

## FEDENA INSTALLATION INSTRUCTIONS FOR Ubuntu16

The text in # *italics* is Linux commands.

[Ubuntu may come with pre-installed MySQL and Apache web server. In that case, you need to uninstall MySQL server and you may also stop Apache (`sudo systemctl stop apache2`).]

Before proceeding with the installation steps make sure that you have following the doc as a root user.

### **1. Install MariaDB Server**

#### **1.a) Remove mysql-server**

```
# sudo apt-get remove mysql-server  
# sudo apt-get remove mysql-server-5.5  
# sudo apt-get remove mysql-server-core-5.5
```

#### **1.b) Install dependency**

```
# sudo apt-get install software-properties-common  
# sudo apt-get install build-essential  
# sudo apt-get install libcurl4-openssl-dev
```

#### **1.c) Install MariaDB**

```
# sudo apt-get update  
# sudo apt-key adv --recv-keys --keyserver hkp://keyserver.ubuntu.com:80  
0xF1656F24C74CD1D8  
# sudo add-apt-repository 'deb [arch=amd64,i386,ppc64el]  
http://mirror.fibergrid.in/mariadb/repo/10.0/ubuntu xenial main'  
# sudo apt-get update  
# sudo apt-get install mariadb-server  
# sudo apt-get install mariadb-client  
# sudo apt-get install libmysqlclient-dev  
# systemctl enable mysql  
# systemctl start mysql  
# mysql_secure_installation
```

**NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY!**

In order to log into MariaDB to secure it, we'll need the current password for the root user. If

you've just installed MariaDB, and you haven't set the root password yet, the password will be blank, so you should press enter here.

*Enter current password for root (enter for none):*

*OK, successfully used password, moving on...*

*Setting the root password ensures that nobody can log into the MariaDB root user without the proper authorisation.*

*Set root password? [Y/n] n <<<< you might want to set root password if so type y and then your password.*

*... skipping.*

*By default, a MariaDB installation has an anonymous user, allowing anyone to log into MariaDB without having to have a user account created for them. This is intended only for testing, and to make the installation go a bit smoother. You should remove them before moving into a production environment.*

*Remove anonymous users? [Y/n] n*

*... skipping.*

*Normally, root should only be allowed to connect from 'localhost'. This ensures that someone cannot guess at the root password from the network.*

*Disallow root login remotely? [Y/n] n*

*... skipping.*

*Remove test database and access to it? [Y/n] n*

*... skipping.*

*Reloading the privilege tables will ensure that all changes made so far will take effect immediately.*

*Reload privilege tables now? [Y/n] n*

*... skipping.*

*Cleaning up...*

*All done! If you've completed all of the above steps, your MariaDB installation should now be secure.*

*Thanks for using MariaDB!*

## **2.Install Ruby Using RVM**

### **2.a) Install dependency**

```
# sudo apt-get install libreadline-gplv2-dev
```

(This has to be installed before installing REE) If this is not available then the system will guide you to install the available alternate package.

```
# sudo apt-get install gnupg2
```

### **2.b) Install RVM**

```
# gpg --keyserver hkp://keys.gnupg.net --recv-keys  
409B6B1796C275462A1703113804BB82D39DC0E3
```

```
# \curl -sSL https://get.rvm.io | sudo bash -s stable
```

```
# source /etc/profile
```

```
# type rvm | head -n 1 (should return "rvm is a function" )
```

### **2.c) Install Ruby using RVM**

```
# rvm install 1.8.7
```

```
# rvm use 1.8.7
```

### **2.d) Verify if Ruby is installed successfully.**

```
# ruby -v (should return ruby 1.8.7 )
```

## **3. Downgrade Ruby Gems to version 1.3.7**

```
# rvm rubygems 1.3.7
```

```
# gem -v (should return 1.3.7 )
```

## **4. Install rails**

```
# rvm use @global && gem uninstall rake
```

```
# rvm use 1.8.7
```

```
# gem install rake -v0.8.7
```

```
# gem install rails -v 2.3.5 --no-ri --no-rdoc
```

```
# rails -v (should return Rails 2.3.5 )
```

