

Part 2: Patternfly Training: HTML/CSS

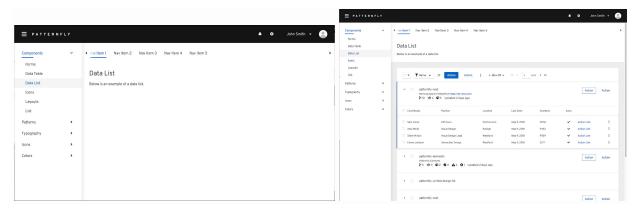
About: Patternfly is Red Hat's UI Framework Library for Enterprise Web Applications.

Goal: To create a User Interface using Patternfly Components.

How: Add HTML markup and overwrite CSS styles.

What you will need:

- These instructions → web version:
 https://github.com/rh-uxd/bu-workshop/blob/master/patternfly-training-html-css.pdf
- Codepen: https://codepen.io/christiemolloyy/pen/moZBqL (fork this link)



Start vs Finished Product

HTML Specific

In the HTML section you will be adding HTML markup to define the components of the page. The HTML already has classes with styles, so as you add components, you'll see the styles appear.

The page is already set up, you will be adding a Data List and Toolbar.

1. Add a Page Section. First we need to add another page main section that will act as a container for the data list. In the HTML code, scroll down to the bottom of the code in the HTML section to find "ADD CONTENT HERE". Add a page main section component.

```
<section class="pf-c-page__main-section">
</section>
```

2. Add the Card component. In Patternfly, the card component is used as a container that has an optional header, body and footer. In this context, just use the card, because we don't want any space between the toolbar, data list and pagination. Add this inside `pf-c-page_main-section`.

```
<div class="pf-c-card">
</div>
```

3. Add the Toolbar Container. The toolbar is the first component in the card. Add this code inside of the pf-c-card:

```
<div class="pf-c-toolbar">
</div>
```

4. Add a bulk selector. A bulk selector is used to select multiple items at once. It has a checkbox, a toggle button and a menu. The bulk selector is the first element inside of the toolbar.

5. Add a Toolbar Filter. The filter element has two parts: one for mobile and one for desktop. The mobile one is hidden on desktop and the desktop one is hidden on mobile, this is to allow for a smaller size on mobile.

```
Mobile:
```

```
<button class="pf-c-button pf-m-plain pf-c-toolbar filter-toggle">
```

```
<i class="fas fa-filter"></i>
</button>
Desktop:
<div class="pf-c-toolbar filter">
        <div class="pf-c-select">
                 <span hidden="">Choose one</span>
                 <button class="pf-c-select__toggle">
                          <div class="pf-c-select__toggle-wrapper">
                                   <span class="pf-c-select__toggle-text">
                                            <i class="fas fa-filter"></i>
                                            Name
                                   </span>
                          </div>
                          <i class="fas fa-caret-down pf-c-select toggle-arrow"></i>
                 </button>
                 <div class="pf-c-select menu" hidden="">
                          <form novalidate="" class="pf-c-form">
                                   <fieldset class="pf-c-form__fieldset">
                                            <label class="pf-c-check pf-c-select menu-item">
                                                    <input class="pf-c-check__input" type="checkbox">
                                                    <span class="pf-c-check label">Active</span>
                                            </label>
                                            <label class="pf-c-check pf-c-select menu-item">
                                                    <input class="pf-c-check__input" type="checkbox">
                                                    <span class="pf-c-check__label">Cancelled</span>
                                            </label>
                                            <label class="pf-c-check pf-c-select menu-item">
                                                    <input class="pf-c-check__input" type="checkbox">
                                                    <span class="pf-c-check__label">Paused</span>
                                            </label>
                                            <label class="pf-c-check pf-c-select__menu-item">
                                                    <input class="pf-c-check__input" type="checkbox">
                                                    <span class="pf-c-check label">Warning</span>
                                            </label>
                                            <label class="pf-c-check pf-c-select menu-item">
                                                    <input class="pf-c-check__input" type="checkbox">
                                                    <span class="pf-c-check__label">Restarted</span>
                                            </label>
                                   </fieldset>
                          </form>
                 </div>
        </div>
</div>
```

