

山东大学 计算机科学与技术 学院

云计算技术 课程实验报告

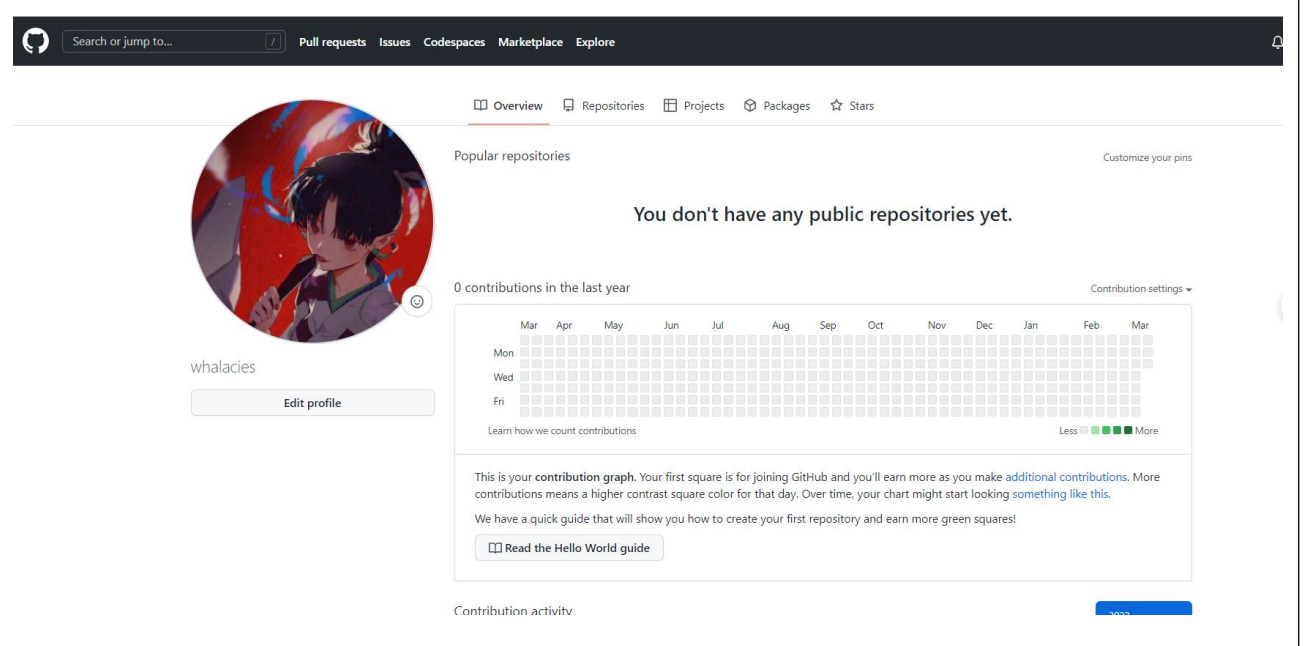
学号：201900130052	姓名：徐慧丹	班级：4 班
实验题目：利用云平台搭建个人博客		
实验学时：2	实验日期：2023/3/14	

