How to Build a CRUD App in Angular

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Building a CRUD application is a basic step to learning to integrate the front-end with a back-end database. CRUD stands for the four functions create, read, update, and delete in computer programming. They are used to implement persistent storage applications and relational database applications:

- Create: A create operation allows you to add a new record to a table.
- Read: A read operation allows you to read record details based on the primary key.
- Update: An update operation allows you to modify an existing record based on the primary key.
- Delete: A delete operation allows you to delete any specific record based on the primary key.

In this blog, we are going to learn how to build a CRUD application in Angular 12.

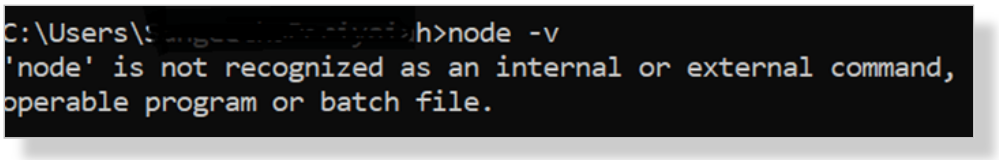
Prerequisites

- Angular CLI
- Node.js
- Visual Studio Code

To check if Node.js is already installed on your machine, check for its version using the following command. If it is already installed, it will return the version number.

```
node -v
```

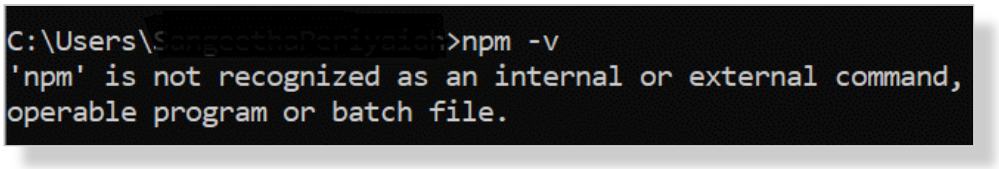
Otherwise, it will return an error, as shown in the following screenshot.



Similarly, check whether the npm and Angular CLI are already installed with the following command to check the version.

```
npm -v
```

If they're not, it will return an error, as shown in the screenshot.




```
ng version
```

If they aren't installed, install them with the details available in the following table.

Node.js	https://nodejs.org/en/download/
Npm	If you install node.js, it will install npm, too.
Angular CLI	Run the following command: **npm i @angular/cli**

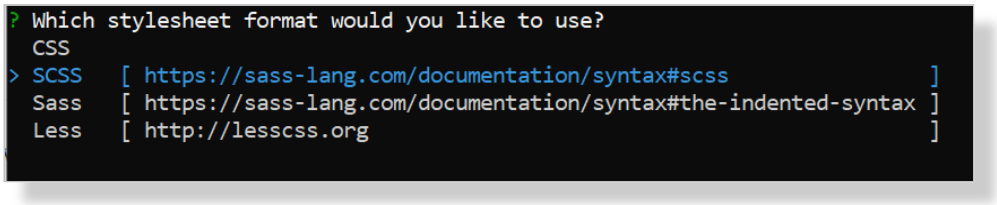
Create an Angular application

After ensuring that the Angular CLI is installed, create a new Angular application using the following command. For this example, I am naming this application **AngularCRUDApplication.**

Angular CLI provides complete support to set up routing using the **routing** keyword during the creation of an application. The router enables navigation among the pages using URLs.

```
ng new AngularCRUDApplication --routing
```

Now, the terminal will request we choose a stylesheet format, like in the following image. Make sure to choose SCSS.



Install Bootstrap

Now, install Bootstrap in your application using the following command.

```
npm install bootstrap –save
```

Then, import the CSS file for bootstrap from the location src/styles.scss.

```
@import "~bootstrap/dist/css/bootstrap.css";
```

Create a new component

After successfully creating the Angular application, we add new components to perform the CRUD operations.

So, use the following commands to create **Home**, **AddEmployee**, **EditEmployee**, and **ViewEmployee** components.

```
ng generate component Home
ng generate component AddEmployee
ng generate component EditEmployee
ng generate component ViewEmployee
```

After successful execution of the commands, the components will be created in the following folder structure.

```
src/app/home
src/app/add-employee
src/app/edit-employee
src/app/view-employee
```

Create routes

In this step, let's create routes for the Home, AddEmployee, EditEmployee, and ViewEmployee components. Update the app-routing module file with the following code.

