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# **micro-framework Documentation**

***Release 2.0.2***

**phpmv**

**Nov 24, 2018**



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## Installation configuration

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## Ubiquity-devtools installation

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### 1.1 Install Composer

**ubiquity** utilizes Composer to manage its dependencies. So, before using, you will need to make sure you have [Composer](#) installed on your machine.

### 1.2 Install Ubiquity-devtools

Download the Ubiquity-devtools installer using Composer.

```
composer global require phpmv/ubiquity-devtools 1.0.x-dev
```

Make sure to place the `~/ .composer/vendor/bin` directory in your `PATH` so the **Ubiquity** executable can be located by your system.

Once installed, the simple `Ubiquity new` command will create a fresh micro installation in the directory you specify. For instance, `Ubiquity new blog` would create a directory named **blog** containing an Ubiquity project:

```
Ubiquity new blog
```

You can see more options about installation by reading the [Project creation](#) section.



## CHAPTER 2

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### Project creation

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After installing *Ubiquity-devtools installation*, in a bash console, call the *new* command in the root folder of your web server :

```
Ubiquity new projectName
```

### 2.1 Installer arguments

short name	name	role	default	Allowed values
b	dbName	Sets the database name.		
s	serverName	Defines the db server address.	127.0.0.1	
p	port	Defines the db server port.	3306	
u	user	Defines the db server user.	root	
w	password	Defines the db server password.	''	
q	phpmv	Integrates phpMv-UI toolkit.	false	semantic,bootstrap,ui
m	all-models	Creates all models from db.	false	

### 2.2 Arguments usage

#### 2.2.1 short names

Example of creation of the blog project, connected to the blogDb database, with generation of all models

```
Ubiquity new blog -b=blogDb -m=true
```

### 2.2.2 long names

Example of creation of the blog project, connected to the bogDb database, with generation of all models and integration of phpMv-toolkit

```
Ubiquity new blog --dbName=blogDb --all-models=true --phpmv=semantic
```

---

**Note:** Markdown doesn't support a lot of the features of Sphinx, like inline markup and directives. However, it works for basic prose content. reStructuredText is the preferred format for technical documentation, please read [‘this blog post’](#) for motivation.

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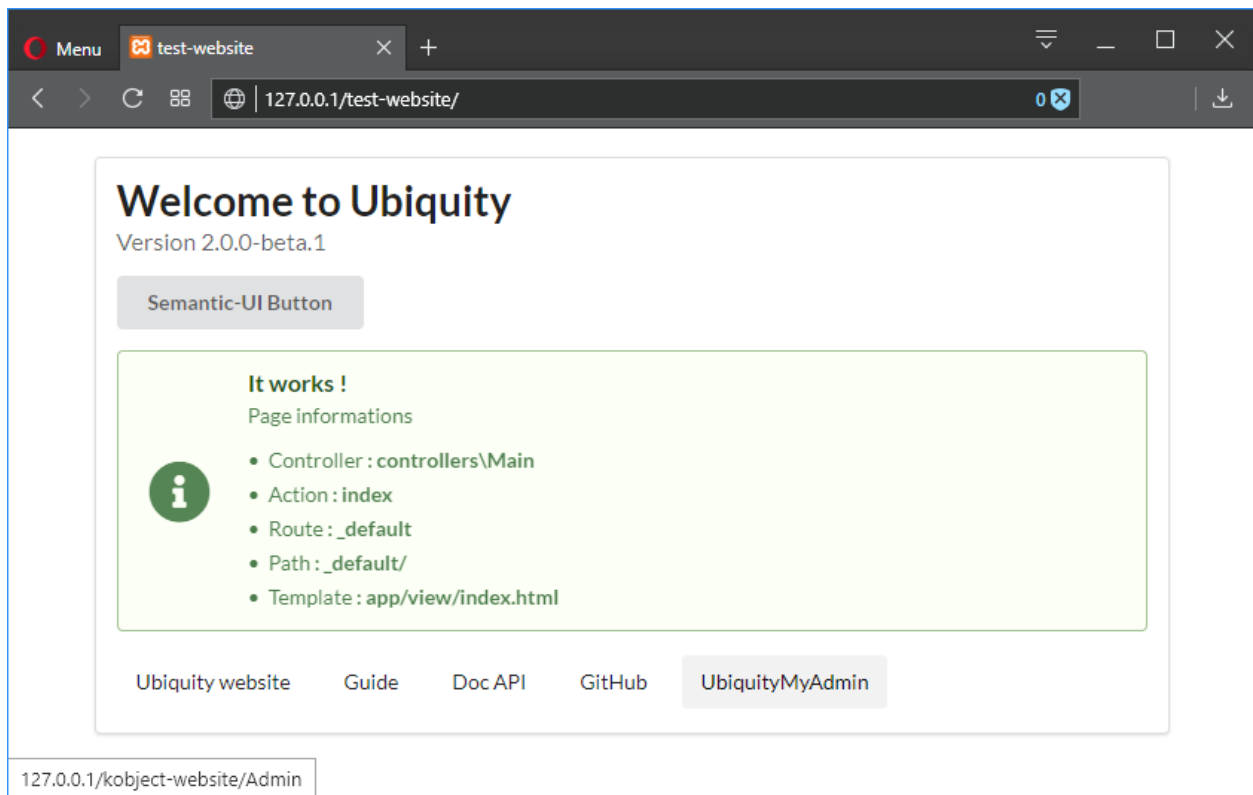
## CHAPTER 3