实验目的：熟悉个人博客系统的搭建。  
具体包括：注册 Github 账号，搭建 Hexo 环境并实现个人博客搭建，撰写实验报告。

硬件环境：  
联网的计算机一台

软件环境：  
Windows

实验步骤与内容：  
一、注册 Github 帐号



## 二、搭建 Hexo 环境并实现个人博客搭建

### 1. 安装 node.js 和 git

安装 Node.js

安装 git

```
C:\Users\86181>node -v
v16.19.1

C:\Users\86181>npm -v
8.19.3

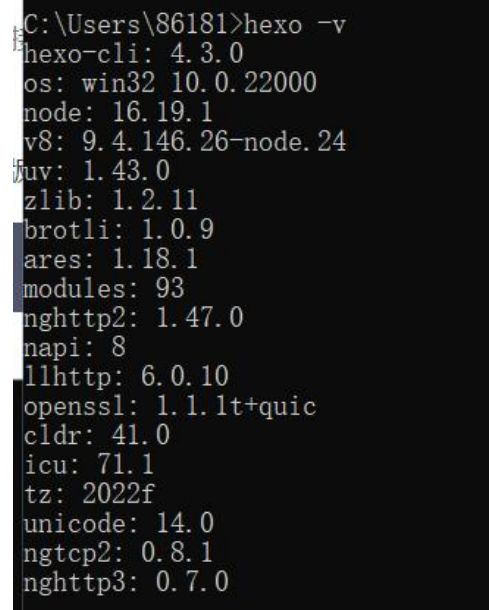
C:\Users\86181>git --version
git version 2.39.2.windows.1
```

### 2. 安装 hexo

选择在 D 盘新建一个文件夹 xhdblog 用来存放博客文件，在该文件夹下右键点击 Git Bash Here，输入以下 npm 命令即可安装：

```
npm install hexo-cli -g
```

检查是否安装成功，在命令行窗口输入 hexo -v，会得到 hexo 及其工具的版本号。

A terminal window screenshot showing the output of the 'hexo -v' command. The output lists the versions of hexo-cli, os, node, npm, and various dependencies like zlib, brotli, ares, modules, nghttp2, napi, llhttp, openssl, cldr, icu, tz, unicode, ngtcp2, and nghttp3.

```
C:\Users\86181>hexo -v
hexo-cli: 4.3.0
os: win32 10.0.22000
node: 16.19.1
npm: 9.4.146.26-node.24
zlib: 1.2.11
brotli: 1.0.9
ares: 1.18.1
modules: 93
nghttp2: 1.47.0
napi: 8
llhttp: 6.0.10
openssl: 1.1.1t+quic
cldr: 41.0
icu: 71.1
tz: 2022f
unicode: 14.0
ngtcp2: 0.8.1
nghttp3: 0.7.0
```

### 3. 配置本地 hexo

在刚才新建的文件夹再新建一个 Hexo 文件夹，在 Hexo 文件夹下右键点击 Git Bash Here，依次输入以下 npm 命令即可初始化：

```
hexo init
```

```
npm install
```

