DO IT – Front End developer

Section 4 - Assignment 3 – Typescript interface-class-module

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# Specification of assignment

During this assignment you are going to learn about TypeScript interface, class, module, tsconfig configuration, JSON objects through the assignment tasks.

# Requirements for this project

Before you can start with this project you will need to know how to work in Windows 7 OS. You will need average expirience in Windows 7 OS . You need to know how to use Visual Studio Code. You will use GIT commands for this assignment.

You will work this assignment in parallel as you listening courses in section 4 about TypeScript .

**Task**

1. Create three interfaces Category, Product, Rating

2. Category interface need to have id as number type and name parameter as string type. Make this interface globaly accessible (tip:use export)

3. Rating interface need to have id and comment parameter. Make this interface globaly accessible

4. Product interfejs need to have id as number type, name as string type, originalPrice as string type, offerPrice as number optional type, stock as number type, category as number type and ratings as Rating array optional type. Product interface use Rating interface. Make this interface globally accesible.

5. Make IProductService interface which will have five functions

-getCategories (with no parameters and return array of Category,

-getAllProducts (with no parameters and return array of Product),

-getProductsByCategory (with categoryId parametar and return array of Product),

-addProduct (with product parameter of Product type and return no value)

-addRating (with parameters productId and rating as Rating type, function return no value)

This interface use Category, Product, Rating interfaces. IProductService need to be globaly accessible.

6. Create ProductService class which implement IProductService interface. Create constructor which have two private parameters products which is type array of Product and categories which is type of array Category.

Now implement all functions from interface.

-getCategories will return categories parameter

-getAllProducts will return products parameter

-getProductsByCategory will return local filteredProducts parameter which filter over products by category like this :

let filteredProducts = this.products.filter(product => product.category === categoryId);

-addProduct will push product in products parameter.

-addRating will find index from products by productId like this

let productIndex = this.products.findIndex(product => product.id === productId);

use this parameter to find product from products then if products ratings is true push it to product ratings else make new product ratings array and then push rating in it.

Now delete product in products from position of productIndex (use splice) ,a then push product in products.

7. Create data.ts file and create constant CATEGORIES as array of Category and put this JSON object array

[

{

id: 1,

name: 'MOBILES'

},

{

id: 2,

name: 'BAKERY'

},

{

id: 3,

name: 'FRUITS'

}

];

Then create a second constant PRODUCTS as array of Product type and put this JSON object array

[

{

id: 1,

name: 'iphone',

originalPrice: 599,

stock: 20,

category: 1,

ratings: [

{

id: 1,

comment: 'Good phone'

},

{

id: 2,

comment: 'Awesome'

},

{

id: 3,

comment: 'Good but pricy'

}

]

},

{

id: 1,

name: 'bread',

originalPrice: 10,

stock: 20,

category: 2,

ratings: [

{

id: 1,

comment: 'fresh and Yummy'

},

{

id: 2,

comment: 'good taste'

}

]

}

];

This constant use Product and Category interface. Both constant should be global accessible.

8. Create index.ts in which make new object for ProductService class and put

PRODUCTS and CATEGORIES as argument .Display in console log Categories, Products using JSON.stringify method and call function getCategories and getAllProducts respectively in it. After that output Filtered Products by calling with JSON.stringify getProductsByCategory(1) .

Later addRating with this parameters :

addRating(1,{id:4,comment:'ok ok'});

Output all Products once again.

9. Create index.html and put button . On button click show everything from console on index.html page in table format

10. Make package.json for later installation

11. In tsconfig.json put this parameter

"lib": ["dom","es6"]

12. Use system.js (install it first) , configure System.config in index.html and call index.js with System.import statement.

13. Install http-server and set package.json start switch for starting server.

14. Test application on localhost:8080 port

# Timeline

You will have 3 hours to finish this job.

# Tools

## IDE and Source Control

You will use Windows 7 OS for this assignment. If you wish you can use Visual Studio Code. You need to use GIT Bash in this assignment.