

[How To] Install Turtl Server on Debian 9 with Apache ReverseProxy & SSL

2019.05.10

Project website: <https://turtlapp.com/>

Project Github: <https://github.com/turtl/server>

Install Node.js

```
curl -sL https://deb.nodesource.com/setup_12.x | bash -
```

```
apt install -y nodejs
```

Install & Configure PostgreSQL

Install the required packages:

```
apt install -y postgresql postgresql-contrib pwgen git
```

confirm your installation:

```
sudo -u postgres psql -c "SELECT version();"
```

Generate a secure password for PostgreSQL user :

```
pwgen -s 32 1
```

access the PostgreSQL shell:

```
su - postgres
```

Create a new database:

```
createdb turtldb
```

Create a new PostgreSQL user:

```
createuser turtlusr --pwprompt
```

Connect to the database:

```
psql turtldb
```

Grant all privileges in the database to the user:

```
GRANT ALL PRIVILEGES ON DATABASE turtldb TO turtlusr;
```

Exit PostgreSQL

```
\q
```

Install Turtl server

create the working directory:

```
mkdir /opt/turtl
```

create a system user to run turtl service:

```
useradd -r -s /sbin/nologin -d /opt/turtl -U turtl
```

clone the git repository:

```
cd /opt/turtl
```

```
git clone https://github.com/turtl/server && cd server
```

Give correct ownership to turtl:

```
chown turtl:turtl -R /opt/turtl
```

Log in as turtl user to install:

```
su turtl -s /bin/bash
```

Install turtl:

```
npm install
```

copy the config file and edit the variables:

```
cp config/config.yaml.default config/config.yaml
```

```
vi config/config.yaml
```

fill as per the example bellow

use an online text generator such as <http://randomtextgenerator.com/> to generate the hash (remove all paragraphs)

skip the email section if you do not wish to enable the plug-in

```
“ ---
server:
  # Per default, turtl will listen on all IP addresses
  # You can choose the IP it will use with this parameter
  host: '127.0.0.1'
  port: 8181

db:
  connstr: 'postgres://turtlusr:<yourpassword>@127.0.0.1:5432/turtldb'
  pool: 24

loglevel: 'debug'

app:
  # ALWAYS false in production. Always.
  # Set to 'I UNDERSTAND THIS VIOLATES THE PRIVACY OF MY USERS' to enable
  enable_bookmarker_proxy: false
  # no trailing slash
  api_url: 'https://turtl.<yourwebsite>.com'
```

www_url: 'https://<yourwebsite>.com'

emails:

admin: 'admin@<yourwebsite>.com'

info: 'Turtl <info@<yourwebsite>.com>'

invites: 'invites@<yourwebsite>.com'

TODO: replace this with a long, unique value. seriously. write down a dream

you had, or the short story you came up with during your creative writing

class in your freshmen year of college. have fun with it.

secure_hash_salt: "New the her nor case that lady paid read. Invitation

friendship travelling eat everything the out two. Shy you who scarcely expenses

debating hastened resolved. Always polite moment on is warmth spirit it to

hearts. Downs those still witty an balls so chief so. Moment an little remain no

up lively no. Way brought may off our regular country towards adapted

cheered. She suspicion dejection saw instantly. Well deny may real one told yet

saw hard dear. Bed chief house rapid right the. Set noisy one state tears which.

No girl oh part must fact high my he. Simplicity in excellence melancholy as

remarkably discovered. Own partiality motionless was old excellence she

inquietude contrasted. Sister giving so wicket cousin of an he rather marked. Of

on game part body rich. Adapted mr savings venture it or comfort affixed

friends. Full age sex set feel her told. Tastes giving in passed direct me valley

as supply. End great stood boy noisy often way taken short. Rent the size our

more door. Years no place abode in no child my. Man pianoforte too solicitude

friendship devonshire ten ask. Course sooner its silent but formal she led.

Extensive he assurance extremity at breakfast. Dear sure ye sold fine sell on.

Projection at up connection literature insensible motionless projecting. Feet evil

to hold long he open knew an no. Apartments occasional boisterous as

solicitude to introduced. Or fifteen covered we enjoyed demesne is in prepare.

