LARAVEL 4!

DOCUMENTATION

A free book covering the
Laravel 4 Official Documentation.

Laravel 4 Official Documentation

Synced daily. A free ebook version of the Laravel 4.2 Official Documentation.

Brujah

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Contribution Guidelines

If you are submitting documentation for the **current stable release**, submit it to the corresponding branch. For example, documentation for Laravel `4.2` would be submitted to the `4.2` branch. Documentation intended for the next release of Laravel should be submitted to the `master` branch.

Introduction

Where To Start

Learning a new framework can be daunting, but it's also exciting. To smooth your transition, we've attempted to create very clear, concise documentation for Laravel. Here are some recommendations for what to read first:

- Installation and Configuration
- Routing
- Requests & Input
- Responses
- Views
- Controllers

After reading through these documents, you should have a good grasp on basic request / response handling in Laravel. Next, you may wish to read about configuring your database, the fluent query builder, and the Eloquent ORM. Or, you may wish to read about authentication and security so you can start signing people into your application.

Laravel Philosophy

Laravel is a web application framework with expressive, elegant syntax. We believe development must be an enjoyable, creative experience to be truly fulfilling. Laravel attempts to take the pain out of development by easing common tasks used in the majority of web projects, such as authentication, routing, sessions, and caching.

Laravel aims to make the development process a pleasing one for the developer without sacrificing application functionality. Happy developers make the best code. To this end, we've attempted to combine the very best of what we have seen in other web frameworks, including frameworks implemented in other languages, such as Ruby on Rails, ASP.NET MVC, and Sinatra.

Laravel is accessible, yet powerful, providing powerful tools needed for large, robust applications. A superb inversion of control container, expressive migration system, and tightly integrated unit testing support give you the tools you need to build any application with which you are tasked.

Release Notes

Laravel 5.0 {#releases-laravel-5.0}

Laravel 5.0 introduces a fresh application structure to the default Laravel project. This new structure serves as a better foundation for building robust application in Laravel, as well as embraces new auto-loading standards (PSR-4) throughout the application. First, let's examine two of the major changes:

New Folder Structure

The old `app/models` directory has been entirely removed. Instead, all of your code lives directly within the `app` folder, and, by default, is organized to the `App` namespace. This default namespace can be quickly changed using the new `app:name` Artisan command. The Laravel class generators will remember your application namespace by examining the new `config/namespaces.php` configuration file.

Controllers, filters, and requests (a new type of class in Laravel 5.0) are now grouped under the `app/Http` directory, as they are all classes related to the HTTP transport layer of your application. Instead of a single, flat file of route filters, all filters are now broken into their own class files.

A new `app/Providers` directory replaces the `app/start` files from previous versions of Laravel 4.x. These service providers provide various bootstrapping functions to your application, such as error handling, logging, route loading, and more. Of course, you are free to create additional service providers for your application.

Application language files and views have been moved to the `resources` directory.

Thorough Namespacing

Laravel 5.0 ships with the entire `app` directory under the `App` namespace. Out of the box, Composer will auto-load all classes within the `app` directory using the PSR-4 auto-loading standard, eliminating the need to `composer dump-autoload` every time you add a new class to your project. Of course, since controllers are namespaced, you will need to import any classes you utilize from other namespaces.

Dependency Injection On Routes & Controller Methods

In previous versions of Laravel 4.x, you can type-hint controller dependencies in the controller's constructor and they will automatically be injected into the controller instance. Of course, this is still possible in Laravel 5.0; however, you can also type-hint dependencies on your controller **methods** as well! For example:

```
public function show(PhotoService $photos, $id)
{
        $photo = $photos->find($id);

        //
}
```

Form Requests

Laravel 5.0 introduces **form requests**, which extend the `Illuminate\Foundation\Http\FormRequest` class. These request objects can be combined with the method injection described above to provide a boiler-plate free method of validating user input. Let's dig in and look at a sample `FormRequest`:

```
<?php namespace App\Http\Requests;

class RegisterRequest extends FormRequest {

        public function rules()
        {
                return [
'email' => 'required|email|unique:users',
'password' => 'required|confirmed|min:8',
                ];
        }

        public function authorize()
        {
                return true;
        }

}
```

Once the class has been defined, we can type-hint it on our controller action:

```
1  public function register(RegisterRequest $request)
2  {
3          var_dump($request->input());
4  }
```

When the Laravel IoC container identifies that the class it is injecting is a `FormRequest` instance, the request will **automatically be validated**. This means that if your controller action is called, you can safely assume the HTTP request input has been validated according to the rules you specified in your form request class. Even more, if the request is invalid, an HTTP redirect, which you may customize, will automatically be issued, and the error messages will be either flashed to the session or converted to JSON. **Form validation has never been more simple**. For more information on `FormRequest` validation, check out the documentation.

New Generators

To compliment the new default application structure, `provider:make`, `filter:make`, and `request:make` Artisan commands have been added to the framework.

Route Cache

If your application is made up entirely of controller routes, you may utilize the new `route:cache` Artisan command to drastically speed up the registration of your routes. This is primarily useful on applications with 100+ routes and typically makes this portion of your code 50x faster. Literally!

Laravel 4.2

The full change list for this release by running the `php artisan changes` command from a 4.2 installation, or by viewing the change file on Github[1]. These notes only cover the major enhancements and changes for the release.

Note: During the 4.2 release cycle, many small bug fixes and enhancements were incorporated into the various Laravel 4.1 point releases. So, be sure to check the change list for Laravel 4.1 as well!

[1] https://github.com/laravel/framework/blob/4.2/src/Illuminate/Foundation/changes.json

PHP 5.4 Requirement

Laravel 4.2 requires PHP 5.4 or greater. This upgraded PHP requirement allows us to use new PHP features such as traits to provide more expressive interfaces for tools like Laravel Cashier. PHP 5.4 also brings significant speed and performance improvements over PHP 5.3.

Laravel Forge

Laravel Forge, a new web based application, provides a simple way to create and manage PHP servers on the cloud of your choice, including Linode, DigitalOcean, Rackspace, and Amazon EC2. Supporting automated Nginx configuration, SSH key access, Cron job automation, server monitoring via NewRelic & Papertrail, "Push To Deploy", Laravel queue worker configuration, and more, Forge provides the simplest and most affordable way to launch all of your Laravel applications.

The default Laravel 4.2 installation's `app/config/database.php` configuration file is now configured for Forge usage by default, allowing for more convenient deployment of fresh applications onto the platform.

More information about Laravel Forge can be found on the official Forge website[2].

Laravel Homestead

Laravel Homestead is an official Vagrant environment for developing robust Laravel and PHP applications. The vast majority of the boxes' provisioning needs are handled before the box is packaged for distribution, allowing the box to boot extremely quickly. Homestead includes Nginx 1.6, PHP 5.6, MySQL, Postgres, Redis, Memcached, Beanstalk, Node, Gulp, Grunt, & Bower. Homestead includes a simple `Homestead.yaml` configuration file for managing multiple Laravel applications on a single box.

The default Laravel 4.2 installation now includes an `app/config/local/database.php` configuration file that is configured to use the Homestead database out of the box, making Laravel initial installation and configuration more convenient.

The official documentation has also been updated to include Homestead documentation.

Laravel Cashier

Laravel Cashier is a simple, expressive library for managing subscription billing with Stripe. With the introduction of Laravel 4.2, we are including Cashier documentation along with the main Laravel documentation, though installation of the component itself is still optional. This release of Cashier brings numerous bug fixes, multi-currency support, and compatibility with the latest Stripe API.

[2] https://forge.laravel.com

Daemon Queue Workers

The Artisan `queue:work` command now supports a `--daemon` option to start a worker in "daemon mode", meaning the worker will continue to process jobs without ever re-booting the framework. This results in a significant reduction in CPU usage at the cost of a slightly more complex application deployment process.

More information about daemon queue workers can be found in the queue documentation.

Mail API Drivers

Laravel 4.2 introduces new Mailgun and Mandrill API drivers for the `Mail` functions. For many applications, this provides a faster and more reliable method of sending e-mails than the SMTP options. The new drivers utilize the Guzzle 4 HTTP library.

Soft Deleting Traits

A much cleaner architecture for "soft deletes" and other "global scopes" has been introduced via PHP 5.4 traits. This new architecture allows for the easier construction of similar global traits, and a cleaner separation of concerns within the framework itself.

More information on the new `SoftDeletingTrait` may be found in the Eloquent documentation.

Convenient Auth & Remindable Traits

The default Laravel 4.2 installation now uses simple traits for including the needed properties for the authentication and password reminder user interfaces. This provides a much cleaner default `User` model file out of the box.

"Simple Paginate"

A new `simplePaginate` method was added to the query and Eloquent builder which allows for more efficient queries when using simple "Next" and "Previous" links in your pagination view.

Migration Confirmation

In production, destructive migration operations will now ask for confirmation. Commands may be forced to run without any prompts using the `--force` command.

Laravel 4.1

Full Change List

The full change list for this release by running the `php artisan changes` command from a 4.1 installation, or by viewing the change file on Github[3]. These notes only cover the major enhancements and changes for the release.

New SSH Component

An entirely new `SSH` component has been introduced with this release. This feature allows you to easily SSH into remote servers and run commands. To learn more, consult the SSH component documentation.

The new `php artisan tail` command utilizes the new SSH component. For more information, consult the `tail` command documentation[4].

Boris In Tinker

The `php artisan tinker` command now utilizes the Boris REPL[5] if your system supports it. The `readline` and `pcntl` PHP extensions must be installed to use this feature. If you do not have these extensions, the shell from 4.0 will be used.

Eloquent Improvements

A new `hasManyThrough` relationship has been added to Eloquent. To learn how to use it, consult the Eloquent documentation.

A new `whereHas` method has also been introduced to allow retrieving models based on relationship constraints.

Database Read / Write Connections

Automatic handling of separate read / write connections is now available throughout the database layer, including the query builder and Eloquent. For more information, consult the documentation.

Queue Priority

Queue priorities are now supported by passing a comma-delimited list to the `queue:listen` command.

[3] https://github.com/laravel/framework/blob/4.1/src/Illuminate/Foundation/changes.json

[4] http://laravel.com/docs/ssh#tailing-remote-logs

[5] https://github.com/d11wtq/boris

Failed Queue Job Handling

The queue facilities now include automatic handling of failed jobs when using the new `--tries` switch on `queue:listen`. More information on handling failed jobs can be found in the queue documentation.

Cache Tags

Cache "sections" have been superseded by "tags". Cache tags allow you to assign multiple "tags" to a cache item, and flush all items assigned to a single tag. More information on using cache tags may be found in the cache documentation.

Flexible Password Reminders

The password reminder engine has been changed to provide greater developer flexibility when validating passwords, flashing status messages to the session, etc. For more information on using the enhanced password reminder engine, consult the documentation.

Improved Routing Engine

Laravel 4.1 features a totally re-written routing layer. The API is the same; however, registering routes is a full 100% faster compared to 4.0. The entire engine has been greatly simplified, and the dependency on Symfony Routing has been minimized to the compiling of route expressions.

Improved Session Engine

With this release, we're also introducing an entirely new session engine. Similar to the routing improvements, the new session layer is leaner and faster. We are no longer using Symfony's (and therefore PHP's) session handling facilities, and are using a custom solution that is simpler and easier to maintain.

Doctrine DBAL

If you are using the `renameColumn` function in your migrations, you will need to add the `doctrine/dbal` dependency to your `composer.json` file. This package is no longer included in Laravel by default.

Upgrade Guide

Upgrading To 5.0 From 4.2 {#upgrade-upgrade-5.0}

Quick Upgrade Using LegacyServiceProvider

Laravel 5.0 introduces a robust new folder structure. However, if you wish to upgrade your application to Laravel 5.0 while maintaining the Laravel 4.2 folder structure, you may use the `Illuminate\Foundation\Providers\LegacyStructureServiceProvider`. To upgrade to Laravel 5.0 using this provider, you should do the following:

1. Update your `composer.json` dependency on `laravel/framework` to `5.0.*`.

2. Run `composer update --no-scripts`.

3. Add the `Illuminate\Foundation\Providers\LegacyStructureServiceProvider` to your `providers` array in `app/config/app.php` file.

4. Remove the `Illuminate\Session\CommandsServiceProvider`, `Illuminate\Routing\ControllerServiceProvide` and `Illuminate\Workbench\WorkbenchServiceProvider` entries from your `providers` array in the `app/config/app.php` file.

5. Add the following set of paths to the bottom of your `bootstrap/paths.php` file:

```
1  'commands' => __DIR__.'/../app/commands',
2  'config' => __DIR__.'/../app/config',
3  'controllers' => __DIR__.'/../app/controllers',
4  'database' => __DIR__.'/../app/database',
5  'filters' => __DIR__.'/../app/filters',
6  'lang' => __DIR__.'/../app/lang',
7  'providers' => __DIR__.'/../app/providers',
8  'requests' => __DIR__.'/../app/requests',
```

Once these changes have been made, you should be able to run your Laravel application like normal. However, you should continue reviewing the following upgrade notices.

Compile Configuration File

The `app/config/compile.php` configuration file should now follow the following format:

```
<?php

return [

        'files' => [
                //
        ],

        'providers' => [
                //
        ],

];
```

The new `providers` option allows you to list service providers which return arrays of files from their `compiles` method.

Beanstalk Queuing

Laravel 5.0 now requires `"pda/pheanstalk": "~3.0"` instead of `"pda/pheanstalk": "~2.1"` that Laravel 4.2 required.

Upgrading To 4.2 From 4.1

PHP 5.4+

Laravel 4.2 requires PHP 5.4.0 or greater.

Encryption Defaults

Add a new `cipher` option in your `app/config/app.php` configuration file. The value of this option should be `MCRYPT_RIJNDAEL_256`.

```
'cipher' => MCRYPT_RIJNDAEL_256
```

This setting may be used to control the default cipher used by the Laravel encryption facilities.

Note: In Laravel 4.2, the default cipher is `MCRYPT_RIJNDAEL_128` (AES), which is considered to be the most secure cipher. Changing the cipher back to `MCRYPT_RIJNDAEL_256` is required to decrypt cookies/values that were encrypted in Laravel <= 4.1

Soft Deleting Models Now Use Traits

If you are using soft deleting models, the `softDeletes` property has been removed. You must now use the `SoftDeletingTrait` like so:

```
use Illuminate\Database\Eloquent\SoftDeletingTrait;

class User extends Eloquent {
        use SoftDeletingTrait;
}
```

You must also manually add the `deleted_at` column to your `dates` property:

```
class User extends Eloquent {
        use SoftDeletingTrait;

        protected $dates = ['deleted_at'];
}
```

The API for all soft delete operations remains the same.

Note: The `SoftDeletingTrait` can not be applied on a base model. It must be used on an actual model class.

View / Pagination Environment Renamed

If you are directly referencing the `Illuminate\View\Environment` class or `Illuminate\Pagination\Environment` class, update your code to reference `Illuminate\View\Factory` and `Illuminate\Pagination\Factory` instead. These two classes have been renamed to better reflect their function.

Additional Parameter On Pagination Presenter

If you are extending the `Illuminate\Pagination\Presenter` class, the abstract method `getPageLinkWrapper` signature has changed to add the `rel` argument:

```
1  abstract public function getPageLinkWrapper($url, $page, $rel = null);
```

Iron.Io Queue Encryption

If you are using the Iron.io queue driver, you will need to add a new `encrypt` option to your queue configuration file:

```
1  'encrypt' => true
```

Upgrading To 4.1.29 From <= 4.1.x

Laravel 4.1.29 improves the column quoting for all database drivers. This protects your application from some mass assignment vulnerabilities when **not** using the `fillable` property on models. If you are using the `fillable` property on your models to protect against mass assignment, your application is not vulnerable. However, if you are using `guarded` and are passing a user controlled array into an "update" or "save" type function, you should upgrade to `4.1.29` immediately as your application may be at risk of mass assignment.

To upgrade to Laravel 4.1.29, simply `composer update`. No breaking changes are introduced in this release.

Upgrading To 4.1.26 From <= 4.1.25

Laravel 4.1.26 introduces security improvements for "remember me" cookies. Before this update, if a remember cookie was hijacked by another malicious user, the cookie would remain valid for a long period of time, even after the true owner of the account reset their password, logged out, etc.

This change requires the addition of a new `remember_token` column to your `users` (or equivalent) database table. After this change, a fresh token will be assigned to the user each time they login to your application. The token will also be refreshed when the user logs out of the application. The implications of this change are: if a "remember me" cookie is hijacked, simply logging out of the application will invalidate the cookie.

Upgrade Path

First, add a new, nullable `remember_token` of VARCHAR(100), TEXT, or equivalent to your `users` table.

Next, if you are using the Eloquent authentication driver, update your `User` class with the following three methods:

```
public function getRememberToken()
{
        return $this->remember_token;
}

public function setRememberToken($value)
{
        $this->remember_token = $value;
}

public function getRememberTokenName()
{
        return 'remember_token';
}
```

Note: All existing "remember me" sessions will be invalidated by this change, so all users will be forced to re-authenticate with your application.

Package Maintainers

Two new methods were added to the `Illuminate\Auth\UserProviderInterface` interface. Sample implementations may be found in the default drivers:

```
public function retrieveByToken($identifier, $token);

public function updateRememberToken(UserInterface $user, $token);
```

The `Illuminate\Auth\UserInterface` also received the three new methods described in the "Upgrade Path".

Upgrading To 4.1 From 4.0

Upgrading Your Composer Dependency

To upgrade your application to Laravel 4.1, change your `laravel/framework` version to `4.1.*` in your `composer.json` file.

Replacing Files

Replace your `public/index.php` file with this fresh copy from the repository[6].

Replace your `artisan` file with this fresh copy from the repository[7].

Adding Configuration Files & Options

Update your `aliases` and `providers` arrays in your `app/config/app.php` configuration file. The updated values for these arrays can be found in this file[8]. Be sure to add your custom and package service providers / aliases back to the arrays.

Add the new `app/config/remote.php` file from the repository[9].

Add the new `expire_on_close` configuration option to your `app/config/session.php` file. The default value should be `false`.

Add the new `failed` configuration section to your `app/config/queue.php` file. Here are the default values for the section:

[6] https://github.com/laravel/laravel/blob/master/public/index.php
[7] https://github.com/laravel/laravel/blob/master/artisan
[8] https://github.com/laravel/laravel/blob/master/app/config/app.php
[9] https://github.com/laravel/laravel/blob/master/app/config/remote.php

```
'failed' => array(
        'database' => 'mysql', 'table' => 'failed_jobs',
),
```

(Optional) Update the `pagination` configuration option in your `app/config/view.php` file to `pagination::slider-3`.

Controller Updates

If `app/controllers/BaseController.php` has a `use` statement at the top, change `use Illuminate\Routing\Control` to `use Illuminate\Routing\Controller;`.

Password Reminders Updates

Password reminders have been overhauled for greater flexibility. You may examine the new stub controller by running the `php artisan auth:reminders-controller` Artisan command. You may also browse the updated documentation and update your application accordingly.

Update your `app/lang/en/reminders.php` language file to match this updated file[10].

Environment Detection Updates

For security reasons, URL domains may no longer be used to detect your application environment. These values are easily spoofable and allow attackers to modify the environment for a request. You should convert your environment detection to use machine host names (`hostname` command on Mac, Linux, and Windows).

Simpler Log Files

Laravel now generates a single log file: `app/storage/logs/laravel.log`. However, you may still configure this behavior in your `app/start/global.php` file.

Removing Redirect Trailing Slash

In your `bootstrap/start.php` file, remove the call to `$app->redirectIfTrailingSlash()`. This method is no longer needed as this functionality is now handled by the `.htaccess` file included with the framework.

Next, replace your Apache `.htaccess` file with this new one[11] that handles trailing slashes.

[10] https://github.com/laravel/laravel/blob/master/app/lang/en/reminders.php
[11] https://github.com/laravel/laravel/blob/master/public/.htaccess

Current Route Access

The current route is now accessed via `Route::current()` instead of `Route::getCurrentRoute()`.

Composer Update

Once you have completed the changes above, you can run the `composer update` function to update your core application files! If you receive class load errors, try running the `update` command with the `--no-scripts` option enabled like so: `composer update --no-scripts`.

Wildcard Event Listeners

The wildcard event listeners no longer append the event to your handler functions parameters. If you require finding the event that was fired you should use `Event::firing()`.

Contribution Guide

Introduction

Laravel is an open-source project and anyone may contribute to Laravel for its improvement. We welcome contributors, regardless of skill level, gender, race, religion, or nationality. Having a diverse, vibrant community is one of the core values of the framework!

To encourage active collaboration, Laravel currently only accepts pull requests, not bug reports. "Bug reports" may be sent in the form of a pull request containing a failing unit test. Alternatively, a demonstration of the bug within a sandbox Laravel application may be sent as a pull request to the main Laravel repository[12]. A failing unit test or sandbox application provides the development team "proof" that the bug exists, and, after the development team addresses the bug, serves as a reliable indicator that the bug remains fixed.

The Laravel source code is managed on Github, and there are repositories for each of the Laravel projects:

- Laravel Framework[13]
- Laravel Application[14]
- Laravel Documentation[15]
- Laravel Cashier[16]
- Laravel Envoy[17]

[12] https://github.com/laravel/laravel
[13] https://github.com/laravel/framework
[14] https://github.com/laravel/laravel
[15] https://github.com/laravel/docs
[16] https://github.com/laravel/cashier
[17] https://github.com/laravel/envoy

- Laravel Homestead[18]
- Laravel Homestead Build Scripts[19]
- Laravel Website[20]
- Laravel Art[21]

Core Development Discussion

Discussion regarding bugs, new features, and implementation of existing features takes place in the `#laravel-dev` IRC channel (Freenode). Taylor Otwell, the maintainer of Laravel, is typically present in the channel on weekdays from 8am-5pm (UTC-06:00 or America/Chicago), and sporadically present in the channel at other times.

The `#laravel-dev` IRC channel is open to all. All are welcome to join the channel either to participate or simply observe the discussions!

New Features

Before sending pull requests for new features, please contact Taylor Otwell via the `#laravel-dev` IRC channel (Freenode). If the feature is found to be a good fit for the framework, you are free to make a pull request. If the feature is rejected, don't give up! You are still free to turn your feature into a package which can be released to the world via Packagist[22].

When adding new features, don't forget to add unit tests! Unit tests help ensure the stability and reliability of the framework as new features are added.

Bugs

Via Unit Test

Pull requests for bugs may be sent without prior discussion with the Laravel development team. When submitting a bug fix, try to include a unit test that ensures the bug never appears again!

If you believe you have found a bug in the framework, but are unsure how to fix it, please send a pull request containing a failing unit test. A failing unit test provides the development team "proof" that the bug exists, and, after the development team addresses the bug, serves as a reliable indicator that the bug remains fixed.

If are unsure how to write a failing unit test for a bug, review the other unit tests included with the framework. If you're still lost, you may ask for help in the `#laravel` IRC channel (Freenode).

[18] https://github.com/laravel/homestead
[19] https://github.com/laravel/settler
[20] https://github.com/laravel/laravel.com
[21] https://github.com/laravel/art
[22] https://packagist.org/

Via Laravel Liferaft

If you aren't able to write a unit test for your issue, Laravel Liferaft allows you to create a demo application that recreates the issue. Liferaft can even automate the forking and sending of pull requests to the Laravel repository. Once your Liferaft application is submitted, a Laravel maintainer can run your application on Homestead and review your issue.

Creating Liferaft Applications

Laravel Liferaft provides a fresh, innovative way to contribute to Laravel. First, you will need to install the Liferaft CLI tool via Composer:

Installing Liferaft

```
composer global require "laravel/liferaft=~1.0"
```

Make sure to place the `~/.composer/vendor/bin` directory in your PATH so the `liferaft` executable is found when you run the `liferaft` command in your terminal.

Authenticating With GitHub

Before getting started with Liferaft, you need to register a GitHub personal access token. You can generate a personal access token from your GitHub settings panel[23]. The default scopes selected by GitHub will be sufficient; however, if you wish, you may grant the `delete_repo` scope so Liferaft can delete your old sandbox applications.

```
liferaft auth my-github-token
```

Create A New Liferaft Application

To create a new Liferaft application, just use the `new` command:

[23] https://github.com/settings/applications

```
liferaft new my-bug-fix
```

This command will do several things. First, it will fork the Laravel GitHub repository[24] to your GitHub account. Next, it will clone the forked repository to your machine and install the Composer dependencies. Once the repository has been installed, you can begin recreating your issue within the Liferaft application!

Recreating Your Issue

After creating a Liferaft application, simply recreate your issue. You are free to define routes, create Eloquent models, and even create database migrations! The only requirement is that your application is able to run on a fresh Laravel Homestead virtual machine. This allows Laravel maintainers to easily run your application on their own machines.

Once you have recreated your issue within the Liferaft application, you're ready to send it back to the Laravel repository for review!

Send Your Application For Review

Once you have recreated your issue, it's almost time to send it for review! However, you should first complete the `liferaft.md` file that was generated in your Liferaft application. The first line of this file will be the title of your pull request. The remaining content will be included in the pull request body. Of course, GitHub Flavored Markdown is supported.

After completing the `liferaft.md` file, push all of your changes to your GitHub repository. Next, just run the Liferaft `throw` command from your application's directory:

```
liferaft throw
```

This command will create a pull request against the Laravel GitHub repository. A Laravel maintainer can easily grab your application and run it in their own Homestead environment!

Grabbing Liferaft Applications

Intrested in contributing to Laravel? Liferaft makes it painless to install Liferaft applications and view them on your own Homestead environment.

First, for convenience, clone the laravel/laravel[25] into a `liferaft` directory on your machine:

[24] https://github.com/laravel/laravel
[25] https://github.com/laravel/laravel

```
git clone https://github.com/laravel/laravel.git liferaft
```

Next, check out the `develop` branch so you will be able to install Liferaft applications that target both stable and upcoming Laravel releases:

```
git checkout -b develop origin/develop
```

Next, you can run the Liferaft `grab` command from your repository directory. For example, if you want to install the Liferaft application associated with pull request #3000, you should run the following command:

```
liferaft grab 3000
```

The `grab` command will create a new branch on your Liferaft directory, and pull in the changes for the specified pull request. Once the Liferaft application is installed, simply serve the directory through your Homestead virtual machine! Once you debug the issue, don't forget to send a pull request to the laravel/framework[26] repository with the proper fix!

Have an extra hour and want to solve a random issue? Just run `grab` without a pull request ID:

```
liferaft grab
```

Which Branch?

Note: This section primarly applies to those sending pull requests to the laravel/framework[27] repository, not Liferaft applications.

All bug fixes should be sent to the latest stable branch. Bug fixes should **never** be sent to the `master` branch unless they fix features that exist only in the upcoming release.

[26] https://github.com/laravel/framework
[27] https://github.com/laravel/framework

Minor features that are **fully backwards compatible** with the current Laravel release may be sent to the latest stable branch.

Major new features should always be sent to the `master` branch, which contains the upcoming Laravel release.

If you are unsure if your feature qualifies as a major or minor, please ask Taylor Otwell in the `#laravel-dev` IRC channel (Freenode).

Security Vulnerabilities

If you discover a security vulnerability within Laravel, please send an e-mail to Taylor Otwell at . All security vulnerabilities will be promptly addressed.

Coding Style

Laravel follows the PSR-0[28] and PSR-1[29] coding standards. In addition to these standards, the following coding standards should be followed:

- The class namespace declaration must be on the same line as `<?php`.
- A class' opening `{` must be on the same line as the class name.
- Functions and control structures must use Allman style braces.
- Indent with tabs, align with spaces.

[28] https://github.com/php-fig/fig-standards/blob/master/accepted/PSR-0.md
[29] https://github.com/php-fig/fig-standards/blob/master/accepted/PSR-1-basic-coding-standard.md

Installation

Install Composer

Laravel utilizes Composer[30] to manage its dependencies. First, download a copy of the `composer.phar`. Once you have the PHAR archive, you can either keep it in your local project directory or move to `usr/local/bin` to use it globally on your system. On Windows, you can use the Composer Windows installer[31].

Install Laravel

Via Laravel Installer

First, download the Laravel installer using Composer.

```
composer global require "laravel/installer=~1.1"
```

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

Once installed, the simple `laravel new` command will create a fresh Laravel installation in the directory you specify. For instance, `laravel new blog` would create a directory named `blog` containing a fresh Laravel installation with all dependencies installed. This method of installation is much faster than installing via Composer:

```
laravel new blog
```

[30] http://getcomposer.org

[31] https://getcomposer.org/Composer-Setup.exe

Via Composer Create-Project

You may also install Laravel by issuing the Composer `create-project` command in your terminal:

```
1  composer create-project laravel/laravel --prefer-dist
```

Server Requirements

The Laravel framework has a few system requirements:

- PHP >= 5.4
- mcrypt PHP Extension
- mbstring PHP Extension

Note: As of PHP 5.5, some OS distributions may require you to manually install the PHP JSON extension. When using Ubuntu, this can be done via `apt-get install php5-json`.

Configuration

Introduction

All of the configuration files for the Laravel framework are stored in the `config` directory. Each option is documented, so feel free to look through the files and get familiar with the options available to you.

After Installation

Naming Your Application

The first thing you should do after installing Laravel is name your application. By default, the `app` directory is namespaced under `App`, and autoloaded by Composer using the PSR-4 autoloading standard[32]. However, you should change the namespace to match the name of your application, which you can easily do via the `app:name` Artisan command.

For example, if your application is named "Horsefly", you should run the following command from the root of your installation:

```
1  php artisan app:name Horsefly
```

[32] http://www.php-fig.org/psr/psr-4/

Other Configuration

Laravel needs very little configuration out of the box. You are free to get started developing! However, you may wish to review the `config/app.php` file and its documentation. It contains several options such as `timezone` and `locale` that you may wish to change according to your location.

Once Laravel is installed, you should also configure your local environment. This will allow you to receive detailed error messages when developing on your local machine. By default, detailed error reporting is disabled in your production configuration file.

Note: You should never have `app.debug` set to `true` for a production application. Never, ever do it.

Permissions

Folders within `storage` require write access by the web server.

Paths

Several of the framework directory paths are configurable. To change the location of these directories, check out the `bootstrap/paths.php` file. These paths are primarily used by the Artisan CLI when generating various class files.

Environment Configuration

It is often helpful to have different configuration values based on the environment the application is running in. For example, you may wish to use a different cache driver on your local development machine than on the production server. It is easy to accomplish this using environment based configuration.

Simply create a folder within the `config` directory that matches your environment name, such as `local`. Next, create the configuration files you wish to override and specify the options for that environment. For example, to override the cache driver for the local environment, you would create a `cache.php` file in `config/local` with the following content:

```
1  <?php
2
3  return [
4          'driver' => 'file',
5  ];
```

Note: Do not use 'testing' as an environment name. This is reserved for the unit testing environment.

Notice that you do not have to specify *every* option that is in the base configuration file, but only the options you wish to override. The environment configuration files will "cascade" over the base files.

Next, we need to instruct the framework how to determine which environment it is running in. The default environment is always `production`. However, you may setup other environments within the `bootstrap/environment.php` file at the root of your installation. In this file you will find an `$app->detectEnvironment` call. The Closure passed to this method is used to determine the current environment.

```
<?php

$env = $app->detectEnvironment(function()
{
    return getenv('APP_ENV');
});
```

In this example, the 'APP_ENV' environment variable is the name of the environment. To set the environment variable, you should use a `.env` file in the root of your application. For more information on the `.env` file, see the documentation below.

Accessing The Current Application Environment

You may access the current application environment via the `environment` method on the `Application` instance:

```
$environment = $app->environment();
```

You may also pass arguments to the `environment` method to check if the environment matches a given value:

```
if ($app->environment('local'))
{
        // The environment is local
}

if ($app->environment('local', 'staging'))
{
        // The environment is either local OR staging...
}
```

To obtain an instance of the application, resolve the `Illuminate\Contracts\Foundation\Application` contract via the service container. Of course, if you are within a service provider, the application instance is available via the `$this->app` instance variable.

Provider Configuration

When using environment configuration, you may want to "append" environment service providers to your primary `app` configuration file. However, if you try this, you will notice the environment `app` providers are overriding the providers in your primary `app` configuration file. To force the providers to be appended, use the `append_config` helper method in your environment `app` configuration file:

```
'providers' => append_config(array(
        'LocalOnlyServiceProvider',
))
```

Protecting Sensitive Configuration

For "real" applications, it is advisable to keep all of your sensitive configuration out of your configuration files. Things such as database passwords, Stripe API keys, and encryption keys should be kept out of your configuration files whenever possible. So, where should we place them? Thankfully, Laravel provides a very simple solution to protecting these types of configuration items using "dot" files.

First, configure your application to recognize your machine as being in the `local` environment. Next, create a `.env.php` file within the root of your project, which is usually the same directory that contains your `composer.json` file. The `.env` file contains a simple list of environment variables for your application.

```
APP_ENV=local
DB_USERNAME=homestead
DB_PASSWORD=homestead
```

All of the key-value pairs returned by this file will automatically be available via the `$_ENV` and `$_SERVER` PHP "superglobals". You may now reference these globals from within your configuration files:

```
'password' => $_ENV['DB_PASSWORD']
```

Be sure to add the `.env.php` file to your `.gitignore` file. This will allow other developers on your team to create their own environment configuration, as well as hide your sensitive configuration items from source control.

Now, on your production server, create a `.env.php` file in your project root that contains the corresponding values for your production environment. Like your local `.env.php` file, the production `.env.php` file should never be included in source control.

Maintenance Mode

When your application is in maintenance mode, a custom view will be displayed for all routes into your application. This makes it easy to "disable" your application while it is updating or when you are performing maintenance. A maintenance mode check is included in the default `before` filter in `app/Http/Filters/MaintenanceFilter.php`. The response from this check will be sent to users when your application is in maintenance mode.

To enable maintenance mode, simply execute the `down` Artisan command:

```
php artisan down
```

To disable maintenance mode, use the `up` command:

```
php artisan up
```

Maintenance Mode & Queues

While your application is in maintenance mode, no queued jobs will be handled. The jobs will continue to be handled as normal once the application is out of maintenance mode.

Pretty URLs

Apache

The framework ships with a `public/.htaccess` file that is used to allow URLs without `index.php`. If you use Apache to serve your Laravel application, be sure to enable the `mod_rewrite` module.

If the `.htaccess` file that ships with Laravel does not work with your Apache installation, try this one:

```
Options +FollowSymLinks
RewriteEngine On

RewriteCond %{REQUEST_FILENAME} !-d
RewriteCond %{REQUEST_FILENAME} !-f
RewriteRule ^ index.php [L]
```

Nginx

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

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

Of course, when using Homestead, pretty URLs will be configured automatically.

Laravel Homestead

Introduction

Laravel strives to make the entire PHP development experience delightful, including your local development environment. Vagrant[33] provides a simple, elegant way to manage and provision Virtual Machines.

Laravel Homestead is an official, pre-packaged Vagrant "box" that provides you a wonderful development environment without requiring you to install PHP, HHVM, a web server, and any other server software on your local machine. No more worrying about messing up your operating system! Vagrant boxes are completely disposable. If something goes wrong, you can destroy and re-create the box in minutes!

Homestead runs on any Windows, Mac, or Linux system, and includes the Nginx web server, PHP 5.6, MySQL, Postgres, Redis, Memcached, and all of the other goodies you need to develop amazing Laravel applications.

Note: If you are using Windows, you may need to enable hardware virtualization (VT-x). It can usually be enabled via your BIOS.

Homestead is currently built and tested using Vagrant 1.6.

Included Software

- Ubuntu 14.04
- PHP 5.6
- HHVM
- Nginx

[33] http://vagrantup.com

- MySQL
- Postgres
- Node (With Bower, Grunt, and Gulp)
- Redis
- Memcached
- Beanstalkd
- Laravel Envoy
- Fabric + HipChat Extension

Installation & Setup

Installing VirtualBox & Vagrant

Before launching your Homestead environment, you must install VirtualBox[34] and Vagrant[35]. Both of these software packages provide easy-to-use visual installers for all popular operating systems.

