Laravel-Mediable Documentation

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Getting Started

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Laravel-Mediable is a package for easily uploading and attaching media files to models with Laravel 5.

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CHAPTER 1

Features

- Filesystem-driven approach is easily configurable to allow any number of upload directories with different accessibility.
- Many-to-many polymorphic relationships allow any number of media to be assigned to any number of other models without any need to modify the schema.
- Attach media to models with tags, to set and retrieve media for specific purposes, such as 'thumbnail', 'featured image', 'gallery' or 'download'.
- Easily query media and restrict uploads by MIME type, extension and/or aggregate type (e.g. image for jpeg, png or gif).

1.1 Installation

Add the package to your Laravel app using composer.

```
$ composer require plank/laravel-mediable
```

Register the package's service provider in *config/app.php*. In Laravel versions 5.5 and beyond, this step can be skipped if package auto-discovery is enabled.

```
'providers' => [
    //...
    Plank\Mediable\MediableServiceProvider::class,
    //...
];
```

The package comes with a Facade for the image uploader, which you can optionally register as well. In Laravel versions 5.5 and beyond, this step can be skipped if package auto-discovery is enabled.

```
'aliases' => [
    //...
'MediaUploader' => Plank\Mediable\MediaUploaderFacade::class,
```

```
]
```

Publish the config file (config/mediable.php) and migration file (database/migrations/####_#########create_mediable_tables.php) of the package using artisan.

```
$ php artisan vendor:publish --provider="Plank\Mediable\MediableServiceProvider"
```

Run the migrations to add the required tables to your database.

```
$ php artisan migrate
```

1.2 Configuration

1.2.1 Disks

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Laravel-Mediable is built on top of Laravel's Filesystem component. Before you use the package, you will need to configure the filesystem disks where you would like files to be stored in config/filesystems.php. Learn more about filesystem disk.

An example setup with one private disk (local) and one publicly accessible disk (uploads):

```
<?php
//...
'disks' => [
    'local' => [
        'driver' => 'local',
        'root' => storage_path('app'),
    ],

    'uploads' => [
        'driver' => 'local',
        'root' => public_path('uploads'),
    ],
]
//...
```

Once you have set up as many disks as you need, edit config/mediable.php to authorize the package to use the disks you have created.

```
<?php
//...
/*
 * Filesystem disk to use if none is specified
 */
'default_disk' => 'uploads',

/*
 * Filesystems that can be used for media storage
 */
'allowed_disks' => [
    'uploads',
],
//...
```

Disk Visibility

This package is able to generate public URLs for accessing media, and uses the disk config to determine how this should be done.

URLs can always be generated for Media placed on a disk located below the webroot.

```
<?php
'disks' => [
    'uploads' => [
        'driver' => 'local',
        'root' => public_path('uploads'),
    ],
]
//...
$media->getUrl(); // returns http://domain.com/uploads/foo.jpg
```

Media placed on a disk located elsewhere will throw an exception.

```
<?php
'disks' => [
    'private' => [
        'driver' => 'local',
        'root' => storage_path('private'),
      ],
]

//...
$media->getUrl(); // Throws a Plank\Mediable\Exceptions\MediableUrlException
```

If you are using symbolic links to make local disks accessible, you can instruct the package to generate URLs with the 'visibility' => 'public' key. By default, the package will assume that the symlink is named 'storage', as per laravel's documentation. This can be modified with the 'prefix' key.

```
'disks' => [
    'public' => [
        'driver' => 'local',
        'root' => storage_path('public'),
        'visibility' => 'public',
        'prefix' => 'assets'
    ],
]

//...

$media->getUrl(); // returns http://domain.com/assets/foo.jpg
```

Whether you are using symbolic links or not, you can set the 'url' config value to generate disk urls on another domain. Note that you can specify any path in the url, as the root path doesn't have to match, as long as you have set up your web server accordingly.

```
<?php
'disks' => [
    'uploads' => [
```

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```
'driver' => 'local',
    'root' => public_path('uploads'),
    'url' => 'http://example.com/assets',
],
]
//...
$media->getUrl(); // returns http://example.com/assets/foo.jpg
```

However, if you are using a symbolic link to make a local disk accessible, the prefix will be appended to the disk url.

