Writing Your First App

> Requires
>
> - *phpFox version >= **4.5.1***
> - *Techie mode has already been enabled*

What is app?

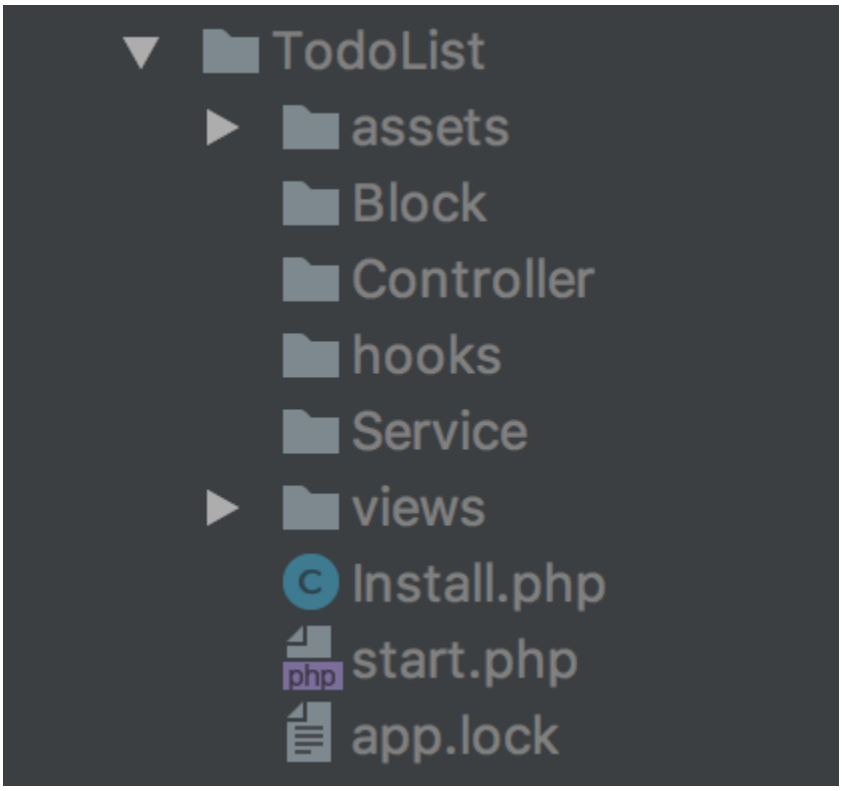
phpFox separates application structure to **App**, App provides new functions, gives new **blocks** that administrators put into template, integrate phpFox with external platforms etc Amazon S3, and even modify the way phpFox platform works.

Creating a New App

The best way to get things started is to create a small app showing the most common API functions we use.
Our example is creating a **TodoList**, it's a simple **todolist** application, allow members share to do lists.

To create an app, go to AdminCP -> Apps -> Installed -> Actions dropdown -> New App -> put **YOUR_APP_ID** on the popup -> Click submit.
Then check the folder /PF.Site/Apps/**YOUR_APP_ID**/, you will see some default files and folders there.

> *APP_ID is the name of your application*



Describe App Structure

- **Ajax**: This directory contains Ajax handler classes
- **assets**: This directory contains raw assets such as the images, css, javascript, ...
- **Block**: This directory contains **block** classes
- **Controller**: This directory contains **controller** classes
- **Service**: This directory contains **service** classes
- **hooks**: This directory contains **plugin** scripts
- **views**: This directory contain template scripts
- **phrase.json**: This file declares language phrases
- **icon.png**: This is icon of your app
- **Install.php**: This file contains installation script of your app
- **start.php**: This file contains bootstrap scripts.

> *In some cases, you will have to modify permissions of these folder to be able to put your code in them.*

Write Your First Controller

Add new **IndexController.php** file under directory **./PF.Site/Apps/TodoList/Controller/**
paste example code.

```
<?php

namespace Apps\TodoList\Controller;

// Index controller must be child of \Phpfox_Component class.

class IndexController extends \Phpfox_Component
{
    public function process()
    {
        // Get phpFox core template service
        $template = $this->template();

        // set view title
        $template->setTitle('To Do List');

        // set view breadcrumb

        // get url
        $url = $this->url()->makeUrl('to-do-list');

        $template->setBreadCrumb('To Do List',$url);

        // add your section menus
        $template->buildSectionMenu('to-do-list', [
            'Browse' => $this->url()->makeUrl('/to-do-list'),
            'Create' => $this->url()->makeUrl('/to-do-list/add'),
        ]);
    }
}
```

