

A Spring Developers Guide

To Navigating the frontend landscape

Dan Vega ~ Spring I/O 2024


WHY DID YOU GET INTO COMPUTER PROGRAMMING?

Building for the web









Koders.com source code postings
March 18, 2005

I came across www.koders.com tonight in searching for some Java Solutions. I was pleased to find out that there are many cf postings there as well.

Koders makes it easy for software developers to find existing source code that solves many common development problems with our vast index of working source code from a variety of open source projects. In many cases you may find code that solves the exact problem you are working on, and in other cases, you can find an 80% solution - where existing code can be suited to your needs with minor modifications.

Posted At : 9:10 PM. | Posted By : dan | Link | ColdFusion | Comments (0)

Debug Trick
February 10, 2005

This is just a trick I like to use, hopefully someone else finds it useful. The Introduction of v.7 gives us the Application.cfc component for setting up our app. The onRequestEnd function will run at the end of a request, after all other CFML code. This serves the same purpose as the OnRequestEnd.cfm from v.6.

The great thing about this chunk of code is using the expand="false" attribute. I like this because it does not clog up my screen with hundreds of vars. New to v.7 is the top attribute: The number of rows to display. For a structure, this is the number of nested levels to display. If you have long queries that return thousands of rows, page execution is a nightmare. Another great tip is wrapping this in some user authentication logic to make sure only administrators can view debug code.

```
<cffunction name="onRequestEnd">
   <cfparam name="url.debug" type="boolean" default="false">
   <cfif url.debug>
      <cfdump var="#application#" label="Application" expand="false">
      <cfdump var="#request#" label="Request" expand="false">
      <cfdump var="#variables#" label="Variables" expand="false" top="2">
      <cfdump var="#url#" label="URL" expand="false">
      <cfdump var="#cgi#" label="CGI" expand="false">
   </cfif>
   </cffunction>
```

Posted At : 11:53 PM. | Posted By : dan | Link | ColdFusion | Comments (0)

getMetaData() In CFMX 7
February 10, 2005

In ColdFusion MX we were introduced to the function getMetaData(). This function provides information about application data, and lets applications dynamically determine the structure of an object and how to use it. In CFMX 6 the metadata for a CFC includes information about a CFC's functions, arguments, and properties. It will also return metadata for user-defined functions that are not part of CFC's.

With the release of CFMX 7 we are now able to pass this function a query. The function will return an array with the following information.

Calendar

<	March 2005					>
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Coldfusion
MEETUP

Whats the difference $().click(fn) vs $().bind('click',fn)

Wednesday February 23, 2011 7:49 AM Tags: jQuery Word Count: 456

The last couple of days I have been working on a pretty cool Ajax search widget for a new site. I have always been a pretty big jQuery fan but I find myself using it almost daily now. I was working on some event handling and I came across something that I was not quite sure of. What is the different between the 2 following pieces of code.

```
$('#abc').click(function(){

});
```

```
$('#abc').bind('click',function(){

});
```

I did some searching and came across this explanation on Stack Overflow. Basically the answer was look at the source, so I did. If you look at the source for jQuery you will see the following code.

```
jQuery.each( ("blur focus focusin focusout load resize scroll unload click dblclick " +
    "mousedown mouseup mousemove mouseover mouseout mouseenter mouseleave " +
    "change select submit keydown keypress keyup error").split(" "), function( i, name ) {

    // Handle event binding
    jQuery.fn[ name ] = function( data, fn ) {
        if ( fn == null ) {
            fn = data;
            data = null;
        }

        return arguments.length > 0 ?
            this.bind( name, data, fn ) :
            this.trigger( name );
    };
```

search this site

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Fri May 24 2013 19:21:56 +0000

Having issues focusing on my screen



Welcome to Dan Vega's personal Website

Congratulations on making it to the very end of the Internet. This is the personal website of Daniel Vega, a 32 yr old guy from Cleveland. This unique address on the internet (64.244.59.238) serves a couple of purposes but its main reason for existence is my blog. I love to write about programming, technology or whatever else is on my mind at the time. If others can come to this site learn from my experiences then the cost of hosting this site is well worth it.

I have worked very hard to get to where I am as a programmer. While most people go home from work and relax I am constantly perfecting my trade. I am a big math nerd who loves a good algorithm and I love that there never is a single way to solve a problem in my line of work. If you would find out a lot more about who I am and what I do please feel free to visit my about page which goes into a lot more details.

I work as a full time Senior Web Developer for STERIS whose world headquarters is right outside of Cleveland OH. I am also available for part time consulting so if you're looking for help on your next project please check out my Resume, portfolio (coming soon) and open source projects that I have worked on.

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Recent Comments

jQuery Select Example
games said: hello thanks for this code but i need to select a option using jquery and value thank you [more]

Creating Apache Derby Custom Functions: Part 2
Matthew said: How do I make a default value for a derby function, or use optional arguments? Is it possible? For... [more]

Responsive Apps using Bootstrap 2.0
Ron Finnerty said: Dan, Lynda.com has a new video series up that talks about bootstrap. It seems using HTML5 semantic m... [more]

Create a structrure from a query string
Nathan Blixt said: Raymond's solution is very simple, but

The Real Dan Vega

Search

ABOUT THE AUTHOR



My name is Dan Vega and I am a Software Developer based out of Cleveland OH. I love to play with new technologies and write about my experiences here. When I am not busy being a full time geek I love to lift heavy weights and hang out with friends and family. If you have any questions please don't hesitate to contact me.

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Recent Posts



The Last Book You Will Ever Need

March 9th, 2016

I have seen many O'Reilly book cover parody's in my day but this one has to take the cake. Stack Overflow has become such a huge part of our toolbox that a lot of people use it daily. While there is nothing wrong with that I think we need to focus on one part of this book cover and that is copying and pasting. While this may seem like a joke the sad part is that it's true. Too many times do we as developers flock to Stack Overflow and find the answer to our problem only to copy/paste the solution into our own work. I want to make this plea to a [...]



CrossFit Open Workout 16.2

March 8th, 2016

I am having so much fun learning how to use my new camera. Last week I posted the video I made from out Friday Night Lights at our gym. We were back at it again last Friday night for 16.2 and I created another video. I am learning so much working on these videos and gaining some valuable experience. The one thing I love about video production is there is no right or wrong end result. This week I got into post production and chopped up all of my footage into good shots and just had fun with it. Please let me know what you think of the video and [...]

LEARN TO CODE
with Dan Vega

I am passionate about software development, learning new things, and teaching them to you. If you want to learn how to code subscribe to my weekly newsletter for the latest articles and tutorials.