Adding The Vagrant Box

Once VirtualBox and Vagrant have been installed, you should add the `laravel/homestead` box to your Vagrant installation using the following command in your terminal. It will take a few minutes to download the box, depending on your Internet connection speed:

```
vagrant box add laravel/homestead
```

Installing Homestead

Once the box has been added to your Vagrant installation, you are ready to install the Homestead CLI tool using the Composer `global` command:

```
composer global require "laravel/homestead=~2.0"
```

Make sure to place the `~/.composer/vendor/bin` directory in your PATH so the `homestead` executable is found when you run the `homestead` command in your terminal.

Once you have installed the Homestead CLI tool, run the `init` command to create the `Homestead.yaml` configuration file:

[34] https://www.virtualbox.org/wiki/Downloads
[35] http://www.vagrantup.com/downloads.html

```
homestead init
```

The `Homestead.yaml` file will be placed in the `~/.homestead` directory. If you're using a Mac or Linux system, you may edit `Homestead.yaml` file by running the `homestead edit` command in your terminal:

```
homestead edit
```

Set Your SSH Key

Next, you should edit the `Homestead.yaml` file. In this file, you can configure the path to your public SSH key, as well as the folders you wish to be shared between your main machine and the Homestead virtual machine.

Don't have an SSH key? On Mac and Linux, you can generally create an SSH key pair using the following command:

```
ssh-keygen -t rsa -C "you@homestead"
```

On Windows, you may install Git[36] and use the `Git Bash` shell included with Git to issue the command above. Alternatively, you may use PuTTY[37] and PuTTYgen[38].

Once you have created a SSH key, specify the key's path in the `authorize` property of your `Homestead.yaml` file.

Configure Your Shared Folders

The `folders` property of the `Homestead.yaml` file lists all of the folders you wish to share with your Homestead environment. As files within these folders are changed, they will be kept in sync between your local machine and the Homestead environment. You may configure as many shared folders as necessary!

[36] http://git-scm.com/
[37] http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html
[38] http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Configure Your Nginx Sites

Not familiar with Nginx? No problem. The `sites` property allows you to easily map a "domain" to a folder on your Homestead environment. A sample site configuration is included in the `Homestead.yaml` file. Again, you may add as many sites to your Homestead environment as necessary. Homestead can serve as a convenient, virtualized environment for every Laravel project you are working on!

You can make any Homestead site use HHVM[39] by setting the `hhvm` option to `true`:

```
sites:
  - map: homestead.app
    to: /home/vagrant/Code/Laravel/public
    hhvm: true
```

Bash Aliases

To add Bash aliases to your Homestead box, simply add to the `aliases` file in the root of the `~/.homestead` directory.

Launch The Vagrant Box

Once you have edited the `Homestead.yaml` to your liking, run the `homestead up` command in your terminal. Vagrant will boot the virtual machine, and configure your shared folders and Nginx sites automatically! To destroy the machine, you may use the `homestead destroy` command. For a complete list of available Homestead commands, run `homestead list`.

Don't forget to add the "domains" for your Nginx sites to the `hosts` file on your machine! The `hosts` file will redirect your requests for the local domains into your Homestead environment. On Mac and Linux, this file is located at `/etc/hosts`. On Windows, it is located at `C:\Windows\System32\drivers\etc\hosts`. The lines you add to this file will look like the following:

```
192.168.10.10  homestead.app
```

Make sure the IP address listed is the one you set in your `Homestead.yaml` file. Once you have added the domain to your `hosts` file, you can access the site via your web browser!

[39] http://hhvm.com

```
http://homestead.app
```

To learn how to connect to your databases, read on!

Daily Usage

Connecting Via SSH

To connect to your Homestead environment via SSH, issue the `homestead ssh` commnad in your terminal.

Connecting To Your Databases

A `homestead` database is configured for both MySQL and Postgres out of the box. For even more convenience, Laravel's `local` database configuration is set to use this database by default.

To connect to your MySQL or Postgres database from your main machine via Navicat or Sequel Pro, you should connect to `127.0.0.1` and port 33060 (MySQL) or 54320 (Postgres). The username and password for both databases is `homestead` / `secret`.

Note: You should only use these non-standard ports when connecting to the databases from your main machine. You will use the default 3306 and 5432 ports in your Laravel database configuration file since Laravel is running *within* the Virtual Machine.

Adding Additional Sites

Once your Homestead environment is provisioned and running, you may want to add additional Nginx sites for your Laravel applications. You can run as many Laravel installations as you wish on a single Homestead environment. There are two ways to do this: First, you may simply add the sites to your `Homestead.yaml` file and then run `vagrant provision`.

Alternatively, you may use the `serve` script that is available on your Homestead environment. To use the `serve` script, SSH into your Homestead environment and run the following command:

```
serve domain.app /home/vagrant/Code/path/to/public/directory
```

Note: After running the `serve` command, do not forget to add the new site to the `hosts` file on your main machine!

Ports

The following ports are forwarded to your Homestead environment:

- **SSH:** 2222 -> Forwards To 22
- **HTTP:** 8000 -> Forwards To 80
- **MySQL:** 33060 -> Forwards To 3306
- **Postgres:** 54320 -> Forwards To 5432

Service Providers

Introduction

Service providers are the central place of all Laravel application bootstrapping. Your own application, as well as all of Laravel's core services are bootstrapped via service providers.

But, what do we mean by "bootstrapped"? In general, we mean **registering** things, including registering service container bindings, event listeners, filters, and even routes. Service providers are the central place to configure your application.

If you open the `config/app.php` file included with Laravel, you will see a `providers` array. These are all of the service provider classes that will be loaded for your application. Of course, many of them are "deferred" providers, meaning they will not be loaded on every request, but only when the services they provide are actually needed.

In this overview you will learn how to write your own service providers and register them with your Laravel application.

Basic Provider Example

All service providers extend the `Illuminate\Support\ServiceProvider` class. This abstract class requires that you define at least one method on your provider: `register`. Within the `register` method, you should **only bind things into the service container**. You should never attempt to register any event listeners, routes, or any other piece of functionality within the `register` method.

The Register Method

Now, let's take a look at a basic service provider:

```
<?php namespace App\Providers;

use Riak\Connection;
use Illuminate\Support\ServiceProvider;

class RiakServiceProvider extends ServiceProvider {

        /**
         * Register bindings in the container.
         *
         * @return void
         */
        public function register()
        {
                $this->app->singleton('Riak\Contracts\Connection', function($app)
                {
return new Connection($app['config']['riak']);
                });
        }

}
```

This service provider only defines a `register` method, and uses that method to define an implementation of `Riak\Contracts\Connection` in the service container. If you don't understand how the service container works, don't worry, we'll cover that soon.

This class is namespaced under `App\Providers` since that is the default location for service providers in Laravel. However, you are free to change this as you wish. Your service providers may be placed anywhere that Composer can autoload them.

The Boot Method

So, what if we need to register an event listener within our service provider? This should be done within the `boot` method. **This method is called after all other service providers have been registered**, meaning you have access to all other services that have been registered by the framework.

```php
<?php namespace App\Providers;

use Illuminate\Support\ServiceProvider;
use Illuminate\Contracts\Events\Dispatcher;

class EventServiceProvider extends ServiceProvider {

        /**
         * Perform post-registration booting of services.
         *
         * @param  Dispatcher  $events
         * @return void
         */
        public function boot(Dispatcher $events)
        {
                $events->listen('SomeEvent', 'SomeEventHandler');
        }

        /**
         * Register bindings in the container.
         *
         * @return void
         */
        public function register()
        {
                //
        }

}
```

Notice that we are able to type-hint dependencies for our `boot` method. The service container will automatically inject any dependencies you need!

Registering Providers

All service providers are registered in the `config/app.php` configuration file. This file contains a `providers` array where you can list the names of your service providers. By default, a set of Laravel core service providers are listed in this array. These providers bootstrap the core Laravel components, such as the mailer, queue, cache, and others.

To register your provider, simply add it to the array:

```
'providers' => [
        'App\Providers\EventServiceProvider',

        // Other Service Providers
],
```

Deferred Providers

If your provider is **only** registering bindings in the service container, you may choose to defer its registration until one of the registered bindings is actually needed. Deferring the loading of such a provider will improve the performance of your application, since it is not loaded from the filesystem on every request.

To defer the loading of a provider, set the `defer` property to `true` and define a `provides` method. The `provides` method returns the service container bindings that the provider registers:

```
<?php namespace App\Providers;

use Riak\Connection;
use Illuminate\Support\ServiceProvider;

class RiakServiceProvider extends ServiceProvider {

        /**
         * Indicates if loading of the provider is deferred.
         *
         * @var bool
         */
        protected $defer = true;

        /**
         * Register the service provider.
         *
         * @return void
         */
        public function register()
        {
                $this->app->singleton('Riak\Contracts\Connection', function($app)
                {
return new Connection($app['config']['riak']);
```

```
25                  });
26          }
27
28          /**
29           * Get the services provided by the provider.
30           *
31           * @return array
32           */
33          public function provides()
34          {
35                  return ['Riak\Contracts\Connection'];
36          }
37
38  }
```

Laravel compiles and stores a list of all of the services supplied by deferred service providers, along with the name of its service provider class. Then, only when you attempt to resolve one of these services does Laravel load the service provider. The list of deferred services is stored in `storage/meta/services.json`.

Generating Service Providers

The Artisan CLI can easily generate a new provider via the `make:provider` command:

```
1  php artisan make:provider "App\Providers\RiakServiceProvider"
```

Service Container

Introduction

The Laravel service container is a powerful tool for managing class dependencies. Dependency injection is a fancy word that essentially means this: class dependencies are "injected" into the class via the constructor or, in some cases, "setter" methods.

Let's look at a simple example:

```
<?php namespace App\Users;

use App\User;
use Illuminate\Contracts\Mail\Mailer;

class Registrar {

        /**
         * The mailer implementation.
         */
        protected $mailer;

        /**
         * Create a new user registrar instance.
         *
         * @param  Mailer  $mailer
         * @return void
         */
        public function __construct(Mailer $mailer)
        {
                $this->mailer = $mailer;
```

```
22          }
23
24          /**
25           * Register a new user with the application.
26           *
27           * @param  array  $input
28           * @return User
29           */
30          public function registerNewUser(array $input)
31          {
32                  //
33          }
34
35  }
```

In this example, the `Registrar` needs to send e-mails on user registration. Since we want the `Registrar` to remain solely concerned with registering users (Single Responsibility Principle[40]), we will **inject** a service that is able to send e-mails. Since the service is injected, we are able to easily swap it out with another implementation. We are also able to easily "mock", or create a dummy implementation of the mailer when testing our application.

A deep understanding of the Laravel service container is essential to building a powerful, large application, as well as for contributing to the Laravel core itself.

Basic Usage

Binding

Almost all of your service container bindings will be registered within service providers, so all of these examples will demonstrate using the container in that context. However, if you need an instance of the container elsewhere in your application, such as a factory, you may type-hint the `Illuminate\Contracts\Container\Container` contract and an instance of the container will be injected for you.

Registering A Basic Resolver

Within a service provider, you always have access to the container via the `$this->app` instance variable.

There are several ways the service container can register dependencies, including Closure callbacks and binding interfaces to implementations. First, we'll explore Closure callbacks. A Closure resolver

[40] http://en.wikipedia.org/wiki/Single_responsibility_principle

is registered in the container with a key (typically the class name) and a Closure that returns some value:

```
$this->app->bind('FooBar', function($app)
{
        return new FooBar($app['SomethingElse']);
});
```

Registering A Singleton

Sometimes, you may wish to bind something into the container that should only be resolved once, and the same instance should be returned on subsequent calls into the container:

```
$this->app->singleton('FooBar', function($app)
{
        return new FooBar($app['SomethingElse']);
});
```

Binding An Existing Instance Into The Container

You may also bind an existing object instance into the container using the `instance` method. The given instance will always be returned on subsequent calls into the container:

```
$fooBar = new FooBar(new SomethingElse);

$this->app->instance('FooBar', $fooBar);
```

Resolving

There are several ways to resolve something out of the container. First, you may use the `make` method:

```
$fooBar = $this->app->make('FooBar');
```

Secondly, you may use "array access" on the container, since it implements PHP's `ArrayAccess` interface:

```
$fooBar = $this->app['FooBar'];
```

Lastly, but most importantly, you may simply "type-hint" the dependency in the constructor of a class that is resolved by the container, including controllers, event listeners, queue jobs, filters, and more. The container will automatically inject the dependencies:

```
<?php namespace App\Http\Controllers;

use Illuminate\Routing\Controller;
use App\Users\Repository as UserRepository;

class UserController extends Controller {

	/**
	 * The user repository instance.
	 */
	protected $users;

	/**
	 * Create a new controller instance.
	 *
	 * @param  UserRepository  $users
	 * @return void
	 */
	public function __construct(UserRepository $users)
	{
		$this->users = $users;
	}

	/**
	 * Show the user with the given ID.
	 *
	 * @param  int  $id
	 * @return Response
	 */
	public function show($id)
	{
		//
```

```
33          }
34
35  }
```

Binding Interfaces To Implementations

Injecting Concrete Dependencies

A very powerful features of the service container is its ability to bind an interface to a given implementation. For example, perhaps our application integrates with the Pusher[41] web service for sending and receiving real-time events. If we are using Pusher's PHP SDK, we could inject an instance of the Pusher client into a class:

```
1   <?php namespace App\Orders;
2
3   use Pusher\Client as PusherClient;
4   use App\Orders\Commands\CreateOrder;
5
6   class CreateOrderHandler {
7
8           /**
9            * The Pusher SDK client instance.
10           */
11          protected $pusher;
12
13          /**
14           * Create a new order handler instance.
15           *
16           * @param  PusherClient  $pusher
17           * @return void
18           */
19          public function __construct(PusherClient $pusher)
20          {
21                  $this->pusher = $pusher;
22          }
23
24          /**
25           * Execute the given command.
26           *
```

[41] https://pusher.com

```
27          * @param  CreateOrder  $command
28          * @return void
29          */
30         public function execute(CreateOrder $command)
31         {
32                 //
33         }
34
35 }
```

In this example, it is good that we are injecting the class dependencies; however, we are tightly coupled to the Pusher SDK. If the Pusher SDK methods change or we decide to switch to a new event service entirely, we will need to change our `CreateOrderHandler` code.

Program To An Interface

In order to "insulate" the `CreateOrderHandler` against changes to event pushing, we could define an `EventPusher` interface and a `PusherEventPusher` implementation:

```
1  <?php namespace App\Contracts;
2
3  interface EventPusher {
4
5          /**
6           * Push a new event to all clients.
7           *
8           * @param  string  $event
9           * @param  array  $data
10          * @return void
11          */
12         public function push($event, array $data);
13
14 }
```

Once we have coded our `PusherEventPusher` implementation of this interface, we can register it with the service container like so:

```
$this->app->bind('App\Contracts\EventPusher', 'App\Services\PusherEventPusher');
```

This tells the container that it should inject the `PusherEventPusher` when a class needs an implementation of `EventPusher`. Now we can type-hint the `EventPusher` interface in our constructor:

```
        /**
         * Create a new order handler instance.
         *
         * @param  EventPusher  $pusher
         * @return void
         */
        public function __construct(EventPusher $pusher)
        {
                $this->pusher = $pusher;
        }
```

Contextual Binding

Sometimes you may have two classes that utilize the same interface, but you wish to inject different implementations into each class. For example, when our system receives a new Order, we may want to send an event via PubNub[42] rather than Pusher. Laravel provides a simple, fluent interface for defininining this behavior:

```
$this->app->when('App\Orders\CreateOrderHandler')
        ->needs('App\Contracts\EventPusher')
        ->give('App\Services\PubNubEventPusher');
```

Tagging

Occasionally, you may need to resolve all of a certain "category" of binding. For example, perhaps you are building a report aggregator that receives an array of many different `Report` interface implementations. After registering the `Report` implementations, you can assign them a tag using the `tag` method:

[42] http://www.pubnub.com/

```
$this->app->bind('SpeedReport', function()
{
        //
});

$this->app->bind('MemoryReport', function()
{
        //
});

$this->app->tag(['SpeedReport', 'MemoryReport'], 'reports');
```

Once the services have been tagged, you may easily resolve them all via the `tagged` method:

```
$this->app->bind('ReportAggregator', function($app)
{
        return new ReportAggregator($app->tagged('reports'));
});
```

Practical Applications

Laravel provides several opportunities to use the service container to increase the flexibility and testability of your application. One primary example is when resolving controllers. All controllers are resolved through the service container, meaning you can type-hint dependencies in a controller constructor, and they will automatically be injected.

```
<?php namespace App\Http\Controllers;

use Illuminate\Routing\Controller;
use App\Repositories\OrderRepository;

class OrdersController extends Controller {

        /**
         * The order repository instance.
         */
        protected $orders;
```

```
12
13          /**
14           * Create a controller instance.
15           *
16           * @param  OrderRepository  $orders
17           * @return void
18           */
19          public function __construct(OrderRepository $orders)
20          {
21                  $this->orders = $orders;
22          }
23
24          /**
25           * Show all of the orders.
26           *
27           * @return Response
28           */
29          public function index()
30          {
31                  $all = $this->orders->all();
32
33                  return view('orders', ['all' => $all]);
34          }
35
36  }
```

In this example, the `OrderRepository` class will automatically be injected into the controller. This means that a "mock" `OrderRepository` may be bound into the container when unit testing, allowing for painless stubbing of database layer interaction.

Other Examples Of Container Usage

Of course, as mentioned above, controllers are not the only classes Laravel resolves via the service container. You may also type-hint dependencies on route Closures, filters, queue jobs, event listeners, and more. For examples of using the service container in these contexts, please refer to their documentation.

Container Events

Registering A Resolving Listener

The container fires an event each time it resolves an object. You may listen to this event using the `resolving` method:

```
$this->app->resolvingAny(function($object, $app)
{
        //
});

$this->app->resolving('FooBar', function($fooBar, $app)
{
        //
});
```

The object being resolved will be passed to the callback.

Contracts

Introduction

Laravel's Contracts are a set of interfaces that define the core services provided by the framework. For example, a `Queue` contract defines the methods needed for queueing jobs, while the `Mailer` contract defines the methods needed for sending e-mail.

Each contract has a corresponding implementation provided by the framework. For example, Laravel provides a `Queue` implementation with a variety of drivers, and a `Mailer` implementation that is powered by SwiftMailer[43].

All of the Laravel contracts live in their own GitHub repository[44]. This provides a quick reference point for all available contracts, as well as a single, decoupled package that may be utilized by other package developers.

Why Contracts?

You may have several questions regarding contracts. Why use interfaces at all? Isn't using interfaces more complicated?

Let's distill the reasons for using interfaces to the following headings: loose coupling and simplicity.

Loose Coupling

First, let's review some code that is tightly coupled to a cache implementation. Consider the following:

[43] http://swiftmailer.org/

[44] https://github.com/illuminate/contracts

```php
<?php namespace App\Orders;

class Repository {

        /**
         * The cache.
         */
        protected $cache;

        /**
         * Create a new repository instance.
         *
         * @param  \Package\Cache\Memcached  $cache
         * @return void
         */
        public function __construct(\SomePackage\Cache\Memcached $cache)
        {
                $this->cache = $cache;
        }

        /**
         * Retrieve an Order by ID.
         *
         * @param  int  $id
         * @return Order
         */
        public function find($id)
        {
                if ($this->cache->has($id))
                {
//
                }
        }

}
```

In this class, the code is tightly coupled to a given cache implementation. It is tightly coupled because we are depending on a concrete Cache class from a package vendor. If the API of that package changes, so our code must change.

Likewise, if we want to replace our underlying cache technology (Memcached) with another technology (Redis), we again will have to modify our repository. Our repository should not have so much knowledge regarding who is providing them data or how they are providing it.

Instead of this approach, we can improve our code by depending on a simple, vendor agnostic interface:

```php
<?php namespace App\Orders;

use Illuminate\Contracts\Cache\Repository as Cache;

class Repository {

        /**
         * Create a new repository instance.
         *
         * @param  Cache  $cache
         * @return void
         */
        public function __construct(Cache $cache)
        {
                $this->cache = $cache;
        }

}
```

Now the code is not coupled to any specific vendor, or even Laravel. Since the contracts package contains no implementation and no dependencies, you may easily write an alternative implementation of any given contract, allowing you to replace your cache implementation without modifying any of your cache consuming code.

Simplicity

When all of Laravel's services are neatly defined within simple interfaces, it is very easy to determine the functionality offered by a given service. **The contracts serve as succinct documentation to the framework's features**.

In addition, when you depend on simple interfaces, your code is easier to understand and maintain. Rather than tracking down which methods are available to you within a large, complicated class, you can refer to a simple, clean interface.

Contract Reference

This is a reference to most Laravel Contracts, as well as their Laravel 4.x facade counterparts:

Contract | Laravel 4.x Facade ————- | ————- IlluminateContractsAuthAuthenticator[45] | Auth IlluminateContractsAuthPasswordBroker[46] | Password IlluminateContractsCacheRepository[47] | Cache IlluminateContractsCacheFactory[48] | Cache::driver() IlluminateContractsConfigRepository[49] | Config IlluminateContractsContainerContainer[50] | App IlluminateContractsCookieFactory[51] | Cookie IlluminateContractsCookieQueueingFactory[52] | Cookie::queue() IlluminateContractsEncryptionEncrypter[53] | Crypt IlluminateContractsEventsDispatcher[54] | Event IlluminateContractsExceptionHandler[55] | App::error() IlluminateContractsFilesystemCloud[56] | IlluminateContractsFilesystemFactory[57] | File IlluminateContractsFilesystemFilesystem[58] | File IlluminateContractsFoundationApplication[59] | App IlluminateContractsHashingHasher[60] | Hash IlluminateContractsLoggingLog[61] | Log IlluminateContractsMailMailQueue[62] | Mail::queue() IlluminateContractsMailMailer[63] | Mail IlluminateContractsQueueFactory[64] | Queue::driver() IlluminateContractsQueueQueue[65] | Queue IlluminateContractsRedisDatabase[66] | Redis IlluminateContractsRoutingRegistrar[67] | Route IlluminateContractsRoutingResponseFactory[68] | Response IlluminateContractsRoutingUrlGenerator[69] | URL IlluminateContractsSupportArrayable[70] | IlluminateContractsSupportJsonable[71] | IlluminateContractsSupportRenderable[72] | IlluminateContractsValidationFactory[73] | Validator::make() IlluminateContractsValidationValidator[74] | IlluminateContractsViewFactory[75] | View::make() IlluminateContractsViewView[76] |

[45] https://github.com/illuminate/contracts/blob/master/Auth/Authenticator.php
[46] https://github.com/illuminate/contracts/blob/master/Auth/PasswordBroker.php
[47] https://github.com/illuminate/contracts/blob/master/Cache/Repository.php
[48] https://github.com/illuminate/contracts/blob/master/Cache/Factory.php
[49] https://github.com/illuminate/contracts/blob/master/Config/Repository.php
[50] https://github.com/illuminate/contracts/blob/master/Container/Container.php
[51] https://github.com/illuminate/contracts/blob/master/Cookie/Factory.php
[52] https://github.com/illuminate/contracts/blob/master/Cookie/QueueingFactory.php
[53] https://github.com/illuminate/contracts/blob/master/Encryption/Encrypter.php
[54] https://github.com/illuminate/contracts/blob/master/Events/Dispatcher.php
[55] https://github.com/illuminate/contracts/blob/master/Exception/Handler.php
[56] https://github.com/illuminate/contracts/blob/master/Filesystem/Cloud.php
[57] https://github.com/illuminate/contracts/blob/master/Filesystem/Factory.php
[58] https://github.com/illuminate/contracts/blob/master/Filesystem/Filesystem.php
[59] https://github.com/illuminate/contracts/blob/master/Foundatio pplication.php
[60] https://github.com/illuminate/contracts/blob/master/Hashing/Hasher.php
[61] https://github.com/illuminate/contracts/blob/master/Logging/Log.php
[62] https://github.com/illuminate/contracts/blob/master/Mail/MailQueue.php
[63] https://github.com/illuminate/contracts/blob/master/Mail/Mailer.php
[64] https://github.com/illuminate/contracts/blob/master/Queue/Factory.php
[65] https://github.com/illuminate/contracts/blob/master/Queue/Queue.php
[66] https://github.com/illuminate/contracts/blob/master/Redis/Database.php
[67] https://github.com/illuminate/contracts/blob/master/Routing/Registrar.php
[68] https://github.com/illuminate/contracts/blob/master/Routing/ResponseFactory.php
[69] https://github.com/illuminate/contracts/blob/master/Routing/UrlGenerator.php
[70] https://github.com/illuminate/contracts/blob/master/Support/Arrayable.php
[71] https://github.com/illuminate/contracts/blob/master/Support/Jsonable.php
[72] https://github.com/illuminate/contracts/blob/master/Support/Renderable.php
[73] https://github.com/illuminate/contracts/blob/master/Validation/Factory.php
[74] https://github.com/illuminate/contracts/blob/master/Validation/Validator.php
[75] https://github.com/illuminate/contracts/blob/master/View/Factory.php
[76] https://github.com/illuminate/contracts/blob/master/View/View.php

How To Use Contracts

So, how do you get an implementation of a contract? It's actually quite simple. Many types of classes in Laravel are resolved through the service container, including controllers, event listeners, filters, queue jobs, and even route Closures. So, to get an implementation of a contract, you can just "type-hint" the interface in the constructor of the class being resolved. For example, take a look at this event listener:

```
<?php namespace App\Events;

use App\User;
use Illuminate\Contracts\Queue\Queue;

class NewUserRegistered {

        /**
         * The queue implementation.
         */
        protected $queue;

        /**
         * Create a new event listener instance.
         *
         * @param  Queue  $queue
         * @return void
         */
        public function __construct(Queue $queue)
        {
                $this->queue = $queue;
        }

        /**
         * Handle the event.
         *
         * @param  User  $user
         * @return void
         */
        public function fire(User $user)
        {
                // Queue an e-mail to the user...
        }
```

```
34
35  }
```

When the event listener is resolved, the service container will read the type-hints on the constructor of the class, and inject the appropriate value. To learn more about registering things in the service container, check out the documentation.

Request Lifecycle

Introduction

When using any tool in the "real world", you feel more confident if you understand how that tool works. Application development is no different. When you understand how your development tools function, you feel more comfortable and confident using them.

The goal of this document is to give you a good, high-level overview of how the Laravel framework "works". By getting to know the overall framework better, everything feels less "magical" and you will be more confident building your applications.

If you don't understand all of the terms right away, don't lose heart! Just try to get a basic grasp of what is going on, and your knowledge will grow as you explore other sections of the documentation.

Lifecycle Overview

First Things

The entry point for all requests to a Laravel application is the `public/index.php` file. All requests are directed to this file by your web server (Apache / Nginx) configuration. The `index.php` file doesn't contain much code. Rather, it is simply a starting point for loading the rest of the framework.

The `index.php` file loads the Composer generated autoloader definition, and then retrieves an instance of the Laravel application from `bootstrap/app.php` script. The first action taken by Laravel itself is to create an instance of the application / service container.

HTTP / Console Kernels

Next, the incoming request is sent to either the HTTP kernel or the console kernel, depending on the type of request that is entering the application. These two kernels serve as the central location that all requests flow through. For now, let's just focus on the HTTP kernel, which is located in `app/Http/Kernel.php`.

The HTTP kernel extends the `Illuminate\Foundation\Http\Kernel` class, which defines an array of `bootstrappers` that will be run before the request is executed. These bootstrappers configure

error handling, configure logging, detect the application environment, and other tasks that need to be done before the request is actually handled.

The HTTP kernel also defines a list of HTTP middleware that all requests must pass through before being handled by the application. These middleware handle reading and writing the HTTP session, determine if the application is in maintenance mode, verifying the CSRF token, and more.

The method signature for the HTTP kernel's `handle` method is quite simple: receive a `Request` and return a `Response`. Think of the Kernel as being a big black box that represents your entire application. Feed it HTTP requests and it will return HTTP responses.

Service Providers

One of the most important Kernel bootstrapping actions is loading the service providers for your application. All of the service providers for the application are configured in the `config/app.php` configuration file's `providers` array. First, the `register` method will be called on all providers, then, once all providers have been registered, the `boot` method will be called.

Dispatch Request

Once the application has been bootstrapped and all service providers have been registered, the `Request` will be handed off to the router for dispatching. The router will dispatch the request to a route or controller, as well as run any route specific middleware.

Focus On Service Providers

Service providers are truly the key to bootstrapping a Laravel application. The application instance is created, the service providers are registered, and the request is handed to the bootstrapped application. It's really that simple!

Having a firm grasp of how a Laravel application is built and bootstrapped via service providers is very valuable. Of course, your application's default service providers are stored in the `app/Providers` directory. By default, several are shipped with your application, and handle things like bootstrapping error handling, logging, etc.

By default, the `AppServiceProvider` is blank. This provider is a great place to add your application's own bootstrapping and service container bindings. Of course, for large applications, you may wish to create several service providers, each with a more granular type of bootstrapping. For example, you might create an `EventsServiceProvider` that only registers event listeners.

Application Structure

Introduction

The default Laravel application structure is intended to provide a great starting point for both large and small applications. Of course, you are free to organize your application however you like. Laravel imposes almost no restirctions on where any given class is located - as long as Composer can autoload the class.

The Root Directory

The root directory of a fresh Laravel installation contains a variety of folders:

The `app` directory, as you might expect, contains the core code of your application. We'll explore this folder in more detail soon.

The `bootstrap` folder contains a few files that bootstrap the framework and configure autoloading.

The `config` directory, as the name implies, contains all of your application's configuration files.

The `database` folder contains your database migration and seeds.

The `public` directory contains the front controller and your assets (images, JavaScript, CSS, etc.).

The `resources` directory contains your views, raw assets (LESS, SASS, CoffeeScript), and "language" files.

The `storage` directory contains compiled Blade templates, file based sessions, file caches, and other files generated by the framework.

The `tests` directory contains your automated tests.

The `vendor` directory contains your Composer dependencies.

The App Directory

The "meat" of your application lives in the `app` directory. By default, this directory is namespaced under `App` and is autoloaded by Composer using the PSR-4 autoloading standard[77]. **You may change**

[77] http://www.php-fig.org/psr/psr-4/

this namespace using the `app:name` Artisan command.

The `app` directory ships with three additional directories: `Console`, `Http`, and `Providers`. Think of the `Console` and `Http` directories as providing an API into the "core" of your application. The HTTP protocol and CLI are both mechanisms to interact with your application, but do not actually contain application logic. In other words, they are simply two ways of issuing commands to your application. The `Console` directory contains all of your Artisan commands, while the `Http` directory contains your controllers, filters, and requests.

Note: Many of the classes in the `app` directory can be generated by Artisan via commands such as: `make:controller`, `make:filter`, `make:request`, `make:console`, and `make:provider`.

Namespacing Your Application

As discussed above, the default application namespace is `App`; however, you should change this namespace to match the name of your application, which is easily done via the `app:name` Artisan command. For example, if your application is named "SocialNet", you should run the following command:

```
1  php artisan app:name SocialNet
```

HTTP Routing

Basic Routing

You will define most of the routes for your application in the `app/Http/routes.php` file, which is loaded by the `App\Providers\RouteServiceProvider` class.

Within the `routes.php` file, the `$router` variable is available as an instance of the Laravel router, and may be used to register all of your routes. The simplest Laravel route consists of a URI and a Closure callback:

Basic GET Route

```
1  $router->get('/', function()
2  {
3          return 'Hello World';
4  });
```

Basic POST Route

```
1  $router->post('foo/bar', function()
2  {
3          return 'Hello World';
4  });
```

Registering A Route For Multiple Verbs

```
$router->match(['get', 'post'], '/', function()
{
        return 'Hello World';
});
```

Registering A Route That Responds To Any HTTP Verb

```
$router->any('foo', function()
{
        return 'Hello World';
});
```

Often, you will need to generate URLs to your routes, you may do so using the `url` helper:

```
$url = url('foo');
```

CSRF Protection

Laravel provides an easy method of protecting your application from cross-site request forgeries[78]. Cross-site request forgeries are a type of malicious exploit whereby unauthorized commands are performed on behalf of the authenticated user.

Laravel automatically generates a CSRF "token" for each active user session being managed by the application. This token can be used to help verify that the authenticated user is the one actually making the requests to the application.

Insert The CSRF Token Into A Form

```
<input type="hidden" name="_token" value="<?php echo csrf_token(); ?>">
```

[78] http://en.wikipedia.org/wiki/Cross-site_request_forgery

You do not need to manually verify the CSRF token on POST, PUT, or DELETE requests. The `VerifyCsrfToken` HTTP middleware will verify token in the request input matches the token stored in the session.

Route Parameters

Of course, you can capture segments of the request URI within your route:

Basic Route Parameter

```
$router->get('user/{id}', function($id)
{
        return 'User '.$id;
});
```

Optional Route Parameters

```
$router->get('user/{name?}', function($name = null)
{
        return $name;
});
```

Optional Route Parameters With Default Value

```
$router->get('user/{name?}', function($name = 'John')
{
        return $name;
});
```

Regular Expression Parameter Constraints

```
$router->get('user/{name}', function($name)
{
        //
})
->where('name', '[A-Za-z]+');

$router->get('user/{id}', function($id)
{
        //
})
->where('id', '[0-9]+');
```

Passing An Array Of Constraints

```
$router->get('user/{id}/{name}', function($id, $name)
{
        //
})
->where(['id' => '[0-9]+', 'name' => '[a-z]+']);
```

Defining Global Patterns

If you would like a route parameter to always be constrained by a given regular expression, you may use the `pattern` method. You should define these patterns in the `before` method of your `RouteServiceProvider`:

```
$router->pattern('id', '[0-9]+');
```

Once the pattern has been defined, it is applied to all routes using that parameter:

```
$router->get('user/{id}', function($id)
{
        // Only called if {id} is numeric.
```

```
4  });
```

Accessing A Route Parameter Value

If you need to access a route parameter value outside of a route, use the `input` method. For instance, within a filter class, do something like the following:

```
1  public function filter($route, $request)
2  {
3          if ($route->input('id') == 1)
4          {
5                  //
6          }
7  }
```

Named Routes

Named routes allow you to conveniently generate URLs or redirects for a specific route. You may specify a name for a route with the `as` array key:

```
1  $router->get('user/profile', ['as' => 'profile', function()
2  {
3          //
4  }]);
```

You may also specify route names for controller actions:

```
1  $router->get('user/profile', ['as' => 'profile', 'uses' => 'UserController@showP\
2  rofile']);
```

Now, you may use the route's name when generating URLs or redirects:

```
$url = route('profile');

$redirect = redirect(route('profile'));
```

The `currentRouteName` method returns the name of the route handling the current request:

```
$name = $router->currentRouteName();
```

Route Groups

Sometimes you may need to apply filters to a group of routes. Instead of specifying the filter on each route, you may use a route group:

```
$router->group(['before' => 'auth'], function($router)
{
        $router->get('/', function()
        {
                // Has Auth Filter
        });

        $router->get('user/profile', function()
        {
                // Has Auth Filter
        });
});
```

You may use the `namespace` parameter within your `group` array to specify the namespace for all controllers within the group:

```
$router->group(['namespace' => 'Admin'], function($router)
{
        //
});
```

Note: By default, the `RouteServiceProvider` includes your `routes.php` file within a namespace group, allowing you to register controller routes without specifying the full namespace.

Sub-Domain Routing

Laravel routes can also handle wildcard sub-domains, and will pass your wildcard parameters from the domain:

Registering Sub-Domain Routes

```
$router->group(['domain' => '{account}.myapp.com'], function($router)
{

        $router->get('user/{id}', function($account, $id)
        {
                //
        });

});
```

Route Prefixing

A group of routes may be prefixed by using the `prefix` option in the attributes array of a group:

```
$router->group(['prefix' => 'admin'], function($router)
{

        $router->get('user', function()
        {
                //
        });

});
```

Route Model Binding

Laravel model binding provides a convenient way to inject class instances into your routes. For example, instead of injecting a user's ID, you can inject the entire User class instance that matches the given ID.

First, use the router's `model` method to specify the class for a given parameter. You should define your model bindings in the `RouteServiceProvider::before` method:

Binding A Parameter To A Model

```
1  public function before(Router $router, UrlGenerator $url)
2  {
3          $router->model('user', 'App\User');
4  }
```

Next, define a route that contains a `{user}` parameter:

```
1  $router->get('profile/{user}', function(App\User $user)
2  {
3          //
4  });
```

Since we have bound the `{user}` parameter to the `App\User` model, a `User` instance will be injected into the route. So, for example, a request to `profile/1` will inject the `User` instance which has an ID of 1.