6. Add the Toolbar Sort. This is used to sort items within the data list. It includes a list, but you won't see this until React implementation.

```
<button class="pf-c-options-menu__toggle pf-m-plain">
        <i class="fas fa-sort-amount-down" aria-hidden="true"></i>
 <|i>
               ul aria-label="Sort by">
                      <button class="pf-c-options-menu_menu-item">Name</button>
                      <button class="pf-c-options-menu menu-item">Date<i class="fas fa-check">Date
                     pf-c-options-menu menu-item-icon" aria-hidden="true"></i></button>
                     <button class="pf-c-options-menu menu-item" disabled="">
                     Disabled</button>
                      <button class="pf-c-options-menu menu-item">Size</button>
               <|i>
               ul aria-label="Sort direction">
                      <button class="pf-c-options-menu menu-item">Ascending
                      <i class="fas fa-check pf-c-options-menu_menu-item-icon"></i></button>
                      <button class="pf-c-options-menu menu-item">Descending</button>
               </div>
```

7. Add a Toolbar Action Group and the Action List. The buttons in the action group collapse into the dropdown kebab component at a medium desktop size.

```
<div class="pf-c-toolbar action-group">
        <buty><br/>button class="pf-c-button pf-m-primary"></br>
               Action
        </button>
        <button class="pf-c-button pf-m-link">
               Action
        </button>
</div>
<div class="pf-c-dropdown pf-c-toolbar action-list">
        <button class="pf-c-dropdown toggle pf-m-plain">
           <i class="fas fa-ellipsis-v" aria-hidden="true"></i>
       </button>
        ul class="pf-c-dropdown menu" hidden="">
               <a class="pf-c-dropdown" menu-item" href="#">Link</a>
               <button class="pf-c-dropdown menu-item">Action</button>
               <a class="pf-c-dropdown" menu-item pf-m-disabled" tabindex="-1" href="#">Disabled</a>
               Link</a>
               <button class="pf-c-dropdown__menu-item" disabled="">Disabled Action</button>
               <a class="pf-c-dropdown" menu-item" href="#">Separated Link</a>
```

8. Add the Toolbar Pagination. This component is used to navigate through the data list pages (if any). It includes an options menu to choose the number of pages you would want to filter through, and then arrows that navigate through the pages.

```
<div class="pf-c-pagination">
        <div class="pf-c-pagination total-items">
                 <b>1 - 10</b> of <b>37</b>
        </div>
        <div class="pf-c-options-menu">
                 <span hidden="">Items per page:</span>
                 <div class="pf-c-options-menu toggle pf-m-text pf-m-plain">
                         <span class="pf-c-options-menu toggle-text">
                                  <b>1 - 10</b> of <b>37</b>
                         </span>
                         <button class="pf-c-options-menu toggle-button">
                                  <i class="fas fa-caret-down" aria-hidden="true"></i>
                         </button>
                 </div>
                 ul class="pf-c-options-menu" menu" hidden="">
                         <button class="pf-c-options-menu_menu-item">
                                  <span class="pf-c-pagination__menu-text">per page</span>
                         </button>
                         <button class="pf-c-options-menu menu-item">
                                  <span class="pf-c-pagination__menu-text">per page</span>
                                  <i class="fas fa-check pf-c-options-menu menu-item-icon"></i>
                         </button>
                         <button class="pf-c-options-menu_menu-item">
                                  <span class="pf-c-pagination menu-text">per page</span>
                         </button>
                 </div>
        <nav class="pf-c-pagination__nav">
                 <button class="pf-c-button pf-m-plain pf-m-disabled">
                         <i class="fas fa-angle-double-left" aria-hidden="true"></i>
                 </button>
                 <button class="pf-c-button pf-m-plain pf-m-disabled">
                         <i class="fas fa-angle-left" aria-hidden="true"></i>
                 </button>
                 <div class="pf-c-pagination__nav-page-select">
                         <input class="pf-c-form-control" type="number" min="1" max="4" value="1">
                         <span aria-hidden="true">of 4</span>
                 </div>
                 <button class="pf-c-button pf-m-plain">
                   <i class="fas fa-angle-right" aria-hidden="true"></i>
```

9. Add the Data List. It is an unordered list made of infinite list items. Add this code outside of the toolbar but inside of the card, as it is a "sibling" of the toolbar.

```
ul class="pf-c-data-list">
```

10. Add the first Data List Item and the Data List Item Row inside of it. pf-c-data-list__item can contain almost anything and it has containers inside of it to hold the different types of content. For example, pf-c-data-list__item-control is for toggle and check elements, the pf-c-data-list__item-content is for textual or graphic content, pf-c-data-list__item-action is for action buttons, and pf-c-data-list__expandable-content is for content that you want to be shown only in expanded form. The data list row is a container for the content in the first row.

