

# PHP Functions

PHP function is a piece of code that can be reused many times. It can take input as argument list and return value. There are thousands of built-in functions in PHP.

In PHP, we can define **Conditional function**, **Function within Function** and **Recursive function** also.

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## Advantage of PHP Functions

**Code Reusability:** PHP functions are defined only once and can be invoked many times, like in other programming languages.

**Less Code:** It saves a lot of code because you don't need to write the logic many times. By the use of function, you can write the logic only once and reuse it.

**Easy to understand:** PHP functions separate the programming logic. So it is easier to understand the flow of the application because every logic is divided in the form of functions.

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## PHP User-defined Functions

We can declare and call user-defined functions easily. Let's see the syntax to declare user-defined functions.

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## Syntax

```
function functionname(){  
  //code to be executed  
}
```

# PHP Function Arguments

We can pass the information in PHP function through arguments which is separated by comma.

PHP supports **Call by Value** (default), **Call by Reference**, **Default argument values** and **Variable-length argument list**.

```
<?php
function sayHello($name){
    echo "Hello $name<br/>";
}
sayHello("Sonoo");
sayHello("Vimal");
sayHello("John");
?>
```

Output:

```
Hello Sonoo
Hello Vimal
Hello John
```

```
<?php
function sayHello($name,$age){
    echo "Hello $name, you are $age years old<br/>";
}
sayHello("Sonoo",27);
sayHello("Vimal",29);
sayHello("John",23);
?>
```

Output:

```
Hello Sonoo, you are 27 years old
Hello Vimal, you are 29 years old
Hello John, you are 23 years old
```

# PHP Call By Reference

Value passed to the function doesn't modify the actual value by default (call by value). But we can do so by passing value as a reference.

By default, value passed to the function is call by value. To pass value as a reference, you need to use ampersand (&) symbol before the argument name.

```
<?php
function adder(&$str2)
{
    $str2 .= 'Call By Reference';
}
$str = 'Hello ';
adder($str);
echo $str;
?>
```

Output:

```
Hello Call By Reference
```

# PHP Function: Default Argument Value

We can specify a default argument value in function. While calling PHP function if you don't specify any argument, it will take the default argument. Let's see a simple example of using default argument value in PHP function.

*File: functiondefaultarg.php*

```
<?php
function sayHello($name="Sonoo"){
    echo "Hello $name<br/>";
}
sayHello("Rajesh");
sayHello();//passing no value
sayHello("John");
?>
```



Output:

```
Hello Rajesh
```

```
Hello Sonoo
```

```
Hello John
```

# PHP Function: Returning Value

Let's see an example of PHP function that returns value.

*File: functiondefaultarg.php*

```
<?php
function cube($n){
    return $n*$n*$n;
}
echo "Cube of 3 is: ".cube(3);
?>
```

Output:

```
Cube of 3 is: 27
```

# What is Laravel?

Laravel is a PHP framework that uses the MVC architecture.

- **Framework:** It is the collection of methods, classes, or files that the programmer uses, and they can also extend its functionality by using their code.
- **Architecture:** It is the specific design pattern that the framework follows. Laravel is following the MVC architecture.

### Let's first understand the MVC architecture.

MVC is divided into three letters shown below:

- **M:** 'M' stands for **Model**. A model is a class that deals with a database. For example, if we have users in an application then we will have users model that deals with a database to query the table of users if we have users model, then we will also have a users table. We conclude from the example that the model is going to have a table for that specific model.
- **V:** 'V' stands for **View**. A view is a class that deals with an HTML. Everything that we can see on the application in the browser is the view or the representation.
- **C:** 'C' stands for **Controller**. A controller is the middle-man that deals with both model and view. A controller is the class that retrieves the data from the model and sends the data to the view class.

Laravel is an open-source PHP framework. It also offers the rich set of functionalities that incorporates the basic features of PHP frameworks such as CodeIgniter, Yii, and other programming languages like Ruby on Rails.

# Advantages of Laravel

Following are some advantages of Laravel:

## Advantages of Laravel

Creating authorization and authentication System

Integration with tools

Mail Service integration

Handling exception and configuration error

Automation testing work

Separation of business logic code from presentation code

Fixing most common Technical Vulnerabilities

Scheduling tasks configuration and management

- **Creating authorization and authentication systems**

Every owner of the web application makes sure that unauthorized users do not access secured or paid resources. It provides a simple way of implementing authentication. It also provides a simple way of organizing the authorization logic and control access to resources.

