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Firebase Firestore and Angular ToDo List App

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Set up your Angular app via the Angular CLI

In short, simply run these commands in your terminal in the directory where you want your Angular app to sit.

```
npm install -g @angular/cli
```

Create a new Angular project using the latest version of Angular available.

```
ng new TodoListWithAngularAndFirestore — router
```

When you create a new project via Angular CLI, it will create a new project folder for you. cd will take you into that folder via the terminal.

```
cd TodoListWithAngularAndFirestore
```

Start and run your Angular project

```
ng serve
```

To create the necessary files, run the following commands:

Create components:

```
ng g c home
ng g c todo-list
ng g c todo-add
```

And finally, for the service, use s instead of c like below:

```
ng g s service/todos
```

In this article, we'll be using Bootstrap 4.

Install Bootstrap:

```
npm i bootstrap
```

After installation we can import bootstrap css into our style file and continue to use it.

```
@import '~bootstrap/dist/css/bootstrap.min.css';
```

Adjust Routing Module:

```
import { NgModule } from '@angular/core';
import { Routes, RouterModule } from '@angular/router';
import { HomeComponent } from './home/home.component';
import { TodoListComponent } from './todo-list/todo-list.component';
import { TodoAddComponent } from './todo-add/todo-add.component';

const routes: Routes = [
  { path: 'home', component: HomeComponent },
  { path: 'todoList', component: TodoListComponent },
  { path: 'todoAdd', component: TodoAddComponent }
  { path: '', redirectTo: '/home', pathMatch: 'full' },
  { path: '**', component: HomeComponent }
];

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

Add Bootstrap NavBar into app.component.html and adjust them.

```
<div>
    <nav class="navbar navbar-expand-lg navbar-light text-white">
        <a class="navbar-brand text-white"
routerLink="/home">TodoList</a>
        <div class="collapse navbar-collapse"
id="navbarNavAltMarkup">
          <div class="navbar-nav">
            <a class="nav-item nav-link" routerLink="home">Home</a>
            <a class="nav-item nav-link"
routerLink="todoList">Todo's</a>
          </div>
        </div>
      </nav>
      <div class="container">
          <router-outlet></router-outlet>
```

```
      </div>
</div>
```

Install and Configure Firebase Module:

To access the Firebase Firestore Database, we just need to install the Firebase module. Type this command to install it.

```
npm i --save firebase @angular/fire
```

Navigate to your environment.ts file and paste the config details inside the environment object as firebaseConfig.

```
export const environment = {
    production: false,
    firebaseConfig: {
       apiKey: "",
       authDomain: "",
       databaseURL: "",
       projectId: "",
       storageBucket: "",
       messagingSenderId: ""
     }
};
```

We will need to initialize the AngularFireModule with the firebaseConfig that we have just done the set up for.

```
import { BrowserModule } from '@angular/platform-browser';
import { NgModule } from '@angular/core';
import { AppRoutingModule } from './app-routing.module';
import { AppComponent } from './app.component';
import { HomeComponent } from './home/home.component';
import { TodoListComponent } from './todo-list/todo-list.component';
import { TodoAddComponent } from './todo-add/todo-add.component';
import { environment } from 'src/environments/environment';
import { AngularFireModule } from '@angular/fire';
import { AngularFirestoreModule } from '@angular/fire/firestore';
@NgModule({
  declarations: [
```

```
    AppComponent,
    HomeComponent,
    TodoListComponent,
    TodoAddComponent
  ],
  imports: [
    BrowserModule,
    AppRoutingModule,
    AngularFireModule.initializeApp(environment.firebaseConfig),
    AngularFirestoreModule
  ],
  providers: [],
  bootstrap: [AppComponent]
})
export class AppModule { }
```

Setting up Firestore in a service

Import AngularFirestore into your todos.service.ts file and declare it in the constructor so your service knows about it.

```
import { Injectable } from '@angular/core';
import { AngularFirestore } from '@angular/fire/firestore';

@Injectable({
  providedIn: 'root'
})
export class TodosService {^

   constructor(firestore: AngularFirestore) { }
}
```

Now we are all set up and ready to get started.
We first define our service methods that we can access from components.

