



Vaadin

Java Web App
Development
Framework

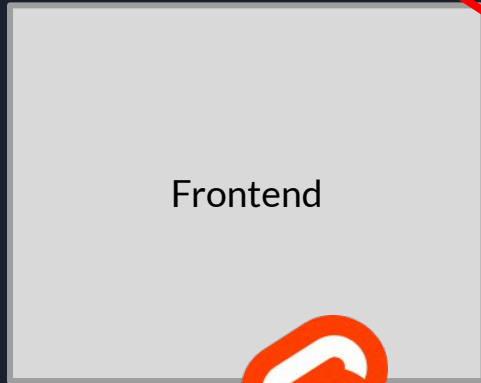


Marius Wörfel

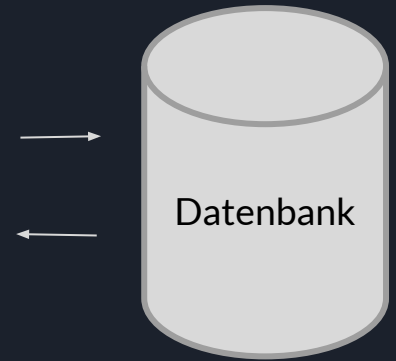


Inhalt

- Was ist Vaadin
- Funktionen
- Hilla
- Vor- und Nachteile
- Projektaufbau
- Code Beispiele



API





Was ist Vaadin

- Framework für Java Webapplikationen
- Enthält viele fertige Komponenten
- Responsive - Cross Plattform
- (Open-Source)
- Firmen wie Daimler, Puma oder Lufthansa verwendet



Preisüberblick

Gratis	Pro (129€/Monat)	Prime	Ultimate
Unendliche Projekte	Kommerzielle Nutzung	Enterprise Support	Alle Kits für zB Swing
Gratis UI Komponenten	Komplexere Komponenten wie Charts/Map/Board	Basic Kits	
	Drag & Drop UI Designer		

Aufbau



Flow Framework

Java backend & Java UI



Acceleration Kits

Faster development



Design System Publisher

DS Documentation builder



UI Components

45+ UI components



Designer

Visual UI builder



TestBench

Automated UI tests

UI Komponenten

- 51 Komponenten



Data Entry



Visualization & Interaction

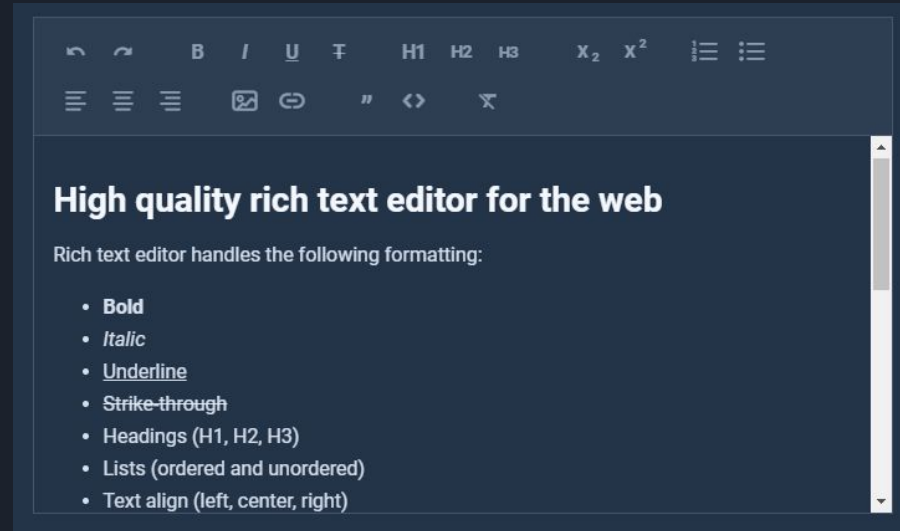


Layouts



Data Entry

- Checkbox
- Combo Box
- Upload
- Text Area
- Richt Text Editor*



*nicht gratis



Visualization & Interaction

- Buttons
- Confirm Dialog
- Badges
- Avatare
- Grid
- Dialog
- Context Menu
- Icons
- Tabs
- Side Navigation
- Scroller