Copy

```
import { NgModule } from '@angular/core';
import { RouterModule, Routes } from '@angular/router';
import { AddEmployeeComponent } from './add-employee/add-employee.component';
import { EditEmployeeComponent } from './edit-employee/edit-employee.component';
import { HomeComponent } from './home/home.component';
import { ViewEmployeeComponent } from './view-employee/view-employee.component';

const routes: Routes = [
  { path: '', redirectTo: 'Home', pathMatch: 'full'},
  { path: 'Home', component: HomeComponent },
  { path: 'ViewEmployee/:employeeId', component: ViewEmployeeComponent },
  { path: 'AddEmployee', component: AddEmployeeComponent },
  { path: 'EditEmployee/:employeeId', component: EditEmployeeComponent }
];
```

```
@NgModule({
  imports: [RouterModule.forRoot(routes)],
  exports: [RouterModule]
})

export class AppRoutingModule { }
```

Create services

Create common services to invoke Web API calls and HTTPClient inside the Service folder using the following command.

```
ng generate service Service/WebApi
ng generate service Service/HttpProvider
```

Add the following code in the web-api.service.ts file in the following location.

src/app/Service/web-api.service.ts

Copy

```
import { Injectable } from '@angular/core';
import { Observable, throwError } from 'rxjs';
import { map } from 'rxjs/operators';
import { catchError } from 'rxjs/internal/operators/catchError';
import { HttpHeaders, HttpClient } from '@angular/common/http';

@Injectable({
  providedIn: 'root'
})

export class WebApiService {
  constructor(private httpClient: HttpClient) { }

  // Get call method
  // Param 1 : url
  get(url: string): Observable<any> {
    const httpOptions = {
      headers: new HttpHeaders({
        'Content-Type':  'application/json',
        'Cache-Control' : 'no-cache',
        'Pragma' : 'no-cache'
      }),
```

```
      observe: "response" as 'body'
    };
    return this.httpClient.get(
      url,
      httpOptions
    )
    .pipe(
        map((response: any) => this.ReturnResponseData(response)),
        catchError(this.handleError)
    );
  }

  // Post call method
  // Param 1 : url
  // Param 2 : model
  post(url: string, model: any): Observable<any> {
    const httpOptions = {
      headers: new HttpHeaders({
        'Content-Type': 'application/json'
      }),
      observe: "response" as 'body'
    };
    return this.httpClient.post(
      url,
      model,
      httpOptions)
      .pipe(
        map((response: any) => this.ReturnResponseData(response)),
        catchError(this.handleError)

    );
  }

  private ReturnResponseData(response: any) {
    return response;
  }

  private handleError(error: any) {
    return throwError(error);
  }
}
```

Replace the API solution URL with apiUrl inside HTTP-provider.service.ts and run the Employee API solution.

src/app/Service/http-provider.service.ts

Copy

```
import { Injectable } from '@angular/core';
import { Observable } from 'rxjs';
import { WebApiService } from './web-api.service';

var apiUrl = "http://localhost:8100/";

var httpLink = {
  getAllEmployee: apiUrl + "/api/employee/getAllEmployee",
  deleteEmployeeById: apiUrl + "/api/employee/deleteEmployeeById",
  getEmployeeDetailById: apiUrl + "/api/employee/getEmployeeDetailById",
  saveEmployee: apiUrl + "/api/employee/saveEmployee"
}

@Injectable({
  providedIn: 'root'
})

export class HttpProviderService {
  constructor(private webApiService: WebApiService) { }

  public getAllEmployee(): Observable<any> {
    return this.webApiService.get(httpLink.getAllEmployee);
  }
  public deleteEmployeeById(model: any): Observable<any> {
    return this.webApiService.post(httpLink.deleteEmployeeById + '?employeeId=' +
  }
  public getEmployeeDetailById(model: any): Observable<any> {
    return this.webApiService.get(httpLink.getEmployeeDetailById + '?employeeId='
  }
  public saveEmployee(model: any): Observable<any> {
    return this.webApiService.post(httpLink.saveEmployee, model);
  }
}
```

Update UI templates and logic

We have already created four components. Now, let's update the CRUD components with new UI design with logic.

List page template and logic

In this section, we'll get the employee list page using the Web API server. In the template, we'll add an Employee button and View, Edit, and Delete icons for every individual record.

src/app/home.component.ts

Copy

```
import { Component, Input, OnInit, Type } from '@angular/core';
import { Router } from '@angular/router';
import { NgbModal, NgbActiveModal } from '@ng-bootstrap/ng-bootstrap';
import { ToastrService } from 'ngx-toastr';
import { HttpProviderService } from '../Service/http-provider.service';

@Component({
  selector: 'ng-modal-confirm',
  template: `
  <div class="modal-header">
    <h5 class="modal-title" id="modal-title">Delete Confirmation</h5>
    <button type="button" class="btn close" aria-label="Close button" aria-descril
      <span aria-hidden="true">×</span>
    </button>
  </div>
  <div class="modal-body">
    <p>Are you sure you want to delete?</p>
  </div>
  <div class="modal-footer">
    <button type="button" class="btn btn-outline-secondary" (click)="modal.dismis
    <button type="button" ngbAutofocus class="btn btn-success" (click)="modal.clo
  </div>
  `,
})

export class NgModalConfirm {
  constructor(public modal: NgbActiveModal) { }
}

const MODALS: { [name: string]: Type<any> } = {
  deleteModal: NgModalConfirm,
};

@Component({
  selector: 'app-home',
  templateUrl: './home.component.html',
  styleUrls: ['./home.component.scss']
})

export class HomeComponent implements OnInit {
  closeResult = '';
  employeeList: any = [];
  constructor(private router: Router, private modalService: NgbModal,
    private toastr: ToastrService, private httpProvider : HttpProviderService) {

  ngOnInit(): void {
    this.getAllEmployee();
```

