cli -datadir=data gettransaction "txid"
```

12. 创建简单的原生交易

TODO

13. 创建复杂的原生交易

TODO

其他链接

1. https://bitcoin.org/en/developer-examples#transactions
2. https://bitcoin.org/en/developer-reference#sendtoaddress
3. https://www.janshu.com/p/09c5207b4e5d
4. https://stackoverflow.com/questions/38152663/bitcoin-how-to-build-raw-transaction
5. https://blog.csdn.net/a013152a/article/details/81668629

Others

其他的一些笔记什么的

年阅读书单

2018年马上就要过去了， 所以就总结了一下这一年中看完的一些书籍

十月

- 《流转的星辰》
- 《深入浅出Node》
- 《鲁迅全集-小说全集》
- 《父与子全集》

十一月

- 《你不知道的js（上卷）》

十二月

- 《数据结构与算法JavaScript描述》
- 《你不知道的js（中卷）》
- 《四十自述》 胡适
- 《计算机科学基础》 陆汉权主编
- 《三十而立》 王小波

阅读资源链接

2018年一些已读的文章链接

十月

- JSON Web Token (JWT)
- GitHub -Learn how to use JSON Web Token (JWT) to secure your next Web App(Tutorial+Example with T ests)
- The Anatomy of a JSON Web Token -Scotch □□
- The Ins and Outs of Token Based Authentication — □□
- Authenticate a Node ES6 API with JSON Web Tokens □□
- 6 Main Reasons Why Node.js Has Become a Standard T echnology for Enterprise-Level Organizations
- High-performance Node.js CLI options parser
- One command to generate REST APIs for any MySql Database.
- Using MongoDB as realtime DB with nodeJS.
- October Brings Node.js 10.x to L TS and Node.js 11 to Current! □□
- HTTP/2 简介 | □□
- HTTP/2 Server Push with Node.js | □□
- MySQL Indexing Explained - The Viaduct Blog - □□

十一月

- 每周分享第 29 期 - 阮一峰的网络日志
- For The First Time, We Have Confirmation That Earth's Core Is Actually Solid □□
- Introducing GitHub Actions
- Ervy - Bring charts to terminal.
- NGINX Unit Now Supports TLS and JavaScript Apps with Node.js - NGINX
- Cloud Academy - Learn serverless full stack development for free
- Setting Up a RESTful API with Node.js and PostgreSQL
- ajv - npm
- fastest-validator - npm
- A Guide to GraphQL in Plain English | SourceCode
- Three ways to represent your GraphQL schema -Apollo GraphQL
- Creating and Reading QR Codes with Node.js |www .thecodebarbarian.com
- A personal review of automated testing tools in the JavaScript world
- How to bring a new tool to your team: 5 tips for successful adoption - CircleCI
- 基于角色和资源的用户权限控制（用SpringMVC实现） - u011277123的博客 - CSDN博客
- 每周分享第 30 期 - 阮一峰的网络日志
- awk 入门教程 - 阮一峰的网络日志
- ES6 In Depth: Arrow functions - Mozilla Hacks - the W eb developer blog
- Microservice Architecture at Medium -Medium Engineering

- JavaScript: What Are Pure Functions And Why Use Them?
- git - the simple guide - no deep shit!
- Gitflow Workflow |Atlassian Git T utorial
- Faster async functions and promises ·V8
- October 21 post-incident analysis |The GitHub Blog
- Node.js Everywhere with Environment V ariables! –Node.js Collection – Medium
- TCP 协议的堵塞控制算法
- Intro to TCP Congestion Control
- Top 10 GitHub Best Practices - datree
- Best Code Components for Node.js - datree □□
- event-stream vulnerability explained - Zach Schneider □□
- Transpiling And Publishing ES9 NPM Modules With Babel 7
- Testing HTTP Requests in Node.js Using Nock –Alligator .io
- Writing Memory Efficient Software Applications in Node.js □□
- Testing your API with Dredd –Ministry of Programming –Medium □□
- 你不知道的 Node.js 性能优化 □□
- Understanding JavaScript's async await □□
- 数据库连接池到底应该设多大这篇文章可能会颠覆你的认知 - 后端 - 掘金

十二月

- 理解递归 □□
- A cartoon intro to DNS over HTTPS
- WebSockets - A Conceptual Deep-Dive
- Copying objects in Javascript
- 这一次，彻底弄懂 JavaScript 执行机制 - □□
- Event Loop 必知必会（六道题） - 知乎
- 不要混淆nodejs 和浏览器中的event loop - □□
- 19 ways to become a better Node.JS developer in 2019 □□
- Debug Your Node.js App in 60 Seconds –Node.js Collection –Medium
- Node.js API and W eb Frameworks for 2019 |Checkly □□
- InfoQ - GitHub 2018 年十大新开源项目揭晓
- 27道Redis精选面试题，你会做几题
- Common AsyncA wait Design Patterns in Node.js
- PromisesA+ □□
- Promise 必知必会（十道题） - 知乎
- 深入 Promise(一)Promise 实现详解 - 知乎
- How does MySQL Replication really work?
- npm package permissions—an idea
- ECMAScript modules in Node.js: the new plan
- AVA 1.0 □ – □ Sindre Sorhus' blog
- NPM入门 - 基础使用 - kelsen - 博客园

2019 年阅读书单

2019年马上就要过去了， 所以就总结了一下这一年中看完的一些书籍

1 月

- 《图解HTTP》
- 《许三观卖血记》
- 《第七天》
- 《兄弟》
- 《大话数据结构》
- 《半小时漫画历史系列四册》

2 月

- 《秋叶： 如何高效读懂一本书》
- 《Linux命令行与shell脚本编程大全第三版》
- 《The Way To Go》
- 《Go Web Programming》
- 《了不起的盖茨比》
- 《白夜行》

3 月

- 《在细雨中呼喊》
- 《程序是怎样跑起来的》
- 《Go In Action》
- 《Linux就该这么学》
- 《面包树上的女人》

4月

- 《build-web-application-with-golang》
- 《玩儿》

5月

- 《美国众神》
- 《网络是怎样连接的》

6月

- 《平凡的世界》

7月

- 《斗罗大陆》

8月

- 《流浪地球》

9月

- 《撒哈拉的故事》

11月

- 《明朝那些事儿全集》

12月

- 《electron in action》
- 《围城》

2019 年阅读资源链接

2019年一些已读的文章链接

一月

- ES5和ES6中的继承图 □□
- 一张图理解prototype、proto和constructor的三角关系
- nodebestpractices
- How to scale your Node.js server using clustering
- Threads in Node 10.5.0: a practical intro □□
- We're under attack! 23 Node.js security best practices
- project-guidelines/README-zh.md at master · elsewhencode/project-guidelines · GitHub
- How to use Docker for Node.js development □□
- awesome-cheatsheets/node.js at master · LeCoupa/awesome-cheatsheets · GitHub
- An Overview of Buffers in Node.js □□
- 9 Bash Aliases to Make Your Life Easier □□
- The InterPlanetary File System (IPFS) Simply Explained & Illustrated
- MySQL 索引及查询优化总结□□
- Node.js & JavaScript T esting Best Practices □□
- GitHub - toml-lang/toml: T om's Obvious, Minimal Language
- Async Stack Traces in Node.js 12 □□
- Using worker threads in Node.js □□
- Trash talk: the Orinoco garbage collector
- 5 common mistakes in every Node.js app □□
- Aliasing module paths in Node JS□□□□
- 数据库表连接的简单解释
- lets-talk-js-documentation
- 每天一个设计模式
- 【面经】寒冬中的一年半前端跳槽 - 掘金
- 一个前端的2018总结，2019展望 | 掘金年度征文 - 掘金
- 完美二叉树、完全二叉树、完满二叉树
- 概率计算（抽奖活动、命中率）
- The Twelve-Factor App□□
- How to start a Node.js project □□
- Fizz Buzz in 10 languages!
- Creating a Node gRPC Service Using Mali□□
- What is HTTP/2 All About? □□
- Adding tracing with Jaeger to an express application |Rhonabwy
- 不要再问我跨域的问题了 - 个人文章 - SegmentFault 思否
- The AIM-lang project series
- mkcert: valid HTTPS certificates for localhost
- Discussing Docker. Pros and Cons.
- Philipp Hauer's Blog

- A Better Way to Develop Node.js with Docker □□
- pi-awesome-code-validation
- Node Weekly 272
- Node Weekly 273
- Build RESTful API service in golang using gin-gonic framework

二月

- 减小docker镜像体积
- why-is-serverless-important
- using-buffers-in-node-js
- build-a-rest-service-with-fastify
- 图解浏览器的基本工作原理
- 图解 HTTP 缓存
- CI/CD - Serverless Ebook using Gitbook CLI, Github Pages, Github Actions CI/CD, and Calibre
- what-every-developer-should-know-about-tcp
- df du
- Grouping and aggregating data using SQL
- 译-保持Node.js 的速度-创建高性能Node.js Servers 的工具、技术和提示
- 5-git-workflows-to-improve-development

三月

- 有史以来最强的 5G 入门科普！□□
- Docker Tutorial Series – Romin Irani’s Blog□□
- Docker Commands – The Ultimate Cheat Sheet – Hacker Noon
- 容器Docker详解
- How To Build a Node.js Application with Docker |DigitalOcean
- Git Server Deployment
- tmux 入门

四月

- Unicode Character Set and UTF-8, UTF-16, UTF-32 Encoding
- OAuth 2.0 的一个简单解释
- OAuth 2.0 的四种方式
- GitHub OAuth 示例教程
- OPS 入门教程

五月

- Tips to use VSCode more efficiently
- Node.js v12 - New Features You Shouldn't Miss
- Node Best Pratice
- Top Node.js Metrics to Monitor

- A Guide to Node.js Logging

六月

- A guide to setting up Vim for JavaScript development
- 暗网
- Github: fromcodertoexpert

七月

- Node Bigint
- Node Cluster
- good-practices-for-high-performance-and-scalable-node-js-app

八月

- 一致性hash原理
- bridging-nodejs-and-python-with-pynode
- promise.allsettled
- date-fns
- lerna 多包管理开发

十月

- cli增强命令
- js 新特性

十一月

- nodejs-k8s-guide
- deploying-a-node-app-to-google-cloud-with-k8s
- tips-to-write-better-conditionals-in-javascript
- working with github actions
- 7 methods for working with directories in nodejs
- async-generator-functions-in-javascript
- introducing-github-actions

十二月

- 20-ways-to-become-a-better-node-js-developer-in-2020
- lerna
- initial-server-setup-with-centos-7
- 什么是homebrew
- ellwk blog

- electron-tutorial
- what is deno
- 7 lib to build node CLI
- Yarn Workspaces: Organize Your Project's Codebase Like A Pro
- A Practical Guide to Symbols in JavaScript
- Go Introductory Tutorials - rungo

2019 年阅读书单

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一月

- 《人生只有一次，去做你想做的事》
- 《骆驼祥子》
- 《Go Web Programing》
- 《挪威的森林》

二月

- 《挪威的森林》

四月

- 《云边有个小卖部》
- 《你不知道的JavaScript》(上卷)
- 《ECMAScript 6 入门》

五月

- 《钢铁是怎样练成的》
- 《数据结构与算法JavaScript描述》
- 《漫画算法-小灰的算法之旅》
- 《我与地坛》

十月

- 《三体》
- 《Javascript 设计模式与开发实践》

十一月

- 《Redis入门指南》
- 《白鹿原》
- 《Redis设计与实现》

十二月

- 《Linux命令行与shell脚本编程大全第三版》

- 《精通Linux（第二版）》

你不知道的Homebrew

> Homebrew is a package manager for Mac OS. It lets you download binaries, packages, and applications with a single command.

安装Homebrew

```
# Installs Homebrew
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/insta
```

升级Homebrew

```
# Updates Homebrew
brew update
```

搜索包

```
brew seach tree
```

安装包

```
# Install Package
brew install <formula>

# For Example
brew install tree
```

升级包

```
# Upgrades one package to the latest version
brew upgrade <formula>

# Upgrades all packages to their latest version
brew upgrade

# For Example
brew upgrade tree
```

删除包

```
brew uninstall <formula>

# For Example
brew uninstall tree
```

清理空间

```
brew cleanup
```

Brew Tap

`homebrew/core` 维护一份可用包列表，在你执行 `brew install` 命令时都是从这个列表进行安装的。

如果需要安装是一个第三方的包列表就需要我们使用 `brew tap` 命令来将此列表添加新 `homebrew/core` 列表中

```
# For Example
# Required to install MongoDB with Homebrew
brew tap mongodb/brew

# Installs MongoDB
brew install mongodb-community
```

Brew Cask

`homebrew/cask` 可以安装GUI程序， 如： Chrome， Vscode, Atom等

```
# 获取brew cask
brew tap caskroom/cask
brew install brew-cask

# Installs Google Chrome
brew cask install google-chrome
brew cask install visual-studio-code
```

撤销Commit

做笔记，做笔记， 做笔记。

撤销commit

通常我写完代码之后就会执行以下命令：

```
git add -A //添加所有文件

git commit -m "注解信息"
```

执行完成之后突然发现有的文件的修改不应该在这次commit提交，所以想要撤回commit。之前我的做法是使用**sourcetree** 来完成。 用着用着感觉好麻烦，所以就好好看了下 `git reset` 命令。

其实我们可以这么做：

```
git reset --soft HEAD^
```

上面命令中的 `HEAD^` 的意思是上一个版本，也可以写成 `HEAD~1` ； `HEAD^^` 就上上次的版本，可以使用 `HEAD~2` ， 依次类推即可。所以如果你进行了 `N(N >= 1)` 次commit回滚，可以使用 `HEAD~N`

参数解释

- `--mixed`

  不删除工作空间改动代码，撤销commit，并且撤销git add . 操作

  这个为默认参数, `git reset --mixed HEAD^` 和 `git reset HEAD^` 效果是一样的。

- `--soft`

  不删除工作空间改动代码，撤销commit，不撤销 `git add` .

- `--hard`

  删除工作空间改动代码，撤销commit，撤销 `git add` .

  注意完成这个操作后，就恢复到了上一次的commit状态。

修改commit的注释

如果commit注释写错了，只是想改一下注释，只需要

```
git commit --amend
```

此时会进入默认vim编辑器，修改注释完毕后保存就好了。

添加漏加的改动

```
git add file

git commit --amend --no-edit
```

`--no-edit` 参数可以让我们不用进入vim编辑器， 使用原有信息直接修改。

撤销本地的所有更改

撤销本地的所有更改，平时我都是通过vscode编辑器自带的git可视化工具来处理的，略嫌麻烦。

```
git reset HEAD .  # 撤销暂存区的修改。注意命令最后面有一个点

git checkout .  && git clean -xdf  # 撤销工作区的所有更改(包括新增的文件和目录)。注意命

### 或者使用：
git add -A && git reset --hard HEAD
```

Vim 快速入门

Vim是一个类似于Vi的著名的功能强大、高度可定制的文本编辑器，在Vi的基础上改进和增加了很多特性。VIM是自由软件。本篇文章是作者的学习笔记，发布本篇文章主要为了备忘，同时也希望能帮助读者快速入门Vim。

新建文件

```
# 方法一
# 直接输入以下命令，编写文件内容； ESC + : + wq! filename 保存退出
vim

# 方法二
# ESC + : + wq 保存并退出
vim filename

vim + filename # 打开文件，光标定位最后一行
```

保存文件并退回终端

命令模式下双击Z（ 大写的)

移动

```
# 每次移动一个字符
k    上移；
j    下移；
h      左移；
l    右移；
```

trl+ 向前移动一页（page dwn ）,trlb 向后移动一页（page up） 更大范围的移动

```
*               当光标停留在一个单词上， * 会在文件内搜索该单词,并跳转到下一处;
#               当光标停留在一个单词上，# 会在文件内搜索该单词,并跳转到上一处；
(/)             移动到 前/后 句 的开始；
{/}             跳转到 当前/下一个 段落 的开始。
g_              到本行最后一个不是 blank 字符的位置。
fa              到下一个为 a 的字符处，你也可以fs到下一个为s的字符。
t,              到逗号前的第一个字符。逗号可以变成其它字符。
3fa             在当前行查找第三个出现的 a。
gg              将光标定位到文件第一行起始位置；
G               将光标定位到文件最后一行起始位置；
NG或Ngg         将光标定位到第 N 行的起始位置
```

快速移动光标

```
H               将光标移动到屏幕上的起始行（或最上行};
M               将光标移动到屏幕中间；
L               将光标移动到屏幕的最后一行。
```

同样需要注意字母的大小写。`H` 和 `L` 命令还可以加数字。如 `2H` 表示将光标移到屏幕的第 `2` 行，`3L` 表示将光标移到屏幕的倒数第 `3` 行。

行内移动光标

```
w               右移光标到下一个字的开头；
e               右移光标到一个字的结尾；
b               左移光标到前一个字的开头；
0               左移光标到本行的开始；
$               右移光标到本行末尾；
^               移动光标到本行的第一个非空字符。
```

搜索匹配

```
/str            正向搜索字符串str；
n               继续搜索，定位到str字符串下一次出现的位置；
N               继续搜索，定位到str字符串上一次出现的位置；
？str            反向搜索字符串str；
```

替换和删除

Vim常规的删除命令是d、k 前者删除 `行` ,后者删除 `字符`