## 5. Install packages for Fedena

```
# sudo apt-get install git-core
# gem install git -v1.2.6 --no-ri --no-rdoc
# gem install declarative_authorization -v0.5.1 --no-ri --no-rdoc
# gem install rush --no-ri --no-rdoc
# gem install i18n -v0.4.2 --no-ri --no-rdoc
# sudo apt-get install libxml2-dev
# sudo apt-get install libxslt-dev
# gem install jwt -v1.5.1
# gem install nokogiri -v1.4.4 --no-ri --no-rdoc
# gem install fastercsv --no-ri --no-rdoc
# gem install faraday -v0.9.2 --no-ri --no-rdoc
# gem install oauth2 -v0.6.1 --no-ri --no-rdoc
# gem install ruby-progressbar -v1.7.5 --no-ri --no-rdoc
# gem install vote_fu --no-ri --no-rdoc
# gem install validatable --no-ri --no-rdoc
# gem install json -v1.8.1
# gem install passenger
# gem install mysql --no-ri --no-rdoc
# gem install aws-s3 -v0.6.3 --ignore-dependencies
# gem install mime-types -v1.18
# gem install xml-simple -v1.1.5
# gem install builder -v3.2.2
# sudo apt-get install zip
# sudo apt-get install imagemagick
```

## 6. Add group and user

```
# sudo groupadd fedena
# sudo useradd -d /home/fedena -g fedena -m fedena
# sudo passwd fedena
```

## 7. Download and Install Fedena source code

Create a new folder **fedena** (the folder name should be fedena mandatorily) in the var directory and give it the required permissions:

```
# mkdir /var/fedena
# chown -R fedena:fedena /var/fedena
```

```
[root@fedena ~]# mkdir /var/fedena
[root@fedena ~]# chown -R fedena:fedena /var/fedena
```

Create another folder **fedena\_app** in srv directory and give it the required permissions:

```
# mkdir /srv/fedena_app
# chown -R fedena:fedena /srv/fedena_app
```

```
[root@fedena ~]# mkdir /srv/fedena_app
[root@fedena ~]# chown -R fedena:fedena /srv/fedena_app
```

Now login as fedena and goto to Fedena\_app directory to run the installer file:

```
# sudo su - fedena
# cd /srv/fedena_app
# wget http://downloads.fedena.com/installer.sh
```

And change the permissions of the file and run:

```
# chmod 755 installer.sh
# ./installer.sh
```

```
[fedena@fedena fedena_app]$ ./installer.sh
```

The installer file asks the user about some installation informations:

Please Enter the Licence Key and Hit enter.

```
[fedena@fedena fedena_app]$ ./installer.sh
Enter the License Key for the Plan
6€13
```

During the first installation, You have to choose option 1 to let the installer install the application.

```

Enter the required option :
1
Generating public/private rsa key pair.
Your identification has been saved in 1af7e3d314ef14225230052014.
Your public key has been saved in 1af7e3d314ef14225230052014.pub.
The key fingerprint is:
70:d1:93:94:7a:5f:3e:8a:b4:70:4e:5f:f3:12:b6:13 foradian@ds1.foradian.org
The key's randomart image is:
+--[ RSA 2048 ]-----+
|      .o.o      |
|      . =       |
|      . . . .   |
|      o. . . .   |
|      S. . o     |
|      . + . E    |
|      * + + B    |
|      + o + .    |
|      o         |
+-----+
{"status":true,"message":"Success!"}
true
connection validating...
The authenticity of host 'cds.fedena.com (182.18.166.79)' can't be established.
RSA key fingerprint is 3f:7b:e4:0a:6c:dc:8d:6d:45:3a:c1:9f:d8:c7:ce:fd.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'cds.fedena.com' (RSA) to the list of known hosts.

