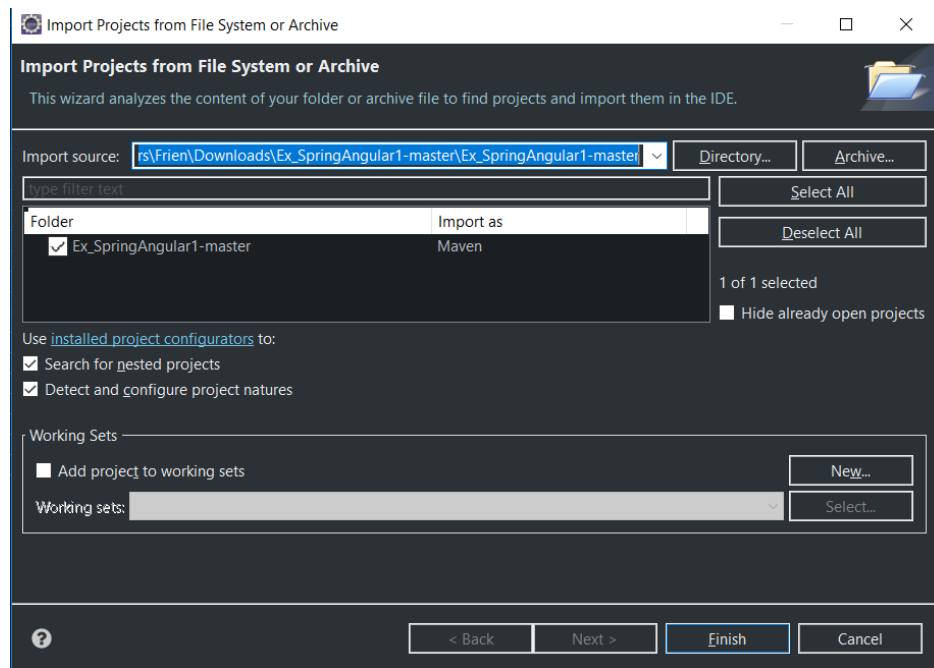
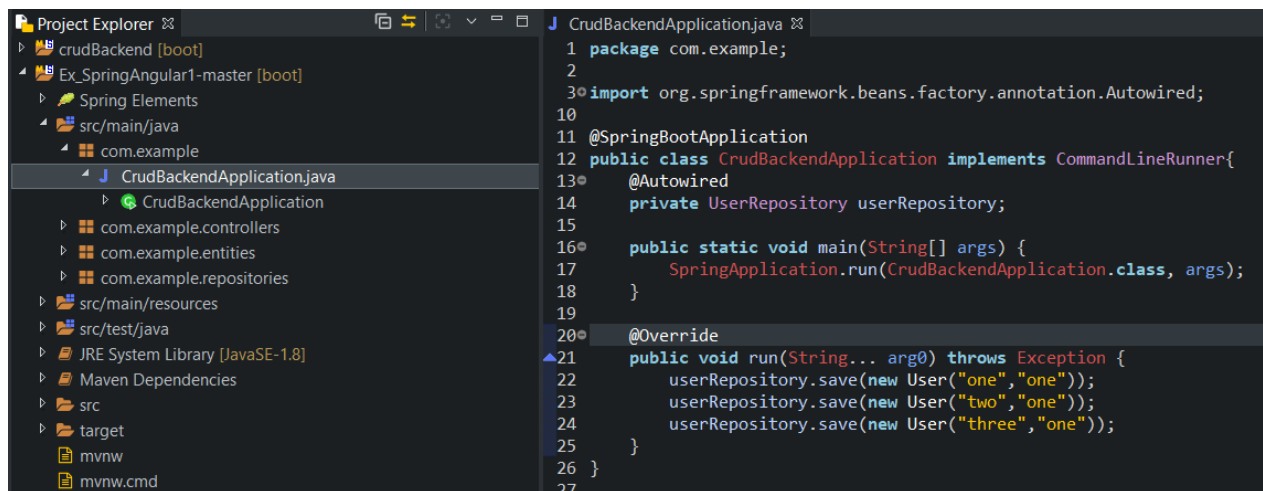


