Email and Frameworks in PHP

Email in PHP

- PHP uses Mail() function to send an email from your website.
- Parameters required
  - (Receipient's email address, subject , body)
- Optional parameters
  - (Header, parameters)

  mail (to,subject,message,headers,parameters)

Though , using mail() is quiet simple , but it involves lot of considerations. You need to check the web server, SMTP, authentication etc. which makes writing mail program cumbersome.

The code for simple mail function is as follows:

```
<?php
$mesg= "Welcome to e-pgpathshala";
$headers="From: bhumikagshah@gmail.com";
$str=mail("bhumikagshah@gmail.com","Test Mail",$mesg,$headers);
if ($str==true)
{
        echo "Message sent ";
}else
        {
            echo "Message not sent";
        }


?>
```

The above program would immediately return you Message sent, but might always not result is success.

Hence to overcome , the uncertainties we have used the phpmailer() , which is available for download on github.

PHPMailer()

- It is a type of library which has a collection of functions that provide with building and sending email messages. It supports various ways of sending mails like mail(), qmail, direct SMTP mail etc.
- We would be using PHPmailer to send our E-Mail.

Mail	**PHPMailer**
Not so user friendly	User friendly
You have to integrate the mail server yourself (Using SMTP has its own considerations)	Does everything automatically

Program for Sending Mail

```
<?php


require 'PHPMailer-Master/PHPMailerAutoload.php';


$mail = new phpmailer();

//spl_autoload()


$mail->isSMTP();                      // Set mailer to use SMTP

$mail->Host = 'smtp.gmail.com';           // Specify main and backup SMTP servers

$mail->SMTPAuth = true;                 // Enable SMTP authentication

$mail->Username = 'bhumikagshah@gmail.com';         // SMTP username

$mail->Password = 'Your Password'; // SMTP password

$mail->SMTPSecure = 'tls';               // Enable TLS encryption, `ssl` also accepted
```

```
$mail->Port = 587;                          // TCP port to connect to


$mail->setFrom('bhumikagshah@gmail.com', 'epgpathshahla');

$mail->addReplyTo('bhumikagshah@gmail.com', 'epgpathshala');

$mail->addAddress('bhumikagshah@gmail.com');   // Add a recipient

$mail->addCC('cc@example.com');

$mail->addBCC('bcc@example.com');


$mail->isHTML(true);  // Set email format to HTML


$bodyContent = '<h1>How to Send Email using PHP in Localhost by Bhumika </h1>';

$bodyContent .= '<p>This is the HTML email sent from localhost using PHP script by <b>bhumika</b></p>';


$mail->Subject = 'Email from Localhost by Bhumika';

$mail->Body    = $bodyContent;


if(!$mail->send()) {

   echo 'Message could not be sent.';

   echo 'Mailer Error: ' . $mail->ErrorInfo;

} else {

   echo 'Message has been sent';

}

?>
```

You will also have to include Autoloader file of the part of library , which we have used on top of the program , The code of autoloader program is as follows :

```
* PHPMailer SPL autoloader.
 * @param string $classname The name of the class to load
 */
function PHPMailerAutoload($classname)
{
    //Can't use __DIR__ as it's only in PHP 5.3+
    $filename =
dirname(__FILE__).DIRECTORY_SEPARATOR.'class.'.strtolower($classname).'.php';
    if (is_readable($filename)) {
        require $filename;
    }
}
if (version_compare(PHP_VERSION, '5.1.2', '>=')) {
    //SPL autoloading was introduced in PHP 5.1.2
    if (version_compare(PHP_VERSION, '5.3.0', '>=')) {
        spl_autoload_register('PHPMailerAutoload', true, true);
    } else {
        spl_autoload_register('PHPMailerAutoload');
    }
} else {
    /**
     * Fall back to traditional autoload for old PHP versions
     * @param string $classname The name of the class to load
     */
    function __autoload($classname)
    {
        PHPMailerAutoload($classname);
    }   }
```

