



黑客派

# OpenWRT 结合 tinc 组自己的 SDLAN (Step by Step)

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来源网站: [黑客派](#)

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<p>本文主要实现在 OpenWRT 路由器以及不同系统下通过 tinc switch mode 搭建 SDLAN 内网服务器方便远程连接, </p>

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<p>Switch Mode 相对来说配置比较简单, 各节点均在同一广播域内, 方便调控, tinc 节点本身通过 DNAT+SNAT 可以实现对不同网间端口的调通, </p>

<p>同时 Switch Mode 中各节点的 hosts 文件只需保证在公网地址的节点中全部拥有维护即可, 其节点只需维护本节点以及公网节点的 hosts 文件</p>

<p>下面主要分三步: </p>

<p>( 1 ) 公网节点的部署(Master 节点)</p>

<p>( 2 ) 其他节点的部署(Slave 节点)</p>

<p>( 3 ) 节点的 NAT 配置</p>

<p>本次搭建的拓扑以下为例, 两个 Master 节点, 若干个 Slave 节点 (以 3 个不同操作系统的为例 </p>

<p></p>

<p>( 0 ) tinc 的安装</p>

<p>各大 Linux 发行版基本都可以通过包管理对 tinc 进行安装</p>

```
<code class="language-bash highlight-chroma">sudo yum install tinc  
sudo apt install tinc  
</code></pre>
```

<p>OpenWRT 也可通过 <code>opkg</code> 安装 tinc</p>

```
<code class="language-bash highlight-chroma">opkg update  
opkg install tinc  
</code></pre>
```

<p>Windows 可在官网下载</p>

<p>Windows 中自带的 TAP-Windows 版本比较低, 建议可以考虑另外安装版本较新的 TAP-Windows 新建虚拟网卡而不是用 tinc-vpn 安装包中自带的 TAP-Windows</p>

<p>( 1 ) 公网节点的部署(Master 节点)</p>

<p>需要预先定义定义一个网络名 本次以 <code>tincnet</code> 为例 <code>NETNAME = tincnet</code></p>

<p>每个节点均需要以以下目录结构创建好配置文件夹</p>

<p><code>/etc/tinc/tincnet</code></p>

```
<code class="language-bash highlight-chroma">% ls -la
```

```
total <span class="highlight-m">24</span>
```

```
drwxr-xr-x <span class="highlight-m">3</span> root root <span class="highlight-m">4096  
/span> Mar <span class="highlight-m">4</span> 15:07 .
```

```
drwxr-xr-x <span class="highlight-m">4</span> root root <span class="highlight-m">4096  
/span> Mar <span class="highlight-m">4</span> 15:06 ..
```

```
drwxr-xr-x <span class="highlight-m">2</span> root root <span class="highlight-m">4096  
/span> Mar <span class="highlight-m">4</span> 15:06 hosts
```

```
-rwxr-xr-x <span class="highlight-m">1</span> root root <span class="highlight-m">198<  
span> Mar <span class="highlight-m">4</span> 15:06 tinc.conf
```

```
-rwxr-xr-x <span class="highlight-m">1</span> root root <span class="highlight-m">72<  
pan> Mar <span class="highlight-m">4</span> 15:06 tinc-down
```

```
-rwxr-xr-x <span class="highlight-m">1</span> root root <span class="highlight-m">81<  
pan> Mar <span class="highlight-m">4</span> 15:06 tinc-up
```

</code></pre>

<p>tinc.conf 为 tinc 的配置文件, tinc-down,tinc-up 为启动 tinc 时执行的脚本, 一般用作启动网  
, hosts 文件夹中存的是各个结点的连接交换信息。</p>

<p>下面先说其中一个节点 <code>Linux\_Public\_Node(2.2.2.2)</code> </p>

<p>各个文件配置情况: </p>

<p><code>tinc.conf</code> </p>

```
<pre><code class="language-bash highlight-chroma"> % cat tinc.conf
Name Linux_Pub
c_Node #此节点名称为 Linux_Public_Node
AddressFamily #Internet 走 IPv4 协议
BindToAddress *
11001 #监听端口
Interface tinctun0
#tincnet 虚拟网卡
Device #Mode = &lt;router|switch|hub&gt; (router)
Mode switch #设置使用 Swtich 模式 默认为 router
ConnectTo Ope
WRT_Public_Node #连接另一公网 Master 节点保持双活
Cipher aes-128-c
c #对称加密算法
</code></pre>
```

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pt>

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>

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</script>

<p><code>tinc-up</code> tinc 启动脚本, 给对应网卡加 IP</p>

```
<pre><code class="language-bash highlight-chroma"> % cat tinc-up
```

```
<span class="highlight-c1">#!/bin/sh</span>
```

```
ip link <span class="highlight-nb">set</span> <span class="highlight-nv">${INTERFACE</s  
an> up
```

```
ip addr add 192.168.212.8/24 dev <span class="highlight-nv">${INTERFACE</span>
```

