

# BitNet C++ - Windows Installation Documentation

## ***Step 1: Install Required Tools***

- Install Visual Studio 2022
- Enable: Desktop Development with C++
- Enable: C++ CMake Tools for Windows
- Enable: Git for Windows
- Enable: C++ Clang Compiler for Windows
- Enable: MS-Build Support for LLVM-Toolset

## ***Step 2: Create Conda Environment***

- `conda create -n bitnet-cpp python=3.9`
- `conda activate bitnet-cpp`

## ***Step 3: Clone Repository***

- `git clone https://github.com/microsoft/BitNet.git`
- `cd BitNet`

## ***Step 4: Run Setup Script***

- `python setup_env.py -md models/BitNet-b1.58-2B-4T -q i2_s`

## ***Step 5: Manual Fix (Required)***

- Add `#include`` on top of these files:
- `→ 3rdparty\llama.cpp\common\common.cpp`
- `→ 3rdparty\llama.cpp\common\log.cpp`
- `→ 3rdparty\llama.cpp\examples\imatrix\imatrix.cpp`
- `→ 3rdparty\llama.cpp\examples\perplexity\perplexity.cpp`

## ***Step 6: Verify Model Setup***

- `python setup_env.py -md models/BitNet-b1.58-2B-4T -q i2_s`