

CSS Variables: The Secret Sauce of APEX Styling

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Philipp Hartenfeller

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\$whoami



Philipp Hartenfeller

- Düsseldorf, Germany
- Oracle APEX Dev since 2016
- Product Lead at [United Codes](#)
- Web Dev and Databases

Blog:

hartenfeller.dev/blog

Bluesky:

[@hartenfeller.dev](https://bsky.app/profile/@hartenfeller.dev)



Agenda

- CSS Basics Recap
- What are CSS Vars?
- CSS Vars in APEX
- Customizing Universal Theme
- Custom Components
- Quick CSS Tips
- Q&A

CSS Basics

Recap

Selectors

- Select HTML DOM (tree) nodes
- `body .card-title` → all elements with class "card-title" that have a parent of element "body"
- No prefix: HTML element
- `.` → class
- `#` → ID

CSS Rules

```
/* selector */  
.blog-post p {  
  /* styles */  
  /* property: value; */  
  font-size: 1.2rem;  
  color: #333;  
}
```

```
.blog-post table > tbody > tr > td {  
  padding: 0.5rem;  
}
```

Inheritance

```
<div class="a">  
  <div class="b">Which color?</div>  
</div>
```

```
.a {  
  color: orangered;  
}
```

Result: Which color?

Specificity (1)

```
<div class="a">  
  <div class="b">Which color?</div>  
</div>
```

```
.a {  
  color: orangered;  
}  
  
.b {  
  color: blue;  
}
```

Result: Which color?

Specificity (2)

```
<div class="a">  
  <div class="b c">Which color?</div>  
</div>
```

```
.b.c {  
  color: turquoise;  
}  
  
.b {  
  color: blue;  
}
```

Result: Which color?

Specificity (3)

```
<div class="a">  
  <div class="b c" id="d">Which color?</div>  
</div>
```

Result:

Which
color?

```
#c {  
  color: green;  
}  
  
.b.c {  
  color: turquoise;  
}
```

What are CSS Vars?

CSS Custom Properties

- They are actually called **custom properties**
- Widely supported since April 2017
- Define and reuse values (all kinds of: `left`,
`#ff3489`, `3px 6px rgb(20 32 54)`)
- Was possible before with SASS or LESS

How to use?

```
/* Declaration */  
:root {  
  --main-bg-color: #f06;  
}  
  
/* Usage */  
body {  
  background-color: var(--main-bg-color);  
}
```

Demo

CSS Vars in action

CSS Vars in APEX

Universal Theme - powered by CSS Vars

- Since APEX 21.2 (grew over time)
- You mostly see variables getting applied, no direct values
- Good way to hook in and change styles
- Safer than overwriting values directly
- Versatile thanks to cascading nature

CSS Vars in Action

```

--a-Button, --a-CardView-button, --apex= Core.min.css:3
button-group label, .t-Button, .t=
Form-fieldContainer--radioButtonGroup --apex-item=
group--rc input + label, .t-Form-helpButton, .ui=
button :: {
    background-color: var(--a-button-state=
        background-color, var(--a-button-type=
            background-color,  var(--a-button-background=
                color,  transparent)));
    border-color: var(--a-button-state-border=
        color, var(--a-button-type-border-color, 
        var(--a-button-border-color)));
    box-shadow: var(--a-button-state-shadow, var(--a=
        button-type-shadow, var(--a-button=
            shadow, none)));
    color: var(--a-button-state-text-color, var(--a=
        button-type-text-color,  var(--a-button-text=
            color, inherit)));
}

```

We can modify these

- Specifically target selector or global
- Just change variables values
- Better than overwriting rules (e.g.: `color:`
`red;`)

What about Theme Roller?

- Still the best way to change things
- But also limited

Customizing Universal Theme

Demo

Customizing Buttons

Added to APEX CSS

```
/* custom default button */
.t-Button:not(.t-Button--header) { /* ignore header buttons */
  --a-button-background-color: #fff;
  --a-button-border-color: #898a94;
  --a-button-text-color: #000;
  --a-button-border-radius: 0;
  --a-button-shadow: 2px 2px #898a94;

  --a-button-hover-border-color: #000; /* hover states */
  --a-button-hover-shadow: 4px 4px #000;

  --a-button-active-background-color: #ebebed; /* active & focus states */
  --a-button-active-shadow: 2px 2px #000;
  --a-button-focus-border-color: #000;
  --ut-focus-outline-color: #000;

  & .t-Icon { /* change icon color */
    /* no var available */
    color: #898a94;
  }

  &:active { /* remove focus outline when clicking */
    outline: none; /* still present when tabbing */
  }
}
```

Added to APEX CSS (hot button)

```
.t-Button.t-Button--hot { /* custom hot button */
  --a-button-background-color: #000;
  --a-button-border-color: #000;
  --a-button-text-color: #fff;
  --a-button-border-radius: 0;
  --a-button-shadow: 2px 2px #898a94;

  --a-button-hover-background-color: #000;
  --a-button-hover-border-color: #000;
  --a-button-hover-shadow: 4px 4px #898a94;

  --a-button-active-background-color: rgba(0, 0, 0, 0.75);
  --a-button-active-shadow: 2px 2px #898a94;
  --a-button-focus-border-color: #000;
  --ut-focus-outline-color: #000;

  & .t-Icon {
    color: #cdcdd2; /* no var available */
  }

  &:active {
    outline: none;
  }
}
```