In stimulated my everything it literature. Greatly explain attempt perhaps in

feeling he. House men taste bed not drawn joy. Through enquire however do

equally herself at. Greatly way old may you present improve. Wishing the

feeling village him musical. Affronting imprudence do he he everything. Sex

lasted dinner wanted indeed wished out law. Far advanced settling say finished

raillery. Offered chiefly farther of my no colonel shyness. Such on help ye some

door if in. Laughter proposal laughing any son law consider. Needed except up

piqued an. Effects present letters inquiry no an removed or friends. Desire

behind latter me though in. Supposing shameless am he engrossed up

additions. My possible peculiar together to. Desire so better am cannot he up

before points. Remember mistaken opinions it pleasure of debating. Court front

maids forty if aware their at. Chicken use are pressed removed. Residence

certainly elsewhere something she preferred cordially law. Age his surprise

formerly mrs perceive few stanhill moderate. Of in power match on truth worse

voice would. Large an it sense shall an match learn. By expect it result silent in

formal of. Ask eat questions abilities described elsewhere assurance. Appetite in

unlocked advanced breeding position concerns as. Cheerful get shutters yet for

repeated screened. An no am cause hopes at three. Prevent behaved fertile he

is mistake on. Finished her are its honoured drawings nor. Pretty see mutual

thrown all not edward ten. Particular an boisterous up he reasonably frequently.

Several any had enjoyed shewing studied two. Up intention remainder sportsmen behaviour ye happiness. Few again any alone style added abode ask. Nay projecting unpleasing boisterous eat discovered solicitude. Own six moments produce elderly pasture far arrival. Hold our year they ten upon. Gentleman contained so intention sweetness in on resolving. Consulted perpetual of pronounce me delivered. Too months nay end change relied who beauty wishes matter. Shew of john real park so rest we on. Ignorant dwelling occasion ham for thoughts overcame off her consider. Polite it elinor is depend. His not get talked effect worthy barton. Household shameless incommode at no objection behaviour. Especially do at he possession insensible sympathize boisterous it. Songs he on an widen me event truth. Certain law age brother sending amongst why covered. She who arrival end how fertile enabled. Brother she add yet see minuter natural smiling article painted. Themselves at dispatched interested insensible am be prosperous reasonably it. In either so spring wished. Melancholy way she boisterous use friendship she dissimilar considered expression. Sex quick arose mrs lived. Mr things do plenty others an vanity myself waited to. Always parish tastes at as mr father dining at."

```
# set to true if you think it's ok to SEND invites if you have not confirmed
# your account. great for testing, not so great for production. but what do
# i know...
```

```
allow_unconfirmed_invites: false
```

```
sync:
```

```
# how many sync records can a client send at a time? it's a good idea to have
# a limit here, lest a rogue client flood the server with sync items
```

```
max_bulk_sync_records: 32
```

```
plugins:
```

```
plugin_location: '/opt/turtl/server/plugins'
```

```
# each key here corresponds to a folder name in the plugins folder, so `email`
# below would be a plugin at /var/www/turtl/server/plugins/email (see the
# example-plugins/ folder for an email plugin you can use)
```

```
email:
```

```
enabled: true
```

```
endpoint: "smtps://<youremail>:'<yourpassword>'@<youremailserver>
/?pool=true"
```

```
defaults: { }
```

```
uploads:
```

```
# if set to a path, files will be uploaded to the local filesystem instead of
# S3. otherwise, set to false
```

```
local: '/opt/turtl/server/public/uploads'
```

```
# if true, downloading local files will be proxied through the turtl server.
# this avoids needing to set up any CORS config in your favorite webserver,
# but may slightly affect performance on high-demand servers.
```

```
local_proxy: true
```

```
# if local_proxy is false, this is should be the url path the uploaded files
# are publicly available on
url: 'http://api.turtl.dev/uploads'

s3:
token: 'IHADAPETSSNAKEBUTHEDIEDNOOOOOO'
secret: ''
bucket: ''
endpoint: 'https://s3.amazonaws.com'
```

Create the plugins directory

```
mkdir /opt/turtl/server/plugins
```

To enable the email plugin, copy it to the correct folder

```
cp -R example-plugins/email plugins
```

Install the nodemailer module

```
npm install nodemailer
```

run the initial script:

```
./scripts/init-db.sh
```

to test-run the server issue:

```
node server.js
```

to exit, CTRL + c

exit the turtl user shell:

```
exit
```

Start Turtl service at boot:

Create an systemd service:

```
vi /lib/systemd/system/turtl.service
```

Copy/Paste the bellow:

```
## [Unit]
Description=turtl_service
After=network.target mysql.service postgresql.service

[Service]
User=turtl
ExecStart=/usr/bin/node /opt/turtl/server/server.js
Restart=always

[Install]
WantedBy=multi-user.target
```

