

# Susanna Kline

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## **Technical writing samples**

# VA Forms Library — Using Form Widgets and Fields (2022)

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## Document type

Reference

## Audience

Software developers within Veterans Affairs who have a basic understanding of the Forms Library and its schema and uiSchema.

## Goals

Based on user research, I chose to prioritize the following items:

- Clearly document how to use each widget
  - Show a screen shot or video of each widget when possible, supported by high quality alt text for screen captures and videos
  - Show a code example of each
  - Link to an example in the VA code base
- 

**VA Forms Library - Using Form Widgets and Fields (Link to document)**

# VA Platform Console — Plugin overview (2022)

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## Document type

Technical overview document of a [backstage.io](#) feature integrated with the VA Platform Console

## Audience

Software developers within Veterans Affairs who have a basic understanding of the Console.

## Goals

- Introduce Console developers to the purpose of plugins
  - Explain the purpose of sponsoring plugins
  - Provide developers with alternatives to sponsoring plugins.
-

VA

Documentation / Platform Console

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Plugin overview

Is your team a "Developer" or a "Sponsor" of a plugin?

Is your team using a service or tool with a pre-existing plugin for Backstage and you want to incorporate that tool into the Platform Console via this plugin, your team is what we call a "Sponsor" of a plugin. Your team would be responsible for the initial integration, documentation, and updates to that plugin. This process is similar to being a plugin "Developer" but doesn't have to involve writing new source code.

If you're developing new functionality that uses the Console to manage the VA Platform, your team is a "Developer" for a plugin. We have written further documentation on how to conform to policies and procedures for writing a new plugin for the Console. If you're sure that what you want to do is to develop a new plugin for the Console, move on to our article titled, "Creating a plugin."

Finding Plugins to Sponsor

The Console is based on Backstage, which is a developer portal platform. It is composed of plugins to help you centralize your infrastructure and software development work.

We've already installed some plugin core features for you, like the Backstage Software Catalog, Backstage Software Templates, Backstage TechDocs, and Backstage Kubernetes.

A list of all current plugins can be found in the Platform Console Catalog.

Your team can add other plugins from the Backstage Plugin Marketplace. Alternatively, you may also be able to find plugins currently in development in the Backstage GitHub repository or discover plugins in development by looking at Backstage's GitHub issues. They fall into categories including:

- Infrastructure
- CI/CD
- Reporting
- Monitoring
- Metrics

If you decide to adopt a plugin as a sponsor, you can review our documentation on "Creating a plugin" which includes directions on integrating a plugin from a third party. That documentation is also attached to a pull request integrating the plugin we use for embedding content within the Console, and it can be found here:

#653

Alternatives to Plugins

There are three levels of integration complexity that we have identified for the Console.

- Level 1 - Simple links from catalog entities to tools
- Level 2 - Embedded content from an outside website.
- Level 3 - Plugins

Level 1 - Simple Links

You might consider a link from your catalog page as a first step in connecting your project to outside services. Read the "Creating a catalog-info.yaml" documentation for more information.

Level 2 - Generic Embeds

The Console has a plugin for embedding arbitrary content from outside websites on components, systems, and other entities under a plugin tab. For example, if your external tool or service offers a dashboard that provides ample information for your team to stay informed or take action, you can use this plugin to iframe or embed the content.

To use this plugin, one would need to modify an entity page and add an EntityIFrameCard to the profile, embedding a URL via the src attribute. This means that in order to use a Level 2 embed, one must modify source code. We hope in a future iteration of this plugin's implementation that we can simplify this to adding an annotation to a catalog file, which is less difficult and not subject to Console code review.

Component:

```
1 | <EntityIFrameCard src="https://vfs.atlassian.net/wiki/spaces/CUI/overview" />
```

```
1 | # app-config.yaml
2 | iframe:
3 |   allowList: ['vfs.atlassian.net']
```

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# VA Platform Console — Adding integrations to your plugin (2022)

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## Document type

API integration


## Audience

Software developers within Veterans Affairs who have a basic understanding of the Console and would like to read data from or write data to providers outside the console.

