Erasmus+

SIMULTRA PROJECT

2017-1-IT01-KA202-006140

simultra
Simulation of Logistics and Transport processes

WAREHOUSE MANAGEMENT SYSTEM

CIFPA
Centro de Innovación para la Formación Profesional de Aragón

INTELLECTUAL OUTPUT A.5.7

Technical manual of Didactic warehouse management system

CIFPA/ Gonzalo Olmo Correcher, Jose Antonio Navarro

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1. Introduction

Unfortunately for learning the required competencies of the warehouse manager profile have not been developed to date complete and effective teaching tools having to the instructor use real WMS software in their versions Educational.

Learning these skills ineffective yet very difficult as these are very complex and closed systems designed for complex industrial environments. As a result, it is not possible to develop real case studies, and very basic small practices must be carried out in already created and closed environments.

The didactic WMS software developed by CIFPA allows the learning of such competencies in an intuitive and open way.

As discussed above and will be developed at the following points, the educational software has two game modes, the first of them guided and the second free.

The first would correspond to an initial learning of the basic competencies and tasks developed by the warehouse manager. A series of practices will be carried out each of them by basic areas that once completed will give a basic knowledge of the software and the potential that will allow free mode.

The second, free mode, would correspond to an advanced learning of the competencies of the professional profile of warehouse manager since it allows the initial configuration of any type of warehouse, from a basic one to a complex warehouse system interconnected with other departments such as manufacturing, quality, shipments or purchases.

This free mode allows, once the warehouse, shelves, products, maintenance and lifting machines, customers, suppliers, barcode readers and internal departments are set up, throwing different well-to-be practices if you have that real or simulated warehouse that will allow the effective development of the professional competencies of the warehouse manager profile.

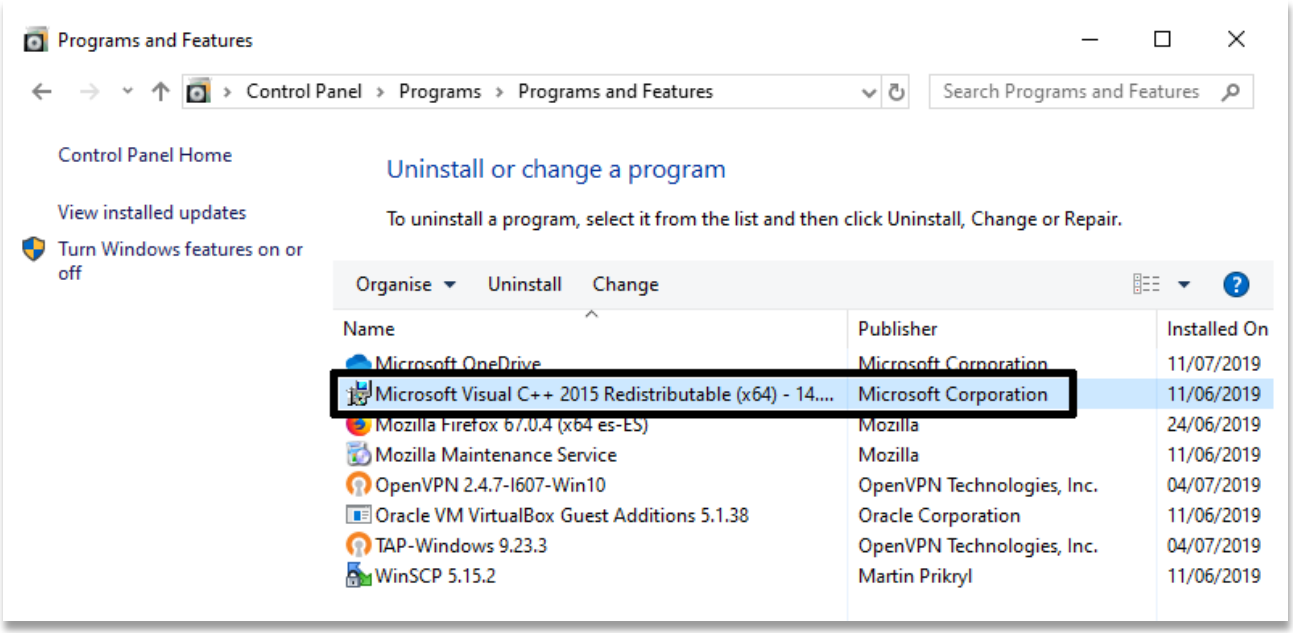
The didactic software will have different levels of user: **administrator** with editing privileges of the software, **teacher** with the possibility of creating new practices and **student** without editing privileges.

