

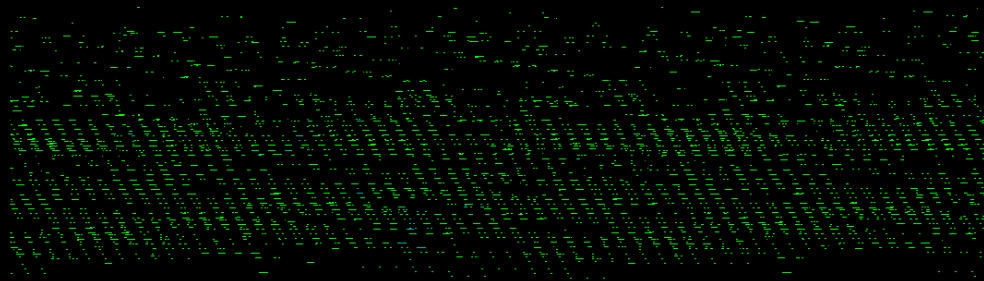
vaadin}>

Full-stack Web Development with Java only

Bridging front- & backends with Vaadin



Sebastian Kühnau
Vaadin Enthusiast



BRIEF & DISCLAIMER

Who's talking?

Berliner

+20y in web- & java development

IT background & career starting in consulting

~10 years at Vaadin

Several technical roles

Currently Developer Advocate

Off-work mostly outdoors



01

Vaadin Birds-Eye View

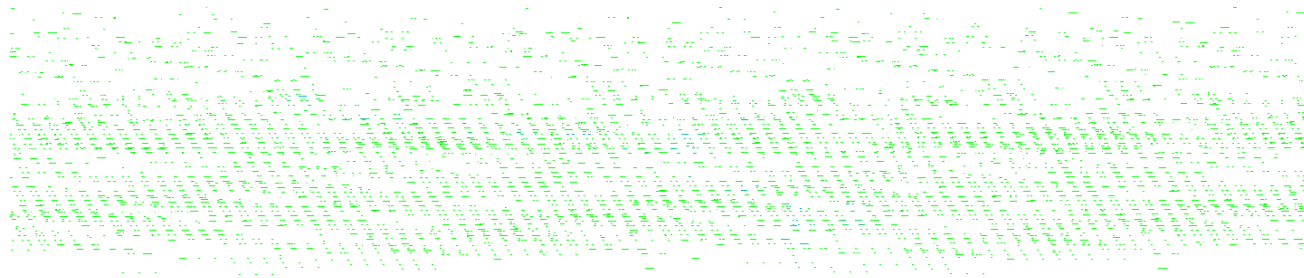
How is it different?

Who's using it?

How does it work?

02

Live Demo



What is Vaadin?

and what is it good for?

Vaadin

Finnish word: "female reindeer"

Fabricated in Turku, Finland

Bringing `<web applications/>`
to the `{Java}` world.