HI, I'M DAN VEGA



I'm a Husband, Father, **Curriculum Developer** and maker of things from Cleveland Ohio. I created this website as a place to document my journey as I learn new things and share them with you. I have a real passion for teaching and I hope that one of **blog posts** , **videos** or **courses** helps you solve



Java Champion, Spring Developer Advocate, YouTuber and Lifelong Learner

Hello 👋 My name is Dan Vega, Java Champion, Spring Developer Advocate, Husband and #GirlDad based outside of Cleveland OH. I created this website as a place to document my journey as I learn new things and share them with you. I have a real passion for teaching and I hope that one of blog posts, videos or courses helps you solve a problem or learn something new.








January 21, 2024


NEW WAY
OLD WAY

About Me

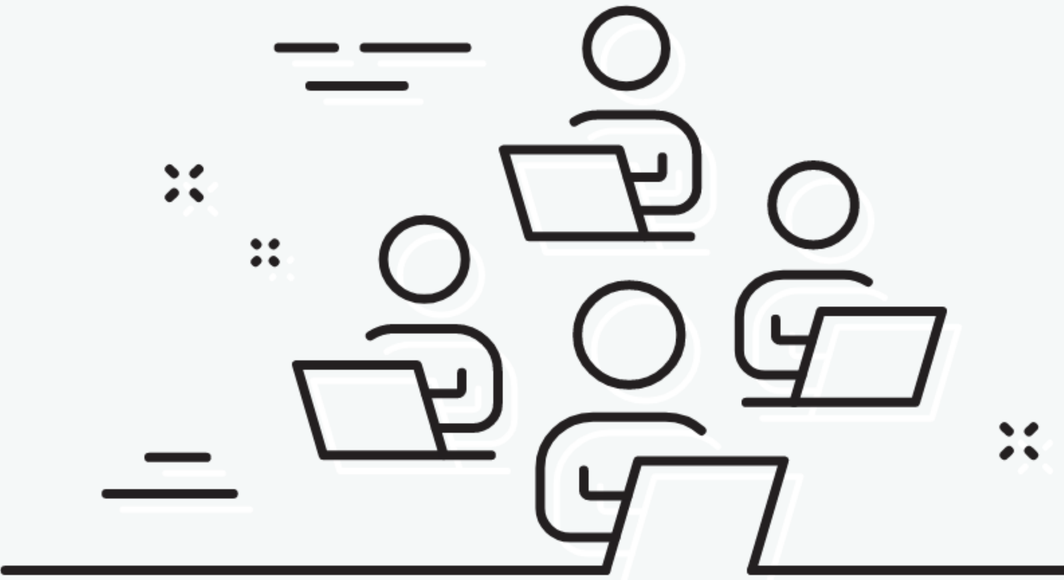
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OFFICE HOURS





