



Lab 725

## Accelerate your development with Experience Manager Core Components

Adobe Summit 2018

# Lab Overview

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In this lab you will learn how to use Adobe Experience Manager's (AEM) Style System in conjunction with Core Components and Template Editor to create radically different experiences using only front-end code (CSS and JavaScript).

We'll use AEM's Style System to style Core Components, using only CSS and JavaScript, to re-create the [Dopetrope design at HTML5up.net](#). Significant development time is saved when only front-end code is required to change the appearance of a component.

We chose HTML5Up.net's Dopetrope design because:

1. HTML5up is unaffiliated with Adobe or Adobe Experience Manager, and thus not predisposed to aligning its templates or design paradigms with patterns of Experience Manager
2. The design is generally simple to understand, yet representative of a modern web aesthetic.
3. The creators of this lab just like the work of HTML5up (and it's fun saying "Dopetrope").

## Key Takeaways

1. Understand how to use Experience Manager's Style System to apply new rules.
2. Understand how to define how and when Styles are available to Components.
3. Understand how, when used thoughtfully, the Style System and Core Components supports content-first authoring.
4. Understand how to develop CSS (or LESS) and JavaScript to work with the Style System.

## Provided Materials

- AEM 6.4 Beta
- AEM Core Components
- Wireframe Styles

## Lab Output

- A home page built completely from AEM Core Components, and styled using only front-end code (CSS and JavaScript) to achieve the brand aesthetic defined by the Dopetrope theme, using Experience Manager technologies.

## Downloads

All lab materials are available after Adobe Summit 2018 at: <https://github.com/Adobe-Marketing-Cloud/Summit2018/tree/L728>

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# Chapter 0: The Set Up

## Log In to AEM

1. Open the Chrome web browser
2. Navigate to <http://localhost:4502> and log in using:
  - Username `admin`
  - Password `admin`

## Browser Bookmarks

- **AEM Start:** <http://localhost:4502/aem/start.html>
- **Home Page Template:** <http://localhost:4502/editor.html/conf/l725/settings/wcm/templates/home-page-template/structure.html>
- **Home Page:** <http://localhost:4502/editor.html/content/l725/dopetrope.html>
- **CRX Package Manager:** <http://localhost:4502/crx/packmgr/index.jsp>
- **CRXDE Lite:** <http://localhost:4502/crx/de/index.jsp>

## Chapter Solution Packages

The screenshot shows the CRX Package Manager interface. On the left, there are filters for 'Sort by' (Last used), 'Show' (All packages), and 'Groups' (All packages (171), my\_packages, Adobe (75), aem (1)). The main area lists two packages:

- Chapter-7-Solution\_l725.ui.apps-0.0.1-SNAPSHOT.zip**  
Version: 0.0.1-SNAPSHOT | Build: 1 | Last built Feb 9 | admin  
Maven Multimodule project for AEM Style System Guide.  
Buttons: Edit, Build, Install (highlighted with a blue arrow), Download, Share, More ▾  
Details:
  - Package: Chapter-7-Solution\_l725.ui.apps
  - Download: Chapter-7-Solution\_l725.ui.apps-0.0.1-SNAPSHOT.zip (390.5 KB)
  - Group: aem-samples
  - Filters: /conf/l725 /content/l725
- Chapter-6-Solution\_l725.ui.apps-0.0.1-SNAPSHOT.zip**  
Version: 0.0.1-SNAPSHOT | Build: 1 | Last installed Feb 15 | admin  
Maven Multimodule project for AEM Style System Guide.  
Buttons: Edit, Build, Share (highlighted with a blue arrow), Download, More ▾  
Details:
  - Package: Chapter-6-Solution\_l725.ui.apps
  - Download: Chapter-6-Solution\_l725.ui.apps-0.0.1-SNAPSHOT.zip (389.7 KB)
  - Group: aem-samples
  - Filters: /conf/l725 /content/l725

Solution packages for each chapter can be found on via Package Manager and can be installed if you fall behind.

Note that this lab's solution packages all have the "red shield" icon.

To install a solution package:

1. Navigate to **CRX Package Manager** (<http://localhost:4502/crx/packmgr>) using the Bookmark.
2. Locate the Chapter solution package to install, the naming is in the format:
  - `Chapter-#-Solution_1725.ui.apps-0.0.1-SNAPSHOT.zip` where `#` is the chapter to provide the solution for.
3. Tap on the Package name to expand the package's install controls.
4. Tap the **Install** button to the right of the package name.

# Chapter 1: AEM Core Components

## Watch & Learn

Participating Personas: AEM Developer

[Adobe Experience Manager Core Components](#) are a set of standardized components that can be used to speed up development of websites.

Core Components are versioned and installed separately from AEM. Core Components have an independent release cycle with more frequent updates throughout the year.

## Including Core Components in your AEM project

Core Components should never be used directly, but rather proxied in by the custom application. The proxy components are simply `cq:Component` resource definitions with a `sling:resourceSuperType` that points to appropriate version of the corresponding Core Component components.

### Proxy of the Title Core Component

```
/apps/1725/components/content/title  
@jcr:primaryType = cq:Component  
@sling:resourceSuperType = core/wcm/components/title/v2/title
```

## HTML as a Public API

Core Components are standardized on [BEM](#) (Block Element Modifier) naming methodology, and use this to define Core Components' stable, public HTML APIs.

When writing CSS and JavaScript for Core Components, only target the BEM CSS classes, and avoid selecting bare elements.

Below is the BEM notation for the Title component

```
BLOCK cmp-title  
ELEMENT cmp-title__text
```

## Step by Step

Participating Personas: AEM Developer

Review the L725 project proxied AEM Core Components.

1. Navigate to CRXDE Lite (<http://localhost:4502/crx/de/index.jsp>) via the Bookmarks.
2. Expanding `/apps/1725/components/content`.
3. Tap the **title** node.
4. See in the properties the `sling:resourceSuperType`.
5. Repeat for **image**, **list** components.

The screenshot shows the CRXDE Lite interface. On the left is a tree view of the repository structure under the path `/apps/1725/components`. A blue arrow points from the 'content' folder to the 'title' node. On the right is a table showing the properties of the selected 'title' node. Another blue arrow points from the 'sling:resourceSuperType' row to its value. The properties table has the following data:

Name	Type	Value
1 componentGroup	String	I725 - Content
2 jcr:created	Date	2018-02-14T17:08:46.678-05:00
3 jcr:createdBy	String	admin
4 jcr:description	String	Section header
5 jcr:primaryType	Name	cq:Component
6 jcr:title	String	Title
7 sling:resourceSuperType	String	core/wcm/components/title/v2/title

# Chapter 2: Preparing the Page Template

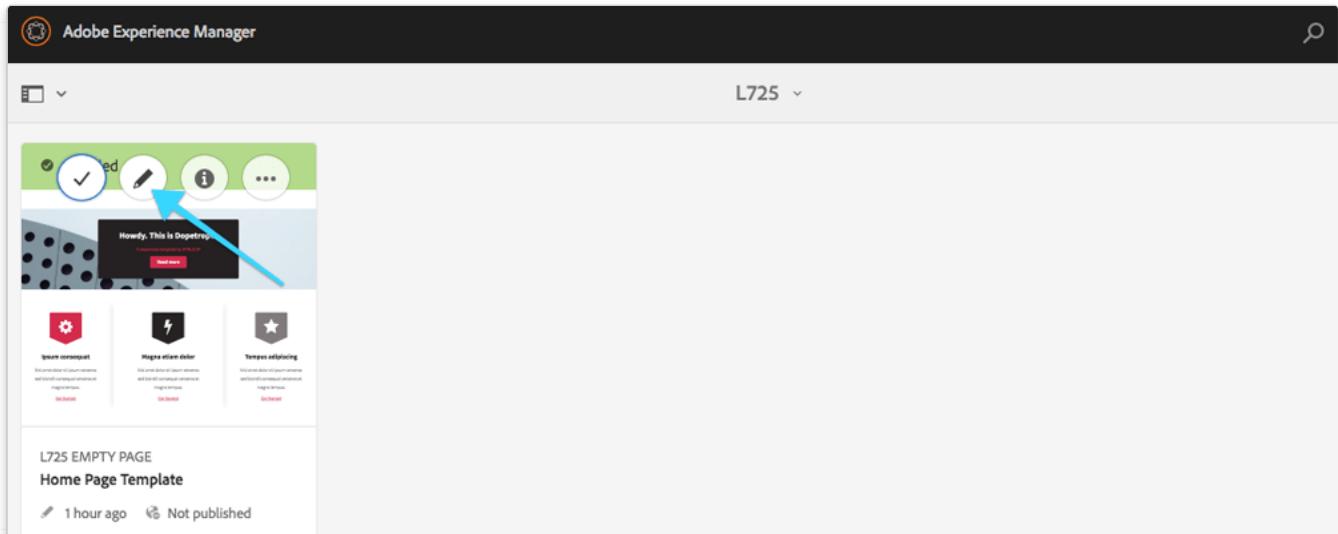
Editable Templates gives the Web Producer significant control over the page layout, without any coding. Templates are also where various policies are configured to provide granular control over the content that can be created on pages.

In this chapter the Home Page Template is updated with a Title and Navigation structural components. The allowed components of the Layout Container are updated.

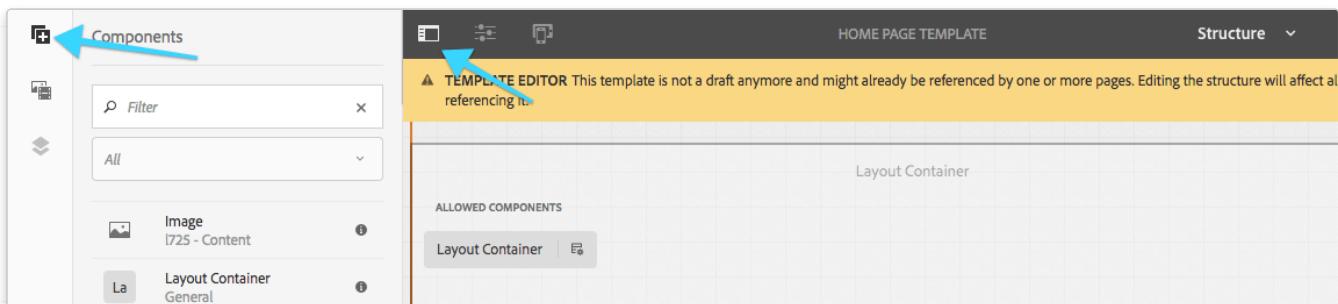
## Step by step

Participating Personas: Web Producer

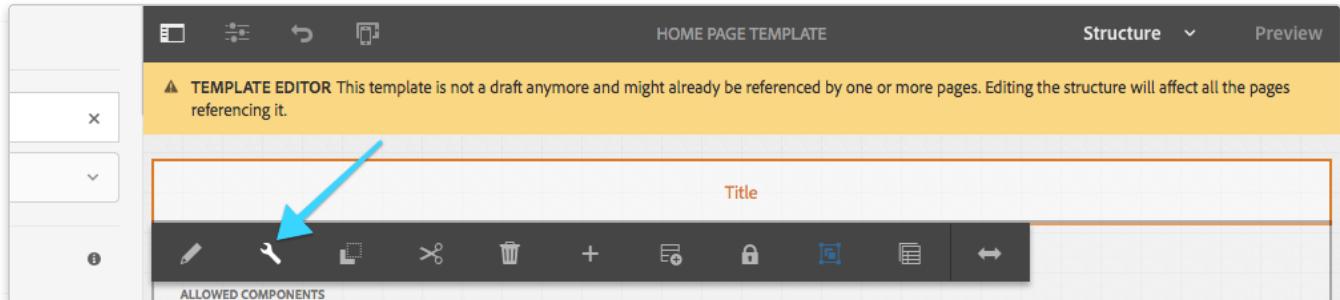
1. From the AEM Start Menu Navigate to **Tools (Hammer icon)** > **General > Templates**.
2. Tap into the **L725 Folder**.
3. Hover over **Home Page Template** and tap the **Pencil icon** to open.



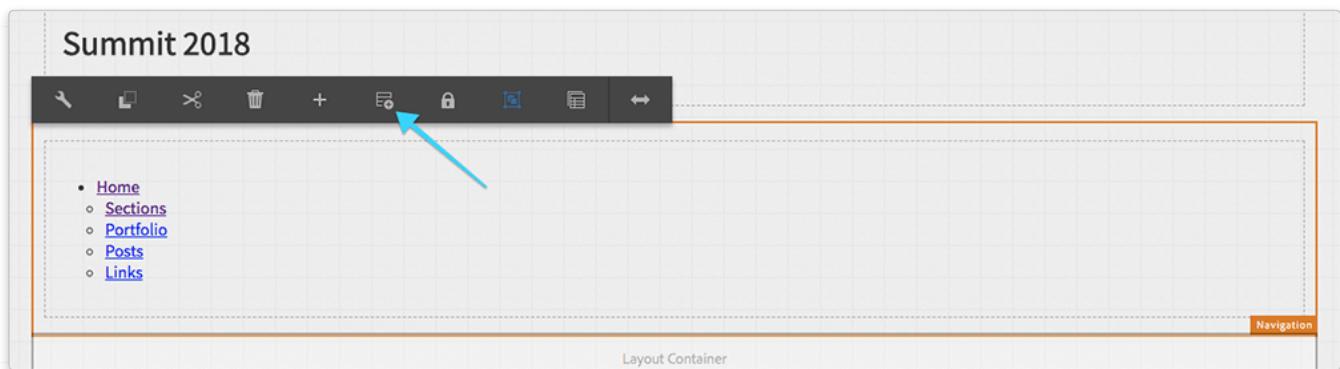
4. Ensure **Structure mode** is enabled in the **top right**.
5. Open the left **Sidebar** and tap the **Components icon**.