接着我们输入 hexo g 生成静态网页，然后输入 hexo s 打开本地服务器，然后浏览器打开 <http://localhost:4000/>，就可以预览博客，如图：

```

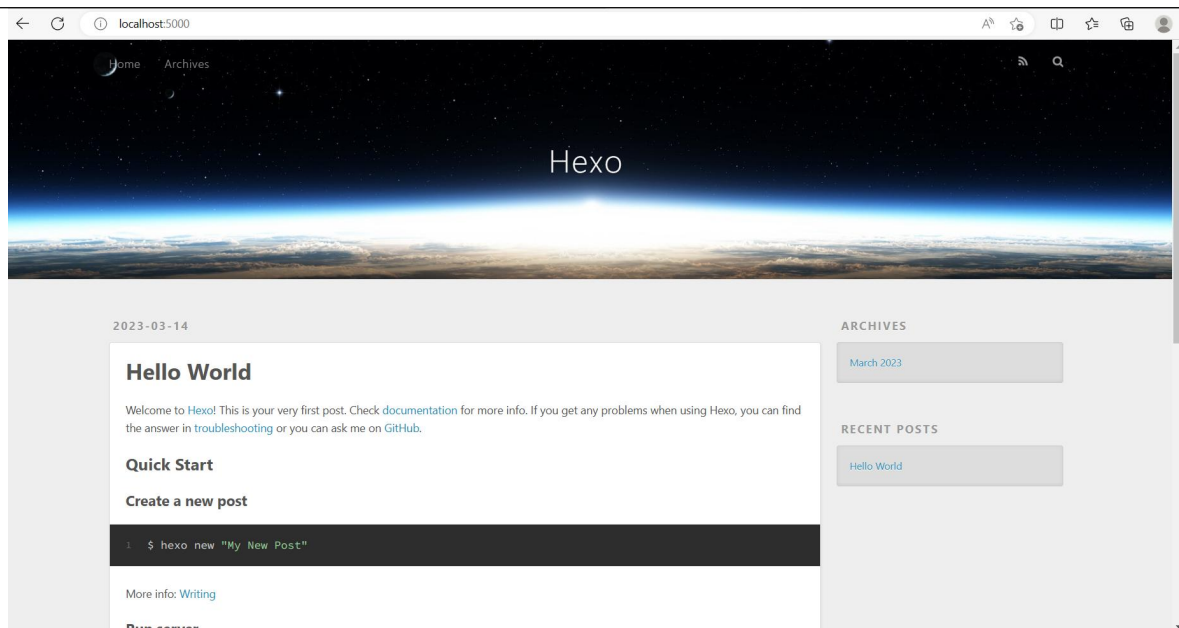
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog/Hexo
$ hexo g
INFO Validating config
INFO Start processing
INFO Files loaded in 222 ms
INFO Generated: archives/index.html
INFO Generated: archives/2023/03/index.html
INFO Generated: archives/2023/index.html
INFO Generated: index.html
INFO Generated: fancybox/fancybox_loading@2x.gif
INFO Generated: fancybox/helpers/fancybox_buttons.png
INFO Generated: fancybox/fancybox_loading.gif
INFO Generated: fancybox/fancybox_overlay.png
INFO Generated: fancybox/fancybox_sprite@2x.png
INFO Generated: fancybox/blank.gif
INFO Generated: js/script.js
INFO Generated: fancybox/fancybox_sprite.png
INFO Generated: fancybox/jquery.fancybox.css
INFO Generated: css/fonts/fontawesome-webfont.eot
INFO Generated: fancybox/helpers/jquery.fancybox-thumbs.js
INFO Generated: fancybox/helpers/jquery.fancybox-buttons.css
INFO Generated: css/style.css
INFO Generated: fancybox/jquery.fancybox.pack.js
INFO Generated: fancybox/helpers/jquery.fancybox-thumbs.css
INFO Generated: fancybox/helpers/jquery.fancybox-media.js
INFO Generated: fancybox/helpers/jquery.fancybox-buttons.js
INFO Generated: css/images/banner.jpg
INFO Generated: fancybox/jquery.fancybox.js
INFO Generated: css/fonts/fontawesome-webfont.svg
INFO Generated: css/fonts/fontawesome-webfont.ttf
INFO Generated: css/fonts/FontAwesome.otf
INFO Generated: 2023/03/14/hello-world/index.html
INFO Generated: css/fonts/fontawesome-webfont.woff
INFO 28 files generated in 548 ms

