

**LAPORAN PRAKTIKUM**  
**“Modul 5 - Responsive Web Design”**

Dalam rangka memenuhi tugas mata kuliah Praktikum Desain Website  
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Disusun oleh:

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**PENDIDIKAN TEKNIK INFORMATIKA DAN KOMPUTER**  
**FAKULTAS KEGURUAN DAN ILMU PENDIDIKAN**  
**UNIVERSITAS SEBELAS MARET**  
**SURAKARTA**  
**2025**

## A. Tujuan Praktikum

- Tujuan dari praktikum ini adalah untuk:
  1. Menerapkan konsep desain web responsif menggunakan HTML dan CSS tingkat lanjut.
  2. Mampu menyesuaikan tampilan website agar kompatibel di berbagai perangkat (desktop, tablet, dan smartphone).
  3. Menguasai penggunaan media query, meta viewport, serta flexbox untuk membangun layout yang fleksibel.
  4. Menambahkan efek animasi dan transisi menggunakan fitur CSS3 untuk memperindah tampilan halaman web.

## B. Ringkasan Materi

Praktikum ini membahas penerapan Responsive Web Design (RWD) menggunakan CSS3 Media Query dan Flexbox agar website tampil optimal di berbagai perangkat.

### 1. Desain Web Responsif

RWD memungkinkan elemen-elemen web menyesuaikan ukuran dan posisi berdasarkan resolusi layar. Pendekatan ini membuat situs mudah diakses baik dari PC, tablet, maupun smartphone.

### 2. Meta Tag Viewport

Digunakan agar browser menampilkan halaman sesuai lebar layar perangkat.

Contoh:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

### 3. Media Query

Fitur CSS3 untuk memberikan gaya berbeda berdasarkan ukuran layar.

Contoh:

```
@media screen and (max-width: 600px) {  
    body { background-color: yellow; }  
}
```

Pendekatan mobile-first dan graceful degradation digunakan agar tampilan menyesuaikan dari layar kecil ke besar atau sebaliknya.

### 4. Flexbox CSS

Sistem layout satu dimensi untuk mengatur posisi elemen secara fleksibel baik horizontal maupun vertikal.

Properti penting:

- display: flex;
- flex-direction
- justify-content
- align-items
- flex-wrap

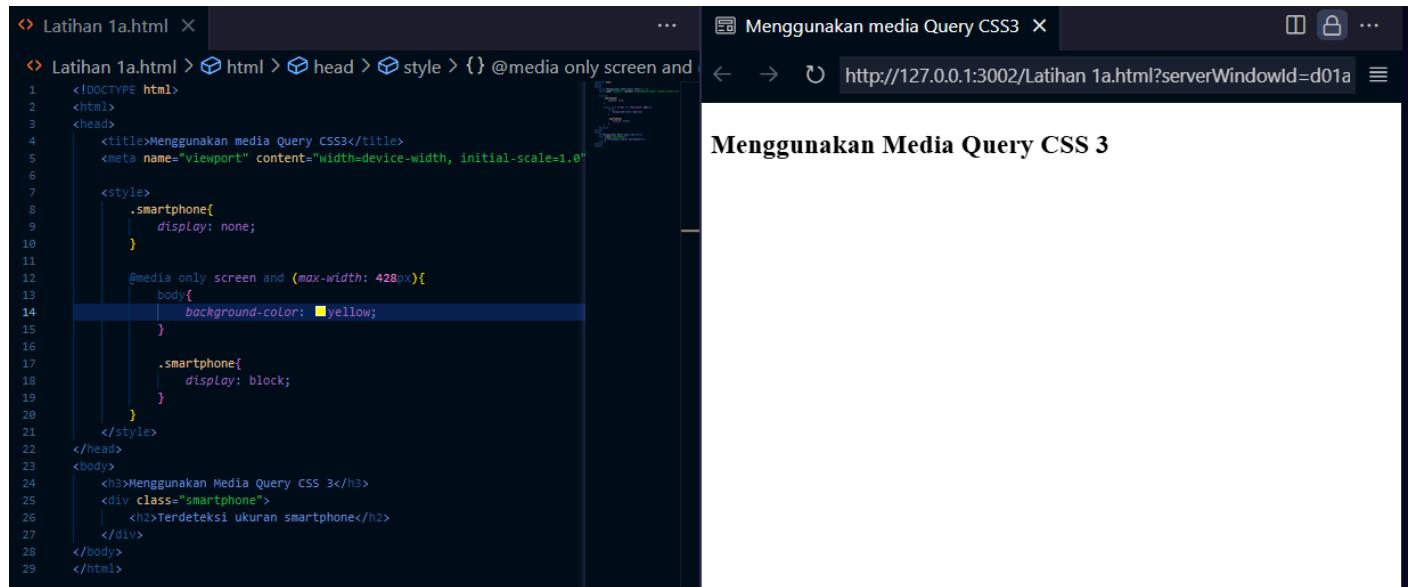
## 5. CSS Animation dan Transition

Properti seperti transition dan @keyframes digunakan untuk memberikan efek animasi halus, misalnya perubahan warna atau rotasi objek.

## C. Langkah Kerja

Latihan 1 – Media Query Dasar:

- Buat file latihan1a.html, ubah warna background menjadi kuning saat layar  $\leq 428\text{px}$ .



The screenshot displays two windows side-by-side. On the left is a code editor showing the file 'Latihan 1a.html'. The code includes an HTML structure with a title and a meta viewport, followed by a CSS section with media queries. A specific rule for a smartphone at a maximum width of 428px sets the background color to yellow. On the right is a web browser window titled 'Menggunakan media Query CSS 3' which displays the result of the CSS, showing a yellow background. The browser's address bar shows the URL: <http://127.0.0.1:3002/Latihan 1a.html?serverWindowId=d01a>.

```
<!DOCTYPE html>
<html>
<head>
    <title>Menggunakan media Query CSS3</title>
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
<style>
    .smartphone{
        display: none;
    }

    @media only screen and (max-width: 428px){
        body{
            background-color: yellow;
        }
    }

    .smartphone{
        display: block;
    }
</style>
</head>
<body>
    <h3>Menggunakan Media Query CSS 3</h3>
    <div class="smartphone">
        <h2>Terdeteksi ukuran smartphone</h2>
    </div>
</body>
</html>
```

Latihan 1a.html

```

1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Menggunakan media Query CSS3</title>
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6
7   <style>
8     .smartphone{
9       display: none;
10    }
11
12   @media only screen and (max-width: 428px){
13     body{
14       background-color: yellow;
15     }
16
17     .smartphone{
18       display: block;
19     }
20   </style>
21 </head>
22 <body>
23   <h3>Menggunakan Media Query CSS 3</h3>
24   <div class="smartphone">
25     <h2>Terdeteksi ukuran smartphone</h2>
26   </div>
27 </body>
28 </html>

```

Menggunakan media Query CSS3  
Terdeteksi ukuran smartphone

- Buat latihan1b.html, tampilkan logo UNS hanya pada layar  $\geq 1024\text{px}$  menggunakan media query.

latihan 1b.html

```

1 <!DOCTYPE html>
2 <html lang="id">
3 <head>
4   <meta charset="utf-8" />
5   <meta name="viewport" content="width=device-width, initial-scale=1.0" />
6   <title>Latihan 1b - Logo UNS </title>
7   <style>
8     body {
9       font-family: "Georgia", serif;
10      margin: 40px;
11      text-align: center;
12    }
13
14    h1 {
15      color: #00008B;
16      font-size: 32px;
17      margin-bottom: 30px;
18    }
19
20    h2.instruction {
21      color: #00008B;
22      font-size: 22px;
23      font-weight: 700;
24      line-height: 1.3;
25      margin-bottom: 20px;
26    }
27
28    .font-style {
29      font-size: 16px;
30      font-weight: normal;
31      margin-top: 30px;
32      font-style: italic;
33    }
34
35    .uns.png {
36      display: none;
37      margin: 0 auto;
38      max-width: 300px;
39      height: auto;
40    }
41
42    @media screen and (min-width:
43      1024px) {
44      .uns.png {
45        display: block;
46      }
47    }
48  </style>
49 </head>
50 <body>
51   <h1>Media Quary CSS3</h1>
52
53   
54
55   <h2 class="instruction">
56     LOGO HANYA MUNCUL JIKA TERDETEKSI UKURAN DESKTOP (1024px)
57   </h2>
58 </body>
59 </html>

