

What are container queries – will they change the way we design responsive pages?

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Container Queries

Container queries are not yet available on stable browsers but are available on **Google Chrome Canary**.

The container query proposal is authored by [Miriam Suzanne](#)

Instead of relying only on a viewport and global meta-information to adjust styles, you can use the parent container of an element you are targeting to adjust its styles.



The progress of layout

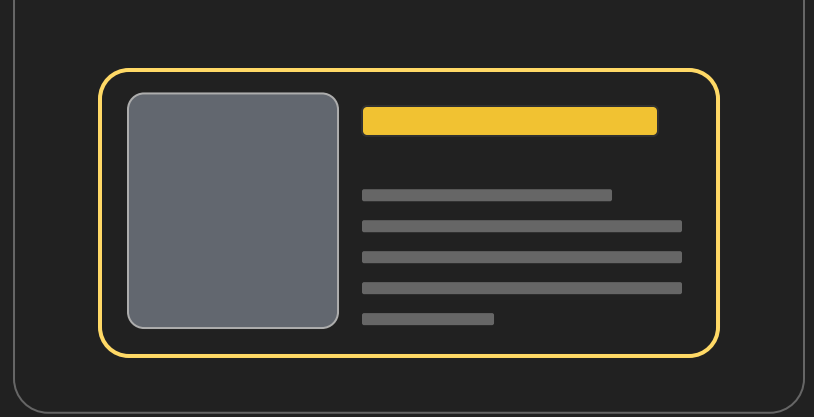
The progress of creating layout:

Floats - Flexbox - Grid

The future of CSS layout

Container Queries

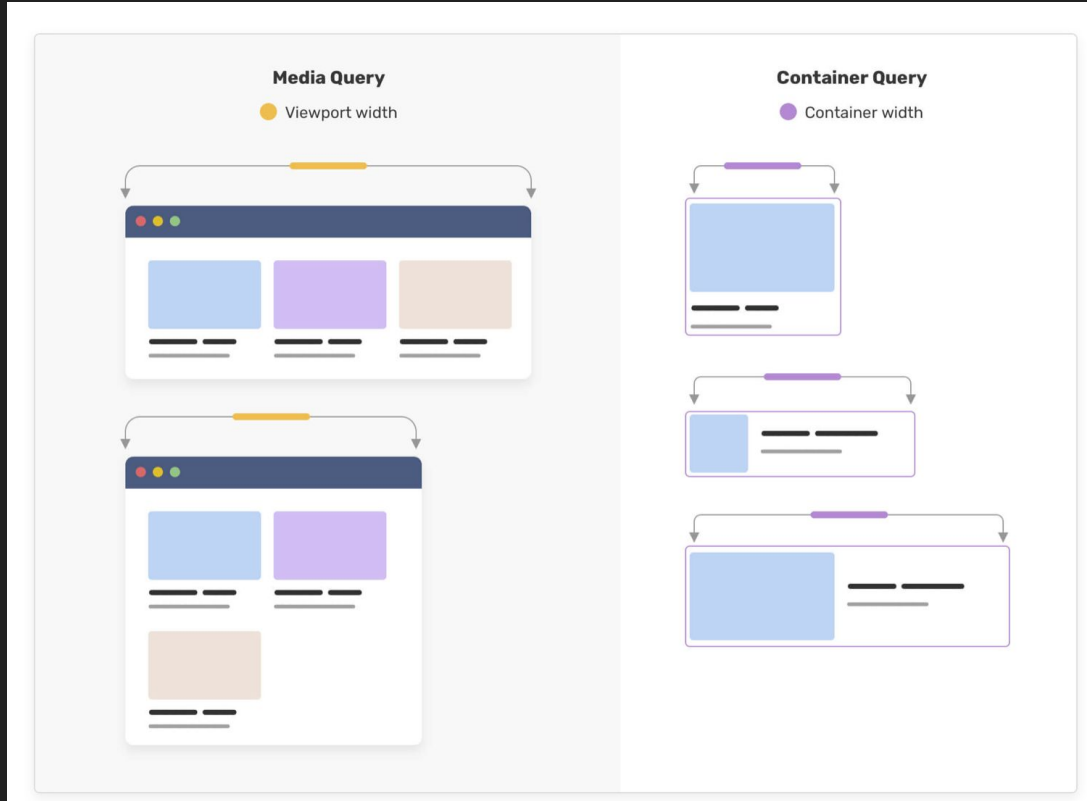
What container queries do



They allow us to design **components** that can react to the available space in their container.

