
ANGULAR
ARCHITECTS
INSIDE KNOWLEDGE
Angular
Performance Optimization
Hosted by Alex Thalhammer

About me …

ANGULAR ARCHITECTS
INSIDE KNOWLEDGE

SOFTWARE ARCHITECT

It's a me → LX T

- **Alex Thalhammer** from Graz, Austria (since 1983)
  - *Angular Software Tree GmbH* (since 2019)
- WebDev for 20+ years (I‘ve come a long way baby)
- WordPress Dev (Web, PHP & jQuery, 2011 – 2017)
- **Angular Dev** (Web, TS, Rx since 2017 - NG 4.0.0 ☺)
- **Angular Coach** & **Consultant** (since 2020)
  - Member of *Angular Architects*

https://www.angulararchitects.io



Tell us sth about yourself

- Hi, my name is …
- I currently work on …
- A good performance is …
- My goal for the next 3 days is …

Pollings

- OS
  - Mobile OS?
- Browser
- IntelliJ/WebStorm vs VS Code
- npm vs yarn
- ?

My Goals

Every participant should

- understand the ***importance*** of good performance
- know how to ***measure*** the performance
- know how to ***tweak*** the performance
- become a ***performance evangelist*** in her/his project/team/company

We work together I

- Don’t hesitate to interupt me at ***ANY TIME***
  - Questions
    - Especially during the **LABS**
  - Remarks
    - Also if you see any **typos** here ☺
- Somebody else might have the same question
  - Be a hero and ask it ☺

We work together II

- Remote: Please turn your camera on ***ALL THE TIME***
  - Necessary for me to get your feedback

Timing C.E.(S.)T. (approximately)

- 14:30 Start
- 16:20 – 16:40 break (approximately)
- 18:30 End

What is Performance?

- What would you say?

- **Web performance** refers to the speed in which web pages are downloaded and displayed on the user's web browser. **Web performance optimization (WPO)**, or **website optimization** is the field of knowledge about increasing web performance.
  -- https://en.wikipedia.org/wiki/Web_performance

Why Performance Optimization?

- According to *Facebook*, when people have to wait too long for a webpage to load, they're more likely to abandon the page all together.

- According to *Google*, 40% of visitors will abandon a website if it takes longer than 3 seconds to load

- According to *Amazon*, 0.1s less loading time results in around 1% more sales

Angular Performance Optimization

We distinguish between

- Initial load performance (classical web performance)
- Runtime performance (during usage, e.g. scrolling frame rate)