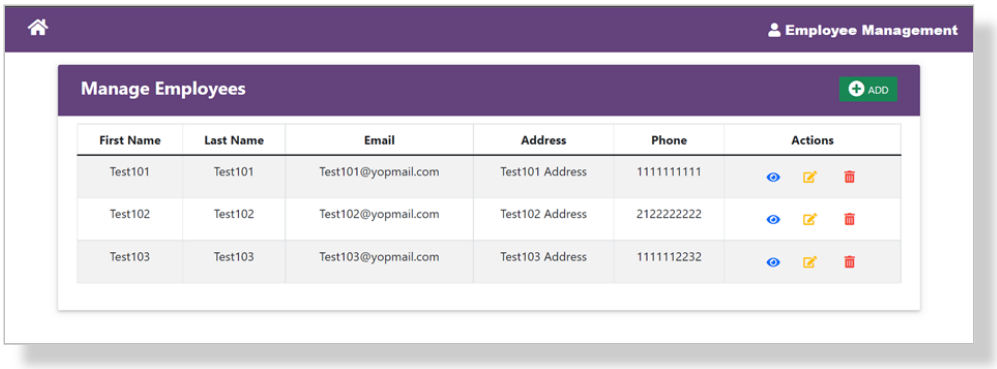
```
  }
  async getAllEmployee() {
    this.httpProvider.getAllEmployee().subscribe((data : any) => {
      if (data != null && data.body != null) {
        var resultData = data.body;
        if (resultData) {
          this.employeeList = resultData;
        }
      }
    },
    (error : any)=> {
        if (error) {
          if (error.status == 404) {
            if(error.error && error.error.message){
              this.employeeList = [];
            }
          }
        }
      });
  }

  AddEmployee() {
    this.router.navigate(['AddEmployee']);
  }

  deleteEmployeeConfirmation(employee: any) {
    this.modalService.open(MODALS['deleteModal'],
      {
        ariaLabelledBy: 'modal-basic-title'
      }).result.then((result) => {
        this.deleteEmployee(employee);
      },
        (reason) => {});
  }

  deleteEmployee(employee: any) {
    this.httpProvider.deleteEmployeeById(employee.id).subscribe((data : any) => {
      if (data != null && data.body != null) {
        var resultData = data.body;
        if (resultData != null && resultData.isSuccess) {
          this.toastr.success(resultData.message);
          this.getAllEmployee();
        }
      }
    },
    (error : any) => {});
  }
}
```

src/app/home.component.html

Copy

```
<div class="container-xl">
  <div class="table-responsive">
    <div class="table-wrapper">
      <div class="table-title">
        <div class="row">
          <div class="col-sm-6">
            <h4><b>Manage Employees</b></h4>
          </div>
          <div class="col-sm-6">
            <button class="btn btn-success" (click)="AddEmployee()">
              <i class='fas fa-plus-circle'></i><span> ADD</span>
            </button>
          </div>
        </div>
      </div>
      <table class="table table-striped table-hover table-bordered table-content"
        <thead>
          <tr class="center-align">
            <th>First Name</th>
            <th>Last Name</th>
            <th>Email</th>
            <th>Address</th>
            <th>Phone</th>
            <th>Actions</th>
          </tr>
        </thead>
        <tbody>
          <tr *ngFor="let employee of employeeList" class="center-align">
            <td>{{ employee.firstName }}</td>
            <td>{{ employee.lastName }}</td>
            <td>{{ employee.email }}</td>
            <td>{{ employee.address }}</td>
            <td>{{ employee.phone }}</td>
            <td>
              <a href="#" [routerLink]="['/ViewEmployee/', employee.id]" class="b
              <a href="#" [routerLink]="['/EditEmployee/', employee.id]" class="b
              <button type="button" (click)="deleteEmployeeConfirmation(employee)
            </td>
          </tr>
          <tr>
            <td *ngIf="employeeList.length == 0" colspan="6">No Employee Found</t
          </tr>
        </tbody>
      </table>
    </div>
  </div>
</div>
```

Let’s see the employee list page screenshot now.



Create page template and logic

In this section, we will insert new employee details using the Web API server.

Add all the basic validations like mandatory fields, email address validation, and phone number validation in the HTML file.

Refer to the following code.

src/app/add-employee.component.ts

Copy

```
import { Component, OnInit, ViewChild } from '@angular/core';
import { NgForm } from '@angular/forms';
import { Router } from '@angular/router';
import { ToastrService } from 'ngx-toastr';
import { HttpProviderService } from '../Service/http-provider.service';

@Component({
  selector: 'app-add-employee',
  templateUrl: './add-employee.component.html',
  styleUrls: ['./add-employee.component.scss']
})

export class AddEmployeeComponent implements OnInit {
  addEmployeeForm: employeeForm = new employeeForm();

  @ViewChild("employeeForm")
  employeeForm!: NgForm;
  isSubmitted: boolean = false;
  constructor(private router: Router, private httpProvider: HttpProviderService,
```

```
  ngOnInit(): void {  }

  AddEmployee(isValid: any) {
    this.isSubmitted = true;
    if (isValid) {
      this.httpProvider.saveEmployee(this.addEmployeeForm).subscribe(async data =
        if (data != null && data.body != null) {
          if (data != null && data.body != null) {
            var resultData = data.body;
            if (resultData != null && resultData.isSuccess) {
              this.toastr.success(resultData.message);
              setTimeout(() => {
                this.router.navigate(['/Home']);
              }, 500);
            }
          }
        }
      },
        async error => {
          this.toastr.error(error.message);
          setTimeout(() => {
            this.router.navigate(['/Home']);
          }, 500);
        });
    }
  }
}


export class employeeForm {
  FirstName: string = "";
  LastName: string = "";
  Email: string = "";
  Address: string = "";
  Phone: string = "";
}
```

