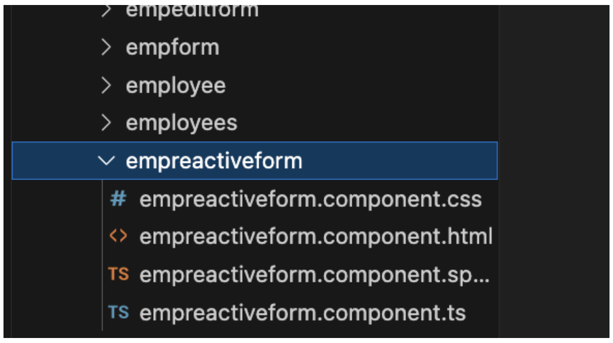
## STEP 13: Reactive Driven Forms

1. Make sure to add ReactiveFormsModule in app.module.ts file
2. Add empreactiveform component from within the angulardemo folder as follows:
   ng g c empreactiveform


empeditform
empform
employee
employees
empreactiveform
empreactiveform.component.css
empreactiveform.component.html
empreactiveform.component.sp...
empreactiveform.component.ts

3. Update the ts component as follows :
   import { FormControl } from '@angular/forms';

   FormControl is a directive that allows you to create and manage a FormControl instance directly.
4. Add below property in the ts component
   name = new FormControl();

   Here you are creating a FormControl called name. It will be bound in the template to an HTML input box for the emp name.

   A FormControl constructor accepts three, optional arguments:
   a. the initial data value,
   b. an array of validators,
   c. and an array of async validators.

5. Add below in html component

```
<h2>Emp Detail</h2>
<h3><i>Just a FormControl</i></h3>
 <label class="center-block">
     Name: <input class="form-control" [formControl]="name">
</label>
```

   To let Angular know that this is the input that you want to associate to the name FormControl in the class, you need [formControl]="name" in the template on the <input>.

6. Add <app-empreactiveform></app-empreactiveform> in app component html

7. The above is useful when there is onle 1 or 2 form controls. To. Manage a group of form elements we need FormGroup

8. Import following in the component :
   ```
   import { FormControl, FormGroup } from '@angular/forms';
   ```

9. In the class, wrap the FormControl in a FormGroup
   ```
   empForm = new FormGroup ( { name: new FormControl() } );
   ```

10. Update the template to reflect FormGroup.

    ```
    <form [formGroup]=”empForm" novalidate>
        <div class="form-group">
        <label class="center-block">Name: <input class="form-control"
        formControlName="name"> </label>
        </div>
    </form>
    ```

11. To see the form model, add the following line after the closing form tag.

    ```
        <p>Form value: {{ empForm.value | json }}</p>
         <p>Form status: {{ empForm.status | json }}</p>
    ```

12. For using Validators:
    For using Validators.required in reactive forms import the Validators symbol.
    ```
    import { FormBuilder, FormGroup, Validators } from '@angular/forms';
    ```

13. To make the name FormControl required, replace the name property in the FormGroup with an array.
    The first item is the initial value for name; the second is the required validator, Validators.required.
    ```
    name: ['', Validators.required ],
    ```

14. Can update all the above code to create form with in-built and custom validations

15. Create a folder validators and a file password.ts file within it. Add below code to create custom validation for password

    ```
    import { AbstractControl, FormControl } from "@angular/forms";

    export function hasExclamationMark(input: AbstractControl) {
       const hasExclamation = input.value.indexOf('!') >= 0;
       return hasExclamation ? null : { needsExclamation: true };
      }
    ```

16. Update the ts component as follows:

    ```
      subsemail:FormControl;
      empform:FormGroup;
      email:FormControl;
      address:FormGroup
      city:FormControl
    ```

```
  password:FormControl;
  constructor() {
    this.subsemail = new FormControl('',Validators.required);
    this.email=new FormControl('',Validators.required);
    this.city = new FormControl('',Validators.required);
    this.address = new FormGroup({city:this.city})
    this.password=new FormControl('',hasExclamationMark)
    console.log(this.subsemail)
    this.empform = new FormGroup({
      ename:new FormControl('Sample name',[Validators.required,
Validators.minLength(5)]),
      email:this.email,
      address:this.address,
      password:this.password
    })
  }
  subscribe()
  {
    console.log(this.subsemail.value)
  }
```

17. Update the HTML as follows:

```
<h1>Reactive Forms</h1>
<h3>{{empform.value | json}}</h3>
<h3>{{empform.status }}</h3>
<form [formGroup]="empform">
    <div class="mb-3">
        <input type="text" class="form-control" [ngClass]="{'is-
invalid':empform.controls.ename.invalid}"
        formControlName="ename" placeholder="Enter name"/>
        <div *ngIf="empform.controls.ename.invalid &&
empform.controls.ename.errors?.required">
            <span class="text-danger">It is required</span>
        </div>
        <div *ngIf="empform.controls.ename.errors?.minlength">
            <span class="text-danger">length 5</span>
        </div>
    </div>
    <div class="mb-3">
        <input type="text" class="form-control"
        formControlName="email" placeholder="Enter email"/>
        <div *ngIf="email.invalid && email.errors?.required">
            <span class="text-danger">It is required</span>
        </div>
    </div>
    <div class="mb-3">
        <input type="text" class="form-control"
        formControlName="password" placeholder="Enter password"/>
        <div *ngIf="password.invalid && password.errors?.needsExclamation">
```

```
            <span class="text-danger">! is required</span>
        </div>
    </div>
    <div [formGroup]="address">
        <div class="mb-3">
            <input type="text" class="form-control"
            formControlName="city" placeholder="Enter city"/>
            <div *ngIf="city.invalid && city.errors?.required">
                <span class="text-danger">It is required</span>
            </div>
        </div>
    </div>

</form>
<input type="text" class="form-control"
[formControl]="subsemail"
placeholder="enter email to subscribe">
<button (click)="subscribe()">Subscribe</button>
```