

Developer Onboard: macOS

Objective: Establish an [ArangoDB](#) dev environment with CLion on macOS.

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Prerequisites

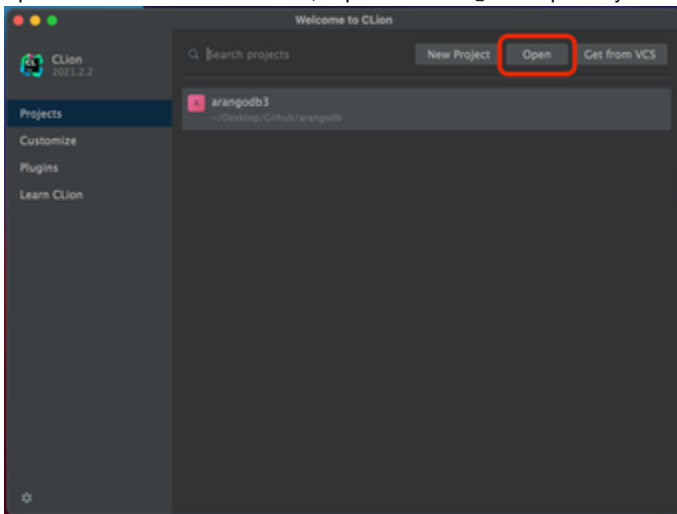
1. [macOS Big Sur](#)
2. [Homebrew](#)
3. [Xcode](#)
4. Command Line Tools: `xcode-select --install`
5. CLion 2021+: `brew install --cask clion`
6. OpenSSL 1.1: `brew install openssl@1.1`
7. Node: `brew install node`
8. Yarn: `brew install yarn`
9. Python 3: `brew install python3`
10. CMake: `brew install cmake`
11. Access to [arangodb/enterprise](#)

Clone the repositories

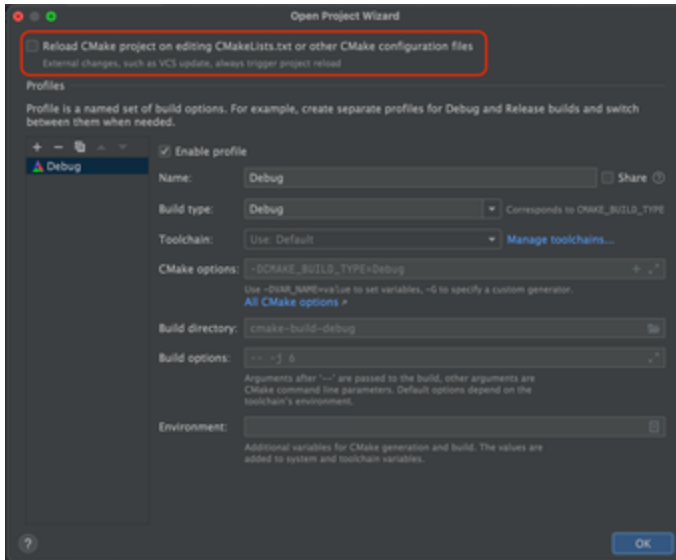
```
git clone https://github.com/arangodb/arangodb
cd arangodb
git clone https://github.com/arangodb/enterprise
```

Set up CLion

Open CLion. From its start menu, import the `arangodb` repository via the `Open` button, and follow through the setup Wizard.



Note: You *can* click on the `Reload CMake project on edits` checkbox during one of the Wizard steps:



After finishing the setup Wizard, open the CLion preferences menu with `⌘,`

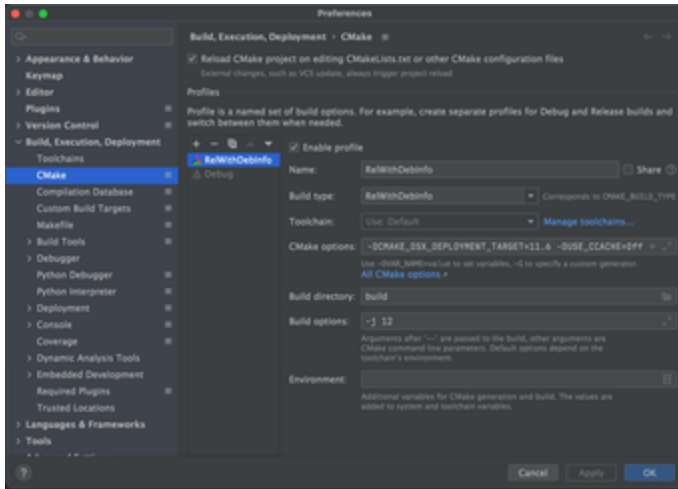
We're going to be adding new CMake profile:

1. From the preferences menu, navigate to: Build, Execution, Deployment CMake
2. You should see only 1 profile, named Debug. Disable it via the Enable profile checkbox.
3. Create a new profile (N) with the following values:
 - a. Name: RelWithDebInfo
 - b. Build type: RelWithDebInfo
 - c. Toolchain: Use: Default
 - d. Build directory: build
 - e. Build options: `-j 12`
 - f. CMake options:

```
-DCMAKE_OSX_DEPLOYMENT_TARGET=<YOUR MACOS BIG SUR VERSION
HERE>
-DCMAKE_BUILD_TYPE=RelWithDebInfo
-DUSE_MAINTAINER_MODE=On
-DUSE_FAILURE_TESTS=On
-DUSE_ENTERPRISE=On
-DUSE_JEMALLOC=Off
-DOPENSSL_USE_STATIC_LIBS=On
-DCMAKE_LIBRARY_PATH=/usr/local/Cellar/openssl@1.1/1.1.1l/lib
-DOPENSSL_ROOT_DIR=/usr/local/Cellar/openssl@1.1/1.1.1l
-DUSE_CCACHE=Off
```

Some notes on this step:

- Set `DCMAKE_OSX_DEPLOYMENT_TARGET` to your macOS version
- You can confirm your OpenSSL Cellar path by running `ls /usr/local/Cellar/openssl*`



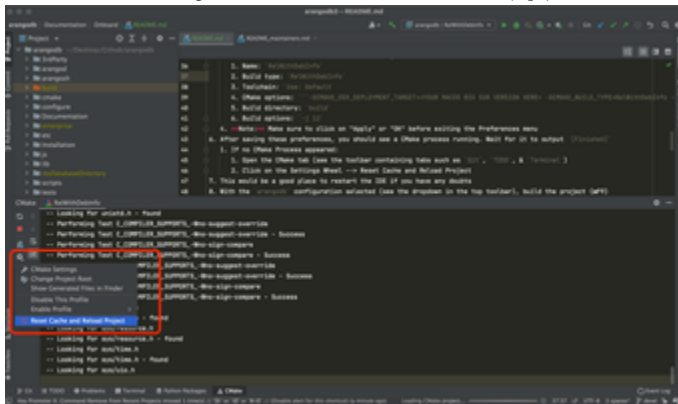
Make sure to click on **Apply** or **OK** before exiting the Preferences menu.

🔧 Running the CMake Process

After saving these preferences, you *should* see a CMake process running.

If no CMake Process appeared:

1. Look for the CMake tab in the bottom CLion toolbar (near the the Git, TODO, & Terminal tabs)
2. In the settings wheel menu of the CMake tab (⚙️), click on **Reset Cache and Reload Project**



Wait for the process to output [Finished]

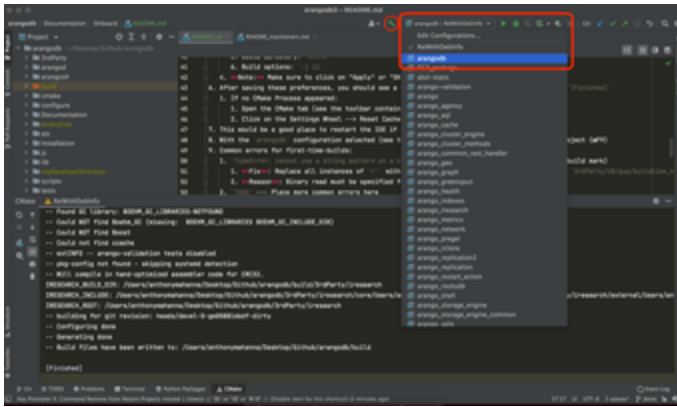
🚦 Time for an (optional) restart

This would be a good place to restart the IDE if you have any doubts.