Their work, in general, is very similar to media queries. We are **querying the size of the container** that the item is in. Instead of using a viewport to adjust styles, in container queries, we use a parent container.

Container query vs media query



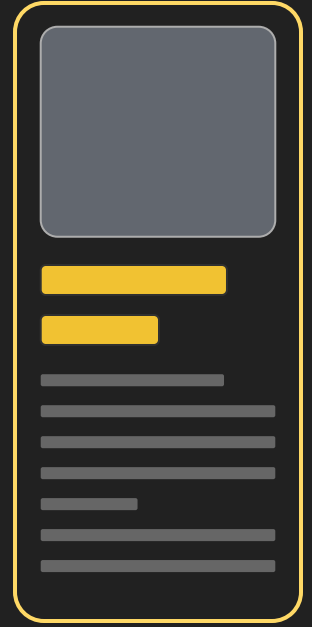
“Container queries allow us to make a **fluid component**. That means, we can throw the component in a narrow parent and it will turn into the stacked version, or to throw it in a wide one and it will turn into the horizontal version. Again, All of them that is independent of the viewport width.”

Source: Ahmad Shadeed article

<https://ishadeed.com/article/say-hello-to-css-container-queries/>

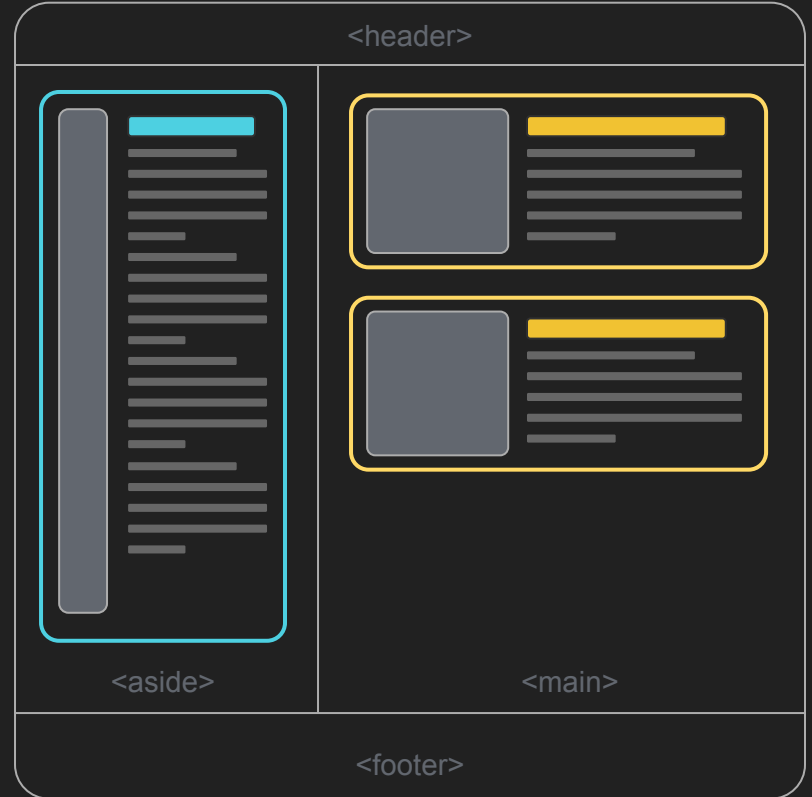
What container queries do

We can use container queries as entry points to style anything from backgrounds to borders. We can make interfaces much more flexible. **Bringing flexibility** like this simply isn't possible today without a ton of scripting. Relying on the global viewport just isn't as accurate in many cases because it's a much more blunt tool that doesn't give us component level flexibility.



Non-container vs container approach

Non-container query approach would be to apply different styling to the main element components and to the aside element components.



Non-container vs container approach

Container queries approach allows us to use the **same styling** to the main and aside elements components, but with different logic, which depends on the parent container size.