vaadin}>

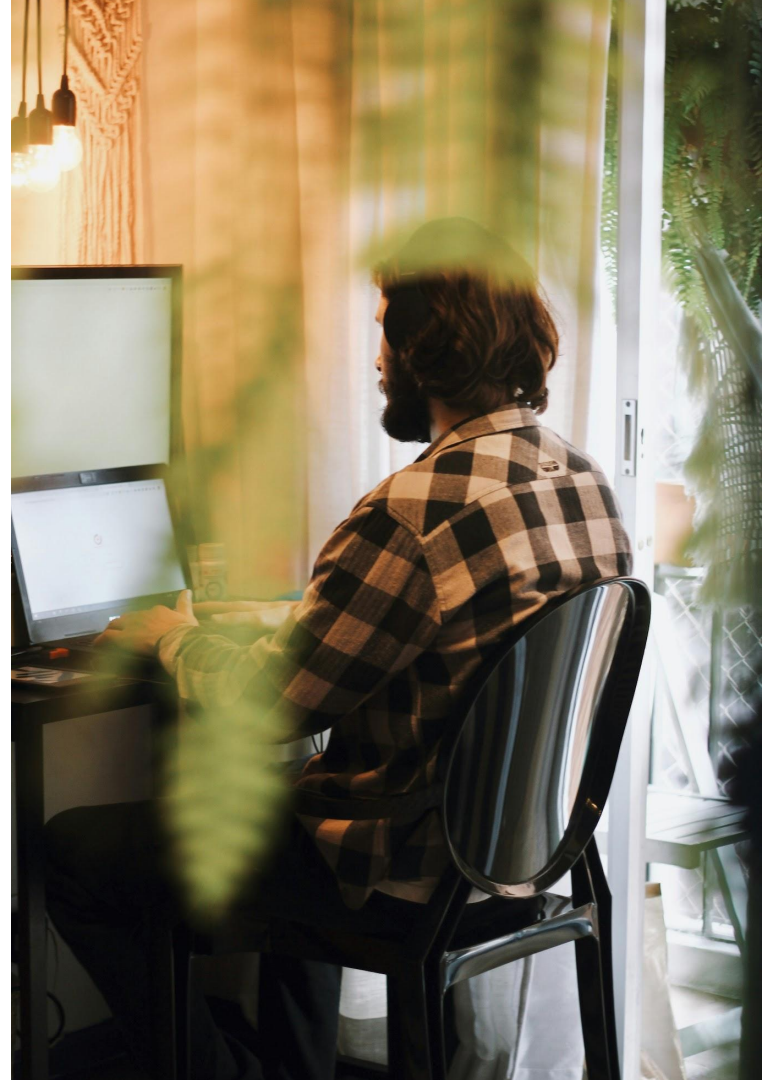
The full-stack developer's dilemma

Why WebDev is hard with Java?

- Outdated tech or switching stacks
- Modern web frameworks require a different language and toolchain
- Teams work in silos – backend vs. frontend, Java vs. JS



Fast and pragmatic? Not really.



Vaadin

Platform & Company

OPEN-SOURCE & FREE

Core Java Framework

High-quality set of UI components

Collaboration Kit

Figma templates

3rd-party component directory

COMMERCIAL TOOLS & SERVICES

Additional components (Charts, Maps, Dashboard, ...)

Tools (Copilot, Testbench, ...)

Kits for SSO, Observability, Kubernetes, ...

Swing & Legacy Modernization (Automation Tooling, Components)

Support & Development Services

Commercial Maintenance

Full Stack with Vaadin



Comes with **+50 ready-to-use UI- components**
(Labels, Button, Grids, Charts)



Fully integrated in **Java Ecosystem** -
Works with Spring Boot, Maven, JUnit.



Java only - no technology gap and no need of HTML, CSS or JavaScript*



Includes **modern web technologies** like NPM, Vite & WebComponents



Secure by Default –
Server-side logic, state management, and data binding included.



Easy Deployment
– Ship as jar or war, just like any Java app.

MORE ABOUT US

We've built business web applications for many verticals since the year 2000.

81%

Of Fortune
500 Companies

+25

Years of
Experience

+200k

Developers
worldwide

Get Started in a few steps

```
<dependency>
  <groupId>com.vaadin</groupId>
  <artifactId>vaadin-core</artifactId>
</dependency>

...

<plugin>
  <groupId>com.vaadin</groupId>
  <artifactId>vaadin-maven-plugin</artifactId>
  <executions>
    <execution>
      <goals>
        <goal>prepare-frontend</goal>
      </goals>
    </execution>
  </executions>
</plugin>
```

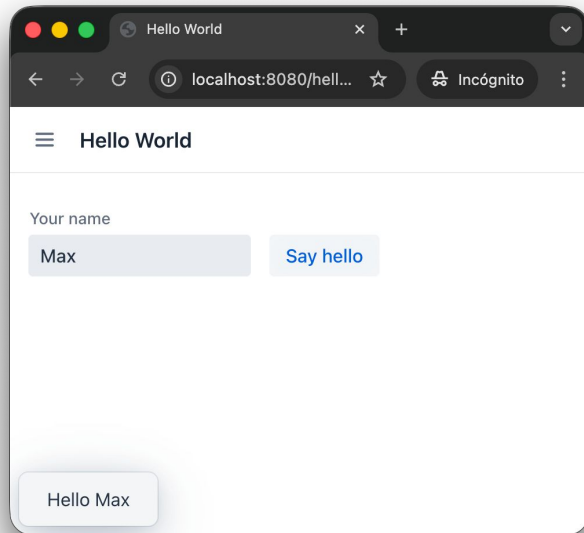
Building Web Apps with Java only

Vaadin Flow

```
@Route(value = "")
public class HelloWorldView extends HorizontalLayout {

    public HelloWorldView() {
        var name = new TextField("Your name");
        var sayHello = new Button("Say hello", event ->
            Notification.show("Hello " + name.getValue()));

        add(name, sayHello);
        setMargin(true);
    }
}
```