```
'disks' => [
    'public' => [
        'driver' => 'local',
        'root' => storage_path('public'),
        'visibility' => 'public',
        'prefix' => 'assets',
        'url' => 'http://example.com',
],
]

//...

$media->getUrl(); // returns http://example.com/assets/foo.jpg
```

Permissions for S3-based disks is set on the buckets themselves. You can inform the package that Media on an S3 disk can be linked by URL by adding the 'visibility' => 'public' key to the disk config.

```
<?php
'disks' => [
    'cloud' => [
    'driver' => 's3',
        'key' => env('S3_KEY'),
        'secret' => env('S3_SECRET'),
        'region' => env('S3_REGION'),
        'bucket' => env('S3_BUCKET'),
        'version' => 'latest',
        'visibility' => 'public'
],
]
//...
$media->getUrl(); // returns https://s3.amazonaws.com/bucket/foo.jpg
```

1.2.2 Validation

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The *config/mediable.php* offers a number of options for configuring how media uploads are validated. These values serve as defaults, which can be overridden on a case-by-case basis for each MediaUploader instance.

```
<?php
//...
/*
* The maximum file size in bytes for a single uploaded file</pre>
```

```
'max_size' => 1024 * 1024 * 10,
* What to do if a duplicate file is uploaded. Options include:
* * 'increment': the new file's name is given an incrementing suffix
* * 'replace' : the old file and media model is deleted
* * 'error': an Exception is thrown
'on_duplicate' => Plank\Mediable\MediaUploader::ON_DUPLICATE_INCREMENT,
* Reject files unless both their mime and extension are recognized and both match a.
⇒single aggregate type
*/
'strict_type_checking' => false,
* Reject files whose mime type or extension is not recognized
* if true, files will be given a type of `'other'`
'allow_unrecognized_types' => false,
* Only allow files with specific MIME type(s) to be uploaded
'allowed_mime_types' => [],
* Only allow files with specific file extension(s) to be uploaded
'allowed_extensions' => [],
* Only allow files matching specific aggregate type(s) to be uploaded
'allowed_aggregate_types' => [],
//...
```

1.2.3 Aggregate Types

Laravel-Mediable provides functionality for handling multiple kinds of files under a shared aggregate type. This is intended to make it easy to find similar media without needing to constantly juggle multiple MIME types or file extensions.

The package defines a number of common file types in the config file (config/mediable.php). Feel free to modify the default types provided by the package or add your own. Each aggregate type requires a key used to identify the type and a list of MIME types and file extensions that should be recognized as belonging to that aggregate type. For example, if you wanted to add an aggregate type for different types of markup, you could do the following.

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```
'markup' => [
        'mime_types' => [
             'text/markdown',
             'text/html',
             'text/xml',
             'application/xml',
             'application/xhtml+xml',
        ],
         'extensions' => [
             'md',
             'html',
             'htm',
             'xhtml',
             'xml'
        ]
    ],
    //...
]
//...
```

Note: a MIME type or extension could be present in more than one aggregate type's definitions (the system will try to find the best match), but each Media record can only have one aggregate type.

1.2.4 Extending functionality

The config/mediable.php file lets you specify a number of classes to be use for internal behaviour. This is to allow for extending some of the the default classes used by the package or to cover additional use cases.

```
<?php
* FQCN of the model to use for media
* Should extend Plank\Mediable\Media::class
'model' => Plank\Mediable\Media::class,
 * List of adapters to use for various source inputs
* Adapters can map either to a class or a pattern (regex)
'source_adapters' => [
   'class' => [
        Symfony\Component\HttpFoundation\File\UploadedFile::class =>...
→Plank\Mediable\SourceAdapters\UploadedFileAdapter::class,
        Symfony\Component\HttpFoundation\File\File::class =>_
→Plank\Mediable\SourceAdapters\FileAdapter::class,
        Psr\Http\Message\StreamInterface::class =>_
→Plank\Mediable\SourceAdapters\StreamAdapter::class,
    ],
    'pattern' => [
        '^https?://' => Plank\Mediable\SourceAdapters\RemoteUrlAdapter::class,
        '^/' => Plank\Mediable\SourceAdapters\LocalPathAdapter::class
    ],
],
```

```
/*
 * List of URL Generators to use for handling various filesystem disks
 */
'url_generators' => [
    'local' => Plank\Mediable\UrlGenerators\LocalUrlGenerator::class,
    's3' => Plank\Mediable\UrlGenerators\S3UrlGenerator::class,
],
```

1.3 Uploading Files

The easiest way to upload media to your server is with the MediaUploader class, which handles validating the file, moving it to its destination and creating a Media record to reference it. You can get an instance of the MediaUploader using the Facade and configure it with a fluent interface.