```
rc              用c替换光标所指向的字符
nrc             用c替换光标所指向的前n个字符
x               删除光标所指向的当前字符
nx              删除光标所指向的前n个字符
dw              删除光标右侧的字
ndw             删除光标邮政的n个字
db              删除光标左侧的字
ndb             删除光标左侧的n个字
dd              删除光标所在行，并去除空隙
ndd             删除n行内容，并去除空隙

d$              从当前光标位置删除字符直到行的结束
d0              从当前光标位置删除字符直到行的开始
J               删除本行的回车符（CR），并和下一行合并
```

Vim常规的替换命令有 `c` 和 `s`

```
s               删除光标所指向的字符，进入编辑模式
S               删除当前行，进入编辑模式
c$              删除光标位置到行尾的所有字符并进入编辑模式
c0              删除光标位置到行开始位置的所有字符，并进入编辑模式
```

复制粘贴

从正文中删除的内容（如字符、字或行）并没有真正丢失，而是被剪切并复制到了一个内存缓冲区中。用户可将其粘贴到正文中的指定位置

```
p                   小写字母p,将缓冲区的内容粘贴到光标的后面
P                   大写字母P,将缓冲区的内容粘贴到光标的前面
```

如果缓冲区的内容是字符或字，直接粘贴在光标的前面或后面如果缓冲区的内容为整行正文，执行上述粘贴命令将会粘贴在当前光标所在行的上一行或下一行。 注意上述两个命令中字母的大小写。Vim 编辑器经常以一对大、小写字母（如 p 和 P）来提供一对相似的功能。通常，小写命令在光标的后面进行操作，大写命令在光标的前面进行操作。

复制正文

```
yy                  复制当前行内容到缓冲区
nyy                 复制n行内容到缓冲区
“+y                 复制当前行的内容到操作系统的粘贴板
”+nyy               复制n行内容到操作系统的粘贴板
```

撤销和重复

```
u                   小写字母u,撤销前一条命令的结果
.                   重复最后一条修改正文的命令
```

进入插入模式

在正确定位光标之后，可以使用以下命令进入插入模式：

```
i                   在光标左侧插入正文
a                   在光标右侧插入正文
o                   在光标所在行的下一行新增一行
O                   在光标所在行的上一行新增一行
I                   大写，在光标所在行的开头插入
A                   大写，在光标所在行的末尾插入
```

按 `ESC` 键 和 组合键 `Ctrl + [` 可退出插入模式。

打开、保存、退出

```
:e path_to_file/filename      在已经启动的Vim中打开一个文件
:w                            保存当前编辑的文件
:w  new_fileName              将当前文件另存为new_fileName
ZZ                            大写，保存并退出
:q                            在未作任何修改的情况下退出
:q!                           放弃所有修改，并退出
:wq                           保存并退出，注意命令顺序
```

行号与文件

```
:n                            将光标移动到指定行，同ngg和nG相同
```

命令模式下，可以规定命令操作的行号范围。数值用来指定绝对行号字符 `.` 表示光标所在行的行号字符符 $表示正文最后一行的行号简单的表达式，例如 `.+5` 表示当前行往下5行,例如:

```
:345                          将光标移动到第345行
:345w file                    将第345行内容写入file文件
:3,5w file                    将第3至第5行写入file文件
:1,.w file                    将第1行至当前行写入file文件
:.,$w file                    将当前行至最后一行写入file文件
:a,bW file                    将第a行至第b行的内容写入file文件
:r file                       读取file文件的内容，插入当前光标所在行的后面
:e file                       编辑新文件file 代替原有内容
:f file                       将当前文件重命名为file
:f                            打印当前文件的名称、状态、行数、光标所在行号等
```

字符串搜索

在 编辑模式 讲过字符串的搜索，此处的 命令模式 也可以进行字符串搜索，给出一个字符串，可以通过搜索该字符串到达指定行。如果希望进行正向搜索，将待搜索的字符串置于两个 `/` 之间如果希望反向搜索，则将字符串放在两个 `?` 之间

```
:/str/                        正向搜索，将光标移动到下一个包含字符串 str 的行
:?str?                        反向搜索，将光标移动到上一个包含字符串 str 的行
:/str/w file                  正向搜索，将第一个包含字符串的行写入 file 文件
:/str1/,/str2/w file          正向搜索，将包含字符串 str1 的行至 包含字符串 str2 的行的内

:d                            删除光标所在行
:nd                           删除 n 行

:recover                      恢复意外退出而没有保存的修改，也可在启动的时候使用'-r'选项
```

Shell 切换

当处于编辑的对话过程中时，可能需要执行一些Linux命令。如果需要保存当前的结果，退出编辑程序，再执行所需的Linux命令，然后再回头继续编辑过程，就显得十分累赘。如果能在编辑的环境中运行Linux命令就要省事得多。在Vim中，可以用下面的命令来做到这一点：

```
:!shell_command             执行完 shell_command 后回到Vim  :!pwd
```

分屏

```
:split                      缩写:sp, 上下分屏
:vsplit                     缩写:vsp,左右分屏1
```

另外，也可以在终端里启动vim时就开启分屏操作：

```
vim -On file1 file2...      打开 file1 和 file2 ，垂直分屏
vim -on file1 file2...      打开 file1 和 file2 ，水平分屏
```

快速操作

```
以下命令可以对标点内的内容进行操作。
ci’、ci”、ci(、ci[、ci{、ci<                分别更改这些配对标点符号中的文本内容
di’、di”、di(或dib、di[、di{或diB、di<       分别删除这些配对标点符号中的文本内容
yi’、yi”、yi(、yi[、yi{、yi<                分别复制这些配对标点符号中的文本内容
vi’、vi”、vi(、vi[、vi{、vi<                分别选中这些配对标点符号中的文本内容
```

删除全部

```
# 光标在第一行
V + G + d

# 光标在任一行
1,$d
```

快速删除

```
# 有时候我们需要删除括号或者引号内的内容
# 方法一：
定位到{},()等位置，按v然后按%选中删除

# 方法二:
vi + c          # c 为 " ' ( { [ 等字符
```

替换

```
:[range]s/pattern/string/[c,e,g,i]

range  指的是范围，1,7 指从第一行至第七行，1,$ 指从第一行
       至最后一行，也就是整篇文章，也可以 % 代表。
pattern  就是要被替替换的字串，可以用 regexp 來表示。
string   pattern将由string所取代。
c  confirm，每次替换前询问。
e  不显示error。
g  globe，不询问，整行替换。
i  ignore 不分大小写。
```

vim中大小写转化

```
# 整篇文章转换为小写
ggguG

gg=光标到文件第一个字符
gu=把选定范围全部小写
G=到文件结束

# 整篇文章转大写
gggUG

# 只转换某个单词
guw, gue
gUw, gUe

# 其他
gU0         从光标所在位置到行首，都变为大写
gU$         从光标所在位置到行尾，都变为大写
shift + `   光标所在字符大小写切换  ，配合v可以进行选择转换
```

其他

```
:files 或 :buffers 或 :ls 列出目前buffer中的所有文档

:e filename 进入vim后，在不离开vim的情形下再打开其他文档

:e# 或 Ctrl + ^, 编辑前一个文档， 用于两文档相互编辑时相当好用

:sh 退回终端命令界面，可以执行命令， exit回到vim界面

:K 大写的K, 会打开光标所在单词的manpage

:r !command 在光标下一行插入command的输出, 报错时会插入错误信息
```

XSoftware Setup

XXX 软件搭建过程，你懂的！ 放飞自我~

1. 登录服务器

```
ssh username@ip
```

2. 下载Brook文件

```
# 根据最新版本替换url
wget https://github.com/txthinking/brook/releases/download/v20190205/brook

# 增加可执行权限
chmod +x brook

# 根据配置文件中的command来移动文件
mv brook /usr/local/bin/
```

3. 安装supervisor

```
apt install supervisor
```

4. 编辑supervisor配置文件

B ：修改 `PORT` 和 `PASSWORD` 信息,将其命名为 `ssserver.conf` ，然后将其放到 `/etc/supervisor/conf.d` 目录中即可。

```
; supervisor config file
[program:ssserver]
command=/usr/local/bin/brook ssserver -l 0.0.0.0:PORT -p "PASSWORD"
autostart=true                                                ; start at supervis
startsecs=1                                                   ; # of secs prog mu
startretries=3                                                ; max # of serial s
autorestart=true                                              ; when to restart 
exitcodes=0,2                                                 ; 'expected' exit c
stopsignal=QUIT                                               ; signal used to ki
stopwaitsecs=10                                               ; max num secs to w
stopasgroup=false                                             ; send stop signal
killasgroup=false                                             ; SIGKILL the UNIX
redirect_stderr=true                                          ; redirect proc std
stdout_logfile=/tmp/brook.stdout.log                          ; stdout log path,
stdout_logfile_maxbytes=1MB                                   ; max # logfile byt
stdout_logfile_backups=10                                     ; # of stdout logfi
stdout_capture_maxbytes=1MB                                   ; number of bytes 
stdout_events_enabled=false                                   ; emit events on st
stderr_logfile=/tmp/brook.stderr.log                          ; stderr log path,
stderr_logfile_maxbytes=1MB                                   ; max # logfile byt
stderr_logfile_backups=10                                     ; # of stderr logfi
stderr_capture_maxbytes=1MB                                   ; number of bytes 
stderr_events_enabled=false                                   ; emit events on st
```

5. 重启supervisor

```
service supervisor restart

# 查看ssserver进程是否正常运行
supervisorctl status
# ssserver                         RUNNING   pid 2824, uptime 0:15:28
# RUNNING 表示成功运行了
```

6. 根据上面填写的PORT和PASSWORD填写Shadowsocks服务器配置即可

使用Let Encrypts,HTTB 你的网站 (Ubuntu)

HTTPS（全称：Hyper Text Transfer Protocol over Secure Socket Layer 或 Hypertext Transfer Protocol Secure，超文本传输安全协议），是以安全为目标的HTTP通道，简单讲是HTTP的安全版

Note: 在申请证书之前 域名配置需存在于 nginx 的配置文件中, 且域名需要监听 `80` 端口;

1. 安装 cert 命令行工具

```
$ sudo add-apt-repository ppa:certbot/certbot
$ sudo apt-get update
$ # for apacha: sudo apt-get install python-certbot-apacha
$ sudo apt-get install python-certbot-nginx
```

2. 申请证书

```
$ sudo certbot --nginx -d YOUR_DOMAIN
$ sudo certbot --nginx -d YOUR_DOMAIN_A -d YOUR_DOMAIN_B # 申请多个域名证书
```

NOTE: 将 `YOUR_DOMAIN` 、 `YOUR_DOMAIN_A` 、 `YOUR_DOMAIN_A` 替换成真实的域名

3. 证书过期重新申请

Let Encrypts 的证书只只支持 90 天的时间, 如果过期需要从新申请, 执行以下命令:

```
sudo certbot renew --dry-run
```

生活杂记(一)

生活不只是苟且！！

> 却也没有诗和远方！

一

岁月如刀啊
两鬓的白发，满脸的皱纹以及佝偻的身影
那是岁月留下的痕迹
于是心生焦虑，奋起直追
浩瀚书海，虽是囫囵吞枣，只因怕来不及
愿岁月停留
等等迷失途中的孩子

二

从前的恣意妄为是何等的幸福，
如今的无能为力是何等的悲哀，
快快成长吧，努力抓住现在所拥有的一切，
把生活过成我们想要的样子。
希望我们都能过的好，像照片里那样好！

三

我把你弄丢了
推向他身边
剩我一人在深夜寂寞
还记得那几年
你微笑的脸，是那么甜
回想起来一切还是那么美
你现在在哪，过的还好吗
一切仿佛都好像在昨天
好想你还在我身边，想把你宠的像孩子样天真
可现在你在他身边，笑的还是那么甜，孩子一样的天真
你那孩子般的天真，我看不见
我再也看不见
希望你以后还笑的那么甜

四

我曾经天真的以为，用真心对任何人，就可以得到真正的友情，真正的爱情。
后来，认识了一些人，经历了一些事，才知道一切都是我以为。

我以为你会一直陪我到最后，可惜不是你，到最后剩下的孤寂我一个人享受就好了，即使再痛又有什么关系。

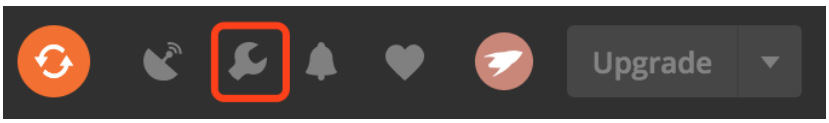
相遇总是猝不及防，而离别多是蓄谋已久，总有一些人会慢慢淡出你的生活，你要学会接受而不是怀念。
留不住的心，就让它飞吧。飞吧！

Postman 使用自签名证书发送https 请求

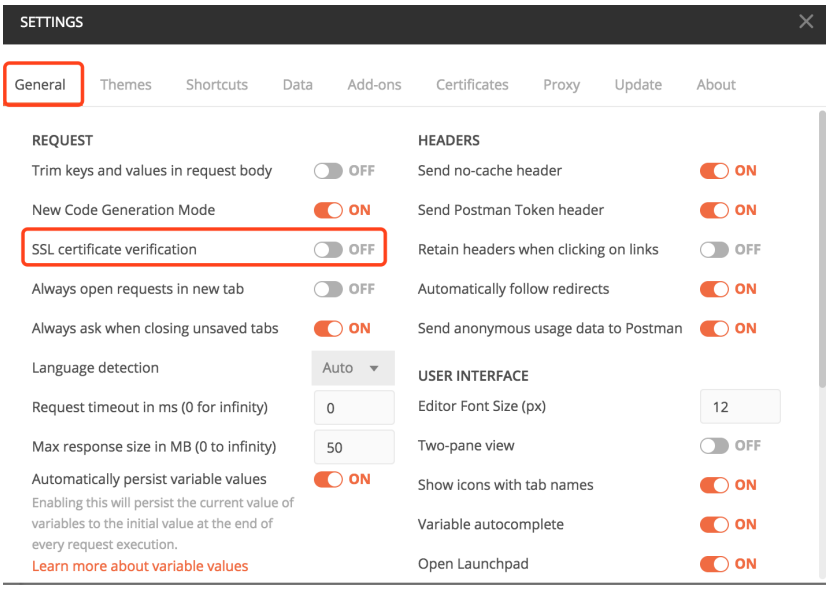
做笔记，做笔记， 好记性不如烂笔头。

设置步骤

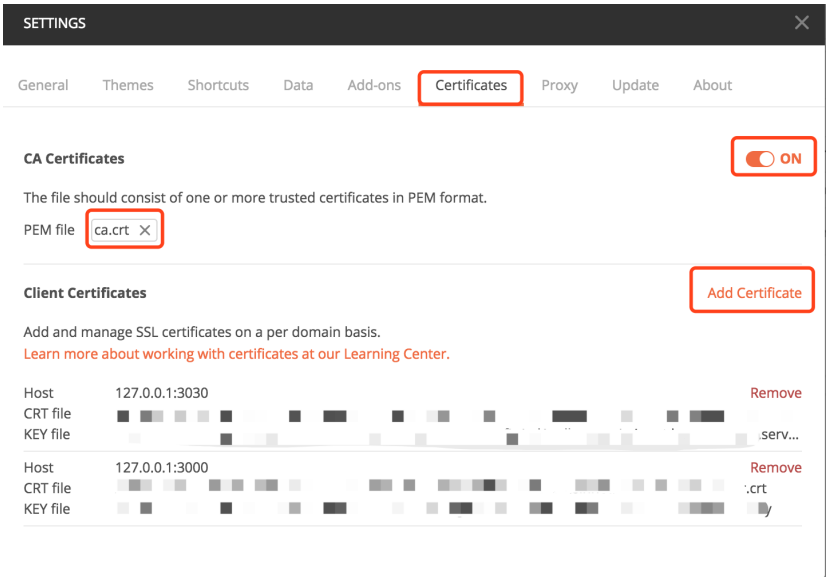
1. `Command + ,` 打开Settings 面板 或点击右上角的**小扳手图标**， 如下图：



2. 在**General** 面板中关闭**SSL certificate verification** ， 如下图：



3. 切换**Certificates** 面板
4. 开启**CA Certificates** ， 选择ca.cert文件
5. 点击**Add Certificates** 按钮
6. 根据提示填写URL地址和端口， 选择对应的cert、key文件


SETTINGS
General
Themes
Shortcuts
Data
Add-ons
Certificates
Proxy
Update
About
CA Certificates
ON
The file should consist of one or more trusted certificates in PEM format.
PEM file
ca.crt
Client Certificates
Add Certificate
Add and manage SSL certificates on a per domain basis.
Learn more about working with certificates at our Learning Center.
Host
127.0.0.1:3030
Remove
CRT file
KEY file
Host
127.0.0.1:3000
Remove
CRT file
KEY file

结构化查询语言学习

SQL(Structured Query Language) 是结构化查询语言的简称，它最重要的是数据库的操作语言。 对于学习数据库而言，学习SQL的使用是相当的重要!

语句的分类

1. `DQL` : Data Query Language, 数据查询语句，用于数据的查询
2. `DML` : Data Manipulation Language, 数据库操作语言， 主要用于数据的插入、更新、删除等。
3. `DDL` : Data Definition Language, 即数据定义语言，主要用于表的创建、删除、修改等

DDL语句

建表语句

