网页模板引擎pug基本语法

> **Pug – robust, elegant, feature rich template engine for Node.js**

`pug` 原名 **`jade`**,因版权问题更名为 `pug`,即哈巴狗。与 `hexo` 默认模块 `ejs` 一样， `pug` 也是一个**模板引擎**，可用于快速的网站开发，当然也可以用于静态博客网站的设计。

一、安装

可以使用npm来安装，以后在Vue工程项目中如果需要用就可以这样

暂时无需

```
# common install
npm install pug

# install for hexo blog
npm install hexo-renderer-pug --save
```

二、语法

`pug` 不同于 `html`，前者不需要标签的开和闭，如 `html` 的 `<p>Demo</p>`，在 `pug` 使用 `p Demo` 即可。

1、缩进

`pug` 对空格敏感，有点类似 `python` 对制表符 `tab` 敏感。`pug` 使用空格作为缩进符，当然用soft tab也可行。同一级标签需保证左对齐。

```
div
    p Hello, world!
    p Hello, pug.
```

渲染结果如下：

```
<div>
    <p>Hellow, world!</p>
    <p>Hello, pug.</p>
</div>
```

2、注释

pug 使用 `//-` 或 `//` 对代码进行注释，前者注释内容不出现在渲染后的 html 文件中，后者反之。

```
//- html中不包含此行
// html中会包含此行
```

3、属性

pug 将标签属性存放于括号 `()` 内，多个属性之间以逗号或空格分隔。此外，对于标签的 `id` 和 `class`，pug 使用 `#` 紧跟标签 `id`,使用 `.` 紧跟标签 `class`，可以同时设置多个 `class`。

```
h1#title Test title
img#name.class1.class2(src="/test.png" alt="test")
```

渲染结果

```
<h1 id="title">Test title</h1>
<img id="name" class="class1 class2" src="/test.png"
alt="test">
```

4、包含

为了方便代码复用，`pug` 提供了 **include** 包含功能，以下代码会将 `_layout`目录下的 head.pug文件内容包含到当前调用的位置，就像。

```
doctype html
html(lang='en')
    include _layout/head.pug
```

5、继承

下面是一个简单的 base 模板，通过 **block** 定义了页面头部 head 和内容 body 。块 block 有点类似抽象类，需要在继承者中完成定义，填充具体内容。

```
//- base.pug
html
    head
        block title
    body
        block content
```

以下文件使用 **extends** 继承以上模板，通过 block 覆盖或替换原有块 block 。当然，继承者也可以在原有基础上继续扩展。

```
//- index.pug
extends base.pug

block title
    title "test title"

block content
    h1 Hello world!
    block article
```

6、定义变量

pug 中通过 - var name = value 的形式定义变量

```
- var intData = 100
- var boolData = false
- var stringData = 'Test'
p.int= intData
p.bool= boolData
p.stringData= stringData
```

> **需注意的是，在引用变量时，需要在引用位置加上 = 号，否则会默认将变量名当成普通字符串使用。**

如果想要将变量与其它字符串常量或是变量连接在一起，就不能用等号了，而是应该用 `#{}`，该符号会对大括号内的变量进行求值和转义，最终得到渲染输出的内容。

```
- var girl = 'Lily'
- var boy = 'Jack'
p #&#123;girl&#125; is so beautiful!
p And #&#123;boy&#125; is handsome.
```

7、条件结构

`pug` 的条件语句与其它语言类似，如下：

```
- var A = &#123;value: 'Test'&#125;
- var B = true
if A.value
    p= A.value
else if B
    p= B
else
    p nothing
```

8、迭代

`pug` 中使用 `each` 和 `while` 实现循环迭代，`each` 可以返回当前所在项的索引值，默认从0开始计数。

```
//- each
ol
    each item in ['Sun', 'Mon', 'Tus', 'Wen', 'Thu',
'Fri', 'Sat']
        li= item

//- get index of each
- var week = ['Sun', 'Mon', 'Tus', 'Wen', 'Thu', 'Fri',
'Sat']
ol
    each item, index in week
        li= index + ':' + item
```

渲染效果

```
<ol>
  <li>Sun</li>
  <li>Mon</li>
  <li>Tus</li>
  <li>Wen</li>
  <li>Thu</li>
  <li>Fri</li>
  <li>Sat</li>
</ol>
<ol>
  <li>0:Sun</li>
  <li>1:Mon</li>
  <li>2:Tus</li>
  <li>3:Wen</li>
  <li>4:Thu</li>
  <li>5:Fri</li>
  <li>6:Sat</li>
</ol>
```