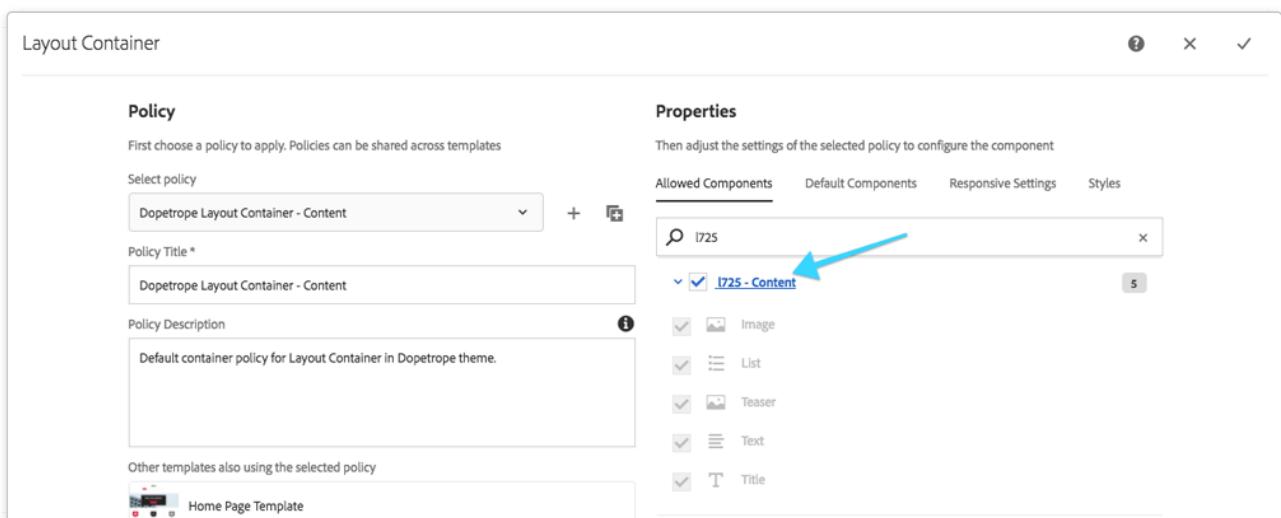
6. Drag a **Title** component to the very top of the page.
7. Edit the **Title** component by tapping the **Wrench icon**.



- In the dialog for the **Title** input the text `Summit 2018`.
8. Drag a **Navigation** component from the side panel onto the page **beneath the Title component and above the first Layout Container**.
9. Tap the **Policy** icon to open the Navigation component's Policy.



- Verify **Navigation Root** is set to `/content/1725/dopetrope`.
10. Select the **1st Layout Container** and tap the **Policy** icon.
1. In the Allowed Components Tab search for `l725`.
  2. Check the box for **`l725 - Content`**.



3. **Save** the changes by tapping the **Check** icon in the top right.

## Final

After completing the above steps, the Home Page Template should look like:

HOME PAGE TEMPLATE      Structure      Preview

⚠ TEMPLATE EDITOR This template is not a draft anymore and might already be referenced by one or more pages. Editing the structure will affect all the pages referencing it.

### Summit 2018

- Home
  - Sections
  - Portfolio
  - Posts
  - Links

Layout Container

ALLOWED COMPONENTS

Title | Text | Teaser | List | Layout Container | Image

Layout Container

ALLOWED COMPONENTS

Title | Text | Teaser | List | Layout Container | Image

### Footer Content

- [Blandit tempus aliquam? 2018-03-27](#) Feugiat sed tempus blandit tempus adipiscing nisl lorem ipsum dolor sit amet dolore.
- [Dolore tempus ipsum feugiat nulla 2018-03-10](#) Feugiat lorem dolor sed nullam tempus lorem ipsum dolor sit amet nullam consequat.
- [Magna tempus lorem feugiat 2018-02-22](#) Dolore consequat sed phasellus lorem sed etiam nullam dolor etiam sed amet sit consequat.
- [Ipsum sed blandit nisl consequat 2018-02-05](#) Blandit phasellus lorem ipsum dolor tempor sapien tortor hendrerit adipiscing feugiat lorem.
- [Lorem dolor sit amet veroeros 2018-01-16](#) Ipsum dolor sit amet veroeros consequat blandit ipsum phasellus lorem ipsum consequat etiam.

### What's this all about?



### Tempus consequat

- [Adipiscing feugiat phasellus sed tempus](#)
- [Elit class aptent taciti sociosqu ad litora](#)
- [Hendrerit tortor vitae mattis tempor sapien](#)
- [Lorem ipsum dolor sit amet sit veroeros](#)
- [Sed et blandit consequat sed tlorem blandit](#)
- [Sem feugiat sapien id suscipit magna felis nec](#)
- [Elit class aptent taciti sociosqu ad litora](#)

### Ipsum et phasellus

- [Lorem ipsum dolor sit amet sit veroeros](#)
- [Sed et blandit consequat sed florem blandit](#)
- [Adipiscing feugiat phasellus sed tempus](#)
- [Hendrerit tortor vitae mattis tempor sapien](#)
- [Sem feugiat sapien id suscipit magna felis nec](#)
- [Elit class aptent taciti sociosqu ad litora](#)

This is Dopetrope a free, fully responsive HTML5 site template by [AJ](#) for [HTML5 UP](#). It's released for free under the [Creative Commons Attribution](#) license so feel free to use it for any personal or commercial project - just don't forget to credit us!

Drag components here

Drag components here

Drag components here

# Chapter 3: Content-first Authoring

Embracing Core Components and the Style System empowers content-first authoring.

*Content-first authoring is the idea that content authoring can begin in parallel, and sometimes before, the Sites' branding rules are defined and implemented.*

Using content wire framing techniques that include:

- A basic wireframe style
- AEM's responsive Layout Container

A fully authored page that conceptually, though not visually, represents the page and its content, can be created before the visual styling is applied.

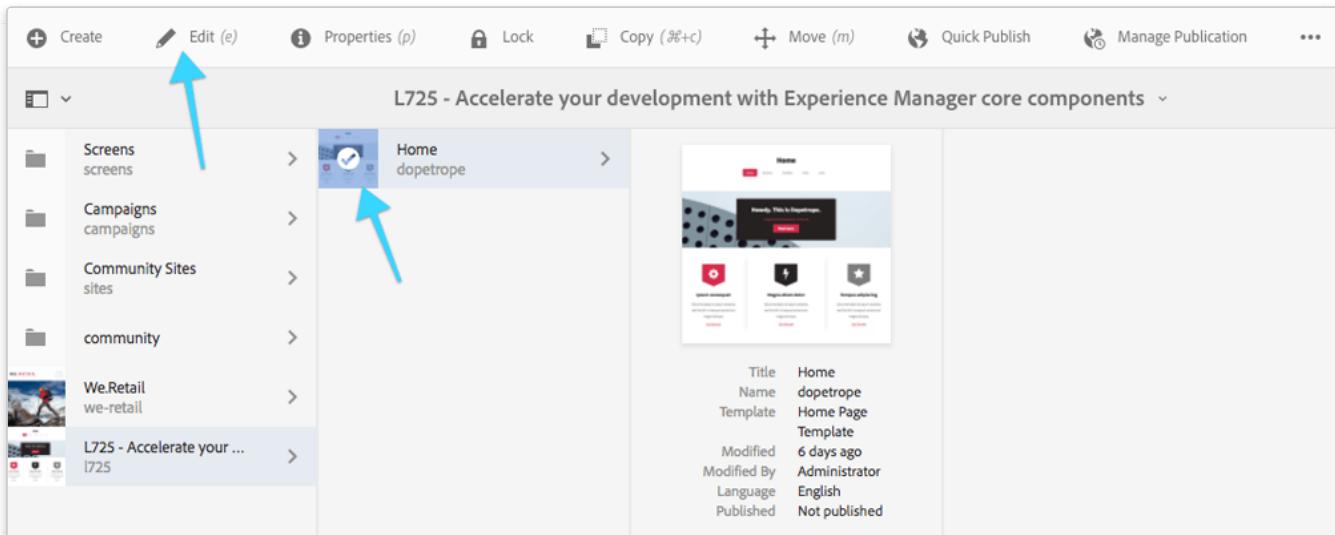
While style is of utmost important in creating an engaging experience, the content is the foundation of the website.

## Step by step

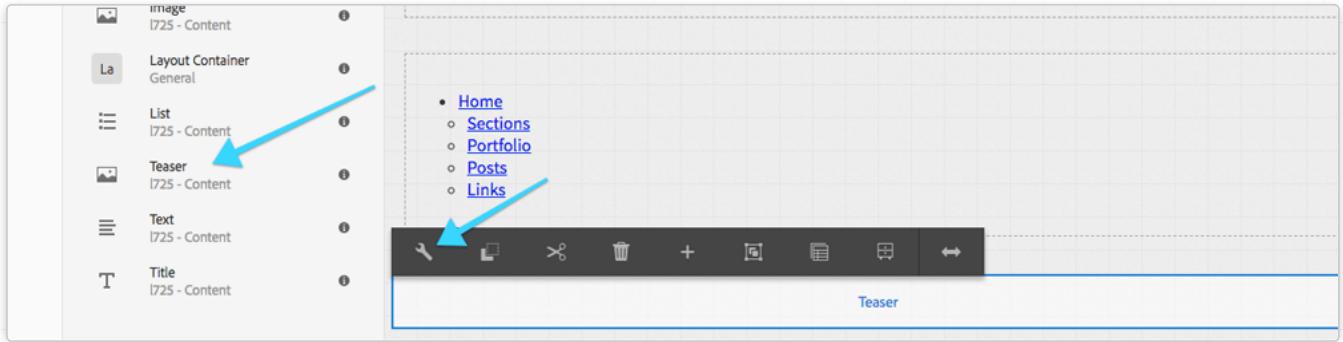
Participating Personas: Experience Author

*The page is pre-populated with several authored components to expedite the authoring.*

1. From the AEM Start Menu Navigate to **Sites > L725**, select the **Dopetrope** page and tap **Edit** in the top action bar, or tap the **Home Page** from the Bookmarks.



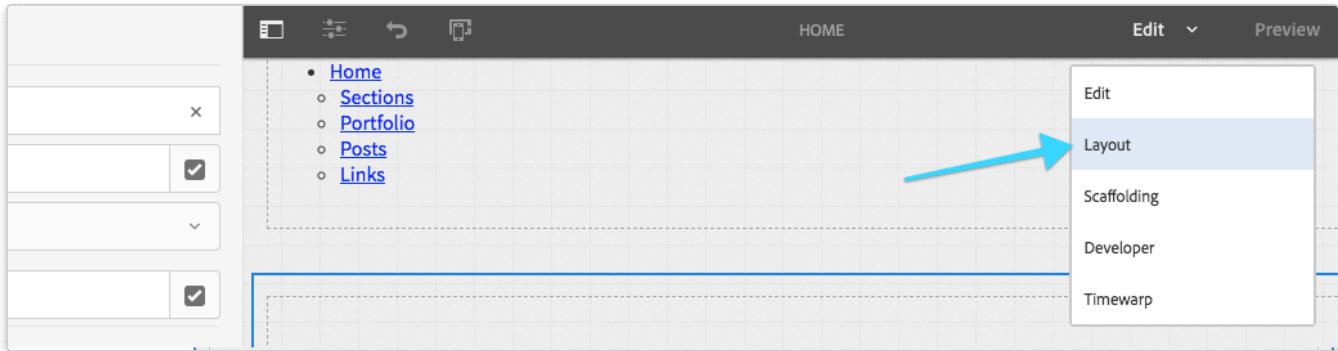
2. Ensure **Edit** mode is enabled in the **top right**.
3. Open the left Sidebar and tap the **Components** icon.
4. Drag a **Teaser** component onto the page.
5. Select the newly added **Teaser** component, and tap the **edit** (wrench) icon.