```

Media Quary CSS3

LOGO HANYA MUNCUL JIKA TERDETEKSI UKURAN DESKTOP (1024px)

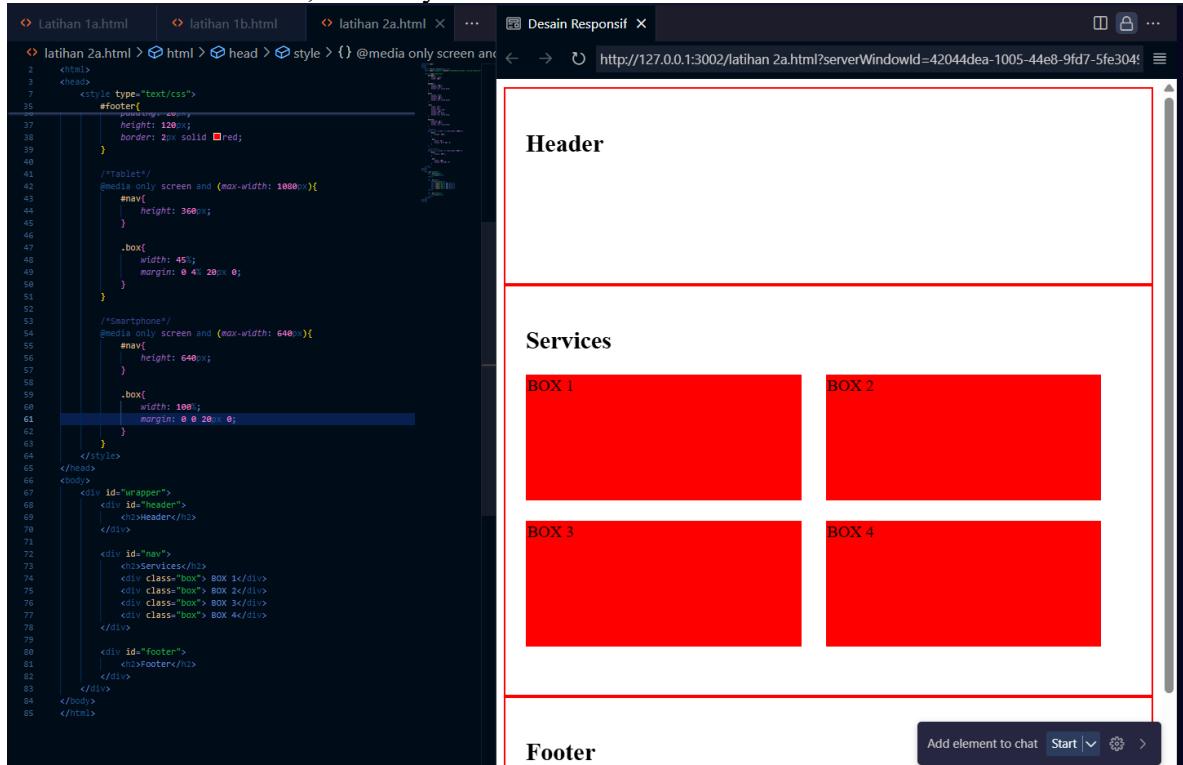
## Latihan 2 – Desain Halaman Web Responsif:



The screenshot shows a browser window displaying a responsive website layout. The layout consists of three main sections: Header, Services, and Footer. The Services section contains four red boxes labeled BOX 1, BOX 2, BOX 3, and BOX 4. The code on the left side of the browser shows the CSS styles for these elements, including media queries for different screen sizes.

```
<html>
<head>
    <style type="text/css">
        #header{
            height: 120px;
            border: 2px solid red;
        }
        /*Tablet*/
        @media only screen and (max-width: 1080px){
            #nav{
                height: 360px;
            }
            .box{
                width: 45px;
                margin: 0 4% 20px 0;
            }
        }
        /*Smartphone*/
        @media only screen and (max-width: 640px){
            #nav{
                height: 640px;
            }
            .box{
                width: 100px;
                margin: 0 0 20px 0;
            }
        }
    </style>
</head>
<body>
    <div id="wrapper">
        <div id="header">
            <h2>Header</h2>
        </div>
        <div id="nav">
            <h2>Services</h2>
            <div class="box">BOX 1</div>
            <div class="box">BOX 2</div>
            <div class="box">BOX 3</div>
            <div class="box">BOX 4</div>
        </div>
        <div id="footer">
            <h2>Footer</h2>
        </div>
    </div>
</body>
</html>
```

Buat file latihan2a.html, berisi layout beb



The screenshot shows a browser window displaying a responsive website layout, similar to the one above but with different box widths. The layout consists of three main sections: Header, Services, and Footer. The Services section contains four red boxes labeled BOX 1, BOX 2, BOX 3, and BOX 4. The code on the left side of the browser shows the CSS styles for these elements, including media queries for different screen sizes.

```
<html>
<head>
    <style type="text/css">
        #header{
            height: 120px;
            border: 2px solid red;
        }
        /*Tablet*/
        @media only screen and (max-width: 1080px){
            #nav{
                height: 360px;
            }
            .box{
                width: 45px;
                margin: 0 4% 20px 0;
            }
        }
        /*Smartphone*/
        @media only screen and (max-width: 640px){
            #nav{
                height: 640px;
            }
            .box{
                width: 100px;
                margin: 0 0 20px 0;
            }
        }
    </style>
</head>
<body>
    <div id="wrapper">
        <div id="header">
            <h2>Header</h2>
        </div>
        <div id="nav">
            <h2>Services</h2>
            <div class="box">BOX 1</div>
            <div class="box">BOX 2</div>
            <div class="box">BOX 3</div>
            <div class="box">BOX 4</div>
        </div>
        <div id="footer">
            <h2>Footer</h2>
        </div>
    </div>
</body>
</html>
```

berapa box yang diatur berdasarkan ukuran layar.

Latihan 2a.html

```

1<html>
2 <head>
3   <style type="text/css">
4     #header{
5       height: 150px;
6       border: 2px solid red;
7     }
8     /*Tablet*/
9     @media only screen and (max-width: 1080px){
10       #nav{
11         height: 360px;
12       }
13       .box{
14         width: 45%;
15         margin: 0 4% 20px 0;
16       }
17     }
18     /*Smartphone*/
19     @media only screen and (max-width: 640px){
20       #nav{
21         height: 640px;
22       }
23       .box{
24         width: 100%;
25         margin: 0 0 20px 0;
26       }
27     }
28   </style>
29 </head>
30 <body>
31   <div id="wrapper">
32     <div id="header">
33       <h2>Header</h2>
34     </div>
35     <div id="nav">
36       <h2>Services</h2>
37       <div class="box">BOX 1</div>
38       <div class="box">BOX 2</div>
39       <div class="box">BOX 3</div>
40       <div class="box">BOX 4</div>
41     </div>
42     <div id="footer">
43       <h2>Footer</h2>
44     </div>
45   </div>
46 </body>
47 </html>

```

Ubah layout menggunakan flexbox dan simpan sebagai latihan2b.html.

