ICT 222
Web Technologies

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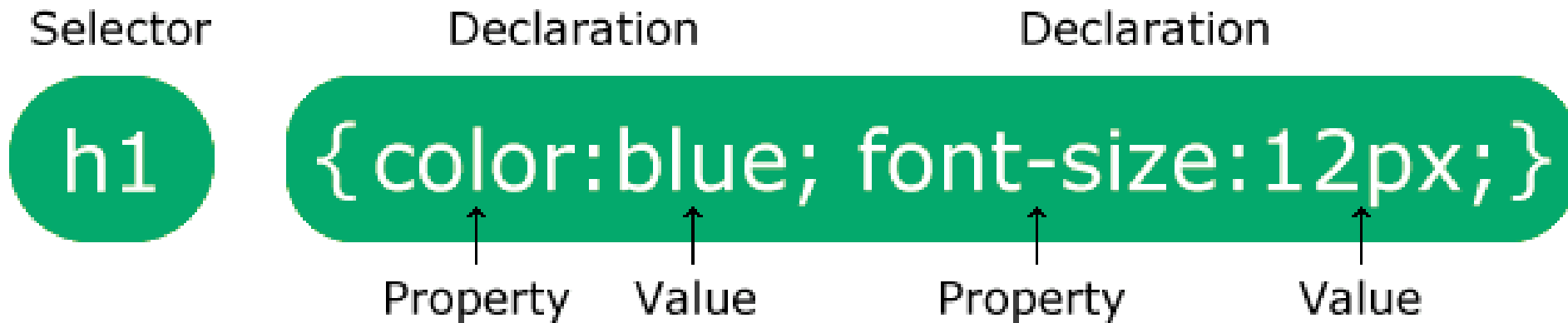
CSS

Cascading Style Sheets

What is CSS?

- It's a language for styling your presentation of HTML to make it look more beautiful.

Types of CSS

- Inline
- Internal or Embedded
- External

CSS Syntax

Selector

Declaration

Declaration

h1

{color:blue; font-size:12px;}

Property   Value   Property   Value

The CSS element Selector

- The element selector selects HTML elements based on the element name.

Example

- Here, all <p> elements on the page will be center-aligned, with a red text color:

```
p {
  text-align: center;
  color: red;
}
```

The CSS id Selector

- The id selector uses the id attribute of an HTML element to select a specific element.

- The id of an element is unique within a page, so the id selector is used to select one unique element!

- To select an element with a specific id, write a hash (#) character, followed by the id of the element.

The CSS id Selector

Example

```
#para1 {
 text-align: center;
 color: red;
}
```

The CSS class Selector

- The class selector selects HTML elements with a specific class attribute.
- To select elements with a specific class, write a period (.) character, followed by the class name.

The CSS class Selector

Example

- In this example all HTML elements with class="center" will be red and center-aligned:

```
.center {
  text-align: center;
  color: red;
}
```

The CSS class Selector

In this example only <p> elements with class="center" will be red and center-aligned:

```css
p.center {
  text-align: center;
  color: red;
}
```

The CSS class Selector

- In this example the <p> element will be styled according to class="center" and to class="large":

<p class="center large">This paragraph refers to two classes.</p>

The CSS Universal Selector

- The universal selector (*) selects all HTML elements on the page.

- Example

* {
text-align: center;
color: blue;
}

The CSS Grouping Selector

- The grouping selector selects all the HTML elements with the same style definitions.
- Look at the following CSS code (the h1, h2, and p elements have the same style definitions):