11. Add the Data List Controls (Toggle and Check) This is for the elements of the data list that are used to control the elements, i.e. toggle and checkbox. Add this code inside of the pf-c-data-list__item-row.

```
<div class="pf-c-data-list__item-control">
</div>
```

a. Add a Toggle. The toggle is used to expand another row from the Data List Item, add this inside of pf-c-data-list_item-control.

b. Add a Check. The check is basically a checkbox to select a row, add this inside of pf-c-data-list_item-control.

12. Add the Data List Content element with a Data List Cell inside:

```
<div class="pf-c-data-list item-content">
        <div class="pf-c-data-list__cell">
                <div>
                         patternfly-next
                         <small>Working repo for Patternfly4 <a href="">https://pf-next.com/</a></small>
                </div>
                <div class="pf-l-flex pf-m-wrap">
                         <div>
                                 <i class="fas fa-code-branch" aria-hidden="true"></i>10
                         </div>
                         <div>
                                 <i class="fas fa-code" aria-hidden="true"></i>4
                         </div>
                         <div>
                                  <i class="fas fa-cube" aria-hidden="true"></i>5
                         </div>
                         <div>
                                 Updated 2 days ago
                         </div>
                </div>
        </div>
</div>
13. Add the Data List Item Action wrapper.
```

```
<div class="pf-c-data-list__item-action">
</div>
```

a. Add the buttons inside of pf-c-data-list_item-action

```
<button class="pf-c-button pf-m-secondary">Action</button>
<button class="pf-c-button pf-m-link">Action</button>
```

14. Add a data-list-expandable-content outside of/adjacent to the Data List Item Row. We will add content into this container in Step 16.

```
<section class="pf-c-data-list__expandable-content">
</section>
```

15. Duplicate the Data List Item below. Take this code and paste it underneath the last pf-c-data-list item.

```
</div>
                          <div class="pf-c-data-list check">
                                   <input type="checkbox" name="check-expandable-check1">
                          </div>
                 </div>
                 <div class="pf-c-data-list__item-content">
                          <div class="pf-c-data-list__cell">
                                   Add some text in here.
                          </div>
                 </div>
                 <div class="pf-c-data-list item-action">
                          <button class="pf-c-button pf-m-secondary">Action/button>
                          <button class="pf-c-button pf-m-link">Action/button>
                 </div>
        </div>
        <section class="pf-c-data-list expandable-content">
        </section>
```

