



Bartosz  
Cytrowski

Gdy iframe iframem iframe'a pogania,  
czyli o UI który staje się platformą



Michał  
Michalczuk

# dev.js

## summit 2022

SALA FIOLETOWA

Godz. 15:00

Vue Storefront

 **divante**  
a cloudflight company

 **STX NEXT**  
python powerhouse

 **NOVOMATIC**  
POLAND

 **EY**  
Building a better working world

 **match-trade**  
technologies

 **Infermedica**

 **Landingi**

 **deployed**

 **Capgemini**

 **Passion EL**

 **HL TECH**

 **CKSOURCE™**

 **ATLASSIAN**

 **monogo**  
e-commerce  
made to be done right

# Cześć, dzień dobry



Dzisiaj będzie po polsku



# Gdy iframe iframem iframe'a pogania

czyli o UI, które staje się platformą

# Powszechna front-endowa trivia

# Zależności są wszędzie!

- npm
- stackoverflow
- internety



# Kod z trzeciej imprezy 😊

i co możemy z nim zrobić

# SDK

```
<div id="map"></div>
<script
  src="https://maps.googleapis.com/maps/api/js.."
></script>

// Initialize and add the map
function initMap() {
  // The location of Uluru
  const uluru = { lat: -25.344, lng: 131.031 };
  // The map, centered at Uluru
  const map = new google.maps.Map(
    document.getElementById("map"), {
      zoom: 4,
      center: uluru,
    });
  // The marker, positioned at Uluru
  const marker = new google.maps.Marker({
    position: uluru,
    map: map,
  });
}

window.initMap = initMap;
```



# <iframe>

```
<iframe  
width="450"  
height="250"  
frameborder="0" style="border:0"  
referrerpolicy="no-referrer-when-downgrade"  
src="https://www.google.com/maps/embed/v1/  
MAP_MODE?key=YOUR_API_KEY&q=uluru"  
allowfullscreen>  
</iframe>
```



Brzmi sensownie.  
Gdzie jest problem?

**Jak zadowolić  
klientów?**

# Jeżeli rozwijamy produkt, to...

- musimy rozsądnie dobierać zestaw oferowanych funkcji
- musimy jasno określić przypadki i problemy, których nie rozwiązujemy
- musimy gwarantować stabilne fundamenty



Nikt jednak nie powiedział,  
że aplikację musimy rozwijać sami...

# Jak powstaje platforma

i jak rodzi się marketplace

API

Design guidelines

In-house extension devs

Common problems

Vendors



**Chwila moment...  
kim my tak właściwie  
jesteśmy? 😊**

... i co tu robimy



**Full  
Stack**  
STAGE

InfoShare 2019

# Michał Michałczuk, Bartosz Cytrowski

TypeScript  
na styku warstw  
aplikacji

#60



LIVE



# Śniadanie z PROGRAMOWANIEM

GODZINA 8:45

PIĄTEK

EDYCJA FRONTEND



Michał Michalczuk

Team Leader



Bartosz Cytrowski

Senior Software Engineer

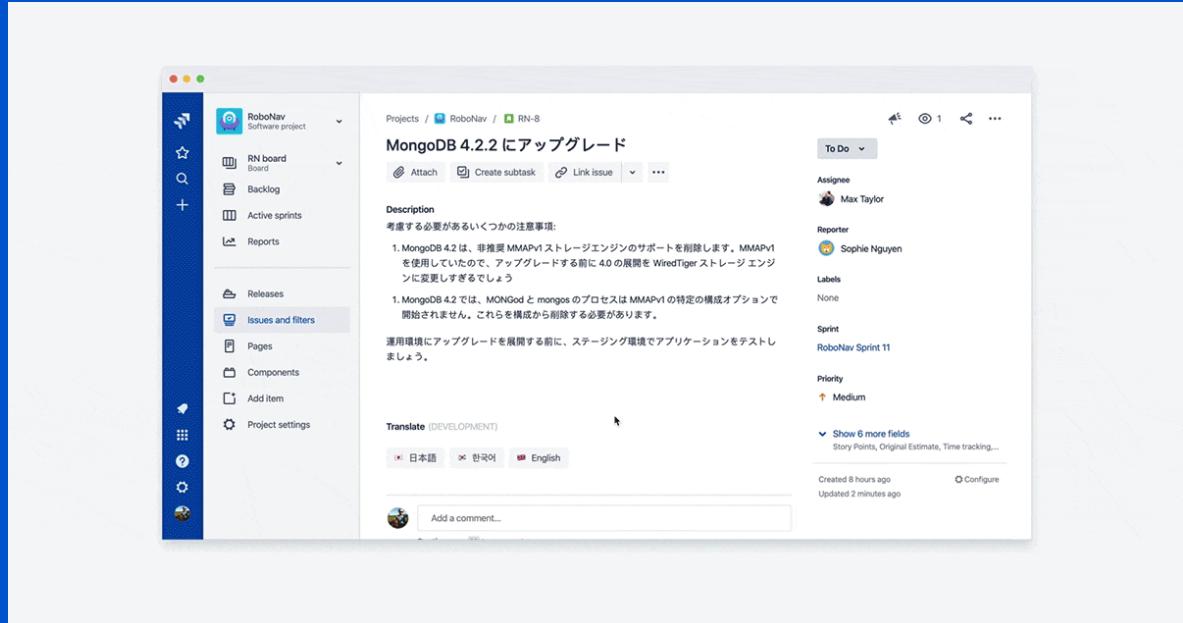


#unbox



# UI Modifications

# Forge



The screenshot shows the Atlassian Jira interface for a project titled "RoboNav". The left sidebar contains navigation links such as "RN board", "Backlog", "Active sprints", "Reports", "Releases", "Issues and filters", "Pages", "Components", "Add item", and "Project settings". The main content area displays a ticket for "MongoDB 4.2.2にアップグレード".  
**Description:**  
考慮する必要があるいくつかの注意事項:  
1. MongoDB 4.2 では、非推奨 MMAPv1 ストレージエンジンのサポートを削除します。MMAPv1 を使用していたので、アップグレードする前に 4.0 の限界を WiredTiger ストレージエンジンに変更しちゃぎるでしょう  
2. MongoDB 4.2 では、MONGod と mongos のプロセスは MMAPv1 の特定の構成オプションで開始されません。これらを構成から削除する必要があります。  
運用環境にアップグレードを展開する前に、ステージング環境でアプリケーションをテストしましょう。