```
CREATE TABLE student ( -- student
    id INT SERIAL PRIMARY KEY, -- PRIMARY KEY 代表表的主键，是行的唯一标识，不能重复。
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    phone varchar(32)
    age INT
);
```

删除表

```
DROP TABLE table_name;
```

创建索引

```
CREATE INDEX idx_student_phone ON student USING gin(phone);
```

DDL语句

插入数据

```
INSERT INTO student VALUES(1, 'Chui', 'Dylan', '131xxxxxxxx', 22);
INSERT INTO student VALUES(2, 'ming', 'xiao', '0123456789', 15);

-- or , 某些省略的字段会被置空
INSERT INTO student (first_name, last_name, phone, age) VALUES ('Chui', 'Dylan
```

更新数据

```
UPDATE student SET age = 21; -- 更新全部数据

-- 根据条件更新多列数据
UPDATE student SET age = 20, phone = '131zzzzzzzz' WHERE id = 1;
```

删除数据

```
DELETE FROM student WHERE id = 2;

-- 删除全表数据
DELETE FROM student;

-- TRUNCATE 语句： 属于DDL, 相当于用重新定义的方法丢去原有的数据，
-- 而DETELE属于DML, 是一条一条数据的删除，所以truncate 执行会更快
TRUNCATE student;
```

DQL语句

```
-- 单表查询
SELECT * FROM student; -- * 代表所有列

-- 查询指定列
SELECT id , first_name, last_name FROM student;

-- select expression
SELECT 2 + 3, id || first_name FROM student WHERE id = 2;

-- 过滤条件
SELECT id , first_name, last_name FROM student WHERE id = 2;

-- 排序
SELECT * FROM student ORDER BY id ASC; -- ASC 代表升序(默认排序方式)， DESC 代表降序

SELECT * FROM student WHERE first_name LIKE '%chui%' ORDER BY id ASC, age DESC;

-- 分组查询
SELECT age, COUNT(*) FROM student GROUP BY age; -- 使用GROUP BY时，需要使用聚合函数

-- JOIN
SELECT t1.uid, t1.user_name, t2.email, t2.auth_identifier FROM user_info t1, us

SELECT t1.*, t2.* FROM user_info t1 left join user_auth t2 on t1.uid = t2.user_

-- insert into ... select from table_nme(需要先创建表),快捷备份表的一个方法
INSERT INTO student_bak SELECT * FROM student;

-- 联合
SELECT * FROM student WHERE id = 2 UNION SELECT * FROM student_bak WHERE id = 2

-- UNION 会将两条相同的数据合并，如果不想合并，使用UNION ALL即可
SELECT * FROM student WHERE id = 2 UNION ALL SELECT * FROM student_bak WHERE id
```

bntu 初始化设置

当你第一次创建ubuntu 16.04版本的服务器时，有一些配置步骤作为基础配置的一部分是需要你尽早设置的，这将增加服务器的安全性和可用性，并为后续操作提供坚实的基础。

01. Terminal 远程登录云服务主机

1. 登录阿里云服务控制台
2. 页面左侧找到 `云服务器ECS`，点击找到服务器 `实例`
3. 复制 `公有IP地址`
4. 本地打开 `Terminal`，通过下面命令登录

```
ssh username@ip
```

5. 密码验证， 输入购买时设定的服务器密码，如果忘记了，可以在实例界面重置密码

02. 管理用户

1. 添加用户

```
$ sudo adduser username  # 然后根据提示输入信息
```

2. 赋予新用户sudo权限

```
$ sudo usermod -aG sudo username

# annother way
# $ visudo
#
# add this line below ' User privilege specification area'
# usernmae  ALL=(ALL:ALL) ALL
# 用户名     所有主机 = （所有用户可执行命令所有组可执行命令）   所有命令
```

3. 修改用户密码

```
$ sudo passwd username
```

4. 删除用户

```
$ sudo deluser username

# 连同用户home目录一起删除
$ sudo deluser --remove-home newuser

# 如果该用户用于sudo权限， 通过visudo命令，删除对应用户对应行记录即可
```

03. SSH Auth 无密码登录（安全可靠）

1. 在本地生成秘钥

```
ssh-keygen       # 不要输入密码

# 默认在用户.ssh目录下。
```

2. 将公钥上传至远程服务器

```
mkdir .ssh
touch  .ssh/authorized_keys
# 手动复制本地公钥内容到`authorized_keys`

# ssh 命令方式（推荐）
ssh-copy-id username@host
```

3. 修改文件权限

```
chmod 777 .ssh
chomd 644 .ssh/authorized_keys
```

4. 禁用root用户SSH 登录

```
# 修改 PermitRootLogin no
vim /etc/ssh/sshd_config [etcsshsshdconfig]
```

5. 禁用基于密码的登录

```
# 添加 `PasswordAuthentication no`, 保存退出
sudo vim /etc/ssh/ssh_config

# 重启ssh auth 服务
sudo service ssh restart
```

04. 设置sudo 不需要输入密码

```
sudo vim /etc/sudoers

# 修改对应一行
# %sudo   ALL=(ALL:ALL) NOPASSWD: NOPASSWD: ALL

# 详情请参考 man sudoers
```

05. 安装Docker

1. 参照 docker官网
2. 将 用户添加到 `docker` 组

```
sudo usermod -aG docker username
```

06. 阿里云服务器公网开放端口

1. 登录阿里云服务器控制台
2. 实例操作点击 `更多` 选择 `安全组配置` ，进入实例安全组配置界面选择 `配置规则`
3. 点击 `添加安全组规则` ， 在弹出界面输入参数
4. 重启服务

07. 参考文章

- How to Add and Delete Users on Ubuntu 16.04
- How To Edit the Sudoers File on Ubuntu and CentOS
- How To Set Up SSH Keys on Ubuntu 16.04

PostgreSQL 安装及配置

本文主要包括PostgreSQL的安装、配置以及如何通过 `Docker` 快速启动一个数据库,以便本地开发和测试。

PostgreSQL 官网简介:

> PostgreSQL is a powerful, open source object-relational database system with over 30 years of active development that has earned it a strong reputation for reliability, feature robustness, and performance.

PostgreSQL是一个功能强大的开源对象关系数据库系统，经过30多年的积极开发，在可靠性，功能稳健性和性能方面赢得了良好的声誉。

从发行版本安装(Ubuntu 16.04)

1 安装

```
$ sudo apt-get update
$ sudo apt-get install postgresql
```

2 连接数据库

安装完成后，数据库就启动了。切换系统用户 `postgres`，通过 `psql` 命令可以连接数据库:

```
$ sudo su - postgres        # - 表示切换相关的环境变量

$ psql                      # 连接数据库
```

3 相关目录

- 数据库的数据目录 `/var/lib/postgresql/<dbversion>/main`
- Postgresql配置目录 `/etc/postgresql/<dbversion>/mian`

4 Postgresql 服务管理命令

```
# 查看状态
$ sudo service postgresql status     # or systemctl status postgresql

# 停止服务
$ sudo service postgresql stop

# 启动服务
$ sudo service postgresql start

# reload
$ sudo service postgresql reload
```

5 简单配置

- 修改监听的IP 和 端口

```
listen_address = 'localhost'   如果想想让远程的主机可以登录将其改为"*"即可
#port = 5432         默认5432可不修改，如果我们有多个数据库实例就可以设置不同端口
```

- Log相关

```
logging_collector = on     # 是否要收集日志，一般是需要设置的

log_directroy = 'pg_log'  # 日志目录

# 每天生产一个新的日志文件
log_filename = 'postgresql-%Y-%m-%d_%H%M%S.log'
log_truncate_on_rotation = off
log_rotation_age = 1d
log_rotation_size = 0

# 当日志写满一定大小后则切换一个新的日志文件
log_filename = 'postgresql-%Y-%m-%d_%H%M%S.log'
log_truncate_on_rotation = off
log_rotation_age = 0
log_rotation_size = 20M

# 保留七天的日志，循环覆盖
log_filename = 'postgresql-%a.log'
log_truncate_on_rotation = on
log_rotation_age = 1d
log_rotation_size = 0
```

- 内存相关

  1. sharedbuf fers: 共享内存的大小，主要用于数据块共享
  2. workmem: SQL读取数据时所使用的内存，使用后就释放。

     当机器的内存较足的情况下，加大这两项的数据可以提高数据的读取排序速度。

更多详细信息请查看官方文档

Docker 启动 pgsql数据库

如果为了测试和开发， 我们可以通过Docker来快速启动一个测试数据库， 命令如下：

```
docker run -d --name postgres \
                -p 5432:5432 \
                --restart=always \
                -v $HOME/Lib/Data/pgdata:/var/lib/postgresql/data \
                -e 'POSTGRES_DB=db_name' \
                -e 'POSTGRES_USER=db_user' \
                -e 'POSTGRES_PASSWORD=db_password' \
                postgres:<db_version>
```

注： 根据实际情况修改上面的命令中相关数据

如何编写SQL，第1部分:命名约定

原文链接

> "There are only two hard problems in Computer Science: cache invalidation and naming things."
> —Phil Karlton

1. 背景

在本文中，我将讨论后者。具体来说是数据库对象的命名约定，它们为什么如此重要，以及你应该和不应该做什么。

2. 目标数据库

我的公司JackDB内部使用PostgreSQL存储持久化状态，本文中的命名约定是针对PostgreSQL写的,但是对于其他关系数据库(如MySQL、Oracle或Microsoft SQL Server)，大多数建议应该同样有效的。

其中的一部分也能应用到NoSQL数据库中，虽然不是一切。例如下面在MongoDB中使用全英文单词来代替推荐方式的建议。 当你有疑问时，可以查找特定类型数据库的指南。

3. 为什么命名约定是重要的

3.1 名称是永久存在的

数据结构要比应用程序代码持久的多。任何在一个长期运行的系统上工作过的人都可以证明这一点。

好的数据结构和表结构比任何应用程序代码"活"的时间都长。一个应用程序完全重写而不用修改数据库的情况并不少见。

3.2 名称是合约

数据库对象通过它们的名称引用，因此对象名称是合约的一部分。在某种程度上，您可以将数据库表和列名视为数据模型的API。

一旦它们被设置，更改它们可能会中断依赖的应用程序。这就是为什么在第一次使用时需要正确命名数据库对象的原因。

3.3 开发者上下文切换

数据模型具有一致的命名约定意味着开发人员将需要花费更少的时间查找表、视图和列的名称。当你知道 `person_id` 必须是 `person` 表的 `id字段的外键` 时，编写和调试SQL就变的非常容易了。

4. 命名约定

4.1 避免引用

如果必须引用标识符，那么你就应该重新命名它了。引用标识符是非常痛苦的。手写带有引用标识符的SQL是令人沮丧的， 手写带有引用标识符的动态SQL是更令人沮丧的。

这也意味着你不应该在标识符名称中包括空格。

例你应该避免使用 `"FirstName"` 或者 `"All Employees"` 这样的名称。

4.2 使用小写字母

标识符应该全部使用小写字母。包括表名称，视图名称，列名和数据库其他的所有名称。混合大小写标识符名称意味着标识符的每次使用都需要用双引号引用(我们已经说过不允许使用双引号了)。

例： 使用 `first_name` 而不是 `"First_Name"`

4.3 数据类型不是名称

数据库对象名称，特别是列名，它应该是描述字段或对象的名词。应该避免使用像 `text` 或者 `timestamp` 这种表示数据类型的单词。后者尤其糟糕，因为它提供了零上下文。

4.4 使用下划线分割单词

如果对象名称由多个单词构成则应该使用下划线分割(ie.snake_case)

例子应该使用 `word_count` 或 `team_member_id`，而不是 `wordcount` 或 `wordCount`。

4.5 使用完整单词而不是缩写

对象名应该是完整的英语单词。通常要避免使用缩写，尤其是如果它们只是删除元音的类型。大多数SQL数据库都支持至少30个字符的名称，这对于几个英语单词来说已经足够了。PostgreSQL支持最多63个字符的标识符。

例: 使用 `middle_name` 而非 `middle_nm`。

4.6 使用常见的缩写

对于一些长单词，缩写比单词本身更常见。"internationalization"and "localization" 是最常出现的两个单词，分别是i18n 和l10n ，这种情况下应使用缩写。

如果你有疑问，可以用完整的英语单词试试， 然后你就会发现缩写形式的优势是显而易见的。

4.7 避免使用保留字

你应该避免使用数据库的任何保留字。它们并不太多，所以不用花什么努力去选一个不同的单词。根据上下文环境，保留字可能需要引用（**qting** ），这意味着有时你会写**"ser"** ，有时只写**ser** 。

避免保留词的另一个好处是，不太智能的编辑器语法高亮不会错误地高亮它们。

例子： 避免使用像`user`，`lock` 或 `table`这样的单词。

这是PstgreSQ 、 MySQ 、 Oracle 和 SQ 数据库的保留词列表。

5. 奇异关系

保存数据的表，视图和其他关系应该具有单数名称，而不是复数。

这意味着我们的表和视图应该被命名为`team` 而不是`teams`。

我将给出一些实际的原因，而不是用**关系代数**来解释为什么这是正确的。

他们是一致的：一个表里只有一条数据那是可能的，那它还是复数吗？

他们是明确的只使用单数名称就意味着你不需要决定如何复数化名词

eaPrson"objectgointoaPrson"elationoraPopbne"aw abotan" Ctop "objectCtopsCtopCtopdes?

Straightforward T ranslation： 单数名称允许您直接将4GL对象转换为数据库关系。您可能需要删除一些下划线，并切换到驼峰大小写，但名称转换始终是直接的。

例：team_member 可以明确的转换成Java中的TearmMember类或Python中的team_member 变量。

6. 关键字段

6.1 主键

单列主键字段名称应该命名为id。它应该是简单明了的。这意味着在编写SQL时，不需要记住要关联的字段的名称。

```
CREATE TABLE person (
  id bigint PRIMARY KEY,
  full_name text NOT NULL,
  birth_date date NOT NULL
);
```

一些指南建议将表名放在主键字段名的前面。对比**prson_id** 和**id**，额外的前缀是多余的。在比较复杂SQL语句中的所有字段名(多表联合)都应该显式的指定。将前缀作为命名空间是一个糟糕的想法。

6.2 外键

外键字段的名称应该是被引用表名和字段名称的组合。对于单个列外键名称(到目前为止最常见的情况)，类似于`foo_id`。

```
CREATE TABLE team_member (
  team_id bigint NOT NULL REFERENCES team(id),
  person_id bigint NOT NULL REFERENCES person(id),
  CONSTRAINT team_member_pkey PRIMARY KEY (team_id, person_id)
);
```

7. 前缀后缀

1 关系类型前缀

一些老的教程建议我们命名表时添加**TB**_前缀，视图添加**W**_ 前缀，存储过程添加**B** 前缀。这样做是为了让编程者在阅读一些未知的SQL时能够通过名称立即判断出对象的类型，但这是一个糟糕的想法。

对象的名称不应该包括对象类型在内。这样以后就可以修改它了。用表替换的视图来维护视图的原始数据(例如:您可以从中查询)。在这样的更改之后，依赖的系统可以不用修改。

我曾经见过很多这样的系统，在某种程度上，会将视图当成一个表来用。然后当你向视图插入数据时，就可能得到一些意想不到的问题。PostgreSQL甚至还有一个非常强大的特性，允许您在视图上定义DML规则（例如你可以插入 /更新/删除它们)。

添加对象类型前缀增加了额外的混乱。

2 应用程序名称前缀

其他的一些老的建议就是给数据库对象添加统一的前缀。例如， 我们的APP叫"FooBar"， 然后就可能会有这种表 `Foobar_Users`，`Foobar_Teams` 等等。同样，这也是一个糟糕的想法。

所有现代数据库都支持某种形式的命名空间。例如，在PostgreSQL中你能通过创建模式来对数据库对象进行分组。如果多个应用程序共享同一个数据库，并且希望防止它们互相攻击，那么可以使用模式。这正是他们的作用!

但大多数人甚至不需要它们。将数据库与单个逻辑数据模型一起使用要比使用多个单独的数据模型常见得多。因此不需要模式。如果你确实需要它们，这应该是相当明显的。

这个规则的例外是，如果您正在开发数据库无关的代码库，比如框架或插件。支持多个名称空间方法非常复杂，因此许多框架都依赖于应用程序名称前缀。

然而，大多数人开发的是应用程序，而不是插件或框架，他们的应用程序将单独驻留在单一类型的数据库中。因此，没有理由向所有数据库对象添加应用程序名称前缀

3 数据类型后缀

一些指南，通常是比较老的，建议你在列名后面添加数据类型后缀。例如，text类型的name列名为name_tx 。甚至会有大量的列表将数据类型转换为后缀、text->tx、date->dt 等。

这是个不好的想法!

字段数据类型可以更改。date可以成为timestamp，int可以成为bigint或numberic。

8. 显式命名

一些创建数据库对象的命令不需要你指定一个名称。一个对象的名称要不是随机生成（ex:fk239nxvknvsdvi）就是通过公式生成的（ex: foobarix1 ）。除非你明确地知道如何生成一个名称，并且您对它很满意，否则您应该显式地指定名称。

这还包括ORMs生成的名称。许多ORM默认创建索引和约束，并生成冗长的名称。在短期内节省的几分钟时间，不值得你痛苦地回忆 `fkas9dfnksdfnks` 在长期内指的是什么。

8 索引

索引应该显式地命名，并包括表名和需要增加索引的列名(s)。增加列名可以让我们更容易的阅读SQL执行计划。如果一个索引被命名为 `foobar_ix1` ,那么你需要查找该索引覆盖的列，以了解它是否被正确使用。

