



链滴

微信公众号开发及内网穿透攻略

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<p>前几天试着开发了一下公众号，期间踩了一下坑，在此分享一下经验，感兴趣的可以自己搞下，面开始了。</p>

<hr>

<h2 id="01-准备工作">01 准备工作</h2>

<p>—</p>

<p>准备工作</p>

<p>首先需要有一个可供开发或测试的公众号，没有的话自行申请</p>

<blockquote>

<p></p><div class="vditor-linkcard vditor-tooltipped vditor-tooltipped__n" aria-label="https://mp.weixin.qq.com/">

微信公众平台

微信公众平台，给个人、企业和组织提供业务服与用户管理能力的全新服务平台。

mp.weixin.qq.com

</div><p></p>

</blockquote>

<p>需要有一个独立公网 ip 的服务器或者可以联网的电脑使用内网穿透工具也可以，下面有详细说明</p>

<p>新创建一个 SpringBoot 项目</p>

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<h2 id="02-开发前说明">02 开发前说明</h2>

<p>—</p>

<p>开发前说明</p>

<p>公众号平台提供的基础功能如下：</p>

<p></p>

创作管理-----创建素材，分为图文，视频和图片

功能里面-----

<p>自动回复-----可以设置关键字和需要回复的信息</p>

<p>自定义菜单-----可以设置公众号显示的菜单</p>
<hr>

<p>其它功能暂时没有用过，由于公众号平台提供的功能有限，如果要实现获取位置，获取粉丝数，粉丝推送消息等复杂功能时，平台提供的功能就无法实现了，这个时候可以自己搭建一个微信服务器调用公众号平台提供的 api 实现自己的业务逻辑。目前公众号平台提供的所有 api 在这里可以看到。</p>
<p></p>
<p>公众号开发分为正式环境和测试环境，由于未认证的公众号，平台开放的 api 权限有限，建议选测试帐号进行验证。</p>
<p>如果公众号进行了微信认证后，可以将开发的公众号服务部署在服务器上，就可以正式被关注的看到了。

<p>查看是否可以认证方式如下：点击帐号头像，点击帐号详情</p>
<p></p>
<p>可以点击申请微信认证，个人帐号，暂不支持认证。</p>
<p>帐号迁移可以将本公众号的所有资源迁移到新的公众号上面。</p>
<p></p>
<hr>
<h2 id="03-开发公众号流程介绍">03 开发公众号流程介绍</h2>
<p>—</p>
<p>开发公众号流程介绍</p>
<p>**选择开发者工具

<p>
<p></p>
<hr>
<p>跳转后如图</p>
<p></p>
<hr>
<p>选择公众平台测试帐号，扫码登录进入后界面如下：</p>
<p></p>
<p>appId：每个公众号注册会分配唯一的 id</p>
<p>appsecret：密钥自动分配，测试帐号过期会失效，正式环境生成后一直有效，除非重置，正式环境的密钥在获取后需要自行保存，界面不会展示</p>
<p>URL：后端服务的 ip 地址，微信只支持 80 端口</p>
<p>Token：随意设置的字符串，与微信服务器建立连接的时候使用</p>
<p>后台服务器启动后点提交，提示配置成功，代表与微信服务器验证通过。</p>
<p>需要配置好网络，本地启动服务后提交</p>

<p> </p>

<p>如果提示配置失败，检查后台服务器 ip 地址是否正确</p>

<p> </p>

<hr>

<p>以内网穿透的方式，访问本地服务，下面提供两种工具</p>

<p>花生壳 花生壳既是内网穿透软件、端口映射软件。功能比较齐全，比较简单，也是大家比较耳熟了，支持 tcp,udp.https.http.socket5 应用。有免费版和版。需要下载客户端和官网注册，大致的原是在你注册的时候，花生壳给你生成二级域名，本地使用客户端配置本地的 ip 和端口，与花生壳立连接后，由花生壳解析后把请求转发到自己本地的 ip 和端口上。</p>

<p>网址</p>

<blockquote>

<p>花生壳-免费内网穿透软件|端口映射工具|DNS免费动态域名解析_花生壳内网也能用-贝锐花生壳官网 </p>

</blockquote>

<p>nps ** **nps 是一款轻量级、高性能、功能强大的内网穿透代理服务器。前支持 tcp、udp 流量转发，可支持任何 tcp、udp 上层协议（访问内网网站、本地支付接口调试、ssh 访问、远程桌面，内网 dns 解析等等.....），此外还支持内网 http 代理、内网 socks5 代理、p2p 等，并带有功能强大的 web 管理端。</p>

