Yii

[easy, efficient and extensible php framework]

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introduction

- Yii *is a high-performance component-based PHP framework for developing large-scale Web applications*

- Yii is a generic Web programming framework, used for developing virtually all sorts of Web applications

- Yii is a Model View Controller framework

FUNDAMENTALS OF Yii

- **Model-View-Controller (MVC)**

- **Entry Script**

- **Debug Mode**

- **Application**

- **Application Base Directory**

- **Action**

- **Layout**

- **Widget**

FUNDAMENTALS OF Yii

Model-View-Controller (MVC)

In MVC ,**model** represents the data and the business rules; **view** contains elements of the user interface such as text, form inputs; and the **controller** manages the communication between the model and the view.
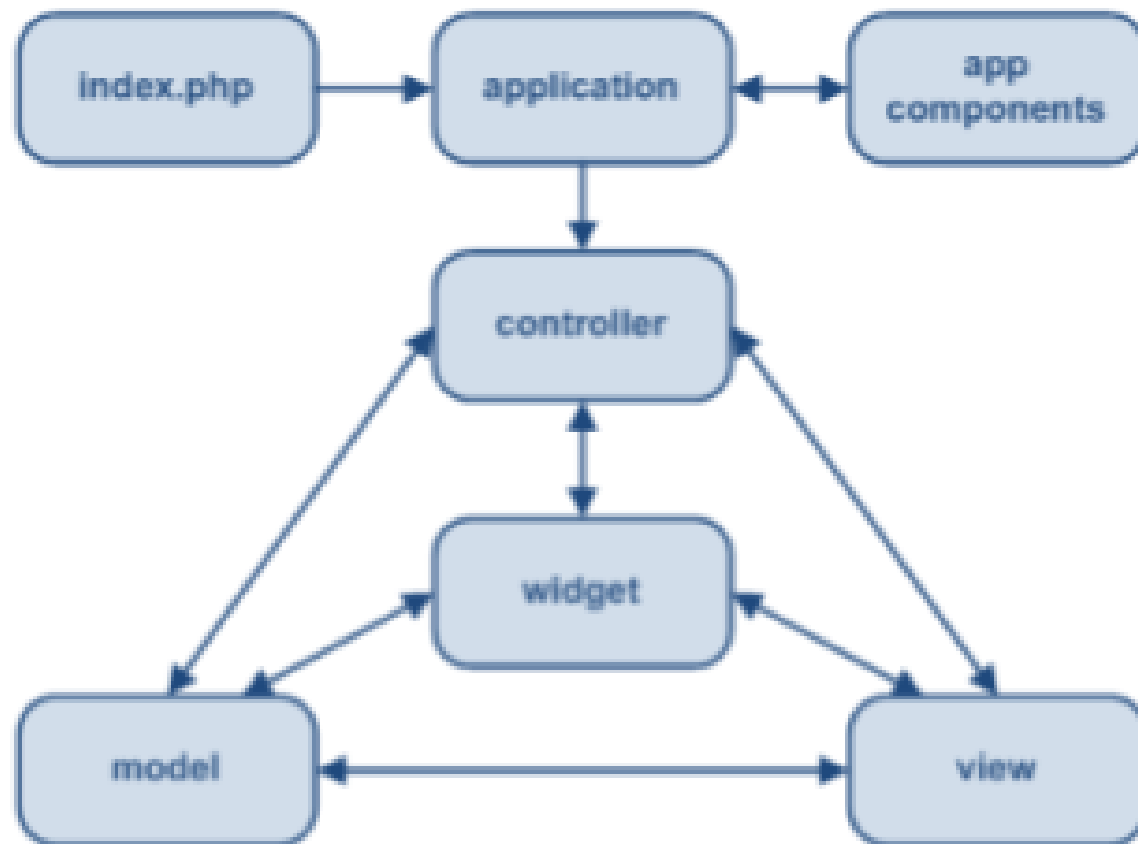
MVC separate business logic from user interface considerations to easily change each part without affecting the other.

Yii uses a front-controller, called application, which represents the execution context of request processing.