```

```

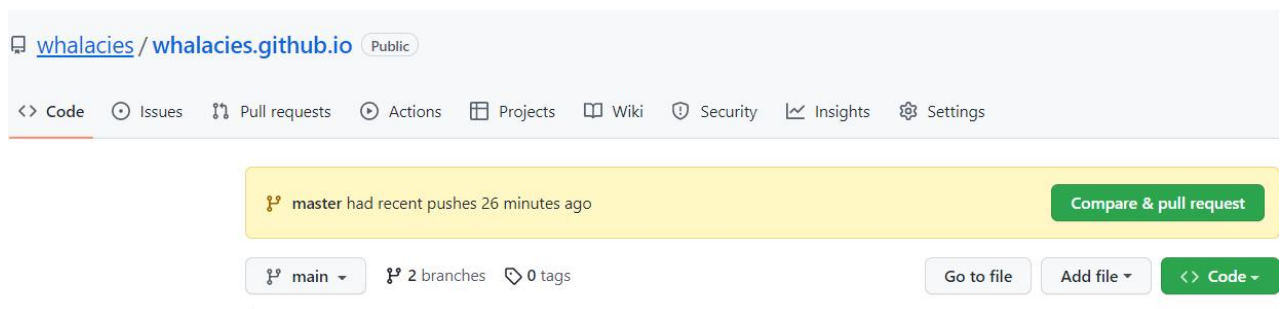
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog/Hexo
$ hexo s
INFO Validating config
FATAL Permission denied. You can't use port 4000.
FATAL {
  err: Error: listen EACCES: permission denied 0.0.0.0:4000
    at Server.setupListenHandle [as _listen2] (node:net:1446:21)
    at listenInCluster (node:net:1511:12)
    at Server.listen (node:net:1599:7)
    at D:\xhdblog\Hexo\node_modules\hexo-server\lib\server.js:69:12
    at Promise._execute (D:\xhdblog\Hexo\node_modules\bluebird\js\release\debuggability.js:384:9)
    at Promise._resolveFromExecutor (D:\xhdblog\Hexo\node_modules\bluebird\js\release\promise.js:518:18)
    at new Promise (D:\xhdblog\Hexo\node_modules\bluebird\js\release\promise.js:103:10)
    at checkPort (D:\xhdblog\Hexo\node_modules\hexo-server\lib\server.js:66:10)
    at Hexo.module.exports (D:\xhdblog\Hexo\node_modules\hexo-server\lib\server.js:18:10)
    at Hexo.tryCatcher (D:\xhdblog\Hexo\node_modules\bluebird\js\release\util.js:16:23)
    at Hexo.<anonymous> (D:\xhdblog\Hexo\node_modules\bluebird\js\release\method.js:15:34)
    at D:\xhdblog\Hexo\node_modules\hexo\lib\hexo\index.js:260:17
    at Promise._execute (D:\xhdblog\Hexo\node_modules\bluebird\js\release\debuggability.js:384:9)
    at Promise._resolveFromExecutor (D:\xhdblog\Hexo\node_modules\bluebird\js\release\promise.js:518:18)
    at new Promise (D:\xhdblog\Hexo\node_modules\bluebird\js\release\promise.js:103:10)
    at Hexo.call (D:\xhdblog\Hexo\node_modules\hexo\lib\hexo\index.js:256:12)
    at C:\Users\86181\AppData\Roaming\npm\node_modules\hexo-cli\lib\hexo.js:60:17
    at tryCatcher (C:\Users\86181\AppData\Roaming\npm\node_modules\hexo-cli\node_modules\bluebird\js\release\util.js:16:23)
    at Promise._settlePromiseFromHandler (C:\Users\86181\AppData\Roaming\npm\node_modules\hexo-cli\node_modules\bluebird\js\release\promise.js:547:31)
    at Promise._settlePromise (C:\Users\86181\AppData\Roaming\npm\node_modules\hexo-cli\node_modules\bluebird\js\release\promise.js:604:18)
    at Promise._settlePromise0 (C:\Users\86181\AppData\Roaming\npm\node_modules\hexo-cli\node_modules\bluebird\js\release\promise.js:649:10)
    at Promise._settlePromises (C:\Users\86181\AppData\Roaming\npm\node_modules\hexo-cli\node_modules\bluebird\js\release\promise.js:729:18) {
      code: 'EACCES',
      errno: -4092,
      syscall: 'listen',
      address: '0.0.0.0',
      port: 4000
    }
}
Something's wrong. Maybe you can find the solution here: %s https://hexo.io/docs/troubleshooting.html

```



### 三、github 仓库搭建与连接本地

#### 1. 创建仓库



#### 2. 连接 Github 与本地

##### (1) 生成密钥

右键单击鼠标，点击 Git Bash Here 输入以下命令：

```
git config --global user.name "Name"
```

```
git config --global user.email "Email"
```

```
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog
$ git config --global user.name"whaless"

86181@LAPTOP-61316JSP MINGW64 /d/xhdblog
$ git config --global user.email "2735609007@qq.com"
```

然后生成密钥：

```
ssh-keygen -t rsa -C "Email"
```

```
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog
$ ssh-keygen -t rsa -C "2735609007@qq.com"
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/86181/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
```

然后按三次回车，第一次回车是将密钥按默认文件进行存储，第二次和第三次回车是输入



和确认密码。

```
Your public key has been saved in /c/Users/86181/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:EkU7GYXHP50Y020TSogJFFymdHa2RRUQXKXmgNW4EA 2735609007@qq.com
```

