Cross Site Request Forgery (CSRF)

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Step 3: Create custom login form

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  - Provides automatic support for security defenses *(more on this later)*

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Spring Security

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- Spring Security protects against **Cross-Site Request Forgery (CSRF)**

What is CSRF?

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A security attack where an evil website
tricks you into executing an action
on a web application
that you are currently logged in.

CSRF Examples

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CSRF Examples

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- You are logged into an e-commerce app
  - tricked into purchasing unwanted items

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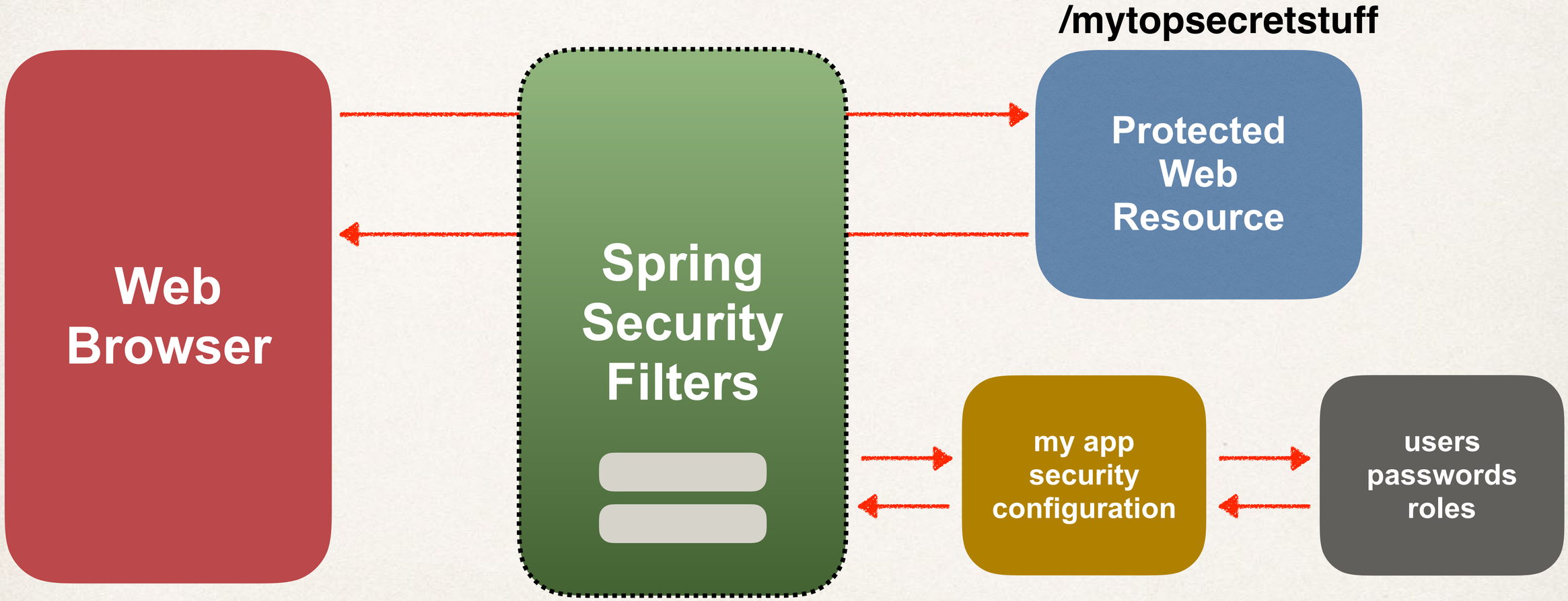
- To protect against CSRF attacks
- Embed additional authentication data/token into all HTML forms
- On subsequent requests, web app will verify token before processing