24-27.05.2021

JavaScript

SPONSORED BY:

# allegro



```
import ivm from 'isolated-vm';
const { Isolate } = ivm;

// create new Isolate
const isolate = new Isolate({
  inspector: true,
  memoryLimit: 128, // in MB
});

// new context
const context = await isolate.createContext();

// global object of the context - we'll set
variables there
const jail = context.global;

// now we'll have access to `global` object as
value
await jail.set('global', jail.derefInto());
```

**MICHał MICHALCZUK**

FaaS od środka - isolated V8 i inne stwory

[link do video](#)

# Forge UI Kit

Forge | Guides | Reference | Get help | Changelog

Search...

CLI Manifest Runtime Custom UI **UI kit** Events Product REST APIs

Filter by keyword

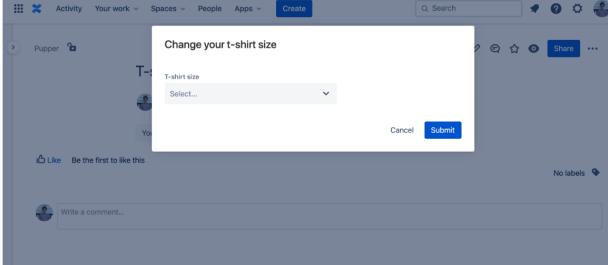
UI kit hooks

Common UI kit components

- Avatar
- AvatarStack
- Button
- ButtonSet
- Code
- Form
- Fragment
- Heading
- InlineDialog
- Image
- Macro
- [ModalDialog](#)

## ModalDialog

A dialog that appears in a layer above the app's UI and requires user interaction.



Rate this page: ★ ★ ★ ★ ★

**ON THIS PAGE**

[Import statement](#)

[Props](#)

[Example](#)

### Import statement

```
1 import ForgeUI, { ModalDialog } from '@forge/ui';
```



# Forge Custom UI

... ale o tym powiemy dopiero za chwilę 😊

Skupmy się na czymś innym...

Dlaczego nie mogę po prostu pozwolić klientom  
załączać w moim produkcie dowolnych skryptów?



# Hyrum's Law

With a sufficient number of users of an API,  
it does not matter what you promise in the contract:  
all observable behaviors of your system  
will be depended on by somebody.

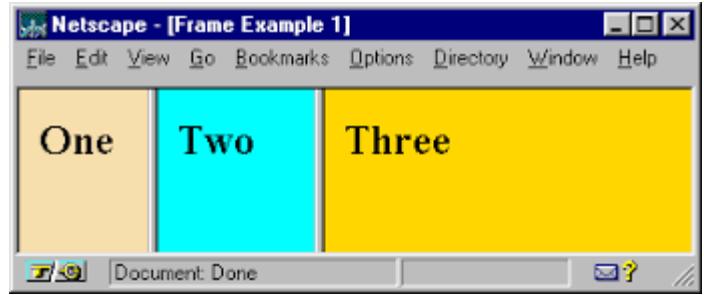
~ Hyrum Wright (Google)

# Wróćmy do Forge Custom UI 😊

o co chodzi z iframe'ami?

Hello <iframe>  
my old friend 🎵

Lekcja historii prof. Michalczuka



Long time no see

 **Netscape - [Great Recipes]**

File Edit View Go Bookmarks Window Help

 Location: file:///temp/recipesframetop.html 



## Great Recipes

**CONTENTS**

[Breakfast Tacos](#)

[Greek Salad](#)

[Mexican Beans and Rice](#)

[Refried Beans](#)

[Spanish Rice](#)

[Sweet & Sour Bean Dish](#)

### Breakfast Tacos

- two good sized red potatoes
- small onion
- bell pepper
- green onions
- dash of: cumin, chili powder, garlic, oregano, basil, pepper
- pinch of salt
- fresh cilantro
- bit of oil
- tomatoes
- whole wheat tortillas
- salsa (optional)
- lime (optional)

  Document: Done

frameset ❤

# HTML

Living Standard — Last Updated 27 April 2022



[← 4.8.4 Images](#) — [Table of Contents](#) — [4.8.8 The video element →](#)

[4.8.5 The `iframe` element](#)

[4.8.6 The `embed` element](#)

[4.8.7 The `object` element](#)

## § 4.8.5 The `iframe` element

✓ MDN

### Categories:

✓ MDN

[Flow content.](#)

[Phrasing content.](#)

[Embedded content.](#)

[Interactive content.](#)

[Palpable content.](#)

[File an issue about the selected text](#)

Nasza strona

## Customer report

Customer: Big Corp.

Revenue: \$5000000

Market: IT & Software Development

Competitors:

Osadzony IFrame

- Smaller Corp
- Yet another smaller Corp
- Significant competitor LTD

### This is static IFrame

It doesn't contain any script. Just plain text, styles and images from Unsplash.