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

<p><code>tinc-down</code> tinc 停止脚本, 关停对应网卡</p>

```
<pre><code class="language-bash highlight-chroma"> % cat tinc-down
```

```
<span class="highlight-c1">#!/bin/sh</span>
```

```
ip addr del 192.168.212.8/24 dev <span class="highlight-nv">${INTERFACE</span>
```

```
ip link <span class="highlight-nb">set</span> <span class="highlight-nv">${INTERFACE</s  
an> down
```

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

<p><code>hosts 文件夹</code> 主要保存各节点的交换信息, 由于是第一次创建, 里面应该是空  
文件夹, 需要先创建一个自己节点的链接信息</p>

```
<pre><code class="language-bash highlight-chroma"> <span class="highlight-nb">cd</sp  
n> hosts
```

```
touch Linux_Public_Node
```

```
</code></pre>
<pre><code class="language-bash highlight-chroma"> % cat Linux_Public_Node
<span class="highlight-nv">Address</span> <span class="highlight-o">=</span> 2.2.2.2 <
pan class="highlight-c1">#公网地址</span>
<span class="highlight-nv">Subnet</span> <span class="highlight-o">=</span> 192.168.2
2.8/32 <span class="highlight-c1">#tincnetIP 信息</span>
<span class="highlight-nv">Port</span> <span class="highlight-o">=</span> <span class
"highlight-m">11001</span> <span class="highlight-c1">#公网监听端口</span>
</code></pre>
<p>创建完成后通过 tincd 生成非对称密钥信息</p>
<pre><code class="language-bash highlight-chroma"> % sudo tincd -n tincnet -K
Generating <span class="highlight-m">2048</span> bits keys:
.....+++++ p
.....+++++ q
Done.
Please enter a file to save private RSA key to <span class="highlight-o">[</span>/etc/tinc/ti
cnet/rsa_key.priv<span class="highlight-o">]</span>:
Please enter a file to save public RSA key to <span class="highlight-o">[</span>/etc/tinc/tin
net/hosts/Linux_Public_Node<span class="highlight-o">]</span>:
```

</code></pre>

<p>现在 <code>tincnet</code> 文件夹中会生成私钥，对应的公钥信息会补全到 <code>host/Li
ux\_Public\_Node</code> 中</p>

```
<pre><code class="language-bash highlight-chroma"> % ls /etc/tinc/tincnet
hosts rsa_key.priv tinc.conf tinc-down tinc-up
```

```
% cat /etc/tinc/tincnet/hosts/Linux_Public_Node
```

```
<span class="highlight-nv">Address</span> <span class="highlight-o">=</span> 2.2.2.2
<span class="highlight-nv">Subnet</span> <span class="highlight-o">=</span> 192.168.2
2.8/32
```

```
<span class="highlight-nv">Port</span> <span class="highlight-o">=</span> <span class
"highlight-m">11001</span>
```

```
-----BEGIN RSA PUBLIC KEY-----
```

```
MIIBKgKCAQEAp7F+8s8lukRv0qaE5hzzQmuy2MPb8hlte/G0pcfnBCVjlL5foJ7P
LZQrTGTsKjRbPzJ9gfZUXiZRkaA+G6Q4DBOVet41cTceZTgAzL3ief3H6MNXQ0xW
1Wo8kDNlg6g+QJq8iV5j7adJnEPivrDm4CWI8MRmVOckisnQbseKXeuziYDhpZLA
nllIGMzhk3OZoPn2xpdMbjqbR0K6SrPvYq7sT3eLn0NVUbyo9D1dmtwtOJy8wmaf
oYdwTvrMdXhNNUmemnswJt8T2j8rAerqnpjz5itN8dk9mZMTKLFZ44CNnJ8jl5pE
ma8lfUnAA/Qq7i9t74pVEvWcLg8Hlry16QIDAQAB
```

```
-----END RSA PUBLIC KEY-----
```

</code></pre>

```
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></scr
ipt>
```

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```

```
<script>
```

```
(adsbygoogle = window.adsbygoogle || []).push({});
```

```
</script>
```