Spring Security Overview



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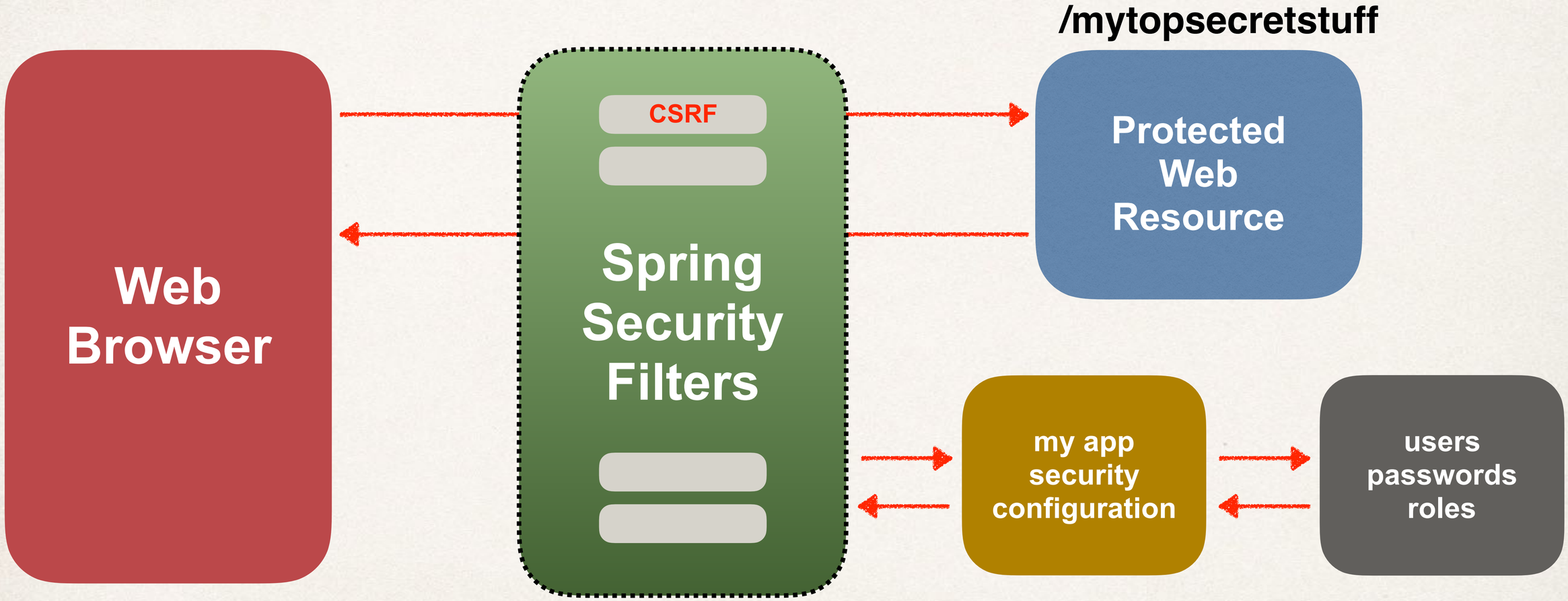

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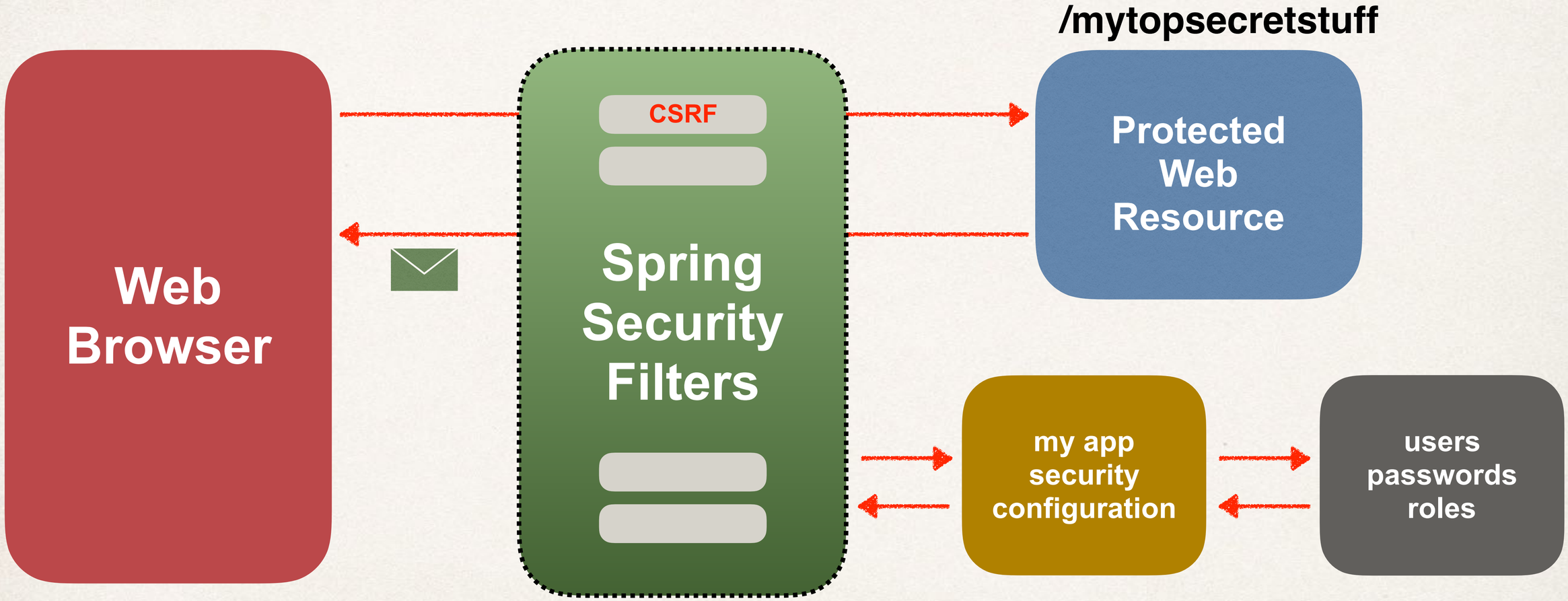