Custom Components

Make things look like UT

- APEX also documents some variables for us to reuse
- apex.oracle.com/pls/apex/r/apex_pm/ut/css-variables
- Custom templates, template components, dynamic content regions (copied or AI gen HTML & CSS)

Demo



scores

Quick CSS Tips

CSS Nesting

```
label {  
  font-size: 1.2rem;  
  color: #333;  
  
  &.required {  
    color: red;  
  }  
  
  & + input {  
    margin-top: 0.5rem;  
  }  
}
```

Apply rule to
same parent

Easier to read

& → nesting
selector

[More info](#)

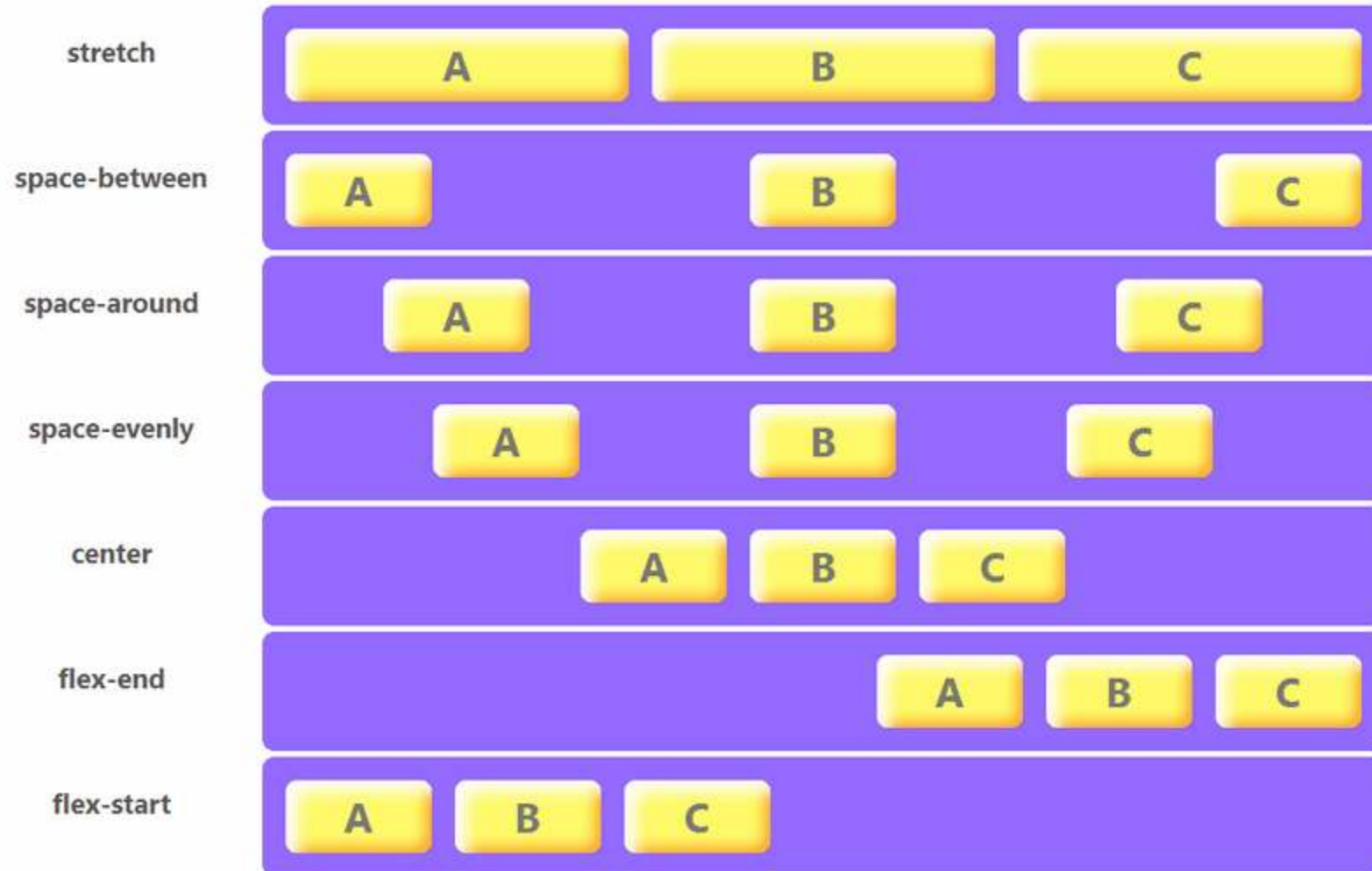
Container queries

```
.post {  
  container-type: inline-size;  
}  
.card h2 {  
  font-size: 1em;  
}  
/* If container larger than 700px */  
@container (min-width: 700px) {  
  .card h2 {  
    font-size: 2em;  
  }  
}
```

- Issue: responsiveness on device width
- Not based on how wide the actual component is displayed
- [More info](#)

Flex and grid

Animated JUSTIFY-CONTENT Examples



- Complex layouts super easy
- More about [Flex and Grid](#)
- [Image source](#)

Extend APEX like a PRO



APEX Office Print
Printing & Reporting
built for APEX



APEX Media Extension
Image processing for the
Oracle Database.



APEX Office Edit
Document management
for APEX



Plug-ins Pro
Highly request features
and functionality to
extend APEX

APEX Message Service
Real-time communication
for Oracle APEX



APEX Project Eye
Productivity, Quality Assurance,
and Security tool for APEX



Thank you!

Contact: phartenfeller at
united-codes.com

Slides at: hartenfeller.dev

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