## Goals

Introduce Console developers to plugin integrations and instruct them on how to integrate with APIs.

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VAU.S. Department of Veterans Affairs

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Main documentation for Platform Console features and guides.

ComponentPlatform Console

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Adding integrations to your plugin

What are integrations?

If you want to read or write data to providers outside the Platform Console, you can configure and use integrations in your plugin.

Some examples of integrations Backstage allows are AWS and Datadog. The list of integrations may change, so check [Backstage's Integrations page](#) for all possible options.

Once the integration is configured, either by you or the Platform Console team, you will still need to access, or consume it, using the API. You can do this with a basic fetch request.

Adding a Backstage API

If the API you want to use is provided by Backstage, adding only requires importing it's API reference and retrieving the API with `useApi`.

```
1 import { useApi, githubAuthApiRef } from '@backstage/core-plugin-api';
2
3 const githubAuthApi = useApi(githubAuthApiRef);
```

If you need to add your own API, it must be registered to Backstage using an `ApiFactory`. See [Providing your plugin with your own API](#) below.

Using Platform Console-provided integrations

Currently, the Platform Console is configured for:

- GitHub Auth API

Integrating with the GitHub Auth API

The GitHub Auth integration allows you to authenticate with the [GitHub Auth API](#) using this signature:

```
1 githubAuthApiRef: ApiRef<
2   OAuthApi & ProfileInfoApi & BackstageIdentityApi & SessionApi
3 >;
```

Several other APIs are nested in the signature, and we include details for each of these here.

If you don't need user profile info, or session info, you may only need the `OAuthApi`, which provides your authentication toward GitHub APIs. Then you can use the access token with a fetch request or the `@octokit` request library to make authenticated requests to GitHub's REST API:

```
1 type OAuthApi = {
2   getAccessToken(
3     scope?: OAuthScope,
4     options?: AuthRequestOptions,
5   ): Promise<string>;
6 };
```

`ProfileInfoApi` provides access to a user's profile information from an auth provider, in this case, the GitHub profile:

```
1 type ProfileInfoApi = {
2   getProfileInfo(options?: AuthRequestOptions): Promise<ProfileInfo | undefined>;
3 };
```

`BackstageIdentityApi` provides access to the user's identity within Backstage

```
1 type BackstageIdentityApi = {
2   getBackstageIdentity(
3     options?: AuthRequestOptions,
4   ): Promise<BackstageIdentityResponse | undefined>;
5 };
```

`SessionApi` provides controls for auth providers tied to a persistent session

```
1 type SessionApi = {
2   signIn(): Promise<void>;
3   signOut(): Promise<void>;
4   sessionStates(): Observable<SessionState>;
5 };
```

Providing your plugin with your own API

In your `plugin.tsx` file, your plugin is created with a `createPlugin` call. Here you can provide your plugin with any APIs that it may use. Pass `createApiFactory` an object with three keys:

- `api` - an API reference of the API you want to use
- `deps` - an object of dependencies providing API references
- `factory` - a factory function to return the implementation of the API you want to use For example, the `githubRateLimitCheckPlugin` uses the `GitHubRateLimitAPI`. It's passed the `githubRateLimitApiRef` for the requested API, `githubAuthApiRef`, `fetchApiRef` and `discoveryApiRef` as dependencies, and returns a new `GitHubRateLimitClient` from its factory function:

```
1 export const githubRateLimitCheckPlugin = createPlugin({
2   id: 'github-rate-limit-check',
3   apis: [
4     createApiFactory({
5       api: githubRateLimitApiRef,
6       deps: {
7         githubAuthApi: githubAuthApiRef,
8         fetchApi: fetchApiRef,
9         discoveryApi: discoveryApiRef,
10      },
11       factory: ({ githubAuthApi, fetchApi, discoveryApi }) =>
12         new GitHubRateLimitClient({ githubAuthApi, fetchApi, discoveryApi }),
13     }),
14   ],
15   routes: {
16     root: rootRouteRef,
17   },
18 });
```

Now that your plugin is being provided with an API, it can be retrieved by your plugin using `useApi` like Backstage provided APIs.

