

MsMeds

Directions for Use



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Overview

Ms.Meds is a web based application designed for students in healthcare settings to simulate using an EHR and EMAR. It can allow students to view patient information in an electronic format, administer medications, and write care notes.

Electronic documentation is an important part of healthcare. Scanning medications is a difficult part of the process that is often overlooked when funds prevent getting a real medication dispensing system. Ms. Meds has been developed to be a low cost solution that allows students to make a sim centers med admin use barcodes on medications, patient ID bands, and student IDs to administer meds like they would in the hospital.

The system allows participants to login via a barcode badge, scan their patients ID band and scan the drugs as they dispense and administer to the patient. Faculty will be able to view the medications live remotely to double check that participants have not made an error, or if they have they will be able to adjust the simulation for the incorrect medication.

Hardware Requirements

- Server PC or a Virtual Machine(talk you your IT department)
Recommended PC specs:
 - Processor: 10th or 11th Gen Intel Core i5, i7 or i9 Processor, or Apple M1 Processor (CPU)
 - Memory (RAM): 8-16 GB of RAM
 - Storage: 240 GB drive, or larger.
 - Physically wired to the network is strongly preferred
- Client WOWs(Computers on wheels)
 - Any computer/tablet that will run a modern web browser should work.
- USB barcode scanners
 - Can be found online for ~\$20
- Barcoded labels for Medications, Patient ID bands and User ID badges
 - [Avery.com](https://avery.com) labels work great

Installation and setup

Note: Though it is not impossible for a novice to install MsMeds, it is best to have an IT professional setup this system.

Server Setup

Installing the Operating System:

These are brief steps on installing Ubuntu linux for the server. There are plenty of great through guides online on how to install the operating system, if you are lost [google it](#). You also do not need to use Ubuntu or even linux, but that is outside the scope of this guide.

1. Goto <https://releases.ubuntu.com/>
2. Download the iso file for IUbuntu for desktop
3. Make a bootable usb drive with the ISO
4. Boot your server PC with the USB drive inserted
5. Select your language and Select 'Install ubuntu'
6. Select the following:
 - a. language and keyboard
 - b. minimal installation
 - c. Erase entire disk and begin installation
 - d. Your time zone
7. On the "Who are you?" screen enter the following:
 - a. Your name: **simuser**
 - b. Your computer name:msmeds-server
 - c. Pick a username:simuser
 - d. Password, pick something you will remember and something **STRONG**
 - e. Select '**Require my password to login**'
8. System will begin installation(could take over an hour... go grab lunch.)
9. When complete Remove the USB drive and Restart the system

Installing the web server software

1. Login using the password you just set.
2. Ubuntu has a start menu on the bottom left click: System tools>LXterminal
NOTE: when entering commands into the command window type exactly what is in the boxes below, not capitalization, no extra spaces. If you have never used a command prompt, you should seek tech help.
3. Update before you install anything, run the following commands:

```
sudo apt update  
sudo apt upgrade
```

4. Install the following: Net-tools,apache2,mysql-server,php,libapache2-mod-php,php-mysql
Run the following command

```
sudo apt install net-tools apache2 mysql-server php libapache2-mod-php php-mysql
```

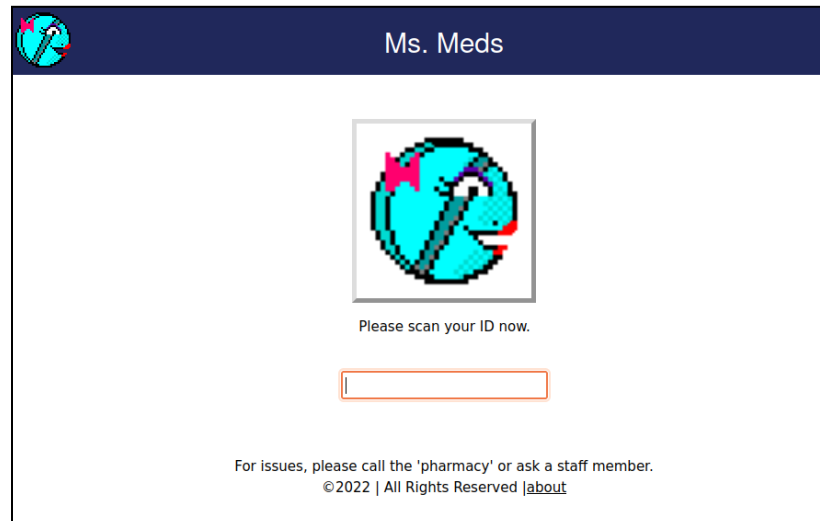
5. **Test mysql:**
Run the following commands:
The prompt will show a welcome to mysql screen, this means mysql has installed correctly,

```
sudo mysql  
exit
```

