

מסלול Full Stack

קמפוס ת"א

זום 2021

שם המרצה: דורון אזולאי



ברוכים הבאים

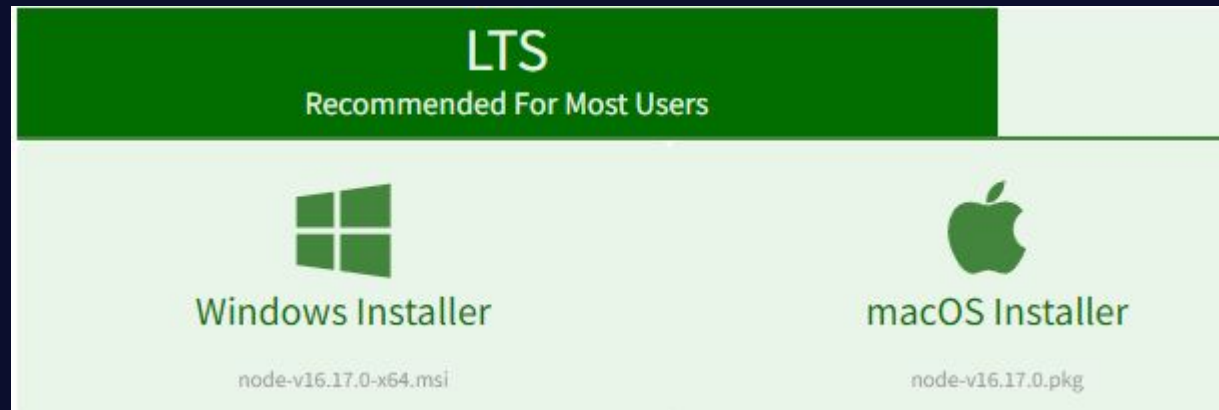


Lesson Agenda

- Node – npm
- TypeScript – compiler
- Load Ts
- Operators – %, /
- Simple Cast
- Exercise
- Q&A

Node: npm

<https://nodejs.org/en/download/>



TypeScript: compiler

open cmd/terminal and write

npm i -g typescript

```
npm install -g typescript  
changed 1 package, and audited 2 packages in 976ms  
found 0 vulnerabilities
```

then write

npm list -g

```
npm list -g  
C:\Users\dufa1\AppData\Roaming\npm  
`-- typescript@4.8.2
```

Load TypeScript:

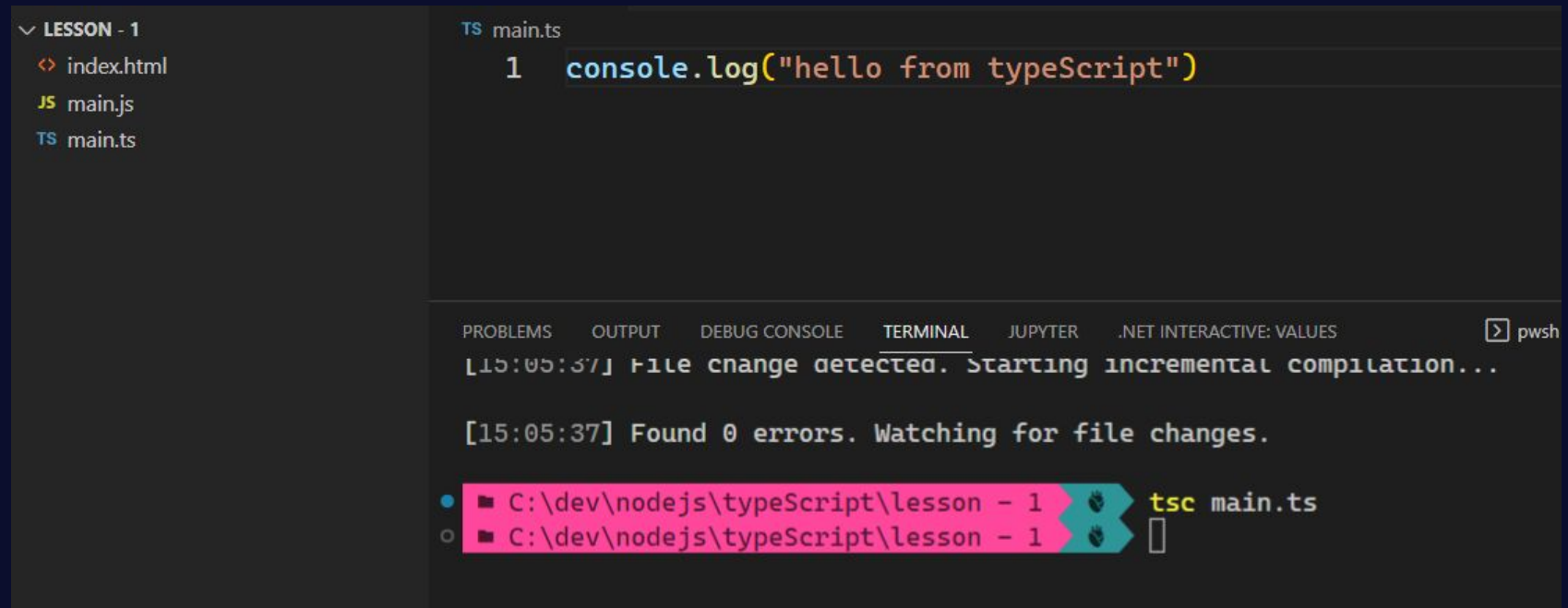
create main.ts file write some code and save the file.