Reference

- [Backstage.io - Utility APIs](#)

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# Thinking in React: Reusing components (2022)

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## Document type

Tutorial

## Audience

Software developers who want to understand reusable components. They already understand JavaScript and JSX. They can create a simple React App and run the app locally.

## Goals

- Teach the high-level concept of reusable components
  - Implement a basic, reusable component in React
  - Give the audience ideas of other reusable components that they can try next
- 

## Thinking in React: Reusing components

Prerequisites:

- You know basic JavaScript and JSX
- You can create a simple React App
- You can run the React app on localhost:3000

Today, we're creating an app for our customer, DeliciousDonuts. They want their website to show a menu of current donuts on the front page. Right now, the list includes nine donuts, but this may change later.

For each donut, they want to show these items:

- the donut name
- a photo
- price
- ingredients
- an "Add to Cart" button

For now, we'll think about this app at a high level and work with only minimal formatting to focus on the user interface (UI) functionality. In a later lesson, we'll add CSS to make things look good for the customer.

Once you've created and started your React app, we'll work in a simple `App.js` file and create a header, `DeliciousDonuts`.




### App.js

```
1 import './App.css';
2
3 function App() {
4   return (
5     <div style={{textAlign: 'center'}}>
6       <header>
7         <p>DeliciousDonuts</p>
8       </header>
9     </div>
10   );
11 }
12
13 export default App;
```

If you've read through the React docs, you may know that a big part of the reason for using React is to break your app into reusable components. This means you can reuse code in multiple places without having to rewrite it.

But how do you identify parts of the code where it makes sense to reuse components? Let's look at our DeliciousDonuts app. We need a page that displays nine of the same thing, with a donut name, photo, price, ingredients, and a button.

We know we need nine of something that looks like this to show up on our app page:

<b>Sprinkles donut</b>

Price: \$4.50
Ingredients: Sprinkles, milk, yeast, eggs, butter, sugar, flour, salt, oil.
Add to Cart Button

If we need more than one of anything, it's a good place to think about writing a reusable component. But you might be wondering, if each one has a different name, photo, price, and ingredients, how will we reuse the code? That's a great question.

We're going to create a Donut component with the basic structure, but it will have variables that we can replace when we use the component. In React, these variables are called properties, or for short, props.

Let's make a new, reusable `Donut.js` file that we can use as many times as we'd like in our app file. It may not seem like a lot of code to save right now—we could just copy and paste it—but imagine DeliciousDonuts expanded and started selling hundreds of kinds of donuts. We wouldn't want to create new code for each donut!

For now, we'll create this file and include placeholders for everything but the button, but we'll swap them out for the props in a minute.

#### **Donut.js**

```
1 import './App.css';
2
3 function Donut() {
4   return (
5     <div style={{border: '1px solid black', margin: '4px'}}>
6       <p>Name</p>
7       <p>Photo</p>
8       <p>Price:</p>
9       <p>Ingredients:</p>
10    </div>
11  );
12 }
13
14 export default Donut;
```

Next, we'll import the Donut file back to the `App.js` file (line 2) and insert the component (line 10) below the header:

### App.js

```
1 import './App.css';
2 import Donut from './Donut.js';
3
4 function App() {
5   return (
6     <div style={{textAlign: 'center'}}>
7       <header>
8         <p>DeliciousDonuts</p>
9       </header>
10      <Donut />
11    </div>
12  );
13 }
14
15 export default App;
```

Currently our app looks very simple and shows only our App file and our child component, rendered one time.

