<WA/>
2026

Web Applications

SW Installation Instructions

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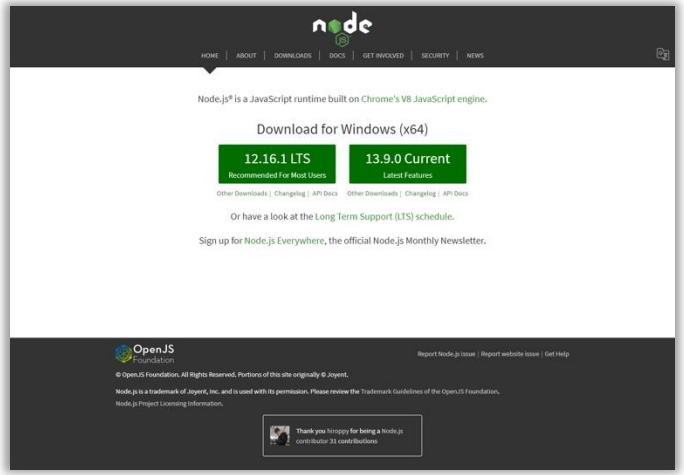
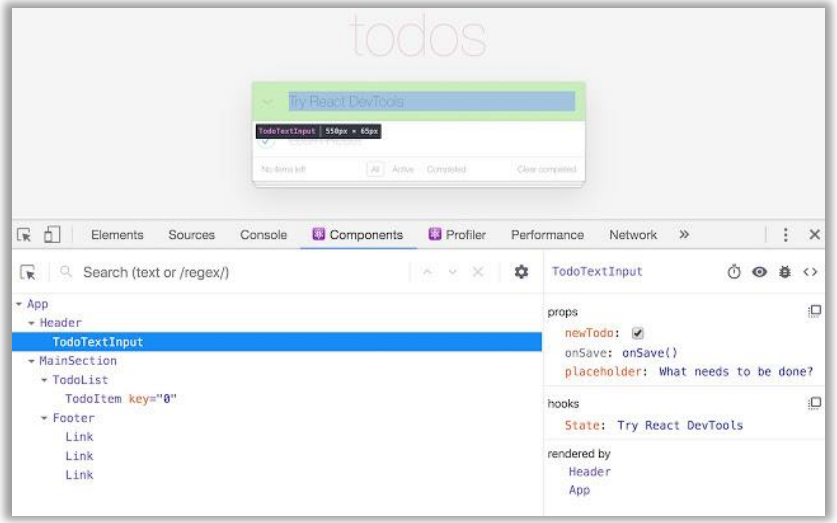
Tools



Node.js runtime
Version **>= 24** LTS
Always use LTS (long-term support) version
(i.e., even numbers only)
https://nodejs.org/en/

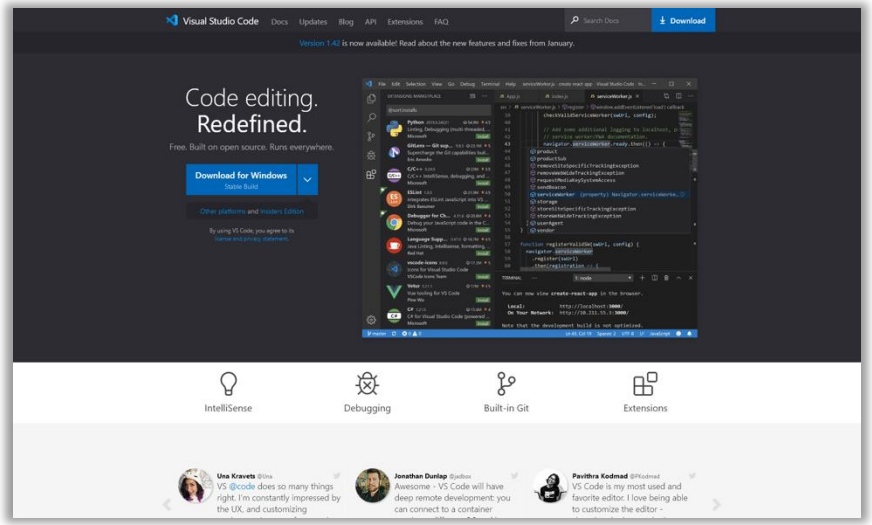
See next slides for installation instructions



React Developer Tools
Extension for Chrome and Firefox

***Safari* is NOT recommended** in general for debugging

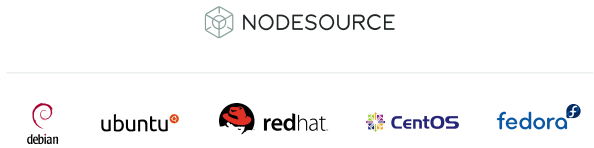
Programming Environment



Visual Studio Code
https://code.visualstudio.com/

See next slides for installation instructions

Installation Instructions



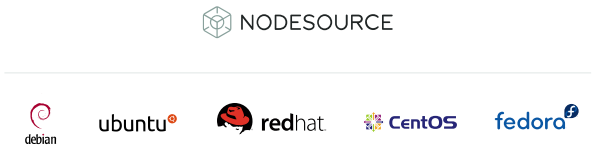
- Linux (recommended)
  - Node.js: **DO NOT install** the version coming with the Linux distribution , use:

```
# https://github.com/nodesource/distributions: e.g., for ubuntu
curl -fsSL https://deb.nodesource.com/setup_lts.x | sudo -E bash - && sudo apt-get install -y nodejs
```