```
CREATE TABLE person (
  id          bigserial PRIMARY KEY,
  email       text NOT NULL,
  first_name  text NOT NULL,
  last_name   text NOT NULL,
  CONSTRAINT person_ck_email_lower_case CHECK (email = LOWER(email))
);

CREATE INDEX person_ix_first_name_last_name ON person (first_name, last_name);
```

这样使得SQL执行计划非常易懂。我们能够清晰的看到 `person_ix_first_name_last_name` 索引被使用：

```
=# EXPLAIN SELECT * FROM person WHERE first_name = 'alice' AND last_name = 'sm

                                        QUERY PLAN
-------------------------------------------------------------------------------
 Index Scan using person_ix_first_name_last_name on person  (cost=0.15..8.17 r
   Index Cond: ((first_name = 'alice'::text) AND (last_name = 'smith'::text))
(2 rows)
```

8 约束

与索引类似，约束应该提供描述性名称。对于检查约束尤其如此。这让诊断错误变的容易得多，因为检查约束名称会告诉你原因。

```
CREATE TABLE team (
  id          bigserial PRIMARY KEY,
  name        text NOT NULL
);

CREATE TABLE team_member (
  team_id     bigint REFERENCES team(id),
  person_id   bigint REFERENCES person(id),
  CONSTRAINT team_member_pkey PRIMARY KEY (team_id, person_id)
);
```

注意，PostgreSQL在为外键约束提供描述性名称方面做得很好。

```
=# \d team_member
   Table "public.team_member"
  Column   |  Type  | Modifiers
-----------+--------+-----------
 team_id   | bigint | not null
 person_id | bigint | not null
Indexes:
    "team_member_pkey" PRIMARY KEY, btree (team_id, person_id)
Foreign-key constraints:
    "team_member_person_id_fkey" FOREIGN KEY (person_id) REFERENCES person(id)
    "team_member_team_id_fkey" FOREIGN KEY (team_id) REFERENCES team(id)
```

如果我们尝试插入一个违反这些约束之一的数据，通过约束的名称我们就能知道失败的原因：

```
=> INSERT INTO team_member(team_id, person_id) VALUES (1234, 5678);
ERROR:  insert or update on table "team_member" violates foreign key constraint
DETAIL:  Key (team_id)=(1234) is not present in table "team".
```

类似地，如果我们尝试在上面创建的person表中插入不是小写的电子邮件地址，我们会得到一个违反约束的错误，它会告诉我们到底什么出错了:

```
-- This insert will work:
=> INSERT INTO person (email, first_name, last_name) VALUES ('alice@example.com
INSERT 0 1

-- This insert will not work:
=> INSERT INTO person (email, first_name, last_name) VALUES ('bob@EXAMPLE.com',
ERROR:  new row for relation "person" violates check constraint "person_ck_emai
DETAIL:  Failing row contains (2, bob@EXAMPLE.com, Bob, Barker).
```

9. 写在最后

如果你正在开始一个新的项目，那么我建议你遵循这里列出的约定。如果你是在现有项目中工作，那么你需要更加小心地处理您创建的任何新对象。

惟一比糟糕的命名约定更糟糕的是多重命名约定。如果您现有的项目已经有了命名其数据库对象的标准方法，那么请继续使用它。

你有什么要补充的吗? 有什么方法可以改进其中的一些指导方针，或者只是觉得其中的一些观点很糟糕? 让我知道!

VSCode 快捷键(Mac)

vscode (Visual Studio Code) 作为广受好评的开发工具，已经被越来越多的开发者当作首选的开发工具。 本文主要包括vscode的常用快捷键列表。

安装

进入官网 下载对应平台的安装包

对于MacOS的用户可以通过brew cask 来安装

```
brew cask install vscode
```

安装插件

`Command + Shift + X` 打开插件面板（鼠标点击左侧插件按钮也行），搜索插件，点击 `install` 安装即可。

通过命令行安装插件

1. `Command + Shift + p`, 输入path, 选择：Shell Command: Install 'code' command in path
2. `code --install-extension extension-id`
3. 参数列表

```
# 安装vscode插件
code --extensions-dir <dir>
    Set the root path for extensions.
code --list-extensions
    List the installed extensions.
code --install-extension (<extension-id> | <extension-vsix-path>)
    Installs an extension.
code --uninstall-extension (<extension-id> | <extension-vsix-path>)
    Uninstalls an extension.
```

快捷键

基本

```
Command + X 剪切（未选中文本的情况下，剪切光标所在行）

Command + C 复制

Option + Up 向上移动行

Option + Down 向下移动行

Option + Shift + Up 向上复制行

Option + Shift + Down 向下复制行

Command + Shift + K 删除行

Command + Enter 下一行插入

Command + Shift + Enter 上一行插入

Command + Shift + \ 跳转到匹配的括号

Command + [ 减少缩进

Command + ] 增加缩进

Command + Up 跳转至文件开头

Command + Down 跳转至文件结尾

Command + Alt + [ 折叠代码块

Command + Alt + ] 展开代码块

Command + K Command + [ 折叠全部子代码块

Command + K Command + ] 展开全部子代码块

Command + K Command + 0 折叠全部代码块

Command + K Command + J 展开全部代码块

Command + / 添加、移除行注释

Option + Shift + A 添加、移除块注释
```

多光标与选择

```
Option + 点击 插入多个光标

Command + Option + Up 向上插入光标

Command + Option + Down 向下插入光标

Command + U 撤销上一个光标操作

Option + Shift + I 在所选行的行尾插入光标

Command + I 选中当前行

Command + Shift + L 选中所有与当前选中内容相同部分

Command + F2 选中所有与当前选中单词相同的单词

Command + Ctrl + Shift + Left 折叠选中

Command + Ctrl + Shift + Right 展开选中

Alt + Shift + 拖动鼠标 选中代码块

Command + Shift + Option + Up 列选择 向上

Command + Shift + Option + Down 列选择 向下

Command + Shift + Option + Left 列选择 向左

Command + Shift + Option + Right 列选择 向右

Command + Shift + Option + PgUp 列选择 向上翻页

Command + Shift + Option + PgDown 列选择 向下翻页
```

查找替换

```
Command + F 查找

Command + Option + F 替换

Command + G 查找下一个

Command + Shift + G 查找上一个

Option + Enter 选中所有匹配项

Command + D 向下选中相同内容

Command + K Command + D 移除前一个向下选中相同内容
```

全局

```
Command + Shift + P / F1 显示命令面板

Command + P 快速打开

Command + Shift + N 打开新窗口

Command + W 关闭Tab

Command + Shift + F 在文件中查找

Control + ` 显示/隐藏终端
```

进阶

```
Tab Emmet插件缩写补全

Option + Shift + F 格式化

Command + K Command + F 格式化选中内容

F12 跳转到声明位置

Option + F12 查看具体声明内容

Command + K F12 分屏查看具体声明内容

Command + . 快速修复

Shift + F12 显示引用

F2 重命名符号

Command + Shift + . 替换为上一个值

Command + Shift + , 替换为下一个值

Command + K Command + X 删除行尾多余空格

Command + K M 更改文件语言
```

文件管理

```
Command + N 新建文件

Command + O 打开文件

Command + S 保存文件

Command + Shift + S 另存为

Command + Option + S 全部保存

Command + W 关闭Tab

Command + K Command + W 关闭全部Tab
Command + Shift + T 重新打开被关闭的编辑器

Command + K Enter 保持打开

Ctrl + Tab 打开下一个

Ctrl + Shift + Tab 打开上一个

Command + K P 复制当前文件路径

Command + K R 在资源管理器中查看当前文件

Command + K O 新窗口打开当前文件
```

显示

```
Command + Ctrl + F 全屏、退出全屏

Command + Option + 1 切换编辑器分屏方式（横、竖）

Command + + 放大

Command + - 缩小

Command + B 显示、隐藏侧边栏

Command + Shift + E 显示资源管理器 或 切换焦点

Command + Shift + F 显示搜索框

Ctrl + Shift + G 显示Git面板

Command + Shift + D 显示调试面板

Command + Shift + X 显示插件面板

Command + Shift + H 全局搜索替换

Command + Shift + J 显示、隐藏高级搜索

Command + Shift + C 打开新终端

Command + Shift + U 显示输出面板

Command + Shift + V Markdown预览窗口

Command + K V 分屏显示 Markdown预览窗口

Command + K Command + I 显示悬停信息
```

调试

```
F9 设置 或 取消断点

F5 开始 或 继续

F11 进入

Shift + F11 跳出

F10 跳过
```

冒泡排序

冒泡排序(Bubble Sort), 是一种计算机科学领域的比较简单的排序算法，也是程序猿们在面试中常被问的排序算法之一。

算法描述

它重复地走访过要排序的元素列，一次比较两个相邻的元素，如果他们的顺序（如从大到小、首字母从A到Z）错误就把他们交换过来。走访元素的工作就是重复地进行直到没有相邻元素需要交换，也就是说该元素已经排序完成。

这个算法的名字由来是因为越大的元素会经由交换慢慢“浮”到数列的顶端（升序或降序排列），就如同碳酸饮料中二氧化碳的气泡最终会上浮到顶端一样，故名“冒泡排序”。

算法步骤

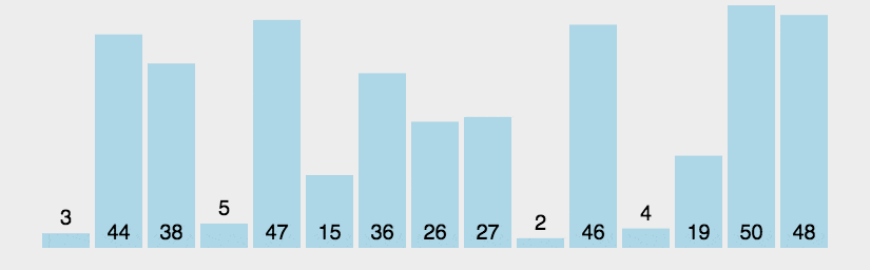
```
1．比较相邻的两个元素。 升序，如果第一个比第二大就交换两个元素，降序则反之。

2．对每一对相邻元素作同样的工作，从开始第一对到结尾的最后一对。执行完这步则认为最后一个数已排

3．针对所有的元素重复以上的步骤，除了最后一个。

4．对剩余未排序的数重复上面的步骤，直到没有任何一对数字需要比较。
```

动图演示



> 图片源自GitHub

算法复杂度

```
1. 名词解释

    - 时间复杂度(Time Complexity)是一个函数，它定性描述了该算法的运行时间，记做  T(n) =

    - 空间复杂度(Space Complexity): 是对一个算法在运行过程中临时占用存储空间大小的量度，i

2. 冒泡排序时间复杂度： O(n^2)

3. 冒泡排序空间复杂度：O(1)
```

Javascript 代码实现

```javascript
function bubbleSort(arr) {
    const len = arr.length
    for(let i = 0; i < len - 1; i++) {
        for(let j = 0; j < len - i - 1; j++) {
            if (arr[j] > arr[j+1]) {
                const temp = arr[j+1]
                arr[j+1] = arr[j]
                arr[j] = temp
            }
        }
    }

    return arr
}
```

Go代码实现

```go
func bubbleSort(arr []int) []int {
    length := len(arr)
    for i := 0; i < length-1; i++ {
        for j := 0; j < length-i-1; j++ {
            if arr[j] > arr[j+1] {
                arr[j+1], arr[j] = arr[j], arr[j+1]
            }
        }
    }

    return arr
}
```

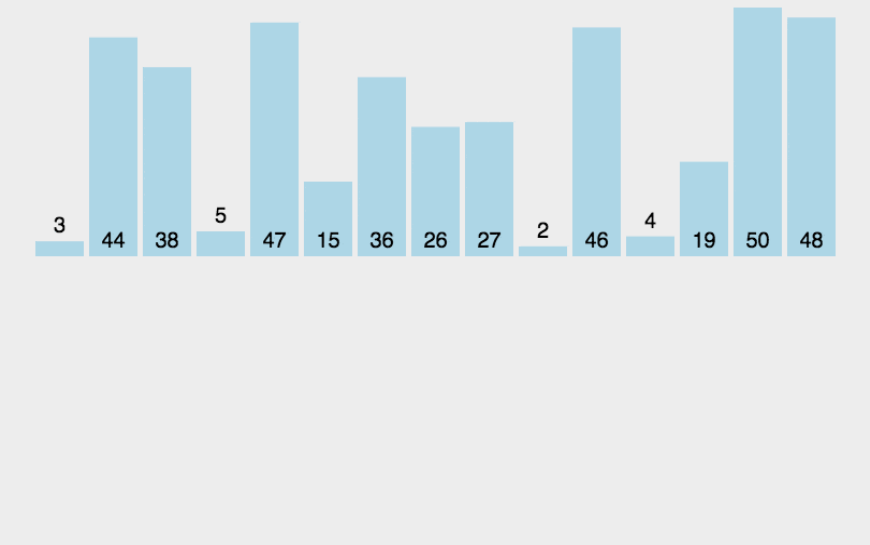
插入排序

插入排序类似整理扑克牌，将每一张牌插到其他已经有序的牌中适当的位置。它也是重要的基本算法之一，也是面试者需要掌握的算法之一。

算法步骤

1. 将第一待排序序列第一个元素看做一个有序序列，把第二个元素到最后一个元素当成是未排序序列；
2. 将该元素抽取出来，然后按照从右往左的顺序分别与其左边的元素比较，遇到比其大的元素便将元素右移，直到找到比该元素小的元素或者找到最左面发现其左侧的元素都比它大，停止；
3. 此时会出现一个空位，将该元素放入到空位中；
4. 重复上述过程。每操作一轮，左侧有序元素都增加一个，右侧无序元素都减少一个。

动态演示



> 图片源自GitHub

算法复杂度

1. 时间复杂度是O(n2)
2. 空间复杂度是O(1)

Javascript 代码实现

```
function insertionSort(arr) {
    const len = arr.length
    let [preIndex, current] = []

    for(let i = 1; i < len; ++i) {
        preIndex = i - 1
        current = arr[i]

        while(preIndex >= 0 && arr[preIndex] > current) {
            arr[preIndex + 1] = arr[preIndex]
            --preIndex
        }

        arr[preIndex + 1] = current     // 在空位插入当前元素
    }

    return arr
}
```

Go代码实现

```
func insertionSort(arr []int) []int {
    for i := range arr {
        preIndex := i - 1
        current := arr[i]

        for preIndex >=0 && arr[preIndex] > current {
            arr[preIndex + 1] = arr[preIndex]
            preIndex -= 1
        }

        arr[preIndex + 1] = current       // 在空位插入当前元素
    }

    return arr
}
```

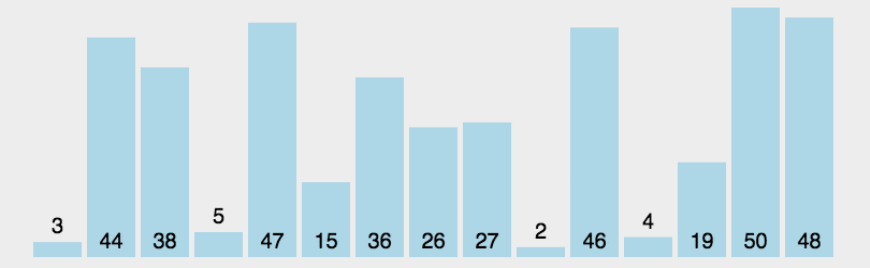
选择排序

选择排序(Selection Sort) 是一种简单直观的排序算法。它也是重要的基本算法之一，也是面试者需要掌握的算法之一。

算法步骤

1. 在初始未排序序列中找到最小（大）元素，放到序列的起始位置作为 已排序序列。
2. 然后再从剩余未排序的序列中找到最小（大）元素，放到已排序序列的末尾。
3. 重复第二步，直到所有元素已排序为止。

动图演示



> 图片源自GitHub

算法复杂度

1. 时间复杂度是O(n^2)
2. 空间复杂度是O(1)

Javascript 代码实现