2. Installing Simultra WMS

Simultra WMS is a complex application whose deployment depends on several external applications such as **MariaDB**, **PHP 7.0**, **Composer**, **Git** and **Nodejs .** These applications must be configured appropriately so that they can be used by "*SimultraWMS*". Therefore, for your convenience, the **Simultra.exe** installer that we provide will proceed to the installation and configuration of these packages automatically and without any intervention on your part. In addition **Simultra.exe** will create and populate the database of the application by deploying at the end of the "scripts" that will allow you, "at the click of a click", to install the web*"Simultra WMS* " (*runcomposer*) and launch the HTTP server and launch into your default web browser (*runserver*).

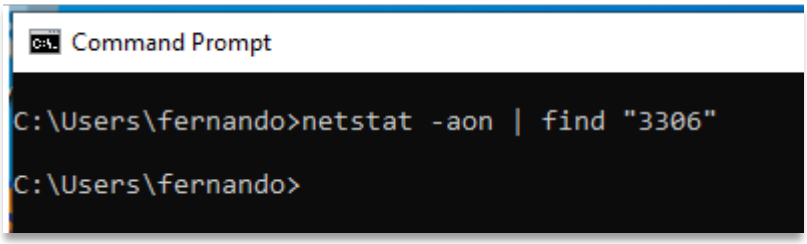
Before installing*"Simultra"*we must make sure that the system is ready to receive it by performing the following checks:

A. Your system has the Microsoft Visual C++ Redistributable software**package installed:**



Note: If necessary you can download such a package at the following link vc_redist.x64.exe

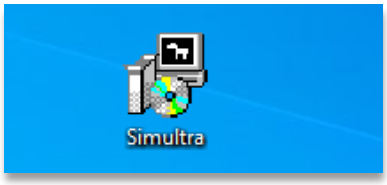
B. Port tcp 3306 is available on your system: 'netstat -aon 'find"3306"



C. The user has the necessary privileges to install the software and make modifications to the system.

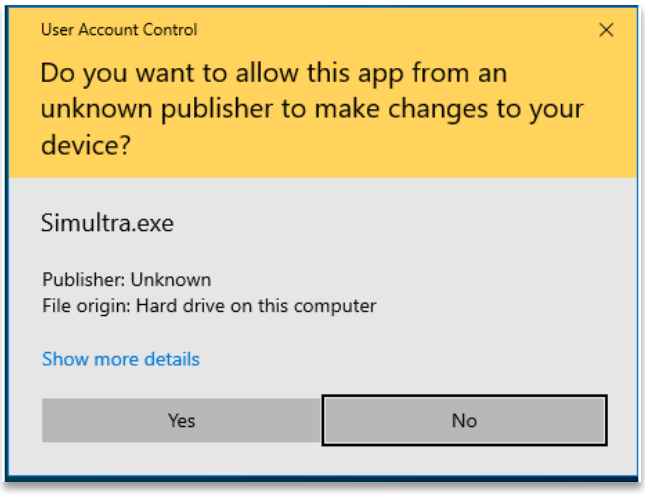
2.1. Installing Simultra dependencies.

1. After you have verified that your system is ready to install Simultra and its dependencies (see section above) you can proceed to run "Simultra.exe" with a "double click".

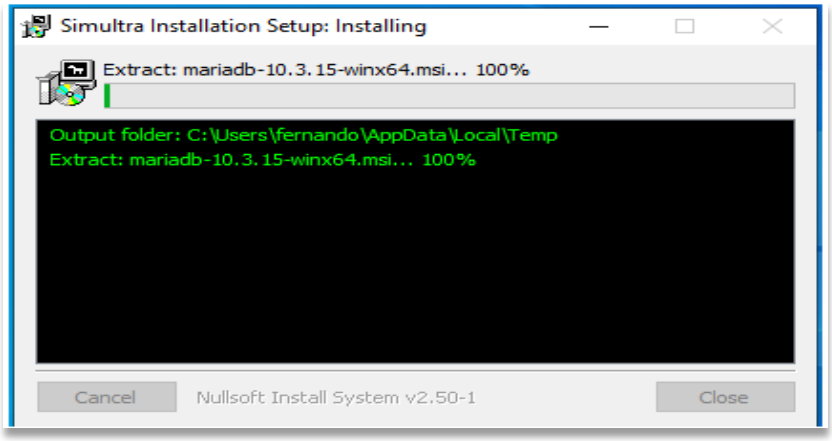


Note: The size of the executable is approximately 136 MB.