6. **Test Apache:**
Open the web browser and type 127.0.0.1
You should see the 'Apache2 Ubuntu Default Page', this mean the server is working
7. Copy all the MsMeds files into the web directory '/var/www/html'
Set ownership of the folder to apache

```
sudo -rv cp Msmeds-main/* /var/www/html  
sudo chown -R www-data:www-data /var/www/html
```

8. Open the web browser and type 127.0.0.1 again you should see the MsMeds screen in the window.



phpMyAdmin setup

phpMyAdmin is a program to edit the database on the server.

1. Enter the following command

```
sudo apt install phpmyadmin
```

2. Select yes to use and 'apache2' and 'dbconfig-common'
3. Enter a password, Use: "Il0velamp!", installation will complete
4. While in the MsMeds directory enter the following:

```
sudo ./AddSQLUsers.sh
```

This will add the users for administration of phpmyadmin and the default sql account for MsMeds

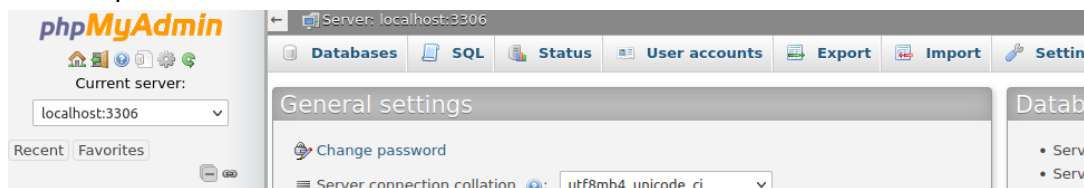
NOTE: After this command is run delete the files for the users. It is a serious security threat to leave the files and allow MsMeds on a network. To delete the files enter the following command:

```
sudo rm AddSQLUsers.sh users.sql
```

5. Open the web browser and type 127.0.0.1/phpmyadmin/ you should see the following:



6. Login with the user name 'phpmyadmin' and the admin password above
7. Click 'Import'



8. Click "browse" and select 'SampleDatabase.sql'
This will setup the data for MsMeds
9. You are now ready to run MsMeds on the server computer! Complete network setup to have access from other computers.

Network Setup

MsMeds is a web server and needs to be set up on a network. However it must be set up with a static IP lease in order for users to find it on the network. If you are using a home router you can find this setting in the setup. This will change from company to company, please follow the instructions for your router.

If MsMeds is being set up on a large organization's network, consult with the IT department or Networking Team on the best way to proceed.

Note: Until MsMeds is set up on the network you should be able to test it by opening 127.0.0.1 on the server's web browser.

Scanners and Barcodes

Scanners

Most USB barcode scanners are plug and play and require no installation. Once plugged in, when you scan a barcode it will be the same as typing in the number on the barcode into the keyboard very quickly. You can easily test them by opening a word processor and scanning any barcode, the 'code' stored in the barcode will show up in the document.

When a barcode is tested you should see the cursor jump down one line as if you pressed the enter key after the code was typed. Most will do this by default and no action is required. If not, the scanners should be

programmed to end in a 'line return' to work with MsMeds. The barcode scanner you purchase should have a section on how to 'Add a suffix' to iot operations.

Barcodes

MsMeds uses barcodes for Medications, patient ID bands and user logins. The barcode for the medications and patient ID bands can be anything. Some companies sell pre-made 'fake' medications such as DemoDOSE. These packages can be used with MsMeds. UserIDs must always begin with 'MedId' acceptable User ID barcodes could be; MedId218231, MedIdjakemiller, MedIdK38JKIkde98KJ etc...

Utilizing word processing software or online barcode labeling software is recommended.