```
function selectionSort(arr) {
    const length = arr.length
    let minIndex, temp

    for(let i = 0; i < length - 1; i++) {
        minIndex = i
        for (let j = i + 1; j < length; j++) {
            if (arr[j] < arr[minIndex]) {
                minIndex = j
            }
        }

        temp = arr[i]
        arr[i] = arr[minIndex]
        arr[minIndex] = temp
    }

    return arr
}
```

Go代码实现

```
func selectionSort(arr []int) []int {
    length := len(arr)
    for i := 0; i < length-1; i++ {
        minIndex := i
        for j := i + 1; j < length; j++ {
            if arr[j] < arr[minIndex] {
                minIndex = j
            }
        }

        arr[minIndex], arr[i] = arr[i], arr[minIndex]
    }

    return arr
}
```

选择排序与冒泡排序的区别

冒泡排序通过依次交换相邻两个顺序不合法的元素位置，从而将当前最小（大）元素放到合适的位置而选择排序每遍历一次都记住了当前最小（大）元素的位置，最后仅需一次交换操作即可将其放到合适的位置。

Speeches

A collection of excellent english speeches.

Don't You Quit!

Every champion has felt it. Every victorious person has felt it. The urge to quit. Don't you give up on your dream. I don't care if you don't have the money, if you don't have help, and you don't have the family for it, and if you don't have the friends for it. Don't you give up on your dream. Don't you do it.

每个冠军，每个胜利者，都曾经想要放弃。不要放弃你的梦想！不管你有没有钱，不管有没有人帮助你，不管你的家人是否支持你，不管你的朋友是否支持你，你都不要放弃梦想！千万不要！

It may take you twice as long. You may have to take courses and classes. You might not read as fast. You might not move as quick. You might not have as much. But don't you quit. 可能你需要多花很多时间，可能你需要多参加很多课程，可能你读得没别人快，可能你的行动不如别人敏捷，可能你拥有的没有别人多，但是你一定不要放弃。

If you lay dead even the animals won't bite you. The risk of being bitten is the cost of getting up. And you have to decide. Are you so concerned about being bitten that you're willing to spend the rest of your life lying dead? Or is there something pumping down inside of you that is saying bite me or not, I'm getting up.

如果你混吃等死，连野兽都不屑于啃你一口。如果你害怕被吃掉，那么你就永远爬不起来。你要自己做决定，你真的那么害怕被吃掉吗害怕到你宁愿混吃等死，也不愿意起来奋斗吗又或者，其实你身上有一股冲劲，不管会不会被吃掉，我都要站起来！

I'm going to be the best me. I'm gonna do all that I can do. I'm going for it. Anybody can do anything they set their mind to. But it depends on how bad you want it. With enough persistence most things that seem impossible become possible. You just have to show up or show at so often. Time after time you gotta wake up and you got a drive. You got to be driven to get something done now.

我要做最好的自己，我要付出所有的努力，我要朝着目标去奋斗。有志者，事竟成。但是，这取决于你的愿望有多强烈。只要付出坚持不懈的努力，一切皆有可能。你要让世人看见你的努力，你要一次次地觉醒，你要找到自己的动力，你要让一股力量驱使你去实现梦想。

You got to be willing to stand on your beliefs. Cuza lot of times you're the only one who can see it. And other people don't see it really. But you gotta really believe in what you've got inside of you that's telling you and driving you to a certain goal. Every minute you decide upon something you know that's what you want. You know you're going to do it. All of these negatives that have been bothering you. They pick up their baggage and get out. They can't live any positive mind. You have to move with courage, with faith, with determination.

你要勇于坚持自己的信念。因为，很多时候，和其他人相比，你才是最清醒的人。但是，你必须对自己的梦想有信心，要对你的目标和动力有信心。每次做决定，你都清楚地知道，这就是你想要的，你知道自己要努力实现它。那些曾经让你心烦意

乱的消极的声音，都被清理得一干二净，因为积极的心态容不得它们存在。你要勇往直前，你要心怀信念，你要意志坚定。

I don't care what it is. I don't care how difficult it is. Listen, you better put some strength in your back. Plant your feet and stand up. Don't you dare sit down. Don't you dare crumble under the weight of it. Don't you dare give in because of the nature. Don't you dare go home and raise the white flag of surrender because whatever is over you defines you and whatever defines you limits you.

我不管你的梦想是什么，我不管它有多难实现。听着，你必须给自己力量。稳住脚跟，站起来！不要再坐下去了！不要再让压力把你压垮了！不要因为自己的惰性而屈服！不要自己认输然后灰溜溜地躲回家去！能承受多大的压力，决定了你是什么样的人。而你是什么样的人，决定了你能成多大的事。

This is not your season to die. This is not your season to quit. There's joy. There's peace. There's breakthrough. There's provision. But you'll never see it if you don't stand up to it. Your pain is going to be a part of your prize, a part of your product. I challenge you to never give up. Never give in. And finally, guys, you gotta want to succeed as bad as you want to breathe.

不要因此一蹶不振，不要因此半途而废。无尽的快乐，内心的平静，巨大的突破，大好的前途，就在前方。但是，如果你不勇敢面对现实，你就永远看不到这些美好的东西。你的痛苦，将会成为你的荣誉，你的成就。你敢不敢坚持下去，永不言弃朋友们，你要渴望成功，成功和你的呼吸一样重要。

That's just kind of the way that life works sometimes. It's Murphy's Law. When things go wrong, they always seem to happen at once and they just compound on top of each other and it's, it's pretty easy sometimes to feel beaten up. When you're faced with all of those issues and all those problems and they all hit you at the same time that doesn't mean give up. In fact, it means the opposite. It means it's time for you to fight harder to dig in. It means it's time for you to go on the warpath.

有时候生活就是这样的，这就是墨菲定律。一事不顺，诸事不顺，这很容易让你感到沮丧。当你同时面临很多困难，很多问题，你不能放弃。事实上，你更加应该坚持下去。因为这些事情意味着，你要加倍努力，你要埋头苦干。这意味着，你要走上战场去勇敢地搏斗！

Look For The Good In Your Life

Whatever you focus on you will find. If you search for negativity in this world, you will find plenty of it. If you search for hate, anger, violence and sadness you will find it.

你关注什么，你就会收获什么。如果你寻找负能量，你就会发现很多负能量如果你寻找憎恨、愤怒、暴力和悲伤，你也会找到。

But the same is true on the flip side: If your only intention is to search for the good, you will find only the good. Whatever meaning you give your life, becomes your life.

但是另外一面也是正确的。如果你的目标是寻找美好，那么你只会找到美好。你赋予你的生命什么，你的生命就会成为什么。

It can be a failure or a lesson. Heart break or character building. Life is against you, or making you stronger.

失败还是教训，伤心还是塑造品格，生活是故意刁难你还是让你变得强大，全看你自己的态度。

Because there is no such thing as reality. We choose our own reality by the meaning we give each moment in our lives. Make it your intention to look for the good in your life. To notice the good in others. To be grateful for what you do have. To see challenges as opportunities to show your true character.

因为根本没有“现实”这回事，全凭我们自己的视角。所以，一定要寻找美好的东西，珍惜自己所拥有的。把挑战当作是锻炼自己的机会。

Remember: What you give your attention to will become your experience in life. Practice seeing the good in your life, and in others. Think the best, expect the best and always ask yourself how can this benefit my life. 记住，你的关注点在哪里，你的成长就在哪里。多关注生命中美好的人和事，思考最好的，期待最好的，而且时刻问自己，这件事怎么能让我的生命受益？

Leave who you were. Love who you are and look forward to who you will become.

接纳过去的自己，爱现在的自己，期待将来的自己。

Make Excuses Or Make Changes

What happens with students, and I see this all the time. They start university but with the mindset that they're constantly looking for excuses, about why things aren't going the way they want, why they're disappointed with their exam results, why they don't think their professor is teaching them effectively, why they keep getting up late and missing classes.

学生的情况，我见得多了。他们上了大学，但他们的心态不健康。如果发现事情不顺利，或者对考试结果感到失望，或者觉得教授没有认真上课，或者一直睡懒觉、旷课，他们就会找借口。

And when you do that, you take all the power you have in your life, and you give it away. You just throw it all away, because you're blaming other people. By blaming your professors, or your university, or your friends or family or your circumstances, you give your power away to them, but you need to embrace it.

如果你总是找借口，其实就是在放弃自己的主动权，把决定权交给别人。因为你总在抱怨别人，所以其实你抛弃了自己的主动权。如果你总是发牢骚，埋怨老师，埋怨学校，埋怨朋友，埋怨家人，埋怨现状，那么你就把主动权交给了他们。然而，你应该掌握自己的主动权。

Think about the lies that you tell yourself to rationalize being lazy. When you take the easy road and you leave discipline behind, when you say to yourself, I'll start studying for my exam tomorrow, and then tomorrow comes and you say, I'll start studying for my exam tomorrow. And the exam deadline is getting closer and closer, and a few days before the exam you realize you haven't started studying yet. And the panic sets in and the sleepless nights begin. It's too late.

想一下，你曾经说了多少谎言，自欺欺人，掩饰自己的懒惰。你选择安逸，放弃自律。你对自己说，明天我就要开始复习考试，第二天又继续说，我明天我就要开始复习考试。考试一天天逼近，开考前几天，你终于意识到，自己完全还没开始复习。你会感到恐慌，睡觉都睡不安稳。但是，一切都已经太迟了。

It's the day of the exam you sit at your desk. You open the exam paper for the first time and you experience that all-too-common sinking feeling when you realize you don't know the answer to any of the questions. You know what I'm talking about. We've all been there. It's the excuses and the lack of discipline that are taking you down paths that you shouldn't be going.

考试当天，你坐在桌子旁，第一次打开试卷，发现自己不知道怎么解答，接着感到心一沉，这种感觉非常普遍。你很清楚我在说什么，因为我们都经历过这样的情况。找借口，不自律，这让你误入歧途。

There are a million reasons why you're disappointed, but the reasons are not important. What is important is what you do about it. What is important is how you're going to spin it so that you take advantage of the situation. Failed an exam? Good. Study two hours a day extra from now on. Had an argument with a friend? Good. You just had a crucial lesson in social science. Try to stay more

calm next time. Keep waking up late and getting to class late? Good. Go to sleep earlier and wake up earlier tomorrow. Whatever your problems are, they are fixable. You just have to persevere.

也许有千百种事情让你沮丧，然而它们并不重要，重要的是你如何应对，重要的是你怎么扭转局势，怎么利用现有条件。考试失败了没事，从今天开始，每天加量学习两小时。和朋友吵架了没事，你得到了社交中很宝贵的教训，下次记得要更加冷静。总是睡懒觉、上课迟到没事，早点睡，明天早点起。无论你有什么问题，都可以解决，关键是你要能坚持。

And as you work at it brick by brick, you might start out awfully inefficient and incompetent at studying. But being willing to put in the work, and grind it out, and becoming someone who people actually look up to and admire, at that moment in your life, you'll realize it was worth it. All the pain, the suffering, the late-night study grinds. It was all worth it.

你付出点点滴滴的努力，也许一开始的时候你学得不太好，但是，只要你愿意付出，愿意用功，最后人们都会佩服你，欣赏你。到那时，你就会知道，一切都是值得的。曾经的痛苦，磨炼，无数个努力学习的不眠之夜，都是值得的。

Remain Resolute And Keep Going

You've probably heard this before that tough times don't last forever but tough people do. That held true when you first heard it and it still holds true today. There will come a time in your life where you may cry and feel like your soul is dying. Those days when you struggle, want to give up, and don't want to face the world. These are the days that define you. Don't quit.

你可能听说过，艰难的时期总会过去，坚强的人才能笑到最后。这个道理，古今通用。在人生中，你可能会遇到艰难时期。你哭泣，你感到自己的灵魂正在死去。这种时候，你痛苦地挣扎，你想放弃，你不想面对这个世界。然而，这正是磨炼你的时候。不要放弃。

Difficulties come to make you strong, but that's only when you make a decision to go on, and you stand by it. Abraham Lincoln said, I'm not concerned that you have fallen and concerned that you will rise. Giving up as human nature brought about by fear, fear of, what if I fail and try, and then fail again. Wouldn't it just be easier to just quit? But here is what is wrong with that. When you give in to that fear, you sentence yourself to a lifetime of failure, a lifetime of regret, a situation where you lose faith in yourself and in humanity. Don't do that to yourself.

只有在你下定决定要坚持到底的时候，困难才能让你更加强大。亚伯拉罕·林肯曾经说过，我不在乎你有没有跌倒，我在乎的是你有没有站起来。放弃是人类的天性，它是由恐惧引起的。要是我失败之后再次尝试，又失败了，怎么办直接放弃，这不是更简单吗但是，这种想法是不对的。当你向恐惧低头的时候，你注定了一生都要失败，一生都要后悔，你会对自己失去信心，对人性失去信心。不要这样对待自己。

You must understand that difficult times will come. There's absolutely nothing you can do about that. What you can do, however, is decide what you're going to do with the times. Life is 10% what happens to you and 90% how you react to it, so you must decide to make a commitment to face it and deal with it, because at the end of pain is success.

你必须明白，艰难时期总是会来的，你无法阻止它。然而，你能做的，就是决定自己要如何面对艰难时期。生活中，重要的不是发生了什么，而是你如何应对。所以，你必须决定好，下定决心去面对困难，处理困难，因为，痛苦的尽头，就是成功。

Name what it is that is holding you back. It may be fear. It may be procrastination, a relationship, self-doubt, or even depression. Whatever it is, identify it. You know you can, if you think deeply about it. Now write it down. This will put into perspective what you have to deal with. The big picture of your life will begin to become clear when you start paying attention to the tiniest details. Start with identifying what is holding you back.

找出到底是什么东西拖了你的后腿，可能是恐惧，可能是拖延，可能是一段关系，可能是系我怀疑，甚至可能是抑郁。无论它是什么，首先要找到它。如果你认真思考，你就能找到它。然后，把这个东西写下来。这会让你清楚地看到，你到底要处

理什么。当你开始注意人生中最小的细节时，你人生的大局就会变得清晰起来。找到拖你后腿的东西，从这一步做起。

Next, you have to let go of your anger and hate from the past. This is to help you heal yourself. You cannot be happy and productive if you hold on to old hurts. Let go of relationships and situations that are out of your control. Don't try to force it. You'll only end up hurting yourself some more. Your mental health is important, as it guides every other aspect of your life, your physical life, your spiritual life. They all become better when you maintain a healthy mental state. Let go of your past hurt.

接下来，你要放下过去的愤怒和怨恨，这能帮助你治愈自己。如果你总是沉溺于过去的伤痛，那么你不可能快乐，也不可能有所成就。放下那些你无法控制的人际关系和情况，不要勉强了。如果你放不下，你只会进一步伤害自己。你的心理健康是很重要的，因为它引导着你生活的每一个方面，你的生理健康，你的精神生活。如果你能保持健康的心理状态，你生活的方方面面都会变得更好。放下过去的伤痛吧。

Rock Bottom

The thing about life is it's not always easy, and you aren't always winning. Some point of your life, it hits you. It hits you really really hard.

生活的真相就是，生活很难，你不可能一直是赢家。有时候，生活会打击你，非非常非常沉重的打击。

The person you love doesn't love you back, you get fired, you lose a family member. At some point of your life, you're gonna hit rock bottom.

你爱的人不爱你，你被辞退了，你失去了亲人。有时候，你会跌入低谷。

You're paralyzed, you're like, 'Why?' And that why can really really destroy you. Once you start asking yourself, 'Why me?' 'Why not the others, why me?'

你已经麻木了，你会问为什么。“为什么”会摧毁你。一旦你开始问你自己，“为什么是我”为什么不是别人”为什么是我？

I'm actually a good person, I never did something significantly bad, why the hell did it hit me? 'Because that's life.' Life is unfair.

我真的是个好人，我从来没有做过严重的坏事，但为什么偏偏是我遇到这么多坎坷？”因为，这就是生活，生活就是不公平的。

Success is not measured on the days when the sun shines. Success is measured on the dark, stormy, cloudy days. And if you can't absorb failure, you're never gonna meet success.

成功不是用阳光灿烂的日子来衡量的，成功是由那些黑暗的、狂风暴雨的、阴云蔽日的日子来衡量的。如果你无法接受失败，你就永远不会成功。

Sometimes it takes things falling apart, for better things to fall into place. Sometimes it takes the most uncomfortable path, to lead your life to the most beautiful place.

有时它会让事情分崩离析，让更好的事情发生（不破不立）。有时候，要走最不起眼的路，才能把你的生活引向最美丽的地方。

There's gonna be bad days, there's gonna be dark days, but you've gotta embrace it, 'Because that pain is what makes you stronger.' Failure is what makes you stronger.

会有不好的日子，会有黑暗的日子，但你必须拥抱它，因为痛苦会让你更坚强。失败使你更坚强。

You have to accept those down times, because one you realize those down times, are just as much part of life as anything else, you're able to strive again.

你必须接受那些低潮时期，因为一旦你意识到那些低潮时期和其他任何事情一样是生活的一部分，你就能够再次奋斗。

You ll never see the purpose of the storm, until you see the growth it produced. You ll never understand why you went through what you went through, until you see the strength, the power, the resilience that it built inside of you

直到你看到暴风雨形成你才明白他的目的。你永远不会明白你为什么要经历你所经历的一切，直到你在内心建立起毅力、力量和韧性，你才能明白你为什么你要经历你所经历的一切。

Ask yourself why. But this why is a better why, why am i doing this? why am i failing? Why am i even getting myself in a situation where i could fail? Because i have a dream. Because i have goals."