src/app/add-employee.component.html

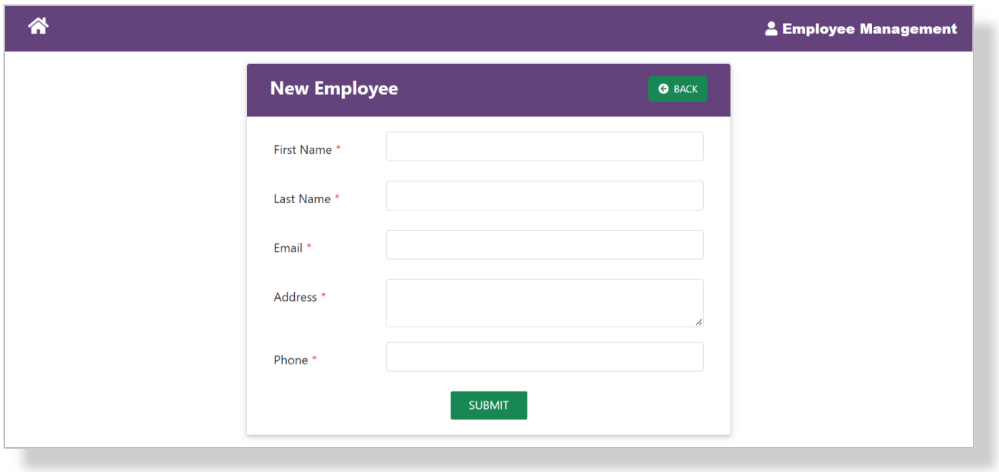
Copy

```
<div class="container-xl">
  <div class="table-responsive">
    <div class="table-wrapper">
      <div class="table-title">
        <div class="row">
          <div class="col-sm-6">
            <h4><b>New Employee</b></h4>
          </div>
          <div class="col-sm-6">
```

```
          <a href="#" routerLink="/Home" class="btn btn-success back"><i class=
             Back</a>
        </div>
      </div>
    </div>
    <form #employeeForm="ngForm">
      <div class="table-content">
        <div class="form-group p-10 row">
          <div class="col-sm-3">
            <label for="FirstName" class="p-t-b-10">First Name<span class="requ
          </div>
          <div class="col-sm-9">
            <input type="text" class="form-control" id="FirstName" required max
              [(ngModel)]="addEmployeeForm.FirstName" name="FirstName" #FirstNa
            <div *ngIf="FirstName.errors && isSubmitted" class="alert alert-dan
              <div [hidden]="!FirstName.errors?.['required']">
                First Name is required
              </div>
            </div>
          </div>
        </div>
        <div class="form-group p-10 row">
          <div class="col-sm-3">
            <label for="LastName" class="p-t-b-10">Last Name<span class="requir
          </div>
          <div class="col-sm-9">
            <input type="text" class="form-control" id="LastName" required maxl
              [(ngModel)]="addEmployeeForm.LastName" name="LastName" #LastName=
            <div *ngIf="LastName.errors && isSubmitted" class="alert alert-dang
              <div [hidden]="!LastName.errors?.['required']">
                Last Name is required
              </div>
            </div>
          </div>
        </div>
        <div class="form-group p-10 row">
          <div class="col-sm-3">
            <label class="p-t-b-10">Email<span class="requiredStar">*</span></l
          </div>
          <div class="col-sm-9">
            <input type="text" class="form-control" id="Email" required maxleng
              [(ngModel)]="addEmployeeForm.Email" name="Email" #Email="ngModel"
              pattern="^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z0-9]{2,3}$">
            <div *ngIf="Email.errors && isSubmitted" class="alert alert-danger
              <div [hidden]="!Email.errors?.['required']">
                Email is required
              </div>
              <div [hidden]="!Email.errors?.['touched'] && !Email.errors?.['pat
                Email is invalid
              </div>
            </div>
          </div>
```

```
          </div>
          <div class="form-group p-10 row">
            <div class="col-sm-3">
              <label class="p-t-b-10">Address<span class="requiredStar">*</span></
            </div>
            <div class="col-sm-9">
              <textarea class="form-control" id="Address" required [(ngModel)]="a
                #Address="ngModel">></textarea>
              <div *ngIf="Address.errors && isSubmitted" class="alert alert-dange
                <div [hidden]="!Address.errors?.['required']">
                  Address is required
                </div>
              </div>
            </div>
          </div>
          <div class="form-group p-10 row">
            <div class="col-sm-3">
              <label class="p-t-b-10">Phone<span class="requiredStar">*</span></la
            </div>
            <div class="col-sm-9">
              <input type="text" class="form-control" id="Phone" required maxleng
                [(ngModel)]="addEmployeeForm.Phone" name="Phone" #Phone="ngModel"
              <div *ngIf="Phone.errors && isSubmitted" class="alert alert-danger
                <div [hidden]="!Phone.errors?.['required']">
                  Phone is required
                </div>
                <div [hidden]="!Phone.errors?.['touched'] && !Phone.errors?.['pat
                  Phone is invalid
                </div>
              </div>
            </div>
          </div>
        </div>
        <div class="table-footer">
          <button class="btn btn-success" (click)="AddEmployee(employeeForm.form.
        </div>
      </form>
    </div>
  </div>
</div>
```

The following is the screenshot of the add employee page.



