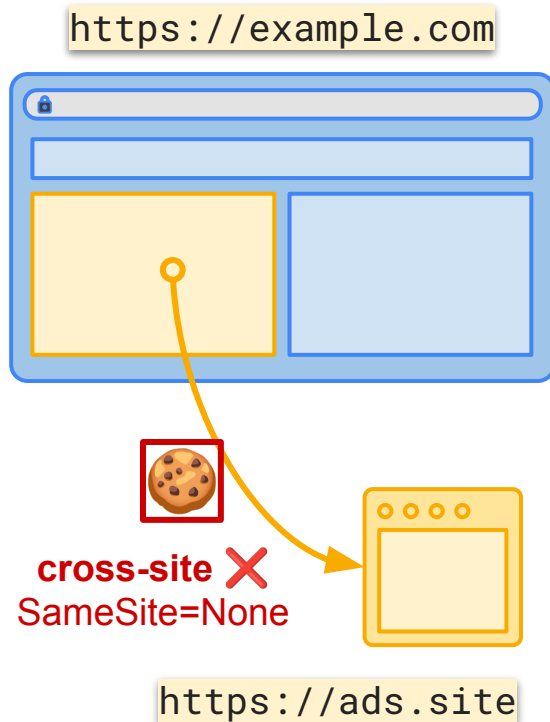
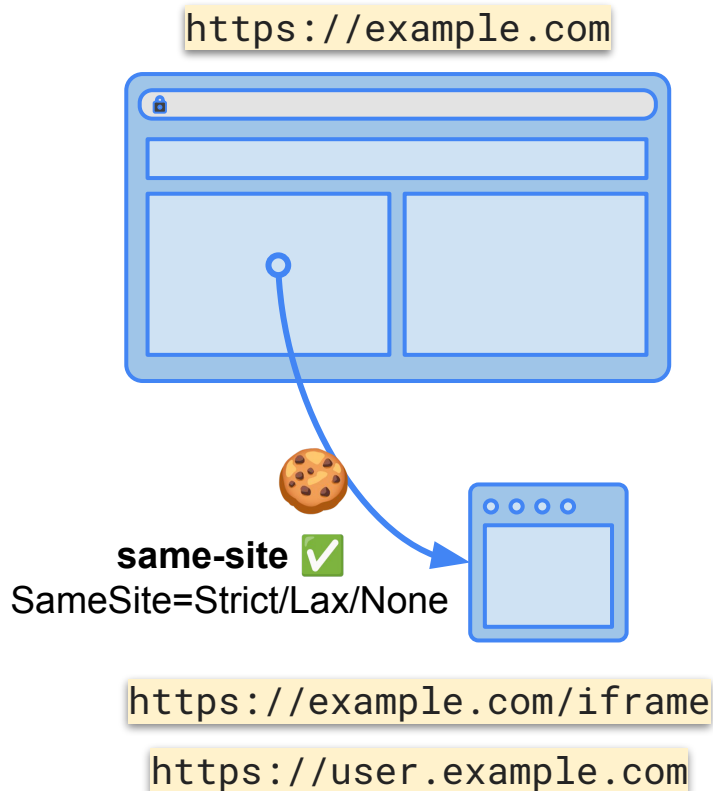