User Computer Setup

Workstations on wheels or plain laptops can be used, so long as the device has a modern web browser. Windows, Linux or Mac will work. [LUbuntu](#) running [Firefox](#) is recommended as it will run quickly on old cheap hardware. If the user computer is a linux or windows machine you can set up the MsMeds web address as a normal website rather than an IP address. (e.x. MsMeds.net rather than 192.168.1.151)

MsMeds Website setup

Follow these sets for all computers in your department

1. Get the IP address of your server. Open a command prompt and type:

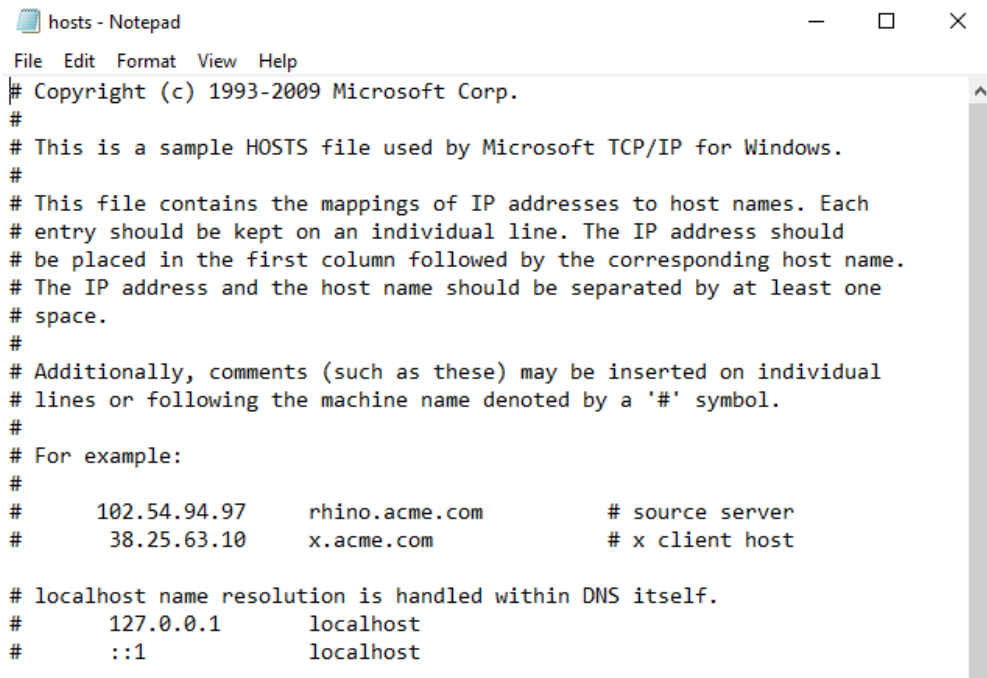
```
~$ ifconfig
```

2. Edit the hosts file

Add this line to the hosts file following the directions below. xxx.xxx.xxx.xxx is your ip address

```
(xxx.xxx.xxx.xxx)    MsMeds.net    #MsMeds Server
```

Hosts file example:



```
hosts - Notepad
File Edit Format View Help
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
# 102.54.94.97 rhino.acme.com # source server
# 38.25.63.10 x.acme.com # x client host
#
# localhost name resolution is handled within DNS itself.
# 127.0.0.1 localhost
# ::1 localhost
```

Windows 11, 10 and 8

Press the Windows key.

Type Notepad in the search field.

In the search results, right-click Notepad and select Run as administrator.

From Notepad, open the following file: c:\Windows\System32\Drivers\etc\hosts

Make the necessary changes to the file.

Click File > Save to save your changes.

Windows 7 and Vista

Click Start > All Programs > Accessories.

Right-click Notepad and select Run as administrator.

Click Continue on the Windows needs your permission UAC window.
When Notepad opens, click File > Open.
In the File name field, type C:\Windows\System32\Drivers\etc\hosts.
Click Open.
Make the necessary changes to the file.
Click File > Save to save your changes.

Windows NT, Windows 2000, and Windows XP

Click Start > All Programs > Accessories > Notepad.
Click File > Open.
In the File name field, type C:\Windows\System32\Drivers\etc\hosts.
Click Open.
Make the necessary changes to the file.
Click File > Save to save your changes.