Backend: Spring boot

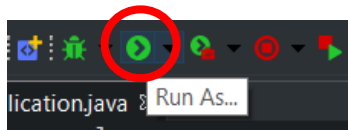
1. เปิดโปรแกรม eclipse
2. ที่เมนู File > Open Projects from File System..
3. เลือก Directory ไปที่โฟลเดอร์ Ex_SpringAngular1-master\Ex_SpringAngular1-master แล้วคลิก Finish



4. ที่แถบ Project Explorer ไปที่ src\main\java\com\example เปิด CrudBackendApplication.java



5. กด Run (CTRL + F11)



```
2018-04-30 21:40:56.850 INFO 4652 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/webjars/**] onto handler of type [class c
2018-04-30 21:40:56.850 INFO 4652 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**] onto handler of type [class org.sprui
2018-04-30 21:40:56.896 INFO 4652 --- [main] o.s.w.s.handler.SimpleUrlHandlerMapping : Mapped URL path [/**/favicon.ico] onto handler of type [cl
2018-04-30 21:40:57.189 INFO 4652 --- [main] o.s.j.e.a.AnnotationMBeanExporter : Registering beans for JMX exposure on startup
2018-04-30 21:40:57.324 INFO 4652 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8080 (http)
Hibernate: insert into user (id, fname, lname) values (null, ?, ?)
Hibernate: insert into user (id, fname, lname) values (null, ?, ?)
Hibernate: insert into user (id, fname, lname) values (null, ?, ?)
2018-04-30 21:40:57.413 INFO 4652 --- [main] com.example.CrudBackendApplication : Started CrudBackendApplication in 15.037 seconds (JVM runn
```

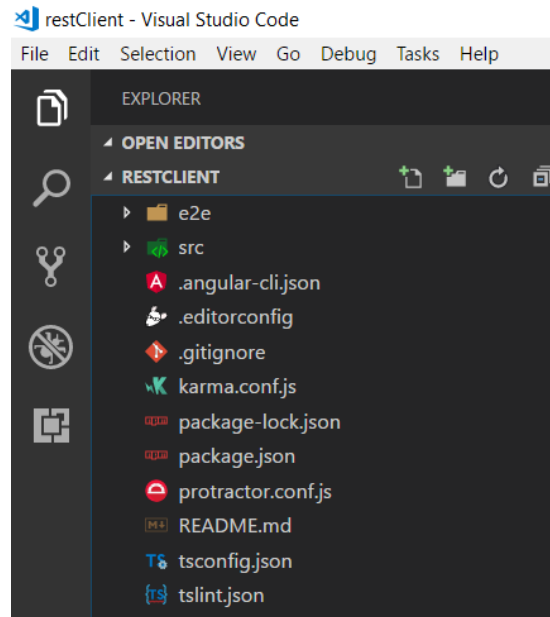
6. เข้า <http://localhost:8080/api/users> จะเห็นดังรูป

```
[{"id":1,"fname":"one","lname":"one"}, {"id":2,"fname":"two","lname":"one"}, {"id":3,"fname":"three","lname":"one"}]
```