Static structure of MVC

Entry Script

Entry script is the bootstrap PHP script that handles user requests initially. It is the only PHP script that end users can directly request to execute

Debug Mode

Yii application can run in either debug or production mode according to the constant value YII DEBUG.

By default, this constant value is defined as false, meaning production mode. To run in debug mode, including the yii php file

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Application

Application represents the execution context of request processing.

The application singleton can be accessed at any place via Yii::app().

Application Base Directory

Application base directory refers to the root directory that contains all security-sensitive PHP scripts and data.

By default, it is a subdirectory named protected that is located under the directory containing the entry script.

Controller

A controller is an instance of CController or its child class created by application .
When a controller runs, it performs the requested action which usually brings in the needed models and renders an appropriate view

Action

An action can be defined as a method whose name
starts with the word action.

An action class and ask the controller to instantiate
tasks

Layouts

Layout is a special view that is used to decorate views.

It usually contains portions of user interface that are
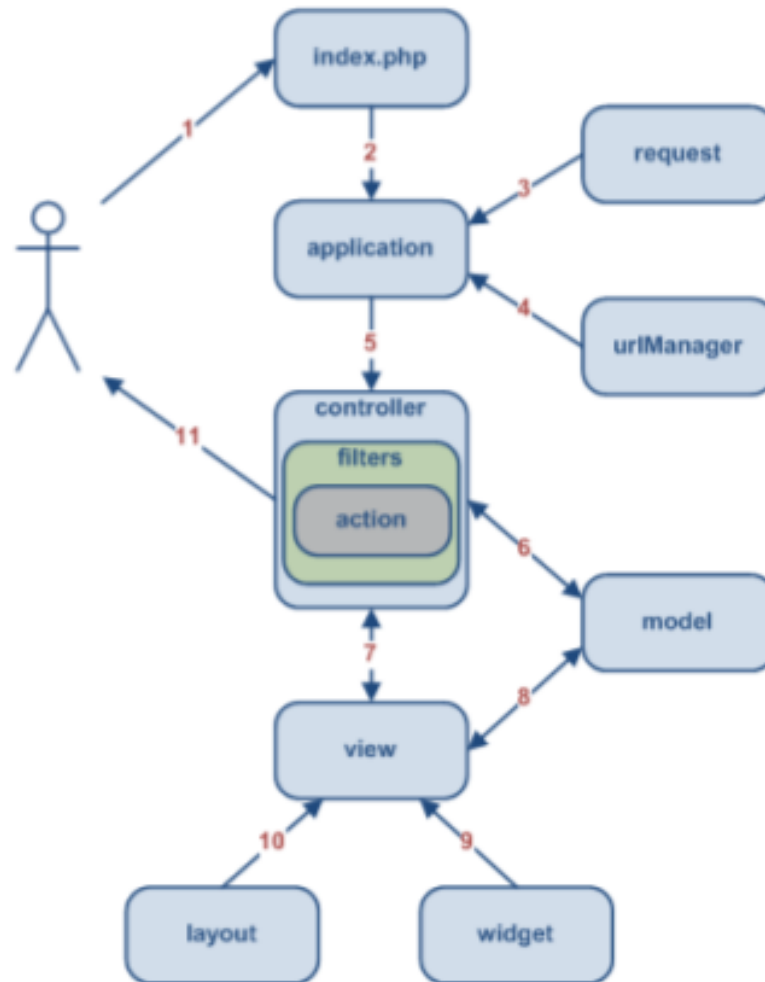
common among several views

Widget

A widget is an instance of **CWidget** or its child class.   It is a component mainly for presentational purpose. Widgets enable better reusability in user interface.

Widgets are usually embedded in a view script to generate some complex yet self-contained user interface

For   be used to

A Typical Workflow OF Yii

For creating Web application we use a powerful **yiic**

tool which can be used to automate code creation for

 certain tasks.