<p>至此，节点 `Linux_Public_Node(2.2.2.2)` 中的配置已经完成，</p>

<p>下面配置另外一个节点 `OpenWRT_Public_Node(1.1.1.1)`</p>

<p>主要的配置文件生成过程节点 Linux\_Public\_Node 类似</p>

<p>生成后如下:</p>

```
<pre><code class="language-bash highlight-chroma">ls -la /etc/tinc/tincnet/
drwxr-xr-x  <span class="highlight-m">3</span> root  root  <span class="highlight-m">4096</span> Mar <span class="highlight-m">4</span> 15:32 .
drwxr-xr-x  <span class="highlight-m">4</span> root  root  <span class="highlight-m">4096</span> Mar <span class="highlight-m">4</span> 15:29 ..
drwxr-xr-x  <span class="highlight-m">2</span> root  root  <span class="highlight-m">4096</span> Mar <span class="highlight-m">4</span> 15:32 hosts
-rw----- <span class="highlight-m">1</span> root  root  <span class="highlight-m">1680</span> Mar <span class="highlight-m">4</span> 15:32 rsa_key.priv
-rwxr-xr-x  <span class="highlight-m">1</span> root  root  <span class="highlight-m">72</span> Mar <span class="highlight-m">4</span> 15:30 tinc-down
-rwxr-xr-x  <span class="highlight-m">1</span> root  root  <span class="highlight-m">80</span> Mar <span class="highlight-m">4</span> 15:30 tinc-up
-rw-r--r-- <span class="highlight-m">1</span> root  root  <span class="highlight-m">218</span> Mar <span class="highlight-m">4</span> 15:31 tinc.conf
```

```
ls -la /etc/tinc/tincnet/hosts
```

```
drwxr-xr-x  <span class="highlight-m">2</span> root  root  <span class="highlight-m">4096</span> Mar <span class="highlight-m">4</span> 15:32 .
drwxr-xr-x  <span class="highlight-m">3</span> root  root  <span class="highlight-m">4096</span> Mar <span class="highlight-m">4</span> 15:32 ..
-rw-r--r-- <span class="highlight-m">1</span> root  root  <span class="highlight-m">484</span> Mar <span class="highlight-m">4</span> 15:32 OpenWRT_Public_Node
```

```
cat /etc/tinc/tincnet/tinc.conf
```

```
<span class="highlight-nv">Name</span> <span class="highlight-o">=</span> OpenWRT
Public_Node
```

```
<span class="highlight-nv">AddressFamily</span> <span class="highlight-o">=</span> ip
4
```

```
<span class="highlight-nv">BindToAddress</span> <span class="highlight-o">=</span> *
<span class="highlight-m">11001</span>
```

```
<span class="highlight-nv">Interface</span> <span class="highlight-o">=</span> tinctun0
```

```
<span class="highlight-nv">Device</span> <span class="highlight-o">=</span> /dev/net/
un
```

```
<span class="highlight-c1">#Mode = <router|switch|hub> (router)</span>
```

```
<span class="highlight-nv">Mode</span> <span class="highlight-o">=</span> switch
```

```
<span class="highlight-nv">ConnectTo</span> <span class="highlight-o">=</span> Linux
Public_Node
```

```
<span class="highlight-nv">Cipher</span> <span class="highlight-o">=</span> aes-128-c
c
cat /etc/tinc/tincnet/tinc-up
<span class="highlight-c1">#!/bin/sh</span>
ip link <span class="highlight-nb">set</span> <span class="highlight-nv">INTERFACE</sp
n> up
ip addr add 192.
68.212.6/24 dev <span class="highlight-nv">INTERFACE</span>
cat /etc/tinc/tincnet/tinc-down
ip addr del 192.168.212.6/24 dev <span class="highlight-nv">INTERFACE</span>
ip link <span class="highlight-
b">set</span> <span class="highlight-nv">INTERFACE</span> down
cat /etc/tinc/tincnet/hosts/OpenWRT_Public_Node
<span class="highlight-nv">Address</span> <span class="highlight-o">=</span> 1.1.1.1
<span class="highlight-nv">Subnet</span> <span class="highlight-o">=</span> 192.168.2
2.6/32
<span class="highlight-nv">Port</span> <span class="highlight-o">=</span> <span class
"highlight-m">11001</span>
-----BEGIN RSA PUBLIC KEY-----
MIIBCgKCAQEA6Tzot1eXupi+NRCfr29iKbgiXEMW1OI327WOrAwRtiwGgQIx8LcL
iy9m+sZEWVzlfvhMub6RVM4xlZ39ghYn2OFP4x9K4D6O/HTZHbamuLOEG5zRyVGK
EN+tStleEaiHad04QR+6ZFB+UO7WfCbzwVh/rysOL96KaUoU9VeYHVAIkubNsvA
aNSFbmqGYpl5FrXv+sJjMyGRXjc9Lb3q/FWmPApvo/9FTEIHx0xH7wvAZnc7mTCH
DB6DN62A1McygdGpn7NLnuFFEeVQf3SI9TqvajcA3vXS8P9RWuRoF5HivZIL5Ebn
FJg0UkyJcWXHUNRczdfTACF6ha0ewk8T9QIDAQAB
-----END RSA PUBLIC KEY-----
</code></pre>
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></scr
ipt>
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data-ad-slot="8316640078" data-ad-format="auto" data-full-width-responsive="true"></in
>
<script>
(adsbygoogle = window.adsbygoogle || []).push({});
</script>
<p>OpenWRT 下需要再对 <code>/etc/config/tinc</code> 进行以下修改</p>
<pre><code class="language-bash highlight-chroma">cat /etc/config/tinc
config tinc-net tincnet
option enabled <span class="highlight-m">1</span></code></pre>
```



## option Name OpenWRT\_Public\_Node

```
config tinc-host OpenWRT_Public_Node
option enabled <span class="highlight-m">1</span>
option net tincnet
</code></pre>
```