Test Mail

Mail.php

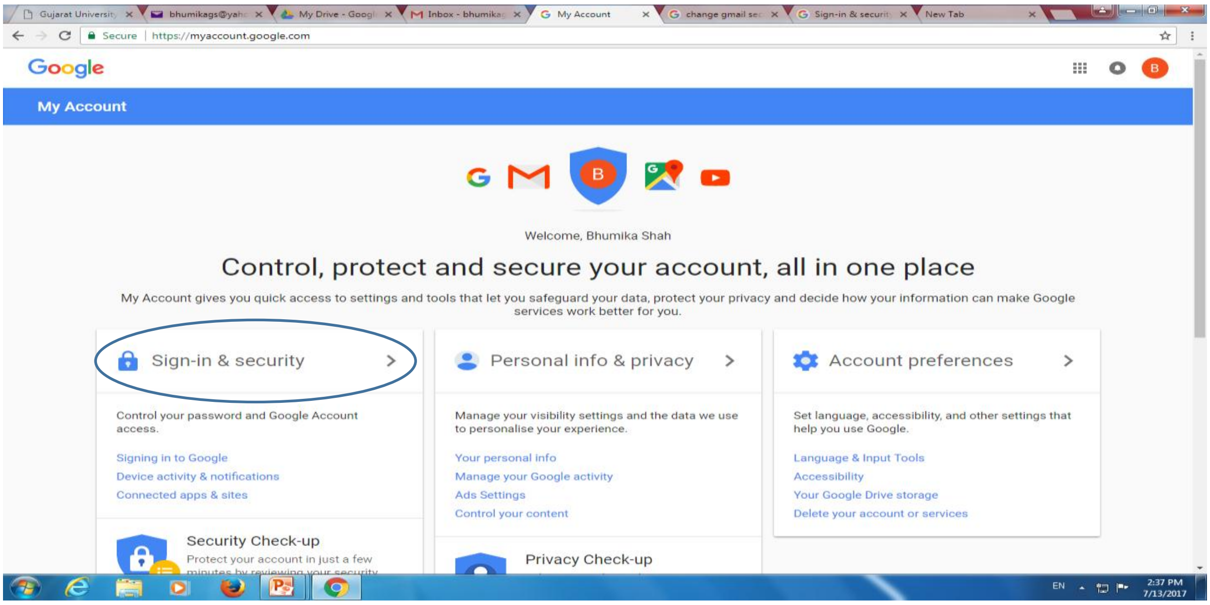
```
<?php
 $mail=new PHPMailer();
 $mail->SMTPDebug=0;
 $mai ->IsSMTP();
 $mail->SMTPauth=true;
 $mail->SMTPSecure='ssl';
 $mail->Host="smtp.gmail.com";
 $mail->Port=587;
 $mail->IsHTML(true);
 $mail->Username="bhumikagshah@gmail.com";
 $mail->Password="Your Password";
 $mail->SetFrom("bhumikagshah@gmail.com");
 $mail->Subject="This is My Email subject";
 $mail->Body="This is Body of send email";
 $mail->AddAddress("bhumikagshah@gmail.com");
 if(!$mail->Send())
 {
    echo "Mail Error:".$mail->ErrorInfo;
 }
 else
 {
 echo "Message has been sent";
 }
?>
```

Troubleshooting Mail issues

Gmail Security settings

You will have to edit , Gmail security settings so as to allow mail from programs.

Visit : accounts.google.com



Welcome, Bhumika Shah

Control, protect and secure your account, all in one place

My Account gives you quick access to settings and tools that let you safeguard your data, protect your privacy and decide how your information can make Google services work better for you.

Sign-in & security

Control your password and Google Account access.

Signing in to Google
Device activity & notifications
Connected apps & sites

Security Check-up
Protect your account in just a few minutes by reviewing your security

Personal info & privacy

Manage your visibility settings and the data we use to personalise your experience.