For simply, we assume that YiiRoot is the directory

where Yii is installed, and WebRoot is the document
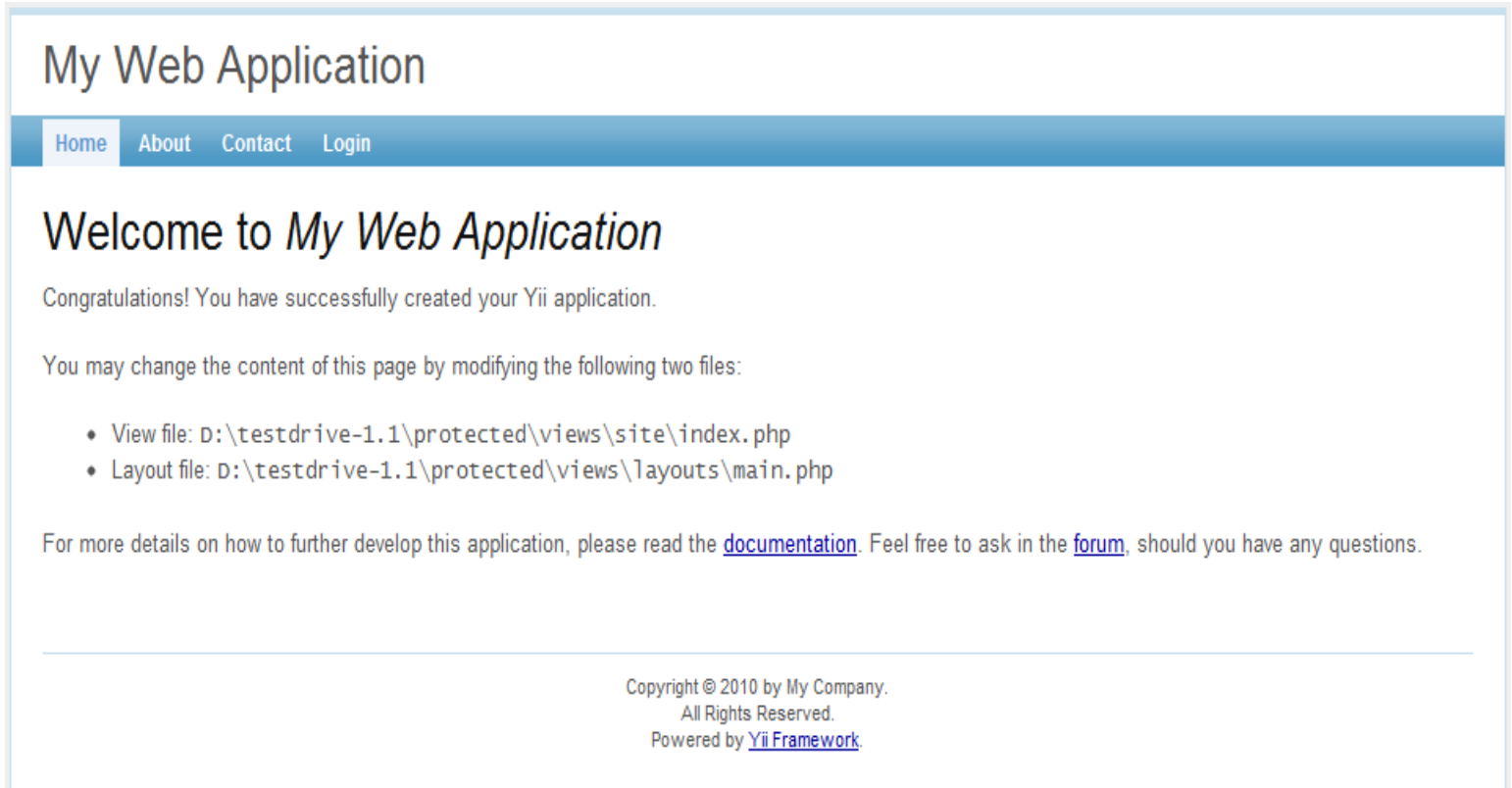
root of our Web server

Step 0. Preparation

After installing the Yii framework, run a simple console command

"% YiiRoot/framework/yiic webapp WebRoot/testdrive "

to generate a skeleton Web application built with Yii.

This will create a skeleton Yii application under the directory   WebRoot/testdrive.

CREATING AN Yii APPLICATION(contd..)