- **Integration with tools**

Laravel is integrated with many tools that build a faster app. It is not only necessary to build the app but also to create a faster app. Integration with the caching back end is one of the major steps to improve the performance of a web app. Laravel is integrated with some popular cache back ends such as **Redis**, and **Memcached**.

- **Mail service integration**

Laravel is integrated with the Mail Service. This service is used to send notifications to the user's emails. It provides a clean and simple API that allows you to send the email quickly through a local or cloud-based service of your choice.

- **Handling exception and configuration error**

Handling exception and configuration errors are the major factors on the app's usability. The manners in which the software app handles the errors have a huge impact on the user's satisfaction and the app's usability. The organization does not want to lose their customers, so for them, Laravel is the best choice. In Laravel, error and exception handling is configured in the new Laravel project.

- **Automation testing work**

Testing a product is very important to make sure that the software runs without any errors, bugs, and crashes. We know that automation testing is less time-consuming than manual testing, so automation testing is preferred over the manual testing. Laravel is developed with testing in mind.

- **Separation of business logic code from presentation code**

The separation between business logic code and presentation code allows the HTML layout designers to change the look without interacting with the developers. A bug can be resolved by the developers faster if

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the separation is provided between the business logic code and presentation code. We know that Laravel follows the **MVC architecture**, so separation is already done.

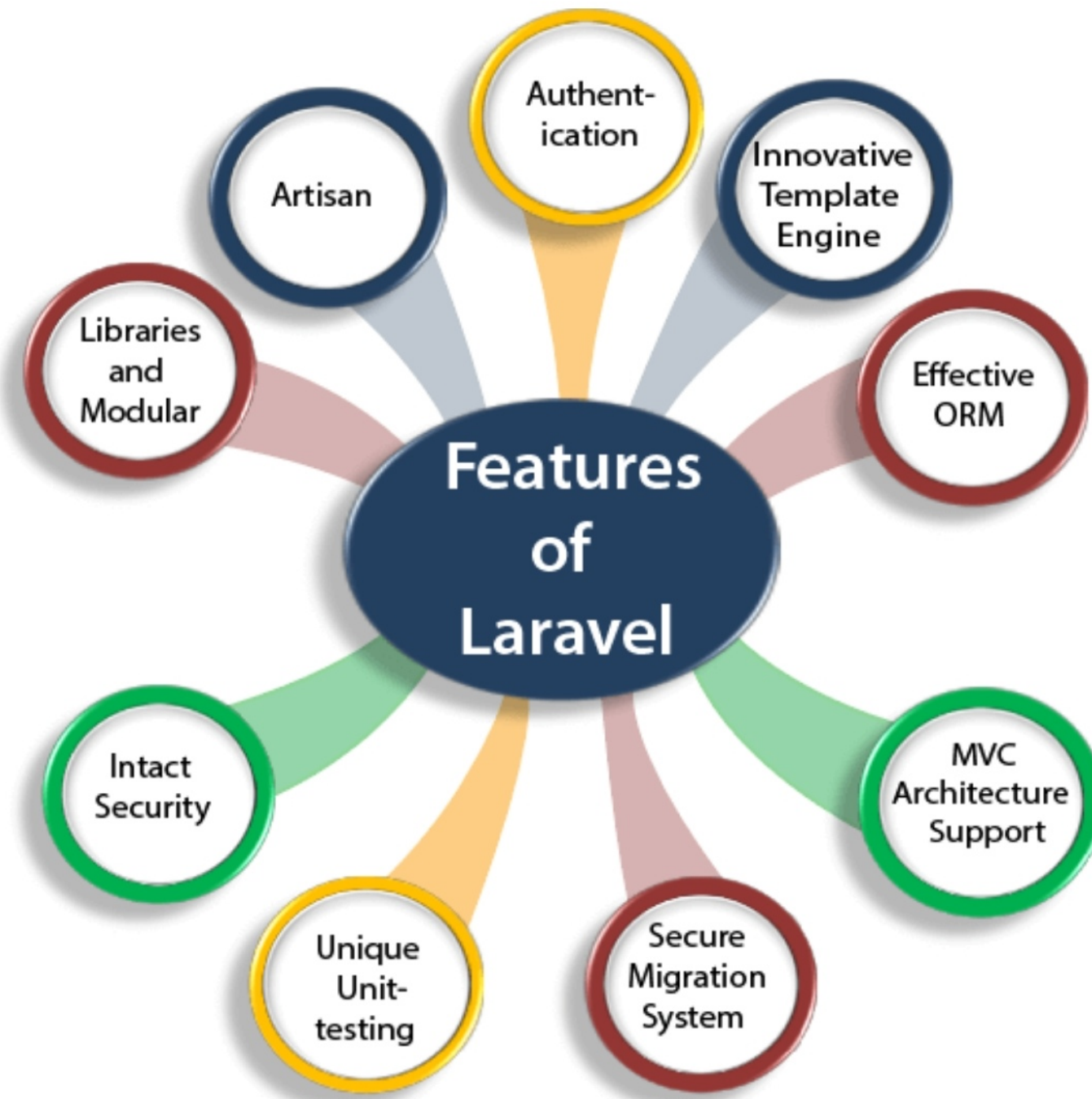
- **Fixing most common technical vulnerabilities**