Edit page template and component

In this section, let's update the details of an existing employee using the Web API server. Add all the basic validations like mandatory fields, email address validation with disabled state, and phone number validation in the HTML file.

Refer to the following code example.

src/app/edit-employee.component.ts

Copy

```
import { Component, OnInit, ViewChild } from '@angular/core';
import { NgForm } from '@angular/forms';
import { ActivatedRoute, Router } from '@angular/router';
import { ToastrService } from 'ngx-toastr';
import { HttpProviderService } from '../Service/http-provider.service';

@Component({
  selector: 'app-edit-employee',
  templateUrl: './edit-employee.component.html',
  styleUrls: ['./edit-employee.component.scss']
})

export class EditEmployeeComponent implements OnInit {
  editEmployeeForm: employeeForm = new employeeForm();

  @ViewChild("employeeForm")
  employeeForm!: NgForm;

  isSubmitted: boolean = false;
  employeeId: any;

  constructor(private toastr: ToastrService, private route: ActivatedRoute, priva
```

```
    private httpProvider: HttpProviderService) { }

  ngOnInit(): void {
    this.employeeId = this.route.snapshot.params['employeeId'];
    this.getEmployeeDetailById();
  }
  getEmployeeDetailById() {
    this.httpProvider.getEmployeeDetailById(this.employeeId).subscribe((data: any
      if (data != null && data.body != null) {
        var resultData = data.body;
        if (resultData) {
          this.editEmployeeForm.Id = resultData.id;
          this.editEmployeeForm.FirstName = resultData.firstName;
          this.editEmployeeForm.LastName = resultData.lastName;
          this.editEmployeeForm.Email = resultData.email;
          this.editEmployeeForm.Address = resultData.address;
          this.editEmployeeForm.Phone = resultData.phone;
        }
      }
    },
      (error: any) => { });
  }

  EditEmployee(isValid: any) {
    this.isSubmitted = true;
    if (isValid) {
      this.httpProvider.saveEmployee(this.editEmployeeForm).subscribe(async data
        if (data != null && data.body != null) {
          var resultData = data.body;
          if (resultData != null && resultData.isSuccess) {
            if (resultData != null && resultData.isSuccess) {
              this.toastr.success(resultData.message);
              setTimeout(() => {
                this.router.navigate(['/Home']);
              }, 500);
            }
          }
        }
      },
        async error => {
          this.toastr.error(error.message);
          setTimeout(() => {
            this.router.navigate(['/Home']);
          }, 500);
        });
    }
  }
}

export class employeeForm {
  Id: number = 0;
  FirstName: string = "";
```

```
  LastName: string = "";
  Email: string = "";
  Address: string = "";
  Phone: string = "";
}
```