To upload a file to the root of the default disk (set in config/mediable.php), all you need to do is the following:

```
<?php
use MediaUploader; //use the facade
$media = MediaUploader::fromSource($request->file('thumbnail'))->upload();
```

1.3.1 Source Files

The fromSource () method will accept any of the following:

- an instance of Symfony\Component\HttpFoundation\UploadedFile, which is returned by \$request->file().
- an instance of Symfony\Component\HttpFoundation\File.
- an instance of Psr\Http\Message\StreamInterface, which is returned by libraries using PSR-7 HTTP message interfaces, like Guzzle.
- a stream resource handle.
- a URL as a string, beginning with http://orhttps://.
- an absolute path as a string, beginning with /.

1.3.2 Specifying Destination

By default, the uploader will place the file in the root of the default disk specified in config/mediable.php. You can customize where the uploader will put the file on your server before you invoke the upload() method.

```
<?php
$uploader = MediaUploader::fromSource($request->file('thumbnail'))

// specify a disk to use instead of the default
->toDisk('s3');

// place the file in a directory relative to the disk root
->toDirectory('user/john/profile')

// alternatively, specify both the disk and directory at once
->toDestination('s3', 'user/john/profile')
```

```
->upload();
```

1.3.3 Specifying Filename

By default, the uploader will copy the source file while maintaining its original filename. You can override this behaviour by providing a custom filename.

```
<?php
MediaUploader::fromSource(...)
   ->useFilename('profile')
   ->upload();
```

You can also tell the uploader to generate a filename based on the MD5 hash of the file's contents.

```
<?php
MediaUploader::fromSource(...)
    ->useHashForFilename()
    ->upload();
```

You can restore the default behaviour with useOriginalFilename().

1.3.4 Handling Duplicates

Occasionally, a file with a matching name might already exist at the destination you would like to upload to. The uploader allows you to configure how it should respond to this scenario. There are three possible behaviours:

```
<?php

// keep both, append incrementing counter to new file name
$uploader->onDuplicateIncrement();

// replace old file with new one
$uploader->onDuplicateReplace();

// cancel upload, throw an exception
$uploader->onDuplicateError();
```

1.3.5 Validation

The MediaUpload will perform a number of validation checks on the source file. If any of the checks fail, a Plank\MediaUploadException will be thrown with a message indicating why the file was rejected.

You can override the most validation configuration values set in config/mediable.php on a case-by-case basis using the same fluent interface.

```
<?php
$media = MediaUploader::fromSource($request->file('image'))

// model class to use
->setModelClass(MediaSubclass::class)
```

```
// maximum filesize in bytes
->setMaximumSize(99999)

// whether the aggregate type must match both the MIME type and extension
->setStrictTypeChecking(true)

// whether to allow the 'other' aggregate type
->setAllowUnrecognizedTypes(true)

// only allow files of specific MIME types
->setAllowedMimeTypes(['image/jpeg'])

// only allow files of specific extensions
->setAllowedExtensions(['jpg', 'jpeg'])

// only allow files of specific aggregate types
->setAllowedAggregateTypes(['image'])

->upload();
```

1.3.6 Handling Exceptions

If you want to return more granular HTTP status codes when a Plank\Mediable\MediaUploadException is thrown, you can use the Plank\Mediable\HandlesMediaUploadExceptions trait in your app's *ExceptionsHandler* or in your controller. For example, if you have set a maximum file size, an 413 HTTP response code (Request Entity Too Large) will be returned instead of a 500.

