How to install NetBeans on Mac

The following should work on macOS versions 10.15 (Catalina), 11 (Big Sur) or 12 (Monterey). You can check your OS version by clicking the Apple icon in the upper left corner of the screen (), then clicking '**About this Mac**'.

For CIS/CSC-5, we suggest installing NetBeans version 12 or above, as described below. However, version 8.2 is sufficient for this course, if the following does not work[1].
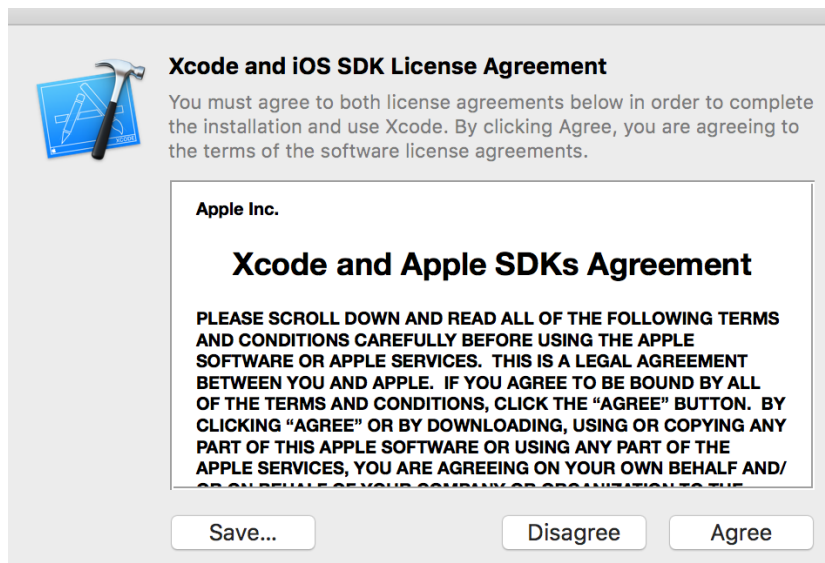
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1. **Install Xcode[2]**
   To compile C/C++ code, you need to install a compiler. **Xcode** is a set of programming tools, compilers, and IDE that works natively on the Mac platform. It includes a C/C++ compiler.

   Search for '**xcode**' in the **App Store** and install it.
   It is fairly large, so it may take some time to install.

   After Xcode is installed, open it. If you see a window about a license agreement, make sure to click '**Agree**':

   Once you see the '**Welcome to Xcode**' splash screen, you can close Xcode (click the **Xcode** menu, then '**Quit Xcode**').

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[1] There are alternative methods of installing NetBeans that you may find easier, depending on your comfort level with macOS. For example, see the '**Installing NetBeans With Homebrew**' section.
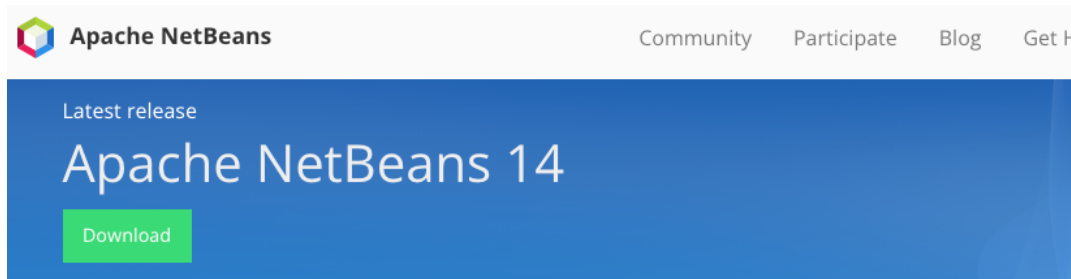
[2] Another method that doesn't require installing *all* of Xcode is described in the section under **Troubleshooting** called '**If Xcode won't install or takes up too much disk space…**'.