Note: If a matching model instance is not found in the database, a 404 error will be thrown.

If you wish to specify your own "not found" behavior, pass a Closure as the third argument to the `model` method:

```
public function before(Router $router, UrlGenerator $url)
{
        $router->model('user', 'User', function()
        {
                throw new NotFoundHttpException;
        });
}
```

If you wish to use your own resolution logic, you should use the `Router::bind` method. The Closure you pass to the `bind` method will receive the value of the URI segment, and should return an instance of the class you want to be injected into the route:

```
public function before(Router $router, UrlGenerator $url)
{
        $router->bind('user', function($value)
        {
                return User::where('name', $value)->first();
        });
}
```

Throwing 404 Errors

There are two ways to manually trigger a 404 error from a route. First, you may use the `abort` helper:

```
abort(404);
```

The `abort` helper simply throws a `Symfony\Component\HttpFoundation\Exception\HttpException` with the specified status code.

Secondly, you may manually throw an instance of `Symfony\Component\HttpKernel\Exception\NotFoundHttpExcep`

More information on handling 404 exceptions and using custom responses for these errors may be found in the errors section of the documentation.

HTTP Middleware

Introduction

HTTP middleware provide a convenient mechanism for filtering HTTP requests entering your application. For example, Laravel includes a middleware that verifies the user of your application is authenticated. If the user is not authenticated, the middleware will redirect the user to the login screen. However, if the user is authenticated, the middleware will allow the request to proceed further into the application.

Of course, middleware can be written to perform a variety of tasks besides authentication. A CORS middleware might be responsible for adding the proper headers to all responses leaving your application. A logging middleware might log all incoming requests to your application.

There are several middleware included in the Laravel framework, including middleware for maintenance, authentication, CSRF protection, and more. All of these middleware are located in the `app/Http/Middleware` directory.

Defining Middleware

To create a new route filter, use the `make:middleware` Artisan command:

```
1  php artisan make:middleware OldMiddleware
```

This command will place a new `OldMiddleware` class within your `app/Http/Middleware` directory. In this middleware, we will only allow access to the route if the supplied `age` is greater than `200`. Otherwise, we will redirect the users back to the “home” URI.

```php
<?php namespace App\Http\Middleware;

use Illuminate\Contracts\Routing\Middleware;

class OldMiddleware implements Middleware {

        /**
         * Run the request filter.
         *
         * @param  \Illuminate\Http\Request  $request
         * @param  \Closure  $next
         * @return mixed
         */
        public function handle($request, Closure $next)
        {
                if ($request->input('age') < 200)
                {
return redirect('home');
                }

                return $next($request);
        }

}
```

As you can see, if the given `age` is less than `200`, the middleware will return an HTTP redirect to the client; otherwise, the request will be passed further into the application. To pass the request deeper into the application (allowing the middleware to "pass"), simply call the `$next` callback with the `$request`.

Registering Middleware

Global Middleware

If you want a middleware to be run during every HTTP request to your applciation, simply list the middleware class in the `$middleware` property of your `app/Http/Kernel.php` class.

Assigning Middleware To Routes

If you would like to assign middleware to specific routes, you should first assign a short-hand key in your `app/Providers/RouteServiceProvider.php` file. By default, the `$middleware` property of

this service provider contains entries for the middleware included with Laravel. To add your own, simply append it to this list and assign it a key of your choosing.

Once the middleware has been defined in `RouteServiceProvider`, you may use the `middleware` key in the route options array:

```
1  $router->get('admin/profile', ['middleware' => 'auth', function()
2  {
3          //
4  }]);
```

HTTP Controllers

Introduction

Instead of defining all of your request handling logic in a single `routes.php` file, you may wish to organize this behavior using Controller classes. Controllers can group related HTTP request handling logic into a class, as well as take advantage of more advanced framework features such as automatic dependency injection.

Controllers are typically stored in the `app/Http/Controllers` directory. However, controllers can technically live in any directory or any sub-directory. Route declarations are not dependent on the location of the controller class file on disk. So, as long as Composer knows how to autoload the controller class, it may be placed anywhere you wish.

Basic Controllers

Here is an example of a basic controller class:

```
1  <?php namespace App\Http\Controllers;
2
3  use Illuminate\Routing\Controller;
4  use App\Users\Repository as UserRepository;
5
6  class UserController extends Controller {
7
8          /**
9           * The user repository instance.
10          */
11         protected $users;
12
13         /**
14          * Create a new controller instance.
```

```
15          *
16          * @param  UserRepository  $users
17          * @return void
18          */
19         public function __construct(UserRepository $users)
20         {
21                 $this->users = $users;
22         }
23
24         /**
25          * Show the profile for the given user.
26          *
27          * @param  int  $id
28          * @return Response
29          */
30         public function showProfile($id)
31         {
32                 $user = $this->users->find($id);
33
34                 return view('user.profile', ['user' => $user]);
35         }
36
37 }
```

All controllers should extend the `Illuminate\Routing\Controller` class. Also note that we are type-hinting a dependency in the controller's constructor. Any dependencies listed in the constructor will automatically be resolved by the service container.

We can route to the controller action like so:

```
1 $router->get('user/{id}', 'UserController@showProfile');
```

Controllers & Namespaces

It is very important to note that we did not need to specify the full controller namespace, only the portion of the class name that comes after the `App\Http\Controllers` namespace "root". Because of the call to the `namespaced` helper in your `App\Providers\RouteServiceProvider` class, this "root" namespace will automatically be prepended to all controller routes you register.

If you choose to nest or organize your controllers using PHP namespaces deeper into the `App\Http\Controllers` directory, simply use the specify the class name relative to the `App\Http\Controllers` root

namespace. So, if your full controller class is `App\Http\Controllers\Photos\AdminController`, you would register a route like so:

```
1  $router->get('foo', 'Photos\AdminController@method');
```

Note: Since we're using Composer[79] to auto-load our PHP classes, controllers may live anywhere on the file system, as long as composer knows how to load them. The controller directory does not enforce any folder structure for your application. Routing to controllers is entirely de-coupled from the file system.

Naming Controller Routes

Like Closure routes, you may specify names on controller routes:

```
1  $router->get('foo', ['uses' => 'FooController@method', 'as' => 'name']);
```

URLs To Controller Actions

To generate a URL to a controller action, use the `action` helper method:

```
1  $url = action('FooController@method');
```

Again, you only need to specify the portion of the class that that comes after the `App\Http\Controllers` namespace "root". If you wish to generate a URL to a controller action while using the fully qualified class name, without the URL generator automatically preprending the default namespace, you may use a leading slash:

```
1  $url = action('\Namespace\FooController@method');
```

You may access the name of the controller action being run using the `currentRouteAction` method:

[79] http://getcomposer.org

```
$action = $router->currentRouteAction();
```

Controller Filters

Filters may be specified on controller routes like so:

```
$router->get('profile', ['before' => 'auth', 'uses' => 'UserController@showProfi\
le']);
```

However, you may also specify filters from within your controller's constructor:

```
class UserController extends Controller {

        /**
         * Instantiate a new UserController instance.
         */
        public function __construct()
        {
                $this->beforeFilter('auth');

                $this->beforeFilter('csrf', ['on' => 'post']);

                $this->afterFilter('log', ['only' => ['fooAction', 'barAction']]);

                $this->afterFilter('scan', ['except' => ['fooAction', 'barAction']]);
        }

}
```

Closure Controller Filters

Addtionally, you may even specify controller filters inline using a Closure:

```
class UserController extends Controller {

        /**
         * Instantiate a new UserController instance.
         *
         * @return void
         */
        public function __construct()
        {
                $this->beforeFilter(function()
                {
//
                });
        }

}
```

If you would like to use another method on the controller as a filter, you may use `@` syntax to define the filter:

```
class UserController extends Controller {

        /**
         * Instantiate a new UserController instance.
         *
         * @return void
         */
        public function __construct()
        {
                $this->beforeFilter('@filterRequests');
        }

        /**
         * Filter the incoming requests.
         *
         * @param  Route  $route
         * @param  Request  $request
         * @return mixed
         */
        public function filterRequests($route, $request)
        {
```

```
22                  //
23          }
24
25  }
```

RESTful Resource Controllers

Resource controllers make it painless to build RESTful controllers around resources. For example, you may wish to create a controller that handles HTTP requests regarding "photos" stored by your application. Using the `make:controller` Artisan command, we can quickly create such a controller:

```
1  php artisan make:controller PhotoController
```

Next, we register a resourceful route to the controller:

```
1  $router->resource('photo', 'PhotoController');
```

This single route declaration creates multiple routes to handle a variety of RESTful actions on the photo resource. Likewise, the generated controller will already have methods stubbed for each of these actions, including notes informing you which URIs and verbs they handle.

Actions Handled By Resource Controller

| Verb | Path | Action | Route Name | ———-|————————–|———–|———— | GET | /resource | index | resource.index | | GET | /resource/create | create | resource.create | | POST | /resource | store | resource.store | | GET | /resource/{resource} | show | resource.show | | GET | /resource/{resource}/edit | edit | resource.edit | | PUT/PATCH | /resource/{resource} | update | resource.update | | DELETE | /resource/{resource} | destroy | resource.destroy |

Customizing Resource Routes

Additionally, you may specify only a subset of actions to handle on the route:

```
$router->resource('photo', 'PhotoController',
        ['only' => ['index', 'show']]);

$router->resource('photo', 'PhotoController',
        ['except' => ['create', 'store', 'update', 'destroy']]);
```

By default, all resource controller actions have a route name; however, you can override these names by passing a `names` array with your options:

```
$router->resource('photo', 'PhotoController',
        ['names' => ['create' => 'photo.build']]);
```

Handling Nested Resource Controllers

To "nest" resource controllers, use "dot" notation in your route declaration:

```
$router->resource('photos.comments', 'PhotoCommentController');
```

This route will register a "nested" resource that may be accessed with URLs like the following: `photos/{photoResource}/comments/{commentResource}`.

```
class PhotoCommentController extends Controller {

        /**
         * Show the specified photo comment.
         *
         * @param  int  $photoId
         * @param  int  $commentId
         * @return Response
         */
        public function show($photoId, $commentId)
        {
                //
        }

```

```
15  }
```

Adding Additional Routes To Resource Controllers

If it becomes necessary to add additional routes to a resource controller beyond the default resource routes, you should define those routes before your call to `$router->resource`:

```
1  $router->get('photos/popular');
2
3  $router->resource('photos', 'PhotoController');
```

Dependency Injection & Controllers

Constructor Injection

As you may have noticed in the examples above, the Laravel service contanier is used to resolve all Laravel controllers. As a result, you are able to type-hint any dependencies your controller may need in its constructor:

```
1  <?php namespace App\Http\Controllers;
2
3  use Illuminate\Routing\Controller;
4  use App\Users\Repository as UserRepository;
5
6  class UserController extends Controller {
7
8          /**
9           * The user repository instance.
10          */
11         protected $users;
12
13         /**
14          * Create a new controller instance.
15          *
16          * @param  UserRepository  $users
17          * @return void
18          */
```

```
19          public function __construct(UserRepository $users)
20          {
21                  $this->users = $users;
22          }
23
24  }
```

Of course, you may also type-hint any Laravel contract. If the container can resolve it, you can type-hint it.

Method Injection

In addition to constructor injection, you may also type-hint dependencies on your controller's methods. For example, let's type-hint the `Request` instance on one of our methods:

```
1   <?php namespace App\Http\Controllers;
2
3   use Illuminate\Http\Request;
4   use Illuminate\Routing\Controller;
5
6   class UserController extends Controller {
7
8           /**
9            * Store a new user.
10           *
11           * @param  Request  $request
12           * @return Response
13           */
14          public function store(Request $request)
15          {
16                  $name = $request->input('name');
17
18                  //
19          }
20
21  }
```

If your controller method is also expecting input from a route parameter, simply list your route arguments after your other dependencies:

```php
<?php namespace App\Http\Controllers;

use Illuminate\Http\Request;
use Illuminate\Routing\Controller;

class UserController extends Controller {

        /**
         * Store a new user.
         *
         * @param  Request  $request
         * @param  int  $id
         * @return Response
         */
        public function update(Request $request, $id)
        {
                //
        }

}
```

Note: Method injection is fully compatible with model binding. The container will intelligently determine which arguments are model bound and which arguments should be injected.

HTTP Requests

Obtaining A Request Instance

To an obtain an instance of the current HTTP request, you should type-hint the class on your controller constructor or method. The current request instance will automatically be injected by the service container:

```php
<?php namespace App\Http\Controllers;

use Illuminate\Http\Request;
use Illuminate\Routing\Controller;

class UserController extends Controller {

	/**
	 * Store a new user.
	 *
	 * @param  Request  $request
	 * @return Response
	 */
	public function store(Request $request)
	{
		$name = $request->input('name');

		//
	}

}
```

If your controller method is also expecting input from a route parameter, simply list your route arguments after your other dependencies:

```
<?php namespace App\Http\Controllers;

use Illuminate\Http\Request;
use Illuminate\Routing\Controller;

class UserController extends Controller {

        /**
         * Store a new user.
         *
         * @param  Request  $request
         * @param  int  $id
         * @return Response
         */
        public function update(Request $request, $id)
        {
                //
        }

}
```

Retrieving Input

Retrieving An Input Value

Using a few simple methods, you may access all user input from your `Illuminate\Http\Request` instance. You do not need to worry about the HTTP verb used for the request, as input is accessed in the same way for all verbs.

```
$name = $request->input('name');
```

Retrieving A Default Value If The Input Value Is Absent

```
$name = $request->input('name', 'Sally');
```

Determining If An Input Value Is Present

```
if ($request->has('name'))
{
        //
}
```

Getting All Input For The Request

```
$input = $request->all();
```

Getting Only Some Of The Request Input

```
$input = $request->only('username', 'password');

$input = $request->except('credit_card');
```

When working on forms with "array" inputs, you may use dot notation to access the arrays:

```
$input = $request->get('products.0.name');
```

Old Input

Laravel also allows you to keep input from one request during the next request. For example, you may need to re-populate a form after checking it for validation errors.

Flashing Input To The Session

The `flash` method will flash the current input to the session so that it is available during the user's next request to the application:

```
$request->flash();
```

Flashing Only Some Input To The Session

```
$request->flashOnly('username', 'email');

$request->flashExcept('password');
```

Flash & Redirect

Since you often will want to flash input in association with a redirect to the previous page, you may easily chain input flashing onto a redirect.

```
return redirect('form')->withInput();

return redirect('form')->withInput($request->except('password'));
```

Retrieving Old Data

To retrieve flashed input from the previous request, use the `old` method on the `Request` instance.

```
$username = $request->old('username');
```

If you are displaying old input within a Blade template, it is more convenient to use the `old` helper:

```
{{ old('username') }}
```

Cookies

All cookies created by the Laravel framework are encrypted and signed with an authentication code, meaning they will be considered invalid if they have been changed by the client.

Retrieving A Cookie Value

```
$value = $request->cookie('name');
```

Attaching A New Cookie To A Response

The `cookie` helper serves as a simple factory for generating new `Cookie` instances. The cookies may be attached to a `Response` instance using the `withCookie` method:

```
$response = new Illuminate\Http\Response('Hello World');

$response->withCookie(cookie('name', 'value', $minutes));
```

Creating A Cookie That Lasts Forever*

By "forever", we really mean five years.

```
$response->withCookie(cookie()->forever('name', 'value'));
```

Files

Retrieving An Uploaded File

```
$file = $request->file('photo');
```

Determining If A File Was Uploaded

```
if ($request->hasFile('photo'))
{
        //
}
```

The object returned by the `file` method is an instance of the `Symfony\Component\HttpFoundation\File\UploadedF` class, which extends the PHP `SplFileInfo` class and provides a variety of methods for interacting with the file.

Determining If An Uploaded File Is Valid

```
if ($request->file('photo')->isValid())
{
        //
}
```

Moving An Uploaded File

```
$request->file('photo')->move($destinationPath);

$request->file('photo')->move($destinationPath, $fileName);
```

Other File Methods

There are a variety of other methods available on `UploadedFile` instances. Check out the API documentation for the class[80] for more information regarding these methods.

[80] http://api.symfony.com/2.5/Symfony/Component/HttpFoundation/File/UploadedFile.html

Other Request Information

The `Request` class provides many methods for examining the HTTP request for your application and extends the `Symfony\Component\HttpFoundation\Request` class. Here are some of the highlights.

Retrieving The Request URI

```
$uri = $request->path();
```

Retrieving The Request Method

```
$method = $request->method();

if ($request->isMethod('post'))
{
        //
}
```

Determining If The Request Path Matches A Pattern

```
if ($request->is('admin/*'))
{
        //
}
```

Get The Request URL

```
$url = $request->url();
```

Even More Request Methods

There are a variety of other methods available on `Request` instances. Check out the API documentation for the class[81] for more information regarding these methods.

[81] http://laravel.com/api/4.2/Illuminate/Http/Request.html

HTTP Responses

Basic Responses

Returning Strings From Routes

The most basic response from a Laravel route is a string:

```
1  $router->get('/', function()
2  {
3          return 'Hello World';
4  });
```

Creating Custom Responses

However, for most routes and controller actions, you will be returning a full `Illuminate\Http\Response` instance or a view. Returning a full `Response` instance allows you customize the response's HTTP status code and headers. A `Response` instance inherits from the `Symfony\Component\HttpFoundation\Response` class, providing a variety of methods for building HTTP responses:

```
1  use Illuminate\Http\Response;
2
3  return (new Response($content, $status))
4              ->header('Content-Type', $value);
```

Note: For a full list of available `Response` methods, check out its API documentation[82] and the Symfony API documentation[83].

[82] http://laravel.com/api/4.2/Illuminate/Http/Response.html

[83] http://api.symfony.com/2.5/Symfony/Component/HttpFoundation/Response.html

Sending A View In A Response

If you need access to the `Response` class methods, but want to return a view as the response content, you may use the `view` helper for convenience:

```
return (new Response(view('hello')))->header('Content-Type', $type);
```

Attaching Cookies To Responses

```
return (new Response($content))->withCookie(cookie('name', 'value'));
```

The Response Factory

The `Illuminate\Contracts\Routing\ResponseFactory` contract provides a variety of helpful methods for generating `Response` and `RedirectResponse` instances.

Redirects

Redirect responses are typically instances of the `Illuminate\Http\RedirectResponse` class, and contain the proper headers needed to redirect the user to another URL.

Returning A Redirect

There are several ways to generate a `RedirectResponse` instance. The simplest method is to use the `redirect` helper method. When testing, it is not common to mock the creation of a redirect response, so using the helper method is almost always acceptable:

```
return redirect('user/login');
```

Returning A Redirect With Flash Data

Redirecting to a new URL and flashing data to the session are typically done at the same time. So, for convenience, you can create a `RedirectResponse` instance **and** flash data to the session in a single method chain:

```
return redirect('user/login')->with('message', 'Login Failed');
```

Returning A Redirect To A Named Route

When you call the `redirect` helper with no parameters, an instance of `Illuminate\Routing\Redirector` is returned, allowing you to call any method on the `Redirector` instance. For example, to generate a `RedirectResponse` to a named route, you may use the `route` method:

```
return redirect()->route('login');
```

Returning A Redirect To A Named Route With Parameters

If your route has parameters, you may pass them as the second argument to the `route` method.

```
// For a route with the following URI: profile/{id}

return redirect()->route('profile', [1]);
```

Returning A Redirect To A Named Route Using Named Parameters

```
// For a route with the following URI: profile/{user}

return redirect()->route('profile', ['user' => 1]);
```

Returning A Redirect To A Controller Action

Similarly to generating `RedirectResponse` instances to named routes, you may also generate redirects to controller actions:

```
return redirect()->action('HomeController@index');
```

Note: You do not need to specify the full namespace to the controller. Only specify the portion of the controller that comes after the `App\Http\Controllers` portion of the namespace. The root portion namespace will be automatically preprended for you.

Returning A Redirect To A Controller Action With Parameters

```
return redirect()->action('UserController@profile', [1]);
```

Returning A Redirect To A Controller Action Using Named Parameters

```
return redirect()->action('UserController@profile', ['user' => 1]);
```

Other Responses

The `response` helper may be used to conveniently generate other types of response instances. When the `response` helper is called without arguments, an implementation of the `Illuminate\Contracts\Routing\Respon` contract is returned. This contract provides several helpful methods for generating responses.

Creating A JSON Response

The `json` method will automatically set the `Content-Type` header to `application/json`:

```
return response()->json(['name' => 'Steve', 'state' => 'CA']);
```

Creating A JSONP Response

```
return response()->json(['name' => 'Steve', 'state' => 'CA'])
                 ->setCallback($request->input('callback'));
```

Creating A File Download Response

```
return response()->download($pathToFile);

return response()->download($pathToFile, $name, $headers);
```

Note: Symfony HttpFoundation, which manages file downloads, requires the file being downloaded to have an ASCII file name.

Response Macros

If you would like to define a custom response that you can re-use in a variety of your routes and controllers, you may use the `macro` method on an implementation of `Illuminate\Contracts\Routing\ResponseFactory`.

For example, from a service provider's `boot` method:

```
<?php namespace App\Providers;

use Illuminate\Support\ServiceProvider;
use Illuminate\Contracts\Routing\ResponseFactory;

class ResponseMacroServiceProvider extends ServiceProvider {

        /**
         * Perform post-registration booting of services.
         *
         * @param  ResponseFactory  $events
         * @return void
         */
        public function boot(ResponseFactory $response)
        {
                $response->macro('caps', function($value) use ($response)
                {
```

```
18  return $response->make(strtoupper($value));
19                  });
20          }
21
22  }
```

The `macro` function accepts a name as its first argument, and a Closure as its second. The macro's Closure will be executed when calling the macro name from a `ResponseFactory` implementation or the `response` helper:

```
1  return response()->caps('foo');
```

Views

Basic Usage

Views contain the HTML served by your application, and serve as a convenient method of separating your controller and domain logic from your presentation logic. Views are stored in the `resources/views` directory.

A simple view looks like this:

```
<!-- View stored in resources/views/greeting.php -->

<html>
        <body>
                <h1>Hello, <?php echo $name; ?></h1>
        </body>
</html>
```

The view may be returned to the browser like so:

```
$router->get('/', function()
{
        return view('greeting', ['name' => 'James']);
});
```

As you can see, the first argument passed to the `view` helper corresponds to the name of the view file in the `resources/views` directory. The second argument passed to helper is an array of data that should be made available to the view.

Of course, views may also be nested within sub-directories of the `resources/views` directory. For example, if your view is stored at `resources/views/admin/profile.php`, it should be returned like so:

```
return view('admin.profile', $data);
```

Passing Data To Views

```
// Using conventional approach
$view = view('greeting')->with('name', 'Victoria');

// Using Magic Methods
$view = view('greeting')->withName('Victoria');
```

In the example above, the variable `$name` is made accessible to the view and contains `Victoria`.

If you wish, you may pass an array of data as the second parameter to the `make` method:

```
$view = view('greetings', $data);
```

Sharing Data With All Views

Occasionally, you may need to share a piece of data with all views that are rendered by your application. You have several options: the `view` helper, the `Illuminate\Contracts\View\Factory` contract, or a wildcard view composer.

First, using the `view` helper:

```
view()->share('data', [1, 2, 3]);
```

Note: When the `view` helper is called without arguments, it returns an implementation of the `Illuminate\Contracts\View\Factory` contract.

Alternatively, obtain an instance of the `Illuminate\Contracts\View\Factory` contract. Once you have an implementation of the contract, you may use the `share` method to make data available to all views:

In this example, we'll assume we're sharing the data from within a global HTTP filter. However, you could also share the data from a service provider, or even a controller:

```
<?php namespace App\Http\Filters;

use Illuminate\Http\Request;
use Illuminate\Contracts\View\Factory as ViewFactory;

class TestFilter {

        /**
         * The view factory implementation.
         */
        protected $view;

        /**
         * Create a new filter instance.
         *
         * @param  ViewFactory  $view
         * @return void
         */
        public function __construct(ViewFactory $view)
        {
                $this->view = $view;
        }

        /**
         * Run the request filter.
         *
         * @param  Request  $request
         * @return mixed
         */
        public function filter(Request $request)
        {
                $this->view->share('data', [1, 2, 3]);
        }

}
```

Determining If A View Exists

If you need to determine if a view exists, you again have two options: the `view` helper and the `Illuminate\Contracts\View\Factory` contract:

Using the helper:

```
if (view()->exists('emails.customer'))
{
        //
}
```

Alternatively, type-hint the `Illuminate\Contracts\View\Factory` contract and use the `exists` method on the resolved instance:

```
<?php namespace App\Services;

use Illuminate\Contracts\View\Factory as ViewFactory;

class TaskRunner {

        /**
         * The view factory implementation.
         */
        protected $view;

        /**
         * Create a new class instance.
         *
         * @param  ViewFactory  $view
         * @return void
         */
        public function __construct(ViewFactory $view)
        {
                $this->view = $view;
        }

        /**
         * Do some work!
         *
         * @return void
         */
```

```
28          public function performTask()
29          {
30                  if ($this->view->exists('emails.customer'))
31                  {
32  //
33                  }
34          }
35
36  }
```

View Composers

View composers are callbacks or class methods that are called when a view is rendered. If you have data that you want bound to a view each time that view is rendered, a view composer can organize that code into a single location.

Defining A View Composer

Let's organize our view composers within a service provider. We'll need an instance of the `Illuminate\Contracts\View\Factory` contract, so we'll type-hint that in our provider's `boot` method:

```
1   <?php namespace App\Providers;
2
3   use Illuminate\Support\ServiceProvider;
4   use Illuminate\Contracts\View\Factory as ViewFactory;
5
6   class ComposerServiceProvider extends ServiceProvider {
7
8           /**
9            * Register bindings in the container.
10           *
11           * @return void
12           */
13          public function boot(ViewFactory $view)
14          {
15                  $view->composer('profile', 'App\Http\ViewComposers\ProfileComposer');
16          }
17
```

```
18  }
```

Note: Laravel does not include a default directory for view composers. You are free to organize them however you wish. For example, you could create an `App\Http\ViewComposers` directory.

Now that we have registered the composer, the `ProfileComposer@compose` method will be executed each time the `profile` view is being rendered. So, let's define the composer class:

```
1   <?php namespace App\Http\ViewComposers;
2
3   use Illuminate\Contracts\View\View;
4   use Illuminate\Users\Repository as UserRepository;
5
6   class ProfileComposer {
7
8           /**
9            * The user repository implementation.
10           *
11           * @var UserRepository
12           */
13          protected $users;
14
15          /**
16           * Create a new profile composer.
17           *
18           * @param  UserRepository  $users
19           * @return void
20           */
21          public function __construct(UserRepository $users)
22          {
23                  // Dependencies automatically resolved by service container...
24                  $this->users = $users;
25          }
26
27          /**
28           * Bind data to the view.
29           *
30           * @param  View  $view
31           * @return void
```

```
32          */
33         public function compose(View $view)
34         {
35                 $view->with('count', $this->users->count());
36         }
37
38 }
```

Just before the view is rendered, the composer's `compose` method is called with the `Illuminate\Contracts\View\Vie` instance. You may use the `with` method to bind data to the view.

Note: All view composers are resolved via the service container, so you may type-hint any dependencies you need within a composer's constructor.

Wildcard View Composers

The `composer` method accepts the `*` character as a wildcard, so you may attach a composer to all views like so:

```
1 $this->view->composer('*', 'App\Http\ViewComposers\GlobalComposer');
```

Attaching A Composer To Multiple Views

You may also attach a view composer to multiple views at once:

```
1 $this->view->composer(['profile', 'dashboard'], 'App\Http\ViewComposers\MyViewCo\
2 mposer');
```

Defining Multiple Composers

You may use the `composers` method to register a group of composers at the same time:

```
$this->view->composers([
        'App\Http\ViewComposers\AdminComposer' => ['admin.index', 'admin.profile'],
        'App\Http\ViewComposers\UserComposer' => 'user',
        'App\Http\ViewComposers\ProductComposer' => 'product'
]);
```

View Creators

View **creators** work almost exactly like view composers; however, they are fired immediately when the view is instantiated. To register a view creator, use the `creator` method on an `Illuminate\Contracts\View\Fact` instance:

```
$this->view->creator('profile', 'App\Http\ViewCreators\ProfileCreator');
```

Authentication

Introduction

Laravel makes implementing authentication very simple. In fact, almost everything is configured for you out of the box. The authentication configuration file is located at `config/auth.php`, which contains several well documented options for tweaking the behavior of the authentication services.

By default, Laravel includes an `App\User` model in your `app` directory. This model may be used with the default Eloquent authentication driver. Remember: when building the database schema for this model, make the password column at least 60 characters.

If your application is not using Eloquent, you may use the `database` authentication driver which uses the Laravel query builder.

Note: Before getting started, make sure that your `users` (or equivalent) table contains a nullable, string `remember_token` column of 100 characters. This column will be used to store a token for "remember me" sessions being maintained by your application. This can be done by using `$table->rememberToken();` in a migration.

Authenticating Users

To authenticate users, you will need to obtain an implementation of the `Illuminate\Contracts\Auth\Authenticato` contract. This contract provides methods for validating user credentials and managing authenticated user sessions.

Of course, you can use Laravel's automatic dependency injection to obtain an implementation of the contract. Once we have the `Authenticator` instance, we can use the `attempt` method to log users into the application:

```php
<?php namespace App\Http\Controllers;

use Illuminate\Routing\Controller;
use Illuminate\Contracts\Auth\Authenticator;

class AuthController extends Controller {

	/**
	 * The authenticator implementation.
	 */
	protected $auth;

	/**
	 * Create a new controller instance.
	 *
	 * @param  Authenticator  $auth
	 * @return void
	 */
	public function __construct(Authenticator $auth)
	{
		$this->auth = $auth;
	}

	/**
	 * Handle an authentication attempt.
	 *
	 * @return Response
	 */
	public function authenticate()
	{
		if ($this->auth->attempt(['email' => $email, 'password' => $password]))
		{
return redirect()->intended('dashboard');
		}
	}

}
```

The `attempt` method accepts an array of key / value pairs as its first argument. The `password` value will be hashed. The other values in the array will be used to find the user in your database table. So, in the example above, the user will be retrieved by the value of the `email` column. If the user is found, the hashed password stored in the database will be compared with the hashed `password`

value passed to the method via the array. If the two hashed passwords match, the `Authenticator` will begin an authenticated session for the user.

The `attempt` method will return `true` if authentication was successful. Otherwise, `false` will be returned.

Note: In this example, `email` is not a required option, it is merely used as an example. You should use whatever column name corresponds to a "username" in your database.

The `intended` redirect function will redirect the user to the URL they were attempting to access before being caught by the authentication filter. A fallback URI may be given to this method in case the intended destination is not available.

Authenticating A User With Conditions

You also may add extra conditions to the authentication query:

```
1  if ($this->auth->attempt(['email' => $email, 'password' => $password, 'active' =\
2  > 1]))
3  {
4      // The user is active, not suspended, and exists.
5  }
```

Determining If A User Is Authenticated

To determine if the user is already logged into your application, you may use the `check` method on the `Authenticator` implementation:

```
1  if ($this->auth->check())
2  {
3          // The user is logged in...
4  }
```

Authenticating A User And "Remembering" Them

If you would like to provide "remember me" functionality in your application, you may pass a boolean value as the second argument to the `attempt` method, which will keep the user authenticated indefinitely, or until they manually logout. Of course, your `users` table must include the string `remember_token` column, which will be used to store the "remember me" token.

```
if ($this->auth->attempt(['email' => $email, 'password' => $password], $remember\
))
{
        // The user is being remembered...
}
```

If you are "remembering" users, you may use the `viaRemember` method to determine if the user was authenticated using the "remember me" cookie:

```
if ($this->auth->viaRemember())
{
        //
}
```

Authenticating Users By ID

To log a user into the application by their ID, use the `loginUsingId` method:

```
$this->auth->loginUsingId(1);
```

Validating User Credentials Without Login

The `validate` method allows you to validate a user's credentials without actually logging them into the application:

```
if ($this->auth->validate($credentials))
{
        //
}
```

Logging A User In For A Single Request

You may also use the `once` method to log a user into the application for a single request. No sessions or cookies will be utilized:

```
if ($this->auth->once($credentials))
{
        //
}
```

Manually Logging In A User

If you need to log an existing user instance into your application, you may call the `login` method with the user instance:

```
$this->auth->login($user);
```

This is equivalent to logging in a user via credentials using the `attempt` method.

Logging A User Out Of The Application

```
$this->auth->logout();
```

Authentication Events

When the `attempt` method is called, the `auth.attempt` event will be fired. If the authentication attempt is successful and the user is logged in, the `auth.login` event will be fired as well.

Retrieving The Authenticated User

Once a user is authenticated, there are several ways to obtain an instance of the User.

First, you may access the authenticated user via an `Illuminate\Http\Request` instance:

```php
<?php namespace App\Http\Controllers;

use Illuminate\Http\Request;
use Illuminate\Routing\Controller;

class ProfileController extends Controller {

        /**
         * Update the user's profile.
         *
         * @return Response
         */
        public function updateProfile(Request $request)
        {
                if ($request->user())
                {
// $request->user() returns an instance of the authenticated user...
                }
        }

}
```

Secondly, you may type-hint the `Illuminate\Contracts\Auth\User` contract. This type-hint may be added to a controller constructor, controller method, or any other constructor of a class resolved by the service container:

```php
<?php namespace App\Http\Controllers;

use Illuminate\Routing\Controller;
use Illuminate\Contracts\Auth\User;

class ProfileController extends Controller {

        /**
         * Update the user's profile.
         *
         * @return Response
         */
        public function updateProfile(User $user)
        {
                // $user is an instance of the authenticated user...
```

```
16          }
17
18  }
```

Protecting Routes

Route filters can be used to allow only authenticated users to access a given route. Laravel provides the `auth` filter by default, and it is defined in `app\Http\Filters\AuthFilter.php`. All you need to do is attach it to a route definition:

```
1   // With A Route Closure...
2
3   $router->get('profile', ['before' => 'auth', function()
4   {
5           // Only authenticated users may enter...
6   }]);
7
8   // With A Controller...
9
10  $router->get('profile', ['before' => 'auth', 'uses' => 'ProfileController@show']\
11  );
```

HTTP Basic Authentication

HTTP Basic Authentication provides a quick way to authenticate users of your application without setting up a dedicated "login" page. To get started, attach the `auth.basic` filter to your route:

Protecting A Route With HTTP Basic

```
1   $router->get('profile', ['before' => 'auth.basic', function()
2   {
3           // Only authenticated users may enter...
4   }]);
```

By default, the `basic` filter will use the `email` column on the user record as the "username". If you wish to use another column, you may pass the column name as the first parameter to the filter in your `App\Http\Filters\BasicAuthFilter` class:

```
public function filter(Route $route, Request $request)
{
        return $this->auth->basic('username');
};
```

Setting Up A Stateless HTTP Basic Filter

You may also use HTTP Basic Authentication without setting a user identifier cookie in the session, which is particularly useful for API authentication. To do so, define a filter that returns the `onceBasic` method:

```
public function filter(Route $route, Request $request)
{
        return $this->auth->onceBasic();
}
```

If you are using PHP FastCGI, HTTP Basic authentication may not work correctly out of the box. The following lines should be added to your `.htaccess` file:

```
RewriteCond %{HTTP:Authorization} ^(.+)$
RewriteRule .* - [E=HTTP_AUTHORIZATION:%{HTTP:Authorization}]
```

Password Reminders & Reset

Model & Table

Most web applications provide a way for users to reset their forgotten passwords. Rather than forcing you to re-implement this on each application, Laravel provides convenient methods for sending password reminders and performing password resets.

To get started, verify that your `User` model implements the `Illuminate\Contracts\Auth\Remindable` contract. Of course, the `User` model included with the framework already implements this interface,

and uses the `Illuminate\Auth\Reminders\RemindableTrait` to include the methods needed to implement the interface.