Add new template file **index.html.php** under **/PF.Site/Apps/TodoList/views/controller**,
paste following code

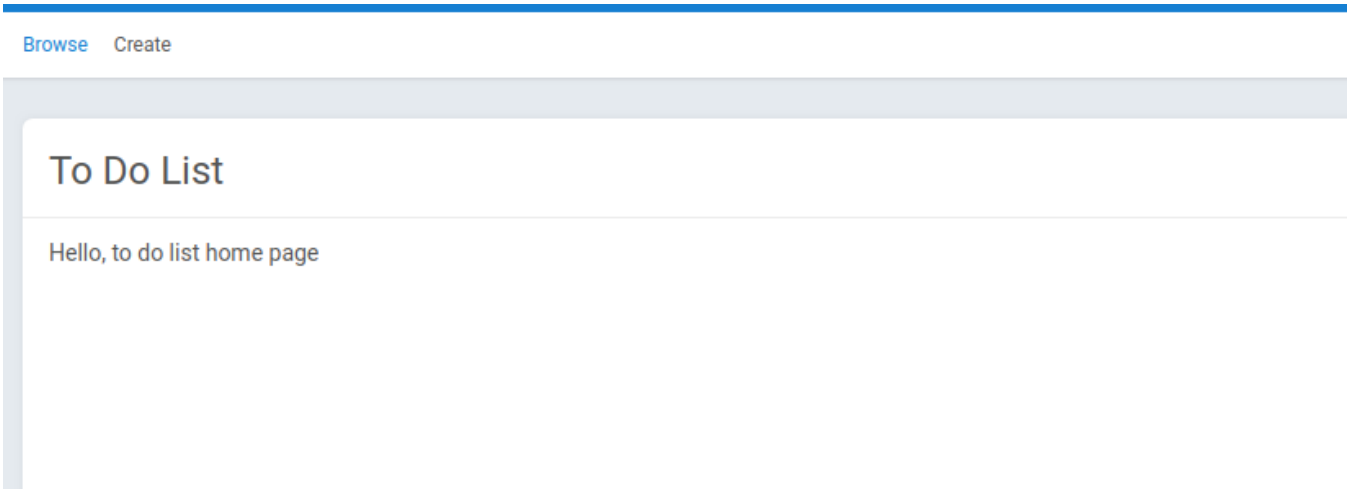
```
<p>Hello, to do list home page</p>
```

Now we define **route** to define configurations, edit **start.php**, paste following code.

```php
<?php

namespace Apps\TodoList;

// Load phpFox module service instance, this is core of phpFox service,
// module service contains your app configuration.
$module =\Phpfox_Module::instance();

// Instead of \Apps\FirstApp every where. Let register an alias **first_app** that map to our app.
$module->addAliasNames('todo', 'TodoList');

// Register your controller here
$module->addComponentNames('controller', [
        'todo.index' => Controller\IndexController::class,
    ]);

// Register template directory
$module->addTemplateDirs([
        'todo' => PHPFOX_DIR_SITE_APPS . 'TodoList/views',
    ]);


route('to-do-list',function (){
    \Phpfox_Module::instance()->dispatch('todo.index');
    return 'controller';
});
```

> *All your php classes must have namespace **Apps\TodoList**, This help the autoloader knows where to load scripts.*
>
> *There is a rule of naming things: if you want to create a controller named **Index**, you should name the php file as **IndexController.php**; in **Start.php**, the route should be **book.index** the template file should be **index.html.php** (the first part of template file's name must be the same as the last part of the route - index)*

Open browse, in address bar append **/index.php/to-do-list/**, then see the result.



Add Main Menu

Main menu will be added automatically by phpFox, edit Install.php,

update function setAlias

```
<?php
    protected function setAlias()
    {
        $this->alias = 'todo';
    }
```