<p>下面要做的就是先将两个 Master 节点的 hosts 文件夹各自补充对方的节点信息，简单来说就是制自己那份过去对面，保证两个节点的 hosts 文件夹都有全部节点的 hosts 信息</p>

```
<pre><code class="language-bash highlight-chroma">% ls -la /etc/tinc/tincnet/hosts
total <span class="highlight-m">16</span>
drwxr-xr-x <span class="highlight-m">2</span> root root <span class="highlight-m">4096</span>
/span> Mar <span class="highlight-m">4</span> 15:37 .
drwxr-xr-x <span class="highlight-m">3</span> root root <span class="highlight-m">4096</span>
/span> Mar <span class="highlight-m">4</span> 15:25 ..
-rw-r--r-- <span class="highlight-m">1</span> root root <span class="highlight-m">486</span>
pan> Mar <span class="highlight-m">4</span> 15:25 Linux_Public_Node
-rw-r--r-- <span class="highlight-m">1</span> root root <span class="highlight-m">485</span>
pan> Mar <span class="highlight-m">4</span> 15:37 OpenWRT_Public_Node
```

```
% cat Linux_Public_Node
```

```
<span class="highlight-nv">Address</span> <span class="highlight-o">=</span> 2.2.2.2
<span class="highlight-nv">Subnet</span> <span class="highlight-o">=</span> 192.168.2.8/32
<span class="highlight-nv">Port</span> <span class="highlight-o">=</span> <span class="highlight-m">11001</span>
```

```
-----BEGIN RSA PUBLIC KEY-----
```

```
MIIBCgKCAQEAp7F+8s8lukRv0qaE5hZrQmuy2MPb8hlte/G0pcfnBCVjIL5foJ7P
LZQrTGTsKjRbPzJ9gfZUXiZRkaA+G6Q4DBOVet41cTceZTgAzL3ief3H6MNXQ0xW
1Wo8kDNlG6g+QJq8iV5j7adJnEPivrDm4CWI8MRmVOckisnQbseKXeuzlYDhpZLA
nllIGMzhk3OZoPn2xpdMbjqBR0K6SrPvYq7sT3eLn0NVUbyo9D1dmtwtOJy8wmaf
oYdwTvrMdXhNNUmemnswJt8T2j8rAerqnpjz5itN8dk9mZMTKLFZ44CNnJ8jl5pE
ma8lfUnAA/Qq7i9t74pVEvWcLg8Hlry16QIDAQAB
```

```
% cat OpenWRT_Public_Node
```

```
<span class="highlight-nv">Address</span> <span class="highlight-o">=</span> 1.1.1.1
<span class="highlight-nv">Subnet</span> <span class="highlight-o">=</span> 192.168.2.6/32
<span class="highlight-nv">Port</span> <span class="highlight-o">=</span> <span class="highlight-m">11001</span>
```

```
-----BEGIN RSA PUBLIC KEY-----
```

```
MIIBCgKCAQEA6Tzot1eXupi+NRCfr29iKbgiXEMW1OI327WOrAwRtiwGgQIx8LcL
iy9m+sZEWVzlfvhMub6RVM4xlZ39ghYn2OFP4x9K4D6O/HTZHbamuLOEG5zRyVGK
EN+tStleEaiHad04QR+6ZFB+UO7WfCbzwVh/rysOL96KaUoU9VeYHVAIkubNsvA
```

```
aNSFbmqGYpl5FrXv+sJjMyGRXjc9Lb3q/FWmPApvo/9FTEIHx0xH7wwAZnc7mTCH
DB6DN62A1McygdGpn7NLnuFFEeVQf3SI9TqvajcA3vXS8P9RWuRoF5HivZIL5Ebn
FJg0UkyJcWXHUNRczdfTACF6ha0ewk8T9QIDAQAB
```

-----END RSA PUBLIC KEY-----

</code></pre>

```
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></scr
pt>
```

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```
<ins class="adsbygoogle" style="display:block" data-ad-client="ca-pub-5357405790190342"
data-ad-slot="8316640078" data-ad-format="auto" data-full-width-responsive="true"></in
>
```

```
<script>
```

```
(adsbygoogle = window.adsbygoogle || []).push({});
```

```
</script>
```

<p>最后通过 systemctl, OpenWRT 通过 RC 启动 tinc, 并互 ping 测试一下</p>

```
<pre><code class="language-bash highlight-chroma"><span class="highlight-c1">#Linux_
ublic_Node systemctl</span>
```

```
systemctl start tinc@tincnet
```

```
<span class="highlight-c1">#OpenWRT_Public_Node rc</span>
```

```
/etc/init.d/tinc start
```

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

<p>ping from Linux\_Public\_Node(192.168.212.8) to OpenWRT\_Public\_Node(192.168.212.6)</p>

```
<p></p>
```

<p>ping from OpenWRT\_Public\_Node(192.168.212.6) to Linux\_Public\_Node(192.168.212.8)</p>

