

## Softwares

- A2Billing 2.1.0/2.2
- Debian 7.8/7.11
- Asterisk 11.18/13

## The basic assumptions of the installation

- your apache2 default root folder is /var/www
- your asterisk sounds are under /var/lib/asterisk/sounds
- your asterisk AGI folder is expected under /var/lib/asterisk/agi-bin
- your apache2 runs as asterisk (uid)
- you asterisk runs as asterisk (uid)

## Required password and access info

- mysql root password
- A2Billing default database is mya2billing, user is a2billinguser and password is a2billing
- asterisk manager default information is: [myasterisk] and secret=mycode
- A2Billing admin default password is: user: root password: changepassword

## Pre-required software packages

```
> apt-get install libapache2-mod-php5 php5 php5-common \
php5-cli php5-mysql mysql-server apache2 php5-gd \
openssh-server git php5-mcrypt subversion
```

## Configure Apache to run as Asterisk account

```
> sed -i "s/\(APACHE_RUN_USER=*\)\(.*\)\/\1asterisk/" /etc/apache2/envvars
> sed -i "s/\(APACHE_RUN_GROUP=*\)\(.*\)\/\1asterisk/" /etc/apache2/envvars
> chown asterisk:asterisk /var/lock/apache2
> service apache2 restart
```

## Installation

1. Download and unpack source code

```
> cd /usr/local/src
> wget https://github.com/Star2Billing/a2billing/archive/v2.1.0.tar.gz -O a2billing-2.1.0.tar.gz
> tar xzf a2billing-2.1.0.tar.gz
> mv a2billing-2.1.0/ a2billing/
```

You should have a a2billing tree structure that looks like:

Files :

- AGI
- CHANGELOG

- COPYING
- Callback
- Cronjobs : Recurrent services run via crontab
- DataBase : Database Schema / DB Installation
- FEATURES\_LIST
- a2billing.conf : Main Configuration file
- addons : Sounds and other addons
- admin : Admin UI
- agent : Agent UI
- customer : Customer UI
- webservice

## 1.1 PHP Composer

```
cd /usr/local/src/a2billing
curl -sS https://getcomposer.org/installer | php
php composer.phar update
php composer.phar install
```

TIP:

Composer ? PHP ?????????? update/install ????? A2Billing ???? composer.json ??????????

## 2. Prepare the Database

```
> cd /usr/local/src/a2billing
> mysql -u root -p < DataBase/mysql-5.x/a2billing-createdb-user.sql
```

The script will create a database, username and password with the following default values

```
Database name is: mya2billing
Database user is: a2billinguser
User password is: a2billing
```

Create a set of tables and insert some initial basic configuration data:

```
> cd DataBase/mysql-5.x/
> ./install-db.sh
```

```
????????????????
```

```
Enter Database Name : mya2billing
Enter Hostname : localhost
```

Enter UserName : a2billinguser

Enter Password : a2billing

### 3. Edit the a2billing.conf

```
> cp /usr/local/src/a2billing/a2billing.conf /etc/
```

Edit the file /etc/a2billing.conf

```
[database]
hostname = localhost
port = 3306
user = a2billinguser
password = a2billing
dbname = mya2billing
dbtype = mysql
```

TIPS:

Ensuring the database connection info is correct.

### 4. Fix permissions, files and folders

SIP and IAX:

```
> chmod 777 /etc/asterisk
> touch /etc/asterisk/additional_a2billing_iax.conf
> touch /etc/asterisk/additional_a2billing_sip.conf
> echo \#include additional_a2billing_sip.conf >> /etc/asterisk/sip.conf
> echo \#include additional_a2billing_iax.conf >> /etc/asterisk/iax.conf
> chown -R asterisk:asterisk /etc/asterisk
```

Sound Files:

If the OS is Debian and Asterisk' sounds folder is /var/lib/asterisk/sounds, you have to change the line below in the script a2billing/addons/sounds/install\_a2b\_sounds.sh

```
case $DIST in
  'DEBIAN')
    #ast_sound=/usr/share/asterisk/sounds
    ast_sound=/var/lib/asterisk/sounds
    ;;
  'CENTOS')
    ast_sound=/var/lib/asterisk/sounds
    ;;
esac
```

```
> cd /usr/local/src/a2billing/addons/sounds/
> ./install_a2b_sounds.sh
> chown -R asterisk:asterisk /var/lib/asterisk/sounds
```

## 5. Configure Asterisk Manager

```
> vi /etc/asterisk/manager.conf
```

```
[general]
enabled = yes
port = 5038
bindaddr = 0.0.0.0

; for A2Billing
[myasterisk]
secret = mycode
read = system,call,log,verbose,command,agent,user
write = system,call,log,verbose,command,agent,user
```

## 6. Install web-based interfaces

```
> mkdir /var/www/a2billing
```

Copy the web files:

```
> cp -rf /usr/local/src/a2billing/admin /var/www/a2billing
> cp -rf /usr/local/src/a2billing/agent /var/www/a2billing
> cp -rf /usr/local/src/a2billing/customer /var/www/a2billing
> cp -rf /usr/local/src/a2billing/common /var/www/a2billing
> cp -rf /usr/local/src/a2billing/vendor/ /var/www/a2billing/

> chmod 755 /var/www/a2billing/admin/templates_c
> chmod 755 /var/www/a2billing/customer/templates_c
> chmod 755 /var/www/a2billing/agent/templates_c
> chown -R asterisk:asterisk /var/www/a2billing
```