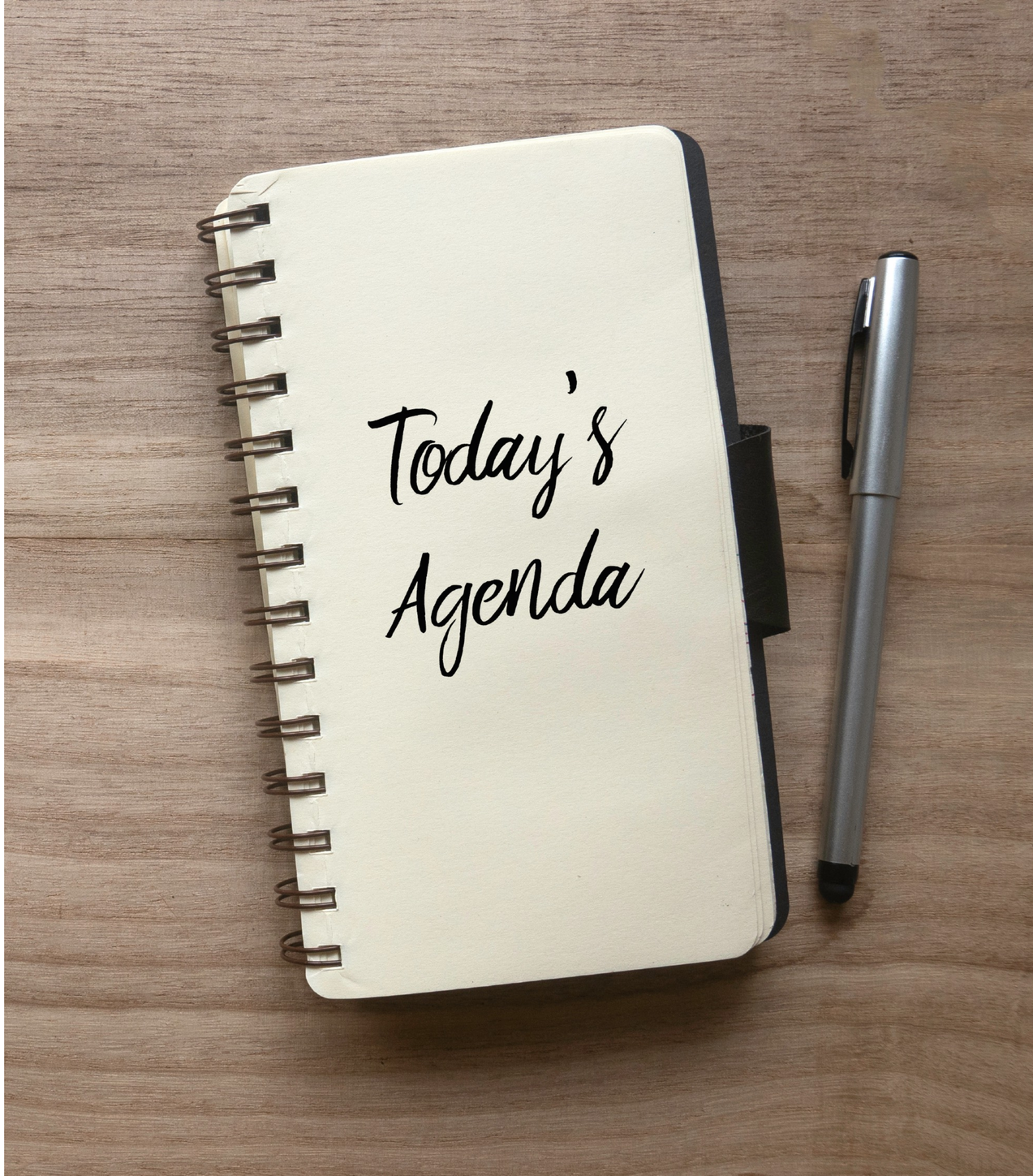


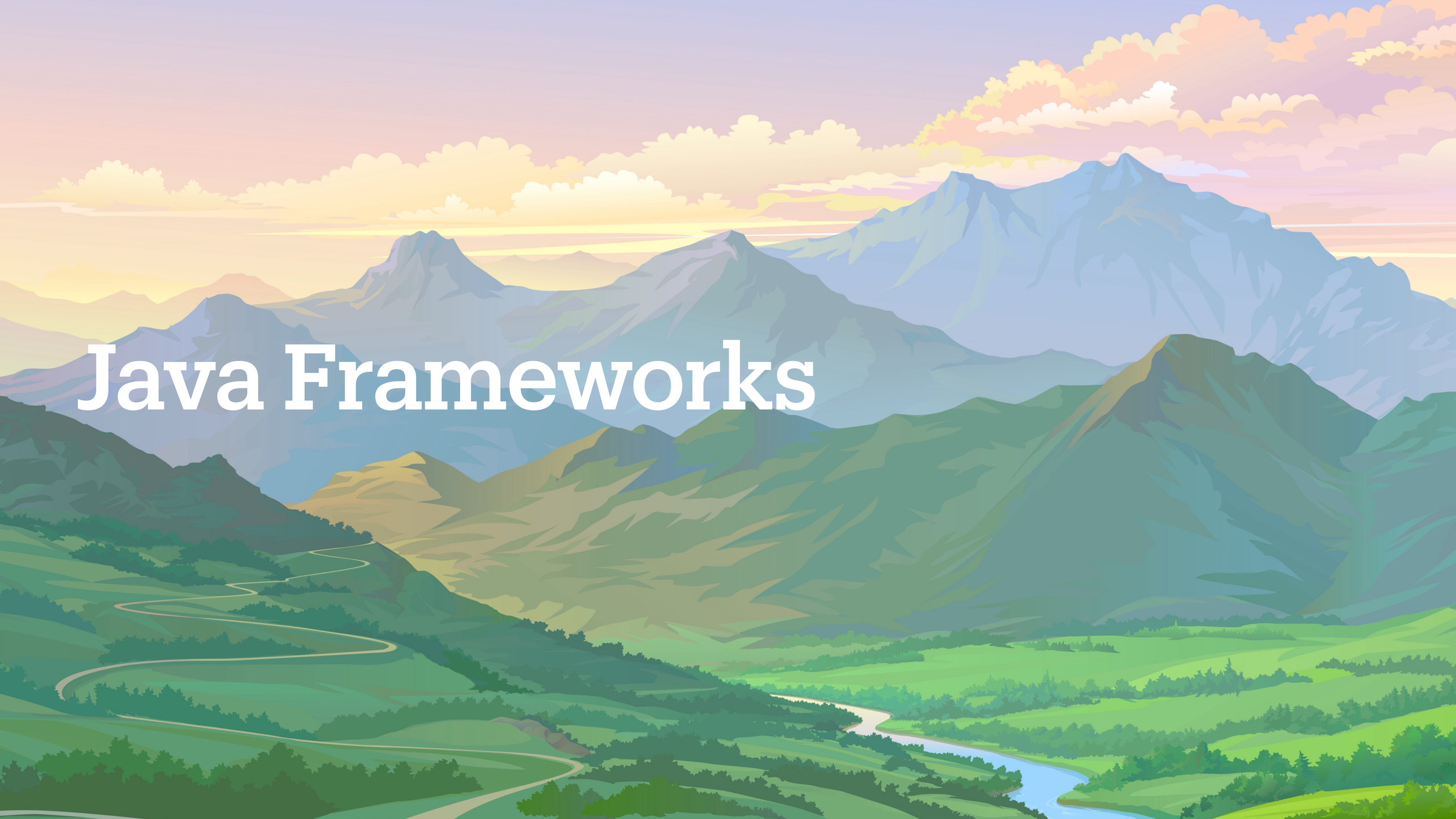
https://www.springofficehours.io

Agenda

This is a high-level overview

- Java Frameworks
  - Spring MVC
  - Vaadin
- JavaScript Libraries & Frameworks
  - Package Managers, Build Tools & Runtimes
  - JavaScript Frameworks
  - HTMX
- How do I choose?




Java Frameworks

Java Frameworks

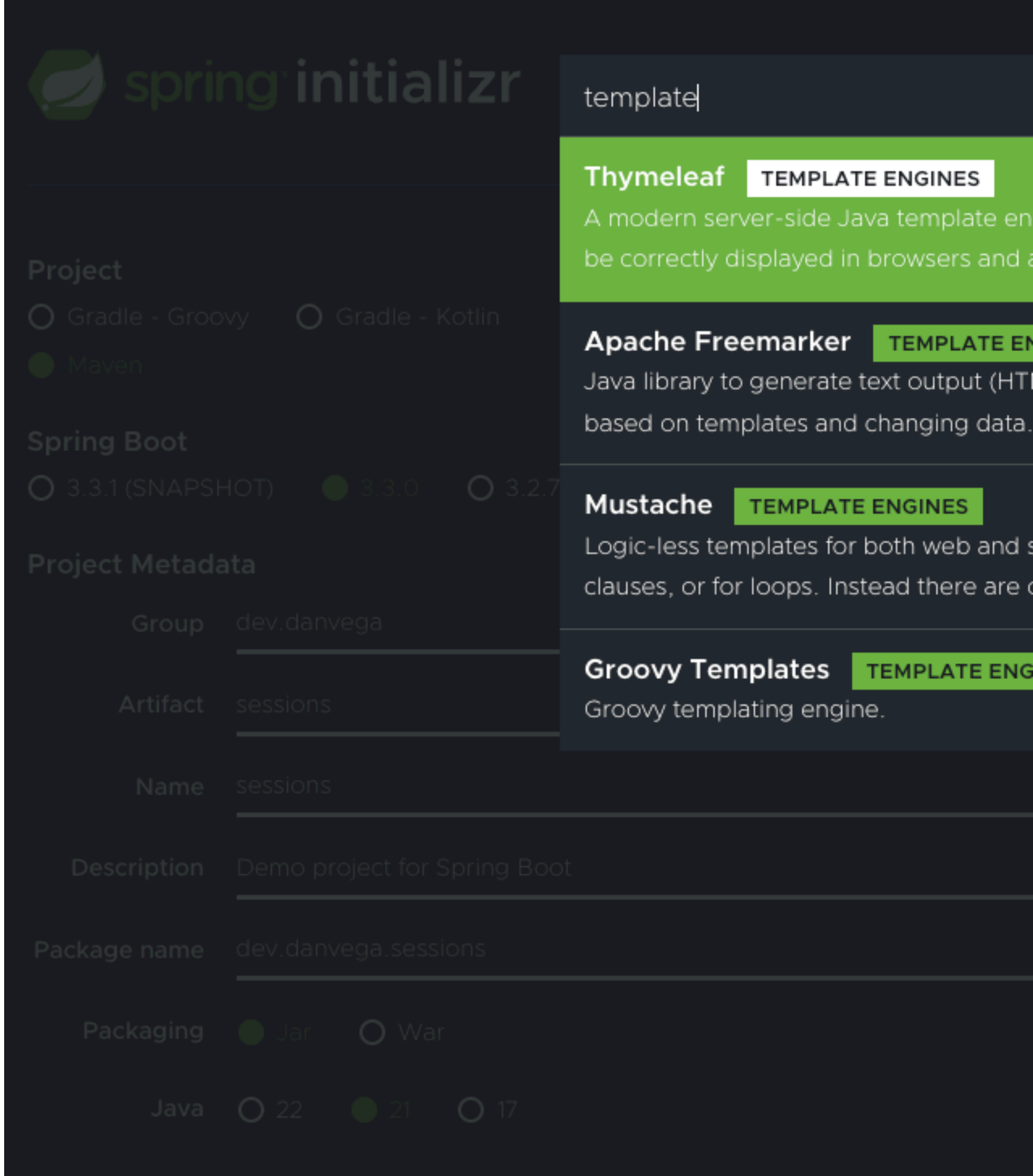
- Spring MVC
- Vaadin
- Hilla
- JHipster
- JavaFX
- Struts
- JavaServer Faces (JSF)