Served from same domain as IFrame  
([source: pixabay.com](#))



Server from [source.unsplash.com](#)

```
<iframe src="./iframes/static.html">  
  Waiting for iframe...  
</iframe>
```

Process Name	% CPU	CPU Time	Threads	Idle Wake-Ups	% GPU	GPU Time	PID
Google Chrome	0,0	1,63	9	0	0,0	0,00	10146
Google Chrome	0,8	1:48:38,36	39	3	0,0	0,50	62542
Google Chrome Helper	0,0	0,07	7	0	0,0	0,00	25002
Google Chrome Helper	0,2	15:39:43	12	5	0,0	0,00	62558
Google Chrome Helper	0,6	2:39,11	12	17	0,0	0,00	62664
Google Chrome Helper	0,1	48,35	10	1	0,0	0,00	62560
Google Chrome Helper (GPU)	0,4	2:12:00,32	12	14	0,0	1:02:36,03	62557
Google Chrome Helper (Renderer)	0,0	44,05	16	1	0,0	0,00	76090
Google Chrome Helper (Renderer)	0,0	10,24	21	0	0,0	0,00	22202
Google Chrome Helper (Renderer)	0,0	32,60	21	1	0,0	0,00	76321
Google Chrome Helper (Renderer)	0,0	8,55	16	0	0,0	0,00	77535
Google Chrome Helper (Renderer)	0,0	6:49,70	16	0	0,0	0,00	73264
Google Chrome Helper (Renderer)	0,0	14,01	16	0	0,0	0,00	92984
Google Chrome Helper (Renderer)	0,0	16,11	16	0	0,0	0,00	21550
Google Chrome Helper (Renderer)	0,0	4,18	16	0	0,0	0,00	62616
Google Chrome Helper (Renderer)	0,0	3,70	16	0	0,0	0,00	73101
Google Chrome Helper (Renderer)	0,0	7,17	16	1	0,0	0,00	77286
Google Chrome Helper (Renderer)	0,0	19,62	16	0	0,0	0,00	62607
Google Chrome Helper (Renderer)	0,0	10,74	17	0	0,0	0,00	85511
Google Chrome Helper (Renderer)	0,0	2:22,23	16	1	0,0	0,00	73083
Google Chrome Helper (Renderer)	0,0	5:30,18	17	2	0,0	0,00	73065
Google Chrome Helper (Renderer)	0,0	2:53,55	18	0	0,0	0,00	75932
Google Chrome Helper (Renderer)	0,0	48,88	16	0	0,0	0,00	22275
Google Chrome Helper (Renderer)	0,0	9,31	16	0	0,0	0,00	73423
Google Chrome Helper (Renderer)	0,0	18,29	16	1	0,0	0,00	92980
Google Chrome Helper (Renderer)	0,0	0,98	16	0	0,0	0,00	16188
Google Chrome Helper (Renderer)	0,0	13,44	16	0	0,0	0,00	73165
Google Chrome Helper (Renderer)	0,0	10,82	17	1	0,0	0,00	76100
Google Chrome Helper (Renderer)	0,0	6,29	16	0	0,0	0,00	76254
Google Chrome Helper (Renderer)	0,0	1,83	17	0	0,0	0,00	22203
Google Chrome Helper (Renderer)	0,0	7,21	24	0	0,0	0,00	72984
Google Chrome Helper (Renderer)	0,0	1,66	16	0	0,0	0,00	76322
Google Chrome Helper (Renderer)	0,0	3:39,21	18	0	0,0	0,00	76236
Google Chrome Helper (Renderer)	0,0	4:09,45	16	0	0,0	0,00	73084
Google Chrome Helper (Renderer)	0,0	57,80	16	0	0,0	0,00	76096
Google Chrome Helper (Renderer)	0,0	3,31	16	0	0,0	0,00	23911
Google Chrome Helper (Renderer)	0,0	3:17,02	16	0	0,0	0,00	77242

System:	2,73%	CPU LOAD	Threads: 4 029
User:	4,33%		Processes: 664
Idle:	92,93%		

Żegnaj pamięci!

# Origin

Czyli właściwie co?

## Definition of an origin

Two URLs have the *same origin* if the [protocol](#), [port](#) (if specified), and [host](#) are the same for both. You may see this referenced as the "scheme/host/port tuple", or just "tuple". (A "tuple" is a set of items that together comprise a whole — a generic form for double/triple/quadruple/quintuple/etc.)

# Origin

## Same origin

<http://store.company.com/dir2/other.html>

<http://store.company.com/dir/page.html>

## Inny protokół

<https://store.company.com/dir2/other.html>

<http://store.company.com/dir/page.html>

## Inny host

<http://store.company.com/dir2/other.html>

<http://news.company.com/dir/page.html>

```
<iframe src="./static.html">
    Waiting for iframe...
</iframe>
```

# same-origin

Jak <iframe> zachowa się przy serwowaniu z tej samej domeny?

Your  product (Here are some display: none; elements with your customers data)

---

iframe from:  same-origin  cross-origin

static

With HTTP request

With access to host data

With modifying host

Download file

With usage of `eval`

With requires permissions (feature policy)



# cross-origin

Co się wydarzy przy cross-origin?

## Definition of an origin

Two URLs have the *same origin* if the protocol, port (if specified), and host are the same for both. You may see this referenced as the "scheme/host/port tuple", or just "tuple". (A "tuple" is a set of items that together comprise a whole — a generic form for double/triple/quadruple/quintuple/etc.)

Dawno nie było

Your  product (Here are some display: none; elements with your customers data)

---

iframe from:  same-origin  cross-origin

static

With HTTP request

With access to host data

With modifying host

Download file

With usage of `eval`

With requires permissions (feature policy)