## 7. Install AGI components

```
> cd /usr/local/src/a2billing/AGI
> cp a2billing.php /var/lib/asterisk/agi-bin
> cp a2billing_monitoring.php /var/lib/asterisk/agi-bin
> ln -sf /var/www/a2billing/common/lib /var/lib/asterisk/agi-bin/lib
> chmod 0755 /var/lib/asterisk/agi-bin/a2billing*
> chown asterisk:asterisk /var/lib/asterisk/agi-bin/a2billing*
```

Checkpoint 2:

Direct a browser to the administrative web interface (<http://<ip-addr>/a2billing/admin>) and login as administrator. Default passwords are:

```
user: root
pass: changepassword
```

## 8. Create a dialplan for A2Billing

```
> cp /usr/local/src/a2billing/addons/asterisk-conf/extensions_a2billing_1_8.conf /etc/asterisk
> chown asterisk:asterisk /etc/asterisk/extensions_a2billing_1_8.conf
> echo \#include extensions_a2billing_1_8.conf >> /etc/asterisk/extensions.conf
```

## 9. Create the crontab jobs

Create folder directory for monitoring Scripts:

```
> mkdir -p /var/lib/a2billing/script
> chown asterisk:asterisk /var/lib/a2billing/script
```

Create folder directory for Cron's PID:

```
> mkdir -p /var/run/a2billing
> chown asterisk:asterisk /var/run/a2billing

> mkdir -p /usr/local/a2billing
> cp -R /usr/local/src/a2billing/Cronjobs /usr/local/a2billing/
> ln -sf /var/www/a2billing/common/lib /usr/local/a2billing/Cronjobs/lib
> chown -R asterisk:asterisk /usr/local/a2billing
> chmod 0755 /usr/local/a2billing/Cronjobs/*.php
```

```
> vi /var/spool/cron/crontabs/asterisk
```

```
# update the currency table
0 6 * * * php /usr/local/a2billing/Cronjobs/currencies_update_yahoo.php

# manage the monthly services subscription
0 6 1 * * php /usr/local/a2billing/Cronjobs/a2billing_subscription_fee.php

# To check account of each Users and send an email if the balance is less than the user have choice.
0 * * * * php /usr/local/a2billing/Cronjobs/a2billing_notify_account.php

# this script will browse all the DID that are reserve and check if the customer need to pay for it.
# bill them or warn them per email to know if they want to pay in order to keep their DIDs.
0 2 * * * php /usr/local/a2billing/Cronjobs/a2billing_bill_diduse.php

# This script will take care of the recurring service.
0 12 * * * php /usr/local/a2billing/Cronjobs/a2billing_batch_process.php
```

```

# To generate invoices and for each user.
0 6 * * * php /usr/local/a2billing/Cronjobs/a2billing_batch_billing.php

# to proceed the autodialer
*/5 * * * * php /usr/local/a2billing/Cronjobs/a2billing_batch_autodialer.php

# manage alarms
0 * * * * php /usr/local/a2billing/Cronjobs/a2billing_alarm.php

# manage archive
0 12 * * * php /usr/local/a2billing/Cronjobs/a2billing_archive_data_cront.php

#autorefill
0 10 21 * * php /usr/local/a2billing/Cronjobs/a2billing_autorefill.php
15 * * * * php /usr/local/a2billing/Cronjobs/a2billing_batch_cache.php

```

## 9. Add log files

```

> mkdir -p /var/log/a2billing
> touch /var/log/a2billing/cront_a2b_alarm.log
> touch /var/log/a2billing/cront_a2b_autorefill.log
> touch /var/log/a2billing/cront_a2b_batch_process.log
> touch /var/log/a2billing/cront_a2b_archive_data.log
> touch /var/log/a2billing/cront_a2b_bill_diduse.log
> touch /var/log/a2billing/cront_a2b_subscription_fee.log
> touch /var/log/a2billing/cront_a2b_currency_update.log
> touch /var/log/a2billing/cront_a2b_invoice.log
> touch /var/log/a2billing/cront_a2b_check_account.log
> touch /var/log/a2billing/a2billing_paypal.log
> touch /var/log/a2billing/a2billing_epayment.log
> touch /var/log/a2billing/a2billing_api_ecommerce_request.log
> touch /var/log/a2billing/a2billing_api_callback_request.log
> touch /var/log/a2billing/a2billing_api_card.log
> touch /var/log/a2billing/a2billing_agi.log

> chown -R asterisk:asterisk /var/log/a2billing

```

## 10. Add index file to prevent browsing of root folder

```
> touch /var/www/a2billing/index.html
```

### Restart Asterisk service

```
> service asterisk restart
```

**Log into the webpage**

`http://{my-ip-address}/a2billing/admin`

- user: root
- changepassword