Spring MVC

Spring MVC

- Spring MVC is the original web framework built on the Servlet API and has been around in the Spring Framework from the very beginning.
- Model - View - Controller (MVC)
- DispatcherServlet
- Template Engines
    - Thymeleaf
    - Freemarker
    - Mustache
    - Groovy Templates
    - JTE




Thymeleaf



CHECK OUT MY DEMO

Owners

Name	Address	City	Telephone	Pets
Jeff Black	1450 Oak Blvd.	Monona	6085555387	Lucky
Jean Coleman	105 N. Lake St.	Monona	6085552654	Max Samantha
Betty Davis	638 Cardinal Ave.	Sun Prairie	6085551749	Basil
Harold Davis	563 Friendly St.	Windsor	6085553198	Iggy
Maria Escobito	345 Maple St.	Madison	6085557683	Mulligan
Carlos Estaban	2335 Independence La.	Waunakee	6085555487	Lucky Sly
George Franklin	110 W. Liberty St.	Madison	6085551023	Leo
Peter McTavish	2387 S. Fair Way	Madison	6085552765	George
Eduardo Rodriquez	2693 Commerce St.	McFarland	6085558763	Jewel Rosy
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Vaadin

https://vaadin.com/

vaadin}>

The Web App Platform for Java Developers

Business apps shouldn't suck. With Vaadin you can **craft stunning full-stack web apps at lightning speed**. Scaling from hobby projects to enterprise.

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Vaadin

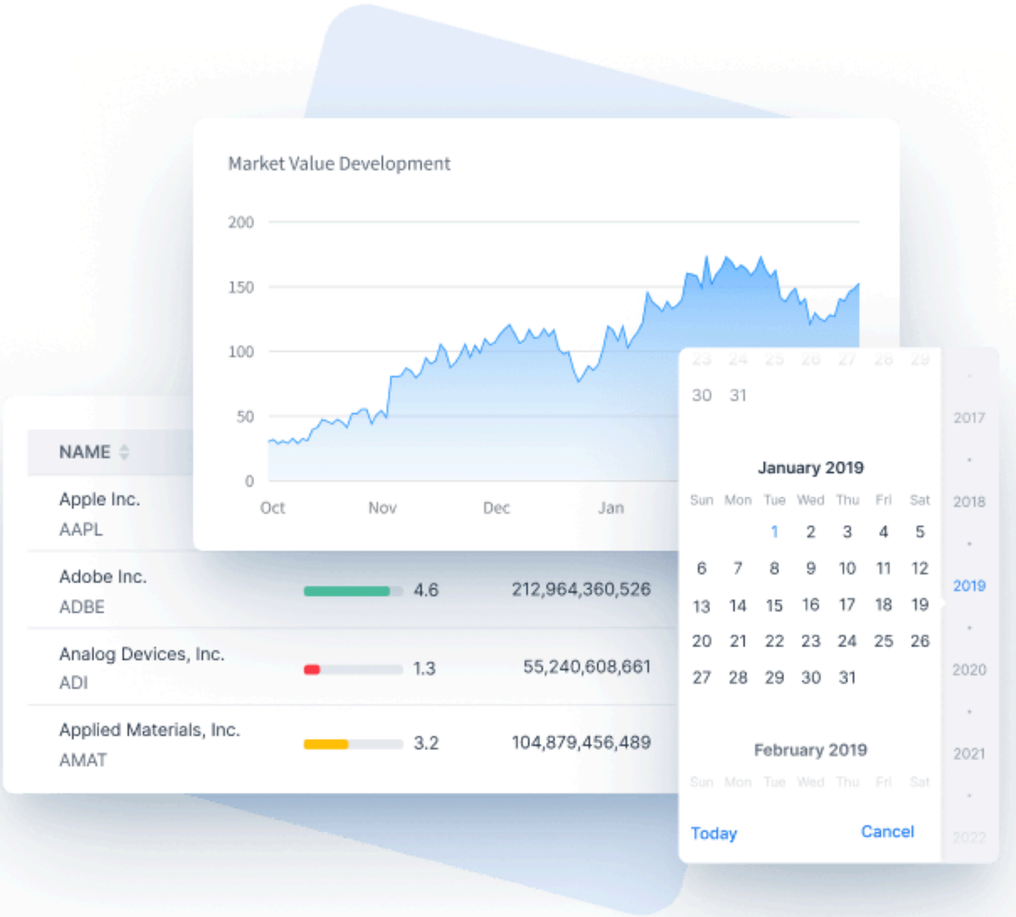
- The components build on a customizable theme, so you can change things like colors, roundness, spacing, and fonts consistently with CSS variables
- The components are tested to ensure good accessibility with assistive technologies like screen readers
- Vaadin has 2 full-stack web frameworks: Flow & Hilla.
  - Flow lets you build web applications in Java
  - Hilla combines Spring Boot with a React frontend

UI Components

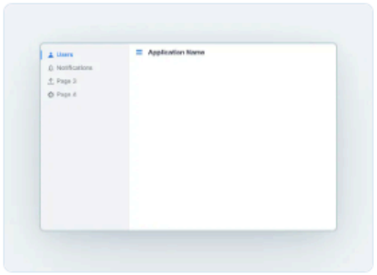
Enterprise-grade components for Java web apps

Build your apps faster with a library of accessible, themable, ready-to-use UI components optimized for desktop and mobile.