2. Give permissions for "Simultra.exe" in the Windows "pop-up" commit.

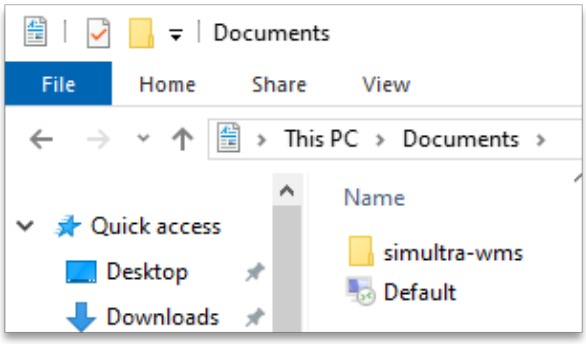


Simultra.exe will proceed to install MariaDB, PHP, Composer,Git and Nodejs. It will also import the *Simultra* database and deploy the scripts "runcomposer" and "runserver".

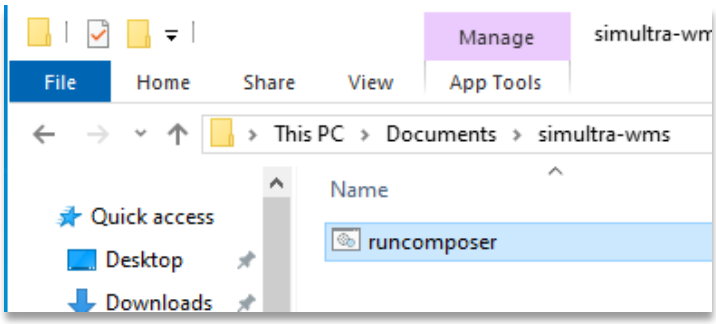


Note: This process takes about 15 minutes, although it may vary significantly depending on the capabilities of the equipment.

3. At the end of your task the installer opens the "simultra-wms" folder that you will find in your "Documents" directory.

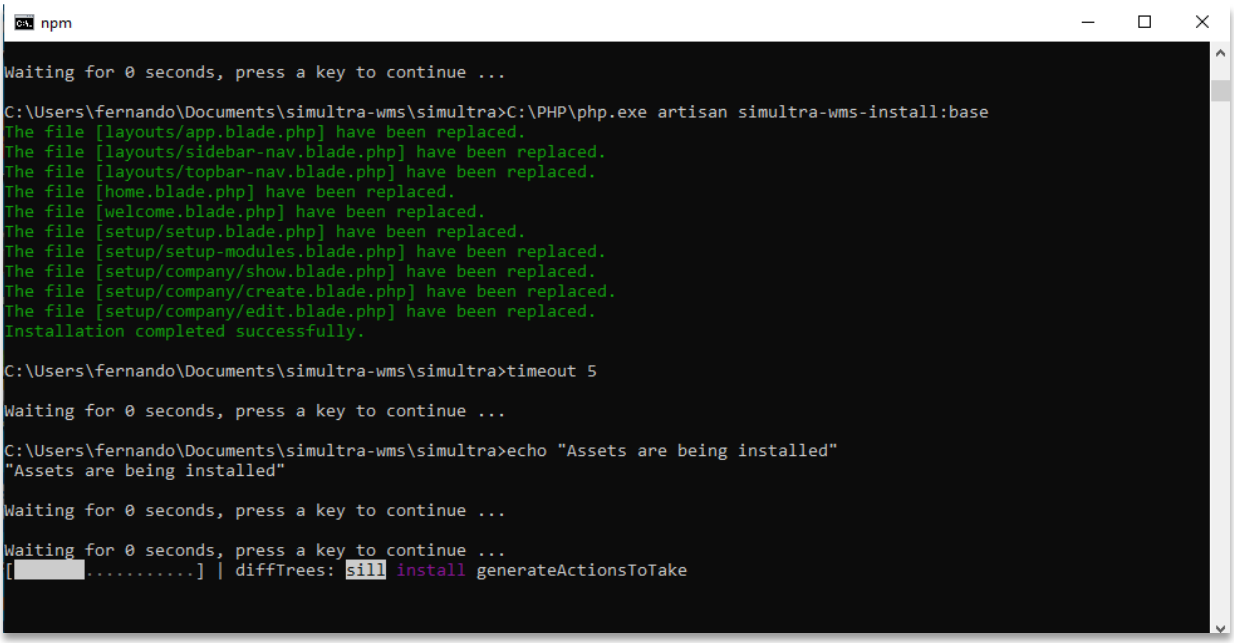


Inside that folder you will find the "script"*"runcomposer*". Double-click on it and you will proceed to the installation of the *Simultra* application.



