Install and Setup Cal.com

https://www.youtube.com/embed/Niep6YkrkXA

The ability to let others choose the best time to communicate with you is powerful. You start off the conversation in a meaningful way by giving your participant the ability to choose a date and time that best fits their schedule as well as dates and times that you've already set aside as best fitting your own.

Calendly is a closed source, proprietary application that provides this service, and Cal.com is its open source brethren. I was interviewing for new jobs a few years ago, and not sure what happened to just interviewing and either behing hired or not, but at the time I went through all that It was rounds of interviews with various people at the company. They used Calendly for scheduling the times to speak with them, and I found it quite compelling. I immediately start looking for an open source option, and pretty quickly found Calendso (now known as Cal.com).

I tried to get it running but ran into some issues, and upon looking at the Github Issues for the docker version of the project found I wasn't the only one. Here we are a couple of years later, and it's become much more stable, feature rich, and the docker based community version is fairly easy to get setup. You'll need a few things for this application to fully work for you, but it's a really amazing way to set aside time for meetings, and at the same time give some of the flexibility and power to those who want or need to meet with you.

What You'll Need

- A server or machine you want to host Cal.com on.
- Docker and Docker Compose installed on this server / machine.
- A reverse proxy (I use NGinX Proxy Manager)
- A domain name or subdomain for which you can create A / CNAME records for, on which you want to use for your Cal.com site.
- An SMTP server (your own, or one you can setup for SMTP email sending).
- About 30 minutes of your time

Installation

Installation of Docker and Docker Compose via a Simple Script

You can easily install Docker-CE, Docker-Compose, Portainer-CE, and NGinX Proxy manager by using this quick install script I created and maintain on Github. Just use the command:

`wget -O install-docker.sh https://gitlab.com/bmcgonag/docker_installs/-/raw/main/install_docker_nproxyman.sh`

To download the script to your desired host.

Change the permissions to make the script executable:

`chmod +x ./install-docker.sh`

and then run the script with the command:

`./install-docker.sh`

When run, the script will prompt you to select your host operating system, then will ask you which bits of software you want to install. Enter the number associated with your host OS.

Next, simply enter 'y' for each thing you want to install. For this application, you should answer 'y' to "Docker-CE" and "Docker Compose" at a minimum. If you don't already have a reverse proxy running somewhere, you can also answer 'y' to "NGinX Proxy Manager".

At some point, you may be asked for your super user (sudo) password as well.

Allow the script to complete installation.

Once complete, you might want to log out and back in, as this will allow you to use the `docker` and `docker-compose` commands without the need of sudo in front of them.

Installing Cal.com

> All instructions found in this section are available at https://github.com/calcom/docker. You should always check the source instructions for accuracy, particularly as this article ages.

You'll need "git" installed on this machine for the next part. You can install this as follows for the various Linux based distributions.

Ubuntu / Debian

`sudo apt install git -y`

Fedora / CentOS / RedHat

`sudo  dnf install git -y`

OpenSuse

`sudo zypper install git -y`

Arch

```
sudo pacman -Sy install git
```

Next, we need to pull down the Cal.com docker git repository to our server. We can do this with the command:

```
 git clone https://github.com/calcom/docker.git
```

Next, we want to change the folder name that was just created. "docker" is not a great name, so let's make it more descriptive.

```
mv docker cal-com-docker
```

We'll now move into our folder with

```
cd cal-com-docker
```

Now, we need to look at the files in this directory. We want to see them all, so we'll use the `-a` flag with the `ls` command. `-a` means show all.

```
ls -a
```

You should see several files and folders here. We are concered with two files. The file named "docker-compose.yaml" and the file named ".env.example".

First we'll work with the environment variable file. We want to copy the example file, and then edit the copied file. This way if we mess something up, we'll still have the example file to start back at the beginning with.

`cp .env.example .env` <-- this command will copy the file ".env.example" to a new file called ".env".

Now, we'll edit the ".env" file.

```
nano .env
```

Here you'll see a large number of environment variables. These variables are used to setup the Cal.com application with the values we need in order for it to run in our selected environment Carefully arrow through the coument, and set the values you need for each of the variables I define below.

NEXT_PUBLIC_LICENSE_CONSENT=true <-- this says you agree to the open source license terms.

LICENSE= <-- if you have purchased an enterprise level license, you would put your license key here, otherwise leave it blank.

NEXT_PUBLIC_WEBAPP_URL=https://yourcal.your-awesome-domain.com <-- you should remove this URL and put in the URL you want for your site. This needs to be a URL that can be reached by anyone who would be ideally able to setup a meeting with you.

NEXTAUTH_SECRET= <-- This needs to be created using the following command:

```
openssl rnad -base64 32
```

This command will generate a key for you. Copy the output key to the file, and then double check that it's only 32 characters. If it's longer, just remove however many from the end of the key to make it only 32 characters. If you get it longer, or shorter, it will cause errors during setup.

CALENDSO_ENCRYPTION_KEY= <-- Again, this will be generated by a command, and again nees to be exactly 32 characters long.

```
dd if=/dev/urandom bs=1k count=1 | md5sum
```

Copy the output key to the file, and then double check that it's only 32 characters. If it's longer, just remove however many from the end of the key to make it only 32 characters.

POSTGRES_USER=unicorn_user <-- recommend changing this, it can be any username you want.

POSTGRES_PASSWORD=magincal_password <-- You should 100% change this to a long strong password with at least 16 characters or more.

POSTGRES_DB=calendso <-- you can leave this as is.

DATABASE_HOST=database:5432 <-- Unless you know what you are doing, leave this as is.