问问你自己为什么。但这就是为什么"我为什么要这么做？为什么我会失败？为什么我会让自己陷入失败的境地？因为我有一个梦想。因为我有目标。"

And the more you're thinking back to those original goals, the easier it is for you to get back up and say, "Alright", it might be difficult, it might be painful, it might be stressful, there might be no people that believe in me, but i believe in myself.

你越是想回到最初的目标，你就越容易站起来说"好吧"，这可能是困难的，可能是痛苦的，可能是压力的，可能没有人相信我，但我相信我自己。

You know it might have been the case, that you should have gone through that harsh, break up that you should have gone through that heavy loss, just in order to find something even better, but the only way to get to that even better, is to get back up and work.

你知道可能是这样的，你应该经历那种严酷的，粉碎的，你应该经历那种沉重的损失，只是为了找到更好的东西，但唯一能找到更好东西的方法— 就是重新站起来努力奋斗。

To get back up and push yourself out there again, And arise from that again, stronger, better, smarter, ready to grasp that new opportunity.

重新振作起来！重新振作起来！重新振作起来！变得更坚强，更好，更聪明，准备抓住新的机遇。

You gotta believe the tables in your life will turn, that pain will become power, that weakness will become strength, and that confusion will become peace, better things are coming for your life.

你要相信你生命中的桌子会转动，痛苦会变成力量，软弱会变成坚强，混乱会变成和谐，更好的事情会降临到你的生命中。

Everyday is a new beginning. It's time for you to start treating it that way.

每一天都是新的一天，该是时候认真对待它了。

Some Risks you should definitely take in life

Risks are a part of all our lives. Some you take, some you don't. Actually, any decision you make has an element of risk. Nothing comes with a full warranty. Whenever you attempt to do anything, failure is a possibility. However, there are certain risks worth taking that can contribute significantly to your happiness. So, here are some risks you should definitely take in life!

风险，是人生的一部分。有些风险是你会去承担的，有些则不然。实际上，你做的每个决定，都包含了风险，没有什么事情是保证万无一失的。每当你尝试做一件事，你都可能会失败。然而，有些风险是值得你去承担的，它们能让你变得更快乐。那么，接下来将要介绍给你的，就是一些人生中你应该承担的风险。

Number 1 - Pursuing Your Dreams. Sure, many people have followed their dreams with passion, only to experience complete failure. What's even more tragic, however, is that most people never risk really pursuing their dreams. Everyone should make a serious attempt to realize their dreams at least once in life. After all, you don't want to find yourself sitting somewhere, old and decrepit, and have to ask yourself. What if I had done it? What kind of life could I have had?

第一，追寻你的梦想。确实，很多人满怀热情地追寻梦想，到头来却彻底失败了。然而，更悲哀的是，有些人从来不敢追求自己的梦想。在人生中，每个人都应该认真地尝试实现自己的梦想，至少要有一次这样的经历。毕竟，你可不想在白发苍苍时才回头问自己，如果当初我实现了梦想呢我的人生会是什么样的？

Number 2 - Risk Rejection. The reason we get rejected usually has much more to do with the person who turned us down than with us. Regardless of what's at stake – whether you ask someone out on a date or just want a bit of advice – there will be some people that just won't comply with your wishes. The fear of rejection is what keeps many people from asking for what they want. It often seems better not to ask at all than risk a no. Yet, if you don't even ask, how can you expect to get a yes.

第二，承担被拒绝的风险。我们被拒绝，更多地是因为拒绝我们那个人，而不是因为我们自己有问题。不管是什么事，比如你想与某人约会，或者想得到一点建议，总会有人不如你愿。很多人不敢去索要自己想要的东西，因为他们害怕被拒绝。貌似，与其被拒绝，还不如不要开口问。然而，如果你连问都不敢问，那你就别指望人家答应你了。

Number 3 - Experiencing Something New. When you learn or try something new, there's always an element of risk. Skiing, sky-diving - even learning how to skate - can be pretty intimidating. There is a real chance you can injure yourself. But you feel so great when you conquer your fears! It's the same when you risk a big change in your life. Quitting your job and moving abroad or pursuing a new career takes some guts. But if that really appeals to you, you just have to risk it - or risk remaining unsatisfied with your life!

第三，尝试新事物。当你学习或者尝试新事物的时候，总是会有一定的风险的。滑雪，跳伞，甚至是学溜冰，这些看起来都挺吓人的。确实，你可能真的会伤到自己。但是，当你克服了恐惧之后，你会有很棒的感受！同理，在人生中，你冒险去做出改变的话也是如此。辞职，移民，追求新的事业，这些都需要勇气。但是，如果这就是你想要的，你就必须冒险，不然你这辈子都不会对自己的人生感到满意！

Number 4 - Risk Missing Out on Something. People don't like missing out on fun events or pleasant pastimes. Sitting in your favorite bar and chatting with friends every night or going on that vacation holiday can be very tempting. Devoting ourselves to our health, work and success makes it seems like we might be missing out. Business before pleasure can be uninspiring. But think about it for a moment: how many parties, concerts and beach holidays have really made a difference in your life? What could you achieve if you were willing to miss out on something, now and then?

第四，承担错过一些东西的风险。人们不希望错过好玩的事情，或者令人快乐的消遣时光。每晚都坐在最爱的酒吧里跟朋友聊天，或者去度假，这些都很令人心动。花时间去管理我们的健康，努力工作，追求成功，这可能会让我们错过一些东西。先苦后甜，这是并不是什么鼓舞人心的事。但是，想一想，有多少派对，音乐会，在海边度过的假日，能够让你的人生有所不同如果你愿意偶尔错过一些东西，最后你会取得什么样的成就？

Number 5 - Risk Saying I Love You First. Being the first to say I love you to someone can frighten the bravest of us. It's because it makes you extremely vulnerable emotionally. And, if your partner doesn't say, I love you too, you will feel what seems like the ultimate rejection. Yet, that person could say those words you want to hear! If you feel that way, he or she very likely does as well - but they just may be more afraid of saying it than you are. And if they don't respond as you hope, at least you know where you stand and can reevaluate your relationship.

第五，冒险去当那个先表白的人。主动说我爱你，这可能是大多数人都不敢做的事，因为这让你在情感上显得很脆弱。而且，如果对方没有回应说我也爱你，你会觉得人家就是完全拒绝你了。然而，对方有可能会说出你想要的回答！如果你有那样的感受，那么对方可能也会有一样的感受，只是人家比你更害怕把那句话说出来而已。如果他们给的回答不如你愿，起码你能知道目前的情况如何，你也能重新审视你们的关系。

Number 6 - Expressing Your Opinion. Everyone has their own opinion on just about anything. Expressing your own point of view might seem risky. You don't know how it will be received. You might really upset someone. You might even find out that your opinion is demonstrably wrong! A lot of people prefer to avoid potential conflict or contradiction - and they don't speak up for themselves. Yet, if you don't say what you think -at least some of the time -others will think that you have nothing to offer or have no principles - or even lack intelligence. Interesting people express their opinions, even if they are sometimes unpopular. They are often successful people, because they have as little fear of failure as they have in saying what they think.

第六，表达你的观点。对于每一件事，每个人都有自己的观点。表达自己的观点，貌似这也是有风险的，因为你不知道自己的观点会得到什么样的回应，可能你会让某个人不开心，可能你甚至会发现自己的观点明显是错误的！很多人希望避免潜在

的冲突，所以他们不表达自己的观点。然而，如果你从来都不表达自己的观点，那么别人可能会认为你没有什么想法，或者认为你没有原则，甚至认为你不够聪明。那些有趣的人，就算他们的观点可能不太受欢迎，他们也会表达自己的观点。这些人往往是成功人士，因为他们不害怕失败，所以也不害怕说出自己的想法。

Number 7 - Risk Losing Friends. Friends are important. Life without them would be very dissatisfying. But they can also get in the way of your dreams. When you are pursuing your goals, you will often need to spend a lot of time by yourself. And friends can make it difficult for you to concentrate and remain focused. Some friends will even try to get you to give it all up because they are feeling left out. True friends will take your dreams seriously and understand that you need to take some time away from them. They will work on preserving their friendship with you, even if they don't see you as often as they would like.

第七，承担失去朋友的风险。朋友是很重要的，没有朋友的人生是难以令人满意的。但是，朋友也可能成为你逐梦路上的绊脚石。当你追逐梦想时，你需要独自度过很多时间，朋友会让你难以专注。有些朋友甚至会尝试让你放弃梦想，因为他们觉得自己被抛弃了。真正的朋友会认真对待你的梦想，他们理解你，能够接受你和他们待在一起的时间变少。就算和你见面的次数比他们期待的少，他们也会努力维持这段友谊。

Number 8 - Risk Inadequacy. Sometimes you will not be good enough. Sometimes you won't have what it takes. But isn't it better to find that out for yourself than having to ask yourself if, maybe, you could have become a great musician or a sports star? Sometimes you have the talent or skills, and sometimes you don't. You might become obsessed with a certain 'what if' your entire life. But if you knew you could have never made it, you won't be haunted by useless regrets. You will never know unless you give it your best try and risk not being good enough.

第八，冒险去做一个有缺陷的人。有时候，你就是不够优秀，你就是没有足够的能力。如果我能成为一个伟大的音乐家或者足球明星会怎样你这样质问自己，还不如自己去发现你还不够优秀或能力不够的事实，对吧或许，你这一辈子都会纠结某些可能做到的事，但是，如果你明确知道自己永远做不到，你就不会一直后悔，这种后悔是没有意义的。只有当你真的全力以赴了，并且冒险去做一个不够优秀的人，你才会看清真相，才会明白这个道理。

Success is a quiet process

As Ellen Cook puts it, success is like a quiet daily set of tasks. Real real small. It's like that quiet walk to the library, that empty 24/7 library late at night, over and over and over. Or as I sit there studying other great people and I compare their actions with my own actions over and over and over. Or as I sit doing 30 minutes of meditation a day over and over and over. Making the choice to eat foods that enhance my brain neuro-transmitters over and over and over.

正如Ellen Cook所言，成功就像每日默默完成的任务。这些任务很小，比如每天晚上都自己走去那个空荡荡的24小时图书馆，或者我反复地研究其他优秀的人，并把他们的行为和我的进行对比，或者我每天都用30分钟练习冥想，或者我一直坚持吃健康的、有益于我的大脑神经递质的食物。

It's a very quiet process where you're doing these simple little tasks but finding love in those simple little tasks. It's not the big thing where you do this one thing and something big happens. Being able to make a success out of your life. It's not purely down to luck. You have more control over it than you think. You can decide to be successful. You can decide to have the fast cars and the big house.

这个过程很安静，你的任务很简单也很小，但是你逐渐喜欢上它们。它们不是什么伟大的事情，不是那种影响深远的事情。在人生中，获得成功并不全靠运气。你对生活的掌控力，比你想象的要强。你可以决定自己是否成功，是否能够拥有豪车和大房子。

And it starts right here with your studying, not because getting good grades is going to bring you success in the future, it's about the work ethic and the attitude you have towards your studying that will transfer to your work after you graduate. It's about believing that you can achieve something and doing whatever it takes to achieve it. It's about fine-tuning the skills you have to zero in on your goals, the skills that you are improving while you're studying.

这一切都是从现在开始的，从你目前的学习开始，这不是因为好成绩能让你在未来取得成功，而是因为你对学习这件事的职业精神和态度。在你毕业之后，它们仍然能够影响你。这也是因为，你相信自己能够实现梦想，并且用尽全力为之奋斗。这更是因为，你不断打磨自己的技能，从头学起，通过学习来不断提高它们。

Work ethic, time management, reading, critical thinking, problem solving, decision making, focus, reasoning, persuasion, organization, overcoming obstacles, and self-motivation. These are all skills that all great students have improved and refined over years of efficient and effective studying. And it's these students that have made a decision that when the world is saying that's impossible, you're not capable, your dreams will stay as dreams.

职业精神，时间管理，阅读，批判性思维，解决问题的能力，做决定的能力，专注力，推理能力，口才，组织能力，克服困难的能力，自己给的动力，这些都是优秀的学生们在多年的高效学习中提高的能力。在全世界都跟他们说不可能、说他们做不到、说他们无法实现梦想的时候，他们能够做出自己的决定。

They have that lone voice that goes, no, you know what, it is possible, just watch me. They have gone through this process of growth, and they have pushed and pushed through all the obstacles that were thrown at them. It's important that you don't think of your studying as though it's all about passing your exams and getting a piece of paper at the end of it all so you can get a good job, because it's so much more than that.

在他们心中，有一个声音响起。不！一切皆有可能！走着瞧吧！他们经历了成长的过程，无论遇到什么样的困难，他们都能一一克服。你不要认为学习就是为了通过考试、拿到文凭、得到好工作。这一点很重要，因为学习的意义远不止于此。

And it's the great students that understand this. It's not about your exams. It's about the process and the journey you go on and the skills you refine over the years. It's about when you don't feel like studying but you continue to push through and study anyway. It's doing the things that you need to do, that you know you need to do when you don't feel like doing it, because the reality is, is that most people can study when they're feeling good.

优秀的学生，才会明白这个道理。学习不是为了考试，学习的意义在于它的过程本身，在于你这些年来练就的技能。学习就是在你不想学的时候，还能督促自己去学习。学习就是要去做那些你需要做却不想做的事情。因为，实际上，对于大多数人来说，在自己状态好的时候学习不是什么难事。

Most people can study when they have no distractions, when they're in a quiet environment, when there's pressure put on them as a deadline is approaching. But just being able to study on the highs isn't good enough. You have to be able to study all the time. So learning how to refocus your mind on the lows and knowing the lows are going to end is a huge skill. The process is just as important as the actual prize, because the process is going to make you. The deeper the process, the greater the reward. Just remember the prize is going to be huge.

在没有令自己分心的事情时，在环境很安静时，在没有截止日期逼近的压力时，大多数人都能学习。但是，在高峰时期学习，这还不够。你要做到在任何时候都能学习。所以，学会在低谷时期专注于学习，并且告诉自己艰难的日子终将过去，这是很重要的能力。过程和结果一样重要，因为过程最能塑造你。过程越深刻，收获越丰富。记住，你将会获得巨大的收获。

Whats On Your Life List?

What is a successful life?

什么是成功的人生？

To answer this question, we must observe the paradox of our priorities. How we pursue lifestyles built on our resumes. Yet as we knowingly approach death, we yearn to be remembered by every quality, except that resume.

要回答这个问题，我们必须研究一下我们做事的优先次序。我们在简历的基础上，追求自己的生活方式。 但是当我们生命垂危之际，我们却渴望被人们铭记自己简历之外的所有品质。

You see, during the course of our lives, we seek success of every tangible sort. But when it comes to looking back on a life once lived, those tangible things, the measuring cups of our entire existence seem emptier than ever. I have never read nor have I written a eulogy that expressed how accomplished a person was or how brilliant of a worker they were. Even the most celebrated innovators are not eulogized by the impact of their inventions, but by their motives, the bonds they formed, acts of kindness, and what they meant to the people around them.

你看，我们活着的时候，追求的是各种有形的成功，但是当回首往事时，那些有形的东西，以及证明我们生活过的事物，此刻却像量杯一样空空如也，比以往任何时候都更空虚。我从未读过或写过因一个人成就巨大或技艺娴熟而被人颂扬的悼词。即便是最著名的发明家，人们津津乐道的并非是他们的发明，而是他们的动机，因他们而形成的纽带，他们善意的行为以及他们对周围人的意义。

So if you wonder what a successful life really feels like, all you have to do is close your eyes and think about what you want your eulogy to sound like. What words will be used by loved ones describing and celebrating your legacy when you die? List those words. Internalize this list, memorize it, stare at it everyday . What you're staring at is your personal definition of success.

所以，如果你想知道成功的人生是什么样子的，你只需要闭上眼睛，想象一下你的悼词内容。在你死后，你的亲人们会如何形容和赞美你的遗赠把那些词语列成清单，放在心上，记在脑子里，而且要每天都盯着它。因为你所注视的，恰恰就是你个人对于成功的定义。

It sounds crazy , but everything else you're pursuing, everything else you whine and worry about is secondary. And if you're going to do those secondary things, make sure they serve your list. Make sure they increase your capacity to live by those qualities. Stop chasing things that aren't on your list. Because that list is all you have and that, my friends, is the only way to live a successful life with intent, not regret.

这听起来很疯狂，但其他你所追求、抱怨、担忧的任何事情，都是次要的。并且，如果你要做这些次要的事情，在做之前，要确保这些事对完成你的清单有帮助，要保证它们可以提高你的能力，从而让你具备那些品质。要果断放弃那些不在你清单上的事情，因为这张清单就是你的所有，而且这是你成功的唯一途径，否则你将抱憾终生。

What's on your list?

你的清单上有什么呢？

You Don't Know How Strong You Are