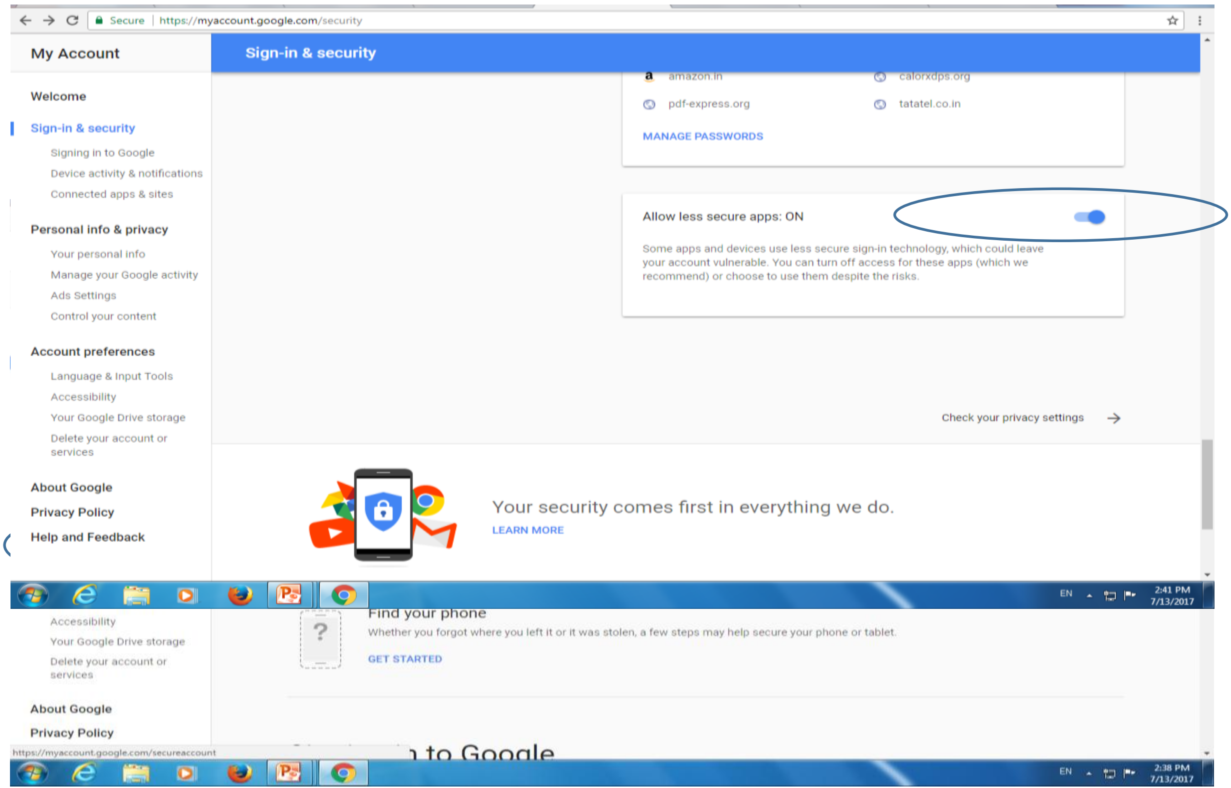
Your personal info
Manage your Google activity
Ads Settings
Control your content

Privacy Check-up

Account preferences

Set language, accessibility, and other settings that help you use Google.

Language & Input Tools
Accessibility
Your Google Drive storage
Delete your account or services



Allow less secure apps: ON

Some apps and devices use less secure sign-in technology, which could leave your account vulnerable. You can turn off access for these apps (which we recommend) or choose to use them despite the risks.

Your security comes first in everything we do.

Find your phone

Whether you forgot where you left it or it was stolen, a few steps may help secure your phone or tablet.

After allowing lesser secure apps , you will be able to get mail from your program

Troubleshooting Email program:

- Check Gmail security
- Check SMTP
- Php.ini
- Sendmail.ini

Frameworks in PHP

- Provides **structured way**, with built-in modules : Frameworks give users a basic structure with built in modules to develop applications faster and with much ease
- Uses **MVC Architecture**: Frameworks in PHP use MVC architecture, wherein the business logic exists independently of data layer and presentation layer.
- Enforces **coding standards** and development guidelines : The framework enforces the development standards and development guidelines which helps in standardizing the development process
- **Improved stability and Quality** : Dividing modules in parts increases the development speed and hence improves scalability and quality
- **Easy** to upgrade and **maintain** developed application
- **Good community support**

Types of Frameworks for PHP

- Laravel
- **Codeigniter**
- CakePHP
- Symfony
- Zend Framework

We will take an overview of each of the Framework and CodeIgniter Framework in detail.