16. Add a component to the expandable section. Anything can go inside of the expandable section. For example add the compact table component. Copy this code into the pf-c-data-list expandable-content.

```
<table class="pf-c-table pf-m-compact pf-m-grid-md" role="grid" aria-label="This is a compact table example"
id="compact-table">
   <thead>
       <input type="checkbox" name="check-all" aria-label="Select all rows">
           Contributor
           Position
           Location
           Last Seen 
           Numbers
           lcons
           </thead>
   <input type="checkbox" name="checkrow1">
           <span>Sam Jones</span>
           CSS Guru
           Not too sure
           May 9, 2018
           0556
```

```
<i class="fas fa-check"></i>
     <a href="#">Action Link</a>
     <div class="pf-c-dropdown">
           <button class="pf-c-dropdown toggle pf-m-plain"</pre>
           id="compact-table-dropdown-1-button" aria-expanded="false"
           aria-label="Actions">
           <i class="fas fa-ellipsis-v" aria-hidden="true"></i>
           </button>
           ul class="pf-c-dropdown__menu pf-m-align-right"
     aria-labelledby="compact-table-dropdown-1-button" hidden="">
           <a class="pf-c-dropdown" menu-item" href="#">Link</a>
           <button class="pf-c-dropdown menu-item">Action</button>
           <a class="pf-c-dropdown" menu-item pf-m-disabled" aria-disabled="true"</li>
           tabindex="-1" href="#">Disabled Link</a>
     <button class="pf-c-dropdown__menu-item" disabled="">Disabled Action</button>
    <a class="pf-c-dropdown" menu-item" href="#">Separated Link</a>
   </div>
<input type="checkbox" name="checkrow2" aria-labelledby="name2">
<span id="name2">Amy Miller</span> 
Visual Design 
Raleigh
May 9, 2018
 9492
<i class="fas fa-check"></i>
<a href="#">Action Link</a>
<div class="pf-c-dropdown">
     <button class="pf-c-dropdown toggle pf-m-plain" id="compact-table-dropdown-2-button"</p>
     aria-expanded="false" aria-label="Actions">
     <i class="fas fa-ellipsis-v" aria-hidden="true"></i></button>
     ul class="pf-c-dropdown menu pf-m-align-right"
     aria-labelledby="compact-table-dropdown-2-button" hidden="">
    <a class="pf-c-dropdown" menu-item" href="#">Link</a>
    <button class="pf-c-dropdown menu-item">Action</button>
     <a class="pf-c-dropdown" menu-item pf-m-disabled" aria-disabled="true"</li>
     tabindex="-1" href="#">Disabled Link</a>
    <button class="pf-c-dropdown__menu-item" disabled="">Disabled Action</button>
    <a class="pf-c-dropdown__menu-item" href="#">Separated Link</a>
```

```
</div>
             <input type="checkbox" name="checkrow3" aria-labelledby="name3">
             <span id="name3">Steve Wilson</span>
             Visual Design Lead
             Westford
             May 9, 2018
             9929
             <i class="fas fa-check"></i> 
             <a href="#">Action Link</a>
             <div class="pf-c-dropdown">
                 <button class="pf-c-dropdown__toggle pf-m-plain" id="compact-table-dropdown-3-button"</pre>
                 aria-expanded="false" aria-label="Actions">
                 <i class="fas fa-ellipsis-v" aria-hidden="true"></i></button>
                 ul class="pf-c-dropdown menu pf-m-align-right"
                 aria-labelledby="compact-table-dropdown-3-button" hidden="">
                <a class="pf-c-dropdown__menu-item" href="#">Link</a>
                 <button class="pf-c-dropdown menu-item">Action</button>
                 <a class="pf-c-dropdown__menu-item pf-m-disabled" aria-disabled="true"</li>
                 tabindex="-1" href="#">Disabled Link</a>
                <button class="pf-c-dropdown menu-item" disabled="">Disabled Action</button>
                <a class="pf-c-dropdown__menu-item" href="#">Separated Link</a>
                 </div>
```

17. Add the Pagination component. The pagination component should use the toolbar component as its container. The pagination should be the last element inside of the card, and sit below the Data List.

```
</div>
                          ul class="pf-c-options-menu__menu">
                                   <|i>
                                           <button class="pf-c-options-menu_menu-item">
                                                    Option 1
                                           </button>
                                   <|i>
                                           <button class="pf-c-options-menu__menu-item pf-m-selected">
                                           <i class="fas fa-check pf-c-options-menu menu-item-icon"
                                           aria-hidden="true"></i>
                                           </button>
                                   <|i>
                                           <buton class="pf-c-options-menu_menu-item">
                                                    Option 3
                                           </button>
                                   </div>
                 <nav class="pf-c-pagination__nav">
                          <button class="pf-c-button pf-m-plain pf-m-disabled">
                                   <i class="fas fa-angle-double-left" aria-hidden="true"></i>
                          </button>
                          <button class="pf-c-button pf-m-plain pf-m-disabled">
                                   <i class="fas fa-angle-left" aria-hidden="true"></i>
                          </button>
                          <div class="pf-c-pagination___nav-page-select">
                                   <input class="pf-c-form-control" type="number" min="1" max="4" size="2"
                                   value="1">
                                   <span>of 2</span>
                          </div>
                          <button class="pf-c-button pf-m-plain">
                                   <i class="fas fa-angle-right"></i>
                          </button>
                          <button class="pf-c-button pf-m-plain">
                                   <i class="fas fa-angle-double-right"></i>
                          </button>
                  </nav>
        </div>
</div>
```

Adding HTML Modifiers

Now that we have added in the general HTML Markup, we will go back and add modifier classes to components and look at how they work. Modifier classes add styles to a component.

1. First, make the Data List Item expanded so that we can see the Table we added in Step 16. To do this you need to add a modifier to the data list item class, as seen below. This will show the expandable content, add a left border to the list item and rotate the toggle icon 90 degrees.

Add .pf-m-expanded to the first

2. Remove padding on mobile from the second Page Main Section. Adding a modifier class adds styles to remove the padding on mobile. Scale the window down view what it looks like in mobile.