Tough times separate those who give up and those who keep going. Tough times show what heart is really inside. Tough times show what courage is really inside. It's in our toughest moments that we see who people really are. Who are you? "You don't know how strong you are, until being strong is your only choice."Bob Marley said this. And it is so true! You don't even know how strong you are! You have inside you something so great, something so deep, something so strong. Do find that strength inside you.

艰难的岁月把轻易言弃的人和奋勇向前的人区分开来。困苦的时刻揭露了人的内心，展现了人的勇气。正是在最艰苦的时候，我们才能看清世人。你是谁在坚强是你唯一的选择时，你才知道自己有多坚强。这是Bod Marley说的，说得对极了！你甚至根本不知道自己到底有多强大！在你的内心深处，你拥有很伟大、很深刻、很坚强的品质。你一定要找到这内在的力量。

Whatever you are going through, you can get through it. You will get through it, and it will make you stronger. It will make you wiser and it will make you better. That is what mentally tough people do. They do not allow anything to break them. They force hard times to make them. They learn lessons. They see the blessings. And most importantly they keep going. What lessons can you learn? What blessings can you take from this? If you asked me what is the most important thing one can do in overcoming anything. In one word I will give it to you. Purpose.

无论你正在经历什么，你都能渡过难关。你会战胜困难，而且这会使你更加坚强。它会使你更睿智、更优秀。内心强大的人会怎么做他们不会让任何事打败自己，他们用困难来塑造自己，他们吸取经验，他们看见了困难中那宝贵的财富。最重要的是，他们永不放弃。你学到了什么经验你从中得到了什么样的收获如果你问我，对于一个人而言，要克服困难，最重要是什么我只会告诉你一个词目标。

If you know your purpose, if you know why you do what you do, if you know why you must fight, then you will fight. You will fight for your purpose. You will fight for your love. You will fight for that one person. You will fight for your family, for your friends. You will fight for your legacy. You will fight because you know you don't want future generations to give up, because you did. You want them to keep going because you did. You want them to say I will fight because I saw you fight. I will stay strong because you stood strong. That is mental toughness!

如果你知道自己的目标，如果你知道你为什么做你所做的事，如果你知道自己为什么必须奋斗，那么，你就会去奋斗。你会为了你的目标而奋斗，为了你的朋友而奋斗，为了你的财富而奋斗。你会奋斗，因为你明白，你不想因为自己的放弃而使得后人做事也半途而废。你想让他们不断进取，因为你做到了。你想让他们说，我会奋斗，因为我看见了你的奋斗我会保持坚强，因为我看见了你的坚强。这就是精神的强大！

Lfe ь Lke An Arena

Life is not a ride in a wonder park, where thrills and challenges are there only to excite you without a real intention of defeating you. Life is more like an arena where you must fight to survive. You are either defeated or a victor.

在游乐园里，那些惊险和挑战不是为了打倒你，而是为了让你感到兴奋，但在生活中可不是这样。生活更像是一个竞技场，你要拼搏厮杀，才能生存。你要么赢得光鲜亮丽，要么输得头破血流。

What defines defeat is not being knocked down on the ground, but not having the will to stand back up, because if you're breathing, life still believes in you, and you still have a chance of standing back up again, and showing the people and circumstances that you are above and bigger than them. Everyone has their unique problems in their life, their own mountains to climb, a climb that never gets easier. It's you who gets used to them. Get used to the challenges and problems in your life and pick them out one by one.

什么是被打败被打败，不是被打倒，而是没有站起来的勇气，因为如果你还活着，生活还是有希望的，你还有机会再次站起来，让世人知道，让你的苦难知道，你比他们更强大。每个人都有他们自己独特的问题，他们有自己的高峰要攀爬，这绝非易事。你，要适应这些。适应挑战，适应问题，一个个解决他们。

Fearing your problems is not a solution. It's an impulsive response that forbids you from challenging it due to the fear of defeat. What good is that saved sense of being undefeated when you haven't even tried to beat the biggest of your life's monsters? At times when you are struck by life's biggest challenges, you might ask yourself, why me? Why did life choose to hit me with the hardest punch? The answer that you should be giving yourself is that it's because you are the only one who can bear it and still survive. Not survive but thrive in this world.

恐惧问题，并能解决问题。恐惧，只是一种下意识的反应而已，它会让你因为害怕失败而不去挑战问题。如果你连尝试打败困难的勇气都没有，那么那种不被打败的感觉又有什么意义呢奄时候，你被眼前的巨大挑战困住了，你可能会问自己，为什么是我为什么生活要让我遭受最重的打击你该告诉自己，这是因为，只有你能够承受这些，并从中生存下来。不仅是生存下来，而且是活得精彩。

No known warrior became known to leave his name in the pages of history without having scars on his body. The problems in your life are injuries that when overcome would merely become scars of pain and suffering on your body, scars that would remind you of the lessons you have learned, mountains who have conquered, and enemies that you have defeated. So, keep that in mind and keep charging against the enemies, because no matter how strong and tough your problems boast to be, beat down they are always afraid of you.

那些名垂青史的勇士，他们的身上都有疤痕。你生活中的问题，就是你会受的伤，它们留下的疤痕会一直提醒你，你曾经吃过教训，你曾经爬上巅峰，你曾经打败死敌。所以，记住这一点，不断回击你的敌人，因为无论敌人有多么强大，无论困难有多么棘手，它们其实都很害怕你。

It's your fear that encourages them to even challenge you. Having the right mindset. It doesn't sit back and hope for the problems to solve themselves, or the storm to go away on its own. There is never a problem in reality. It's your approach towards it that makes it a problem or an opportunity. And If you have time to whine and complain about something, then you have the time to do something about it,"Anthony JD Angela.

你的恐惧，让它们有勇气去挑战你。保持正确的心态，这不意味着坐视不管，等着问题自己解决，也不意味着等着乌云自动消散。没有真正的问题，你对待事情的方式决定了你面对的是问题还是机遇。正如Anthony JD Angela说的那样，如果你有时间发牢骚，有时间抱怨，那你也有时间去行动。

All problems have one thing in common. They all demand a solution for themselves. And if you don't give them the solution, they'll keep bothering you until your dying day. You should remember that you are not the only person who is facing problems. Neither are you the only one who manages to solve them. and solving a problem is much easier than living through the never-ending pain and agony of having an unsolved problem.

所有的问题，都有一个共同点，它们都需要一个解决办法。如果你不给出解决办法，它们就会永远地不断地烦扰你。你应该记得，面对问题的人，不止你一个，解决问题的人，也不止你一个。比起那种还未解决问题所带来的永无止尽的痛苦，解决问题显得简单多了。

All it requires from you is commitment towards solving the problem, dedication and hard work. You can be anyone and anywhere you want to be in your life. All it requires from you is hard work. So, are you willing to give what it takes to be what you desire? If yes, then success is waiting to be your slave forever.

你需要做的，就是下定决心，解决问题，专心致志，付出努力。你可以变成任何人，去到任何的地方。你只需要投入很多努力就好。那么，你能否付出足够的努力，去成为自己想成为的人如果你的答案是肯定的，那么，成功将永远伴你左右。

Life is too short to live someone else's dream

Larry Ellison，甲骨文软件公司CEO，身价700亿美元。他在32岁以前还一事无成，开始创业时只有1200美元，却使得Oracle公司连续12年销售额每年翻一番，成为世界上第二大软件公司，他自己也成为硅谷首富。

Growing up in a lower middle class community on the south side of Chicago, `literally` everyone important in my life,my family ,my teachers, my girlfriend,wanted me to be a doctor .Overtime,their dreams became my dreams.

芝加哥南部的一个底层中产阶级社区，这就是我长大的地方。在我的生命中，几乎所有重要的人，我的家人，我的老师，我的女友，都想让我成为一位医生。久而久之，他们的梦想，变成了我的梦想。

They convinced me I should be a doctor ,but as hard as I tried,I could not do it.I was unable to make myself into the person that I thought I should be,so I decided to stop trying.I was 21 years old when I dropped out of college.

他们让我相信，我应该成为一位医生。但是，无论我多么努力，我都做不到，我无法变成理想中的自己。所以，我不再尝试这样做。那时，我21岁，从大学辍学了。

During my California springs and summers,I spent most of my days in the High Sierras in Yosemite Valley,working as a river guide and a rock-climbing instructor .I loved those jobs,but unfortunately ,they didn't pay that well.So,I also got a job working a couple of days a week as a computer programmer back in Berkeley .

在加州度过的那几年，大多数时候，我都待在约塞米蒂峡谷的西亚拉山区，我在那儿当河道向导，当攀岩教练。我爱这些工作，然而，不幸的是，它们带来的薪水并不高。所以，我也在当伯克利当程序员，每周在那儿工作几天。

I had learned program in college.I didn't love programming but it was fun and I was good at it.I started taking classes at UC Berkeley .It took several classes,but the only one I can remember was a `sailing class` taught at Berkeley `marina`.When my class was over ,I wanted to buy a `sailboat`

我在大学的时候学过编程，我不喜欢编程，但编程还挺有趣的，而且我很擅长编程。我开始在加州大学伯克利分校上课，我选了几门课，但是，只有一门课让我记忆犹新，那就是在伯克利码头那里上的帆船课。这门课结束后，我想买一艘帆船。

My wife said,this was a single stupidest idea she had ever heard in her entire life.She accused me of being irresponsible,and she told me I lacked ambition.She kicked me out,and then she divorced me.This is a `pivotal` moment in my life.

我的妻子说，这是她听过的最愚蠢的想法。她指责我，说我不负责任，说我胸无大志。她把我赶出家门，然后和我离婚了。这可是我人生中的关键时刻。

My family was still mad at me for not going to medical school, and how my life was going to bring me because I lacked ambition. It looked like a reoccurrence of the same old problem. Once again, I was unable to live up to the expectations of others, but this time, I was not disappointed in myself for failing to be the person they thought I should be.

我的家人还在生我的气，因为我不学医了。我的妻子要跟我离婚，因为我没有抱负。这一切，就像在重蹈覆辙。我无法满足别人的期待，这已经不是第一次发生了。换做以往，我会对自己感到失望，因为我没能成为他们认为我该成为的人，然而，这一次，我不再对自己失望。

Their dreams and my dreams were different. I would never confuse the two of them again. Throughout my 20s, I continued experimenting, trying different things, racing bikes and boats and constantly changing jobs. I searched and searched, but I just could not find a software engineering job that I thought that I loved as much as I loved sailing. So, I tried to create one.

他们的梦想，和我的梦想，是不一样的，我再也不会混淆这两者。在二十多岁这段时光里，我不断试验，尝试不同的事情，骑自行车，划船，不断换工作。我很热爱帆船运动，然而，这些年里，我找了很久，都没有一份编程工作能让我感受到同样的热爱。所以，我尝试自己创造一份这样的工作。

My goal was to create the perfect job for me, a job I truly loved. I never expected the company to grow beyond 50 people, so, maybe I really did lack ambition or vision back then. Today I create employment for around 150 people, but when I started, it was not my intention to build a big company.

我的目标，就是为自己打造一份完美的工作，一份我真心热爱的工作。我从来没想过，我的公司规模会超过50人。所以，也许，当时我确实是没多大野心，也没什么远见。如今，我们公司有十五万员工。但是，在创业初期，我没有想过要把公司做得这么大。

We assembled an all-star team of gifted programmers, who were among the best in the world at what they did. That team plus one crazy idea gave birth to a giant company. I call it a crazy idea, because of the time everyone told me it was a crazy idea. The idea was to build the world's first relational database.

我们把很有才的程序员们聚到一起，组成了一个全明星团队，他们是各自领域里的顶尖行家。一个优秀的团队，加上一个疯狂的想法，就产生了一个超大规模的公司。我把它称之为疯狂的想法，是因为，曾经，所有人都告诉我，想创造世界上第一个关系数据库，这个想法很疯狂。

But back then, the `collective` wisdom of computer experts was, that while relational data bases could be built, they would never be fast enough to be useful. I thought, all those so-called computer experts were wrong, and when you start telling people that all the experts are wrong, at first, they call you `arrogant`, and then they say you're crazy.

但是，当时，电脑专家们都认为，要建一个关系数据库，可以，但这个数据库的运行速度会很慢，所以它没什么用处。我认为，那些所谓的电脑专家们，他们的看法都是错的。当你告诉别人，说专家们都是错的，人们就会说，你很傲慢，然后他们会说，你太疯狂了。

So, remember this, graduates, when people start telling you that you're crazy, you just might be onto the most important innovation in your life. Our company doubled in size year after year after year for 10 years. It was growing so fast that it was impossible for anyone to control. It was like sailing in a hurricane. And then we went public.

所以，毕业生们，请记住，如果有人跟你说，你很疯狂，那么，你可能正要经历人生最重要的变革。我们公司的规模，连续十年实现翻倍。它发展得非常快，势不可挡，它就像是在风暴中航行一样。然后，我们就上市了。

Oh my god. Maybe I should have been a doctor.

噢，也许我本应该当个医生！

NW ear, NW ou

ts that time of year again, the new year , time for some new year resoltions. But not so fast. Stes have show 8% of poe who set new year resoltions fail to reab them.

又是新的一年，每到这个时候，人们都会下定决心，要在新的一年做成一些事情。且慢，研究表明，88%的人，虽然下定了新年决心，但却没能实现。

h fat, the maprity of those poe will have it before we are in the seond month of the year! Less than 2 something ifferent. They stik to their goals. That's the statistis. 8 fail and 12 stik at it. And that desnt even mean the results of the 2 are lasting.

事实上，大部分人，还没到第二个月，就已经放弃了。只有12%的人没有放弃，而是坚持朝着目标努力。这就是数据呈现的情况，88%的人失败了，放弃了，12%的人坚持下去了。而且，这并不意味着，这12%的人取得的成果能一直保持下去。

Why d that many poe fail? And more imprtantly , hy d the so few sees? There are 5 main reasons. Listen in so you an be one of the few who one r their goals, not jt new year goals, bt every kind of goals, targets and dreams you have.

为什么这么多人都失败了更重要的是，为什么成功的人这么少？原因有五个，请认真听一听，这样你就能成为实现目标的少数人，不仅是新年目标，还有各种各样的目标和梦想。

***Number 1*: Review you year , take in the good, note the blessings and se the lessons. This is a perful poess, not jt in looking forard to learn and abiev more, bt also looking bak at how far you ome and being grateful for everything that was great this pst year .**

第一，回顾过去的一年，吸收好的东西，多关注那些美好的事，并学会应用你学到的教训。这个过程会产生巨大的影响，不仅能帮助你朝前看、取得更多成就，而且能帮助你回顾自己走了多远、对过去一年所有美好的事心怀感激。

Get a pn and paper and rite dn your answers to the following qstions. We will poid a dnload sheet in the dsription as ell. Think bak over the pst year .

拿一支笔，写下你对以下问题的答案，我们也会在视频介绍里提供一个可以下载的文档。请你回顾、思考过去的一年。

Write dn: What was great this pst year? What was you favorite memory? What were you proud of? What was you greatest abievement? What was you greatest lesson? What was unaeptable from that year , in other words, hat an you d better? What lessons old you take into this nek year to make sre you are in a better psition in 2 months' time?

请写下在过去的一年中，很棒的事情有哪些你最喜欢的回忆是什么你为什么感到自豪你最大的成就是什么你最大的教训是什么你觉得难以接受的事情是什么或者说，你能把什么事做得更好你能把什么经验带到下一年、确保自己在

新的一年结束时有更好的结果？

***Number 2*:Do you know where you're going? Most people give up on their goals and resolutions so easily because they don't have a clear target they are working toward. They have vague resolutions like, lose weight, or , make more money, but no plan as to how what will be achieved and no deadline for when it will be achieved by .**

第二，你知道自己要去往哪里吗？很多人轻易地放弃了他们的目标和决心，因为他们的目标不清晰。他们的决心很模糊，比如，减肥，挣更多钱，但是他们没有计划好，如何达成这些目标，截止期限是什么。

If it is not clear , it will not happen. If it is not planned, it will not happen. Get clear about the result you must have. For example, I will lose 30 pounds, I will make one million dollars in extra income.

如果目标不够清晰，那它就不会实现。如果没有做好计划，那它就不会成真。想清楚，你到底想要什么样的结果。比如，我要减肥30磅，我要额外多挣一百万美元。

Get precise about the time in which you will achieve it. I will lose 30 pounds, by March 30th, 2020. I will make one million dollars in extra income by December 31st, 2020. Get clear about what you want and when you must have it. And you will have it.

为你的目标设定精确的截止时间。我要在2020年的3月30号之前减去30磅体重，我要在2020年12月31日之前挣到一百万美元的额外收入。你要想清楚，你想要什么，什么时候要做到。这样，你就会得到你想要的。

***Number 3*:Change your identity . For many people their goals and resolutions fail because, although they might have a plan, they never believe they are that person that can change long term.**

第三，改变你对自己的看法。对于很多人来说，他们的目标和决心无法达成，是因为，虽然他们也许有计划，但是他们从来不相信自己能做出改变、并长期坚持。

The person doesn't lose weight because they identify themselves as a sweet tooth. The person doesn't quit smoking, because they identify themselves as a smoker and they still believe they need it for stress relief. You must change how you see yourself. If you want permanent change, die to your old self so your new self can be reborn.

人们无法减肥，因为他们认为自己就是嗜甜如命的人。人们无法戒烟，因为他们认为自己就是个烟民，并且他们相信，他们需要吸烟来缓解压力。你必须改变你对自己的看法，如果你想做出长久的改变，那就要跟过去的自己说再见，这样，才会产生新的自我。

***Number 4*:Improve your circle. If the people around you are not supporting the positive changes you want to make in your life, distance yourself from these people, until you make the changes you must make. If the same people are still not supportive after you've made these great changes, maybe you need to review the people you are around**

第四，改善自己的圈子。如果，你身边的人，不支持你做出积极改变，那么，请你远离这些人，直到你成功地做出了改变为止。如果，到了这时，这些人仍然不支持你，也许你需要反思一下你身边的人。