LARAVEL

- Popularly known as Framework for Web Artisans, Laravel is open source framework which follows MVC architecture and consists of simple toolkit which enables developers to create complex web applications easily. Additionally, it also provides robust security features. It has a huge ecosystem with instant hosting and deployment

CakePHP

- Already a decade old, CakePHP is designed to ease the common web development tasks and consists of all-in-one toolbox. It can exist isolated and also as a whole. The rich set of libraries make coding easy for developers

Symfony

- Popularly known as PHP web application framework, it is a set of reusable PHP components/libraries. It helps in reducing repetitive tasks and has a low performance overhead. It has set of tools and a development methodology.

Zend Framework

- It is an object oriented framework which is basically a collection of professional PHP packages. It has a collection of 60+ packages. Due to its configuration options, it is not recommended for small projects, but works best for the complex projects.

Comparative analysis

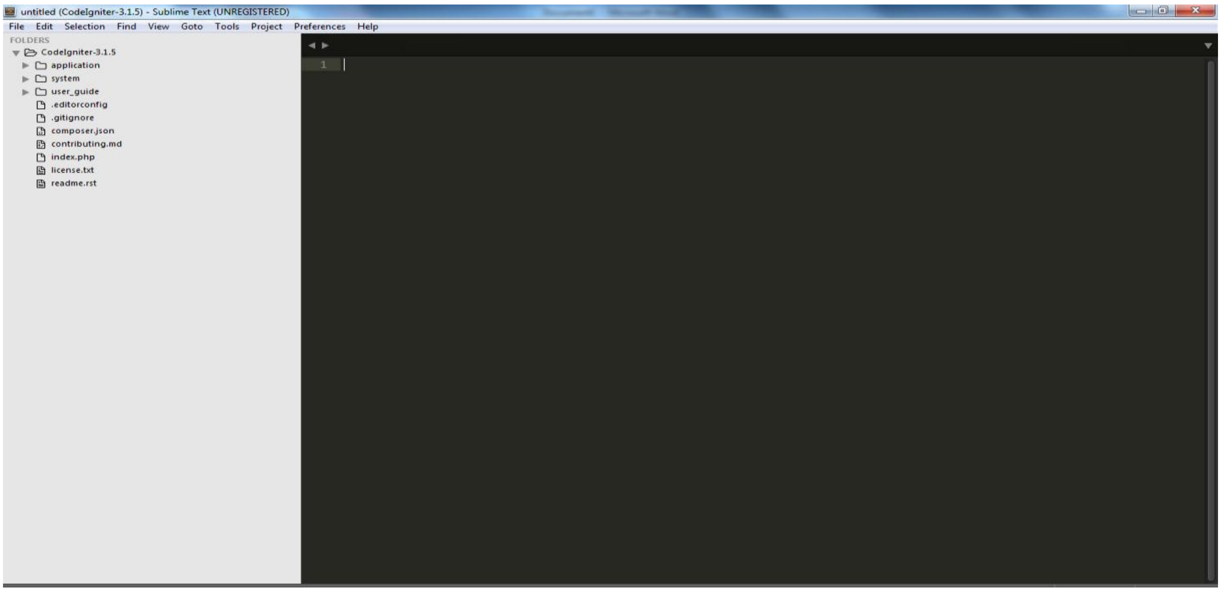
PHP Frameworks	Laravel	Symfony	CodeIgniter	CakePHP	Zend Framework
Started in	2011	2005	2006	2005	2006
Latest Version number	5.4	3.2	3.1.3	3.4	2.5
Features	•Database agnostic migration •Schema builder •Toolkit that includes ORM queue library routing methods, authentication facilities	•YAML •Event dispatcher •Dependency Injector •Templating engine	•Application profiling •Template engine class •Query builder •Data encryption	•Authentication facilities •Console tools •Controllers •Modeless forms •Plugins	•End-to-end encryption •Package dependency manager •Continuous integration service
Prominent projects	•Deltanet Travel •World Walking •FusionInvoice •Asgard CMS	•Drupal •Laravel •phpBB •OROCRM	•Buffer •Small SEO Tools	•BMW •Express •Sainsburys Bank	•BBC •BNP PARIBAS •Cisco Webex
License	MIT	MIT	MIT	MIT	New BSD

