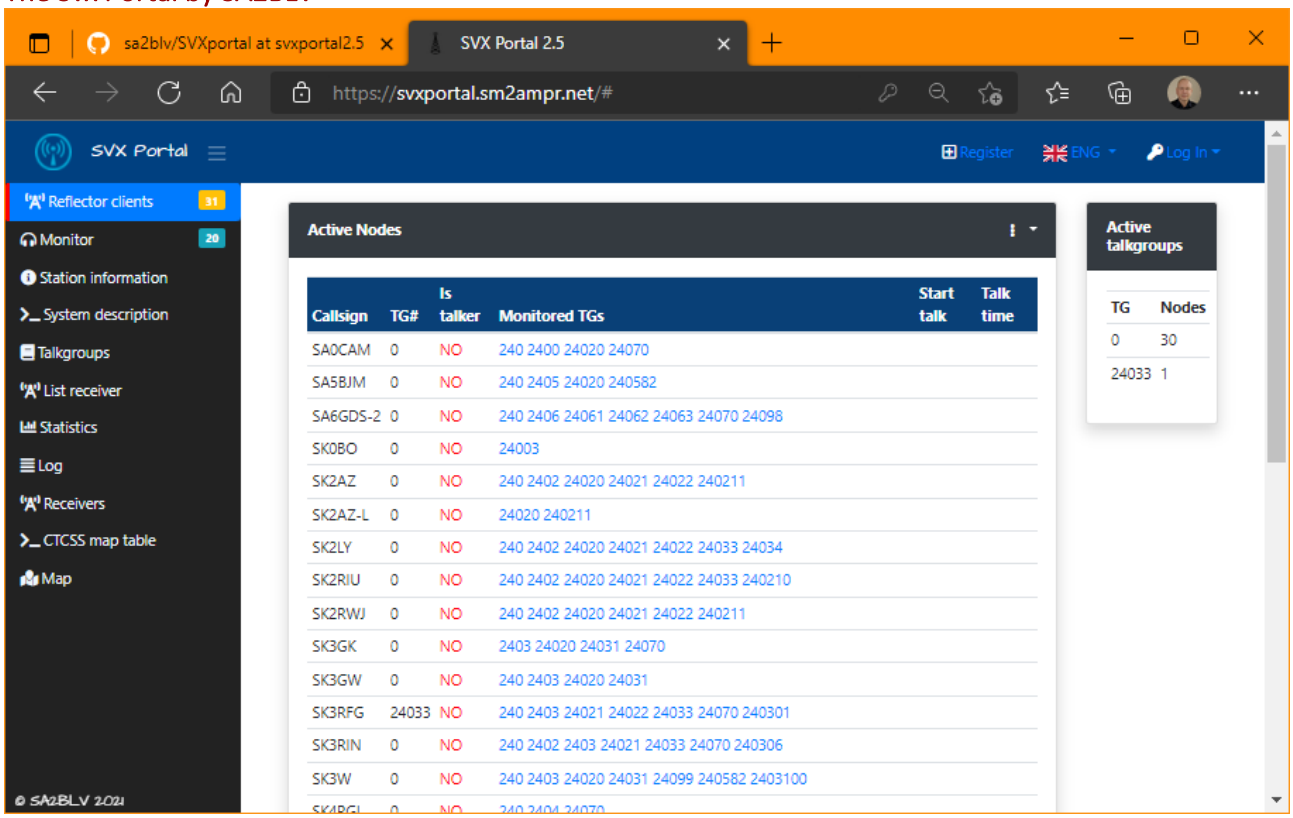
Installation of SvxPortal 2.5 (beta)

By Peter Lindquist SM5GXQ

This document will describe how to install (from scratch) SvxPortal version 2.5 on Debian Linux. There are also upgrade procedures if you already have an earlier version running. The SvxPortal is not just a fancy dashboard for a SvxLink Reflector. It has many nice tools, for ordinary users as well as sysops and Network operators. SvxPortal makes use of a MySQL database, and therefore it is not suitable for SD-card based systems, such as the Raspberry Pi.

The Svx Portal by SA2BLV



When this was written, Svx Portal v2.5 was still in Beta. I'm not myself the creator of the Svx Portal, but I have gone through this installation a couple of times, to verify that the steps taken below indeed works (at least in my environment). A few bugs were found and fixed by SA2BLV.

Preparation

Prepare a suitable Linux environment. In this document, Debian Linux was used. For testing purposes, I installed Debian in a virtual machine under *Virtual Box* for Windows 10. Unless you anticipate a very high load on the Portal, the database server may very well be installed in the same host as the web server. This is the default, and also how it's done below.