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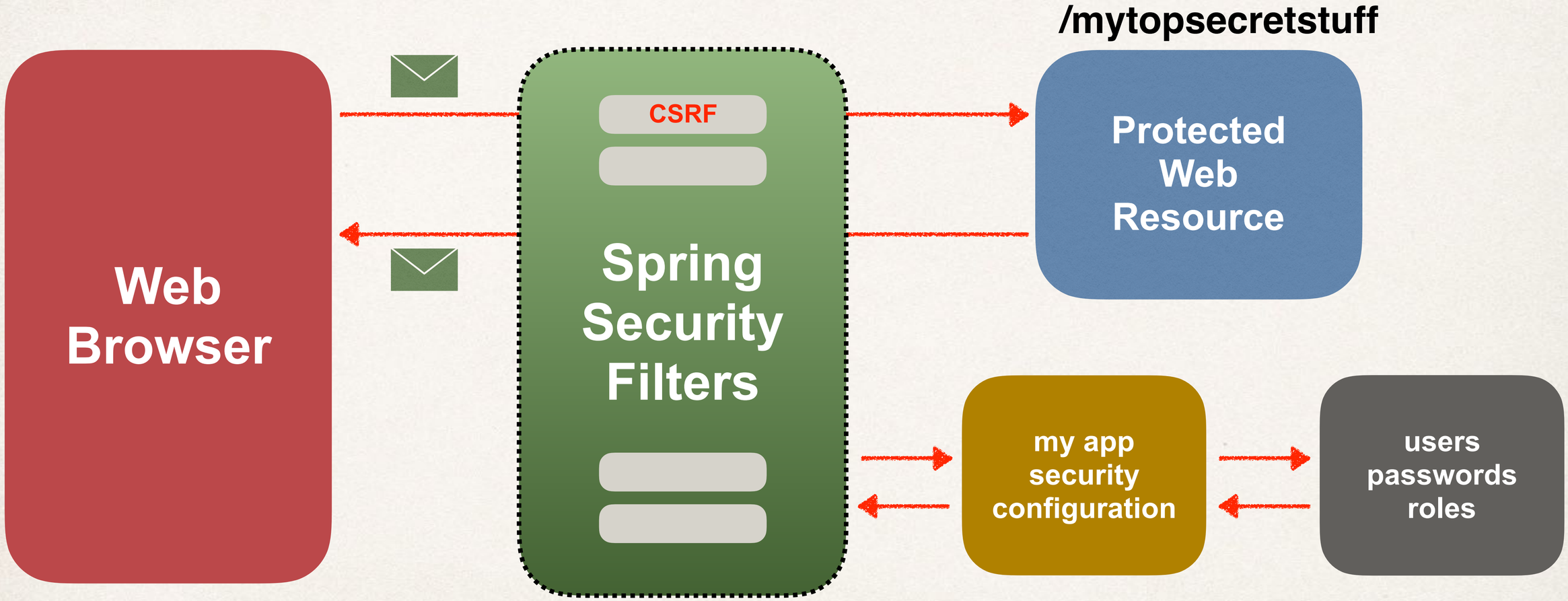