Visualization & Interaction - Map

Map showing Vaadin office locations

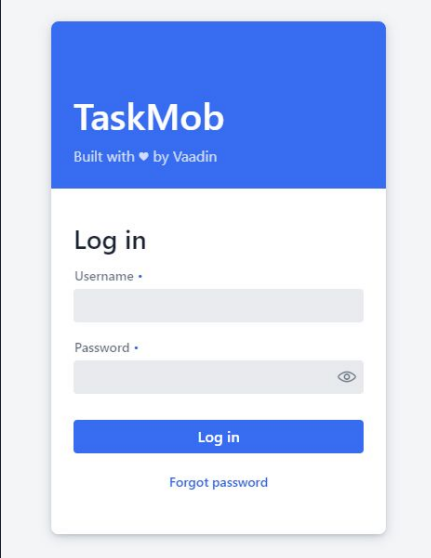


Visualization & Interaction - Charts

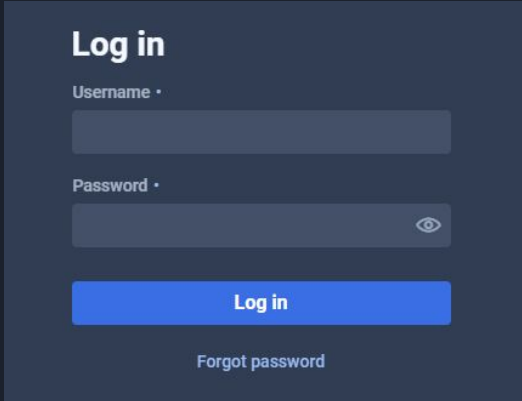


Layouts

- Vertical Layout
- Horizontal Layout
- Form Layout
- Login



A vertical login form mockup for 'TaskMob'. The header is a solid blue bar with the text 'TaskMob' in white and 'Built with ♥ by Vaadin' in a smaller white font below it. The main form area is white and contains the title 'Log in' in bold. Below the title are two input fields: 'Username' and 'Password'. The 'Password' field has a small eye icon to its right. At the bottom of the form is a blue 'Log in' button and a link for 'Forgot password'.



A dark-themed login form mockup. The background is a dark blue-grey. The title 'Log in' is in white. Below it are two input fields: 'Username' and 'Password'. The 'Password' field has a small eye icon to its right. At the bottom is a blue 'Log in' button and a link for 'Forgot password'.