See all components →

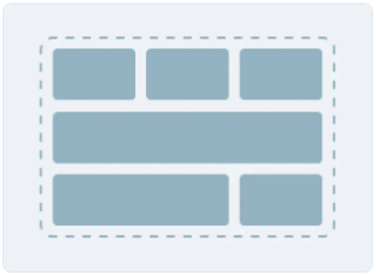


Layouts



App Layout

App Layout is a component for building common application layouts.



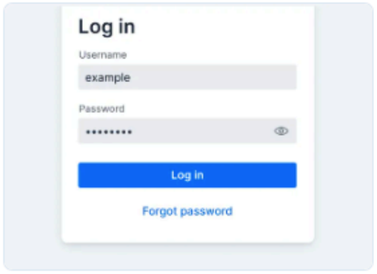
Board

Board is a powerful and easy-to-use layout element for building responsive views.



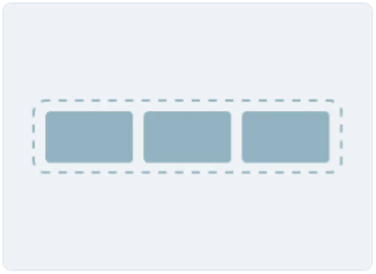
Form Layout

Form Layout allows you to build responsive forms with multiple columns, and to position input labels above or to the side of the input.



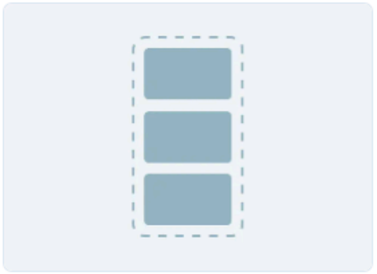
Login

Login is a component that contains a log-in form. You can use it to authenticate the user with a username and password.



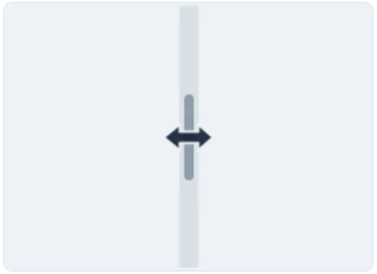
Horizontal Layout

Horizontal Layout places components side-by-side in a row.



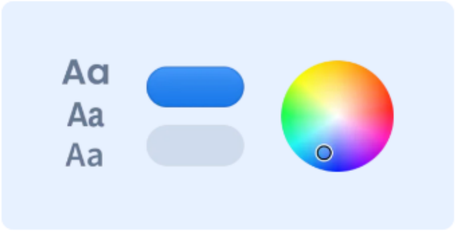
Vertical Layout

Vertical Layout places components top-to-bottom in a column.



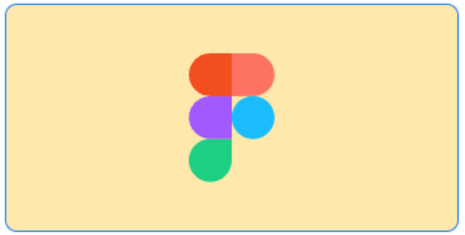
Split Layout

Split Layout is a component with two content areas and a draggable split handle between them.



Styling

The styling of Vaadin components can be customized using style tokens, utility classes and custom CSS.



Figma Libraries

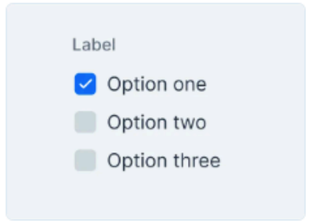
Design and prototype application UIs in Figma using the official Vaadin Figma libraries.



Accessibility

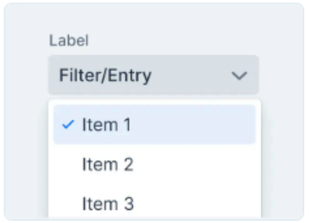
Designed for compliance with WCAG 2.1 level AA. Check the current status of components and read Vaadin's accessibility statement.

Data Entry



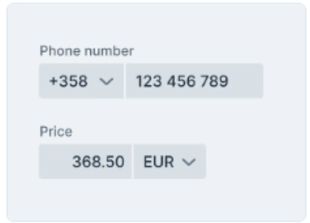
Checkbox

Checkbox is an input field representing a binary choice.



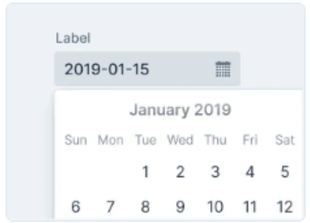
Combo Box

Combo Box allows the user to choose a value from a filterable list of options presented in an overlay.



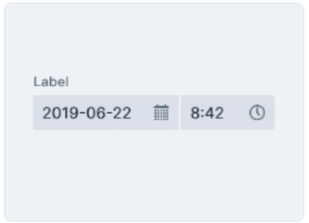
Custom Field

Custom Field is a component for wrapping multiple components as a single field.



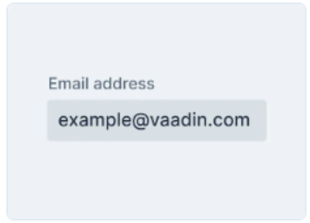
Date Picker

Date Picker is an input field that allows the user to enter a date by typing or by selecting from a calendar overlay.



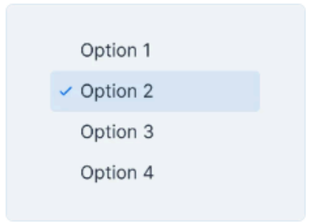
Date Time Picker

Date Time Picker is an input field for selecting both a date and a time.



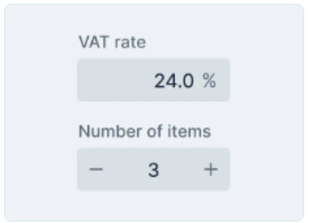
Email Field

Email Field is an extension of Text Field that accepts only email addresses as input.



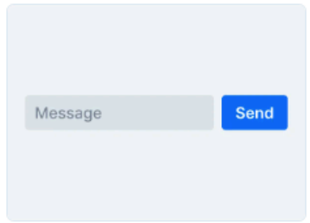
List Box

List Box allows the user to select one or more values from a scrollable list of items.