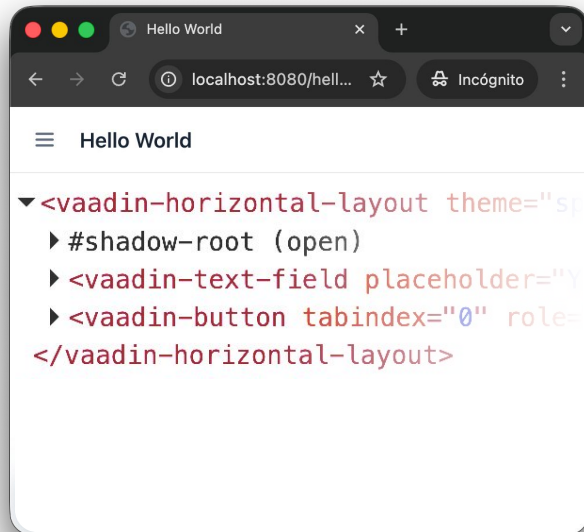
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Vaadin Flow

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Architecture

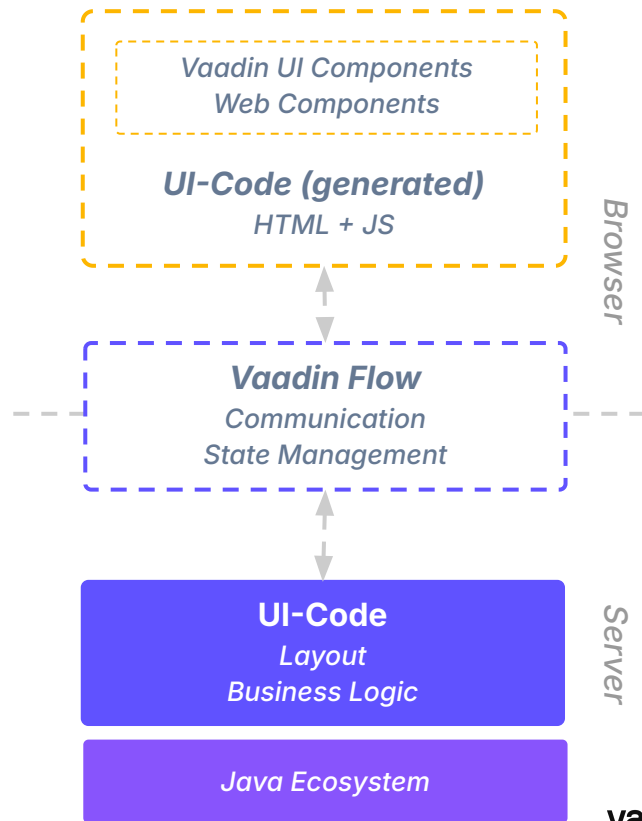
```
▼<vaadin-horizontal-layout theme="spacing" has-st
  ▶ #shadow-root (open)
  ▶ <vaadin-text-field placeholder="Your name">⋮
  ▶ <vaadin-button tabindex="0" role="button" last
</vaadin-horizontal-layout>
```

```
var name = new TextField("Your name");
var button = new Button("Say hello", event ->
    Notification.show("Hello " + name.getValue()));
add(new HorizontalLayout(name, button));
```