1. In the side panel switch to the **Assets** panel.
2. Search for `gear-icon` it should be a red shield with a gear.
3. Drag and drop the `gear-icon` image into Teaser's dialog drop-zone.
4. Fill out the Teaser's fields
  - **Link:** `/content/l725/dopetrope`
  - **Link Text:** `Get Started`
  - **Title:** `Any title text you want!`
  - **Description:** `Any description text you want!`

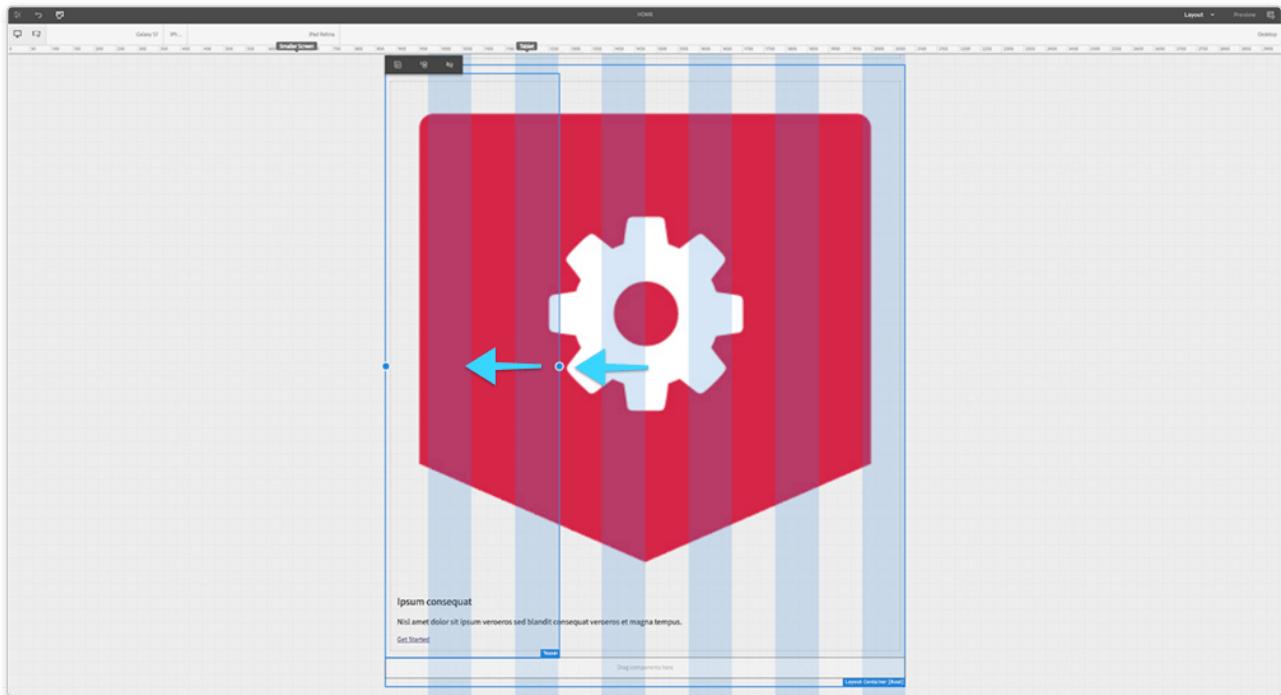
The screenshot shows the Assets panel on the left and the Teaser dialog on the right. In the Assets panel, a red shield icon with a white gear is selected. In the Teaser dialog, the 'Link' field contains the value `/content/l725/dopetrope`, the 'Link Text' is `Get Started`, the 'Title' is `Ipsum consequat`, and the 'Description' is `Nisl amet dolor sit ipsum veroeros sed blandit consequat veroeros et magna tempus.`

6. Switch to **Layout** mode by tapping the **Edit** dropdown in the right corner of the top action bar.



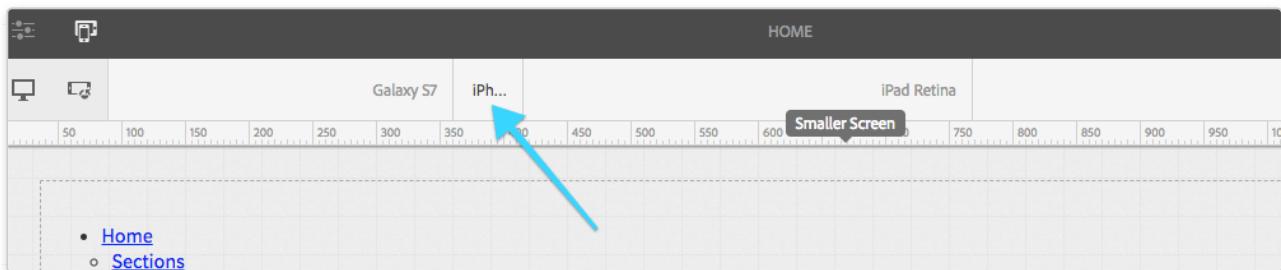
7. Select the **Teaser Component layout handle** (blue circle) on the **right side**. You may need to scroll the page

1. Resize the component by dragging the **layout handle** from **right to left**.
2. Resize the component until it spans **4 columns**. *There should only be 2 light blue columns inside the handle.*
3. This makes this teaser component **1/3 of the page width**.

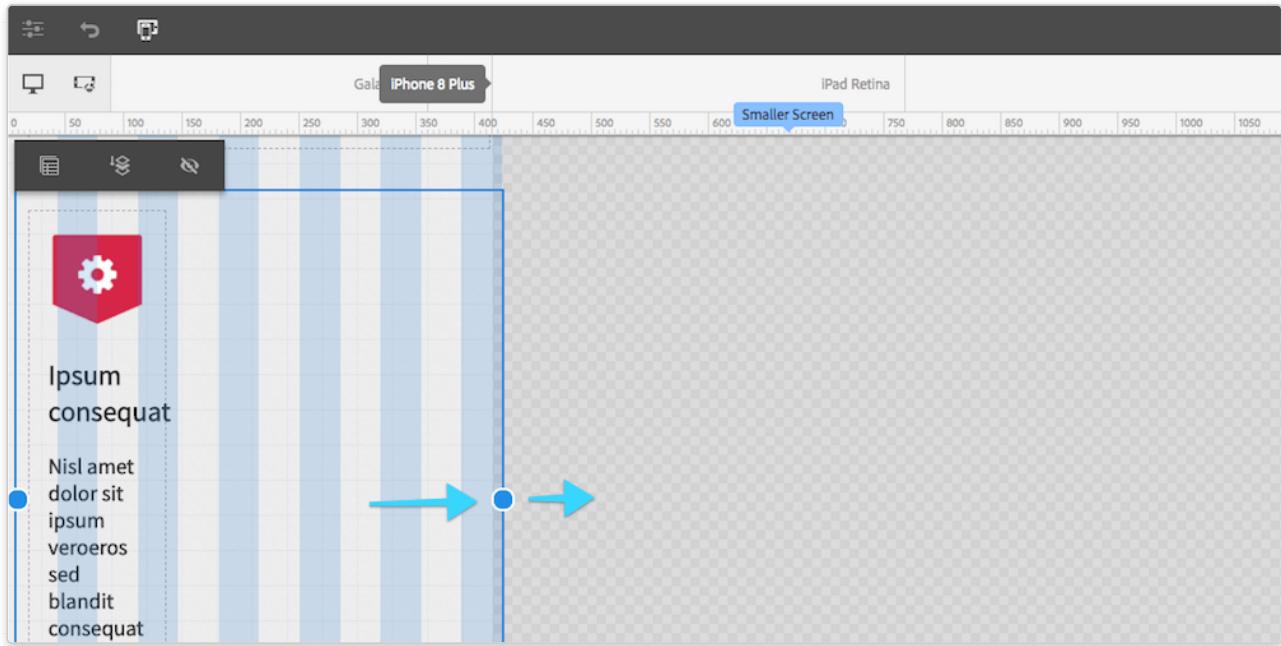


8. While in Layout mode the mobile emulator toolbar appears beneath the top menu representing various device widths.

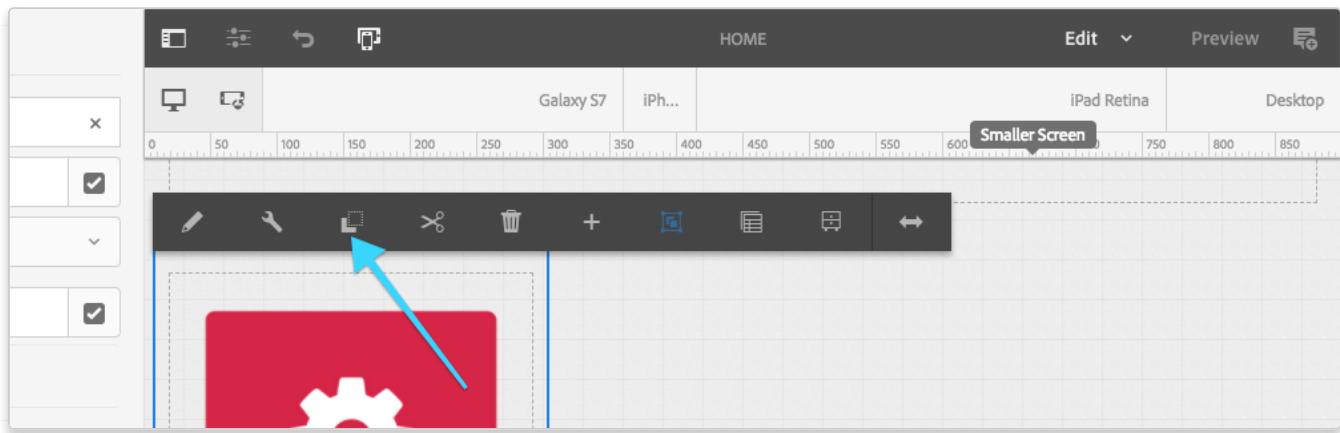
1. Tap the device width labeled **iPh..** to switch to mobile device width.



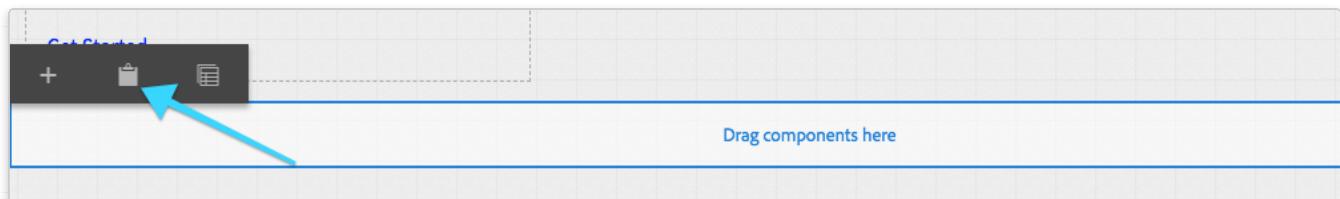
2. Resize the Teaser component by dragging the **Layout Handle** full width from **left to right**.



9. Return to **Edit** mode by tapping the **Layout** mode dropdown in the upper-right corner.
10. Select the **Teaser Component** and tap the **Copy** icon.

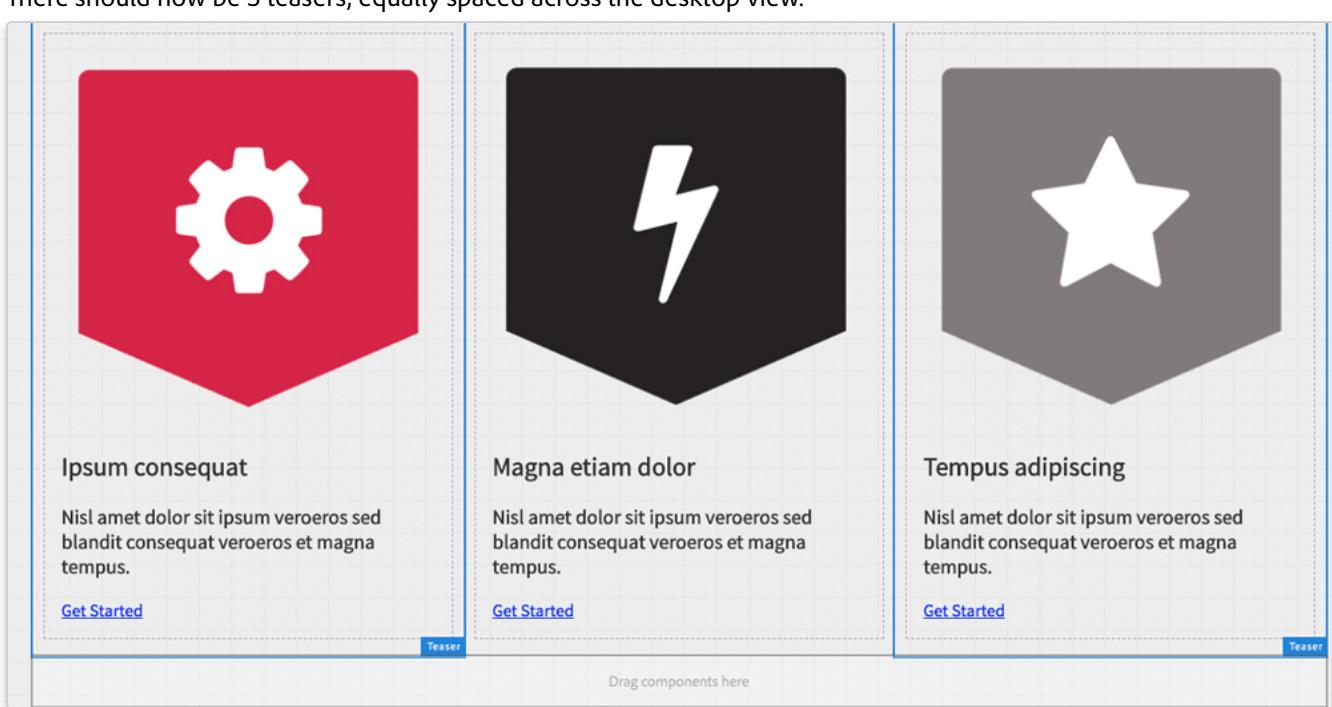


11. Select the drop zone beneath the teaser component and tap the **Paste** icon to paste the teaser component.

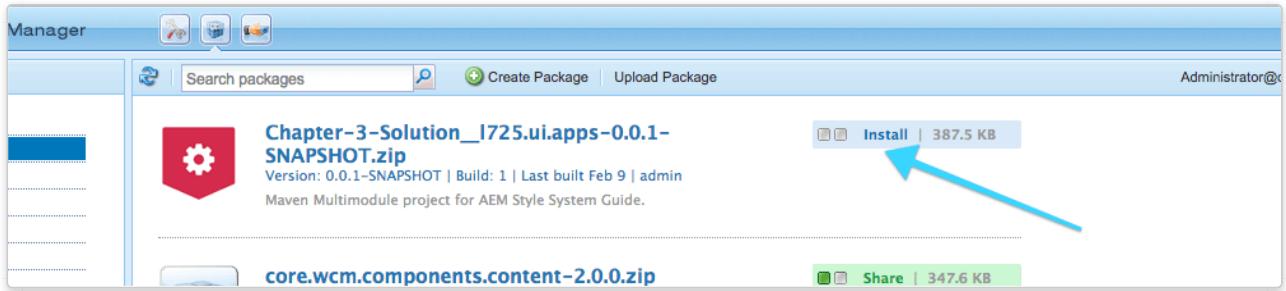


12. Repeat the above step to paste the teaser icon a second time. **There should now be three teasers across in Desktop width.**
13. **Edit** the middle teaser component by tapping the **wrench** icon.
  1. In the side panel switch to the Assets panel
  2. Search for `bolt-icon` to find the **black shield with a lightning bolt** image.