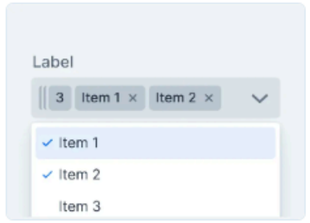
Number Field

Number Field is an input field that accepts only numeric input.



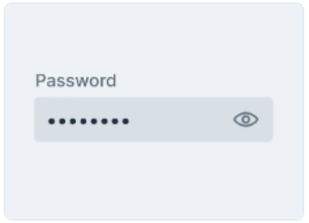
Message Input

Message Input allows users to author and send messages.



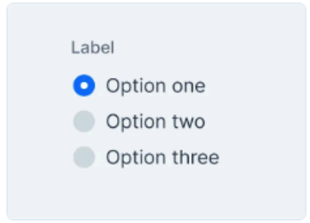
Multi-Select Combo Box

Multi-Select Combo Box allows the user to



Password Field

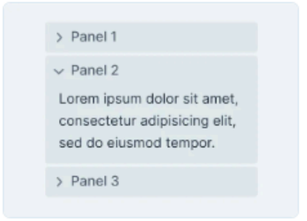
Password Field is an input field for entering



Radio Button

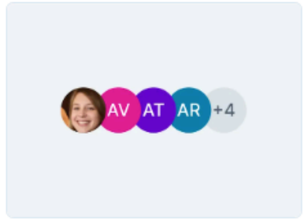
Radio Button Group allows users to select one

Visualization and Interaction



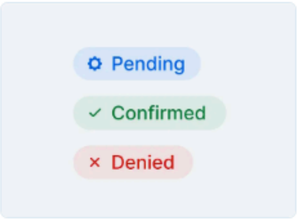
Accordion

Accordion is a vertically stacked set of expandable panels.



Avatar

Avatar is a graphical representation of an object or entity, for example, a person or an organization.



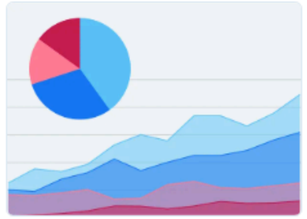
Badge

Badges are colored text elements containing small bits of information.



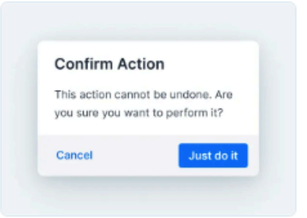
Button

The Button component allows users to perform actions. It comes in several different style variants and supports icons as well as text labels.



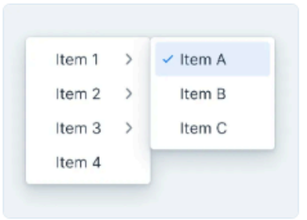
Charts

Charts is a feature-rich interactive charting library with a vast number of different chart types from basic plotting to complex financial charting.



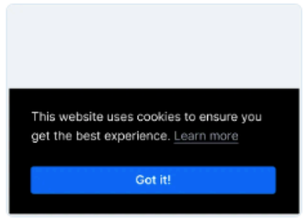
Confirm Dialog

Confirm Dialog is a modal Dialog used to confirm user actions.



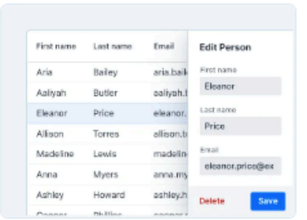
Context Menu

Context Menu is a component that you can attach to any component to display a context menu.



Cookie Consent

Cookie Consent aims to help you comply with privacy laws such as General Data Protection Regulation (GDPR) and California Consumer Privacy Act (CCPA).

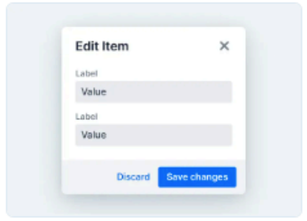


CRUD

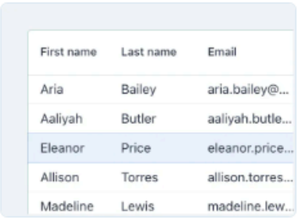
CRUD is a component for managing a dataset. It allows for easy displaying, editing, creating, and deleting of items.



Details



Dialog



Grid

My Projects

You don't have any projects yet.

Start a Project

Getting Started Tutorial

Want to learn more before taking Vaadin for a spin? The Getting Started tutorial walks you through the basic concepts, tools, and frameworks of Vaadin, as well as gives you pointers for how to set up your development environment.

Read Tutorial First

Hello World Project

Quick start local application development with a "Hello World" starter project based on your favorite tech stack.

Flow / Java Java Maven Spring Boot Edit

Download

spring initializr

Project
- Gradle - Groovy
- Gradle - Kotlin
- Maven

Language
- Java
- Kotlin
- Groovy

Spring Boot
- 3.3.1 (SNAPSHOT)
- 3.3.0
- 3.2.7 (SNAPSHOT)
- 3.2.6
- 3.1.12

Project Metadata

Group	com.example
Artifact	demo
Name	demo
Description	Demo project for Spring Boot
Package name	com.example.demo
Packaging	Jar / War
Java	22 / 21 / 17

Dependencies — ADD DEPENDENCIES... ⌘ + B

Spring Web WEB
Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.

Vaadin WEB
A web framework that allows you to write UI in pure Java without getting bogged down in JS, HTML, and CSS.

Spring Boot DevTools DEVELOPER TOOLS
Provides fast application restarts, LiveReload, and configurations for enhanced development experience.

Spring Boot Actuator OPS
Supports built in (or custom) endpoints that let you monitor and manage your application - such as application health, metrics, sessions, etc.

GENERATE ⌘ + ↵ | EXPLORE CTRL + SPACE | SHARE...



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JavaScript Libraries & Frameworks

PACKAGE MANAGERS, BUILD TOOLS, & RUNTIMES



OHH MY

Package Managers









NPM

Node Package Manager

- npm is the world's largest software registry. Open source developers from every continent use npm to share and borrow packages, and many organizations use npm to manage private development as well.

- npm consists of three distinct components

  - **Website:** discover packages, set up profiles, and manage other aspects of your npm experience

  - **CLI:** runs from a terminal, and is how most developers interact with npm.

