

Documentation

# NITC Healthcare Management System

---

## GETTING THE APPLICATION RUNNING

### Prerequisites

1. MySQL Database Application
2. Apache
3. PHP (v7 or higher)
4. Browser enabled with Javascript

Any Apache-MySQL-PHP stack application will be sufficient to set up the backend server. (Recommended : XAMPP)

**-> Download the source code**

**-> Install xampp stack**

Download and install the xampp installer corresponding to your OS from <https://www.apachefriends.org/index.html>

**-> Starting xampp**

### Linux

```
$ sudo/opt/lampp/xampp start
```

### Windows

Start the xampp manager and start MySQL and Apache

**-> Start MySQL console and create a database named "HMS"**

## **Windows**

Open shell from xampp manager

```
$ mysql -u root
```

## **Linux**

```
$ /opt/lampp/bin/mysql -u root
```

Inside the SQL console (Common for both)

```
> CREATE DATABASE HMS;
```

**-> Recover the HMS database from dump file provided**

## **Linux**

open source code directory in terminal

```
$ cd SQLDump/  
$ /opt/lampp/bin/mysql -u root HMS < HMS.sql
```

## **Windows**

open shell from xampp manager and enter code directory

```
$ cd SQLDump/  
$ mysql -u root HMS < HMS.sql
```

**-> Running the Server**

## **Linux**

open source code directory in terminal

```
$ cd Code/  
$ /opt/lampp/bin/php -S localhost:8000
```

## Windows

open shell from xampp manager and enter the code directory.

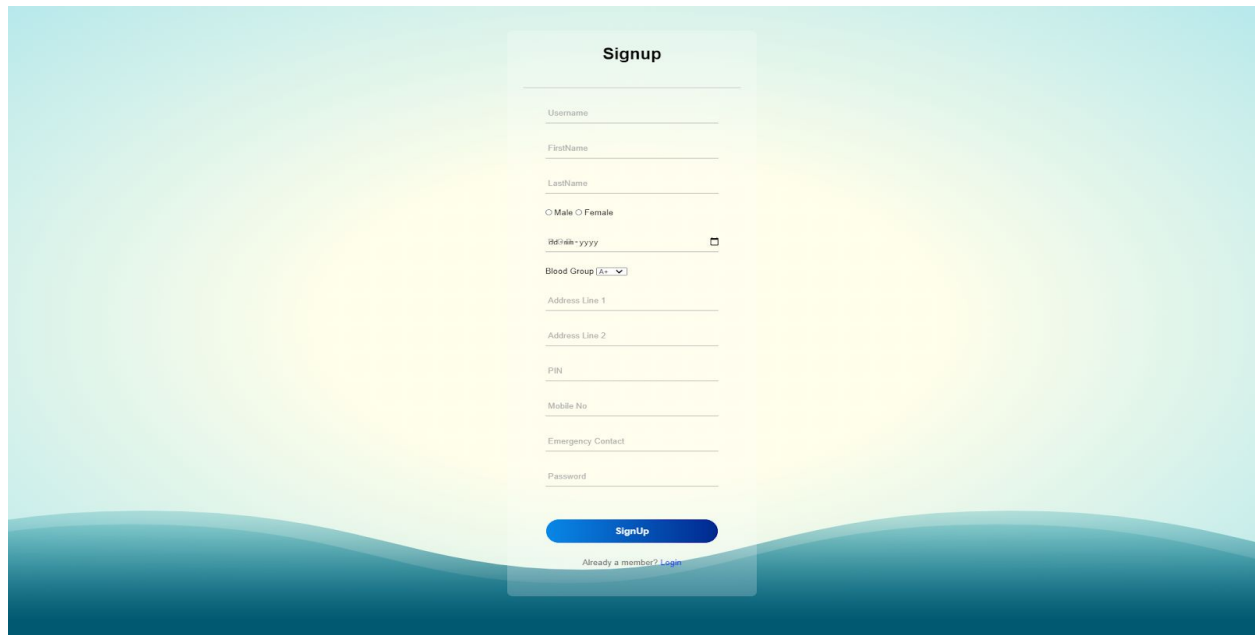
```
$ cd Code/  
$ php -S localhost:8000
```

(This will start the server listening to port 8000. It can be made to listen on other port by replacing 8000 by other value in commands)

### -> Accessing the website

Open a browser enabled with javascript and type the url <http://localhost:8000> this takes you to the login page of the user. Links to SignUp and Suppliers Login is provided here.