Surround yourself with people who are going to help and support you, people who want to see you make these changes permanent. If they are not in your immediate environment, find them online. Follow positive people, people who have already achieved the results you want to achieve. Listen to their podcasts, read their books. Immerse yourself in the result you want to achieve.

多接触那些会帮助你、支持你的人，那些想要看到你做出改变、并长期坚持的人。如果你身边没有这样的人，去网上找找看。关注那些积极向上的人，那些已经达成了你的目标的人。听他们的播客，读他们的书，让自己沉浸在你想获得的结果里。

***Number 5*: Believe. Believe it is possible by finding stories of others who have done it before you. Believe in yourself by taking the first step, then another and another and being aware and proud of your progress. Believe you deserve this, because you do.**

第五，要心怀信念。请你多找找前人的成功实例，让自己相信，一切皆有可能。你要迈出第一步，第二步，第三步，关注你努力的过程，并为此感到自豪，这样你就会对自己有信心。你要相信，你值得拥有这些，因为你确实值得拥有它们。

Don't take your mistakes from last year into this year. Use the pain. Learn from it. Grow from it. Set a new standard for your life and commit to make this coming year your best year yet! It's time to step into the new you.

不要把你犯过的错误带到新的一年。利用你经历过的痛苦，从中学习，收获成长。为自己的生活设立新的标准，努力让新的一年成为你人生中最好的一年！是时候去拥抱新的自己了！

The biggest mistake is you think you have time

When asked "What's the biggest mistake we make in life?" the Buddha replied "The biggest mistake is you think you have time."

当被问及"人生最大的错误是什么"，佛说："最大的错误是你认为你自己有时间。"

Time is free but it's priceless.

时间是免费的，但也是无价的。

You can't own it, but you can use it.

你不能拥有它，但你能够使用它。

You can't keep it but you can spend it.

你不能储存它，但你能花费它。

And once it's lost, you can never get it back.

一旦它消失了，你就再也拿不回来了。

That average person lives 78 years.

人的一生平均有78年。

We spend 28.3 years of our life sleeping.

我们花28.3年在睡觉上。

That's almost a third of our life but 30% of us struggle to sleep well.

差不多花了我们三分之一的时间，但同时30%的我们在为睡个好觉而斗争。

We spend 10.5 years of our life working but over 50% of us want to leave our current jobs.

我们花10.5年去工作，但超过50%的人想离开现在的岗位。

Time is more valuable than money .

时间比金钱更有价值

You can get more money ,but you can never get more time.

你会赚更多的钱，却不能赚到更多的时间。

We spend 9 years on TV and social media.

我们在电视和社交媒体上花费了9年的时间。

We spend 6 years doing chores.

花6年的时间在家务上。

We spend 4 years eating and drinking. 四年的时间花在吃吃喝喝上。

We spend 3.5 years in education.

累计消费3.5年在教育上。

We spend 2.5 years grooming.

2.5年花费在打扮上。

We spend 2.5 years shopping.

2.5年花费在购物上。

We spend 1.5 years in childcare

1.5年的时间花费在呵护孩子。

And we spend 1.3 years commuting.

1.3年的时间花费在通勤上。

That leaves us with 9 years.

剩下留给我们的只有9年的时间。

How will we spend that time?

我们将会怎么消费这些时间呢？

Steve Jobs said your time is limited so don't waste it living someone else's life."

乔布斯说生命有限，别将它浪费在重复他人的生活上。

So there's good news and there's bad news.

所以这有好消息也有坏消息。

That bad news is time flies; the good news is you're the pilot.

坏消息是时光飞逝，好消息是你是领航者。

Imagine you wake up every day with $86,400 in your bank account.

想象一下你每天醒来银行账户中都有86400美元。

And at the end of the night, it's all gone whether you spent it or not.

一天结束它们都消失了，不管你是否消费它们。

And then the next day you get another $86,400.

第二天你的账户又会拥有86400美元。

What would you do with it?

我们将会用它做什么呢？

Every day 86,400 seconds are deposited into your life account.

每天86400秒都会存入你的生命账户。

At the end of the day one they're all used you get a new 86,400 seconds.

一天结束后，第二天你将拥有新的86400秒。

We oldhever waste it if it was money ,so hy d we waste it hen it omes to time?

如果是钱我们绝不会浪费，那为什么我们要浪费时间呢

Those seonds are so mh more pwerfulthan dllars beause you an always make more dllars,you ant always make more time.

时间比金钱的力量更大，因为你能赚钱却不能赚取时间。

To realize the vale of 1year ,ask a stdnt hho failed a grade.

想知道一年的价值，要去问考试失利的学生。

To realize the vale of 1month,ask a mother hho lost their bildn the final month.

想知道一个月的价值，去问在分娩前一月失去孩子的母亲。

To realize the vale of 1week,ask the eitor of an online magazine.

想知道一周的价值，去问在线杂志的编辑们。

To realize the vale of 1hour ,ask the ople hho' s in a longistane relationship

想知道一小时的价值，去问异地恋的情侣们。

To realize the vale of 1minte,ask the person hho jst missed a bs,train or plane.

想知道一分钟的价值，去问刚刚错过公交和飞机的人。

To realize the vale of 1seond,ask the person hho jst missed an aident.

想知道一秒钟的价值，去问刚刚幸免于难的人。

To realize the vale of 1millisedond,ask the person hho jst ame 2nd at the Olympis.

想知道一毫秒的价值，去问与奥运冠军失之交臂的运动员。

We think it's pople wasting ourime btuit' s really us giving them the permission to d that.

别人总是浪费我们的时间，其实是我们准许他们这样。

Andn reality ,these tw pople live insid us.

现实是，我们体内有两个人。

Dnt let someone be a piority hen all you are to them is an option.

当你对别人只是可选项时，别将他们排在前面。

Some of us lose the pople most imprtant to us beause wdnt vale their time.

我们失去了很多重要的人，因为我们没有珍惜他们。

Some of us don't recognize how important someone is to us until they're gone.

有时直到失去才知道他们有多重要。

Inside all of us are two voices.

我们的内心有两种声音.

One voice that wants to lift, one voice that wants us to expand, one voice that wants us to grow .

一种声音鼓励我们上进,鼓励我们丰富自己,鼓励我们不断成长.

And then there's the other voice. The voice that holds us back, the voice that makes us lazy , the voice that makes us complacent. The voice that restricts us from our potential.

还存在另一种声音----这种声音使我们退步，让我们变得懒惰，让我们骄傲自满。这种声音限制了我们的潜能。

Every day from the moment we wake until the moment we go to sleep inside of us there's this battle between the two voices.

每天从醒来到入睡，这两种声音都在斗争。

And guess which one wins?

猜猜谁赢了？

The one that we listen to the most.

我们听得最多的那个声音赢了。

The one that we feed

我们更喜欢的那个声音。

The one that we amplify .

那个让我们更强的声音。

It is our choice of how we use our time.

我们选择如何使用我们的时间。

Life and time are the best two teachers.

生活和时间是两位最好的老师。

Life teaches us to make good use of time.

生活教会我们更好地使用时间。

And time teaches us the value of the life.

时间教会我们生活的价值。

And as William Shakespeare said,

就像莎士比亚说过的一样，

"Time is very slow for those who wait, very fast for those who are scared, very long for those who are sad, and very short for those who celebrate , but for those who love, time is eternal."

"对想要它的人来说，时间很慢，对害怕它的人来说，时间很快，对悲观的人来说，时间很长，对充满欢愉的人来说，它又很短暂,但对于爱它的人来说，时间即是永恒。"

The Easy Road Or The Hard Road

Your educational journey is going to be hard. I can promise you that. There are two paths you can take, the easy road or the hard road.

我可以很确定地告诉你，你的求学过程，将会困难重重。你有两条路可选，容易的路，或者困难的路。

If you choose the hard road, it means you choose to study when your friends are out partying. You start writing your report when the rest of the class don't even know the deadline yet. You're already awake at 5:00 a.m. on your way to the library when the rest of your friends are still sleeping.

如果你选择了困难的路，这就意味着，朋友们尽情欢乐时，你要选择努力学习某他同学还不知道截止日期时，你已经开始写作业凌晨五点，朋友们还在沉睡时，你已经起床出门，朝着图书馆走去。

If you can find enough focus and motivation to do these hard things, the things that everyone else struggles with, then your educational journey will be easy.

如果你有足够的专注力、足够的动力来做这些让大家觉得痛苦的事，那么，你的求学过程将会变得容易。

The grades will be easy. The scholarships will be easy. But it's a choice that you have to consciously make. You have to step up and take that path. And it will be lonely at times. It will feel like you're the only one doing this.

成绩很容易变好，奖学金很容易到手。但是，你要自觉地做出这个选择。你必须加快脚步，踏上这条道路。有时，你会感到孤独，好像，这些事，只有你自己在做。

But that's the whole point. The whole idea of this is to be standing at the top of the mountain, while everyone else is still at the bottom, because you took the path that so many people are unwilling to take.

但是，这才是有意义的地方。你这么努力，就是为了站在顶端，其他人只能仰望你，因为你选择了别人不愿选择的路。

Okay, so you know where you want to be, at the top of that mountain, but why aren't you there yet? Why is it that you're stopping yourself from getting there?

所以，你已经很清楚，自己想成为站在顶端的人，但是，为什么你还没做到？

Why is it that you just settle for the grades that you're getting? Because doing well at school and university, it's not easy. It's difficult to get good grades. It takes a lot of focus, a lot of sacrifice, a lot of late nights and early mornings.

为什么你一直无法达到这个高度为什么你满足于现有的成绩因为，在求学生涯中，无论是小学、中学还是大学，要想变得优秀，都是有难度的。想取得好成绩，这不容易。你要很专注，要牺牲很多，要早起晚睡。

But it's absolutely worth it. You are in charge of the life you live, and when you're in charge, you study hard, regardless of how you're feeling, whether you're feeling lazy, tired, stressed, frustrated, bored, it doesn't matter. This doesn't stop you.

但是，这一切都是值得的。你的人生，你自己说了算。如果你能把握自己的人生，无论自己感受如何、心情如何，都没关系。就算你感到懒惰、疲惫、压力大、沮丧、倦怠，也都没关系。这一切，都无法阻止你。

Use the P AIN as motivation

You will come into obstacles. You probably already have, whether it's procrastination, friendship problems, family problems, money problems. Whatever it is, it's not going to be easy .

你会遇到阻碍。可能你已经遇到了，比如拖延症，友情问题，家庭问题，经济问题。无论这阻碍是什么，它都很难突破。

A pain is just a by-product. If you haven't experienced pain, then you will not have the motivation to become the best version of yourself. The pain is what will fuel you.

痛苦只是一个副作用而已。如果你没有经历过痛苦，那么你就没有动力去成为最好的自己。痛苦，会让你充满斗志。

The most successful people on the planet have had to overcome catastrophic obstacles, and they came out on the other side stronger and wiser .

在这个世界上，最成功的人，都经历了巨大的痛苦，他们成功度过了难关，变得更加强大，更加睿智。

Bill Gates's first business failed miserably .Albert Einstein didn't speak until he was four years old. Oprah Winfrey gave birth at 14 years old to a baby boy who died shortly afterward. Thomas Edison failed 1000 times before creating the light bulb. Franklin Roosevelt became partially paralyzed at the age of 39 for the rest of his life. He went on to lead the United States as one of the most respected presidents in history .

比尔盖茨，他最初做的生意，以惨痛失败告终。爱因斯坦，他直到四岁才学会说话。欧普拉温弗莉，她在十四岁的时候生了一个男婴，但孩子没多久就夭折了。爱迪生，他失败了一千次，才发明出灯泡。富兰克林罗斯福，他在39岁的时候遭遇了部分瘫痪，余生都如此，但他仍然坚持领导美国，他是历史上最受尊敬的总统之一。

So it's not only you that is facing obstacles. It happens to everyone. But how you deal with them is what will set you apart from everyone else. And as they say after the rain comes the rainbow .There are two sides of pain that a lot of people don't really understand. There's a side of pain than most people can relate to, the difficult side, the uncomfortable side. You always remember what that feels like.

所以，面临困难的，不只有你，大家都一样。但是，你处理困难的方式，会让你与众不同。正如人们说的，风雨后才有彩虹。很多人不明白，痛苦，也是有两面性的。大多数人知道痛苦的其中一面，也就是困难的一面，令人不适的一面，你永远都会记得这种感觉。

But then there's the other side of pain. It's called effort. It's called learning. It's called if you can push through the suffering, there's some great things waiting for you on the other side. But you don't get to see them if you give

pright now ,andthat's hy a lot of pople dnt get to see this sid of pain, beause they giv up before they get there.

但是，痛苦还有另一面，它是努力，是胜利。它意味着，如果你能熬过难关，你会收获很大的惊喜。但是，如果你现在就放弃了，你就无法看到这一切，所以，很多人没见过痛苦的这一面，因为他们半途而废了。

t's not easy to ontinu studing when every part of you body is telling you to giv up. It's so easy to giv up. But it's at this pint you need to giv it everything you've got. It's about pshing yourself to the pint where you feel out of your omfort zone. Beause it's outsid your omfort zone where the growth happns.

当你的身体想让你放弃时还坚持学习，这是很困难的。放弃是很容易的，但是，到了这个时候，你应该放手一搏。你要敦促自己，直到你走出舒适区为止。因为，只有走出舒适区，你才能成长。

No one has beome suessful while staying within their omfort zone, absolutely no one. The first three seonds that you start stuying, that's the hardest part. But if you an psh through that, if you an psh through the first few seonds of stuying, it gets a lot easier .You realize it was the thought of stuying that you were more bothered about than the atual stuying itself.

获得成功的人，都是走出舒适区的人，没有人能够在舒适区里取得成功。你刚开始学习的那几秒钟，是最困难的。但是，如果你能熬过去，如果你能熬过刚开始学习的那几秒钟，事情就会变得容易很多。你会意识到，真正学起来，并没有那么困难。真正让你心烦的，是要去学习这种想法而已。

t's never as bad as you thought it would be. You've got to stop omplaining. You've got to stop the negativity .Complaining has zero benefits. It doesn't help anything. It just puts others down with you. You've got to take ation in your life. What are you doing about it? You've got to find a soltion to your poblem. Don't be the poblem.

事情没你想的那么糟糕，你必须停止抱怨，你必须停止消极。抱怨对你没有好处，它不会起任何作用，它只会拖你的后腿，也拖了别人的后腿。你必须行动起来。你现在有采取什么行动吗你必须找到解决问题的方法，不要让自己成为问题本身。

I see it so many times where someone is getting bad grades but they blame everyone else but themselves. Believe me, that person is going nowhere. Nothing's going to happen in their life. And if that's you, if you're the person that is blaming everyone else for the situation they're in and not taking ation for their own responsibilities, then this is for you

有的人，他们没能取得好成绩，责怪所有人，却不反思自己。这样的情况，我已经见过太多了。相信我，这种人什么都做不成，好事不会发生在他们身上。如果你就是这种人，如果你不满意现状却要埋怨他人，如果你不愿意行动起来，为自己负责，那么，这个演讲，就是讲给你听的。

Take ation. Take ontrol. If you keep stuying at your full potential, and if you keep reading and keep learning and keep asking questions, you'll see the results for yourself. You'll see your grades increase significantly .

采取行动，掌握自己的人生。如果你用尽全力去坚持学习，如果你坚持阅读，坚持学习，坚持提问，那么，你也会看见这带来的结果。你会看见，你的成绩有明显的提升。

【译】生命的意义

> 英语学习文章，来源百词斩爱阅读

Edward Perman Cole died in May. it was a Sunday afternoon and there wasn't a cloud in the sky.

爱德华·佩瑞曼·科尔在五月一个周日下午去世了，那天天空万里无云。

it's difficult to understand the sum of a person's life. Some people would tell you it's measured by the ones left behind, some believe that it can be measured in faith, some say by love, other folks say life has no meaning at all ...

人生的功过是非很难衡量的。有人说取决于他所留下的事物，有人说由信仰来评定，也有人说爱能衡量，还有人说人生根本没有任何意义...

Me, I believe that you measure yourself by the people who measure themselves by you.

而我相信你可以用那些以你为标准的人来衡量自己。

What I can tell you for sure is that by any measure, Edward Cole lived more in his last days on earth than most people manage to wring out of a lifetime. I know that when he died his eyes were closed and his heart was open . . .

而我所能肯定的就是，无论你采用什么样的标准，爱德华·科尔在这世上活着的最后的日子比大多数人穷其一生的日子还要充实。我知道当他去世时，他的眼睛是闭上了，而他的心灵却是敞开的。

【转】When YouAre Old

> 英语学习文章，来源百词斩爱阅读

《当你老了》是威廉·巴特勒·叶芝献给女友毛特·冈妮的真挚爱情诗篇。叶芝是20世纪现代主义诗坛上最著名的诗人，他对毛特·冈妮一见钟情，虽多次求婚被拒但仍对她爱慕终身。

原文

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When you are old and grey and full of sleep,

And nodding by the fire, take down this book,

And slowly read, and dream of the soft look

Your eyes had once, and of their shadows deep;


How many loved your moments of glad grace,

And loved your beauty with love false or true,

But one man loved the pilgrim soul in you,

And loved the sorrows of your changing face;


And bending down beside the glowing bars,

Murmur, a little sadly, how Love fled

And paced upon the mountains overhead

And hid his face amid a crowd of stars.
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译文一

当你老了，头发发白，睡意沉沉，

倦坐在路边，取下这本书来，

慢慢品读，追梦当年的眼神，

你那柔美的神采与深幽的阴影；

多少人爱过你昙花一现的身影，

爱过你的美貌，以虚伪或真情，

唯独一人曾爱你那朝圣者的心，

爱你衰戚的脸上岁月的痕迹；

在炉栅边，你弯下了腰，

低语着，带着浅浅的伤感，

爱情是怎样逝去，又怎么越过群山，

怎样在繁星之间遮住了脸.

译文二

当汝老去，青丝染霜

独伴炉火，倦意浅漾

请取此卷，曼声吟唱

回思当年，汝之飞扬

眼波深邃，顾盼流光

如花引蝶，众生轻狂

彼爱汝貌，非汝心肠

唯吾一人，爱汝心香

知汝心灵，圣洁芬芳

当汝老去，黯然神伤

唯吾一人，情意绵长

跪伴炉火，私语细量

爱已飞翔，越过高岗

爱已飞翔，遁入星光