src/app/ edit -employee.component.html

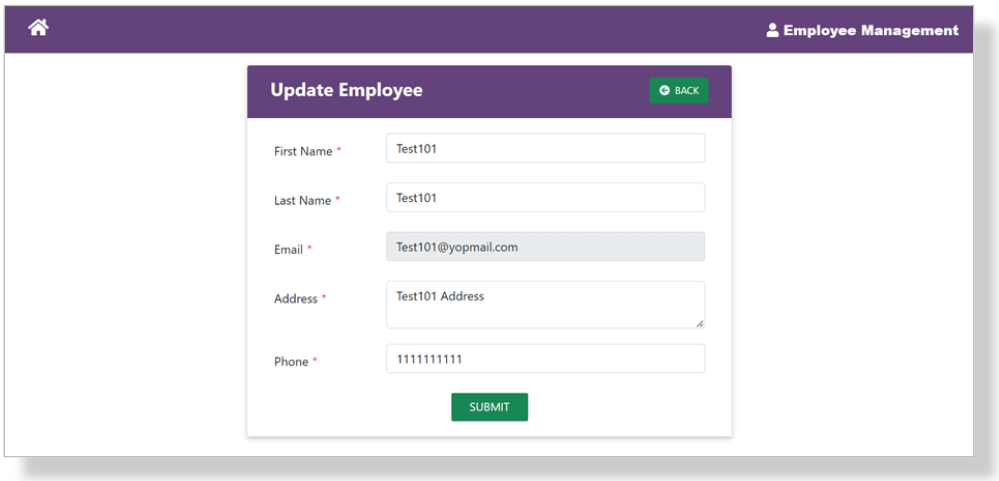
Copy

```
<div class="container-xl">
  <div class="table-responsive">
    <div class="table-wrapper">
      <div class="table-title">
        <div class="row">
          <div class="col-sm-6">
            <h4><b>Update Employee</b></h4>
          </div>
          <div class="col-sm-6">
            <a href="#" routerLink="/Home" class="btn btn-success back"><i class=
               Back</a>
          </div>
        </div>
      </div>
      <form #employeeForm="ngForm">
        <div class="table-content">
          <div class="form-group p-10 row">
            <div class="col-sm-3">
              <label for="FirstName" class="p-t-b-10">First Name<span class="requ
            </div>
            <div class="col-sm-9">
              <input type="text" class="form-control" id="FirstName" required max
                [(ngModel)]="editEmployeeForm.FirstName" name="FirstName" #FirstN
              <div *ngIf="FirstName.errors && isSubmitted" class="alert alert-dan
                <div [hidden]="!FirstName.errors?.['required']">
                  First Name is required
                </div>
              </div>
            </div>
          </div>
          <div class="form-group p-10 row">
            <div class="col-sm-3">
              <label for="LastName" class="p-t-b-10">Last Name<span class="requir
            </div>
            <div class="col-sm-9">
              <input type="text" class="form-control" id="LastName" required maxl
                [(ngModel)]="editEmployeeForm.LastName" name="LastName" #LastName
              <div *ngIf="LastName.errors && isSubmitted" class="alert alert-dang
                <div [hidden]="!LastName.errors?.['required']">
                  Last Name is required
```

```
      </div>
    </div>
  </div>
</div>
<div class="form-group p-10 row">
  <div class="col-sm-3">
    <label class="p-t-b-10">Email<span class="requiredStar">*</span></la
  </div>
  <div class="col-sm-9">
    <input type="text" class="form-control" id="Email" required maxleng
      [(ngModel)]="editEmployeeForm.Email" name="Email" #Email="ngModel
      pattern="^[a-zA-Z0-9._-]+@[a-zA-Z0-9.-]+\.[a-zA-Z0-9]{2,3}$" read
    <div *ngIf="Email.errors && isSubmitted" class="alert alert-danger
      <div [hidden]="!Email.errors?.['required']">
        Email is required
      </div>
      <div [hidden]="!Email.errors?.['touched'] && !Email.errors?.['pat
        Email is invalid
      </div>
    </div>
  </div>
</div>
<div class="form-group p-10 row">
  <div class="col-sm-3">
    <label class="p-t-b-10">Address<span class="requiredStar">*</span></
  </div>
  <div class="col-sm-9">
    <textarea class="form-control" id="Address" required [(ngModel)]="e
      #Address="ngModel">></textarea>
    <div *ngIf="Address.errors && isSubmitted" class="alert alert-dange
      <div [hidden]="!Address.errors?.['required']">
        Address is required
      </div>
    </div>
  </div>
</div>
<div class="form-group p-10 row">
  <div class="col-sm-3">
    <label class="p-t-b-10">Phone<span class="requiredStar">*</span></la
  </div>
  <div class="col-sm-9">
    <input type="text" class="form-control" id="Phone" required maxleng
      [(ngModel)]="editEmployeeForm.Phone" name="Phone" #Phone="ngModel
    <div *ngIf="Phone.errors && isSubmitted" class="alert alert-danger
      <div [hidden]="!Phone.errors?.['required']">
        Phone is required
      </div>
      <div [hidden]="!Phone.errors?.['touched'] && !Phone.errors?.['pat
        Phone is invalid
      </div>
    </div>
  </div>
```

```
          </div>
        </div>
        <div class="table-footer">
          <button class="btn btn-success" (click)="EditEmployee(employeeForm.form
        </div>
      </form>
    </div>
  </div>
</div>
```

The following is the screenshot of the edit employee page.



View detail page template and logic

In this section, let's view employee details by ID using the Web API server.

Refer to the following code.

Src/app/view-employee.component.ts

Copy

```
import { Component, OnInit } from '@angular/core';
import { ActivatedRoute, Router } from '@angular/router';
import { HttpProviderService } from '../Service/http-provider.service';
import { WebApiService } from '../Service/web-api.service';

@Component({
  selector: 'app-view-employee',
  templateUrl: './view-employee.component.html',
  styleUrls: ['./view-employee.component.scss']
})
```

```
export class ViewEmployeeComponent implements OnInit {

  employeeId: any;
  employeeDetail : any= [];

  constructor(public webApiService: WebApiService, private route: ActivatedRoute,

  ngOnInit(): void {
    this.employeeId = this.route.snapshot.params['employeeId'];
    this.getEmployeeDetailById();
  }

  getEmployeeDetailById() {
    this.httpProvider.getEmployeeDetailById(this.employeeId).subscribe((data : any
      if (data != null && data.body != null) {
        var resultData = data.body;
        if (resultData) {
          this.employeeDetail = resultData;
        }
      }
    },
    (error :any)=> { });
  }

}
```