<p>开源项目地址：</p>

<blockquote>

<p>https://github.com/ehang-io/nps/blob/master/README_zh.md </p>

</blockquote>

<p>有独立 ip 地址的服务器可以使用这种方式，说明文档比较详细，因此下面简单介绍一下使用方式：</p>

<p>由于后台代码在本地，如果修改了内容需要部署到服务器上才能验证效果，非常不方便，因此可使用 nps 代理本地网络。由于版本非常全，直接下载对应系统版本即可，我下载的版本如下：对服务端和客户端的 </p>

<p>下载完成进行解压和安装</p>

```
<pre><code class="highlight-chroma"><span class="highlight-line"><span class="highlight-cl">sudo chmod +x installsudo ./install</span></span></code></pre>
```

<p>安装完成后服务端启动 nps nps 默认开启 80/443 进行域名解析</p>

<p> </p>

<p>可以看到 nps 启动了，并监听了 80 端口</p>

<p> </p>

<p>本地登录服务器 ip:8080 ,默认帐号 admin 密码 123</p>

<p> </p>

<p>登录后界面如下: </p>

<p></p>

<p>选择菜单 客户端 点击新增</p>

<p></p>

<p>输入备注后, 其它可以留空, 点击保存</p>

<p></p>

<p>在客户端列表, 点击新增客户端左侧的 + 号, 将客户端指令复制出来, 在本地客户端执行如下 令, 会看到连接成功的日志</p>

<p></p>

<p>刷新客户端状态, 可以看到已经连接成功了, 然后我们点击右侧的主机</p>

<p></p>

<p>连接成功只是表示服务器和客户端建立了连接, 但是外网还是无法直接访问我们内网 ip 和端口 需要添加一个域名解析, 域名解析默认端口是 80, 我们将服务器的请求转发到内网的 ip 和端口上, 现了外网对我们本地网络的访问</p>