2. **Download NetBeans**
   Open the page: https://netbeans.apache.org/download/index.html
   in a web browser and select a version of NetBeans to download.
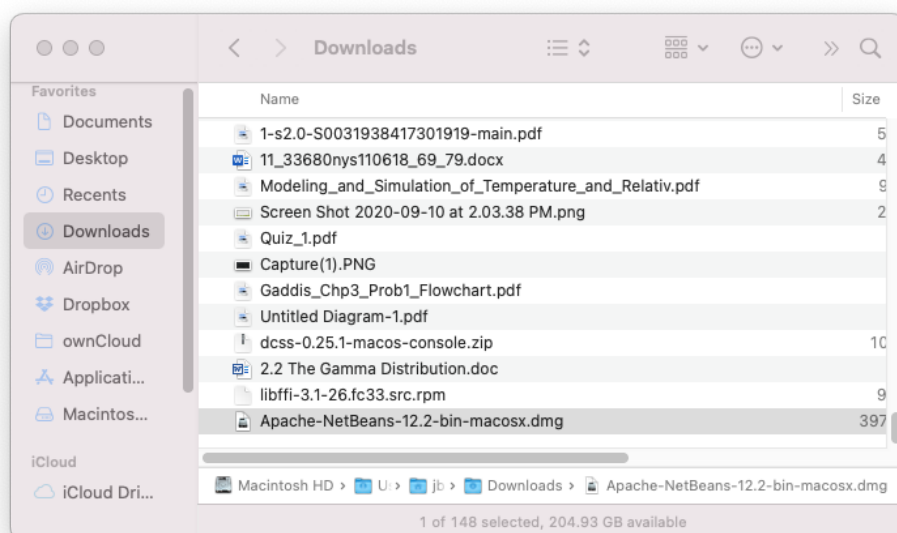   NetBeans 14 is currently the suggested version, but slightly older versions (12, 12.4, etc.) should also work:

Make sure to select the appropriate file to download for Mac. The file name should end with '**.dmg**'.

3. **Install NetBeans**
   The downloaded NetBeans file should be in your Downloads folder. Open a Finder window and navigate to Downloads.
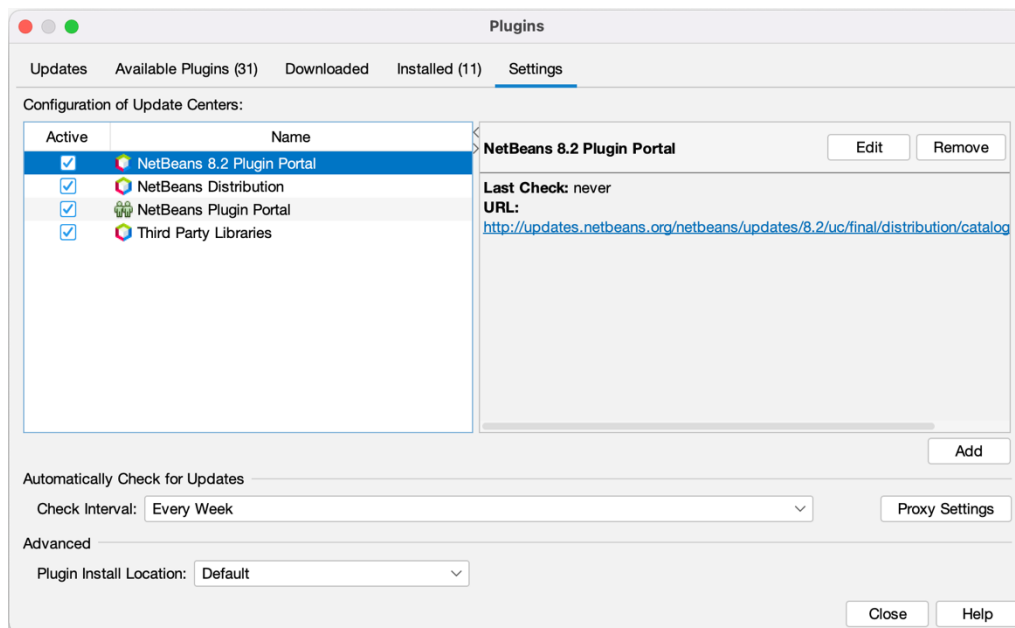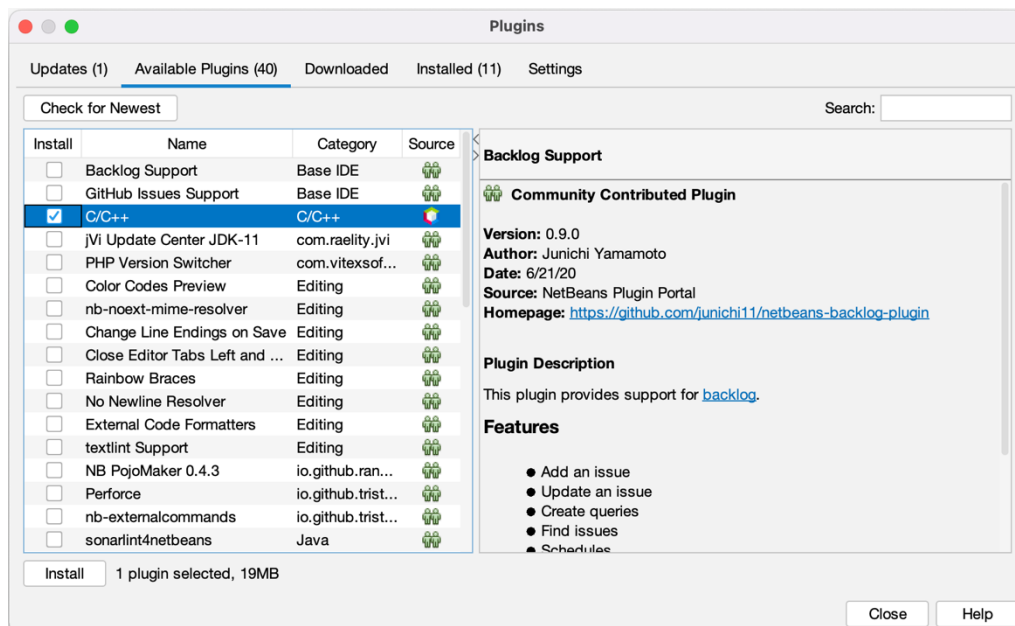   Double-click on the file to install it.

