
GMA
Versión 1.0

05 de julio de 2019

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Project created at Universidad del Quindío, Colombia

Installation instructions

The software execution process is carried out following a series of steps and previous configurations. This manual shows the process of installing dependencies in a personal computer that can serve as a local host to generate an internal network, or installation in a paid hosting; Regarding the installation in the local server, the manual for installation in the GNU / Linux and Windows operating systems is provided.

System dependencies:

- python >= 3.6
- pip
- xampp >= 7.1.28
- python3-mysqclient

Python dependencies:

- django >= 2.1
- django-cleanup
- django_select2
- django-bootstrap-datepicker-plus
- django-ckeditor
- django-bootstrap4
- mysqlclient
- openpyxl

The following pages explain how to install the dependencies.

Local server configuration

This section shows the process of installing the corresponding dependencies to configure the GMA software on a personal computer to generate personal networks or to create individual projects.

You have the scenarios where the following operating systems are:

- Windows
- GNU/Linux (Ubuntu based)
- GNU/Linux (Arch linux based)

2.1 GNU/Linux (All distibutions) initial proccess

The first step is to install the LAMPP software, which allows us to install the mysql database manager in a very simple way, to do so, download the following package <https://www.apachefriends.org/xampp-files/7.3.4/xampp-linux-x64-7.3.4-0-installer.run> that is easily installed in GNU/Linux operating systems. If you want to know more about this project, visit the following link <https://www.apachefriends.org/download.html>

When this software is downloaded, we execute the following commands in the folder where the file is located:

```
sudo chmod +x xampp-linux-x64-7.1.28-0-installer.run
sudo ./xampp-linux-x64-7.1.28-0-installer.run
```

The program installation process is executed. To install, follow the instructions provided by the same.

Every time you start your computer and you want to run the apache server, you must run:

```
sudo /opt/lampp/lampp start
```

The software is created with the framework called django, which has python as the programming language, we proceed to install it.

In Ubuntu based:

```
sudo apt install python3
sudo apt install python3-pip
sudo apt install python3-mysqldb
```

In Arch linux based:

```
sudo pacman -S python
sudo pacman -S python-pip
sudo pacman -S python-mysqldb
```

Nota: Many times, Linux distributions have installed the default dependencies, in this case, the system will inform you that the packages are already installed.

Now, we proceed to install django and its dependencies.

In all GNU/Linux distributions:

```
sudo pip3 install django django_cleanup django_select2 django_bootstrap_datepicker-
↳plus django_ckeditor django_bootstrap4 mysqlclient openpyxl
```

2.2 Microsoft Windows, initial process

Before installing django, it is necessary to install python next to the dependencies of the work environment, for this you must first check the Windows version, for it press the Windows key + Pause / Break, this will open the information of your system, there visualize if your version is 64 bits or 32 bits. Now with the version of your operating system, go to the next page and download the latest version of python 3 <https://www.python.org/downloads/windows/>, keep in mind the version of your operating system, install the program .

Nota: When you install the program, select the «Add python 3.X to PATH» option

Now we are going to install django and its dependencies, for it press the Windows + R keys and type cmd, there will be displayed a window known as command line, there we will execute:

```
python3 -m pip install --upgrade pip
```

And finally we execute:

```
pip install django django_cleanup django_select2 django_bootstrap_datepicker-plus_
↳django_ckeditor django_bootstrap4 mysqlclient openpyxl
```

The last step is to install the XAMPP software, which allows us to install the mysql database manager in a very simple way, to do so, download the following package <https://www.apachefriends.org/xampp-files/7.3.4/xampp-windows-x64-7.3.4-0-VC15-installer.exe> that is easily installed in Windows. If you want to know more about this project, visit the following link <https://www.apachefriends.org/download.html>. Install xampp and start the «Mysql» and «Apache» services, If the services are started correctly, they should appear green.

Finish local configuration and run

When you have the dependencies installed, you proceed to execute the project, the following configuration is the same for windows as for GNU / Linux.

Every time you start your computer and you want to run the apache server, you must run in GNU/Linux:

```
sudo /opt/lampp/lampp start
```

In windows you must run the program xampp control panel and start all services.

3.1 First time configuration

Nota: This procedure should only be done once

When xampp is running, we must write in a web browser the address <http://localhost/phpmyadmin>, This page is responsible for the management of SQL databases; we go to the link «databases», and in the section of creating database we write «morphological» without quotes, and press the create button, with this we already have the database created, we can close the configuration tab of the database.

After creating the database, we proceed to generate the migration of the structures of the tables, for that we go to the project folder «morph», there we execute the next commands:

```
python3 manage.py makemigrations
python3 manage.py migrate
```

Nota: If all goes well, error messages should not appear

Now it's time to generate a user as administrator:

```
python3 manage.py createsuperuser
```

Data will be requested such as:

- username
- email
- password

At this point, the application is already successfully configured

3.2 Execution

Every time you want to start the application, you must execute the following command in the «morph» project folder:

```
python3 manage.py runserver
```

And you must go to the default URL that is <http://127.0.0.1:8000> there you will see the application running and you can log in with your username and password that you generated in the previous step...