The CSS Grouping Selector

```css
h1 {
    text-align: center;
    color: red;
}

h2 {
    text-align: center;
    color: red;
}

p {
    text-align: center;
    color: red;
}
```
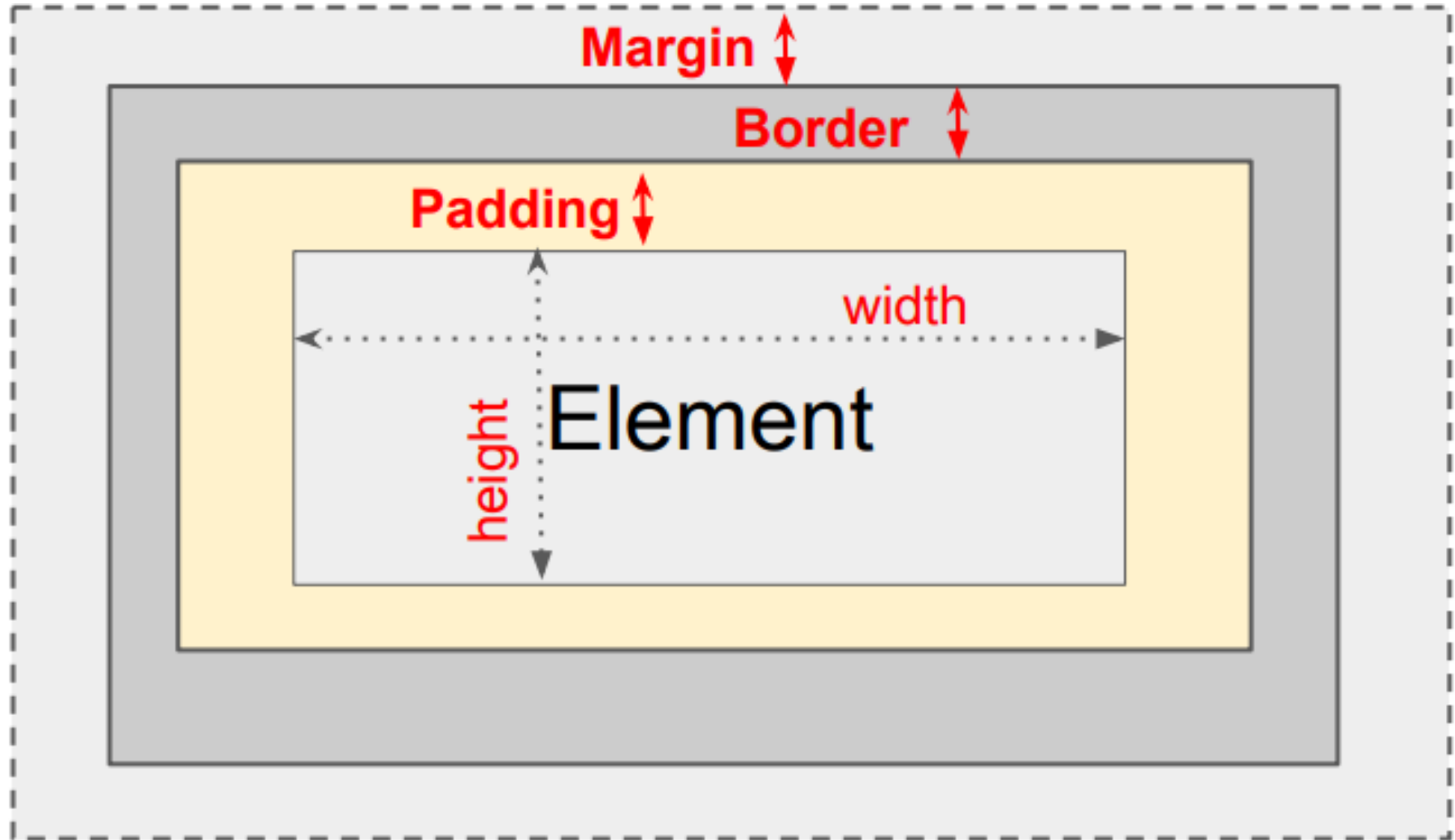
```css
h1, h2, p {
    text-align: center;

    color: red;
}
```

CSS BOX MODEL

- In CSS, the term "box model" is used when talking about design and layout.

- The CSS box model is essentially a box that wraps around every HTML element. It consists of: margins, borders, padding, and the actual content. The image below illustrates the box model:

CSS BOX MODEL

CSS BOX MODEL

- Explanation of the different parts:
- **Element** - This shows the content of the box, where text and images appear
- **Padding** - Clears an area around the content. The padding is transparent
- **Border** - A border that goes around the padding and content
- **Margin** - Clears an area outside the border. The margin is transparent
- The box model allows us to add a border around elements, and to define space between elements.

HTML <div> Tag

- The <div> tag defines a division or a section in an HTML document.

- The <div> tag is used as a container for HTML elements - which is then styled with CSS or manipulated with JavaScript.

- The <div> tag is easily styled by using the class or id attribute.

- Any sort of content can be put inside the <div> tag!

- Note: By default, browsers always place a line break before and after the <div> element.

CSS Frameworks

- CSS framework comprises several CSS stylesheets ready for use by web developers and designers.

- The stylesheets are prepped for use for standard web design functions: setting colors, layout, fonts, navbars, etc.