```

Are you sure you want to continue connecting (yes/no)? yes

Now the admin URL is to be entered.

```

Enter the URL to be used to manage your account :
accounts.██████████.com

```

You can now enter the no. of schools to assign for this installation.

```

Enter the No of Schools that you wish to create in this set up :
5

```

Please type your installation path (Eg : /srv/project\_name) : /srv/fedena\_app/fedena\_cds

```

Please type your installation path (Eg : /srv/project_name)
/srv/fedena_app/fedena_cds

```

Further, if **you have Whitelabel enabled** for your account, you need to enter the company name and URL followed by the confirmation as follows:

```

Enter the White Labelled name for the app :
Fedena
Enter the Company URL for the White Labelled app :
http://www.fedena.com
Whitelabel Enable for this set up ? [Y/n]
Y

```

However, if the '**Whitelabel Enable for this set up?**' is set as "Y" , the multi-school admin will be able to change the Whitelabel from the company profile.

Finally, the installer file would confirm the registration of the installation as follows:

```
=====cds_adapter Downloaded=====
Processing..: |=====
Successfully Downloaded and Registered the installation.Please proceed further to install the App as per the installation instructions
```

exist from the fedena user.

```
# exit
```

## **8. Fedena Database Setup**

### **8.a) Start the Database Server**

```
# sudo systemctl start mysql
```

### **8.b) Create MariaDB Database and user**

```
# mysql -uroot -e"CREATE USER fedena@%' IDENTIFIED BY 'fedenapw' " -p'rootpassword'
```

(**fedenapw** is the password for fedena user and **rootpassword** is the password given for root during mysql installation)

```
# mysql -uroot -e"CREATE DATABASE fedena_pro DEFAULT CHARACTER SET utf8
DEFAULT COLLATE utf8_unicode_ci" -p'rootpassword'
# mysql -uroot -e"GRANT ALL ON fedena_pro.* TO fedena@%" -p'rootpassword'
```

```
root@ip-172-31-23-142:~# mysql -uroot -e"CREATE USER fedena@%' IDENTIFIED BY 'fedenapw' " -p'root'
root@ip-172-31-23-142:~# mysql -uroot -e"CREATE DATABASE fedena_pro DEFAULT CHARACTER SET utf8 DEFAULT COLLATE utf8_unicode
ci" -p'root'
root@ip-172-31-23-142:~# mysql -uroot -e"GRANT ALL ON fedena_pro.* TO fedena@localhost" -p'root'
```

### **8.c) Configure Database Settings of Fedena**

Open the file "database.yml" and configure database details in the production section of this file.

```
# sudo su - fedena
# cd /srv/fedena_app/fedena_cds
# wget http://downloads.fedena.com/config.ru
# cd config
# cp database.yml.example database.yml
# vi database.yml
```



```

root@ip-172-31-23-143:~# cd /srv/fedena_app/fedena_cds
root@ip-172-31-23-143:/srv/fedena_app/fedena_cds# cd config
root@ip-172-31-23-143:/srv/fedena_app/fedena_cds/config# cp database.yml.example database.yml

```

Edit the production part of database.yml with above mysql settings ( username : fedena, password: fedenapw, database: fedena\_pro, host: localhost) (database.yml is inside config directory)

```

host: localhost
adapter: mysql
database: fedena
port: 3306
username: fedena
password: fedena
encoding: utf8
production:
  host: localhost
  adapter: mysql
  database: fedena_pro
  port: 3306
  username: fedena
  password: fedenapw
  encoding: utf8
cucumber:
  <<: *test

```

Save and exit file (press 'esc' button, then use command :wq! for saving and exiting)

#### 8.d) Populate Database with required Tables

Goto to the fedena source directory and Populate Database with required Tables

```

# cd /srv/fedena_app/fedena_cds
# rake fedena:install_multischool RAILS_ENV=production

```

```

[fedena@fedena fedena_cds]$ rake fedena:install_multischool rails_env=production
(in /srv/fedena_app/fedena_cds)

