

MINGGU 2

Kombinasi Ionic & React.js



DESKRIPSI TEMA

- TypeScript & React
- Ionic vs React Components
- React Logic
- Managing State

CAPAIAN PEMBELAJARAN MINGGUAN (SUB-CAPAIAN PEMBELAJARAN)

Mahasiswa mampu menggunakan berbagai jenis Ionic Components serta menggunakan Grid dan Icon untuk membangun tampilan aplikasi yang rapih.

PERALATAN YANG DIGUNAKAN

1. NodeJS& NPM (<https://nodejs.org/en/>)
2. WebStorm or Visual Studio Code

LANGKAH-LANGKAH PRAKTIKUM

Instalasi Ionic CLI

Sebelum membuat project Ionic, Anda perlu melakukan instalasi Ionic CLI. Setelah melakukan install NodeJS sebelumnya, jalankan command `npm install -g @ionic/cli` melalui terminal.

Membuat Project Ionic Baru

1. Jalankan command `ionic start`
2. Pilih React

```
Pick a framework! 🤖

Please select the JavaScript framework to use for your new app. To bypass this
prompt next time, supply a value for the --type option.

? Framework:
  Angular | https://angular.io
> React   | https://reactjs.org
  Vue     | https://vuejs.org
```

3. Masukkan nama project "NIM-Nama"

```
Every great app needs a name! 🙋

Please enter the full name of your app. You can change this at any time. To
bypass this prompt next time, supply name, the first argument to ionic start.

? Project name: myIonicReactApp
```

4. Pilih template blank

```
Let's pick the perfect starter template! 🍌

Starter templates are ready-to-go Ionic apps that come packed with everything
you need to build your app. To bypass this prompt next time, supply template,
the second argument to ionic start.

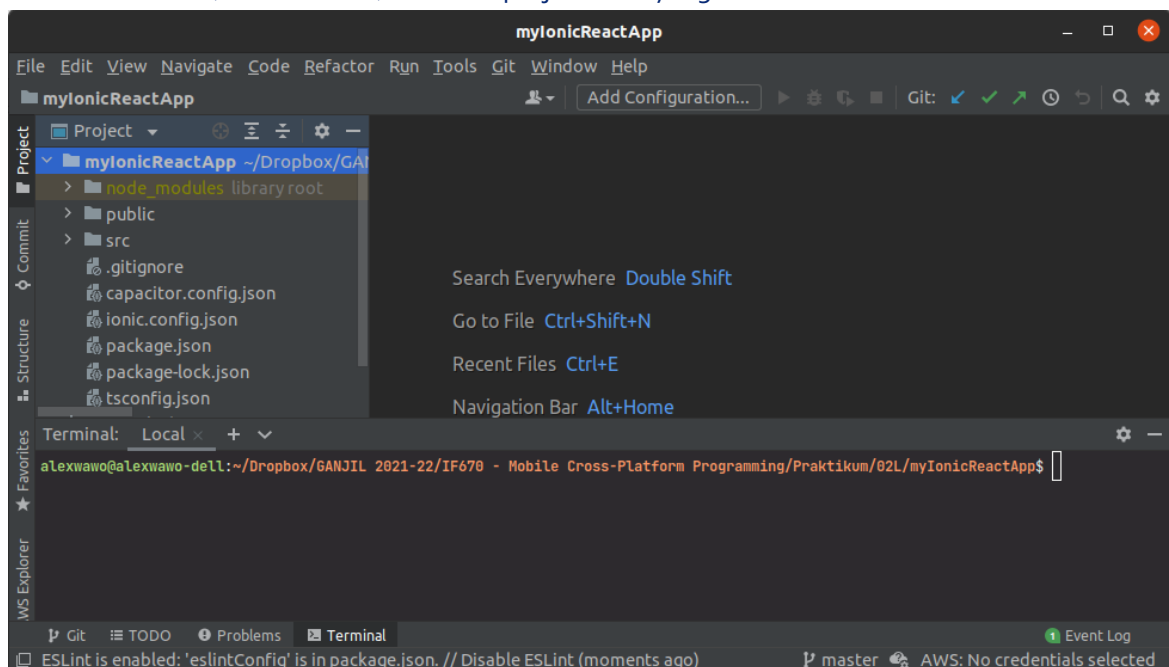
? Starter template: (Use arrow keys)
> blank          | A blank starter project
  list           | A starting project with a list
  my-first-app   | An example application that builds a camera with gallery
  sidemenu       | A starting project with a side menu with navigation in the con
tent area
  tabs           | A starting project with a simple tabbed interface
  conference     | A kitchen-sink application that shows off all Ionic has to off
(Move up and down to reveal more choices)
```