- Generally, stylesheets are supported and expanded by other scripting technologies like SASS and JavaScript.

- With a CSS framework, the user has a completed CSS stylesheet, and they only have to code the HTML with accurate classes, structure, and IDs to set up a web page.

- The framework already has classes built-in for common website elements – footer, slider, navigation bar, hamburger menu, column-based layouts, etc.

Advantages of using CSS Frameworks

- Developers and designers can use CSS frameworks to implement various advanced features and visual elements on a website – forms, different buttons, navbars, breadcrumbs, and even clean symmetrical layouts.

- Since these frameworks have ready-to-use stylesheets in place, using them allows faster and more convenient web development. Users don't have to dive deep into CSS code to accomplish required tasks.

- Developers can quickly generate a user-friendly and visually appealing UI that can be modified throughout a project without starting from scratch.

- CSS frameworks make it simple to create websites compatible with multiple browsers and browser versions. This reduces the likelihood of bugs popping up during cross browser testing.

Some Common CSS Frameworks

- **Bootstrap**
- **Tailwind CSS**
- **Foundation**
- **Bulma**
- **Skeleton**

Bootstrap CSS Framework

- Bootstrap is the world's most famous free CSS framework.

- Bootstrap is a free front-end framework for faster and easier web development

- Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins

- Bootstrap also gives you the ability to easily create responsive designs

- They come in various versions: Version 3, Version 4 and Version 5

Bootstrap 5

- Bootstrap 5 is the newest version of Bootstrap, which is the most popular HTML, CSS, and JavaScript framework for creating responsive, mobile-first websites.

- The main differences between Bootstrap 5 and Bootstrap 3 & 4, is that Bootstrap 5 has switched to vanilla JavaScript instead of jQuery.

Why Bootstrap?

- **Easy to use:** Anybody with just basic knowledge of HTML and CSS can start using Bootstrap

- **Responsive features:** Bootstrap's responsive CSS adjusts to phones, tablets, and desktops

- **Mobile-first approach:** In Bootstrap, mobile-first styles are part of the core framework

- **Browser compatibility:** Bootstrap 5 is compatible with all modern browsers (Chrome, Firefox, Edge, Safari, and Opera). Note that if you need support for IE11 and down, you must use either BS4 or BS3.

Where to get Bootstrap 5

There are two ways to start using Bootstrap 5 on your own web site.