### DeliciousDonuts

Name
Photo
Price:
Ingredients:

We can render it as many times as we want to in our app. We can add two more Donut components to see what it looks like when we render the Donut component multiple times.

### App.js

```
1 import './App.css';
2 import Donut from './Donut.js';
3
4 function App() {
5   return (
6     <div style={{textAlign: 'center'}}>
7       <header>
8         <p>DeliciousDonuts</p>
9       </header>
10      <Donut />
11      <Donut />
12      <Donut />
13    </div>
14  );
15 }
16
17 export default App;
```

### DeliciousDonuts

Name
Photo
Price:
Ingredients:

Name
Photo
Price:
Ingredients:

Name
Photo
Price:
Ingredients:

For now, let's delete those extra two Donut components and add the donut's name prop. This will allow us to list a different donut name every time we render the card.

In the `Donut.js` file, add a property that we can use to pass the donut name in from the app file each time we call our Donut component so it will be unique to each donut. First, in the function (line 3), we add a variable called "donutName."

Then we'll replace `<p>Name</p>` (line 6) with `<p>{donutName}</p>`. As a reminder, we need curly braces to tell React that we're using JSX here instead of html.

#### **Donut.js**

```
1 import './App.css';
2
3 function Donut({donutName}) {
4   return (
5     <div style={{border: '1px solid black', margin: '4px'}}>
6       <p>{donutName}</p>
7       <p>Photo</p>
8       <p>Price:</p>
9       <p>Ingredients:</p>
10    </div>
11  );
12 }
13
14 export default Donut;
```

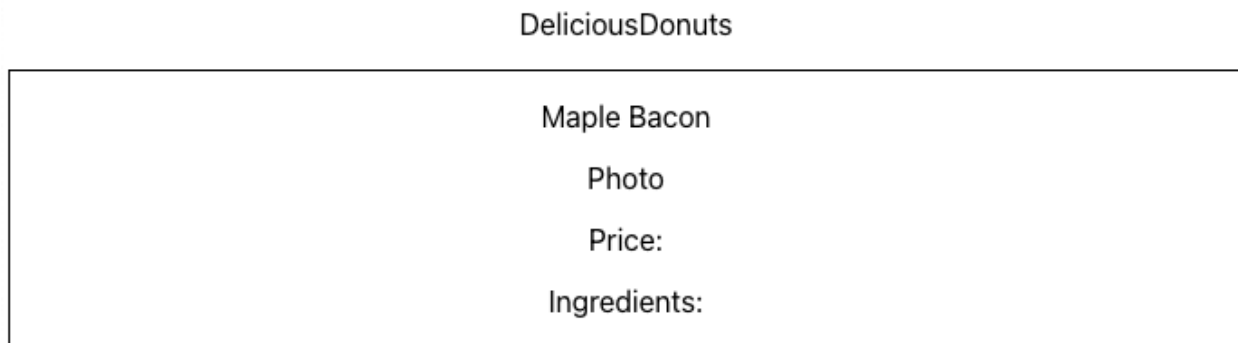
Now that we've created a way to insert a Donut name, let's go back to our `App.js` file and insert it.

Instead of `<Donut />` (line 10), now we want to add a prop called `donutName`.

#### **App.js**

```
10 <Donut
11     donutName="Maple Bacon"
12 />
```

When you save both files, your React app should look like this.



If you want to add more donuts, repeat the Donut component you call in the App file. You can add it as many times as you'd like to add it, each with a different name prop:

#### App.js

```
1 import './App.css';
2 import Donut from './Donut.js';
3
4 function App() {
5   return (
6     <div style={{textAlign: 'center'}}>
7       <header>
8         <p>DeliciousDonuts</p>
9       </header>
10      <Donut
11        donutName="Maple Bacon"
12      />
13      <Donut
14        donutName="Lavender"
15      />
16      <Donut
17        donutName="Lemon-Blueberry"
18      />
19    </div>
20  );
21 }
22
23 export default App;
```

The corresponding app screen with the Donut components looks like this:

DeliciousDonuts	
Maple Bacon	
Photo	
Price:	
Ingredients:	
Lavender	
Photo	
Price:	
Ingredients:	
Lemon-Blueberry	
Photo	
Price:	
Ingredients:	

Now you can insert as many properties into the donut card as you'd like, following the same pattern.