3.3 Running as local server

If you want to have a computer as a local server to generate a local network around the application you must connect to any WiFi network just like the hosts that wish to access the application, there you must know the IP address assigned to you, to it runs on GNU/Linux:

```
ifconfig
```

In Windows:

```
ipconfig
```

there appears the assigned IP address, copy it and every time you want to run the server simply execute:

```
python3 manage.py runserver <your-ip>:8000
```

The other hosts must access the web browser and type <http://<your-ip>:8000> and you're done, you have your application configured successfully

Hosting server configuration

There are several hosting service providers that support django, in this documentation it has been decided to explain how a project is configured in a linux shared hosting in A2hosting since the configuration is very similar in all hostings that support django, in addition A2hosting has been tested several times and has been seen its efficiency.

Initially in the case of A2hosting, we must go to CPanel, there we go to the «Setup python application» section, there we select version 3.7 of python, the field of «App directory» we type morph and the field «App domain name» we left it empty and press the Setup button, You already have your python application created.

Now from your computer connect to the server by ssh, the password and the user are provided in the client area of a2hosting, go to the folder where you created your python application, and enter the created virtual environment (it can be viewed in the cpanel> «Setup python application» with the name «Command for entering to virtual environment»), por example: *source /home/user/virtualenv/myapp/3.6/bin/activate*

4.1 First time configuration

The following steps should only be done once.

The initial installation of django and its dependencies is shown in the [following link](#). provided by a2hosting, perform all the steps and you will have a django application running successfully.

Apart from the previous configuration, the dependencies of the project must be installed, for this it executes the following command:

```
pip3 install django-cleanup django_select2 django-bootstrap-datepicker-plus django-  
→ckeditor django-bootstrap4 mysqlclient openpyxl
```

This page is responsible for the management of SQL databases; we go to the link «databases», and in the section of creating database we write «morphological» without quotes, and press the create button, with this we already have the database created, we can close the configuration tab of the database.

Now go to the cPanel and enter the section called «phpmyadmin», After creating the database, we proceed to generate the migration of the structures of the tables, for that we go to the project folder «morph», there we execute the next commands:

```
python3 manage.py makemigrations
python3 manage.py migrate
```

Nota: If all goes well, error messages should not appear

Now it's time to generate a user as administrator:

```
python3 manage.py createsuperuser
```

Data will be requested such as:

- username
- email
- password

At this point, the application is already successfully configured, restart the server by clicking on the «restart» button in the cPanel section > «Setup python application» for the changes to take effect

The administrator profile can perform the following operations

- Create and manage projects
- Add, view and edit users
- Edit the home page
- Edit profile data

5.1 Visual structure of the program

The web application has three main sections, these sections are composed in: left side panel which contains the main menu, the top where the information of the current page and the user options are, finally the body of the page where all the events of the application occur.

5.2 Create and manage projects

As it is said before, in the part of the left of the page is the menu, to manage the projects, go to the section called «Projects», there is a table which contains the list of the existing projects with their respective data, the data «Mode» refers to the mode of administration of the project of your profile, if you are an administrator you can edit all its characteristics, but if you are a collaborator you can only do limited things available to the administrator.

Click on the buttons to add, edit or delete projects to perform the respective actions, when you click on them, a modal window will appear asking you to add the necessary data and confirmations.

The display button takes you to a different page where the specific project data is displayed, there you can edit them and add a characteristic image of your project, you can export all the data of the project with their respective matrices by pressing the button that has the symbol of a spreadsheet, in addition, you find three additional buttons with links to the input matrix, the cross consistency matrix, and the status of problems.

5.2.1 Input matrix view

In this section the aforementioned matrix is shown, you can add parameters and their respective values, to do so, press on the button that has the add symbol with title «Parameter», there you will be asked for the title of the parameter and a value initially, for add another value, click on the box in the parameter table and press the add button, there you will be asked for the value text. So you will proceed with the following actions.

In addition, you can give permission to collaborating users to edit only specific parameters and thus have better clarity about the process, for more information, click on the «help» button on the aforementioned page.

5.2.2 Cross consistency matrix

In this section the consistency matrix is shown, the separate parameters are generated to improve the visualization, for each parameter the options with which it can be related are enabled, to change the status of «X» (they are not related) to «-» (if they are related) you simply have to click on the button and that's it, for more information, click on the «help» button on the aforementioned page.

5.2.3 Problem states

This section shows the initial matrix where you can click on the cells you want, clicking on a cell will enable and disable others according to what you have done in the cross consistency matrix, the cores are Red, Blue and Gray , those that correspond to selected, enabled to select, disabled to select respectively.

When you finish the process, you can save the configuration by clicking on the «Options»> «save» button and overwrite an existing record or create a new record, which you can then load by clicking on «Options»> «load».

5.3 Add, view and edit users

To administer the users, go to the section on the left in the menu press the «Users» option, there will be a table with the current users and their respective option buttons.

5.4 Edit the home page

There is the possibility of adding text at the top of the page as an administrator, for this go to the menu on the left and click on the «Home page» option, there you can write text related to the page or related to the various aspects of the analysis morphological, this text will be displayed by all registered users.

5.5 Edit profile data

Personal data can be edited, so go to the menu at the top, click on your photo and then click on the «Profile» option, this will show you your personal data and the different options regarding your data, for example the edition of your password, the edition of your profile photo and your data, plus a list of the projects in which you participate.

The no admin user user profile can perform the following operations

- Create and manage projects
- Edit profile data

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About the project

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Universidad del Quindío 2019