```



If the migration was successful, you will not get any errors at the end of the migration.

```
== AddSchoolIdToTransport: migrating =====
-- add_column(:vehicles, :school_id, :integer)
   -> 0.0977s
-- add_index(:vehicles, :school_id)
   -> 0.0717s
-- add_column(:routes, :school_id, :integer)
   -> 0.0915s
-- add_index(:routes, :school_id)
   -> 0.1376s
-- add_column(:transports, :school_id, :integer)
   -> 0.0584s
-- add_index(:transports, :school_id)
   -> 0.0838s
-- add_column(:transport_fees, :school_id, :integer)
   -> 0.0912s
-- add_index(:transport_fees, :school_id)
   -> 0.0878s
-- add_column(:transport_fee_collections, :school_id, :integer)
   -> 0.1042s
-- add_index(:transport_fee_collections, :school_id)
   -> 0.1108s
== AddSchoolIdToTransport: migrated (0.9373s) =====

[root@domU-12-31-39-03-C6-0E config]#
```

Run the seed file

```
# rake fedena:seed_schools RAILS_ENV=production
```

```
[fedena@fedena fedena_cds]$ rake fedena:seed_schools RAILS_ENV=production
(in /srv/fedena_app/fedena_cds)
```

```
# exit
```

## **9. Configure Wickedpdf**

```
# cd /opt
```

Download wkhtmltopdf

```
# wget http://downloads.fedena.com/wkhtmltopdf-0-12-2-1/ubuntu-16-04/64/wkhtmltopdf
```

Make it executable

```
# chmod +x wkhtmltopdf
```

## **10. Configure FET**

Note: only for users with automatic timetable generation module

Switch to fedena user and goto Fedena application directory then download fet-cl file

```
# sudo su - fedena
# cd /srv/fedena_app/fedena_cds
# wget http://downloads.fedena.com/fet_files/ubuntu/fet-cl
# chmod +x fet-cl
# exit
```

## **11. Install and configure the Web Server**

### **11.a) Install Passenger Nginx module**

```
# passenger-install-nginx-module
```

If you follow the onscreen instructions, it would show you the ways to install missing packages. After the missing packages are installed, run the above command again.

Enter choice 1 - Yes: download, compile and install Nginx for me

Press enter when asked for default path (/opt/nginx)

```
Automatically download and install Nginx?

Nginx doesn't support loadable modules such as some other web servers do,
so in order to install Nginx with Passenger support, it must be recompiled.

Do you want this installer to download, compile and install Nginx for you?

1. Yes: download, compile and install Nginx for me. (recommended)
   The easiest way to get started. A stock Nginx 1.0.10 with Passenger
   support, but with no other additional third party modules, will be
   installed for you to a directory of your choice.

2. No: I want to customize my Nginx installation. (for advanced users)
   Choose this if you want to compile Nginx with more third party modules
   besides Passenger, or if you need to pass additional options to Nginx's
   'configure' script. This installer will 1) ask you for the location of
   the Nginx source code, 2) run the 'configure' script according to your
   instructions, and 3) run 'make install'.

Whichever you choose, if you already have an existing Nginx configuration file,
then it will be preserved.

Enter your choice (1 or 2) or press Ctrl-C to abort: 1
```

**Nginx with Passenger support was successfully installed.**

Please edit your Nginx configuration file (probably `/opt/nginx/conf/nginx.conf`), and set the `passenger_root` and `passenger_ruby` configuration options in the 'http' block, like this:

```
http {
    ...
    passenger_root /usr/local/rvm/gems/ruby-1.8.7-head/gems/passenger-5.1.4;
    passenger_ruby /usr/local/rvm/gems/ruby-1.8.7-head/wrappers/ruby;
    ...
}
```

After you (re)start Nginx, you are ready to deploy any number of web applications on Nginx.

### 11.b) Configure Web Server

First goto `/opt/nginx/conf` and make required changes in the `nginx.conf` file.

```
# cd /opt/nginx/conf/
```

```
# vi nginx.conf
```