update function setOthers

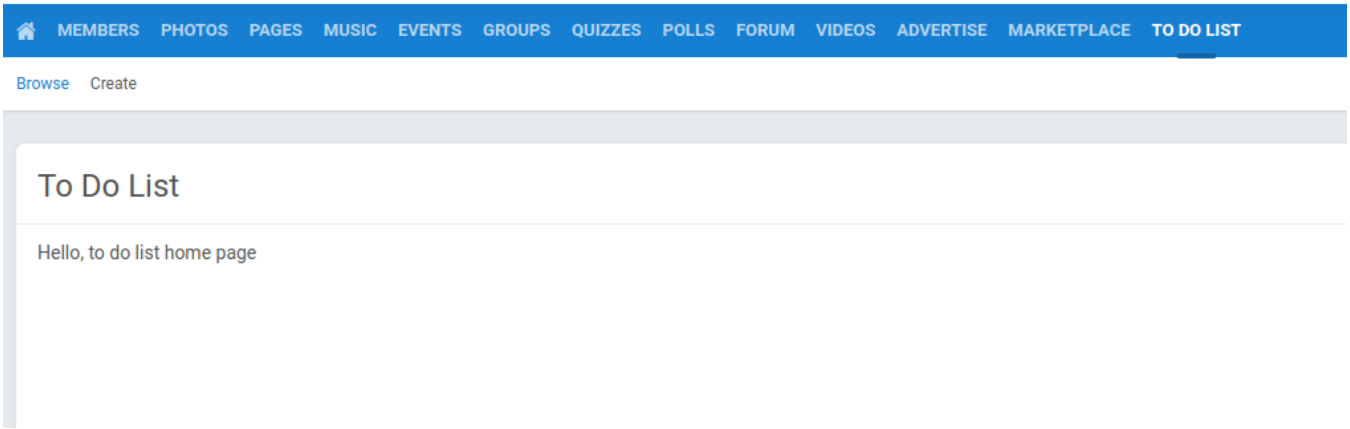
```
<?php
    protected function setOthers()
    {
        //add the menu for your app
        $this->menu = [
            "name" => "To Do List",  // Menu label
            "url"  => "/to-do-list", // Menu Url
            "icon" => "tasks"      // Menu icons, see http://fontawesome.io/icons/
        ];
    }
```

In case you want to use a defined phrase for menu label, you can use the below script:

```
<?php
    $this->menu = [
        "phrase_var_name" => "menu_to_do_list",  // Var name for the phrease of menu
        "url"  => "/to-do-list", // Menu Url
        "icon" => "tasks"      // Menu icons, see http://fontawesome.io/icons/
    ];
```

> *Another way to use defined phrases is using **phrase.json** file, see detailed document here*

Then update your app to apply your modification. (how to update app configurations)
Open browser again, see result:

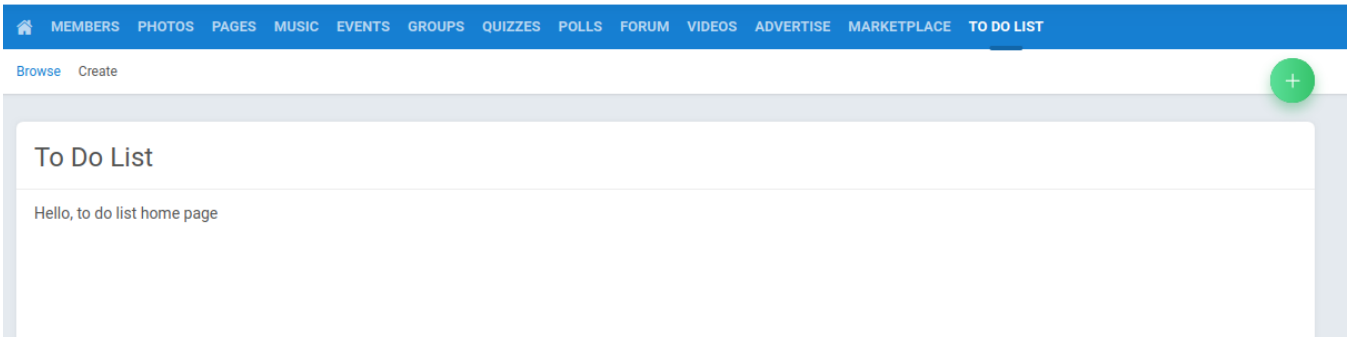


Add Buttons

Buttons menu is handled by **Template** service, you can get template service from anywhere by using **Phpfox::getLib('template')**, within controller, service you can invoke method template() to get the Template service.

pasted code into IndexController.php

```
$template->menu('Add To Do', $this->url()->makeUrl('/to-do-list/add'));
```



Click on **ADD TO DO**, a not found page will be shown, The next chapter will guide you how to create new controller to handle **Add** process, show input form about to do list task, store item to database.

Next Chapter