Don't worry if the installer seems to "freeze" at some point. Let it work until the console is closed.

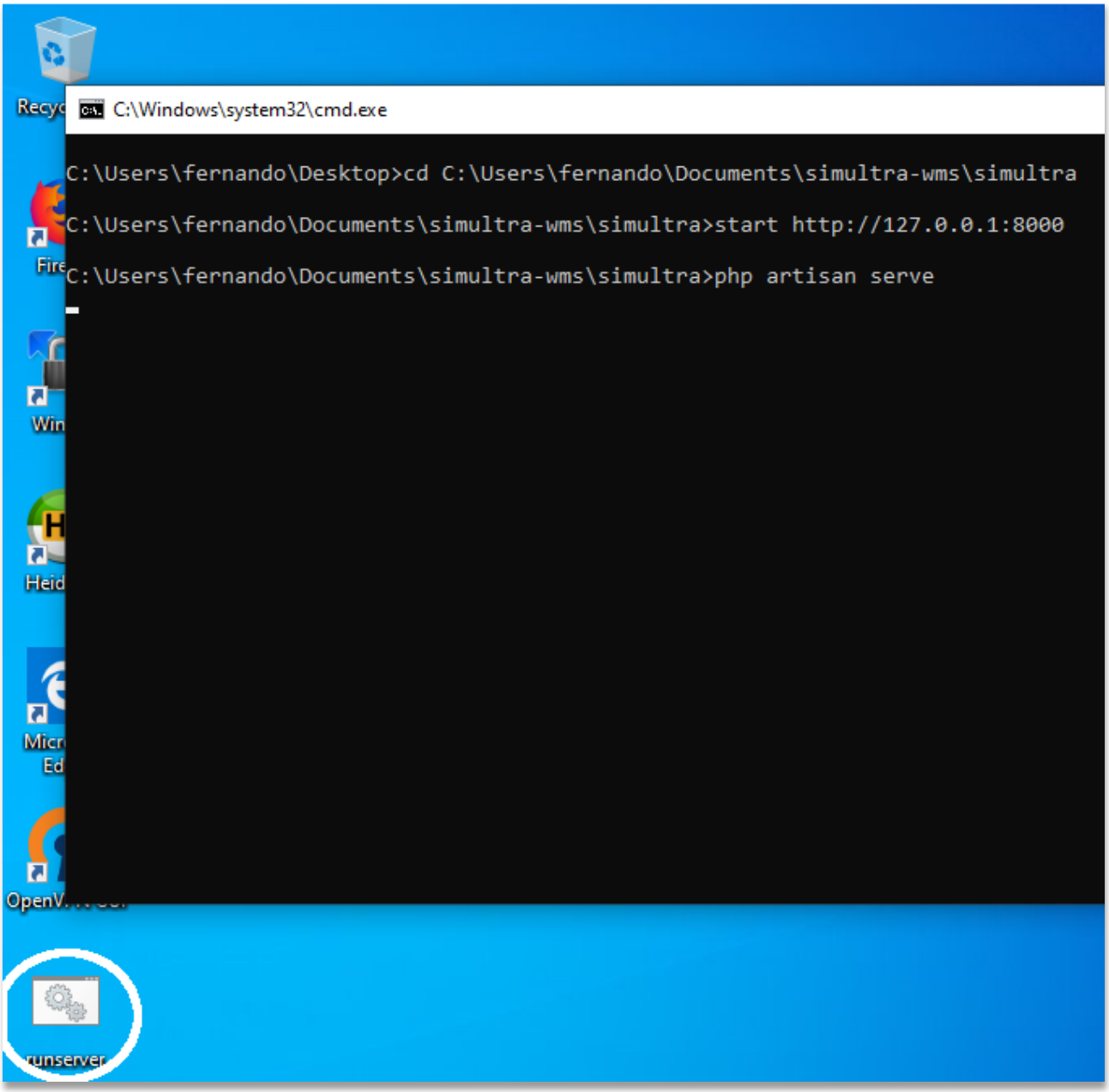
Note: The duration of this process depends heavily on the resources of the computer as well as the speed of the network and can be extended up to 20 minutes.

