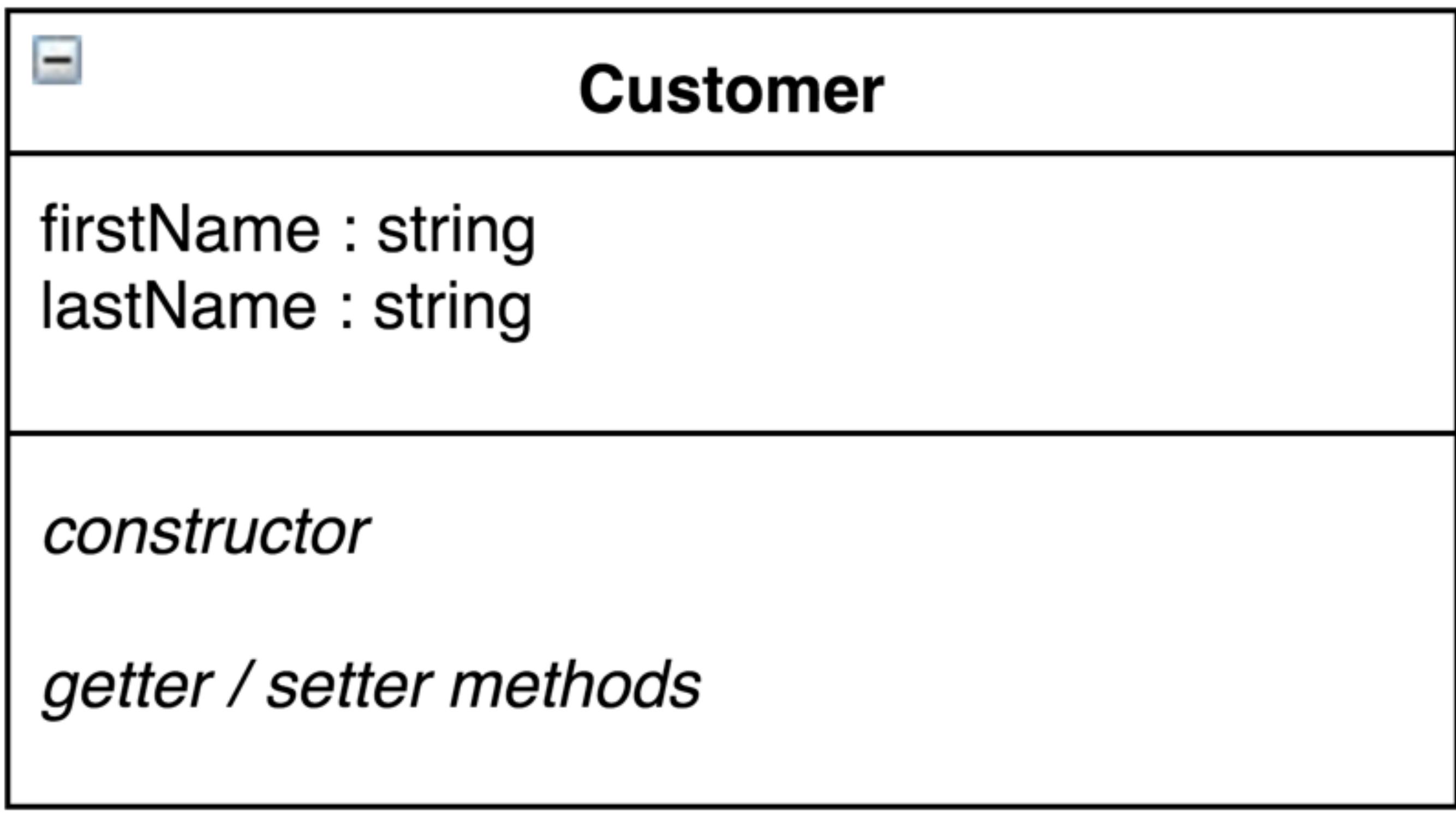


TypeScript - Creating Classes



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  
    firstName: string;  
    lastName: string;  
}
```

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  
let myCustomer = new Customer();  
  
myCustomer.firstName = "Martin";  
myCustomer.lastName = "Dixon";  
  
console.log(myCustomer.firstName);  
console.log(myCustomer.lastName);
```

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

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  
    let myCustomer = new Customer("Martin", "Dixon");  
  
    console.log(myCustomer.firstName);  
    console.log(myCustomer.lastName);
```

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's try to access them  
let myCustomer = new Customer("Susan", "Public");  
  
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)

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 - error TS2304: Cannot find name 'Customer'.
  'Customer' is private and only
accessible within class Customer.
...
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!



Remove previous .js file

```
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
```

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!