Architecture

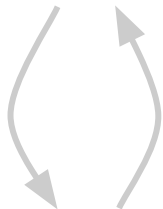
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  ▶ <vaadin-text-field placeholder="Your name">...
  ▶ <vaadin-button tabindex="0" role="button" last
  </vaadin-horizontal-layout>
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var button = new Button("Say hello", event ->
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add(new HorizontalLayout(name, button));
```

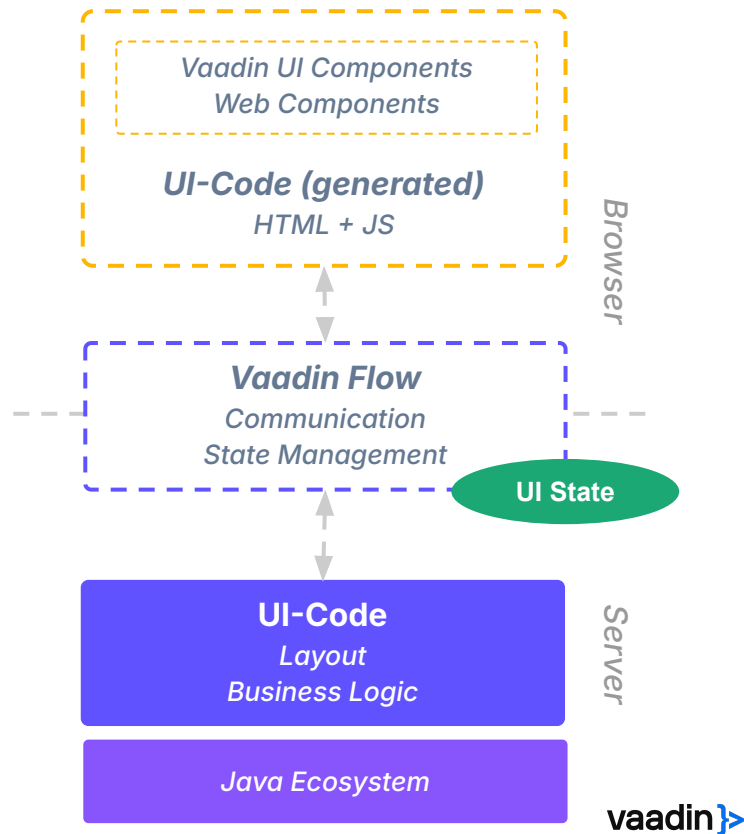


Architecture

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▼<vaadin-horizontal-layout theme="spacing" has-st
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  ▶ <vaadin-text-field placeholder="Your name">...
  ▶ <vaadin-button tabindex="0" role="button" last
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```



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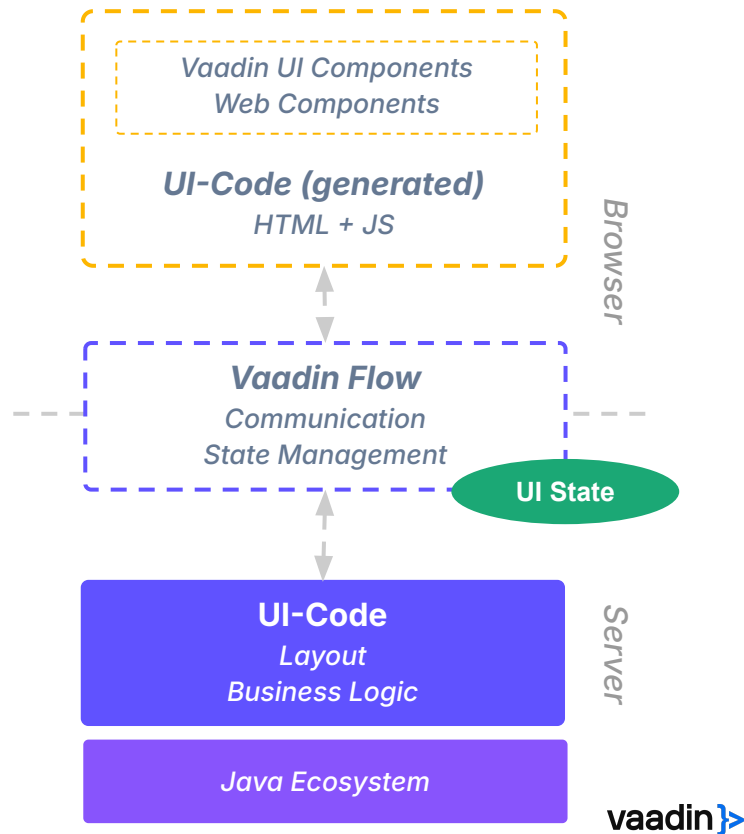


Architecture

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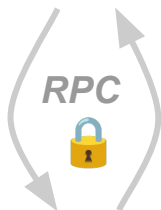
Fast and secure by default

Architecture

```
▼<vaadin-horizontal-layout theme="spacing" has-st
  ▶ #shadow-root (open)
  ▶ <vaadin-text-field placeholder="Your name">...
  ▶ <vaadin-button tabindex="0" role="button" last
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```