  - **Registry:** is a large public database of JavaScript software and the meta-information surrounding it.


node
JS


nvm

Build Tools



webpack



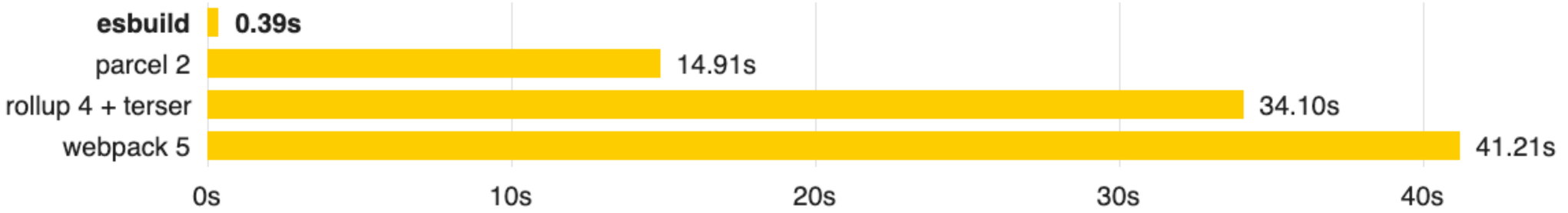
rollup.js



PARCEL

esbuild

An extremely fast bundler for the web



Vite

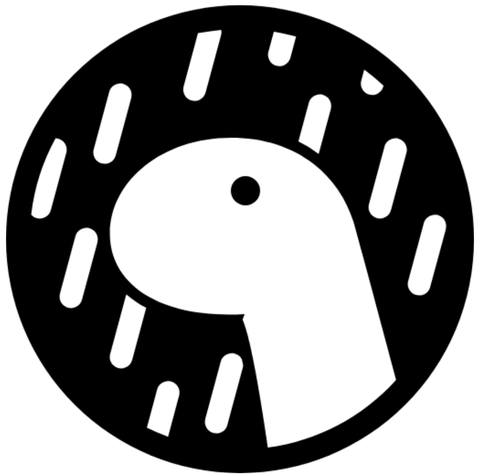
Next Generation Frontend Tooling

Get ready for a development environment that can finally catch up with you.



JavaScript Runtimes

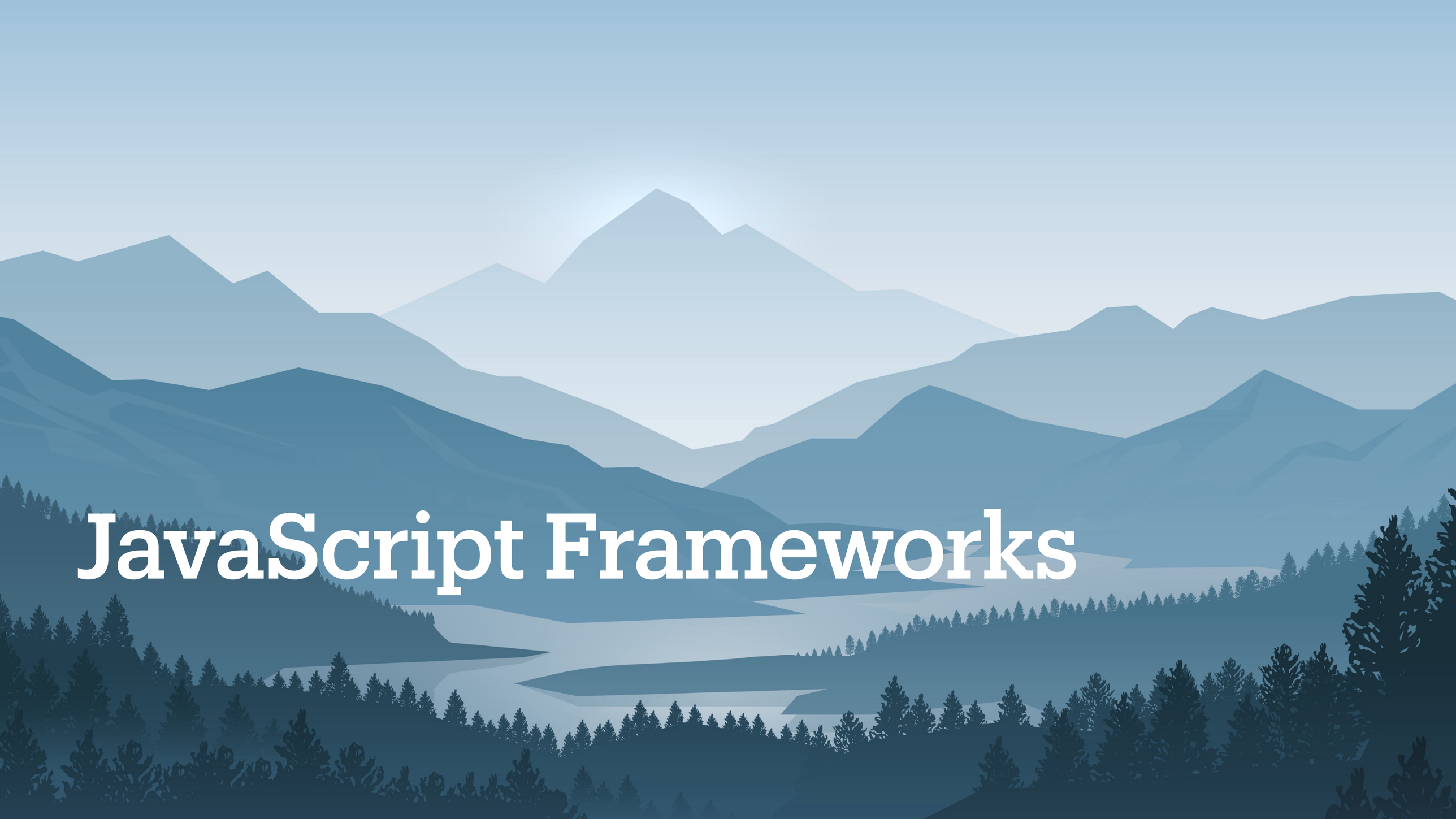








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JavaScript Frameworks

Key Features

Key features & benefits of JavaScript Frameworks

- **Abstraction**: Frameworks abstract common tasks, such as DOM manipulation, event handling, and AJAX requests, making code more concise and readable.
- **Component-Based Architecture**: Many modern frameworks, like React and Vue.js, use a component-based architecture, allowing developers to build reusable and modular pieces of UI.
- **State Management**: Frameworks often provide mechanisms to manage the state of an application, making it easier to keep the UI in sync with the underlying data.
- **Routing**: They include built-in or easily integrated routing capabilities to handle navigation within single-page applications (SPAs).
- **Data Binding**: Frameworks like Angular offer two-way data binding, which synchronizes data between the model and the view, simplifying the development process.
- **Templating**: Frameworks provide templating systems that allow developers to create dynamic HTML more easily.
- **Performance Optimization**: Frameworks often include optimizations to improve the performance of web applications.