3. Drag and drop the **bolt-icon.png** image into Teaser dialog drop zone
  4. Link: /content/1725/dopetrope
  5. Link Text: Get Started
  6. Title: Any title text you want!
  7. Description: Any description text you want!
14. Edit the 3rd teaser component by tapping the wrench icon.
1. In the side panel switch to the Assets panel
  2. Search for **star-icon** to find the **grey shield with a star** image.
  3. Drag and drop the **star-icon.png** image into Teaser dialog drop zone
  4. Link: /content/1725/dopetrope
  5. Link Text: Get Started
  6. Title: Any title text you want!
  7. Description: Any description text you want!
15. There should now be 3 teasers, equally spaced across the desktop view.



16. Now that we have had a taste of Authoring we will **install the Chapter 3 Solution Package**, to get a fully authored page.
1. Open a new tab.
  2. Navigate to **CRX Package Manager** (<http://localhost:4502/crx/packmgr/index.jsp>) or via the Bookmarks.
  3. Search for **Chapter-3** and tap the title to select it.
  4. Tap the **Install** button to install the **Chapter-3-Solution\_\_l725.ui.apps-0.0.1-SNAPSHOT.zip** package.



*This will replace your authored content, so don't be alarmed!*

5. Switch back to the **Home Page**.

## Final

You can now see the **Home Page** populated with multiple components.

Summit 2018

- Home
- Sections
- Components
- Posts
- Links

Howdy, this is Dopetrope.

A responsive template by HTML5 UP.

[Read more](#)

Ipsum consequat

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[Get Started](#)

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[Get Started](#)

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[Get Started](#)

My Portfolio

Teaser Component

An teaser component consists of an image, title and description.

[Read More](#)

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[Find out more](#)

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[Find out more](#)

The Blog

Ipsum consequat

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[Continue Reading](#)

Ipsum consequat

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[Continue Reading](#)

Footer Content

- [Blandit tempus aliquet](#) 2018-01-10 Feugiat et tempus blandit tempus adipsic sed venetos et blandit consequat blandit tempus.
- [Dolore tempus blandit tempus rubia](#) 2018-01-10 Feugiat lorem dolor sed nisl ut tempus ipsum.
- [Ipsum tempus blandit tempus](#) 2018-01-10 Feugiat lorem dolor sed nisl ut tempus ipsum.
- [Magna tempus blandit tempus](#) 2018-01-10 Dolore consequat et praesent tempus sed etiam nullam dolor ipsum.
- [Nullam tempus blandit tempus](#) 2018-01-10 Dolore consequat et praesent tempus sed etiam nullam dolor ipsum.
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- [Nullam tempus blandit tempus](#) 2018-01-10 Dolore consequat et praesent tempus sed etiam nullam dolor ipsum.

What's this all about?

Tempus consequat

Ipsum et phasellus

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[Read More](#)

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusamus et iusto odio dignissim qui blandit praesent luptatum zzril delenit diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusamus et iusto odio dignissim qui blandit praesent luptatum zzril delenit diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusamus et iusto odio dignissim qui blandit praesent luptatum zzril delenit diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusamus et iusto odio dignissim qui blandit praesent luptatum zzril delenit diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua.

[Read More](#)

# Chapter 4: Organizing Client Libraries, CSS & JavaScript

## Watch & Learn

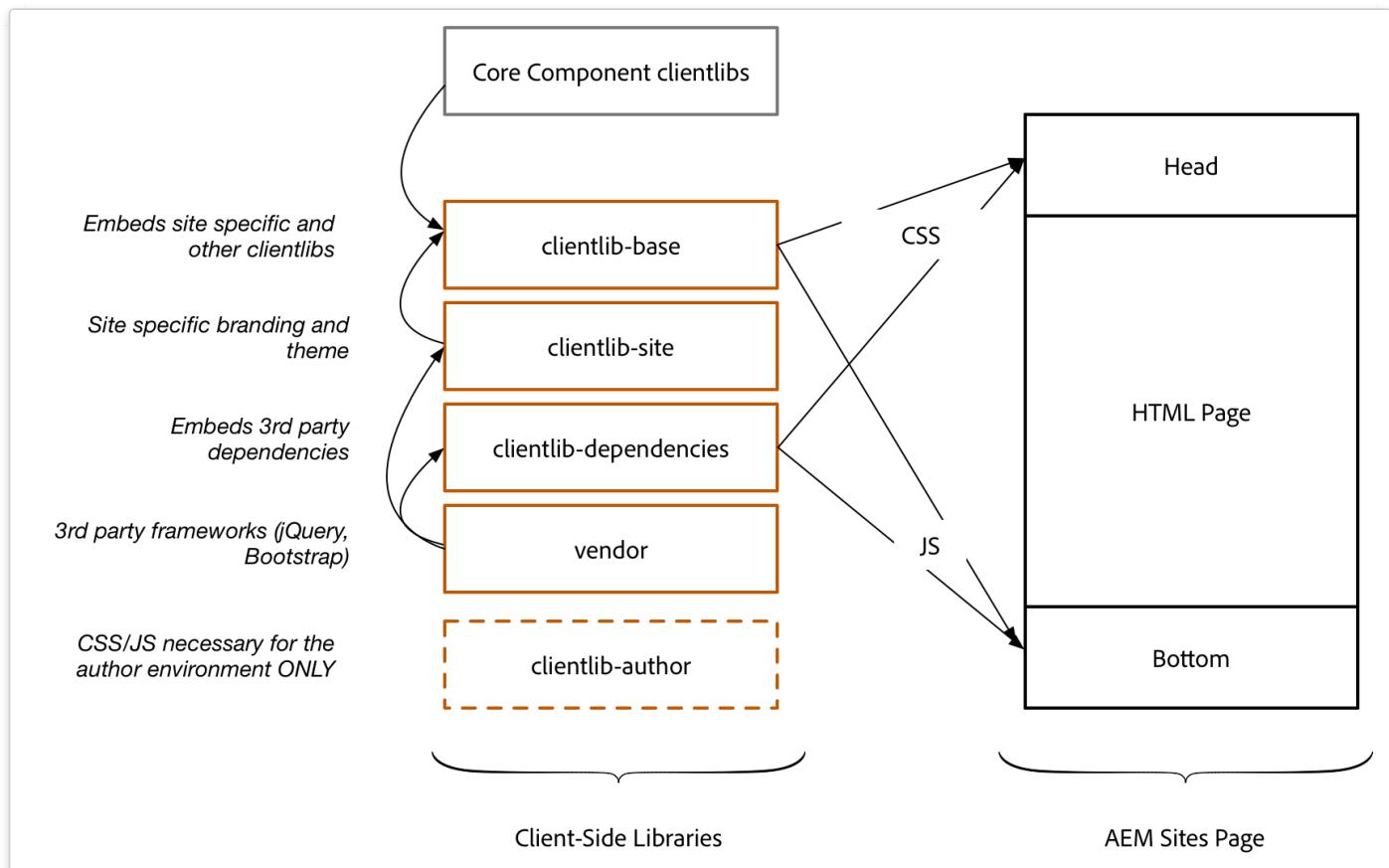
Participating Personas: Front-end Developer

AEM's Client Libraries provides a mechanism to organize and manage CSS and JavaScript files necessary for an AEM Sites implementation. The basic goals for client libraries or clientlibs are:

- Store CSS/JS in small discrete files for easier development and maintenance.
- Manage 3rd party dependencies in an organized fashion.
- Minimize the number of client-side requests by concatenating CSS/JS into a minimal number of HTTP requests.
- Minify CSS/JS that is delivered to optimize speed/performance of a site.

## Organizing Client Libraries

Below is an example way to organize the top-level client library folders.



## Step by Step

We are going to be inspecting the L725 project client libraries.

1. In a new tab navigate to CRXDE Lite (<http://localhost:4502/crx/de/index.jsp>) or navigated via Bookmarks.
2. Expand the /apps/l725/clientlibs node.

```
/apps
  /l725
    /clientlibs
      /clientlib-author
      /clientlib-base
      /clientlib-dependencies
      /clientlib-dopetrope
      /clientlib-wireframes
```

## Dopetrope Client Library

LESS (which stands for Leaner Style Sheets) is a backwards-compatible language extension for CSS. It allows front-end developers to use variables, mixins, and nesting to ease the creation and maintenance of CSS.

Let's inspect the Dopetrope Client Library to see how LESS is used.

1. Expand **clientlib-dopetrope**. In order to make the maintenance of client libraries easier CSS and JS is broken out into multiple files.
2. Double tap **main.less** to open. **main.less** imports all of the different LESS files that makes up the Dopetrope styles.
3. Expand the **clientlib-dopetrope/css** folder and open the **variables.less** file. One of the advantages of using LESS (instead of straight CSS) is that you can create variables and mixins to make it easier to maintain consistent brand styles.
4. Open **grid.less**. This file includes the AEM Responsive Grid as part of the Dopetrope CSS Client Library. Note that we are able to define the Phone and Tablet breakpoints here, as well as the number of columns available. The inclusion of AEM's **grid.less** is required to allow us to resize the components in **Layout mode** in the Sites editor.

## Component Styles

Each component has a dedicated folder to include any LESS to style the component. JavaScript that adds additional functionality/behavior to a component is also included in this folder.

*When implementing the Style System, it is critical to have a standard pattern and organization for component front-end code.*

The following is the pattern we have used in implementing the Dopetrope design:

```
/component-x          <-- All front-end code related to the component
  component-x.js (optional) <-- Any JavaScript related to the component
  component-x.less        <-- Organized component style imports
  /styles                <-- Folder to contain different styles
    default.less          <-- Default style
    style-1.less          <-- Style 1 variation
    style-2.less          <-- Style 2 variation
```

1. Expand `/apps/l725/clientlibs/clientlib-dopetrope/components/title`. Notice how the pattern has been applied to the **Title** component. Besides the default style for the Title component there are be 2 additional styles for the **Site Title** and **Section Title**.
2. Expand **title/styles** folder and open **site.less**. Note that the styles are scoped by the `.cmp-title--site` class at the start of the file.
3. Open **section.less**. Note that the styles are scoped by the `.cmp-title--section` class at the start of the file.

In the next chapter we will configure the Title Component to use these styles.

# Chapter 5: Applying the Basic Dopetrope Style

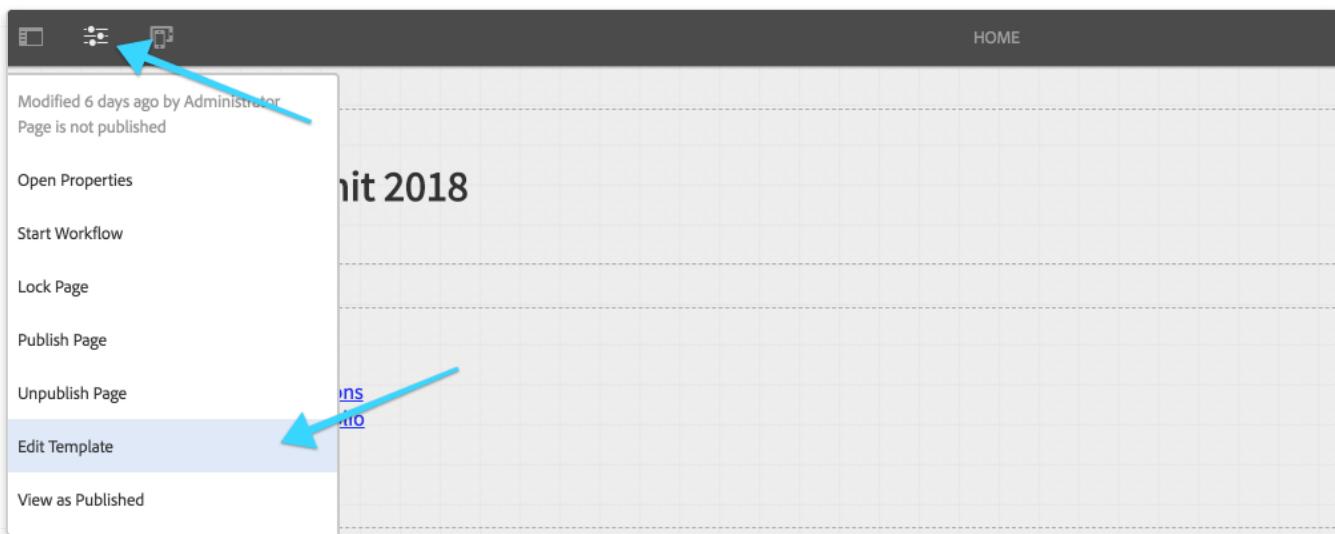
We will now apply the Dopetrope Client Library to the page template. We will also use the Style System to change the style of the Title Component.