```
<p></p>
```

<p>( 2 ) 其他节点的部署(Slave 节点)</p>

<p>Linux 系统以节点 <code>OpenWRT\_Internal\_Node(192.168.212.12)</code> 为例</p>

<p>同样, 先按照之前的文件夹结构创建好对应目录, 并复制两个 Master 节点 hosts 信息到 hosts 文件夹, </p>

```
<pre><code class="language-bash highlight-chroma">ls -la /etc/tinc/tincnet/
drwxr-xr-x <span class="highlight-m">3</span> root root <span class="highligh
```

```
-m">0</span> Mar <span class="highlight-m">4</span> 16:01 .
```

```
drwxr-xr-x <span class="highlight-m">4</span> root root <span class="highligh
```

```
-m">0</span> Mar <span class="highlight-m">4</span> 15:52 ..
```

```
drwxr-xr-x <span class="highlight-m">2</span> root root <span class="highligh
```

```
-m">0</span> Mar <span class="highlight-m">4</span> 16:01 hosts
```

```
-rw----- <span class="highlight-m">1</span> root root <span class="highlight-
```

```
">1676</span> Mar <span class="highlight-m">4</span> 16:01 rsa_key.priv
```

```
-rwxr-xr-x <span class="highlight-m">1</span> root root <span class="highlight
```

```
m">74</span> Mar <span class="highlight-m">4</span> 15:58 tinc-down
```

```
-rwxr-xr-x <span class="highlight-m">1</span> root root <span class="highlight
```

```
m">82</span> Mar <span class="highlight-m">4</span> 15:58 tinc-up
```

```
-rw-r--r-- <span class="highlight-m">1</span> root root <span class="highlight
```

```
m">209</span> Mar <span class="highlight-m">4</span> 16:00 tinc.conf
```



```
ls -la /etc/tinc/tincnet/hosts/
```

```
drwxr-xr-x 2 root root <span class="highlight-m">0</span> Mar <span class="highlight-m">4</span> 16:01 .
```

```
drwxr-xr-x 3 root root <span class="highlight-m">0</span> Mar <span class="highlight-m">4</span> 16:01 ..
```

```
-rw-r--r-- 1 root root <span class="highlight-m">0</span> Mar <span class="highlight-m">4</span> 15:58 Linux_Public_Node
```

```
-rw-r--r-- 1 root root <span class="highlight-m">454</span> Mar <span class="highlight-m">4</span> 16:01 OpenWRT_Internal_Node
```

```
-rw-r--r-- 1 root root <span class="highlight-m">0</span> Mar <span class="highlight-m">4</span> 15:58 OpenWRT_Public_Node
```

```
cat /etc/tinc/tincnet/
```

```
hosts/  rsa_key.priv tinc-down  tinc-up  tinc.conf
```

```
cat /etc/tinc/tincnet/tinc.conf
```

```
<span class="highlight-nv">Name</span> <span class="highlight-o">=</span> OpenWRT_<br>nternal_Node
```

```
<span class="highlight-nv">Interface</span> <span class="highlight-o">=</span> tinctun0
```

```
<span class="highlight-nv">Device</span> <span class="highlight-o">=</span> /dev/net/<br>un
```

```
<span class="highlight-c1">#Mode = <router|switch|hub> (router)</span>
```

```
<span class="highlight-nv">Mode</span> <span class="highlight-o">=</span> switch
```

```
<span class="highlight-nv">ConnectTo</span> <span class="highlight-o">=</span> Linux<br>Public_Node <span class="highlight-c1">#此处需要配置链接到两个主节点</span>
```

```
<span class="highlight-nv">ConnectTo</span> <span class="highlight-o">=</span> Ope<br>WRT_Public_Node <span class="highlight-c1">#此处需要配置链接到两个主节点</span>
```

```
<span class="highlight-nv">Cipher</span> <span class="highlight-o">=</span> aes-128-c<br>c
```

```
cat /etc/tinc/tincnet/tinc-up
```

```
<span class="highlight-c1">#!/bin/sh</span>
```

```
ip link <span class="highlight-nb">set</span> <span class="highlight-nv">INTERFACE</sp<br>n> up
```

```
ip addr add 192.
```

```
68.212.12/24 dev <span class="highlight-nv">INTERFACE</span>
```

```
cat /etc/tinc/tincnet/tinc-down
```

```
ip addr del 192.168.212.12/24 dev <span class="highlight-nv">INTERFACE</span>
```

```
ip link <span class="highlight-nb">set</span> <span class="highlight-nv">INTERFACE</span><br>down
```

```
cat /etc/tinc/tincnet/hosts/OpenWRT_Internal_Node
```

```
<span class="highlight-nv">Subnet</span> <span class="highlight-o">=</span> 192.168.2<br>2.21/32 <span class="highlight-c1">#只需要配置 Subnet 参数</span>
```

-----BEGIN RSA PUBLIC KEY-----