`while` 调用方式如下:

```
//- while
- var day = 1
ul
    while day < 7
        li= day++
```

9、Minix

`mixin` 的意思是**混入**，类似其它编程语言中的**函数**，也是为了代码复用，可带参数或不带参数，定义方式如下：

```
mixin menu-item(href, name)
    li
        span.dot ●
        a(href=href)= name
```

其中，`menu-item` 为调用时所用名称，可认为是函数名，`href` 及 `name` 是参数。

`a(href=href)= name` 中第二个 `=` 是为了将后面的 `name` 当作参数来处理，而不是当作字符串"name"来处理。

调用 `mixin` 定义的代码块，需通过 `+` 号紧跟 `mixin` 名称及参数：

```
+menu-item('/Archives','Archives')
+menu-item('/About','About')
mixin`之所以称为混入，是因为其语法不局限于函数调用，在`mixin`可以使用块`block
mixin print(post)
    if block
        block
    else
        p= post

+print("no block")
+print("")
    div.box
        p this is the content of block
```

渲染结果

```
<p>no block</p>
<div class="box"><p>this is the content of block</p></div>
```

10、JavaScript

注意以下 pug 语句中**第一行末尾的 . 号**

```
script(type='text/javascript').
    var data = "Test"
    var enable = true
    if enable
        console.log(data)
    else
        console.log('nothing')
```

渲染结果

```
<script type='text/javascript'>
    var data = "Test"
    var enable = true
    if enable
        console.log(data)
    else
        console.log('nothing')
</script>
```

对于简单脚本，使用 pug 尚可，复杂的还是单独写到 .js 文件中，然后通过 pug 引用方便一些，引用方式如下：

```
script(type='text/javascript', src='./hello.js')
```
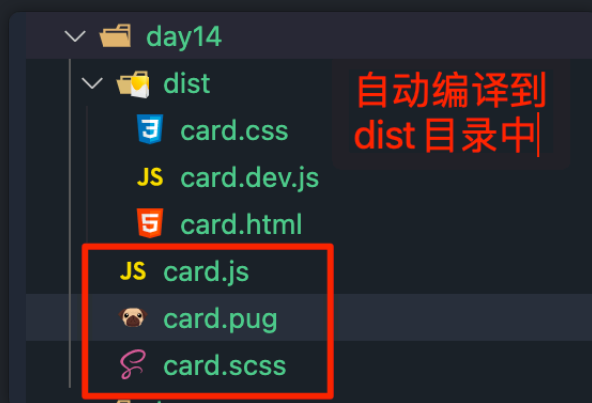
三、一个综合例子

> 班级学生卡片，数据来自全班同学填写的在线表格，导出excel后导到了数据库中，然后导出了json，前端练习可以用用。
>
> 后端数据库编程部分也可以用，一举多得。

效果图

代码结构

自动编译到 dist 目录中

pug

```pug
doctype html
html(lang="en")
  head
    meta(charset="UTF-8")
    meta(http-equiv="X-UA-Compatible", content="IE=edge")
    meta(name="viewport", content="width=device-width, initial-scale=1.0")
    link(rel="stylesheet", href="./card.css")
    title pug综合练习
  body
    #app
      div(v-for="student in students" :key="student.id").card
        .header
          img(:src="student.avatar").avatar
          h3 {{student.name}}
        p {{student.hometown}}
        p {{student.birthday}}
        p {{student.hobby}}
        p {{student.signature}}
        a(:href="student.github") github地址
    script(type="text/javascript", src="https://cdn.jsdelivr.net/npm/vue/dist/vue.js")
    script(type="text/javascript", src="./card.dev.js")
```