这里是各种字母数字组成的字符串，结尾是邮箱

```
The key's randomart image is:
+---[RSA 3072]---+
|                |
|oo+BE=***...   |
|.O+.O**O ..    |
|o.O+B.. O      |
|o.+.+ + o      |
|..So . X       |
|. + * +        |
|. = .          |
|.              |
+---[SHA256]-----+
```

这里也是各种字母数字符号组成的字符串。

现在密钥已经生成，一般存放在（/c/Users/you/.ssh/id\_rsa.pub.），我们运行下面的命令将密钥复制为粘贴板：

```
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog
$ clip < /c/Users/86181/.ssh/id_rsa.pub
```

## (2) 连接 Github

在已登陆的 Github 主页点击右侧头像->Settings 设置,再点击 SSH and GPG keys->New SSH key, 将刚刚在 .ssh 目录下所复制 id\_rsa.pub 文件中的信息复制进 key (注意空格)，在它取个名字 (1\_key)



whalacies

Your personal account

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Access

[Billing and plans](#)

[Emails](#)

[Password and authentication](#)

[Sessions](#)

[SSH and GPG keys](#)

[Organizations](#)

## SSH keys

[New SSH key](#)

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.

### Authentication Keys



1\_key

SHA256:EkU7GYXHP50Y020TSogJFFymdHa2RRUQXKXm

gNW4EA

Added on Mar 14, 2023

Never used — Read/write

[Delete](#)

Check out our guide to [generating SSH keys](#) or troubleshoot [common SSH problems](#).

## GPG keys

[New GPG key](#)

这里需要在本地进行验证一次

输入命令: `ssh -T git@github.com` 并且输入 `yes` 之后, 行末尾会显示你的用户名

```
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog
$ ssh -T git@github.com
The authenticity of host 'github.com (140.82.114.3)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvCOqU.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
Hi whalacies! You've successfully authenticated, but GitHub does not provide shell access.
```

绑定成功并且邮箱收到邮件:

The following SSH key was added to your account:

1\_key

SHA256:EkU7GYXHPPr50Y02OTSogJFFymdHa2RRUQXKXmgNW4EA

If you believe this key was added in error, you can remove the key  
and disable  
access at the following location:

<https://github.com/settings/keys>

### 3. 上传测试博客

用记事本打开博客根目录下的 `_config.yml` 文件, 这是博客的配置文件, 我们需要修改一下才能连接 Github。

修改最后一行的配置:

```
! _config.yml X
D: > xhdblog > Hexo > ! _config.yml
84   updated_option: 'mtime'
85
86   # Pagination
87   ## Set per_page to 0 to disable pagination
88   per_page: 10
89   pagination_dir: page
90
91   # Include / Exclude file(s)
92   ## include:/exclude: options only apply to the 'source/' folder
93   include:
94   exclude:
95   ignore:
96
97   # Extensions
98   ## Plugins: https://hexo.io/plugins/
99   ## Themes: https://hexo.io/themes/
100  theme: landscape
101
102  # Deployment
103  ## Docs: https://hexo.io/docs/one-command-deployment
104  deploy:
105    type: ''
106
```

改为:

```
deploy:
  type: git
  repository: https://github.com/whalacies/whalacies.github.io.git
  branch: master
```

此时需要安装一个上传工具

输入命令: `cnpm install hexo-deployer-git`

```
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog
$ npm install hexo-deployer-git

added 8 packages, removed 128 packages, and audited 50 packages in 5s

9 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
```

输入 hexo d 上传到 github 上:

```
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog/Hexo
```

```
$ hexo d
```

```
INFO Validating config
```

```
INFO Deploying: git
```

```
INFO Clearing .deploy_git folder...
```

```
INFO Copying files from public folder...
```

```
INFO Copying files from extend dirs...
```

whalacies / whalacies.github.io Public

<> Code Issues Pull requests Actions Projects Wiki Security Insights Settings

master had recent pushes 40 minutes ago

Compare & pull request

master

2 branches 0 tags

Go to file

Add file

<> Code

This branch is 1 commit ahead, 3 commits behind main.