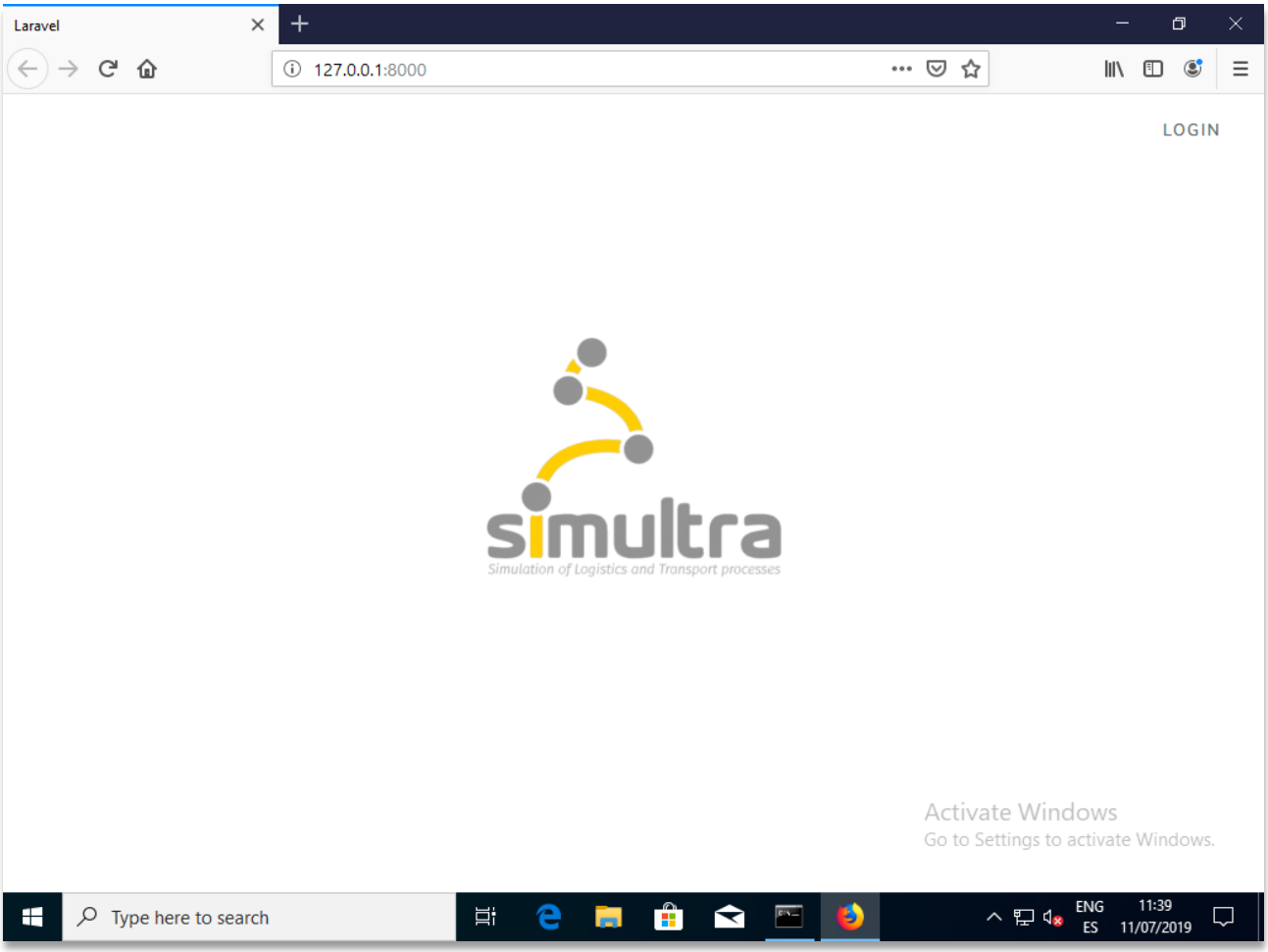


Note: The script has some pauses scheduled at the end of each command. You can skip these pauses by pressing any key when prompted by the console, however we recommend that you let the program work automatically.

4. Once Simultra is installed, the command console will close. At that point you can already proceed to the execution of the program. To do this, double-click on the "runserver" script that you will find on your desktop.