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### Project configuration

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Normally, the installer limits the modifications to be performed in the configuration files and your application is operational after installation



## 3.1 Main configuration

The main configuration of a project is localised in the `app/conf/config.php` file.

Listing 1: `app/conf/config.php`

```
1 return array(  
2     "siteUrl"=>"%siteUrl%",  
3     "database"=>(  
4         "dbName"=>"%dbName%",  
5         "serverName"=>"%serverName%",  
6         "port"=>"%port%",  
7         "user"=>"%user%",  
8         "password"=>"%password%"  
9     ),  
10    "namespaces"=>[],  
11    "templateEngine"=>'Ubiquity\views\engine\Twig',  
12    "templateEngineOptions"=>array("cache"=>false),  
13    "test"=>false,  
14    "debug"=>false,  
15    "di"=>[%injections%],  
16    "cacheDirectory"=>"cache/",  
17    "mvcNS"=>["models"=>"models", "controllers"=>"controllers"]  
18 );
```

## 3.2 Services configuration

Services loaded on startup are configured in the `app/conf/services.php` file.

Listing 2: app/conf/services.php

```

1 use Ubiquity\cache\CacheManager;
2 use Ubiquity\controllers\Router;
3 use Ubiquity\orm\DAO;
4
5 /*if($config["test"]){
6 \Ubiquity\log\Logger::init();
7 $config["siteUrl"]="http://127.0.0.1:8090/";
8 }*/
9
10 $db=$config["database"];
11 if($db["dbName"]!=""){
12     DAO::connect($db["dbName"],@$db["serverName"],@$db["port"],@$db["user"],@$db[
13 ↪ "password"]);
14 }
15 CacheManager::startProd($config);
16 Router::start();
17 Router::addRoute("_default", "controllers\Main");

```

## 3.3 Pretty URLs

### 3.3.1 Apache

The framework ships with an **.htaccess** file that is used to allow URLs without index.php. If you use Apache to serve your Ubiquity application, be sure to enable the **mod\_rewrite** module.

Listing 3: .htaccess

```

AddDefaultCharset UTF-8
<IfModule mod_rewrite.c>
    RewriteEngine On
    RewriteBase /blog/
    RewriteCond %{REQUEST_FILENAME} !-f
    RewriteCond %{HTTP_ACCEPT} !(*.images.*)
    RewriteRule ^(.*)$ index.php?c=$1 [L,QSA]
</IfModule>

```

### 3.3.2 Nginx

On Nginx, the following directive in your site configuration will allow “pretty” URLs:

```

location / {
    try_files $uri $uri/ /index.php?c=$query_string;
}