  - VSCode: **DO NOT install** the version coming with the Linux distribution, download the .deb package from https://code.visualstudio.com/ and install it

- NB: the final project will be tested on Linux

Installation Instructions



- MacOS
  - Node.js: Use the LTS package provided by https://nodejs.org/en/
  - VSCode: Use the MacOS package provided by https://code.visualstudio.com/

  NB: MacOS is NOT Linux, the final project will be tested on Linux, so beware of upper/lowercase letters in file names (MacOS is not case sensitive, Linux is)

Installation Instructions

- Windows
  - Option #1: Use a Virtual Machine (VM) manager, such as VirtualBox, VMWare, …, install Linux and do **everything** inside the VM
  - Option #2: use the Windows native way of handling a virtual machine, using the Windows Subsystem for Linux, version 2 (**WSL2**).
    - Install WSL2 if not yet done: https://learn.microsoft.com/en-us/windows/wsl/install
    - Then, see next slide

Installation Instructions

- Windows WSL2 instructions (follow instructions very carefully!)
  - **NOTE: Always use WSL2** and work with all the files, including projects and node modules, always in the filesystem of the Linux subsystem

1. Open WSL2. Please avoid developing projects as the ”root” user (i.e., superuser), since mistakes may damage your system
2. Follow Linux instruction to install Node.js from the WSL2 Linux terminal: https://github.com/nodesource/distributions

```
sudo apt install curl  # install curl if not yet present
curl -fsSL https://deb.nodesource.com/setup_lts.x | sudo -E bash - && sudo apt-get install -y nodejs
```

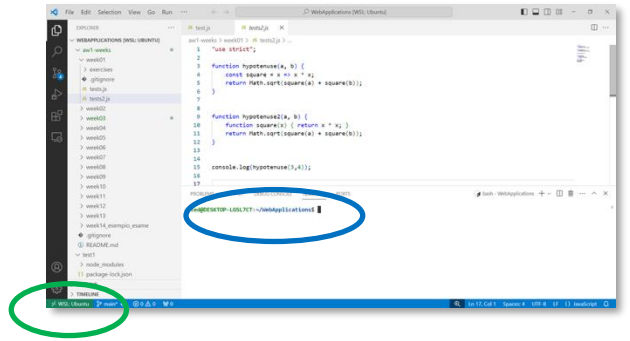
- **DO NOT INSTALL** Node.js directly in Windows with the Windows installation package. If it has already been done, uninstall it!

Installation Instructions

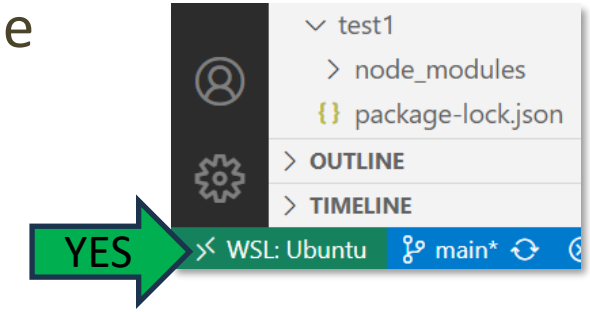
- Windows (VSCode)
  1. Install VSCode **in Windows** with the Windows installation package (**NOT in WSL Linux**).
  2. Then, open it from the Linux (not Windows) shell terminal by launching WSL and then typing "**code**".
     It will prompt to install the WSL extension, install it.
  3. Again, remember to **always work in the filesystem of the Linux subsystem**. If unsure, open VSCode from the Linux terminal with the commands:

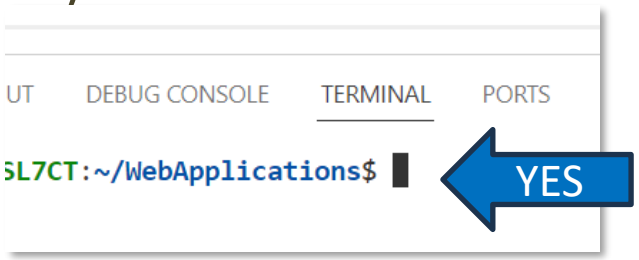
```
cd myFolderName
code .
```

Installation Instructions



- Windows (working in VSCode)
  - Always install modules (`npm` command) **in Linux** when required in lectures and labs!
    (All files are accessible from Windows by entering `\\wsl$` path in Windows file explorer)
  - Always double-check you are working in WSL, by looking at the bottom left corner in VSCode
  - Always check that the terminal is Linux and NOT Windows PowerShell (PS)





NB: The exam will be tested under Linux. Beware: Windows is NOT case sensitive

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