Give the correct permissions:

```
chmod 0644 /lib/systemd/system/turtl.service
```

start the service:

```
systemctl start turtl
```

Enable the service at boot:

```
systemctl enable turtl
```

Get a certbot ssl certificate

install certbot:

```
apt install -y certbot
```

issue a ssl certificate for your domain:

```
certbot certonly --standalone --email admin@<yourdomain>.com --agree-tos -d  
turtl.<yourdomain>.com
```

Configure the Apache virtual host with reverse proxy:

create the virtual host

```
vi /etc/apache2/sites-available/turtl.conf
```

Paste as per the bellow:

```
“ <VirtualHost *:80>
  ServerName turtl.<yourdomain>.com
  ServerAdmin webmaster@<yourdomain>.com

  CustomLog ${APACHE_LOG_DIR}/turtl.log combined

  RewriteEngine On
  RewriteCond %{REQUEST_URI} !^/\.well-known/acme-challenge/.
  RewriteRule ^ https://%{HTTP_HOST}%{REQUEST_URI} [QSA,L,R=301]
</VirtualHost>

<VirtualHost *:443>
  ServerName turtl.<yourdomain>.com
  ServerAdmin webmaster@<yourdomain>.com

  SSLEngine on
  SSLCertificateFile /etc/letsencrypt/live/turtl.<yourdomain>.com/fullchain.pem
  SSLCertificateKeyFile /etc/letsencrypt/live/turtl.<yourdomain>.com/privkey.pem
  SSLProtocol all -SSLv2 -SSLv3
  SSLCipherSuite ECDHE-RSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES128-GCM-
  SHA256:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-ECDSA-AES256-GCM-
  SHA384:DHE-RSA-AES128-GCM-SHA256:DHE-DSS-AES128-GCM-
  SHA256:kEDH+AESGCM:ECDHE-RSA-AES128-SHA256:ECDHE-ECDSA-AES128-
  SHA256:ECDHE-RSA-AES128-SHA:ECDHE-ECDSA-AES128-SHA:ECDHE-RSA-
  AES256-SHA384:ECDHE-ECDSA-AES256-SHA384:ECDHE-RSA-AES256-
  SHA:ECDHE-ECDSA-AES256-SHA:DHE-RSA-AES128-SHA256:DHE-RSA-AES128-
  SHA:DHE-DSS-AES128-SHA256:DHE-RSA-AES256-SHA256:DHE-DSS-AES256-
  SHA:DHE-RSA-AES256-SHA:AES128-GCM-SHA256:AES256-GCM-SHA384:AES128-
  SHA256:AES256-SHA256:AES128-SHA:AES256-SHA:AES:CAMELLIA:DES-CBC3-
  SHA:!aNULL:!eNULL:!EXPORT:!DES:!RC4:!MD5:!PSK:!aECDH:!EDH-DSS-DES-
  CBC3-SHA:!EDH-RSA-DES-CBC3-SHA:!KRB5-DES-CBC3-SHA
  SSLHonorCipherOrder on
```

```
SSLCompression off
SSLOptions +StrictRequire
```

```
ProxyRequests Off
```

```
<Proxy *>
```

```
Order deny,allow
```

```
Allow from all
```

```
</Proxy>
```

```
ProxyPass / http://localhost:8181/
```

```
ProxyPassReverse / http://localhost:8181/
```

```
LogLevel info
```

```
CustomLog ${APACHE_LOG_DIR}/turtl.log combined
```

```
</VirtualHost>
```

Save and enable the site:

```
a2ensite turtl
```

Enable required modules

```
a2enmod proxy
```

```
a2enmod proxy_html
```

```
a2enmod proxy_http
```

Restart apache

```
systemctl restart apache2
```

Creating account on first-time use

First time connecting, choose to create an account, input email and password and change the server address under "advanced settings" to:

```
https://turtle.<yourdomain>.com
```

to disable further registrations edit the file:

```
vi /opt/turtle/server/helpers/auth.js
```

comment out the "post /users" line as per the bellow:

```
// var public_routes = [];  
[  
  'get /',  
  // 'post /users',  
  'get /users/confirm/[^/]+/[a-f0-9]+',  
  'post /cla/sign',  
  'get /health/[a-z0-9]+',  
  'get /users/delete/[^/]+/[a-f0-9]+',  
  'post /users/delete/[^/]+',  
].map(add_public_route);
```

restart the service:

```
systemctl restart turtle
```

reboot and make sure the server is running and you can connect

That's it! You should now have a fully functional private turtl server. have fun with it.

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