open cmd/terminal and write

tsc main.ts

if the compile done success it will create

main.js file



The screenshot shows the Visual Studio Code interface. On the left, the Explorer sidebar shows a project named 'LESSON - 1' with files 'index.html', 'main.js', and 'main.ts'. The main editor displays 'main.ts' with the code: `1 console.log("hello from TypeScript")`. At the bottom, the TERMINAL panel shows the output of the TypeScript compiler. It starts with 'File change detected. Starting incremental compilation...' and then 'Found 0 errors. Watching for file changes.' Below this, a list of tasks is shown, with the selected task being 'tsc main.ts' in the directory 'C:\dev\nodejs\typeScript\lesson - 1'.

```
LESSON - 1
  <> index.html
  JS main.js
  TS main.ts

TS main.ts
1 console.log("hello from TypeScript")

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER .NET INTERACTIVE: VALUES
[15:05:37] File change detected. Starting incremental compilation...

[15:05:37] Found 0 errors. Watching for file changes.

• C:\dev\nodejs\typeScript\lesson - 1 tsc main.ts
○ C:\dev\nodejs\typeScript\lesson - 1
```

TypeScript Config: tsconfig.json

the config file control the ts compiler settings
open cmd/terminal and write

tsc --init

this command will create
tsconfig.json file

Operators: Arithmetic Operators

Operator	Description	Example
+ (Addition)	returns the sum of the operands	$a + b$ is 15
- (Subtraction)	returns the difference of the values	$a - b$ is 5
* (Multiplication)	returns the product of the values	$a * b$ is 50
/ (Division)	performs division operation and returns the quotient	a / b is 2
% (Modulus)	performs division operation and returns the remainder	$a \% b$ is 0
++ (Increment)	Increments the value of the variable by one	$a++$ is 11
-- (Decrement)	Decrements the value of the variable by one	$a--$ is 9

Operators: Relational Operators

Operator	Description	Example
>	Greater than	(A > B) is False
<	Lesser than	(A < B) is True
>=	Greater than or equal to	(A >= B) is False
<=	Lesser than or equal to	(A <= B) is True
==	Equality	(A == B) is false
!=	Not equal	(A != B) is True

Operators: Logical Operators

Operator	Description	Example
&& (And)	The operator returns true only if all the expressions specified return true	(A > 10 && B > 10) is False
(OR)	The operator returns true if at least one of the expressions specified return true	(A > 10 B > 10) is True
! (NOT)	The operator returns the inverse of the expression's result. For E.g.: !(>5) returns false	!(A > 10) is True

Operators: Assignment Operators

Operator	Description	Example
= (Simple Assignment)	Assigns values from the right side operand to the left side operand	$C = A + B$ will assign the value of $A + B$ into C
$+=$ (Add and Assignment)	It adds the right operand to the left operand and assigns the result to the left operand.	$C += A$ is equivalent to $C = C + A$
$-=$ (Subtract and Assignment)	It subtracts the right operand from the left operand and assigns the result to the left operand.	$C -= A$ is equivalent to $C = C - A$
$*=$ (Multiply and Assignment)	It multiplies the right operand with the left operand and assigns the result to the left operand.	$C *= A$ is equivalent to $C = C * A$
$/=$ (Divide and Assignment)	It divides the left operand with the right operand and assigns the result to the left operand.	

Simple Cast:

string to number

```
let days = Number("22")  
console.log(days) // 22  
  
let days = Number("5.7")  
console.log(days) // 5.7
```

string to Int

```
let days = parseInt("22")  
console.log(days) // 22  
  
let days = parseInt("5.7")  
console.log(days) // 5
```

number to string

```
let days = 10.toString()  
console.log(days) // "10"  
  
let days = (5.7).toString()  
console.log(days) // "5.7"  
  
let days = (2.232).toFixed(2)  
console.log(days) // "2.23"  
  
let days = (2.232).toFixed()  
console.log(days) // "2"
```

Exercise:

https://docs.google.com/document/d/11k201AIZ4NRmqp-pltOB52_FptavfbtAt-GWMnnfERO/edit?usp=sharing

Q&A