HTTPS Post

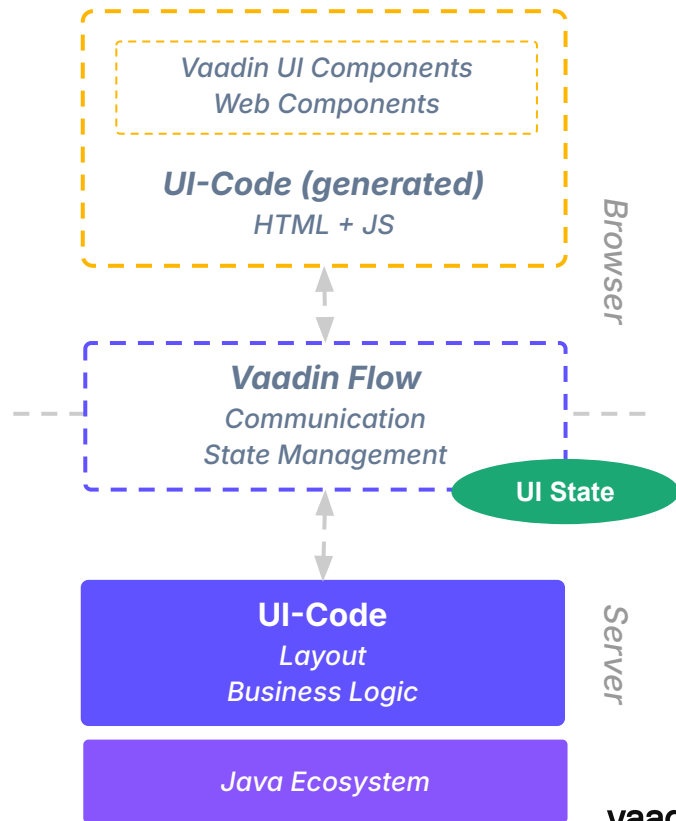
with clientId &
csrfToken



JSON Response

with clientId +1,
syncId + 1 & csrfToken

```
var name = new TextField("Your name");
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add(new HorizontalLayout(name, button));
```



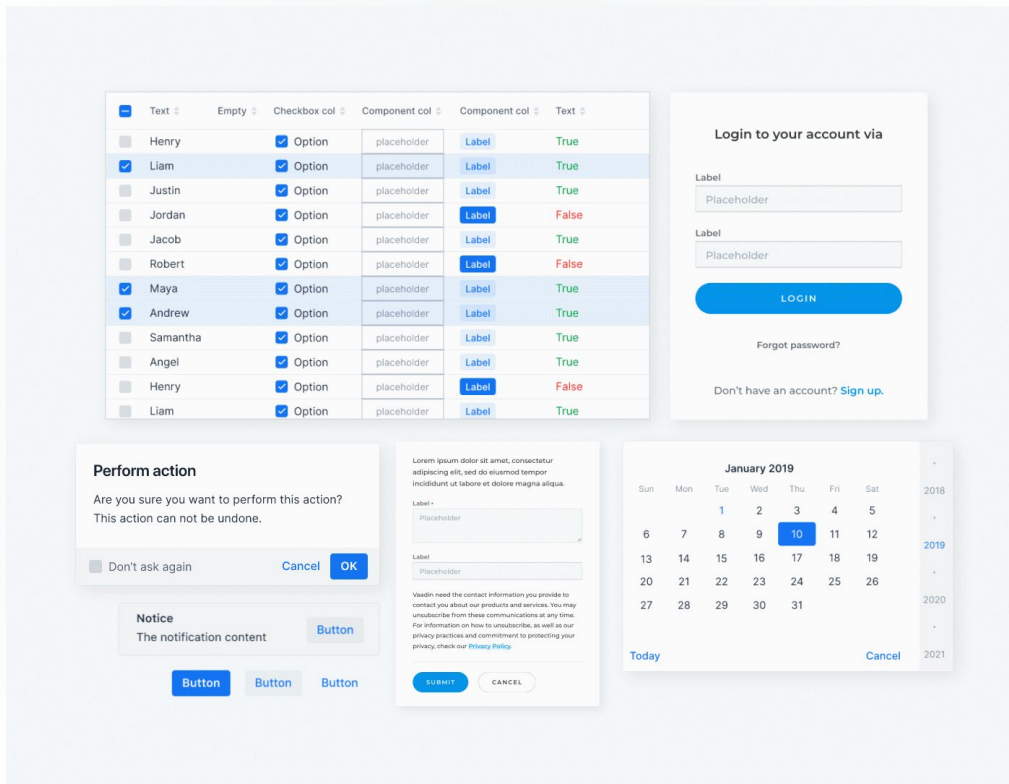
Using ready-made components & more

+50 Components

- Optimised for desktop & mobile
- Themable & Accessible
- Based on Web Components
- Common Architecture
- Framework agnostic

