# Installing Type Declaration Files



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## What Are Type Declaration Files?



### What Are Type Declaration Files?



Type Declaration files usually compliment a JavaScript library



Used by compiler to prevent errors





Used by VSCode / Intellisense to provide code hints



## Type Declaration Files

Declaration files help the IDE and compiler find compile-time errors in JavaScript files

#### calculator.js

```
function calculate (number, currency)
{
    switch (currency) {
        case `USD`:
            return number * 1.35;
        case `CAD`:
            console.log(`Not supported.`);
            return null;
        default:
            return number * 1.15;
    }
}
```

#### calculator.d.ts

```
declare module 'calculator' {
   export function calculate(
     number : number,
     currency : string
   ) : null | number;
}
```

# Reviewing the Contents of a Type Declaration File



# Working with Intellisense



### Demo



# Explore various Intellisense features offered by VSCode

- Code hints
- Advanced error detection



# Creating and Configuring Custom Type Declaration Files



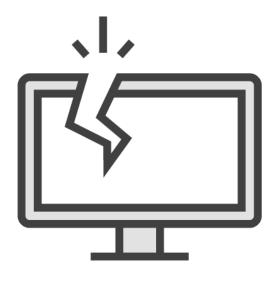
### Why Create Custom Declaration Files?



Required legacy tools may be ES5



Logically organize interfaces and other non-declarative code



Provide better code hints through annotations



### Demo



Create a new interface type that will be implemented by both front and back end

Import reference from type file and note the effects on code completion



# Adding Features to Our TypeScript Application



### Demo



# Add a client directory with code that is meant to be run on client's PC

 Create separate referenced projects for front / back end

Add Bootstrap and basic styles to give application a professional look



# Module Summary



### Type Declaration files exist alongside TypeScript and JavaScript files

- Some are installed separately via NPM
- Some are included with their library
- Some are written by your team

VSCode uses type declaration files extensively when providing code hints and type checking