```



## CHAPTER 4

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Devtools usage

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**4.1 Project creation**

**4.2 Controller creation**

**4.3 Model creation**

**4.4 All models creation**

**4.5 Cache initialization**



like many other frameworks, if you are using router with its default behavior, there is a one-to-one relationship between a URL string and its corresponding controller class/method. The segments in a URI normally follow this pattern:

```
example.com/controller/method/param  
example.com/controller/method/param1/param2
```

### 5.1 Default method

When the URL is composed of a single part, corresponding to the name of a controller, the index method of the controller is automatically called :

**URL :**

```
example.com/Products  
example.com/Products/index
```

**Controller :**

Listing 1: app/controllers/Products.php

```
1 class Products extends ControllerBase{  
2     public function index(){  
3         //Default action  
4     }  
5 }
```

### 5.2 Required parameters

If the requested method requires parameters, they must be passed in the URL:

## Controller :

Listing 2: app/controllers/Products.php

```
1 class Products extends ControllerBase{
2     public function display($id){}
3 }
```

## Valid Urls :

```
example.com/Products/display/1
example.com/Products/display/10/
example.com/Products/display/ECS
```

## 5.3 Optional parameters

The called method can accept optional parameters.

If a parameter is not present in the URL, the default value of the parameter is used.

## Controller :

Listing 3: app/controllers/Products.php

```
class Products extends ControllerBase{
    public function sort($field,$order="ASC"){}
}
```

## Valid Urls :

```
example.com/Products/sort/name (uses "ASC" for the second parameter)
example.com/Products/sort/name/DESC
example.com/Products/sort/name/ASC
```

## 5.4 Case sensitivity

On Unix systems, the name of the controllers is case-sensitive.

## Controller :

Listing 4: app/controllers/Products.php

```
class Products extends ControllerBase{
    public function caseInsensitive(){}
}
```

## Urls :

```
example.com/Products/caseInsensitive (valid)
example.com/Products/caseinsensitive (valid because the method names are case_
↳ insensitive)
example.com/products/caseInsensitive (invalid since the products controller does not_
↳ exist)
```



## 5.5 Routing customization

The *Router* and annotations of controller classes allow you to customize URLs.



Routing can be used in addition to the default mechanism that associates `controller/action/{parameters}` with an url. Routing works by using the `@route` annotation on controller methods.

## 6.1 Routes definition

### 6.1.1 Creation

Listing 1: `app/controllers/Products.php`

```
1 namespace controllers;
2 /**
3  * Controller Products
4  */
5 class Products extends ControllerBase {
6
7     /**
8      * @route("products")
9      */
10    public function index() {}
11
12 }
```

The method `Products::index()` will be accessible via the url `/products`.

### 6.1.2 Route parameters

A route can have parameters:

Listing 2: app/controllers/Products.php

```
1 namespace controllers;
2 /**
3  * Controller Products
4  */
5 class Products extends ControllerBase{
6     ...
7     /**
8      * Matches products/*
9      *
10     * @Route("products/{value}")
11     */
12     public function search($value){
13         // $value will equal the dynamic part of the URL
14         // e.g. at /products/brocolis, then $value='brocolis'
15         // ...
16     }
17 }
```

### 6.1.3 Route optional parameters

A route can define optional parameters, if the associated method has optional arguments:

Listing 3: app/controllers/Products.php

```
1 namespace controllers;
2 /**
3  * Controller Products
4  */
5 class Products extends ControllerBase{
6     ...
7     /**
8      * Matches products/all/{pageNum}/{countPerPage}
9      *
10     * @Route("products/all/{pageNum}/{countPerPage}")
11     */
12     public function list($pageNum, $countPerPage=50){
13         // ...
14     }
15 }
```

### 6.1.4 Route name

It is possible to specify the **name** of a route, this name then facilitates access to the associated url. If the **name** attribute is not specified, each route has a default name, based on the pattern **controllerName\_methodName**.

