WEB340   
Node.js

# Chapter 1

* Node.js is an open-source, cross platform, JavaScript runtime environment built on top of  
  Chrome’s V8 JavaScript engine. Node.js allows developers to write code outside of a web  
  browser. Server-side scripting is a technique utilized in web development that involves  
  executing scripts on a web server to create a customized response to a user’s request from  
  a website. That is, before sending content to the user’s web browser, the server executes  
  the script.
  + When a user requests a webpage, the server runs a script to gather  
    data, possible from a database, and creates HTML, CSS, and JavaScript, which are  
    subsequently sent to the user’s browser to be rendered. This diKers from client-side  
    scripting, where scripts, typically written in JavaScript, are executed directly in the user’s  
    browser after the page has been delivered.
  + Server-side scripting is used for generating dynamic web content, where the page changes  
    depending on the user’s input, access rights, and other factors. It is also used to handle  
    form submissions, connect and interact with databases, and manage user sessions and  
    cookies.
* Using a package manager is the optimal choice for working with Node.js because it allows  
  us to easily switch between diKerent Node.js versions. Why is this important? It is  
  important because, not every project uses the latest version of Node.js.
  + sing a package manager is the  
    best way to work with multiple Node.js versions and environments. Not mention, Node.js  
    follows a 6-month release cycle. As of this writing, the latest “Long Term Support” version  
    of Node.js is 20.10.0. Even number versions move to Active LTS status and should be used  
    by the general public.
  + NVM Basic Commands (source):  
    Command Description  
    nvm install --lts Download and extract the LTS node version.  
    nvm install [version] Download and extract a node version.  
    nvm uninstall [version] Uninstalls the specified version.  
    nvm use [version] Use a node version in the current shell.  
    nvm ls-remote Displays a list of the available versions you can install from the remote listing.  
    nvm list Displays a list of which versions you have installed.
  + It is important to note that in client-side scripting, the JavaScript code you write does not  
    have access to the resources on the web server. Meaning, you cannot access the web  
    server files, Operating System (OS), connected database, or other information stored on  
    the computer.
  + CLI stands for Command Line Interface. It is a way of interacting with your computer by  
    typing text commands into a terminal window (macOS/Linux) or command prompt  
    (Windows). This is an alternative to traditional Graphical User Interface (GUI) windows. In  
    a GUI, a mouse is used to “point and click” to invoke operations. For example, if I wanted to  
    create a new folder on my computer, I would open a GUI and click on an option to “Create a  
    new folder.” In a CLI environment, the same behavior is possible, but they are given as  
    commands in a terminal window.
  + When you install Node.js it comes with a tool called node, which can be used to execute JavaScript files. Node.js also comes with a package manager (not to get confused with nvs and nvm) called the  
    Node Package Manager (npm; discussed in the next section). With node we can create CLI  
    programs using JavaScript.