5. Project Ionic selesai dibuat.

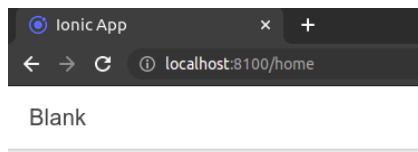
```
Your Ionic app is ready! Follow these next steps:

- Go to your new project: cd ./myIonicReactApp
- Run ionic serve within the app directory to see your app in the browser
- Run ionic capacitor add to add a native iOS or Android project using Capacito
r
- Generate your app icon and splash screens using cordova-res --skip-config
--copy
- Explore the Ionic docs for components, tutorials, and more:
https://ion.link/docs
- Building an enterprise app? Ionic has Enterprise Support and Features:
https://ion.link/enterprise-edition
```

6. Buka WebStorm (atau VS Code) dan buka project Ionic yang sudah berhasil dibuat.



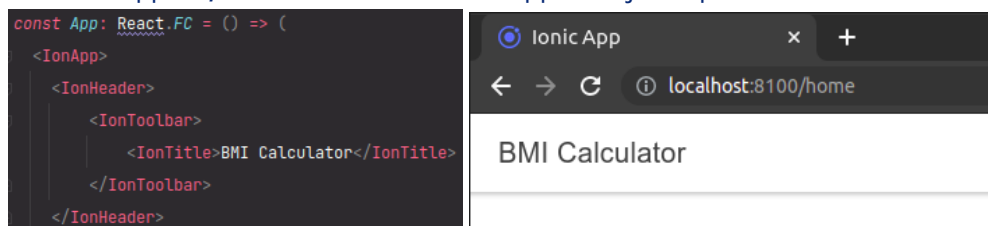
7. Jalankan command **ionic serve** untuk memulai localhost web server dan menjalankan aplikasi Ionic di browser.



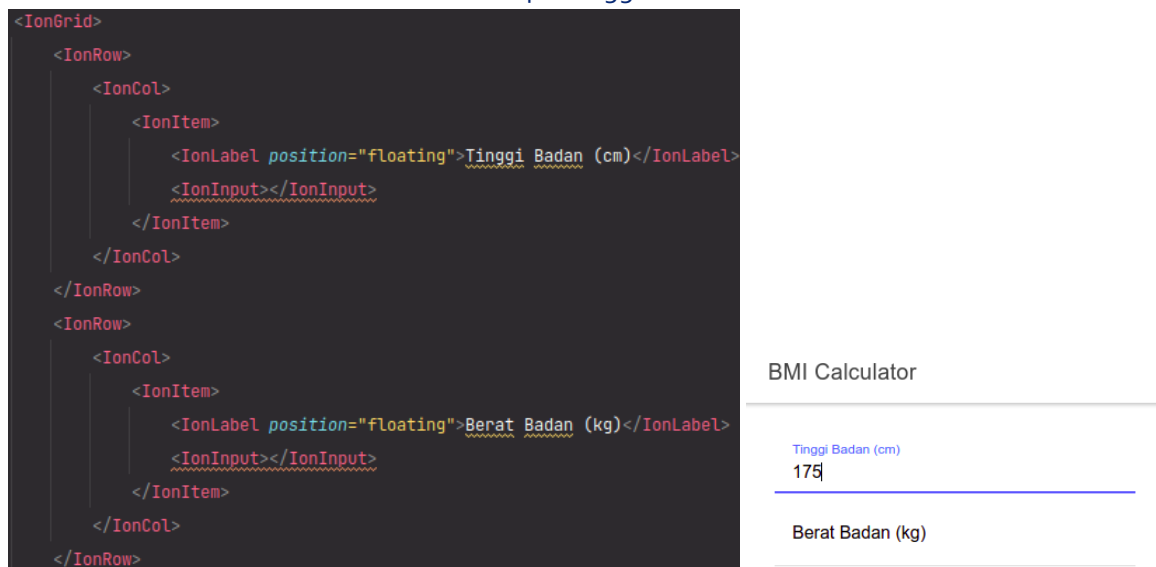
Ready to create an app?
Start with Ionic [UI Components](#)

Tampilan Aplikasi Kalkulator BMI dengan Ionic-React

1. Buka file App.tsx, ubah kode didalam <IonApp> menjadi seperti berikut:



2. Tambahkan kode berikut untuk membuat input tinggi badan dan berat badan.



3. Tambahkan kode berikut untuk membuat tombol hitung dan reset.

```
<IonRow>
  <IonCol className="ion-text-left">
    <IonButton>
      <IonIcon slot="start" icon={calculatorOutline}></IonIcon>
      Calculate
    </IonButton>
  </IonCol>
  <IonCol className="ion-text-right">
    <IonButton>
      <IonIcon slot="start" icon={refreshOutline}></IonIcon>
      Reset
    </IonButton>
  </IonCol>
</IonRow>
```