Desktop : 3 kolom, Tablet : 2 kolo

latihan 2a.html 1

```

1<html>
2 <head>
3   <style type="text/css">
4     #header{
5       height: 150px;
6       padding: 20px;
7       border: 2px solid red;
8     }
9     #nav{
10       margin: auto;
11       padding: 20px;
12       border: 2px solid red;
13       display: flex;
14       flex-wrap: wrap;
15       gap: 20px;
16     }
17     .box{
18       float: left;
19       width: 22.5px;
20       margin: 0 2% 0 0;
21       height: 120px;
22       background: red;
23       border: 2px solid red;
24     }
25     #footer{
26       margin-top: 20px;
27     }
28   </style>
29 </head>
30 <body>
31   <div id="wrapper">
32     <div id="header">
33       <h2>Header</h2>
34     </div>
35     <div id="nav">
36       <h2>Services</h2>
37       <div class="box">BOX 1</div>
38       <div class="box">BOX 2</div>
39       <div class="box">BOX 3</div>
40       <div class="box">BOX 4</div>
41     </div>
42     <div id="footer">
43       <h2>Footer</h2>
44     </div>
45   </div>
46 </body>
47 </html>

```

m, Smartphone : 1 kolom.

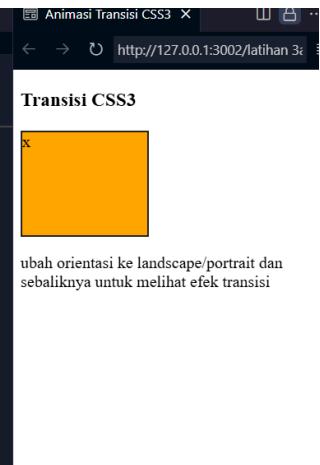
The screenshot shows a browser window displaying a responsive web page. The page has a header section labeled "Header". Below it is a "Services" section containing four red boxes labeled "BOX 1", "BOX 2", "BOX 3", and "BOX 4". At the bottom is a footer section labeled "Footer". The browser's address bar shows the URL <http://127.0.0>.

```
<html>
<head>
<style type="text/css">
.box{
    float: left;
    width: 22%;
    margin: 0 2% 0 0;
    height: 100px;
    background: red;
    border: 2px solid red;
}
#footer{
    padding: 20px;
    height: 100px;
    border: 2px solid red;
}
</style>
</head>
<body>
<div id="wrapper">
<div id="header">
<h2>Header</h2>
</div>
</div>
<div id="main">
<div><h3>Services</h3>
<div class="box">BOX 1</div>
<div class="box">BOX 2</div>
<div class="box">BOX 3</div>
<div class="box">BOX 4</div>
</div>
<div id="footer">
<h3>Footer</h3>
</div>
</div>
</div>
</body>
</html>
```

The screenshot shows a browser window displaying a responsive web page. The page has a header section labeled "Header". Below it is a "Services" section containing two red boxes labeled "BOX 1" and "BOX 2". At the bottom is a footer section labeled "Footer". The browser's address bar shows the URL <http://127.0.0.1:3002/latihan 2a.html>.

```
<html>
<head>
<style type="text/css">
.box{
    float: left;
    width: 22%;
    margin: 0 2% 0 0;
    height: 100px;
    background: red;
    border: 2px solid red;
}
#footer{
    padding: 20px;
    height: 100px;
    border: 2px solid red;
}
</style>
</head>
<body>
<div id="wrapper">
<div id="header">
<h2>Header</h2>
</div>
</div>
<div id="main">
<div><h3>Services</h3>
<div class="box">BOX 1</div>
<div class="box">BOX 2</div>
</div>
<div id="footer">
<h3>Footer</h3>
</div>
</div>
</div>
</body>
</html>
```

## Latihan 3 – Animasi Transisi:



The screenshot shows a browser window titled "Animasi Transisi CSS3" displaying a yellow rectangular box with rounded corners and a thin black border. The browser's address bar shows the URL <http://127.0.0.1:3002/latihan 3a.html>. To the left of the browser, there is a code editor window showing the HTML and CSS code for the page.

```
<!DOCTYPE html>
<html>
<head>
<title>Animasi Transisi CSS3</title>
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<style type="text/css">
.box{
    width: 40px;
    height: 100px;
    background: orange;
    border: 2px solid #e6e6fa;
    -webkit-transition: width 1s ease-in-out;
    -o-transition: width 1s ease-in-out;
    -moz-transition: width 1s ease-in-out;
    transition: width 1s ease-in-out;
}
@media (orientation: landscape){
    .box{
        width: 100px;
    }
}
</style>
</head>
<body>
    <h3>Transisi CSS3</h3>
    <div class="box"></div>
    <p>ubah orientasi ke landscape/portrait dan sebaliknya untuk melihat efek transisi</p>
</body>
</html>
```

Buat latihan3a.html untuk menampilkan objek dengan perubahan bentuk saat layar diubah.