   The "runserver" console will launch the local HTTP server from "Simultra WMS" and open the application automatically in your default web browser. This console must remain open while using the application. And you only must proceed to close it when you want to end your session with "Simultra WMS".





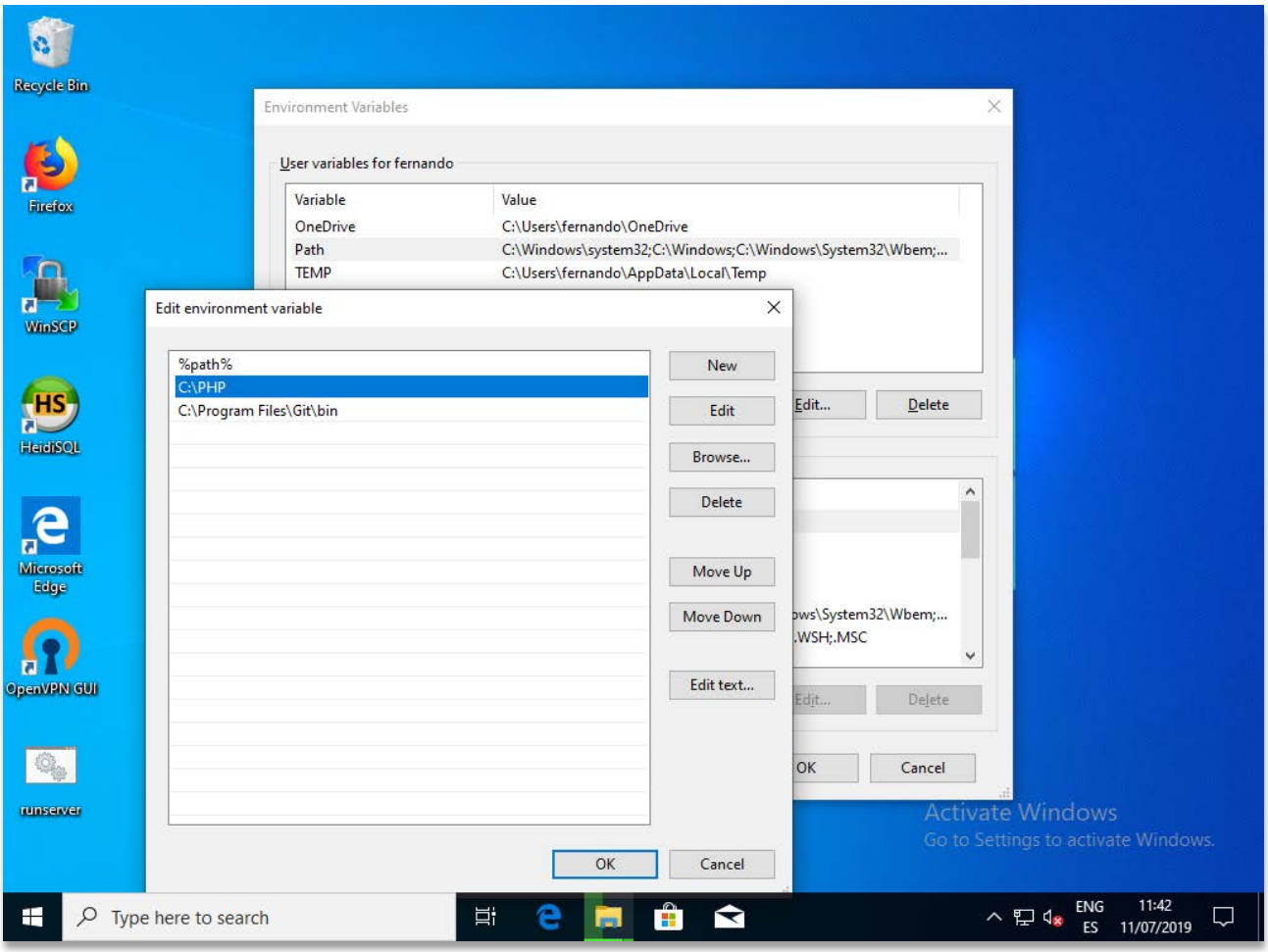
5. USER AND PASSWORD

user: admin@simultra-wms.com
password: 12345678

2.2. Uninstalling Simultra.

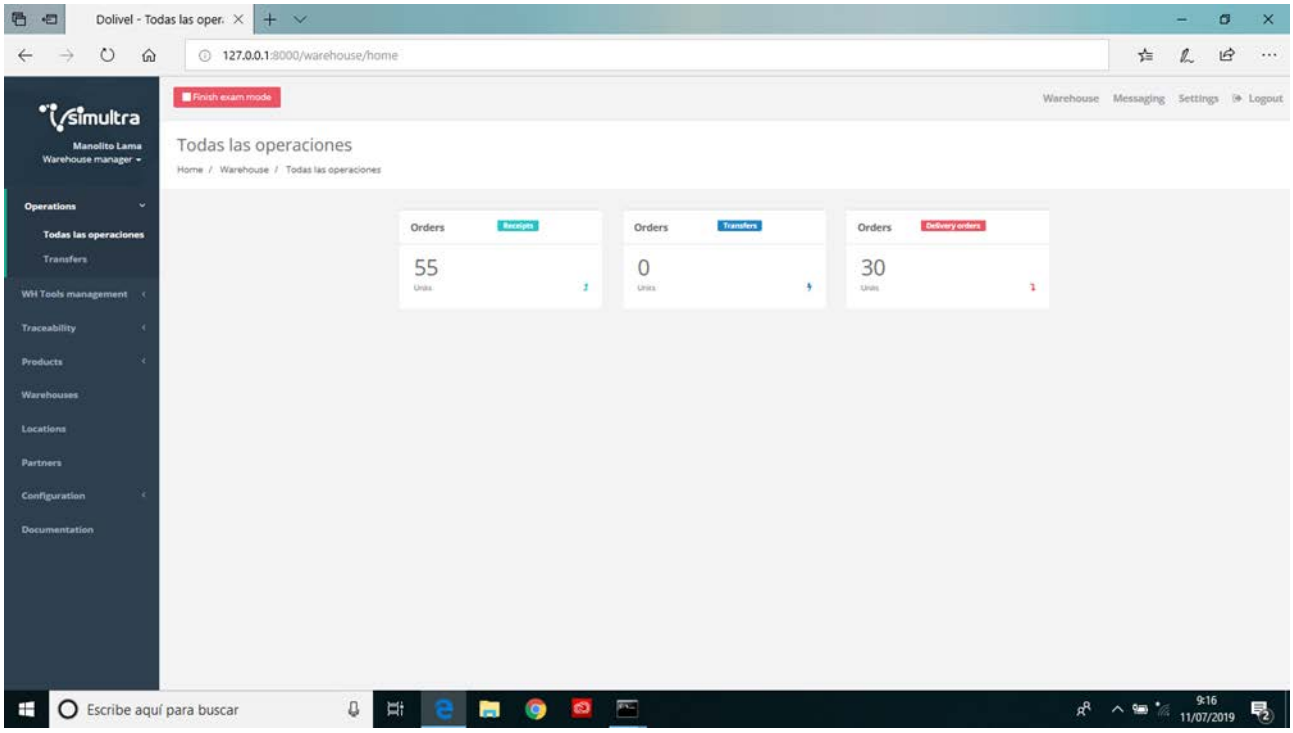
Simultra doesn't provide an uninstall application but the process is simple and comes down to performing the following steps.

1. Delete the *"simultra-wms"* directory from your "Documents"
2. Delete the "runcomposer" file from your desktop.
3. Uninstall the packages "MariaDB", "Composer", "Git" and "Nodejs" from the "Control Panel"
4. Delete the paths 'C:-PHP' and 'C:'Program Files\Git\bin' from your user's PATH environment variable.



3. Navigation through the Software interface

In the interface, we find tabs with the following functionalities:



ALL OPERATIONS AND TRANFERS

Here are the internal and external inputs, outputs and transfers with the possibility of viewing and creating them.

WH TOOL MANAGEMENT

Here are the lifting and maintenance devices to be used in the practices.In guided mode they are already created, but it is giventhe possibility of creating newin free mode.

The devices that can be created for a conventional warehouse are: conventionalelectric wheelback, retractable, myearly and stacker.

The necessary documentation of each machine can be added in free mode in case of failure or maintenance to be consulted.

TRACEABILITY

Screen where the movements between the warehouses are.

PRODUCTS

You can create new products or simply visualize their characteristics and where you are located, as well as set your safety stock and view it.