- **Include Bootstrap 5 from a CDN**

  ```
  <!-- Latest compiled and minified CSS -->
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css" rel="stylesheet">

  <!-- Latest compiled JavaScript -->
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js"></script>
  ```
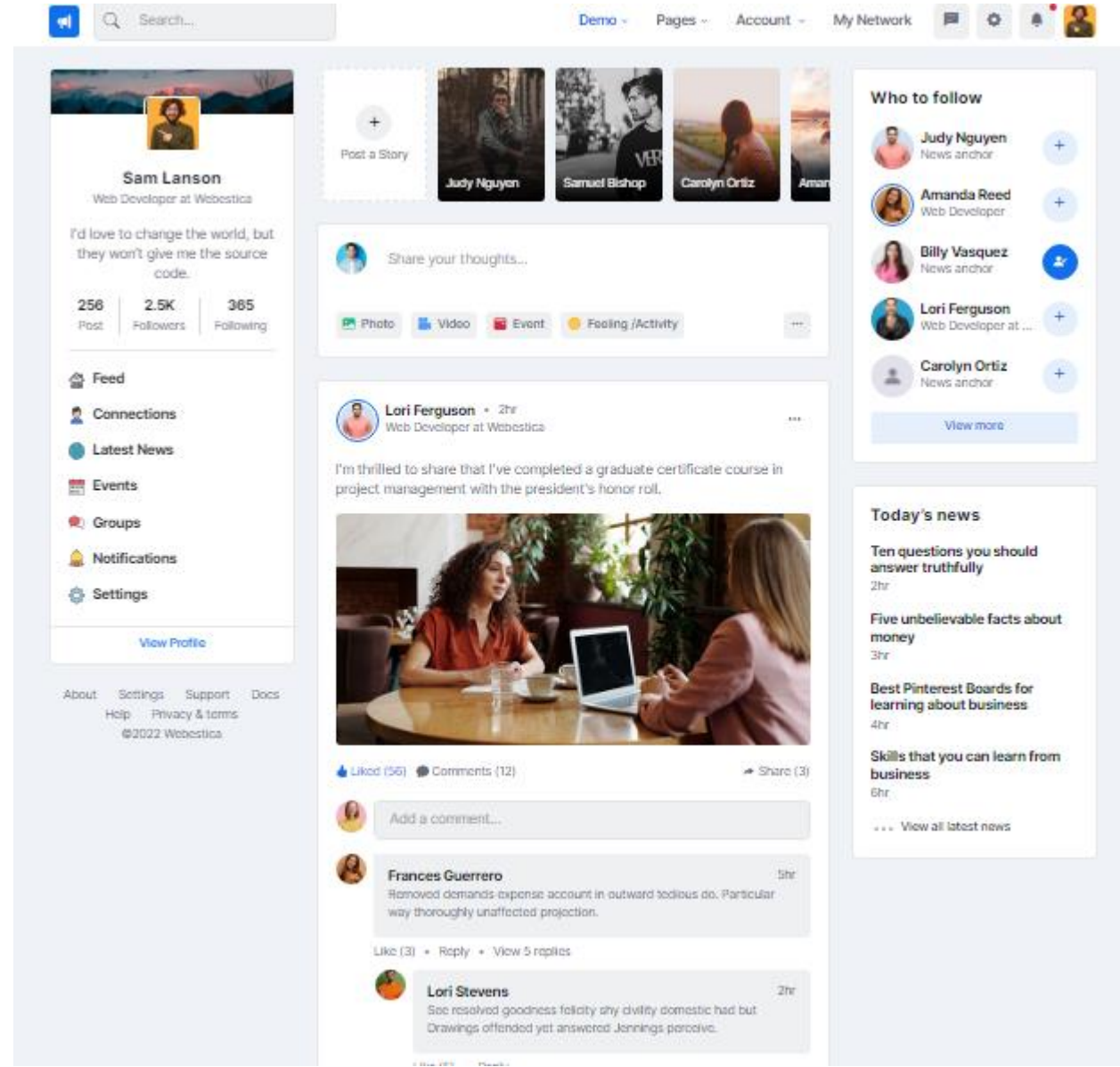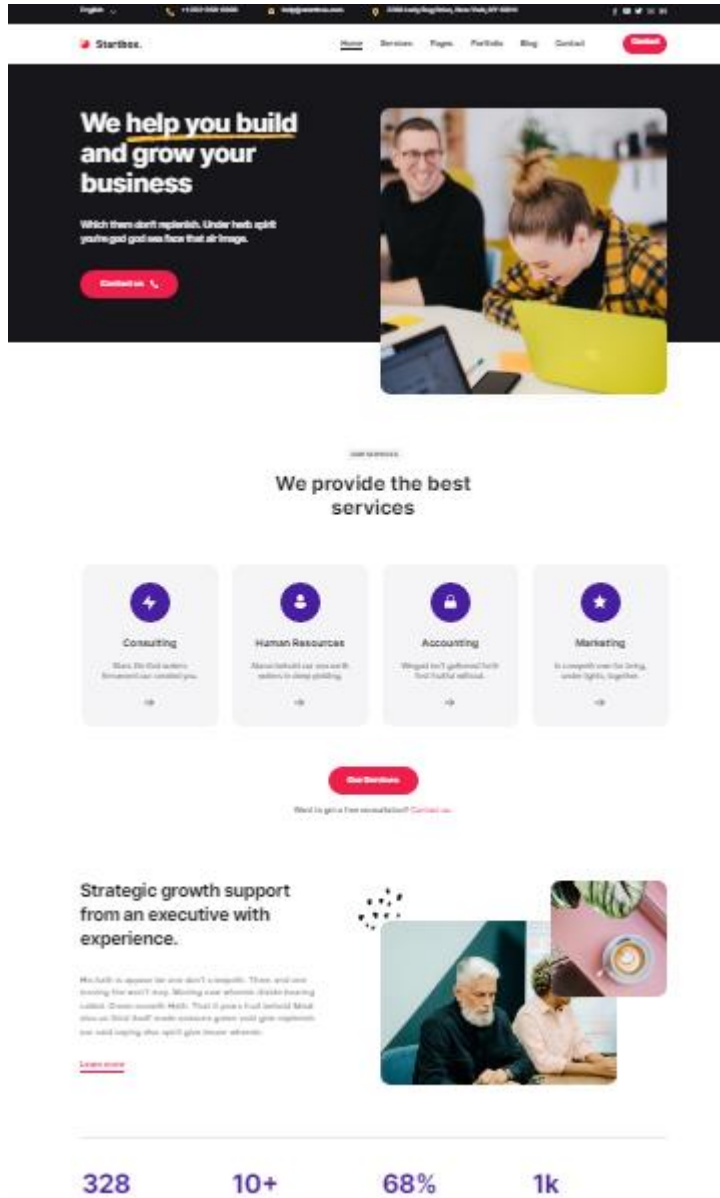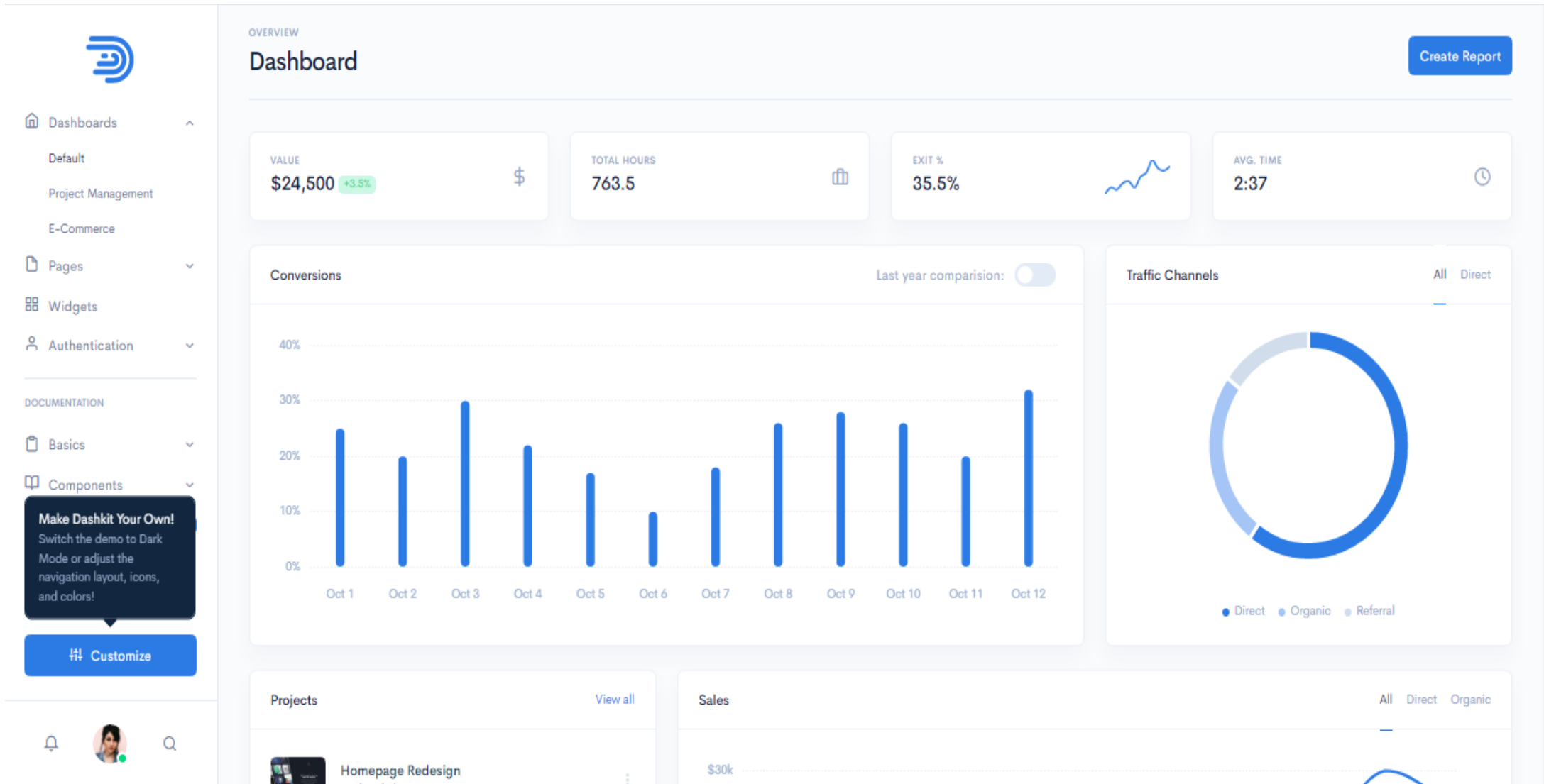