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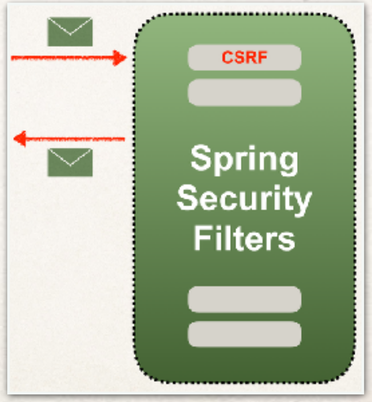

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- Use CSRF protection for any normal browser web requests
- If you are building a service for non-browser clients
  - you *may* want to disable CSRF protection (after careful review)

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- If you don't use `<form:form>`, you must manually add CSRF token

Manually add CSRF token

```
<form action="..." method="POST">

        <input type="hidden"
               name="${_csrf.parameterName}"
              value="${_csrf.token}" />

</form>
```

What happens if you don't include CSRF token?

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Let's Break It!

HTTP Status 403 – Forbidden

Type Status Report

Message Invalid CSRF Token 'null' was found on the request parameter '_csrf' or header 'X-CSRF-TOKEN'.

Description The server understood the request but refuses to authorize it.

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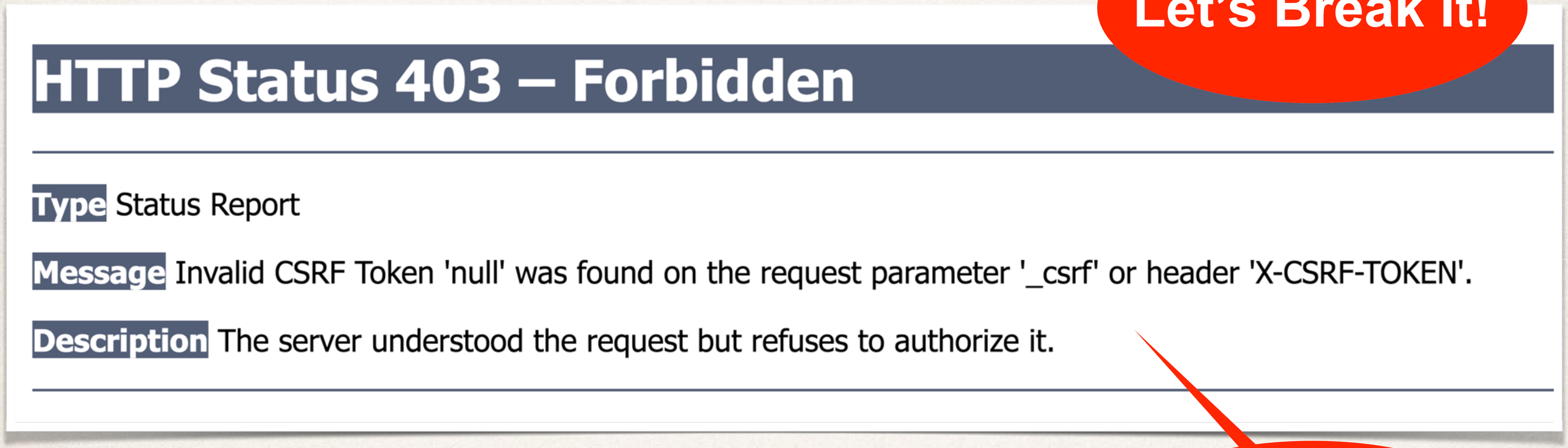
Let's Break It!



Token was not included

CSRF Resources

- CSRF Security Reference
  - `https://www.owasp.org/index.php/Cross-Site_Request_Forgery_(CSRF)`
- Spring Security CSRF Support
  - `https://docs.spring.io/spring-security/site/docs/current/reference/htmlsingle/#csrf`