<p></p>

<hr>

<p>后台项目配置与启动</p>

<p>后台使用 SpringBoot 框架搭建, 需要引入的依赖如下: </p>

<p>这个是一个用于简化公众号开发的工具</p>

<pre><code class="language-java highlight-chroma"> <d pendency>

 <groupld>com.</sp n>github.liyior</groupld>

 <artifactld>weixin-</p an>popular</<s an class="highlight-n">artifactld>

 <version>2.8.28<version>

 <dependency>

</code></pre>

<p>测试帐号的配置信息, 根据页面信息, 自己配置即可</p>

<p></p>

<p>创建 controller，增加一个请求路径，这个地址用于与服务器验证和收发消息，与测试帐号上面置的路径一样，在测试帐号点提交的时候就会请求这个路径，对微信服务器请求的参数进行校验，校验成功则连接成功</p>

```
<pre><p><span></span></pre></pre>
```

```
<pre><code class="language-java highlight-chroma"><span class="highlight-line"><span class="highlight-cl">    <span class="highlight-nd">@RequestMapping</span><span class="highlight-o"></span><span class="highlight-s">"/test"</span><span class="highlight-o"></span></span></span></pre>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl">    <span class="highlight-kd">public</span><span class="highlight-kt">void</span><span class="highlight-nf">test</span><span class="highlight-o"></span><span class="highlight-nd">@RequestParam</span><span class="highlight-n">Map</span><span class="highlight-o">&lt;</span><span class="highlight-n">String</span><span class="highlight-o">,</span><span class="highlight-n">String</span><span class="highlight-o">&gt;</span><span class="highlight-n">param</span><span class="highlight-o">,</span><span class="highlight-n">HttpServletRequest</span><span class="highlight-n">request</span><span class="highlight-o">,</span><span class="highlight-n">HttpServletResponse</span><span class="highlight-n">response</span><span class="highlight-o"></span><span class="highlight-kd">throws</span><span class="highlight-n">Exception</span><span class="highlight-o">{</span></span></pre>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl">        <span class="highlight-n">ServletInputStream</span><span class="highlight-n">inputStream</span><span class="highlight-o">=</span><span class="highlight-n">request</span><span class="highlight-o">.</span><span class="highlight-na">getInputStream</span><span class="highlight-o">();</span></span></pre>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl">        <span class="highlight-n">ServletOutputStream</span><span class="highlight-n">outputStream</span><span class="highlight-o">=</span><span class="highlight-n">response</span><span class="highlight-o">.</span><span class="highlight-na">getOutputStream</span><span class="highlight-o">();</span></span></pre>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl">        <span class="highlight-n">String</span><span class="highlight-n">signature</span><span class="highlight-o">=</span><span class="highlight-n">aram</span><span class="highlight-o">.</span><span class="highlight-na">get</span><span class="highlight-o">(</span><span class="highlight-s">"signature"</span><span class="highlight-o">);</span></span></pre>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl">        <span class="highlight-n">String</span><span class="highlight-n">echostr</span><span class="highlight-o">=</span><span class="highlight-n">param</span><span class="highlight-o">.</span><span class="highlight-na">get</span><span class="highlight-o">(</span><span class="highlight-s">"echostr"</span><span class="highlight-o">);</span></span></pre>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl">        <span class="highlight-n">String</span><span class="highlight-n">timestamp</span><span class="highlight-o">=</span><span class="highlight-n">param</span><span class="highlight-o">.</span><span class="highlight-na">get</span><span class="highlight-o">(</span><span class="highlight-s">"timestamp"</span><span class="highlight-o">);</span></span></pre>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl">        <span class="highlight-n">String</span><span class="highlight-n">nonce</span><span class="highlight-o">=</span><span class="highlight-n">param</span><span class="highlight-o">.</span></span></pre>
```

```
><span class="highlight-na">get</span><span class="highlight-o">(</span><span class="highlight-s">"nonce"</span><span class="highlight-o">);</span></span></span><span class="highlight-line"><span class="highlight-cl"></span></span></span><span class="highlight-line"><span class="highlight-cl"></span><span class="highlight-c1">>// 对称加密 本地</span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-c1"></span><span class="highlight-n">String</span><span class="highlight-n">token</span><span class="highlight-o">=</span><span class="highlight-n">WXonf</span><span class="highlight-o">.</span><span class="highlight-na">getTokenString</span><span class="highlight-o">();</span></span></span></span><span class="highlight-line"><span class="highlight-cl"></span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-k">if</span><span class="highlight-o">(</span><span class="highlight-n">StringUtils</span><span class="highlight-o">.</span><span class="highlight-na">isEmpty</span><span class="highlight-o">(</span><span class="highlight-n">signature</span><span class="highlight-o">)</span><span class="highlight-o">||</span><span class="highlight-n">StringUtils</span><span class="highlight-o">.</span><span class="highlight-na">isEmpty</span><span class="highlight-o">(</span><span class="highlight-n">timestamp</span><span class="highlight-o">))</span><span class="highlight-o">{</span><span class="highlight-n">outputStreamWrite</span><span class="highlight-o">(</span><span class="highlight-n">outputStream</span><span class="highlight-o">,</span><span class="highlight-s">"faield request"</span><span class="highlight-o">);</span></span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-k">return</span><span class="highlight-o">;</span></span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-o">}</span></span></span></span><span class="highlight-line"><span class="highlight-cl"></span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-k">if</span><span class="highlight-o">(</span><span class="highlight-n">echostr</span><span class="highlight-o">!=</span><span class="highlight-kc">null</span><span class="highlight-o">)</span><span class="highlight-o">{</span><span class="highlight-n">outputStreamWrite</span><span class="highlight-o">(</span><span class="highlight-n">outputStream</span><span class="highlight-o">,</span><span class="highlight-n">echostr</span><span class="highlight-o">);</span></span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-k">return</span><span class="highlight-o">;</span></span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-o">}</span></span></span></span><span class="highlight-line"><span class="highlight-cl"></span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-c1">>// 验证请求签名</span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-c1"></span><span class="highlight-k">if</span><span class="highlight-o">(!</span><span class="highlight-n">signature</span><span class="highlight-o">.</span><span class="highlight-na">equals</span><span class="highlight-o">(</span><span class="highlight-n">SignatureUtil</span><span class="highlight-o">.</span><span class="highlight-na">generateEventMessageSignature</span><span class="highlight-o">(</span><span class="highlight-n">token</span><span class="highlight-o">,</span><span class="highlight-n">timestamp</span><span class="highlight-o">,</span><span class="highlight-n">once</span><span class="highlight-o">)))</span><span class="highlight-o">{</span></span></span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-n">log</span><span class="highlight-o">.</span><span class="highlight-na">
```

```

error</span><span class="highlight-o">(</span><span class="highlight-s">"The request si
nature is invalid"</span><span class="highlight-o">);</span>
</span></span><span class="highlight-line"><span class="highlight-cl">           <span clas
="highlight-k">return</span><span class="highlight-o">;</span>
</span></span><span class="highlight-line"><span class="highlight-cl">           <span class=
highlight-o">}</span>
</span></span><span class="highlight-line"><span class="highlight-cl">           <span class=
highlight-k">if</span><span class="highlight-o">(</span><span class="highlight-n">inpu
Stream</span><span class="highlight-o">!</span><span class="highlight-kc">null</sp
n><span class="highlight-o">)</span><span class="highlight-o">{</span>
</span></span><span class="highlight-line"><span class="highlight-cl">           <span clas
="highlight-c1">}</span> // 转换XML
</span></span></span><span class="highlight-line"><span class="highlight-cl"><span cla
s="highlight-c1"></span>           <span class="highlight-n">EventMessage</span><span c
ass="highlight-n">eventMessage</span><span class="highlight-o">=</span><span class
"highlight-n">XMLConverUtil</span><span class="highlight-o">.</span><span class="high
ight-na">convertToObject</span><span class="highlight-o">(</span><span class="highlig
t-n">EventMessage</span><span class="highlight-o">.</span><span class="highlight-na"
class</span><span class="highlight-o">,</span><span class="highlight-n">InputStream</
pan><span class="highlight-o">);</span>
</span></span><span class="highlight-line"><span class="highlight-cl">
</span></span><span class="highlight-line"><span class="highlight-cl">           <span clas
="highlight-n">log</span><span class="highlight-o">.</span><span class="highlight-na">
nfo</span><span class="highlight-o">(</span><span class="highlight-s">"eventMessage:"
/span><span class="highlight-o">+</span><span class="highlight-n">JSON</span><spa
class="highlight-o">.</span><span class="highlight-na">toJSONString</span><span clas
="highlight-o">(</span><span class="highlight-n">eventMessage</span><span class="hi
hlight-o">));</span>
</span></span><span class="highlight-line"><span class="highlight-cl">           <span clas
="highlight-n">String</span><span class="highlight-n">key</span><span class="highlig
t-o">=</span><span class="highlight-n">eventMessage</span><span class="highlight-o"
>.</span><span class="highlight-na">getFromUserName</span><span class="highlight-o"
>())</span><span class="highlight-o">+</span><span class="highlight-s">"_</span></span><
span class="highlight-o">+</span><span class="highlight-n">eventMessage</span><span
lass="highlight-o">.</span><span class="highlight-na">getToUserName</span><span clas
="highlight-o">())</span><span class="highlight-o">+</span><span class="highlight-s">"
_</span><span class="highlight-o">+</span><span class="highlight-n">eventMessage<
span><span class="highlight-o">.</span><span class="highlight-na">getMsgId</span><s
an class="highlight-o">())</span><span class="highlight-o">+</span><span class="highli
ht-s">"_</span><span class="highlight-o">+</span><span class="highlight-n">eventM
ssage</span><span class="highlight-o">.</span><span class="highlight-na">getCreateTim
</span><span class="highlight-o">());</span>
</span></span><span class="highlight-line"><span class="highlight-cl">
</span></span><span class="highlight-line"><span class="highlight-cl">           <span clas
="highlight-n">log</span><span class="highlight-o">.</span><span class="highlight-na">
nfo</span><span class="highlight-o">(</span><span class="highlight-s">"key:"</span><
pan class="highlight-o">+</span><span class="highlight-n">key</span><span class="high
light-o">);</span>
</span></span><span class="highlight-line"><span class="highlight-cl">           <span clas
="highlight-k">if</span><span class="highlight-o">(</span><span class="highlight-n">E
PIRE_KEY</span><span class="highlight-o">.</span><span class="highlight-na">exists</s
an><span class="highlight-o">(</span><span class="highlight-n">key</span><span class
"highlight-o">))</span><span class="highlight-o">{</span>