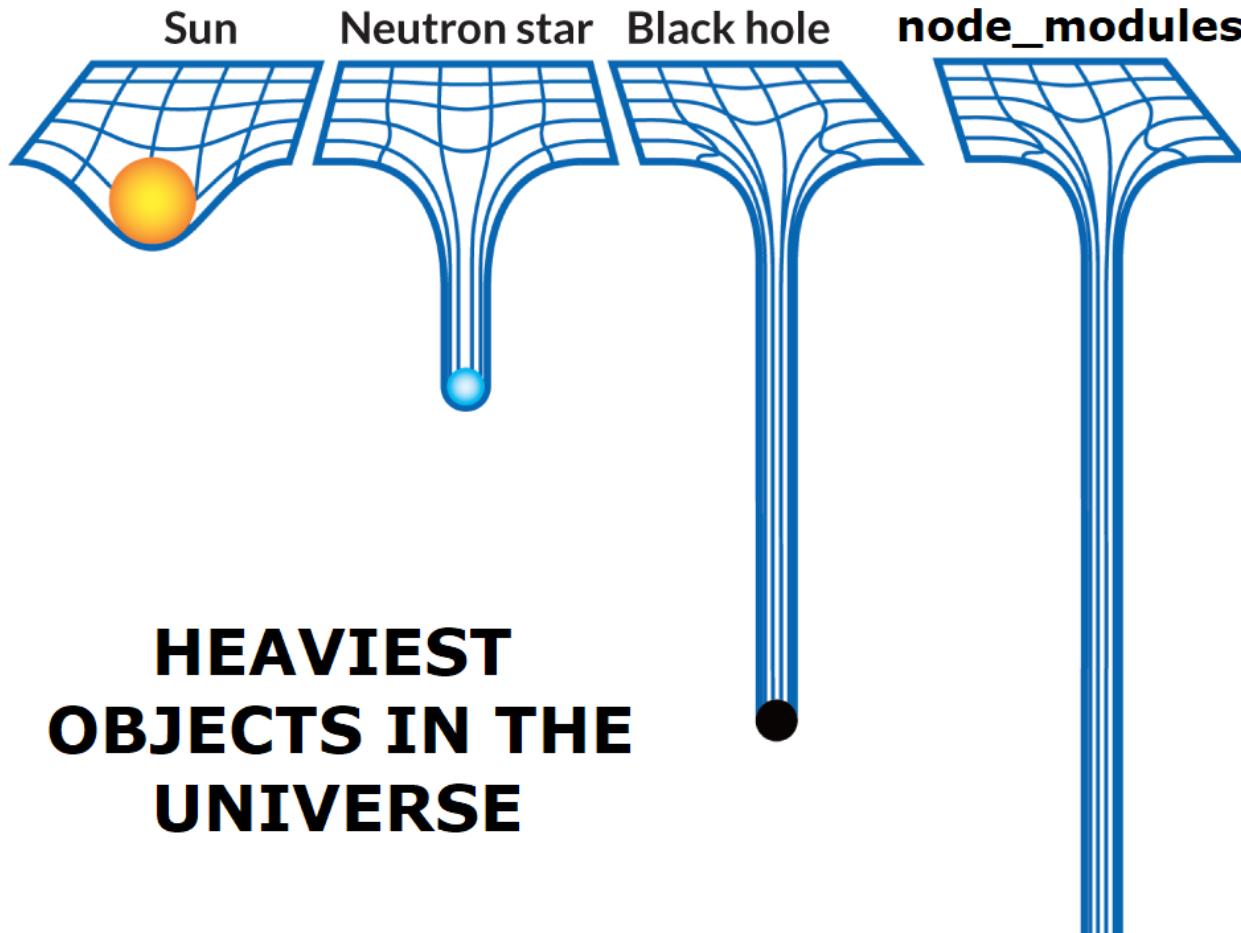
# Security 🚓

Jak mam zablokować...

- wykonywanie skryptów
- przekierowanie hosta
- otwieranie nowych stron
- pobieranie plików
- wysyłanie formularzy

Jak mam nadać wybrane `permissions` ...

- `camera`
- `microphone`
- `payments`
- ...



Wiecie czym to grozi

# Narzędziownik <iframe>

Co IFrame daje nam do dyspozycji?

Sandbox



Allow

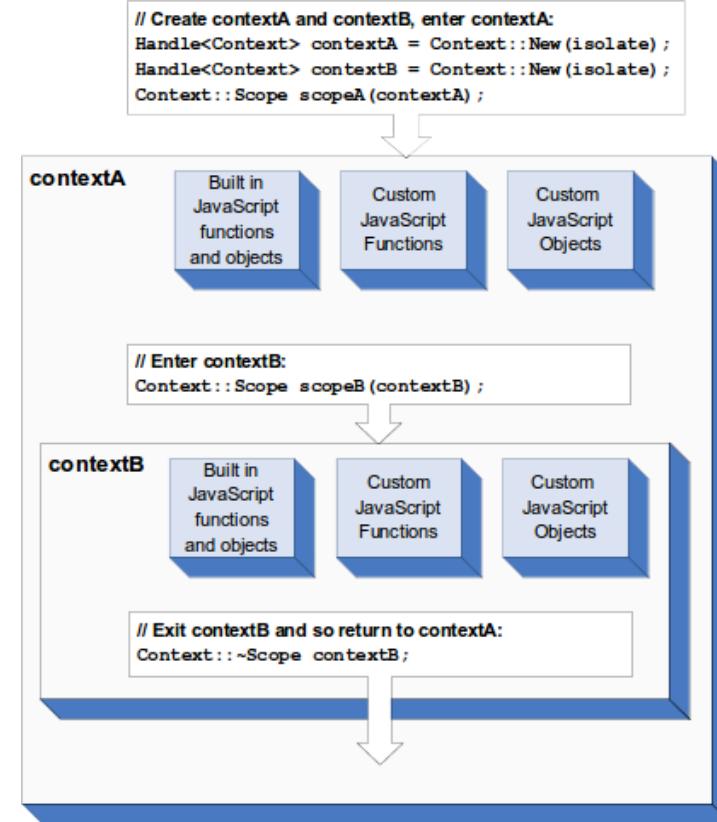


# Sandbox



Wrzuć <iframe> do piaskownicy

# V8 a Sandbox



```
<iframe sandbox src=".static.html">  
    Waiting for iframe...  
</iframe>
```

Your  product (Here are some display: none; elements with your customers data)

---

iframe from:  same-origin  cross-origin

static

With HTTP request

With access to host data

With modifying host

Download file

With usage of `eval`

With requires permissions (feature policy)

## sandbox

Applies extra restrictions to the content in the frame. The value of the attribute can either be empty to apply all restrictions, or space-separated tokens to lift particular restrictions:

- `allow-downloads-without-user-activation` : Allows for downloads to occur without a gesture from the user.
- `allow-downloads` : Allows for downloads to occur with a gesture from the user.
- `allow-forms` : Allows the resource to submit forms. If this keyword is not used, form submission is blocked.
- `allow-modals` : Lets the resource [open modal windows](#) .
- `allow-orientation-lock` : Lets the resource [lock the screen orientation](#).
- `allow-pointer-lock` : Lets the resource use the [Pointer Lock API](#).
- `allow-popups` : Allows popups (such as `window.open()`, `target="_blank"`, or `showModalDialog()`). If this keyword is not used, the popup will silently fail to open.