Listing 4: app/controllers/Products.php

```
1 namespace controllers;
2 /**
3  * Controller Products
4  */
5 class Products extends ControllerBase{
```

(continues on next page)

(continued from previous page)

```
6
7  /**
8   * @route("products", "name"=>"products_index")
9   */
10 public function index() {}
11
12 )
```

### 6.1.5 URL or path generation

Route names can be used to generate URLs or paths.

Linking to Pages in Twig

```
<a href="{{ path('products_index') }}">Products</a>
```



A controller is a PHP class inheriting from `Ubiquity\controllers\Controller`, providing an entry point in the application. Controllers and their methods define accessible URLs.

### 7.1 Controller creation

The easiest way to create a controller is to do it from the devtools.

From the command prompt, go to the project folder. To create the Products controller, use the command:

```
Ubiquity controller Products
```

The `Products.php` controller is created in the `app/controllers` folder of the project.

Listing 1: `app/controllers/Products.php`

```
1 namespace controllers;
2 /**
3  * Controller Products
4  */
5 class Products extends ControllerBase{
6
7     public function index(){}
8
9 }
```

It is now possible to access URLs (the `index` method is solicited by default):

```
example.com/Products
example.com/Products/index
```

**Note:** A controller can be created manually. In this case, he must respect the following rules:

- The class must be in the **app/controllers** folder
  - The name of the class must match the name of the php file
  - The class must inherit from **ControllerBase** and be defined in the namespace **controllers**
  - and must override the abstract **index** method
- 

## 7.2 Methods

### 7.2.1 public

The second segment of the URI determines which public method in the controller gets called. The “index” method is always loaded by default if the second segment of the URI is empty.

Listing 2: app/controllers/First.php

```
1 namespace controllers;
2 class First extends ControllerBase
3
4     public function hello(){
5         echo "Hello world!";
6     }
7
8 }
```

The hello method of the First controller makes the following URL available:

```
example.com/First/hello
```

### 7.2.2 method arguments

the arguments of a method must be passed in the url, except if they are optional.

Listing 3: app/controllers/First.php

```
namespace controllers;
class First extends ControllerBase
{
    public function says($what,$who="world"){
        echo $what." " . $who;
    }
}
```

The hello method of the First controller makes the following URLs available:

```
example.com/First/says/hello (says hello world)
example.com/First/says/hi/everyone (says Hi everyone)
```

### 7.2.3 private

Private or protected methods are not accessible from the URL.



## 7.3 Default controller

The default controller can be set with the Router, in the `services.php` file

Listing 4: `app/config/services.php`

```
Router::start();
Router::addRoute("_default", "controllers\First");
```

In this case, access to the `example.com/` URL loads the controller **First** and calls the default **index** method.

## 7.4 views loading

### 7.4.1 loading

Views are stored in the `app/views` folder. They are loaded from controller methods. By default, it is possible to create views in php, or with twig. Twig is the default template engine for html files.

#### php view loading

If the file extension is not specified, the **loadView** method loads a php file.

Listing 5: `app/controllers/First.php`

```
namespace controllers;
class First extends ControllerBase{
    public function displayPHP(){
        //loads the view app/views/index.php
        $this->loadView("index");
    }
}
```

#### twig view loading

If the file extension is html, the **loadView** method loads an html twig file.

Listing 6: `app/controllers/First.php`

```
namespace controllers;
class First extends ControllerBase{
    public function displayTwig(){
        //loads the view app/views/index.html
        $this->loadView("index.html");
    }
}
```

### 7.4.2 view parameters

One of the missions of the controller is to pass variables to the view. This can be done at the loading of the view, with an associative array:

Listing 7: app/controllers/First.php

```
class First extends ControllerBase{
    public function displayTwigWithVar($name){
        $message="hello";
        //loads the view app/views/index.html
        $this->loadView("index.html", ["recipient"=>$name, "message"=>$message]);
    }
}
```

The keys of the associative array create variables of the same name in the view. Using of this variables in Twig:

Listing 8: app/views/index.html

```
<h1>{{message}} {{recipient}}</h1>
```

Variables can also be passed before the view is loaded:

```
//passing one variable
$this->view->setVar("title"=>"Message");
//passing an array of 2 variables
$this->view->setVars(["message"=>$message, "recipient"=>$name]);
//loading the view that now contains 3 variables
$this->loadView("First/index.html");
```