+ +2000 components in
vaadin.com/directory

+ and you can also integrate
[3rd party components](#)



Frontend, Backend & Config Included

Project structure

src/main/java for Java sources

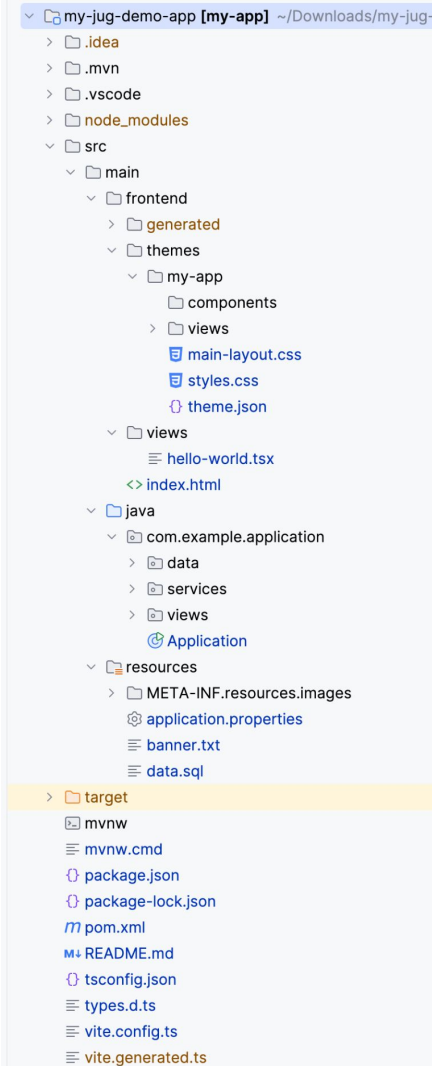
pom.xml for Java Dependencies and Maven Plugins

src/main/frontend for client side resources, e.g.

JavaScript, TypeScript, HTML, CSS files

node_modules, package.json, package-lock.json for
npm *(only after installing individual web
components)*

vite.config.ts auto generated file for Vite, frontend
build tooling





Vaadin 24+

Supported Technologies

- Java 17+, Maven 3.5+, Gradle 7.3+
- Node 18+
- Spring Boot 3.0+
- Evergreen Browsers + Safari 15
- TC 10.1, Jetty 12, Payara 6, WF 27, JBoss 8.0
- Unsupported Karaf & OSGi

Join the journey. Meet. Learn. Create.

Community

- Focus in good Developer Experience
- Open source community with +200k members
- Support via vaadin.com/forum, GitHub and StackOverflow
- Meetups, Conferences and other Events or even more

How to start?

- start.vaadin.com to create your own Vaadin Project
- start.spring.io/ add Vaadin Dependency
and create a Spring based Project
- **Starter-** & **Skeleton**-projects on github.com/vaadin
 - Spring, CDI, Gradle, Quarkus, Plain
- Tutorial on vaadin.com/start

Get Started in a few steps

```
<dependency>
  <groupId>com.vaadin</groupId>
  <artifactId>vaadin-core</artifactId>
</dependency>

...

<plugin>
  <groupId>com.vaadin</groupId>
  <artifactId>vaadin-maven-plugin</artifactId>
  <executions>
    <execution>
      <goals>
        <goal>prepare-frontend</goal>
      </goals>
    </execution>
  </executions>
</plugin>
```

Where to go from here?

Get started with Vaadin



Slides
Demo Project

github.com/SebastianKuehnau/vaadin-jug-demo/tree/2025-09-JUGF

Meet us at
Vaadin Create 2025
in Frankfurt
Oct 21-22, 2025

vaadin.com/vaadin-create-2025

Kiitos paljon!

Feel free to reach out

`seb@vaadin.com`

`x.com/seb_vaadin`

`linkedin.com (Sebastian Kuehnau 🐼)`

`vaadin.com/forum`