- `allow-popups-to-escape-sandbox` : Lets the sandboxed document open new windows without those windows inheriting the sandboxing. For example, this can safely sandbox an advertisement without forcing the same restrictions upon the page the ad links to.
- `allow-presentation` : Lets the resource start a [presentation session](#).
- `allow-same-origin` : If this token is not used, the resource is treated as being from a special origin that always fails the [same-origin policy](#) (potentially preventing access to [data storage/cookies](#) and some JavaScript APIs).
- `allow-scripts` : Lets the resource run scripts (but not create popup windows).
- `allow-storage-access-by-user-activation` : Lets the resource request access to the parent's storage capabilities with the [Storage Access API](#).
- `allow-top-navigation` : Lets the resource navigate the top-level browsing context (the one named `_top`).
- `allow-top-navigation-by-user-activation` : Lets the resource navigate the top-level browsing context, but only if initiated by a user gesture.

Tak, to screen z [mdn](#), a co?

# Sandbox



## allow-downloads

```
<iframe sandbox="allow-downloads" src="./static.html">  
  Waiting for iframe...  
</iframe>
```

Każdy `allow` dodajemy analogicznie.

**allow-downloads-without-user-activation #experimental**

allow-forms

allow-popups

allow-same-origin

allow-scripts

allow-top-navigation

allow-top-navigation-by-user-activation

Your  product (Here are some display: none; elements with your customers data)

---

iframe from:  same-origin  cross-origin

static

With HTTP request

With access to host data

With modifying host

Download file

With usage of `eval`

With requires permissions (feature policy)

# allow-scripts + allow-same-origin === !



```
<iframe sandbox="allow-scripts allow-same-origin" src="./tricky-iframe.html">
  Waiting for iframe...
</iframe>
```

```
// tricky-iframe.html
window.parent.document.querySelector('iframe').attributes.removeNamedItem('sandbox');
```

# Security

## Kontrola nad zablokowaniem

-  wykonywania skryptów
-  przekierowania hosta
-  otwierania nowych stron
-  pobierania plików
-  wysyłania formularzy



Jak dać <iframe> dostęp do kamery?

# Allow



Zabawa z Permissions-Policy dozwolona

# Permissions-Policy



Dawniej znane jako `Feature-Policy`

## HTTP Headers

```
# Feature-Policy: <feature name> <allowlist of origin(s)>  
  
Feature-Policy: geolocation 'none'
```

## Atrybut

```
<!-- allow=<feature name> <allowlist of origin(s)> -->  
  
<iframe  
    allow="camera 'src'; microphone 'none';  
    geolocation: https://google-developers.appspot.com"  
    src="https://example.com/my-doc">  
</iframe>
```

# Specyfikowanie origin



```
<iframe allow="camera" sandbox="allow-scripts" src="./iframes/with-permissions.html">
    Waiting for iframe...
</iframe>

<!-- Brak origin === wild card na origin! --&gt;
&lt;iframe allow="camera *" sandbox="allow-scripts" src="./iframes/with-permissions.html"&gt;
    Waiting for iframe...
&lt;/iframe&gt;

<!-- Tylko adres aktualnego iframe --&gt;
&lt;iframe allow="camera 'src'" sandbox="allow-scripts" src="./iframes/with-permissions.html"&gt;
    Waiting for iframe...
&lt;/iframe&gt;

<!-- Brak dostępu --&gt;
&lt;iframe allow="camera 'none'" sandbox="allow-scripts" src="./iframes/with-permissions.html"&gt;
    Waiting for iframe...
&lt;/iframe&gt;</pre>
```

	Chrome	Edge	Firefox	Internet Explorer	Opera	Safari	WebView/Android	Chrome Android	Firefox for Android	Opera Android	Safari on iOS	Samsung Internet
<code>Feature-Policy</code>	✓ 60	✓ 79	◆ 74	✗ No	✓ 47	◆ 11.1	✓ 60	✓ 60	◆ 79	✓ 44	◆ 11.3	✓ 8.0
<code>accelerometer</code>	✓ 67	✓ 79	✗ No	✗ No	✓ 54	✗ No	✓ 67	✓ 67	✗ No	✓ 48	✗ No	✓ 9.0
<code>ambient-light-sensor</code>	✓ 67	✓ 79	✗ No	✗ No	✓ 54	✗ No	✓ 67	✓ 67	✗ No	✓ 48	✗ No	✓ 9.0
<code>autoplay</code>	✓ 64	✓ 79	✗ 65	✗ No	✓ 51	✗ No	✓ 64	✓ 64	✗ 65	✓ 47	✗ No	✓ 9.0
<code>battery</code>	✗ No	✗ No	✗ No	✗ No	✗ No	✗ No	✗ No	✗ No	✗ No	✗ No	✗ No	✗ No
*	*	*				*						
<code>camera</code>	✓ 60	✓ 79	◆ 74	✗ No	✓ 48	✓ 11.1	✓ 60	✓ 60	◆ 79	✓ 45	✓ 11.3	✓ 8.0
<code>display-capture</code>	✓ 94	✓ 94	◆ 74	✗ No	✓ 80	✓ 13	✗ No	✗ No	✗ No	✗ No	✗ No	✗ No
<code>document-domain</code>	✓ 77	✓ 79	◆ 65	✗ No	✓ 64	✗ No	✓ No	✓ No	✓ 65	✓ No	✓ No	✓ No
<code>encrypted-media</code>	✓ 60	✓ 79	◆ 65	✗ No	✓ 48	✗ No	✓ 60	✓ 60	✓ 65	✓ 45	✗ No	✓ 8.0
<code>fullscreen</code>	✓ 62	✓ 79	◆ 74	✗ No	✓ 49	✗ No	✓ 62	✓ 62	✓ 79	✓ 46	✗ No	✓ 8.0
<code>gamepad</code>	✗ 86	✗ 86	◆ 91	✗ No	✗ 72	✗ No	✗ No	✗ 86	✓ 91	✗ No	✗ No	✗ No