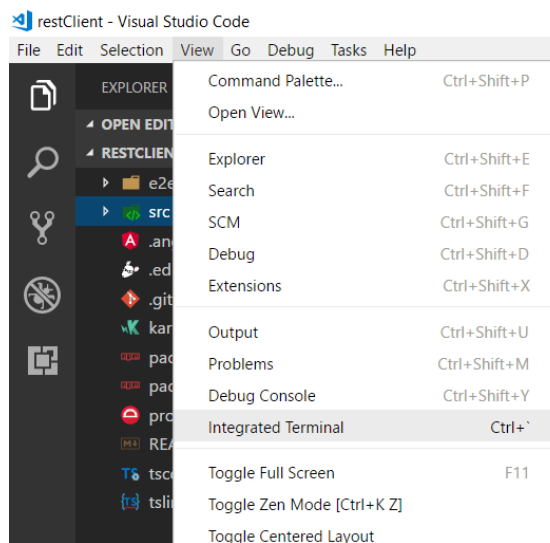
Frontend: Angular

1. เปิดโปรแกรม Visual Studio Code
2. แถบเมนู File > Open Folder...
3. ไปที่ Ex_SpringAngular1-master\Ex_SpringAngular1-master\src\main\resources\static

แล้วคลิกที่โฟลเดอร์ restClient กด Select Folder จะได้ดังรูป



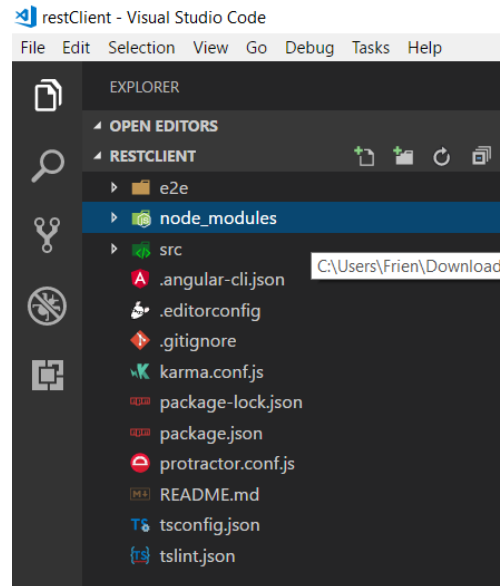
4. แถบเมนู view เลือก Integrated Terminal



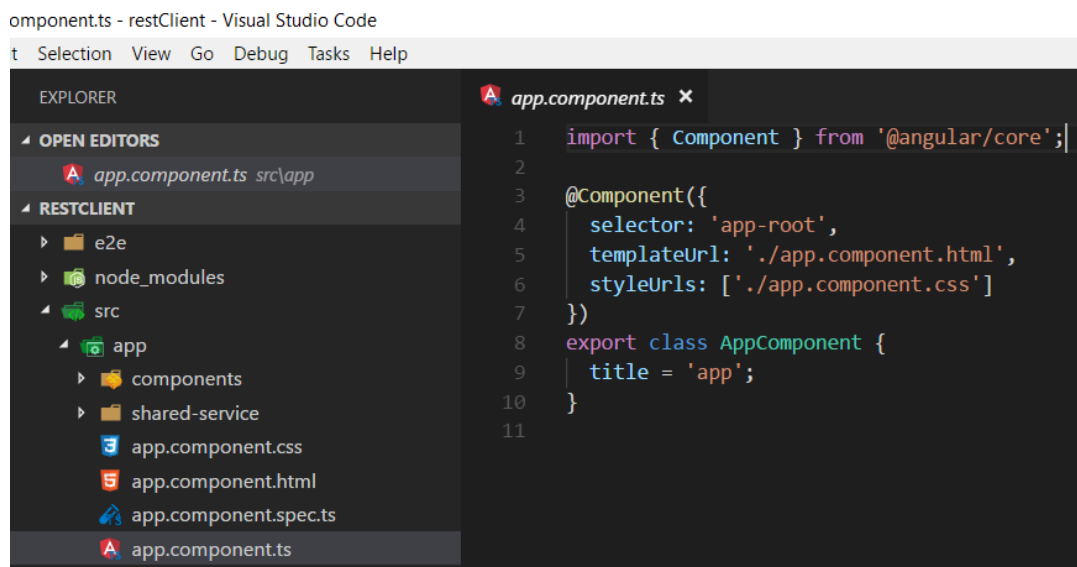
5. ที่หน้าต่าง Terminal ด้านล่าง พิมพ์ npm install แล้ว Enter

```
Frien@LAPTOP-8CMPGD01 MINGW64 ~/Downloads/Ex_SpringAngular1-master/Ex_SpringAngular1-master/src/main/resources/static/restClient
$ npm install
```