Didactics

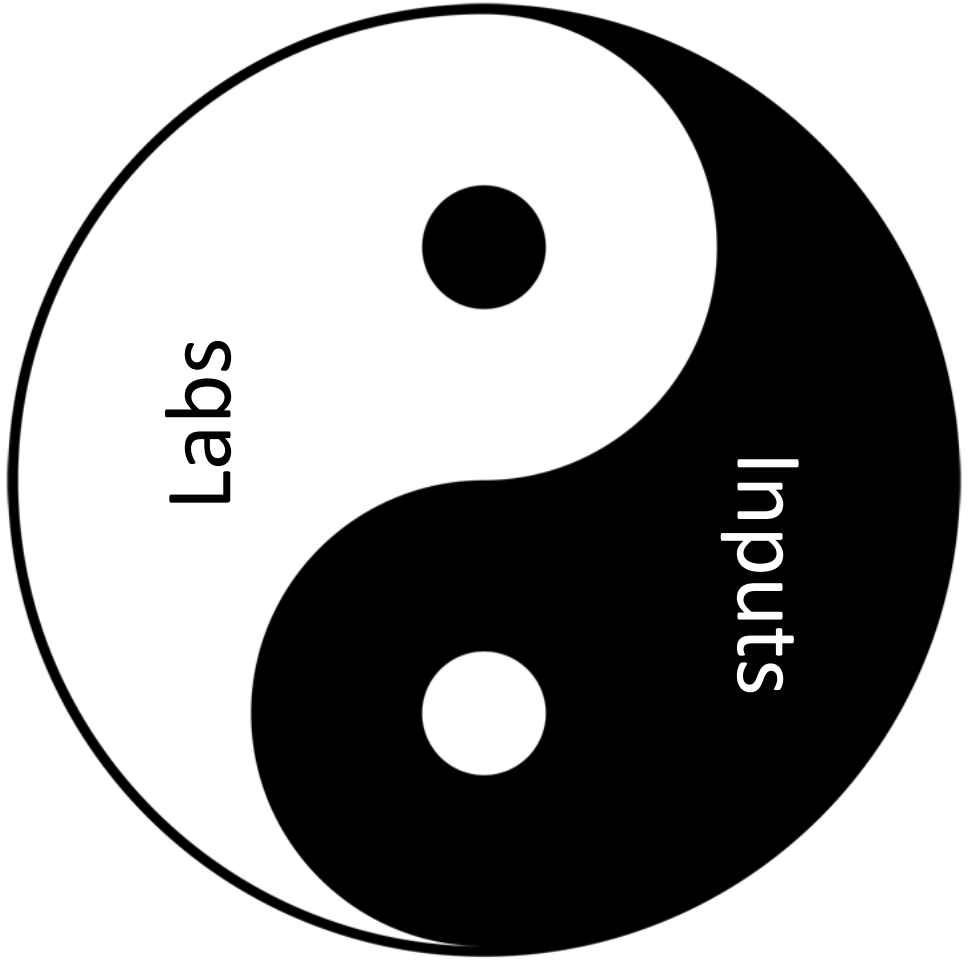
Inputs

Discussion

Labs

Q&A

Didactics



Topics

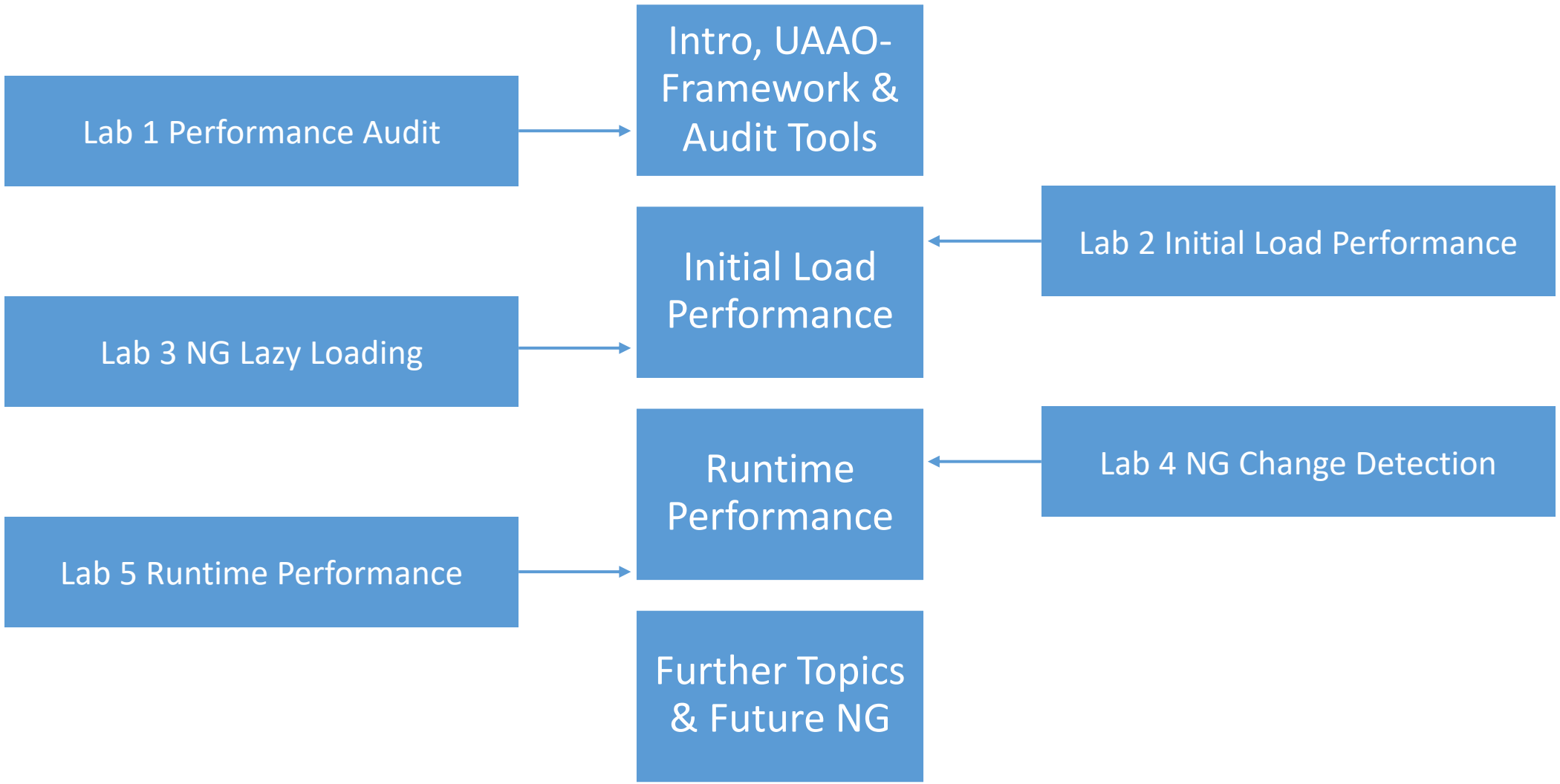
Intro, UAAO-Framework & Audit Tools

Runtime Performance

Initial Load Performance

Further Topics & Future NG

Labs


Lab 1 Performance Audit
Intro, UAAO-Framework & Audit Tools
Initial Load Performance
Lab 2 Initial Load Performance
Lab 3 NG Lazy Loading
Runtime Performance
Lab 4 NG Change Detection
Lab 5 Runtime Performance
Further Topics & Future NG

Ready for Takeoff!

- What are your questions?

Setup for Labs

- NodeJS (latest version 14.20.x, 16.13.x or 18.10.x)

- IDE: VS Code (free) or IntelliJ WebStorm (not free, but better)
  - IF 1. I'd be employed & 2. my employer would not pay for WebStorm license
  - THEN I'd buy it myself (~ 190€ / year, free for students)
  - BUT that’s just *my* opinion, most other *Angular Architects* use VS Code

- Chrome (or Chromium based alternative)
  - other browsers are okay for private matters ☺

Recommendations

- Use prettier
  - especially for .ts files
- Use ESLint
  - in your IDE of choice and/or from terminal
- Use Git
  - we recommend to at least commit after every lab
  - easier switching back and forth with my solution

Starter Kit

- Incl. Slides
- And Labs (exercises)
- Clone or download from https://github.com/L-X-T/ng-performance

Outline

1. UAAO Framework (**U**nderstand)
2. Audit Tools for Measurement (**A**udit)
3. Initial Load Performance (**A**nalyze & **O**ptimize)
4. Runtime Performance (**A**nalyze & **O**ptimize)
5. Further Topics & Feedback

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