SCSS

```scss
#app {
  display: flex;
  flex-wrap: wrap;
  justify-content: start;
  align-items: center;
  width: 80vw;
  margin: 0 auto;
}
.card {
  flex: 0 0 24%;
  height: 320px;
  box-sizing: border-box;
  margin: 5px;
  padding: 10px;
  background-color: #6b91b6;
  color: #333;
  cursor: pointer;
  &:hover {
    opacity: 0.8;
  }
  .header {
    display: flex;
  }
}

.avatar {
  width: 60px;
  height: 60px;
  border-radius: 50%;
  margin-right: 10px;
}

a {
  text-decoration: none;
  color: #333;
  font-weight: 600;
}
```

js

主要创建和挂载Vue实例，并且把数据定义好

```js
var app = new Vue({
  el: '#app',
  data: {
    students: [
```

```json
    {
      "id": "2",
      "name": "金晨星",
      "github_name": "flobby949",
      "nickname": "flobby",
      "hometown": "江苏苏州",
      "birthday": "2001.08.28",
      "constellation": "处女座",
      "mobile": "18962521753",
      "qq": "2541226493",
      "email": "2541226493@qq.com",
      "avatar": "https://flobby.oss-cn-
shenzhen.aliyuncs.com/avatar/4a3935d6-9579-467f-b63d-
4a956414306f.jpg",
      "github": "https://github.com/Flobby949",
      "hobby": "美食，游戏，影视，编程",
      "signature": "不负热爱，远赴山海",
      "color": "#7bafd4"
    },
    {
      "id": "3",
      "name": "杨煜帆",
      "github_name": "goddiezz",
      "nickname": "PotatoRice",
      "hometown": "江苏泰州",
      "birthday": "1999.08.20",
      "constellation": "狮子座",
      "mobile": "19822666656",
      "qq": "1048706559",
      "email": "1048706559@qq.com",
      "avatar": "https://potato-rice.oss-cn-
hangzhou.aliyuncs.com/img/1594093672430.png",
      "github": "https://github.com/goddiezz",
      "hobby": "思考..",
      "signature": "仿生人也会涮电子羊吗",
      "color": "#FFDCDC"
    },
    {
      "id": "4",
      "name": "林丹丹",
      "github_name": "dandan1232",
      "nickname": "十里.",
```

```
        "hometown": "江苏苏州",
        "birthday": "2000.11.08",
        "constellation": "天蝎座",
        "mobile": "18962494510",
        "qq": "345652127",
        "email": "345652127@qq.com",
        "avatar": "https://pic-ldd-test.oss-cn-
hangzhou.aliyuncs.com/md/20210315130639.jpg",
        "github": "https://github.com/dandan1232",
        "hobby": "吃吃吃、音乐、徐正、编程",
        "signature": "前途浩浩荡荡，万事皆可期待",
        "color": "#42A5F5"
    },
    {
        "id": "5",
        "name": "钱锦辉",
        "github_name": "jinhuiqian",
        "nickname": "来树下",
        "hometown": "江苏无锡",
        "birthday": "2000.11.29",
        "constellation": "射手座",
        "mobile": "18552415135",
        "qq": "1286122850",
        "email": "1286122850@qq.com",
        "avatar": "https://jinhuiqian.oss-cn-
beijing.aliyuncs.com/avatar/08f33c7d8b09e9b440a40f03287f5f
ff.png",
        "github": "https://github.com/jinhuiqian",
        "hobby": "编程、音乐、游戏",
        "signature": "",
        "color": ""
    }, {
        "id": "7",
        "name": "柏楠",
        "github_name": "bainan224",
        "nickname": "长街",
        "hometown": "江苏盐城",
        "birthday": "2001.9.16",
        "constellation": "处女座",
        "mobile": "19827063716",
        "qq": "2403906364",
        "email": "2403906364@qq.com",
```

```json
        "avatar": "http://bnnbucket.oss-cn-
hangzhou.aliyuncs.com/avatar/tou.jpg",
        "github": "https://github.com/bainan224",
        "hobby": "编程，写作，阅读，音乐，美食",
        "signature": "越努力越幸运",
        "color": "#F1F1FA"
    }, {
        "id": "10",
        "name": "林凡",
        "github_name": "lingoufan",
        "nickname": "HYAKKIYAKOU",
        "hometown": "江苏徐州",
        "birthday": "2001.10.23",
        "constellation": "天秤座",
        "mobile": "15371010361",
        "qq": "1400695792",
        "email": "1400695792@qq.com",
        "avatar": "https://pic--go.oss-cn-