```
findLastCreatedTodos();
findAllTodos();
updateTodo();
createTodo();
```

Let’s find our last created todos with limit.

```
findLastCreatedTodos(limit: number) {
    return this.firestore.collection('Todos', ref =>
ref.orderBy('date', 'desc').limit(limit)).snapshotChanges();
}
```

Find all ToDos

```
findAllTodos() {
    return this.firestore.collection('Todos', ref =>
ref.orderBy('date', 'desc')).snapshotChanges();
}
```

Update ToDo

```
updateTodo(id: string, todo: {}) {
    return this.firestore.collection('Todos').doc(id).set(todo, {
merge: true });
}
```

Create new ToDo

```
createTodo(todo: {}) {
    return new Promise<any>((resolve, reject) => {
      this.firestore
      .collection('Todos')
      .add(todo)
      .then(res => {}, err => reject(err));
    });
}
```

We will first prepare our dashboard and display the last 5 created Todos in our dashboard.

home.component.html

```
<div class="d-flex p-3 my-3 text-white-50 rounded box-shadow
dashboard-title">
  <div class="lh-100">
    <h6 class="mb-0 text-white lh-100">Dashboard</h6>
    <div class="mt-1"></div>
  </div>
</div>
<div class="my-3 p-3 bg-white rounded box-shadow">
  <h6 class="border-bottom border-gray pb-2 mb-0">Last 5 todos</h6>
  <div class="media text-muted pt-3" *ngFor="let todo of
lastCreatedFiveTodos">
    <p class="media-body pb-3 mb-0 small lh-125 border-bottom border-
gray">
      <strong class="d-block text-gray-dark">{{
todo.payload.doc.data().date.toMillis() | date:'dd.MM.yyyy HH:mm:ss'
}} </strong>
      {{ todo.payload.doc.data().title }}
    </p>
  </div>
  <small class="d-block text-right mt-3">
    <a routerLink="/todoList">All todo's</a>
  </small>
</div>
```

home.component.ts

```
import { Component, OnInit } from '@angular/core';
import { TodosService } from '../service/todos.service';

@Component({
  selector: 'app-home',
  templateUrl: './home.component.html',
  styleUrls: ['./home.component.css']
})
export class HomeComponent implements OnInit {

constructor(private todosService: TodosService) { }

private todoLimit = 5;
  public lastCreatedFiveTodos = [];

ngOnInit() {
    this.findLastCreatedTodos();
  }

findLastCreatedTodos() {
    this.todosService.findLastCreatedTodos(this.todoLimit).subscribe(
res => {
```

```
      this.lastCreatedFiveTodos = res;
    });
  }

}
```

Create List of Todos

todo-list.component.html

```
<div class="d-flex p-3 my-3 text-white-50 rounded box-shadow
dashboard-title">
    <div class="lh-100">
        <h6 class="mb-0 text-white lh-100">Todo list</h6>
        <div class="mt-1"></div>
    </div>
</div>
<div>
    <button class="btn btn-secondary"> + Add Todo</button>
</div>
<div class="my-3 p-3 bg-white rounded box-shadow">
    <h6 class="border-bottom border-gray pb-2 mb-0">Todos</h6>
    <div class="media text-muted pt-3" *ngFor="let todo of todos">
        <p class="media-body pb-3 mb-0 small lh-125 border-bottom
border-gray">
        <strong class="d-block text-gray-dark">{{
todo.payload.doc.data().date.toMillis() | date:'dd.MM.yyyy HH:mm:ss'
}} </strong>
        {{ todo.payload.doc.data().title }}
        </p>
    </div>
</div>
```

todo-list.component.ts

```
import { Component, OnInit } from '@angular/core';
import { TodosService } from '../service/todos.service';

@Component({
  selector: 'app-todo-list',
  templateUrl: './todo-list.component.html',
  styleUrls: ['./todo-list.component.css']
})
export class TodoListComponent implements OnInit {
```

```
public todos = [];

constructor(private todosService: TodosService) { }

ngOnInit() {
    this.findAllTodos();
  }
  findAllTodos() {
    this.todosService.findAllTodos().subscribe( res => {
      this.todos = res;
    });
  }