Comparative analysis from: https://www.vtrio.com/blog/top-5-php-frameworks-of-2017/

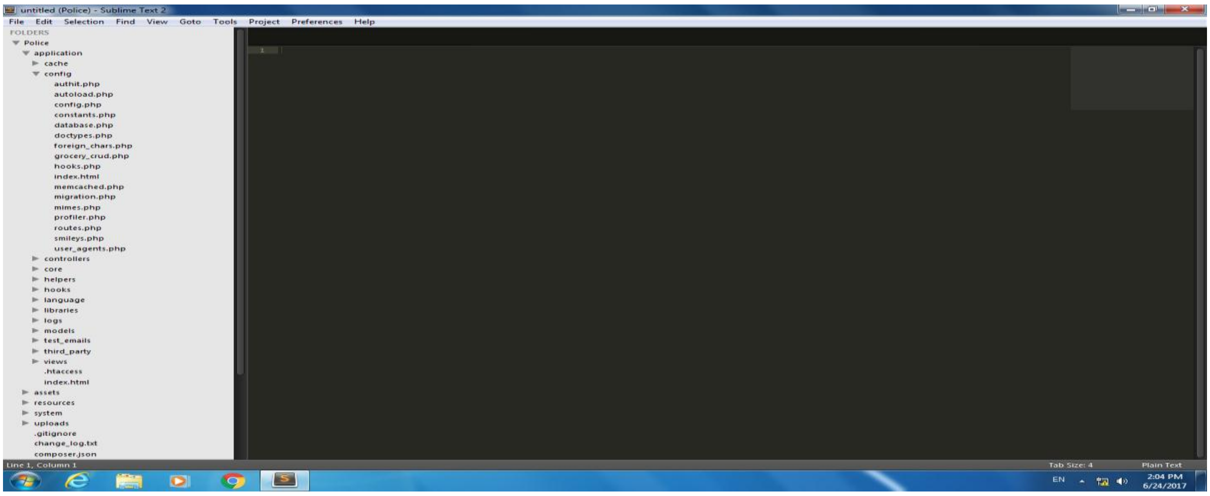
Codeigniter

- It is a light weight PHP framework . Code igniter is known for its flexibility and easy installation.
- CodeIgniter is popular among beginners and developers as it is very easy to learn and has a rich set of APIs.
- The crud (create/read/update/delete) functionality is well integrated hence database related tasks are implemented easily and quickly.

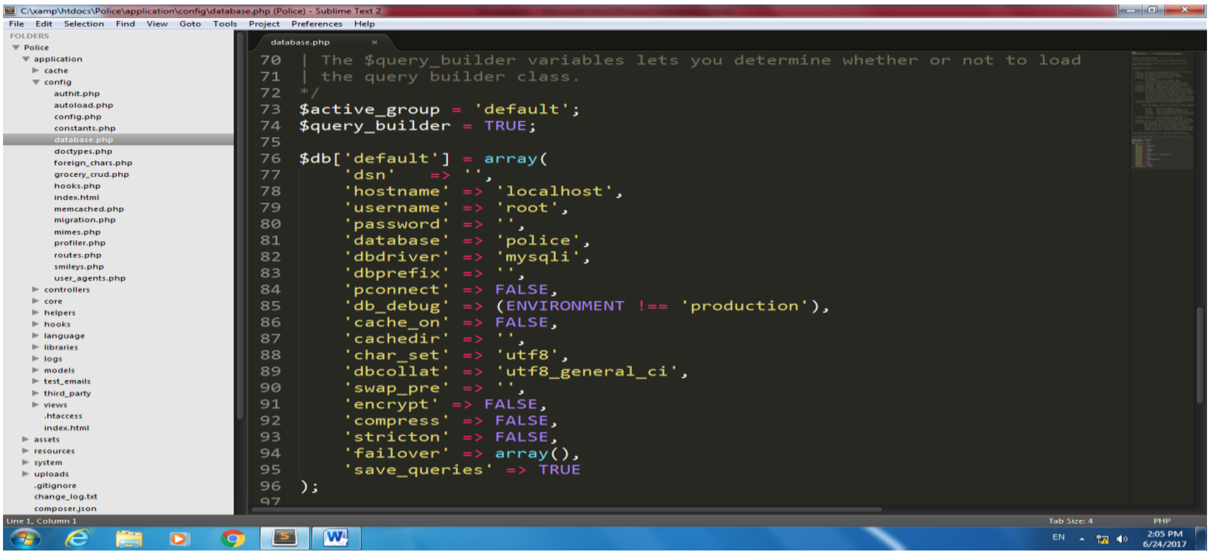
Codeigniter Framework



CodeIgniter (Sample Project)