hangzhou.aliyuncs.com/img/avatar.jpg",
        "github": "https://github.com/lingoufan",
        "hobby": "篮球  、音乐 、健身 、阅读（实体书）",
        "signature": "狮子不因犬吠回头，鸿鹄不理燕雀喳喳。",
        "color": "\t#9900FF"
    },
    {
        "id": "12",
        "name": "孙周舟",
        "github_name": "szz192626",
        "nickname": "梦游记",
        "hometown": "江苏宿迁",
        "birthday": "2001.11.22",
        "constellation": "天蝎座",
        "mobile": "18805176609",
        "qq": "1135304930",
        "email": "1135304930@qq.com",
        "avatar": "https://pic-ldd-test.oss-cn-
hangzhou.aliyuncs.com/md/20210315131849.jpg",
        "github": "https://github.com/szz192626?
tab=repositories",
        "hobby": "魔方、游戏、旅游、搞创新实践、各种玩",
        "signature": "即便拼尽全力也不要轻言放弃，你不用为了天亮去
跑，跑下去，天自己会亮",
```

```
      "color": "#2196f3"
    },
    {
      "id": "13",
      "name": "王珊",
      "github_name": "Ws1118",
      "nickname": "天呐",
      "hometown": "江苏连云港",
      "birthday": "2001.11.18",
      "constellation": "天蝎座",
      "mobile": "13151768681",
      "qq": "2865094521",
      "email": "2865094521@qq.com",
      "avatar": "https://wshan.oss-cn-
beijing.aliyuncs.com/head.jpg",
      "github": "https://github.com/Ws1118",
      "hobby": "美食、游戏、阅读、运动、二次元",
      "signature": "去干饭的路上风都是温暖的",
      "color": "#88D4D7"
    },
    {
      "id": "16",
      "name": "赵嘉纯",
      "github_name": "zjcrxh",
      "nickname": ".",
      "hometown": "广东汕头",
      "birthday": "2000.05.02",
      "constellation": "双子座",
      "mobile": "18120159939",
      "qq": "2287809691",
      "email": "2287809691@qq.com",
      "avatar": "https://zjcrxh.oss-cn-
shenzhen.aliyuncs.com/20210311065448.jpg",
      "github": "https://github.com/zjcrxh",
      "hobby": "美食，烘焙，做饭，小说，养猫",
      "signature": "向着光去",
      "color": "pink"
    },
    {
      "id": "17",
      "name": "金晨雨",
      "github_name": "Gin1217",
```

```
        "nickname": "安懿",
        "hometown": "江苏南京",
        "birthday": "2000.12.17",
        "constellation": "射手座",
        "mobile": "13305162365",
        "qq": "935684264",
        "email": "935684364@qq.com",
        "avatar":
"https://i.loli.net/2021/03/12/7RXdxO9CiIWf5My.jpg",
        "github": "https://github.com/Gin1217",
        "hobby": "阅读，音乐，写作，观影，绘画",
        "signature": "你知道当你需要个夏天我会拼了命努力",
        "color": "#5698c3"
    }, {
        "id": "23",
        "name": "闵耀梁",
        "github_name": "yeweiyang-hub",
        "nickname": "yeweiyang",
        "hometown": "江苏淮安",
        "birthday": "1996.11.08",
        "constellation": "天蝎座",
        "mobile": "18252322561",
        "qq": "972464402",
        "email": "myl08@qq.com",
        "avatar":
"https://avatars.githubusercontent.com/u/58315817?
s=400&u=7647730650444a6a069ca320801ec43420466ecc&v=4",
        "github": "https://github.com/yeweiyang-hub",
        "hobby": "打游戏、看电影、看微博、知乎、豆瓣",
        "signature": "空白",
        "color": "#FFF"
    }, {
        "id": "34",
        "name": "张怡沁",
        "github_name": "Demo-Qin",
        "nickname": "ZYQin",
        "hometown": "浙江嘉兴",
        "birthday": "2001.1.31",
        "constellation": "水瓶座",
        "mobile": "18851672790",
        "qq": "1792357514",
        "email": "1792357514@qq.com",
```

```
        "avatar":
"https://avatars.githubusercontent.com/u/58162179?
s=460&u=48caefb589c071638de2e7fb353bbeaa99e17f1a&v=4",
        "github": "https://github.com/Demon-Qin",
        "hobby": "编程、看剧、干饭、偶尔唱唱歌",
        "signature": "",
        "color": "#c3bef0"
      }
    ]
  }
})
```

四、总结

`pug` 提供了**包含，继承，Mixin**等多种方式用于代码复用，语法简洁易懂，初学时需花费一些时间学习各种标点符号的含义。

当然，`pug` 还有许多其它特性，以上这些足够基本使用。

五、官方文档

https://pugjs.org/zh-cn/api/getting-started.html