In-Depth Guide to Installing Python, JavaScript, and C++ on Windows

# 1. Installing Python on Windows

Step 1: Download Python  
- Visit https://www.python.org/downloads/  
- Click on “Download Python 3.x.x” (latest version)  
- Save the .exe installer  
  
Step 2: Install Python  
- Run the installer  
- CHECK the box “Add Python to PATH” before installation  
- Click on “Customize Installation” (recommended)  
- Ensure all checkboxes are selected and click Next → Install Now  
  
Step 3: Verify Installation  
- Open Command Prompt and type:  
 python --version  
 pip --version  
  
Step 4: Optional Setup  
- Install VS Code from https://code.visualstudio.com/  
- Install Python extension from the Extensions Marketplace  
  
Sample Program:  
 print("Hello, Python!")

# 2. Setting Up JavaScript with Node.js

Step 1: Download Node.js  
- Visit https://nodejs.org/  
- Download the LTS version installer for Windows  
  
Step 2: Install Node.js  
- Run the installer  
- Accept the license and continue with defaults  
- Ensure “Automatically install necessary tools” is checked  
  
Step 3: Verify Installation  
- Open Command Prompt and type:  
 node -v  
 npm -v  
  
Step 4: Optional Setup  
- Install VS Code  
- Create a .js file and write:  
 console.log("Hello, JavaScript!");  
- Run using:  
 node filename.js

# 3. Installing C++ using MinGW

Step 1: Download MinGW  
- Visit https://osdn.net/projects/mingw/releases/  
- Download mingw-get-setup.exe  
  
Step 2: Install MinGW  
- Run the installer  
- Select mingw32-gcc-g++ and mingw32-gcc for installation  
- Apply changes  
  
Step 3: Add MinGW to PATH  
- Go to Control Panel → System → Advanced System Settings → Environment Variables  
- Edit Path under System variables  
- Add: C:\MinGW\bin  
  
Step 4: Verify Installation  
- Open Command Prompt and type:  
 g++ --version  
  
Step 5: Test C++ Code  
- Write hello.cpp:  
 #include <iostream>  
 using namespace std;  
 int main() {  
 cout << "Hello, C++!" << endl;  
 return 0;  
 }  
- Compile:  
 g++ hello.cpp -o hello  
- Run:  
 hello

# Summary Table

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| --- | --- | --- | --- |
| Language | Tool | Website | Verify Command |
| Python | Python.org | https://python.org | python --version |
| JavaScript | Node.js | https://nodejs.org | node -v |
| C++ | MinGW | https://osdn.net/projects/mingw | g++ --version |