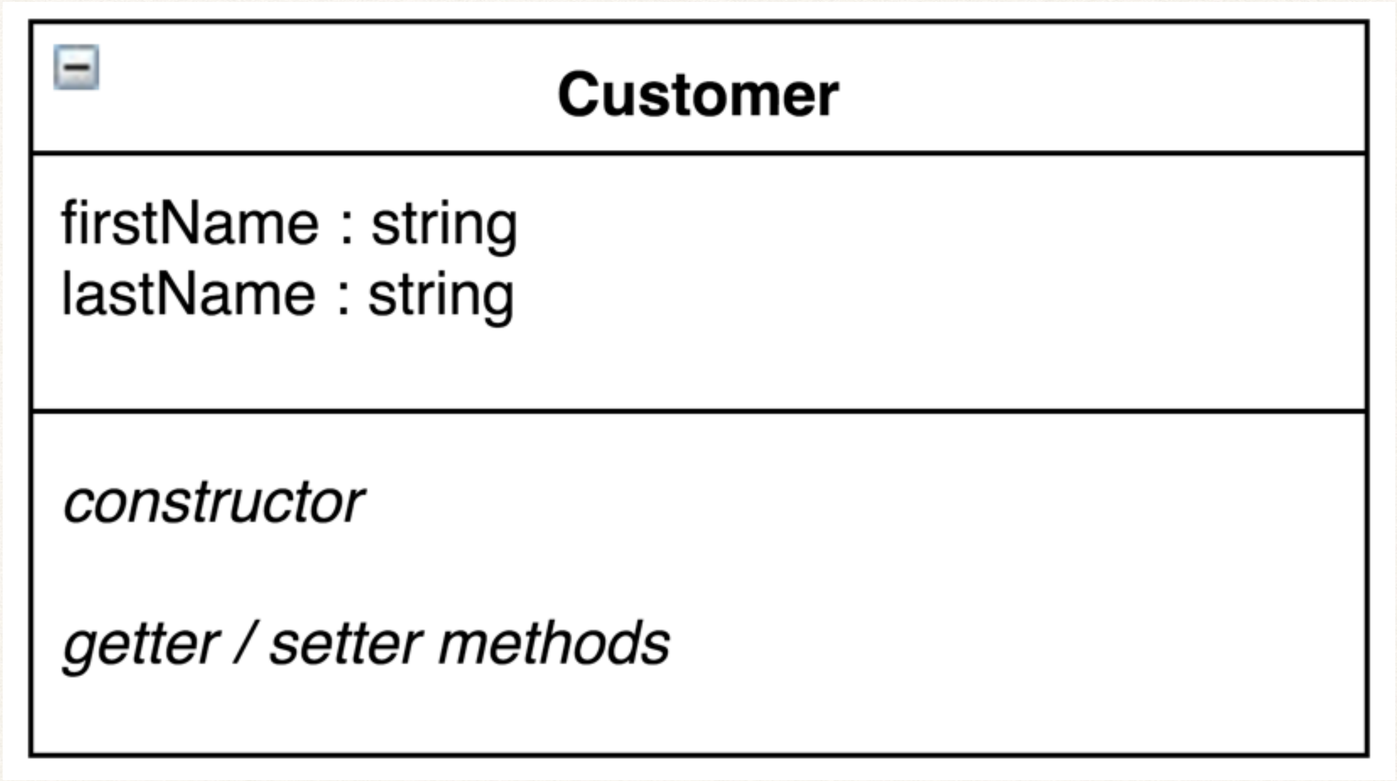
luv2code

TypeScript - Creating Classes

Customer Class



Basic Structure

File: Customer.ts

```
class Customer {

    // properties

    // constructors

    // getter / setter methods

}
```

Can use any file name: *.ts

mydemo.ts

Properties

File: Customer.ts

```
class Customer {

    // properties



}
```

Properties are public by default

We'll cover access modifiers shortly

Construct an Instance

File: Customer.ts

```
class Customer {

    // properties
    firstName: string;
    lastName: string;

}

// now let's use it
```

Construct an instance using the "new" keyword

```
C:\> tsc Customer.ts

C:\> node Customer.js
Martin
Dixon
```

Create a Constructor

File: Customer.ts

```
class Customer {

    firstName: string;
    lastName: string;




}
```

Use the "constructor" keyword

Must use "this"
to refer to properties defined in this class

Construct an Instance

File: Customer.ts

```
class Customer {

    firstName: string;
    lastName: string;

    constructor(theFirst: string, theLast: string) {
        this.firstName = theFirst;
        this.lastName = theLast;
    }
}

// now let's use it
```

Construct an instance using our new constructor

```
C:\> tsc Customer.ts

C:\> node Customer.js
Martin
Dixon
```

Access Modifiers

Modifier	Definition
`public`	Property is accessible to all classes (default modifier)
`protected`	Property is only accessible in current class and subclasses
`private`	Property is only accessible in current class

Mark the properties as "private"

File: Customer.ts

```
class Customer {

    private firstName: string;
    private lastName: string;

    constructor(theFirst: string, theLast: string) {
        this.firstName = theFirst;
        this.lastName = theLast;
    }
}

// now let'
let myCusto

myCustomer.firstName = "Susan";
myCustomer.lastName = "Public";

console.log(myCustomer.firstName);
console.log(myCustomer.lastName);
```

```
(property) Customer.firstName: string

Property 'firstName' is private and only
accessible within class 'Customer'. ts(2341)

Peek Problem   No quick fixes available
```

Compilation error

Compiling the Code

```
C:\> tsc Customer.ts

Customer.ts:16:12 - error TS2341: Property 'firstName' is private and only
accessible within class 'Customer'.

16 myCustomer.firstName = "Susan";
…
…
…
```

```
myCustomer.firstName = "Susan";
myCustomer.lastName = "Public";
```

```
class Customer {

    private firstName: string;
    private lastName: string;
```

Be Careful!!!!

- Even though there are compilation errors …
- The TypeScript compiler will STILL generates a .js file! Yikes!!

```
C:\> tsc Customer.ts

Customer.ts:16:12 - er                                  is private and only
accessible within clas
…

C:\> dir

Customer.js      Customer.ts
```

What???

.... and the code will still run!

```
C:\> tsc Customer.ts

Customer.ts:16:12 - error TS2341: Property 'firstName' is private and only
accessible within class 'Customer'.
…

C:\> dir

Customer.js     Customer.ts

C:\> node Customer.js
Susan
Public
```

```
// now let's use it
let myCustomer = new Customer("Martin", "Dixon");

myCustomer.firstName = "Susan";
myCustomer.lastName = "Public";

console.log(myCustomer.firstName);
console.log(myCustomer.lastName);
```

What???

We Can Prevent This!

Do not generate .js file
if there is a compilation error

```
C:\> del Customer.js

C:\> tsc --noEmitOnError Customer.ts

Customer.ts:16:12 - error TS2341: Property 'firstName' is private and only
accessible within class 'Customer'.
…

C:\> dir

Customer.ts
```

Yaaay!
The .js file was NOT generated!