116-Exploring Mocha and Expect video

- create new file in imports/api called users.test.js
- when you want to define a new test case you use the *it* function, it is provide to us by mocha
- it takes two arguments - a string and a function
- in this case avoid using arrow functions

```
it('', function(){


});
```

- **as an example let say we want to add two numbers, so we would this in our string**

```
it('should add two numbers', function(){


});
```

- now over terminal we can start our test suite

```
joses-MacBook-Pro:notes mendoza$ npm test
```

- **now over in the browser you should see - should add two numbers - it ran in both client and server**
- **let**s now go back to the text editor to users.test.js and add another it function

```
it('should add two numbers', function(){


});


it('should fail', function(){
    throw new Error('it failed because I said so');
})
```

- **and** as expected we get a fail message in the browser
- now back to our code, lets create a const that adds two numbers

```
const add = (a, b)=> a + b;
it('should add two numbers', function(){
    const res = add(11, 9);
```

```
    if(res !== 20){
        throw new Error('Sum was not equal to expected value');
    }
});
```

- and as expected it did pass over in the browser
- now if you add a different number you will a fail

```
const add = (a, b)=> a + b + 3;
it('should add two numbers', function(){
    const res = add(11, 9);

    if(res !== 20){
        throw new Error('Sum was not equal to expected value');
    }
});
```

- now we are going to check if b was provided at all, if it wasnt we are going to add a to it self

```
const add = (a, b)=> {
    if(typeof b !== 'number'){
        return a + a;
    }
    return a + b;
};
```

- now we are going to add couple of new tests down below

```
const add = (a, b)=> {
    if(typeof b !== 'number'){
        return a + a;
    }
    return a + b;
};
it('should add two numbers', function(){
    const res = add(11, 9);
```

```
    if(res !== 20){
        throw new Error('Sum was not equal to expected value');
    }
});

it('should double a single number', function(){
    const res = add(44);
    if(res !== 88){
        throw new Error('Number was not doubled');
    }
})
```

- over in the browser we see 2 tests passing on the client/server
- the challenge was to square a number

```
const add = (a, b)=> {
    if(typeof b !== 'number'){
        return a + a;
    }
    return a + b;
};

const square = (a) => a * a;

it('should add two numbers', function(){
    const res = add(11, 9);

    if(res !== 20){
        throw new Error('Sum was not equal to expected value');
    }
});

it('should double a single number', function(){
    const res = add(44);
    if(res !== 88){
        throw new Error('Number was not doubled');
```

```
    }
});

it('should square a number', function(){
    const res = square(9);
    if(res !== 81){
        throw new Error('value was not square');
    }
})
```

- and it gives a successful test
- we can also group test cases together by using the describe() function

```
const add = (a, b)=> {
    if(typeof b !== 'number'){
        return a + a;
    }
    return a + b;
};

const square = (a) => a * a;

describe('add', function(){
    it('should add two numbers', function(){
        const res = add(11, 9);

        if(res !== 20){
            throw new Error('Sum was not equal to expected value');
        }
    });

    it('should double a single number', function(){
        const res = add(44);
        if(res !== 88){
            throw new Error('Number was not doubled');
        }
    });
```

```
});



it('should square a number', function(){
    const res = square(9);
    if(res !== 81){
        throw new Error('value was not square');
    }
})
```

- now we are going to do the same with the square test

```
const add = (a, b)=> {
    if(typeof b !== 'number'){
        return a + a;
    }
    return a + b;
};

const square = (a) => a * a;

describe('add', function(){
    it('should add two numbers', function(){
        const res = add(11, 9);

        if(res !== 20){
            throw new Error('Sum was not equal to expected value');
        }
    });

    it('should double a single number', function(){
        const res = add(44);
        if(res !== 88){
            throw new Error('Number was not doubled');
        }
```

```
    });
});

describe('test', function(){
    it('should square a number', function(){
        const res = square(9);
        if(res !== 81){
            throw new Error('value was not square');
        }
    });
});
```

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