Generating The Reminder Table Migration

Next, a table must be created to store the password reset tokens. To generate a migration for this table, simply execute the `auth:reminders-table` Artisan command:

```
1  php artisan auth:reminders-table
2
3  php artisan migrate
```

Password Reminder Controller

Now we're ready to generate the password reminder controller. To automatically generate a controller, you may use the `auth:reminders-controller` Artisan command, which will create a `RemindersController.php` file in your `app/Http/Controllers` directory.

```
1  php artisan auth:reminders-controller
```

The generated controller accepts an implementation of the `Illuminate\Contracts\Auth\PasswordBroker` contract. This contract provides a few simple methods that allow you to reset passwords.

The generated controller will also already have a `getRemind` method that handles showing your password reminder form. All you need to do is create a `password.remind` view. This view should have a basic form with an `email` field. The form should POST to the `RemindersController@postRemind` action.

A simple form on the `password.remind` view might look like this:

```
1  <form action="{{ action('RemindersController@postRemind') }}" method="POST">
2          <input type="email" name="email">
3          <input type="submit" value="Send Reminder">
4  </form>
```

In addition to `getRemind`, the generated controller will already have a `postRemind` method that handles sending the password reminder e-mails to your users. This method expects the `email` field

to be present in the POST variables. If the reminder e-mail is successfully sent to the user, a status message will be flashed to the session. If the reminder fails, an error message will be flashed instead.

Within the postRemind controller method, you may modify the message instance before it is sent to the user:

```
$result = $this->password->remind($request->only('email'), function($message)
{
        $message->subject('Password Reminder');
});
```

Your user will receive an e-mail with a link that points to the getReset method of the controller. The password reminder token, which is used to identify a given password reminder attempt, will also be passed to the controller method.

The action is already configured to return a password.reset view which you should build. The token will be passed to the view, and you should place this token in a hidden form field named token. In addition to the token, your password reset form should contain email, password, and password_confirmation fields. The form should POST to the RemindersController@postReset method.

A simple form on the password.reset view might look like this:

```
<form action="{{ action('RemindersController@postReset') }}" method="POST">
        <input type="hidden" name="token" value="{{ $token }}">
        <input type="email" name="email">
        <input type="password" name="password">
        <input type="password" name="password_confirmation">
        <input type="submit" value="Reset Password">
</form>
```

Finally, the postReset method is responsible for actually changing the password in storage. In this controller action, the Closure passed to the Password::reset method sets the password attribute on the User and calls the save method. Of course, this Closure is assuming your User model is an Eloquent model; however, you are free to change this Closure as needed to be compatible with your application's database storage system.

If the password is successfully reset, the user will be redirected to the root of your application. Again, you are free to change this redirect URL. If the password reset fails, the user will be redirect back to the reset form, and an error message will be flashed to the session.

Password Validation

By default, the `$password->reset` method of the `PasswordBroker` will verify that the passwords match and are `>=` six characters. You may customize these rules using the `$password->validator` method, which accepts a Closure. Within this Closure, you may do any password validation you wish. Note that you are not required to verify that the passwords match, as this will be done automatically by the framework.

```
$this->password->validator(function($credentials)
{
        return strlen($credentials['password']) >= 6;
});
```

Note: By default, password reset tokens expire after one hour. You may change this via the `reminder.expire` option of your `config/auth.php` file.

Authentication Drivers

Laravel offers the `database` and `eloquent` authentication drivers out of the box. For more information about adding additional authentication drivers, check out the Authentication extension documentation.

Laravel Cashier

Introduction

Laravel Cashier provides an expressive, fluent interface to Stripe's[84] subscription billing services. It handles almost all of the boilerplate subscription billing code you are dreading writing. In addition to basic subscription management, Cashier can handle coupons, swapping subscription, subscription "quantities", cancellation grace periods, and even generate invoice PDFs.

Configuration

Composer

First, add the Cashier package to your `composer.json` file:

```
1  "laravel/cashier": "~2.0"
```

Service Provider

Next, register the `Laravel\Cashier\CashierServiceProvider` in your `app` configuration file.

[84] https://stripe.com

Migration

Before using Cashier, we'll need to add several columns to your database. Don't worry, you can use the `cashier:table` Artisan command to create a migration to add the necessary column. For example, to add the column to the users table use `php artisan cashier:table users`. Once the migration has been created, simply run the `migrate` command.

Model Setup

Next, add the BillableTrait and appropriate date mutators to your model definition:

```
use Laravel\Cashier\BillableTrait;
use Laravel\Cashier\BillableInterface;

class User extends Eloquent implements BillableInterface {

        use BillableTrait;

        protected $dates = ['trial_ends_at', 'subscription_ends_at'];

}
```

Stripe Key

Finally, set your Stripe key in one of your bootstrap files:

```
User::setStripeKey('stripe-key');
```

Subscribing To A Plan

Once you have a model instance, you can easily subscribe that user to a given Stripe plan:

```
$user = User::find(1);

$user->subscription('monthly')->create($creditCardToken);
```

If you would like to apply a coupon when creating the subscription, you may use the `withCoupon` method:

```
$user->subscription('monthly')
  ->withCoupon('code')
  ->create($creditCardToken);
```

The `subscription` method will automatically create the Stripe subscription, as well as update your database with Stripe customer ID and other relevant billing information. If your plan has a trial configured in Stripe, the trial end date will also automatically be set on the user record.

If your plan has a trial period that is **not** configured in Stripe, you must set the trial end date manually after subscribing:

```
$user->trial_ends_at = Carbon::now()->addDays(14);

$user->save();
```

Specifying Additional User Details

If you would like to specify additional customer details, you may do so by passing them as second argument to the `create` method:

```
$user->subscription('monthly')->create($creditCardToken, [
        'email' => $email, 'description' => 'Our First Customer'
]);
```

To learn more about the additional fields supported by Stripe, check out Stripe's documentation on customer creation[85].

No Card Up Front

If your application offers a free-trial with no credit-card up front, set the `cardUpFront` property on your model to `false`:

[85] https://stripe.com/docs/api#create_customer

```
protected $cardUpFront = false;
```

On account creation, be sure to set the trial end date on the model:

```
$user->trial_ends_at = Carbon::now()->addDays(14);

$user->save();
```

Swapping Subscriptions

To swap a user to a new subscription, use the `swap` method:

```
$user->subscription('premium')->swap();
```

If the user is on trial, the trial will be maintained as normal. Also, if a "quantity" exists for the subscription, that quantity will also be maintained.

Subscription Quantity

Sometimes subscriptions are affected by "quantity". For example, your application might charge $10 per month per user on an account. To easily increment or decrement your subscription quantity, use the `increment` and `decrement` methods:

```
$user = User::find(1);

$user->subscription()->increment();

// Add five to the subscription's current quantity...
$user->subscription()->increment(5);

$user->subscription->decrement();

```

```
// Subtract five to the subscription's current quantity...
$user->subscription()->decrement(5);
```

Cancelling A Subscription

Cancelling a subscription is a walk in the park:

```
$user->subscription()->cancel();
```

When a subscription is cancelled, Cashier will automatically set the `subscription_ends_at` column on your database. This column is used to know when the `subscribed` method should begin returning `false`. For example, if a customer cancels a subscription on March 1st, but the subscription was not scheduled to end until March 5th, the `subscribed` method will continue to return `true` until March 5th.

Resuming A Subscription

If a user has cancelled their subscription and you wish to resume it, use the `resume` method:

```
$user->subscription('monthly')->resume($creditCardToken);
```

If the user cancels a subscription and then resumes that subscription before the subscription has fully expired, they will not be billed immediately. Their subscription will simply be re-activated, and they will be billed on the original billing cycle.

Checking Subscription Status

To verify that a user is subscribed to your application, use the `subscribed` command:

```
```

```
if ($user->subscribed())
{
        //
}
```

The `subscribed` method makes a great candidate for a route filter:

```
public function filter()
{
        if (Auth::user() && ! Auth::user()->subscribed())
        {
                return Redirect::to('billing');
        }
}
```

You may also determine if the user is still within their trial period (if applicable) using the `onTrial` method:

```
if ($user->onTrial())
{
        //
}
```

To determine if the user was once an active subscriber, but has cancelled their subscription, you may use the `cancelled` method:

```
if ($user->cancelled())
{
        //
}
```

You may also determine if a user has cancelled their subscription, but are still on their "grace period" until the subscription fully expires. For example, if a user cancels a subscription on March 5th that was scheduled to end on March 10th, the user is on their "grace period" until March 10th. Note that the `subscribed` method still returns `true` during this time.

```
if ($user->onGracePeriod())
{
        //
}
```

The `everSubscribed` method may be used to determine if the user has ever subscribed to a plan in your application:

```
if ($user->everSubscribed())
{
        //
}
```

The `onPlan` method may be used to determine if the user is subscribed to a given plan based on its ID:

```
if ($user->onPlan('monthly'))
{
        //
}
```

Handling Failed Payments

What if a customer's credit card expires? No worries - Cashier includes a Webhook controller that can easily cancel the customer's subscription for you. Just point a route to the controller:

```
Route::post('stripe/webhook', 'Laravel\Cashier\WebhookController@handleWebhook');
```

That's it! Failed payments will be captured and handled by the controller. The controller will cancel the customer's subscription after three failed payment attempts. The `stripe/webhook` URI in this example is just for example. You will need to configure the URI in your Stripe settings.

Handling Other Stripe Webhooks

If you have additional Stripe webhook events you would like to handle, simply extend the Webhook controller. Your method names should correspond to Cashier's expected convention, specifically, methods should be prefixed with `handle` and the name of the Stripe webhook you wish to handle. For example, if you wish to handle the `invoice.payment_succeeded` webhook, you should add a `handleInvoicePaymentSucceeded` method to the controller.

```
class WebhookController extends Laravel\Cashier\WebhookController {

        public function handleInvoicePaymentSucceeded($payload)
        {
                // Handle The Event
        }

}
```

Note: In addition to updating the subscription information in your database, the Webhook controller will also cancel the subscription via the Stripe API.

Invoices

You can easily retrieve an array of a user's invoices using the `invoices` method:

```
$invoices = $user->invoices();
```

When listing the invoices for the customer, you may use these helper methods to display the relevant invoice information:

```
{{ $invoice->id }}

{{ $invoice->dateString() }}

{{ $invoice->dollars() }}
```

Use the `downloadInvoice` method to generate a PDF download of the invoice. Yes, it's really this easy:

```
return $user->downloadInvoice($invoice->id, [
        'vendor'  => 'Your Company',
        'product' => 'Your Product',
]);
```

Cache

Configuration

Laravel provides a unified API for various caching systems. The cache configuration is located at `config/cache.php`. In this file you may specify which cache driver you would like used by default throughout your application. Laravel supports popular caching backends like Memcached[86] and Redis[87] out of the box.

The cache configuration file also contains various other options, which are documented within the file, so make sure to read over these options. By default, Laravel is configured to use the `file` cache driver, which stores the serialized, cached objects in the filesystem. For larger applications, it is recommended that you use an in-memory cache such as Memcached or APC.

Cache Usage

Storing An Item In The Cache

```
1  Cache::put('key', 'value', $minutes);
```

Using Carbon Objects To Set Expire Time

[86] http://memcached.org
[87] http://redis.io

```
$expiresAt = Carbon::now()->addMinutes(10);

Cache::put('key', 'value', $expiresAt);
```

Storing An Item In The Cache If It Doesn't Exist

```
Cache::add('key', 'value', $minutes);
```

The `add` method will return `true` if the item is actually **added** to the cache. Otherwise, the method will return `false`.

Checking For Existence In Cache

```
if (Cache::has('key'))
{
        //
}
```

Retrieving An Item From The Cache

```
$value = Cache::get('key');
```

Retrieving An Item Or Returning A Default Value

```
$value = Cache::get('key', 'default');

$value = Cache::get('key', function() { return 'default'; });
```

Storing An Item In The Cache Permanently

```
Cache::forever('key', 'value');
```

Sometimes you may wish to retrieve an item from the cache, but also store a default value if the requested item doesn't exist. You may do this using the `Cache::remember` method:

```
$value = Cache::remember('users', $minutes, function()
{
        return DB::table('users')->get();
});
```

You may also combine the `remember` and `forever` methods:

```
$value = Cache::rememberForever('users', function()
{
        return DB::table('users')->get();
});
```

Note that all items stored in the cache are serialized, so you are free to store any type of data.

Pulling An Item From The Cache

If you need to retrieve an item from the cache and then delete it, you may use the `pull` method:

```
$value = Cache::pull('key');
```

Removing An Item From The Cache

```
Cache::forget('key');
```

Increments & Decrements

All drivers except `file` and `database` support the `increment` and `decrement` operations:

Incrementing A Value

```
Cache::increment('key');

Cache::increment('key', $amount);
```

Decrementing A Value

```
Cache::decrement('key');

Cache::decrement('key', $amount);
```

Cache Tags

Note: Cache tags are not supported when using the `file` or `database` cache drivers. Furthermore, when using multiple tags with caches that are stored "forever", performance will be best with a driver such as `memcached`, which automatically purges stale records.

Accessing A Tagged Cache

Cache tags allow you to tag related items in the cache, and then flush all caches tagged with a given name. To access a tagged cache, use the `tags` method.

You may store a tagged cache by passing in an ordered list of tag names as arguments, or as an ordered array of tag names:

```
Cache::tags('people', 'authors')->put('John', $john, $minutes);

Cache::tags(array('people', 'artists'))->put('Anne', $anne, $minutes);
```

You may use any cache storage method in combination with tags, including `remember`, `forever`, and `rememberForever`. You may also access cached items from the tagged cache, as well as use the other cache methods such as `increment` and `decrement`.

Accessing Items In A Tagged Cache

To access a tagged cache, pass the same ordered list of tags used to save it.

```
1  $anne = Cache::tags('people', 'artists')->get('Anne');
2
3  $john = Cache::tags(array('people', 'authors'))->get('John');
```

You may flush all items tagged with a name or list of names. For example, this statement would remove all caches tagged with either `people`, `authors`, or both. So, both "Anne" and "John" would be removed from the cache:

```
1  Cache::tags('people', 'authors')->flush();
```

In contrast, this statement would remove only caches tagged with `authors`, so "John" would be removed, but not "Anne".

```
1  Cache::tags('authors')->flush();
```

Database Cache

When using the `database` cache driver, you will need to setup a table to contain the cache items. You'll find an example `Schema` declaration for the table below:

```
Schema::create('cache', function($table)
{
        $table->string('key')->unique();
        $table->text('value');
        $table->integer('expiration');
});
```

Extending The Framework

Introduction

Laravel offers many extension points for you to customize the behavior of the framework's core components, or even replace them entirely. For example, the hashing facilities are defined by a `HasherInterface` contract, which you may implement based on your application's requirements. You may also extend the `Request` object, allowing you to add your own convenient "helper" methods. You may even add entirely new authentication, cache, and session drivers!

Laravel components are generally extended in two ways: binding new implementations in the IoC container, or registering an extension with a `Manager` class, which are implementations of the "Factory" design pattern. In this chapter we'll explore the various methods of extending the framework and examine the necessary code.

Note: Remember, Laravel components are typically extended in one of two ways: IoC bindings and the `Manager` classes. The manager classes serve as an implementation of the "factory" design pattern, and are responsible for instantiating driver based facilities such as cache and session.

Managers & Factories

Laravel has several `Manager` classes that manage the creation of driver-based components. These include the cache, session, authentication, and queue components. The manager class is responsible for creating a particular driver implementation based on the application's configuration. For example, the `CacheManager` class can create APC, Memcached, File, and various other implementations of cache drivers.

Each of these managers includes an `extend` method which may be used to easily inject new driver resolution functionality into the manager. We'll cover each of these managers below, with examples of how to inject custom driver support into each of them.

Note: Take a moment to explore the various `Manager` classes that ship with Laravel, such as the `CacheManager` and `SessionManager`. Reading through these classes will give you a more thorough understanding of how Laravel works under the hood. All manager classes extend the `Illuminate\Support\Manager` base class, which provides some helpful, common functionality for each manager.

Where To Extend

This documentation covers how to extend a variety of Laravel's components, but you may be wondering where to place your extension code. Like most other bootstrapping code, you are free to place some extensions in your service provider files. Some extensions, like `Session`, **must** be placed in the `register` method of a service provider since they are needed very early in the request life-cycle.

Cache

To extend the Laravel cache facility, we will use the `extend` method on the `CacheManager`, which is used to bind a custom driver resolver to the manager, and is common across all manager classes. For example, to register a new cache driver named "mongo", we would do the following:

```
1  Cache::extend('mongo', function($app)
2  {
3          // Return Illuminate\Cache\Repository instance...
4  });
```

The first argument passed to the `extend` method is the name of the driver. This will correspond to your `driver` option in the `config/cache.php` configuration file. The second argument is a Closure that should return an `Illuminate\Cache\Repository` instance. The Closure will be passed an `$app` instance, which is an instance of `Illuminate\Foundation\Application` and an IoC container.

The call to `Cache::extend` could be done in the default `App\Providers\AppServiceProvider` that ships with fresh Laravel applications, or you may create your own service provider to house the extension - just don't forget to register the provider in the `config/app.php` provider array.

To create our custom cache driver, we first need to implement the `Illuminate\Cache\StoreInterface` contract. So, our MongoDB cache implementation would look something like this:

```
class MongoStore implements Illuminate\Cache\StoreInterface {

        public function get($key) {}
        public function put($key, $value, $minutes) {}
        public function increment($key, $value = 1) {}
        public function decrement($key, $value = 1) {}
        public function forever($key, $value) {}
        public function forget($key) {}
        public function flush() {}

}
```

We just need to implement each of these methods using a MongoDB connection. Once our implementation is complete, we can finish our custom driver registration:

```
use Illuminate\Cache\Repository;

Cache::extend('mongo', function($app)
{
        return new Repository(new MongoStore);
});
```

As you can see in the example above, you may use the base `Illuminate\Cache\Repository` when creating custom cache drivers. There is typically no need to create your own repository class.

If you're wondering where to put your custom cache driver code, consider making it available on Packagist! Or, you could create an `Extensions` namespace within your `app` directory. However, keep in mind that Laravel does not have a rigid application structure and you are free to organize your application according to your preferences.

Session

Extending Laravel with a custom session driver is just as easy as extending the cache system. Again, we will use the `extend` method to register our custom code:

```
Session::extend('mongo', function($app)
{
        // Return implementation of SessionHandlerInterface
});
```

Where To Extend The Session

You should place your session extension code in the `register` method of a service provider, and the provider should be placed **below** the default `Illuminate\Session\SessionServiceProvider` in the `providers` configuration array. You may use the default `App\Providers\AppServiceProvider` if you wish.

Writing The Session Extension

Note that our custom cache driver should implement the `SessionHandlerInterface`. This interface is included in the PHP 5.4+ core. If you are using PHP 5.3, the interface will be defined for you by Laravel so you have forward-compatibility. This interface contains just a few simple methods we need to implement. A stubbed MongoDB implementation would look something like this:

```
class MongoHandler implements SessionHandlerInterface {

        public function open($savePath, $sessionName) {}
        public function close() {}
        public function read($sessionId) {}
        public function write($sessionId, $data) {}
        public function destroy($sessionId) {}
        public function gc($lifetime) {}

}
```

Since these methods are not as readily understandable as the cache `StoreInterface`, let's quickly cover what each of the methods do:

- The `open` method would typically be used in file based session store systems. Since Laravel ships with a `file` session driver, you will almost never need to put anything in this method. You can leave it as an empty stub. It is simply a fact of poor interface design (which we'll discuss later) that PHP requires us to implement this method.

- The `close` method, like the `open` method, can also usually be disregarded. For most drivers, it is not needed.
- The `read` method should return the string version of the session data associated with the given `$sessionId`. There is no need to do any serialization or other encoding when retrieving or storing session data in your driver, as Laravel will perform the serialization for you.
- The `write` method should write the given `$data` string associated with the `$sessionId` to some persistent storage system, such as MongoDB, Dynamo, etc.
- The `destroy` method should remove the data associated with the `$sessionId` from persistent storage.
- The `gc` method should destroy all session data that is older than the given `$lifetime`, which is a UNIX timestamp. For self-expiring systems like Memcached and Redis, this method may be left empty.

Once the `SessionHandlerInterface` has been implemented, we are ready to register it with the Session manager:

```
1  Session::extend('mongo', function($app)
2  {
3          return new MongoHandler;
4  });
```

Once the session driver has been registered, we may use the `mongo` driver in our `config/session.php` configuration file.

Note: Remember, if you write a custom session handler, share it on Packagist!

Authentication

Authentication may be extended the same way as the cache and session facilities. Again, we will use the `extend` method we have become familiar with:

```
1  Auth::extend('riak', function($app)
2  {
3          // Return implementation of Illuminate\Auth\UserProviderInterface
4  });
```

The `UserProviderInterface` implementations are only responsible for fetching a `UserInterface` implementation out of a persistent storage system, such as MySQL, Riak, etc. These two interfaces allow the Laravel authentication mechanisms to continue functioning regardless of how the user data is stored or what type of class is used to represent it.

Let's take a look at the `UserProviderInterface`:

```
interface UserProviderInterface {

        public function retrieveById($identifier);
        public function retrieveByToken($identifier, $token);
        public function updateRememberToken(UserInterface $user, $token);
        public function retrieveByCredentials(array $credentials);
        public function validateCredentials(UserInterface $user, array $credentials);

}
```

The `retrieveById` function typically receives a numeric key representing the user, such as an auto-incrementing ID from a MySQL database. The `UserInterface` implementation matching the ID should be retrieved and returned by the method.

The `retrieveByToken` function retrieves a user by their unique `$identifier` and "remember me" `$token`, stored in a field `remember_token`. As with with previous method, the `UserInterface` implementation should be returned.

The `updateRememberToken` method updates the `$user` field `remember_token` with the new `$token`. The new token can be either a fresh token, assigned on successfull "remember me" login attempt, or a null when user is logged out.

The `retrieveByCredentials` method receives the array of credentials passed to the `Auth::attempt` method when attempting to sign into an application. The method should then "query" the underlying persistent storage for the user matching those credentials. Typically, this method will run a query with a "where" condition on `$credentials['username']`. **This method should not attempt to do any password validation or authentication**.

The `validateCredentials` method should compare the given `$user` with the `$credentials` to authenticate the user. For example, this method might compare the `$user->getAuthPassword()` string to a `Hash::make` of `$credentials['password']`.

Now that we have explored each of the methods on the `UserProviderInterface`, let's take a look at the `UserInterface`. Remember, the provider should return implementations of this interface from the `retrieveById` and `retrieveByCredentials` methods:

```
interface UserInterface {

        public function getAuthIdentifier();
        public function getAuthPassword();

}
```

This interface is simple. The `getAuthIdentifier` method should return the "primary key" of the user. In a MySQL back-end, again, this would be the auto-incrementing primary key. The `getAuthPassword` should return the user's hashed password. This interface allows the authentication system to work with any User class, regardless of what ORM or storage abstraction layer you are using. By default, Laravel includes a `User` class in the `app` directory which implements this interface, so you may consult this class for an implementation example.

Finally, once we have implemented the `UserProviderInterface`, we are ready to register our extension with the `Auth` facade:

```
Auth::extend('riak', function($app)
{
        return new RiakUserProvider($app['riak.connection']);
});
```

After you have registered the driver with the `extend` method, you switch to the new driver in your `config/auth.php` configuration file.

IoC Based Extension

Almost every service provider included with the Laravel framework binds objects into the IoC container. You can find a list of your application's service providers in the `config/app.php` configuration file. As you have time, you should skim through each of these provider's source code. By doing so, you will gain a much better understanding of what each provider adds to the framework, as well as what keys are used to bind various services into the IoC container.

For example, the `HashServiceProvider` binds a `hash` key into the IoC container, which resolves into a `Illuminate\Hashing\BcryptHasher` instance. You can easily extend and override this class within your own application by overriding this IoC binding. For example:

```
<?php namespace App\Providers;

use App;

class SnappyHashProvider extends \Illuminate\Hashing\HashServiceProvider {

        public function boot()
        {
                App::bindShared('hash', function()
                {
return new \Snappy\Hashing\ScryptHasher;
                });

                parent::boot();
        }

}
```

Note that this class extends the `HashServiceProvider`, not the default `ServiceProvider` base class. Once you have extended the service provider, swap out the `HashServiceProvider` in your `config/app.php` configuration file with the name of your extended provider.

This is the general method of extending any core class that is bound in the container. Essentially every core class is bound in the container in this fashion, and can be overridden. Again, reading through the included framework service providers will familiarize you with where various classes are bound into the container, and what keys they are bound by. This is a great way to learn more about how Laravel is put together.

Request Extension

Because it is such a foundational piece of the framework and is instantiated very early in the request cycle, extending the `Request` class works a little differently than the previous examples.

First, extend the class like normal:

```
<?php namespace App\Extensions;

class Request extends \Illuminate\Http\Request {

        // Custom, helpful methods here...

}
```

Once you have extended the class, open the `bootstrap/start.php` file. This file is one of the very first files to be included on each request to your application. Note that the first action performed is the creation of the Laravel `$app` instance:

```
$app = new \Illuminate\Foundation\Application;
```

When a new application instance is created, it will create a new `Illuminate\Http\Request` instance and bind it to the IoC container using the `request` key. So, we need a way to specify a custom class that should be used as the "default" request type, right? And, thankfully, the `requestClass` method on the application instance does just this! So, we can add this line at the very top of our `bootstrap/start.php` file:

```
use Illuminate\Foundation\Application;

Application::requestClass('QuickBill\Extensions\Request');
```

Once you have specified the custom request class, Laravel will use this class anytime it creates a `Request` instance, conveniently allowing you to always have an instance of your custom request class available, even in unit tests!

Errors & Logging

Configuration

The logging handler for your application is registered in the `App\Providers\ErrorServiceProvider` service provider. By default, the logger is configured to use a single log file; however, you may customize this behavior as needed. Since Laravel uses the popular Monolog[88] logging library, you can take advantage of the variety of handlers that Monolog offers.

For example, if you wish to use daily log files instead of a single, large file, you can make the following change to your start file:

```
1  $logFile = 'laravel.log';
2
3  Log::useDailyFiles(storage_path().'/logs/'.$logFile);
```

Error Detail

By default, error detail is enabled for your application. This means that when an error occurs you will be shown an error page with a detailed stack trace and error message. You may turn off error details by setting the `debug` option in your `config/app.php` file to `false`.

Note: It is strongly recommended that you turn off error detail in a production environment.

[88] https://github.com/Seldaek/monolog

Handling Errors

By default, the `ErrorServiceProvider` class contains an error handler for all exceptions:

```
App::error(function(Exception $exception)
{
        Log::error($exception);
});
```

This is the most basic error handler. However, you may specify more handlers if needed. Handlers are called based on the type-hint of the Exception they handle. For example, you may create a handler that only handles `RuntimeException` instances:

```
App::error(function(RuntimeException $exception)
{
        // Handle the exception...
});
```

If an exception handler returns a response, that response will be sent to the browser and no other error handlers will be called:

```
App::error(function(InvalidUserException $exception)
{
        Log::error($exception);

        return 'Sorry! Something is wrong with this account!';
});
```

To listen for PHP fatal errors, you may use the `App::fatal` method:

```
App::fatal(function($exception)
{
        //
});
```

If you have several exception handlers, they should be defined from most generic to most specific. So, for example, a handler that handles all exceptions of type `Exception` should be defined before a custom exception type such as `Illuminate\Encryption\DecryptException`.

HTTP Exceptions

Some exceptions describe HTTP error codes from the server. For example, this may be a "page not found" error (404), an "unauthorized error" (401) or even a developer generated 500 error. In order to return such a response, use the following:

```
App::abort(404);
```

Optionally, you may provide a response:

```
App::abort(403, 'Unauthorized action.');
```

This method may be used at any time during the request's lifecycle.

Handling 404 Errors

You may register an error handler that handles all "404 Not Found" errors in your application, allowing you to easily return custom 404 error pages:

```
App::missing(function($exception)
{
        return Response::view('errors.missing', array(), 404);
});
```

Logging

The Laravel logging facilities provide a simple layer on top of the powerful Monolog[89] library. By default, Laravel is configured to create a single log file for your application, and this file is stored in `storage/logs/laravel.log`. You may write information to the log like so:

[89] http://github.com/seldaek/monolog

```
Log::info('This is some useful information.');

Log::warning('Something could be going wrong.');

Log::error('Something is really going wrong.');
```

The logger provides the seven logging levels defined in RFC 5424[90]: **debug**, **info**, **notice**, **warning**, **error**, **critical**, and **alert**.

An array of contextual data may also be passed to the log methods:

```
Log::info('Log message', array('context' => 'Other helpful information'));
```

Monolog has a variety of additional handlers you may use for logging. If needed, you may access the underlying Monolog instance being used by Laravel:

```
$monolog = Log::getMonolog();
```

You may also register an event to catch all messages passed to the log:

Registering A Log Listener

```
Log::listen(function($level, $message, $context)
{
        //
});
```

[90] http://tools.ietf.org/html/rfc5424

Events

Basic Usage

The Laravel `Event` class provides a simple observer implementation, allowing you to subscribe and listen for events in your application.

Subscribing To An Event

```
Event::listen('auth.login', function($user)
{
        $user->last_login = new DateTime;

        $user->save();
});
```

Firing An Event

```
$event = Event::fire('auth.login', array($user));
```

Subscribing To Events With Priority

You may also specify a priority when subscribing to events. Listeners with higher priority will be run first, while listeners that have the same priority will be run in order of subscription.

```
Event::listen('auth.login', 'LoginHandler', 10);

Event::listen('auth.login', 'OtherHandler', 5);
```

Stopping The Propagation Of An Event

Sometimes, you may wish to stop the propagation of an event to other listeners. You may do so using by returning `false` from your listener:

```
Event::listen('auth.login', function($event)
{
        // Handle the event...

        return false;
});
```

Where To Register Events

So, you know how to register events, but you may be wondering *where* to register them. Don't worry, this is a common question. Unfortunately, it's a hard question to answer because you can register an event almost anywhere! But, here are some tips. Again, like most other bootstrapping code, you may register events in one of your service providers such as `app/Providers/AppServiceProvider.php`.

If your `AppServiceProvider` is getting too crowded, you could create a separate service provider strictly for events. The `provider:make` Artisan command will allow you to quickly generate new service provider classes.

Wildcard Listeners

Registering Wildcard Event Listeners

When registering an event listener, you may use asterisks to specify wildcard listeners:

```
Event::listen('foo.*', function($param)
{
        // Handle the event...
});
```

This listener will handle all events that begin with `foo.`.

You may use the `Event::firing` method to determine exactly which event was fired:

```
Event::listen('foo.*', function($param)
{
        if (Event::firing() == 'foo.bar')
        {
                //
        }
});
```

Using Classes As Listeners

In some cases, you may wish to use a class to handle an event rather than a Closure. Class event listeners will be resolved out of the Laravel IoC container, providing you the full power of dependency injection on your listeners.

Registering A Class Listener

```
Event::listen('event.name', 'App\LoginHandler');
```

Defining An Event Listener Class

By default, the `handle` method on the `LoginHandler` class will be called:

```php
<?php namespace App;

class LoginHandler {

        public function handle($data)
        {
                //
        }

}
```

Of course, you may place your event handler classes anywhere you wish within your application. For instance, you may wish to create an `App\Events` namespace for all of your event handlers.

Specifying Which Method To Subscribe

If you do not wish to use the default `handle` method, you may specify the method that should be subscribed:

```
Event::listen('auth.login', 'App\LoginHandler@onLogin');
```

Queued Events

Registering A Queued Event

Using the `queue` and `flush` methods, you may "queue" an event for firing, but not fire it immediately:

```
Event::queue('foo', array($user));
```

You may run the "flusher" and flush all queued events using the `flush` method:

```
Event::flush('foo');
```

Event Subscribers

Defining An Event Subscriber

Event subscribers are classes that may subscribe to multiple events from within the class itself. Subscribers should define a `subscribe` method, which will be passed an event dispatcher instance:

```
class UserEventHandler {

        /**
         * Handle user login events.
         */
        public function onUserLogin($event)
        {
                //
        }

        /**
         * Handle user logout events.
         */
        public function onUserLogout($event)
        {
                //
        }

        /**
         * Register the listeners for the subscriber.
         *
         * @param  Illuminate\Events\Dispatcher  $events
         * @return array
         */
        public function subscribe($events)
        {
                $events->listen('auth.login', 'UserEventHandler@onUserLogin');

                $events->listen('auth.logout', 'UserEventHandler@onUserLogout');
        }

}
```

Registering An Event Subscriber

Once the subscriber has been defined, it may be registered with the `Event` class.

```
$subscriber = new UserEventHandler;

Event::subscribe($subscriber);
```

You may also use the Laravel IoC container to resolve your subscriber. To do so, simply pass the name of your subscriber to the `subscribe` method:

```
Event::subscribe('UserEventHandler');
```

Facades

Introduction

Facades provide a "static" interface to classes that are available in the application's IoC container. Laravel ships with many facades, and you have probably been using them without even knowing it! Laravel "facades" serve as "static proxies" to underlying classes in the IoC container, providing the benefit of a terse, expressive syntax while maintaining more testability and flexibility than traditional static methods.

Occasionally, You may wish to create your own facades for your applications and packages, so let's explore the concept, development and usage of these classes.

Note: Before digging into facades, it is strongly recommended that you become very familiar with the Laravel IoC container.

Explanation

In the context of a Laravel application, a facade is a class that provides access to an object from the container. The machinery that makes this work is in the `Facade` class. Laravel's facades, and any custom facades you create, will extend the base `Facade` class.

Your facade class only needs to implement a single method: `getFacadeAccessor`. It's the `getFacadeAccessor` method's job to define what to resolve from the container. The `Facade` base class makes use of the `__callStatic()` magic-method to defer calls from your facade to the resolved object.

So, when you make a facade call like `Cache::get`, Laravel resolves the Cache manager class out of the IoC container and calls the `get` method on the class. In technical terms, Laravel Facades are a convenient syntax for using the Laravel IoC container as a service locator.

Practical Usage

In the example below, a call is made to the Laravel cache system. By glancing at this code, one might assume that the static method `get` is being called on the `Cache` class.

```
1  $value = Cache::get('key');
```

However, if we look at that `Illuminate\Support\Facades\Cache` class, you'll see that there is no static method `get`:

```
1  class Cache extends Facade {
2
3          /**
4           * Get the registered name of the component.
5           *
6           * @return string
7           */
8          protected static function getFacadeAccessor() { return 'cache'; }
9
10 }
```

The Cache class extends the base `Facade` class and defines a method `getFacadeAccessor()`. Remember, this method's job is to return the name of an IoC binding.

When a user references any static method on the `Cache` facade, Laravel resolves the `cache` binding from the IoC container and runs the requested method (in this case, `get`) against that object.

So, our `Cache::get` call could be re-written like so:

```
1  $value = $app->make('cache')->get('key');
```

Creating Facades

Creating a facade for your own application or package is simple. You only need 3 things:

- An IoC binding.

- A facade class.
- A facade alias configuration.

Let's look at an example. Here, we have a class defined as `PaymentGateway\Payment`.

```
1  namespace PaymentGateway;
2
3  class Payment {
4
5          public function process()
6          {
7                  //
8          }
9
10 }
```

We need to be able to resolve this class from the IoC container. So, let's add a binding to a service provider:

```
1  App::bind('payment', function()
2  {
3          return new \PaymentGateway\Payment;
4  });
```

A great place to register this binding would be to create a new service provider named `PaymentServiceProvider`, and add this binding to the `register` method. You can then configure Laravel to load your service provider from the `config/app.php` configuration file.

Next, we can create our own facade class:

```
1  use Illuminate\Support\Facades\Facade;
2
3  class Payment extends Facade {
4
5          protected static function getFacadeAccessor() { return 'payment'; }
6
7  }
```

Finally, if we wish, we can add an alias for our facade to the `aliases` array in the `config/app.php` configuration file. Now, we can call the `process` method on an instance of the `Payment` class.

```
1  Payment::process();
```

A Note On Auto-Loading Aliases

Classes in the `aliases` array are not available in some instances because PHP will not attempt to autoload undefined type-hinted classes[91]. If `\ServiceWrapper\ApiTimeoutException` is aliased to `ApiTimeoutException`, a `catch(ApiTimeoutException $e)` outside of the namespace `\ServiceWrapper` will never catch the exception, even if one is thrown. A similar problem is found in classes which have type hints to aliased classes. The only workaround is to forego aliasing and `use` the classes you wish to type hint at the top of each file which requires them.