Therefore the main element can have text on the right and image on the left, and aside element image on the top and text below the image, while the same styling is used for both main and aside elements.



CSS Containment

When we apply **contain property** to the element, this “box” and its children are **independent from the rest of the layout**. They are not influencing the rest of the layout either.

```
.container {  
  contain: layout;  
}
```

Containment types are: size, layout, style, paint

Using container queries

```
.container {  
    container-type: inline-size;  
}
```

Using **container-type** creates a **containment context** for this object. This also turns on **layout, style, and inline-size** containment in the same way as using the `contain` property does.

The **inline-size** value specifies that, in this case, queries will be made against the containing elements' inline axis.

Using container queries allow us to design **components** that can react to the available space in their container.

Using container queries

We can name the container like this:

```
.container {  
    container-type: inline-size;  
    container-name: name;  
}
```

or use a shortcut

```
.container {  
    container: inline-size/name;  
}
```

Querying the container: the syntax

```
@container container-name (min-width: 400px) {  
  .card {  
    display: grid;  
    grid-template-columns: 1fr 2fr;  
  }  
}
```

What about **block-size**?

With container queries we can query the block direction (vertical direction).

Block-size is also being considered as a containment type in the new proposal. **Inline-size** seemed to satisfy more use-cases, so is being developed first.

```
.container {  
    container-type: block-size;  
}
```

Why container queries are often called the future of CSS

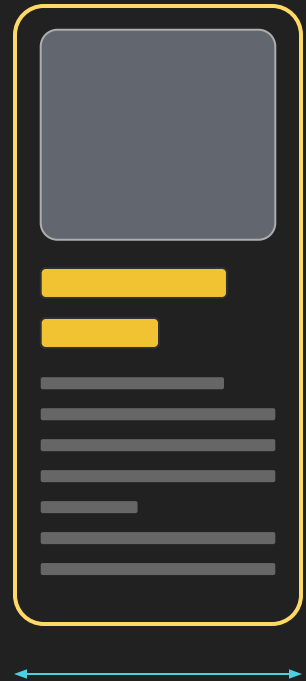
Many layouts now are based on **components**. The container queries are a great feature to build them. It's better to use container queries for micro layouts on a more "local" level, while media queries are used for more global page-based layouts.



Why container queries are often called the future of CSS

We can use containers inside the container, which allows creating even more flexible layouts. It allows us to have the same component and control how it will look like depending on the available space. It means it's good to use **in component-based designs** where the same components are repeated. (*online stores with cards as an example*).

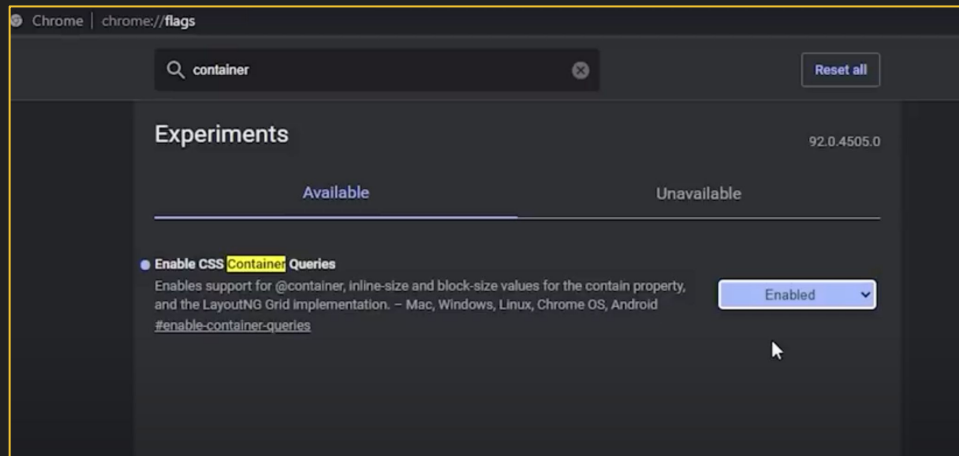
It's a huge step for designing responsive pages without tons of scripting.