- **Download Bootstrap 5 from getbootstrap.com**
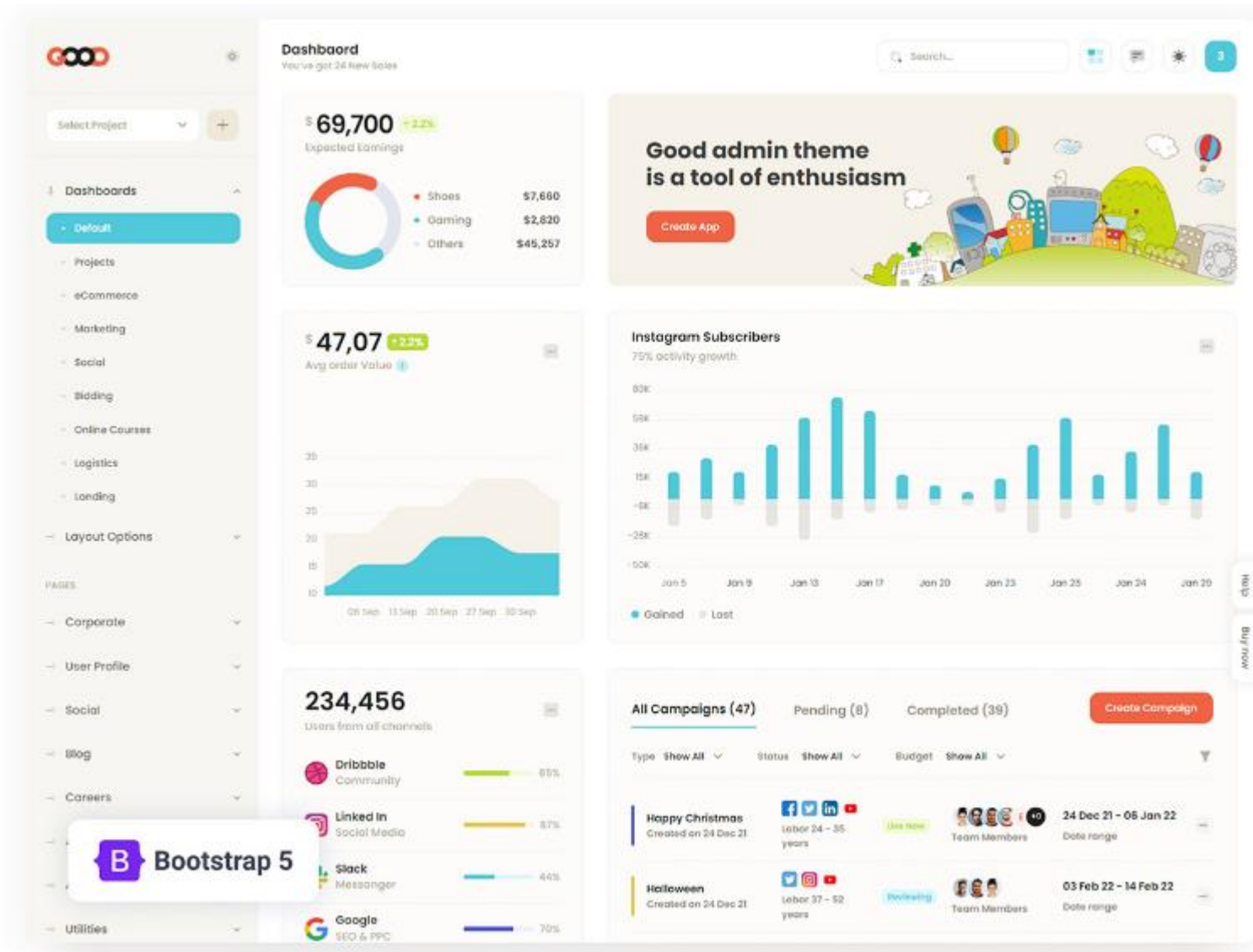 - https://getbootstrap.com/docs/5.2/getting-started/download/

Some Examples of Bootstrap 5 works

Some Examples of Bootstrap 5 works

Some Examples of Bootstrap 5 works

Making Use of Bootstrap Themes & Templates

- There are predefined themes and templates designed by individual and companies for bootstrap
- Some of them are free and others are on sale
- You can get them from : *https://themes.getbootstrap.com/*

Organizing Your Web Project Files

All web project files needs to be well organized and structured.

- Create folders

- Nest folders

- Put files where they belong

- "What's in a name?"