Oops, I did it again (mdn)

Allow 

## autoplay

---

Automatyczne odtwarzanie multimedów

## camera, microphone

---

Dostęp do kamery i mikrofonu

## payment

---

Dostęp do Payment Request API.

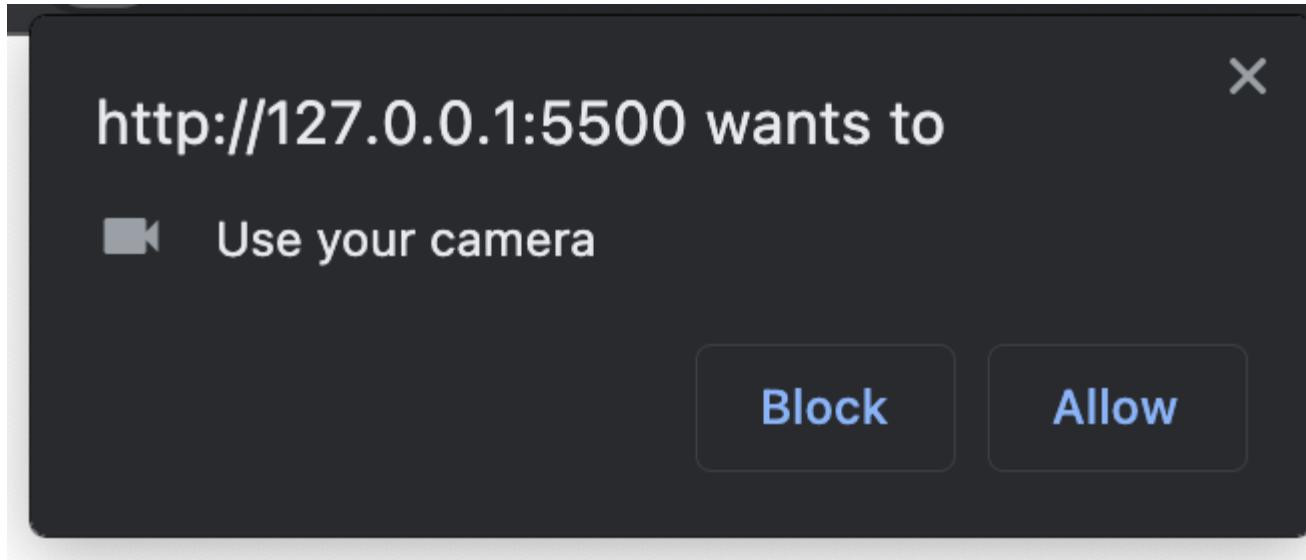
## picture-in-picture

---

Możliwość wyświetlania video w trybie picture-in-picture

# Security 🚓

Hola hola!



# srcdoc

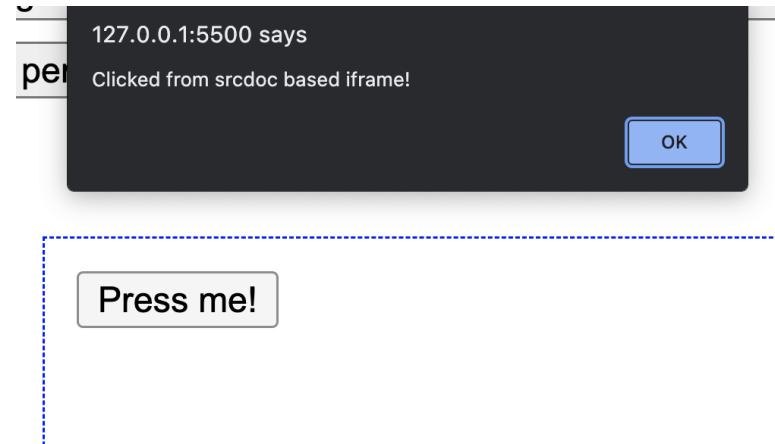
```
<!-- index.html - nasz produkt -->
<div class="iframe-container"></div>

// index.js - nasz produkt

// kod od partnera/aplikacji
const srcdocCode = `
    <button>Press me!</button>
    <script>
        document.querySelector('button')
            .addEventListener('click',
                () => alert('Clicked from iframe!')
            );
    </script>`;

const iframe = document.createElement('iframe');
iframe.setAttribute('sandbox', 'allow-scripts allow-modals');
iframe.setAttribute('srcdoc', srcdocCode);

document.querySelector('.iframe-container').append(iframe)
```



# Example Policy

Assume a `Content-Security-Policy` header is set with the following policy:

```
script-src 'self' https://js.example.com;
```

## Allows

With the above CSP policy, the following **are allowed to load and execute** in the browser:

```
<!-- allowed by 'self' -->
<script src="/js/some-file.js"></script>
<!-- allowed by https://js.example.com -->
<script src="https://js.example.com/file.js"></script>
```

## Blocks

The *Example Policy* above will **block the following from loading or executing** in the browser:

```
<script src="https://attacker.example.com/file.js"></script>
```

Blocked because `attacker.example.com` is not in the source list.

```
<script>
  runInlineScript();
</script>
```

Blocked because inline scripts are blocked by default, you have to use `hashes` or a `nonce` (CSP Level 2) to [allow inline scripts to run](#).

```
<button onClick="runInlineScript();">
  All JS Event Handlers Blocked
</button>
```

The execution of all JS event handlers from inline HTML markup are blocked default, `onclick`, `onload`, `onmouseover`, `onsubmit`, etc. You can get them to work via a '`'unsafe-hashes'`' source list expression, however that is only supported on CSP Level 3 browsers.

```
<a href="javascript:runInlineScript();">Won't Run</a>
```

There is no way to get `javascript:` to work when CSP is enabled except for `unsafe-inline`.