The Portal may, or may not, be installed in the same host as the SvxReflector. This is up to you. It will work, as long as the SvxReflector is reachable from the SvxPortal server. If you run a fairly small network, running them both on the same machine may work just fine. But if you are hosting a larger network, then it's always a good idea to have a "clean" SvxReflector, since it's more time-critical than the SvxPortal.

It's assumed that you already have *ssh* access to your host. The Linux desktop is not needed for this application. I don't even install it anymore.

Prerequisites

- php5 or larger
- MySQL
- Apache2 or ngnx
- crontab
- screen

Always start with:

```
sudo apt update
sudo apt upgrade
```

Install the MySQL database server

MySql cannot be directly installed with *apt*, so first you need to import a MySQL repo to *apt*. Go to `https://dev.mysql.com/downloads/repo/apt/` and find out which is the latest version.

Now run: (replace x.x.x-x with the actual version)

```
sudo apt install gnupg
wget https://dev.mysql.com/get/mysql-apt-config_x.x.x-x_all.deb
sudo dpkg -i mysql-apt-config_x.x.x-x_all.deb
```

Just stick with the defaults, unless otherwise stated below.

Then run:

```
sudo apt update
sudo apt install mysql-server mysql-client libmysqlclient-dev
```

Enter a root password. This will be used later to access the database.

Select *Legacy authentication*.

Install the Apache2 web server

First run:

```
sudo apt install apache2 apache2-doc apache2-utils libexpat1 ssl-cert
```

Now run this to install php:

```
sudo apt install libapache2-mod-php php php-common php-curl php-dev php-gd php-pear php-imagick
php-mysql php-ps php-xsl
```

Mcrypt must be installed by hand. To build and install *mcrypt*, some dependencies must first be installed:

```
sudo apt install gcc make autoconf libc-dev pkg-config libmcrypt-dev php-pear php-dev
```

Then run:

```
sudo pecl channel-update pecl.php.net
sudo pecl update-channels
sudo pecl install mcrypt
```

Now run this to install *phpMyAdmin*:

```
sudo apt install phpmyadmin
```

When prompted for database setup, choose *No*. Some of the features will not be available, but we will not need those. If you choose *Yes*, this setup will try to create a special user account for testing the database from phpMyAdmin.

The installation of Apache has created a directory `/var/www/html`, which needs to be removed now:

```
sudo rm -rf /var/www/html
```

Install SvxPortal

Run:

```
cd /var/www
```

Now download the SvxPortal files from Github:

```
sudo wget https://github.com/sa2blv/SVXportal/archive/refs/heads/svxportal2.5.zip
```

Extract the files:

```
sudo unzip svxportal2.5.zip
```

Now rename the new folder back to `html` again:

```
sudo mv SVXportal-svxportal2.5 html
```

If you wish, you can now assign your own user access to these files, so you don't need to use *sudo* each time you edit them.

Create MySQL user and database

Run:

```
mysql -u root -p
```

When prompted, enter the root password for MySQL that you already configured.

Now you see a prompt:

```
mysql:
```

Enter the following commands: *(replace 'Password' with a real password!)*

```
CREATE DATABASE Svxportal;
CREATE USER 'Svxportal'@'localhost' IDENTIFIED WITH mysql_native_password BY 'Password';
GRANT SELECT, INSERT, UPDATE, DELETE, CREATE, INDEX, DROP, ALTER, CREATE TEMPORARY TABLES, LOCK TABLES ON Svxportal.* TO 'Svxportal'@'localhost';
```

Now exit *mysql* with:

```
quit
```

Initial setup of SvxPortal

In your web browser, now enter the following url: *(replace "yoururl" with the actual url)*

```
http://yoururl/install.php
```

Enter:

- MySQL Server: `127.0.0.1` *(if the db is on the same machine)*
- MySQL Username: `Svxportal`
- MySQL Password: *`Password`* *(replace with actual password)*
- MySQL DB: `Svxportal`
- Reflector_proxyserver URL: `http://yoururl/reflector_proxy` *(replace with actual public url)*
- IceCast server URL: `http://yoururl:8000/live` *(replace with actual public url)*
- Svx recording folder: `/var/www/htmlsvxrecording`
- Reflector address: `http://reflector:8080/status` *(replace with actual url)*

NB: It's important that you always use a public url. For testing purposes, you can use the host's name, but in that case the Portal will not function when accessed from the "outside". If the Svx Reflector is on the same LAN (or the same host), then you may use the local hostname as Reflector Address. The clients will only access the portal web, including the Reflector Proxy. It's the Portal itself that gets the json data from the Reflector.