## Step by step

Participating Personas: Web Producer

1. Navigate to the Home Page Template, then tap the Page Properties icon in the top left, and select Edit Template.

<http://localhost:4502/editor.html/conf/l725/settings/wcm/templates/home-page-template/structure.html>



2. In the Home Page Template Editor, tap the Template Properties icon in the top left, and select Page Policy.



3. In the Select Policy drop down, choose the Dopetrope Theme.

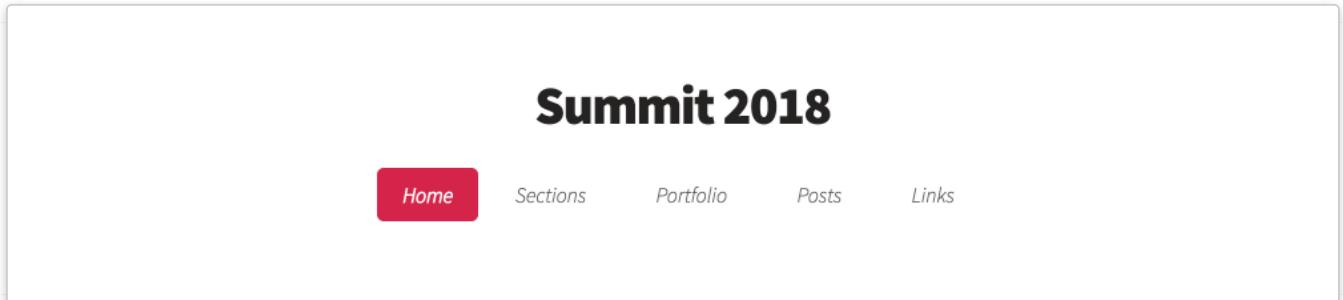
- Notice that the included Client-Side Library has switched to `1725.dopetrope` which loads the Dopetrope CSS and JavaScript.

The screenshot shows the 'Policy' and 'Properties' sections of the AEM Policy Management interface. In the 'Policy' section, under 'Select policy', 'Dopetrope Theme' is selected. In the 'Properties' section, under 'Client-Side Libraries', 'l725.dopetrope' is listed. A blue arrow points from the 'Dopetrope Theme' selection in the policy dropdown to the 'l725.dopetrope' entry in the client-side library list.

4. Save the Page Policy changes by tapping the **Check** icon in the upper right-hand corner.
  - Notice that the look and feel of the page as completely changed.
5. Select the **Title** component at the top of the Template, tap the **Styles** icon (paint brush) open the Styles dropdown for the **Title** component.
6. Select the **Site Title** style from the dropdown

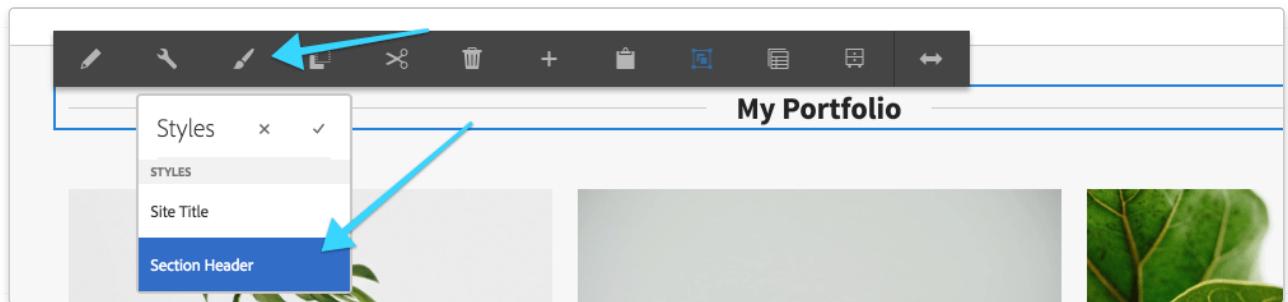
The screenshot shows the AEM富文本编辑器界面。在顶部，有一个包含文本“Summit 2018”的“Title”组件。下方是工具栏，带有各种编辑图标。右侧是“Layout Container”面板。在中间，一个“Styles”菜单被打开，显示了“Site Title”和“Section Header”两个选项，“Site Title”被选中并高亮显示。一个蓝色箭头指向“Site Title”选项，另一个蓝色箭头指向“Styles”菜单的关闭按钮（一个小的检查标记）。

7. Tap the **small check mark** to close the Styles dropdown.
8. Switch tabs and open the **Home Page** (<http://localhost:4502/editor.html/content/l725/dopetrope.html>) or use the Bookmarks.
9. Refresh the **Home page**. The wireframe aesthetic will be replaced with a basic Dopetrope brand style.



10. Scroll midway down the page and location the **My Portfolio's Title** component.

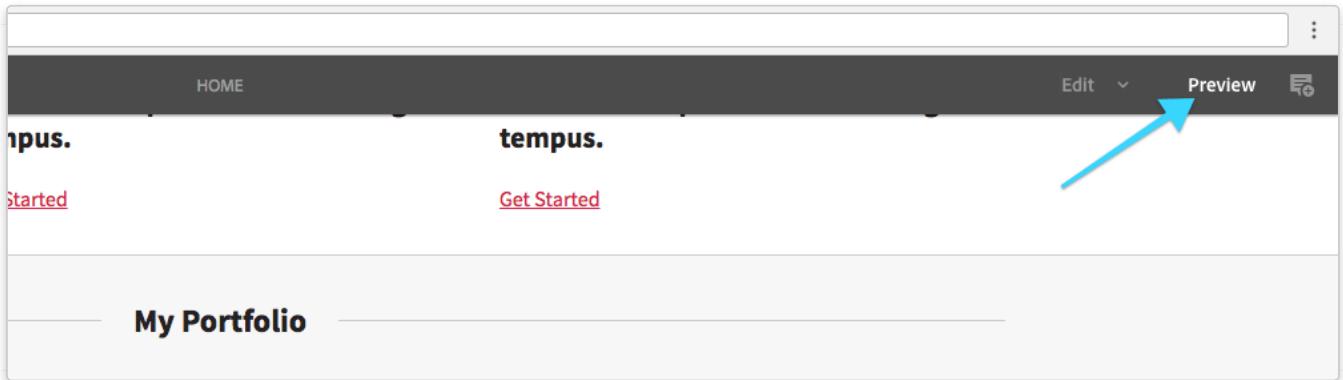
- Tap **Styles** icon, and select **Section Header** style.



11. Scroll down and select the **The Blog** section's **Title** component, tap the **Styles** icon, and select **Section Header**.

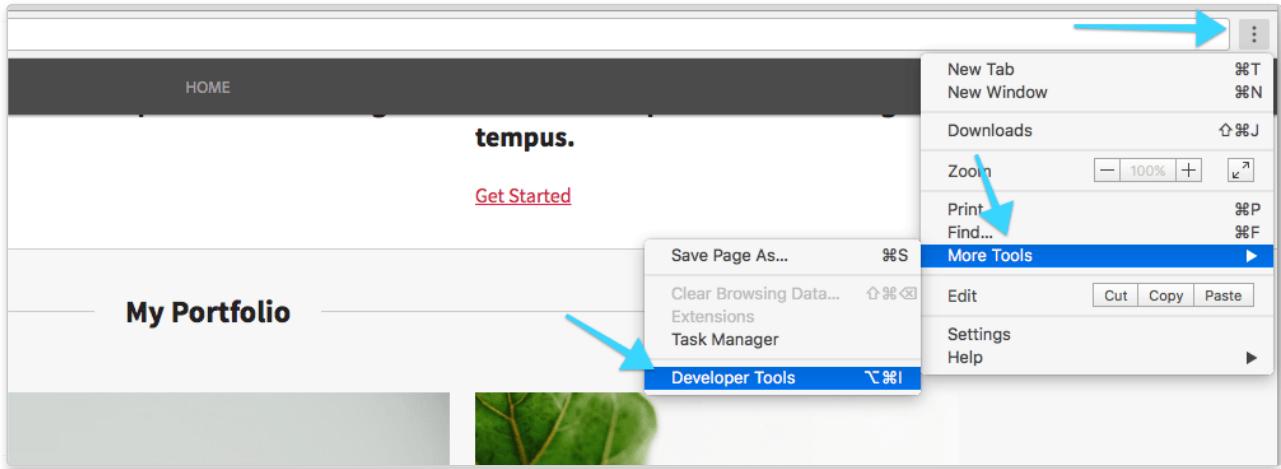
## Bonus

1. With the **Home Page** open, tap the **Preview** button in the top right.



2. In the upper-right corner of the Chrome browser select the **three vertical dots** to expose the Chrome menu.

1. Tap **More Tool > Developer Tools**. This will open the Chrome Developer tools at the bottom of the page.



3. In the upper-left corner of the Chrome Developer tools tap the **Inspect** icon (blue mouse cursor icon).
4. Hover over the **My Portfolio** component and view the HTML source. Notice that the `.cmp-title--section` class is added to the `div` surrounding the **Title Component**. This is the same class that saw in **Chapter 4**.

A screenshot of the Chrome DevTools Elements tab. The main pane shows the 'My Portfolio' title component with a bounding box of `h2.cmp-title__text | 177.91x31`. Below the title is a large green plant image. The bottom pane displays the DOM tree:

```

<body class="page">
  <div class="root responsivegrid">
    <div class="title cmp-title--site aem-GridColumn aem-GridColumn--default--12">...</div>
    <div class="navigation cmp-navigation--top aem-GridColumn aem-GridColumn--default--12">...</div>
    <div class="responsivegrid aem-Grid aem-GridColumn aem-GridColumn--default--12 cq-Editable-dom cq-Editable-dom--container">...</div>
    <div class="responsivegrid cmp-layout--secondary aem-GridColumn aem-GridColumn--default--12 cq-Editable-dom cq-Editable-dom--container">...</div>
      <div class="aem-Grid aem-Grid--12 aem-Grid--default--12 aem-Grid--tablet--12 aem-Grid--phone--12">...</div>
        <div class="title cmp-title--section aem-GridColumn--offset--tablet--0 aem-GridColumn--tablet--no-overflow">...</div>
          <div class="cmp-title">My Portfolio</div>

```

Blue arrows point from the 'Inspect' icon in the toolbar to the 'My Portfolio' title, and from the title element in the DOM tree back to the title in the main pane.

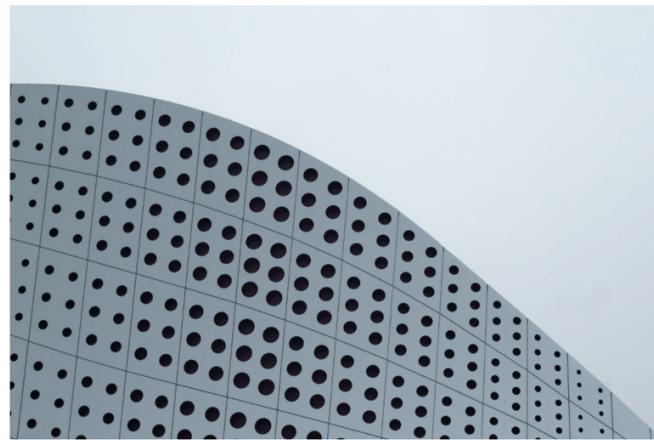
5. Switch back to **Edit Mode** and toggle off the **Section Header** style. Repeat the above steps and to see the `.cmp-title--section` class is removed from the DOM.
6. Re-apply the **Section Header** style if you had toggled it off.

## Final

After completing the above steps, your screen should look like:

# Summit 2018

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A responsive template by HTML5 UP

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## My Portfolio



**Teaser Component**

A teaser component consists of an image, title and description.

[Read More](#)



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# Chapter 6: Applying the Teaser Component CSS-based Styles

In this chapter we'll see how the Web Producer configures Teaser Component to allow the Shadow and Portfolio styles, which are implemented using **only CSS** (or in our case LESS), and how an Experience Author applies these styles to different teasers on the page.

## Watch and Learn

Participating Personas: Front-end Developer

Remember, all styling is possible w raw CSS, however we use LESS as it results in cleaner code and AEM natively compiles LESS to CSS.