6. รอจน install เสร็จ จะได้ตามรูป



7. ไปที่ src>app>>app.component.ts จะไม่เจอ error “Cannot find module” ดังรูป

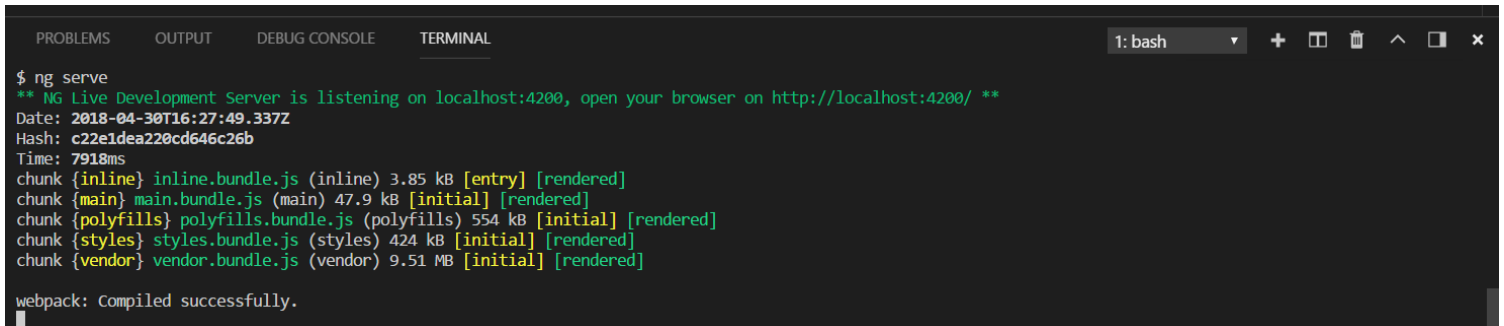


หมายเหตุ : หากพบ error “Cannot find module” เปิด Integrated Terminal แล้วพิมพ์

```
rm -rf node_modules
```

```
npm install
```

8. พิมพ์ ng serve รอ Compile เสร็จสิ้น



```
$ ng serve
** NG Live Development Server is listening on localhost:4200, open your browser on http://localhost:4200/ **
Date: 2018-04-30T16:27:49.337Z
Hash: c22e1dea220cd646c26b
Time: 7918ms
chunk {inline} inline.bundle.js (inline) 3.85 kB [entry] [rendered]
chunk {main} main.bundle.js (main) 47.9 kB [initial] [rendered]
chunk {polyfills} polyfills.bundle.js (polyfills) 554 kB [initial] [rendered]
chunk {styles} styles.bundle.js (styles) 424 kB [initial] [rendered]
chunk {vendor} vendor.bundle.js (vendor) 9.51 MB [initial] [rendered]
webpack: Compiled successfully.
```

9. เข้า <http://localhost:4200/> จะได้ดังรูป

Id	First Name	Last Name	Operations	
1	one	one	Delete	Edit
2	two	one	Delete	Edit
3	three	one	Delete	Edit

New User

10. สามารถ Create , Read , Update , Delete ข้อมูลได้

- New User

ID (random)

First Name

Last Name

save

ผลที่ได้

Id	First Name	Last Name	Operations	
1	one	one	Delete	Edit
2	two	one	Delete	Edit
3	three	one	Delete	Edit
4	Jame	1319	Delete	Edit

New User

- Delete

Id	First Name	Last Name	Operations
4	Jame	1319	<div>DeleteEdit</div>

New User

- Update

ID (random)

6

First Name

Jame

Last Name

09571319

save

ผลที่ได้

Id	First Name	Last Name	Operations
6	Jame	09571319	<div>DeleteEdit</div>

New User