Uncomment pid and the path should be `/run/nginx.pid` and the user should be `fedena` (Please refer the below image)

```
user fedena;
worker_processes 1;

#error_log logs/error.log;
#error_log logs/error.log notice;
#error_log logs/error.log info;

pid /run/nginx.pid;

events {
    worker_connections 1024;
}

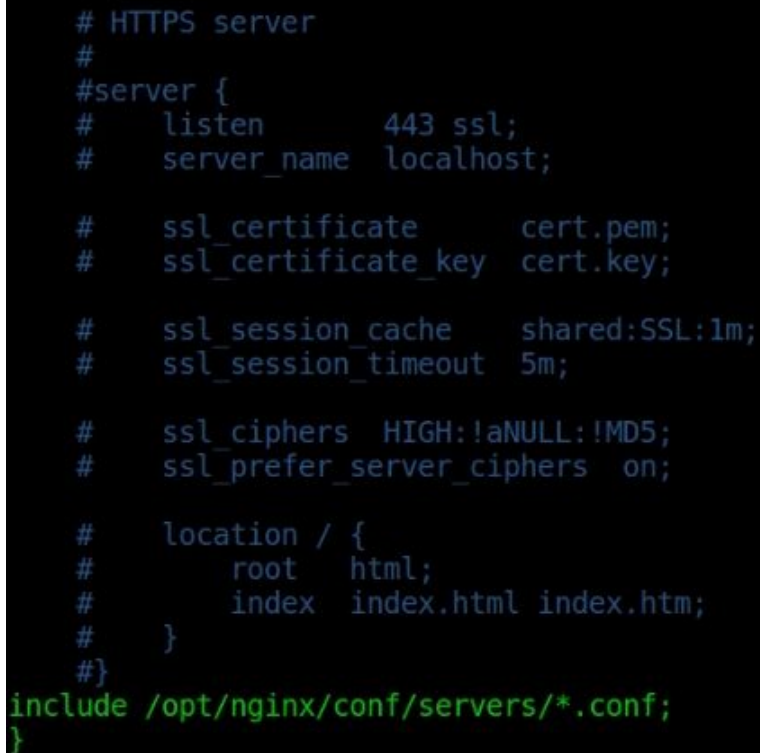
http {
    passenger_root /usr/local/rvm/gems/ruby-1.8.7-head/gems/passenger-5.1.4;
    passenger_ruby /usr/local/rvm/gems/ruby-1.8.7-head/wrappers/ruby;

    include mime.types;
    default_type application/octet-stream;
```

Also, add the below line just before the last "}" (curly bracket).

`include /opt/nginx/conf/servers/*.conf;`

(Please refer the below image)



```
# HTTPS server
#
#server {
#    listen      443 ssl;
#    server_name localhost;

#    ssl_certificate      cert.pem;
#    ssl_certificate_key  cert.key;

#    ssl_session_cache    shared:SSL:1m;
#    ssl_session_timeout  5m;

#    ssl_ciphers  HIGH:!aNULL:!MD5;
#    ssl_prefer_server_ciphers  on;

#    location / {
#        root   html;
#        index  index.html index.htm;
#    }
#}
include /opt/nginx/conf/servers/*.conf;
}
```

Go to /opt/nginx/conf create a new directory "servers"

`# sudo mkdir servers`

create a file with <domain-name>.conf

`# cd /opt/nginx/conf/servers`

`# vi domainname.conf`

paste the below details and save it.

+++++

```
server {
listen 80;
server_name <domainname>;
root /srv/fedena_app/fedena_cds/public;
passenger_enabled on;
}
```

replace <domainname> by domain name (eg: [foradian.com](http://foradian.com)) and <fedena-path> with Fedena source path (eg: [/srv/fedena\\_app/fedena\\_cds/public](#))

```
server {  
    listen 80;  
    server_name school.fedena.com;  
    root /srv/fedena_app/fedena_cds/public;  
    passenger_enabled on;  
}
```

Save and exit

### 11.c) Adding nginx to services

```
# In /opt/nginx/sbin/nginx /usr/sbin/nginx  
# cd /lib/systemd/system
```

Download nginx service config file from fedena server

```
# wget downloads.fedena.com/nginx.service  
# chmod +x /lib/systemd/system/nginx.service  
# systemctl enable nginx.service
```

### 11.d) Start Nginx

```
# systemctl start nginx.service
```

**Fedena Installation is now complete.** You may go to the domain name “<http://domain:port>”, just to ensure Fedena is working smooth.