## 1.SIGNUP



The screenshot shows a 'Signup' form centered on a light blue background with a wavy pattern at the bottom. The form is titled 'Signup' and contains the following fields: Username, FirstName, LastName, Gender (Male/Female), Birthdate (MM/DD/YYYY), Blood Group (dropdown), Address Line 1, Address Line 2, PIN, Mobile No, Emergency Contact, and Password. A blue 'SignUp' button is at the bottom, with a link 'Already a member? Login' below it.

**Signup**

Username

FirstName

LastName

☐ Male ☐ Female

Birthdate - yyyy

Blood Group (A+)

Address Line 1

Address Line 2

PIN

Mobile No

Emergency Contact

Password

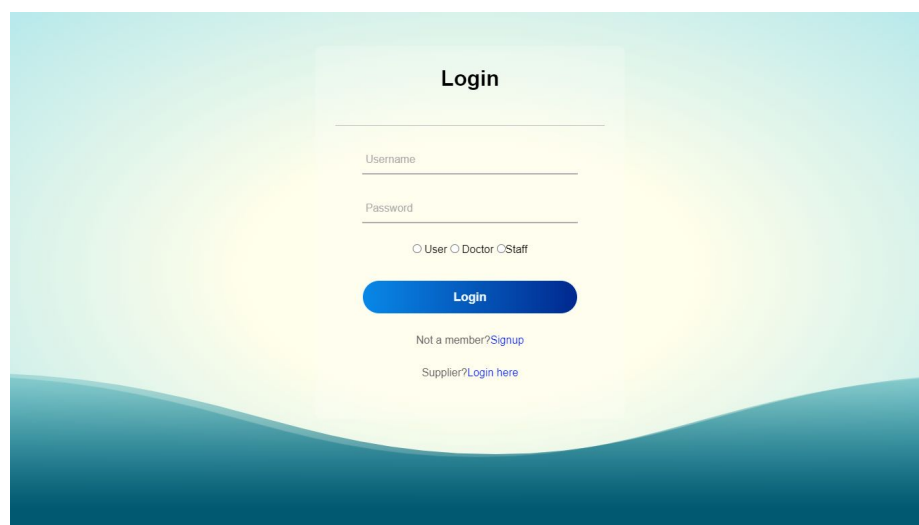
**SignUp**

[Already a member? Login](#)

Sign up to the HCMS by entering user information. Users can choose any unique username except admin which is reserved for the administrator of the system. This signup is common for Staff and Patients. Filling of all fields are required for signup.

Supplier has a different signup but almost similar signup. Supplier has to enter contact number instead of username.

## 2.LOGIN



The screenshot shows a 'Login' form centered on a light blue background with a wavy pattern at the bottom. The form is titled 'Login' and contains the following fields: Username, Password, and Role (User/Doctor/Staff). A blue 'Login' button is at the bottom. Below the button are two links: 'Not a member? Signup' and 'Supplier? Login here'.