### 7.4.3 view result as string

It is possible to load a view, and to return the result in a string, assigning true to the 3rd parameter of the loadview method :

```
$viewResult=$this->loadView("First/index.html", [], true);
echo $viewResult;
```

### 7.4.4 multiple views loading

A controller can load multiple views:

Listing 9: app/controllers/Products.php

```
namespace controllers;
class Products extends ControllerBase{
    public function all(){
        $this->loadView("Main/header.html", ["title"=>"Products"]);
        $this->loadView("Products/index.html", ["products"=>$this->products]);
        $this->loadView("Main/footer.html");
    }
}
```

---

**Important:** A view is often partial. It is therefore important not to systematically integrate the **html** and **body** tags defining a complete html page.

---

### 7.4.5 views organization

It is advisable to organize the views into folders. The most recommended method is to create a folder per controller, and store the associated views there. To load the `index.html` view, stored in `app/views/First`:

```
$this->loadView("First/index.html");
```

## 7.5 initialize and finalize

## 7.6 Access control

## 7.7 Forwarding

## 7.8 Dependency injection

## 7.9 namespaces

## 7.10 Super class



A model class is just a plain old php object without inheritance. Models are located by default in the **app\models** folder. Object Relational Mapping (ORM) relies on member annotations in the model class.

## 8.1 Models definition

### 8.1.1 A basic model

- A model must define its primary key using the **@id** annotation on the members concerned
- Serialized members must have getters and setters
- Without any other annotation, a class corresponds to a table with the same name in the database, each member corresponds to a field of this table

Listing 1: app/models/Product.php

```
1 namespace models;
2 class Product {
3     /**
4      * @id
5      */
6     private $id;
7
8     private $name;
9
10    public function getName() {
11        return $this->name;
12    }
13    public function setName($name) {
14        $this->name=$name;
15    }
16 }
```

//TODO

The **DAO** class is responsible for loading and persistence operations on models :

## 9.1 Loading data

### 9.1.1 Loading an instance

Loading an instance of the *models\User* class with id 5

```
use Ubiquity\orm\DAO;

$user = DAO::getOne("models\User", 5);
```

#### BelongsTo loading

By default, members defined by a **belongsTo** relationship are automatically loaded

Each user belongs to only one category:

```
$user = DAO::getOne("models\User", 5);
echo $user->getCategory()->getName();
```

It is possible to prevent this default loading ; the third parameter allows the loading or not of belongsTo members:

```
$user = DAO::getOne("models\User", 5, false);
echo $user->getCategory(); // NULL
```

#### HasMany loading

Loading **hasMany** members must always be explicit ; the fourth parameter allows the loading of hasmany members.

Each user has many groups:

```
$user=DAO::getOne("models\User", 5, true, true);
foreach($user->getGroupes() as $groupe){
    echo $groupe->getName()."<br>";
}
```

## Composite primary key

Either the *ProductDetail* model corresponding to a product ordered on a command and whose primary key is composite:

Listing 1: app/models/Products.php

```
1 namespace models;
2 class ProductDetail{
3     /**
4      * @id
5      */
6     private $idProduct;
7
8     /**
9      * @id
10     */
11     private $idCommand;
12
13     ...
14 }
```

The second parameter *\$keyValues* can be an array if the primary key is composite:

```
$productDetail=DAO::getOne("models\ProductDetail", [18, 'BF327']);
echo 'Command:'. $productDetail->getCommande().'<br>';
echo 'Product:'. $productDetail->getProduct().'<br>';
```

### 9.1.2 Loading multiple objects

Loading instances of the *User* class:

```
$users=DAO::getAll("models\User");
foreach($users as $user){
    echo $user->getName()."<br>";
}
```



---

**Note:** For all Http features, Ubiquity uses technical classes containing static methods. This is a design choice to avoid dependency injection that would degrade performances.

---

The **URequest** class provides additional functionality to more easily manipulate native **\$\_POST** and **\$\_GET** php arrays.