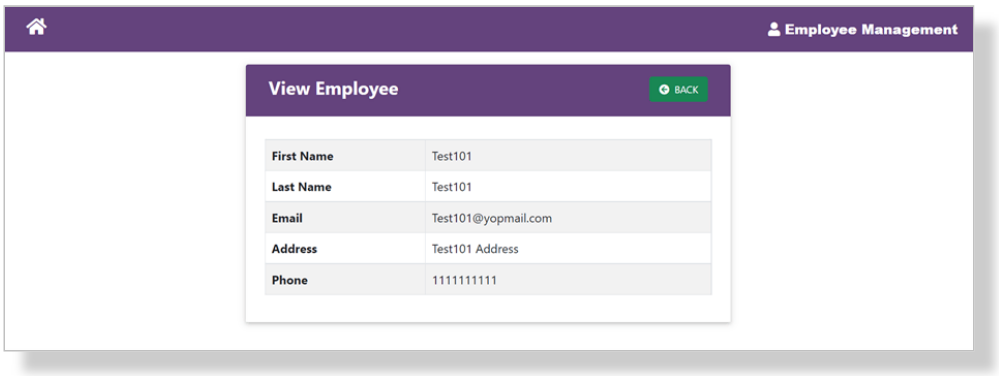
src/app/ view -employee.component.html

Copy

```
<div class="container-xl">
  <div class="table-responsive">
    <div class="table-wrapper">
      <div class="table-title">
        <div class="row">
          <div class="col-sm-6">
            <h4><b>View Employee</b></h4>
          </div>
          <div class="col-sm-6">
            <a href="#" routerLink="/Home" class="btn btn-success back"><I class'
          </div>
        </div>
      </div>
      <table class=""table table-striped table-hover table-bordered table-conten""
        <tbody>
          <tr>
            <td><label><b>First Name</b></label></td>
            <td><span>{{ employeeDetail.firstName }}</span></td>
          </tr>
          <tr>
```

```
            <td><label><b>Last Name</b></label> </td>
            <td><span>{{ employeeDetail.lastName }}</span></td>
          </tr>
          <tr>
            <td> <label><b>Email</b></label></td>
            <td> <span>{{ employeeDetail.email }}</span></td>
          </tr>
          <tr>
            <td> <label><b>Address</b></label></td>
            <td><span>{{ employeeDetail.address }}</span></td>
          </tr>
          <tr>
            <td> <label><b>Phone</b></label></td>
            <td> <span>{{ employeeDetail.phone }}</span></td>
          </tr>
        </tbody>
      </table>
    </div>
  </div>
</div>
```

The following is the screenshot of the view employee page.



Nav header

Now, let's update the app.component with a common template.

Src/app/app.component.html

Copy

```
<nav class="navbar fixed-top navbar-expand-md navbar-light white double-nav scroll
   <div class="toolbar" role="banner">
    <div class="col-sm-6">
      <h4><i class='fas fa-home' (click)="HomeClick()"></i></h4>
    </div>
    <div class="col-sm-6">
```

```
      <span class="employee"><b><i class='fas fa-user'></i> Employee Management</
    </div>
  </div>
</nav>
<router-outlet></router-outlet>
```

Import modules

In this application, we used form support and HTTP client calls for API interaction in the add and edit employee sections. To use form and HTTP client support, import the form module and HTTP client module in app.module.ts.

Refer to the following code.

Copy

```
import { HttpClientModule } from '@angular/common/http';
import { FormsModule } from '@angular/forms';

@NgModule({
  declarations: […],
  imports: [
    HttpClientModule,
    FormsModule,
  ],
  providers: [],
  bootstrap: [AppComponent]
})
export class AppModule { }
```

Icons

In this application, we used Font Awesome icons to displays icons over many buttons. So, add following stylesheet reference in index.html to import Font Awesome.

Copy

```
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/
```

Modal

Modal is an important tool for interacting with users. In this section, we will work on creating a modal to perform the delete operation. Use the following command to install modal.

```
Npm install @ng-bootstrap/ng-bootstrap
```

Import module for ng-bootstrap in **app.module.ts** file.

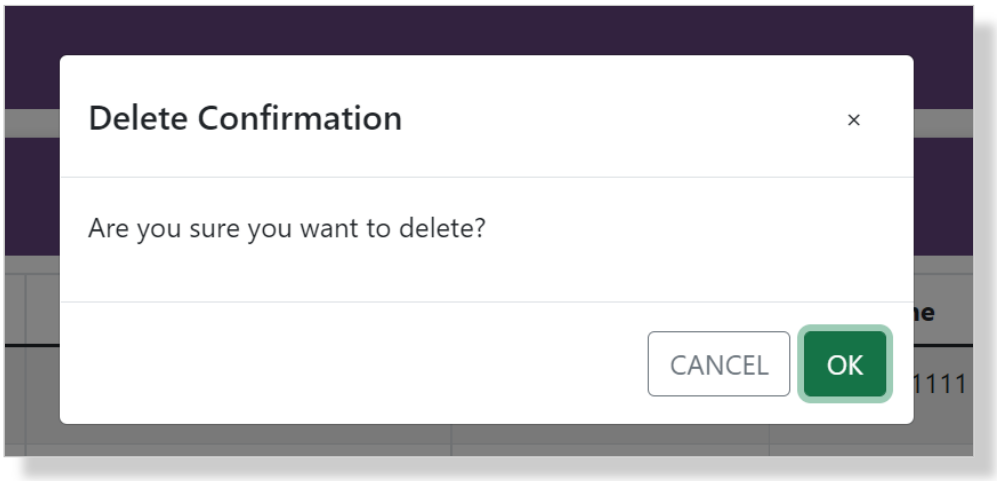
```
import { NgbModule } from '@ng-bootstrap/ng-bootstrap';

@NgModule({
  declarations: […],
  imports: [
    …,
    NgbModule
  ],
  providers: […],
  bootstrap: […]
})
export class AppModule { }
```