**Login**

Username

Password

☐ User ☐ Doctor ☐ Staff

**Login**

[Not a member? Signup](#)

[Supplier? Login here](#)

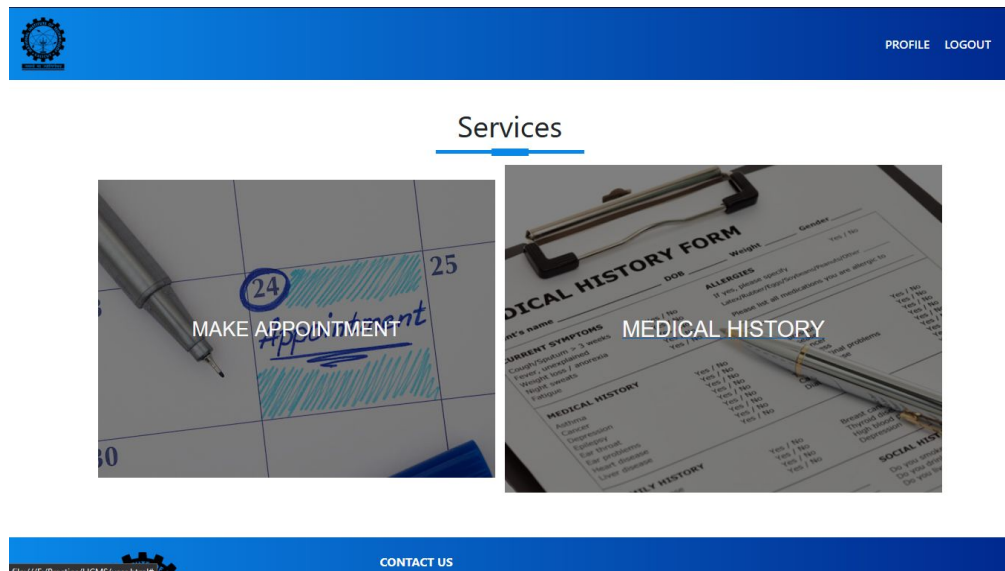
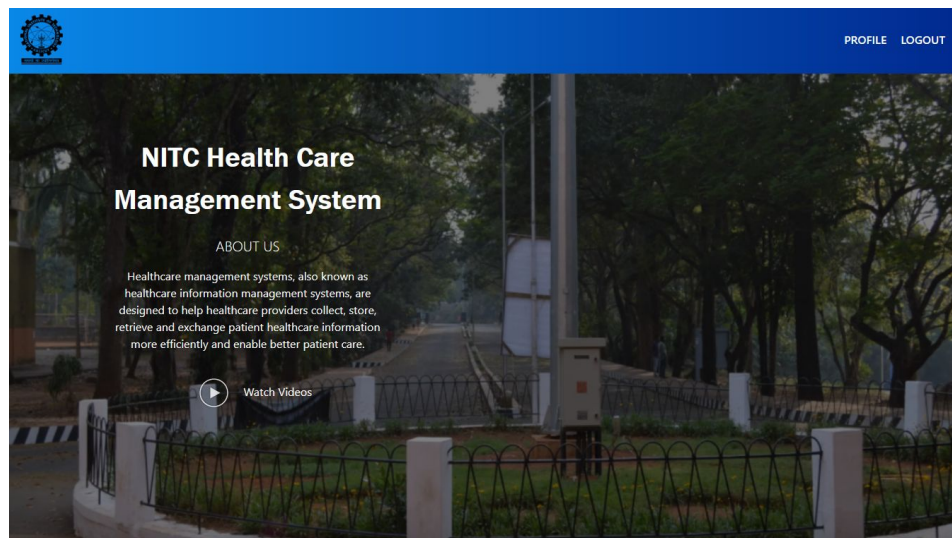
Login with username and password along with corresponding roles. Login with wrong credentials and wrong role type is not permitted. To login with administrator privileges use the username “admin” and password “admin” which is set by default. UI to change administrator password can be implemented later. All fields are required for successful login.

Suppliers are given a separate login page. Suppliers have to login using their phone number and password

### 3.HOME

The user have two services


1. Book an appointment
2. View/ Add Medical History



## 4.MAKE APPOINTMENT


Users can enter the Book appointment portal by clicking the MAKE APPOINTMENT link given in the home page.