Contribute



whalacies Create README.md

1e5840b 40 minutes ago 5 commits

2023/03/14

Site updated: 2023-03-15 14:53:52

2 hours ago

archives

Site updated: 2023-03-15 14:15:23

2 hours ago

css

Site updated: 2023-03-15 14:15:23

2 hours ago

fancybox

Site updated: 2023-03-15 14:15:23

2 hours ago

js

Site updated: 2023-03-15 14:15:23

2 hours ago

README.md

Create README.md

40 minutes ago

index.html

Site updated: 2023-03-15 14:53:52

2 hours ago

## 结论分析与体会：

以后常用到的 Hexo 命令：

hexo s 等价于 hexo server #Hexo 会监视文件变动并自动更新，除修改站点配置文件外，无须重启服务器，直接刷新网页即可生效。

hexo g 等价于 hexo generate #生成静态网页（执行 \$ hexo g 后会在站点根目录下生成 public>文件夹，hexo 会将"<font /blog/source/" 下面的.md 后缀的文件编译为.html 后缀的文件，存放在"/blog/public/ " 路径下）

hexo d 等价于 hexo deploy #将本地数据部署到远端服务器（如 github）

hexo clean #清除缓存，网页正常情况下可以忽略此条命令，执行该指令后，会删掉站点根目录下的 public 文件夹。

遇到的问题：

1. 常访问 GitHub 时多数都可以连接，但是有时又出现 ERR\_CONNECTION\_RESET 网络问题，主要是 DNS 解析问题，刷新 DNS 缓存可以解决这个问题：

在 CMD 命令行窗口，运行 ipconfig /flushdns 命令



#### C:\ 命令提示符

```
Microsoft Windows [版本 10.0.22000.1574]  
(c) Microsoft Corporation。保留所有权利。
```

```
C:\Users\86181>ipconfig /flushdns
```

```
Windows IP 配置
```

```
已成功刷新 DNS 解析缓存。
```

```
C:\Users\86181>_
```

2. localhost:4000 提示拒绝访问，是因为有进程占用了 4000 端口，在 git 切换端口

```
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog/Hexo  
$ hexo s -p 5000  
INFO Validating config  
INFO Start processing  
INFO Hexo is running at http://localhost:5000 . Press Ctrl+C to stop.
```

3. Windows 连接 github 时电脑没有 .ssh 文件夹的解决方法

打开 Git Bash，在终端依序输入以下命令

git config --global user.name "XXX" # XXX 表示你的用户名。

git config --global user.email "XXX@XXX.com" # XXX@XXX.com 表示你的邮箱。

ssh-keygen -t rsa -C "XXX@XXX.com" # XXX@XXX.com 表示你的邮箱。

输入以上命令之后，连续按三次回车键即可。

终端提示 Enter file in which to save the key 后面是一个路径，你就会找到你想要的 .ssh 文件夹了，按照路径寻找即可找到 .ssh 文件夹。

```
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog  
$ cd ~/.ssh  
bash: cd: /c/Users/86181/.ssh: No such file or directory  
  
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog  
$ git config --global user.name "xhd"  
  
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog  
$ git config --global user.email "2735609007@qq.com"  
  
86181@LAPTOP-61316JSP MINGW64 /d/xhdblog  
$ ssh-keygen -t rsa -C "2735609007@qq.com"  
  
Generating public/private rsa key pair.  
Enter file in which to save the key (/c/Users/86181/.ssh/id_rsa): Created direct  
ory '/c/Users/86181/.ssh'.  
Enter passphrase (empty for no passphrase):  
Enter same passphrase again: |
```

体会：学习并实践了如何搭建 hexo 环境并实现个人博客搭建，其中遇到了很多问题，还有访问 github 时经常网卡进不去，需要耐心并仔细地搭配环境。