# CSP

```
<iframe allow sandbox ...  
    src="https://<sub>.cdn.stg.atlassian-dev.net/<path>/main/index.html">  
</iframe>
```

▼ General

Request URL: 😊

Request Method: GET

Status Code: 200

Remote Address: 18.66.139.37:443

Referrer Policy: same-origin

▼ Response Headers

cache-control: max-age=1728000; s-maxage=1728000

content-encoding: gzip

content-security-policy: default-src 'self'; frame-ancestors 'self' \*.jira-dev.com http://localhost:/\* \*.devbucket.org https://staging.bb-inf.net https://integration.bb-inf.net \*.atl-paas.net; frame-src 'self'; font-src 'self'; img-src 'self' data: blob: https://secure.gravatar.com https://avatar-management--avatars.us-west-2.staging.public.atl-paas.net https://api.stg.atlassian.com; media-src 'self' data: blob:; connect-src 'self'; script-src 'self' https://forge.cdn.stg.atlassian-dev.net 'sha256-b0tzk1dUloN05g/LIFdqemUqePLDBuIpdj71nJ6aExc='; style-src 'self'; form-action 'self'; sandbox allow-downloads allow-forms allow-modals allow-pointer-lock allow-same-origin allow-scripts; report-uri https://web-security-reports.stg.services.atlassian.com/csp-report/forge-cdn

content-type: text/html; charset=utf-8



# Iframe w Forge Custom UI

Dlaczego pasuje do układanki?

Iframe...

Pozwala nam on osadzić jeden dokument HTML w drugim i wyświetlać specjalistyczny UI dedykowany konkretnemu problemowi

Dokumenty te wcale nie muszą pochodzić z jednej domeny,  
żeby dało się z nich bezpiecznie korzystać

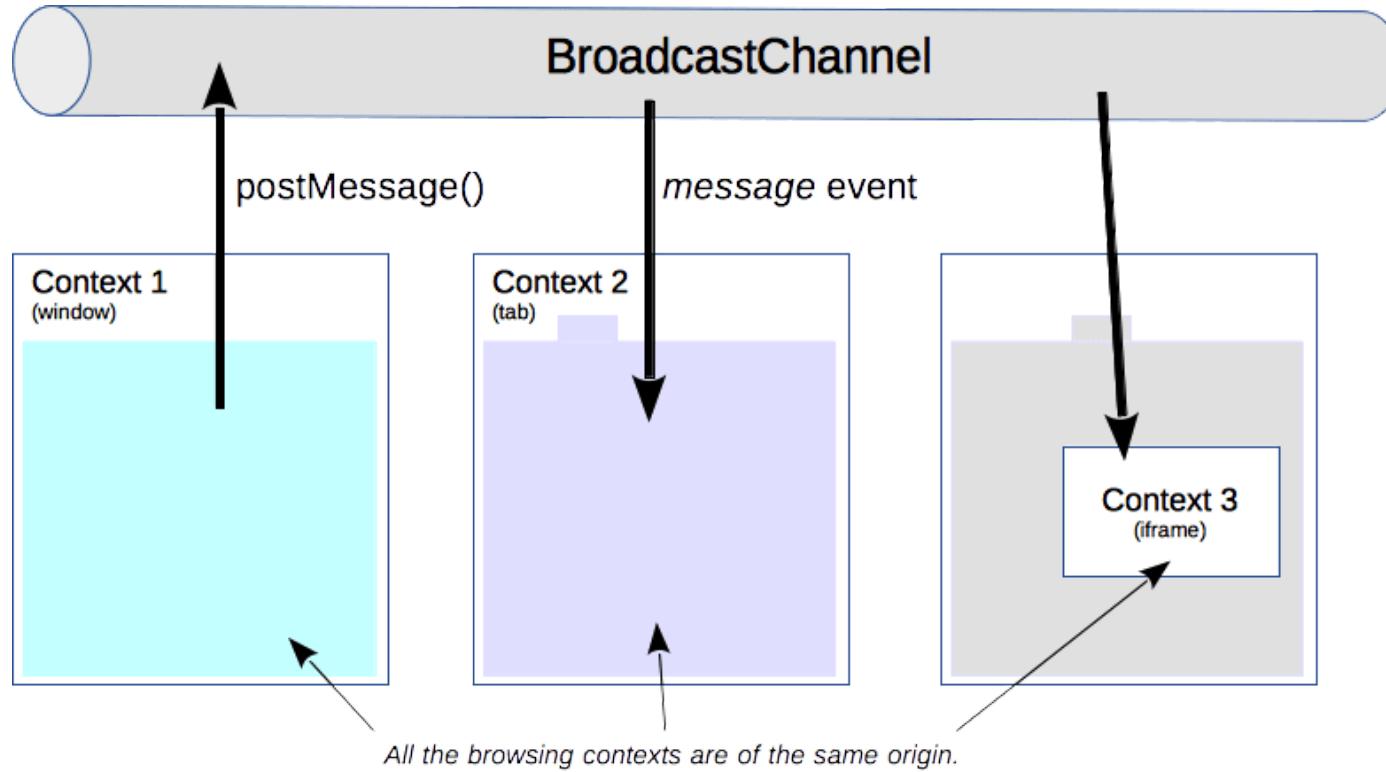
## Umożliwia kontrolowaną i 2-kierunkową komunikację między dokumentami