Call the transformMediaUploadException method as part of the render method of the exception handler, and a HttpException with the appropriate status code will be returned. Take a look at the HandlesMediaExceptions source code for the table of associated status codes and exceptions.

```
ramespace App\Exceptions;

use Plank\Mediable\HandlesMediaUploadExceptions;

class Handler
{
    use HandlesMediaUploadExceptions;

    public function render($request, $e)
    {
        $e = $this->transformMediaUploadException($e);

        return parent::render($request, $e);
    }
}
```

If you only want some actions to throw an HttpException, you can apply the trait to the controller instead.

```
<?php

class ExampleController extends Controller
{
   use HandlesMediaUploadExceptions;</pre>
```

1.3.7 Importing Files

If you need to create a media record for a file that is already in place on the desired filesystem disk, you can use one the import methods instead.

```
<?php
$media = MediaUploader::import($disk, $directory, $filename, $extension);
// or
$media = MediaUploader::importPath($disk, $path);</pre>
```

If you have string file data, you can import it using the fromString method.

1.3.8 Updating Files

If a file has changed on disk, you can re-evaluate its attributes with the update() method. This will reassign the media record's mime_type, aggregate_type and size attributes and will save the changes to the database, if any.

```
<?php
MediaUploader::update($media);</pre>
```

1.4 Handling Media

Add the Mediable trait to any Eloquent models that you would like to be able to attach media to.

```
<?php
namespace App;
use Illuminate\Database\Eloquent\Model;</pre>
```

```
use Plank\Mediable\Mediable;

class Post extends Model
{
   use Mediable;

   // ...
}
```

1.4.1 Attaching Media

You can attach media to your Mediable model using the attachMedia() method. This method takes a second argument, specifying one or more tags which define the relationship between the model and the media. Tags are simply strings; you can use any value you need to describe how the model should use its attached media.

```
<?php
$post = Post::first();
$post->attachMedia($media, 'thumbnail');
```

You can attach multiple media to the same tag with a single call. The attachMedia() method accept any of the following for its first parameter:

- · a numeric or string id
- an instance of \Plank\Mediable\Media
- · an array of ids
- an instance of \Illuminate\Database\Eloquent\Collection

```
<?php
$post->attachMedia([$media1->getKey(), $media2->getKey()], 'gallery');
```

You can also assign media to multiple tags with a single call.

```
<?php
$post->attachMedia($media, ['gallery', 'featured']);
```

1.4.2 Replacing Media

Media and Mediable models share a many-to-many relationship, which allows for any number of media to be added to any key. The attachMedia() method will add a new association, but will not remove any existing associations to other media. If you want to replace the media previously attached to the specified tag(s) you can use the syncMedia() method. This method accepts the same inputs as attachMedia().

```
<?php
$post->syncMedia($media, 'thumbnail');
```

1.4.3 Retrieving Media

You can retrieve media attached to a file by referring to the tag to which it was previously assigned.

```
<?php
$media = $post->getMedia('thumbnail');
```

This returns a collection of all media assigned to that tag. In cases where you only need one Media entity, you can instead use firstMedia() or lastMedia().

```
<?php
$media = $post->firstMedia('thumbnail');
// shorthand for
$media = $post->getMedia('thumbnail')->first();
```

If you specify an array of tags, the method will return media is attached to any of those tags. Set the \$match_all parameter to true to tell the method to only return media that are attached to all of the specified tags.

```
<?php
$post->getMedia(['header', 'footer']); // get media with either tag
$post->getMedia(['header', 'footer'], true); //get media with both tags
$post->getMediaMatchAll(['header', 'footer']); //alias
```

You can also get all media attached to a model, grouped by tag.

```
<?php
$post->getAllMediaByTag();
```

1.4.4 Media Order

The system keeps track of the order in which Media are attached to each Mediable model's tags and are always returned in the same order.

To change the order of media assigned to a given tag, or to insert a new item at a particular index manipulate the eloquent collection then use the syncMedia() method to commit the changes.

```
<?php
$media = $post->getMedia('gallery');
$media = $media->prepend($new_media);
$post->syncMedia($media, 'gallery');
```

An ORDER BY clause is automatically applied to all queries run on the media () relationship. To disable this default behaviour, use the unordered () query scope.

```
<?php
$mediable->media()
   ->unordered()
   ->...
```

1.4.5 Checking for the Presence of Media

You can verify if a model has one or more media assigned to a given tag with the hasMedia() method.

```
<?php
if($post->hasMedia('thumbnail')){
    // ...
}
```

You can specify multiple tags when calling either method, which functions similarly to getMedia(). The method will return true if getMedia() passed the same parameters would return any instances.