4. **Configure NetBeans for C/C++**

By default, NetBeans is not able to work with C/C++ projects[3]. A plugin needs to be installed to enable it to work with the C/C++ tools available from Xcode.

Open NetBeans and go to the **Tools** menu, then select '**Plugins**'. In the Plugins window, click the '**Settings**' tab. Activate the '**NetBeans 8.2 Plugin Portal**' by checking the box next to it.

Now go to the '**Available Plugins**' tab in the Plugins window. Click the '**Check for Newest**' button. If there is an entry for '**C/C++**', check the box next to it and **install** it[4].
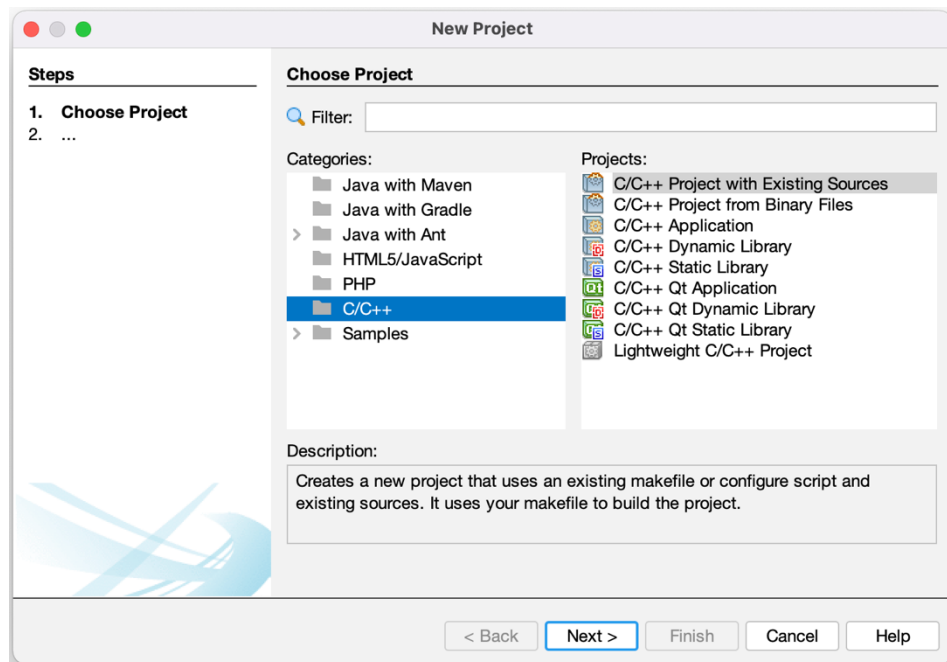

Make sure the C/C++ plugin installs successfully. If it fails, the cause might be that the version of the Java JDK on your system is not compatible with NetBeans. See the **Troubleshooting** section for a possible fix.

Close the Plugins window.

5. **Test NetBeans**
   Several things can go wrong when installing and configuring NetBeans, so it is necessary to check that it is working properly.

   Open NetBeans and click on the '**New Project'** icon in the upper left corner of the NetBeans window ( ). An alternative way to open a new project is to click the '**File**' menu, then '**New Project…**'. The New Project window will open. Check that '**C/C++**' appears as an option in the 'Categories' list:

If you _do not_ see '**C/C++**' in the 'Categories' list – _or_ you see it, but the only type listed in the 'Projects' list is '**Lightweight C/C++ Project**', see the **Troubleshooting** section about this issue.

Otherwise, if '**C/C++**' is in the 'Categories' list _and_ '**C/C++ Application**' is one of the options under the 'Projects' list, create a simple 'hello world' program to test NetBeans.
Ask a CIS/CSC lab aide or your instructor if you need help doing this.

Finally, if you're able to compile and run your 'hello world' program, you have successfully installed NetBeans!

Installing NetBeans With Homebrew

If you have already installed NetBeans, don't do this section!
This is just an alternative way that some might find easier than the method given above. It requires installing **Homebrew**, as explained in Step 2 below.