Linux/Ubuntu

```
nano /etc/hosts
```

3. Repeat on all dedicated user computers

Administration

Overview

The default administrator account is:

Username: **admin**

Password: **\$imlab**

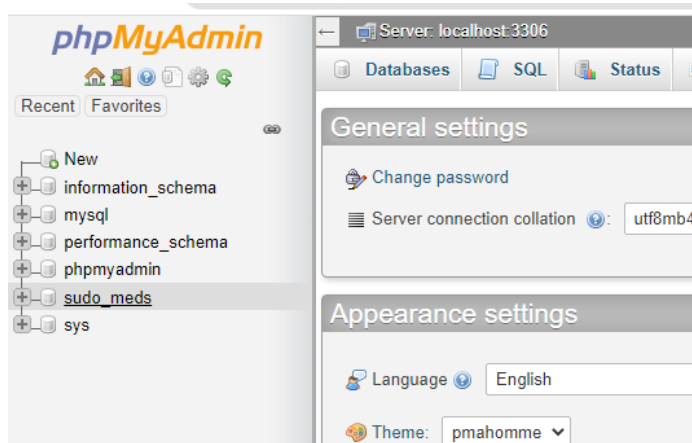
Administering MsMeds consists of managing medications, patients, and patient files. All of this is done in the 'Admin Portal'. The 'Admin Portal' gives access to upload patient files and edit the data tables. It can only be accessed by admin accounts. Login with admin account and click on 'Admin Portal'

There are 4 directly editable data tables.

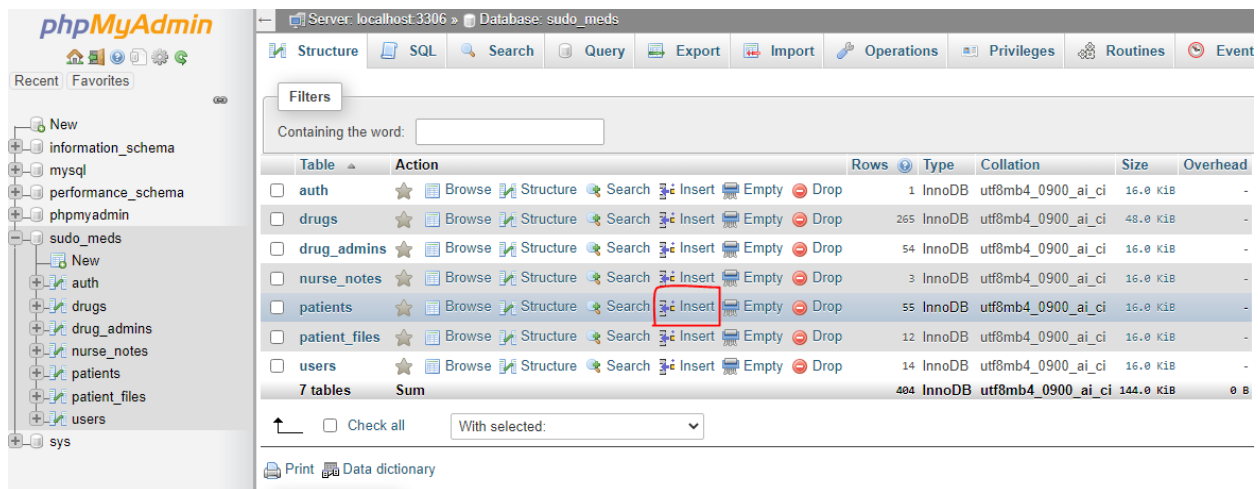
1. Patients
Contains patients and their information
2. Users
Contains all users. Pins are not stored but hashes of them are. Access levels are 1 for student, 2 for faculty who can view all activity, and 3 for Administration
3. Drugs
All medications
4. Patient_Files
Non standard files, such as diagnostic tests, extended patient history office visit summary, etc...

Adding Patients and Medications

1. Navigate to phpMyadmin via your server address/phpmyadmin or login to the admin account
2. Click on the 'sudo_meds' database



3. Click 'Insert' on the patients line



4. Enter the patient information under **Value** (Leave id and Immortal blank)
 - a. FirstName
 - b. LastName
 - c. Barcode(this will also function as the MRN choose a number)
 - d. Date of Birth (MM/DD/YYYY)
 - e. Provider
 - f. MarFile (PDF file name)
 - g. HpFile (PDF file name)
 - h. OrdersFile (PDF file name)

i. ReportFile (PDF file name)


Column	Type	Function	Null	Value
id	int			
FirstName	varchar(16)			John
LastName	varchar(16)			Doe
Barcode	varchar(40)			123456789
DOB	varchar(16)		<input type="checkbox"/>	11/7/2022
Provider	varchar(40)			Aldo Castaneda M.D.
MarFile	text			doe-john-mar.pdf
HpFile	varchar(40)			doe-john-hp.pdf
OrdersFile	varchar(40)		<input type="checkbox"/>	doe-john-orders.pdf
ReportFile	varchar(60)			doe-john-report.pdf
Immortal	int			

Go

5. You can enter multiple patients on this screen, when ready Click 'GO' to add a patient.
A successful patient will display 'X rows added'
6. The patient will now be visible

Patient Chart

Below is the main patient screen. It will display the current user or student, basic patient identifiers, patient's provider and navigation buttons to the different parts of the patient's chart.