Add .pf-m-no-padding-mobile to .pf-c-page__main-section

3. Change the button styles in the Toolbar Action Group. Note: the button class always needs to be used with a modifier class.

Search for .pf-c-toolbar__action-group and change .pf-m-primary to .pf-m-secondary and change .pf-m-link to .pf-m-tertiary

4. Remove the border rows from the Compact Table.

Add .pf-m-no-border-rows to .pf-c-table.

5. Remove the left arrow button on the Nav component so that it is only overflowing to the right. When the nav component overflows, an arrow control button will show to allow the user to toggle through the nav.

Remove .pf-m-start from the .pf-c-nav inside of .pf-c-page__main-nav

6. Fix the Options Menu list at the bottom of the page. Right now it is expanded and should be facing upwards. You can choose one of two options:

Add hidden to the .pf-c-options-menu_menu inside of the Pagination Component in the bottom to hide the menu.

Add .pf-m-top to .pf-c-options-menu so that it expands correctly.

Customizing CSS

Overriding styles in Patternfly is straight-forward. This section will go over examples of how to override and customize CSS styles when using Patternfly in your product.

- 1. Customize spacing in the toolbar. You may want to change the spacers used for the toolbar to a different set of spacers, either from Patternfly's Global Variables or custom sizes.
 - a. In the CSS section in CodePen search for "Toolbar Component"
 - Towards the top you will see a set of variables defined as `--pf-c-toolbar--PaddingTop` ,
 `--pf-c-toolbar--PaddingRight` , `--pf-c-toolbar--PaddingBottom` and `--pf-c-toolbar--PaddingLeft.`
 This is where the component variables are defined.
 - c. If you want the padding in the toolbar to be equal on all four sides, you could update the vars here to use var(--pf-c-global--spacer--md); the md size is equivalent to 16px.
- **2.** Add colors to the data list icons. The icons used in the data cells of the data list have no assigned colors. Let's look at how to assign colors to the first three icons in the top row.
 - a. Search for "code-branch" in the first Data List Item in the HTML.

```
<i class="fas fa-code-branch" aria-hidden="true"></i>
```

b. We want to add a unique class here that we can target in the CSS. We suggest following the BEM naming structure read more about it here: https://pf4.patternfly.org/quidelines Add a class like:

```
`pf-c-data-list__cell-icon--red--Color` so its:

<i class="fas fa-code-branch pf-c-data-list__cell-icon--red--Color" aria-hidden="true"></i>
```

c. In the CSS, go to a new line and add that same class name with a '.' in front to signify that it is a custom class name. Then add the color red to its properties.

```
.pf-c-data-list__cell-icon--red--Color {
  color: #FF0000;
}
```

- d. Follow these steps for the next two icons but in their class name switch the red to green and then to orange. Green HEX Code: #00FF00 , Orange HEX Code: #FFA500.
- 3. Change background color of the page. We can change the background color of the page in two steps.
 - a. In the CSS search for this variable: `--pf-c-page__main-section--BackgroundColor`
 - b. Replace the global variable: var(--pf-global--BackgroundColor--light-300); with var(--pf-global--BackgroundColor--dark-200); and you will see the background turn darker.
- **4.** Change the Hover Color of the Tertiary Nav. When you hover over the tertiary nav, you'll see that the links turn blue. Let's change the color to Red.
 - a. Search for "Nav Component" in the CSS

- b. Scroll down until you find the variable: --pf-c-nav__tertiary-list-link--Color. This variable holds the property for the default color of the tertiary nav link. We want to override the color for the hover/active/focus states as you can see these variables set below the main color variable. To do this replace all three of those variables that use `var(--pf-global-link--Color)` with #FF0000.
- c. You'll see that we still need to change the border underneath the text for all states. This border is made using the pseudo element "after". It has a height of 3px, and a background-color that matches the text color. Lets override these properties to also be red, starting at --pf-c-nav_tertiary-list-link--hover--after--BackgroundColor.

Bonus:

- 1. Can you add an alert group to the top of the page: https://pf4.patternflv.org/components/AlertGroup/examples
- 2. Can you replace the Nav with the Breadcrumb component https://pf4.patternfly.org/components/Breadcrumb/examples/
- Can you use a Stack Layout inside of the Card: https://pf4.patternfly.org/layouts/Stack/examples/
- 4. Can you add the Horizontal Nav Overflow to the Masthead https://pf4.patternfly.org/components/Nav/examples/#