

# Laravel - CSRF Protection

Topics : [Laravel](#)

Written on [December 25, 2023](#)

Cross-Site Request Forgery (CSRF) is a security vulnerability that allows an attacker to trick a user's browser into making unintended requests on a web application. Laravel includes built-in CSRF protection to guard against this type of attack.

## 1. Understanding CSRF Protection:

CSRF protection involves generating and validating tokens to ensure that requests made to your application are legitimate and not forged by malicious users.

## 2. CSRF Token in Forms:

Laravel automatically generates a CSRF token for each active user session. You can include this token in your HTML forms using the `@csrf` Blade directive.

```
<form method="POST" action="/example">
  @csrf
  <!-- Your form fields go here -->
  <button type="submit">Submit</button>
</form>
```

## 3. CSRF Token in AJAX Requests:

When making AJAX requests, you can include the CSRF token in the request headers. Laravel includes a `csrf_token` cookie that you can read and include in your AJAX requests.

```
// Example using Axios
axios.defaults.headers.common['X-CSRF-TOKEN'] =
document.head.querySelector('meta[name="csrf-token"]').content;

axios.post('/example', {
  // Your data here
})
.then(response => {
  // Handle the response
})
.catch(error => {
  // Handle errors
})
```

```
});
```

#### 4. CSRF Middleware:

Laravel includes a middleware called `VerifyCsrfToken` that automatically checks the CSRF token for all incoming POST, PUT, PATCH, and DELETE requests. This middleware is included by default in the web middleware group.

You can find the middleware in the `app/Http/Middleware/VerifyCsrfToken.php` file.

#### 5. Excluding URIs from CSRF Protection:

If you need to exclude specific URIs from CSRF protection, you can add them to the `$except` property in the `VerifyCsrfToken` middleware.

```
protected $except = [  
    'example/*', // Exclude all routes starting with 'example/'  
];
```

#### 6. CSRF Token Verification in Controllers:

Laravel automatically verifies the CSRF token for you in incoming requests. If the token is not present or not valid, Laravel will throw a `TokenMismatchException`. You can catch this exception and handle it as needed.

```
use Illuminate\Http\Request;  
  
public function example(Request $request)  
{  
    // Laravel automatically verifies the CSRF token  
  
    // Your controller logic here  
}
```

#### 7. Configuring the CSRF Token Name and Cookie Name:

You can customize the CSRF token name and cookie name in the `config/session.php` file.

```
'session' => 'your_session_name',  
'token' => 'your_token_name',
```

#### 8. CSRF Protection in APIs:

If you are building an API and don't need CSRF protection, you can remove the `VerifyCsrfToken` middleware from the web middleware group and use a different middleware group for API routes.

```
// app/Http/Kernel.php
```

```
protected $middlewareGroups = [  

```

```

'web' => [
    // ...
    // Comment out or remove VerifyCsrfToken middleware
    // \App\Http\Middleware\VerifyCsrfToken::class,
],

'api' => [
    'throttle:60,1',
    'bindings',
],
];

```

## 9. CSRF Protection in Stateless APIs:

If you are building a stateless API and don't want to use CSRF tokens, you can create a middleware to disable CSRF protection for specific routes.

```

// Example middleware to disable CSRF protection
public function handle($request, Closure $next)
{
    config(['session.driver' => 'array']);

    return $next($request);
}

```

## 10. Testing CSRF Protection:

To test CSRF protection in your application, you can create tests using Laravel's testing features, such as the `actingAs` method to simulate a logged-in user.

```

public function testExample()
{
    $response = $this->actingAs($user)
        ->post('/example', ['name' => 'John Doe']);

    $response->assertStatus(200);
}

```