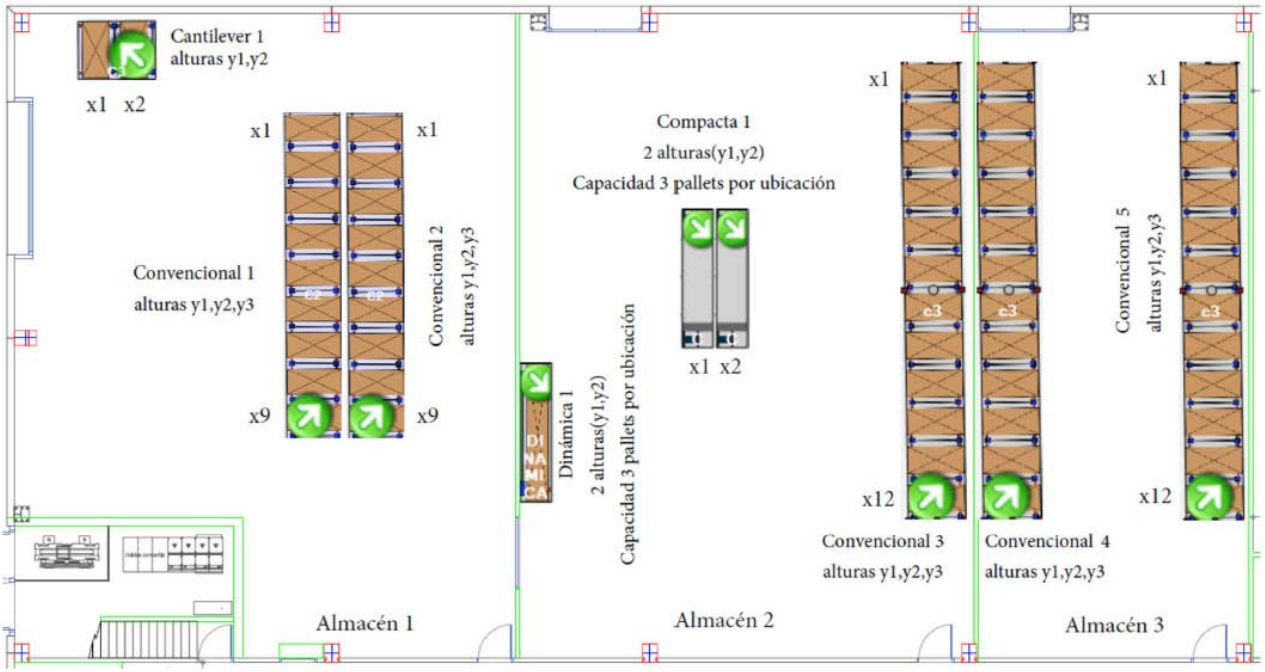
STORES

Here you can create new warehouses or just without a system. Initially in mode are guided created 3 warehouses: Warehouse 1, Warehouse 2 and Warehouse 3.

- Warehouse1: In it we find the following shelves:

- Shelf 1 (CONV1): Conventional shelf. It consists of 9 shelves (x1 to x9) and 3 heights (y1 to y3)
- Shelf 2 (CONV2): Conventional shelf. It consists of 9 shelves (x1 to x9) and 3 heights (y1 to y3)
- Shelf 3 (CANTIL1): Cantilever shelf for long bars located with 2 shelves (x1 to x2) and 2 heights (y1 to y2)

- Warehouse 2: In it you will find:
  - Shelf 4 (CONV3): Conventional shelf. It consists of 12 shelves (x1 to x12) and 3 heights (y1 to y3)
  - Shelf 5 (COMPACT1): Located compactly with 2 shelves (x1-x2) and 2 heights (y1-y2). Note: 3 packages or packages fit on each shelf.
  - Shelf 6 (GRAV1): Gravity shelf with 2 heights (In each height can fit 3 boxes)
- Warehouse 3. In it you will find:
  - Shelf 7 (CONV4): Conventional shelf. It consists of 12 shelves (x1 to x12) and 3 heights (y1 to y3)
  - Shelf 8 (CONV5): Conventional shelf. It consists of 12 shelves (x1 to x12) and 3 heights (y1 to y3)



PLANO DE UBICACIONES DE ALMACENES

LOCATIONS

It is possible to name each shelf, set the barcode of the location and the address of the location. From this tab it is possible to include a particular stock of product.

PARTNERS

New customers, suppliers and internal departments of the company can be viewed and created: quality, production, etc....

CONFIGURATION

Setting up basic software features: language, etc...

SUPPORT DOCUMENTATION

Manual of lifting and maintenance devices, warehouse plan with the locations, list of products with all their characteristics, list of suppliers, list of customers, etc...

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