You can find the modal creation codes in the home.component.html file.

```
import { NgbModal, NgbActiveModal } from '@ng-bootstrap/ng-bootstrap';

@Component({
  selector: 'ng-modal-confirm',
  template: `
  <div class="modal-header">
    <h5 class="modal-title" id="modal-title">Delete Confirmation</h5>
    <button type="button" class="btn close" aria-label="Close button" aria-descril
      <span aria-hidden="true">×</span>
    </button>
  </div>
  <div class="modal-body">
    <p>Are you sure you want to delete?</p>
  </div>
  <div class="modal-footer">
    <button type="button" class="btn btn-outline-secondary" (click)="modal.dismis
```

```
    <button type="button" ngbAutofocus class="btn btn-success" (click)="modal.clos
  </div>
  `,
})
export class NgModalConfirm {
  constructor(public modal: NgbActiveModal) { }
}
const MODALS: { [name: string]: Type<any> } = {
  deleteModal: NgModalConfirm,
};
```

Refer to the following screenshot of the confirmation modal.



Toasters

Toaster is another of the important tools for showing action results in an application. In this application, we are using toasters to provide notification on completion of every CRUD operation.

Use the following commands to install the toaster tool.

```
npm install ngx-toastr --save
npm install @angular/animations –save
```

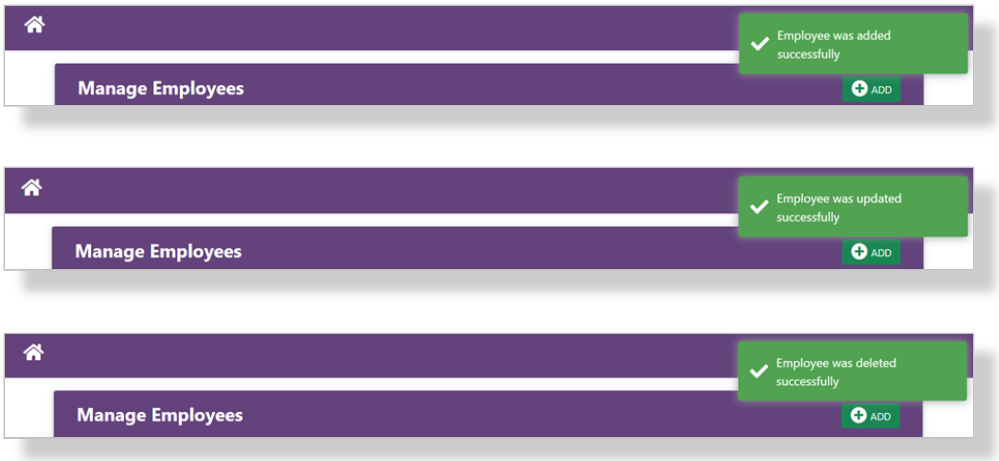
After installation, open the angular.json file and update the following code in it.

```
.....
"styles": [
              "src/styles.css",
              "node_modules/ngx-toastr/toastr.css"
          ],
.....
```

Import the module in the app.module.ts file.

```
import { BrowserAnimationsModule } from '@angular/platform-browser/animations';
import { ToastrModule } from 'ngx-toastr';

@NgModule({
  declarations: […],
  imports: […,
    ToastrModule.forRoot(),
    BrowserAnimationsModule
  ],
  providers: [],
  bootstrap: [AppComponent]
})
export class AppModule { }
```

The following are the screenshots of the toasters displaying information about the actions performed in the application.



Deploy the Angular CRUD app

Run the Angular CRUD app using the following command.

```
ng serve
```

GitHub reference

For more details, refer to the build CRUD application in Angular project.

Conclusion

Thanks for reading! I hope this blog provided you with a clear idea about how to implement a CRUD application in Angular 12.

Syncfusion's Angular UI component library is the only suite that you will ever need to build an application, containing over 65 high-performance, lightweight, modular, and responsive UI components in a single package.

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Sangeetha Periyaiah is a Software Engineer at Syncfusion for Consulting Projects and has been active in development since 2017. She is passionate about exploring new technologies. She is currently working as a full-stack developer in ASP.NET MVC, which uses SQL as the backend.

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PABLO
September 17, 2022 at 5:55 pm

This tutorial is missing many parts. I managed to complete a few but in the end you only have an add button that doesn't work and thats all.

SANGEETHA PERIYAIAH
September 19, 2022 at 12:16 am

Hi Pablo,

We tried the sample in the following GitHub repository and it is working as expected.

https://github.com/SyncfusionExamples/angular-crud-application

Can you please share the items missing in this tutorial, so that we will update the article?

Thanks,
Sangeetha P.

You must be logged in to post a comment.

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