Tutorial 1: Installation

In Tutorial 1, you need to have the following installed on your machine:

1. Code editor (e.g., Visual Studio Code, Notepad++)
2. Node.js and npm
3. MongoDB
4. Git (optional but recommended)

1. Installation: Code Editor

You can use *any code editor* of your choice for this course.
NOTE: For the demonstration in the lecture and tutorial classes, **Visual Studio Code** will be used by the lecturer.

Visual Studio Code (VS Code):

VS Code Website: https://code.visualstudio.com/

Introductory Videos for VS Code: https://code.visualstudio.com/docs/getstarted/introvideos

Download and install VS Code: https://code.visualstudio.com/download

Get started with Visual Studio Code: https://code.visualstudio.com/docs/getstarted/getting-started

VS Code extensions allow you to add languages, debuggers, and tools to your installation to support your development workflow. You may explore the extensions for Visual Studio Code in Extension Marketplace:

- Marketplace: https://marketplace.visualstudio.com/vscode
- User Guide: https://code.visualstudio.com/docs/editor/extension-marketplace

Notepad++

Notepad++ website: https://notepad-plus-plus.org/

Notepad++ user manual: https://npp-user-manual.org/

2. Installation: Node.js and npm

Node.js® is an open-source, cross-platform JavaScript runtime environment.

Install Node.js by downloading either the LTS version or the current version. LTS (Long Term Support) version is highly recommended.

Node.js website: https://nodejs.org/en/

Getting started to Node.js: https://nodejs.org/en/learn/getting-started/introduction-to-nodejs

Download and install Node.js: https://nodejs.org/en/download

Steps:

- Navigate to the **Node.js Official website / Downloads** page.
- Download the **LTS version** of NodeJS appropriate installer for your operating system. (LTS = Long-Term Support)
    - The installer also includes the **NPM** package manager
- Click the installer and follow the Setup Wizard to install Node.js on your computer.

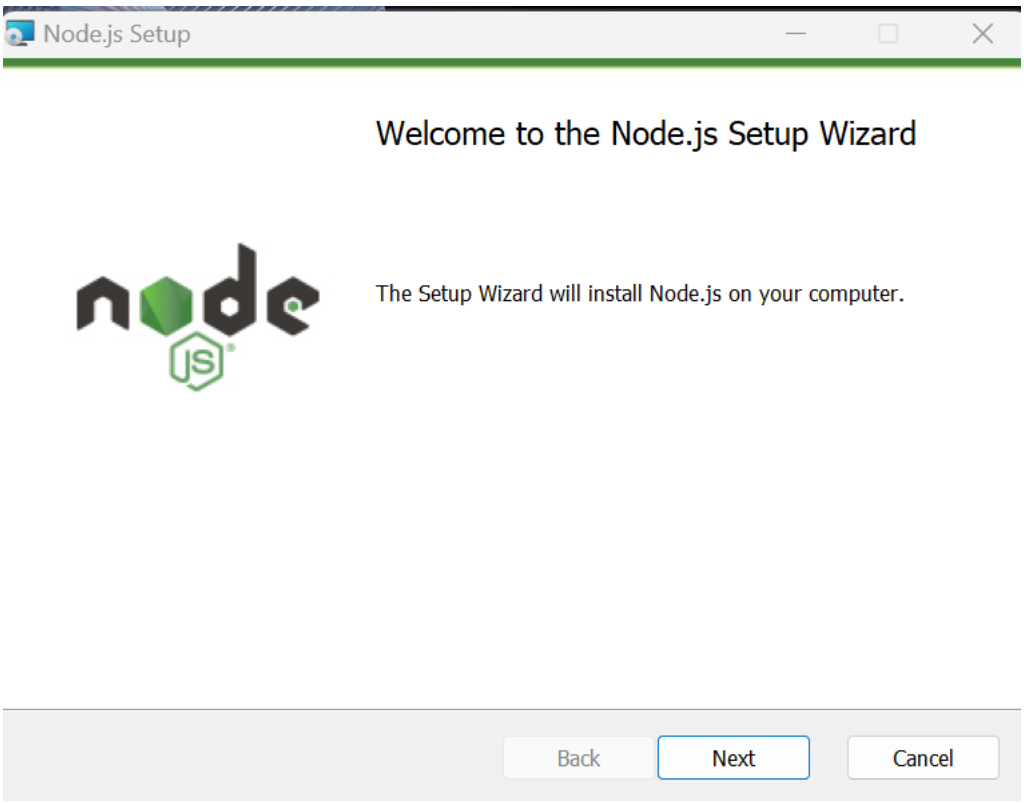

Figure 1: Node.js setup wizard

3. Installation: MongoDB

Option 1: Install MongoDB on your machine locally

Install MongoDB **Community version** for installation. The source-available, free-to-use, and self-managed version of MongoDB

Download: https://www.mongodb.com/try/download/community

Follow the instructions on the official MongoDB website for your operating system: https://www.mongodb.com/docs/manual/administration/install-community/#std-label-install-mdb-community-edition

- Install on Linux:
  - https://www.mongodb.com/docs/manual/administration/install-on-linux/
- Install on macOS:
  - https://www.mongodb.com/docs/manual/tutorial/install-mongodb-on-os-x/
- Install on Windows:
  - https://www.mongodb.com/docs/manual/tutorial/install-mongodb-on-windows/

Option 2: Using MongoDB Atlas (cloud-based database-as-a-service)

MongoDB Atlas is a hosted MongoDB service option in the cloud which requires no installation overhead and offers a **free tier** to get started.

Mongoose can be utilized as the frontend to your MongoDB database. Mongoose is a MongoDB object modeling tool designed to work in an asynchronous environment.

Get started with MongDB Atlas: https://www.mongodb.com/docs/atlas/getting-started/

4. Installation: Git (optional)

Git is a version control system that will help you track changes in your code.

- Download Git: https://git-scm.com/downloads
- Visit the Git website and download the installer for your operating system.
- Install Git:
    - Don't change any setting, keep pressing next and it will be installed.

After installing Git, you can setup Git Configuration to connect to Github:

- Create an account on **github.com** if you don't have one already
- Open your terminal and run the following commands to configure your Git username and email:

```
git config --global user.name "Your Name"

git config --global user.email "your.email@example.com"
```

- Replace `"Your Name"` and `"your.email@example.com"` with your actual name and email.

To get started with the GitHub in VS Code, you'll need to

1) Create a GitHub account and
2) Install the "GitHub Pull Requests and Issues" extension.

Reference: Working with GitHub in VS Code
https://code.visualstudio.com/docs/editor/github

Reference: Using Version Control in VS Code
https://code.visualstudio.com/docs/editor/versioncontrol
https://code.visualstudio.com/docs/editor/versioncontrol#_git-support