HOME **Book an Appointment**



DOC1234  
>Dr. DOCTOR 1 LNAME  
NIT Calicut

Select



DOC12345  
>Dr. DocName LastName  
NIT Calicut

Select

**Book a Visit**  
Monday to Friday 09.00am-06.00pm

Dr. DOCTOR 1 LNAME

12/28/2020


9:00 am

Book Now

To book an appointment user has to click the select button corresponding to a doctor, select the date and time of appointment from the right tab and click the “Book Now” button. If the doctor already has another appointment then booking won’t take place and it will be notified. Otherwise a message showing successful booking will appear.

## 5.MEDICAL HISTORY

Users can enter the MEDICAL HISTORY portal by clicking the MAKE APPOINTMENT link given in the home page. In the portal user can view his past medical history records and also add new records.

 MEDICAL HISTORY HOME LOGOUT

**PREVIOUS MEDICAL HISTORY**

DATE

01-11-2019

RECORD

Covid-19

**ADD NEW MEDICAL RECORD**

DATE

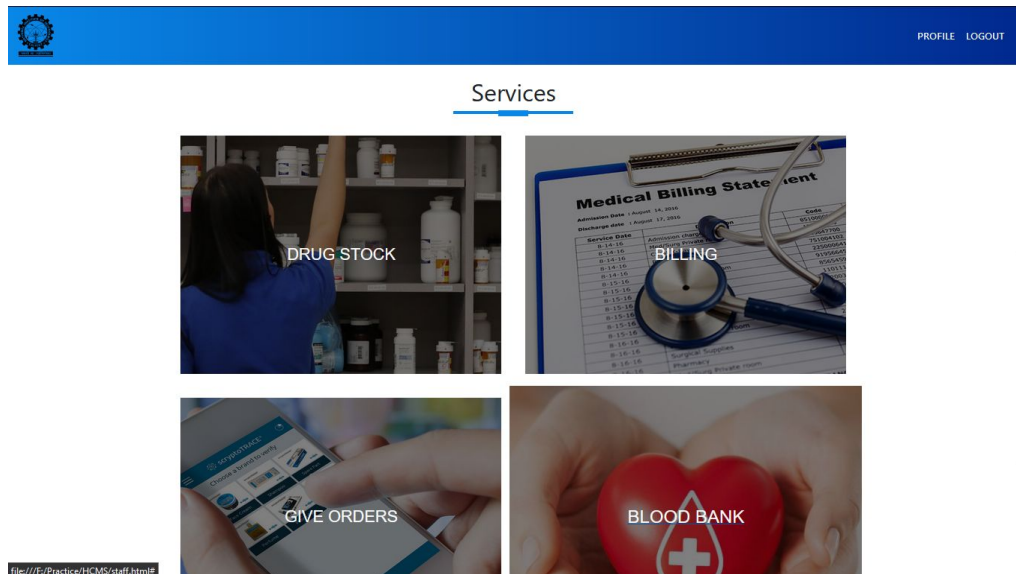
RECORD

Submit

## 6. STAFF HOME

The staff have privilege to perform four services

1. Check availability of drug in the pharmacy
2. Billing of drugs
3. Give / Acknowledge new orders of stock to the Supplier
4. Check / Maintain the functioning of blood bank



## 7. DRUG STOCK

Details including Name, Quantity, Manufacturer, Batch, Expiry Date, Price and Composition of Drugs available in the pharmacy can be seen here. The composition along with the percentage can be viewed by clicking on the name of the drug.

HOME

### Drug Stock

Name	Manufacturer	Batch	Quantity	Expiry Date	Price
PARACETAMOL 500mg	CIPLA	2020-12-25	100	2022-02-02	30
PUDIN HARA	DABUR	2020-12-25	1000	2022-04-15	30
COVAXIN	PUTIN	2020-12-25	500	2021-09-17	150

## 8.BILLING

The staff can issue medicine by selecting the billing option on the home page. New drug can be added by selecting from the drop down menu and quantity is entered below it. After clicking on the 'Add to Cart' Button the drugs and respective price is displayed. The Total price can be seen on the bottom of the page. Click Checkout to confirm purchase after selecting the userID. Pdf format of receipt can be downloaded from the pop-up window.

