

Asynchronous Programming

Promises, Async/Await

Working with Forms in the browser

- ✓ Make sure the normal form works without JS
- ✓ Try to use configs from the form (method, action...)
- ✓ `form.addEventListener("submit", ...)`
- ✓ Disable the submit-button

Fetch API

An interface for fetching resources (including across the network).

```
window.fetch( resource, config )
```

Fetch (without async/await)

```
const data = {  
  id: 54322575,  
  name: 'Johan'  
}  
  
window.fetch('http://url-to-fetch.at/path', {  
  method: 'POST',  
  headers: {  
    'Content-Type': 'application/json'  
  },  
  body: JSON.stringify(data)  
}).then(res => {  
  // Process the response here  
}).catch(error => {  
  // Handle errors here  
})
```

Fetch (with async/await)

In an async function:

```
const data = {  
  id: 54322575,  
  name: 'Johan'  
}  
  
let res = await window.fetch("http://url-to-fetch.at/path", {  
  method: "POST",  
  headers: {  
    'Content-Type': 'application/json'  
  },  
  body: JSON.stringify(data)  
})
```

in an async context

Capture errors in a try/catch

TV-shows

Break

Breaking Bad
2008



Prison Break
2005



TV-shows

```
customElements.define('tv-shows', class extends HTMLElement {  
  ...  
  
  async getShow (id) {  
    const res = await window.fetch(`http://tv-api.se/shows/${id}`)  
    return res.json()  
  }  
  
  async searchUpdate (str) {  
    const res = await window.fetch(`http://tv-api.se/shows/?q=${str}`)  
  
    const data = await res.json() // { searchString: 'prison', ids: [24]}  
  
    this.show = await this.getShow(data.ids[0]) // Got Prison Break  
  }  
})
```

Problem?



TV-shows

```
async searchUpdate (str) {  
  const res = await window.fetch(`http://tv-api.se/shows/?q=${str}`)  
  
  const data = await res.json() // { searchString: "break", ids: [24, 35]}  
  
  this.shows = [] // Empty current result  
  
  for (const id of data.ids) {  
    this.shows.push(await this.getShow(id))  
  }  
}
```

Works. But.....



TV-shows (In parallel)

```
async searchUpdate (str) {  
  const res = await window.fetch(`http://tv-api.se/shows/?q=${str}`)  
  data = await res.json() // { searchString: "break", ids: [24, 35]}  
  
  const showPromises = data.ids.map(id => this.getShow(id))  
  
  this.shows = await Promise.all(showPromises)  
}
```



TV-shows

```
connectedCallback () {  
  this.#searchButton.addEventListener('click', async (event) => {  
    await this.searchUpdate(this.#input.value)  
    this.#updateRendering()  
  })  
}  
  
#updateRendering () {  
  this.#ul.innerHTML = ''  
  
  this.shows.forEach(show => {  
    const li = document.createElement('li')  
    li.textContent = `${show.name} ${show.year}`  
    this.#ul.append(li)  
  })  
}
```