}
```

Add new ToDo

Import angular form module into app.module.ts for using driven forms

```
...
import { FormsModule, ReactiveFormsModule } from '@angular/forms';

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

Create driven forms and submit the todo information

todo-add.component.html

```
<div class="d-flex p-3 my-3 text-white-50 rounded box-shadow
dashboard-title">
    <div class="lh-100">
        <h6 class="mb-0 text-white lh-100">Add todo</h6>
```

```
            <div class="mt-1"></div>
        </div>
    </div>
    <div class="my-3 p-3 bg-white rounded box-shadow">
        <form (ngSubmit)="onSubmit()" [formGroup]="todoForm">
            <div class="form-group">
            <label for="title">Title:</label>
            <input type="text" class="form-control"
    formControlName="title" id="title" placeholder="Title">
            </div>
            <div class="form-group">
            <label for="date">Date:</label>
            <input type="date" class="form-control"
    formControlName="date" id="date" placeholder="Date">
            </div>
            <button type="submit" class="btn btn-success">Submit</button>
        </form>
    </div>
```

todo-add.component.ts

```
import { Component, OnInit } from '@angular/core';
import { TodosService } from '../service/todos.service';
import { FormGroup, FormBuilder } from '@angular/forms';
import { Router } from '@angular/router';

@Component({
  selector: 'app-todo-add',
  templateUrl: './todo-add.component.html',
  styleUrls: ['./todo-add.component.css']
})
export class TodoAddComponent implements OnInit {

todoForm: FormGroup;
  constructor(private todosService: TodosService, private
formBuilder: FormBuilder, private router: Router) { }

ngOnInit() {
    this.todoForm = this.formBuilder.group({
      title: [],
      date: []
    });
  }

onSubmit() {
    if (!this.todoForm.valid) {
      return;
    }
```

```
const todo = {
      title: this.todoForm.value.title,
      date: new Date(this.todoForm.value.date),
      created: new Date(),
      status: true
    };

this.todosService.createTodo(todo);
    this.router.navigate(['/todoList']);
  }
}
```

Update: Mark a Todo as done.

todo-list.component.html

```
<div class="d-flex p-3 my-3 text-white-50 rounded box-shadow
dashboard-title">
    <div class="lh-100">
        <h6 class="mb-0 text-white lh-100">Todo list</h6>
        <div class="mt-1"></div>
    </div>
</div>
<div>
    <button class="btn btn-secondary" routerLink="/todoAdd"> + Add
Todo</button>
</div>
<div class="my-3 p-3 bg-white rounded box-shadow">
    <h6 class="border-bottom border-gray pb-2 mb-0">Todos</h6>
    <div class="media text-muted pt-3" *ngFor="let todo of todos">
        <p class="media-body pb-3 mb-0 small lh-125 border-bottom
border-gray">
        <strong class="d-block text-gray-dark">{{
todo.payload.doc.data().date.toMillis() | date:'dd.MM.yyyy HH:mm:ss'
}} </strong>
        {{ todo.payload.doc.data().title }}
        </p>
        <div *ngIf="todo.payload.doc.data().status">
            <button class="btn btn-success btn-sm"
(click)="updateToDo(todo.payload.doc.id)">Done</button>
        </div>
    </div>
</div>
```

todo-list.component.ts

```
import { Component, OnInit } from '@angular/core';
import { TodosService } from '../service/todos.service';

@Component({
  selector: 'app-todo-list',
  templateUrl: './todo-list.component.html',
  styleUrls: ['./todo-list.component.css']
})
export class TodoListComponent implements OnInit {

public todos = [];

constructor(private todosService: TodosService) { }

ngOnInit() {
    this.findAllTodos();
  }

findAllTodos() {
    this.todosService.findAllTodos().subscribe( res => {
      this.todos = res;
    });
  }

updateToDo(id) {
    this.todosService.updateTodo(id, { status: false });
  }
}
```

https://github.com/Akturan/ToDoListWithAngularAndFirebaseFirestore

Firebase Firestore Angular Firebase Mongodb


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