On your own, try adding the photo, price, and ingredients properties. Then consider other parts of this app or others you've worked in where you can create reusable components, like buttons, menu items, or form fields.

If we zoom out, we can think about the the DeliciousDonuts reusable component concept as a repeated card on a page, and realize that this format applies to many other different kinds of apps: articles or blog posts, photos, book finders, and many others that use a card-like format.

Obviously, the idea of reusable components has immense potential, both saving you time and allowing you to build more powerful and flexible apps. In the next lesson, we'll implement some other reusable components, including the "Add to Cart" button for our customer, DeliciousDonuts.

## **Non-technical writing samples**



## Opinion article supporting educational technology research (2022)

If you build it, they will come. But will they learn?  
by Susanna Kline

In April 2020, a man wearing an inflatable dinosaur suit walked up to a house in Illinois carrying two six-packs of beer. One month after the normal pace of the world changed dramatically due to the pandemic, a small brewery had pivoted to online ordering and home delivery, bringing beer and much-needed levity in a dinosaur suit to home patrons. At the same time, many schools across the United States also converted to hybrid or full online learning, rapidly accelerating the gradual shift that began in the mid-to-late 1990s.

The problem? The technology existed to onboard schools, but most of our teachers, already overworked and underpaid, weren't prepared for the toll of online teaching, especially during a pandemic. Everything became more complicated: from understanding student home situations to keeping participants engaged enough to learn.

The restaurant industry seems one of the unlikeliest places to draw a parallel to education. Restaurants during the pandemic, though, had very little choice but to pivot or close. High-end restaurants that traditionally served 20-plus-course menus studied what takeout version of their food could still taste good. Family-style meals and Sunday dinners resonated with guests for takeout in the places that succeeded. Popular restaurants may have scaled back, but they would stay open.

It seemed like schools were also pivoting by moving into technology-based learning. But unlike the restaurant industry, there is no "pivot or close" model in education. While everything got harder for everyone during the pandemic, teachers received little support on how to modify their courses. According to [edweek.com](https://www.edweek.com), there are 3.1 million teachers in the U.S. for fall 2022, already deployed to teach our children and shape the future of our country. Most of them have little to no training specifically for teaching hybrid or online courses, and in the usual pattern, the education disparity is amplified by socioeconomic status.

In the early 2010s, I played a supporting role on a research project for the University of Illinois, studying the effectiveness of professors in online education. We found a few teachers who engaged their students with online learning, but mostly we found a lack of understanding about how to best use the technologies that were available to them, including how to modify their course content. Very little has changed a decade later. An anonymous source who works at an online learning platform reports that many higher education professors during the pandemic uploaded their current course content, some of them simply scanning their lecture notes. These same professors expect the

students to learn the material completely as if they'd attended a full extemporaneous lecture given from those notes.

Several research studies since the beginning of the pandemic have shown reduced student engagement, but few provide resources or support on how to actually teach effectively online. We can't wait 10 or 20 years until our current TikTok generation of children become teachers and have a better idea how to engage students on screens. As technology becomes more complicated, simply providing access to computers or iPads in classrooms is no longer sufficient. Unlike decades ago, when supplying teachers with an overhead or film projector and a quick tutorial, online or hybrid education requires more support. Research for engagement in online teaching is necessary to create resources that enable our teachers to succeed at online engagement and teaching.