Mocking Facades

Unit testing is an important aspect of why facades work the way that they do. In fact, testability is the primary reason for facades to even exist. For more information, check out the mocking facades section of the documentation.

[91] https://bugs.php.net/bug.php?id=39003

Facade Class Reference

Below you will find every facade and its underlying class. This is a useful tool for quickly digging into the API documentation for a given facade root. The IoC binding key is also included where applicable.

Facade	Class	IoC Binding
App	IlluminateFoundationApplication[92]	`app`
Artisan	IlluminateConsoleApplication[93]	`artisan`
Auth	IlluminateAuthAuthManager[94]	`auth`
Auth (Instance)	IlluminateAuthGuard[95]	
Blade	IlluminateViewCompilersBladeCompiler[96]	`blade.compiler`
Cache	IlluminateCacheRepository[97]	`cache`
Config	IlluminateConfigRepository[98]	`config`
Cookie	IlluminateCookieCookieJar[99]	`cookie`
Crypt	IlluminateEncryptionEncrypter[100]	`encrypter`
DB	IlluminateDatabaseDatabaseManager[101]	`db`
DB (Instance)	IlluminateDatabaseConnection[102]	
Event	IlluminateEventsDispatcher[103]	`events`
File	IlluminateFilesystemFilesystem[104]	`files`
Form	IlluminateHtmlFormBuilder[105]	`form`
Hash	IlluminateHashingHasherInterface[106]	`hash`
HTML	IlluminateHtmlHtmlBuilder[107]	`html`
Input	IlluminateHttpRequest[108]	`request`
Lang	IlluminateTranslationTranslator[109]	`translator`
Log	IlluminateLogWriter[110]	`log`
Mail	IlluminateMailMailer[111]	`mailer`
Paginator	IlluminatePaginationFactory[112]	`paginator`

[92] http://laravel.com/api/5.0/Illuminate/Foundation/Application.html
[93] http://laravel.com/api/5.0/Illuminate/Console/Application.html
[94] http://laravel.com/api/5.0/Illuminate/Auth/AuthManager.html
[95] http://laravel.com/api/5.0/Illuminate/Auth/Guard.html
[96] http://laravel.com/api/5.0/Illuminate/View/Compilers/BladeCompiler.html
[97] http://laravel.com/api/5.0/Illuminate/Cache/Repository.html
[98] http://laravel.com/api/5.0/Illuminate/Config/Repository.html
[99] http://laravel.com/api/5.0/Illuminate/Cookie/CookieJar.html
[100] http://laravel.com/api/5.0/Illuminate/Encryption/Encrypter.html
[101] http://laravel.com/api/5.0/Illuminate/Database/DatabaseManager.html
[102] http://laravel.com/api/5.0/Illuminate/Database/Connection.html
[103] http://laravel.com/api/5.0/Illuminate/Events/Dispatcher.html
[104] http://laravel.com/api/5.0/Illuminate/Filesystem/Filesystem.html
[105] http://laravel.com/api/5.0/Illuminate/Html/FormBuilder.html
[106] http://laravel.com/api/5.0/Illuminate/Hashing/HasherInterface.html
[107] http://laravel.com/api/5.0/Illuminate/Html/HtmlBuilder.html
[108] http://laravel.com/api/5.0/Illuminate/Http/Request.html
[109] http://laravel.com/api/5.0/Illuminate/Translation/Translator.html
[110] http://laravel.com/api/5.0/Illuminate/Log/Writer.html
[111] http://laravel.com/api/5.0/Illuminate/Mail/Mailer.html
[112] http://laravel.com/api/5.0/Illuminate/Pagination/Factory.html

Facade	Class	IoC Binding
Paginator (Instance)	IlluminatePaginationPaginator[113]	
Password	IlluminateAuthRemindersPasswordBroker[114]	`auth.reminder`
Queue	IlluminateQueueQueueManager[115]	`queue`
Queue (Instance)	IlluminateQueueQueueInterface[116]	
Queue (Base Class)	IlluminateQueueQueue[117]	
Redirect	IlluminateRoutingRedirector[118]	`redirect`
Redis	IlluminateRedisDatabase[119]	`redis`
Request	IlluminateHttpRequest[120]	`request`
Response	IlluminateSupportFacadesResponse[121]	
Route	IlluminateRoutingRouter[122]	`router`
Schema	IlluminateDatabaseSchemaBlueprint[123]	
Session	IlluminateSessionSessionManager[124]	`session`
Session (Instance)	IlluminateSessionStore[125]	
SSH	IlluminateRemoteRemoteManager[126]	`remote`
SSH (Instance)	IlluminateRemoteConnection[127]	
URL	IlluminateRoutingUrlGenerator[128]	`url`
Validator	IlluminateValidationFactory[129]	`validator`
Validator (Instance)	IlluminateValidationValidator[130]	
View	IlluminateViewFactory[131]	`view`
View (Instance)	IlluminateViewView[132]	

[113] http://laravel.com/api/5.0/Illuminate/Pagination/Paginator.html
[114] http://laravel.com/api/5.0/Illuminate/Auth/Reminders/PasswordBroker.html
[115] http://laravel.com/api/5.0/Illuminate/Queue/QueueManager.html
[116] http://laravel.com/api/5.0/Illuminate/Queue/QueueInterface.html
[117] http://laravel.com/api/5.0/Illuminate/Queue/Queue.html
[118] http://laravel.com/api/5.0/Illuminate/Routing/Redirector.html
[119] http://laravel.com/api/5.0/Illuminate/Redis/Database.html
[120] http://laravel.com/api/5.0/Illuminate/Http/Request.html
[121] http://laravel.com/api/5.0/Illuminate/Support/Facades/Response.html
[122] http://laravel.com/api/5.0/Illuminate/Routing/Router.html
[123] http://laravel.com/api/5.0/Illuminate/Database/Schema/Blueprint.html
[124] http://laravel.com/api/5.0/Illuminate/Session/SessionManager.html
[125] http://laravel.com/api/5.0/Illuminate/Session/Store.html
[126] http://laravel.com/api/5.0/Illuminate/Remote/RemoteManager.html
[127] http://laravel.com/api/5.0/Illuminate/Remote/Connection.html
[128] http://laravel.com/api/5.0/Illuminate/Routing/UrlGenerator.html
[129] http://laravel.com/api/5.0/Illuminate/Validation/Factory.html
[130] http://laravel.com/api/5.0/Illuminate/Validation/Validator.html
[131] http://laravel.com/api/5.0/Illuminate/View/Factory.html
[132] http://laravel.com/api/5.0/Illuminate/View/View.html

Helper Functions

Arrays

array_add

The `array_add` function adds a given key / value pair to the array if the given key doesn't already exist in the array.

```
$array = array('foo' => 'bar');

$array = array_add($array, 'key', 'value');
```

array_divide

The `array_divide` function returns two arrays, one containing the keys, and the other containing the values of the original array.

```
$array = array('foo' => 'bar');

list($keys, $values) = array_divide($array);
```

array_dot

The `array_dot` function flattens a multi-dimensional array into a single level array that uses "dot" notation to indicate depth.

```
$array = array('foo' => array('bar' => 'baz'));

$array = array_dot($array);

// array('foo.bar' => 'baz');
```

array_except

The `array_except` method removes the given key / value pairs from the array.

```
$array = array_except($array, array('keys', 'to', 'remove'));
```

array_fetch

The `array_fetch` method returns a flattened array containing the selected nested element.

```
$array = array(
        array('developer' => array('name' => 'Taylor')),
        array('developer' => array('name' => 'Dayle')),
);

$array = array_fetch($array, 'developer.name');

// array('Taylor', 'Dayle');
```

array_first

The `array_first` method returns the first element of an array passing a given truth test.

```
$array = array(100, 200, 300);

$value = array_first($array, function($key, $value)
{
        return $value >= 150;
});
```

A default value may also be passed as the third parameter:

```
$value = array_first($array, $callback, $default);
```

array_last

The `array_last` method returns the last element of an array passing a given truth test.

```
$array = array(350, 400, 500, 300, 200, 100);

$value = array_last($array, function($key, $value)
{
        return $value > 350;
});

// 500
```

A default value may also be passed as the third parameter:

```
$value = array_last($array, $callback, $default);
```

array_flatten

The `array_flatten` method will flatten a multi-dimensional array into a single level.

```php
$array = array('name' => 'Joe', 'languages' => array('PHP', 'Ruby'));

$array = array_flatten($array);

// array('Joe', 'PHP', 'Ruby');
```

array_forget

The `array_forget` method will remove a given key / value pair from a deeply nested array using "dot" notation.

```php
$array = array('names' => array('joe' => array('programmer')));

array_forget($array, 'names.joe');
```

array_get

The `array_get` method will retrieve a given value from a deeply nested array using "dot" notation.

```php
$array = array('names' => array('joe' => array('programmer')));

$value = array_get($array, 'names.joe');

$value = array_get($array, 'names.john', 'default');
```

Note: Want something like `array_get` but for objects instead? Use `object_get`.

array_only

The `array_only` method will return only the specified key / value pairs from the array.

```
$array = array('name' => 'Joe', 'age' => 27, 'votes' => 1);

$array = array_only($array, array('name', 'votes'));
```

array_pluck

The `array_pluck` method will pluck a list of the given key / value pairs from the array.

```
$array = array(array('name' => 'Taylor'), array('name' => 'Dayle'));

$array = array_pluck($array, 'name');

// array('Taylor', 'Dayle');
```

array_pull

The `array_pull` method will return a given key / value pair from the array, as well as remove it.

```
$array = array('name' => 'Taylor', 'age' => 27);

$name = array_pull($array, 'name');
```

array_set

The `array_set` method will set a value within a deeply nested array using "dot" notation.

```
$array = array('names' => array('programmer' => 'Joe'));

array_set($array, 'names.editor', 'Taylor');
```

array_sort

The `array_sort` method sorts the array by the results of the given Closure.

```
$array = array(
        array('name' => 'Jill'),
        array('name' => 'Barry'),
);

$array = array_values(array_sort($array, function($value)
{
        return $value['name'];
}));
```

array_where

Filter the array using the given Closure.

```
$array = array(100, '200', 300, '400', 500);

$array = array_where($array, function($key, $value)
{
        return is_string($value);
});

// Array ( [1] => 200 [3] => 400 )
```

head

Return the first element in the array. Useful for method chaining in PHP 5.3.x.

```
$first = head($this->returnsArray('foo'));
```

last

Return the last element in the array. Useful for method chaining.

```
$last = last($this->returnsArray('foo'));
```

Paths

app_path

Get the fully qualified path to the `app` directory.

```
$path = app_path();
```

base_path

Get the fully qualified path to the root of the application install.

public_path

Get the fully qualified path to the `public` directory.

storage_path

Get the fully qualified path to the `app/storage` directory.

Strings

camel_case

Convert the given string to `camelCase`.

```
$camel = camel_case('foo_bar');

// fooBar
```

class_basename

Get the class name of the given class, without any namespace names.

```
$class = class_basename('Foo\Bar\Baz');

// Baz
```

e

Run `htmlentities` over the given string, with UTF-8 support.

```
$entities = e('<html>foo</html>');
```

ends_with

Determine if the given haystack ends with a given needle.

```
$value = ends_with('This is my name', 'name');
```

snake_case

Convert the given string to `snake_case`.

```
$snake = snake_case('fooBar');

// foo_bar
```

str_limit

Limit the number of characters in a string.

```
str_limit($value, $limit = 100, $end = '...')
```

Example:

```
$value = str_limit('The PHP framework for web artisans.', 7);

// The PHP...
```

starts_with

Determine if the given haystack begins with the given needle.

```
$value = starts_with('This is my name', 'This');
```

str_contains

Determine if the given haystack contains the given needle.

```
$value = str_contains('This is my name', 'my');
```

str_finish

Add a single instance of the given needle to the haystack. Remove any extra instances.

```
$string = str_finish('this/string', '/');

// this/string/
```

str_is

Determine if a given string matches a given pattern. Asterisks may be used to indicate wildcards.

```
1  $value = str_is('foo*', 'foobar');
```

str_plural

Convert a string to its plural form (English only).

```
1  $plural = str_plural('car');
```

str_random

Generate a random string of the given length.

```
1  $string = str_random(40);
```

str_singular

Convert a string to its singular form (English only).

```
1  $singular = str_singular('cars');
```

studly_case

Convert the given string to `StudlyCase`.

```php
$value = studly_case('foo_bar');

// FooBar
```

trans

Translate a given language line. Alias of `Lang::get`.

```php
$value = trans('validation.required');
```

trans_choice

Translate a given language line with inflection. Alias of `Lang::choice`.

```php
$value = trans_choice('foo.bar', $count);
```

URLs

action

Generate a URL for a given controller action.

```php
$url = action('HomeController@getIndex', $params);
```

route

Generate a URL for a given named route.

```
$url = route('routeName', $params);
```

asset

Generate a URL for an asset.

```
$url = asset('img/photo.jpg');
```

link_to

Generate a HTML link to the given URL.

```
echo link_to('foo/bar', $title, $attributes = array(), $secure = null);
```

link_to_asset

Generate a HTML link to the given asset.

```
echo link_to_asset('foo/bar.zip', $title, $attributes = array(),
        $secure = null);
```

link_to_route

Generate a HTML link to the given route.

```
echo link_to_route('route.name', $title, $parameters = array(),
        $attributes = array());
```

link_to_action

Generate a HTML link to the given controller action.

```
1  echo link_to_action('HomeController@getIndex', $title,
2          $parameters = array(), $attributes = array());
```

secure_asset

Generate a HTML link to the given asset using HTTPS.

```
1  echo secure_asset('foo/bar.zip', $title, $attributes = array());
```

secure_url

Generate a fully qualified URL to a given path using HTTPS.

```
1  echo secure_url('foo/bar', $parameters = array());
```

url

Generate a fully qualified URL to the given path.

```
1  echo url('foo/bar', $parameters = array(), $secure = null);
```

Miscellaneous

csrf_token

Get the value of the current CSRF token.

```
$token = csrf_token();
```

dd

Dump the given variable and end execution of the script.

```
dd($value);
```

value

If the given value is a `Closure`, return the value returned by the `Closure`. Otherwise, return the value.

```
$value = value(function() { return 'bar'; });
```

with

Return the given object. Useful for method chaining constructors in PHP 5.3.x.

```
$value = with(new Foo)->doWork();
```

Localization

Introduction

The Laravel `Lang` class provides a convenient way of retrieving strings in various languages, allowing you to easily support multiple languages within your application.

Language Files

Language strings are stored in files within the `resources/lang` directory. Within this directory there should be a subdirectory for each language supported by the application.

```
/resources
        /lang
                /en
messages.php
                /es
messages.php
```

Example Language File

Language files simply return an array of keyed strings. For example:

```php
<?php

return array(
        'welcome' => 'Welcome to our application'
);
```

Changing The Default Language At Runtime

The default language for your application is stored in the `config/app.php` configuration file. You may change the active language at any time using the `App::setLocale` method:

```
App::setLocale('es');
```

Setting The Fallback Language

You may also configure a "fallback language", which will be used when the active language does not contain a given language line. Like the default language, the fallback language is also configured in the `config/app.php` configuration file:

```
'fallback_locale' => 'en',
```

Basic Usage

Retrieving Lines From A Language File

```
echo Lang::get('messages.welcome');
```

The first segment of the string passed to the `get` method is the name of the language file, and the second is the name of the line that should be retrieved.

Note: If a language line does not exist, the key will be returned by the `get` method.

You may also use the `trans` helper function, which is an alias for the `Lang::get` method.

```
1  echo trans('messages.welcome');
```

Making Replacements In Lines

You may also define place-holders in your language lines:

```
1  'welcome' => 'Welcome, :name',
```

Then, pass a second argument of replacements to the `Lang::get` method:

```
1  echo Lang::get('messages.welcome', array('name' => 'Dayle'));
```

Determine If A Language File Contains A Line

```
1  if (Lang::has('messages.welcome'))
2  {
3          //
4  }
```

Pluralization

Pluralization is a complex problem, as different languages have a variety of complex rules for pluralization. You may easily manage this in your language files. By using a "pipe" character, you may separate the singular and plural forms of a string:

```
1  'apples' => 'There is one apple|There are many apples',
```

You may then use the `Lang::choice` method to retrieve the line:

```
1  echo Lang::choice('messages.apples', 10);
```

You may also supply a locale argument to specify the language. For example, if you want to use the Russian (ru) language:

```
1  echo Lang::choice('товар|товара|товаров', $count, array(), 'ru');
```

Since the Laravel translator is powered by the Symfony Translation component, you may also create more explicit pluralization rules easily:

```
1  'apples' => '{0} There are none|[1,19] There are some|[20,Inf] There are many',
```

Validation

For localization for validation errors and messages, take a look at the .

Overriding Package Language Files

Many packages ship with their own language lines. Instead of hacking the package's core files to tweak these lines, you may override them by placing files in the `resources/lang/packages/{locale}/{package}` directory. So, for example, if you need to override the English language lines in `messages.php` for a package named `skyrim/hearthfire`, you would place a language file at: `resources/lang/packages/en/hearthfire`. In this file you would define only the language lines you wish to override. Any language lines you don't override will still be loaded from the package's language files.

Mail

Configuration

Laravel provides a clean, simple API over the popular SwiftMailer[133] library. The mail configuration file is `config/mail.php`, and contains options allowing you to change your SMTP host, port, and credentials, as well as set a global `from` address for all messages delivered by the library. You may use any SMTP server you wish. If you wish to use the PHP `mail` function to send mail, you may change the `driver` to `mail` in the configuration file. A `sendmail` driver is also available.

API Drivers

Laravel also includes drivers for the Mailgun and Mandrill HTTP APIs. These APIs are often simpler and quicker than the SMTP servers. Both of these drivers require that the Guzzle 4 HTTP library be installed into your application. You can add Guzzle 4 to your project by adding the following line to your `composer.json` file:

```
1  "guzzlehttp/guzzle": "~4.0"
```

Mailgun Driver

To use the Mailgun driver, set the `driver` option to `mailgun` in your `config/mail.php` configuration file. Next, create an `config/services.php` configuration file if one does not already exist for your project. Verify that it contains the following options:

[133] http://swiftmailer.org

```
'mailgun' => array(
        'domain' => 'your-mailgun-domain',
        'secret' => 'your-mailgun-key',
),
```

Mandrill Driver

To use the Mandrill driver, set the `driver` option to `mandrill` in your `config/mail.php` configuration file. Next, create an `config/services.php` configuration file if one does not already exist for your project. Verify that it contains the following options:

```
'mandrill' => array(
        'secret' => 'your-mandrill-key',
),
```

Log Driver

If the `driver` option of your `config/mail.php` configuration file is set to `log`, all e-mails will be written to your log files, and will not actually be sent to any of the recipients. This is primarily useful for quick, local debugging and content verification.

Basic Usage

The `Mail::send` method may be used to send an e-mail message:

```
Mail::send('emails.welcome', array('key' => 'value'), function($message)
{
        $message->to('foo@example.com', 'John Smith')->subject('Welcome!');
});
```

The first argument passed to the `send` method is the name of the view that should be used as the e-mail body. The second is the data to be passed to the view, often as an associative array where the data items are available to the view by `$key`. The third is a Closure allowing you to specify various options on the e-mail message.

Note: A `$message` variable is always passed to e-mail views, and allows the inline embedding of attachments. So, it is best to avoid passing a `message` variable in your view payload.

You may also specify a plain text view to use in addition to an HTML view:

```
1  Mail::send(array('html.view', 'text.view'), $data, $callback);
```

Or, you may specify only one type of view using the `html` or `text` keys:

```
1  Mail::send(array('text' => 'view'), $data, $callback);
```

You may specify other options on the e-mail message such as any carbon copies or attachments as well:

```
1  Mail::send('emails.welcome', $data, function($message)
2  {
3          $message->from('us@example.com', 'Laravel');
4
5          $message->to('foo@example.com')->cc('bar@example.com');
6
7          $message->attach($pathToFile);
8  });
```

When attaching files to a message, you may also specify a MIME type and / or a display name:

```
1  $message->attach($pathToFile, array('as' => $display, 'mime' => $mime));
```

Note: The message instance passed to a `Mail::send` Closure extends the SwiftMailer message class, allowing you to call any method on that class to build your e-mail messages.

Embedding Inline Attachments

Embedding inline images into your e-mails is typically cumbersome; however, Laravel provides a convenient way to attach images to your e-mails and retrieving the appropriate CID.

Embedding An Image In An E-Mail View

```
<body>
        Here is an image:

        <img src="<?php echo $message->embed($pathToFile); ?>">
</body>
```

Embedding Raw Data In An E-Mail View

```
<body>
        Here is an image from raw data:

        <img src="<?php echo $message->embedData($data, $name); ?>">
</body>
```

Note that the `$message` variable is always passed to e-mail views by the `Mail` class.

Queueing Mail

Queueing A Mail Message

Since sending e-mail messages can drastically lengthen the response time of your application, many developers choose to queue e-mail messages for background sending. Laravel makes this easy using its built-in unified queue API. To queue a mail message, simply use the `queue` method on the `Mail` class:

```
Mail::queue('emails.welcome', $data, function($message)
{
        $message->to('foo@example.com', 'John Smith')->subject('Welcome!');
```

```
4  });
```

You may also specify the number of seconds you wish to delay the sending of the mail message using the `later` method:

```
1  Mail::later(5, 'emails.welcome', $data, function($message)
2  {
3          $message->to('foo@example.com', 'John Smith')->subject('Welcome!');
4  });
```

If you wish to specify a specific queue or "tube" on which to push the message, you may do so using the `queueOn` and `laterOn` methods:

```
1  Mail::queueOn('queue-name', 'emails.welcome', $data, function($message)
2  {
3          $message->to('foo@example.com', 'John Smith')->subject('Welcome!');
4  });
```

Mail & Local Development

When developing an application that sends e-mail, it's usually desirable to disable the sending of messages from your local or development environment. To do so, you may either call the `Mail::pretend` method, or set the `pretend` option in the `config/mail.php` configuration file to `true`. When the mailer is in `pretend` mode, messages will be written to your application's log files instead of being sent to the recipient.

Enabling Pretend Mail Mode

```
1  Mail::pretend();
```

Package Development

Introduction

Packages are the primary way of adding functionality to Laravel. Packages might be anything from a great way to work with dates like Carbon[134], or an entire BDD testing framework like Behat[135].

Of course, there are different types of packages. Some packages are stand-alone, meaning they work with any framework, not just Laravel. Both Carbon and Behat are examples of stand-alone packages. Any of these packages may be used with Laravel by simply requesting them in your `composer.json` file.

On the other hand, other packages are specifically intended for use with Laravel. In previous versions of Laravel, these types of packages were called "bundles". These packages may have routes, controllers, views, configuration, and migrations specifically intended to enhance a Laravel application. As no special process is needed to develop stand-alone packages, this guide primarily covers the development of those that are Laravel specific.

All Laravel packages are distributed via Packagist[136] and Composer[137], so learning about these wonderful PHP package distribution tools is essential.

---

[134] https://github.com/briannesbitt/Carbon
[135] https://github.com/Behat/Behat
[136] http://packagist.org
[137] http://getcomposer.org

Creating A Package

The easiest way to create a new package for use with Laravel is the `workbench` Artisan command. First, you will need to set a few options in the `config/workbench.php` file. In that file, you will find a `name` and `email` option. These values will be used to generate a `composer.json` file for your new package. Once you have supplied those values, you are ready to build a workbench package!

Issuing The Workbench Artisan Command

```
1  php artisan workbench vendor/package --resources
```

The vendor name is a way to distinguish your package from other packages of the same name from different authors. For example, if I (Taylor Otwell) were to create a new package named "Zapper", the vendor name could be `Taylor` while the package name would be `Zapper`. By default, the workbench will create framework agnostic packages; however, the `resources` command tells the workbench to generate the package with Laravel specific directories such as `migrations`, `views`, `config`, etc.

Once the `workbench` command has been executed, your package will be available within the `workbench` directory of your Laravel installation. Next, you should register the `ServiceProvider` that was created for your package. You may register the provider by adding it to the `providers` array in the `config/app.php` file. This will instruct Laravel to load your package when your application starts. Service providers use a `[Package]ServiceProvider` naming convention. So, using the example above, you would add `Taylor\Zapper\ZapperServiceProvider` to the `providers` array.

Once the provider has been registered, you are ready to start developing your package! However, before diving in, you may wish to review the sections below to get more familiar with the package structure and development workflow.

Note: If your service provider cannot be found, run the `php artisan dump-autoload` command from your application's root directory

Package Structure

When using the `workbench` command, your package will be setup with conventions that allow the package to integrate well with other parts of the Laravel framework:

Basic Package Directory Structure

```
/src
        /Vendor
                /Package
PackageServiceProvider.php
        /config
        /lang
        /migrations
        /views
/tests
/public
```

Let's explore this structure further. The `src/Vendor/Package` directory is the home of all of your package's classes, including the `ServiceProvider`. The `config`, `lang`, `migrations`, and `views` directories, as you might guess, contain the corresponding resources for your package. Packages may have any of these resources, just like "regular" applications.

Service Providers

Service providers are simply bootstrap classes for packages. By default, they contain two methods: `boot` and `register`. Within these methods you may do anything you like: include a routes file, register bindings in the IoC container, attach to events, or anything else you wish to do.

The `register` method is called immediately when the service provider is registered, while the `boot` command is only called right before a request is routed. So, if actions in your service provider rely on another service provider already being registered, or you are overriding services bound by another provider, you should use the `boot` method.

When creating a package using the `workbench`, the `boot` command will already contain one action:

```
$this->package('vendor/package');
```

This method allows Laravel to know how to properly load the views, configuration, and other resources for your application. In general, there should be no need for you to change this line of code, as it will setup the package using the workbench conventions.

By default, after registering a package, its resources will be available using the "package" half of `vendor/package`. However, you may pass a second argument into the `package` method to override this behavior. For example:

```
// Passing custom namespace to package method
$this->package('vendor/package', 'custom-namespace');

// Package resources now accessed via custom-namespace
$view = View::make('custom-namespace::foo');
```

There is not a "default location" for service provider classes. You may put them anywhere you like, perhaps organizing them in a `Providers` namespace within your `app` directory. The file may be placed anywhere, as long as Composer's auto-loading facilities[138] know how to load the class.

If you have changed the location of your package's resources, such as configuration files or views, you should pass a third argument to the `package` method which specifies the location of your resources:

```
$this->package('vendor/package', null, '/path/to/resources');
```

Deferred Providers

If you are writing a service provider that does not register any resources such as configuration or views, you may choose to make your provider "deferred". A deferred service provider is only loaded and registered when one of the services it provides is actually needed by the application IoC container. If none of the provider's services are needed for a given request cycle, the provider is never loaded.

To defer the execution of your service provider, set the `defer` property on the provider to `true`:

```
protected $defer = true;
```

Next you should override the `provides` method from the base `Illuminate\Support\ServiceProvider` class and return an array of all of the bindings that your provider adds to the IoC container. For example, if your provider registers `package.service` and `package.another-service` in the IoC container, your `provides` method should look like this:

[138] http://getcomposer.org/doc/01-basic-usage.md#autoloading

```
public function provides()
{
        return array('package.service', 'package.another-service');
}
```

Package Conventions

When utilizing resources from a package, such as configuration items or views, a double-colon syntax will generally be used:

Loading A View From A Package

```
return View::make('package::view.name');
```

Retrieving A Package Configuration Item

```
return Config::get('package::group.option');
```

Note: If your package contains migrations, consider prefixing the migration name with your package name to avoid potential class name conflicts with other packages.

Development Workflow

When developing a package, it is useful to be able to develop within the context of an application, allowing you to easily view and experiment with your templates, etc. So, to get started, install a fresh copy of the Laravel framework, then use the `workbench` command to create your package structure.

After the `workbench` command has created your package. You may `git init` from the `workbench/[vendor]/[packag` directory and `git push` your package straight from the workbench! This will allow you to conveniently develop the package in an application context without being bogged down by constant `composer update` commands.

Since your packages are in the `workbench` directory, you may be wondering how Composer knows to autoload your package's files. When the `workbench` directory exists, Laravel will intelligently scan it for packages, loading their Composer autoload files when the application starts!

If you need to regenerate your package's autoload files, you may use the `php artisan dump-autoload` command. This command will regenerate the autoload files for your root project, as well as any workbenches you have created.

Running The Artisan Autoload Command

```
1  php artisan dump-autoload
```

Package Routing

In prior versions of Laravel, a `handles` clause was used to specify which URIs a package could respond to. However, in Laravel 4, a package may respond to any URI. To load a routes file for your package, simply `include` it from within your service provider's `boot` method.

Including A Routes File From A Service Provider

```
1  public function boot()
2  {
3          $this->package('vendor/package');
4
5          include __DIR__.'/../../routes.php';
6  }
```

Note: If your package is using controllers, you will need to make sure they are properly configured in your `composer.json` file's auto-load section.

Package Configuration

Accessing Package Configuration Files

Some packages may require configuration files. These files should be defined in the same way as typical application configuration files. And, when using the default `$this->package` method

of registering resources in your service provider, may be accessed using the usual "double-colon" syntax:

```
Config::get('package::file.option');
```

Accessing Single File Package Configuration

However, if your package contains a single configuration file, you may simply name the file `config.php`. When this is done, you may access the options directly, without specifying the file name:

```
Config::get('package::option');
```

Registering A Resource Namespace Manually

Sometimes, you may wish to register package resources such as views outside of the typical `$this->package` method. Typically, this would only be done if the resources were not in a conventional location. To register the resources manually, you may use the `addNamespace` method of the `View`, `Lang`, and `Config` classes:

```
View::addNamespace('package', __DIR__.'/path/to/views');
```

Once the namespace has been registered, you may use the namespace name and the "double colon" syntax to access the resources:

```
return View::make('package::view.name');
```

The method signature for `addNamespace` is identical on the `View`, `Lang`, and `Config` classes.

Cascading Configuration Files

When other developers install your package, they may wish to override some of the configuration options. However, if they change the values in your package source code, they will be overwritten

the next time Composer updates the package. Instead, the `config:publish` artisan command should be used:

```
1  php artisan config:publish vendor/package
```

When this command is executed, the configuration files for your application will be copied to `config/packages/vendor/package` where they can be safely modified by the developer!

Note: The developer may also create environment specific configuration files for your package by placing them in `config/packages/vendor/package/environment`.

Package Views

If you are using a package in your application, you may occasionally wish to customize the package's views. You can easily export the package views to your own `resources/views` directory using the `view:publish` Artisan command:

```
1  php artisan view:publish vendor/package
```

This command will move the package's views into the `resources/views/packages` directory. If this directory doesn't already exist, it will be created when you run the command. Once the views have been published, you may tweak them to your liking! The exported views will automatically take precedence over the package's own view files.

Package Migrations

Creating Migrations For Workbench Packages

You may easily create and run migrations for any of your packages. To create a migration for a package in the workbench, use the `--bench` option:

```
1  php artisan migrate:make create_users_table --bench="vendor/package"
```

Running Migrations For Workbench Packages

```
1  php artisan migrate --bench="vendor/package"
```

Running Migrations For An Installed Package

To run migrations for a finished package that was installed via Composer into the `vendor` directory, you may use the `--package` directive:

```
1  php artisan migrate --package="vendor/package"
```

Package Assets

Moving Package Assets To Public

Some packages may have assets such as JavaScript, CSS, and images. However, we are unable to link to assets in the `vendor` or `workbench` directories, so we need a way to move these assets into the `public` directory of our application. The `asset:publish` command will take care of this for you:

```
1  php artisan asset:publish
2
3  php artisan asset:publish vendor/package
```

If the package is still in the `workbench`, use the `--bench` directive:

```
1  php artisan asset:publish --bench="vendor/package"
```

This command will move the assets into the `public/packages` directory according to the vendor and package name. So, a package named `userscape/kudos` would have its assets moved to `public/packages/userscape/kudos`. Using this asset publishing convention allows you to safely code asset paths in your package's views.

Publishing Packages

When your package is ready to publish, you should submit the package to the Packagist[139] repository. If the package is specific to Laravel, consider adding a `laravel` tag to your package's `composer.json` file.

Also, it is courteous and helpful to tag your releases so that developers can depend on stable versions when requesting your package in their `composer.json` files. If a stable version is not ready, consider using the `branch-alias` Composer directive.

Once your package has been published, feel free to continue developing it within the application context created by `workbench`. This is a great way to continue to conveniently develop the package even after it has been published.

Some organizations choose to host their own private repository of packages for their own developers. If you are interested in doing this, review the documentation for the Satis[140] project provided by the Composer team.

[139] http://packagist.org
[140] http://github.com/composer/satis

Pagination

Configuration

In other frameworks, pagination can be very painful. Laravel makes it a breeze. There is a single configuration option in the `config/view.php` file. The `pagination` option specifies which view should be used to create pagination links. By default, Laravel includes two views.

The `pagination::slider` view will show an intelligent "range" of links based on the current page, while the `pagination::simple` view will simply show "previous" and "next" buttons. **Both views are compatible with Twitter Bootstrap out of the box.**

Usage

There are several ways to paginate items. The simplest is by using the `paginate` method on the query builder or an Eloquent model.

Paginating Database Results

```
1  $users = DB::table('users')->paginate(15);
```

Note: Currently, pagination operations that use a `groupBy` statement cannot be executed efficiently by Laravel. If you need to use a `groupBy` with a paginated result set, it is recommended that you query the database manually and use `Paginator::make`.

Paginating An Eloquent Model

You may also paginate Eloquent models:

```
$allUsers = User::paginate(15);

$someUsers = User::where('votes', '>', 100)->paginate(15);
```

The argument passed to the `paginate` method is the number of items you wish to display per page. Once you have retrieved the results, you may display them on your view, and create the pagination links using the `links` method:

```
<div class="container">
        <?php foreach ($users as $user): ?>
                <?php echo $user->name; ?>
        <?php endforeach; ?>
</div>

<?php echo $users->links(); ?>
```

This is all it takes to create a pagination system! Note that we did not have to inform the framework of the current page. Laravel will determine this for you automatically.

If you would like to specify a custom view to use for pagination, you may pass a view to the `links` method:

```
<?php echo $users->links('view.name'); ?>
```

You may also access additional pagination information via the following methods:

- `getCurrentPage`
- `getLastPage`
- `getPerPage`
- `getTotal`
- `getFrom`
- `getTo`
- `count`

"Simple Pagination"

If you are only showing "Next" and "Previous" links in your pagination view, you have the option of using the `simplePaginate` method to perform a more efficient query. This is useful for larger datasets when you do not require the display of exact page numbers on your view:

```
$someUsers = User::where('votes', '>', 100)->simplePaginate(15);
```

Creating A Paginator Manually

Sometimes you may wish to create a pagination instance manually, passing it an array of items. You may do so using the `Paginator::make` method:

```
$paginator = Paginator::make($items, $totalItems, $perPage);
```

Customizing The Paginator URI

You may also customize the URI used by the paginator via the `setBaseUrl` method:

```
$users = User::paginate();

$users->setBaseUrl('custom/url');
```

The example above will create URLs like the following: http://example.com/custom/url?page=2

Appending To Pagination Links

You can add to the query string of pagination links using the `appends` method on the Paginator:

```
<?php echo $users->appends(array('sort' => 'votes'))->links(); ?>
```

This will generate URLs that look something like this:

```
http://example.com/something?page=2&sort=votes
```

If you wish to append a "hash fragment" to the paginator's URLs, you may use the `fragment` method:

```
<?php echo $users->fragment('foo')->links(); ?>
```

This method call will generate URLs that look something like this:

```
http://example.com/something?page=2#foo
```

Converting To JSON

The `Paginator` class implements the `Illuminate\Support\Contracts\JsonableInterface` contract and exposes the `toJson` method. You may also convert a `Paginator` instance to JSON by returning it from a route. The JSON'd form of the instance will include some "meta" information such as `total`, `current_page`, `last_page`, `from`, and `to`. The instance's data will be available via the `data` key in the JSON array.

Custom Presenters

The default pagination presenter is Bootstrap compatible out of the box; however, you may customize this with a presenter of your choice.