The screenshot shows a web interface titled "ORDERS". At the top, there is a header bar with the text "ORDERS". Below the header, there is a section for adding items to the cart. It includes a dropdown menu for selecting a drug, a quantity input field (currently showing "10"), and an "ADD TO CART" button. Below this, there is a table displaying the items in the cart:

Description	Quantity	Unit Price	Sub Price
COVAXIN Drug ID:3	5	₹150	₹750
PARACETAMOL 660mg Drug ID:1	10	₹30	₹300
FUDIN HARA Drug ID:2	10	₹30	₹300


At the bottom right of the table, there is a "TOTAL PRICE" section showing "₹1350". Below this, there is a "Select User" dropdown menu and a "CHECKOUT" button. A small text "Proceed to Checkout" is visible next to the "CHECKOUT" button.

## 9.GIVE ORDERS

Staff can enter the portal for giving orders by clicking the GIVE ORDERS link given in the home page.

In the portal staff can issue new orders to suppliers. Staff has to select a supplier from the drop down list and the drug to be ordered. While selecting from the dropdown list staff has to ensure that the circle corresponding to selection is getting highlighted. Also enter the quantity required. In the portal staff can also view the orders pending to be supplied (Under Orders) by the supplier and the ones fulfilled (Under Orders Fulfilled) by the supplier. In the fulfilled section staff can acknowledge the order to be received by clicking on the button corresponding to order.



HOMELOGOUT

Select Supplier

Select Supplier

Select Drug

Select Drug

Quantity

Quantity


Order

Orders

Order Id	Supplier	Drug	Order Time	Quantity
7	Supplier 1 name	PUDIN HARA	2020-12-27 14:12:50	394
4	Supplier 2	COVAXIN	2020-12-27 01:45:45	50

## 10.BLOOD BANK

Staff can enter the portal by clicking the BLOOD BANK link on the home page.

NITC Health Care Management SystemHOMELOGOUT

AVAILABLE UNITS

O100  
Positive

O10  
Negative

A50  
Positive

A50  
Negative

B100  
Positive

B20  
Negative

AB41  
Positive

AB0  
Negative

Available units of each blood type are displayed on top of the page.

The screenshot shows the NITC Health Care Management System interface. At the top, there is a header with the NITC logo and the text 'NITC Health Care Management System'. On the right side of the header, there are links for 'HOME' and 'LOGOUT'. The main content area has a blue background and contains two white rectangular forms. The first form is titled 'DONATION' and has two input fields labeled 'USERNAME' and 'UNITS', followed by a green 'Submit' button. The second form is titled 'WITHDRAW UNITS' and also has two input fields labeled 'USERNAME' and 'UNITS', followed by a green 'Submit' button.

Donation of blood by the user / Withdrawal of the blood for users can be done by entering UserID and number of units that is required. Change is reflected according to the blood type of the user in the database.

## 11.DOCTOR HOME PAGE

Doctor after login is redirected to this page. It show the upcoming appointments for the Doctor most recent first.


The screenshot shows the NITC-HCMS DOCTOR HOME PAGE. At the top, there is a header with the NITC logo and the text 'NITC-HCMS'. On the right side of the header, there are links for 'PROFILE' and 'LOGOUT'. The main content area has a white background and contains a table titled 'UPCOMING APPOINTMENTS'. The table has four columns: 'PATIENT ID', 'TIME', 'SEX', and 'AGE'. There are two rows of data in the table.

PATIENT ID	TIME	SEX	AGE
b180049cs	2020-12-28 16:00:00	M	2020-12-01
b180001cs	2020-12-29 17:00:00	M	1998-12-01

At the bottom of the page, there is a blue footer. On the left side of the footer, there is the NITC logo. On the right side, there is a section titled 'CONTACT US' with three rows of contact information: a location pin icon followed by 'National Institute Of Technology, Calicut', 'Mukkam Road, Kattangal, Kerala 673601'; a phone icon followed by '0495 228 6106'; and an email icon followed by 'mail'.