A few LESS idiosyncrasies used in this file:

- Rules that start with an `@` are LESS **variables**!
- Rules that start with `.` end with `()` for example, `.border-color()`, are LESS **mixins**, and are used to define re-usable sets of CSS rules in `variables.less`.
- LESS supports **nesting of CSS selectors**. This is handy for ensuring proper namespacing. For example, the following LESS...

```
/* LESS */
.foo {
    color: red;
    .bar {
        color: blue;
    }
}
```

...compiles to the following CSS...

```
/* CSS */
.foo { color: red; }
.foo .bar { color: blue; }
```

## The Teaser's Portfolio Styles LESS (or CSS)

Each Component Style LESS file is responsible for that style's visual representation. AEM's Core Components and AEM Component development best practices outline that CSS rules should target **BEM (Block Element Modifier)** CSS class names, and these BEM CSS classes are considered the stable HTML API of the component.

- **BLOCK** represents the Component.
- **BLOCK\_\_ELEMENT** represents some logical "part" of the component (hyperlink, text, image, etc.)

- **BLOCK--MODIFIER** represents a Component Style.

## Teaser Component's HTML

The Core Component's Teaser component generates the following HTML. The BEM CSS classes define the stable, style-able API that can be safely targeted by our styles.

```
<div class="teaser cmp-teaser--portfolio ... aem-GridColumn--default--4">
  <div class="cmp-teaser">
    <div class="cmp-teaser__image">
      <div class="cmp-image">
        
      </div>
    </div>

    <h2 class="cmp-teaser__title">Teaser Component</h2>
    <h3 class="cmp-teaser__description">A teaser component consists of an image, title and description</h3>
    <a class="cmp-teaser__link" href="#">Read More</a>
  </div>
```

The Teaser component is an interesting case as it includes the Core Image Component, and thus has a BLOCK (`.cmp-image`) within a BLOCK (`.cmp-teaser`).

Pulling the BEM CSS classes from the above HTML, the following API is exposed and safe to target for styling.

```
cmp-teaser--portfolio
cmp-teaser
  cmp-teaser__image
  cmp-image
    cmp-image__image
  cmp-teaser__title
  cmp-teaser__description
  cmp-teaser__link
```

## Teaser Component's "Portfolio Style" LESS (or CSS)



**Teaser Component**

A teaser component consists of an image, title and description.

[Read More](#)



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- **BLOCK** represents the Component.
  - Structural styles (padding, min-height, background, etc.) are applied here, as this wraps the component and has little or no direct content of its own.
- **BLOCK\_\_ELEMENT** represents some logical "part" of the component (hyperlink, text, image, etc.).
  - The bulk of the styles are applied at this level as this directly target the specific parts of the component.
- **BLOCK--MODIFIER** represents a Component Style.
  - Typically, no styles are applied directly to this class, as this class is attached to responsive grid elements, thus styles applied here may conflict with AEM's Grid styles.
  - The exception is when adjusting the AEM Grid styles is explicitly desired for this style, for example, collapsing the margin between AEM Grid cells.

Avoid styling bare elements (p, li, a, span), and prefer the BEM Classes, no matter how tempting.

We can review the CSS (or LESS) for the Teaser's Portfolio style by navigating the **CRXDE Lite** (<http://localhost:4502/crx/de>) in a new tab, and opening

```
/apps/1725/clientlibs/clientlib-dopetrope/components/teaser/styles/portfolio.less .
```

```

.cmp-teaser--portfolio {           <-- BLOCK--MODIFIER (Component Style)

  .cmp-teaser {                  <-- BLOCK (Component)
    border-style: solid;
    ...

    .cmp-teaser__image {          <-- BLOCK__ELEMENT (Component's Image)
      position: relative;
      ...
    }

    ...
  }

  .cmp-teaser__link {            <-- BLOCK__ELEMENT (Component's Link)
    display: block;
    ...
  }

/* Responsive style adjustments */

@media @tablet, @desktop {       <-- CSS MEDIA QUERIES
  .cmp-teaser__link {             <-- BLOCK__ELEMENT (Component's Link)
    display: inline-block;
    ...
  }
}
}

}

}

```

The resulting CSS will be consistently name spaced, and always scoped by the `.cmp-teaser--portfolio` selector, ensuring these rules do not leak and accidentally effect other Teaser styles.

```

.cmp-teaser--portfolio .cmp-teaser { ... }           <-- Selector weight of 2
.cmp-teaser--portfolio .cmp-teaser .cmp-teaser__image { ... } <-- Selector weight of 3
.cmp-teaser--portfolio .cmp-teaser .cmp-teaser__link { ... } <-- Selector weight of 3

```

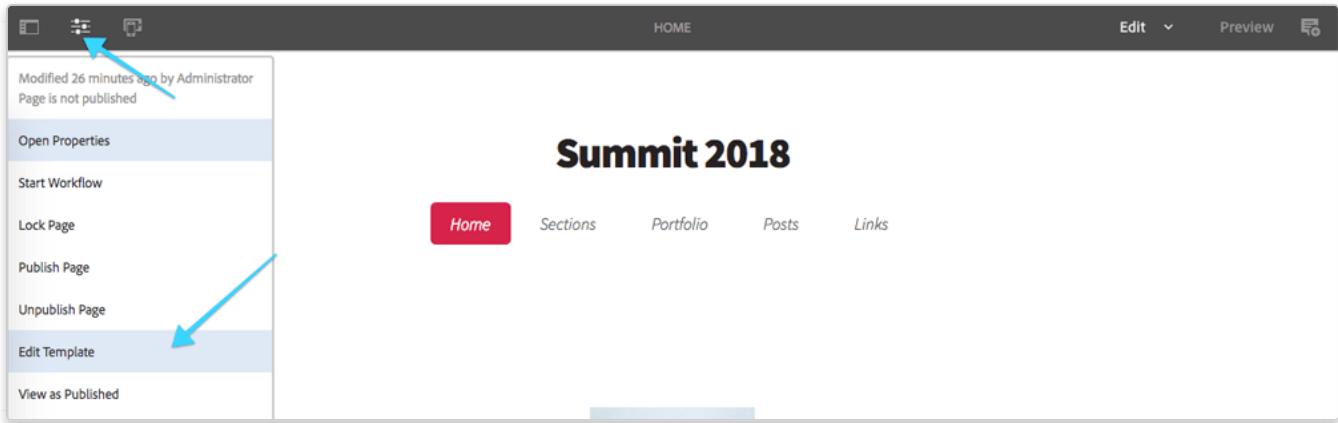
This allows the application of the Component Style by simply set any parent DOM element of the Component has the Component Style CSS Class (`.cmp-teaser--portfolio`) applied. This means Component styles can be applied specifically for each component, or even in more advanced use cases, at the Layout Container or Page level!

Always try to keep consistent selector weight, via consistent nesting depth as described above as it helps avoid CSS rule collisions in more advanced use cases.

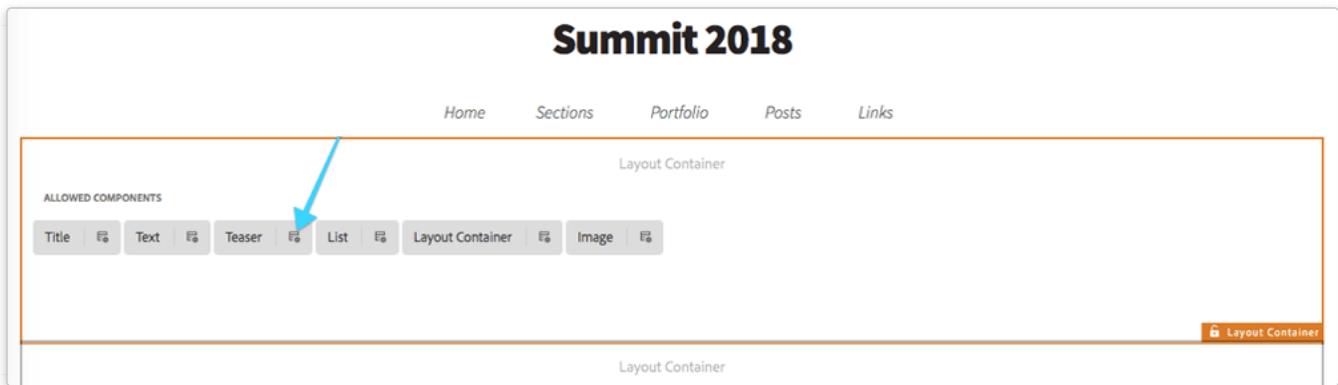
## Step by Step

Participating Personas: Web Producer Experience Author

1. From the **Dopetrope** page tap the **Page Properties** icon in the top left, and select **Edit Template**.



2. In the **Template Editor**, locate the **1st Layout Container** and tap its **Teaser's Policy** icon.



3. Create a new Policy by entering **Dopetrope Teaser** into the **Policy Title** text field.

1. Tap the **Styles** tab on the right.
2. Add the **Default CSS Classes:** `cmp-teaser--default`
3. Tap **Add** under **Allowed Styles**.
4. Enter the **Group Name** `Styles`.
5. For each new style, tap **Add** under the **Style** sub-heading, and enter the following **Style Name** and **CSS Classes** pairs:
  - `Shadow` → `cmp-teaser--default cmp-teaser--shadow`
  - `Portfolio` → `cmp-teaser--portfolio`
6. Tap the **Check** icon in the top right **save** the Teaser Component Policy changes.

**Policy**  
First choose a policy to apply. Policies can be shared across templates  
Select policy  
Dopetrope Teaser  
Policy Title \*  
Dopetrope Teaser  
Policy Description  
Add a description  
Other templates also using the selected policy  
Home Page Template

**Properties**  
Then adjust the settings of the selected policy to configure the component  
Main Styles  
Editing the styles can have a visual impact on existing components.  
Default CSS Classes  
cmp-teaser--default  
Allowed Styles  
Styles  
Styles can be combined  
Shadow cmp-teaser--default cm  
Portfolio cmp-teaser--default cmp-teaser--shadow  
cmp-teaser--portfolio  
Add  
Add

4. Back in the **Template Editor**, locate the **2nd Layout Container** and tap its **Teaser's Policy icon**.

1. Select **Dopetrope Teaser** from the **Select policy** drop down.
2. Tap the **Check** icon in the top right save the Teaser Component Policy changes.

**Policy**  
First choose a policy to apply. Policies can be shared across templates  
Select policy  
Dopetrope Teaser  
Dopetrope Teaser  
New policy  
Policy Description

**Properties**  
Then adjust the settings of the selected policy to configure the component  
Main Styles  
Image rendering is delegated to the Image component.

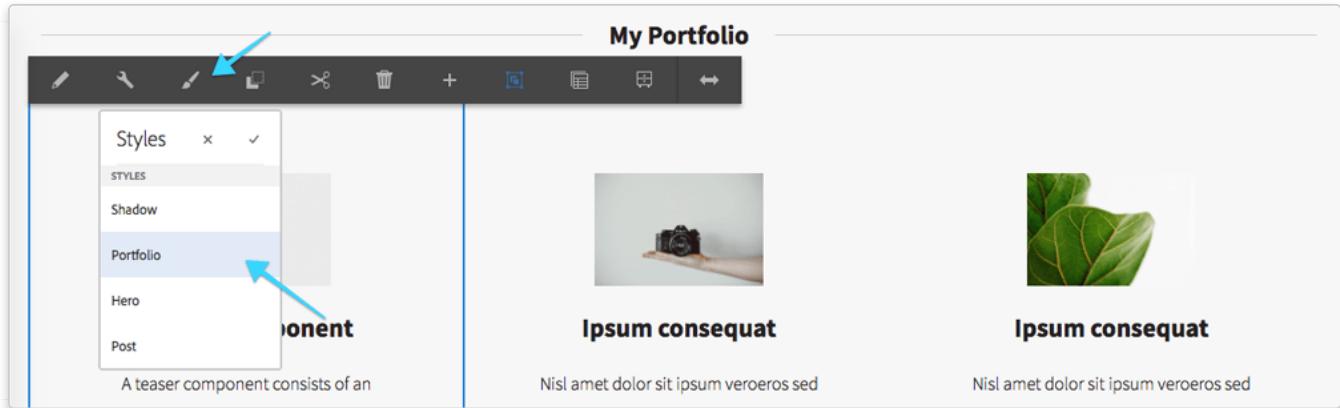
5. Close the **Template Editor** browser tab to return to the **Dopetrope** page.

6. Refresh the Dopetrope page.

7. Select the middle **Teaser** with the **lightning bolt** icon, tap the **Styles** icon, and select **Shadow**.

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Tempus adipiscing

8. Select each of the **Teasers** in the **My Portfolio** section, tap the **Styles** icon, and select **Portfolio**.



## Final

After completing the above steps, the Teaser with the lightning bolt should have a shadow effect on the left and right side of it, and the 6 Teasers under My Portfolio should have the portfolio card style applied, and your page should look like:

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## My Portfolio



### Teaser Component

A teaser component consists of an image, title and description.

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# Chapter 7: Applying the Teaser Component JavaScript-based Styles

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In this chapter we'll see how the Web Producer configures Teaser Component to allow the **Hero** and **Post** styles, which are implemented using both CSS and JavaScript, and how an Experience Author applies these styles to different teasers on the page.