```
MIIBBgKCAQEAnU1maDEvbyC2XJLC8aiiwixR+einVu9gyJ4Pi1uhNMSJuVHB0HLQ
s16eOJvoEeJ4q6x0YLWjVJLLcLRW46wUAr1eMLjiovGKcYL8fZCg+Agms3+0y2SM
MaKi5fgBKjXLhdeBx4pvLaBlgYz4BP7pcVLgI0/NHBR6K1PCIUtYDN1xCt5SOpiF
XlWylawwls6mxLknm7M0a68j7e3ovlsBOW7nLVL0GpLXVJBjAbs5z00uNOVaNJkz
tvttShGgaa+B6o1Xy8gLwB84wKNUXZbmkLobOK7h0qYgEmnQscR8Rhw5G9UJfU8G
8nrPdRRCZnDR5xRpuy0rRjG7gAzpEJ9kHwIDAQAB
```

-----END RSA PUBLIC KEY-----

<span class="highlight-c1">#以下为 OpenWRT 系统需要配置</span>

```
cat /etc/config/tinc
```

```
config tinc-net tincnet
```

```
option enabled <span class="highlight-m">1</span>
```

```
option Name OpenWRT_Internal_Node
```

```
config tinc-host OpenWRT_Internal_Node
```

```
option enabled <span class="highlight-m">1</span>
```

```
option net tincnet
```

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

```
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></scr
pt>
```

<!-- 黑客派PC帖子内嵌-展示 -->

```
<ins class="adsbygoogle" style="display:block" data-ad-client="ca-pub-5357405790190342"
data-ad-slot="8316640078" data-ad-format="auto" data-full-width-responsive="true"></in
>
```

```
<script>
```

```
(adsbygoogle = window.adsbygoogle || []).push({});
```

```
</script>
```

<p>然后需要复制 hosts 文件夹的本节点信息 <code>host\OpenWRT\_Internal\_Node</code> 到 Master 节点的 hosts 文件夹中，重启 tinc 服务即可通，</p>

```
<pre><code class="language-bash highlight-chroma">ping 192.168.212.8
```

```
PING 192.168.212.8 <span class="highlight-o">(</span>192.168.212.8<span class="highligh
-o">)</span>: <span class="highlight-m">56</span> data bytes
```

```
<span class="highlight-m">64</span> bytes from 192.168.212.8: <span class="highlight-nv
>seq</span><span class="highlight-o">=</span><span class="highlight-m">0</span> <
an class="highlight-nv">ttl</span><span class="highlight-o">=</span><span class="highli
ht-m">64</span> <span class="highlight-nv">time</span><span class="highlight-o">=</span>
```

```
<span class="highlight-m">25.108 ms
```

```
<span class="highlight-m">64</span> bytes from 192.168.212.8: <span class="highlight-nv
>seq</span><span class="highlight-o">=</span><span class="highlight-m">1</span> <
an class="highlight-nv">ttl</span><span class="highlight-o">=</span><span class="highli
ht-m">64</span> <span class="highlight-nv">time</span><span class="highlight-o">=</span>
```

```
<span class="highlight-m">8.567 ms
```

```
<span class="highlight-m">64</span> bytes from 192.168.212.8: <span class="highlight-nv
```

```
>seq</span><span class="highlight-o">=</span><span class="highlight-m">2</span><span class="highlight-nv">t</span><span class="highlight-o">=</span><span class="highlight-m">64</span><span class="highlight-nv">time</span><span class="highlight-o">=</span><span class="highlight-m">8.891 ms</span>
<span class="highlight-m">64</span> bytes from 192.168.212.8: <span class="highlight-nv">seq</span><span class="highlight-o">=</span><span class="highlight-m">3</span><span class="highlight-nv">t</span><span class="highlight-o">=</span><span class="highlight-m">64</span><span class="highlight-nv">time</span><span class="highlight-o">=</span><span class="highlight-m">8.745 ms</span>
^C
--- 192.168.212.8 ping statistics ---
<span class="highlight-m">4</span> packets transmitted, <span class="highlight-m">4</span> packets received, 0% packet loss
round-trip min/avg/max <span class="highlight-o">=</span> 8.567/12.827/25.108 ms
```

ping 192.168.212.6

```
PING 192.168.212.6 <span class="highlight-o">(</span>192.168.212.6<span class="highlight-o">): <span class="highlight-m">56</span> data bytes
```

```
<span class="highlight-m">64</span> bytes from 192.168.212.6: <span class="highlight-nv">seq</span><span class="highlight-o">=</span><span class="highlight-m">64</span><span class="highlight-nv">t</span><span class="highlight-o">=</span><span class="highlight-m">7.328 ms</span>
```

```
<span class="highlight-m">64</span> bytes from 192.168.212.6: <span class="highlight-nv">seq</span><span class="highlight-o">=</span><span class="highlight-m">64</span><span class="highlight-nv">t</span><span class="highlight-o">=</span><span class="highlight-m">6.871 ms</span>
```