JavaScript Frameworks

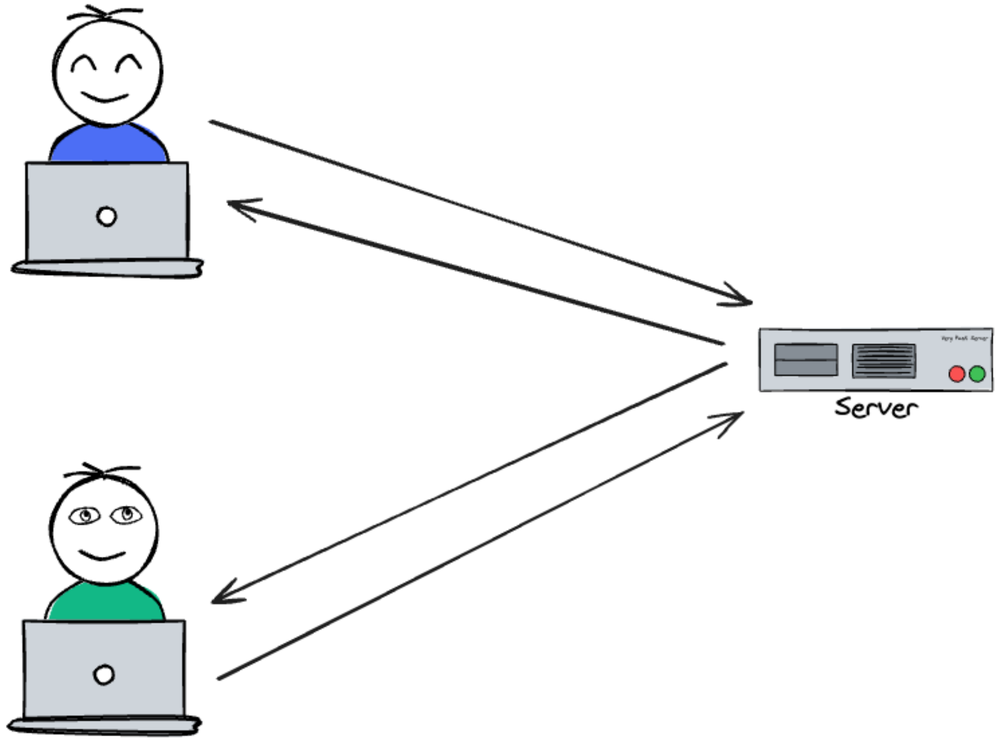
- **Angular**: A comprehensive framework developed by Google that includes everything needed to build large-scale, enterprise-level applications.
- **React**: A library developed by Facebook for building user interfaces, particularly single-page applications where the content is dynamically loaded.
- **Vue.js**: A progressive framework that is incrementally adaptable, making it easy to integrate with other projects and libraries.
- **Ember.js**: A framework that provides a strong convention-over-configuration approach, aimed at creating ambitious web applications.
- **Svelte**: A relatively new framework that shifts much of the work to the compile step, resulting in faster and smaller runtime code.



CHECK OUT MY DEMO


</> htmx

Why HTMX?



jQuery

write less, do more.

What is htmx

- Htmx is a library that allows you to access modern browser features directly from your HTML, rather than using JavaScript.
- Htmx is small (~14k min.gz'd)
- Dependency free
- Extendable
- IE11 compatible
- 67% Reduced code base when compared to something like React

Features

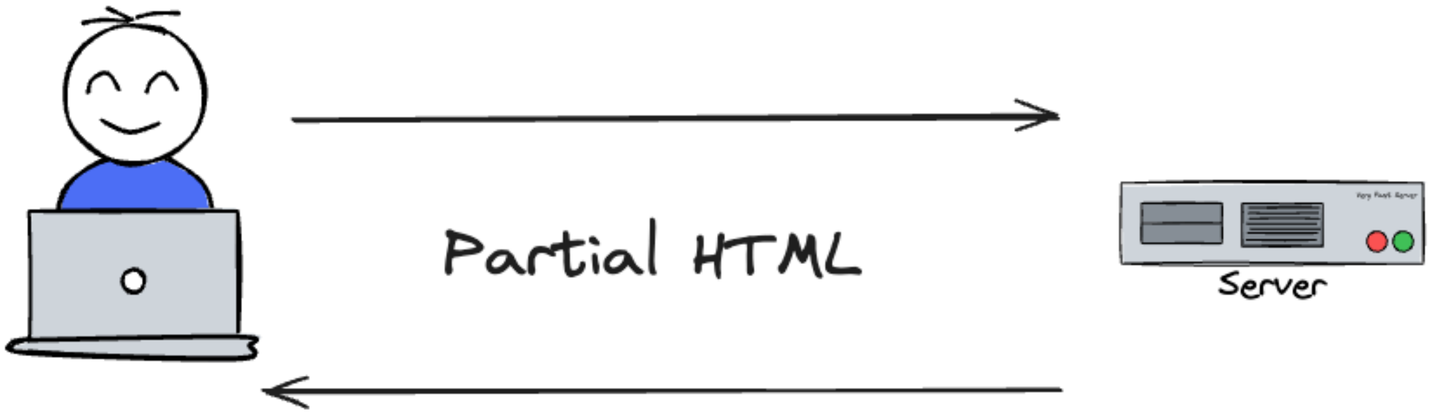
- Ajax
- Boosting & Progressive Enhancement
- Validation
- Animations
- WebSockets
- History API
- Events and logging
- Debugging



AJAX

Attribute	Description
hx-get	Issues a `GET` request to the given URL
hx-post	Issues a `POST` request to the given URL
hx-put	Issues a `PUT` request to the given URL
hx-patch	Issues a `PATCH` request to the given URL
hx-delete	Issues a `DELETE` request to the given URL

```
<button hx-post="/clicked"
        hx-trigger="click"
        hx-target="#parent-div"
        hx-swap="outerHTML">
    Click Me!
</button>
```





CHECK OUT MY DEMO

Spring & htmx Resources

Community members you should follow

- **Wim Deblauwe**
  - Modern Frontends with HTMX
  - Spring Boot and Thymeleaf Library for HTMX
- **Thomas Schühly**
  - Spring View Component
- **Ted Young** (AKA JitterTed)
  - Twitch & YouTube Streamer


So which one should I choose?

IT DEPENDS



Things to consider

Picking the right tool for the job

- Solo Developer vs Team
- Greenfield vs Existing Project
- Architecture of project
- Developer skillset
- Back office application vs customer facing
- SEO Important
- UI Components / does it need to look good

THANK YOU

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https://www.danvega.dev