```



```
highlight-o">}</span>
```

```
</span></span></code></pre>
```

```
<hr>
```

<p>成功建立连接后，我们可以验证平台提供的 api，使用方法如下： </p>

<p>使用我们上面引入的工具，比如创建自定义菜单，使用 MenuApi.menuCreate 传入对应的参数请求该接口即可创建菜单</p>

```
<pre><code class="language-java highlight-chroma"><span class="highlight-line"><span class="highlight-cl"><span class="highlight-nd">@ApiOperation</span><span class="highlight-o"></span><span class="highlight-s">"创建菜单"</span><span class="highlight-o"></span></span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-nd">@GetMapping</span><span class="highlight-o"></span><span class="highlight-s">"/createMenu"</span><span class="highlight-o"></span></span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-kd">public</span><span class="highlight-n">JsonResult</span><span class="highlight-o">&lt;</span><span class="highlight-n">String</span><span class="highlight-o">&t;</span><span class="highlight-nf">createMenu</span><span class="highlight-o">()</span><span class="highlight-o">{</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-n">String</span><span class="highlight-n">json</span><span class="highlight-o">=</span><span class="highlight-s">"{\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\button\": [\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"{\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\type\": \view\,\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\name\": \今日热榜\,\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\url\": \https://tophub.today/\n"</span><span class="highlight-o"></span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"}\,\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"{\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\type\": \view\,\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\name\": \搜索\,\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\url\": \http://www.soso.com/\n"</span><span class="highlight-o"></span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"}\,\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"{\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\name\": \更多\,\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"\sub_button\": [\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"{\n"</span><span class="highlight-o">+</span></span></code>
```

```
</span></span><span class="highlight-line"><span class="highlight-cl"><span class="highlight-s">"}</span><span class="highlight-o"></span></span></code>
```