🔧 Building ArangoDB

At the top right-half of your CLion screen, look for the configuration dropdown (near the build icon 🔧)

With the `arangodb` configuration selected, build the project (F9):



This is expected to take a while.

After it finishes, run the following command in **your build directory** to build the Web UI:

```
cmake --build . --target frontend
```

Common errors for first-time builds

Common errors for first-time-builds:

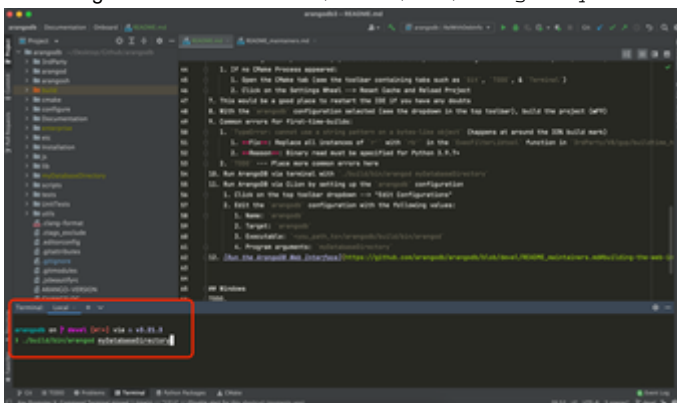
1. `TypeError: cannot use a string pattern on a bytes-like object`
 - a. **Possible Reason:** Binary read must be specified for specific version of Python 3.9
 - b. **Fix:**
 - i. Open `arangodb/3rdParty/V8/gyp/buildtime_helpers/mac_tool.py`
 - ii. Navigate to `ExecFilterLibtool(self, *cmd_list)` (line ~255)
 - iii. Replaces the 5 instances of `r'` with `rb'` within that function
2. [TODO: Place new errors found here](#)

Running ArangoDB


Almost done! You can run ArangoDB via terminal, or via a configuration. Let's look at both.

Via Terminal

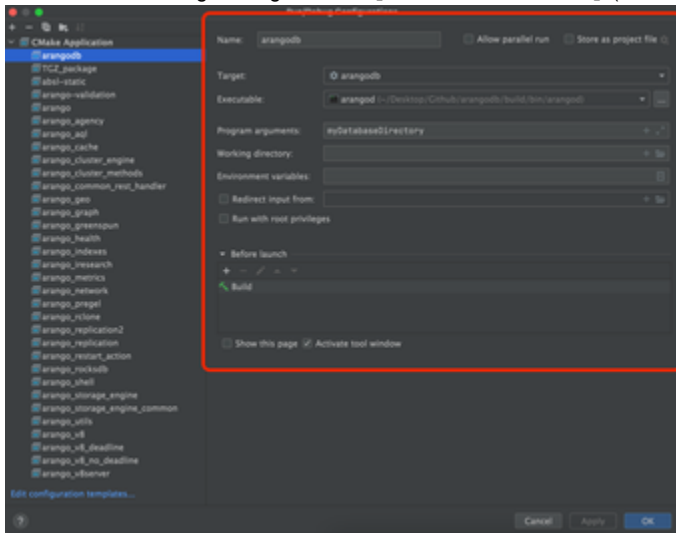
Run ArangoDB via terminal with `./build/bin/arangod myDatabaseDirectory`:



Via Configuration

At the top right-half of your CLion screen, look for the configuration dropdown (near the build icon )

1. From the dropdown, click on `Edit Configurations`
2. Open the `arangodb` configuration, and set the following values:
 - a. Name: `arangodb`
 - b. Target: `arangodb`
 - c. Executable: `<TODO:your_path_to>/arangodb/build/bin/arangod`
 - d. Program arguments: `myDatabaseDirectory` (name can be customized)



Make sure to click on `Apply` or `OK` before exiting the Preferences menu.

At the top right-half of your CLion screen, look for the configuration dropdown (near the build icon 🛠️):

1. Make sure the configuration is set to `arangodb | RelWithDebInfo`
2. Click on the Run icon ▶️ (beside the configuration dropdown)

🌈 Accessing ArangoDB

At this point, you should be able to access `localhost:8529` with `root` as the username and with no password