# C++ Files

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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() {  
  // 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

// 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();