Extending The Abstract Presenter

Extend the `Illuminate\Pagination\Presenter` class and implement its abstract methods. An example presenter for Zurb Foundation might look like this:

```
class ZurbPresenter extends Illuminate\Pagination\Presenter {

    public function getActivePageWrapper($text)
    {
        return '<li class="current"><a href="">'.$text.'</a></li>';
    }

    public function getDisabledTextWrapper($text)
    {
        return '<li class="unavailable"><a href="">'.$text.'</a></li>';
    }

    public function getPageLinkWrapper($url, $page, $rel = null)
    {
        return '<li><a href="'.$url.'">'.$page.'</a></li>';
    }

}
```

Using The Custom Presenter

First, create a view in your `resources/views` directory that will server as your custom presenter. Then, replace `pagination` option in the `config/view.php` configuration file with the new view's name. Finally, the following code would be placed in your custom presenter view:

```
<ul class="pagination">
    <?php echo with(new ZurbPresenter($paginator))->render(); ?>
</ul>
```

Queues

Configuration

The Laravel Queue component provides a unified API across a variety of different queue services. Queues allow you to defer the processing of a time consuming task, such as sending an e-mail, until a later time, thus drastically speeding up the web requests to your application.

The queue configuration file is stored in `config/queue.php`. In this file you will find connection configurations for each of the queue drivers that are included with the framework, which includes a Beanstalkd[141], IronMQ[142], Amazon SQS[143], Redis[144], and synchronous (for local use) driver.

The following dependencies are needed for the listed queue drivers:

- Beanstalkd: `pda/pheanstalk ~3.0`
- Amazon SQS: `aws/aws-sdk-php`
- IronMQ: `iron-io/iron_mq`

Basic Usage

Pushing A Job Onto The Queue

To push a new job onto the queue, use the `Queue::push` method:

[141] http://kr.github.com/beanstalkd
[142] http://iron.io
[143] http://aws.amazon.com/sqs
[144] http://redis.io

```
Queue::push('SendEmail', array('message' => $message));
```

Defining A Job Handler

The first argument given to the `push` method is the name of the class that should be used to process the job. The second argument is an array of data that should be passed to the handler. A job handler should be defined like so:

```
class SendEmail {

        public function fire($job, $data)
        {
                //
        }

}
```

Notice the only method that is required is `fire`, which receives a `Job` instance as well as the array of `data` that was pushed onto the queue.

Specifying A Custom Handler Method

If you want the job to use a method other than `fire`, you may specify the method when you push the job:

```
Queue::push('SendEmail@send', array('message' => $message));
```

Specifying The Queue / Tube For A Job

You may also specify the queue / tube a job should be sent to:

```
Queue::push('SendEmail@send', array('message' => $message), 'emails');
```

Passing The Same Payload To Multiple Jobs

If you need to pass the same data to several queue jobs, you may use the `Queue::bulk` method:

```
Queue::bulk(array('SendEmail', 'NotifyUser'), $payload);
```

Delaying The Execution Of A Job

Sometimes you may wish to delay the execution of a queued job. For instance, you may wish to queue a job that sends a customer an e-mail 15 minutes after sign-up. You can accomplish this using the `Queue::later` method:

```
$date = Carbon::now()->addMinutes(15);

Queue::later($date, 'SendEmail@send', array('message' => $message));
```

In this example, we're using the Carbon[145] date library to specify the delay we wish to assign to the job. Alternatively, you may pass the number of seconds you wish to delay as an integer.

Deleting A Processed Job

Once you have processed a job, it must be deleted from the queue, which can be done via the `delete` method on the `Job` instance:

```
public function fire($job, $data)
{
        // Process the job...

        $job->delete();
}
```

Releasing A Job Back Onto The Queue

If you wish to release a job back onto the queue, you may do so via the `release` method:

[145] https://github.com/briannesbitt/Carbon

```
public function fire($job, $data)
{
        // Process the job...

        $job->release();
}
```

You may also specify the number of seconds to wait before the job is released:

```
$job->release(5);
```

Checking The Number Of Run Attempts

If an exception occurs while the job is being processed, it will automatically be released back onto the queue. You may check the number of attempts that have been made to run the job using the `attempts` method:

```
if ($job->attempts() > 3)
{
        //
}
```

Accessing The Job ID

You may also access the job identifier:

```
$job->getJobId();
```

Queueing Closures

You may also push a Closure onto the queue. This is very convenient for quick, simple tasks that need to be queued:

Pushing A Closure Onto The Queue

```
Queue::push(function($job) use ($id)
{
        Account::delete($id);

        $job->delete();
});
```

Note: Instead of making objects available to queued Closures via the `use` directive, consider passing primary keys and re-pulling the associated models from within your queue job. This often avoids unexpected serialization behavior.

When using Iron.io push queues, you should take extra precaution queueing Closures. The end-point that receives your queue messages should check for a token to verify that the request is actually from Iron.io. For example, your push queue end-point should be something like: `https://yourapp.com/queue/receive?token=SecretToken`. You may then check the value of the secret token in your application before marshalling the queue request.

Running The Queue Listener

Laravel includes an Artisan task that will run new jobs as they are pushed onto the queue. You may run this task using the `queue:listen` command:

Starting The Queue Listener

```
php artisan queue:listen
```

You may also specify which queue connection the listener should utilize:

```
php artisan queue:listen connection
```

Note that once this task has started, it will continue to run until it is manually stopped. You may use a process monitor such as Supervisor[146] to ensure that the queue listener does not stop running.

[146] http://supervisord.org/

You may pass a comma-delimited list of queue connections to the `listen` command to set queue priorities:

```
1  php artisan queue:listen --queue=high,low
```

In this example, jobs on the `high-connection` will always be processed before moving onto jobs from the `low-connection`.

Specifying The Job Timeout Parameter

You may also set the length of time (in seconds) each job should be allowed to run:

```
1  php artisan queue:listen --timeout=60
```

Specifying Queue Sleep Duration

In addition, you may specify the number of seconds to wait before polling for new jobs:

```
1  php artisan queue:listen --sleep=5
```

Note that the queue only "sleeps" if no jobs are on the queue. If more jobs are available, the queue will continue to work them without sleeping.

Processing The First Job On The Queue

To process only the first job on the queue, you may use the `queue:work` command:

```
1  php artisan queue:work
```

Daemon Queue Worker

The `queue:work` also includes a `--daemon` option for forcing the queue worker to continue processing jobs without ever re-booting the framework. This results in a significant reduction of CPU usage

when compared to the `queue:listen` command, but at the added complexity of needing to drain the queues of currently executing jobs during your deployments.

To start a queue worker in daemon mode, use the `--daemon` flag:

```
1  php artisan queue:work connection --daemon
2
3  php artisan queue:work connection --daemon --sleep=3
4
5  php artisan queue:work connection --daemon --sleep=3 --tries=3
```

As you can see, the `queue:work` command supports most of the same options available to `queue:listen`. You may use the `php artisan help queue:work` command to view all of the available options.

Deploying With Daemon Queue Workers

The simplest way to deploy an application using daemon queue workers is to put the application in maintenance mode at the beginning of your deployment. This can be done using the `php artisan down` command. Once the application is in maintenance mode, Laravel will not accept any new jobs off of the queue, but will continue to process existing jobs.

The easiest way to restart your workers is to include the following command in your deployment script:

```
1  php artisan queue:restart
```

This command will instruct all queue workers to restart after they finish processing their current job.

Note: This command relies on the cache system to schedule the restart. By default, APCu does not work for CLI commands. If you are using APCu, add `apc.enable_cli=1` to your APCu configuration.

Coding For Daemon Queue Workers

Daemon queue workers do not restart the framework before processing each job. Therefore, you should be careful to free any heavy resources before your job finishes. For example, if you are doing

image manipulation with the GD library, you should free the memory with `imagedestroy` when you are done.

Similarly, your database connection may disconnect when being used by long-running daemon. You may use the `DB::reconnect` method to ensure you have a fresh connection.

Push Queues

Push queues allow you to utilize the powerful Laravel 4 queue facilities without running any daemons or background listeners. Currently, push queues are only supported by the Iron.io[147] driver. Before getting started, create an Iron.io account, and add your Iron credentials to the `config/queue.php` configuration file.

Registering A Push Queue Subscriber

Next, you may use the `queue:subscribe` Artisan command to register a URL end-point that will receive newly pushed queue jobs:

```
1  php artisan queue:subscribe queue_name http://foo.com/queue/receive
```

Now, when you login to your Iron dashboard, you will see your new push queue, as well as the subscribed URL. You may subscribe as many URLs as you wish to a given queue. Next, create a route for your `queue/receive` end-point and return the response from the `Queue::marshal` method:

```
1  Route::post('queue/receive', function()
2  {
3          return Queue::marshal();
4  });
```

The `marshal` method will take care of firing the correct job handler class. To fire jobs onto the push queue, just use the same `Queue::push` method used for conventional queues.

Failed Jobs

Since things don't always go as planned, sometimes your queued jobs will fail. Don't worry, it happens to the best of us! Laravel includes a convenient way to specify the maximum number of

[147] http://iron.io

times a job should be attempted. After a job has exceeded this amount of attempts, it will be inserted into a `failed_jobs` table. The failed jobs table name can be configured via the `config/queue.php` configuration file.

To create a migration for the `failed_jobs` table, you may use the `queue:failed-table` command:

```
1  php artisan queue:failed-table
```

You can specify the maximum number of times a job should be attempted using the `--tries` switch on the `queue:listen` command:

```
1  php artisan queue:listen connection-name --tries=3
```

If you would like to register an event that will be called when a queue job fails, you may use the `Queue::failing` method. This event is a great opportunity to notify your team via e-mail or HipChat[148].

```
1  Queue::failing(function($connection, $job, $data)
2  {
3          //
4  });
```

To view all of your failed jobs, you may use the `queue:failed` Artisan command:

```
1  php artisan queue:failed
```

The `queue:failed` command will list the job ID, connection, queue, and failure time. The job ID may be used to retry the failed job. For instance, to retry a failed job that has an ID of 5, the following command should be issued:

```
1  php artisan queue:retry 5
```

[148] https://www.hipchat.com

If you would like to delete a failed job, you may use the `queue:forget` command:

```
php artisan queue:forget 5
```

To delete all of your failed jobs, you may use the `queue:flush` command:

```
php artisan queue:flush
```

Session

Configuration

Since HTTP driven applications are stateless, sessions provide a way to store information about the user across requests. Laravel ships with a variety of session back-ends available for use through a clean, unified API. Support for popular back-ends such as Memcached[149], Redis[150], and databases is included out of the box.

The session configuration is stored in `config/session.php`. Be sure to review the well documented options available to you in this file. By default, Laravel is configured to use the `file` session driver, which will work well for the majority of applications.

Reserved Keys

The Laravel framework uses the `flash` session key internally, so you should not add an item to the session by that name.

Session Usage

Storing An Item In The Session

```
1  Session::put('key', 'value');
```

Push A Value Onto An Array Session Value

[149] http://memcached.org
[150] http://redis.io

```
Session::push('user.teams', 'developers');
```

Retrieving An Item From The Session

```
$value = Session::get('key');
```

Retrieving An Item Or Returning A Default Value

```
$value = Session::get('key', 'default');

$value = Session::get('key', function() { return 'default'; });
```

Retrieving An Item And Forgetting It

```
$value = Session::pull('key', 'default');
```

Retrieving All Data From The Session

```
$data = Session::all();
```

Determining If An Item Exists In The Session

```
if (Session::has('users'))
{
        //
}
```

Removing An Item From The Session

```
Session::forget('key');
```

Removing All Items From The Session

```
Session::flush();
```

Regenerating The Session ID

```
Session::regenerate();
```

Flash Data

Sometimes you may wish to store items in the session only for the next request. You may do so using the `Session::flash` method:

```
Session::flash('key', 'value');
```

Reflashing The Current Flash Data For Another Request

```
Session::reflash();
```

Reflashing Only A Subset Of Flash Data

```
Session::keep(array('username', 'email'));
```

Database Sessions

When using the `database` session driver, you will need to setup a table to contain the session items. Below is an example `Schema` declaration for the table:

```
Schema::create('sessions', function($table)
{
        $table->string('id')->unique();
        $table->text('payload');
        $table->integer('last_activity');
});
```

Of course, you may use the `session:table` Artisan command to generate this migration for you!

```
php artisan session:table

composer dump-autoload

php artisan migrate
```

Session Drivers

The session "driver" defines where session data will be stored for each request. Laravel ships with several great drivers out of the box:

- `file` - sessions will be stored in `app/storage/sessions`.
- `cookie` - sessions will be stored in secure, encrypted cookies.
- `database` - sessions will be stored in a database used by your application.
- `memcached` / `redis` - sessions will be stored in one of these fast, cached based stores.
- `array` - sessions will be stored in a simple PHP array and will not be persisted across requests.

Note: The array driver is typically used for running unit tests, so no session data will be persisted.

Templates

Controller Layouts

One method of using templates in Laravel is via controller layouts. By specifying the `layout` property on the controller, the view specified will be created for you and will be the assumed response that should be returned from actions.

Defining A Layout On A Controller

```
class UserController extends Controller {

        /**
         * The layout that should be used for responses.
         */
        protected $layout = 'layouts.master';

        /**
         * Show the user profile.
         */
        public function showProfile()
        {
                $this->layout->content = View::make('user.profile');
        }

}
```

Blade Templating

Blade is a simple, yet powerful templating engine provided with Laravel. Unlike controller layouts, Blade is driven by *template inheritance* and *sections*. All Blade templates should use the `.blade.php` extension.

Defining A Blade Layout

```
<!-- Stored in resources/views/layouts/master.blade.php -->

<html>
        <body>
                @section('sidebar')
This is the master sidebar.
                @stop

                <div class="container">
@yield('content')
                </div>
        </body>
</html>
```

Using A Blade Layout

```
@extends('layouts.master')

@section('sidebar')
        @parent

        <p>This is appended to the master sidebar.</p>
@stop

@section('content')
        <p>This is my body content.</p>
@stop
```

Note that views which `extend` a Blade layout simply override sections from the layout. Content of the layout can be included in a child view using the `@parent` directive in a section, allowing you to append to the contents of a layout section such as a sidebar or footer.

Sometimes, such as when you are not sure if a section has been defined, you may wish to pass a default value to the `@yield` directive. You may pass the default value as the second argument:

```
@yield('section', 'Default Content');
```

Other Blade Control Structures

Echoing Data

```
Hello, {{ $name }}.

The current UNIX timestamp is {{ time() }}.
```

Echoing Data After Checking For Existence

Sometimes you may wish to echo a variable, but you aren't sure if the variable has been set. Basically, you want to do this:

```
{{ isset($name) ? $name : 'Default' }}
```

However, instead of writing a ternary statement, Blade allows you to use the following convenient short-cut:

```
{{ $name or 'Default' }}
```

Displaying Raw Text With Curly Braces

If you need to display a string that is wrapped in curly braces, you may escape the Blade behavior by prefixing your text with an `@` symbol:

```
@{{ This will not be processed by Blade }}
```

Of course, all user supplied data should be escaped or purified. To escape the output, you may use the triple curly brace syntax:

```
1  Hello, {{ $name }}.
```

If you don't want the data to be escaped, you may use double curly-braces:

```
1  Hello, {!! $name !!}.
```

Note: Be very careful when echoing content that is supplied by users of your application. Always use the triple curly brace syntax to escape any HTML entities in the content.

If Statements

```
1  @if (count($records) === 1)
2          I have one record!
3  @elseif (count($records) > 1)
4          I have multiple records!
5  @else
6          I don't have any records!
7  @endif
8
9  @unless (Auth::check())
10         You are not signed in.
11 @endunless
```

Loops

```
@for ($i = 0; $i < 10; $i++)
        The current value is {{ $i }}
@endfor

@foreach ($users as $user)
        <p>This is user {{ $user->id }}</p>
@endforeach

@forelse($users as $user)
<li>{{ $user->name }}</li>
@empty
<p>No users</p>
@endforelse

@while (true)
        <p>I'm looping forever.</p>
@endwhile
```

Including Sub-Views

```
@include('view.name')
```

You may also pass an array of data to the included view:

```
@include('view.name', array('some'=>'data'))
```

Overwriting Sections

To overwrite a section entirely, you may use the `overwrite` statement:

```
@extends('list.item.container')

@section('list.item.content')
        <p>This is an item of type {{ $item->type }}</p>
```

```
5  @overwrite
```

Displaying Language Lines

```
1  @lang('language.line')
2
3  @choice('language.line', 1);
```

Comments

```
1  {{-- This comment will not be in the rendered HTML --}}
```

Extending Blade

Blade even allows you to define your own custom control structures. When a Blade file is compiled, each custom extension is called with the view contents, allowing you to do anything from simple `str_replace` manipulations to more complex regular expressions.

The Blade compiler comes with the helper methods `createMatcher` and `createPlainMatcher`, which generate the expression you need to build your own custom directives.

The `createPlainMatcher` method is used for directives with no arguments like `@endif` and `@stop`, while `createMatcher` is used for directives with arguments.

The following example creates a `@datetime($var)` directive which simply calls `->format()` on `$var`:

```
1  Blade::extend(function($view, $compiler)
2  {
3          $pattern = $compiler->createMatcher('datetime');
4
5          return preg_replace($pattern, '$1<?php echo $2->format(\'m/d/Y H:i\'); ?>', $vi\
6  ew);
7  });
```

Testing

Introduction

Laravel is built with unit testing in mind. In fact, support for testing with PHPUnit is included out of the box, and a `phpunit.xml` file is already setup for your application. In addition to PHPUnit, Laravel also utilizes the Symfony HttpKernel, DomCrawler, and BrowserKit components to allow you to inspect and manipulate your views while testing, allowing to simulate a web browser.

An example test file is provided in the `tests` directory. After installing a new Laravel application, simply run `phpunit` on the command line to run your tests.

Defining & Running Tests

To create a test case, simply create a new test file in the `tests` directory. The test class should extend `TestCase`. You may then define test methods as you normally would when using PHPUnit.

An Example Test Class

```
class FooTest extends TestCase {

        public function testSomethingIsTrue()
        {
                $this->assertTrue(true);
        }

}
```

You may run all of the tests for your application by executing the `phpunit` command from your terminal.

Note: If you define your own `setUp` method, be sure to call `parent::setUp`.

Test Environment

When running unit tests, Laravel will automatically set the configuration environment to `testing`. Also, Laravel includes configuration files for `session` and `cache` in the test environment. Both of these drivers are set to `array` while in the test environment, meaning no session or cache data will be persisted while testing. You are free to create other testing environment configurations as necessary.

Calling Routes From Tests

Calling A Route From A Test

You may easily call one of your routes for a test using the `call` method:

```
$response = $this->call('GET', 'user/profile');

$response = $this->call($method, $uri, $parameters, $files, $server, $content);
```

You may then inspect the `Illuminate\Http\Response` object:

```
$this->assertEquals('Hello World', $response->getContent());
```

Calling A Controller From A Test

You may also call a controller from a test:

```
$response = $this->action('GET', 'HomeController@index');

$response = $this->action('GET', 'UserController@profile', array('user' => 1));
```

Note: You do not need to specify the full controller namespace when using the `action` method. Only specify the portion of the class name that follows the `App\Http\Controllers` namespace.

The `getContent` method will return the evaluated string contents of the response. If your route returns a `View`, you may access it using the `original` property:

```
$view = $response->original;

$this->assertEquals('John', $view['name']);
```

To call a HTTPS route, you may use the `callSecure` method:

```
$response = $this->callSecure('GET', 'foo/bar');
```

Note: Route filters are disabled when in the testing environment. To enable them, add `Route::enableFilters()` to your test.

DOM Crawler

You may also call a route and receive a DOM Crawler instance that you may use to inspect the content:

```
$crawler = $this->client->request('GET', '/');

$this->assertTrue($this->client->getResponse()->isOk());

$this->assertCount(1, $crawler->filter('h1:contains("Hello World!")'));
```

For more information on how to use the crawler, refer to its official documentation[151].

Mocking Facades

When testing, you may often want to mock a call to a Laravel static facade. For example, consider the following controller action:

```
public function getIndex()
{
        Event::fire('foo', array('name' => 'Dayle'));

        return 'All done!';
}
```

We can mock the call to the `Event` class by using the `shouldReceive` method on the facade, which will return an instance of a Mockery[152] mock.

Mocking A Facade

[151] http://symfony.com/doc/master/components/dom_crawler.html
[152] https://github.com/padraic/mockery

```
public function testGetIndex()
{
        Event::shouldReceive('fire')->once()->with('foo', array('name' => 'Dayle'));

        $this->call('GET', '/');
}
```

Note: You should not mock the `Request` facade. Instead, pass the input you desire into the `call` method when running your test.

Framework Assertions

Laravel ships with several `assert` methods to make testing a little easier:

Asserting Responses Are OK

```
public function testMethod()
{
        $this->call('GET', '/');

        $this->assertResponseOk();
}
```

Asserting Response Statuses

```
$this->assertResponseStatus(403);
```

Asserting Responses Are Redirects

```
$this->assertRedirectedTo('foo');

$this->assertRedirectedToRoute('route.name');

$this->assertRedirectedToAction('Controller@method');
```

Asserting A View Has Some Data

```
public function testMethod()
{
        $this->call('GET', '/');

        $this->assertViewHas('name');
        $this->assertViewHas('age', $value);
}
```

Asserting The Session Has Some Data

```
public function testMethod()
{
        $this->call('GET', '/');

        $this->assertSessionHas('name');
        $this->assertSessionHas('age', $value);
}
```

Asserting The Session Has Errors

```php
public function testMethod()
{
    $this->call('GET', '/');

    $this->assertSessionHasErrors();

    // Asserting the session has errors for a given key...
    $this->assertSessionHasErrors('name');

    // Asserting the session has errors for several keys...
    $this->assertSessionHasErrors(array('name', 'age'));
}
```

Asserting Old Input Has Some Data

```php
public function testMethod()
{
        $this->call('GET', '/');

        $this->assertHasOldInput();
}
```

Helper Methods

The `TestCase` class contains several helper methods to make testing your application easier.

Setting And Flushing Sessions From Tests

```php
$this->session(['foo' => 'bar']);

$this->flushSession();
```

Setting The Currently Authenticated User

You may set the currently authenticated user using the `be` method:

```
$user = new User(array('name' => 'John'));

$this->be($user);
```

You may re-seed your database from a test using the `seed` method:

Re-Seeding Database From Tests

```
$this->seed();

$this->seed($connection);
```

More information on creating seeds may be found in the migrations and seeding section of the documentation.

Refreshing The Application

As you may already know, you can access your Laravel `Application` / IoC Container via `$this->app` from any test method. This Application instance is refreshed for each test class. If you wish to manually force the Application to be refreshed for a given method, you may use the `refreshApplication` method from your test method. This will reset any extra bindings, such as mocks, that have been placed in the IoC container since the test case started running.

Validation

Basic Usage

Laravel ships with a simple, convenient facility for validating data and retrieving validation error messages via the `Validation` class.

Basic Validation Example

```
$validator = Validator::make(
        array('name' => 'Dayle'),
        array('name' => 'required|min:5')
);
```

The first argument passed to the `make` method is the data under validation. The second argument is the validation rules that should be applied to the data.

Using Arrays To Specify Rules

Multiple rules may be delimited using either a "pipe" character, or as separate elements of an array.

```
$validator = Validator::make(
        array('name' => 'Dayle'),
        array('name' => array('required', 'min:5'))
);
```

Validating Multiple Fields

```
$validator = Validator::make(
    array(
        'name' => 'Dayle',
        'password' => 'lamepassword',
        'email' => 'email@example.com'
    ),
    array(
        'name' => 'required',
        'password' => 'required|min:8',
        'email' => 'required|email|unique:users'
    )
);
```

Once a `Validator` instance has been created, the `fails` (or `passes`) method may be used to perform the validation.

```
if ($validator->fails())
{
        // The given data did not pass validation
}
```

If validation has failed, you may retrieve the error messages from the validator.

```
$messages = $validator->messages();
```

You may also access an array of the failed validation rules, without messages. To do so, use the `failed` method:

```
$failed = $validator->failed();
```

Validating Files

The `Validator` class provides several rules for validating files, such as `size`, `mimes`, and others. When validating files, you may simply pass them into the validator with your other data.

Working With Error Messages

After calling the `messages` method on a `Validator` instance, you will receive a `MessageBag` instance, which has a variety of convenient methods for working with error messages.

Retrieving The First Error Message For A Field

```
echo $messages->first('email');
```

Retrieving All Error Messages For A Field

```
foreach ($messages->get('email') as $message)
{
        //
}
```

Retrieving All Error Messages For All Fields

```
foreach ($messages->all() as $message)
{
        //
}
```

Determining If Messages Exist For A Field

```
if ($messages->has('email'))
{
        //
}
```

Retrieving An Error Message With A Format

```
echo $messages->first('email', '<p>:message</p>');
```

Note: By default, messages are formatted using Bootstrap compatible syntax.

Retrieving All Error Messages With A Format

```
foreach ($messages->all('<li>:message</li>') as $message)
{
        //
}
```

Error Messages & Views

Once you have performed validation, you will need an easy way to get the error messages back to your views. This is conveniently handled by Laravel. Consider the following routes as an example:

```
Route::get('register', function()
{
        return View::make('user.register');
});

Route::post('register', function()
{
        $rules = array(...);

        $validator = Validator::make(Input::all(), $rules);

        if ($validator->fails())
        {
                return Redirect::to('register')->withErrors($validator);
        }
});
```

Note that when validation fails, we pass the `Validator` instance to the Redirect using the `withErrors` method. This method will flash the error messages to the session so that they are available on the next request.

However, notice that we do not have to explicitly bind the error messages to the view in our GET route. This is because Laravel will always check for errors in the session data, and automatically bind them to the view if they are available. **So, it is important to note that an `$errors` variable will always be available in all of your views, on every request**, allowing you to conveniently assume the `$errors` variable is always defined and can be safely used. The `$errors` variable will be an instance of `MessageBag`.

So, after redirection, you may utilize the automatically bound `$errors` variable in your view:

```
<?php echo $errors->first('email'); ?>
```

Named Error Bags

If you have multiple forms on a single page, you may wish to name the `MessageBag` of errors. This will allow you to retrieve the error messages for a specific form. Simply pass a name as the second argument to `withErrors`:

```
return Redirect::to('register')->withErrors($validator, 'login');
```

You may then access the named `MessageBag` instance from the `$errors` variable:

```
<?php echo $errors->login->first('email'); ?>
```

Available Validation Rules

Below is a list of all available validation rules and their function:

- Accepted
- Active URL
- After (Date)
- Alpha
- Alpha Dash
- Alpha Numeric
- Array
- Before (Date)
- Between
- Boolean
- Confirmed
- Date
- Date Format
- Different
- Digits
- Digits Between
- E-Mail
- Exists (Database)
- Image (File)
- In
- Integer
- IP Address
- Max
- MIME Types

- Min
- Not In
- Numeric
- Regular Expression
- Required
- Required If
- Required With
- Required With All
- Required Without
- Required Without All
- Same
- Size
- Timezone
- Unique (Database)
- URL

accepted

The field under validation must be *yes*, *on*, or *1*. This is useful for validating "Terms of Service" acceptance.

active_url

The field under validation must be a valid URL according to the `checkdnsrr` PHP function.

after:*date*

The field under validation must be a value after a given date. The dates will be passed into the PHP `strtotime` function.

alpha

The field under validation must be entirely alphabetic characters.

alpha_dash

The field under validation may have alpha-numeric characters, as well as dashes and underscores.

alpha_num

The field under validation must be entirely alpha-numeric characters.

array

The field under validation must be of type array.

before:*date*

The field under validation must be a value preceding the given date. The dates will be passed into the PHP `strtotime` function.

between:*min*,*max*

The field under validation must have a size between the given *min* and *max*. Strings, numerics, and files are evaluated in the same fashion as the `size` rule.

boolean

The field under validation must be able to be cast as a boolean. Accepted input are `true`, `false`, `1`, `0`, `"1"` and `"0"`.

confirmed

The field under validation must have a matching field of `foo_confirmation`. For example, if the field under validation is `password`, a matching `password_confirmation` field must be present in the input.

date

The field under validation must be a valid date according to the `strtotime` PHP function.

date_format:*format*

The field under validation must match the *format* defined according to the `date_parse_from_format` PHP function.

different:*field*

The given *field* must be different than the field under validation.

digits:*value*

The field under validation must be *numeric* and must have an exact length of *value*.

digits_between:*min*,*max*

The field under validation must have a length between the given *min* and *max*.

email

The field under validation must be formatted as an e-mail address.

exists:*table*,*column*

The field under validation must exist on a given database table.

Basic Usage Of Exists Rule

```
1  'state' => 'exists:states'
```

Specifying A Custom Column Name

```
1  'state' => 'exists:states,abbreviation'
```

You may also specify more conditions that will be added as "where" clauses to the query:

```
1  'email' => 'exists:staff,email,account_id,1'
```

Passing `NULL` as a "where" clause value will add a check for a `NULL` database value:

```
1  'email' => 'exists:staff,email,deleted_at,NULL'
```

image

The file under validation must be an image (jpeg, png, bmp, gif, or svg)

in:*foo*,*bar*,...

The field under validation must be included in the given list of values.

integer

The field under validation must have an integer value.

ip

The field under validation must be formatted as an IP address.

max:*value*

The field under validation must be less than or equal to a maximum *value*. Strings, numerics, and files are evaluated in the same fashion as the `size` rule.

mimes:*foo*,*bar*,...

The file under validation must have a MIME type corresponding to one of the listed extensions.

Basic Usage Of MIME Rule

```
1  'photo' => 'mimes:jpeg,bmp,png'
```

min:*value*

The field under validation must have a minimum *value*. Strings, numerics, and files are evaluated in the same fashion as the `size` rule.

not_in:*foo*,*bar*,...

The field under validation must not be included in the given list of values.

numeric

The field under validation must have a numeric value.

regex:*pattern*

The field under validation must match the given regular expression.

Note: When using the `regex` pattern, it may be necessary to specify rules in an array instead of using pipe delimiters, especially if the regular expression contains a pipe character.

required

The field under validation must be present in the input data.

required_if:*field*,*value*,...

The field under validation must be present if the *field* field is equal to any *value*.

required_with:*foo*,*bar*,...

The field under validation must be present *only if* any of the other specified fields are present.

required_with_all:*foo*,*bar*,...

The field under validation must be present *only if* all of the other specified fields are present.

required_without:*foo*,*bar*,...

The field under validation must be present *only when* any of the other specified fields are not present.

required_without_all:*foo*,*bar*,...

The field under validation must be present *only when* the all of the other specified fields are not present.

same:*field*

The given *field* must match the field under validation.

size:*value*

The field under validation must have a size matching the given *value*. For string data, *value* corresponds to the number of characters. For numeric data, *value* corresponds to a given integer value. For files, *size* corresponds to the file size in kilobytes.

timezone

The field under validation must be a valid timezone identifier according to the `timezone_identifiers_list` PHP function.

unique:*table*,*column*,*except*,*idColumn*

The field under validation must be unique on a given database table. If the `column` option is not specified, the field name will be used.

Basic Usage Of Unique Rule

```
'email' => 'unique:users'
```

Specifying A Custom Column Name

```
'email' => 'unique:users,email_address'
```

Forcing A Unique Rule To Ignore A Given ID

```
'email' => 'unique:users,email_address,10'
```

Adding Additional Where Clauses

You may also specify more conditions that will be added as "where" clauses to the query:

```
'email' => 'unique:users,email_address,NULL,id,account_id,1'
```

In the rule above, only rows with an `account_id` of `1` would be included in the unique check.

url

The field under validation must be formatted as an URL.

Note: This function uses PHP's `filter_var` method.

Conditionally Adding Rules

In some situations, you may wish to run validation checks against a field **only** if that field is present in the input array. To quickly accomplish this, add the `sometimes` rule to your rule list:

```
$v = Validator::make($data, array(
        'email' => 'sometimes|required|email',
));
```

In the example above, the `email` field will only be validated if it is present in the `$data` array.

Complex Conditional Validation

Sometimes you may wish to require a given field only if another field has a greater value than 100. Or you may need two fields to have a given value only when another field is present. Adding these validation rules doesn't have to be a pain. First, create a `Validator` instance with your *static rules* that never change:

```
$v = Validator::make($data, array(
        'email' => 'required|email',
        'games' => 'required|numeric',
));
```

Let's assume our web application is for game collectors. If a game collector registers with our application and they own more than 100 games, we want them to explain why they own so many games. For example, perhaps they run a game re-sell shop, or maybe they just enjoy collecting. To conditionally add this requirement, we can use the `sometimes` method on the `Validator` instance.

```
$v->sometimes('reason', 'required|max:500', function($input)
{
        return $input->games >= 100;
});
```

The first argument passed to the `sometimes` method is the name of the field we are conditionally validating. The second argument is the rules we want to add. If the `Closure` passed as the third argument returns `true`, the rules will be added. This method makes it a breeze to build complex conditional validations. You may even add conditional validations for several fields at once:

```
$v->sometimes(array('reason', 'cost'), 'required', function($input)
{
        return $input->games >= 100;
});
```

Note: The `$input` parameter passed to your `Closure` will be an instance of `Illuminate\Support\Fluent` and may be used as an object to access your input and files.

Custom Error Messages

If needed, you may use custom error messages for validation instead of the defaults. There are several ways to specify custom messages.

Passing Custom Messages Into Validator

```
$messages = array(
        'required' => 'The :attribute field is required.',
);

$validator = Validator::make($input, $rules, $messages);
```

Note: The `:attribute` place-holder will be replaced by the actual name of the field under validation. You may also utilize other place-holders in validation messages.

Other Validation Place-Holders

```
$messages = array(
        'same'    => 'The :attribute and :other must match.',
        'size'    => 'The :attribute must be exactly :size.',
        'between' => 'The :attribute must be between :min - :max.',
        'in'      => 'The :attribute must be one of the following types: :values',
);
```

Specifying A Custom Message For A Given Attribute

Sometimes you may wish to specify a custom error messages only for a specific field:

```
$messages = array(
        'email.required' => 'We need to know your e-mail address!',
);
```

Specifying Custom Messages In Language Files

In some cases, you may wish to specify your custom messages in a language file instead of passing them directly to the `Validator`. To do so, add your messages to `custom` array in the `resources/lang/xx/validation.php` language file.

```
'custom' => array(
        'email' => array(
                'required' => 'We need to know your e-mail address!',
        ),
),
```

Custom Validation Rules

Registering A Custom Validation Rule

Laravel provides a variety of helpful validation rules; however, you may wish to specify some of your own. One method of registering custom validation rules is using the `Validator::extend` method:

```
Validator::extend('foo', function($attribute, $value, $parameters)
{
        return $value == 'foo';
});
```

The custom validator Closure receives three arguments: the name of the `$attribute` being validated, the `$value` of the attribute, and an array of `$parameters` passed to the rule.

You may also pass a class and method to the `extend` method instead of a Closure:

```
Validator::extend('foo', 'FooValidator@validate');
```

Note that you will also need to define an error message for your custom rules. You can do so either using an inline custom message array or by adding an entry in the validation language file.

Extending The Validator Class

Instead of using Closure callbacks to extend the Validator, you may also extend the Validator class itself. To do so, write a Validator class that extends `Illuminate\Validation\Validator`. You may add validation methods to the class by prefixing them with `validate`:

```
<?php

class CustomValidator extends Illuminate\Validation\Validator {

	public function validateFoo($attribute, $value, $parameters)
	{
		return $value == 'foo';
	}

}
```

Registering A Custom Validator Resolver

Next, you need to register your custom Validator extension:

```
Validator::resolver(function($translator, $data, $rules, $messages)
{
	return new CustomValidator($translator, $data, $rules, $messages);
});
```

When creating a custom validation rule, you may sometimes need to define custom place-holder replacements for error messages. You may do so by creating a custom Validator as described above, and adding a `replaceXXX` function to the validator.

```
protected function replaceFoo($message, $attribute, $rule, $parameters)
{
        return str_replace(':foo', $parameters[0], $message);
}
```

If you would like to add a custom message "replacer" without extending the `Validator` class, you may use the `Validator::replacer` method:

```
Validator::replacer('rule', function($message, $attribute, $rule, $parameters)
{
        //
});
```

Basic Database Usage

Configuration

Laravel makes connecting with databases and running queries extremely simple. The database configuration file is `config/database.php`. In this file you may define all of your database connections, as well as specify which connection should be used by default. Examples for all of the supported database systems are provided in this file.