How to try it

It's a new technology that works only in Chrome Canary. To try it:

- 1) Download Chrome Canary or update to the latest version.
- 2) Navigate to **chrome://flags**.
- 3) Search for “CSS container queries” and select Enabled.
- 4) Restart the browser.



How to try it

We did it!

Let's check how it works

[link to our demo page](#)

Demo: HTML

```
</header>
<h2> Designers'quotes on design </h2>
<div class="outer-container">
  <div class="inner-container">
    <main class="main">

      <div class="card">
        <figure>
          
          <figcaption><a href="https://www.vitsoe.com/gb/about/good-design"> Image source </a></figcaption>
        </figure>
        <div class="card-text">
          <p class="quote"><em>Good design is as little design as possible.</em> Less, but better – because it concern
          <p><em>Dieter Rams,</em> a legendary industrial designer, Braun</p>
        </div>
      </div> <!-- end of card 1 -->

      <div class="card">
        <figure>
          
          <figcaption><a href="https://www.hustwit.com/rams"> Image source </a></figcaption>
        </figure>
        <div class="card-text">
          <p class="quote"><em>Good design makes a product understandable.</em> It clarifies the product's structure.
          <p><em>Dieter Rams,</em> a legendary industrial designer, Braun</p>
        </div>
      </div> <!-- end of card 2 -->
```

Demo: CSS

```
/* -----  
CONTAINER QUERIES  
----- */  
  
.outer-container {  
  container: inline-size/outer-container;  
}  
  
.inner-container {  
  margin: 0;  
  display: grid;  
  grid-template-columns: 1fr;  
}  
  
/* Works only with class selector */  
.main {  
  width: 100%;  
  container: inline-size/main-container;  
}  
  
.card {  
  display: grid;  
  grid-template-columns: 1fr;  
}  
  
figure > img {  
  min-width: 200px;  
  max-width: 100%;  
  height: auto;  
}
```

```
/* outer-container */  
@container outer-container (min-width: 800px){  
  .inner-container {  
    grid-template-columns: 1fr 400px;  
  }  
  aside figure > img {  
    padding-right: 0;  
  }  
  
  .main{  
    border-right: solid 1px #706f6f;  
  }  
}  
  
/* main-container */  
@container main-container (min-width: 800px){  
  .card {  
    grid-template-columns: 1fr 2fr;  
  }  
  figure > img {  
    padding-right: 2em;  
  }  
}  
  
@container container-name (min-width: 400px) {  
  .card {  
    display: grid;  
    grid-template-columns: 1fr 2fr;  
  }  
}
```

Resources:

Articles:

Smashing Magazine. 2022. A Primer On CSS Container Queries – Smashing Magazine. [online] Available at: <<https://www.smashingmagazine.com/2021/05/complete-guide-css-container-queries/>> [Accessed 11 February 2022].

OddBird. 2022. Container Queries: a Quick Start Guide. [online] Available at: <<https://www.oddbird.net/2021/04/05/containerqueries/>> [Accessed 11 February 2022].

Developer.mozilla.org. 2022. CSS Container Queries - CSS: Cascading Style Sheets | MDN. [online] Available at: <https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Container_Queries> [Accessed 11 February 2022].

Miriam Eric Suzanne. 2022. Miriam Eric Suzanne » Container Queries Explainer & Proposal. [online] Available at: <<https://www.miriamsuzanne.com/2021/05/02/container-queries/>> [Accessed 11 February 2022].

Ahmad Shadeed Blog. 2022. Say Hello To CSS Container Queries - Ahmad Shadeed. [online] Available at: <<https://ishadeed.com/article/say-hello-to-css-container-queries/>> [Accessed 11 February 2022].

Resources:

Videos:

9elements. 2021. Miriam Suzanne - Container Queries & The Future of CSS. [online video] Available at: <https://youtu.be/ilR9KlsHMGk> [Accessed 11 February 2022].

Google Chrome Developers. 2021. Container queries - Designing in the Browser. [online video] Available at: <https://youtu.be/gCNMyYr7F6w> [Accessed 11 February 2022].

Kevin Powell. 2021. Container Queries are going to be a game changer! [online video] Available at: https://youtu.be/JsN_iE3prm0 [Accessed 11 February 2022].

Thank you.