The **security vulnerability** is the most important example in web application development. An American organization, i.e., OWASP Foundation, defines the most important security vulnerabilities such as SQL injection, cross-site request forgery, cross-site scripting, etc. Developers need to consider these vulnerabilities and fix them before delivery. Laravel is a secure framework as it protects the web application against all the security vulnerabilities.

- **Scheduling tasks configuration and management**

The web app requires some task scheduling mechanism to perform the tasks in time for example, when to send out the emails to the subscribers or when to clean up the database tables at the end of the day. To schedule the tasks, developers need first to create the **Cron entry** for each task, but **Laravel command scheduler** defines a command schedule which requires a single entry on the server.

Following are the features of Laravel:





Authentication is the most important factor in a web application, and developers need to spend a lot of time writing the authentication code. Laravel makes a simpler authentication when Laravel is updated to Laravel 5. Laravel contains an inbuilt authentication system, you only need to configure models, views, and controllers to make the application work.

## Innovative Template Engine

Laravel provides an innovative template engine which allows the developers to create the dynamic website. The available widgets in Laravel can be used to create solid structures for an application.

Laravel contains an inbuilt ORM with easy PHP Active Record implementation. An effective ORM allows the developers to query the database tables by using the simple PHP syntax without writing any SQL code. It provides easy integration between the developers and database tables by giving each of the tables with their corresponding models.

## MVC Architecture Support

Laravel supports MVC architecture. It provides faster development process as in MVC; one programmer can work on the view while other is working on the controller to create the business logic for the web application. It provides multiple views for a model, and code duplication is also avoided as it separates the business logic from the presentation logic.

## Secure Migration System

**Laravel framework** can expand the database without allowing the developers to put much effort every time to make changes, and the migration process of Laravel is very secure and full-proof. In the whole process, **php code** is used rather than **SQL code**.

Laravel provides a unique unit-testing. Laravel framework can run several test cases to check whether the changes harm the web app or not. In Laravel, developers can also write the test cases in their own code.

## Intact Security

Application security is one of the most important factors in web application development. While developing an application, a programmer needs to take effective ways to secure the application. Laravel has an inbuilt web application security, i.e., it itself takes care of the security of an application. It uses "Bcrypt Hashing Algorithm" to generate the salted password means that the password is saved as an encrypted password in a database, not in the form of a plain text.

## Libraries and Modular

Laravel is very popular as some Object-oriented libraries, and pre-installed libraries are added in this framework, these pre-installed libraries are not added in other **php frameworks**. One of the most popular libraries is an **authentication library** that contains some useful features such as password reset, monitoring active users, Bcrypt hashing, and CSRF protection. This framework is divided into several modules that follow the php principles allowing the developers to build responsive and modular apps.

Laravel framework provides a built-in tool for a command-line known as **Artisan** that performs the repetitive programming tasks that do not allow the php developers to perform manually. These artisans can also be used to create the skeleton code, database structure, and their migration, so it makes it easy to manage the database of the system. It also generates the MVC files through the command line. Artisan also allows the developers to create their own commands.