Currently Laravel supports four database systems: MySQL, Postgres, SQLite, and SQL Server.

Read / Write Connections

Sometimes you may wish to use one database connection for SELECT statements, and another for INSERT, UPDATE, and DELETE statements. Laravel makes this a breeze, and the proper connections will always be used whether you are using raw queries, the query builder, or the Eloquent ORM.

To see how read / write connections should be configured, let's look at this example:

```
'mysql' => array(
        'read' => array(
                'host' => '192.168.1.1',
        ),
        'write' => array(
                'host' => '196.168.1.2'
        ),
        'driver'    => 'mysql',
        'database'  => 'database',
        'username'  => 'root',
        'password'  => '',
        'charset'   => 'utf8',
        'collation' => 'utf8_unicode_ci',
```

```
14          'prefix'    => '',
15  ),
```

Note that two keys have been added to the configuration array: `read` and `write`. Both of these keys have array values containing a single key: `host`. The rest of the database options for the `read` and `write` connections will be merged from the main `mysql` array. So, we only need to place items in the `read` and `write` arrays if we wish to override the values in the main array. So, in this case, `192.168.1.1` will be used as the "read" connection, while `192.168.1.2` will be used as the "write" connection. The database credentials, prefix, character set, and all other options in the main `mysql` array will be shared across both connections.

Running Queries

Once you have configured your database connection, you may run queries using the `DB` class.

Running A Select Query

```
1  $results = DB::select('select * from users where id = ?', array(1));
```

The `select` method will always return an `array` of results.

Running An Insert Statement

```
1  DB::insert('insert into users (id, name) values (?, ?)', array(1, 'Dayle'));
```

Running An Update Statement

```
1  DB::update('update users set votes = 100 where name = ?', array('John'));
```

Running A Delete Statement

```
DB::delete('delete from users');
```

Note: The `update` and `delete` statements return the number of rows affected by the operation.

Running A General Statement

```
DB::statement('drop table users');
```

Listening For Query Events

You may listen for query events using the `DB::listen` method:

```
DB::listen(function($sql, $bindings, $time)
{
        //
});
```

Database Transactions

To run a set of operations within a database transaction, you may use the `transaction` method:

```
DB::transaction(function()
{
        DB::table('users')->update(array('votes' => 1));

        DB::table('posts')->delete();
});
```

Note: Any exception thrown within the `transaction` closure will cause the transaction to be rolled back automatically.

Sometimes you may need to begin a transaction yourself:

```
1  DB::beginTransaction();
```

You can rollback a transaction via the `rollback` method:

```
1  DB::rollback();
```

Lastly, you can commit a transaction via the `commit` method:

```
1  DB::commit();
```

Accessing Connections

When using multiple connections, you may access them via the `DB::connection` method:

```
1  $users = DB::connection('foo')->select(...);
```

You may also access the raw, underlying PDO instance:

```
1  $pdo = DB::connection()->getPdo();
```

Sometimes you may need to reconnect to a given database:

```
1  DB::reconnect('foo');
```

If you need to disconnect from the given database due to exceeding the underlying PDO instance's `max_connections` limit, use the `disconnect` method:

```
1  DB::disconnect('foo');
```

Query Logging

By default, Laravel keeps a log in memory of all queries that have been run for the current request. However, in some cases, such as when inserting a large number of rows, this can cause the application to use excess memory. To disable the log, you may use the `disableQueryLog` method:

```
1  DB::connection()->disableQueryLog();
```

To get an array of the executed queries, you may use the `getQueryLog` method:

```
1      $queries = DB::getQueryLog();
```

Query Builder

Introduction

The database query builder provides a convenient, fluent interface to creating and running database queries. It can be used to perform most database operations in your application, and works on all supported database systems.

Note: The Laravel query builder uses PDO parameter binding throughout to protect your application against SQL injection attacks. There is no need to clean strings being passed as bindings.

Selects

Retrieving All Rows From A Table

```
$users = DB::table('users')->get();

foreach ($users as $user)
{
        var_dump($user->name);
}
```

Retrieving A Single Row From A Table

```
$user = DB::table('users')->where('name', 'John')->first();

var_dump($user->name);
```

Retrieving A Single Column From A Row

```
$name = DB::table('users')->where('name', 'John')->pluck('name');
```

Retrieving A List Of Column Values

```
$roles = DB::table('roles')->lists('title');
```

This method will return an array of role titles. You may also specify a custom key column for the returned array:

```
$roles = DB::table('roles')->lists('title', 'name');
```

Specifying A Select Clause

```php
$users = DB::table('users')->select('name', 'email')->get();

$users = DB::table('users')->distinct()->get();

$users = DB::table('users')->select('name as user_name')->get();
```

Adding A Select Clause To An Existing Query

```php
$query = DB::table('users')->select('name');

$users = $query->addSelect('age')->get();
```

Using Where Operators

```php
$users = DB::table('users')->where('votes', '>', 100)->get();
```

Or Statements

```php
$users = DB::table('users')
                    ->where('votes', '>', 100)
                    ->orWhere('name', 'John')
                    ->get();
```

Using Where Between

```php
$users = DB::table('users')
                    ->whereBetween('votes', array(1, 100))->get();
```

Using Where Not Between

```
$users = DB::table('users')
                ->whereNotBetween('votes', array(1, 100))->get();
```

Using Where In With An Array

```
$users = DB::table('users')
                ->whereIn('id', array(1, 2, 3))->get();

$users = DB::table('users')
                ->whereNotIn('id', array(1, 2, 3))->get();
```

Using Where Null To Find Records With Unset Values

```
$users = DB::table('users')
                ->whereNull('updated_at')->get();
```

Order By, Group By, And Having

```
$users = DB::table('users')
                ->orderBy('name', 'desc')
                ->groupBy('count')
                ->having('count', '>', 100)
                ->get();
```

Offset & Limit

```
$users = DB::table('users')->skip(10)->take(5)->get();
```

Joins

The query builder may also be used to write join statements. Take a look at the following examples:

Basic Join Statement

```
DB::table('users')
        ->join('contacts', 'users.id', '=', 'contacts.user_id')
        ->join('orders', 'users.id', '=', 'orders.user_id')
        ->select('users.id', 'contacts.phone', 'orders.price')
        ->get();
```

Left Join Statement

```
DB::table('users')
  ->leftJoin('posts', 'users.id', '=', 'posts.user_id')
  ->get();
```

You may also specify more advanced join clauses:

```
DB::table('users')
     ->join('contacts', function($join)
     {
             $join->on('users.id', '=', 'contacts.user_id')->orOn(...);
     })
     ->get();
```

If you would like to use a "where" style clause on your joins, you may use the `where` and `orWhere` methods on a join. Instead of comparing two columns, these methods will compare the column against a value:

```
DB::table('users')
      ->join('contacts', function($join)
      {
              $join->on('users.id', '=', 'contacts.user_id')
                   ->where('contacts.user_id', '>', 5);
      })
      ->get();
```

Advanced Wheres

Parameter Grouping

Sometimes you may need to create more advanced where clauses such as "where exists" or nested parameter groupings. The Laravel query builder can handle these as well:

```
DB::table('users')
          ->where('name', '=', 'John')
          ->orWhere(function($query)
          {
                  $query->where('votes', '>', 100)
                        ->where('title', '<>', 'Admin');
          })
          ->get();
```

The query above will produce the following SQL:

```
select * from users where name = 'John' or (votes > 100 and title <> 'Admin')
```

Exists Statements

```
DB::table('users')
        ->whereExists(function($query)
        {
                $query->select(DB::raw(1))
                      ->from('orders')
                      ->whereRaw('orders.user_id = users.id');
        })
        ->get();
```

The query above will produce the following SQL:

```
select * from users
where exists (
        select 1 from orders where orders.user_id = users.id
)
```

Aggregates

The query builder also provides a variety of aggregate methods, such as `count`, `max`, `min`, `avg`, and `sum`.

Using Aggregate Methods

```
$users = DB::table('users')->count();

$price = DB::table('orders')->max('price');

$price = DB::table('orders')->min('price');

$price = DB::table('orders')->avg('price');

$total = DB::table('users')->sum('votes');
```

Raw Expressions

Sometimes you may need to use a raw expression in a query. These expressions will be injected into the query as strings, so be careful not to create any SQL injection points! To create a raw expression, you may use the `DB::raw` method:

Using A Raw Expression

```
$users = DB::table('users')
                    ->select(DB::raw('count(*) as user_count, status'))
                    ->where('status', '<>', 1)
                    ->groupBy('status')
                    ->get();
```

Inserts

Inserting Records Into A Table

```
DB::table('users')->insert(
        array('email' => 'john@example.com', 'votes' => 0)
);
```

Inserting Records Into A Table With An Auto-Incrementing ID

If the table has an auto-incrementing id, use `insertGetId` to insert a record and retrieve the id:

```
$id = DB::table('users')->insertGetId(
        array('email' => 'john@example.com', 'votes' => 0)
);
```

Note: When using PostgreSQL the insertGetId method expects the auto-incrementing column to be named “id”.

Inserting Multiple Records Into A Table

```
DB::table('users')->insert(array(
        array('email' => 'taylor@example.com', 'votes' => 0),
        array('email' => 'dayle@example.com', 'votes' => 0),
));
```

Updates

Updating Records In A Table

```
DB::table('users')
          ->where('id', 1)
          ->update(array('votes' => 1));
```

Incrementing or decrementing a value of a column

```
DB::table('users')->increment('votes');

DB::table('users')->increment('votes', 5);

DB::table('users')->decrement('votes');

DB::table('users')->decrement('votes', 5);
```

You may also specify additional columns to update:

```
DB::table('users')->increment('votes', 1, array('name' => 'John'));
```

Deletes

Deleting Records In A Table

```
DB::table('users')->where('votes', '<', 100)->delete();
```

Deleting All Records From A Table

```
DB::table('users')->delete();
```

Truncating A Table

```
DB::table('users')->truncate();
```

Unions

The query builder also provides a quick way to "union" two queries together:

```
$first = DB::table('users')->whereNull('first_name');

$users = DB::table('users')->whereNull('last_name')->union($first)->get();
```

The `unionAll` method is also available, and has the same method signature as `union`.

Pessimistic Locking

The query builder includes a few functions to help you do "pessimistic locking" on your SELECT statements.

To run the SELECT statement with a "shared lock", you may use the `sharedLock` method on a query:

```
DB::table('users')->where('votes', '>', 100)->sharedLock()->get();
```

To "lock for update" on a SELECT statement, you may use the `lockForUpdate` method on a query:

```
DB::table('users')->where('votes', '>', 100)->lockForUpdate()->get();
```

Caching Queries

You may easily cache the results of a query using the `remember` method:

```
$users = DB::table('users')->remember(10)->get();
```

In this example, the results of the query will be cached for ten minutes. While the results are cached, the query will not be run against the database, and the results will be loaded from the default cache driver specified for your application.

If you are using a supported cache driver, you can also add tags to the caches:

```
$users = DB::table('users')->cacheTags(array('people', 'authors'))
            ->remember(10)->get();
```

Eloquent ORM

Introduction

The Eloquent ORM included with Laravel provides a beautiful, simple ActiveRecord implementation for working with your database. Each database table has a corresponding "Model" which is used to interact with that table.

Before getting started, be sure to configure a database connection in `config/database.php`.

Basic Usage

To get started, create an Eloquent model. Models typically live in the `app` directory, but you are free to place them anywhere that can be auto-loaded according to your `composer.json` file.

Defining An Eloquent Model

```
class User extends Eloquent {}
```

Note that we did not tell Eloquent which table to use for our `User` model. The lower-case, plural name of the class will be used as the table name unless another name is explicitly specified. So, in this case, Eloquent will assume the `User` model stores records in the `users` table. You may specify a custom table by defining a `table` property on your model:

```
class User extends Eloquent {

        protected $table = 'my_users';

}
```

Note: Eloquent will also assume that each table has a primary key column named `id`. You may define a `primaryKey` property to override this convention. Likewise, you may define a `connection` property to override the name of the database connection that should be used when utilizing the model.

Once a model is defined, you are ready to start retrieving and creating records in your table. Note that you will need to place `updated_at` and `created_at` columns on your table by default. If you do not wish to have these columns automatically maintained, set the `$timestamps` property on your model to `false`.

Retrieving All Models

```
$users = User::all();
```

Retrieving A Record By Primary Key

```
$user = User::find(1);

var_dump($user->name);
```

Note: All methods available on the query builder are also available when querying Eloquent models.

Retrieving A Model By Primary Key Or Throw An Exception

Sometimes you may wish to throw an exception if a model is not found, allowing you to catch the exceptions using an `App::error` handler and display a 404 page.

```
$model = User::findOrFail(1);

$model = User::where('votes', '>', 100)->firstOrFail();
```

To register the error handler, listen for the `ModelNotFoundException`

```
use Illuminate\Database\Eloquent\ModelNotFoundException;

App::error(function(ModelNotFoundException $e)
{
        return Response::make('Not Found', 404);
});
```

Querying Using Eloquent Models

```
$users = User::where('votes', '>', 100)->take(10)->get();

foreach ($users as $user)
{
        var_dump($user->name);
}
```

Eloquent Aggregates

Of course, you may also use the query builder aggregate functions.

```
$count = User::where('votes', '>', 100)->count();
```

If you are unable to generate the query you need via the fluent interface, feel free to use `whereRaw`:

```
$users = User::whereRaw('age > ? and votes = 100', array(25))->get();
```

Chunking Results

If you need to process a lot (thousands) of Eloquent records, using the `chunk` command will allow you to do without eating all of your RAM:

```
User::chunk(200, function($users)
{
        foreach ($users as $user)
        {
                //
        }
});
```

The first argument passed to the method is the number of records you wish to receive per "chunk". The Closure passed as the second argument will be called for each chunk that is pulled from the database.

Specifying The Query Connection

You may also specify which database connection should be used when running an Eloquent query. Simply use the on method:

```
1  $user = User::on('connection-name')->find(1);
```

Mass Assignment

When creating a new model, you pass an array of attributes to the model constructor. These attributes are then assigned to the model via mass-assignment. This is convenient; however, can be a **serious** security concern when blindly passing user input into a model. If user input is blindly passed into a model, the user is free to modify **any** and **all** of the model's attributes. For this reason, all Eloquent models protect against mass-assignment by default.

To get started, set the `fillable` or `guarded` properties on your model.

Defining Fillable Attributes On A Model

The `fillable` property specifies which attributes should be mass-assignable. This can be set at the class or instance level.

```
1  class User extends Eloquent {
2
3          protected $fillable = array('first_name', 'last_name', 'email');
4
5  }
```

In this example, only the three listed attributes will be mass-assignable.

Defining Guarded Attributes On A Model

The inverse of `fillable` is `guarded`, and serves as a "black-list" instead of a "white-list":

```
class User extends Eloquent {

        protected $guarded = array('id', 'password');

}
```

Note: When using `guarded`, you should still never pass `Input::get()` or any raw array of user controlled input into a `save` or `update` method, as any column that is not guarded may be updated.

Blocking All Attributes From Mass Assignment

In the example above, the `id` and `password` attributes may **not** be mass assigned. All other attributes will be mass assignable. You may also block **all** attributes from mass assignment using the guard property:

```
protected $guarded = array('*');
```

Insert, Update, Delete

To create a new record in the database from a model, simply create a new model instance and call the `save` method.

Saving A New Model

```
$user = new User;

$user->name = 'John';

$user->save();
```

Note: Typically, your Eloquent models will have auto-incrementing keys. However, if you wish to specify your own keys, set the `incrementing` property on your model to `false`.

You may also use the `create` method to save a new model in a single line. The inserted model instance will be returned to you from the method. However, before doing so, you will need to specify either a `fillable` or `guarded` attribute on the model, as all Eloquent models protect against mass-assignment.

After saving or creating a new model that uses auto-incrementing IDs, you may retrieve the ID by accessing the object's `id` attribute:

```
$insertedId = $user->id;
```

Setting The Guarded Attributes On The Model

```
class User extends Eloquent {

        protected $guarded = array('id', 'account_id');

}
```

Using The Model Create Method

```
// Create a new user in the database...
$user = User::create(array('name' => 'John'));

// Retrieve the user by the attributes, or create it if it doesn't exist...
$user = User::firstOrCreate(array('name' => 'John'));

// Retrieve the user by the attributes, or instantiate a new instance...
$user = User::firstOrNew(array('name' => 'John'));
```

Updating A Retrieved Model

To update a model, you may retrieve it, change an attribute, and use the `save` method:

```
$user = User::find(1);

$user->email = 'john@foo.com';

$user->save();
```

Saving A Model And Relationships

Sometimes you may wish to save not only a model, but also all of its relationships. To do so, you may use the `push` method:

```
$user->push();
```

You may also run updates as queries against a set of models:

```
$affectedRows = User::where('votes', '>', 100)->update(array('status' => 2));
```

Note: No model events are fired when updating a set of models via the Eloquent query builder.

Deleting An Existing Model

To delete a model, simply call the `delete` method on the instance:

```
$user = User::find(1);

$user->delete();
```

Deleting An Existing Model By Key

```
User::destroy(1);

User::destroy(array(1, 2, 3));

User::destroy(1, 2, 3);
```

Of course, you may also run a delete query on a set of models:

```
$affectedRows = User::where('votes', '>', 100)->delete();
```

Updating Only The Model's Timestamps

If you wish to simply update the timestamps on a model, you may use the `touch` method:

```
$user->touch();
```

Soft Deleting

When soft deleting a model, it is not actually removed from your database. Instead, a `deleted_at` timestamp is set on the record. To enable soft deletes for a model, apply the `SoftDeletingTrait` to the model:

```
use Illuminate\Database\Eloquent\SoftDeletingTrait;

class User extends Eloquent {

        use SoftDeletingTrait;

        protected $dates = ['deleted_at'];

}
```

To add a `deleted_at` column to your table, you may use the `softDeletes` method from a migration:

```
$table->softDeletes();
```

Now, when you call the `delete` method on the model, the `deleted_at` column will be set to the current timestamp. When querying a model that uses soft deletes, the "deleted" models will not be included in query results.

Forcing Soft Deleted Models Into Results

To force soft deleted models to appear in a result set, use the `withTrashed` method on the query:

```
$users = User::withTrashed()->where('account_id', 1)->get();
```

The `withTrashed` method may be used on a defined relationship:

```
$user->posts()->withTrashed()->get();
```

If you wish to **only** receive soft deleted models in your results, you may use the `onlyTrashed` method:

```
$users = User::onlyTrashed()->where('account_id', 1)->get();
```

To restore a soft deleted model into an active state, use the `restore` method:

```
$user->restore();
```

You may also use the `restore` method on a query:

```
User::withTrashed()->where('account_id', 1)->restore();
```

Like with `withTrashed`, the `restore` method may also be used on relationships:

```
$user->posts()->restore();
```

If you wish to truly remove a model from the database, you may use the `forceDelete` method:

```
$user->forceDelete();
```

The `forceDelete` method also works on relationships:

```
$user->posts()->forceDelete();
```

To determine if a given model instance has been soft deleted, you may use the `trashed` method:

```
if ($user->trashed())
{
        //
}
```

Timestamps

By default, Eloquent will maintain the `created_at` and `updated_at` columns on your database table automatically. Simply add these `timestamp` columns to your table and Eloquent will take care of the rest. If you do not wish for Eloquent to maintain these columns, add the following property to your model:

Disabling Auto Timestamps

```
class User extends Eloquent {

        protected $table = 'users';

        public $timestamps = false;

}
```

Providing A Custom Timestamp Format

If you wish to customize the format of your timestamps, you may override the `getDateFormat` method in your model:

```
class User extends Eloquent {

        protected function getDateFormat()
        {
                return 'U';
        }

}
```

Query Scopes

Defining A Query Scope

Scopes allow you to easily re-use query logic in your models. To define a scope, simply prefix a model method with `scope`:

```
class User extends Eloquent {

        public function scopePopular($query)
        {
                return $query->where('votes', '>', 100);
        }

        public function scopeWomen($query)
        {
                return $query->whereGender('W');
        }

}
```

Utilizing A Query Scope

```
$users = User::popular()->women()->orderBy('created_at')->get();
```

Dynamic Scopes

Sometimes You may wish to define a scope that accepts parameters. Just add your parameters to your scope function:

```
class User extends Eloquent {

        public function scopeOfType($query, $type)
        {
                return $query->whereType($type);
        }

}
```

Then pass the parameter into the scope call:

```
$users = User::ofType('member')->get();
```

Global Scopes

Sometimes you may wish to define a scope that applies to all queries performed on a model. In essence, this is how Eloquent's own "soft delete" feature works. Global scopes are defined using a combination of PHP traits and an implementation of `Illuminate\Database\Eloquent\ScopeInterface`.

First, let's define a trait. For this example, we'll use the `SoftDeletingTrait` that ships with Laravel:

```
trait SoftDeletingTrait {

        /**
         * Boot the soft deleting trait for a model.
         *
         * @return void
         */
        public static function bootSoftDeletingTrait()
        {
                static::addGlobalScope(new SoftDeletingScope);
        }

}
```

If an Eloquent model uses a trait that has a method matching the `bootNameOfTrait` naming convention, that trait method will be called when the Eloquent model is booted, giving you an opportunity to register a global scope, or do anything else you want. A scope must implement `ScopeInterface`, which specifies two methods: `apply` and `remove`.

The `apply` method receives an `Illuminate\Database\Eloquent\Builder` query builder object, and is responsible for adding any additional `where` clauses that the scope wishes to add. The `remove` method also receives a `Builder` object and is responsible for reversing the action taken by `apply`. In other words, `remove` should remove the `where` clause (or any other clause) that was added. So, for our `SoftDeletingScope`, the methods look something like this:

```php
/**
 * Apply the scope to a given Eloquent query builder.
 *
 * @param  \Illuminate\Database\Eloquent\Builder  $builder
 * @return void
 */
public function apply(Builder $builder)
{
        $model = $builder->getModel();

        $builder->whereNull($model->getQualifiedDeletedAtColumn());
}

/**
 * Remove the scope from the given Eloquent query builder.
 *
 * @param  \Illuminate\Database\Eloquent\Builder  $builder
 * @return void
 */
public function remove(Builder $builder)
{
        $column = $builder->getModel()->getQualifiedDeletedAtColumn();

        $query = $builder->getQuery();

        foreach ((array) $query->wheres as $key => $where)
        {
                // If the where clause is a soft delete date constraint, we will remove it from
                // the query and reset the keys on the wheres. This allows this developer to
                // include deleted model in a relationship result set that is lazy loaded.
                if ($this->isSoftDeleteConstraint($where, $column))
                {
unset($query->wheres[$key]);

$query->wheres = array_values($query->wheres);
                }
        }
}
```

Relationships

Of course, your database tables are probably related to one another. For example, a blog post may have many comments, or an order could be related to the user who placed it. Eloquent makes managing and working with these relationships easy. Laravel supports many types of relationships:

- One To One
- One To Many
- Many To Many
- Has Many Through
- Polymorphic Relations
- Many To Many Polymorphic Relations

One To One

Defining A One To One Relation

A one-to-one relationship is a very basic relation. For example, a `User` model might have one `Phone`. We can define this relation in Eloquent:

```
1  class User extends Eloquent {
2
3          public function phone()
4          {
5                  return $this->hasOne('Phone');
6          }
7
8  }
```

The first argument passed to the `hasOne` method is the name of the related model. Once the relationship is defined, we may retrieve it using Eloquent's dynamic properties:

```
1  $phone = User::find(1)->phone;
```

The SQL performed by this statement will be as follows:

```
select * from users where id = 1

select * from phones where user_id = 1
```

Take note that Eloquent assumes the foreign key of the relationship based on the model name. In this case, `Phone` model is assumed to use a `user_id` foreign key. If you wish to override this convention, you may pass a second argument to the `hasOne` method. Furthermore, you may pass a third argument to the method to specify which local column that should be used for the association:

```
return $this->hasOne('Phone', 'foreign_key');

return $this->hasOne('Phone', 'foreign_key', 'local_key');
```

Defining The Inverse Of A Relation

To define the inverse of the relationship on the `Phone` model, we use the `belongsTo` method:

```
class Phone extends Eloquent {

        public function user()
        {
                return $this->belongsTo('User');
        }

}
```

In the example above, Eloquent will look for a `user_id` column on the `phones` table. If you would like to define a different foreign key column, you may pass it as the second argument to the `belongsTo` method:

```
class Phone extends Eloquent {

        public function user()
        {
                return $this->belongsTo('User', 'local_key');
        }

}
```

Additionally, you pass a third parameter which specifies the name of the associated column on the parent table:

```
class Phone extends Eloquent {

        public function user()
        {
                return $this->belongsTo('User', 'local_key', 'parent_key');
        }

}
```

One To Many

An example of a one-to-many relation is a blog post that "has many" comments. We can model this relation like so:

```
class Post extends Eloquent {

        public function comments()
        {
                return $this->hasMany('Comment');
        }

}
```

Now we can access the post's comments through the dynamic property:

```
$comments = Post::find(1)->comments;
```

If you need to add further constraints to which comments are retrieved, you may call the `comments` method and continue chaining conditions:

```
$comments = Post::find(1)->comments()->where('title', '=', 'foo')->first();
```

Again, you may override the conventional foreign key by passing a second argument to the `hasMany` method. And, like the `hasOne` relation, the local column may also be specified:

```
return $this->hasMany('Comment', 'foreign_key');

return $this->hasMany('Comment', 'foreign_key', 'local_key');
```

Defining The Inverse Of A Relation

To define the inverse of the relationship on the `Comment` model, we use the `belongsTo` method:

```
class Comment extends Eloquent {

        public function post()
        {
                return $this->belongsTo('Post');
        }

}
```

Many To Many

Many-to-many relations are a more complicated relationship type. An example of such a relationship is a user with many roles, where the roles are also shared by other users. For example, many users may have the role of "Admin". Three database tables are needed for this relationship: `users`, `roles`,

and `role_user`. The `role_user` table is derived from the alphabetical order of the related model names, and should have `user_id` and `role_id` columns.

We can define a many-to-many relation using the `belongsToMany` method:

```
1  class User extends Eloquent {
2
3          public function roles()
4          {
5                  return $this->belongsToMany('Role');
6          }
7
8  }
```

Now, we can retrieve the roles through the `User` model:

```
1  $roles = User::find(1)->roles;
```

If you would like to use an unconventional table name for your pivot table, you may pass it as the second argument to the `belongsToMany` method:

```
1  return $this->belongsToMany('Role', 'user_roles');
```

You may also override the conventional associated keys:

```
1  return $this->belongsToMany('Role', 'user_roles', 'user_id', 'foo_id');
```

Of course, you may also define the inverse of the relationship on the `Role` model:

```
class Role extends Eloquent {

        public function users()
        {
                return $this->belongsToMany('User');
        }

}
```

Has Many Through

The "has many through" relation provides a convenient short-cut for accessing distant relations via an intermediate relation. For example, a `Country` model might have many `Post` through a `User` model. The tables for this relationship would look like this:

```
countries
        id - integer
        name - string

users
        id - integer
        country_id - integer
        name - string

posts
        id - integer
        user_id - integer
        title - string
```

Even though the `posts` table does not contain a `country_id` column, the `hasManyThrough` relation will allow us to access a country's posts via `$country->posts`. Let's define the relationship:

```
class Country extends Eloquent {

        public function posts()
        {
                return $this->hasManyThrough('Post', 'User');
        }

}
```

If you would like to manually specify the keys of the relationship, you may pass them as the third and fourth arguments to the method:

```
class Country extends Eloquent {

        public function posts()
        {
                return $this->hasManyThrough('Post', 'User', 'country_id', 'user_id');
        }

}
```

Polymorphic Relations

Polymorphic relations allow a model to belong to more than one other model, on a single association. For example, you might have a photo model that belongs to either a staff model or an order model. We would define this relation like so:

```
class Photo extends Eloquent {

        public function imageable()
        {
                return $this->morphTo();
        }

}

class Staff extends Eloquent {

```

```
12          public function photos()
13          {
14                  return $this->morphMany('Photo', 'imageable');
15          }
16
17  }
18
19  class Order extends Eloquent {
20
21          public function photos()
22          {
23                  return $this->morphMany('Photo', 'imageable');
24          }
25
26  }
```

Retrieving A Polymorphic Relation

Now, we can retrieve the photos for either a staff member or an order:

```
1  $staff = Staff::find(1);
2
3  foreach ($staff->photos as $photo)
4  {
5          //
6  }
```

Retrieving The Owner Of A Polymorphic Relation

However, the true "polymorphic" magic is when you access the staff or order from the `Photo` model:

```
1  $photo = Photo::find(1);
2
3  $imageable = $photo->imageable;
```

The `imageable` relation on the `Photo` model will return either a `Staff` or `Order` instance, depending on which type of model owns the photo.

Polymorphic Relation Table Structure

To help understand how this works, let's explore the database structure for a polymorphic relation:

```
staff
        id - integer
        name - string

orders
        id - integer
        price - integer

photos
        id - integer
        path - string
        imageable_id - integer
        imageable_type - string
```

The key fields to notice here are the `imageable_id` and `imageable_type` on the `photos` table. The ID will contain the ID value of, in this example, the owning staff or order, while the type will contain the class name of the owning model. This is what allows the ORM to determine which type of owning model to return when accessing the `imageable` relation.

Many To Many Polymorphic Relations

Polymorphic Many To Many Relation Table Structure

In addition to traditional polymorphic relations, you may also specify many-to-many polymorphic relations. For example, a blog `Post` and `Video` model could share a polymorphic relation to a `Tag` model. First, let's examine the table structure:

```
posts
        id - integer
        name - string

videos
        id - integer
        name - string

tags
        id - integer
```

```
11          name - string
12
13  taggables
14          tag_id - integer
15          taggable_id - integer
16          taggable_type - string
```

Next, we're ready to setup the relationships on the model. The `Post` and `Video` model will both have a `morphToMany` relationship via a `tags` method:

```
1   class Post extends Eloquent {
2
3           public function tags()
4           {
5                   return $this->morphToMany('Tag', 'taggable');
6           }
7
8   }
```

The `Tag` model may define a method for each of its relationships:

```
1   class Tag extends Eloquent {
2
3           public function posts()
4           {
5                   return $this->morphedByMany('Post', 'taggable');
6           }
7
8           public function videos()
9           {
10                  return $this->morphedByMany('Video', 'taggable');
11          }
12
13  }
```

Querying Relations

Querying Relations When Selecting

When accessing the records for a model, you may wish to limit your results based on the existence of a relationship. For example, you wish to pull all blog posts that have at least one comment. To do so, you may use the `has` method:

```
1  $posts = Post::has('comments')->get();
```

You may also specify an operator and a count:

```
1  $posts = Post::has('comments', '>=', 3)->get();
```

If you need even more power, you may use the `whereHas` and `orWhereHas` methods to put "where" conditions on your `has` queries:

```
1  $posts = Post::whereHas('comments', function($q)
2  {
3          $q->where('content', 'like', 'foo%');
4
5  })->get();
```

Dynamic Properties

Eloquent allows you to access your relations via dynamic properties. Eloquent will automatically load the relationship for you, and is even smart enough to know whether to call the `get` (for one-to-many relationships) or `first` (for one-to-one relationships) method. It will then be accessible via a dynamic property by the same name as the relation. For example, with the following model `$phone`:

```
class Phone extends Eloquent {

        public function user()
        {
                return $this->belongsTo('User');
        }

}

$phone = Phone::find(1);
```

Instead of echoing the user's email like this:

```
echo $phone->user()->first()->email;
```

It may be shortened to simply:

```
echo $phone->user->email;
```

Note: Relationships that return many results will return an instance of the `Illuminate\Database\Eloquent\Collection` class.

Eager Loading

Eager loading exists to alleviate the N + 1 query problem. For example, consider a `Book` model that is related to `Author`. The relationship is defined like so:

```
class Book extends Eloquent {

        public function author()
        {
                return $this->belongsTo('Author');
        }

}
```

Now, consider the following code:

```
foreach (Book::all() as $book)
{
        echo $book->author->name;
}
```

This loop will execute 1 query to retrieve all of the books on the table, then another query for each book to retrieve the author. So, if we have 25 books, this loop would run 26 queries.

Thankfully, we can use eager loading to drastically reduce the number of queries. The relationships that should be eager loaded may be specified via the `with` method:

```
foreach (Book::with('author')->get() as $book)
{
        echo $book->author->name;
}
```

In the loop above, only two queries will be executed:

```
select * from books

select * from authors where id in (1, 2, 3, 4, 5, ...)
```

Wise use of eager loading can drastically increase the performance of your application.

Of course, you may eager load multiple relationships at one time:

```
$books = Book::with('author', 'publisher')->get();
```

You may even eager load nested relationships:

```
$books = Book::with('author.contacts')->get();
```

In the example above, the `author` relationship will be eager loaded, and the author's `contacts` relation will also be loaded.

Eager Load Constraints

Sometimes you may wish to eager load a relationship, but also specify a condition for the eager load. Here's an example:

```
$users = User::with(array('posts' => function($query)
{
        $query->where('title', 'like', '%first%');

}))->get();
```

In this example, we're eager loading the user's posts, but only if the post's title column contains the word "first".

Of course, eager loading Closures aren't limited to "constraints". You may also apply orders:

```
$users = User::with(array('posts' => function($query)
{
        $query->orderBy('created_at', 'desc');

}))->get();
```

Lazy Eager Loading

It is also possible to eagerly load related models directly from an already existing model collection. This may be useful when dynamically deciding whether to load related models or not, or in

combination with caching.

```
$books = Book::all();

$books->load('author', 'publisher');
```

Inserting Related Models

Attaching A Related Model

You will often need to insert new related models. For example, you may wish to insert a new comment for a post. Instead of manually setting the `post_id` foreign key on the model, you may insert the new comment from its parent `Post` model directly:

```
$comment = new Comment(array('message' => 'A new comment.'));

$post = Post::find(1);

$comment = $post->comments()->save($comment);
```

In this example, the `post_id` field will automatically be set on the inserted comment.

If you need to save multiple related models:

```
$comments = array(
        new Comment(array('message' => 'A new comment.')),
        new Comment(array('message' => 'Another comment.')),
        new Comment(array('message' => 'The latest comment.'))
);

$post = Post::find(1);

$post->comments()->saveMany($comments);
```

Associating Models (Belongs To)

When updating a `belongsTo` relationship, you may use the `associate` method. This method will set the foreign key on the child model:

```
$account = Account::find(10);

$user->account()->associate($account);

$user->save();
```

Inserting Related Models (Many To Many)

You may also insert related models when working with many-to-many relations. Let's continue using our `User` and `Role` models as examples. We can easily attach new roles to a user using the `attach` method:

Attaching Many To Many Models

```
$user = User::find(1);

$user->roles()->attach(1);
```

You may also pass an array of attributes that should be stored on the pivot table for the relation:

```
$user->roles()->attach(1, array('expires' => $expires));
```

Of course, the opposite of `attach` is `detach`:

```
$user->roles()->detach(1);
```

Both `attach` and `detach` also take arrays of IDs as input:

```
$user = User::find(1);

$user->roles()->detach([1, 2, 3]);

$user->roles()->attach([1 => ['attribute1' => 'value1'], 2, 3]);
```

Using Sync To Attach Many To Many Models

You may also use the `sync` method to attach related models. The `sync` method accepts an array of IDs to place on the pivot table. After this operation is complete, only the IDs in the array will be on the intermediate table for the model:

```
$user->roles()->sync(array(1, 2, 3));
```

Adding Pivot Data When Syncing

You may also associate other pivot table values with the given IDs:

```
$user->roles()->sync(array(1 => array('expires' => true)));
```

Sometimes you may wish to create a new related model and attach it in a single command. For this operation, you may use the `save` method:

```
$role = new Role(array('name' => 'Editor'));

User::find(1)->roles()->save($role);
```

In this example, the new `Role` model will be saved and attached to the user model. You may also pass an array of attributes to place on the joining table for this operation:

```
User::find(1)->roles()->save($role, array('expires' => $expires));
```

Touching Parent Timestamps

When a model `belongsTo` another model, such as a `Comment` which belongs to a `Post`, it is often helpful to update the parent's timestamp when the child model is updated. For example, when a `Comment` model is updated, you may want to automatically touch the `updated_at` timestamp of the owning `Post`. Eloquent makes it easy. Just add a `touches` property containing the names of the relationships to the child model:

```
1  class Comment extends Eloquent {
2
3          protected $touches = array('post');
4
5          public function post()
6          {
7                  return $this->belongsTo('Post');
8          }
9
10 }
```

Now, when you update a `Comment`, the owning `Post` will have its `updated_at` column updated:

```
1  $comment = Comment::find(1);
2
3  $comment->text = 'Edit to this comment!';
4
5  $comment->save();
```

Working With Pivot Tables

As you have already learned, working with many-to-many relations requires the presence of an intermediate table. Eloquent provides some very helpful ways of interacting with this table. For example, let's assume our `User` object has many `Role` objects that it is related to. After accessing this relationship, we may access the `pivot` table on the models:

```
$user = User::find(1);

foreach ($user->roles as $role)
{
        echo $role->pivot->created_at;
}
```

Notice that each `Role` model we retrieve is automatically assigned a `pivot` attribute. This attribute contains a model representing the intermediate table, and may be used as any other Eloquent model.