You also can also perform this check using the query builder.

```
<?php
$posts = Post::whereHasMedia('thumbnail')->get();
```

1.4.6 Detaching Media

You can remove a media record from a model with the detachMedia() method.

You can also remove all media assigned to one or more tags.

```
<?php
$post->detachMediaTags('feature');
$post->detachMediaTags(['feature', 'thumbnail']);
```

1.4.7 Loading Media

When dealing with any model relationships, taking care to avoid running into the "N+1 problem" is an important optimization consideration. The N+1 problem can be summed up as a separate query being run for the related content of each record of the parent model. Consider the following example:

```
<?php
$posts = Post::limit(10)->get();
foreach($posts as $post) {
    echo $post->firstMedia('thumbnail')->getUrl();
}
```

Assuming there are at least 10 Post records available, this code will execute 11 queries: one query to load the 10 posts from the database, then another 10 queries to load the media for each of the post records individually. This will slow down the rendering of the page.

There are a couple of approaches that can be taken to preload the attached media in order to avoid this issue.

Eager Loading

The Eloquent query builder's with () method is the preferred way to eager load related models. This package also provides an alias.

```
<?php
$posts = Post::with('media')->get();
// or
$posts = Post::withMedia()->get();
```

You can also load only media attached to specific tags.

```
<?php
$posts = Post::withMedia(['thumbnail', 'featured']); // attached to either tags
$posts = Post::withMediaMatchAll(['thumbnail', 'featured']); // attached to both tags</pre>
```

Note: if using this approach to conditionally preload media by tag, you will not be able to access media with other tags using <code>getMedia()</code> without first reloading the media relationship on that record.

Lazy Eager Loading

If you have already loaded models from the database, you can still load relationships with the load() method of the Eloquent Collection class. The package also provides an alias.

```
<?php
$posts = Post::all();
// ...

$posts->load('media');
// or
$posts->loadMedia();
```

You can also load only media attached to specific tags.

```
<?php
$posts->loadMedia(['thumbnail', 'featured']); // attached to either tag
$posts->loadMediaMatchAll(['thumbnail', 'featured']); // attached to both tags
```

The same method is available as part of the Mediable trait, and can be used directly on a model instance.

```
<?php
$post = Post::first();
$post->loadMedia();
$post->loadMedia(['thumbnail', 'featured']); // attached to either tag
$post->loadMediaMatchAll(['thumbnail', 'featured']); // attached to both tags
```

Any of these methods can be used to reload the media relationship of the model.

Note: if using this approach to conditionally preload media by tag, you will not be able to access media with other tags using getMedia() without first reloading the media relationship on that record.

1.4.8 Automatic Rehydration

By default, Mediable models will automatically reload their media relationship the next time the media at a given tag is accessed after that tag is modified.

The attachMedia(), syncMedia(), detachMedia(), and detachMediaTags() methods will mark any tags passed as being dirty, while the hasMedia() getMedia(), firstMedia(), lastMedia(), getAllMediaByTag(), and getTagsForMedia() methods will execute loadMedia() to reload all media if they attempt to read a dirty tag.

For example:

```
<?php
$post->loadMedia();
$post->getMedia('gallery'); // returns an empty collection
$post->getMedia('thumbnail'); // returns an empty collection
$post->attachMedia($media, 'gallery'); // marks the gallery tag as dirty

$post->getMedia('thumbnail'); // still returns an empty collection
$post->getMedia('gallery'); // performs a `loadMedia()`, returns a collection with
$post->getMedia('gallery'); // performs a `loadMedia()`, returns a collection with
```

You can enable or disable this behaviour on a class-by-class basis by adding the <code>\$rehydrates_media</code> property to your <code>Mediable</code> model.

```
<?php
// ...
class Post extends Model
{
   use Mediable;
   protected $rehydrates_media = false;

   // ...
}</pre>
```

You can also set the application-wide default behaviour in config/mediable.php.

```
'rehydrate_media' => true,
```

1.4.9 Deleting Mediables

You can delete mediable model with standard Eloquent model delete() method. This will also detach any associated Mediable models.

```
<?php
$post->delete();
```

Note: The delete() method on the query builder *will not* purge media relationships.

```
<?php
Media::where(...)->delete(); //will not detach relationships
```

Soft Deletes

If your Mediable class uses Laravel's SoftDeletes trait, the model will only detach its media relationships if forceDelete() is used.