```
<span class="highlight-m">64</span> bytes from 192.168.212.6: <span class="highlight-nv">seq</span><span class="highlight-o">=</span><span class="highlight-m">64</span><span class="highlight-nv">t</span><span class="highlight-o">=</span><span class="highlight-m">7.205 ms</span>
```

```
<span class="highlight-m">64</span> bytes from 192.168.212.6: <span class="highlight-nv">seq</span><span class="highlight-o">=</span><span class="highlight-m">64</span><span class="highlight-nv">t</span><span class="highlight-o">=</span><span class="highlight-m">7.130 ms</span>
```

^C

```
--- 192.168.212.6 ping statistics ---
```

```
<span class="highlight-m">4</span> packets transmitted, <span class="highlight-m">4</span> packets received, 0% packet loss
```

```
round-trip min/avg/max <span class="highlight-o">=</span> 6.871/7.133/7.328 ms
```

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

<p>再配置一个 Windows 系统的, </p>

<p>首先需要新增一个 TAP-Windows 的虚拟网卡, 以另外安装的新版本 TAP-Windows 驱动为例  
管理员权限运行 CMD</p>

```
<pre><code class="language-bash highlight-chroma">C:<span class="highlight-se">\U</span></pre>
```

```
an>ers<span class="highlight-se">\k</span>&gt;cd C:<span class="highlight-se">\P</spa
>rogram Files<span class="highlight-se">\T</span>AP-Windows<span class="highlight-se"
\b</span>in
```

```
C:<span class="highlight-se">\P</span>rogram Files<span class="highlight-se">\T</span>
P-Windows<span class="highlight-se">\b</span>in>.<span class="highlight-se">\a</span>
dtap.bat
```

```
C:<span class="highlight-se">\P</span>rogram Files<span class="highlight-se">\T</span>
P-Windows<span class="highlight-se">\b</span>in>rem Add a new TAP virtual ethernet ad
pter
```

```
C:<span class="highlight-se">\P</span>rogram Files<span class="highlight-se">\T</span>
P-Windows<span class="highlight-se">\b</span>in> <span class="highlight-s2">"C:\Progr
m Files\TAP-Windows\bin\tapinstall.exe"</span> install <span class="highlight-s2">"C:\Prog
am Files\TAP-Windows\driver\OemVista.inf"</span> tap0901
```

Device node created. Install is <span class="highlight-nb">complete</span> when drivers ar  
installed..

Updating drivers <span class="highlight-k">for</span> tap0901 from C:<span class="highli  
ht-se">\P</span>rogram Files<span class="highlight-se">\T</span>AP-Windows<span clas  
="highlight-se">\d</span>river<span class="highlight-se">\O</span>emVista.inf.

Drivers installed successfully.

```
C:<span class="highlight-se">\P</span>rogram Files<span class="highlight-se">\T</span>
P-Windows<span class="highlight-se">\b</span>in>pause
```

请按任意键继续...

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

```
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></scr  
ipt>
```

```
<!-- 黑客派PC帖子内嵌-展示 -->
```

```
<ins class="adsbygoogle" style="display:block" data-ad-client="ca-pub-5357405790190342"  
data-ad-slot="8316640078" data-ad-format="auto" data-full-width-responsive="true"></in  
>
```

```
<script>
```

```
(adsbygoogle = window.adsbygoogle || []).push({});
```

```
</script>
```

```
<p>到网络连接管理中重命名网卡名称并手动配置 IP 地址</p>
```

```
<p></p>
```

```
<p></p>
```

```
<p>然后创建好文件目录</p>
```

```
<pre><code class="language-bash highlight-chroma">C:<span class="highlight-se">\P</sp  
n>rogram Files<span class="highlight-se">\t</span>inc<span class="highlight-se">\t</spa  
>incnet 的目录
```

```
2020/03/04 16:14 <DIR> .
```

```

2020/03/04 16:14 <DIR>      ..
2020/03/04 16:16 <DIR>      hosts
2020/03/04 16:17          <span class="highlight-m">167</span> tinc.conf
<span class="highlight-m">1</span> 个文件          <span class="highlight-m">167</span>
字节
<span class="highlight-m">3</span> 个目录 144,868,106,240 可用字节

C:<span class="highlight-se">\P</span>rogram Files<span class="highlight-se">\t</span>
c<span class="highlight-se">\t</span>incnet<span class="highlight-se">\h</span>osts 的
录

2020/03/04 16:16 <DIR>      .
2020/03/04 16:16 <DIR>      ..
2020/03/04 16:16          <span class="highlight-m">499</span> Linux_Public_Node
2020/03/04 16:16          <span class="highlight-m">496</span> OpenWRT_Public_Node
2020/03/04 16:16          <span class="highlight-m">27</span> Windows_Internal_Node
<span class="highlight-m">3</span> 个文件          1,022 字节
<span class="highlight-m">2</span> 个目录 144,864,964,608 可用字节
</code></pre>

```

