

# Web Programming

## **AJAX and Vue.js**

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# AJAX and Vuejs

- Vuejs and Flask
  - How to combine Vuejs and Flask
- **AJAX calls in Components**
  - Lifecycle hooks and watchers
  - Pitfalls
- Cross origin requests
- Caching

# Flask and Vuejs

- Serve JS files and index.html from /static folder.

```
@app.route("/")  
def index():  
    return app.send_static_file("index.html")
```

- Include /static/ for resources in index.html

```
<!-- Downloaded vuejs development version -->  
<script src="/static/vue.js"></script>  
  
<script src="/static/mycomponent.js"></script>  
<link rel="stylesheet" href="/static/style.css">
```

# Flask and Vuejs

- It is not recommended to use jinja templates together with
  - Should `{{ xxx }}` be replaced by jinja or vue?

# AJAX and Vuejs

- Use **created** lifecycle hook to load data via AJAX
- Perform AJAX calls in **methods**
- Load data in components using **watch**

# AJAX and Vuejs

- Use **created** lifecycle hook to load data via AJAX

```
let app = new Vue({
  el: "#app",
  data: {
    items: [],
    loading: true
  },
  created: function(){
    // function is run after component is created.
    // can access data, methods, ... but not DOM
  },
  methods: {
    ...
  }
})
```

# AJAX and Vuejs

- Perform AJAX calls in **methods**
- Pitfalls when performing state updates:
  - AJAX requests do not happen immediately
  - AJAX request may fail
  - AJAX requests may be accidentally send twice
    - Should be idempotent

# Example

 [examples/ajax/playlist](#)

Add Song

My favorite  
This band



Second favorite  
This other band





# Exercises #1



[github.com/dat310-spring20/course-info/tree/master/  
\*\*exercises/ajax/vue\*\*](https://github.com/dat310-spring20/course-info/tree/master/exercises/ajax/vue)

# AJAX and Vuejs

- Load data in components using **watch**

```
props: ['title'],  
  watch: {  
    title: function(){  
      // executed every time title changes  
      this.load();  
    }  
  },
```

# Example

🔄 [examples/ajax/blog](#)

- Retrieve blog text only when opened.

My Story	<h2>My Story</h2> <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi at aliquet sapien. Pellentesque bibendum felis quis nulla pulvinar, luctus lobortis turpis venenatis. Phasellus imperdiet neque neque, in condimentum nisi fringilla et. Nam aliquet justo nunc, et semper nunc hendrerit in. Suspendisse potenti. Nam lectus purus, ullamcorper aliquet aliquet eu, malesuada nec nulla. Etiam dui eros, interdum a diam non, tempus vestibulum lorem. Nulla facilisi. Pellentesque et purus non dolor semper eleifend eget eget sem. Sed gravida pharetra varius. Aenean elementum sapien in mi finibus dictum.</p> <p>In dictum ipsum id nisi pretium. a interdum magna blandit.</p>
New Story	
Yesterday	
Tomorrow	

# Flask and Vuejs decoupled

- It is also possible to run a Vuejs application independently.
  - I.e. open index.html or run development server, (live server VSCode extension)

- Send AJAX requests using full URL

```
let response = await fetch("http://127.0.0.1:5000/playlist");
```

- Need to enable cross origin requests in Flask:

```
from flask import Flask, request
from flask_cors import CORS

app = Flask(__name__)
CORS(app)
```

# Example

🔗 [examples/ajax/playlist2](#)

Add Song

My favorite  
This band



Second favorite  
This other band



# References

- Vue lifecycle hooks  
<https://alligator.io/vuejs/component-lifecycle/>
- Cros origin requests  
<https://developer.mozilla.org/en-US/docs/Web/HTTP/CORS>