DATABASE_URL=postgresql://${POSTGRES_USER}:${POSTGRES_PASSWORD}@${DATABASE_HOST}/${POSTGRES_DB} <-- unless you know what you are doing, leave this as is.

GOOGLE_API_CREDENTIALS={} <-- unless you need to use this for some reason, leave this as is.

CALCOM_TELEMETRY_DISABLED=1

Set the following items, only if you are using the Microsoft Graph information for your calendar.
MS_GRAPH_CLIENT_ID=
MS_GRAPH_CLIENT_SECRET=

If you use ZOOM, then setup your Client ID and Secret here (you should create these for their API, **not your username and password**).
ZOOM_CLIENT_ID=
ZOOM_CLIENT_SECRET=

Set the from email that you want notifications to go out from here. If you are using GMail, Yahoo, Microsoft, etc, you'll likely have to use the email address you are actually sending from.

EMAIL_FROM=notifications@example.com

You need to setup the SMTP mail server settings here in order to send email. If you want to use GMail for this, you need to setup an application specific password for your gmail account. If you are using 2-factor authentication, that will likely cause issus. I am unable to help with those. I run my own mail server, and that's what I use to send emails.

EMAIL_SERVER_HOST=smtp.example.com < change this to the smtp server address for your mail provider.
EMAIL_SERVER_PORT=587 <-- make sure to set this port correctly, different servers will use ports like 25, 465, 587, and more. Check your provider's documentation for the correct settings.
EMAIL_SERVER_USER=email_user <-- This may be a username, or a full email depending on your email provider.
EMAIL_SERVER_PASSWORD=email_password <-- this would be the password for your email user.

NODE_ENV=production <-- leave this alone.

Save your changes with CTRL + O, the press Enter to confirm, and exit the nano editor with CTRL + X.

Whew! That's a lot of variables to get setup, but you really need to make sure the details are right for an application like this. Keep in mind, this application will sync scheduled appointments in the app with your calendar, as well as send emails to your users who are scheduling time, and also potentially setup online meeting spaces like Teams, Jitsi, Zoom, etc. So all of these pieces are necessary to get the application to run properly.

Next, let's make one small change in our docker-compose.yaml file.

```
nano docker-compose.yaml
```

In this file, we want to scroll down to the section under services >> calcom >> ports.

Here you'll see a port mapping of `3000:3000`. This mapping equates to a port forward. The left side port is where your host machine (server) will be listening for connections for the Cal.com application. The right side is where the application listens for those connections in the docker container. So think of this as the server saying I got a request on port 3000, so I'm going to pass that along to the container on port 3000 as well.

What we want to do is change the host listening port (the left side) because 3000 is a very common port for node based applications to run on. So, let's change this port to something above 8080. In my case, I set it to 8594. Now my port mapping looks like

```
8594:3000
```

Save your changes with CTRL + O, the press Enter to confirm, and exit the nano editor with CTRL + X.

Setup our Reverse Proxy

> Note: If you are running this on a VPS like Digital Ocean, then you don't specifically need a reverse proxy, as you'll have a public IP address that you can point your A-record to in your domain registrar. Feel free to skip this section.

We are almost ready. We need to setup our reverse proxy so that it will point the domain name (subdomain) we set in the environment file to our application and port properly.

I'll be using NGinX Proxy Manager for this, so my instructions will be specific to it. If you are using a different reverse proxy, I expect you should know how to setup entries for your preferred software.

In NGinX Proxy Manger (NPM from here on), we'll want to click into 'Proxy Hosts', then click 'Add New Host' in the upper right.

In the modal (pop-up) window, enter the domain / subdomain name of your site. This needs to match what you entered in the .env file for NEXT_PUBLIC_WEBAPP_URL. Once entered press the Tab or Enter key so that the entry turns into a chip.

Now move to the IP Address field, and enter the private (LAN) IP address of your host machine (server).

Next, move to the port field, and enter the port you set on the left side of the port mapping in the docker-compose.yaml file. In my case I used 8594.

Now, enable the options for "Block common exploits", and "Websocket support".

Click 'Save'.

Start the Cal.com Application

It's time to start up our Cal.com web application. We do this with one command. Mkae sure you are in the cal-com-docker folder, and then enter the command:

```
docker compose up -d
```

Be patient, as this will pull down the images needed to create our containers, and depending on your internet speed and host machine capabilities, it will take several minutes. After that the application will start, and again, it may take a few minutes. If you don't receive any errors, then you should be good on startup.

After a few minutes, let's see if we can get to our Cal.com site by the URL we just setup in our reverse proxy.

If all went well, you should be greeted by an initial setup screen. We don't want to go through setup just yet though. First, let's get an SSL certificate so we are accessing our Cal.com site with strong encryption.

Go back into NPM an dat the right end of the entry for our Cal.com url, click the vertical 3-dot icon, then select 'Edit' from the drop down menu.

In the modal (pop-up) select the SSL tab, and from the drop-down that says 'Non'e, choose 'Request a new certificate'. Next enable the options for "Force SSL", "HTTP/2 Support", and both of the HSTS options. Make sure your email is entered, and enable the option to accept the LetsEncrypt TOS.

Click 'Save'.

This will take about 30 seconds to 1 minute, but the pop-up should close with no errors. You now have a LetsEncrypt certificate for your site. Refresh the page for your Cal.com site, and you should have the little Lock Icon.

Now, you'll need to go through the initial startup wizard. Follow my video to help you get through it if needed. Then there are a plethora of settings in the application you'll want to check out as well. During the Wizard if you get to the CalDav setup (and are using CalDav) and you hit an error, I show how to address it in the video as well.

Congratulations, you are now setup and ready to start accepting meeting with clients, prospects, interviewees, and more. Your imagination is the only limitation.

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