## Watch and Learn

Participating Personas: Front-end Developer

Before defining and applying these styles, let's look at how, why and when to use JavaScript to augment component styles. Component JavaScript can be broken into two categories:

- JavaScript that provides functional behavior for the component. For example, opening a modal, or swapping out images.
  - This variety is **NOT** the focus of this lab.
- JavaScript that modifies the component's DOM sub-tree either to facilitate CSS styling, or to inject content into the DOM that is not naturally exposed by the component.
  - This variety **IS** the focus of this lab.

Style JavaScript follows similar guidelines as the CSS application.

- Use the **BLOCK--MODIFIER** CSS class to identify component DOM sub-trees to process.
- **Target** component HTML elements via their **BEM CSS classes**.
- When inserting new DOM elements, provide corresponding BEM CSS classes so they can be clearly styled via CSS.

## Overview of AEM Component Style JavaScript

The below pseudocode (optionally using jQuery) illustrates the general approach for applying JavaScript-based to support Component styles.

The general JavaScript execution outline is:

- Invoke the following logic when:
  - The page is loaded.
  - An authoring event occurs that requires a re-application of the style.
- All components that match the style are located in the DOM.
- For each of these components, check if the component has already been processed.
- If the component has not yet been processed:
  - Mark the component as processed.
  - Derive any new data that might be required, often via AJAX calls to AEM Content Services end points.
  - Modify the DOM as the styles needs.

```

jQuery(function($) {
    // This code will execute when the DOM is ready

    function applyComponentStyles() {

        $(BLOCK--MODIFIER BLOCK).not("[data-<style-id>-processed]").each(function() {
            // Mark the component as processed for this style
            var component = $(this).attr("data-<style-id>-processed", true);

            // Perform any work including modifying the DOM sub-tree of `var component`
            // or making AJAX calls to collect and inject new data in the component.
        });

    }

    /** The 2 hooks for invoking applyComponentStyles() **/

    // Immediately apply styles when the DOM is ready.
    applyComponentStyles();

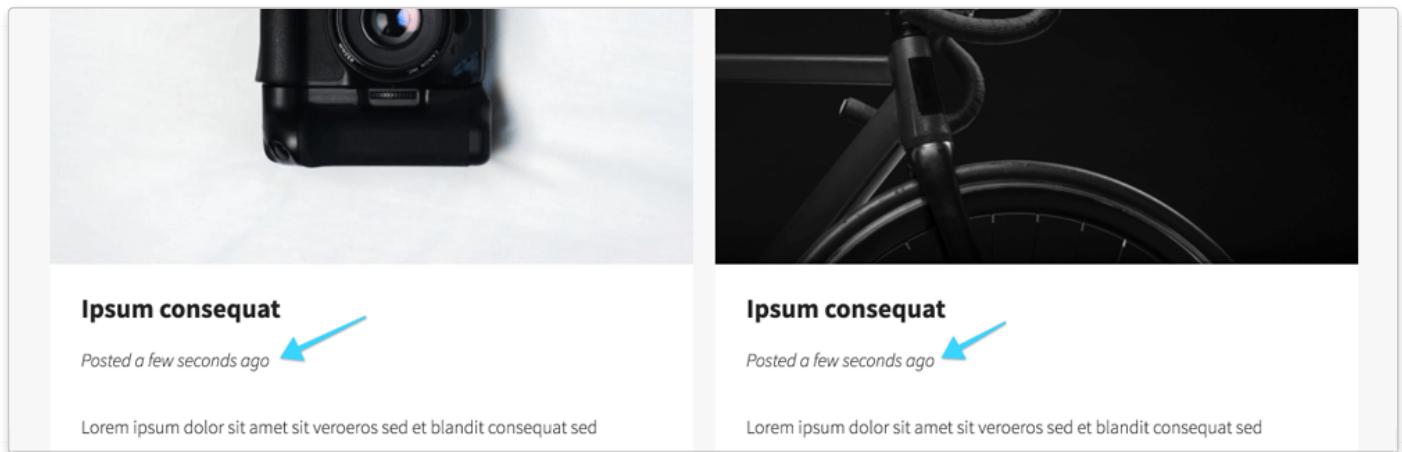
    // Whenever a component is inserted into AEM's responsive grid, apply styles if needed.
    // This helps support the application of styles during authoring.
    $(".responsivegrid").on("DOMNodeInserted", applyComponentStyles);

})(jQuery)

```

## Overview of AEM Component "Post Style" JavaScript

The Teaser's Post style involves deriving the last modified data from the linked AEM Page, and injecting this new content into the Teaser below the Teaser's title.



We can review the JavaScript for the Teaser's Post style by navigating the **CRXDE Lite** (<http://localhost:4502/crx/de>) in a new tab, and opening

`/apps/1725/clientlibs/clientlib-dopetrope/components/teaser/styles/teaser.js`.

```

jQuery(function ($) {

    function applyComponentStyles() {
        ...

        // Teaser - Post style
        $(".cmp-teaser--post .cmp-teaser").not("[data-cmp-teaser-posted-at-processed='true']").each(
            var teaser = $(this).attr("data-cmp-teaser-posted-at-processed", true),
                // Get the teaser's Link element
                link = teaser.find(".cmp-teaser__link"),
                // Determine get the teaser's link if it exists
                linkHref = link ? link.attr('href') : null,
                dateUrl;

            if (linkHref) {
                // Get the linked page's path and append Content Services model.json
                dateUrl = Granite.HTTP.getPath(linkHref) + ".model.json";

                // Make an AJAX call to the page's AEM Content Services end-point to retrieve the data
                $.getJSON(dateUrl, function (jsonData) {
                    var dateObject, title, postedAtElement;

                    // Create a date object using the open source MomentJS library
                    dateObject = moment(jsonData['lastModifiedDate']);

                    // Find the component's Title element
                    title = teaser.find('.cmp-teaser__title');

                    // Create a new Paragraph <p> element to display the formatted date.
                    postedAtElement = $("<p>")
                        // Assign a BEM CSS Class name so it can be styled via CSS
                        .addClass("cmp-teaser__posted-at")
                        // Add the formatted date text to the Paragraph
                        .text("Posted " + dateObject.fromNow());

                    // Inject the new paragraph tag into the DOM after the title element.
                    title.after(postedAtElement);
                });
            }
        );
    }

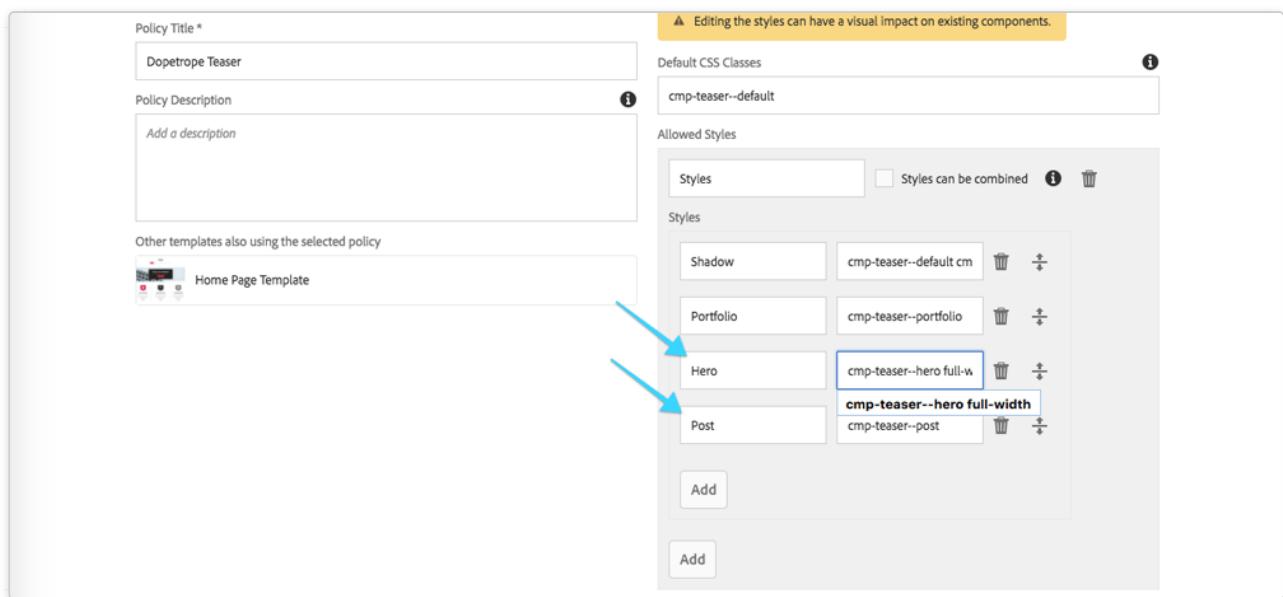
    applyComponentStyles();

    $(".responsivegrid").bind("DOMNodeInserted", applyComponentStyles);
});
}

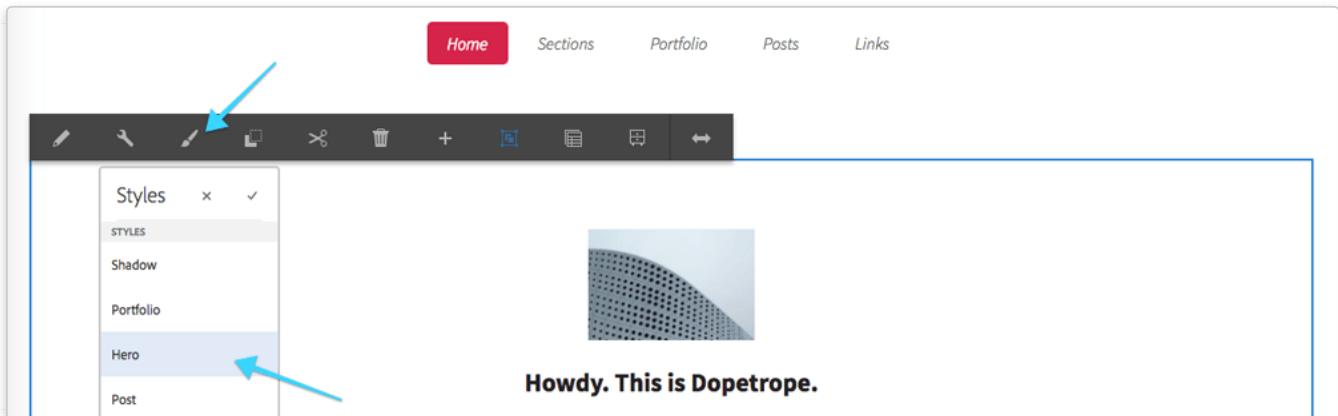
```

## Step by Step

1. From the **Dopetrope** page tap the **Page Properties** icon in the top left, and select **Edit Template**.
2. In the **Template Editor**, tap the **Teaser's Policy** icon from either Layout Container.
  1. Tap the **Styles** tab on the right.
  2. For each new style, tap **Add** under the previously configured styles, and enter the following **Style Name** and **CSS Classes** pairs:
    - **Hero** → `cmp-teaser--hero full-width`
    - **Post** → `cmp-teaser--post`
  3. Tap the **Check** icon in the top right **save** the Teaser Component Policy changes.



3. Close the **Template Editor** browser tab to return to the **Dopetrope** page.
4. Refresh the Dopetrope page.
5. Select the top-most **Teaser** on the page, tap the **Styles** icon, and select **Hero**.



6. Scrolling down past My Portfolio, select the 2 Teasers in the Blog section, tap the **Styles** icon, and select **Post**.

The Blog

Styles

Shadow

Portfolio

Hero

Post

sum consequat

Ipsum consequat

Post

Shadow

Portfolio

Hero

Post

sum consequat

Ipsum consequat

Post

## Final

After completing the above steps, the Teaser with the lightning bolt should have a shadow effect on the left and right side of it, and the 6 Teasers under My Portfolio should have the portfolio card style applied, and your page should look like:

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Nullam dolor sit amet venenatis sed blandit consequat. Venenatis et magna tempus.

[Get Started](#)

**My Portfolio**



**Teaser Component**  
A teaser component consists of an image, title and description.

[Read More](#) [Find out more](#) [Find out more](#)



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[Find out more](#)



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[Find out more](#)



**Ipsum consequat**  
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[Find out more](#)

**The Blog**



**Ipsum consequat**  
Posted 4 weeks ago

Nullam dolor sit amet venenatis sed blandit consequat. Venenatis et magna tempus.

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**Ipsum consequat**  
Posted 2 weeks ago

Nullam dolor sit amet venenatis sed blandit consequat. Venenatis et magna tempus.