W szczególności dostarcza piaskownicę dla skryptów tak,  
żeby nie miały swobodnego dostępu  
do nadzawanego dokumentu

# Komunikacja pomiędzy dokumentami

# BroadcastChannel

działa w obrębie jednego origina



`postMessage` API`

Zwróćmy uwagę na  
konieczność  
weryfikacji nadawcy wiadomości

```
window.addEventListener(  
  "message",  
  (event) => {  
    if (  
      event.origin !==  
      "http://example.org:8080"  
    )  
      return;  
    // ...  
  }, false);
```

# Structural clone

Function objects cannot be duplicated by the structured clone algorithm;  
attempting to throws a DataCloneError exception.

~ MDN

Nie prześlemy tym funkcji...

**post-robot**



# Custom UI Bridge

```
// index.js
import { Modal } from '@forge/bridge';

const modal = new Modal({
  resource: 'my-modal-resource',
  onClose: (payload) => {
    console.log('onClose called with', payload);
  },
  size: 'medium',
  context: {
    customKey: 'custom-value',
  },
});

modal.open();
```

```
// my-modal-resource.js
import { view } from '@forge/bridge';

const context = await view.getContext();
const customValue = context.modal.customKey;

view.close({
  formValues: [],
});
```

```
# manifest.yaml

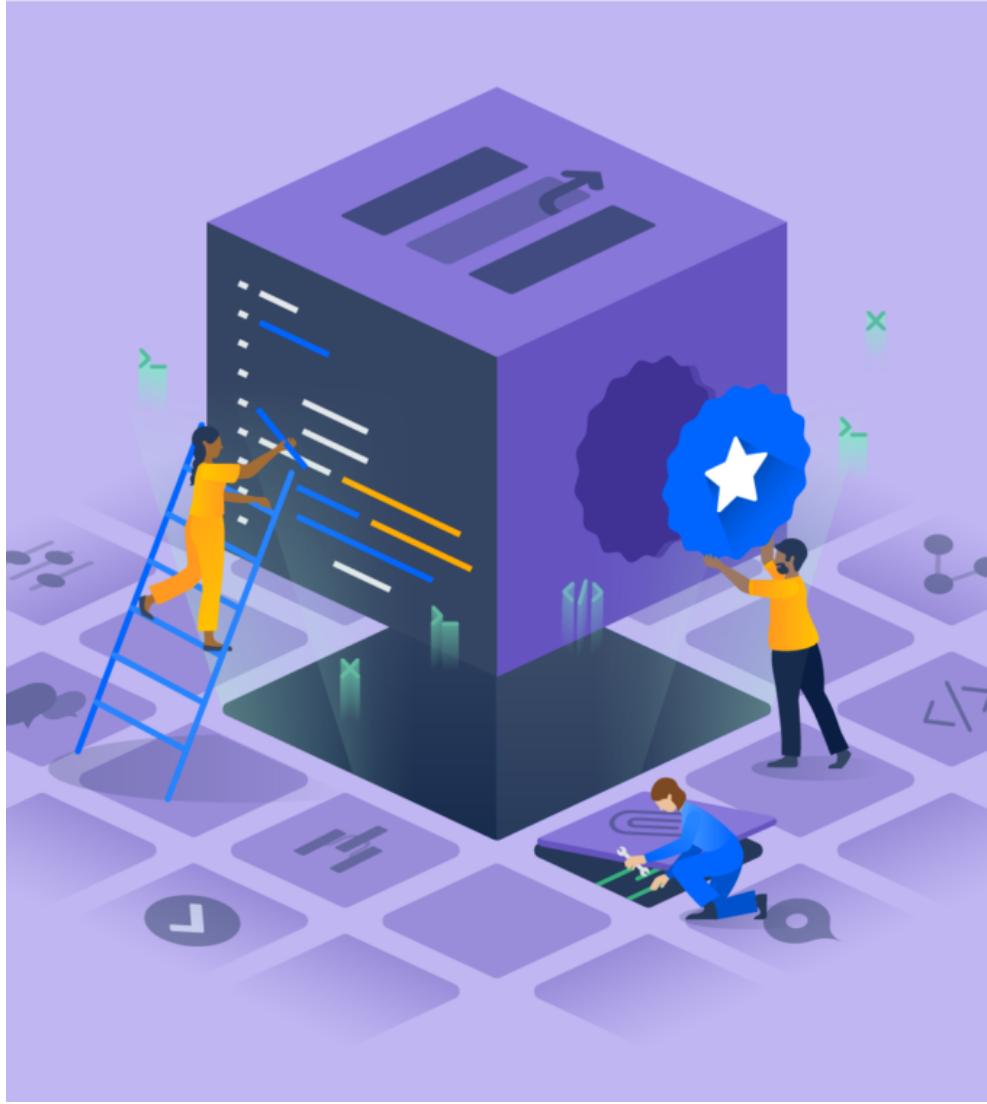
modules:
  jira:issuePanel:
    - key: hello-world-panel
      resource: example-resource
      title: Hello world!
      icon: https://developer.atlassian.com/platform/forge
            /images/issue-panel-icon.svg
resources:
  - key: example-resource
    path: static/hello-world/build
```

```
<!-- static/hello-world/build -->

<!DOCTYPE html>
<html>
  <body>
    <div>Hello, world!</div>
  </body>
</html>
```

# Podsumowanie

- Ekosystem to też inni developerzy!
- Prawo Hyruma
- Ekosystem lubi izolacje
- Komunikacja iframe - host nie jest trywialna
- PostRobot to the rescue!
- `sandbox` & `allow`



Pora na  
pytania od publiczności 😊

# Dziękujemy za uwagę

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