One study in the Journal of Research on Technology in Education, "Applying the self-determination theory (SDT) to explain student engagement in online learning during the COVID-19 pandemic," by Thomas K.F. Chiu, proposes a model of student engagement and gives a few paragraphs of practical suggestions. They include:

- Design and produce teaching-efficient videos.
- Improve teacher digital communication skills for technology-enhanced teaching.
- Establish and activate a plan for emergency transition to online learning.

These are great suggestions, but a lot for a teacher to unpack and implement without more detail and proper resources. We need to support current teachers with their own paid continuing education, so that they may learn how to teach effectively online. Students will feel ripple effects, both positive and negative, for decades to come, from this quick shift to online learning. If our society provided restaurants and breweries with the support they needed to make it through the pandemic, we should provide our students with the most effective teaching possible and give the students the dinosaurs they need, directly at their doorstep.

## Technical editing and content development acknowledgements

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Between 2011 to 2019, I developed content for many books from the Manning “in Action” series. The series audience includes engineers with two or more years of software development experience who are new to learning a particular technology.

I used information architecture principles, instructional and content design techniques, technical writing, user research, SME interviews, graphic design skills, and more to create user-centric content in support of author teams. In lieu of samples, I provide acknowledgments from the front matter of books of a few authors with whom I worked.

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“I’d like to especially thank my editor, Susanna Kline, for her patience and hard work at turning my prose into something worth buying.”

— *D3.js in Action* by Elijah Meeks

“Behind every author is an editor pushing them to write the best manuscript they can. Susanna Kline was the development editor for this book, and here I offer my sincerest thanks and gratitude for her hard work and indisputable guidance on this project. Susanna not only played the role of an editor, she was also a great coach who understood the vulnerability I felt in this vast and new undertaking, especially when there was so much uncertainty in the early stages of development. Her guidance in this project was essential to its success. Thank you, Susanna, for all your help.”

— *Web Performance in Action* by Jeremy Wagner

“I feel slightly guilty that it’s my name emblazoned on the cover of this book. In reality this is the culmination of work and effort by many, many people. I didn’t quite get the scale of this until I embarked on this journey. Every author says this in their acknowledgments and it’s not out of modesty or humility—it’s a fact.

First of all, I would like to thank my developmental editor Susanna Kline, with whom I’ve exchanged many, many hours of conversation on Skype. We’ve talked about everything from the weather (a lot, I think) to flying planes, cowboys (she’s originally from Texas), and occasionally this book. Without Susanna’s infinite capacity for good advice and insight, this would have been a different and lesser book altogether.”

— *hapi.js in Action* by Matt Harrison

“Hillary Clinton said it takes a village to raise a child. It turns out that it takes one to produce a book, too. Clearly, our development editor, Susanna Kline, deserves a shout-out for her continuous support and help. Her patience and encouragement were invaluable.”

— *SonarQube in Action* by G. Ann Campbell and Patroklos Papapetrou

“Immense thanks to Susanna Kline, who not only made the book of much higher quality and guided us through the process, but also kept us going when we didn’t want to. Without Susanna’s assistance, we’d still be back somewhere in chapter 3, talking about how we should be writing more. A good editor makes a finished product possible.”

— *Mondrian in Action* by William Back, Nicholas Goodman, and Julian Hyde

“I would especially like to thank development editor Susanna Kline for putting up with my many missed deadlines and endless Skype questions, and for always giving great feedback on needed improvements.”

— *Ember.js in Action* by Joachim Haagen Skeie

“...thanks to my editor, Susanna Kline, who kept each chapter focused and helped keep me motivated and on schedule for the best part of a year.”

— *Dart in Action* by Chris Buckett

## **Links to non-technical, non-fiction writing samples (2011-2012)**

Kevin Stein: Poet Laureate, Future Celebutante

(Interview with edited answers, published online and in a paperback anthology)

Rick's Bakery serves up tasty pastries

Huaraches Moroleón: Urbana's spiciest restaurant