By default, only the keys will be present on the `pivot` object. If your pivot table contains extra attributes, you must specify them when defining the relationship:

```
return $this->belongsToMany('Role')->withPivot('foo', 'bar');
```

Now the `foo` and `bar` attributes will be accessible on our `pivot` object for the `Role` model.

If you want your pivot table to have automatically maintained `created_at` and `updated_at` timestamps, use the `withTimestamps` method on the relationship definition:

```
return $this->belongsToMany('Role')->withTimestamps();
```

Deleting Records On A Pivot Table

To delete all records on the pivot table for a model, you may use the `detach` method:

```
User::find(1)->roles()->detach();
```

Note that this operation does not delete records from the `roles` table, but only from the pivot table.

Updating A Record On A Pivot Table

Sometimes you may need to update your pivot table, but not detach it. If you wish to update your pivot table in place you may use `updateExistingPivot` method like so:

```
User::find(1)->roles()->updateExistingPivot($roleId, $attributes);
```

Defining A Custom Pivot Model

Laravel also allows you to define a custom Pivot model. To define a custom model, first create your own "Base" model class that extends `Eloquent`. In your other Eloquent models, extend this custom base model instead of the default `Eloquent` base. In your base model, add the following function that returns an instance of your custom Pivot model:

```
public function newPivot(Model $parent, array $attributes, $table, $exists)
{
        return new YourCustomPivot($parent, $attributes, $table, $exists);
}
```

Collections

All multi-result sets returned by Eloquent, either via the `get` method or a `relationship`, will return a collection object. This object implements the `IteratorAggregate` PHP interface so it can be iterated over like an array. However, this object also has a variety of other helpful methods for working with result sets.

Checking If A Collection Contains A Key

For example, we may determine if a result set contains a given primary key using the `contains` method:

```
$roles = User::find(1)->roles;

if ($roles->contains(2))
{
        //
}
```

Collections may also be converted to an array or JSON:

```
$roles = User::find(1)->roles->toArray();

$roles = User::find(1)->roles->toJson();
```

If a collection is cast to a string, it will be returned as JSON:

```
$roles = (string) User::find(1)->roles;
```

Iterating Collections

Eloquent collections also contain a few helpful methods for looping and filtering the items they contain:

```
$roles = $user->roles->each(function($role)
{
        //
});
```

Filtering Collections

When filtering collections, the callback provided will be used as callback for array_filter[153].

```
$users = $users->filter(function($user)
{
        return $user->isAdmin();
});
```

Note: When filtering a collection and converting it to JSON, try calling the `values` function first to reset the array's keys.

[153] http://php.net/manual/en/function.array-filter.php

Applying A Callback To Each Collection Object

```
$roles = User::find(1)->roles;

$roles->each(function($role)
{
        //
});
```

Sorting A Collection By A Value

```
$roles = $roles->sortBy(function($role)
{
        return $role->created_at;
});
```

Sorting A Collection By A Value

```
$roles = $roles->sortBy('created_at');
```

Returning A Custom Collection Type

Sometimes, you may wish to return a custom Collection object with your own added methods. You may specify this on your Eloquent model by overriding the `newCollection` method:

```
class User extends Eloquent {

        public function newCollection(array $models = array())
        {
                return new CustomCollection($models);
        }

}
```

Accessors & Mutators

Defining An Accessor

Eloquent provides a convenient way to transform your model attributes when getting or setting them. Simply define a `getFooAttribute` method on your model to declare an accessor. Keep in mind that the methods should follow camel-casing, even though your database columns are snake-case:

```
class User extends Eloquent {

        public function getFirstNameAttribute($value)
        {
                return ucfirst($value);
        }

}
```

In the example above, the `first_name` column has an accessor. Note that the value of the attribute is passed to the accessor.

Defining A Mutator

Mutators are declared in a similar fashion:

```
class User extends Eloquent {

        public function setFirstNameAttribute($value)
        {
                $this->attributes['first_name'] = strtolower($value);
        }

}
```

Date Mutators

By default, Eloquent will convert the `created_at` and `updated_at` columns to instances of Carbon[154], which provides an assortment of helpful methods, and extends the native PHP `DateTime` class.

[154] https://github.com/briannesbitt/Carbon

You may customize which fields are automatically mutated, and even completely disable this mutation, by overriding the `getDates` method of the model:

```
public function getDates()
{
        return array('created_at');
}
```

When a column is considered a date, you may set its value to a UNIX timestamp, date string (`Y-m-d`), date-time string, and of course a `DateTime` / `Carbon` instance.

To totally disable date mutations, simply return an empty array from the `getDates` method:

```
public function getDates()
{
        return array();
}
```

Model Events

Eloquent models fire several events, allowing you to hook into various points in the model's lifecycle using the following methods: `creating`, `created`, `updating`, `updated`, `saving`, `saved`, `deleting`, `deleted`, `restoring`, `restored`.

Whenever a new item is saved for the first time, the `creating` and `created` events will fire. If an item is not new and the `save` method is called, the `updating` / `updated` events will fire. In both cases, the `saving` / `saved` events will fire.

Cancelling Save Operations Via Events

If `false` is returned from the `creating`, `updating`, `saving`, or `deleting` events, the action will be cancelled:

```
User::creating(function($user)
{
        if ( ! $user->isValid()) return false;
});
```

Setting A Model Boot Method

Eloquent models also contain a static `boot` method, which may provide a convenient place to register your event bindings.

```
class User extends Eloquent {

        public static function boot()
        {
                parent::boot();

                // Setup event bindings...
        }

}
```

Model Observers

To consolidate the handling of model events, you may register a model observer. An observer class may have methods that correspond to the various model events. For example, `creating`, `updating`, `saving` methods may be on an observer, in addition to any other model event name.

So, for example, a model observer might look like this:

```
class UserObserver {

        public function saving($model)
        {
                //
        }

        public function saved($model)
        {
                //
        }

}
```

You may register an observer instance using the `observe` method:

```
User::observe(new UserObserver);
```

Converting To Arrays / JSON

Converting A Model To An Array

When building JSON APIs, you may often need to convert your models and relationships to arrays or JSON. So, Eloquent includes methods for doing so. To convert a model and its loaded relationship to an array, you may use the `toArray` method:

```
$user = User::with('roles')->first();

return $user->toArray();
```

Note that entire collections of models may also be converted to arrays:

```
return User::all()->toArray();
```

Converting A Model To JSON

To convert a model to JSON, you may use the `toJson` method:

```
return User::find(1)->toJson();
```

Returning A Model From A Route

Note that when a model or collection is cast to a string, it will be converted to JSON, meaning you can return Eloquent objects directly from your application's routes!

```
Route::get('users', function()
{
        return User::all();
});
```

Hiding Attributes From Array Or JSON Conversion

Sometimes you may wish to limit the attributes that are included in your model's array or JSON form, such as passwords. To do so, add a `hidden` property definition to your model:

```
class User extends Eloquent {

        protected $hidden = array('password');

}
```

Note: When hiding relationships, use the relationship's **method** name, not the dynamic accessor name.

Alternatively, you may use the `visible` property to define a white-list:

```
protected $visible = array('first_name', 'last_name');
```

Occasionally, you may need to add array attributes that do not have a corresponding column in your database. To do so, simply define an accessor for the value:

```
public function getIsAdminAttribute()
{
        return $this->attributes['admin'] == 'yes';
}
```

Once you have created the accessor, just add the value to the `appends` property on the model:

```
protected $appends = array('is_admin');
```

Once the attribute has been added to the `appends` list, it will be included in both the model's array and JSON forms. Attributes in the `appends` array respect the `visible` and `hidden` configuration on the model.

Schema Builder

Introduction

The Laravel `Schema` class provides a database agnostic way of manipulating tables. It works well with all of the databases supported by Laravel, and has a unified API across all of these systems.

Creating & Dropping Tables

To create a new database table, the `Schema::create` method is used:

```
Schema::create('users', function($table)
{
        $table->increments('id');
});
```

The first argument passed to the `create` method is the name of the table, and the second is a `Closure` which will receive a `Blueprint` object which may be used to define the new table.

To rename an existing database table, the `rename` method may be used:

```
Schema::rename($from, $to);
```

To specify which connection the schema operation should take place on, use the `Schema::connection` method:

```
Schema::connection('foo')->create('users', function($table)
{
        $table->increments('id');
});
```

To drop a table, you may use the `Schema::drop` method:

```
Schema::drop('users');

Schema::dropIfExists('users');
```

Adding Columns

To update an existing table, we will use the `Schema::table` method:

```
Schema::table('users', function($table)
{
        $table->string('email');
});
```

The table builder contains a variety of column types that you may use when building your tables:

Command | Description ——————- | ——————- `$table->bigIncrements('id');` | Incrementing ID using a “big integer” equivalent. `$table->bigInteger('votes');` | BIGINT equivalent to the table `$table->binary('data');` | BLOB equivalent to the table `$table->boolean('confirmed');` | BOOLEAN equivalent to the table `$table->char('name', 4);` | CHAR equivalent with a length `$table->date('created_at');` | DATE equivalent to the table `$table->dateTime('created_at');` | DATETIME equivalent to the table `$table->decimal('amount', 5, 2);` | DECIMAL equivalent with a precision and scale `$table->double('column', 15, 8);` | DOUBLE equivalent

with precision `$table->enum('choices', array('foo', 'bar'));` | ENUM equivalent to the table `$table->float('amount');` | FLOAT equivalent to the table `$table->increments('id');` | Incrementing ID to the table (primary key). `$table->integer('votes');` | INTEGER equivalent to the table `$table->longText('description');` | LONGTEXT equivalent to the table `$table->mediumInteger('numbers');` | MEDIUMINT equivalent to the table `$table->mediumText('description'` | MEDIUMTEXT equivalent to the table `$table->morphs('taggable');` | Adds INTEGER `taggable_id` and STRING `taggable_type` `$table->nullableTimestamps();` | Same as `timestamps()`, except allows NULLs `$table->smallInteger('votes');` | SMALLINT equivalent to the table `$table->tinyInteger('numb` | TINYINT equivalent to the table `$table->softDeletes();` | Adds **deleted_at** column for soft deletes `$table->string('email');` | VARCHAR equivalent column `$table->string('name', 100);` | VARCHAR equivalent with a length `$table->text('description');` | TEXT equivalent to the table `$table->time('sunrise');` | TIME equivalent to the table `$table->timestamp('added_on');` | TIMESTAMP equivalent to the table `$table->timestamps();` | Adds **created_at** and **updated_at** columns `$table->rememberToken();` | Adds `remember_token` as VARCHAR(100) NULL `->nullable()` | Designate that the column allows NULL values `->default($value)` | Declare a default value for a column `->unsigned()` | Set INTEGER to UNSIGNED

Using After On MySQL

If you are using the MySQL database, you may use the `after` method to specify the order of columns:

```
1  $table->string('name')->after('email');
```

Renaming Columns

To rename a column, you may use the `renameColumn` method on the Schema builder. Before renaming a column, be sure to add the `doctrine/dbal` dependency to your `composer.json` file.

```
1  Schema::table('users', function($table)
2  {
3          $table->renameColumn('from', 'to');
4  });
```

Note: Renaming `enum` column types is not supported.

Dropping Columns

To drop a column, you may use the `dropColumn` method on the Schema builder. Before dropping a column, be sure to add the `doctrine/dbal` dependency to your `composer.json` file.

Dropping A Column From A Database Table

```
Schema::table('users', function($table)
{
        $table->dropColumn('votes');
});
```

Dropping Multiple Columns From A Database Table

```
Schema::table('users', function($table)
{
        $table->dropColumn(array('votes', 'avatar', 'location'));
});
```

Checking Existence

Checking For Existence Of Table

You may easily check for the existence of a table or column using the `hasTable` and `hasColumn` methods:

```
if (Schema::hasTable('users'))
{
        //
}
```

Checking For Existence Of Columns

```
if (Schema::hasColumn('users', 'email'))
{
        //
}
```

Adding Indexes

The schema builder supports several types of indexes. There are two ways to add them. First, you may fluently define them on a column definition, or you may add them separately:

```
$table->string('email')->unique();
```

Or, you may choose to add the indexes on separate lines. Below is a list of all available index types:

Command | Description ——————- | ——————- `$table->primary('id');` | Adding a primary key `$table->primary(array('first', 'last'));` | Adding composite keys `$table->unique('email');` | Adding a unique index `$table->index('state');` | Adding a basic index

Foreign Keys

Laravel also provides support for adding foreign key constraints to your tables:

```
$table->integer('user_id')->unsigned();
$table->foreign('user_id')->references('id')->on('users');
```

In this example, we are stating that the `user_id` column references the `id` column on the `users` table. Make sure to create the foreign key column first!

You may also specify options for the “on delete” and “on update” actions of the constraint:

```
$table->foreign('user_id')
      ->references('id')->on('users')
      ->onDelete('cascade');
```

To drop a foreign key, you may use the `dropForeign` method. A similar naming convention is used for foreign keys as is used for other indexes:

```
1  $table->dropForeign('posts_user_id_foreign');
```

Note: When creating a foreign key that references an incrementing integer, remember to always make the foreign key column `unsigned`.

Dropping Indexes

To drop an index you must specify the index's name. Laravel assigns a reasonable name to the indexes by default. Simply concatenate the table name, the names of the column in the index, and the index type. Here are some examples:

Command | Description ——————- | ——————- `$table->dropPrimary('users_id_primary');` | Dropping a primary key from the "users" table `$table->dropUnique('users_email_unique');` | Dropping a unique index from the "users" table `$table->dropIndex('geo_state_index');` | Dropping a basic index from the "geo" table

Dropping Timestamps & SoftDeletes

To drop the `timestamps`, `nullableTimestamps` or `softDeletes` column types, you may use the following methods:

Command | Description ——————- | ——————- `$table->dropTimestamps();` | Dropping the **created_at** and **updated_at** columns from the table `$table->dropSoftDeletes();` | Dropping **deleted_at** column from the table

Storage Engines

To set the storage engine for a table, set the `engine` property on the schema builder:

```
Schema::create('users', function($table)
{
    $table->engine = 'InnoDB';

    $table->string('email');
});
```

Migrations & Seeding

Introduction

Migrations are a type of version control for your database. They allow a team to modify the database schema and stay up to date on the current schema state. Migrations are typically paired with the Schema Builder to easily manage your application's schema.

Creating Migrations

To create a migration, you may use the `make:migration` command on the Artisan CLI:

```
1  php artisan make:migration create_users_table
```

The migration will be placed in your `database/migrations` folder, and will contain a timestamp which allows the framework to determine the order of the migrations.

You may also specify a `--path` option when creating the migration. The path should be relative to the root directory of your installation:

```
1  php artisan make:migration foo --path=app/migrations
```

The `--table` and `--create` options may also be used to indicate the name of the table, and whether the migration will be creating a new table:

```
php artisan make:migration add_votes_to_user_table --table=users

php artisan make:migration create_users_table --create=users
```

Running Migrations

Running All Outstanding Migrations

```
php artisan migrate
```

Running All Outstanding Migrations For A Path

```
php artisan migrate --path=app/foo/migrations
```

Running All Outstanding Migrations For A Package

```
php artisan migrate --package=vendor/package
```

Note: If you receive a "class not found" error when running migrations, try running the `composer dump-autoload` command.

Forcing Migrations In Production

Some migration operations are destructive, meaning they may cause you to lose data. In order to protect you from running these commands against your production database, you will prompted for confirmation before these commands are executed. To force the commands to run without a prompt, use the `--force` flag:

```
php artisan migrate --force
```

Rolling Back Migrations

Rollback The Last Migration Operation

```
php artisan migrate:rollback
```

Rollback all migrations

```
php artisan migrate:reset
```

Rollback all migrations and run them all again

```
php artisan migrate:refresh

php artisan migrate:refresh --seed
```

Database Seeding

Laravel also includes a simple way to seed your database with test data using seed classes. All seed classes are stored in `database/seeds`. Seed classes may have any name you wish, but probably should follow some sensible convention, such as `UserTableSeeder`, etc. By default, a `DatabaseSeeder` class is defined for you. From this class, you may use the `call` method to run other seed classes, allowing you to control the seeding order.

Example Database Seed Class

```
class DatabaseSeeder extends Seeder {

        public function run()
        {
                $this->call('UserTableSeeder');

                $this->command->info('User table seeded!');
        }

}

class UserTableSeeder extends Seeder {

        public function run()
        {
                DB::table('users')->delete();

                User::create(array('email' => 'foo@bar.com'));
        }

}
```

To seed your database, you may use the `db:seed` command on the Artisan CLI:

```
php artisan db:seed
```

By default, the `db:seed` command runs the `DatabaseSeeder` class, which may be used to call other seed classes. However, you may use the `--class` option to specify a specific seeder class to run individually:

```
php artisan db:seed --class=UserTableSeeder
```

You may also seed your database using the `migrate:refresh` command, which will also rollback and re-run all of your migrations:

```
php artisan migrate:refresh --seed
```

Redis

Introduction

Redis[155] is an open source, advanced key-value store. It is often referred to as a data structure server since keys can contain strings[156], hashes[157], lists[158], sets[159], and sorted sets[160].

Note: If you have the Redis PHP extension installed via PECL, you will need to rename the alias for Redis in your `config/app.php` file.

Configuration

The Redis configuration for your application is stored in the `config/database.php` file. Within this file, you will see a `redis` array containing the Redis servers used by your application:

```
'redis' => array(

        'cluster' => true,

        'default' => array('host' => '127.0.0.1', 'port' => 6379),

),
```

[155] http://redis.io
[156] http://redis.io/topics/data-types#strings
[157] http://redis.io/topics/data-types#hashes
[158] http://redis.io/topics/data-types#lists
[159] http://redis.io/topics/data-types#sets
[160] http://redis.io/topics/data-types#sorted-sets

The default server configuration should suffice for development. However, you are free to modify this array based on your environment. Simply give each Redis server a name, and specify the host and port used by the server.

The `cluster` option will tell the Laravel Redis client to perform client-side sharding across your Redis nodes, allowing you to pool nodes and create a large amount of available RAM. However, note that client-side sharding does not handle failover; therefore, is primarily suited for cached data that is available from another primary data store.

If your Redis server requires authentication, you may supply a password by adding a `password` key / value pair to your Redis server configuration array.

Usage

You may get a Redis instance by calling the `Redis::connection` method:

```
1  $redis = Redis::connection();
```

This will give you an instance of the default Redis server. If you are not using server clustering, you may pass the server name to the `connection` method to get a specific server as defined in your Redis configuration:

```
1  $redis = Redis::connection('other');
```

Once you have an instance of the Redis client, we may issue any of the Redis commands[161] to the instance. Laravel uses magic methods to pass the commands to the Redis server:

```
1  $redis->set('name', 'Taylor');
2
3  $name = $redis->get('name');
4
5  $values = $redis->lrange('names', 5, 10);
```

Notice the arguments to the command are simply passed into the magic method. Of course, you are not required to use the magic methods, you may also pass commands to the server using the `command` method:

[161] http://redis.io/commands

```
$values = $redis->command('lrange', array(5, 10));
```

When you are simply executing commands against the default connection, just use static magic methods on the `Redis` class:

```
Redis::set('name', 'Taylor');

$name = Redis::get('name');

$values = Redis::lrange('names', 5, 10);
```

Note: Redis cache and session drivers are included with Laravel.

Pipelining

Pipelining should be used when you need to send many commands to the server in one operation. To get started, use the `pipeline` command:

Piping Many Commands To Your Servers

```
Redis::pipeline(function($pipe)
{
        for ($i = 0; $i < 1000; $i++)
        {
                $pipe->set("key:$i", $i);
        }
});
```

Artisan CLI

Introduction

Artisan is the name of the command-line interface included with Laravel. It provides a number of helpful commands for your use while developing your application. It is driven by the powerful Symfony Console component.

Usage

Listing All Available Commands

To view a list of all available Artisan commands, you may use the `list` command:

```
1  php artisan list
```

Viewing The Help Screen For A Command

Every command also includes a "help" screen which displays and describes the command's available arguments and options. To view a help screen, simply precede the name of the command with `help`:

```
1  php artisan help migrate
```

Specifying The Configuration Environment

You may specify the configuration environment that should be used while running a command using the `--env` switch:

```
1  php artisan migrate --env=local
```

Displaying Your Current Laravel Version

You may also view the current version of your Laravel installation using the `--version` option:

```
1  php artisan --version
```

Artisan Development

Introduction

In addition to the commands provided with Artisan, you may also build your own custom commands for working with your application. You may store your custom commands in the `app/Console` directory; however, you are free to choose your own storage location as long as your commands can be autoloaded based on your `composer.json` settings.

Building A Command

Generating The Class

To create a new command, you may use the `make:console` Artisan command, which will generate a command stub to help you get started:

Generate A New Command Class

```
1  php artisan make:console FooCommand
```

The command above would generate a class at `app/Console/FooCommand.php`.

When creating the command, the `--command` option may be used to assign the terminal command name:

```
1  php artisan make:console AssignUsers --command=users:assign
```

Writing The Command

Once your command is generated, you should fill out the `name` and `description` properties of the class, which will be used when displaying your command on the `list` screen.

The `fire` method will be called when your command is executed. You may place any command logic in this method.

Arguments & Options

The `getArguments` and `getOptions` methods are where you may define any arguments or options your command receives. Both of these methods return an array of commands, which are described by a list of array options.

When defining `arguments`, the array definition values represent the following:

```
1  array($name, $mode, $description, $defaultValue)
```

The argument `mode` may be any of the following: `InputArgument::REQUIRED` or `InputArgument::OPTIONAL`.

When defining `options`, the array definition values represent the following:

```
1  array($name, $shortcut, $mode, $description, $defaultValue)
```

For options, the argument `mode` may be: `InputOption::VALUE_REQUIRED`, `InputOption::VALUE_OPTIONAL`, `InputOption::VALUE_IS_ARRAY`, `InputOption::VALUE_NONE`.

The `VALUE_IS_ARRAY` mode indicates that the switch may be used multiple times when calling the command:

```
1  php artisan foo --option=bar --option=baz
```

The `VALUE_NONE` option indicates that the option is simply used as a “switch”:

```
1  php artisan foo --option
```

Retrieving Input

While your command is executing, you will obviously need to access the values for the arguments and options accepted by your application. To do so, you may use the `argument` and `option` methods:

Retrieving The Value Of A Command Argument

```
1  $value = $this->argument('name');
```

Retrieving All Arguments

```
1  $arguments = $this->argument();
```

Retrieving The Value Of A Command Option

```
1  $value = $this->option('name');
```

Retrieving All Options

```
1  $options = $this->option();
```

Writing Output

To send output to the console, you may use the `info`, `comment`, `question` and `error` methods. Each of these methods will use the appropriate ANSI colors for their purpose.

Sending Information To The Console

```
$this->info('Display this on the screen');
```

Sending An Error Message To The Console

```
$this->error('Something went wrong!');
```

Asking Questions

You may also use the `ask` and `confirm` methods to prompt the user for input:

Asking The User For Input

```
$name = $this->ask('What is your name?');
```

Asking The User For Secret Input

```
$password = $this->secret('What is the password?');
```

Asking The User For Confirmation

```
if ($this->confirm('Do you wish to continue? [yes|no]'))
{
        //
}
```

You may also specify a default value to the `confirm` method, which should be `true` or `false`:

```
$this->confirm($question, true);
```

Registering Commands

Registering An Artisan Command

Once your command is finished, you need to register it with Artisan so it will be available for use. This is typically done in the `app/Providers/ArtisanServiceProvider.php` file. Within this file, you may bind the commands in the IoC container and use the `commands` method to register them with Artisan. By default, a sample command registration is included in the service provider. For example:

```
$this->app->bindShared('commands.inspire', function()
{
        return new InspireCommand;
});
```

Once the command has been bound in the IoC container, you may use the `commands` method in your service provider to instruct the framework to make the command available to Artisan. You should pass the name of the IoC binding you used when registering the command with the container:

```
$this->commands('commands.inspire');
```

Calling Other Commands

Sometimes you may wish to call other commands from your command. You may do so using the `call` method:

```
$this->call('command:name', array('argument' => 'foo', '--option' => 'bar'));
```

Forms & HTML

Opening A Form

Opening A Form

```
{{ Form::open(array('url' => 'foo/bar')) }}
        //
{{ Form::close() }}
```

By default, a `POST` method will be assumed; however, you are free to specify another method:

```
echo Form::open(array('url' => 'foo/bar', 'method' => 'put'))
```

Note: Since HTML forms only support `POST` and `GET`, `PUT` and `DELETE` methods will be spoofed by automatically adding a `_method` hidden field to your form.

You may also open forms that point to named routes or controller actions:

```
echo Form::open(array('route' => 'route.name'))

echo Form::open(array('action' => 'Controller@method'))
```

You may pass in route parameters as well:

```
echo Form::open(array('route' => array('route.name', $user->id)))

echo Form::open(array('action' => array('Controller@method', $user->id)))
```

If your form is going to accept file uploads, add a `files` option to your array:

```
echo Form::open(array('url' => 'foo/bar', 'files' => true))
```

CSRF Protection

Adding The CSRF Token To A Form

Laravel provides an easy method of protecting your application from cross-site request forgeries. First, a random token is placed in your user's session. If you use the `Form::open` method with `POST`, `PUT` or `DELETE` the CSRF token will be added to your forms as a hidden field automatically. Alternatively, if you wish to generate the HTML for the hidden CSRF field, you may use the `token` method:

```
echo Form::token();
```

Attaching The CSRF Filter To A Route

```
Route::post('profile', array('before' => 'csrf', function()
{
        //
}));
```

Form Model Binding

Opening A Model Form

Often, you will want to populate a form based on the contents of a model. To do so, use the `Form::model` method:

```
echo Form::model($user, array('route' => array('user.update', $user->id)))
```

Now, when you generate a form element, like a text input, the model's value matching the field's name will automatically be set as the field value. So, for example, for a text input named `email`, the user model's `email` attribute would be set as the value. However, there's more! If there is an item in the Session flash data matching the input name, that will take precedence over the model's value. So, the priority looks like this:

1. Session Flash Data (Old Input)
2. Explicitly Passed Value
3. Model Attribute Data

This allows you to quickly build forms that not only bind to model values, but easily re-populate if there is a validation error on the server!

Note: When using `Form::model`, be sure to close your form with `Form::close`!

Labels

Generating A Label Element

```
1  echo Form::label('email', 'E-Mail Address');
```

Specifying Extra HTML Attributes

```
1  echo Form::label('email', 'E-Mail Address', array('class' => 'awesome'));
```

Note: After creating a label, any form element you create with a name matching the label name will automatically receive an ID matching the label name as well.

Text, Text Area, Password & Hidden Fields

Generating A Text Input

```
1  echo Form::text('username');
```

Specifying A Default Value

```
1  echo Form::text('email', 'example@gmail.com');
```

Note: The *hidden* and *textarea* methods have the same signature as the *text* method.

Generating A Password Input

```
echo Form::password('password');
```

Generating Other Inputs

```
echo Form::email($name, $value = null, $attributes = array());
echo Form::file($name, $attributes = array());
```

Checkboxes and Radio Buttons

Generating A Checkbox Or Radio Input

```
echo Form::checkbox('name', 'value');

echo Form::radio('name', 'value');
```

Generating A Checkbox Or Radio Input That Is Checked

```
echo Form::checkbox('name', 'value', true);

echo Form::radio('name', 'value', true);
```

Number

Generating A Number Input

```
echo Form::number('name', 'value');
```

File Input

Generating A File Input

```
1  echo Form::file('image');
```

Note: The form must have been opened with the `files` option set to `true`.

Drop-Down Lists

Generating A Drop-Down List

```
1  echo Form::select('size', array('L' => 'Large', 'S' => 'Small'));
```

Generating A Drop-Down List With Selected Default

```
1  echo Form::select('size', array('L' => 'Large', 'S' => 'Small'), 'S');
```

Generating A Grouped List

```
1  echo Form::select('animal', array(
2          'Cats' => array('leopard' => 'Leopard'),
3          'Dogs' => array('spaniel' => 'Spaniel'),
4  ));
```

Generating A Drop-Down List With A Range

```
1  echo Form::selectRange('number', 10, 20);
```

Generating A List With Month Names

```
1  echo Form::selectMonth('month');
```

Buttons

Generating A Submit Button

```
1  echo Form::submit('Click Me!');
```

Note: Need to create a button element? Try the *button* method. It has the same signature as *submit*.

Custom Macros

Registering A Form Macro

It's easy to define your own custom Form class helpers called "macros". Here's how it works. First, simply register the macro with a given name and a Closure:

```
1  Form::macro('myField', function()
2  {
3          return '<input type="awesome">';
4  });
```

Now you can call your macro using its name:

Calling A Custom Form Macro

```
1  echo Form::myField();
```

Generating URLs

For more information on generating URL's, check out the documentation on helpers.

SSH

Configuration

Laravel includes a simple way to SSH into remote servers and run commands, allowing you to easily build Artisan tasks that work on remote servers. The `SSH` facade provides the access point to connecting to your remote servers and running commands.

The configuration file is located at `config/remote.php`, and contains all of the options you need to configure your remote connections. The `connections` array contains a list of your servers keyed by name. Simply populate the credentials in the `connections` array and you will be ready to start running remote tasks. Note that the `SSH` can authenticate using either a password or an SSH key.

Note: Need to easily run a variety of tasks on your remote server? Check out the Envoy task runner!

Basic Usage

Running Commands On The Default Server

To run commands on your `default` remote connection, use the `SSH::run` method:

```
SSH::run(array(
        'cd /var/www',
        'git pull origin master',
));
```

Running Commands On A Specific Connection

Alternatively, you may run commands on a specific connection using the `into` method:

```
SSH::into('staging')->run(array(
        'cd /var/www',
        'git pull origin master',
));
```

Catching Output From Commands

You may catch the "live" output of your remote commands by passing a Closure into the `run` method:

```
SSH::run($commands, function($line)
{
        echo $line.PHP_EOL;
});
```

Tasks

If you need to define a group of commands that should always be run together, you may use the `define` method to define a `task`:

```
SSH::into('staging')->define('deploy', array(
        'cd /var/www',
        'git pull origin master',
        'php artisan migrate',
));
```

Once the task has been defined, you may use the `task` method to run it:

```
SSH::into('staging')->task('deploy', function($line)
{
        echo $line.PHP_EOL;
});
```

SFTP Downloads

The `SSH` class includes a simple way to download files using the `get` and `getString` methods:

```
SSH::into('staging')->get($remotePath, $localPath);

$contents = SSH::into('staging')->getString($remotePath);
```

SFTP Uploads

The `SSH` class also includes a simple way to upload files, or even strings, to the server using the `put` and `putString` methods:

```
SSH::into('staging')->put($localFile, $remotePath);

SSH::into('staging')->putString($remotePath, 'Foo');
```

Tailing Remote Logs

Laravel includes a helpful command for tailing the `laravel.log` files on any of your remote connections. Simply use the `tail` Artisan command and specify the name of the remote connection you would like to tail:

```
php artisan tail staging

php artisan tail staging --path=/path/to/log.file
```

Envoy Task Runner

Laravel Envoy provides a clean, minimal syntax for defining common tasks you run on your remote servers. Using a Blade style syntax, you can easily setup tasks for deployment, Artisan commands, and more.

Note: Envoy requires PHP version 5.4 or greater, and only runs on Mac / Linux operating systems.

Installation

First, install Envoy using the Composer `global` command:

```
composer global require "laravel/envoy=~1.0"
```

Make sure to place the `~/.composer/vendor/bin` directory in your PATH so the `envoy` executable is found when you run the `envoy` command in your terminal.

Next, create an `Envoy.blade.php` file in the root of your project. Here's an example to get you started:

```
@servers(['web' => '192.168.1.1'])

@task('foo', ['on' => 'web'])
        ls -la
@endtask
```

As you can see, an array of `@servers` is defined at the top of the file. You can reference these servers in the `on` option of your task declarations. Within your `@task` declarations you should place the Bash code that will be run on your server when the task is executed.

The `init` command may be used to easily create a stub Envoy file:

```
envoy init user@192.168.1.1
```

Running Tasks

To run a task, use the `run` command of your Envoy installation:

```
envoy run foo
```

If needed, you may pass variables into the Envoy file using command line switches:

```
envoy run deploy --branch=master
```

You may use the options via the Blade syntax you are used to:

```
@servers(['web' => '192.168.1.1'])

@task('deploy', ['on' => 'web'])
        cd site
        git pull origin {{ $branch }}
        php artisan migrate
@endtask
```

Bootstrapping

You may use the `@setup` directive to declare variables and do general PHP work inside the Envoy file:

```
@setup
        $now = new DateTime();

        $environment = isset($env) ? $env : "testing";
@endsetup
```

You may also use `@include` to include any PHP files:

```
@include('vendor/autoload.php');
```

Multiple Servers

You may easily run a task across multiple servers. Simply list the servers in the task declaration:

```
@servers(['web-1' => '192.168.1.1', 'web-2' => '192.168.1.2'])

@task('deploy', ['on' => ['web-1', 'web-2']])
        cd site
        git pull origin {{ $branch }}
        php artisan migrate
@endtask
```

By default, the task will be executed on each server serially. Meaning, the task will finish running on the first server before proceeding to execute on the next server.

Parallel Execution

If you would like to run a task across multiple servers in parallel, simply add the `parallel` option to your task declaration:

```
@servers(['web-1' => '192.168.1.1', 'web-2' => '192.168.1.2'])

@task('deploy', ['on' => ['web-1', 'web-2'], 'parallel' => true])
        cd site
        git pull origin {{ $branch }}
        php artisan migrate
@endtask
```

Task Macros

Macros allow you to define a set of tasks to be run in sequence using a single command. For instance:

```
@servers(['web' => '192.168.1.1'])

@macro('deploy')
        foo
        bar
@endmacro

@task('foo')
        echo "HELLO"
@endtask

@task('bar')
        echo "WORLD"
@endtask
```

The `deploy` macro can now be run via a single, simple command:

```
envoy run deploy
```

Notifications {#ssh-envoy-hipchat-notifications}

HipChat

After running a task, you may send a notification to your team's HipChat room using the simple `@hipchat` directive:

```
@servers(['web' => '192.168.1.1'])

@task('foo', ['on' => 'web'])
        ls -la
@endtask

@after
        @hipchat('token', 'room', 'Envoy')
@endafter
```

You can also specify a custom message to the hipchat room. Any variables declared in `@setup` or included with `@include` will be available for use in the message:

```
@after
        @hipchat('token', 'room', 'Envoy', "$task ran on [$environment]")
@endafter
```

This is an amazingly simple way to keep your team notified of the tasks being run on the server.

Slack

The following syntax may be used to send a notification to Slack[162]:

```
@after
        @slack('team', 'token', 'channel')
@endafter
```

Updating Envoy

To update Envoy, simply run the `self-update` command:

```
envoy self-update
```

[162] https://slack.com

If your Envoy installation is in `/usr/local/bin`, you may need to use `sudo`:

```
composer global update
```