```

<p><code>C:\Program Files\tinc\tincnet\tinc.conf</code> </p>
<pre><code class="language-bash highlight-chroma"><span class="highlight-nv">Name</span>
<span class="highlight-o">= </span> Windows_Internal_Node
<span class="highlight-nv">Interface</span> <span class="highlight-o">= </span> tinctun0
<span class="highlight-c1">#Mode = &lt;router|switch|hub&gt; (router)</span>
<span class="highlight-nv">Mode</span> <span class="highlight-o">= </span> switch
<span class="highlight-nv">ConnectTo</span> <span class="highlight-o">= </span> Ope
WRT_Public_Node
<span class="highlight-nv">ConnectTo</span> <span class="highlight-o">= </span> Linux
Public_Node
</code></pre>

```

```

<p><code>C:\Program Files\tinc\tincnet\hosts\Windows_Internal_Node</code> </p>
<pre><code class="language-bash highlight-chroma"><span class="highlight-nv">Subnet</span>
<span class="highlight-o">= </span> 192.168.212.116/32
</code></pre>

```

<p>生成密钥</p>

```

<pre><code class="highlight-chroma">C:\Program Files\tinc>\tinc.exe -n tincnet
tinc.tincnet> generate-rsa-keys
Generating 2048 bits keys:
.....+++ p
.....+++ q
Done.
Please enter a file to save private RSA key to [C:/Program Files\tinc\tincnet\rsa_key.priv]:
Please enter a file to save public RSA key to [C:/Program Files\tinc\tincnet\hosts\Windows_Int
ernal_Node]:
tinc.tincnet> quit

```

C:\Program Files\tinc>

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

```
<script async src="https://pagead2.googlesyndication.com/pagead/js/adsbygoogle.js"></script>
```

```
<!-- 黑客派PC帖子内嵌-展示 -->
```

```
<ins class="adsbygoogle" style="display:block" data-ad-client="ca-pub-5357405790190342" data-ad-slot="8316640078" data-ad-format="auto" data-full-width-responsive="true"></ins>
```

```
<script>
```

```
  (adsbygoogle = window.adsbygoogle || []).push({});
```

```
</script>
```

```
<p>然后将带公钥信息的 Windows_Internal_Node 复制到两个 Master 节点上面重启节点</p>
```

```
<p>通过 Windows 计算机管理中的服务启动 tinc</p>
```

```
<p></p>
```

```
<p>PING 其他 Slave 节点测试</p>
```

```
<pre><code class="highlight-chroma">C:\Program Files\tinc>ping 192.168.212.12
```

正在 Ping 192.168.212.12 具有 32 字节的数据:

来自 192.168.212.12 的回复: 字节=32 时间=12ms TTL=64

来自 192.168.212.12 的回复: 字节=32 时间=11ms TTL=64

来自 192.168.212.12 的回复: 字节=32 时间=12ms TTL=64

来自 192.168.212.12 的回复: 字节=32 时间=11ms TTL=64

192.168.212.12 的 Ping 统计信息:

数据包: 已发送 = 4, 已接收 = 4, 丢失 = 0 (0% 丢失),

往返行程的估计时间(以毫秒为单位):

最短 = 11ms, 最长 = 12ms, 平均 = 11ms

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

```
<p>如果还有新增节点, 那么只需在节点本地创建好配置文件以及 hosts 信息, 然后将本节点的 host 信息复制到 Master 节点上面即可。</p>
```

```
<p>( 3 ) 节点的 NAT 配置</p>
```

```
<p>这个是补充内容, 比如 Slave 节点 OpenWRT_Internal_Node 的 br-lan 网卡有另一网段 192.18.1.0/24 的地址 192.168.1.1, 那么如果我想在 Windows_Internal_Node 通过 OpenWRT_Internal_Node 的 tincnet 地址 192.168.212.12:8080 直接访问 OpenWRT_Internal_Node 192.168.1.0/24 段中的 192.168.1.20:80, 那么可以可以通过 NAT 直接实现。</p>
```

```
<p>具体 iptables 配置如下: </p>
```

```
<pre><code class="language-bash highlight-chroma">iptables -A input_rule -i tinctun+ -j ACCEPT
```

```
iptables -A forwarding_rule -i tinctun+ -j ACCEPT
```

```
iptables -A forwarding_rule -o tinctun+ -j ACCEPT
```

```
iptables -A output_rule -o tinctun+ -j ACCEPT
```

```
iptables -t nat -A PREROUTING -i tinctun0 -p tcp -d 192.168.212.12 --dport <span class="highlight-m">8080</span> -j DNAT --to-destination 192.168.1.20:80
```



```
iptables -t nat -A POSTROUTING -s 192.168.212.0/24 -o br-lan -j SNAT --to 192.168.1.1
```

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

refer:<br> 1.<a href="https://link.hacpai.com/forward?goto=https%3A%2F%2Fwww.ppu.org%2F2020%2F03%2Fopenwrt-tinc%2F" target="\_blank" rel="nofollow ugc">openwrt-tinc<a></p>