## 10.1 Retrieving data

### 10.1.1 From the get method

The **get** method returns the *null* value if the key **name** does not exist in the get variables.

```
use Ubiquity\utils\http\URequest;

$name=URequest::get ("name");
```

The **get** method can be called with the optional second parameter returning a value if the key does not exist in the get variables.

```
$name=URequest::get ("page", 1);
```

### 10.1.2 From the post method

The **post** method returns the *null* value if the key **name** does not exist in the post variables.

```
use Ubiquity\utils\http\URequest;

$name=URequest::post ("name");
```

The **post** method can be called with the optional second parameter returning a value if the key does not exist in the post variables.

```
$name=URequest::post("page",1);
```

The **getPost** method applies a callback to the elements of the \$\_POST array and return them (default callback : **htmlEntities**) :

```
$protectedValues=URequest::getPost();
```

## 10.2 Retrieving and assigning multiple data

It is common to assign the values of an associative array to the members of an object. This is the case for example when validating an object modification form.

The **setValuesToObject** method performs this operation :

Consider a **User** class:

```
class User {
    private $id;
    private $firstname;
    private $lastname;

    public function setId($id){
        $this->id=$id;
    }
    public function getId(){
        return $this->id;
    }

    public function setFirstname($firstname){
        $this->firstname=$firstname;
    }
    public function getFirstname(){
        return $this->firstname;
    }

    public function setLastname($lastname){
        $this->lastname=$lastname;
    }
    public function getLastname(){
        return $this->lastname;
    }
}
```

Consider a form to modify a user:

```
<form method="post" action="Users/update">
  <input type="hidden" name="id" value="{{user.id}}">
  <label for="firstname">Firstname:</label>
  <input type="text" id="firstname" name="firstname" value="{{user.firstname}}">
  <label for="lastname">Lastname:</label>
  <input type="text" id="lastname" name="lastname" value="{{user.lastname}}">
  <input type="submit" value="validate modifications">
</form>
```

The **update** action of the **Users** controller must update the user instance from POST values. Using the **setPostValuesToObject** method avoids the assignment of variables posted one by one to the members of the object. It is also possible to use **setGetValuesToObject** for the **get** method, or **setValuesToObject** to assign the values of any associative array to an object.

Listing 1: app/controllers/Users.php

```

1  namespace controllers;
2
3  use Ubiquity\orm\DAO;
4  use Uniquity\utils\http\URequest;
5
6  class Users extends BaseController{
7      ...
8      public function update(){
9          $user=DAO::getOne("models\User", URequest::post("id"));
10         URequest::setPostValuesToObject($user);
11         DAO::update($user);
12     }
13 }

```

**Note:** **SetValuesToObject** methods use setters to modify the members of an object. The class concerned must therefore implement setters for all modifiable members.

## 10.3 Testing the request

### 10.3.1 isPost

The **isPost** method returns *true* if the request was submitted via the POST method: In the case below, the *initialize* method only loads the *vHeader.html* view if the request is not an Ajax request.

Listing 2: app/controllers/Users.php

```

1  namespace controllers;
2
3  use Ubiquity\orm\DAO;
4  use Uniquity\utils\http\URequest;
5
6  class Users extends BaseController{
7      ...
8      public function update(){
9          if URequest::isPost() {
10             $user=DAO::getOne("models\User", URequest::post("id"));
11             URequest::setPostValuesToObject($user);
12             DAO::update($user);
13         }
14     }
15 }

```

### 10.3.2 isAjax

The **isAjax** method returns *true* if the query is an Ajax query:

Listing 3: app/controllers/Users.php

```
1  ...
2  public function initialize(){
3      if !URequest::isAjax() {
4          $this->loadView("main/vHeader.html");
5      }
6  }
7  ...
```

### 10.3.3 isCrossSite

The **isCrossSite** method verifies that the query is not cross-site.

## CHAPTER 11

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### Response

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**Note:** For all Http features, Ubiquity uses technical classes containing static methods. This is a design choice to avoid dependency injection that would degrade performances.