BMI Calculator

Tinggi Badan (cm)

175

Berat Badan (kg)

 CALCULATE

 RESET

4. Untuk menggunakan tag-tag Ionic-React dan Ion Icons, pastikan sudah dilakukan import.

```
import {
  IonApp, IonButton,
  IonCol,
  IonContent,
  IonGrid,
  IonHeader, IonIcon, IonInput, IonItem, IonLabel,
  IonRouterOutlet,
  IonRow,
  IonTitle,
  IonToolbar
} from '@ionic/react';
import { calculatorOutline, refreshOutline } from 'ionicons/icons';
```

Perhitungan BMI dengan React

1. Tambahkan import `import {useRef} from "react";`
2. Tambahkn attribute `ref` pada `<IonInput>`

```
<IonInput ref={heightInputRef}></IonInput>
<IonInput ref={weightInputRef}></IonInput>
```
3. Modifikasi App.tsx menjadi seperti berikut:

```
const App: React.FC = () => {
  const heightInputRef = useRef<HTMLIonInputElement>( initialValue: null);
  const weightInputRef = useRef<HTMLIonInputElement>( initialValue: null);
  const calculateBMI = () => {...};

  const resetInputs = () => {...};

  return (
    <IonApp>
      <IonHeader...>
      <IonContent className="ion-padding">
    </IonApp>
  )
};
```

4. Function calculateBMI:

```
const calculateBMI = () => {
  const enteredWeight = weightInputRef.current!.value;
  const enteredHeight = heightInputRef.current!.value;

  if(!enteredWeight || !enteredHeight) return;

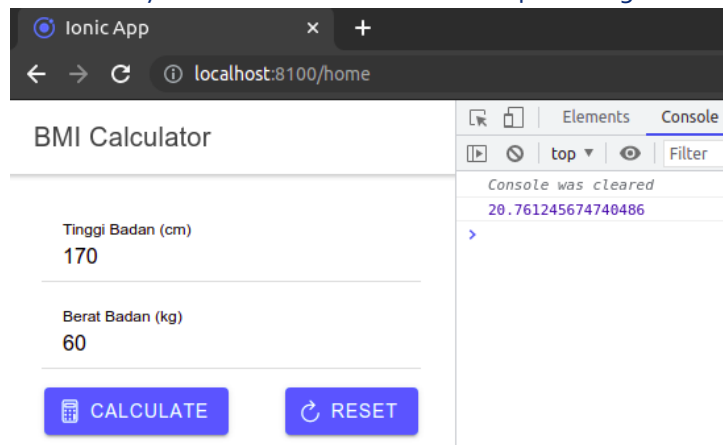
  const bmi = +enteredWeight / ((+enteredHeight/100) * (+enteredHeight/100));

  console.log(bmi);
};
```

5. Function resetInputs:

```
const resetInputs = () => {
  weightInputRef.current!.value = '';
  heightInputRef.current!.value = '';
};
```

6. Lihat hasilnya di browser dan coba lakukan perhitungan BMI



7. Modifikasi App.tsx menjadi seperti berikut untuk menampilkan hasil perhitungan BMI di halaman aplikasi menggunakan ionCard.

```
import {useRef, useState} from "react";

const App: React.FC = () => {
  const [calculatedBMI, setCalculatedBMI] = useState<number>();
  const heightInputRef = useRef<HTMLIonInputElement>( initialValue: null);
  const weightInputRef = useRef<HTMLIonInputElement>( initialValue: null);
  const calculateBMI = () => {
    const enteredWeight = weightInputRef.current!.value;
    const enteredHeight = heightInputRef.current!.value;

    if(!enteredWeight || !enteredHeight) return;
    const bmi = +enteredWeight / ((+enteredHeight/100) * (+enteredHeight/100));

    // console.log(bmi);
    setCalculatedBMI(bmi);
  };
};
```


```
{calculatedBMI && (<IonRow>
  <IonCol>
    <IonCard>
      <IonCardContent className="ion-text-center">
        <h2>{calculatedBMI}</h2>
      </IonCardContent>
    </IonCard>
  </IonCol>
</IonRow>)} }
```

8. Coba lakukan perhitungan BMI kembali.

BMI Calculator

Tinggi Badan (cm)
165

Berat Badan (kg)
65

 CALCULATE

 RESET

23.875114784205696


TUGAS

Modifikasi aplikasi perhitungan BMI sehingga menampilkan kategori hasil perhitungan BMI (Kurus, Normal, Gemuk, atau Obesitas).

BMI Calculator

Tinggi Badan (cm)
175

Berat Badan (kg)
65

 CALCULATE

 RESET

21.224489795918366
Normal

REFERENSI

<https://reactjs.org/docs/hooks-reference.html>