 <div style="float: right;">Hello Miles!</div>					
<h1>Ms. Meds</h1> <div style="float: right;"> Open Patient Logout </div>					
Patient: Marshal Ericson DOB: 12/11/1954 MRN: 3141592 Provider: Aldo Castaneda M.D.					
Shift Report	H & P	Orders	Diagnostics(Labs, Rad, etc..)	Medications	Care Notes

The patient's chart is broken down into 6 sections

Shift Report

This is the report from the off going clinician. It contains a short overview of the patient and their last assessment.

H & P (History and Physical)

Patient's medical, family, social histories.

Orders

This section includes Patient demographics, Active Orders and Provider orders. Includes identifying information such as name, date of birth and other information.

Diagnostics

Contains any other information in patient chart such as labs, radiology reports, cardiographics and anything else.

Medications

Contains Medication Orders and record of all medication given before and during you simulation.

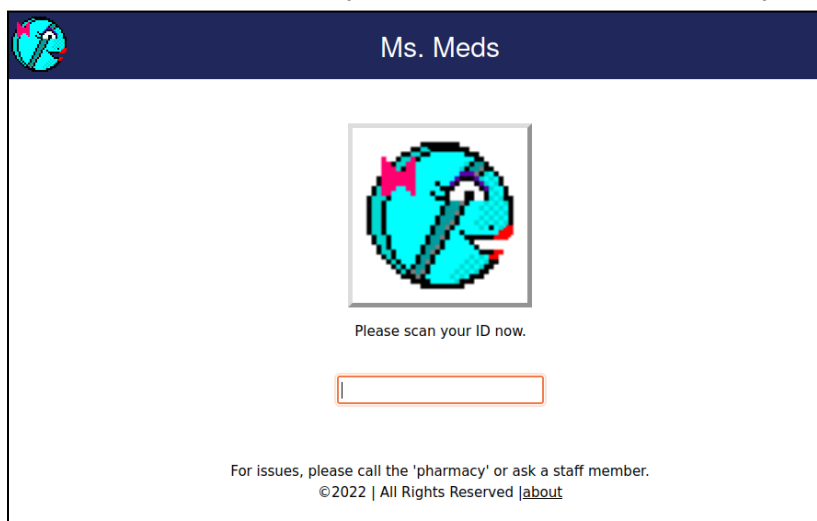
Care Notes

A place to chart notes on your patient's care, status and vitals.

Basic Operations

User first login

1. Open a web browser and type in the address of Ms. Meds you will see the following screen



2. Select the text box and Scan/type your ID badge
See Simulation staff about getting a barcode for your badge

3. Enter your First and Last name
Add a security pin(Can be any length or left blank)

Register New User

A pin recommended but is not required. If you use no pin your data and your patient's data will NOT be secure. You should always take security precautions using patient data.

FirstName

LastName

Pin

Pin(Again)

Cancel

Submit Form

4. After data entry, you are redirected back to login page

Opening a patient

1. Scan/type your ID badge Enter your pin
2. Scan the patient's ID band.
Note: Patient Identifiers are visible across top of screen
3. Click on any tab to open content
 - Shift Report
 - History & Physical
 - Provider Orders
 - Diagnostics
 - Medications
 - Care Notes

Administering Medication

The following steps assume you have procured a medication and have a valid order

1. Login and open a patient
2. Open 'Medications' tab
3. Locate medication order and verify
4. Enter administration time under "Medications Given"
5. Click in 'Scan Medications' box
6. Scan the medication
You will be prompted to check the 6 rights
7. The medication be added to the list of medications given

Writing a 'Care Note'

1. Login and open a patient

2. Open the 'Care Notes' tab
3. Enter all fields under 'New Note'
4. Click 'Chart' button to add to list of 'Patient Care notes'