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C++ Files

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C++ Files

The `fstream` library allows us to work with files.

To use the `fstream` library, include both the standard `<iostream>` **AND** the `<fstream>` header file:

Example

```
#include <iostream>
#include <fstream>
```

There are three classes included in the `fstream` library, which are used to create, write or read files:

Class	Description
`ofstream`	Creates and writes to files
`ifstream`	Reads from files
`fstream`	A combination of ofstream and ifstream: creates, reads, and writes to files

Create and Write To a File

To create a file, use either the `ofstream` or `fstream` class, and specify the name of the file.

To write to the file, use the insertion operator (`<<`).

Example

```
#include <iostream>
#include <fstream>
using namespace std;

int main() {
```
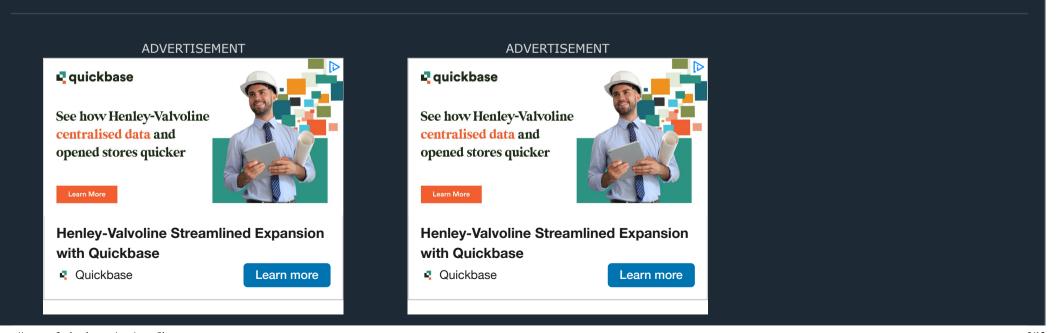
```cpp
  // Create and open a text file
  ofstream MyFile("filename.txt");

  // Write to the file
  MyFile << "Files can be tricky, but it is fun enough!";

  // Close the file
  MyFile.close();
}
```

Why do we close the file?

It is considered good practice, and it can clean up unnecessary memory space.

Read a File

To read from a file, use either the `ifstream` or `fstream` class, and the name of the file.

Note that we also use a `while` loop together with the `getline()` function (which belongs to the `ifstream` class) to read the file line by line, and to print the content of the file:

Example

```cpp
// Create a text string, which is used to output the text file
string myText;

// Read from the text file
ifstream MyReadFile("filename.txt");

// Use a while loop together with the getline() function to read the file line by line
while (getline (MyReadFile, myText)) {
  // Output the text from the file
  cout << myText;
}

// Close the file
MyReadFile.close();
```

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