



Typescript

Galerien

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Voraussetzung zum Installieren von Typescript






0. Node.js=NPM muss installiert sein! Anderenfalls downloaden und installieren:
<https://nodejs.org/en/download/>

Downloads

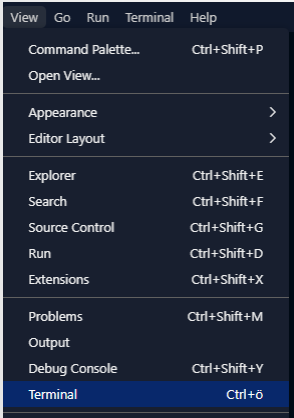
Latest LTS Version: 16.15.1 (includes npm 8.11.0)

Download the Node.js source code or a pre-built installer for your platform, and start developing today.

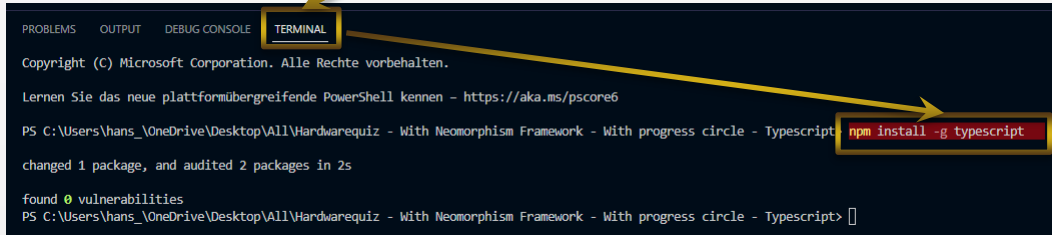
LTS Recommended For Most Users	Current Latest Features	
 Windows Installer node-v16.15.1-x64.msi	 macOS Installer node-v16.15.1.pkg	 Source Code node-v16.15.1.tar.gz

Installieren von Typescript

1. Typescript packages im Terminal(Menü „View“) installieren:



Eingabe: `npm install -g typescript`



Installieren von Typescript III

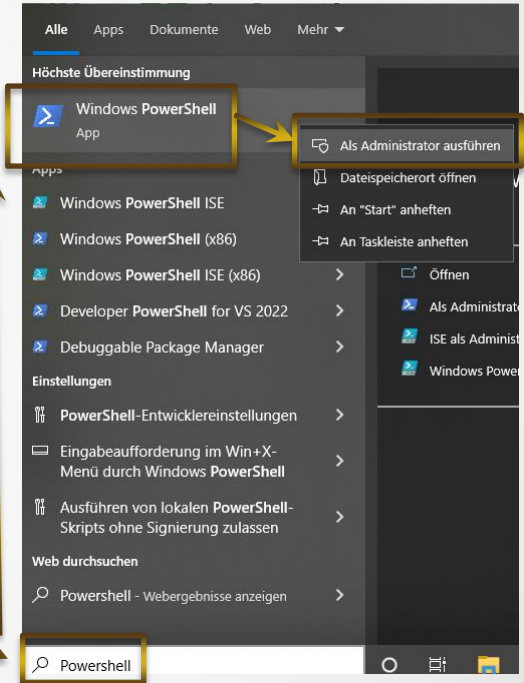
2. Jquery im Terminal(Menü „View“) installieren:
`npm i --save-dev @types/jquery`

```
PS C:\Users\hans_OneDrive\Desktop\All\Hardwarequiz - With Neomorphism Framework - With progress circle - Typescript> npm i --save-dev @types/jquery
up to date, audited 3 packages in 1s
found 0 vulnerabilities
```

Alternative im Quelltext:
`import $ from 'jquery'`

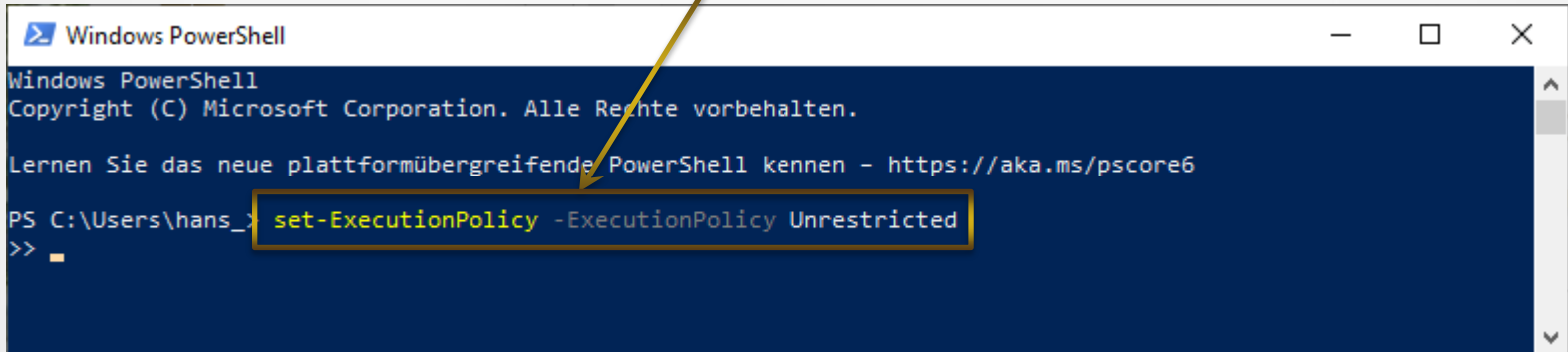
Installieren von Typescript III

3a. Bei dem Fehler:
Die Datei „.....\tsc.ps1 kann nicht geladen
werden, da die Ausführung von
Skripten auf diesem System deaktiviert ist.“
PowerShell mit
Administratorrechten öffnen:



Installieren von Typescript IIIb

- 3b. Eingabe von:
`set-ExecutionPolicy -ExecutionPolicy Unrestricted`



```
Windows PowerShell
Copyright (C) Microsoft Corporation. Alle Rechte vorbehalten.

Lernen Sie das neue plattformübergreifende PowerShell kennen - https://aka.ms/pscore6

PS C:\Users\hans_> set-ExecutionPolicy -ExecutionPolicy Unrestricted
>>
```

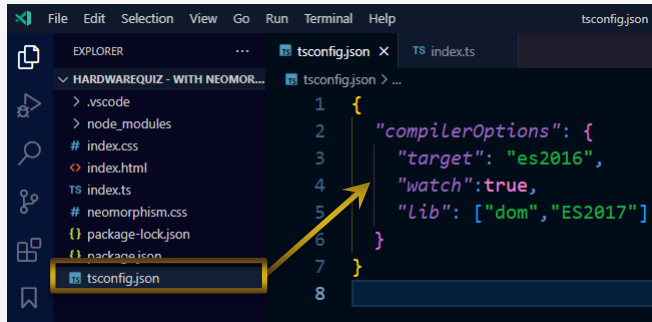
Siehe auch:

<https://www.youtube.com/watch?v=SiE9GA-mODo>

Installieren von Typescript IV

5. Erzeugen eines neuen tsconfig.json file durch Eingabe im Terminal: tsc --init

```
PS C:\Users\hans_OneDrive\Desktop\All\Hardwarequiz - With Neomorphism Framework - With progress circle - Typescript> tsc --init  
error TS5054: A 'tsconfig.json' file is already defined at: 'C:\Users\hans_OneDrive\Desktop\All\Hardwarequiz - With Neomorphism Framework - With progress circle - Typescript/tsconfig.json'.
```



```
File Edit Selection View Go Run Terminal Help tsconfig.json - h  
EXPLORER  
HARDWAREQUIZ - WITH NEOMOR... tsconfig.json X TS index.ts  
> .vscode  
> node_modules  
# index.css  
<> index.html  
TS index.ts  
# neomorphism.css  
{ package-lock.json  
{ package.json  
tsconfig.json  
tsconfig.json > ...  
1 {  
2   "compilerOptions": {  
3     "target": "es2016",  
4     "watch": true,  
5     "lib": ["dom", "ES2017"]  
6   }  
7 }  
8
```

Eingabe des JSON-Codes rechts in die Datei!

Weitere Informationen dazu:

<https://code.visualstudio.com/docs/typescript/typescript-tutorial>

Deklaration von Variablen

```
Let no2:number=23;  
//Gleichwertig:  
Let no1=23;  
Let text:string;  
Let whatever:any;
```


Arrays

```
const arr: number[]=[];  
arr.push(1);  
// Funktioniert nicht da keine Zahl!  
arr.push("1");
```

Funktionen mit Typen

```
function powStr(base:number,exp:number):string{  
    return Math.pow(base,exp).toString();  
}
```

Eigene Datentypen

```
type SpecialType= 'Mr' | 'Big' | 2022;  
let testMyType:SpecialType;  
  
testMyType=2021;
```

Eigene Datentypen II

```
Let someguy: Any;  
someguy.uselessEntry = "not declared!";
```

```
type Programmer = {  
  name: string;  
  knownFor: string[];  
};
```

```
const mrBig: Programmer = {  
  name: 'Mister Big',  
  knownFor: ['Mathematics', 'IT', 'Coding']  
};
```

Eigene Datentypen III

```
Let someguy: Any;  
someguy.uselessEntry = "not declared!";
```

```
type Programmer = {  
  name: string;  
  knownFor: string[];  
};
```

```
const mrBig: Programmer = {  
  name: 'Mister Big',  
  knownFor: ['Mathematics', 'IT', 'Coding']  
};
```

Einfache Klassen

```
class Teacher {  
  workNo: number;  
  name: string;  
  constructor(workNo: number, name:string) {  
    this.workNo = workNo;  
    this.name = name;  
  }  
  display(): void {  
    console.log("Name = " + this.name + ", Employee Code = " +  
      this.workNo);  
  }  
}
```

```
let teacher= new Teacher(1045234, "Mister Big");  
teacher.display();
```

Mehr hier

[https://www.digitalocean.com/community/tutorials/
how-to-create-custom-types-in-typescript#introduction](https://www.digitalocean.com/community/tutorials/how-to-create-custom-types-in-typescript#introduction)