1. **Install Xcode**
   Use the same method described in Step 1 on Page 1.

2. **Install Homebrew (if it's not already installed)**
   Homebrew is a package manager for Mac[5]. If it is already installed on your system, you can skip this step. If you're not sure, we'll check for it here.

   a. First, open a terminal window by going to the **Go** menu, selecting **Utilities**, then double-clicking the **Terminal** app.

   b. In the window that opens, type:
      ```
      brew -v
      ```
      and press `<return>`. If you then see some text talking about Homebrew in the window, you already have it installed. If so, skip to Step 3.
      Otherwise, if something like "`command not found`" comes up, it will need to be installed.

   c. Paste the following line into the terminal window[6]:
      ```
      /bin/bash -c "$(curl -fsSL
      https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
      ```
      and press `<return>`.

   d. Follow the script's prompts to install Homebrew.

3. Once Homebrew is installed, in the terminal window, simply type
   ```
   brew install netbeans
   ```
   and press `<return>`.
   Homebrew should then set up NetBeans and its dependencies.

4. You will still need to configure NetBeans for C/C++, as described in Step 4 on page 3. You should then continue with the next step (5), and test a simple 'hello world' program.

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[5] Besides installing NetBeans, you might find it handy for installing other software as well!
[6] Or you can go to Homebrew's website, https://brew.sh/ , and follow instructions there (which are essentially the same as here).

Troubleshooting

- ## If Xcode won't install or takes up too much disk space...
  You may be able to install just the C++ compiler and not all of Xcode.
  Open a terminal window (**Go** menu -> **Utilities** -> **Terminal**).
  Type '**g++**' and press `<return>`. If a window pops up asking if you want to install the command line developer tools, click '**Install**'.

- ## If NetBeans installed, but you can't create a C/C++ project...
  For example:
    - You click the '**New Project**' in NetBeans and nothing happens, *OR*
    - In the New Project window, you *do not* see a '**C/C++**' entry in the 'Categories' list, *OR*
    - In the New Project window you only see '**Lightweight C/C++ Project**', in the 'Projects' list (when '**C/C++**' is selected in the 'Categories' list), try the following:

      - **Check if a C/C++ compiler is installed on your computer.**
        If you haven't already, try installing **Xcode**, as described in Step 1. *Make sure to run Xcode after installation and 'agree' to any license agreement that pops up.*

        You can check if the compiler is installed by opening a terminal window
        (**Go** menu -> **Utilities** -> **Terminal**).
        In the terminal window, type '`g++ --version`' and press `<return>`. If information about the C++ compiler appears in the window, the compiler *is* installed.

```
sh-3.2$ g++ --version
Configured with: --prefix=/Applications/Xcode.app/Contents/Develop
er/usr --with-gxx-include-dir=/Applications/Xcode.app/Contents/Dev
eloper/Platforms/MacOSX.platform/Developer/SDKs/MacOSX.sdk/usr/inc
lude/c++/4.2.1
Apple clang version 12.0.0 (clang-1200.0.32.28)
Target: x86_64-apple-darwin20.2.0
Thread model: posix
InstalledDir: /Applications/Xcode.app/Contents/Developer/Toolchain
s/XcodeDefault.xctoolchain/usr/bin
sh-3.2$
```

        However, if the returned message says something like '`No such file or directory`', the compiler is not installed, or is not configured correctly. You might try reinstalling **Xcode**, if this is the case.
        You may also try '`c++ --version`' or '`clang --version`' in the terminal window, as these are other C++ compiler names.

- o **Check that the NetBeans 8.2 plugin is installed**.
  If you have already followed the instructions in Step 4 for configuring NetBeans for C/C++, *double-check the following:*
    - Check that the '**NetBeans 8.2 Plugin Portal**' has been checked in
      Tools -> **Plugins** -> **Settings**.

    - In **Tools** -> **Plugins** -> **Available Plugins**, *if there is a 'C/C++' entry*, *make sure it is checked/activated.*

      If you <u>do</u> check/activate the '**C/C++**' entry, *make sure it says it installed successfully*.

      If an error is reported instead, there could be a conflict with the installed version of Java – see below for what to do next.

    - Make sure you have restarted NetBeans.

    - If the problem persists, it's possibly and issue with NetBeans and Java versions conflicting. See below.

- o **There might be a conflict with the Java version and NetBeans.**
  For example, NetBeans 12 may not work with Java 14 or above. See
  https://stackoverflow.com/questions/63954870/does-apache-netbeans-12-1-support-jdk-15. If this is the suspected problem, it may be possible to install an older version of Java and instruct NetBeans to use that version.
  Details on how to do this are somewhat technical. Ask a CIS/CSC lab aide for assistance on this.