In this instruction, I don't deal with the *IceCast* stuff at all. You may wish to setup live monitoring on your portal (you will need one instance of *SvxLink* and *DarkIce* for each talk group). If not needed, then the entire Monitoring menu may be disabled in the database.

Enable the web server in *svxreflector.conf* file (on the Reflector machine). The port must match the above.

```
[GLOBAL]
#CFG_DIR=svxreflector.d
TIMESTAMP_FORMAT="%c"
LISTEN_PORT=5300
#SQL_TIMEOUT=600
#SQL_TIMEOUT_BLOCKTIME=60
#CODECS=OPUS
TG_FOR_V1_CLIENTS=999
#RANDOM_QSY_RANGE=12399:100
HTTP_SRV_PORT=8080
```

Don't forget to restart the *svxreflector*:
`sudo systemctl restart svxreflector`

Now click the `Continue` button.

If everything is ok, then you will see another form. If something fails, you will know…

First, copy the contents of the *Stage 1* box.

Then create/edit a new file: `/var/www/html/config.php` .

Paste the contents into this file and save it.

Now, in the same manner, put the *Stage 2* contents into the file:
`/var/www/html/reflector_proxy/config.php`

Click the `Self test button`. This will verify Database access and that the Proxy is setup correctly and also that it can get json data from the Reflector.

Install *Screen*:
`sudo apt install screen`

Run the background processes:
`screen -d -m bash -c 'cd /var/www/html; watch -n 20 php station_heartbeat.php;'`
`screen -d -m bash -c 'cd /var/www/html; watch -n 1 php logdeamon.php;'`

These must also be added to crontab. There, each line must be preceded with `@reboot`. On subsequent reboots, they will start automatically from now on.

If you like, you can peek into each Screen and se if it's working properly. Use the command
`screen -x`
to view the screens currently running. Then use
`screen -x nbr`
to attach to a screen.

Exit a Screen with `CTRL-A D`. NB: `CTRL-C` will terminate the process.

Admin interface

Click the `Admin interface` button.

Login with: *(remember to change this password or replace with a personal admin account)*

- Username: `Svxportal`
- Password: `svxportal`

Now go to the `Settings` tab.

Use External documentation page: `Yes`

External Documentation Page: `http://yoururl/system_description/SystemDescription.htm`

Change other settings as desired.

The Admin Interface can also be reached via the Portal's start page. Login first. More settings are available, when using *phpMyAdmin* (see below).

Languages

Only a few languages are supported. The Portal will try to find out which language a user wants to use. But the user can also manually select a language to display.

The Svx Portal makes use of *gettext* to get the translation from the language files configured for each locale.

To be sure, add the following packages:

```
sudo apt install locales gettext php-php-gettext
```

On Debian, we must manually add the locales we need. This is done by editing the file:

```
/etc/locale.gen
```

Paste the following lines: *(and save the changes; sudo is needed!)*

```
uk_UA UTF-8
sv_SE UTF-8
nb_NO UTF-8
it_IT UTF-8
de_DE UTF-8
fr_FR UTF-8
tr_TR UTF-8
```

Then run:

```
sudo locale-gen
locale -a
```

This should display all the locales you added.

A reboot is always a good idea after this operation.

NB: If you have translation enabled in your browser, this will mess up the languages completely. So disable it for the portal's url.

View the Svx Portal

Click the `Back` button. You should now see the SvxPortal start page!

Generate some radio traffic and verify that it shows up on the different pages.

Tips

Many functions of the Svx Portal depends on the file *node_info.json* being setup and referenced correctly at each node. When logged in at the Svx Portal, each node sysop may make use of a tool to create a correct json file. As an example, nodes without *node_info.json* will not appear on the *List receivers* page, and they will not appear on the *Map*.

In the Admin Interface, each node and each talk group may/should be edited and assigned a static colour. They will of course work without this but will have dynamically assigned colours each time. This applies to the *Receiver list*, the *Map* and the *Statistics page*. Only managed talk groups will be listed on the *Talkgroups* page.

The Svx Portal Admin should also encourage the node sysops to self-register and create their own accounts on the Svx Portal. The Admin can then assign them write access to information regarding their own node(s). The info about each node can also be viewed, simply by clicking the node callsign at the Portal's start page.

If logged in, each sysop will see the *My stations* menu item. There they can create and maintain information regarding their own nodes. *Request Repeater Login* will not work under the current version of the Svx Reflector.

The Svx Portal Admin may use phpMyAdmin to view and manipulate the database directly. Just enter the following into your web browser:

```
http://yoururl/phpmyadmin
```

Use the database *root* credentials that you created when MySQL was installed.