File Handling

File Handling ?

It allows programs to store data permanently in files instead of keeping it only in memory.

I/O Stream

- In Java, I/O streams are the fundamental mechanism for handling input and output operations.

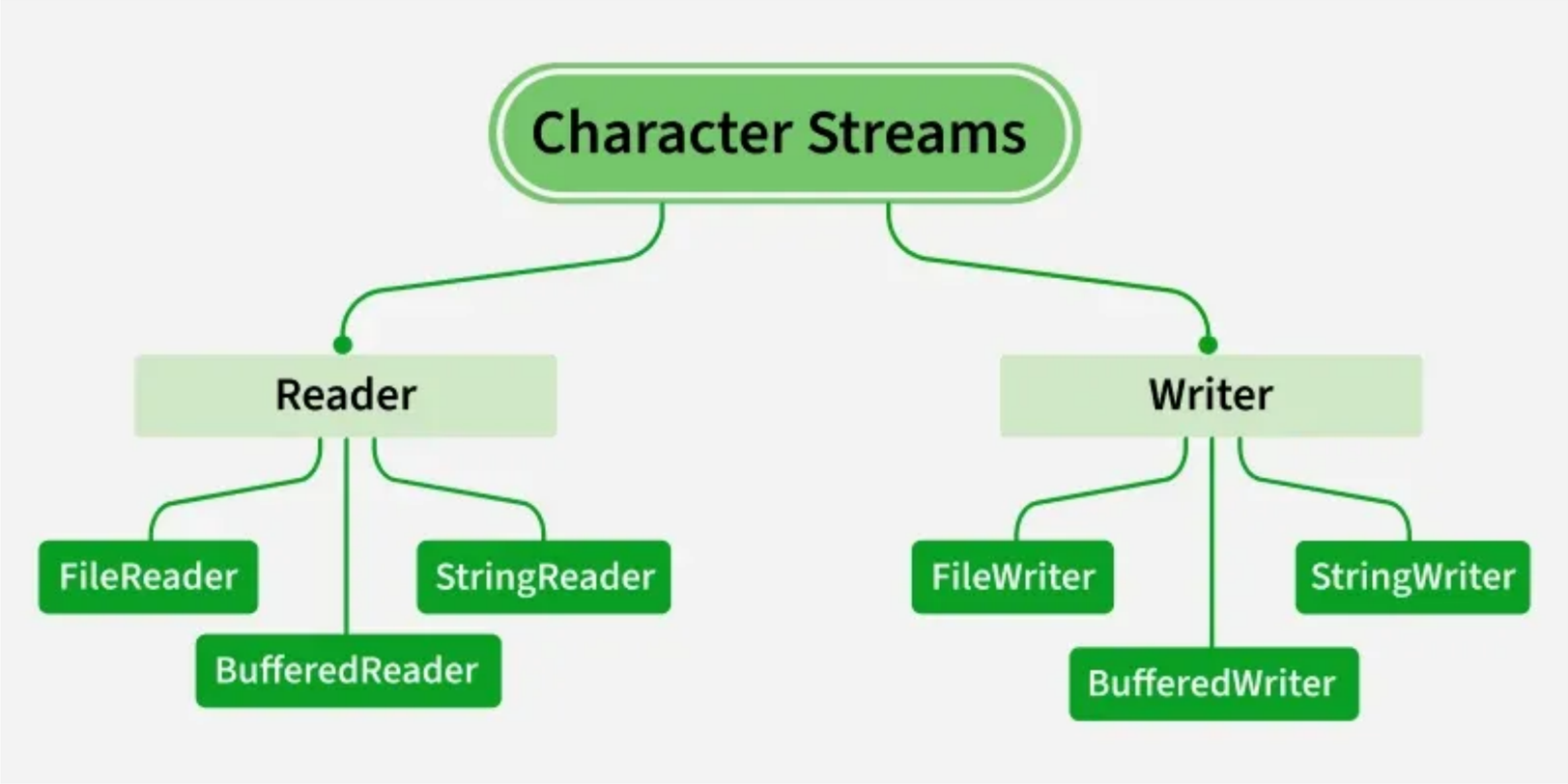
- Java I/O streams are categorized into two main types based on the type of data they handle