Clicking on the patient id will take to the consultation details page.

## 12. CONSULTATION PAGE

 NITC-HCMS

PATIENT DETAILS

HOME LOGOUT

Patient ID  
b180001cs

Consultation ID : 17

Appointment Time: 2021-01-01 17:00:00

Name	DOB	Sex
Vianu A	2021-01-01	M


Prescription

Observation

Reference Hospital  
None

SUBMIT


Here the Doctor can view patient details and during consultation he/she can add the prescription and observations. Also he can add a reference to a hospital. Once prescription/observation is added by the doctor the appointment will be removed from the upcoming appointments in the home page of the doctor. Clicking on the patient id on top of the page will take to the medical history page of the patient, where doctor can examine patients' past records.

 MEDICAL HISTORY

HOME LOGOUT

PREVIOUS MEDICAL HISTORY


DATE	31 / 12 / 2020	⊗
RECORD	Malaria	



CONTACT US  
National Institute Of Technology, Calicut  
Mullam Road, Kattangal, Kerala 673601  
0495 228 6106  
mail

## 13.SUPPLIER HOME PAGE

Suppliers are redirected to this home page after login



NITC-HCMS

SUPPLIER

PROFILE   LOGOUT

NEW ORDERS

Order ID	Drug ID   Name	Date	Quantity	Client
8	6   COVAXIN	2020-12-27 23:11:59	40	D16734

FULFILLED ORDERS


Order ID	Drug ID	Date	Quantity	Price	Client	Delivered
1	1   PARACETAMOL 500mg	2020-12-27 23:20:49	500	10000	D16734	No
3	6   COVAXIN	2020-12-27 23:43:32	500	4000	D16734	Yes
6	1   PARACETAMOL 500mg	2020-12-27 23:43:29	300	3000	D16734	Yes
7	5   PUDIN HARA	2020-12-27 23:43:28	50	500	D16734	Yes

There are two tables of orders - NewOrders and Fulfilled orders. Both tables have common details of the order including Order ID, Drug ID, Receiving date, Quantity, Client ID(ID of the staff who placed the order). The Fulfilled orders table has an additional Price and delivery status row.

Clicking on the Order ID of respective orders in New Orders table takes to Order Details page

## 14.ORDER DETAILS PAGE

Complete details of order can be seen here. The Supplier can supply/ Fulfill the order by entering the quantity supplied field and Estimated price field. After clicking Supply button the order is sent to staff for acknowledgement after which it would be visible as fulfilled order in the home page


**NITC-HCMS**

SUPPLIER

HOME LOGOUT

Order ID : 8

Staff ID : DI6734


Order Date : 2020-12-27 23:11:59

Name	Drug ID	Manufacturer	Quantity
COVAXIN	6	PUTIN	40

Quantity Supplied


Estimated price

Supply


**CONTACT US**

## 15.PROFILE PAGE


By clicking on the PROFILE button on the top right of the home page all types of users can access their profile section. PROFILE page and HOME page is provided with a LOGOUT button at top right to logout from the session


**Profile**


HOME LOGOUT


INFORMATION

First Name	Last Name
Jaideep	P M
Gender	DOB
Male	2020-12-01
Blood Group	Mobile
O +	8765678909
Address Line 1	Address Line 2
A1	A2
Pincode	
876789	



**b180049cs**  
 User


**CONTACT US**


 National Institute Of Technology, Calicut

# CODE

## Directory Organization

All requests are directed to index.php which then routes it to the corresponding controller to handle the request. Controller after making necessary interactions with the database creates the view to be displayed.