My Web Application

Home   About   Contact   Login

Welcome to *My Web Application*

Congratulations! You have successfully created your Yii application.

You may change the content of this page by modifying the following two files:

- View file: `D:\testdrive-1.1\protected\views\site\index.php`
- Layout file: `D:\testdrive-1.1\protected\views\layouts\main.php`

For more details on how to further develop this application, please read the documentation. Feel free to ask in the forum, should you have any questions.

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Step 1. Create the Database

      While Yii can virtually eliminate most repetitive coding tasks, you are responsible for the real creative work.

      This often starts with designing the whole system to be built, in terms of some database schema.

```
CREATE TABLE tbl_user (
    id INTEGER NOT NULL PRIMARY KEY AUTO_INCREMENT,
    username VARCHAR(128) NOT NULL,
    password VARCHAR(128) NOT NULL,
    email VARCHAR(128) NOT NULL
);
```

Step 2a.   Yii Generates the Model Classes

Using the built-in Web-based code generator, you can turn database table definitions into model classes instantly, without writing a single line of code.

The model classes will allow you to access the database tables in an object-oriented fashion.

CREATING AN Yii APPLICATION(contd..)

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Step 2b. Yii Generates the CRUD Code

Using the code generator, we can further generate code that implements the typical CRUD (create, read, update, delete) features for the selected database tables.

The generated code is highly usable and customizable, following the well-adopted MVC (model-view-controller) design pattern.

CREATING AN Yii APPLICATION(contd..)

```
*/
public function actionView($id)
{
    $this->render('view',array(
        'model'=>$this->loadModel($id),
    ));
}

/**
 * Creates a new model.
 * If creation is successful, the browser will be redirected to the 'view' page.
 */
public function actionCreate()
{
    $model=new User;

    // Uncomment the following line if AJAX validation is needed
    // $this->performAjaxValidation($model);

    if(isset($_POST['User']))
    {
        $model->attributes=$_POST['User'];
        if($model->save())
            $this->redirect(array('view','id'=>$model->id));
    }

    $this->render('create',array(
        'model'=>$model,
    ))
}
```

Step 3. You customize the code to fit your exact needs

        Finally we customize the code to fit our exact needs.

For example,

        to hide the password column on the user administration page, simply cross out the 'password' element shown in the user admin view file:

features of Yii

- Database Access Objects (DAO), Query Builder

Yii allows developers to model database data in terms of objects and avoid the deadliness and complexity of writing repetitive SQL statements.

features of Yii(contd..)

- **Form input and validation**

> Yii makes collecting form input extremely easy and safe. It comes with a set of validates as well as numerous helper methods and widgets to simplify the task for form input and validation.

- **Authentication and authorization**

> Yii has built-in authentication support. It also supports authorization via hierarchical role-based access control

features of Yii(contd..)

-   Skinning and theming

Yii implements a skinning and theming mechanism that allows you to quickly switch the outlook of a Yii-power website.

-   **Layered caching scheme**

Yii supports data caching, page caching, fragment caching and dynamic content. The storage medium of caching can be changed easily without touching the application code

features of Yii(contd..)

- **Automatic code generation**

  Yii provides a set of spontaneous and highly extensible code generation tools that can help you quickly generate the code you need for features such as form input, CRUD.

- **Purely object-oriented**

  Yii framework sticks to strict OOP paradigm. It does not define any global function or variable. And the class hierarchy that it defines allows maximum reusability and customization.

features of Yii(contd..)

- **Error handling and logging**

    Errors are handled and presented
more nicely, and log messages can be
categorized, filtered and routed to different
destinations.

- **Security**

    Yii is equipped with many security
measures to help prevent your Web applications from
attacks such as SQL injection, cookie tampering etc.

Disadvantages of Yii framework

Yii is written in approach that does not support the

most innovative, modern advantages brought to PHP

development world with release of PHP 5.3 and soon

– PHP version 6.

Conclusion

Yii does not need to be installed under a Web-accessible directory.

An Yii application has one entry script which is usually the only file that needs to be exposed to Web users.

Other PHP scripts, including those from Yii, should be
protected from Web access since they may be exploited for hacking.

References