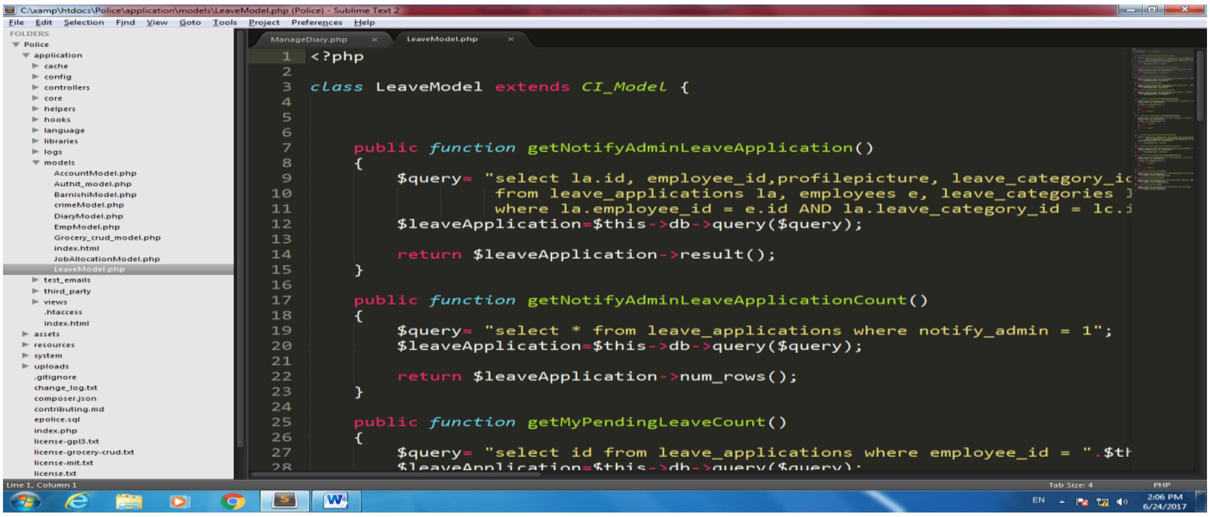
Database.php



```php
| The $query_builder variables lets you determine whether or not to load
| the query builder class.
*/
$active_group = 'default';
$query_builder = TRUE;

$db['default'] = array(
	'dsn'	=> '',
	'hostname' => 'localhost',
	'username' => 'root',
	'password' => '',
	'database' => 'police',
	'dbdriver' => 'mysqli',
	'dbprefix' => '',
	'pconnect' => FALSE,
	'db_debug' => (ENVIRONMENT !== 'production'),
	'cache_on' => FALSE,
	'cachedir' => '',
	'char_set' => 'utf8',
	'dbcollat' => 'utf8_general_ci',
	'swap_pre' => '',
	'encrypt' => FALSE,
	'compress' => FALSE,
	'stricton' => FALSE,
	'failover' => array(),
	'save_queries' => TRUE
);
```

Program: Leave application



```php
<?php

class LeaveModel extends CI_Model {



	public function getNotifyAdminLeaveApplication()
	{
		$query= "select la.id, employee_id,profilepicture, leave_category_ic
					from leave_applications la, employees e, leave_categories l
					where la.employee_id = e.id AND la.leave_category_id = lc.i
		$leaveApplication=$this->db->query($query);

		return $leaveApplication->result();
	}

	public function getNotifyAdminLeaveApplicationCount()
	{
		$query= "select * from leave_applications where notify_admin = 1";
		$leaveApplication=$this->db->query($query);

		return $leaveApplication->num_rows();
	}

	public function getMyPendingLeaveCount()
	{
		$query= "select id from leave_applications where employee_id = ".$th
		$leaveApplication=$this->db->query($query);
```