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**Footer Content**

<p><b>Mar 27</b> <a href="#">Blandit tempus aliquet?</a> Nullam dolor sit amet venenatis sed blandit tempus aliquet.</p> <p><b>Mar 10</b> <a href="#">Dolore tempus fermentum feugiat nulla</a> Nullam dolor sit amet venenatis sed blandit tempus fermentum feugiat nulla.</p> <p><b>Feb 22</b> <a href="#">Magnis tempus fermentum feugiat</a> Nullam dolor sit amet venenatis sed blandit tempus fermentum feugiat.</p> <p><b>Jan 5</b> <a href="#">Ipsum sed lacinia id idoneo</a> Nullam dolor sit amet venenatis sed blandit tempus fermentum feugiat.</p> <p><b>Jan 16</b> <a href="#">Loreum dolor sit amet venenatis</a> Nullam dolor sit amet venenatis consequat blandit ipsum phasellus ipsum consequat etiam.</p>	<p><b>Ipsum et phasellus</b> Nullam dolor sit amet venenatis consequat blandit ipsum phasellus ipsum consequat etiam.</p> <p><b>Tempus consequat</b> Nullam dolor sit amet venenatis consequat blandit ipsum phasellus ipsum consequat etiam.</p>
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**What's this all about?**

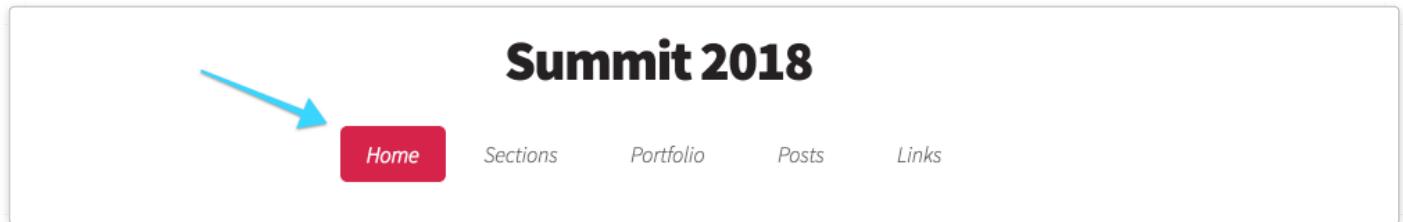


This is Dopetrope, a free, fully responsive HTML5 template. It's designed for free download and use. [Check it out!](#) If you like it, consider making a small donation to help us keep it free for everyone! Just click the button below.

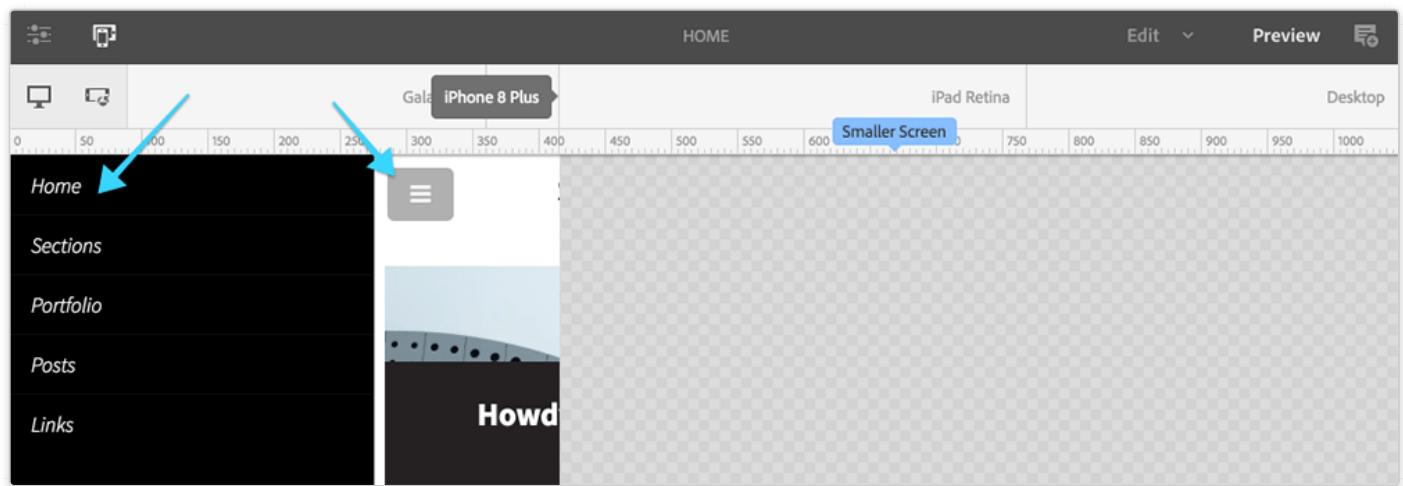
# Chapter 8: The Bonus

Chapter 8 is an exploration of how various other AEM Core Components have been styled and configured to support the Dopetrope theme.

## The Navigation Component



The Core Navigation Component is used for the top navigation and uses the Core Navigation Component. Navigation is configured via the Template Editor and uses the Dopetrope-provided `.cmp-navigation--top` style.

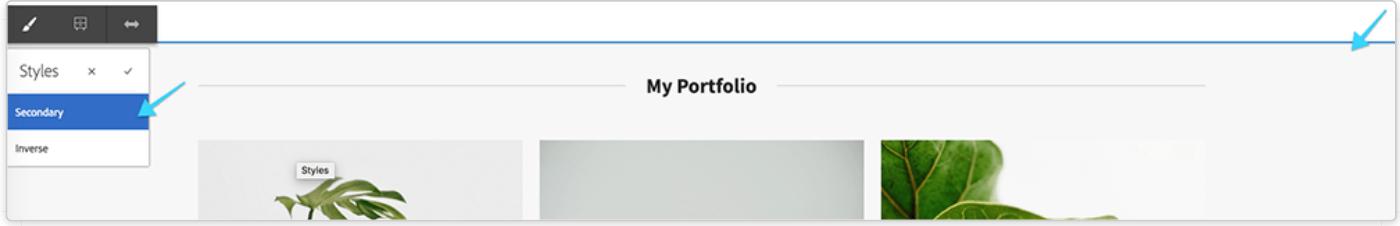


The Navigation is a more advanced component as it drastically changes visuals and behavior for mobile devices. Using a combination of CSS media queries and JavaScript, the menu turns into a mobile menu when the viewport is shrunk.

## The Layout Container

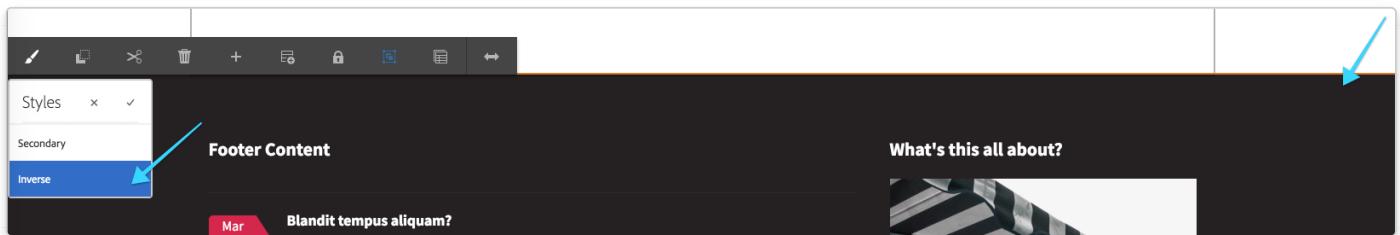
The Dopetrope theme styles AEM's Layout Container component in two different ways.

### Layout Container Secondary Style



The Secondary style is applied to the Layout Container containing **My Portfolio** and **The Blog** at the Page level. The Secondary style colors the background **grey**, adds a **border across the top**, and expands to the **full width of the Web browser**, while keeping the content centered.

## Layout Container Footer Style



The Footer style is applied to the Layout Container containing the footer content at the Page Template level. The Secondary style colors the background **black**, and expands to the **full width of the Web browser**, while keeping the content centered.

And interesting facet of this Layout Container style, is it inverts the background color, requiring an inversion of the text (from the normal black, to a light grey) to maintain legibility.

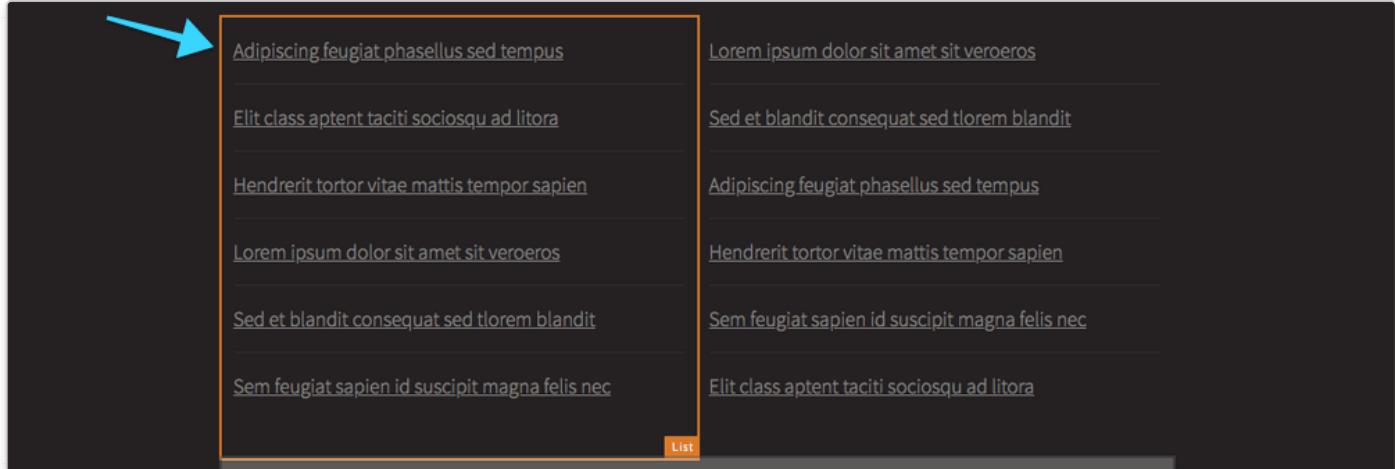
Dig into how this is done by reviewing these LESS and JavaScript files:

- `/apps/1725/clientlibs/clientlib-dopetrope/components/layout-container/styles/inverse.less`
- `/apps/1725/clientlibs/clientlib-dopetrope/components/list/styles/date-accent.less`,  
lines 88 - 104
- `/apps/1725/clientlibs/clientlib-dopetrope/components/list/styles/default.less`,  
lines 44 - 59
- `/apps/1725/clientlibs/clientlib-dopetrope/components/title/styles/section.less`,  
lines 49 - 57

## The List Component

The DopeTrope theme allows the Core Components List component to be styled in two different ways.

### List Default Style

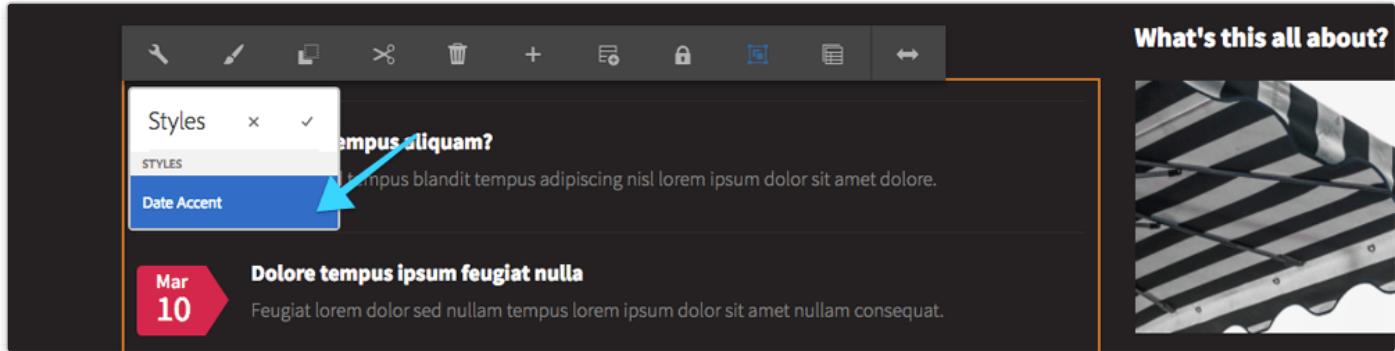


The **Default style** is a simple text list and is the default list style, and requires no selection via the Styles dropdown.

Dig into how this is done by reviewing these LESS and JavaScript files:

- `/apps/1725/clientlibs/clientlib-dopetrope/components/list/styles/default.less`,  
lines 1 - 43

## List Date Accent Style



The **Date Accent style** which injects the Last Modified date from the list item's linked page. The style uses JavaScript to retrieve the date in a similar manner as the Teaser Post.

Dig into how this is done by reviewing these LESS and JavaScript files:

- `/apps/1725/clientlibs/clientlib-dopetrope/components/list/styles/date-accent.less`,  
lines 1 - 87
- `/apps/1725/clientlibs/clientlib-dopetrope/components/list/list.js`

# Appendix

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The appendix contains links to a various resource leveraged by this lab.

- [Adobe Experience Manager Core Components](#)
  - [github.com/Adobe-Marketing-Cloud/aem-core-wcm-components](https://github.com/Adobe-Marketing-Cloud/aem-core-wcm-components)
- [BEM - Block Element Modifier](#)
  - [getbem.com](http://getbem.com)
- [AEM Client Libraries](#)
  - [helpx.adobe.com/experience-manager/6-3/sites/developing/using/clientlibs.html](https://helpx.adobe.com/experience-manager/6-3/sites/developing/using/clientlibs.html)
- [LESS](#)
  - [lesscss.org](http://lesscss.org)
- [jQuery](#)
  - [jquery.com](http://jquery.com)
- [HTML5up.net - Dopetrope Template](#)
  - [html5up.net/dopetrope](http://html5up.net/dopetrope)