Vaadin-Directory

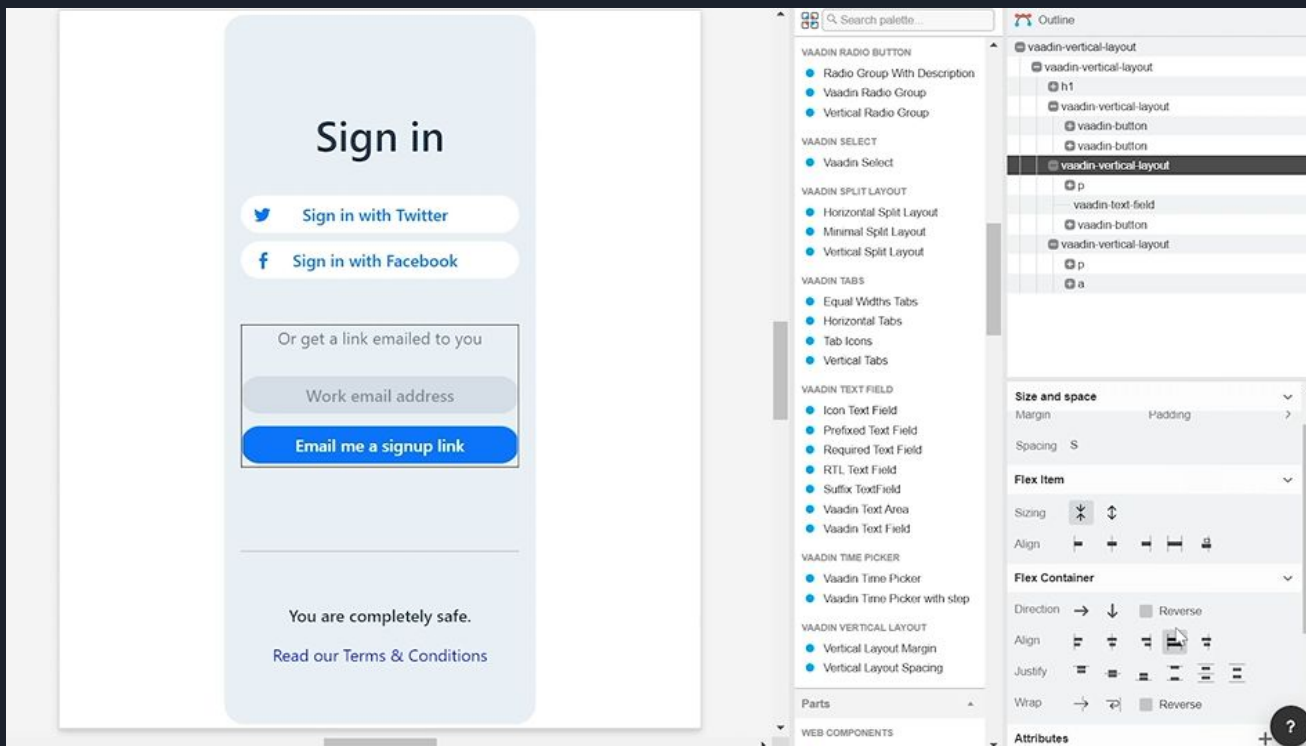
- <https://vaadin.com/directory/>



Kits

- Nicht kostenlos
- Integrationen zu anderen Apps
- SSO Kit
 - Keycloak
- Observability Kit
 - Grafana
 - Prometheus
- Swing Kit
- Kubernetes Kit
- Azure Cloud Kit

Designer





TestBench

- Analyse der Pixel
- CSS Styling Anpassung
- Auf mehreren Browsern gleichzeitig
- Selenium Unterstützung

```
public void testClickButton() throws Exception {  
    openTestUrl();  
    // Click the first button with the given caption  
    $(ButtonElement.class).caption("Click Me").first().click();  
  
    // Check that there is exactly one label  
    assertEquals(1, $(LabelElement.class).all().size());  
  
    // Check label text  
    assertEquals("Thank you for clicking",  
        $(LabelElement.class).first().getText());  
}
```




Hilla

- Teil von Vaadin
- Apache-2.0 Lizenz
- <https://github.com/vaadin/hilla>
- Verbindet Spring Boot mit React
- Java Services direkt aufrufbar
- End-to-End Typsicherheit in IDE





Hilla - Code Beispiel

```
@BrowserCallable
@Service
public class CustomerService {
    public List<Customer> getCustomers() {
        // Fetch customers from DB or API
    }
}
```

```
function CustomerList() {
    // Customer type is automatically generated by Hilla
    const [customers, setCustomers] = useState<Customer[]>([]);

    useEffect(() => {
        CustomerService.getCustomers().then(setCustomers);
    }, []);

    return (
        <ComboBox items={customers} />
    )
}
```

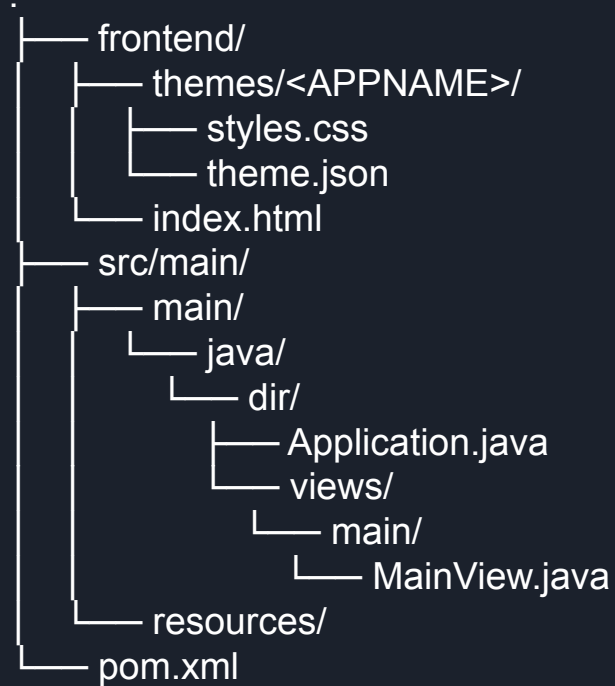


Vorteile - Nachteile

Vorteile	Nachteile
Responsive	Im großen Skale unhandlicher
Nur eine Programmiersprache	Viele Features kosten Geld
Vereinfacht vieles	Eigene Komponenten
Bietet viele Erweiterungen	Inline CSS & HTML in Java
Viele vordefinierte Komponenten	Baut auf Spring auf



Projektaufbau





Starten eines Projektes

- <https://start.vaadin.com/app/p>



Quellen

- <https://vaadin.com/>
- <https://hilla.dev/>
- <https://en.wikipedia.org/wiki/Vaadin>

Images:

- [React](#)
- [Angular](#)
- [Svelte](#)
- [RubyOnRails](#)
- [Diango](#)