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The **UResponse** class provides additional functionality to more easily manipulate response headers.



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**Note:** For all Http features, Ubiquity uses technical classes containing static methods. This is a design choice to avoid dependency injection that would degrade performances.

---

The **USession** class provides additional functionality to more easily manipulate native **\$\_SESSION** php array.

### 12.1 Starting the session

The Http session is started automatically if the **sessionName** key is populated in the **app/config.php** configuration file:

```
<?php
return array(
    ...
    "sessionName"=>"key-for-app",
    ...
);
```

If the **sessionName** key is not populated, it is necessary to start the session explicitly to use it:

```
use Ubiquity\utils\http\USession;
...
USession::start("key-for-app");
```

---

**Note:** The **name** parameter is optional but recommended to avoid conflicting variables.

---

## 12.2 Creating or editing a session variable

```
use Ubiquity\utils\http\USession;

USession::set("name", "SMITH");
USession::set("activeUser", $user);
```

## 12.3 Retrieving data

The **get** method returns the *null* value if the key **name** does not exist in the session variables.

```
use Ubiquity\utils\http\USession;

$name=USession::get("name");
```

The **get** method can be called with the optional second parameter returning a value if the key does not exist in the session variables.

```
$name=USession::get("page",1);
```

---

**Note:** The **session** method is an alias of the **get** method.

---

The **getAll** method returns all session vars:

```
$sessionVars=USession::getAll();
```

## 12.4 Testing

The **exists** method tests the existence of a variable in session.

```
if(USession::exists("name")){
    //do something when name key exists in session
}
```

The **isStarted** method checks the session start

```
if(USession::isStarted()){
    //do something if the session is started
}
```

## 12.5 Deleting variables

The **delete** method remove a session variable:

```
USession::delete("name");
```



## 12.6 Explicit closing of the session

The **terminate** method closes the session correctly and deletes all session variables created:

```
USession::terminate();
```



## CHAPTER 13

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### Cookie

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**Note:** For all Http features, Ubiquity uses technical classes containing static methods. This is a design choice to avoid dependency injection that would degrade performances.

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The **UCookie** class provides additional functionality to more easily manipulate native **\$\_COOKIES** php array.



Ubiquity uses Twig as the default template engine (see [Twig documentation](#)). The views are located in the **app/views** folder. They must have the **.html** extension for being interpreted by Twig.

## 14.1 Loading

Views are loaded from controllers:

Listing 1: app/controllers/Users.php

```
1 namespace controllers;
2
3 class Users extends BaseController{
4     ...
5     public function index(){
6         $this->loadView "index.html";
7     }
8 }
9 }
```

## 14.2 Loading and passing variables

Variables are passed to the view with an associative array. Each key creates a variable of the same name in the view.

Listing 2: app/controllers/Users.php

```
1 namespace controllers;
2
3 class Users extends BaseController{
4     ...
```

(continues on next page)

(continued from previous page)

```
5     public function display($message,$type){
6         $this->loadView "users/display.html", "message"=>$message,"type
↪"=>$type;
7     }
8 }
9 }
```

In this case, it is usefull to call Compact for creating an array containing variables and their values :

Listing 3: app/controllers/Users.php

```
1 namespace controllers;
2
3 class Users extends BaseController{
4     ...
5     public function display($message,$type){
6         $this->loadView "users/display.html", compact( "message", "type"
7     }
8 }
9 }
```

## 14.3 Displaying in view

The view can then display the variables:

Listing 4: users/display.html

```
h2 {{type}}</h2>
div {{message}}</div>
```

Variables may have attributes or elements you can access, too.

You can use a dot (.) to access attributes of a variable (methods or properties of a PHP object, or items of a PHP array), or the so-called “subscript” syntax ([]):

```
{{ foo.bar }}
{{ foo['bar'] }}
```

## CHAPTER 15

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External libraries

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## CHAPTER 16

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### Ubiquity Caching

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## CHAPTER 17

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Ubiquity dependencies

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## CHAPTER 18

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### Indices and tables

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- `genindex`
- `modindex`
- `search`