Allow SameSite=None Cookies in Sandboxed Contexts

Anusha Muley, Dylan Cutler

same-site Cookies

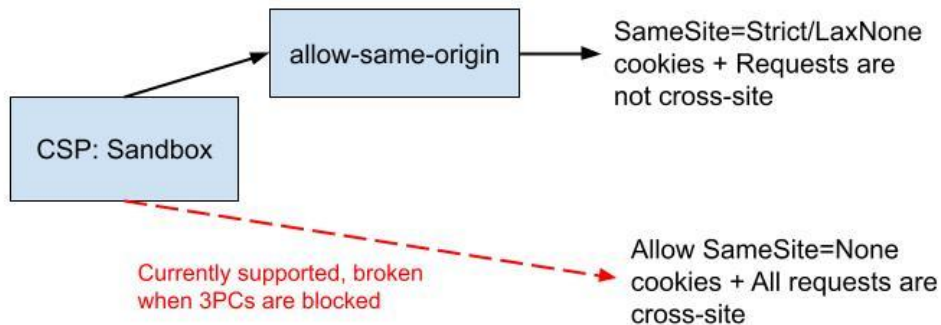


Sandboxing

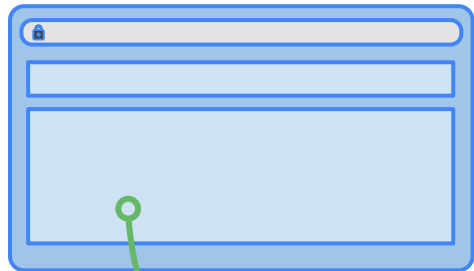
Content-Security-Policy: **sandbox**

```
<iframe src="." sandbox></iframe>
```

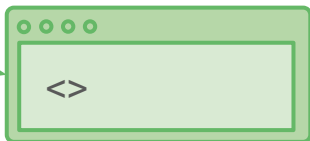
- Document uses opaque origin → restricts access to **SameSite** cookie storage
- Sites use **SameSite=None** cookies for session/access control



`https://storage.example.com`



SameSite=None



<treated as opaque>

`https://user.storage.example.com`

Content-Security-Policy: sandbox

With 3PCs Blocked



✓ allowed by default



✗ blocked

Example Scenario

storage.example.com hosts untrusted user uploaded content (ie code)

- **Content-Security-Policy: sandbox** → restrict scripts
- **SameSite=None** cookies to restrict content to only be visible to uploader

If 3PCs are blocked

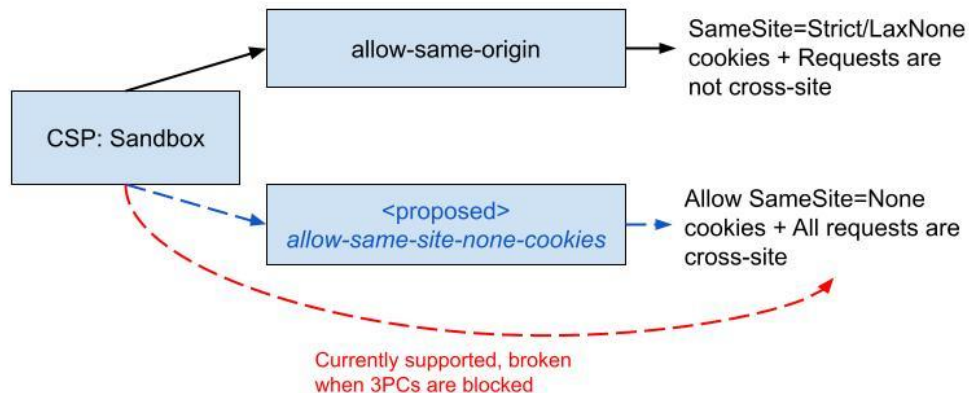
- Result: site cannot access **SameSite=None** cookies in sandboxed subresource pages

Proposal

Content-Security-Policy: sandbox **allow-same-site-none-cookies**;

<iframe src="." sandbox **allow-same-site-none-cookies**></iframe>

- Server opt-in to allow **SameSite=None** cookies in their sandboxed documents
- HTTP header → easy for developers to opt-in + accessible for non-scripts sandboxed contexts



Privacy and Security Considerations

- Opt-in behavior, servers can determine if vulnerability to re-enable
- Only allowing first party cookies:
 - Verify that frames are same-site with the sandboxed document
- Requests still treated as cross-site
 - CORS + `SameSite=Strict/Lax` filtering intact

Alternatives and Discussion

- SAA/another API based solution?
 - No allow-scripts (+ allow-storage-access-by-user-activation, allow-same-origin)
- 3PC exception for this case?
 - temporary fix, want opt-in functionality
- If 3PCs are not blocked, what would this directive do?
 - No impact if 3PCs aren't blocked, frame + site specific so binary cases