The screenshot shows a browser window titled "Animasi Transisi CSS3" displaying a large yellow rectangular box with rounded corners and a thin black border. The browser's address bar shows the URL <http://127.0.0.1:3002/latihan 3a.html?serverWindowId=2d12f06e-f3c8-4e50-a9b0-dea1a4d55c74>. To the left of the browser, there is a code editor window showing the HTML and CSS code for the page.

```
<!DOCTYPE html>
<html>
<head>
<title>Animasi Transisi CSS3</title>
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<style type="text/css">
.box{
    width: 40px;
    height: 100px;
    background: orange;
    border: 2px solid #e6e6fa;
    -webkit-transition: width 1s ease;
    -o-transition: width 1s ease-in-out;
    -moz-transition: width 1s ease-in;
    transition: width 1s ease-in-out;
}
@media (orientation: landscape){
    .box{
        width: 100px;
    }
}
</style>
</head>
<body>
    <h3>Transisi CSS3</h3>
    <div class="box"></div>
    <p>ubah orientasi ke landscape/portrait dan sebaliknya untuk melihat efek transisi</p>
</body>
</html>
```

- Tambahkan efek transisi dan animasi berputar 360° menggunakan properti keyframes.
- Simpan hasilnya sebagai latihan3b.html.

latihan 3a.html      latihan 3b.html      ...

```

<!DOCTYPE html>
<html>
<head>
    <title>Animasi Transisi CSS3</title>
    <meta name="viewport" content="width=device-width"/>
    <style type="text/css">
        @keyframes putar360 {
            from {
                transform: rotate(0deg);
            }
            to {
                transform: rotate(360deg);
            }
        }

        .box{
            width: 40px;
            height: 100px;
            background: #orange;
            border: 2px solid #212121;
            -webkit-transition: width 1s ease-in-out;
            -o-transition: width 1s ease-in-out;
            transition: width 1s ease-in-out;
            transition: width 1s ease-in-out;
        }

        .box {
            display: flex;
            justify-content: center;
            align-items: center;
            font-size: 20px;
        }

        @media (orientation: landscape){
            .box{
                width: 100px;
            }
        }
    </style>
</head>
<body>
    <h3>Animasi Transisi CSS3</h3>
    <div class="box">x</div>
    <p>Untuk melihat efek transisi, ubah orientasi ke landscape/portrait dan sebaliknya untuk melihat efek transisi</p>
</body>
</html>

```

## **D. Kesimpulan**

Melalui praktikum ini, mahasiswa berhasil memahami penerapan konsep Responsive Web Design (RWD) dengan menggunakan kombinasi HTML dan CSS tingkat lanjut. Penggunaan meta viewport serta media query memungkinkan tampilan web menyesuaikan ukuran layar perangkat secara otomatis, baik pada desktop, tablet, maupun smartphone. Selain itu, pemanfaatan flexbox mempermudah proses pembuatan layout yang fleksibel dan rapi tanpa harus menggunakan teknik lama seperti float atau positioning manual.

Secara keseluruhan, praktikum ini menegaskan pentingnya kemampuan adaptif pada desain web modern. Dengan tambahan efek transisi dan animasi CSS3, tampilan web menjadi lebih interaktif dan menarik secara visual. Penerapan teknik-teknik ini tidak hanya meningkatkan estetika, tetapi juga memperbaiki pengalaman pengguna (user experience). Mahasiswa juga memperoleh keterampilan praktis yang relevan untuk pengembangan web profesional di era digital yang serba mobile dan dinamis.