You can change the detach_on_soft_delete setting to true in config/mediable.php to have relationships automatically detach when either the Media record or Mediable model are soft deleted.

1.5 Using Media

1.5.1 Media Paths & URLs

Media records keep track of the location of their file and are able to generate a number of paths and URLs relative to the file. Consider the following example, given a Media instance with the following attributes:

```
[
   'disk' => 'uploads',
   'directory' => 'foo/bar',
   'filename' => 'picture',
   'extension' => 'jpg'
```

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```
1;
```

The following attributes and methods would be exposed:

```
</php
$media->getAbsolutePath();
// /var/www/site/public/uploads/foo/bar/picture.jpg

$media->getUrl();
// http://localhost/uploads/foo/bar/picture.jpg

$media->getDiskPath();
// foo/bar/picture.jpg

$media->directory;
// foo/bar

$media->basename;
// picture.jpg

$media->filename;
// picture

$media->extension;
// jpg
```

1.5.2 Querying Media

If you need to query the media table directly, rather than through associated models, the Media class exposes a few helpful methods for the query builder.

```
<?php
Media::inDirectory('uploads', 'foo/bar');
Media::inOrUnderDirectory('uploads', 'foo');
Media::forPathOnDisk('uploads', 'foo/bar/picture.jpg');
Media::whereBasename('picture.jpg');</pre>
```

1.5.3 Moving Media

You should taking caution if manually changing a media record's attributes, as your record and file could go out of sync.

You can change the location of a media file on disk. You cannot move a media to a different disk this way.

```
<?php
$media->move('new/directory');
$media->move('new/directory', 'new-filename');
$media->rename('new-filename');
```

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1.5.4 Copying Media

You can duplicate a media file to a different location on disk with the copyTo() method. Doing so will create a new *Media* record for the new file. If a filename is not provided, the new file will copy the original filename.

```
<?php
$newMedia = $media->copyTo('new/directory');
$newMedia = $media->copyTo('new/directory', 'new-filename');
```

1.5.5 Deleting Media

You can delete media with standard Eloquent model <code>delete()</code> method. This will also delete the file associated with the record and detach any associated <code>Mediable</code> models.

```
<?php
$media->delete();
```

Note: The delete() method on the query builder *will not* delete the associated file. It will still purge relationships due to the cascading foreign key.

```
<?php
Media::where(...)->delete(); //will not delete files
```

Soft Deletes

If you subclass the Media class and add Laravel's SoftDeletes trait, the media will only delete its associated file and detach its relationship if forceDelete() is used.

You can change the detach_on_soft_delete setting to true in config/mediable.php to have relationships automatically detach when either the Media record or Mediable model are soft deleted.

1.6 Aggregate Types

Laravel-Mediable provides functionality for handling multiple kinds of files under a shared aggregate type. This is intended to make it easy to find similar media without needing to constantly juggle multiple MIME types or file extensions. For example, you might want to query for an image, but not care if it is in JPEG, PNG or GIF format.

```
<?php
Media::where('aggregate_type', Media::TYPE_IMAGE)->get();
```

You can use this functionality to restrict the uploader to only accept certain types of files.

```
<?php
MediaUploader::fromSource($request->file('thumbnail'))
    ->toDestination('uploads', '')
    ->setAllowedAggregateTypes([Media::TYPE_IMAGE, Media::TYPE_IMAGE_VECTOR])
    ->upload()
```

To customize the aggregate type definitions for your project, see Configuring Aggregate Types.

1.7 Artisan Commands

This package provides a handful of artisan commands to help keep you filesystem and database in sync.

Create a media record in the database for any files on the disk that do not already have a record. This will apply any type restrictions in the mediable configuration file.

```
$ php artisan media:import [disk]
```

Delete any media records representing a file that no longer exists on the disk.

```
$ php artisan media:prune [disk]
```

To perform both commands together, you can use:

```
$ php artisan media:sync [disk]
```

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