### Code/

controllers/	- contains the controllers
controllers/ajax/	- contains ajax handling controllers
images/	- contains image assets
scripts/	- contains the javascript files
style/	- contains the styling css files
views/	- contains the view files constituting of HTML elements
functions.php	- contains certain functions used by controllers
connection.php	- contains the function for database connection
routes.php	- defines the routing information
validation.php	- contains functions for input validation and login validation
index.php	- routes requests to controllers

# Code Snippets

> Connection.php - Establishing connection between server and database HMS with Username as 'root'

```
1  <?php
2
3  function connect_database(){
4      $config = [
5          'servername' => 'localhost',
6          'database' => 'HMS',
7          'username' => 'root',
8          'password' => '',
9      ];
10
11     $conn = mysqli_connect(
12         $config['servername'],
13         $config['username'],
14         $config['password'],
15         $config['database']
16     );
17     if(!$conn) {
18         die("MySQL connection failed: ". mysqli_connect_error());
19     }
20     return $conn;
21 }
22
23 ?>
```

> Retrieving values from database - Example for retrieval of data from database for profile

```
1  <?php
2
3  require_once "connection.php";
4  require_once "validation.php";
5
6  session_start();
7
8  if(!loggedin_check($_SESSION)) {
9      header("Location: /login");
10 }
11 else{
12
13     $conn = connect_database();
14     $qry = "SELECT * FROM USER WHERE U_ID='{$_SESSION['uname']}' ";
15     $res = mysqli_query($conn,$qry);
16     if($res)
17         $profile = mysqli_fetch_assoc($res);
18     else
19         die(mysqli_error($conn));
20
21     require 'views/profile_view.php';
22 }
23
24 ?>
```

\$profile contains the data in form of an associative array.

mysqli\_query(connection, query, resultmode) is used to execute query.

>Routes.php - Defines uri accepted by server and their routing information

```
1  <?php
2
3  $Routes = [
4      '' => 'controllers/home.php',
5      'login' => 'controllers/login.php',
6      'signup' => 'controllers/signup.php',
7      'home' => 'controllers/home.php',
8      'makeappointment' => 'controllers/makeappointment.php',
9      'medhistory' => 'controllers/medhistory.php',
10     'profile' => 'controllers/profile.php',
11     'bloodbank' => 'controllers/bloodbank.php',
12     'order' => 'controllers/order.php',
13     'drugstock' => 'controllers/drugstock.php',
14     'billing' => 'controllers/billing.php',
15     'patient' => 'controllers/patient.php',
16     'patientmedhist' => 'controllers/patient_medhist.php',
17     'logout' => 'controllers/logout.php',
18
19     'supplier' => 'controllers/home_supplier.php',
20     'supplier/login' => 'controllers/login_supplier.php',
21     'supplier/signup' => 'controllers/signup_supplier.php',
22     'supplier/home' => 'controllers/home_supplier.php',
23     'supplier/profile' => 'controllers/profile_supplier.php',
24     'supplier/orderview' => 'controllers/orderview_supplier.php',
25     'supplier/logout' => 'controllers/logout_supplier.php',
26
27     'ajax/fetchdruginfo' => 'controllers/ajax/fetch_druginfo.php',
28     'ajax/acksupply' => 'controllers/ajax/ack_supply.php'
29
30 ];
31
32 ?>
```

> Index.php - handles all the requests received by the server

```
1  <?php
2  require "routes.php";
3
4  $uri = trim($_SERVER["REQUEST_URI"], '/');
5
6  if(strpos($uri, "supplier/orderview")){
7      $uri = rtrim($uri, "?o_id=".$_GET['o_id']);
8  }
9
10 if(strpos($uri, "patient")){
11     $uri = rtrim($uri, "?id=".$_GET['id']);
12 }
13
14 if(strpos($uri, "patientmedhist")){
15     $uri = rtrim($uri, "?id=".$_GET['id']);
16 }
17
18 if(array_key_exists($uri, $Routes)){
19
20     require $Routes[$uri];
21 }
22 else {
23     header("HTTP/1.1 404 Not Found");
24     echo "URL Not Found";
25 }
26
27 ?>
```