    1. Character Streams - text file, csv file, json file etc

    2. Byte Streams - image, movie etc

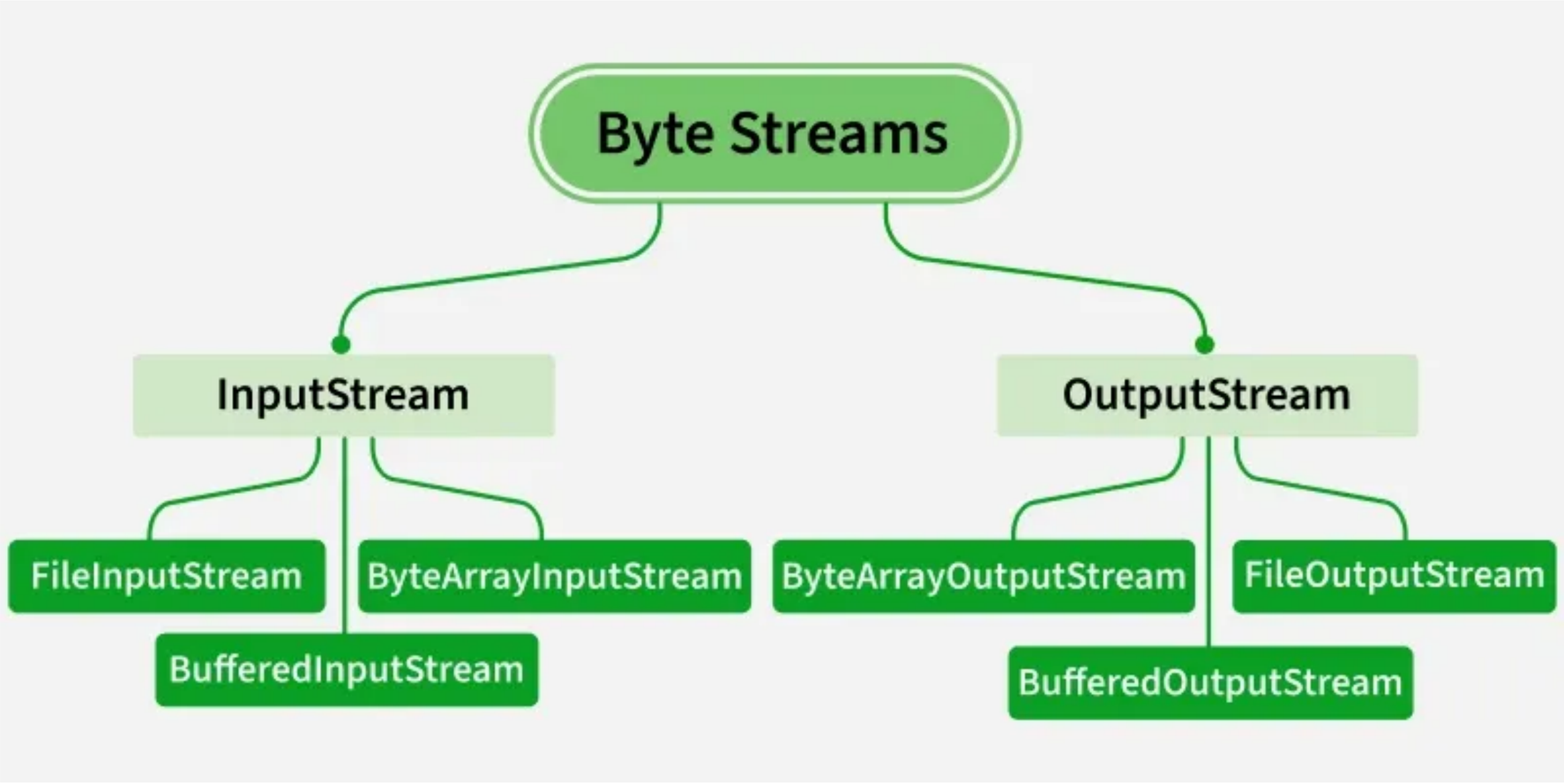
Character Stream

Character Streams are used to handle text data.



Byte Stream

Byte Streams are used to handle raw binary data such as images, audio files, videos or any non-text file



Text Type of Data Handling In Java

Text File

Create a File

Create a File object with the specified path

File file = new File("example.csv");

Check if the file does not exist, then create the file

file.createNewFile()

Write in File

Open FileWriter for writing

FileWriter writer = new FileWriter(“example.csv”, false);

Write content to the file

writer.write("Hello, this is an example”);

Close the writer object

writer.close();

Read a File

Open a file for reading using FileReader

FileReader fileReader = new FileReader("example.txt");

Wrap FileReader in BufferedReader for efficient reading

BufferedReader bufferedReader = new BufferedReader(fileReader);

Read and print each line

run while loop on bufferedReader.readLine()

Close resources

bufferedReader.close();

CSV File

JSON file

Byte Type of Data Handling in Java

Assignment

Logging User Activity to a File

Sample Log File Output

```
code


2026-01-15T14:25 | User: admin | Action: LOGIN
2026-01-15T14:30 | User: admin | Action: LOGOUT
```